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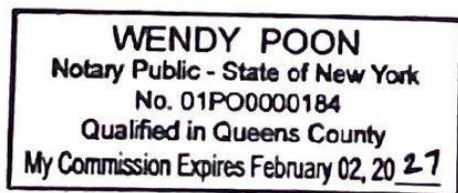


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(54) Title: CHANNEL QUALITY INDICATION AND MODULATION AND CODING SCHEME NOTIFICATION METHOD
AND DEVICE

(54) Title of Invention: A method and device for indicating channel quality and notifying Modulation and Coding Scheme

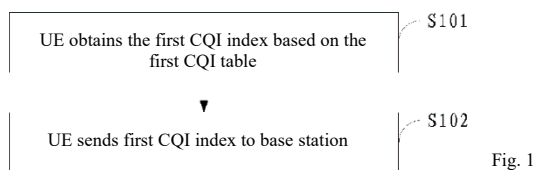


Fig. 1
S101 A UE LEARNING A FIRST CQI SERIAL NUMBER ACCORDING TO A FIRST CQI TABLE
S102 THE UE SENDING TO A BASE STATION THE FIRST CQI SERIAL NUMBER

(57) Abstract: Disclosed are a channel quality indication and a modulation and coding scheme notification method and device, which relate to the field of communications and can select a modulation mode higher than 64 QAM, thereby improving the performance of a communication system. The method comprises: according to a first CQI table, a terminal learning a first CQI serial number, and sending to a base station the first CQI serial number; the base station receiving the first CQI serial number sent by a UE of the terminal, according to the first CQI table, a first MCS table and the received first CQI serial number, determining a first MCS serial number, and sending to the UE the determined first MCS serial number; and the terminal receiving the first MCS serial number sent by the base station, and according to the first MCS table and the received first MCS serial number, determining a modulation order and a coding block size, wherein the first CQI table comprises an item of which the modulation mode is higher than 64 QAM, and the first MCS table comprises an item of which the modulation mode is higher than 64 QAM.

(57) Abstract: The present disclosure discloses a notification method and device for Channel Quality Indication and Modulation and Coding Scheme, related to the field of communications, which enables the selection of modulation methods higher than 64QAM, thereby improving the performance of the communication system. The said method includes: The terminal obtains the first CQI index based on the first CQI table and sends the first CQI index to the base station; The base station receives the first CQI index sent by the terminal UE and determines the first MCS index based on the first CQI table, the first MCS table, and the received first CQI index, and the base station then sends the said determined first MCS index to the said UE; The terminal receives the first MCS index sent by the base station and determines the modulation order and code block size based on the first MCS table and the received first MCS index; In which, the said first CQI table includes entries with modulation methods higher than 64QAM, and the said first MCS table also includes entries with modulation methods higher than 64QAM.

A method and device for indicating channel quality and notifying Modulation and Coding Scheme

This application claims priority to the PCT patent application with the application number PCT/CN2013/077023, titled "A method and device for indicating channel quality and notifying modulation and coding scheme," filed on June 8, 2013, the entire content of which is incorporated herein by reference.

Technical Field

The present disclosure relates to the field of communications, and more specifically, to a method and device for indicating channel quality and notifying a modulation and coding scheme.

Background Art

Currently, in the Long Term Evolution (LTE) system, the adaptive process of the Physical Downlink Shared Channel (PDSCH) is as follows: The User Equipment (UE) estimates the channel information used for measuring Channel State Information (CSI). Through the said channel information, and based on the optimal Rank Indication (RI) and/or Precoding Matrix Indication (PMI), the UE calculates the Signal to Interference plus Noise Ratio (SINR). The UE then derives the corresponding Channel Quality Indicator (CQI) from the SINR and reports the CQI value to the base station. The base station allocates a Modulation and Coding Scheme (MCS) to the UE based on the Channel Quality Indicator (CQI) value reported by the UE and the network conditions. The said MCS indicates the modulation method and coding scheme currently used for the PDSCH.

In hotspot scenarios, such as Relay or LTE Hotspot Improvements (LTE-Hi) scenarios, the UE requires modulation methods higher than 64QAM (Quadrature Amplitude Modulation). However, due to limitations in the existing technology, the maximum CQI value is 15, which corresponds to a modulation method of 64QAM. As a result, the UE cannot select modulation methods higher than 64QAM, thereby affecting the system performance. Similarly, the base station is also unable to allocate a modulation method higher than 64QAM for the UE.

Summary of the Invention

The embodiments of the present disclosure provide a method and device for notifying Channel Quality Indication and modulation coding scheme, which support the UE and the base station in selecting modulation methods higher than 64QAM, thereby improving the system performance.

To achieve the above-mentioned objective, the embodiments of the present disclosure adopt the following technical solution:

In a first aspect, the disclosure provides a method for notifying CQI, comprising:

Obtaining the first CQI index based on the acquired first CQI table;

Sending the first CQI index to the base station, so that the base station determines the first Modulation and Coding Scheme (MCS) index based on the first CQI index;

1 The said first CQI table includes:

2 Entries for modulation methods higher than 64-phases Quadrature Amplitude
3 Modulation (QAM);

4 The entries for at least one modulation method of Quadrature Phase Shift
5 Keying (QPSK) in the second CQI table, and the entries for at least one said
6 modulation method of QPSK includes combinations formed from entries
7 corresponding to QPSK in the said second CQI table, excluding the first combination.
8 The said first combination consists of the N largest consecutive CQI index entries
9 corresponding to QPSK in the said second CQI table, where N is equal to 3, or N is a
10 positive integer less than 4, or said N is a positive integer; and/or the second CQI table
11 includes entries for at least one modulation method of 16QAM;

12 Wherein, the entries in the said second CQI table include modulation methods
13 of only QPSK, 16QAM, and 64QAM.

14 In a first possible implementation, based on the first aspect, the entries for at
15 least one modulation method of QPSK in the said second CQI table includes:

16 The entries in the said second CQI table where the modulation method is QPSK,
17 and the CQI index corresponding to the said entries are evenly spaced; or,

18 The entries in the said second CQI table where the modulation method is QPSK,
19 and the CQI index corresponding to the said entries are unevenly spaced; or,

20 The entries in the said second CQI table where the modulation method is QPSK,
21 and the CQI index corresponding to the said entries are non-continuous, and at least
22 one entry other than the one with the largest CQI index among all entries for
23 modulation method of QPSK in the said second CQI table; or,

24 The entries in the said second CQI table where the modulation method is QPSK,
25 and the CQI index corresponding to the said entries are continuous, and at least one
26 entry other than the one with the largest CQI index among all the QPSK entries in the
27 said CQI table.

28 In a second possible implementation, based on the first aspect, the entries for at
29 least one modulation method of 16QAM in the said second CQI table includes:

30 All entries in the said second CQI table where the modulation method is
31 16QAM; or,

32 At least one entry, other than the one corresponding to the smallest CQI index
33 among all the entries in the said second CQI table where the modulation method is
34 16QAM.

35 In a third possible implementation, based on the first aspect or the previous two
36 possible implementations, the said first CQI table further includes:

37 The entries for at least one modulation method of 64QAM in the said second
38 CQI table.

39 In a fourth possible implementation, based on the third possible implementation,
40 the entries for at least one said modulation method of 64QAM includes:

41 All entries in the said second CQI table where the modulation method is
42 64QAM; or,

43 Partial entries in the said second CQI table where the modulation method is
44 64QAM, and at least one entry other than the one corresponding to the largest CQI

1 index among all the 64QAM entries in the said second CQI table.

2 In a fifth possible implementation, based on the first aspect, the entries with the
3 smallest CQI index in the said first CQI table corresponding to modulation methods
4 higher than 64QAM has a spectral efficiency equal to that of the entries with the
5 largest CQI index among all the entries in the said second CQI table where the
6 modulation method is 64QAM; or,

7 The spectral efficiency of the T entries with the smallest CQI index
8 corresponding to modulation methods higher than 64QAM in the said first CQI table
9 is equal to or approximately equal to the spectral efficiency of the T entries with the
10 largest CQI index among all the entries in the said second CQI table where the
11 modulation method is 64QAM, where T is any natural number between 1 and 5.

12 In a sixth possible implementation, based on the first aspect, the spectral
13 efficiency of the entries with the largest CQI index corresponding to modulation
14 methods higher than 64QAM in the said first CQI table is:

15 The spectral efficiency of the entries with the largest CQI index among all the
16 entries in the said second CQI table where the modulation method is 64QAM,
17 multiplied by $\frac{4}{3}$;

18 Alternatively, 8 times the terminal's maximum coding rate, where the maximum
19 coding rate is a positive real number less than 1;

20 Or, 7.4063;

21 Or, 7.432.

22 In a seventh possible implementation, based on the first aspect, the spectral
23 efficiency of the X entries with the largest CQI index in the said first CQI table is
24 arranged in an arithmetic sequence or an approximately arithmetic sequence in
25 ascending order of spectral efficiency; Where, when the spectral efficiency of the X
26 entries with the largest CQI index in the said first CQI table is arranged in an arithmetic
27 sequence in ascending order of spectral efficiency, it means that starting from the
28 second entry of the said X entries, the difference in spectral efficiency between each
29 entry and its preceding entry is equal to the same constant; When the spectral
30 efficiency of the X entries with the largest CQI index in the said first CQI table is
31 arranged in an approximately arithmetic sequence in ascending order of spectral
32 efficiency, it means that starting from the second entry of the X entries, the difference
33 in spectral efficiency between each entry and its preceding entry falls within a range
34 defined by a constant minus a preset value and the same constant plus the preset value;
35 Here, the said X is an integer greater than 2;

36 Where, the spectral efficiency of the entries with the smallest CQI index among
37 the X entries with the largest CQI index in the said first CQI table is equal to the
38 spectral efficiency of the entries with the largest CQI index among all the entries in
39 the said second CQI table where the modulation method is 64QAM;

40 The spectral efficiency of the entries with the largest CQI index among the X
41 entries with the largest CQI index in the said first CQI table is:

42 The spectral efficiency of the entries with the largest CQI index among all the
43 entries in the said second CQI table where the modulation method is 64QAM,

1 multiplied by $4/3$;

2 Alternatively, 8 times the terminal's maximum coding rate, where the maximum
3 coding rate is a positive real number less than 1;

4 Or, 7.4063;

5 Or, 7.432.

6 In an eighth possible implementation, based on the first aspect, and any of the
7 first, second, sixth, or seventh possible implementations, the spectral efficiency of the
8 entries corresponding to modulation methods higher than 64QAM in the said first CQI
9 table includes at least one set of the following values:

$\{5.5547 \quad 6.1805 \quad 6.8062 \quad 7.432\}$,

$\{6.1805 \quad 6.8062 \quad 7.432\}$,

$\{5.5547 \quad 6.1797 \quad 6.8047 \quad 7.4297\}$,

$\{6.1797 \quad 6.8047 \quad 7.4297\}$,

$\{5.5547 \quad 6.1719 \quad 6.7891 \quad 7.4063\}$,

$\{6.1719 \quad 6.7891 \quad 7.4063\}$,

$\{5.5547 \quad 6.4934 \quad 7.432\}$,

$\{6.4934 \quad 7.432\}$,

$\{5.5547 \quad 6.4922 \quad 7.4297\}$,

$\{6.4922 \quad 7.4297\}$,

$\{5.5547 \quad 6.4805 \quad 7.4063\}$,

$\{6.4805 \quad 7.4063\}$,

$\{5.5547 \quad 6.4844 \quad 7.4063\}$,

10 $\{6.4844 \quad 7.4063\}$,

{5.5547 6.0240 6.4934 6.9627 7.432},
 {6.0234 6.4922 6.9609 7.4297},
 {5.5547 6.0234 6.4922 6.9609 7.4297 },
 {6.0176 6.4805 6.9434 7.4063},
 {5.5547 6.0176 6.4805 6.9434 7.4063},
 {6.0176 6.4805 6.9434 7.4063},
 {5.5547 6.0156 6.4844 6.9453 7.4063},
 {6.0156 6.4844 6.9453 7.4063},
 { 5.5547 5.9302 6.3056 6.6811 7.0565 7.432},
 {5.9302 6.3056 6.6811 7.0565 7.432},
 { 5.5547 5.9297 6.3047 6.6797 7.0547 7.4297 },
 {5.9297 6.3047 6.6797 7.0547 7.4297 },
 { 5.5547 5.9250 6.2953 6.6656 7.0360 7.4063},
 {5.9250 6.2953 6.6656 7.0360 7.4063},
 { 5.5547 5.9219 6.2969 6.6641 7.0391 7.4063},
 {5.9219 6.2969 6.6641 7.0391 7.4063}.

In a ninth possible implementation, based on the first aspect, the range of CQI index values in the said first CQI table is the same as the range of CQI index values in the said second CQI table.

In a second aspect, the disclosure provides a method for notifying MCS, comprising:

Receiving the first Channel Quality Indicator (CQI) Number sent by the terminal (UE), and the said first CQI index is determined by the said UE based on the acquired first CQI table;

Determining the first MCS index based on the first CQI table, the first MCS table, and the received first CQI index;

1 Sending the said determined first MCS index to the said UE;

2 Wherein, the said first CQI table includes:

3 Entries for modulation methods higher than 64QAM;

4 The said first MCS table includes:

5 Entries for modulation methods higher than 64QAM;

6 The entries for at least one modulation method of QPSK in the said second MCS
7 table, and the entries for at least one said modulation method of QPSK includes
8 combinations formed from the entries for at least one modulation method of QPSK in
9 the said second MCS table, excluding the second combination. The said second
10 combination consists of the K largest consecutive MCS index corresponding to QPSK
11 in the said second MCS table, where K is equal to 4, or K is a positive integer less than
12 5, or K is a positive integer; and/or at least one entry for a 16QAM modulation method
13 in the said second MCS table;

14 The modulation methods in the said second MCS table include only QPSK,
15 16QAM, and 64QAM.

16 In the first possible implementation, based on the second aspect, the said first
17 CQI table further includes:

18 The entries for at least one modulation method of QPSK in the second CQI table,
19 and the entries for at least one said modulation method of QPSK includes
20 combinations formed from entries corresponding to QPSK in the said second CQI
21 table, excluding the first combination. The said first combination consists of the N
22 largest consecutive CQI index entries corresponding to QPSK in the said second CQI
23 table, where N is equal to 3, or N is a positive integer less than 4, or said N is a positive
24 integer; and/or the second CQI table includes entries for at least one modulation
25 method of 16QAM;

26 The modulation methods in the said second CQI table include only QPSK,
27 16QAM, and 64QAM.

28 In the second possible implementation, based on the second aspect or the first
29 possible implementation, the determination of the first MCS index based on the said
30 acquired first CQI table, the acquired first MCS table, and the received first CQI index
31 includes:

32 Determining the first TBS index and the first MCS index based on the acquired
33 first PRB count, the first CQI table, the first MCS table, the first TBS table, and the
34 received first CQI index;

35 Where, the said first PRB count is the PRB count allocated by the base station
36 to the UE; or, the said first PRB count is the largest integer less than or equal to the
37 product of the PRB count allocated to the UE and a specific coefficient;

38 The said first TBS table includes at least one PRB count corresponding to each
39 TBS index, as well as the transmission block size corresponding to each PRB count;
40 the said first TBS table is the TBS table corresponding to the said first MCS table.

41 In the third possible implementation, based on the second possible
42 implementation, the range of TBS index in the said first TBS table is from 0 to A,
43 where A is a positive integer less than or equal to 26; or, the range of TBS index in
44 the said first TBS table is from 0 to B, where B is a positive integer greater than or

1 equal to 26, and the transmission block size corresponding to TBS index from 0 to C
2 in the said first TBS table is the same as the transmission block size corresponding to
3 TBS index from 0 to C in the second TBS table, where C is a non-negative integer less
4 than or equal to 26. The range of TBS index in the said second TBS table is from 0 to
5 26, and the said second TBS table includes at least one PRB count corresponding to
6 each TBS index, as well as the transmission block size corresponding to each PRB
7 count.

8 In the fourth possible implementation, based on the second possible
9 implementation, the determination of the first TBS index based on the first CQI table,
10 the first PRB count, the first TBS table, and the received first CQI index includes:

11 Determining the first modulation method and first spectral efficiency
12 corresponding to the received first CQI index based on the first CQI table and the
13 received first CQI index;

14 Determining the first transmission block size transmitted to the said UE based
15 on the first PRB count and the first spectral efficiency;

16 Acquired the first TBS index corresponding to the said first transmission block
17 size described in the first TBS table and the first PRB count based on the first TBS
18 table.

19 In the fifth possible implementation, based on the second, third, or fourth
20 possible implementation, the said first TBS table includes a TBS index Y1, where for
21 each PRB count, the transmission block size corresponding to TBS index Y1 is greater
22 than the transmission block size corresponding to TBS index 25 in the said second
23 TBS table, and smaller than the transmission block size corresponding to TBS index
24 26 in the said second TBS table; where the range of TBS index in the said second TBS
25 table is from 0 to 26, and the said second TBS table includes at least one PRB count
26 corresponding to each TBS index, as well as the transmission block size corresponding
27 to each PRB count.

28 In the sixth possible implementation, based on the second, third, or fourth
29 possible implementation, the said first TBS table includes TBS index Y2, as well as
30 at least one entry in Table A corresponding to TBS index Y2, where any entries
31 include a PRB count and the transmission block size corresponding to that PRB count:

Table A

TBS index	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y2	648	1320	1992	2664	3368	4008	4584	5352	5992	6712
TBS index	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y2	7224	7992	8504	9144	9912	10680	11448	11832	12576	12960
TBS index	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y2	14112	14688	15264	15840	16416	16992	17568	18336	19080	19848
TBS index	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y2	20616	21384	22152	22920	22920	23688	24496	25456	25456	26416
TBS index	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y2	27376	27376	28336	29296	29296	30576	31704	31704	32856	32856
TBS index	PRB Count									
	51	52	53	54	55	56	57	58	59	60
27	34008	34008	35160	35160	36696	36696	37888	37888	39232	39232
TBS index	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y2	40576	40576	42368	42368	43816	43816	43816	45352	45352	46888
TBS index	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y2	46888	46888	48936	48936	48936	51024	51024	51024	52752	52752
TBS index	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y2	52752	55056	55056	55056	57336	57336	57336	59256	59256	59256
TBS index	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y2	59256	61664	61664	61664	63776	63776	63776	63776	66592	66592
TBS index	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y2	66592	66592	68808	68808	68808	71112	71112	71112	71112	73712

and/or,

The said first TBS table includes TBS index Y3, as well as at least one entry corresponding to TBS index Y3 in Tables B1, B2, B3, or B4, where any entries include a PRB count and the transmission block size corresponding to that PRB count;

Table B1

TBS inde x	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y3	936	1928	2856	3880	4776	5736	6712	7736	8504	9528
TBS inde x	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y3	10680	11448	12576	13536	14112	15264	16416	16992	18336	19080
TBS inde x	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y3	19848	21384	22152	22920	23688	24496	25456	26416	27376	28336
TBS inde x	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y3	29296	30576	31704	32856	34008	34008	35160	36696	37888	37888
TBS inde x	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y3	39232	40576	40576	42368	43816	43816	45352	45352	46888	46888
TBS inde x	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y3	48936	48936	51024	51024	52752	52752	55056	55056	57336	57336
TBS inde x	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y3	59256	59256	59256	61664	61664	63776	63776	63776	66592	66592
TBS inde x	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y3	68808	68808	71112	71112	71112	73712	73712	75376	76208	76208
TBS inde x	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y3	78704	78704	78704	81176	81176	81176	84760	84760	84760	84760
TBS inde x	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	87936	87936	90816	90816	90816	90816	93800	93800	93800	101840
TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	101840	101840	101840	101840	101840	101840	101840	101840	101840	101840

Table B2

TBS inde x	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	87936	87936	90816	90816	90816	90816	93800	93800	93800	93800

TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	97896	97896	97896	101840	101840	101840	101840	105528	105528

Table B3

TBS inde x	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y3	968	1992	2984	4008	4968	5992	6968	7992	8760	9912
TBS inde x	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y3	10680	11832	12960	13536	14688	15840	16992	17568	19080	19848
TBS inde x	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y3	20616	21384	22920	23688	24496	25456	26416	27376	28336	29296
TBS inde x	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y3	30576	31704	32856	34008	35160	35160	36696	37888	37888	39232
TBS inde x	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y3	40576	40576	42368	43816	43816	45352	46888	46888	48936	48936
TBS inde x	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y3	51024	51024	52752	52752	55056	55056	55056	57336	57336	59256
TBS inde x	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y3	59256	61664	61664	63776	63776	63776	66592	66592	68808	68808
TBS inde x	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y3	71112	71112	71112	73712	75376	76208	76208	76208	78704	78704
TBS inde x	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y3	81176	81176	81176	81176	84760	84760	84760	87936	87936	87936
TBS inde x	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	90816	90816	90816	93800	93800	93800	93800	97896	97896	97896
TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	97896	97896	97896	97896	97896	97896	97896	97896	97896

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Table B4

TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	101840	101840	101840	105528	105528	105528	105528	105528	110136

3
4

and/or,

5
6 The said first TBS table includes TBS index Y4_1 to Y4_5, as well as at least
7 one entry in Tables C1 or C2 corresponding to TBS index Y4_1 to Y4_5, where any
8 entries include a PRB count and the five transmission block sizes corresponding to
9 that PRB count;

Table C1

TBS index	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y4_1	680	1384	2088	2792	3496	4136	4968	5544	6200	6968
Y4_2	712	1480	2216	2984	3624	4392	5160	5992	6712	7224
Y4_3	744	1544	2280	3112	3880	4584	5352	6200	6968	7736
Y4_4	776	1608	2408	3240	4008	4776	5736	6456	7224	7992
Y4_5	840	1672	2536	3368	4264	5160	5992	6712	7480	8504
TBS index	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y4_1	7736	8248	9144	9912	10296	11064	11832	12576	13536	14112
Y4_2	7992	8760	9528	10296	11064	11832	12576	12960	14112	14688
Y4_3	8504	9144	9912	10680	11448	12216	12960	14112	14688	15264
Y4_4	8760	9528	10680	11448	12216	12960	13536	14688	15264	16416
Y4_5	9144	10296	11064	11832	12576	13536	14112	15264	15840	16992
TBS index	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y4_1	14688	15264	15840	16992	17568	18336	19080	19848	20616	20616
Y4_2	15264	16416	16992	17568	18336	19080	19848	20616	21384	22152
Y4_3	16416	16992	17568	18336	19080	19848	20616	21384	22152	22920
Y4_4	16992	17568	18336	19080	20616	21384	22152	22920	23688	24496
Y4_5	17568	18336	19848	20616	21384	22152	22920	23688	24496	25456
TBS index	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y4_1	21384	22152	22920	23688	24496	25456	25456	26416	27376	28336
Y4_2	22920	23688	24496	25456	25456	26416	27376	28336	28336	29296
Y4_3	23688	24496	25456	26416	27376	27376	28336	29296	30576	30576
Y4_4	25456	25456	26416	27376	28336	29296	30576	30576	31704	32856
Y4_5	26416	27376	28336	28336	29296	30576	31704	31704	32856	34008
TBS index	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y4_1	28336	29296	30576	30576	31704	31704	32856	34008	34008	35160
Y4_2	30576	30576	31704	32856	32856	34008	35160	35160	36696	36696
Y4_3	31704	32856	32856	34008	35160	35160	36696	36696	37888	39232
Y4_4	32856	34008	35160	35160	36696	37888	37888	39232	39232	40576
Y4_5	35160	35160	36696	37888	37888	39232	39232	40576	42368	42368
TBS index	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y4_1	35160	36696	36696	37888	37888	39232	40576	40576	40576	42368
Y4_2	37888	37888	39232	39232	40576	40576	42368	42368	43816	43816
Y4_3	39232	40576	40576	42368	42368	43816	43816	45352	45352	46888
Y4_4	40576	42368	42368	43816	45352	45352	46888	46888	46888	48936
Y4_5	43816	43816	45352	45352	46888	46888	48936	48936	51024	51024
TBS index	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y4_1	42368	43816	43816	45352	45352	46888	46888	46888	48936	48936
Y4_2	45352	45352	46888	46888	48936	48936	48936	51024	51024	51024
Y4_3	46888	48936	48936	48936	51024	51024	51024	52752	52752	55056
Y4_4	48936	51024	51024	52752	52752	52752	55056	55056	55056	57336
Y4_5	51024	52752	52752	55056	55056	55056	57336	57336	59256	59256

TBS index	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y4_1	48936	51024	51024	51024	52752	52752	55056	55056	55056	55056
Y4_2	52752	52752	52752	55056	55056	55056	57336	57336	57336	59256
Y4_3	55056	55056	57336	57336	57336	59256	59256	59256	61664	61664
Y4_4	57336	59256	59256	59256	61664	61664	61664	63776	63776	63776
Y4_5	59256	61664	61664	63776	63776	63776	66592	66592	66592	68808

TBS index	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y4_1	57336	57336	57336	59256	59256	59256	61664	61664	61664	63776
Y4_2	59256	59256	61664	61664	61664	63776	63776	63776	66592	66592
Y4_3	61664	63776	63776	63776	66592	66592	66592	68808	68808	68808
Y4_4	66592	66592	66592	68808	68808	68808	71112	71112	71112	73712
Y4_5	68808	68808	71112	71112	71112	73712	73712	75376	75376	76208

TBS index	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y4_1	63776	63776	63776	66592	66592	66592	68808	68808	68808	71112
Y4_2	66592	68808	68808	68808	71112	71112	71112	71112	73712	73712
Y4_3	71112	71112	71112	73712	73712	73712	75376	76208	76208	76208
Y4_4	73712	75376	75376	76208	76208	78704	78704	78704	81176	81176
Y4_5	76208	78704	78704	78704	81176	81176	81176	84760	84760	84760

TBS index	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y4_1	71112	71112	71112	73712	73712	73712	75376	75376	76208	76208
Y4_2	73712	75376	76208	76208	76208	78704	78704	78704	81176	81176
Y4_3	78704	78704	78704	81176	81176	81176	81176	84760	84760	84760
Y4_4	81176	81176	84760	84760	84760	84760	87936	87936	87936	87936
Y4_5	84760	87936	87936	87936	87936	90816	90816	90816	93800	93800

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Table C2

TBS index	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y4_1	680	1384	2088	2792	3496	4264	4968	5544	6200	6968
Y4_2	712	1480	2216	2984	3624	4392	5160	5992	6712	7224
Y4_3	744	1544	2344	3112	3880	4584	5352	6200	6968	7736
Y4_4	808	1608	2408	3240	4008	4968	5736	6456	7224	7992
Y4_5	840	1672	2536	3368	4264	5160	5992	6712	7736	8504
TBS index	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y4_1	7736	8504	9144	9912	10680	11064	11832	12576	13536	14112
Y4_2	7992	8760	9528	10296	11064	11832	12576	13536	14112	14688
Y4_3	8504	9144	9912	10680	11448	12216	12960	14112	14688	15264
Y4_4	8760	9912	10680	11448	12216	12960	13536	14688	15264	16416
Y4_5	9144	10296	11064	11832	12576	13536	14688	15264	16416	16992
TBS index	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y4_1	14688	15264	15840	16992	17568	18336	19080	19848	20616	21384
Y4_2	15264	16416	16992	17568	18336	19080	19848	20616	21384	22152
Y4_3	16416	16992	17568	18336	19080	19848	20616	21384	22152	22920
Y4_4	16992	17568	18336	19848	20616	21384	22152	22920	23688	24496
Y4_5	17568	18336	19848	20616	21384	22152	22920	23688	24496	25456
TBS index	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y4_1	21384	22152	22920	23688	24496	25456	25456	26416	27376	28336
Y4_2	22920	23688	24496	25456	25456	26416	27376	28336	28336	29296
Y4_3	23688	24496	25456	26416	27376	28336	28336	29296	30576	30576
Y4_4	25456	26416	26416	27376	28336	29296	30576	30576	31704	32856
Y4_5	26416	27376	28336	29296	29296	30576	31704	32856	32856	34008
TBS index	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y4_1	28336	29296	30576	30576	31704	31704	32856	34008	34008	35160

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Y4_2	30576	30576	31704	32856	32856	34008	35160	35160	36696	36696
Y4_3	31704	32856	32856	34008	35160	35160	36696	36696	37888	39232
Y4_4	32856	34008	35160	35160	36696	37888	37888	39232	39232	40576
Y4_5	35160	35160	36696	37888	37888	39232	40576	40576	42368	42368
TBS index	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y4_1	35160	36696	36696	37888	37888	39232	40576	40576	40576	42368
Y4_2	37888	37888	39232	39232	40576	40576	42368	42368	43816	43816
Y4_3	39232	40576	40576	42368	42368	43816	43816	45352	45352	46888
Y4_4	40576	42368	42368	43816	45352	45352	46888	46888	48936	48936
Y4_5	43816	43816	45352	45352	46888	46888	48936	48936	51024	51024
TBS index	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y4_1	42368	43816	43816	45352	45352	46888	46888	46888	48936	48936
Y4_2	45352	45352	46888	46888	48936	48936	48936	51024	51024	51024
Y4_3	46888	48936	48936	48936	51024	51024	52752	52752	52752	55056
Y4_4	48936	51024	51024	52752	52752	52752	55056	55056	55056	57336
Y4_5	51024	52752	52752	55056	55056	55056	57336	57336	59256	59256
TBS index	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y4_1	48936	51024	51024	51024	52752	52752	55056	55056	55056	55056
Y4_2	52752	52752	52752	55056	55056	55056	57336	57336	59256	59256
Y4_3	55056	55056	57336	57336	57336	59256	59256	61664	61664	61664
Y4_4	57336	59256	59256	59256	61664	61664	61664	63776	63776	63776
Y4_5	59256	61664	61664	63776	63776	63776	66592	66592	66592	68808
TBS index	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y4_1	57336	57336	57336	59256	59256	59256	61664	61664	61664	63776
Y4_2	59256	61664	61664	61664	63776	63776	63776	63776	66592	66592
Y4_3	63776	63776	63776	63776	66592	66592	66592	68808	68808	68808
Y4_4	66592	66592	66592	68808	68808	68808	71112	71112	71112	73712
Y4_5	68808	68808	71112	71112	71112	73712	73712	75376	75376	76208
TBS index	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y4_1	63776	63776	66592	66592	66592	66592	68808	68808	68808	71112
Y4_2	66592	68808	68808	68808	71112	71112	71112	71112	73712	73712
Y4_3	71112	71112	71112	73712	73712	73712	75376	76208	76208	78704
Y4_4	73712	75376	75376	76208	76208	78704	78704	78704	81176	81176
Y4_5	76208	78704	78704	78704	81176	81176	81176	84760	84760	84760
TBS index	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y4_1	71112	71112	71112	73712	73712	73712	75376	75376	76208	76208
Y4_2	75376	75376	76208	76208	78704	78704	78704	78704	81176	81176
Y4_3	78704	78704	78704	81176	81176	81176	84760	84760	84760	84760
Y4_4	81176	81176	84760	84760	84760	84760	87936	87936	87936	90816
Y4_5	84760	87936	87936	87936	87936	90816	90816	90816	93800	93800

In the seventh possible implementation, based on any of the first to sixth possible implementations, the entries for at least one modulation method of QPSK in the said second CQI table includes:

The entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are evenly spaced; or,

The entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are unevenly spaced; or,

The entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are non-continuous, and at least one entry other than the one with the largest CQI index among all entries for

1 modulation method of QPSK in the said second CQI table; or,

2 The entries in the said second CQI table where the modulation method is QPSK,
3 and the CQI index corresponding to the said entries are continuous, and at least one
4 entry other than the one with the largest CQI index among all the QPSK entries in the
5 said CQI table.

6 In the eighth possible implementation, based on any of the first to sixth possible
7 implementations, the entries for at least one modulation method of 16QAM in the said
8 second CQI table includes:

9 All entries in the said second CQI table where the modulation method is
10 16QAM; or,

11 At least one entry, other than the one corresponding to the smallest CQI index
12 among all the entries in the said second CQI table where the modulation method is
13 16QAM.

14 In the ninth possible implementation, based on any of the first to eighth possible
15 implementations, the said first CQI table further includes:

16 The entries for at least one modulation method of 64QAM in the said second
17 CQI table.

18 In the tenth possible implementation method, based on the ninth possible
19 implementation method, entries for at least one modulation method of 64QAM
20 includes:

21 All entries in the said second CQI table where the modulation method is
22 64QAM; or,

23 Partial entries in the said second CQI table where the modulation method is
24 64QAM, and at least one entry other than the one corresponding to the largest CQI
25 index among all the 64QAM entries in the said second CQI table.

26 In the eleventh possible implementation, based on any of the first to tenth
27 possible implementations, the entries the smallest CQI index in the said first CQI table
28 corresponding to modulation methods higher than 64QAM has a spectral efficiency
29 equal to that of the entries with the largest CQI index among all the entries in the said
30 second CQI table where the modulation method is 64QAM; or,

31 The spectral efficiency of the T entries with the smallest CQI index
32 corresponding to modulation methods higher than 64QAM in the said first CQI table
33 is equal to or approximately equal to the spectral efficiency of the T entries with the
34 largest CQI index among all the entries in the said second CQI table where the
35 modulation method is 64QAM, where T is any natural number between 1 and 5.

36 In the twelfth possible implementation, based on any of the first to eleventh
37 possible implementations, the range of CQI index values in the said first CQI table is
38 the same as the range of CQI index values in the said second CQI table.

39 In the thirteenth possible implementation, based on the second aspect or any of
40 the first to fourth possible implementations, the entries for at least one modulation
41 method of QPSK in the said second CQI table includes:

42 The partial entries in the said second CQI table where the modulation method
43 is QPSK, and the CQI index corresponding to the said entries are evenly spaced; or,

44 The partial entries in the said second MCS table where the modulation method

1 is QPSK, and the MCS index corresponding to the said entries are unevenly spaced;
2 or,

3 The partial entries in the said second MCS table where the modulation method
4 is QPSK, and the MCS index corresponding to the said entries are non-continuous,
5 and at least one entry other than the one with the largest MCS index among all entries
6 for modulation method of QPSK in the said second MCS table; or,

7 The partial entries in the said second MCS table where the modulation method
8 is QPSK, and the MCS index corresponding to the said entries are continuous, and at
9 least one entry other than the one with the largest MCS index among all entries for
10 modulation method of QPSK in the said second MCS table.

11 In the fourteenth possible implementation, based on any of the first to fourth
12 possible implementations, the entries for at least one modulation method of 16QAM
13 in the said second MCS table includes:

14 All entries in the said second MCS table where the modulation method is
15 16QAM; or,

16 The partial entries in the said second MCS table where the modulation method
17 is 16QAM, and the MCS index corresponding to the said partial entries are evenly
18 spaced; or,

19 The partial entries in the said second MCS table where the modulation method
20 is 16QAM, and the MCS index corresponding to the said partial entries are unevenly
21 spaced; or,

22 The partial entries in the said second MCS table where the modulation method
23 is 16QAM, and the MCS index corresponding to the said partial entries are non-
24 continuous, and at least one entry other than the one with the largest second MCS
25 index among all entries for modulation method of 16QAM in the said second MCS
26 table;

27 The partial entries in the said second MCS table where the modulation method
28 is 16QAM, and the MCS index corresponding to the said partial entries are continuous,
29 and at least one entry other than the one with the largest second MCS index among all
30 entries for modulation method of 16QAM in the said second MCS table;

31 The partial entries in the said second MCS table where the modulation method
32 is 16QAM, and at least one entry other than the one with the largest and smallest MCS
33 index among all entries for modulation method of 16QAM in the said second MCS
34 table.

35 In the fifteenth possible implementation, based on the second aspect or any of
36 the first to fourth, thirteenth, or fourteenth possible implementations, the said first
37 MCS table further includes:

38 The entries for at least one modulation method of 64QAM in the said second
39 MCS table.

40 In the fourteenth possible implementation, based on the fifteenth possible
41 implementation, the entries for at least one modulation method of 64QAM in the said
42 second MCS table includes:

43 All entries in the said second MCS table where the modulation method is
44 64QAM; or,

1 The partial entries in the said second MCS table where the modulation method
2 is 64QAM, and at least one entry other than the one with the smallest MCS index
3 among all entries for modulation method of 64QAM in the said second MCS table; or,

4 The partial entries in the said second MCS table where the modulation method
5 is 64QAM, and at least one entry other than the one with the largest MCS index among
6 all entries for modulation method of 64QAM in the said second MCS table.

7 In the seventeenth possible implementation, based on the fifteenth or sixteenth
8 possible implementation, the TBS index of the entries with the lowest MCS index
9 among all entries in the said first MCS table with a modulation method higher than
10 64QAM is the same as the TBS index of the entries with the highest MCS index among
11 all entries with a modulation method of 64QAM in the said second MCS table; or,

12 The TBS index of the R entries with the smallest MCS index among the entries
13 in the said first MCS table with a modulation method higher than 64QAM is equal to
14 the TBS index of the R entries with the largest MCS index among all entries with
15 modulation method of 64QAM and MCS index not greater than 27 in the said second
16 MCS table; where R is a natural number.

17 In the eighteenth possible implementation, based on the second aspect or any
18 of the first to fourth, thirteenth to seventeenth possible implementations, the range of
19 MCS index in the first MCS table is the same as the range of MCS indexes in the
20 said second MCS table.

21 In the nineteenth possible implementation, based on the second aspect or any
22 of the first to fourth, sixth, thirteenth to eighteenth possible implementations, the
23 said first MCS table further includes at least one of the entries in the following tables
24 D1, D2, D3, D4, or D5, where each entry includes a MCS index, as well as the
25 modulation order and TBS index corresponding to that MCS index:

26 Table D1

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	11
7	4	12
8	4	13
9	4	14
10	4	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

Table D2

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2

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	11
7	4	12
8	4	13
9	4	14
10	4	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	6	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

Table D3

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	12
7	4	13
8	4	14
9	4	15
10	6	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20

16	6	21
17	6	22
18	6	23
19	6	24
20	8	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

Table D4

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	12
7	4	13
8	4	14
9	4	15
10	6	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

Table D5

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	12
7	4	14
8	4	15
9	6	15
10	6	16
11	6	17
12	6	18
13	6	19
14	6	20
15	6	21
16	6	22
17	6	23
18	6	24
19	6	25
20	8	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

In a third aspect, the disclosure provides a method for notifying MCS, comprising:

the first MCS index sent by the receiving base station; the said first MCS index is determined by the base station based on the first MCS table;

Determine the modulation order and coding block size based on the first MCS table and the received first MCS index;

Where, the said first MCS table comprises:

Entries for modulation methods higher than 64QAM;

The entries for at least one modulation method of QPSK in the said second MCS table, and the entries for at least one said modulation method of QPSK includes combinations formed from the entries for at least one modulation method of QPSK in the said second MCS table, excluding the first combination. The said first combination consists of the K largest consecutive MCS index corresponding to QPSK in the said second MCS table, where K is equal to 4, or K is a positive integer less than 5, or K is a positive integer; and/or at least one entry for a 16QAM modulation method in the said second MCS table;

The modulation methods in the said second MCS table include only QPSK,

16QAM, and 64QAM.

In a first possible implementation, based on a third aspect, determination of the modulation order and coding block size based on the first MCS table and the first MCS index received includes:

Determining the first TBS index and modulation order based on the first MCS table and the first MCS index received;

Determining the size of the coding block based on the first TBS index, first PRB count, and the first TBS table;

Where, the said first PRB count is the PRB count allocated by the base station to the UE; or, the said first PRB count is the largest integer less than or equal to the product of the PRB count allocated to the UE and a specific coefficient;

The said first TBS table includes at least one PRB count corresponding to each TBS index, as well as the transmission block size corresponding to each PRB count; the said first TBS table is the TBS table corresponding to the said first MCS table.

In a second possible implementation, based on the first possible implementation, the range of TBS index in the said first TBS table is from 0 to A, where A is a positive integer less than or equal to 26; or, the range of TBS index in the said first TBS table is from 0 to B, where B is a positive integer greater than or equal to 26, and the transmission block size corresponding to TBS index from 0 to C in the said first TBS table is the same as the transmission block size corresponding to TBS index from 0 to C in the second TBS table, where C is a non-negative integer less than or equal to 26. The range of TBS index in the said second TBS table is from 0 to 26, and the said second TBS table includes at least one PRB count corresponding to each TBS index, as well as the transmission block size corresponding to each PRB count.

In the third possible implementation, based on the first or second possible implementation, the said first TBS table includes a TBS index Y1, where for each PRB count, the transmission block size corresponding to TBS index Y1 is greater than the transmission block size corresponding to TBS index 25 in the said second TBS table, and smaller than the transmission block size corresponding to TBS index 26 in the said second TBS table; where the range of TBS index in the said second TBS table is from 0 to 26, and the said second TBS table includes at least one PRB count corresponding to each TBS index, as well as the transmission block size corresponding to each PRB count.

In the fourth possible implementation, based on the first or second possible implementation, the said first TBS table includes TBS index Y2, as well as at least one entry in Table A corresponding to TBS index Y2, where any entries include a PRB count and the transmission block size corresponding to that PRB count:

Table A

TBS index	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y2	648	1320	1992	2664	3368	4008	4584	5352	5992	6712
TBS index	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y2	7224	7992	8504	9144	9912	10680	11448	11832	12576	12960
TBS index	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y2	14112	14688	15264	15840	16416	16992	17568	18336	19080	19848
TBS index	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y2	20616	21384	22152	22920	22920	23688	24496	25456	25456	26416
TBS index	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y2	27376	27376	28336	29296	29296	30576	31704	31704	32856	32856
TBS index	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y2	34008	34008	35160	35160	36696	36696	37888	37888	39232	39232
TBS index	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y2	40576	40576	42368	42368	43816	43816	43816	45352	45352	46888
TBS index	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y2	46888	46888	48936	48936	48936	51024	51024	51024	52752	52752
TBS index	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y2	52752	55056	55056	55056	57336	57336	57336	59256	59256	59256
TBS index	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y2	59256	61664	61664	61664	63776	63776	63776	63776	66592	66592
TBS index	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y2	66592	66592	68808	68808	68808	71112	71112	71112	71112	73712

and/or,

The said first TBS table includes TBS index Y3, as well as at least one entry corresponding to TBS index Y3 in Tables B1, B2, B3, or B4, where any entries include a PRB count and the transmission block size corresponding to that PRB count;

Table B1

TBS inde x	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y3	936	1928	2856	3880	4776	5736	6712	7736	8504	9528
TBS inde x	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y3	10680	11448	12576	13536	14112	15264	16416	16992	18336	19080
TBS inde x	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y3	19848	21384	22152	22920	23688	24496	25456	26416	27376	28336
TBS inde x	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y3	29296	30576	31704	32856	34008	34008	35160	36696	37888	37888
TBS inde x	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y3	39232	40576	40576	42368	43816	43816	45352	45352	46888	46888
TBS inde x	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y3	48936	48936	51024	51024	52752	52752	55056	55056	57336	57336
TBS inde x	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y3	59256	59256	59256	61664	61664	63776	63776	63776	66592	66592
TBS inde x	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y3	68808	68808	71112	71112	71112	73712	73712	75376	76208	76208
TBS inde x	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y3	78704	78704	78704	81176	81176	81176	84760	84760	84760	84760
TBS inde x	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	87936	87936	90816	90816	90816	90816	93800	93800	93800	101840
TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	101840	101840	101840	101840	101840	101840	101840	101840	101840	101840

Table B2

TBS inde x	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	87936	87936	90816	90816	90816	90816	93800	93800	93800	93800

TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	97896	97896	97896	101840	101840	101840	101840	105528	105528

Table B3

TBS inde x	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y3	968	1992	2984	4008	4968	5992	6968	7992	8760	9912
TBS inde x	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y3	10680	11832	12960	13536	14688	15840	16992	17568	19080	19848
TBS inde x	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y3	20616	21384	22920	23688	24496	25456	26416	27376	28336	29296
TBS inde x	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y3	30576	31704	32856	34008	35160	35160	36696	37888	37888	39232
TBS inde x	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y3	40576	40576	42368	43816	43816	45352	46888	46888	48936	48936
TBS inde x	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y3	51024	51024	52752	52752	55056	55056	55056	57336	57336	59256
TBS inde x	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y3	59256	61664	61664	63776	63776	63776	66592	66592	68808	68808
TBS inde x	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y3	71112	71112	71112	73712	75376	76208	76208	76208	78704	78704
TBS inde x	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y3	81176	81176	81176	81176	84760	84760	84760	87936	87936	87936
TBS inde x	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	90816	90816	90816	93800	93800	93800	93800	97896	97896	97896
TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	97896	97896	97896	97896	97896	97896	97896	97896	97896

Table B4

TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	101840	101840	101840	105528	105528	105528	105528	105528	110136

and/or,

The said first TBS table includes TBS index Y4_1 to Y4_5, as well as at least one entry in Tables C1 or C2 corresponding to TBS index Y4_1 to Y4_5, where any entries include a PRB count and the five transmission block sizes corresponding to that PRB count;

TBS index	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y4_1	680	1384	2088	2792	3496	4136	4968	5544	6200	6968
Y4_2	712	1480	2216	2984	3624	4392	5160	5992	6712	7224
Y4_3	744	1544	2280	3112	3880	4584	5352	6200	6968	7736
Y4_4	776	1608	2408	3240	4008	4776	5736	6456	7224	7992
Y4_5	840	1672	2536	3368	4264	5160	5992	6712	7480	8504

TBS index	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y4_1	7736	8248	9144	9912	10296	11064	11832	12576	13536	14112
Y4_2	7992	8760	9528	10296	11064	11832	12576	12960	14112	14688
Y4_3	8504	9144	9912	10680	11448	12216	12960	14112	14688	15264
Y4_4	8760	9528	10680	11448	12216	12960	13536	14688	15264	16416
Y4_5	9144	10296	11064	11832	12576	13536	14112	15264	15840	16992

TBS index	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y4_1	14688	15264	15840	16992	17568	18336	19080	19848	20616	20616
Y4_2	15264	16416	16992	17568	18336	19080	19848	20616	21384	22152
Y4_3	16416	16992	17568	18336	19080	19848	20616	21384	22152	22920
Y4_4	16992	17568	18336	19080	20616	21384	22152	22920	23688	24496
Y4_5	17568	18336	19848	20616	21384	22152	22920	23688	24496	25456

TBS index	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y4_1	21384	22152	22920	23688	24496	25456	25456	26416	27376	28336
Y4_2	22920	23688	24496	25456	25456	26416	27376	28336	28336	29296
Y4_3	23688	24496	25456	26416	27376	27376	28336	29296	30576	30576
Y4_4	25456	25456	26416	27376	28336	29296	30576	30576	31704	32856
Y4_5	26416	27376	28336	28336	29296	30576	31704	31704	32856	34008

TBS index	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y4_1	28336	29296	30576	30576	31704	31704	32856	34008	34008	35160
Y4_2	30576	30576	31704	32856	32856	34008	35160	35160	36696	36696
Y4_3	31704	32856	32856	34008	35160	35160	36696	36696	37888	39232
Y4_4	32856	34008	35160	35160	36696	37888	37888	39232	39232	40576
Y4_5	35160	35160	36696	37888	37888	39232	39232	40576	42368	42368

TBS index	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y4_1	35160	36696	36696	37888	37888	39232	40576	40576	40576	42368
Y4_2	37888	37888	39232	39232	40576	40576	42368	42368	43816	43816
Y4_3	39232	40576	40576	42368	42368	43816	43816	45352	45352	46888
Y4_4	40576	42368	42368	43816	45352	45352	46888	46888	46888	48936
Y4_5	43816	43816	45352	45352	46888	46888	48936	48936	51024	51024

TBS index	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y4_1	42368	43816	43816	45352	45352	46888	46888	46888	48936	48936
Y4_2	45352	45352	46888	46888	48936	48936	48936	51024	51024	51024
Y4_3	46888	48936	48936	48936	51024	51024	51024	52752	52752	55056
Y4_4	48936	51024	51024	52752	52752	52752	55056	55056	55056	57336
Y4_5	51024	52752	52752	55056	55056	55056	57336	57336	59256	59256

TBS index	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y4_1	48936	51024	51024	51024	52752	52752	55056	55056	55056	55056
Y4_2	52752	52752	52752	55056	55056	55056	57336	57336	57336	59256
Y4_3	55056	55056	57336	57336	57336	59256	59256	59256	61664	61664
Y4_4	57336	59256	59256	59256	61664	61664	61664	63776	63776	63776
Y4_5	59256	61664	61664	63776	63776	63776	66592	66592	66592	68808

TBS index	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y4_1	57336	57336	57336	59256	59256	59256	61664	61664	61664	63776
Y4_2	59256	59256	61664	61664	61664	63776	63776	63776	66592	66592
Y4_3	61664	63776	63776	63776	66592	66592	66592	68808	68808	68808
Y4_4	66592	66592	66592	68808	68808	68808	71112	71112	71112	73712
Y4_5	68808	68808	71112	71112	71112	73712	73712	75376	75376	76208

TBS index	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y4_1	63776	63776	63776	66592	66592	66592	68808	68808	68808	71112
Y4_2	66592	68808	68808	68808	71112	71112	71112	71112	73712	73712
Y4_3	71112	71112	71112	73712	73712	73712	75376	76208	76208	76208
Y4_4	73712	75376	75376	76208	76208	78704	78704	78704	81176	81176
Y4_5	76208	78704	78704	78704	81176	81176	81176	84760	84760	84760

TBS index	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y4_1	71112	71112	71112	73712	73712	73712	75376	75376	76208	76208
Y4_2	73712	75376	76208	76208	76208	78704	78704	78704	81176	81176
Y4_3	78704	78704	78704	81176	81176	81176	81176	84760	84760	84760
Y4_4	81176	81176	84760	84760	84760	84760	87936	87936	87936	87936
Y4_5	84760	87936	87936	87936	87936	90816	90816	90816	93800	93800

Table C2

TBS index	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y4_1	680	1384	2088	2792	3496	4264	4968	5544	6200	6968
Y4_2	712	1480	2216	2984	3624	4392	5160	5992	6712	7224
Y4_3	744	1544	2344	3112	3880	4584	5352	6200	6968	7736
Y4_4	808	1608	2408	3240	4008	4968	5736	6456	7224	7992
Y4_5	840	1672	2536	3368	4264	5160	5992	6712	7736	8504

TBS index	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y4_1	7736	8504	9144	9912	10680	11064	11832	12576	13536	14112
Y4_2	7992	8760	9528	10296	11064	11832	12576	13536	14112	14688
Y4_3	8504	9144	9912	10680	11448	12216	12960	14112	14688	15264
Y4_4	8760	9912	10680	11448	12216	12960	13536	14688	15264	16416
Y4_5	9144	10296	11064	11832	12576	13536	14688	15264	16416	16992

TBS index	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y4_1	14688	15264	15840	16992	17568	18336	19080	19848	20616	21384
Y4_2	15264	16416	16992	17568	18336	19080	19848	20616	21384	22152
Y4_3	16416	16992	17568	18336	19080	19848	20616	21384	22152	22920
Y4_4	16992	17568	18336	19848	20616	21384	22152	22920	23688	24496
Y4_5	17568	18336	19848	20616	21384	22152	22920	23688	24496	25456

TBS index	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y4_1	21384	22152	22920	23688	24496	25456	25456	26416	27376	28336
Y4_2	22920	23688	24496	25456	25456	26416	27376	28336	28336	29296
Y4_3	23688	24496	25456	26416	27376	28336	28336	29296	30576	30576
Y4_4	25456	26416	26416	27376	28336	29296	30576	30576	31704	32856
Y4_5	26416	27376	28336	29296	29296	30576	31704	32856	32856	34008

TBS index	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y4_1	28336	29296	30576	30576	31704	31704	32856	34008	34008	35160

1

Y4_2	30576	30576	31704	32856	32856	34008	35160	35160	36696	36696
Y4_3	31704	32856	32856	34008	35160	35160	36696	36696	37888	39232
Y4_4	32856	34008	35160	35160	36696	37888	37888	39232	39232	40576
Y4_5	35160	35160	36696	37888	37888	39232	40576	40576	42368	42368
TBS index	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y4_1	35160	36696	36696	37888	37888	39232	40576	40576	40576	42368
Y4_2	37888	37888	39232	39232	40576	40576	42368	42368	43816	43816
Y4_3	39232	40576	40576	42368	42368	43816	43816	45352	45352	46888
Y4_4	40576	42368	42368	43816	45352	45352	46888	46888	48936	48936
Y4_5	43816	43816	45352	45352	46888	46888	48936	48936	51024	51024
TBS index	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y4_1	42368	43816	43816	45352	45352	46888	46888	46888	48936	48936
Y4_2	45352	45352	46888	46888	48936	48936	48936	51024	51024	51024
Y4_3	46888	48936	48936	48936	51024	51024	52752	52752	52752	55056
Y4_4	48936	51024	51024	52752	52752	52752	55056	55056	55056	57336
Y4_5	51024	52752	52752	55056	55056	55056	57336	57336	59256	59256
TBS index	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y4_1	48936	51024	51024	51024	52752	52752	55056	55056	55056	55056
Y4_2	52752	52752	52752	55056	55056	55056	57336	57336	59256	59256
Y4_3	55056	55056	57336	57336	57336	59256	59256	61664	61664	61664
Y4_4	57336	59256	59256	59256	61664	61664	61664	63776	63776	63776
Y4_5	59256	61664	61664	63776	63776	63776	66592	66592	66592	68808
TBS index	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y4_1	57336	57336	57336	59256	59256	59256	61664	61664	61664	63776
Y4_2	59256	61664	61664	61664	63776	63776	63776	63776	66592	66592
Y4_3	63776	63776	63776	63776	66592	66592	66592	68808	68808	68808
Y4_4	66592	66592	66592	68808	68808	68808	71112	71112	71112	73712
Y4_5	68808	68808	71112	71112	71112	73712	73712	75376	75376	76208
TBS index	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y4_1	63776	63776	66592	66592	66592	66592	68808	68808	68808	71112
Y4_2	66592	68808	68808	68808	71112	71112	71112	71112	73712	73712
Y4_3	71112	71112	71112	73712	73712	73712	75376	76208	76208	78704
Y4_4	73712	75376	75376	76208	76208	78704	78704	78704	81176	81176
Y4_5	76208	78704	78704	78704	81176	81176	81176	84760	84760	84760
TBS index	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y4_1	71112	71112	71112	73712	73712	73712	75376	75376	76208	76208
Y4_2	75376	75376	76208	76208	78704	78704	78704	78704	81176	81176
Y4_3	78704	78704	78704	81176	81176	81176	84760	84760	84760	84760
Y4_4	81176	81176	84760	84760	84760	84760	87936	87936	87936	90816
Y4_5	84760	87936	87936	87936	87936	90816	90816	90816	93800	93800

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In the fifth possible implementation, based on the fourth aspect or any of the first to second possible implementations, the entries for at least one modulation method of QPSK in the said second MCS table includes:

The partial entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are evenly spaced; or,

The partial entries in the said second MCS table where the modulation method is QPSK, and the MCS index corresponding to the said entries are unevenly spaced; or,

The partial entries in the said second MCS table where the modulation method

1 is QPSK, and the MCS index corresponding to the said entries are non-continuous,
2 and at least one entry other than the one with the largest MCS index among all entries
3 for modulation method of QPSK in the said second MCS table; or,

4 The partial entries in the said second MCS table where the modulation method
5 is QPSK, and the MCS index corresponding to the said entries are continuous, and at
6 least one entry other than the one with the largest MCS index among all entries for
7 modulation method of QPSK in the said second MCS table.

8 In the sixth possible implementation, based on the fourth aspect or any of the
9 first to second possible implementations, the entries for at least one modulation
10 method of 16QAM in the said second MCS table includes:

11 All entries in the said second MCS table where the modulation method is
12 16QAM; or,

13 The partial entries in the said second MCS table where the modulation method
14 is 16QAM, and the MCS index corresponding to the said partial entries are evenly
15 spaced; or,

16 The partial entries in the said second MCS table where the modulation method
17 is 16QAM, and the MCS index corresponding to the said partial entries are unevenly
18 spaced; or,

19 The partial entries in the said second MCS table where the modulation method
20 is 16QAM, and the MCS index corresponding to the said partial entries are non-
21 continuous, and at least one entry other than the one with the largest second MCS
22 index among all entries for modulation method of 16QAM in the said second MCS
23 table; or

24 The partial entries in the said second MCS table where the modulation method
25 is 16QAM, and the MCS index corresponding to the said partial entries are continuous,
26 and at least one entry other than the one with the largest second MCS index among all
27 entries for modulation method of 16QAM in the said second MCS table; or

28 The partial entries in the said second MCS table where the modulation method
29 is 16QAM, and at least one entry other than the one with the largest and smallest MCS
30 index among all entries for modulation method of 16QAM in the said second MCS
31 table.

32 In a seventh possible implementation, based on the fourth aspect or any of the
33 first six possible implementation, the said first MCS table further comprises:

34 The entries for at least one modulation method of 64QAM in the said second
35 MCS table.

36 In the eighth possible implementation, based on the seventh possible
37 implementation, the entries for at least one modulation method of 64QAM in the said
38 second MCS table includes:

39 All entries in the said second MCS table where the modulation method is
40 64QAM; or,

41 The partial entries in the said second MCS table where the modulation method
42 is 64QAM, and at least one entry other than the one with the smallest MCS index
43 among all entries for modulation method of 64QAM in the said second MCS table; or,

44 The partial entries in the said second MCS table where the modulation method

is 64QAM, and at least one entry other than the one with the largest MCS index among all entries for modulation method of 64QAM in the said second MCS table.

In the ninth possible implementation, based on the seventh or eighth possible implementation, the entries for at least one modulation method of 64QAM in the said second MCS table includes:

the TBS index of the entries with the lowest MCS index among all entries in the said first MCS table with a modulation method higher than 64QAM is the same as the TBS index of the entries with the highest MCS index among all entries with a modulation method of 64QAM in the said second MCS table; or,

the TBS index of the R entries with the smallest MCS index among the entries in the said first MCS table with a modulation method higher than 64QAM is equal to the TBS index of the R entries with the largest MCS index among all entries with modulation method of 64QAM and MCS index not greater than 27 in the said second MCS table; where R is a natural number.

In the tenth possible implementation, based on the fourth aspect or any of the previous nine possible implementations, the range of MCS index values in the said first MCS table is the same as the range of MCS index values in the said second MCS table.

In the eleventh possible implementation, based on the fourth aspect or any of the first ten possible implementations, the said first MCS table further includes at least one of the entries in the following tables D1, D2, D3, D4, or D5, where each entry includes a MCS index, as well as the modulation order and TBS index corresponding to that MCS index:

Table D1

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0

1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	11
7	4	12
8	4	13
9	4	14
10	4	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

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Table D2

MCS index I_{MCS}	Modulation Order	TBS index I_{TBS}
0	Q_m 2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	11
7	4	12
8	4	13
9	4	14
10	4	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	6	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

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Table D3

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	12
7	4	13
8	4	14
9	4	15
10	6	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	8	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

Table D4

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0

1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	12
7	4	13
8	4	14
9	4	15
10	6	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

Table D5

MCS index I_{MCS}	Modulation Order	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	12
7	4	14
8	4	15
9	6	15
10	6	16
11	6	17
12	6	18
13	6	19
14	6	20
15	6	21
16	6	22
17	6	23
18	6	24
19	6	25

20	8	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

In a fourth aspect, the disclosure provides a device for notifying CQI, including:
an acquisition module for acquiring a first CQI table;

Acquisition module one: For obtains the first CQI index based on the acquired first CQI table by the said acquisition module;

Sending module: For sends the first CQI index acquired by the said acquisition module to the base station, so that the base station determines the first Modulation and Coding Scheme (MCS) index based on the first CQI index;

The first CQI table acquired by the said acquisition module includes:

Entries for modulation methods higher than 64-phases Quadrature Amplitude Modulation (QAM);

The entries for at least one modulation method of Quadrature Phase Shift Keying (QPSK) in the second CQI table, and the entries for at least one said modulation method of QPSK includes combinations formed from entries corresponding to QPSK in the said second CQI table, excluding the first combination. The said first combination consists of the N largest consecutive CQI index entries corresponding to QPSK in the said second CQI table, where N is equal to 3, or N is a positive integer less than 4, or said N is a positive integer; and/or the second CQI table includes entries for at least one modulation method of 16QAM;

Wherein, the entries in the said second CQI table include modulation methods of only QPSK, 16QAM, and 64QAM.

In a first possible implementation, based on the fourth aspect, the entries for at least one modulation method of QPSK in the first CQI table acquired by the said acquisition module for the said second CQI table includes:

The entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are evenly spaced; or,

The entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are unevenly spaced; or,

The entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are non-continuous, and at least one entry other than the one with the largest CQI index among all entries for modulation method of QPSK in the said second CQI table; or,

The entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are continuous, and at least one entry other than the one with the largest CQI index among all the QPSK entries in the

1 said CQI table.

2 In a second possible implementation, based on the fourth aspect, the entries for
3 at least one modulation method of 16QAM in the first CQI table acquired by the said
4 acquisition module for the second CQI table includes:

5 All entries in the said second CQI table where the modulation method is
6 16QAM; or,

7 At least one entry, other than the one corresponding to the smallest CQI index
8 among all the entries in the said second CQI table where the modulation method is
9 16QAM.

10 In a third possible implementation, based on the fourth aspect or the any of
11 previous two possible implementations, the said first CQI table acquired by the said
12 acquisition module further includes:

13 The entries for at least one modulation method of 64QAM in the said second
14 CQI table.

15 In a fourth possible implementation, based on the third possible implementation,
16 the entries for at least one said modulation method of 64QAM includes:

17 All entries in the said second CQI table where the modulation method is
18 64QAM; or,

19 Partial entries in the said second CQI table where the modulation method is
20 64QAM, and at least one entry other than the one corresponding to the largest CQI
21 index among all the 64QAM entries in the said second CQI table.

22 In a fifth possible implementation, based on the fourth aspect, the entries with
23 the smallest CQI index in the first CQI table acquired by the said acquisition module
24 corresponding to modulation methods higher than 64QAM has a spectral efficiency
25 equal to that of the entries with the largest CQI index among all the entries in the said
26 second CQI table where the modulation method is 64QAM; or,

27 The spectral efficiency of the T entries with the smallest CQI index
28 corresponding to modulation methods higher than 64QAM in the said first CQI table
29 is equal to or approximately equal to the spectral efficiency of the T entries with the
30 largest CQI index among all the entries in the said second CQI table where the
31 modulation method is 64QAM, where T is any natural number between 1 and 5.

32 In a sixth possible implementation, based on the fourth aspect, the spectral
33 efficiency of the entries with the largest CQI index corresponding to modulation
34 methods higher than 64QAM in the said first CQI table is:

35 The spectral efficiency of the entries with the largest CQI index among all the
36 entries in the said second CQI table where the modulation method is 64QAM,
37 multiplied by $\frac{4}{3}$;

38 Alternatively, 8 times the terminal's maximum coding rate, where the maximum
39 coding rate is a positive real number less than 1;

40 Or, 7.4063;

41 Or, 7.432.

42 In a seventh possible implementation, based on the fourth aspect, the spectral
43 efficiency of the X entries with the largest CQI index in the said first CQI table is
44 arranged in an arithmetic sequence or an approximately arithmetic sequence in

1 ascending order of spectral efficiency; Where, when the spectral efficiency of the X
2 entries with the largest CQI index in the said first CQI table is arranged in an arithmetic
3 sequence in ascending order of spectral efficiency, it means that starting from the
4 second entry of the said X entries, the difference in spectral efficiency between each
5 entry and its preceding entry is equal to the same constant; When the spectral
6 efficiency of the X entries with the largest CQI index in the said first CQI table is
7 arranged in an approximately arithmetic sequence in ascending order of spectral
8 efficiency, it means that starting from the second entry of the X entries, the difference
9 in spectral efficiency between each entry and its preceding entry falls within a range
10 defined by a constant minus a preset value and the same constant plus the preset value;
11 Here, the said X is an integer greater than 2;

12 Where, the spectral efficiency of the entries with the smallest CQI index among
13 the X entries with the largest CQI index in the said first CQI table is equal to the
14 spectral efficiency of the entries with the largest CQI index among all the entries in
15 the said second CQI table where the modulation method is 64QAM;

16 The spectral efficiency of the entries with the largest CQI index among the X
17 entries with the largest CQI index in the said first CQI table is:

18 The spectral efficiency of the entries with the largest CQI index among all the
19 entries in the said second CQI table where the modulation method is 64QAM,
20 multiplied by 4/3;

21 Alternatively, 8 times the terminal's maximum coding rate, where the maximum
22 coding rate is a positive real number less than 1;

23 Or, 7.4063;

24 Or, 7.432.

25 In an eighth possible implementation, based on the fourth aspect, and any of the
26 first to second, sixth, or seventh possible implementations, the spectral efficiency of
27 the entries with modulation methods higher than 64QAM in the said first CQI table
28 includes at least one set of the following values:

{5.5547 6.1805 6.8062 7.432} ,
{6.1805 6.8062 7.432},
{5.5547 6.1797 6.8047 7.4297},
{6.1797 6.8047 7.4297},
{ 5.5547 6.1719 6.7891 7.4063 },
{6.1719 6.7891 7.4063},
{5.5547 6.4934 7.432},
{6.4934 7.432},
{ 5.5547 6.4922 7.4297 },
1 { 6.4922 7.4297 },

$\{ 5.5547 \quad 6.4805 \quad 7.4063 \},$
 $\{ 6.4805 \quad 7.4063 \},$
 $\{ 5.5547 \quad 6.4844 \quad 7.4063 \},$
 $\{ 6.4844 \quad 7.4063 \},$
 $\{ 5.5547 \quad 6.0240 \quad 6.4934 \quad 6.9627 \quad 7.432 \},$
 $\{ 6.0234 \quad 6.4922 \quad 6.9609 \quad 7.4297 \},$
 $\{ 5.5547 \quad 6.0234 \quad 6.4922 \quad 6.9609 \quad 7.4297 \},$
 $\{ 6.0176 \quad 6.4805 \quad 6.9434 \quad 7.4063 \},$
 $\{ 5.5547 \quad 6.0176 \quad 6.4805 \quad 6.9434 \quad 7.4063 \},$
 $\{ 6.0176 \quad 6.4805 \quad 6.9434 \quad 7.4063 \},$
 $\{ 5.5547 \quad 6.0156 \quad 6.4844 \quad 6.9453 \quad 7.4063 \},$
 $\{ 6.0156 \quad 6.4844 \quad 6.9453 \quad 7.4063 \},$
 $\{ 5.5547 \quad 5.9302 \quad 6.3056 \quad 6.6811 \quad 7.0565 \quad 7.432 \},$
 $\{ 5.9302 \quad 6.3056 \quad 6.6811 \quad 7.0565 \quad 7.432 \},$
 $\{ 5.5547 \quad 5.9297 \quad 6.3047 \quad 6.6797 \quad 7.0547 \quad 7.4297 \},$
 $\{ 5.9297 \quad 6.3047 \quad 6.6797 \quad 7.0547 \quad 7.4297 \},$
 $\{ 5.5547 \quad 5.9250 \quad 6.2953 \quad 6.6656 \quad 7.0360 \quad 7.4063 \},$
 $\{ 5.9250 \quad 6.2953 \quad 6.6656 \quad 7.0360 \quad 7.4063 \},$
 $\{ 5.5547 \quad 5.9219 \quad 6.2969 \quad 6.6641 \quad 7.0391 \quad 7.4063 \},$
 $\{ 5.9219 \quad 6.2969 \quad 6.6641 \quad 7.0391 \quad 7.4063 \}.$

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In a ninth possible implementation, according to the fourth aspect, the range of CQI index values in the said first CQI table acquired by the said acquisition module

1 is the same as the range of CQI index values in the said second CQI table.

2 In a fifth aspect, the disclosure provides a device for notifying MCS, comprising:
3 an acquisition module for acquiring a first CQI table and a first MCS table;

4 Receiving module: For receive the first Channel Quality Indicator (CQI)
5 Number sent by the terminal (UE), and the said first CQI index is determined by the
6 said UE based on the acquired first CQI table;

7 Determining module: For determines a first MCS index from a first CQI table
8 acquired by an acquisition module, a first MCS table acquired by an acquisition
9 module, and a first CQI index received by the said receiving module;

10 Sending module: For sends the said determined first MCS index to the said UE;

11 Where, the first CQI table acquired by the said acquisition module includes:

12 Entries for modulation methods higher than 64QAM;

13 The first MCS table acquired by the said acquisition module comprises:

14 Entries for modulation methods higher than 64QAM;

15 The entries for at least one modulation method of QPSK in the said second MCS
16 table, and the entries for at least one said modulation method of QPSK includes
17 combinations formed from the entries for at least one modulation method of QPSK in
18 the said second MCS table, excluding the second combination. The said second
19 combination consists of the K largest consecutive MCS index corresponding to QPSK
20 in the said second MCS table, where K is equal to 4, or K is a positive integer less than
21 5, or K is a positive integer; and/or at least one entry for a 16QAM modulation method
22 in the said second MCS table;

23 The modulation methods in the said second MCS table include only QPSK,
24 16QAM, and 64QAM.

25 In a first possible implementation, based on a fifth aspect, the said first CQI
26 table further comprises:

27 The entries for at least one modulation method of QPSK in the second CQI table,
28 and the entries for at least one said modulation method of QPSK includes
29 combinations formed from entries corresponding to QPSK in the said second CQI
30 table, excluding the first combination. The said first combination consists of the N
31 largest consecutive CQI index entries corresponding to QPSK in the said second CQI
32 table, where N is equal to 3, or N is a positive integer less than 4, or said N is a positive
33 integer; and/or the second CQI table includes entries for at least one modulation
34 method of 16QAM;

35 The modulation methods in the said second CQI table include only QPSK,
36 16QAM, and 64QAM.

37 In a second possible implementation, based on the fifth aspect or the first
38 possible implementation, the said determining module is specifically used for:

39 Determining the first TBS index and the first MCS index based on the acquired
40 first PRB count, the first CQI table acquired by the said acquisition module, the first
41 TBS table, and the received first CQI index;

42 Where, the said first PRB count is the PRB count allocated by the base station
43 to the UE; or, the said first PRB count is the largest integer less than or equal to the
44 product of the PRB count allocated to the UE and a specific coefficient;

1 The said first TBS table includes at least one PRB count corresponding to each
2 TBS index, as well as the transmission block size corresponding to each PRB count;
3 the said first TBS table is the TBS table corresponding to the said first MCS table.

4 In a third possible implementation, based on the second possible
5 implementation,

6 the range of TBS index in the said first TBS table is from 0 to A, where A is a
7 positive integer less than or equal to 26; or, the range of TBS index in the said first
8 TBS table is from 0 to B, where B is a positive integer greater than or equal to 26, and
9 the transmission block size corresponding to TBS index from 0 to C in the said first
10 TBS table is the same as the transmission block size corresponding to TBS index from
11 0 to C in the second TBS table, where C is a non-negative integer less than or equal to
12 26. The range of TBS index in the said second TBS table is from 0 to 26, and the said
13 second TBS table includes at least one PRB count corresponding to each TBS index,
14 as well as the transmission block size corresponding to each PRB count.

15 In a fourth possible implementation, based on the second possible
16 implementation, the said determining module comprises:

17 First determined sub-module: For determining a first modulation method and a
18 first spectral efficiency corresponding to the received first CQI index based on the first
19 CQI table acquired by the said acquisition module and the received first CQI index;

20 Second determined sub-module: For determining the first transmission block
21 size transmitted to the said UE based on the first PRB count and the first spectral
22 efficiency;

23 Acquired the first TBS index corresponding to the said first transmission block
24 size described in the first TBS table and the first PRB count based on the first TBS
25 table.

26 In the fifth possible implementation, based on any of the second to fourth
27 possible implementation, the said first TBS table includes a TBS index Y1, where for
28 each PRB count, the transmission block size corresponding to TBS index Y1 is greater
29 than the transmission block size corresponding to TBS index 25 in the said second
30 TBS table, and smaller than the transmission block size corresponding to TBS index
31 26 in the said second TBS table; where the range of TBS index in the said second TBS
32 table is from 0 to 26, and the said second TBS table includes at least one PRB count
33 corresponding to each TBS index, as well as the transmission block size corresponding
34 to each PRB count.

35 In the sixth possible implementation, based on any of the second to fourth
36 possible implementation, the said first TBS table includes TBS index Y2, as well as
37 at least one entry in Table A corresponding to TBS index Y2, where any entries
38 include a PRB count and the transmission block size corresponding to that PRB count:

Table A

TBS inde x	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y2	648	1320	1992	2664	3368	4008	4584	5352	5992	6712
TBS inde x	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y2	7224	7992	8504	9144	9912	10680	11448	11832	12576	12960
TBS inde x	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y2	14112	14688	15264	15840	16416	16992	17568	18336	19080	19848
TBS inde x	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y2	20616	21384	22152	22920	22920	23688	24496	25456	25456	26416
TBS inde x	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y2	27376	27376	28336	29296	29296	30576	31704	31704	32856	32856
TBS inde x	PRB Count									
	51	52	53	54	55	56	57	58	59	60
27	34008	34008	35160	35160	36696	36696	37888	37888	39232	39232

TBS inde x	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y2	40576	40576	42368	42368	43816	43816	43816	45352	45352	46888
TBS inde x	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y2	46888	46888	48936	48936	48936	51024	51024	51024	52752	52752
TBS inde x	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y2	52752	55056	55056	55056	57336	57336	57336	59256	59256	59256
TBS inde x	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y2	59256	61664	61664	61664	63776	63776	63776	63776	66592	66592
TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y2	66592	66592	68808	68808	68808	71112	71112	71112	71112	73712

and/or,

The said first TBS table includes TBS index Y3, as well as at least one entry corresponding to TBS index Y3 in Tables B1, B2, B3, or B4, where any entries include a PRB count and the transmission block size corresponding to that PRB count;

Table B1

TBS inde x	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y3	936	1928	2856	3880	4776	5736	6712	7736	8504	9528
TBS inde x	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y3	10680	11448	12576	13536	14112	15264	16416	16992	18336	19080
TBS inde x	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y3	19848	21384	22152	22920	23688	24496	25456	26416	27376	28336
TBS inde x	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y3	29296	30576	31704	32856	34008	34008	35160	36696	37888	37888
TBS inde x	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y3	39232	40576	40576	42368	43816	43816	45352	45352	46888	46888
TBS inde x	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y3	48936	48936	51024	51024	52752	52752	55056	55056	57336	57336
TBS inde x	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y3	59256	59256	59256	61664	61664	63776	63776	63776	66592	66592

TBS inde x	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y3	68808	68808	71112	71112	71112	73712	73712	75376	76208	76208
TBS inde x	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y3	78704	78704	78704	81176	81176	81176	84760	84760	84760	84760
TBS inde x	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	87936	87936	90816	90816	90816	90816	93800	93800	93800	101840
TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	101840	101840	101840	101840	101840	101840	101840	101840	101840	101840

Table B2

TBS inde x	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	87936	87936	90816	90816	90816	90816	93800	93800	93800	93800

TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	97896	97896	97896	101840	101840	101840	101840	105528	105528

Table B3

TBS inde x	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y3	968	1992	2984	4008	4968	5992	6968	7992	8760	9912

TBS inde x	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y3	10680	11832	12960	13536	14688	15840	16992	17568	19080	19848

TBS inde x	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y3	20616	21384	22920	23688	24496	25456	26416	27376	28336	29296

TBS inde x	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y3	30576	31704	32856	34008	35160	35160	36696	37888	37888	39232

TBS inde x	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y3	40576	40576	42368	43816	43816	45352	46888	46888	48936	48936

TBS inde x	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y3	51024	51024	52752	52752	55056	55056	55056	57336	57336	59256

TBS inde x	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y3	59256	61664	61664	63776	63776	63776	66592	66592	68808	68808

TBS inde x	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y3	71112	71112	71112	73712	75376	76208	76208	76208	78704	78704
TBS inde x	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y3	81176	81176	81176	81176	84760	84760	84760	87936	87936	87936
TBS inde x	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	90816	90816	90816	93800	93800	93800	93800	97896	97896	97896
TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	97896	97896	97896	97896	97896	97896	97896	97896	97896

Table B4

TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	101840	101840	101840	105528	105528	105528	105528	105528	110136

and/or,

The said first TBS table includes TBS index Y4_1 to Y4_5, as well as at least one entry in Tables C1 or C2 corresponding to TBS index Y4_1 to Y4_5, where any entries include a PRB count and the five transmission block sizes corresponding to that PRB count;

Table C1

TBS inde x	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y4_1	680	1384	2088	2792	3496	4136	4968	5544	6200	6968
Y4_2	712	1480	2216	2984	3624	4392	5160	5992	6712	7224
Y4_3	744	1544	2280	3112	3880	4584	5352	6200	6968	7736
Y4_4	776	1608	2408	3240	4008	4776	5736	6456	7224	7992
Y4_5	840	1672	2536	3368	4264	5160	5992	6712	7480	8504
TBS inde x	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y4_1	7736	8248	9144	9912	10296	11064	11832	12576	13536	14112
Y4_2	7992	8760	9528	10296	11064	11832	12576	12960	14112	14688
Y4_3	8504	9144	9912	10680	11448	12216	12960	14112	14688	15264
Y4_4	8760	9528	10680	11448	12216	12960	13536	14688	15264	16416
Y4_5	9144	10296	11064	11832	12576	13536	14112	15264	15840	16992
TBS inde x	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y4_1	14688	15264	15840	16992	17568	18336	19080	19848	20616	20616
Y4_2	15264	16416	16992	17568	18336	19080	19848	20616	21384	22152
Y4_3	16416	16992	17568	18336	19080	19848	20616	21384	22152	22920
Y4_4	16992	17568	18336	19080	20616	21384	22152	22920	23688	24496
Y4_5	17568	18336	19848	20616	21384	22152	22920	23688	24496	25456
TBS inde x	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y4_1	21384	22152	22920	23688	24496	25456	25456	26416	27376	28336
Y4_2	22920	23688	24496	25456	25456	26416	27376	28336	28336	29296

Y4_3	23688	24496	25456	26416	27376	27376	28336	29296	30576	30576
Y4_4	25456	25456	26416	27376	28336	29296	30576	30576	31704	32856
Y4_5	26416	27376	28336	28336	29296	30576	31704	31704	32856	34008
TBS inde	PRB Count									
x	41	42	43	44	45	46	47	48	49	50
Y4_1	28336	29296	30576	30576	31704	31704	32856	34008	34008	35160
Y4_2	30576	30576	31704	32856	32856	34008	35160	35160	36696	36696
Y4_3	31704	32856	32856	34008	35160	35160	36696	36696	37888	39232
Y4_4	32856	34008	35160	35160	36696	37888	37888	39232	39232	40576
Y4_5	35160	35160	36696	37888	37888	39232	39232	40576	42368	42368
TBS inde	PRB Count									
x	51	52	53	54	55	56	57	58	59	60
Y4_1	35160	36696	36696	37888	37888	39232	40576	40576	40576	42368
Y4_2	37888	37888	39232	39232	40576	40576	42368	42368	43816	43816
Y4_3	39232	40576	40576	42368	42368	43816	43816	45352	45352	46888
Y4_4	40576	42368	42368	43816	45352	45352	46888	46888	46888	48936
Y4_5	43816	43816	45352	45352	46888	46888	48936	48936	51024	51024
TBS inde	PRB Count									
x	61	62	63	64	65	66	67	68	69	70
Y4_1	42368	43816	43816	45352	45352	46888	46888	46888	48936	48936
Y4_2	45352	45352	46888	46888	48936	48936	48936	51024	51024	51024
Y4_3	46888	48936	48936	48936	51024	51024	51024	52752	52752	55056
Y4_4	48936	51024	51024	52752	52752	52752	55056	55056	55056	57336
Y4_5	51024	52752	52752	55056	55056	55056	57336	57336	59256	59256
TBS inde	PRB Count									
x	71	72	73	74	75	76	77	78	79	80
Y4_1	48936	51024	51024	51024	52752	52752	55056	55056	55056	55056
Y4_2	52752	52752	52752	55056	55056	55056	57336	57336	57336	59256
Y4_3	55056	55056	57336	57336	57336	59256	59256	59256	61664	61664
Y4_4	57336	59256	59256	59256	61664	61664	61664	63776	63776	63776
Y4_5	59256	61664	61664	63776	63776	63776	66592	66592	66592	68808
TBS inde	PRB Count									
x	81	82	83	84	85	86	87	88	89	90
Y4_1	57336	57336	57336	59256	59256	59256	61664	61664	61664	63776
Y4_2	59256	59256	61664	61664	61664	63776	63776	63776	66592	66592
Y4_3	61664	63776	63776	63776	66592	66592	66592	68808	68808	68808
Y4_4	66592	66592	66592	68808	68808	68808	71112	71112	71112	73712
Y4_5	68808	68808	71112	71112	71112	73712	73712	75376	75376	76208
TBS inde	PRB Count									
x	91	92	93	94	95	96	97	98	99	100
Y4_1	63776	63776	63776	66592	66592	66592	68808	68808	68808	71112
Y4_2	66592	68808	68808	68808	71112	71112	71112	71112	73712	73712
Y4_3	71112	71112	71112	73712	73712	73712	75376	76208	76208	76208
Y4_4	73712	75376	75376	76208	76208	78704	78704	78704	81176	81176
Y4_5	76208	78704	78704	78704	81176	81176	81176	84760	84760	84760
TBS inde	PRB Count									
x	101	102	103	104	105	106	107	108	109	110
Y4_1	71112	71112	71112	73712	73712	73712	75376	75376	76208	76208
Y4_2	73712	75376	76208	76208	76208	78704	78704	78704	81176	81176
Y4_3	78704	78704	78704	81176	81176	81176	81176	84760	84760	84760
Y4_4	81176	81176	84760	84760	84760	84760	87936	87936	87936	87936
Y4_5	84760	87936	87936	87936	87936	90816	90816	90816	93800	93800

Table C2

TBS inde	PRB Count									
x	1	2	3	4	5	6	7	8	9	10
Y4_1	680	1384	2088	2792	3496	4264	4968	5544	6200	6968
Y4_2	712	1480	2216	2984	3624	4392	5160	5992	6712	7224
Y4_3	744	1544	2344	3112	3880	4584	5352	6200	6968	7736
Y4_4	808	1608	2408	3240	4008	4968	5736	6456	7224	7992
Y4_5	840	1672	2536	3368	4264	5160	5992	6712	7736	8504

TBS inde	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y4 1	7736	8504	9144	9912	10680	11064	11832	12576	13536	14112
Y4 2	7992	8760	9528	10296	11064	11832	12576	13536	14112	14688
Y4 3	8504	9144	9912	10680	11448	12216	12960	14112	14688	15264
Y4 4	8760	9912	10680	11448	12216	12960	13536	14688	15264	16416
Y4 5	9144	10296	11064	11832	12576	13536	14688	15264	16416	16992
TBS inde	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y4 1	14688	15264	15840	16992	17568	18336	19080	19848	20616	21384
Y4 2	15264	16416	16992	17568	18336	19080	19848	20616	21384	22152
Y4 3	16416	16992	17568	18336	19080	19848	20616	21384	22152	22920
Y4 4	16992	17568	18336	19848	20616	21384	22152	22920	23688	24496
Y4 5	17568	18336	19848	20616	21384	22152	22920	23688	24496	25456
TBS inde	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y4 1	21384	22152	22920	23688	24496	25456	25456	26416	27376	28336
Y4 2	22920	23688	24496	25456	25456	26416	27376	28336	28336	29296
Y4 3	23688	24496	25456	26416	27376	28336	28336	29296	30576	30576
Y4 4	25456	26416	26416	27376	28336	29296	30576	30576	31704	32856
Y4 5	26416	27376	28336	29296	29296	30576	31704	32856	32856	34008
TBS inde	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y4 1	28336	29296	30576	30576	31704	31704	32856	34008	34008	35160
Y4 2	30576	30576	31704	32856	32856	34008	35160	35160	36696	36696
Y4 3	31704	32856	32856	34008	35160	35160	36696	36696	37888	39232
Y4 4	32856	34008	35160	35160	36696	37888	37888	39232	39232	40576
Y4 5	35160	35160	36696	37888	37888	39232	40576	40576	42368	42368
TBS inde	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y4 1	35160	36696	36696	37888	37888	39232	40576	40576	40576	42368
Y4 2	37888	37888	39232	39232	40576	40576	42368	42368	43816	43816
Y4 3	39232	40576	40576	42368	42368	43816	43816	45352	45352	46888
Y4 4	40576	42368	42368	43816	45352	45352	46888	46888	48936	48936
Y4 5	43816	43816	45352	45352	46888	46888	48936	48936	51024	51024
TBS inde	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y4 1	42368	43816	43816	45352	45352	46888	46888	46888	48936	48936
Y4 2	45352	45352	46888	46888	48936	48936	48936	51024	51024	51024
Y4 3	46888	48936	48936	48936	51024	51024	52752	52752	52752	55056
Y4 4	48936	51024	51024	52752	52752	52752	55056	55056	55056	57336
Y4 5	51024	52752	52752	55056	55056	55056	57336	57336	59256	59256
TBS inde	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y4 1	48936	51024	51024	51024	52752	52752	55056	55056	55056	55056
Y4 2	52752	52752	52752	55056	55056	55056	57336	57336	59256	59256
Y4 3	55056	55056	57336	57336	57336	59256	59256	61664	61664	61664
Y4 4	57336	59256	59256	59256	61664	61664	61664	63776	63776	63776
Y4 5	59256	61664	61664	63776	63776	63776	66592	66592	66592	68808
TBS inde	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y4 1	57336	57336	57336	59256	59256	59256	61664	61664	61664	63776
Y4 2	59256	61664	61664	61664	63776	63776	63776	63776	66592	66592
Y4 3	63776	63776	63776	63776	66592	66592	66592	68808	68808	68808
Y4 4	66592	66592	66592	68808	68808	68808	71112	71112	71112	73712
Y4 5	68808	68808	71112	71112	71112	73712	73712	75376	75376	76208
TBS inde	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y4 1	63776	63776	66592	66592	66592	66592	68808	68808	68808	71112
Y4 2	66592	68808	68808	68808	71112	71112	71112	71112	73712	73712
Y4 3	71112	71112	71112	73712	73712	73712	75376	76208	76208	78704
Y4 4	73712	75376	75376	76208	76208	78704	78704	78704	81176	81176

Y4 5	76208	78704	78704	78704	81176	81176	81176	84760	84760	84760
TBS inde	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y4 1	71112	71112	71112	73712	73712	73712	75376	75376	76208	76208
Y4 2	75376	75376	76208	76208	78704	78704	78704	78704	81176	81176
Y4 3	78704	78704	78704	81176	81176	81176	84760	84760	84760	84760
Y4 4	81176	81176	84760	84760	84760	84760	87936	87936	87936	90816
Y4 5	84760	87936	87936	87936	87936	90816	90816	90816	93800	93800

1 In the seventh possible implementation, based on any of previous six possible
2 implementations, the entries for at least one modulation method of QPSK in the said
3 second CQI table includes:

4 The entries in the said second CQI table where the modulation method is QPSK,
5 and the CQI index corresponding to the said entries are evenly spaced; or,

6 The entries in the said second CQI table where the modulation method is QPSK,
7 and the CQI index corresponding to the said entries are unevenly spaced; or,

8 The entries in the said second CQI table where the modulation method is QPSK,
9 and the CQI index corresponding to the said entries are non-continuous, and at least
10 one entry other than the one with the largest CQI index among all entries for
11 modulation method of QPSK in the said second CQI table; or,

12 The entries in the said second CQI table where the modulation method is QPSK,
13 and the CQI index corresponding to the said entries are continuous, and at least one
14 entry other than the one with the largest CQI index among all the QPSK entries in the
15 said CQI table.

16 In a eighth possible implementation, based on any of previous six possible
17 implementations, the entries for at least one modulation method of 16QAM in the first
18 CQI table acquired by the said acquisition module for the second CQI table includes:

19 All entries in the said second CQI table where the modulation method is
20 16QAM; or,

21 At least one entry, other than the one corresponding to the smallest CQI index
22 among all the entries in the said second CQI table where the modulation method is
23 16QAM.

24 In a ninth possible implementation, based on any of previous eight possible
25 implementations, the said first CQI table acquired by the said acquisition module
26 further includes:

27 The entries for at least one modulation method of 64QAM in the said second
28 CQI table.

29 In a tenth possible implementation, based on the ninth possible implementation,
30 the entries for at least one said modulation method of 64QAM includes:

31 All entries in the said second CQI table where the modulation method is
32 64QAM; or,

33 Partial entries in the said second CQI table where the modulation method is
34 64QAM, and at least one entry other than the one corresponding to the largest CQI
35 index among all the 64QAM entries in the said second CQI table.

36 In a eleventh possible implementation, based on any of previous ten possible
37 implementations, the entries with the smallest CQI index in the said first CQI table
38 corresponding to modulation methods higher than 64QAM has a spectral efficiency

1 equal to that of the entries with the largest CQI index among all the entries in the said
2 second CQI table where the modulation method is 64QAM; or,

3 The spectral efficiency of the T entries with the smallest CQI index
4 corresponding to modulation methods higher than 64QAM in the first CQI table is
5 equal to or approximately equal to the spectral efficiency of the T entries with the
6 largest CQI index among all the entries in the said second CQI table where the
7 modulation method is 64QAM, where T is any natural number between 1 and 5.

8 In a twelfth possible implementation, based on any of previous eleven possible
9 implementations, the range of CQI index values acquired by the said acquisition
10 module in the said first CQI table is the same as the range of CQI index values in the
11 said second CQI table.

12 In the thirteenth possible implementation method, based on the fifth aspect or
13 any of the previous four possible implementations, the entries for at least one
14 modulation method of QPSK in the first MCS table acquired by the said acquisition
15 module in the said second CQI table includes:

16 The partial entries in the said second CQI table where the modulation method
17 is QPSK, and the CQI index corresponding to the said entries are evenly spaced; or,

18 The partial entries in the said second MCS table where the modulation method
19 is QPSK, and the MCS index corresponding to the said entries are unevenly spaced;
20 or,

21 The partial entries in the said second MCS table where the modulation method
22 is QPSK, and the MCS index corresponding to the said entries are non-continuous,
23 and at least one entry other than the one with the largest MCS index among all entries
24 for modulation method of QPSK in the said second MCS table; or,

25 The partial entries in the said second MCS table where the modulation method
26 is QPSK, and the MCS index corresponding to the said entries are continuous, and at
27 least one entry other than the one with the largest MCS index among all entries for
28 modulation method of QPSK in the said second MCS table.

29 In the fourteenth possible implementation method, based on the fifth aspect or
30 any of the previous four possible implementations, the entries for at least one
31 modulation method of 16QAM in the first MCS table acquired by the said acquisition
32 module in the said second CQI table includes:

33 All entries in the said second MCS table where the modulation method is
34 16QAM; or,

35 The partial entries in the said second MCS table where the modulation method
36 is 16QAM, and the MCS index corresponding to the said partial entries are evenly
37 spaced; or,

38 The partial entries in the said second MCS table where the modulation method
39 is 16QAM, and the MCS index corresponding to the said partial entries are unevenly
40 spaced; or,

41 The partial entries in the said second MCS table where the modulation method
42 is 16QAM, and the MCS index corresponding to the said partial entries are non-
43 continuous, and at least one entry other than the one with the largest second MCS
44 index among all entries for modulation method of 16QAM in the said second MCS

1 table; or

2 The partial entries in the said second MCS table where the modulation method
3 is 16QAM, and the MCS index corresponding to the said partial entries are continuous,
4 and at least one entry other than the one with the largest second MCS index among all
5 entries for modulation method of 16QAM in the said second MCS table; or

6 The partial entries in the said second MCS table where the modulation method
7 is 16QAM, and at least one entry other than the one with the largest and smallest MCS
8 index among all entries for modulation method of 16QAM in the said second MCS
9 table.

10 In the fifteenth possible implementation, based on the fifth aspect or any of the
11 first to fourth, thirteenth, or fourteenth possible implementations, the MCS table
12 acquired by the said acquisition module further includes:

13 The entries for at least one modulation method of 64QAM in the said second
14 MCS table.

15 In the fourteenth possible implementation, based on the fifteenth possible
16 implementation, the entries for at least one modulation method of 64QAM in the said
17 second MCS table includes:

18 All entries in the said second MCS table where the modulation method is
19 64QAM; or,

20 The partial entries in the said second MCS table where the modulation method
21 is 64QAM, and at least one entry other than the one with the smallest MCS index
22 among all entries for modulation method of 64QAM in the said second MCS table; or,

23 The partial entries in the said second MCS table where the modulation method
24 is 64QAM, and at least one entry other than the one with the largest MCS index among
25 all entries for modulation method of 64QAM in the said second MCS table.

26 In the seventeenth possible implementation, based on the fifteenth or sixteenth
27 possible implementation, the MCS index of the entries with the lowest MCS index
28 among all entries in the said first MCS table with a modulation method higher than
29 64QAM is the same as the TBS index of the entries with the highest MCS index among
30 all entries with a modulation method of 64QAM in the said second MCS table; or,

31 the TBS index of the R entries with the smallest MCS index among the entries
32 in the said first MCS table with a modulation method higher than 64QAM is equal to
33 the TBS index of the R entries with the largest MCS index among all entries with
34 modulation method of 64QAM and MCS index not greater than 27 in the said second
35 MCS table; where R is a natural number.

36 In the eighteenth possible implementation, based on the fifth aspect or any of
37 the previous four, thirteenth to seventeenth possible implementations, the range of
38 MCS index in the first MCS table obtained by the said acquisition module is the same
39 as the range of MCS indexes in the said second MCS table.

40 In the nineteenth possible implementation, based on the fifth aspect or any of
41 the previous four, sixth, thirteenth to eighteenth possible implementations, the said
42 first MCS table further includes at least one of the entries in the following tables D1,
43 D2, D3, D4, or D5, where each entry includes a MCS index, as well as the modulation
44 order and TBS index corresponding to that MCS index:

Table D1

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	11
7	4	12
8	4	13
9	4	14
10	4	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

Table D2

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	11
7	4	12
8	4	13
9	4	14
10	4	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	6	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

1

2

Table D3

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	12
7	4	13
8	4	14
9	4	15
10	6	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	8	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

1

Table D4

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	12
7	4	13

2

1

8	4	14
9	4	15
10	6	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

Table D5

MCS index I_{MCS}	Modulation Order	TBS index I_{TBS}
0	Q_m	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	12
7	4	14
8	4	15
9	6	15
10	6	16
11	6	17
12	6	18
13	6	19
14	6	20
15	6	21
16	6	22
17	6	23
18	6	24
19	6	25
20	8	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5

2

27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

In a sixth aspect, the disclosure provides a device for notifying MCS, comprising:

an acquisition module for acquiring a first MCS table;

Receiving module: For the first MCS index sent by the receiving base station; the said first MCS index is determined by the base station based on the said first MCS table acquired by the said acquisition module;

Determining module: For determining a modulation order and a coding block size from a first MCS table acquired by the said acquisition module and a first MCS index received by the receiving module;

Wherein the first MCS table acquired by the said acquisition module comprises:

Entries for modulation methods higher than 64QAM;

The entries for at least one modulation method of QPSK in the second MCS table, and the entries for at least one said modulation method of QPSK includes combinations formed from the entries for at least one modulation method of QPSK in the said second MCS table, excluding the first combination. The said first combination consists of the K largest consecutive MCS index corresponding to QPSK in the said second MCS table, where K is equal to 4, or K is a positive integer less than 5, or K is a positive integer; and/or at least one entry for a 16QAM modulation method in the said second MCS table;

The modulation methods in the said second MCS table include only QPSK, 16QAM, and 64QAM.

In a first possible implementation, based on the sixth aspect, the said determining module comprises:

First determined sub-module: For determining the first TBS index and modulation order based on the first MCS table acquired by the said acquisition module and the first MCS index received;

Second determined sub-module: For determining the size of the coding block based on the first TBS index, first PRB count, and the first TBS table;

Where, the said first PRB count is the PRB count allocated by the base station to the UE; or, the said first PRB count is the largest integer less than or equal to the product of the PRB count allocated to the UE and a specific coefficient;

The said first TBS table includes at least one PRB count corresponding to each TBS index, as well as the transmission block size corresponding to each PRB count; the said first TBS table is the TBS table corresponding to the said first MCS table.

In the second possible implementation, based on the first possible implementation, the range of TBS index in the said first TBS table is from 0 to A, where A is a positive integer less than or equal to 26; or, the range of TBS index in the said first TBS table is from 0 to B, where B is a positive integer greater than or equal to 26, and the transmission block size corresponding to TBS index from 0 to C in the said first TBS table is the same as the transmission block size corresponding to

TBS index from 0 to C in the second TBS table, where C is a non-negative integer less than or equal to 26. The range of TBS index in the said second TBS table is from 0 to 26, and the said second TBS table includes at least one PRB count corresponding to each TBS index, as well as the transmission block size corresponding to each PRB count.

In the third possible implementation, based on the first or second possible implementation, the said first TBS table includes a TBS index Y1, where for each PRB count, the transmission block size corresponding to TBS index Y1 is greater than the transmission block size corresponding to TBS index 25 in the said second TBS table, and smaller than the transmission block size corresponding to TBS index 26 in the said second TBS table; where the range of TBS index in the said second TBS table is from 0 to 26, and the said second TBS table includes at least one PRB count corresponding to each TBS index, as well as the transmission block size corresponding to each PRB count.

In the fourth possible implementation, based on the first or second possible implementation, the said first TBS table includes TBS index Y2, as well as at least one entry in Table A corresponding to TBS index Y2, where any entries include a PRB count and the transmission block size corresponding to that PRB count:

PRB Count										
TBS index	Table A									
	1	2	3	4	5	6	7	8	9	10
Y2	648	1320	1992	2664	3368	4008	4584	5352	5992	6712
TBS index	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y2	7224	7992	8504	9144	9912	10680	11448	11832	12576	12960
TBS index	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y2	14112	14688	15264	15840	16416	16992	17568	18336	19080	19848

TBS index	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y2	20616	21384	22152	22920	22920	23688	24496	25456	25456	26416
TBS index	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y2	27376	27376	28336	29296	29296	30576	31704	31704	32856	32856
TBS index	PRB Count									
	51	52	53	54	55	56	57	58	59	60
27	34008	34008	35160	35160	36696	36696	37888	37888	39232	39232
TBS index	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y2	40576	40576	42368	42368	43816	43816	43816	45352	45352	46888
TBS index	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y2	46888	46888	48936	48936	48936	51024	51024	51024	52752	52752
TBS index	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y2	52752	55056	55056	55056	57336	57336	57336	59256	59256	59256
TBS index	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y2	59256	61664	61664	61664	63776	63776	63776	63776	66592	66592
TBS index	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y2	66592	66592	68808	68808	68808	71112	71112	71112	71112	73712

and/or,

The said first TBS table includes TBS index Y3, as well as at least one entry corresponding to TBS index Y3 in Tables B1, B2, B3, or B4, where any entries include a PRB count and the transmission block size corresponding to that PRB count;

Table B1

TBS index	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y3	936	1928	2856	3880	4776	5736	6712	7736	8504	9528
TBS index	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y3	10680	11448	12576	13536	14112	15264	16416	16992	18336	19080
TBS index	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y3	19848	21384	22152	22920	23688	24496	25456	26416	27376	28336
TBS index	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y3	29296	30576	31704	32856	34008	34008	35160	36696	37888	37888

TBS inde x	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y3	39232	40576	40576	42368	43816	43816	45352	45352	46888	46888
TBS inde x	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y3	48936	48936	51024	51024	52752	52752	55056	55056	57336	57336
TBS inde x	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y3	59256	59256	59256	61664	61664	63776	63776	63776	66592	66592
TBS inde x	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y3	68808	68808	71112	71112	71112	73712	73712	75376	76208	76208
TBS inde x	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y3	78704	78704	78704	81176	81176	81176	84760	84760	84760	84760
TBS inde x	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	87936	87936	90816	90816	90816	90816	93800	93800	93800	101840
TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	101840	101840	101840	101840	101840	101840	101840	101840	101840	101840

Table B2

TBS inde x	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	87936	87936	90816	90816	90816	90816	93800	93800	93800	93800
TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	97896	97896	97896	101840	101840	101840	101840	105528	105528

Table B3

TBS inde x	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y3	968	1992	2984	4008	4968	5992	6968	7992	8760	9912
TBS inde x	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y3	10680	11832	12960	13536	14688	15840	16992	17568	19080	19848
TBS inde x	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y3	20616	21384	22920	23688	24496	25456	26416	27376	28336	29296
TBS inde x	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y3	30576	31704	32856	34008	35160	35160	36696	37888	37888	39232

TBS index	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y3	40576	40576	42368	43816	43816	45352	46888	46888	48936	48936
TBS index	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y3	51024	51024	52752	52752	55056	55056	55056	57336	57336	59256
TBS index	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y3	59256	61664	61664	63776	63776	63776	66592	66592	68808	68808
TBS index	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y3	71112	71112	71112	73712	75376	76208	76208	76208	78704	78704
TBS index	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y3	81176	81176	81176	81176	84760	84760	84760	87936	87936	87936
TBS index	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	90816	90816	90816	93800	93800	93800	93800	97896	97896	97896
TBS index	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	97896	97896	97896	97896	97896	97896	97896	97896	97896

Table B4

TBS index	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	101840	101840	101840	105528	105528	105528	105528	105528	110136

- 1 and/or,
- 2 The said first TBS table includes TBS index Y4_1 to Y4_5, as well as at least
- 3 one entry in Tables C1 or C2 corresponding to TBS index Y4_1 to Y4_5, where any
- 4 entries include a PRB count and the five transmission block sizes corresponding to
- 5 that PRB count;

TBS index	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y4_1	680	1384	2088	2792	3496	4136	4968	5544	6200	6968
Y4_2	712	1480	2216	2984	3624	4392	5160	5992	6712	7224
Y4_3	744	1544	2280	3112	3880	4584	5352	6200	6968	7736
Y4_4	776	1608	2408	3240	4008	4776	5736	6456	7224	7992
Y4_5	840	1672	2536	3368	4264	5160	5992	6712	7480	8504
TBS index	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y4_1	7736	8248	9144	9912	10296	11064	11832	12576	13536	14112
Y4_2	7992	8760	9528	10296	11064	11832	12576	12960	14112	14688
Y4_3	8504	9144	9912	10680	11448	12216	12960	14112	14688	15264
Y4_4	8760	9528	10680	11448	12216	12960	13536	14688	15264	16416

Y4_5	9144	10296	11064	11832	12576	13536	14112	15264	15840	16992
TBS index	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y4_1	14688	15264	15840	16992	17568	18336	19080	19848	20616	20616
Y4_2	15264	16416	16992	17568	18336	19080	19848	20616	21384	22152
Y4_3	16416	16992	17568	18336	19080	19848	20616	21384	22152	22920
Y4_4	16992	17568	18336	19080	20616	21384	22152	22920	23688	24496
Y4_5	17568	18336	19848	20616	21384	22152	22920	23688	24496	25456
TBS index	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y4_1	21384	22152	22920	23688	24496	25456	25456	26416	27376	28336
Y4_2	22920	23688	24496	25456	25456	26416	27376	28336	28336	29296
Y4_3	23688	24496	25456	26416	27376	27376	28336	29296	30576	30576
Y4_4	25456	25456	26416	27376	28336	29296	30576	30576	31704	32856
Y4_5	26416	27376	28336	28336	29296	30576	31704	31704	32856	34008
TBS index	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y4_1	28336	29296	30576	30576	31704	31704	32856	34008	34008	35160
Y4_2	30576	30576	31704	32856	32856	34008	35160	35160	36696	36696
Y4_3	31704	32856	32856	34008	35160	35160	36696	36696	37888	39232
Y4_4	32856	34008	35160	35160	36696	37888	37888	39232	39232	40576
Y4_5	35160	35160	36696	37888	37888	39232	39232	40576	42368	42368
TBS index	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y4_1	35160	36696	36696	37888	37888	39232	40576	40576	40576	42368
Y4_2	37888	37888	39232	39232	40576	40576	42368	42368	43816	43816
Y4_3	39232	40576	40576	42368	42368	43816	43816	45352	45352	46888
Y4_4	40576	42368	42368	43816	45352	45352	46888	46888	46888	48936
Y4_5	43816	43816	45352	45352	46888	46888	48936	48936	51024	51024
TBS index	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y4_1	42368	43816	43816	45352	45352	46888	46888	46888	48936	48936
Y4_2	45352	45352	46888	46888	48936	48936	48936	51024	51024	51024
Y4_3	46888	48936	48936	48936	51024	51024	51024	52752	52752	55056
Y4_4	48936	51024	51024	52752	52752	52752	55056	55056	55056	57336
Y4_5	51024	52752	52752	55056	55056	55056	57336	57336	59256	59256
TBS index	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y4_1	48936	51024	51024	51024	52752	52752	55056	55056	55056	55056
Y4_2	52752	52752	52752	55056	55056	55056	57336	57336	57336	59256
Y4_3	55056	55056	57336	57336	57336	59256	59256	59256	61664	61664
Y4_4	57336	59256	59256	59256	61664	61664	61664	63776	63776	63776
Y4_5	59256	61664	61664	63776	63776	63776	66592	66592	66592	68808
TBS index	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y4_1	57336	57336	57336	59256	59256	59256	61664	61664	61664	63776
Y4_2	59256	59256	61664	61664	61664	63776	63776	63776	66592	66592
Y4_3	61664	63776	63776	63776	66592	66592	66592	68808	68808	68808
Y4_4	66592	66592	66592	68808	68808	68808	71112	71112	71112	73712
Y4_5	68808	68808	71112	71112	71112	73712	73712	75376	75376	76208
TBS index	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y4_1	63776	63776	63776	66592	66592	66592	68808	68808	68808	71112
Y4_2	66592	68808	68808	68808	71112	71112	71112	71112	73712	73712
Y4_3	71112	71112	71112	73712	73712	73712	75376	76208	76208	76208
Y4_4	73712	75376	75376	76208	76208	78704	78704	78704	81176	81176
Y4_5	76208	78704	78704	78704	81176	81176	81176	84760	84760	84760
TBS index	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y4_1	71112	71112	71112	73712	73712	73712	75376	75376	76208	76208
Y4_2	73712	75376	76208	76208	76208	78704	78704	78704	81176	81176
Y4_3	78704	78704	78704	81176	81176	81176	81176	84760	84760	84760

1
2
3
4

Y4_4	81176	81176	84760	84760	84760	84760	87936	87936	87936	87936
Y4_5	84760	87936	87936	87936	87936	90816	90816	90816	93800	93800

1

Table C2

TBS index	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y4_1	680	1384	2088	2792	3496	4264	4968	5544	6200	6968
Y4_2	712	1480	2216	2984	3624	4392	5160	5992	6712	7224
Y4_3	744	1544	2344	3112	3880	4584	5352	6200	6968	7736
Y4_4	808	1608	2408	3240	4008	4968	5736	6456	7224	7992
Y4_5	840	1672	2536	3368	4264	5160	5992	6712	7736	8504
TBS index	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y4_1	7736	8504	9144	9912	10680	11064	11832	12576	13536	14112
Y4_2	7992	8760	9528	10296	11064	11832	12576	13536	14112	14688
Y4_3	8504	9144	9912	10680	11448	12216	12960	14112	14688	15264
Y4_4	8760	9912	10680	11448	12216	12960	13536	14688	15264	16416
Y4_5	9144	10296	11064	11832	12576	13536	14688	15264	16416	16992
TBS index	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y4_1	14688	15264	15840	16992	17568	18336	19080	19848	20616	21384
Y4_2	15264	16416	16992	17568	18336	19080	19848	20616	21384	22152
Y4_3	16416	16992	17568	18336	19080	19848	20616	21384	22152	22920
Y4_4	16992	17568	18336	19848	20616	21384	22152	22920	23688	24496
Y4_5	17568	18336	19848	20616	21384	22152	22920	23688	24496	25456
TBS index	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y4_1	21384	22152	22920	23688	24496	25456	25456	26416	27376	28336
Y4_2	22920	23688	24496	25456	25456	26416	27376	28336	28336	29296
Y4_3	23688	24496	25456	26416	27376	28336	28336	29296	30576	30576
Y4_4	25456	26416	26416	27376	28336	29296	30576	30576	31704	32856
Y4_5	26416	27376	28336	29296	29296	30576	31704	32856	32856	34008
TBS index	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y4_1	28336	29296	30576	30576	31704	31704	32856	34008	34008	35160
Y4_2	30576	30576	31704	32856	32856	34008	35160	35160	36696	36696
Y4_3	31704	32856	32856	34008	35160	35160	36696	36696	37888	39232
Y4_4	32856	34008	35160	35160	36696	37888	37888	39232	39232	40576
Y4_5	35160	35160	36696	37888	37888	39232	40576	40576	42368	42368
TBS index	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y4_1	35160	36696	36696	37888	37888	39232	40576	40576	40576	42368
Y4_2	37888	37888	39232	39232	40576	40576	42368	42368	43816	43816
Y4_3	39232	40576	40576	42368	42368	43816	43816	45352	45352	46888
Y4_4	40576	42368	42368	43816	45352	45352	46888	46888	48936	48936
Y4_5	43816	43816	45352	45352	46888	46888	48936	48936	51024	51024
TBS index	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y4_1	42368	43816	43816	45352	45352	46888	46888	46888	48936	48936
Y4_2	45352	45352	46888	46888	48936	48936	48936	51024	51024	51024
Y4_3	46888	48936	48936	48936	51024	51024	52752	52752	52752	55056
Y4_4	48936	51024	51024	52752	52752	52752	55056	55056	55056	57336
Y4_5	51024	52752	52752	55056	55056	55056	57336	57336	59256	59256
TBS index	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y4_1	48936	51024	51024	51024	52752	52752	55056	55056	55056	55056
Y4_2	52752	52752	52752	55056	55056	55056	57336	57336	59256	59256
Y4_3	55056	55056	57336	57336	57336	59256	59256	61664	61664	61664
Y4_4	57336	59256	59256	59256	61664	61664	61664	63776	63776	63776
Y4_5	59256	61664	61664	63776	63776	63776	66592	66592	66592	68808

2

TBS index	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y4 1	57336	57336	57336	59256	59256	59256	61664	61664	61664	63776
Y4 2	59256	61664	61664	61664	63776	63776	63776	63776	66592	66592
Y4 3	63776	63776	63776	63776	66592	66592	66592	68808	68808	68808
Y4 4	66592	66592	66592	68808	68808	68808	71112	71112	71112	73712
Y4 5	68808	68808	71112	71112	71112	73712	73712	75376	75376	76208

TBS index	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y4 1	63776	63776	66592	66592	66592	66592	68808	68808	68808	71112
Y4 2	66592	68808	68808	68808	71112	71112	71112	71112	73712	73712
Y4 3	71112	71112	71112	73712	73712	73712	75376	76208	76208	78704
Y4 4	73712	75376	75376	76208	76208	78704	78704	78704	81176	81176
Y4 5	76208	78704	78704	78704	81176	81176	81176	84760	84760	84760

TBS index	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y4 1	71112	71112	71112	73712	73712	73712	75376	75376	76208	76208
Y4 2	75376	75376	76208	76208	78704	78704	78704	78704	81176	81176
Y4 3	78704	78704	78704	81176	81176	81176	84760	84760	84760	84760
Y4 4	81176	81176	84760	84760	84760	84760	87936	87936	87936	90816
Y4 5	84760	87936	87936	87936	87936	90816	90816	90816	93800	93800

In a fifth possible implementation, based on the sixth aspect and any of the previous two possible implementations, the entries for at least one modulation method of QPSK in the said second MCS table comprises:

The partial entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are evenly spaced; or,

The partial entries in the said second MCS table where the modulation method is QPSK, and the MCS index corresponding to the said entries are unevenly spaced; or,

The partial entries in the said second MCS table where the modulation method is QPSK, and the MCS index corresponding to the said entries are non-continuous, and at least one entry other than the one with the largest MCS index among all entries for modulation method of QPSK in the said second MCS table; or,

The partial entries in the said second MCS table where the modulation method is QPSK, and the MCS index corresponding to the said entries are continuous, and at least one entry other than the one with the largest MCS index among all entries for modulation method of QPSK in the said second MCS table.

In a sixth possible implementation, based on the sixth aspect and any of the previous two possible implementations, the entries for at least one modulation method of 16QAM in the said second MCS table comprises:

All entries in the said second MCS table where the modulation method is 16QAM; or,

The partial entries in the said second MCS table where the modulation method is 16QAM, and the MCS index corresponding to the said partial entries are evenly spaced; or,

The partial entries in the said second MCS table where the modulation method is 16QAM, and the MCS index corresponding to the said partial entries are unevenly spaced; or,

The partial entries in the said second MCS table where the modulation method is 16QAM, and the MCS index corresponding to the said partial entries are non-

1 continuous, and at least one entry other than the one with the largest second MCS
2 index among all entries for modulation method of 16QAM in the said second MCS
3 table; or

4 The partial entries in the said second MCS table where the modulation method
5 is 16QAM, and the MCS index corresponding to the said partial entries are continuous,
6 and at least one entry other than the one with the largest second MCS index among all
7 entries for modulation method of 16QAM in the said second MCS table; or

8 The partial entries in the said second MCS table where the modulation method
9 is 16QAM, and at least one entry other than the one with the largest and smallest MCS
10 index among all entries for modulation method of 16QAM in the said second MCS
11 table.

12 In a seventh possible implementation, based on the sixth aspect or any of the
13 first six possible implementation, the first MCS table acquired by the said acquisition
14 module further comprises:

15 The entries for at least one modulation method of 64QAM in the said second
16 MCS table.

17 In the eighth possible implementation, based on the seventh possible
18 implementation, the entries for at least one modulation method of 64QAM in the said
19 second MCS table includes:

20 All entries in the said second MCS table where the modulation method is
21 64QAM; or,

22 The partial entries in the said second MCS table where the modulation method
23 is 64QAM, and at least one entry other than the one with the smallest MCS index
24 among all entries for modulation method of 64QAM in the said second MCS table; or,

25 The partial entries in the said second MCS table where the modulation method
26 is 64QAM, and at least one entry other than the one with the largest MCS index among
27 all entries for modulation method of 64QAM in the said second MCS table.

28 In a ninth possible implementation, based on the seventh or eighth possible
29 implementation,

30 the TBS index of the entry acquired by the said acquisition module with the
31 lowest MCS index among all entries in the first MCS table with a modulation method
32 higher than 64QAM is the same as the TBS index of the entries with the highest MCS
33 index among all entries with a modulation method of 64QAM in the said second MCS
34 table; or,

35 the TBS index of the R entries with the smallest MCS index among the entries
36 in the said first MCS table with a modulation method higher than 64QAM is equal to
37 the TBS index of the R entries with the largest MCS index among all entries with
38 modulation method of 64QAM and MCS index not greater than 27 in the said second
39 MCS table; where R is a natural number.

40 In the tenth possible implementation, based on the sixth aspect or any of the
41 previous nine possible implementations, the range of MCS index values acquired by
42 the said acquisition module in the first MCS table is the same as the range of MCS
43 index values in the said second MCS table.

44 In the eleventh possible implementation, based on the sixth aspect or any of the

1 previous ten possible implementations, the said first MCS table further includes at
2 least one of the entries in the following tables D1, D2, D3, D4, or D5, where each
3 entry includes a MCS index, as well as the modulation order and TBS index
4 corresponding to that MCS index:

Table D1

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	11
7	4	12
8	4	13
9	4	14
10	4	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3

25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

Table D2

MCS index I_{MCS}	Modulation Order	TBS index I_{TBS}
0	Q_2^m	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	11
7	4	12
8	4	13
9	4	14
10	4	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	6	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

1

Table D3

MCS index I_{MCS}	Modulation Order	TBS index I_{TBS}
0	Q_2^m	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10

2

6	4	12
7	4	13
8	4	14
9	4	15
10	6	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	8	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

1
2

Table D4

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	12
7	4	13
8	4	14
9	4	15
10	6	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

Table D5

MCS index I_{MCS}	Modulation Order	TBS index I_{TBS}
0	2^m	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	12
7	4	14
8	4	15
9	6	15
10	6	16
11	6	17
12	6	18
13	6	19
14	6	20
15	6	21
16	6	22
17	6	23
18	6	24
19	6	25
20	8	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

In a seventh aspect, the disclosure provides a device for notifying Channel Quality Indication (CQI), including:

a memory and a processor connected to the said memory, further comprising a transmitter;

where a set of program code is stored in the said memory, and the said processor is used to call the program code stored in the said memory to perform the method described in the first aspect;

the said transmitter is used to send the said processor to call the program code stored in the said memory to execute the first CQI index obtained based on the method in the first aspect and any possible implementation thereof.

In an eighth aspect, the disclosure provides a device for notifying Modulation Coding Scheme (MCS), comprising:

a memory and a processor connected to the said memory, further comprising a transmitter and a receiver;

1 where a set of program code is stored in the said memory, and the said processor
2 is used to call the program code stored in the said memory to perform the method
3 described in the second aspect and any possible implementation thereof;

4 the said receiver is used to receive the first CQI index sent by the UE, and the
5 said transmitter is used to send the said processor to call program code stored in the
6 said memory to execute the first MCS index obtained based on the method in the
7 second aspect of claim and any possible implementation thereof.

8 In a ninth aspect, the disclosure provides a device for notifying Modulation
9 Coding Scheme (MCS), comprising: a memory and a processor connected to the said
10 memory, further comprising a receiver;

11 where a set of program code is stored in the said memory, and the said processor
12 is used to call the program code stored in the said memory to perform the method
13 described in the third aspect and any possible implementation thereof;

14 The said receiver is used to receive a first MCS index sent by a base station.

15 The present disclosure provides a notification method and device for Channel
16 Quality Indication and Modulation Coding Scheme, supports the UE to select a
17 modulation method with a modulation method higher than 64QAM and notify a base
18 station by sending a CQI index. At the same time, supports the base station to select a
19 modulation method with a modulation method higher than 64QAM and notify the UE
20 by sending a MCS index, thereby improving system performance.

21 An embodiment of the present disclosure provides a notification method and
22 device for Channel Quality Indication and Modulation Coding Scheme, and can also
23 support the UE to select a lower spectrum efficiency and use a method of sending CQI
24 index to notify the base station. At the same time, the base station is also supported to
25 select a lower transport block size and use a method of sending MCS index to notify
26 the UE, thereby ensuring that the UE can adapt to sudden low-signal-to-noise
27 scenarios when using high-order modulation, that is, to ensure that the UE can adapt
28 to sharp changes in signal-to-noise ratio.

Description of Attached Drawings

In order to more clearly illustrate the technical solutions in the embodiments of the present disclosure, a brief introduction to the attached drawings used in the description of the embodiments or prior art will be provided below. It is evident that the attached drawings described below are just some embodiments of the present disclosure. For those of ordinary skill in the art, other attached drawings may also be obtained based on these attached drawings without requiring inventive effort.

Figure 1 is a schematic diagram of a CQI notification method provided by the examples of the present disclosure;

Figure 2 is a schematic diagram of a MCS notification method provided by an embodiment of the present disclosure;

Figure 3 is a schematic diagram of another MCS notification method provided by the examples of the present disclosure;

Fig. 4 is a schematic diagram of another MCS notification method provided by the examples of the present disclosure;

Fig. 5 is a schematic diagram of a CQI notification device provided by an embodiment of the present disclosure;

Fig. 6 is a schematic diagram of a MCS provided by an embodiment of the present disclosure;

Fig. 7 is a schematic diagram of a notification device of another MCS provided by an embodiment of the present disclosure;

Fig. 8 is a schematic diagram of a notification device of another MCS provided by an embodiment of the present disclosure;

Fig. 9 is a schematic diagram of another CQI provided by an embodiment of the present disclosure;

Fig. 10 is a schematic diagram of a notification device of another MCS provided by an embodiment of the present disclosure;

Fig. 11 is a schematic diagram of a notification device of another MCS provided by an embodiment of the present disclosure;

Fig. 12 is a schematic diagram of a notification device of another MCS provided by an embodiment of the present disclosure.

Specific Embodiments

The technical solutions in the embodiments of the present disclosure will be provided below with reference to the attached drawings of the embodiments of the present disclosure to describe it clearly and completely. It is evident that the embodiments described are only part of the embodiments of the present disclosure and not all embodiments. Based on the embodiments in the present disclosure, all other embodiments that those of ordinary skill in the art may be obtained without making inventive effort fall within the scope protected by the present disclosure.

The adaptive process of the Physical Downlink Shared Channel (PDSCH) is as follows:

1 First, the User Equipment (UE) estimates the channel information used for
2 measuring Channel State Information (CSI). Secondly, through the said channel
3 information, and based on the optimal Rank Indication (RI) and/or Precoding Matrix
4 Indication (PMI), the UE calculates the Signal to Interference plus Noise Ratio (SINR).
5 Then, the UE derives the corresponding Channel Quality Indicator (CQI) from the
6 SINR and reports the CQI value to the base station.

7 Moreover, the modulation order and the modulation method described in the
8 present disclosure correspond to one another. For example, if the modulation method
9 is Quadrature Phase Shift Keying (QPSK), the modulation order is 2, if the modulation
10 method is 16QAM, the modulation order is 4, if the modulation method is 64QAM,
11 the modulation order is 6, and if the modulation method is 256QAM, the modulation
12 order is 8.

13 A CQI notification method provided by the examples of the present disclosure
14 is described in detail below with reference to the attached drawings.

15 As shown in Fig. 1, the following steps of the said CQI notification method are:

16 S101. The UE learns the first CQI index based on the acquired first CQI table.

17 Wherein the said first CQI table may be pre-defined by the protocol, the UE
18 pre-sets or the UE pre-stores based on the protocol provisions; or the UE selects based
19 on the downlink channel status from at least two pre-defined tables; or the UE may be
20 notified to the UE by the base station. Specifically, the method by which the base
21 station informs the UE may be by the base station selecting one of the two pre-defined
22 tables based on the uplink channel status or the downlink channel status and notifying
23 the UE. The said CQI table is used to describe the mapping relationship between CQI
24 indexes and entries. The mapping relationship of CQI tables in the examples of the
25 present disclosure is only for the convenience of understanding the examples given in
26 the present disclosure. The manifestations of the CQI tables in the present disclosure
27 is inclusive and not limited thereto, that is to say, CQI tables can have a variety of
28 combinations, so long as they can reflect the mapping relationship between CQI
29 indexes and entries, they are within the scope to be protected by the present disclosure.

30 Specifically, the said UE determines a first spectral efficiency based on the
31 measured first SINR, and then acquires a first CQI index corresponding to the first
32 spectral efficiency based on the first spectral efficiency and the first CQI table.
33 Wherein, the said first CQI table is pre-stored by the UE.

34 The said first CQI table may include:

35 Entries for modulation methods higher than 64QAM;

36 The entries for at least one modulation method of QPSK in the second CQI
37 table, and the entries for at least one said modulation method of QPSK includes
38 combinations formed from entries corresponding to QPSK in the said second CQI
39 table, excluding the first combination. The said first combination consists of the N
40 largest consecutive CQI index entries corresponding to QPSK in the said second CQI
41 table, where N is equal to 3, or N is a positive integer less than 4, or said N is a positive
42 integer; and/or the second CQI table includes entries for at least one modulation
43 method of 16QAM;

44 The modulation method for the entries in the said second CQI table may only

1 include QPSK, 16QAM and 64QAM.

2 That is, the said first CQI table includes entries with a modulation method
3 higher than 64QAM; the said first CQI table may further include entries for at least
4 one modulation method of QPSK in the second CQI table, and the entries with a
5 modulation method of QPSK in the said first CQI table cannot be only N entries with
6 the largest consecutive CQI indexes corresponding to the entries with a modulation
7 method of QPSK in the second CQI table, where N may be equal to 3 or the N may
8 be a positive integer less than 4 or the N may be a positive integer; and/or the said first
9 CQI table also includes entries for at least one modulation method of 16QAM in the
10 second CQI table.

11 Further, the value of N is only a few examples of the present disclosure, which
12 is inclusive and not limited thereto.

13 The modulation methods of the entries in the said second CQI table only include
14 QPSK, 16QAM and 64QAM; the entries in the said first CQI table may refer to a
15 modulation method, a coding rate and a spectral efficiency corresponding to each CQI
16 index in the first CQI table; the entries in the said second CQI table refer to a
17 modulation method, an coding rate and a spectral efficiency corresponding to each
18 CQI index in the second CQI table. Of course, the entries in the present disclosure
19 may be set based on the upstream state information or the downstream state
20 information. The entries in the above first CQI table and the second CQI table are only
21 examples of the present disclosure, and the present disclosure is inclusive and not
22 limited thereto.

23 Moreover, the said combination is a combination composed of entries with at
24 least one modulation method of QPSK in the second CQI table. Taking the second
25 CQI table shown in Table 1 as an example, there are a total of $2^6-1=63$ combinations
26 consisting of entries for at least one modulation method of QPSK in the second CQI
27 table. For example, the combination may be a combination of the entries
28 corresponding to CQI index 6 in the second CQI table, or a combination of the entries
29 corresponding to CQI indexes 4, 5 and 6 in the second CQI table, or a combination of
30 the entries corresponding to CQI indexes 3, 5 and 6 in the second CQI table, and so
31 on.

32 Specifically, there may be three first CQI tables as follows:

33 First first CQI table: Only the entries with a modulation method of QPSK and
34 a modulation method of higher than 64QAM are included;

35 Second first CQI table: Only the entries with a modulation method of 16QAM
36 and a modulation method higher than 64QAM are included;

37 Third first CQI table: Only the entries with a modulation method of QPSK,
38 16QAM and a modulation method higher than 64QAM are included.

39 The first CQI tables in the present disclosure may be various. The above three
40 first CQI tables are only used to help understand the examples given in the present
41 disclosure. The present disclosure is inclusive and not limited thereto.

42 For ease of understanding, the following CQI table (i.e., the second CQI table)
43 is used for illustration:

Table 1

CQI Index (CQI index)	Modulation method (modulation)	Code Rate $\times 1024$ (code rate $\times 1024$)	Spectral Efficiency (efficiency)
0	Out of Range		
1	QPSK	78	0.1523
2	QPSK	120	0.2344
3	QPSK	193	0.3770
4	QPSK	308	0.6016
5	QPSK	449	0.8770
6	QPSK	602	1.1758
7	16QAM	378	1.4766
8	16QAM	490	1.9141
9	16QAM	616	2.4063
10	64QAM	466	2.7305
11	64QAM	567	3.3223
12	64QAM	666	3.9023
13	64QAM	772	4.5234
14	64QAM	873	5.1152
15	64QAM	948	5.5547

The said first CQI table includes entries with a modulation method higher than 64QAM, and the entries with a modulation method higher than 64QAM, as an example, may be one or more entries.

For example, the modulation method included in the first CQI table with a modulation method higher than 64QAM may be 128QAM and/or 256QAM, etc. If the first CQI table only includes one modulation method entry, the modulation method of the entry may be any one of 128QAM, 256QAM or other modulation methods with higher modulation methods. If the first CQI table includes a plurality of modulation methods, the plurality of modulation methods included in the first CQI table may be any one of 128QAM, 256QAM or other modulation methods with higher modulation methods, or any plurality of modulation methods of 128QAM, 256QAM or other modulation methods with higher modulation methods.

For example, the said first CQI table may include entries with a modulation method higher than 64QAM as shown in the table below:

Table 2

CQI Index (CQI index)	Modulation method (modulation)	Code Rate $\times$ 1024 (code rate $\times$ 1024)	Spectral Efficiency (efficiency)
13	128QAM	778	6.0800
14	128QAM	860	6.7200
15	256 QAM	942	7.3600

It should be noted that, in order to reduce the changes to the prior art during the implementation process, preferably, the range of CQI indexes in the said first CQI table and the range of CQI indexes in the said second CQI table may be the same, specifically, 0-15. Of course, the range of CQI indexes in the said first CQI table may also be greater than the range of CQI indexes in the second CQI table. For example, the range of CQI indexes in the first CQI table may also be 0-20. The CQI indexes in the examples of the present disclosure are only for the convenience of understanding the examples of the present disclosure, and the range of CQI indexes in the present disclosure is inclusive and not limited thereto.

First first CQI table: The first CQI table only includes entries with a modulation method of QPSK and a modulation method higher than 64QAM.

The entries included in the said first CQI table with a modulation method higher than 64QAM may be one or multiple entries, and each entry with a modulation method higher than 64QAM includes a modulation method, coding rate and spectral efficiency, and there is a corresponding CQI index.

The said first CQI table may further comprise some of the entries in the second CQI table with modulation method of QPSK, that is, some of the 6 entries with modulation method of QPSK corresponding to the CQI index 1-6 in the second CQI table (i.e., Table 1), and the entries in the first CQI table with modulation method of QPSK are not N entries whose with modulation method of QPSK in the second CQI table, where N is equal to 3. That is: The entry in the said first CQI table with modulation method of QPSK cannot be only the entry corresponding to CQI indexes 4, 5 and 6 in the second CQI table.

Or, the said first CQI table may further comprise some of the entries in the second CQI table with modulation method of QPSK, that is, some of the 6 entries with modulation method of QPSK corresponding to the CQI index 1-6 in the second CQI table, and the entries in the first CQI table with modulation method of QPSK are not N entries whose with modulation method of QPSK in the second CQI table, where N is a positive integer and N is less than 4, that is, N can be equal to 1, 2, 3;

if N is equal to 1, the entry in the said first CQI table with modulation method of QPSK cannot be only the entry corresponding to CQI index 6 in the second CQI table, or,

if N is equal to 2, the entry in the said first CQI table with modulation method

1 of QPSK cannot be only the entry corresponding to CQI indexes 5 and 6 in the second
2 CQI table, or,

3 if N is equal to 3, the entry in the said first CQI table with modulation method
4 of QPSK cannot be only the entry corresponding to CQI indexes 4, 5 and 6 in the
5 second CQI table, or,

6 Or, the said first CQI table may further comprise some of the entries in the
7 second CQI table with modulation method of QPSK, that is, some of the 6 entries with
8 modulation method of QPSK corresponding to the CQI index 1-6 in the second CQI
9 table, and the entries in the first CQI table with modulation method of QPSK are not
10 N entries whose with modulation method of QPSK in the second CQI table, where N
11 is a positive integer. That is: The value range of N may be 1-5;

12 if N is equal to 1, the entry in the said first CQI table with modulation method
13 of QPSK cannot be only the entry corresponding to CQI index 6 in the second CQI
14 table, or,

15 if N is equal to 2, the entry in the said first CQI table with modulation method
16 of QPSK cannot be only the entry corresponding to CQI indexes 5 and 6 in the second
17 CQI table, or,

18 if N is equal to 3, the entry in the said first CQI table with modulation method
19 of QPSK cannot be only the entry corresponding to CQI indexes 4, 5 and 6 in the
20 second CQI table, or,

21 if N is equal to 4, the entry in the said first CQI table with modulation method
22 of QPSK cannot be only the entry corresponding to CQI indexes 3, 4, 5 and 6 in the
23 second CQI table, or,

24 if N is equal to 5, the entry in the said first CQI table with modulation method
25 of QPSK cannot be only the entry corresponding to CQI indexes 2, 3, 4, 5 and 6 in the
26 second CQI table, or,

27 Further, the value of N is only a few examples of the present disclosure, which
28 is inclusive and not limited thereto.

29 or, the entries in the said first CQI table with modulation method of QPSK
30 include partial entries in the said second CQI table with modulation method of QPSK,
31 and the CQI index corresponding to the said partial entries is equally spaced.

32 For example, if the entries for a modulation method of QPSK in the first CQI
33 table comprises 3 entries with a modulation method of QPSK in the said second CQI
34 table, the entry with a modulation method of QPSK in the said first CQI table may
35 comprise the entry with a modulation method of 1, 3 and 5 in the second CQI table,
36 and the entry with a modulation method of QPSK in the said first CQI table may also
37 comprise the entry with a CQI index of 2, 4 and 6 in the second CQI table.

38 Or, the entries in the said first CQI table with modulation method of QPSK
39 include partial entries in the said second CQI table with modulation method of QPSK,
40 and the CQI index corresponding to the said partial entries is unevenly spaced.

41 For example, if the entries with a modulation method of QPSK in the first CQI
42 table comprises 3 entries with a modulation method of QPSK in the said second CQI
43 table, the entries with a modulation method of QPSK in the said first CQI table may
44 comprise the entries with a modulation method of 1, 4 and 6 in the second CQI table,

1 and the entries with a modulation method of QPSK in the said first CQI table may also
2 comprise the entries with a CQI index of 2, 5 and 6 in the second CQI table.

3 Or, if the entries with a modulation method of QPSK in the first CQI table
4 comprises 4 entries with a modulation method of QPSK in the said second CQI table,
5 the entries with a modulation method of QPSK in the said first CQI table may
6 comprise the entries with a modulation method of 1, 3, 4 and 6 in the second CQI table,
7 and the entries with a modulation method of QPSK in the said first CQI table may also
8 comprise the entries with a CQI index of 1, 2, 4 and 6 in the second CQI table.

9 Or, if the entries with a modulation method of QPSK in the first CQI table
10 comprises 5 entries with a modulation method of QPSK in the said second CQI table,
11 the entries with a modulation method of QPSK in the said first CQI table may
12 comprise the entries with a modulation method of 1, 2, 3, 4 and 6 in the second CQI
13 table.

14 Or, the entries in the said first CQI table where the modulation method is QPSK
15 comprises partial entries with a modulation method of QPSK in the said second CQI
16 table, and the CQI index corresponding to the said partial entries are non-continuous,
17 and at least one entry other than the one with the largest CQI index among all entries
18 for modulation method of QPSK in the said second CQI table.

19 For example, the entries with a modulation method of QPSK in the said first
20 CQI table can comprises entries corresponding to CQI indexes 1 and 3 in the second
21 CQI table, and the entries with a modulation method of QPSK in the said first CQI
22 table may comprise the entry with a modulation method of 2, 4 and 5 in the second
23 CQI table.

24 Or, the entries in the said first CQI table where the modulation method is QPSK
25 comprises partial entries with a modulation method of QPSK in the said second CQI
26 table, and the CQI index corresponding to the said partial entries are continuous, and
27 at least one entry other than the one with the largest CQI index among all entries for
28 modulation method of QPSK in the said second CQI table.

29 For example, the entries with a modulation method of QPSK in the said first
30 CQI table can comprises entries corresponding to CQI indexes 2, 3 and 4 in the second
31 CQI table, and the entries with a modulation method of QPSK in the said first CQI
32 table may comprise the entries with a modulation method of 2, 3, 4 and 5 in the second
33 CQI table.

34 Second first CQI table: The first CQI table only includes entries with a
35 modulation method of 16QAM and a modulation method higher than 64QAM.

36 The entry included in the said first CQI table with a modulation method higher
37 than 64QAM may be one or multiple entries, and each entries with a modulation
38 method higher than 64QAM includes a modulation method, coding rate and spectral
39 efficiency, and there is a corresponding CQI index.

40 The said first CQI table further includes all entries in the said second CQI table
41 with a modulation method of 16QAM.

42 For example, the said first CQI table further includes three entries in the second
43 CQI table with a CQI index of 7-9 corresponding to the 3 entries with a modulation
44 method of 16QAM.

1 Or, specifically, the said first CQI table further comprises partial entries in the
2 said second CQI table with a modulation method of 16QAM, and at least one entry
3 other than the one corresponding to the largest CQI index among all the 16QAM
4 entries in the said second CQI table.

5 For example, the entries with a modulation method of 16QAM in the said first
6 CQI table can comprises entries corresponding to CQI indexes 8 and 9 in the second
7 CQI table, and the entries with a modulation method of QPSK in the said first CQI
8 table may comprise the entries with a modulation method of 8 or 9 in the second CQI
9 table.

10 Third first CQI table: On the basis of the first first CQI table, add a entries with
11 a modulation method of 16QAM to obtain the third first CQI table. The third first CQI
12 table only includes entries with modulation methods of QPSK, 16QAM and higher
13 than 64QAM. An entry included in the third first CQI table with a modulation method
14 of 16QAM and a entry included in the second first CQI table with a modulation
15 method of 16QAM may be the same.

16 Specifically, the said first CQI table further includes all entries in the said
17 second CQI table with a modulation method of 16QAM.

18 Or, specifically, the said first CQI table further comprises partial entries in the
19 said second CQI table with a modulation method of 16QAM, and at least one entry
20 other than the one corresponding to the largest CQI index among all the 16QAM
21 entries in the said second CQI table.

22 Specifically, the said first CQI table further includes entries in the said second
23 CQI table with a modulation method of 64QAM.

24 That is, on the basis of the first first CQI table, the entries with a modulation
25 method of 64QAM is added to obtain a fourth first CQI table; at this time, the fourth
26 first CQI table includes the entries with a modulation method of QPSK, a modulation
27 method higher than 64QAM, and 64QAM;

28 Alternatively, on the basis of the second first CQI table, the table after adding
29 the entries with the modulation method 64QAM is the fifth first CQI table; at this time,
30 the fifth first CQI table includes the entries with the modulation method higher than
31 64QAM, 16QAM and 64QAM;

32 Alternatively, on the basis of the third first CQI table, the table after adding the
33 entries with the modulation method 64QAM is the sixth first CQI table; at this time,
34 the sixth first CQI table includes the entries with the modulation method higher than
35 64QAM, 16QAM and 64QAM;

36 The entries in the fourth, fifth or sixth first CQI table with the modulation
37 method of 64QAM is as follows:

38 Specifically, the said first CQI table further includes all entries in the said
39 second CQI table with a modulation method of 64QAM.

40 For example, the 6 entries corresponding to second CQI indexes of 10-15 with
41 the modulation method of 64QAM corresponding to the entries with a modulation
42 method of 64QAM in the second CQI table.

43 Or, specifically, the said first CQI table further comprises partial entries in the
44 said second CQI table with a modulation method of 64QAM, and at least one entry

other than the one corresponding to the largest CQI index among all the 64QAM entries in the said second CQI table.

For example, the entries in the said first CQI table with a modulation method of 64QAM may further comprise the entries in the second CQI table with a CQI index of 10-M; where M may be 11, 12, 13 and 14; the entries in the said first CQI table with a modulation method of 64QAM may further comprise the entries in the second CQI table with a CQI index of 10, 12 and 14; the entries in the said first CQI table with a modulation method of 64QAM may further comprise the entry in the second CQI table with a CQI index of 10 and 13, and the entry in the second CQI table with a modulation method of 64QAM may further comprise the entry in the second CQI table with a CQI index of 10, 13 and 14.

Further, in the above six first CQI table, the entries with the smallest CQI index corresponding to modulation methods higher than 64QAM has a spectral efficiency equal to that of the entries with the largest CQI index among all the entries in the said second CQI table where the modulation method is 64QAM.

Furthermore, in the six above first CQI tables, the spectral efficiencies $\{S_1, \dots, S_i, \dots, S_T\}$ (arranged in ascending order) of the T entries with the smallest CQI indexes corresponding to modulation methods higher than 64QAM may be equal to or approximately equal to the spectral efficiencies $\{P_1, \dots, P_i, \dots, P_T\}$ (arranged in ascending order) of the T entries with the largest CQI indexes among all indexes corresponding to a modulation method of 64QAM in the said second CQI table. where T is equal to any natural number from 1-5, and $1 \leq i \leq T$. The term "approximately equal" means: $\{S_1, \dots, S_i, \dots, S_T\}$ and $\{P_1, \dots, P_i, \dots, P_T\}$ are not exactly identical, and the difference between S_i and P_i is less than a predefined value aa .

For example, the spectral efficiencies of the T entries with the smallest CQI indices corresponding to modulation methods higher than 64QAM in the said first CQI table include any one or more (two or more) of the following values: {3.3223, 3.9023, 4.5234, 5.1152, 5.5547} or include any one or more of the following values: {3.3203, 3.8984, 4.5234, 5.1172, 5.5547}. Where the above spectral efficiencies are respectively equal to or approximately equal to the spectral efficiencies of the 5 entries with the largest CQI indexes corresponding to the 64QAM modulation method in the said second CQI table.

Taking T=2 as an example, the T entries with the smallest corresponding CQI index among the entries in the said first CQI table with modulation method of higher than 64QAM is shown in Table 3.

Table 3

CQI index	Modulation method modulation	Code Rate $\times 1024$ code rate $\times 1024$	Spectral efficiency efficiency
11	256QAM	655	5.1172
12	256QAM	711	5.5547

For example, assuming that the modulation method of QPSK in the first CQI

table is 3 entries, and the corresponding CQI index is 1-3; the modulation method of 16QAM is 3 entries, and the corresponding CQI index is 4-6; the modulation method of 64QAM is 5 entries, and the corresponding CQI index is 7-11; and the CQI index range in the first CQI table is 0-15, the modulation method of the first CQI table is 4 entries, and the corresponding CQI index is 12-15; the entries with the smallest CQI index is 12, and the specific is as shown in the table below. The entries with the CQI index of 12 in the first CQI table 1 corresponds to the CQI index 15 in the second CQI table 1.

According to Table 4, it can be seen that the entries in the first CQI table and the entries in the second CQI table corresponding to the same CQI index may be the same, such as when the CQI index is 1; the entries in the first CQI table corresponding to the same CQI index may also be different, such as when the CQI indexes are 5, 9 and 10.

Table 4

CQI index in the first CQI table	CQI index in the second CQI table	Modulation method modulation	Code Rate $\times 1024$ code rate $\times 1024$	Spectral efficiency efficiency
0	0	out of range		
1	1	QPSK	78	0.1523
2	3	QPSK	193	0.3770
3	5	QPSK	449	0.8770
4	7	16QAM	378	1.4766
5	8	16QAM	490	1.9141
6	9	16QAM	616	2.4063
7	10	64QAM	466	2.7305
8	11	64QAM	567	3.3223
9	12	64QAM	666	3.9023
10	13	64QAM	772	4.5234
11	14	64QAM	873	5.1152
12	15	256QAM	711	5.5547
13	-	256QAM	778	6.0800
14	-	256QAM	860	6.7200
15	-	256QAM	942	7.3600

It can be seen that the above six first CQI tables contain entries with a modulation method higher than 64QAM, thereby supporting the UE to select a modulation method with a modulation method higher than 64QAM and notify the base station by sending the CQI index, thereby improving the system performance. Moreover, the sixth first CQI table of which includes QPSK, 16QAM and 64QAM and the entries with a modulation method higher than 64QAM is a preferred first CQI

1 table.

2 Further optionally, in any of the above first CQI tables, the spectral efficiency
3 of the entries with the largest corresponding CQI index among the entries with
4 modulation method higher than 64QAM may be:

5 The spectral efficiency of the entries with the largest CQI index among all the
6 entries in the said second CQI table where the modulation method is 64QAM,
7 multiplied by 4/3;

8 Alternatively, 8 times the terminal UE's maximum coding rate, where the
9 maximum coding rate is a positive real number less than 1;

10 Or, 7.4063;

11 Or, 7.432.

12 It should be noted that the terminal's maximum coding rate refers to the highest
13 coding rate of a transport block that the terminal can receive. If the coding rate of the
14 transport block exceeds the terminal's maximum coding rate, the terminal may choose
15 not to receive the transport block. The maximum coding rate for the terminal is not
16 the coding rate in the CQI table. Typically, the maximum encoding rate of the terminal
17 may be 0.93 or 0.929.

18 Optionally, the spectral efficiencies of the X entries with the largest CQI indices
19 in any of the aforementioned first CQI tables, when arranged in ascending order of
20 spectral efficiency, form an arithmetic progression or an approximately arithmetic
21 progression; Where, when the spectral efficiency of the X entries with the largest CQI
22 index in the said first CQI table is arranged in an arithmetic sequence in ascending
23 order of spectral efficiency, it means that starting from the second entry of the said X
24 entries, the difference in spectral efficiency between each entry and its preceding entry
25 is equal to the same constant; When the spectral efficiency of the X entries with the
26 largest CQI index in the said first CQI table is arranged in an approximately arithmetic
27 sequence in ascending order of spectral efficiency, it means that starting from the
28 second entry of the X entries, the difference in spectral efficiency between each entry
29 and its preceding entry falls within a range defined by a constant minus a preset value
30 and the same constant plus the preset value; Here, the said X is an integer greater than
31 2.

32 In other words, assume the spectral efficiencies of the X entries with the largest
33 CQI indices in the first CQI table are $(m_1, m_2, \dots, m_X)$. Starting from the second entry
34 of the X entries, calculate the difference between the spectral efficiency of each entry
35 and the spectral efficiency of the previous entry, denoted as t_i , where $1 \leq i \leq X-1$.
36 Specifically, $(t_1, t_2, \dots, t_{X-1})$, $t_i = m_{i+1} - m_i$.

37 If all the values in the $(t_1, t_2, \dots, t_{X-1})$ are equal (a constant), the spectral
38 efficiency of the X entries with the largest CQI index in the first CQI table is an equal
39 difference series in order of spectral efficiency from smallest to largest, and the
40 constant is called the tolerance of the equal difference series.

41 If there is a constant, such that the absolute value of the difference between all
42 values in $(t_1, t_2, \dots, t_{X-1})$ and the constant is within the preset value range, the spectral
43 efficiency of X entries with the largest CQI index in the first CQI table is arranged
44 into an approximate equal difference series in order of spectral efficiency from small

to large; it can also be understood as: If the absolute value of the difference of any two adjacent values in the $(t_1, t_2, \dots, t_{x-1})$ is less than the preset value, then each value in the $(t_1, t_2, \dots, t_{x-1})$ is approximately equal, then the spectral efficiency of the X entries with the largest CQI index in the first CQI table is an approximately equal difference series in order of spectral efficiency from smallest to largest, and the said constant is called the tolerance of the approximately equal difference series.

For example, taking $X = 3$ as an example, the three entries with the largest CQI index in the said first CQI table are shown in Table 5-1.

Table 5-1

CQI index	Modulation method modulation	Code Rate $\times 1024$ code rate $\times 1024$	Spectral efficiency efficiency
13	256QAM	790	6.1719
14	256QAM	869	6.7891
15	256QAM	948	7.4063

As shown in Table 5-1, the corresponding spectral efficiencies of entries with CQI indexes 13-15 are 6.1719, 6.7891, and 7.4063, respectively; starting from the second entry (i.e., from the entry with CQI index 14), the difference between the spectral efficiency of each entry and the spectral efficiency of the previous entry is equal to 0.6172. Therefore, the spectral efficiency of the three entries with the largest CQI index in the first CQI table is formed into an equal difference column in order of spectral efficiency from smallest to largest.

For example, taking $X=3$ as an example, the three entries with the largest CQI index in the said first CQI table are shown in Table 5-2.

Table 5-2

CQI index	Modulation method modulation	Code Rate $\times 1024$ code rate $\times 1024$	Spectral efficiency efficiency
13	256QAM	791	6.1797
14	256QAM	871	6.8047
15	256QAM	951	7.4297

As shown in Table 5-2, the corresponding spectral efficiencies of entries with CQI indexes 13-15 are 6.1797, 6.8047, and 7.4297, respectively; starting from the second entry (i.e., from the entry with CQI index 14), the difference between the spectral efficiency of each entry and the spectral efficiency of the previous entry is equal to 0.625. Therefore, the spectral efficiency of the three entries with the largest CQI index in the first CQI table is formed into an equal difference column in order of spectral efficiency from smallest to largest; or,

As shown in Table 5-2, the corresponding spectral efficiencies of entries with CQI indexes 13-15 are 6.1805, 6.8062, and 7.432, respectively; Assuming the preset value is 0.001, starting from the second entry (i.e., from the entry with CQI index 14),

the difference between the spectral efficiency of each entry and the spectral efficiency of the previous entry lies within the range of 0.625 minus 0.001 and 0.625 plus 0.001. Therefore, the spectral efficiency of the three entries with the largest CQI index in the first CQI table is formed into an equal difference column in order of spectral efficiency from smallest to largest.

Additionally, optionally, the spectral efficiency of the entries with the smallest CQI index among the X entries with the largest CQI index in the said first CQI table is equal to the spectral efficiency of the entries with the largest CQI index among all the entries in the said second CQI table where the modulation method is 64QAM.

Optionally, the spectral efficiency of the entries with the largest CQI index among the X entries with the largest CQI index in the said first CQI table is:

The spectral efficiency of the entries with the largest CQI index among all the entries in the said second CQI table where the modulation method is 64QAM, multiplied by 4/3;

Alternatively, 8 times the terminal's maximum coding rate, where the maximum coding rate is a positive real number less than 1;

Or, 7.4063;

Or, 7.432.

Further optionally, in any of the above first CQI tables, the spectral efficiency of the entries with a modulation method higher than 64QAM comprises at least one of the following values:

$\{5.5547 \quad 6.1805 \quad 6.8062 \quad 7.432\}$,

$\{6.1805 \quad 6.8062 \quad 7.432\}$,

$\{5.5547 \quad 6.1797 \quad 6.8047 \quad 7.4297\}$,

$\{6.1797 \quad 6.8047 \quad 7.4297\}$,

$\{5.5547 \quad 6.1719 \quad 6.7891 \quad 7.4063\}$,

$\{6.1719 \quad 6.7891 \quad 7.4063\}$,

$\{5.5547 \quad 6.4934 \quad 7.432\}$,

$\{6.4934 \quad 7.432\}$,

$\{5.5547 \quad 6.4922 \quad 7.4297\}$,

$\{6.4922 \quad 7.4297\}$,

$\{ 5.5547 \quad 6.4805 \quad 7.4063 \},$
 $\{ 6.4805 \quad 7.4063 \},$
 $\{ 5.5547 \quad 6.4844 \quad 7.4063 \},$
 $\{ 6.4844 \quad 7.4063 \},$
 $\{ 5.5547 \quad 6.0240 \quad 6.4934 \quad 6.9627 \quad 7.432 \},$
 $\{ 6.0234 \quad 6.4922 \quad 6.9609 \quad 7.4297 \},$
 $\{ 5.5547 \quad 6.0234 \quad 6.4922 \quad 6.9609 \quad 7.4297 \},$
 $\{ 6.0176 \quad 6.4805 \quad 6.9434 \quad 7.4063 \},$
 $\{ 5.5547 \quad 6.0176 \quad 6.4805 \quad 6.9434 \quad 7.4063 \},$
 $\{ 6.0176 \quad 6.4805 \quad 6.9434 \quad 7.4063 \},$
 $\{ 5.5547 \quad 6.0156 \quad 6.4844 \quad 6.9453 \quad 7.4063 \},$
 $\{ 6.0156 \quad 6.4844 \quad 6.9453 \quad 7.4063 \},$
 $\{ 5.5547 \quad 5.9302 \quad 6.3056 \quad 6.6811 \quad 7.0565 \quad 7.432 \},$
 $\{ 5.9302 \quad 6.3056 \quad 6.6811 \quad 7.0565 \quad 7.432 \},$
 $\{ 5.5547 \quad 5.9297 \quad 6.3047 \quad 6.6797 \quad 7.0547 \quad 7.4297 \},$
 $\{ 5.9297 \quad 6.3047 \quad 6.6797 \quad 7.0547 \quad 7.4297 \},$
 $\{ 5.5547 \quad 5.9250 \quad 6.2953 \quad 6.6656 \quad 7.0360 \quad 7.4063 \},$
 $\{ 5.9250 \quad 6.2953 \quad 6.6656 \quad 7.0360 \quad 7.4063 \},$
 $\{ 5.5547 \quad 5.9219 \quad 6.2969 \quad 6.6641 \quad 7.0391 \quad 7.4063 \},$
 and $\{ 5.9219 \quad 6.2969 \quad 6.6641 \quad 7.0391 \quad 7.4063 \}.$

Here, the spectral efficiency of the entries in the said first CQI table with modulation method of higher than 64 QAM is taken as an example of a set of the following values:

{5.5547 6.1797 6.8047 7.4297}
 Or, {6.1797 6.8047 7.4297}
 Alternatively, {5.5547 6.1719 6.7891 7.4063}
 Or, {6.1719 6.7891 7.4063}

The four first CQI tables are listed as follows:

Table 6-1

CQI index in the first CQI table	CQI index in the second CQI table	Modulation method modulation	Code Rate ×1024 code rate × 1024	Spectral efficiency efficiency
0	0	out of range		
1	1	QPSK	78	0.1523
2	3	QPSK	193	0.3770
3	5	QPSK	449	0.8770
4	7	16QAM	378	1.4766
5	8	16QAM	490	1.9141
6	9	16QAM	616	2.4063
7	10	64QAM	466	2.7305
8	11	64QAM	567	3.3223
9	12	64QAM	666	3.9023
10	13	64QAM	772	4.5234
11	14	64QAM	873	5.1152
12	15	256QAM	711	5.5547
13	-	256QAM	791	6.1797
14	-	256QAM	871	6.8047
15	-	256QAM	951	7.4297

Table 6-2

CQI index in the first CQI table	CQI index in the second CQI table	Modulation method modulation	Code Rate ×1024 code rate × 1024	Spectral efficiency efficiency
0	0	out of range		
1	1	QPSK	78	0.1523
2	3	QPSK	193	0.3770

3	5	QPSK	449	0.8770
4	7	16QAM	378	1.4766
5	8	16QAM	490	1.9141
6	9	16QAM	616	2.4063
7	10	64QAM	466	2.7305
8	11	64QAM	567	3.3223
9	12	64QAM	666	3.9023
10	13	64QAM	772	4.5234
11	14	64QAM	873	5.1152
12	15	64QAM	948	5.5547
13	-	256QAM	791	6.1797
14	-	256QAM	871	6.8047
15	-	256QAM	951	7.4297

Table 6-3

CQI index in the first CQI table	CQI index in the second CQI table	Modulation method modulation	Code Rate $\times 1024$ code rate $\times 1024$	Spectral efficiency efficiency
0	0	out of range		
1	1	QPSK	78	0.1523
2	3	QPSK	193	0.3770
3	5	QPSK	449	0.8770
4	7	16QAM	378	1.4766
5	8	16QAM	490	1.9141
6	9	16QAM	616	2.4063
7	10	64QAM	466	2.7305
8	11	64QAM	567	3.3223
9	12	64QAM	666	3.9023
10	13	64QAM	772	4.5234
11	14	64QAM	873	5.1152
12	15	256QAM	711	5.5547
13	-	256QAM	790	6.1719
14	-	256QAM	869	6.7891
15	-	256QAM	948	7.4063

Table 6-4

CQI index in the first CQI table	CQI index in the second CQI table	Modulation method modulation	Code Rate ×1024 code rate × 1024	Spectral efficiency efficiency
0	0	out of range		
1	1	QPSK	78	0.1523
2	3	QPSK	193	0.3770
3	5	QPSK	449	0.8770
4	7	16QAM	378	1.4766
5	8	16QAM	490	1.9141
6	9	16QAM	616	2.4063
7	10	64QAM	466	2.7305
8	11	64QAM	567	3.3223
9	12	64QAM	666	3.9023
10	13	64QAM	772	4.5234
11	14	64QAM	873	5.1152
12	15	64QAM	948	5.5547
13	-	256QAM	790	6.1719
14	-	256QAM	869	6.7891
15	-	256QAM	948	7.4063

The other four first CQI tables are listed below:

Table 6-5

CQI index in the first CQI table	CQI index in the second CQI table	Modulation method modulation	Code Rate ×1024 code rate x 1024	Spectral efficiency efficiency
0	0	out of range		
1	1	QPSK	78	0.1523
2	2	QPSK	120	0.2344
3	4	QPSK	308	0.6016
4	6	QPSK	602	1.1758
5	8	16QAM	490	1.9141
6	9	16QAM	616	2.4063
7	10	64QAM	466	2.7305
8	11	64QAM	567	3.3223
9	12	64QAM	666	3.9023
10	13	64QAM	772	4.5234

11	14	256QAM	655	5.1172
12	15	256QAM	711	5.5547
13	-	256QAM	791	6.1797
14	-	256QAM	871	6.8047
15	-	256QAM	951	7.4297

Table 6-6

CQI index in the first CQI table	CQI index in the second CQI table	Modulation method modulation	Code Rate ×1024 code rate x 1024	Spectral efficiency efficiency
0	0	out of range		
1	1	QPSK	78	0.1523
2	2	QPSK	120	0.2344
3	4	QPSK	308	0.6016
4	6	QPSK	602	1.1758
5	8	16QAM	490	1.9141
6	9	16QAM	616	2.4063
7	10	64QAM	466	2.7305
8	11	64QAM	567	3.3223
9	12	64QAM	666	3.9023
10	13	64QAM	772	4.5234
11	14	64QAM	873	5.1152
12	15	256QAM	711	5.5547
13	-	256QAM	791	6.1797
14	-	256QAM	871	6.8047
15	-	256QAM	951	7.4297

Table 6-7

CQI index in the first CQI table	CQI index in the second CQI table	Modulation method modulation	Code Rate ×1024 code rate × 1024	Spectral efficiency efficiency
0	0	out of range		
1	1	QPSK	78	0.1523
2	2	QPSK	120	0.2344
3	4	QPSK	308	0.6016
4	6	QPSK	602	1.1758
5	8	16QAM	490	1.9141
6	9	16QAM	616	2.4063
7	10	64QAM	466	2.7305
8	11	64QAM	567	3.3223
9	12	64QAM	666	3.9023
10	13	64QAM	772	4.5234
11	14	256QAM	655	5.1172
12	15	256QAM	711	5.5547
13	-	256QAM	790	6.1719
14	-	256QAM	869	6.7891
15	-	256QAM	948	7.4063

Table 6-8

CQI index in the first CQI table	CQI index in the second CQI table	Modulation method modulation	Code Rate $\times 1024$ code rate $\times 1024$	Spectral efficiency efficiency
0	0	out of range		
1	1	QPSK	78	0.1523
2	2	QPSK	120	0.2344
3	4	QPSK	308	0.6016
4	6	QPSK	602	1.1758
5	8	16QAM	490	1.9141
6	9	16QAM	616	2.4063
7	10	64QAM	466	2.7305
8	11	64QAM	567	3.3223
9	12	64QAM	666	3.9023
10	13	64QAM	772	4.5234
11	14	64QAM	873	5.1152
12	15	256QAM	711	5.5547
13	-	256QAM	790	6.1719
14	-	256QAM	869	6.7891
15	-	256QAM	948	7.4063

It should be noted that the "CQI index in the second CQI table" mentioned above may not be included in the first CQI table. This item is added solely to illustrate the relationship between the first CQI table and the second CQI table.

Further, it should be noted that the above first CQI table is used to describe the mapping relationship between CQI indexes and entries. The mapping relationship of CQI tables in the examples of the present disclosure is only for the convenience of understanding the examples given in the present disclosure. The manifestations of the CQI tables in the present disclosure is inclusive and not limited thereto, that is to say, CQI tables can have a variety of combinations, so long as they can reflect the mapping relationship between CQI indexes and entries, they are within the scope to be protected by the present disclosure.

S102. UE sends a first CQI index to a base station.

The present disclosure provides a notification method and device for Channel Quality Indication and Modulation Coding Scheme, supports the UE to select a modulation method with a modulation method higher than 64QAM and notify a base station by sending a CQI index. At the same time, supports the base station to select a modulation method with a modulation method higher than 64QAM and notify the UE by sending a MCS index, thereby improving system performance.

A MCS notification method provided by the examples of the present disclosure

1 is described in detail below with reference to the attached drawings.

2 As shown in Fig. 2, the following steps of the said MCS notification method
3 are:

4 S201. The base station receives a first CQI index.

5 Where, the said first CQI index is determined by the UE based on the acquired
6 first CQI table.

7 S202, base station determine the first MCS index based on the first CQI table,
8 the first MCS table, and the received first CQI index;

9 Wherein the said first CQI table may be pre-defined by the protocol, the UE
10 pre-sets or the UE pre-stores based on the protocol provisions; or the UE selects based
11 on the downlink channel status from at least two pre-defined tables; or the UE may be
12 notified to the UE by the base station. Specifically, the method by which the base
13 station informs the UE may be by the base station selecting one of the two pre-defined
14 tables based on the uplink channel status or the downlink channel status and notifying
15 the UE. The said CQI table is used to describe the mapping relationship between CQI
16 indexes and entries. The mapping relationship of CQI tables in the examples of the
17 present disclosure is only for the convenience of understanding the examples given in
18 the present disclosure. The manifestations of the CQI tables in the present disclosure
19 is inclusive and not limited thereto, that is to say, CQI tables can have a variety of
20 combinations, so long as they can reflect the mapping relationship between CQI
21 indexes and entries, they are within the scope to be protected by the present disclosure.

22 Wherein the said first CQI table may be pre-defined by the protocol, the UE
23 pre-sets or the UE pre-stores based on the protocol provisions; or the UE selects based
24 on the downlink channel status from at least two pre-defined tables; or the UE may be
25 notified to the UE by the base station. Specifically, the method by which the base
26 station informs the UE may be by the base station selecting one of the two pre-defined
27 tables based on the uplink channel status or the downlink channel status and notifying
28 the UE. The said MCS table is used to describe the mapping relationship between
29 MCS indexes and entries. The mapping relationship of MCS tables in the examples of
30 the present disclosure is only for the convenience of understanding the examples given
31 in the present disclosure. The manifestations of the MCS tables in the present
32 disclosure is inclusive and not limited thereto, that is to say, MCS tables can have a
33 variety of combinations, so long as they can reflect the mapping relationship between
34 MCS indexes and entries, they are within the scope to be protected by the present
35 disclosure.

36 Where, the said first CQI table may include:

37 Entries for modulation methods higher than 64QAM;

38 The entries for at least one modulation method of QPSK in the second CQI table,
39 and the entries for at least one said modulation method of QPSK includes
40 combinations formed from entries corresponding to QPSK in the said second CQI
41 table, excluding the first combination. The said first combination consists of the N
42 largest consecutive CQI Number entries corresponding to QPSK in the said second
43 CQI table, where N is equal to 3, or N is a positive integer less than 4, or said N is a
44 positive integer; and/or the second CQI table includes entries for at least one

1 modulation method of 16QAM;

2 The modulation methods in the said second CQI table include only QPSK,
3 16QAM, and 64QAM.

4 That is, the said first CQI table includes entries with a modulation method higher
5 than 64QAM, and the said first CQI table also includes the entries with at least one
6 modulation method of QPSK in the second CQI table, and the entries for at least one
7 modulation method of QPSK in the said first CQI table cannot be only N entries with
8 the largest consecutive CQI indexes corresponding to the entries with a modulation
9 method of QPSK in the second CQI table, where N is equal to 3 or the N is a positive
10 integer less than 4; and/or the said first CQI table also includes entries for at least one
11 modulation method of 16QAM in the second CQI table; the modulation methods of
12 the entries in the said second CQI table includes only QPSK, 16QAM and 64QAM;
13 the entries in the first CQI table refers to a modulation method, one coding rate and
14 one spectral efficiency corresponding to each CQI index.

15 It should be noted that the first CQI table in this embodiment can be referred to
16 the description of the first CQI table in the corresponding embodiment of Fig. 1, and
17 is not expanded in this example.

18 Where, the said first MCS table may comprise:

19 Entries for modulation methods higher than 64QAM;

20 The entries for at least one modulation method of QPSK in the second MCS
21 table, and the entries for at least one said modulation method of QPSK includes
22 combinations formed from the entries for at least one modulation method of QPSK in
23 the second MCS table, excluding the second combination. The said second
24 combination consists of the K largest consecutive MCS Number corresponding to
25 QPSK in the said second MCS table, where K is equal to 4, or K is a positive integer
26 less than 5, or K is a positive integer; and/or at least one entry for a 16QAM
27 modulation method in the said second MCS table;

28 The modulation methods in the said second MCS table include only QPSK,
29 16QAM, and 64QAM;

30 That is, the said first MCS table further includes entries for at least one
31 modulation method of QPSK in the said second MCS table, and the corresponding
32 MCS index of the entries for modulation method of QPSK in the said second MCS
33 table cannot be only the entry corresponding to the largest consecutive K MCS indexes,
34 where K is equal to 4 or the K is a positive integer less than 5 or the K is a positive
35 integer, and/or the first MCS table further includes entries for at least one modulation
36 method of 16QAM in the said second MCS table; the modulation method of the entries
37 in the said second MCS table includes only QPSK, 16QAM and 64QAM; the entries
38 in the first MCS table refer to a modulation method and a TBS index corresponding
39 to each MCS index in the first MCS table; the entries in the said second MCS table
40 refer to a modulation method and a TBS index.

41 The said combination is a combination composed of entries for at least one
42 modulation method of QPSK in the second MCS table. Taking the second MCS table
43 shown in Table 6 as an example, there are a total of $2^{10}-1=1023$ combinations
44 consisting of entries for at least one modulation method of QPSK in the second MCS

1 table. For example, the combination may be a combination of the entries
2 corresponding to CQI index 6 in the second MCS table, or a combination of the entries
3 corresponding to MCS indexes 6, 7, 8 and 9 in the second MCS table, or a combination
4 of the entries corresponding to CQI indexes 3, 6, 7, 8 and 9 in the second CQI table,
5 and so on.

6 Specifically, there may be three first MCS tables:

7 First first MCS table: Only the entries with a modulation method of QPSK and
8 a modulation method of higher than 64QAM are included;

9 Second first MCS table: Only the entries with a modulation method of 16QAM
10 and a modulation method higher than 64QAM are included;

11 Third first MCS table: Only the entries with a modulation method of QPSK,
12 16QAM and a modulation method higher than 64QAM are included.

13 The first MCS table in the present disclosure may have multiple types. The
14 above three first MCS tables are only used to help understand the examples given in
15 the present disclosure. The present disclosure is inclusive and not limited thereto.

16 Specifically, determining a first MCS index from the received first CQI index,
17 the first CQI table, and the first CQI index received from the first MCS table, or
18 alternatively, determining a first MCS index from the acquired first CQI table, the
19 acquired first MCS table, and the received first CQI index includes:

20 Determining the first TBS index and the first MCS index from the first CQI
21 table, the first MCS table, and the received first CQI index. These include: Determining
22 the first TBS index and the first MCS index from the acquired first PRB count, the
23 first CQI table, the first MCS table, and the received first CQI index. Further
24 comprising: Determining the first TBS index and the first MCS index from the
25 acquired first PRB count, the first CQI table, the first MCS table, the first TBS table,
26 and the received first CQI index.

27 Where, the said first PRB count is the PRB count allocated by the base station
28 to the said UE; or, the said first PRB count is the largest integer less than or equal to
29 the product of the PRB count allocated to the UE and a specific coefficient; Wherein
30 the specific coefficient is a pre-stored value or a value notified to the UE by the base
31 station.

32 Specifically, if the said first modulation method is 256QAM and the PRB count
33 assigned to the UE is less than or equal to a specific threshold Q, the said first PRB
34 count is a maximum integer no greater than the product of the PRB count assigned to
35 the UE and a specific coefficient P. Where the product of P and Q is not greater than
36 the maximum PRB count, which in the LTE system is 110. Preferably, when $Q=82$,
37 $P=1.33$, where $P*Q=109.06<110$, at this time, if the PRB count assigned by the base
38 station to the UE is 50, then the first PRB count is the maximum integer less than or
39 equal to $50*1.33=66.5$, i.e., the first PRB count is 66.

40 The said first TBS table includes at least one PRB count corresponding to each
41 TBS index, as well as the transmission block size corresponding to each PRB count;
42 the said first TBS table is the TBS table corresponding to the said first MCS table.

43 Further optionally, the value range for the TBS index in the said first TBS table
44 is 0–A, where A is a positive integer less than or equal to 26.

Or optionally, the range of TBS index in the said first TBS table is from 0 to B, where B is a positive integer less than or equal to 26; and the range of TBS index in the said first TBS table is from 0 to 26, and the corresponding transport block sizes is same to the TBS indexes in the range of 0-26 in the said first TBS table are the same as those corresponding to the TBS indexes in the range of 0-26 in the second TBS table, and the second TBS table includes at least one PRB count corresponding to each TBS index, as well as a transport block size corresponding to each PRB count.

Or optionally, the range of TBS index in the said first TBS table is from 0 to B, where B is a positive integer less than or equal to 26; and the range of TBS index in the said first TBS table is from 0 to C, and the corresponding transport block sizes is same to the transport block sizes of TBS indexes in the range of 0-C in the second TBS table, where C is a non-negative integer less than or equal to 26. The range of TBS indices in the second TBS table is 0-26, and the second TBS table includes at least one PRB count corresponding to each TBS index, as well as a transport block size corresponding to each PRB count.

Further specifically, determining a first TBS index from the first CQI table, the first PRB count, the first TBS table, and the received first CQI index comprises:

First, determining the first modulation method and first spectral efficiency corresponding to the received first CQI index based on the received first CQI index and the first CQI table.

Secondly, determining the first transmission block size transmitted to the said UE based on the first PRB count and the first spectral efficiency.

Then, determining the first TBS index corresponding to the first transmission block size and the first PRB count based on the first TBS table.

It is noted that the first CQI table, the first MCS table, and the first TBS table may be pre-stored by the base station.

For ease of understanding, the TBS table in the existing protocol (i.e., the second TBS table) is as follows:

Table 7

Second TBS index	PRB Count									
	1	2	3	4	...	106	107	108	109	110

0	16	32	56	88	...	2984	2984	2984	2984	3112
1	24	56	88	144	...	3880	3880	4008	4008	4008
2	32	72	144	176	...	4776	4776	4776	4968	4968
3	40	104	176	208	...	6200	6200	6200	6456	6456
4	56	120	208	256	...	7480	7736	7736	7736	7992
5	72	144	224	328	...	9528	9528	9528	9528	9528
6	328	176	256	392	...	11064	11064	11448	11448	11448
7	104	224	328	472	...	12960	12960	12960	13536	13536
8	120	256	392	536	...	14688	15264	15264	15264	15264
9	136	296	456	616	...	16992	16992	16992	16992	17568
10	144	328	504	680	...	18336	19080	19080	19080	19080
11	176	376	584	776	...	21384	21384	22152	22152	22152
12	208	440	680	904	...	24496	24496	24496	24496	25456
13	224	488	744	1000	...	27376	27376	27376	28336	28336
14	256	552	840	1128	...	30576	30576	30576	31704	31704
15	280	600	904	1224	...	32856	32856	32856	34008	34008
16	328	632	968	1288	...	34008	35160	35160	35160	35160
17	336	696	1064	1416	...	37888	39232	39232	39232	39232
18	376	776	1160	1544	...	42368	42368	42368	43816	43816
19	408	840	1288	1736	...	45352	46888	46888	46888	46888
20	440	904	1384	1864	...	48936	48936	51024	51024	51024
21	488	1000	1480	1992	...	52752	52752	55056	55056	55056
22	520	1064	1608	2152	...	57336	57336	59256	59256	59256
23	552	1128	1736	2280	...	61664	61664	61664	61664	63776
24	584	1192	1800	2408	...	63776	66592	66592	66592	66592
25	616	1256	1864	2536	...	66592	68808	68808	68808	71112
26	712	1480	2216	2984	...	75376	75376	75376	75376	75376

For example, when B=32, in the first TBS table, the first TBS index has a range of 0-32 (as shown in Table 8). The xxx of the example in the table represents the transport block size, and the specific value can be set based on the simulation results.

First TBS index	PRB Count									
	1	2	3	4	...	106	107	108	109	110
0	16	32	56	88	...	2984	2984	2984	2984	3112
1	24	56	88	144	...	3880	3880	4008	4008	4008

2	32	72	144	176	...	4776	4776	4776	4968	4968
3	40	104	176	208	...	6200	6200	6200	6456	6456
4	56	120	208	256	...	7480	7736	7736	7736	7992
5	72	144	224	328	...	9528	9528	9528	9528	9528
6	328	176	256	392	...	11064	11064	11448	11448	11448
7	104	224	328	472	...	12960	12960	12960	13536	13536
8	120	256	392	536	...	14688	15264	15264	15264	15264
9	136	296	456	616	...	16992	16992	16992	16992	17568
10	144	328	504	680	...	18336	19080	19080	19080	19080
11	176	376	584	776	...	21384	21384	22152	22152	22152
12	208	440	680	904	...	24496	24496	24496	24496	25456
13	224	488	744	1000	...	27376	27376	27376	28336	28336
14	256	552	840	1128	...	30576	30576	30576	31704	31704
15	280	600	904	1224	...	32856	32856	32856	34008	34008
16	328	632	968	1288	...	34008	35160	35160	35160	35160
17	336	696	1064	1416	...	37888	39232	39232	39232	39232
18	376	776	1160	1544	...	42368	42368	42368	43816	43816
19	408	840	1288	1736	...	45352	46888	46888	46888	46888
20	440	904	1384	1864	...	48936	48936	51024	51024	51024
21	488	1000	1480	1992	...	52752	52752	55056	55056	55056
22	520	1064	1608	2152	...	57336	57336	59256	59256	59256
23	552	1128	1736	2280	...	61664	61664	61664	61664	63776
24	584	1192	1800	2408	...	63776	66592	66592	66592	66592
25	616	1256	1864	2536	...	66592	68808	68808	68808	71112
26	712	1480	2216	2984	...	75376	75376	75376	75376	75376
27	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
28	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
29	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
30	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
31	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
32	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx

The first TBS table is further defined below.

Optionally, the said first TBS table includes TBS index Y1, where, for each PRB index, a transport block size corresponding to TBS index Y1 is larger than a transport block size corresponding to TBS index 25 in the said second TBS table, and smaller than a transport block size corresponding to TBS index 26 in the said second TBS table. where the value of the TBS index in the said second TBS table ranges from 0–26, and the said second TBS table includes at least one PRB count

corresponding to each TBS index and the transport block size corresponding to each PRB count.

Wherein, the TBS index Y1 may be greater than 26, and, for example, Y1 may be 27 or 28.

For example, for each PRB count, a transport block size corresponding to TBS index 27 in the first TBS table is larger than a transport block size corresponding to TBS index 25 in the said second TBS table, and smaller than a transport block size corresponding to TBS index 26 in the said second TBS table. More specifically, if the PRB count is 1, the transport block size corresponding to TBS index 27 in the first TBS table is greater than 616 and less than 712; for another example, if the PRB count is 2, the transport block size corresponding to TBS index 27 in the first TBS table is greater than 1256 and less than 1480.

Optionally, the said first TBS table includes TBS index Y2 and at least one of the following TBS index Y2 in Table A, where any one of them includes a PRB count and the transmission block size corresponding to that PRB count:

where TBS index Y2 in the first TBS table may be greater than 26, Y2 for example = 27.

Table A

TBS index	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y2	648	1320	1992	2664	3368	4008	4584	5352	5992	6712
TBS index	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y2	7224	7992	8504	9144	9912	10680	11448	11832	12576	12960
TBS index	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y2	14112	14688	15264	15840	16416	16992	17568	18336	19080	19848
TBS index	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y2	20616	21384	22152	22920	22920	23688	24496	25456	25456	26416
TBS index	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y2	27376	27376	28336	29296	29296	30576	31704	31704	32856	32856
TBS index	PRB Count									
	51	52	53	54	55	56	57	58	59	60
27	34008	34008	35160	35160	36696	36696	37888	37888	39232	39232
TBS index	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y2	40576	40576	42368	42368	43816	43816	43816	45352	45352	46888

TBS index	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y2	46888	46888	48936	48936	48936	51024	51024	51024	52752	52752
TBS index	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y2	52752	55056	55056	55056	57336	57336	57336	59256	59256	59256
TBS index	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y2	59256	61664	61664	61664	63776	63776	63776	63776	66592	66592
TBS index	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y2	66592	66592	68808	68808	68808	71112	71112	71112	71112	73712

and/or,

The said first TBS table includes TBS index Y3, as well as at least one entry corresponding to TBS index Y3 in Tables B1, B2, B3, or B4, where any entries include a PRB count and the transmission block size corresponding to that PRB count;

where TBS index Y3 in the first TBS table may be greater than 26, for example, Y3 = 33.

Table B1

TBS index	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y3	936	1928	2856	3880	4776	5736	6712	7736	8504	9528
TBS index	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y3	10680	11448	12576	13536	14112	15264	16416	16992	18336	19080
TBS index	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y3	19848	21384	22152	22920	23688	24496	25456	26416	27376	28336
TBS index	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y3	29296	30576	31704	32856	34008	34008	35160	36696	37888	37888
TBS index	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y3	39232	40576	40576	42368	43816	43816	45352	45352	46888	46888
TBS index	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y3	48936	48936	51024	51024	52752	52752	55056	55056	57336	57336
TBS index	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y3	59256	59256	59256	61664	61664	63776	63776	63776	66592	66592

TBS inde x	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y3	68808	68808	71112	71112	71112	73712	73712	75376	76208	76208
TBS inde x	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y3	78704	78704	78704	81176	81176	81176	84760	84760	84760	84760
TBS inde x 号	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	87936	87936	90816	90816	90816	90816	93800	93800	93800	101840
TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	101840	101840	101840	101840	101840	101840	101840	101840	101840	101840

Table B2

TBS inde x	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	87936	87936	90816	90816	90816	90816	93800	93800	93800	93800
TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	97896	97896	97896	101840	101840	101840	101840	105528	105528

Table B3

TBS index	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y3	968	1992	2984	4008	4968	5992	6968	7992	8760	9912
TBS index	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y3	10680	11832	12960	13536	14688	15840	16992	17568	19080	19848
TBS index	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y3	20616	21384	22920	23688	24496	25456	26416	27376	28336	29296
TBS index	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y3	30576	31704	32856	34008	35160	35160	36696	37888	37888	39232
TBS index	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y3	40576	40576	42368	43816	43816	45352	46888	46888	48936	48936
TBS index	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y3	51024	51024	52752	52752	55056	55056	55056	57336	57336	59256
TBS index	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y3	59256	61664	61664	63776	63776	63776	66592	66592	68808	68808
	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y3	71112	71112	71112	73712	75376	76208	76208	76208	78704	78704
	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y3	81176	81176	81176	81176	84760	84760	84760	87936	87936	87936
	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	90816	90816	90816	93800	93800	93800	93800	97896	97896	97896
	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	97896	97896	97896	97896	97896	97896	97896	97896	97896

Table B4

TBS index	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	101840	101840	101840	105528	105528	105528	105528	105528	110136

and/or,

The said first TBS table includes TBS index Y4_1 to Y4_5, as well as at least one entry in Tables C1 or C2 corresponding to TBS index Y4_1 to Y4_5, where any entries include a PRB count and the five transmission block sizes corresponding to

1 that PRB count;

2 Where, Y4_1-Y4_5 in the said first TBS table may be greater than 26, for
 3 example, Y4_1=28, Y4_2=29, Y4_3=30, Y4_4=31, Y4_5=32.

Table C1

TBS index	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y4_1	680	1384	2088	2792	3496	4136	4968	5544	6200	6968
Y4_2	712	1480	2216	2984	3624	4392	5160	5992	6712	7224
Y4_3	744	1544	2280	3112	3880	4584	5352	6200	6968	7736
Y4_4	776	1608	2408	3240	4008	4776	5736	6456	7224	7992
Y4_5	840	1672	2536	3368	4264	5160	5992	6712	7480	8504

TBS index	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y4_1	7736	8248	9144	9912	10296	11064	11832	12576	13536	14112
Y4_2	7992	8760	9528	10296	11064	11832	12576	12960	14112	14688
Y4_3	8504	9144	9912	10680	11448	12216	12960	14112	14688	15264
Y4_4	8760	9528	10680	11448	12216	12960	13536	14688	15264	16416
Y4_5	9144	10296	11064	11832	12576	13536	14112	15264	15840	16992

TBS index	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y4_1	14688	15264	15840	16992	17568	18336	19080	19848	20616	20616
Y4_2	15264	16416	16992	17568	18336	19080	19848	20616	21384	22152
Y4_3	16416	16992	17568	18336	19080	19848	20616	21384	22152	22920
Y4_4	16992	17568	18336	19080	20616	21384	22152	22920	23688	24496

4

Y4_5	17568	18336	19848	20616	21384	22152	22920	23688	24496	25456
TBS index	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y4_1	21384	22152	22920	23688	24496	25456	25456	26416	27376	28336
Y4_2	22920	23688	24496	25456	25456	26416	27376	28336	28336	29296
Y4_3	23688	24496	25456	26416	27376	27376	28336	29296	30576	30576
Y4_4	25456	25456	26416	27376	28336	29296	30576	30576	31704	32856
Y4_5	26416	27376	28336	28336	29296	30576	31704	31704	32856	34008
TBS index	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y4_1	28336	29296	30576	30576	31704	31704	32856	34008	34008	35160
Y4_2	30576	30576	31704	32856	32856	34008	35160	35160	36696	36696
Y4_3	31704	32856	32856	34008	35160	35160	36696	36696	37888	39232
Y4_4	32856	34008	35160	35160	36696	37888	37888	39232	39232	40576
Y4_5	35160	35160	36696	37888	37888	39232	39232	40576	42368	42368
TBS index	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y4_1	35160	36696	36696	37888	37888	39232	40576	40576	40576	42368
Y4_2	37888	37888	39232	39232	40576	40576	42368	42368	43816	43816
Y4_3	39232	40576	40576	42368	42368	43816	43816	45352	45352	46888
Y4_4	40576	42368	42368	43816	45352	45352	46888	46888	46888	48936
Y4_5	43816	43816	45352	45352	46888	46888	48936	48936	51024	51024
TBS index	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y4_1	42368	43816	43816	45352	45352	46888	46888	46888	48936	48936
Y4_2	45352	45352	46888	46888	48936	48936	48936	51024	51024	51024
Y4_3	46888	48936	48936	48936	51024	51024	51024	52752	52752	55056
Y4_4	48936	51024	51024	52752	52752	52752	55056	55056	55056	57336
Y4_5	51024	52752	52752	55056	55056	55056	57336	57336	59256	59256
TBS index	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y4_1	48936	51024	51024	51024	52752	52752	55056	55056	55056	55056
Y4_2	52752	52752	52752	55056	55056	55056	57336	57336	57336	59256
Y4_3	55056	55056	57336	57336	57336	59256	59256	59256	61664	61664
Y4_4	57336	59256	59256	59256	61664	61664	61664	63776	63776	63776
Y4_5	59256	61664	61664	63776	63776	63776	66592	66592	66592	68808
TBS index	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y4_1	57336	57336	57336	59256	59256	59256	61664	61664	61664	63776
Y4_2	59256	59256	61664	61664	61664	63776	63776	63776	66592	66592
Y4_3	61664	63776	63776	63776	66592	66592	66592	68808	68808	68808
Y4_4	66592	66592	66592	68808	68808	68808	71112	71112	71112	73712
Y4_5	68808	68808	71112	71112	71112	73712	73712	75376	75376	76208
TBS index	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y4_1	63776	63776	63776	66592	66592	66592	68808	68808	68808	71112
Y4_2	66592	68808	68808	68808	71112	71112	71112	71112	73712	73712
Y4_3	71112	71112	71112	73712	73712	73712	75376	76208	76208	76208
Y4_4	73712	75376	75376	76208	76208	78704	78704	78704	81176	81176
Y4_5	76208	78704	78704	78704	81176	81176	81176	84760	84760	84760
TBS index	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y4_1	71112	71112	71112	73712	73712	73712	75376	75376	76208	76208
Y4_2	73712	75376	76208	76208	76208	78704	78704	78704	81176	81176
Y4_3	78704	78704	78704	81176	81176	81176	81176	84760	84760	84760
Y4_4	81176	81176	84760	84760	84760	84760	87936	87936	87936	87936
Y4_5	84760	87936	87936	87936	87936	90816	90816	90816	93800	93800

Table C2

TBS index	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y4_1	680	1384	2088	2792	3496	4264	4968	5544	6200	6968
Y4_2	712	1480	2216	2984	3624	4392	5160	5992	6712	7224
Y4_3	744	1544	2344	3112	3880	4584	5352	6200	6968	7736
Y4_4	808	1608	2408	3240	4008	4968	5736	6456	7224	7992
Y4_5	840	1672	2536	3368	4264	5160	5992	6712	7736	8504
TBS index	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y4_1	7736	8504	9144	9912	10680	11064	11832	12576	13536	14112
Y4_2	7992	8760	9528	10296	11064	11832	12576	13536	14112	14688
Y4_3	8504	9144	9912	10680	11448	12216	12960	14112	14688	15264
Y4_4	8760	9912	10680	11448	12216	12960	13536	14688	15264	16416
Y4_5	9144	10296	11064	11832	12576	13536	14688	15264	16416	16992
TBS index	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y4_1	14688	15264	15840	16992	17568	18336	19080	19848	20616	21384
Y4_2	15264	16416	16992	17568	18336	19080	19848	20616	21384	22152
Y4_3	16416	16992	17568	18336	19080	19848	20616	21384	22152	22920
Y4_4	16992	17568	18336	19848	20616	21384	22152	22920	23688	24496
Y4_5	17568	18336	19848	20616	21384	22152	22920	23688	24496	25456
TBS index	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y4_1	21384	22152	22920	23688	24496	25456	25456	26416	27376	28336
Y4_2	22920	23688	24496	25456	25456	26416	27376	28336	28336	29296
Y4_3	23688	24496	25456	26416	27376	28336	28336	29296	30576	30576
Y4_4	25456	26416	26416	27376	28336	29296	30576	30576	31704	32856
Y4_5	26416	27376	28336	29296	29296	30576	31704	32856	32856	34008
TBS index	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y4_1	28336	29296	30576	30576	31704	31704	32856	34008	34008	35160
Y4_2	30576	30576	31704	32856	32856	34008	35160	35160	36696	36696
Y4_3	31704	32856	32856	34008	35160	35160	36696	36696	37888	39232
Y4_4	32856	34008	35160	35160	36696	37888	37888	39232	39232	40576
Y4_5	35160	35160	36696	37888	37888	39232	40576	40576	42368	42368
TBS index	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y4_1	35160	36696	36696	37888	37888	39232	40576	40576	40576	42368
Y4_2	37888	37888	39232	39232	40576	40576	42368	42368	43816	43816
Y4_3	39232	40576	40576	42368	42368	43816	43816	45352	45352	46888
Y4_4	40576	42368	42368	43816	45352	45352	46888	46888	48936	48936
Y4_5	43816	43816	45352	45352	46888	46888	48936	48936	51024	51024
TBS index	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y4_1	42368	43816	43816	45352	45352	46888	46888	46888	48936	48936
Y4_2	45352	45352	46888	46888	48936	48936	48936	51024	51024	51024
Y4_3	46888	48936	48936	48936	51024	51024	52752	52752	52752	55056
Y4_4	48936	51024	51024	52752	52752	52752	55056	55056	55056	57336
Y4_5	51024	52752	52752	55056	55056	55056	57336	57336	59256	59256
TBS index	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y4_1	48936	51024	51024	51024	52752	52752	55056	55056	55056	55056
Y4_2	52752	52752	52752	55056	55056	55056	57336	57336	59256	59256
Y4_3	55056	55056	57336	57336	57336	59256	59256	61664	61664	61664
Y4_4	57336	59256	59256	59256	61664	61664	61664	63776	63776	63776
Y4_5	59256	61664	61664	63776	63776	63776	66592	66592	66592	68808
TBS index	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y4_1	57336	57336	57336	59256	59256	59256	61664	61664	61664	63776
Y4_2	59256	61664	61664	61664	63776	63776	63776	63776	66592	66592
Y4_3	63776	63776	63776	63776	66592	66592	66592	68808	68808	68808
Y4_4	66592	66592	66592	68808	68808	68808	71112	71112	71112	73712

Y4_5	68808	68808	71112	71112	71112	73712	73712	75376	75376	76208
TBS index	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y4_1	63776	63776	66592	66592	66592	66592	68808	68808	68808	71112
Y4_2	66592	68808	68808	68808	71112	71112	71112	71112	73712	73712
Y4_3	71112	71112	71112	73712	73712	73712	75376	76208	76208	78704
Y4_4	73712	75376	75376	76208	76208	78704	78704	78704	81176	81176
Y4_5	76208	78704	78704	78704	81176	81176	81176	84760	84760	84760
TBS index	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y4_1	71112	71112	71112	73712	73712	73712	75376	75376	76208	76208
Y4_2	75376	75376	76208	76208	78704	78704	78704	78704	81176	81176
Y4_3	78704	78704	78704	81176	81176	81176	84760	84760	84760	84760
Y4_4	81176	81176	84760	84760	84760	84760	87936	87936	87936	90816
Y4_5	84760	87936	87936	87936	87936	90816	90816	90816	93800	93800

Finally, acquired the first MCS index of the said first TBS index based on the first MCS table, the first modulation method, and the first TBS index.

The first CQI table described in this embodiment and the first CQI table described in the above example are the same, and will not be repeated here. The first MCS table in this embodiment is described in detail below.

For ease of understanding, the following MCS table (i.e., the second MCS table) is used as an example:

Table 9

MCS index in the second MCS table	Modulation order	TBS index in the second MCS table
0	2	0
1	2	1
2	2	2
3	2	3
4	2	4
5	2	5
6	2	6
7	2	7
8	2	8
9	2	9
10	4	9
11	4	10
12	4	11
13	4	12
14	4	13

15	4	14
16	4	15
17	6	15
18	6	16
19	6	17
20	6	18
21	6	19
22	6	20
23	6	21
24	6	22
25	6	23
26	6	24
27	6	25
28	6	26
29	2	Reserved
30	4	
31	6	

The modulation order and the modulation method described in table 9 correspond to one another. For example, if the modulation method is QPSK, the modulation order is 2, if the modulation method is 16QAM, the modulation order is 4, if the modulation method is 64QAM, the modulation order is 6, and if the modulation method is 256QAM, the modulation order is 8.

Items in Table 9 with MCS indexes 29, 30 and 31 are reserved.

It should be noted that, in order to reduce the changes to the prior art in the implementation process, preferably, the range of MCS indexes in the said first MCS table and the range of MCS indexes in the second MCS table may be the same, which is 0–31. Of course, the range of MCS indexes in the said first MCS table may also be greater than the range of MCS indexes in the said second MCS table. For example, the range of MCS indexes in the first MCS table may be 0–40.

First first MCS table: The said first first MCS table only includes entries with a modulation method of QPSK and a modulation method higher than 64QAM.

The said first MCS table includes entries with a modulation method higher than 64QAM, which may be one or multiple entries, and entries with a modulation method higher than 64QAM includes a modulation order and a first TBS index, and there is a corresponding MCS index.

Table 10

MCS index in the second MCS table	Modulation order	TBS index in the second MCS table
21	8	26
22	8	27
23	8	28

The said first MCS table further comprises entries for at least one modulation method of QPSK in the second MCS table, and at least one entry in the modulation method is QPSK comprises a combination other than a second combination among the combinations consisting of entries for at least one modulation method of QPSK in the said second MCS table. That is, the said first MCS table further includes entries for at least one modulation method of QPSK in the said second MCS table, and the entry for at least one modulation method of QPSK in the said second MCS table corresponding to the largest consecutive K MCS indexes, where K is 6. That is, some of the 9 entries with a modulation method of QPSK corresponding to numbers 0-9 in the second MCS table (i.e., in Table 4), and the entries with a modulation method of QPSK in the said first MCS table are not the 6 entries with the largest consecutive MCS indexes among the entries with a modulation method of QPSK in the said second MCS table.

That is, the entry in the said first MCS table with a modulation method of QPSK cannot be only the entry corresponding to MCS indexes 4, 5, 6, 7, 8 and 9 in the said second MCS table.

Or, the said first MCS table further includes entries for at least one modulation method of QPSK in the said second MCS table, and the entries for at least one modulation method of QPSK in the said second MCS table corresponding to the largest consecutive K MCS indexes, where K is a positive integer. That is, some of the 9 entries with a modulation method of QPSK corresponding to MCS index 0-9 in the second MCS table, and the entries with a modulation method of QPSK in the first MCS table is not the K entries with the largest consecutive MCS index among the entries with a modulation method of QPSK in the second MCS table. Specifically, the value range of K can be 1-8, that is,

The entry in the said first MCS table with a modulation method of QPSK cannot be only the entry corresponding to MCS indexes 9 in the second MCS table.

The entry in the said first MCS table with a modulation method of QPSK cannot be only the entry corresponding to MCS indexes 8 and 9 in the second MCS table, or,

The entry in the said first MCS table with a modulation method of QPSK cannot be only the entry corresponding to MCS indexes 7, 8 and 9 in the second MCS table, or,

The entry in the said first MCS table with a modulation method of QPSK cannot be only the entry corresponding to MCS indexes 6, 7, 8 and 9 in the second MCS table, or,

The entry in the said first MCS table with a modulation method of QPSK cannot be only the entry corresponding to MCS indexes 5, 6, 7, 8 and 9 in the second MCS

1 table, or,

2 The entry in the said first MCS table with a modulation method of QPSK cannot
3 be only the entry corresponding to MCS indexes 4, 5, 6, 7, 8 and 9 in the second MCS
4 table, or,

5 The entry in the said first MCS table with a modulation method of QPSK cannot
6 be only the entry corresponding to MCS indexes 3, 4, 5, 6, 7, 8 and 9 in the second
7 MCS table, or,

8 The entry in the said first MCS table with a modulation method of QPSK cannot
9 be only the entry corresponding to MCS indexes 2, 3, 4, 5, 6, 7, 8 and 9 in the second
10 MCS table, or,

11 Or, the said first MCS table includes a partial entries in the said second MCS
12 table with a modulation method of QPSK, and the MCS index corresponding to the
13 partial entries is equally spaced.

14 For example, if the entries with a modulation method of QPSK in the first MCS
15 table comprises 3 entries with a modulation method of QPSK in the said second MCS
16 table, then the entries with a modulation method of QPSK in the first MCS table may
17 comprise the entries with a MCS index of 0, 3 and 6 in the said second MCS table, or
18 the entries with a modulation method of QPSK in the first MCS table may comprise
19 the entries with a CQI index of 2, 5 and 8 in the said second MCS table; or the entries
20 with a modulation method of QPSK in the said first MCS table may comprise the
21 entries with a CQI index of 0, 4 and 8 in the said second MCS table; or the entries
22 with a modulation method of QPSK in the said first MCS table may comprise the
23 entries with a CQI index of 1, 5 and 9 in the second MCS table;

24 if the entries in the first MCS table with modulation method of QPSK comprise
25 4 entries in the said second MCS table with modulation method of QPSK, the entries
26 in the first MCS table with modulation method of QPSK may comprise the entries in
27 the said second MCS table whose MCS indexes are 0, 3, 6 and 9;

28 If the entries in the first MCS table with modulation method of QPSK comprise
29 5 entries in the said second MCS table with modulation method of QPSK, the entries
30 in the said first MCS table with modulation method of QPSK may comprise entries in
31 the second MCS table with modulation method of QPSK may comprise entries
32 corresponding to MCS indexes 1, 3, 5, 7 and 9; or, the entries in the first MCS table
33 with modulation method of QPSK may comprise entries corresponding to MCS
34 indexes 0, 2, 4, 6 and 8 in the said second MCS table.

35 Or, the said first MCS table includes a partial entries in the said second MCS
36 table with a modulation method of QPSK, and the MCS index corresponding to the
37 partial entries is unevenly spaced.

38 For example, the comprise M entries in the said second MCS table with a
39 modulation method of QPSK, and the value of M may be 3, 4, 5, 6, 7, 8 and 9. If M =
40 5, the entries with a modulation method of QPSK in the first MCS table includes the
41 5 entries with a modulation method of QPSK in the MCS table, and the entries with a
42 modulation method of QPSK in the said first MCS table may include the entries with
43 a second MCS index of 1, 4, 7, 8 and 9 in the MCS table.

44 Or, the said first MCS table comprises the partial entries in the said second MCS

1 table with a modulation method of QPSK, and the corresponding MCS index of the
2 partial entries is not contiguous, and at least one entry other than the entry with the
3 largest MCS index among all entries in the second MCS table with a modulation
4 method of QPSK, that is, the first MCS table comprises the partial entries with a
5 modulation method of QPSK in the said second MCS table does not comprise a entry
6 with a maximum MCS index of all the entries with a modulation method of QPSK in
7 the said second MCS table.

8 For example, the comprise M entries in the said second MCS table with a
9 modulation method of QPSK, and the value of M may be 1, 2, 3, 4, 5, 6, 7, 8 and 9. If
10 M = 8, the entries with a modulation method of QPSK in the first MCS table includes
11 the 5 entries with a modulation method of QPSK in the MCS table, and the entries
12 with a modulation method of QPSK in the said first MCS table may include the entries
13 with a MCS index of 0, 1, 2, 3, 4, 5, 6 and 8 in the second MCS table.

14 Or, the said first MCS table comprises the partial entries in the said second MCS
15 table with a modulation method of QPSK, and the corresponding MCS index of the
16 partial entries is contiguous, and at least one entry other than the entry with the largest
17 MCS index among all entries in the second MCS table with a modulation method of
18 QPSK, that is, the first MCS table comprises the partial entries with a modulation
19 method of QPSK in the said second MCS table does not comprise a entries with a
20 maximum MCS index of all the entries with a modulation method of QPSK in the said
21 second MCS table.

22 For example, the comprise M entries in the said second MCS table with a
23 modulation method of QPSK, and the value of M may be 1, 2, 3, 4, 5, 6, 7, 8 and 9. If
24 M = 8, the entries with a modulation method of QPSK in the first MCS table includes
25 the 5 entries with a modulation method of QPSK in the MCS table, and the entries
26 with a modulation method of QPSK in the said first MCS table may include the entries
27 with a MCS index of 0, 1, 2, 3, 4, 5, 6 and 7 in the second MCS table.

28 Second first MCS table: The said second first MCS table only includes entries
29 with a modulation method of 16QAM and a modulation method higher than 64QAM.

30 The said first MCS table includes a entries with a modulation method higher
31 than 64QAM, which may be one or multiple entries, and each entry with a modulation
32 method higher than 64QAM includes a modulation order and a first TBS index, and
33 there is a corresponding MCS index.

34 The said first MCS table further includes at least one entry in the said second
35 MCS table with modulation method of 16QAM.

36 Specifically, the said first MCS table further includes all entries in the said
37 second MCS table with modulation method of 16QAM.

38 For example, the said first MCS table further includes 6 entries in the second
39 MCS table with modulation method of 16QAM corresponding to a MCS index of 10-
40 16 corresponding to entries with modulation method of 16QAM.

41 Or, the said first MCS table includes entries in the said second MCS table with
42 a modulation method of 16QAM, and the MCS index corresponding to the partial
43 entries is equally spaced.

44 For example, if the entries with a modulation method of 16QAM in the first

1 MCS table includes 3 entries with a modulation method of 16QAM in the said second
2 MCS table, the entries with a modulation method of 16QAM in the first MCS table
3 may comprise the entries with a MCS index of 10, 13 and 16 in the second MCS table;
4 or, the entries with a modulation method of 16QAM in the said first MCS table may
5 also comprise the entries with a MCS index of 10, 12 and 14 in the second MCS table;
6 or the entries in the said first MCS table with a modulation method of 16QAM may
7 also comprise the entries with a MCS index of 11, 13 and 15 in the second MCS table;
8 or the entries in the said first MCS table with a modulation mode of 16QAM may also
9 include items corresponding to MCS indexes 12, 14, and 16 in the second MCS table.

10 If the entries in the first MCS table with modulation method of 16QAM
11 comprise 4 entries in the said second MCS table with modulation method of 16QAM,
12 the entries in the said first MCS table with modulation method of 16QAM may
13 comprise the entries in the second MCS table whose MCS indexes are 10, 12, 14 and
14 16.

15 Or, the said first MCS table further includes entries in the said first MCS table
16 with modulation method of 16QAM in the said second MCS table, and the MCS
17 indexes corresponding to the partial entries are unevenly spaced.

18 For example, the entries with a modulation method of 16QAM in the first MCS
19 table includes the entry M with a modulation method of 16QAM in the said second
20 MCS table, and the values of M may be 3, 4, 5 and 6. if M=5, the entry in the first
21 MCS table with modulation method of 16QAM may comprise the entry in the said
22 second MCS table corresponding to MCS indexes 10, 12, 14, 15 and 16.

23 Or, the said first MCS table comprises the partial entries with the modulation
24 method of 16QAM in said second MCS table, and the MCS index corresponding to
25 the said partial entries are non-continuous, and at least one entry other than the one
26 with the largest second MCS index among all entries for modulation method of
27 16QAM in the said second MCS table. That is, the said first MCS table comprises the
28 partial entries with the modulation method of 16QAM in said second MCS table, and
29 the MCS index corresponding to the said partial entries are non-continuous, and the
30 said partial entries exclude the one with the largest MCS index among all entries for
31 modulation method of 16QAM in the said second MCS table.

32 For example, the entries with a modulation method of 16QAM in the first MCS
33 table includes the entry M with a modulation method of 16QAM in the said second
34 MCS table, and the values of M may be 1, 2, 3, 4, 5 and 6. if M=5, the entry in the
35 first MCS table with modulation method of 16QAM may comprise the entry in the
36 said second MCS table corresponding to MCS indexes 10, 11, 12, 13 and 15.

37 Or, the said first MCS table comprises the partial entries with the modulation
38 method of 16QAM in said second MCS table, and the MCS index corresponding to
39 the said partial entries are non-continuous, and at least one entry other than the one
40 with the largest second MCS index among all entries for modulation method of
41 16QAM in the said second MCS table. That is, the said first MCS table also comprises
42 the partial entries with the modulation method of 16QAM in said second MCS table,
43 and the said partial entries exclude the one with the largest MCS index among all
44 entries for modulation method of 16QAM in the said second MCS table.

1 For example, the entries with a modulation method of 16QAM in the first MCS
2 table includes the entry M with a modulation method of 16QAM in the said second
3 MCS table, and the values of M may be 1, 2, 3, 4, 5 and 6. if M=6, the entry in the
4 first MCS table with modulation method of 16QAM may comprise the entry in the
5 said second MCS table corresponding to MCS indexes 10, 11, 12, 13, 14 and 15.

6 Or, the said first MCS table also includes the partial entries in the said second
7 MCS table with modulation method of 16QAM, and at least one entry other than the
8 largest and smallest entry of MCS index among all entries with modulation method of
9 16QAM in the said second MCS table. That is, the said first MCS table also comprises
10 the partial entries with the modulation method of 16QAM in said second MCS table,
11 and the said partial entries exclude the one with the largest MCS index among all
12 entries for modulation method of 16QAM in the said second MCS table.

13 For example, the entries with a modulation method of 16QAM in the first MCS
14 table includes the entry M with a modulation method of 16QAM in the said second
15 MCS table, and the values of M may be 1, 2, 3, 4, and 5. if M=5, the entry in the first
16 MCS table with modulation method of 16QAM may comprise the entry in the said
17 second MCS table corresponding to MCS indexes 11, 12, 13, 14 and 15;

18 Or, if M=4, the entry in the said first MCS table with a modulation method of
19 16QAM may comprise entries in the said second MCS table corresponding to MCS
20 indexes 11, 12, 13 and 14; or, the entry in the said first MCS table with a modulation
21 method of 16QAM may also comprise entries in the said second MCS table with a
22 MCS indexes 11, 13, 14 and 15.

23 Third first MCS table: On the basis of the first said first MCS table, add entries
24 with a modulation method of 16QAM to obtain the third first MCS table. The third
25 first MCS table only includes entries with modulation methods of QPSK, 16QAM and
26 higher than 64QAM. Specifically, the entries with the modulation method of 16QAM
27 included in the third first MCS table and the entries with the modulation method of
28 16QAM included in the second first MCS table may be the same. Please refer to the
29 description of the entries with the modulation method of 16QAM in the second first
30 MCS table, which will not be described again here.

31 Further, the said first MCS table also includes at least one entry in the said
32 second MCS table with modulation method of 64QAM.

33 That is, on the basis of the first first MCS table, the entries with a modulation
34 method of 64QAM is added to obtain a fourth first CQI table; at this time, the fourth
35 first CQI table includes the entries with a modulation method of QPSK, a modulation
36 method higher than 64QAM, and 16QAM;

37 Or, on the basis of the second first MCS table, the entries with a modulation
38 method of 64QAM is added to obtain a fifth first CQI table; at this time, the fifth first
39 CQI table includes the entries with a modulation method of 16QAM, a modulation
40 method higher than 64QAM, and 64QAM;

41 Or, on the basis of the third first MCS table, the entries with a modulation
42 method of 64QAM is added to obtain a sixth first CQI table; at this time, the sixth first
43 CQI table includes the entries with a modulation method of QPSK, 16QAM, a
44 modulation method higher than 64QAM, and 64QAM.

1 The entries in the fourth, fifth or sixth first MCS table with the modulation
2 method of 64QAM is as follows:

3 Specifically, the said first MCS table further includes all entries in the said
4 second MCS table with modulation method of 64QAM.

5 For example, the said first MCS table further includes 12 entries in the second
6 MCS table with modulation method of 64QAM corresponding to a MCS index of 17-
7 28 corresponding to entries with modulation method of 64QAM.

8 Or, the said first MCS table also includes the partial entries in the said second
9 MCS table with modulation method of 64QAM, and at least one entry other than the
10 largest and smallest entry of MCS index among all entries with modulation method of
11 64QAM in the said second MCS table. That is, the partial entries with the modulation
12 method of 64QAM in said second MCS table, and the said partial entries exclude the
13 one with the largest MCS index among all entries for modulation method of 64QAM
14 in the said second MCS table.

15 Or, the said first MCS table also includes the partial entries in the said second
16 MCS table with modulation method of 64QAM, and at least one entry other than the
17 largest and largest entry of MCS index among all entries with modulation method of
18 64QAM in the said second MCS table. That is, the partial entries with the modulation
19 method of 64QAM in said second MCS table, and the said partial entries exclude the
20 one with the smallest MCS index among all entries for modulation method of 64QAM
21 in the said second MCS table.

22 For example, the said first MCS table further includes M entries in the said
23 second MCS table with modulation method of 64QAM, the value range of M is 1-11,
24 and M is an integer. If M=5, the entry in the said first MCS table with a modulation
25 method of 64QAM may comprise entries in the said second MCS table corresponding
26 to MCS indexes 18, 19, 20, 21 and 23; or, the entry in the said first MCS table with a
27 modulation method of 64QAM may also comprise entries in the said second MCS
28 table with a MCS indexes 18, 20, 21, 24 and 25;

29 Or, if M=7, the entries in the said first MCS table with modulation method of
30 64QAM may comprise the entries in the said second MCS table corresponding to MCS
31 indexes 18, 19, 20, 21, 23, 25 and 26; or, the entries in the said first MCS table with
32 modulation method of 64QAM may comprise the entries in the said second MCS table
33 corresponding to MCS indexes 19, 20, 21, 24, 25, 27 and 28.

34 Or, if M=1, the entry in the said first MCS table with modulation method of
35 64QAM may comprise the entry in the said second MCS table corresponding to MCS
36 indexes 17, 18, 19, 20, 21, 22, 23, 24, 25, 26 and 27.

37 Further, in the above six first MCS table, the MCS index of the entries with the
38 lowest MCS index among all entries in the said first MCS table with a modulation
39 method higher than 64QAM is the same as the TBS index of the entries with the
40 highest MCS index among all entries with a modulation method of 64QAM in the said
41 second MCS table.

42 Further, in the aforementioned six first MCS tables, the TBS index of the R
43 entries with the smallest MCS index among the entries in the said first MCS table with
44 a modulation scheme higher than 64QAM is equal to the TBS index of the R entries

with the largest MCS index among all entries with modulation method of 64QAM and MCS index not greater than 27 in the said second MCS table; where R is a natural number.

For example, the TBS index of R entries with the smallest corresponding MCS indexes among the entries in the first MCS table with modulation method of higher than 64QAM includes any one or more (more than two) of the following values: {15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25}.

Taking R=2 as an example, the R entries with the smallest corresponding MCS indexes among the entries in the said first MCS table with modulation method of higher than 64QAM are shown in Table 11-1 below.

Table 11-1

MCS index in the first MCS table	MCS index in the second MCS table	Modulation order	TBS index in the first MCS table
18	26	8	24
19	27	8	25

For example, assuming that the first MCS table contains 5 entries with a modulation method of QPSK, corresponding MCS index 0-4; the modulation method of 16QAM is 5 entries with a corresponding MCS index 5-9; the modulation method of 64QAM is 11 entries with a corresponding MCS index 10-20; and the MCS index range in the first MCS table is 0-31, where the first MCS table contains 7 entries with a modulation method higher than 64QAM (including 3 reserved entries, corresponding MCS indexes 28, 29, 30 and 31), corresponding MCS index 21-28; Where the entry with the smallest index is 21, specifically, as shown in Table 11, the TBS index of the entry with MCS index 21 in the first MCS table is 26, which is equal to the TBS index of the entry corresponding to MCS index 28 in the second MCS table as shown in Table 9.

Table 11-2

MCS index in the first MCS table	MCS index in the second MCS table	Modulation order	TBS index in the first MCS table
0	0	2	0
1	2	2	2
2	4	2	4
3	6	2	6
4	8	2	8
5	10	4	9
6	12	4	11
7	14	4	13
8	15	4	14
9	16	4	15
10	18	6	16
11	19	6	17
12	20	6	18
13	21	6	19
14	22	6	20
15	23	6	21
16	24	6	22
17	25	6	23
18	26	6	24
19	27	6	25
20	28	6	26
21	-	8	26
22	-	8	27
23	-	8	28
24	-	8	29
25	-	8	30
26	-	8	31
27	-	8	32
28	29	2	Reserved
29	30	4	
30	31	6	
31		8	

It should be noted that the first MCS table may actually have no “MCS index in the said second MCS table”, but only in order to clearly describe the relationship between the first MCS table and the second MCS table, are shown in Table 11-1 or Table 11-2.

Alternatively, the said first MCS table further comprises at least one of the following tables D1, D2, D3, D4 or D5, where any one of them includes a MCS index, and the modulation order and TBS index corresponding to the MCS index:

Table D1

MCS index (MCS Index) I_{MCS}	Modulation Order (Modulation Order) Q_m	TBS index (TBS Index) I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	11
7	4	12
8	4	13
9	4	14
10	4	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Reserved
29	4	
30	6	
31	8	

Table D2

MCS index (MCS Index) I_{MCS}	Modulation Order (Modulation Order) Q_m	TBS index (TBS Index) I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	11
7	4	12
8	4	13
9	4	14
10	4	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	6	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Reserved
29	4	
30	6	
31	8	

Table D3

MCS index (MCS Index) I_{MCS}	Modulation Order (Modulation Order) Q_m	TBS index (TBS Index) I_{TBS}
0	2	0
1	2	2
2	2	4

3	2	6
4	2	8
5	4	10
6	4	12
7	4	13
8	4	14
9	4	15
10	6	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	8	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Reserved
29	4	
30	6	
31	8	

Table D4

MCS index (MCS Index) I_{MCS}	Modulation Order (Modulation Order) Q_m	TBS index (TBS Index) I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	12
7	4	13
8	4	14
9	4	15
10	6	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25

21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Reserved
29	4	
30	6	
31	8	

Table D5

MCS index (MCS Index) I_{MCS}	Modulation Order (Modulation Order) Q_m	TBS index (TBS Index) I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	12
7	4	14
8	4	15
9	6	15
10	6	16
11	6	17
12	6	18
13	6	19
14	6	20
15	6	21
16	6	22
17	6	23
18	6	24
19	6	25
20	8	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Reserved
29	4	
30	6	
31	8	

Specifically, in the above embodiment, for example, Y2=27, Y3=33, Y4_1=28, Y4_2=29, Y4_3=30, Y4_4=31, Y4_5=32.

1 It can be seen that the above six first MCS tables contain entries with a
2 modulation method higher than 64QAM, thereby supporting the UE to select a
3 modulation method with a modulation method higher than 64QAM and notify the
4 base station by sending the MCS index, thereby improving the system performance.
5 Moreover, the sixth first MCS table of which includes QPSK, 16QAM and 64QAM
6 and the entries with a modulation method higher than 64QAM is a preferred first
7 MCS table.

8 S203, The base station sends the determined first MCS index to the UE.

9 As shown in Fig. 3, the present disclosure also provides another method for
10 notifying MCS, and the method comprises the following steps:

11 The first CQI table in this embodiment may be the same as or different from
12 any of the above embodiments, but the two have in common: All include entries with
13 a modulation method higher than 64QAM. The first MCS table in this embodiment
14 may be any of the above embodiments.

15 Wherein the said first CQI table may be pre-defined by the protocol, the UE
16 pre-sets or the UE pre-stores based on the protocol provisions; or the UE selects based
17 on the downlink channel status from at least two pre-defined tables; or the UE may be
18 notified to the UE by the base station. Specifically, the method by which the base
19 station informs the UE may be by the base station selecting one of the two pre-defined
20 tables based on the uplink channel status or the downlink channel status and notifying
21 the UE. The said CQI table is used to describe the mapping relationship between CQI
22 indexes and entries. The mapping relationship of CQI tables in the examples of the
23 present disclosure is only for the convenience of understanding the examples given in
24 the present disclosure. The manifestations of the CQI tables in the present disclosure
25 is inclusive and not limited thereto, that is to say, CQI tables can have a variety of
26 combinations, so long as they can reflect the mapping relationship between CQI
27 indexes and entries, they are within the scope to be protected by the present disclosure.

28 The said first CQI table may be pre-defined by the protocol, the UE pre-sets or
29 the UE pre-stores based on the protocol provisions; or the UE selects based on the
30 downlink channel status from at least two pre-defined tables; or the UE may be
31 notified to the UE by the base station. Specifically, the method by which the base
32 station informs the UE may be by the base station selecting one of the two pre-defined
33 tables based on the uplink channel status or the downlink channel status and notifying
34 the UE. The said MCS table is used to describe the mapping relationship between
35 MCS indexes and entries. The mapping relationship of MCS tables in the examples of
36 the present disclosure is only for the convenience of understanding the examples given
37 in the present disclosure. The manifestations of the MCS tables in the present
38 disclosure is inclusive and not limited thereto, that is to say, MCS tables can have a
39 variety of combinations, so long as they can reflect the mapping relationship between
40 MCS indexes and entries, they are within the scope to be protected by the present
41 disclosure.

42 S301. The base station receives a first CQI index.

43 Where, the said first CQI index is determined by the UE based on the acquired
44 first CQI table. The base station determine the said first MCS index based on the

1 acquired first MCS table.

2 S302, base station determine the first MCS index based on the first CQI table,
3 the first MCS table, and the received first CQI index.

4 Wherein, the said first CQI table includes: Entries with modulation method
5 higher than 64QAM; the entries in the said first CQI table refer to a modulation
6 method, a coding rate and a spectral efficiency corresponding to each CQI index in
7 the first CQI table.

8 The said first MCS table includes:

9 Entries for modulation methods higher than 64QAM;

10 The entries for at least one modulation method of QPSK in the second MCS
11 table, and the entries for at least one said modulation method of QPSK includes
12 combinations formed from the entries for at least one modulation method of QPSK in
13 the second MCS table, excluding the first combination (Here, considering the
14 convention of naming from the first, it is referred to as the first combination, which is
15 essentially the same as the second combination in the embodiment corresponding to
16 Figure 2.). The said first combination consists of the K largest consecutive MCS
17 Number corresponding to QPSK in the said second MCS table, where K is equal to 4,
18 or K is a positive integer less than 5, or K is a positive integer; and/or at least one entry
19 for a 16QAM modulation method in the said second MCS table;

20 The modulation methods in the said second MCS table include only QPSK,
21 16QAM, and 64QAM;

22 That is, the said first MCS table further includes entries for at least one
23 modulation method higher than 64QAM, the said first MCS table further comprises at
24 least one entry in the said second MCS table with a modulation method of QPSK, and
25 the entries with a modulation method of QPSK in the said second MCS table cannot
26 be only the entry corresponding to the largest consecutive K MCS indexes, where K
27 is equal to 4 or K is a positive integer less than 5 or K is a positive integer, and/or the
28 said first MCS table further comprises at least one entry in the said second MCS table
29 with a modulation method of 16QAM. The modulation method of the entries in the
30 said second MCS table only includes QPSK, 16QAM and 64QAM, the entries in the
31 said first MCS table refer to a modulation method and a TBS index corresponding to
32 each MCS index in the first MCS table; the entries in the said second MCS table refer
33 to a modulation method and a TBS index corresponding to each MCS index in the said
34 second MCS table.

35 The said combination is a combination composed of entries for at least one
36 modulation method of QPSK in the second MCS table. Taking the second MCS table
37 shown in Table 6 as an example, there are a total of $2^{10}-1=1023$ combinations
38 consisting of entries for at least one modulation method of QPSK in the second MCS
39 table. For example, the combination may be a combination of the entries
40 corresponding to CQI index 6 in the second MCS table, or a combination of the entries
41 corresponding to MCS indexes 6, 7, 8 and 9 in the second MCS table, or a combination
42 of the entries corresponding to CQI indexes 3, 6, 7, 8 and 9 in the second CQI table,
43 and so on.

44 It should be noted that the method of determining the first MCS index by the

base station based on the received first CQI index, the first CQI table, and the first MCS table is the same as the method described in the above embodiment, and will not be repeated here. Wherein, the method for determining the first TBS index, and the description of the first TBS table and the second TBS table may refer to the previous embodiment, and will not be repeated here.

Moreover, the first MCS table described in this embodiment may be any of the six first MCS tables in the above embodiment, and will not be repeated here.

S303, The base station sends the determined first MCS index to the said UE.

As shown in Fig. 4, the present disclosure also provides another method for notifying MCS, and the first MCS table in this embodiment may be any of the first MCS tables in the above embodiments.

In this embodiment, the said first CQI table may be pre-defined by the protocol, the UE pre-sets or the UE pre-stores based on the protocol provisions; or the UE selects based on the downlink channel status from at least two pre-defined tables; or the UE may be notified to the UE by the base station. Specifically, the method by which the base station informs the UE may be by the base station selecting one of the two pre-defined tables based on the uplink channel status or the downlink channel status and notifying the UE. The said MCS table is used to describe the mapping relationship between MCS indexes and entries. The mapping relationship of MCS tables in the examples of the present disclosure is only for the convenience of understanding the examples given in the present disclosure. The manifestations of the MCS tables in the present disclosure is inclusive and not limited thereto, that is to say, MCS tables can have a variety of combinations, so long as they can reflect the mapping relationship between MCS indexes and entries, they are within the scope to be protected by the present disclosure.

The said method comprises the following steps:

S401, UE receives first MCS index sent by base station.

The base station determine the said first MCS index based on the acquired first MCS table.

S402, UE determine the modulation order and coding block size based on the first MCS table and the received first MCS index.

Where, the said first MCS table comprises:

Entries for modulation methods higher than 64QAM;

The entries for at least one modulation method of QPSK in the second MCS table, and the entries for at least one said modulation method of QPSK includes combinations formed from the entries for at least one modulation method of QPSK in the second MCS table, excluding the second combination. The said second combination consists of the K largest consecutive MCS Number corresponding to QPSK in the said second MCS table, where K is equal to 4, or K is a positive integer less than 5, or K is a positive integer; and/or at least one entry for a 16QAM modulation method in the said second MCS table;

The modulation methods in the said second MCS table include only QPSK, 16QAM, and 64QAM.

The said first MCS table further includes entries for at least one modulation

method higher than 64QAM, the said first MCS table further comprises entries for at least one modulation method of QPSK in the second MCS table, and the entries with a modulation method of QPSK in the said second MCS table cannot be only the entry corresponding to the largest consecutive K MCS indexes, where K is equal to 4 or K is a positive integer less than 5 or K is a positive integer, and/or the said first MCS table further comprises entries for at least one modulation method of 16QAM in the said second MCS table. The modulation method of the entries in the said second MCS table only includes QPSK, 16QAM and 64QAM, the entries in the said first MCS table refer to a modulation method and a TBS index corresponding to each MCS index in the first MCS table; the entries in the said second MCS table refer to a modulation method and a TBS index corresponding to each MCS index in the said second MCS table.

The said combination is a combination composed of entries for at least one modulation method of QPSK in the second MCS table. Taking the second MCS table shown in Table 6 as an example, there are a total of $2^{10}-1=1023$ combinations consisting of entries for at least one modulation method of QPSK in the second MCS table. For example, the combination may be a combination of the entries corresponding to CQI index 6 in the second MCS table, or a combination of the entries corresponding to MCS indexes 6, 7, 8 and 9 in the second MCS table, or a combination of the entries corresponding to CQI indexes 3, 6, 7, 8 and 9 in the second CQI table, and so on.

It should be noted that, the first MCS table described in this embodiment may be any of the six first MCS tables in the above embodiment, and will not be repeated here.

Specifically, determine the modulation order and coding block size based on the first MCS table and the received first MCS index include;

Determining the first TBS index and modulation order based on the first MCS table and the first MCS index received;

Determining the size of the coding block based on the first TBS index, first PRB count, and the first TBS table.

Where, the said first PRB count is the PRB count allocated by the base station to the UE; or, the said first PRB count is the largest integer less than or equal to the product of the PRB count allocated to the UE and a specific coefficient.

The said first TBS table includes at least one PRB count corresponding to each TBS index, as well as the transmission block size corresponding to each PRB count; the said first TBS table is the TBS table corresponding to the said first MCS table.

The value range for the TBS index in the said first TBS table is 0–A, where A is a positive integer less than or equal to 26.

Or optionally, the range of TBS index in the said first TBS table is from 0 to B, where B is a positive integer less than or equal to 26; and the range of TBS index in the said first TBS table is from 0 to 26, and the corresponding transport block sizes is same to the TBS indexes in the range of 0-26 in the said first TBS table are the same as those corresponding to the TBS indexes in the range of 0-26 in the second TBS table, and the second TBS table includes at least one PRB count corresponding to each

1 TBS index, as well as a transport block size corresponding to each PRB count.

2 Or optionally, the range of TBS index in the said first TBS table is from 0 to B,
3 where B is a positive integer less than or equal to 26; and the range of TBS index in
4 the said first TBS table is from 0 to C, and the corresponding transport block sizes is
5 same to the transport block sizes of TBS indexes in the range of 0-C in the second
6 TBS table, where C is a non-negative integer less than or equal to 26. The range of
7 TBS indices in the second TBS table is 0-26, and the second TBS table includes at
8 least one PRB count corresponding to each TBS index, as well as a transport block
9 size corresponding to each PRB count.

10 Where, the description of the first TBS table and the second TBS table in this
11 embodiment may refer to the above embodiments and again will not be repeated here.

12 Further, the UE receives the PDSCH based on the modulation order and the
13 coding block size.

14 As shown in Fig. 5, an embodiment of the present disclosure further provides a
15 CQI notification device 50, which comprises:

16 an acquisition module 51 for acquiring a first CQI table;

17 Where, the said first CQI table may be pre-defined by the UE, or may be notified
18 to the UE by the base station, or selected by the UE from the at least two pre-defined
19 tables based on the downlink channel state. Specifically, the method by which the base
20 station notifies the UE may be that the base station selects one of the downlink channel
21 status or the downlink channel status from at least two pre-defined tables and reports
22 to the base station. The said CQI table is used to describe the mapping relationship
23 between the CQI index and the entry, that is, the mapping relationship is not limited
24 to the form of a table, but can also be represented by an expression.

25 Acquisition module 52: For obtains the first CQI index based on the acquired
26 first CQI table by the said acquisition module 51;

27 Sending module 53: For sends the first CQI index acquired by the said
28 acquisition module 52 to the base station, so that the base station determines the first
29 Modulation and Coding Scheme (MCS) index based on the first CQI index;

30 The first CQI table acquired by the said acquisition module 51 includes:

31 Entries for modulation methods higher than 64-phases Quadrature Amplitude
32 Modulation (QAM);

33 The entries for at least one modulation method of Quadrature Phase Shift
34 Keying (QPSK) in the second CQI table, and the entries for at least one said
35 modulation method of QPSK includes combinations formed from entries
36 corresponding to QPSK in the said second CQI table, excluding the first combination.
37 The said first combination consists of the N largest consecutive CQI index entries
38 corresponding to QPSK in the said second CQI table, where N is equal to 3, or N is a
39 positive integer less than 4, or said N is a positive integer; and/or the second CQI table
40 includes entries for at least one modulation method of 16QAM;

41 Where, the modulation method for the entry in the said second CQI table only
42 includes QPSK, 16QAM and 64QAM.

43 Where, the entry for at least one modulation method of QPSK in the second CQI
44 table acquired by the said acquisition module from the first CQI table comprises:

1 The entries in the said second CQI table where the modulation method is QPSK,
2 and the CQI index corresponding to the said entries are evenly spaced; or,

3 The entries in the said second CQI table where the modulation method is QPSK,
4 and the CQI index corresponding to the said entries are unevenly spaced; or,

5 The entries in the said second CQI table where the modulation method is QPSK,
6 and the CQI index corresponding to the said entries are non-continuous, and at least
7 one entry other than the one with the largest CQI index among all entries for
8 modulation method of QPSK in the said second CQI table; or,

9 The entries in the said second CQI table where the modulation method is QPSK,
10 and the CQI index corresponding to the said entries are continuous, and at least one
11 entry other than the one with the largest CQI index among all the QPSK entries in the
12 said CQI table.

13 Where, the entry for at least one modulation method of 16QAM in the said
14 second CQI table acquired by the said acquisition module from the first CQI table
15 comprises:

16 All entries in the said second CQI table where the modulation method is
17 16QAM; or,

18 At least one entry, other than the one corresponding to the smallest CQI index
19 among all the entries in the said second CQI table where the modulation method is
20 16QAM.

21 Further, the first CQI table acquired by the said acquisition module 51 further
22 includes: The entries for at least one modulation method of 64QAM in the said second
23 CQI table.

24 Specifically, the entry for at least one modulation method of 64QAM acquired
25 by the said acquisition module from the first CQI table comprises:

26 All entries in the said second CQI table where the modulation method is
27 64QAM; or,

28 Partial entries in the said second CQI table where the modulation method is
29 64QAM, and at least one entry other than the one corresponding to the largest CQI
30 index among all the 64QAM entries in the said second CQI table.

31 Further, the spectral efficiency of the entries with the smallest corresponding
32 CQI index among the entries with a modulation method higher than 64QAM in the
33 first CQI table acquired by the said acquisition module 51 is equal to the spectral
34 efficiency of the entries with the largest corresponding CQI index among all entries
35 with a modulation method of 64QAM in the said second CQI table; or the spectral
36 efficiency of the T entries with the smallest corresponding CQI index among the
37 entries with a modulation method higher than 64QAM in the said first CQI table is
38 equal to or approximately equal to the spectral efficiency of the T entries with the
39 largest corresponding CQI index among all entries with a modulation method of
40 64QAM in the said second CQI table, where T is equal to any natural number from 1
41 to 5.

42 Optionally, the spectral efficiency of the entries with the largest CQI index
43 corresponding to the entry in the said first CQI table with modulation method of higher
44 than 64QAM is:

1 The spectral efficiency of the entries with the largest CQI index among all the
2 entries in the said second CQI table where the modulation method is 64QAM,
3 multiplied by 4/3;

4 Alternatively, 8 times the terminal's maximum coding rate, where the maximum
5 coding rate is a positive real number less than 1;

6 Or, 7.4063;

7 Or, 7.432.

8 Optionally, the spectral efficiencies of the X entries with the largest CQI indices
9 in the said first CQI tables, when arranged in ascending order of spectral efficiency,
10 form an arithmetic progression or an approximately arithmetic progression; Where,
11 when the spectral efficiency of the X entries with the largest CQI index in the said
12 first CQI table is arranged in an arithmetic sequence in ascending order of spectral
13 efficiency, it means that starting from the second entry of the said X entries, the
14 difference in spectral efficiency between each entry and its preceding entry is equal to
15 the same constant; When the spectral efficiency of the X entries with the largest CQI
16 index in the said first CQI table is arranged in an approximately arithmetic sequence
17 in ascending order of spectral efficiency, it means that starting from the second entry
18 of the X entries, the difference in spectral efficiency between each entry and its
19 preceding entry falls within a range defined by a constant minus a preset value and the
20 same constant plus the preset value; Here, the said X is an integer greater than 2;

21 Where, the spectral efficiency of the entries with the smallest CQI index among
22 the X entries with the largest CQI index in the said first CQI table is equal to the
23 spectral efficiency of the entries with the largest CQI index among all the entries in
24 the said second CQI table where the modulation method is 64QAM;

25 The spectral efficiency of the entries with the largest CQI index among the X
26 entries with the largest CQI index in the said first CQI table is:

27 The spectral efficiency of the entries with the largest CQI index among all the
28 entries in the said second CQI table where the modulation method is 64QAM,
29 multiplied by 4/3;

30 Alternatively, 8 times the terminal's maximum coding rate, where the maximum
31 coding rate is a positive real number less than 1;

32 Or, 7.4063;

33 Or, 7.432.

34 Optionally, in the said first CQI table, the spectral efficiency of the entries with
35 a modulation method higher than 64QAM comprises at least one set of the following
36 values:

{5.5547 6.1805 6.8062 7.432} ,

{6.1805 6.8062 7.432},

{5.5547 6.1797 6.8047 7.4297},

{6.1797 6.8047 7.4297},

{ 5.5547 6.1719 6.7891 7.4063 },

{6.1719 6.7891 7.4063},

{5.5547 6.4934 7.432},

{6.4934 7.432},

{ 5.5547 6.4922 7.4297 },

{ 6.4922 7.4297 },

2

$\{ 5.5547 \quad 6.4805 \quad 7.4063 \},$
 $\{ 6.4805 \quad 7.4063 \},$
 $\{ 5.5547 \quad 6.4844 \quad 7.4063 \},$
 $\{ 6.4844 \quad 7.4063 \},$
 $\{ 5.5547 \quad 6.0240 \quad 6.4934 \quad 6.9627 \quad 7.432 \},$
 $\{ 6.0234 \quad 6.4922 \quad 6.9609 \quad 7.4297 \},$
 $\{ 5.5547 \quad 6.0234 \quad 6.4922 \quad 6.9609 \quad 7.4297 \},$
 $\{ 6.0176 \quad 6.4805 \quad 6.9434 \quad 7.4063 \},$
 $\{ 5.5547 \quad 6.0176 \quad 6.4805 \quad 6.9434 \quad 7.4063 \},$
 $\{ 6.0176 \quad 6.4805 \quad 6.9434 \quad 7.4063 \},$
 $\{ 5.5547 \quad 6.0156 \quad 6.4844 \quad 6.9453 \quad 7.4063 \},$
 $\{ 6.0156 \quad 6.4844 \quad 6.9453 \quad 7.4063 \},$
 $\{ 5.5547 \quad 5.9302 \quad 6.3056 \quad 6.6811 \quad 7.0565 \quad 7.432 \},$
 $\{ 5.9302 \quad 6.3056 \quad 6.6811 \quad 7.0565 \quad 7.432 \},$
 $\{ 5.5547 \quad 5.9297 \quad 6.3047 \quad 6.6797 \quad 7.0547 \quad 7.4297 \},$
 $\{ 5.9297 \quad 6.3047 \quad 6.6797 \quad 7.0547 \quad 7.4297 \},$
 $\{ 5.5547 \quad 5.9250 \quad 6.2953 \quad 6.6656 \quad 7.0360 \quad 7.4063 \},$
 $\{ 5.9250 \quad 6.2953 \quad 6.6656 \quad 7.0360 \quad 7.4063 \},$
 $\{ 5.5547 \quad 5.9219 \quad 6.2969 \quad 6.6641 \quad 7.0391 \quad 7.4063 \},$
 $\{ 5.9219 \quad 6.2969 \quad 6.6641 \quad 7.0391 \quad 7.4063 \}.$

1 $\{ 5.9219 \quad 6.2969 \quad 6.6641 \quad 7.0391 \quad 7.4063 \}.$
2 Further, the range of values of CQI indexes in the first CQI table acquired by
3 the said acquisition module 51 is the same as the range of values of CQI indexes in

1 the said second CQI table.

2 The MCS notification device shown in Fig. 5 is capable of performing the
3 corresponding steps in the method embodiments described above. For specific details,
4 please refer to the description of the method embodiments, and the effects it achieves
5 can also be found in the description of the method embodiments.

6 As shown in Fig. 6, embodiments of the present disclosure also provide a MCS
7 notification device 60, the said device 60 comprising:

8 An acquisition module 61 for acquiring a first CQI table and a first MCS table;

9 Wherein the said first CQI table may be pre-defined by the protocol, the UE
10 pre-sets or the UE pre-stores based on the protocol provisions; or the UE selects based
11 on the downlink channel status from at least two pre-defined tables; or the UE may be
12 notified to the UE by the base station. Specifically, the method by which the base
13 station informs the UE may be by the base station selecting one of the two pre-defined
14 tables based on the uplink channel status or the downlink channel status and notifying
15 the UE. The said CQI table is used to describe the mapping relationship between CQI
16 indexes and entries. The mapping relationship of CQI tables in the examples of the
17 present disclosure is only for the convenience of understanding the examples given in
18 the present disclosure. The manifestations of the CQI tables in the present disclosure
19 is inclusive and not limited thereto, that is to say, CQI tables can have a variety of
20 combinations, so long as they can reflect the mapping relationship between CQI
21 indexes and entries, they are within the scope to be protected by the present disclosure.

22 Wherein the said first CQI table may be pre-defined by the protocol, the UE
23 pre-sets or the UE pre-stores based on the protocol provisions; or the UE selects based
24 on the downlink channel status from at least two pre-defined tables; or the UE may be
25 notified to the UE by the base station. Specifically, the method by which the base
26 station informs the UE may be by the base station selecting one of the two pre-defined
27 tables based on the uplink channel status or the downlink channel status and notifying
28 the UE. The said MCS table is used to describe the mapping relationship between
29 MCS indexes and entries. The mapping relationship of MCS tables in the examples of
30 the present disclosure is only for the convenience of understanding the examples given
31 in the present disclosure. The manifestations of the MCS tables in the present
32 disclosure is inclusive and not limited thereto, that is to say, MCS tables can have a
33 variety of combinations, so long as they can reflect the mapping relationship between
34 MCS indexes and entries, they are within the scope to be protected by the present
35 disclosure.

36 Receiving module 62: For receive the first CQI index sent by the receiving
37 terminal UE, the first CQI index being determined by the UE based on a first CQI
38 table;

39 Determining module 63: For determines a first MCS index from a first CQI
40 table acquired by an acquisition module, a first MCS table acquired by an acquisition
41 module, and a first CQI index received by the said receiving module 62;

42 Sending module 64: For sends the said determined first MCS index to the said
43 UE;

44 Where, the first CQI table acquired by the said acquisition module 61 includes:

1 Entries for modulation methods higher than 64QAM;

2 The entries for at least one modulation method of QPSK in the second CQI table,
3 and the entries for at least one said modulation method of QPSK includes
4 combinations formed from entries corresponding to QPSK in the said second CQI
5 table, excluding the first combination. The said first combination consists of the N
6 largest consecutive CQI index entries corresponding to QPSK in the said second CQI
7 table, where N is equal to 3, or N is a positive integer less than 4, or said N is a positive
8 integer; and/or the second CQI table includes entries for at least one modulation
9 method of 16QAM;

10 The modulation methods in the said second CQI table include only QPSK,
11 16QAM, and 64QAM.

12 The first MCS table acquired by the said acquisition module comprises:

13 Entries for modulation methods higher than 64QAM;

14 The entries for at least one modulation method of QPSK in the said second MCS
15 table, and the entries for at least one said modulation method of QPSK includes
16 combinations formed from the entries for at least one modulation method of QPSK in
17 the said second MCS table, excluding the second combination. The said second
18 combination consists of the K largest consecutive MCS index corresponding to QPSK
19 in the said second MCS table, where K is equal to 4, or K is a positive integer less than
20 5, or K is a positive integer; and/or at least one entry for a 16QAM modulation method
21 in the said second MCS table;

22 The modulation methods in the said second MCS table include only QPSK,
23 16QAM, and 64QAM.

24 Where, the said determining module 63 is specifically used to:

25 Determining the first TBS index and the first MCS index based on the acquired
26 first PRB count, the first CQI table acquired by the said acquisition module, the first
27 MCS table acquired by the said acquisition module, and the first TBS table and
28 received first CQI index;

29 Where, the said first PRB count is the PRB count allocated by the base station
30 to the UE; or, the said first PRB count is the largest integer less than or equal to the
31 product of the PRB count allocated to the UE and a specific coefficient;

32 The said first TBS table includes at least one PRB count corresponding to each
33 TBS index, as well as the transmission block size corresponding to each PRB count;
34 the said first TBS table is the TBS table corresponding to the said first MCS table.

35 Optionally, the range of TBS index in the said first TBS table is from 0 to A,
36 where A is a positive integer less than or equal to 26; or, the range of TBS index in
37 the said first TBS table is from 0 to B, where B is a positive integer greater than or
38 equal to 26, and the transmission block size corresponding to TBS index from 0 to 26
39 in the said first TBS table is the same as the transmission block size corresponding to
40 TBS index with range from 0 to 26 in the second TBS table; The range of TBS index
41 in the said second TBS table is from 0 to 26, and the said second TBS table includes
42 at least one PRB count corresponding to each TBS index, as well as the transmission
43 block size corresponding to each PRB count.

44 Or optionally, the range of TBS index in the said first TBS table is from 0 to A,

1 where A is a positive integer less than or equal to 26; or, the range of TBS index in
2 the said first TBS table is from 0 to B, where B is a positive integer greater than or
3 equal to 26, and the transmission block size corresponding to TBS index from 0 to C
4 in the said first TBS table is the same as the transmission block size corresponding to
5 TBS index from 0 to C in the second TBS table, where C is a non-negative integer less
6 than or equal to 26. The range of TBS index in the said second TBS table is from 0 to
7 26, and the said second TBS table includes at least one PRB count corresponding to
8 each TBS index, as well as the transmission block size corresponding to each PRB
9 count.

10 Where, the said determining module 63 comprises:

11 A first determining submodule 631: For determining a first modulation method
12 and a first spectral efficiency corresponding to the received first CQI index based on
13 the first CQI table acquired by the said acquisition module and the first CQI index
14 received by the receiving module;

15 A second determining submodule 632: The said first spectral efficiency
16 determined based on a first PRB count and the first determining submodule for the
17 acquisition, acquired a first transport block size for transmit to the said UE;

18 Acquired the first TBS index corresponding to the said first transmission block
19 size determined by the second determining module described in the first TBS table and
20 the first PRB count based on the first TBS table.

21 Optionally, the said first TBS table includes at least one of TBS index Y1, TBS
22 index Y2, TBS index Y3, and TBS indexes Y4_1-Y4_5. The description of the
23 corresponding entries of these TBS indexes in the first TBS table may be repeated
24 again with reference to the above method embodiments, and will not be repeated here.

25 Where, the entry for at least one modulation method of QPSK in the said second
26 CQI table acquired by the said acquisition module from the first CQI table comprises:

27 The entries in the said second CQI table where the modulation method is QPSK,
28 and the CQI index corresponding to the said entries are evenly spaced; or,

29 The entries in the said second CQI table where the modulation method is QPSK,
30 and the CQI index corresponding to the said entries are unevenly spaced; or,

31 The entries in the said second CQI table where the modulation method is QPSK,
32 and the CQI index corresponding to the said entries are non-continuous, and at least
33 one entry other than the one with the largest CQI index among all entries for
34 modulation method of QPSK in the said second CQI table; or,

35 The entries in the said second CQI table where the modulation method is QPSK,
36 and the CQI index corresponding to the said entries are continuous, and at least one
37 entry other than the one with the largest CQI index among all the QPSK entries in the
38 said CQI table.

39 Where, the entry for at least one modulation method of 16QAM in the said
40 second CQI table acquired by the said acquisition module from the first CQI table
41 comprises:

42 All entries in the said second CQI table where the modulation method is
43 16QAM; or,

44 At least one entry, other than the one corresponding to the smallest CQI index

1 among all the entries in the said second CQI table where the modulation method is
2 16QAM.

3 Further, the first CQI table acquired by the said acquisition module further
4 includes:

5 The entries for at least one modulation method of 64QAM in the said second
6 CQI table.

7 Specifically, the entries for at least one modulation method of 64QAM in the
8 said second CQI table acquired by the said acquisition module from the first CQI table
9 comprises:

10 All entries in the said second CQI table where the modulation method is
11 64QAM; or,

12 Partial entries in the said second CQI table where the modulation method is
13 64QAM, and at least one entry other than the one corresponding to the largest CQI
14 index among all the 64QAM entries in the said second CQI table.

15 Further, the entries with the smallest CQI index in the first CQI table acquired
16 by the said acquisition module corresponding to modulation methods higher than
17 64QAM has a spectral efficiency equal to that of the entries with the largest CQI index
18 among all the entries in the said second CQI table where the modulation method is
19 64QAM; or,

20 The spectral efficiency of the T entries with the smallest CQI index
21 corresponding to modulation methods higher than 64QAM in the said first CQI table
22 is equal to or approximately equal to the spectral efficiency of the T entries with the
23 largest CQI index among all the entries in the said second CQI table where the
24 modulation method is 64QAM, where T is any natural number between 1 and 5.

25 Further, the range of values of CQI indexes in the first CQI table acquired by
26 the said acquisition module is the same as the range of values of CQI indexes in the
27 said second CQI table.

28 Where, the entries for at least one modulation method of QPSK in the said
29 second CQI table acquired by the said acquisition module from the first CQI table
30 comprises:

31 The partial entries in the said second CQI table where the modulation method
32 is QPSK, and the CQI index corresponding to the said entries are evenly spaced; or,

33 The partial entries in the said second MCS table where the modulation method
34 is QPSK, and the MCS index corresponding to the said entries are unevenly spaced;
35 or,

36 The partial entries in the said second MCS table where the modulation method
37 is QPSK, and the MCS index corresponding to the said entries are non-continuous,
38 and at least one entry other than the one with the largest MCS index among all entries
39 for modulation method of QPSK in the said second MCS table; or,

40 The partial entries in the said second MCS table where the modulation method
41 is QPSK, and the corresponding MCS index of the partial entries is consecutive, and
42 at least one entry other than the one with the largest MCS Number among all entries
43 for modulation method of QPSK in the said second MCS table.

44 Where, the entries for at least one modulation method of 16QAM in the second

1 CQI table acquired by the said acquisition module from the first CQI table comprises:

2 All entries in the said second MCS table where the modulation method is
3 16QAM; or,

4 The partial entries in the said second MCS table where the modulation method
5 is 16QAM, and the MCS index corresponding to the said partial entries are evenly
6 spaced; or,

7 The partial entries in the said second MCS table where the modulation method
8 is 16QAM, and the MCS index corresponding to the said partial entries are unevenly
9 spaced; or,

10 The partial entries in the said second MCS table where the modulation method
11 is 16QAM, and the MCS index corresponding to the said partial entries are non-
12 continuous, and at least one entry other than the one with the largest second MCS
13 index among all entries for modulation method of 16QAM in the said second MCS
14 table; or

15 The partial entries in the said second MCS table where the modulation method
16 is 16QAM, and the MCS index corresponding to the said partial entries are continuous,
17 and at least one entry other than the one with the largest second MCS index among all
18 entries for modulation method of 16QAM in the said second MCS table; or

19 The partial entries in the said second MCS table where the modulation method
20 is 16QAM, and at least one entry other than the one with the largest and smallest MCS
21 index among all entries for modulation method of 16QAM in the said second MCS
22 table.

23 Further, the first MCS table acquired by the said acquisition module may
24 further comprise: The entries for at least one modulation method of 64QAM in the
25 said second MCS table.

26 Specifically, the entries for at least one modulation method of 64QAM in the
27 second CQI table acquired by the said acquisition module from the first CQI table
28 comprises:

29 All entries in the said second MCS table where the modulation method is
30 64QAM; or,

31 The partial entries in the said second MCS table where the modulation method
32 is 64QAM, and at least one entry other than the one with the smallest MCS index
33 among all entries for modulation method of 64QAM in the said second MCS table; or,

34 The partial entries in the said second MCS table where the modulation method
35 is 64QAM, and at least one entry other than the one with the largest MCS index among
36 all entries for modulation method of 64QAM in the said second MCS table.

37 Further, the entries for at least one modulation method of 64QAM in the said
38 second MCS table comprises: the TBS index of the entry acquired by the said
39 acquisition module with the lowest MCS index among all entries in the first MCS table
40 with a modulation method higher than 64QAM is the same as the TBS index of the
41 entries with the highest MCS index among all entries with a modulation method of
42 64QAM in the said second MCS table; or,

43 the TBS index of the R entries with the smallest MCS index among the entries
44 in the said first MCS table with a modulation method higher than 64QAM is equal to

1 the TBS index of the R entries with the largest MCS index among all entries with
2 modulation method of 64QAM and MCS index not greater than 27 in the said second
3 MCS table; where R is a natural number.

4 Further, the range of MCS index in the first MCS table obtained by the said
5 acquisition module is the same as the range of MCS indexes in the said second MCS
6 table.

7 Optionally, the first MCS table may further include at least one of the tables
8 D1, D2, D3, D4 or D5, any of which includes a MCS index, and the modulation order
9 and TBS index corresponding to the MCS index; where, the table D1, the table D2,
10 the table D3, the table D4, and the table D5 may refer to the above method
11 embodiments and will not be repeated here.

12 The MCS notification device shown in Fig. 6 is capable of performing the
13 corresponding steps in the method embodiments described above. For specific details,
14 please refer to the description of the method embodiments, and the effects it achieves
15 can also be found in the description of the method embodiments.

16 As shown in Fig. 7, embodiments of the present disclosure also provide a MCS
17 notification device 70, the said device 70 comprising:

18 An acquisition module 71 for acquiring a first CQI table and a first MCS table;

19 Wherein the said first CQI table may be pre-defined by the protocol, the UE
20 pre-sets or the UE pre-stores based on the protocol provisions; or the UE selects based
21 on the downlink channel status from at least two pre-defined tables; or the UE may be
22 notified to the UE by the base station. Specifically, the method by which the base
23 station informs the UE may be by the base station selecting one of the two pre-defined
24 tables based on the uplink channel status or the downlink channel status and notifying
25 the UE. The said CQI table is used to describe the mapping relationship between CQI
26 indexes and entries. The mapping relationship of CQI tables in the examples of the
27 present disclosure is only for the convenience of understanding the examples given in
28 the present disclosure. The manifestations of the CQI tables in the present disclosure
29 is inclusive and not limited thereto, that is to say, CQI tables can have a variety of
30 combinations, so long as they can reflect the mapping relationship between CQI
31 indexes and entries, they are within the scope to be protected by the present disclosure.

32 Wherein the said first CQI table may be pre-defined by the protocol, the UE
33 pre-sets or the UE pre-stores based on the protocol provisions; or the UE selects based
34 on the downlink channel status from at least two pre-defined tables; or the UE may be
35 notified to the UE by the base station. Specifically, the method by which the base
36 station informs the UE may be by the base station selecting one of the two pre-defined
37 tables based on the uplink channel status or the downlink channel status and notifying
38 the UE. The said MCS table is used to describe the mapping relationship between
39 MCS indexes and entries. The mapping relationship of MCS tables in the examples of
40 the present disclosure is only for the convenience of understanding the examples given
41 in the present disclosure. The manifestations of the MCS tables in the present
42 disclosure is inclusive and not limited thereto, that is to say, MCS tables can have a
43 variety of combinations, so long as they can reflect the mapping relationship between
44 MCS indexes and entries, they are within the scope to be protected by the present

disclosure.

Receiving module 72: For receiving a first CQI index, the said first CQI index being determined by the UE from a first CQI table;

Determining module 73: For determines a first MCS index from a first CQI table acquired by an acquisition module, a first MCS table acquired by an acquisition module, and a first CQI index received by the said receiving module 72;

Sending module 74: For sends the first MCS index determined by the said determining module to the said UE;

Where, the first CQI table acquired by the said acquisition module includes: Entries with modulation method higher than 64QAM; the entries in the said first CQI table refer to a modulation method, a coding rate and a spectral efficiency corresponding to each CQI index in the first CQI table;

The first MCS table acquired by the said acquisition module comprises:

Entries for modulation methods higher than 64QAM;

The entries for at least one modulation method of QPSK in the second MCS table, and the entries for at least one said modulation method of QPSK includes combinations formed from the entries for at least one modulation method of QPSK in the said second MCS table, excluding the first combination (Here, considering the convention of naming from the first, it is referred to as the first combination, which is essentially the same as the second combination in the embodiment corresponding to Figure 2.). The said first combination consists of the K largest consecutive MCS Number corresponding to QPSK in the said second MCS table, where K is equal to 4, or K is a positive integer less than 5, or K is a positive integer; and/or at least one entry for a 16QAM modulation method in the said second MCS table;

The modulation methods in the said second MCS table include only QPSK, 16QAM, and 64QAM.

It should be noted that the first MCS table used by the MCS notification device 70 may be the same as the first MCS table used by the MCS notification device 60. The difference between the two devices is that the first CQI table used by the notification device 70 of the MCS may be different from the first CQI table used by the notification device 60 of the MCS, but the first CQI table used by both devices contains entries with a modulation method higher than 64QAM.

Where, the entries for at least one modulation method of QPSK in the said second MCS table acquired by the said acquisition module from the first MCS table comprises:

The partial entries in the second MCS table where the modulation method is QPSK, and the MCS index corresponding to the said entries are evenly spaced; or,

The partial entries in the second MCS table where the modulation method is QPSK, and the MCS index corresponding to the said entries are unevenly spaced; or,

The partial entries in the said second MCS table where the modulation method is QPSK, and the MCS index corresponding to the said entries are non-continuous, and at least one entry other than the one with the largest MCS index among all entries for modulation method of QPSK in the said second MCS table; or,

The partial entries in the said second MCS table where the modulation method

1 is QPSK, and the corresponding MCS index of the partial entries is consecutive, and
2 at least one entry other than the one with the largest MCS Number among all entries
3 for modulation method of QPSK in the said second MCS table.

4 Where, the entries for at least one modulation method of 16QAM in the second
5 MCS table acquired by the said acquisition module from the first MCS table comprises:

6 All entries in the said second MCS table where the modulation method is
7 16QAM; or,

8 The partial entries in the said second MCS table where the modulation method
9 is 16QAM, and the MCS index corresponding to the said partial entries are evenly
10 spaced; or,

11 The partial entries in the said second MCS table where the modulation method
12 is 16QAM, and the MCS index corresponding to the said partial entries are unevenly
13 spaced; or,

14 The partial entries in the said second MCS table where the modulation method
15 is 16QAM, and the MCS index corresponding to the said partial entries are non-
16 continuous, and at least one entry other than the one with the largest second MCS
17 index among all entries for modulation method of 16QAM in the said second MCS
18 table; or

19 The partial entries in the said second MCS table where the modulation method
20 is 16QAM, and the MCS index corresponding to the said partial entries are continuous,
21 and at least one entry other than the one with the largest second MCS index among all
22 entries for modulation method of 16QAM in the said second MCS table; or

23 The partial entries in the said second MCS table where the modulation method
24 is 16QAM, and at least one entry other than the one with the largest and smallest MCS
25 index among all entries for modulation method of 16QAM in the said second MCS
26 table.

27 Further, the first MCS table acquired by the said acquisition module further
28 includes: The entries for at least one modulation method of 64QAM in the said second
29 MCS table.

30 Specifically, the entries for at least one modulation method of 64QAM in the
31 said second MCS table acquired by the said acquisition module from the first MCS
32 table comprises:

33 All entries in the said second MCS table where the modulation method is
34 64QAM; or,

35 The partial entries in the said second MCS table where the modulation method
36 is 64QAM, and at least one entry other than the one with the smallest MCS index
37 among all entries for modulation method of 64QAM in the said second MCS table.

38 Further, the entries for at least one modulation method of 64QAM in the said
39 second MCS table acquired by the said acquisition module from the said first MCS
40 table comprises:

41 The TBS index of the entry acquired by the said acquisition module with the
42 lowest MCS index among all entries in the first MCS table with a modulation method
43 higher than 64QAM is the same as the TBS index of the entries with the highest MCS
44 index among all entries with a modulation method of 64QAM in the said second MCS

1 table.

2 Further, the range of values of MCS indexes in the first MCS table acquired by
3 the said acquisition module is the same as the range of values of MCS indexes in the
4 second MCS table.

5 The MCS notification device shown in Fig. 7 is capable of performing the
6 corresponding steps in the method embodiments described above. For specific details,
7 please refer to the description of the method embodiments, and the effects it achieves
8 can also be found in the description of the method embodiments.

9 As shown in Fig. 8, embodiments of the present disclosure also provide a MCS
10 notification device 80, the said device 80 comprising:

11 an acquisition module 81 for acquiring a first MCS table;

12 The said first CQI table may be pre-defined by the protocol, the UE pre-sets or
13 the UE pre-stores based on the protocol provisions; or the UE selects based on the
14 downlink channel status from at least two pre-defined tables; or the UE may be
15 notified to the UE by the base station. Specifically, the method by which the base
16 station informs the UE may be by the base station selecting one of the two pre-defined
17 tables based on the uplink channel status or the downlink channel status and notifying
18 the UE. The said MCS table is used to describe the mapping relationship between
19 MCS indexes and entries. The mapping relationship of MCS tables in the examples of
20 the present disclosure is only for the convenience of understanding the examples given
21 in the present disclosure. The manifestations of the MCS tables in the present
22 disclosure is inclusive and not limited thereto, that is to say, MCS tables can have a
23 variety of combinations, so long as they can reflect the mapping relationship between
24 MCS indexes and entries, they are within the scope to be protected by the present
25 disclosure.

26 Receiving module 82: For the first MCS index sent by the receiving base station;
27 the said first MCS index is determined by the base station based on the first MCS table;

28 Determining module 83: For determine the modulation order and coding block
29 size based on the first MCS table and the first MCS index received by the receiving
30 module 82;

31 Wherein the first MCS table acquired by the said acquisition module comprises:

32 Entries for modulation methods higher than 64QAM;

33 The entries for at least one modulation method of QPSK in the second MCS
34 table, and the entries for at least one said modulation method of QPSK includes
35 combinations formed from the entries for at least one modulation method of QPSK in
36 the said second MCS table, excluding the first combination. The said first combination
37 consists of the K largest consecutive MCS index corresponding to QPSK in the said
38 second MCS table, where K is equal to 4, or K is a positive integer less than 5, or K is
39 a positive integer; and/or at least one entry for a 16QAM modulation method in the
40 said second MCS table;

1 The modulation methods in the said second MCS table include only QPSK,
2 16QAM, and 64QAM.

3 Where, the determining module 83 comprises:

4 A first determining submodule 831: For determining the first TBS index and
5 modulation order based on the first MCS table acquired by the said acquisition module
6 and the first MCS index received;

7 A second determining submodule 832: For determining the size of the coding
8 block based on the first TBS index, first PRB count, and the first TBS table;

9 Where, the said first PRB count is the PRB count allocated by the base station
10 to the UE; or, the said first PRB count is the largest integer less than or equal to the
11 product of the PRB count allocated to the UE and a specific coefficient;

12 The said first TBS table includes at least one PRB count corresponding to each
13 TBS index, as well as the transmission block size corresponding to each PRB count;
14 the said first TBS table is the TBS table corresponding to the said first MCS table.

15 Optionally, the range of TBS index in the said first TBS table is from 0 to A,
16 where A is a positive integer less than or equal to 26; or, the range of TBS index in
17 the said first TBS table is from 0 to B, where B is a positive integer greater than or
18 equal to 26, and the transmission block size corresponding to TBS index from 0 to 26
19 in the said first TBS table is the same as the transmission block size corresponding to
20 TBS index with range from 0 to 26 in the second TBS table; The range of TBS index
21 in the said second TBS table is from 0 to 26, and the said second TBS table includes
22 at least one PRB count corresponding to each TBS index, as well as the transmission
23 block size corresponding to each PRB count.

24 Or optionally, the range of TBS index in the said first TBS table is from 0 to A,
25 where A is a positive integer less than or equal to 26; or, the range of TBS index in
26 the said first TBS table is from 0 to B, where B is a positive integer greater than or
27 equal to 26, and the transmission block size corresponding to TBS index from 0 to C
28 in the said first TBS table is the same as the transmission block size corresponding to
29 TBS index from 0 to C in the second TBS table, where C is a non-negative integer less
30 than or equal to 26. The range of TBS index in the said second TBS table is from 0 to
31 26, and the said second TBS table includes at least one PRB count corresponding to
32 each TBS index, as well as the transmission block size corresponding to each PRB
33 count.

34 Optionally, the said first TBS table includes at least one of TBS index Y1, TBS
35 index Y2, TBS index Y3, and TBS indexes Y4_1-Y4_5. Where, the description of the
36 corresponding entries of these TBS indexes in the first TBS table may be repeated
37 again with reference to the above method embodiments, and will not be repeated here.

38 Entries for at least one modulation method of QPSK in the second MCS table
39 acquired by the said acquisition module from the first MCS table comprises:

40 The partial entries in the said second CQI table where the modulation method
41 is QPSK, and the CQI index corresponding to the said entries are evenly spaced; or,

42 The partial entries in the said second MCS table where the modulation method
43 is QPSK, and the MCS index corresponding to the said entries are unevenly spaced;
44 or,

1 The partial entries in the said second MCS table where the modulation method
2 is QPSK, and the MCS index corresponding to the said entries are non-continuous,
3 and at least one entry other than the one with the largest MCS index among all entries
4 for modulation method of QPSK in the said second MCS table; or,

5 The partial entries in the said second MCS table where the modulation method
6 is QPSK, and the MCS index corresponding to the said entries are continuous, and at
7 least one entry other than the one with the largest MCS index among all entries for
8 modulation method of QPSK in the said second MCS table.

9 Where, the entries for at least one modulation method of 16QAM in the said
10 second MCS table acquired by the said acquisition module from the first MCS table
11 comprises:

12 All entries in the said second MCS table where the modulation method is
13 16QAM; or,

14 The partial entries in the said second MCS table where the modulation method
15 is 16QAM, and the MCS index corresponding to the said partial entries are evenly
16 spaced; or,

17 The partial entries in the said second MCS table where the modulation method
18 is 16QAM, and the MCS index corresponding to the said partial entries are unevenly
19 spaced; or,

20 The partial entries in the said second MCS table where the modulation method
21 is 16QAM, and the MCS index corresponding to the said partial entries are non-
22 continuous, and at least one entry other than the one with the largest second MCS
23 index among all entries for modulation method of 16QAM in the said second MCS
24 table;

25 The partial entries in the said second MCS table where the modulation method
26 is 16QAM, and the MCS index corresponding to the said partial entries are continuous,
27 and at least one entry other than the one with the largest second MCS index among all
28 entries for modulation method of 16QAM in the said second MCS table;

29 The partial entries in the said second MCS table where the modulation method
30 is 16QAM, and at least one entry other than the one with the largest and smallest MCS
31 index among all entries for modulation method of 16QAM in the said second MCS
32 table.

33 Further, the first MCS table acquired by the said acquisition module further
34 includes: The entries for at least one modulation method of 64QAM in the said second
35 MCS table.

36 Specifically, the entries for at least one modulation method of 64QAM in the
37 said second MCS table acquired by the said acquisition module from the first MCS
38 table comprises:

39 All entries in the said second MCS table where the modulation method is
40 64QAM; or,

41 The partial entries in the said second MCS table where the modulation method
42 is 64QAM, and at least one entry other than the one with the smallest MCS index
43 among all entries for modulation method of 64QAM in the said second MCS table; or,

44 The partial entries in the said second MCS table where the modulation method

1 is 64QAM, and at least one entry other than the one with the largest MCS index among
2 all entries for modulation method of 64QAM in the said second MCS table.

3 Further, the entries for at least one modulation method of 64QAM in the said
4 second MCS table acquired by the said acquisition module from the said first MCS
5 table comprises:

6 the TBS index of the entries with the lowest corresponding MCS index among
7 all entries with a modulation method higher than 64QAM in the first MCS table is the
8 same as the TBS index of the entries with the highest MCS index among all entries
9 with a modulation method of 64QAM in the said second MCS table; or the TBS index
10 of the R entries with the smallest corresponding MCS index among entries with a
11 modulation method higher than 64QAM in the first MCS table may be equal to the
12 TBS index of the R entries with the largest MCS index among all entries with a
13 modulation method of 64QAM and MCS index no greater than 27; where R is a natural
14 number.

15 Optionally, the first MCS table further includes at least one of the above tables
16 D1, D2, D3, D4 or D5, where any one of them includes a MCS index, and the
17 modulation order and TBS index corresponding to the MCS index, where the tables
18 D1, D2, D3, D4, and D5 may refer to the description in the above method
19 embodiments.

20 Further, the range of values of MCS indexes in the first MCS table acquired by
21 the said acquisition module is the same as the range of values of MCS indexes in the
22 second MCS table.

23 The MCS notification device shown in Fig. 8 is capable of performing the
24 corresponding steps in the method embodiments described above. For specific details,
25 please refer to the description of the method embodiments, and the effects it achieves
26 can also be found in the description of the method embodiments.

27 As shown in Fig. 9, an embodiment of the present disclosure further provides
28 a CQI notification device 90, which comprises: a processor 91 and a transmitter 92;

29 the said processor for acquiring a first CQI table; and for acquiring a first CQI
30 index from the first CQI table;

31 the said transmitter: For sending the processor first CQI index to a base station;
32 to cause the said base station to determine a first Modulation and Coding Scheme
33 (MCS) index from the first CQI index;

34 The first CQI table acquired by the said processor includes:

35 Entries for modulation methods higher than 64-phases Quadrature Amplitude
36 Modulation (QAM);

37 The entries for at least one modulation method of Quadrature Phase Shift
38 Keying (QPSK) in the second CQI table, and the entries for at least one said
39 modulation method of QPSK includes combinations formed from entries
40 corresponding to QPSK in the said second CQI table, excluding the first combination.
41 The said first combination consists of the N largest consecutive CQI index entries
42 corresponding to QPSK in the said second CQI table, where N is equal to 3, or N is a
43 positive integer less than 4, or said N is a positive integer; and/or the second CQI table
44 includes entries for at least one modulation method of 16QAM;

1 Where, the modulation method for the entry in the said second CQI table only
2 includes QPSK, 16QAM and 64QAM.

3 Where, the entries for at least one modulation method of QPSK in the second
4 CQI table acquired by the said processor from the first CQI table comprises:

5 The entries in the said second CQI table where the modulation method is QPSK,
6 and the CQI index corresponding to the said entries are evenly spaced; or,

7 The entries in the said second CQI table where the modulation method is QPSK,
8 and the CQI index corresponding to the said entries are unevenly spaced; or,

9 The entries in the said second CQI table where the modulation method is QPSK,
10 and the CQI index corresponding to the said entries are non-continuous, and at least
11 one entry other than the one with the largest CQI index among all entries for
12 modulation method of QPSK in the said second CQI table; or,

13 The entries in the said second CQI table where the modulation method is QPSK,
14 and the CQI index corresponding to the said entries are continuous, and at least one
15 entry other than the one with the largest CQI index among all the QPSK entries in the
16 said CQI table.

17 Where, the entries for at least one modulation method of 16QAM in the said
18 second CQI table acquired by the said processor from the first CQI table comprises:

19 All entries in the said second CQI table where the modulation method is
20 16QAM; or,

21 At least one entry, other than the one corresponding to the smallest CQI index
22 among all the entries in the said second CQI table where the modulation method is
23 16QAM.

24 Where, the said first CQI table acquired by the said processor further comprises:

25 The entries for at least one modulation method of 64QAM in the said second
26 CQI table.

27 Where, the entries for at least one modulation method of 64QAM in the first
28 CQI table acquired by the processor comprises:

29 All entries in the said second CQI table where the modulation method is
30 64QAM; or,

31 Partial entries in the said second CQI table where the modulation method is
32 64QAM, and at least one entry other than the one corresponding to the largest CQI
33 index among all the 64QAM entries in the said second CQI table.

34 Where, the entries with the smallest CQI index in the first CQI table acquired
35 by the said processor corresponding to modulation methods higher than 64QAM has
36 a spectral efficiency equal to that of the entries with the largest CQI index among all
37 the entries in the said second CQI table where the modulation method is 64QAM.

38 Where, the range of values of CQI indexes in the first CQI table acquired by
39 the said processor is the same as the range of values of CQI indexes in the said second
40 CQI table.

41 The specific implementation of the various device functions in the CQI
42 notification device 90 in this embodiment can be referred to the description in the
43 above CQI notification method embodiment, and will not be repeated here.

44 As shown in Fig. 10, an embodiment of the present disclosure further provides

1 a notification device 10 for Modulation and Coding Scheme (MCS), comprising:
2 a processor 101 for acquiring a first CQI table and a first MCS table;
3 a receiver 102: For receive the first Channel Quality Indicator (CQI) Number
4 sent by the terminal (UE), and the said first CQI index is determined by the said UE
5 based on the acquired first CQI table;
6 the said processor: For determining a first MCS index from a first CQI table
7 acquired by a processor, a first MCS table acquired, and a first CQI index received by
8 the receiver;
9 a transmitter 103: For send the first MCS index determined by the processor to
10 the said UE;
11 Where, the first CQI table acquired by the said processor includes:
12 Entries for modulation methods higher than 64QAM;
13 The entries for at least one modulation method of QPSK in the second CQI
14 table, and the entries for at least one said modulation method of QPSK includes
15 combinations formed from entries corresponding to QPSK in the said second CQI
16 table, excluding the first combination. The said first combination consists of the N
17 largest consecutive CQI index entries corresponding to QPSK in the said second CQI
18 table, where N is equal to 3, or N is a positive integer less than 4, or said N is a positive
19 integer; and/or the second CQI table includes entries for at least one modulation
20 method of 16QAM;
21 The modulation methods in the said second CQI table include only QPSK,
22 16QAM, and 64QAM.
23 The first MCS table acquired by the said processor includes:
24 Entries for modulation methods higher than 64QAM;
25 The entries for at least one modulation method of QPSK in the said second
26 MCS table, and the entries for at least one said modulation method of QPSK includes
27 combinations formed from the entries for at least one modulation method of QPSK in
28 the said second MCS table, excluding the second combination. The said second
29 combination consists of the K largest consecutive MCS index corresponding to QPSK
30 in the said second MCS table, where K is equal to 4, or K is a positive integer less than
31 5, or K is a positive integer; and/or at least one entry for a 16QAM modulation method
32 in the said second MCS table;
33 The modulation methods in the said second MCS table include only QPSK,
34 16QAM, and 64QAM.
35 Where, the said processor is specifically used to:
36 Determining the first TBS index and the first MCS index from the acquired first
37 PRB count, the first CQI table acquired by the said processor, the first MCS table
38 acquired by the said processor, and the received first CQI index;
39 Where, the said first PRB count is the PRB count allocated by the base station
40 to the UE; or, the said first PRB count is the largest integer less than or equal to the
41 product of the PRB count allocated to the UE and a specific coefficient;
42 The said first TBS table includes at least one PRB count corresponding to each
43 TBS index, as well as the transmission block size corresponding to each PRB count;
44 the said first TBS table is the TBS table corresponding to the said first MCS table;

1 The range of TBS index in the said first TBS table is from 0 to A, where A is a
2 positive integer less than or equal to 26; or, the range of TBS index in the said first
3 TBS table is from 0 to B, where B is a positive integer greater than or equal to 26, and
4 the transmission block size corresponding to TBS index from 0 to 26 in the said first
5 TBS table is the same as the transmission block size corresponding to TBS index with
6 range from 0 to 26 in the second TBS table; The range of TBS index in the said second
7 TBS table is from 0 to 26, and the said second TBS table includes at least one PRB
8 count corresponding to each TBS index, as well as the transmission block size
9 corresponding to each PRB count.

10 Where, the said processor is specifically used to:

11 Determining the first modulation method and first spectral efficiency
12 corresponding to the received first CQI index based on the first CQI table acquired by
13 the processor and the received first CQI index received by the said receiver;

14 Determining the first transmission block size transmitted to the said UE based
15 on the first PRB count and the said first spectral efficiency determined;

16 Acquired the first TBS index corresponding to the said first transmission block
17 size determined in the first TBS table and the first PRB count based on the first TBS
18 table.

19 The entries for at least one modulation method of QPSK in the said second CQI
20 table acquired by the said processor from the first CQI table comprises:

21 The entries in the said second CQI table where the modulation method is QPSK,
22 and the CQI index corresponding to the said entries are evenly spaced; or,

23 The entries in the said second CQI table where the modulation method is QPSK,
24 and the CQI index corresponding to the said entries are unevenly spaced; or,

25 The entries in the said second CQI table where the modulation method is QPSK,
26 and the CQI index corresponding to the said entries are non-continuous, and at least
27 one entry other than the one with the largest CQI index among all entries for
28 modulation method of QPSK in the said second CQI table; or,

29 The entries in the said second CQI table where the modulation method is QPSK,
30 and the CQI index corresponding to the said entries are continuous, and at least one
31 entry other than the one with the largest CQI index among all the QPSK entries in the
32 said CQI table.

33 Where, the entries for at least one modulation method of 16QAM in the said
34 second CQI table acquired by the said processor from the first CQI table comprises:

35 All entries in the said second CQI table where the modulation method is
36 16QAM; or,

37 At least one entry, other than the one corresponding to the smallest CQI index
38 among all the entries in the said second CQI table where the modulation method is
39 16QAM.

40 Where, the said first CQI table acquired by the said processor further comprises:

41 The entries for at least one modulation method of 64QAM in the said second
42 CQI table.

43 Where, the entries for at least one modulation method of 64QAM in the said
44 second CQI table acquired by the said processor from the first CQI table comprises:

1 All entries in the said second CQI table where the modulation method is
2 64QAM; or,

3 Partial entries in the said second CQI table where the modulation method is
4 64QAM, and at least one entry other than the one corresponding to the largest CQI
5 index among all the 64QAM entries in the said second CQI table.

6 Where, the entries with the smallest CQI index in the first CQI table acquired
7 by the said processor corresponding to modulation methods higher than 64QAM has
8 a spectral efficiency equal to that of the entries with the largest CQI index among all
9 the entries in the said second CQI table where the modulation method is 64QAM.

10 Where, the range of values of CQI indexes in the first CQI table acquired by
11 the said processor is the same as the range of values of CQI indexes in the said second
12 CQI table.

13 Where, the entries for at least one modulation method of QPSK in the said
14 second CQI table acquired by the said processor from the first CQI table comprises:

15 The partial entries in the said second CQI table where the modulation method
16 is QPSK, and the CQI index corresponding to the said entries are evenly spaced; or,

17 The partial entries in the said second MCS table where the modulation method
18 is QPSK, and the MCS index corresponding to the said entries are unevenly spaced;
19 or,

20 The partial entries in the said second MCS table where the modulation method
21 is QPSK, and the MCS index corresponding to the said entries are non-continuous,
22 and at least one entry other than the one with the largest MCS index among all entries
23 for modulation method of QPSK in the said second MCS table; or,

24 The partial entries in the said second MCS table where the modulation method
25 is QPSK, and the corresponding MCS index of the partial entries is consecutive, and
26 at least one entry other than the one with the largest MCS Number among all entries
27 for modulation method of QPSK in the said second MCS table.

28 Where, the entries for at least one modulation method of 16QAM in the second
29 CQI table acquired by the said processor from the first CQI table comprises:

30 All entries in the said second MCS table where the modulation method is
31 16QAM; or,

32 The partial entries in the said second MCS table where the modulation method
33 is 16QAM, and the MCS index corresponding to the said partial entries are evenly
34 spaced; or,

35 The partial entries in the said second MCS table where the modulation method
36 is 16QAM, and the MCS index corresponding to the said partial entries are unevenly
37 spaced; or,

38 The partial entries in the said second MCS table where the modulation method
39 is 16QAM, and the MCS index corresponding to the said partial entries are non-
40 continuous, and at least one entry other than the one with the largest second MCS
41 index among all entries for modulation method of 16QAM in the said second MCS
42 table; or

43 The partial entries in the said second MCS table where the modulation method
44 is 16QAM, and the MCS index corresponding to the said partial entries are continuous,

1 and at least one entry other than the one with the largest second MCS index among all
2 entries for modulation method of 16QAM in the said second MCS table; or

3 The partial entries in the said second MCS table where the modulation method
4 is 16QAM, and at least one entry other than the one with the largest and smallest MCS
5 index among all entries for modulation method of 16QAM in the said second MCS
6 table.

7 Where, the first MCS table acquired by the said processor further includes:

8 The entries for at least one modulation method of 64QAM in the said second
9 MCS table.

10 Where, the entries for at least one modulation method of 64QAM in the second
11 CQI table acquired by the said processor from the first CQI table comprises:

12 All entries in the said second MCS table where the modulation method is
13 64QAM; or,

14 The partial entries in the said second MCS table where the modulation method
15 is 64QAM, and at least one entry other than the one with the smallest MCS index
16 among all entries for modulation method of 64QAM in the said second MCS table.

17 Where, the entries for at least one modulation method of 64QAM in the second
18 CQI table acquired by the said processor from the first CQI table comprises:

19 The TBS index of the entries with the lowest MCS index among all entries in
20 the said first MCS table with a modulation scheme higher than 64QAM is the same as
21 the TBS index of the entries with the highest MCS index among all entries with a
22 modulation scheme of 64QAM in the said second MCS table.

23 Where, the range of values of MCS indexes in the first MCS table acquired by
24 the said processor is the same as the range of values of MCS indexes in the said second
25 MCS table.

26 For the specific implementation of the device functions in the MCS notification
27 device 10 in this embodiment, refer to the description of the MCS notification method
28 embodiment corresponding to Fig. 2 above, and will not be repeated here.

29 As shown in Fig. 11, an embodiment of the present disclosure further provides
30 a notification device 11 for Modulation and Coding Scheme (MCS), comprising:

31 a processor 111 for acquiring a first MCS table;

32 a receiver 112: the first MCS index for receiving a base station send; the first
33 MCS index is determined by a base station from a first MCS table acquired by the said
34 processor;

35 The said processor 111: For determining a modulation order and a coding block
36 size from a first MCS table acquired by the said process and a first MCS index received
37 by the receiving module;

38 Where, the first MCS table acquired by the said processor further includes:

39 Entries for modulation methods higher than 64QAM;

40 The entries for at least one modulation method of QPSK in the second MCS
41 table, and the entries for at least one said modulation method of QPSK includes
42 combinations formed from the entries for at least one modulation method of QPSK in
43 the said second MCS table, excluding the first combination (Here, considering the
44 convention of naming from the first, it is referred to as the first combination, which is

essentially the same as the second combination in the embodiment corresponding to Figure 2.). The said first combination consists of the K largest consecutive MCS Number corresponding to QPSK in the said second MCS table, where K is equal to 4, or K is a positive integer less than 5, or K is a positive integer; and/or at least one entry for a 16QAM modulation method in the said second MCS table;

The modulation methods in the said second MCS table include only QPSK, 16QAM, and 64QAM.

Where, the said processor is specifically used to:

Determining the first TBS index and modulation order based on the first MCS table acquired by the said processor and the first MCS index received;

Determining the size of the coding block based on the first TBS index, first PRB count, and the first TBS table;

Where, the said first PRB count is the PRB count allocated by the base station to the UE; or, the said first PRB count is the largest integer less than or equal to the product of the PRB count allocated to the UE and a specific coefficient;

The said first TBS table includes at least one PRB count corresponding to each TBS index, as well as the transmission block size corresponding to each PRB count; the said first TBS table is the TBS table corresponding to the said first MCS table;

The range of TBS index in the said first TBS table is from 0 to A, where A is a positive integer less than or equal to 26; or, the range of TBS index in the said first TBS table is from 0 to B, where B is a positive integer greater than or equal to 26, and the transmission block size corresponding to TBS index from 0 to 26 in the said first TBS table is the same as the transmission block size corresponding to TBS index with range from 0 to 26 in the second TBS table; The range of TBS index in the said second TBS table is from 0 to 26, and the said second TBS table includes at least one PRB count corresponding to each TBS index, as well as the transmission block size corresponding to each PRB count.

Where, entries for at least one modulation method of QPSK in the second MCS table acquired by the said processor from the first MCS table comprises:

The partial entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are evenly spaced; or,

The partial entries in the said second MCS table where the modulation method is QPSK, and the MCS index corresponding to the said entries are unevenly spaced; or,

The partial entries in the said second MCS table where the modulation method is QPSK, and the MCS index corresponding to the said entries are non-continuous, and at least one entry other than the one with the largest MCS index among all entries for modulation method of QPSK in the said second MCS table; or,

The partial entries in the said second MCS table where the modulation method is QPSK, and the corresponding MCS index of the partial entries is consecutive, and at least one entry other than the one with the largest MCS Number among all entries for modulation method of QPSK in the said second MCS table.

Where, the entries for at least one modulation method of 16QAM in the said second MCS table acquired by the said processor from the first MCS table comprises:

1 All entries in the said second MCS table where the modulation method is
2 16QAM; or,

3 The partial entries in the said second MCS table where the modulation method
4 is 16QAM, and the MCS index corresponding to the said partial entries are evenly
5 spaced; or,

6 The partial entries in the said second MCS table where the modulation method
7 is 16QAM, and the MCS index corresponding to the said partial entries are unevenly
8 spaced; or,

9 The partial entries in the said second MCS table where the modulation method
10 is 16QAM, and the MCS index corresponding to the said partial entries are non-
11 continuous, and at least one entry other than the one with the largest second MCS
12 index among all entries for modulation method of 16QAM in the said second MCS
13 table; or

14 The partial entries in the said second MCS table where the modulation method
15 is 16QAM, and the MCS index corresponding to the said partial entries are continuous,
16 and at least one entry other than the one with the largest second MCS index among all
17 entries for modulation method of 16QAM in the said second MCS table; or

18 The partial entries in the said second MCS table where the modulation method
19 is 16QAM, and at least one entry other than the one with the largest and smallest MCS
20 index among all entries for modulation method of 16QAM in the said second MCS
21 table.

22 Where, the first MCS table acquired by the said processor further includes:

23 The entries for at least one modulation method of 64QAM in the said second
24 MCS table.

25 Where, the entries for at least one modulation method of 64QAM in the said
26 second MCS table acquired by the said processor from the first MCS table comprises:

27 All entries in the said second MCS table where the modulation method is
28 64QAM; or,

29 The partial entries in the said second MCS table where the modulation method
30 is 64QAM, and at least one entry other than the one with the smallest MCS index
31 among all entries for modulation method of 64QAM in the said second MCS table.

32 Where, the entries for at least one modulation method of 64QAM in the said
33 second MCS table acquired by the said processor from the first MCS table comprises:

34 The TBS index of the entries with the lowest MCS index among all entries in
35 the said first MCS table with a modulation scheme higher than 64QAM is the same as
36 the TBS index of the entries with the highest MCS index among all entries with a
37 modulation scheme of 64QAM in the said second MCS table.

38 Where, the range of values of MCS indexes in the first MCS table acquired by
39 the said processor is the same as the range of values of MCS indexes in the said second
40 MCS table.

41 For the specific implementation of the device functions in the MCS notification
42 device 11 in this embodiment, refer to the description of the MCS notification method
43 embodiment corresponding to Fig. 3 above, and will not be repeated here.

44 As shown in Fig. 12, the present disclosure provides a notification device for

1 Modulation and Coding Scheme (MCS), comprising:

2 a processor 121 for acquiring a first CQI table and a first MCS table;

3 a receiver 122: For receiving a first CQI index, the said first CQI index being
4 determined by the UE from a first CQI table;

5 The said processor 121: For determining a first MCS index from a said first
6 CQI table acquired, a first MCS table acquired, and a first CQI index received by the
7 said receiver;

8 a transmitter 123: For sends the first MCS index determined by the said
9 processor 121 to the said UE;

10 Where, the first CQI table acquired by the said processor includes: Entries with
11 modulation method higher than 64QAM; the entries in the first CQI table acquired by
12 the said processor refer to a modulation method, a coding rate and a spectral efficiency
13 corresponding to each CQI index in the first CQI table;

14 The first MCS table acquired by the said processor includes:

15 Entries for modulation methods higher than 64QAM;

16 The entries for at least one modulation method of QPSK in the second MCS
17 table, and the entries for at least one said modulation method of QPSK includes
18 combinations formed from the entries for at least one modulation method of QPSK in
19 the said second MCS table, excluding the first combination. The said first combination
20 consists of the K largest consecutive MCS index corresponding to QPSK in the said
21 second MCS table, where K is equal to 4, or K is a positive integer less than 5, or K is
22 a positive integer; and/or at least one entry for a 16QAM modulation method in the
23 said second MCS table;

24 The modulation methods in the said second MCS table include only QPSK,
25 16QAM, and 64QAM.

26 Where, the entries for at least one modulation method of QPSK in the said
27 second MCS table acquired by the said processor from the first MCS table comprises:

28 The partial entries in the said second CQI table where the modulation method
29 is QPSK, and the CQI index corresponding to the said entries are evenly spaced; or,

30 The partial entries in the said second MCS table where the modulation method
31 is QPSK, and the MCS index corresponding to the said entries are unevenly spaced;
32 or,

33 The partial entries in the said second MCS table where the modulation method
34 is QPSK, and the MCS index corresponding to the said entries are non-continuous,
35 and at least one entry other than the one with the largest MCS index among all entries
36 for modulation method of QPSK in the said second MCS table; or,

37 The partial entries in the said second MCS table where the modulation method
38 is QPSK, and the MCS index corresponding to the said entries are continuous, and at
39 least one entry other than the one with the largest MCS index among all entries for
40 modulation method of QPSK in the said second MCS table.

41 Where, the entries for at least one modulation method of 16QAM in the said
42 second MCS table acquired by the said processor from the first MCS table comprises:

43 All entries in the said second MCS table where the modulation method is
44 16QAM; or,

1 The partial entries in the said second MCS table where the modulation method
2 is 16QAM, and the MCS index corresponding to the said partial entries are evenly
3 spaced; or,

4 The partial entries in the said second MCS table where the modulation method
5 is 16QAM, and the MCS index corresponding to the said partial entries are unevenly
6 spaced; or,

7 The partial entries in the said second MCS table where the modulation method
8 is 16QAM, and the MCS index corresponding to the said partial entries are non-
9 continuous, and at least one entry other than the one with the largest second MCS
10 index among all entries for modulation method of 16QAM in the said second MCS
11 table;

12 The partial entries in the said second MCS table where the modulation method
13 is 16QAM, and the MCS index corresponding to the said partial entries are continuous,
14 and at least one entry other than the one with the largest second MCS index among all
15 entries for modulation method of 16QAM in the said second MCS table;

16 The partial entries in the said second MCS table where the modulation method
17 is 16QAM, and at least one entry other than the one with the largest and smallest MCS
18 index among all entries for modulation method of 16QAM in the said second MCS
19 table.

20 Where, the first MCS table acquired by the said processor further includes:

21 The entries for at least one modulation method of 64QAM in the said second
22 MCS table.

23 Where, the entries for at least one modulation method of 64QAM in the said
24 second MCS table acquired by the said processor from the first MCS table comprises:

25 All entries in the said second MCS table where the modulation method is
26 64QAM; or,

27 The partial entries in the said second MCS table where the modulation method
28 is 64QAM, and at least one entry other than the one with the smallest MCS index
29 among all entries for modulation method of 64QAM in the said second MCS table.

30 Where, the entries for at least one modulation method of 64QAM in the said
31 second MCS table acquired by the said processor from the said first MCS table
32 comprises:

33 The TBS index of the entries with the lowest MCS index among all entries in
34 the said first MCS table with a modulation scheme higher than 64QAM is the same as
35 the TBS index of the entries with the highest MCS index among all entries with a
36 modulation scheme of 64QAM in the said second MCS table.

37 The range of values of MCS indexes in the first MCS table acquired by the said
38 processor is the same as the range of values of MCS indexes in the said second MCS
39 table.

40 It should be noted that the devices shown in Figs. 9 to 12 can implement the
41 methods provided by the above method embodiments, respectively, as shown in the
42 description of the above embodiments. The effect achieved thereof can also be
43 described in the above embodiments.

44 For the specific implementation of the device functions in the MCS notification

1 device 11 in this embodiment, refer to the description of the MCS notification method
2 embodiment corresponding to Fig. 4 above, and will not be repeated here.

3 Those skilled in the art can clearly understand that, for the sake of convenience
4 and simplicity of description, the division of the functional modules mentioned above
5 is provided as an example. In practical applications, the functions described above can
6 be allocated to different functional modules as needed, i.e., the internal structure of
7 the device can be divided into different functional modules to accomplish all or part
8 of the functions described above. The specific working processes of the system, device
9 and unit described above may refer to the corresponding processes in the above
10 method embodiments, and will not be repeated here.

11 In the various embodiments provided by the present disclosure, it should be
12 understood that the disclosed system, device, and method may be achieved in other
13 ways. For example, the embodiments of the device described above are merely
14 illustrative, e.g. the division of the units represents only one type of logical function
15 division. In achieving them, alternative methods of division may exist. For instance, a
16 plurality of units or components may be combined or integrated into another system,
17 or certain features may be omitted or not executed. Another point is that the couplings,
18 direct couplings or communication connections shown or discussed may be achieved
19 through some interfaces, devices, or units via indirect coupling or communication
20 connections, which may be electrical, mechanical, or other forms.

21 The units described as separate components may or may not be physically
22 separated and the components shown as units may or may not be physical units, i.e.,
23 they may be located in one place or distributed across a plurality of network units.
24 Some or all of these units may be selected as needed to achieve the objectives of the
25 solution of this embodiment.

26 In addition, the various functional units in the various embodiments of the
27 present disclosure may be integrated into one processing unit, or they may physically
28 exist as separate units. Alternatively, two or more units may be integrated into one
29 unit. The above integrated units may be achieved in the form of hardware or as a
30 combination of hardware and software functional units.

31 The above integrated unit realized in the form of a software functional unit may
32 be stored in a computer-readable storage medium. The software function unit
33 described above is stored in a storage medium and includes a for at least instructions
34 to cause a computer device (which may be a personal computer, a server, or a network
35 device, etc.) to execute some of the steps of the method based on various embodiments
36 of the present disclosure. The aforementioned storage medium includes: USB sticks,
37 portable hard disks, Read-Only Memory (ROM), Random Access Memory (RAM),
38 magnetic disks or optical disks and other media that can store program code.

39 Finally, it should be noted that the above embodiments are provided to illustrate
40 the technical solutions of the present disclosure and are not intended to limit them.
41 Although the present disclosure has been described in detail with reference to the
42 aforementioned embodiments, those of ordinary skill in the art should understand that
43 they can still make modifications to the technical solutions described in the various
44 aforementioned embodiments or make equivalent substitutions for some of the

1 technical features. Such modifications or substitutions may not necessarily cause the
2 essence of the corresponding technical solutions to depart from the gist and scope of
3 the technical solutions of the embodiments of the present disclosure.
4

Claims

1. A notification method for Channel Quality Indication (CQI), characterized in that it comprises:

Obtaining the first CQI index based on the acquired first CQI table;

Sending the first CQI index to the base station, so that the base station determines the first Modulation and Coding Scheme (MCS) index based on the first CQI index;

The said first CQI table includes:

Entries for modulation methods higher than 64-phases Quadrature Amplitude Modulation (QAM);

The entries for at least one modulation method of Quadrature Phase Shift Keying (QPSK) in the second CQI table, and the entries for at least one said modulation method of QPSK includes combinations formed from entries corresponding to QPSK in the said second CQI table, excluding the first combination. The said first combination consists of the N largest consecutive CQI index entries corresponding to QPSK in the said second CQI table, where N is equal to 3, or N is a positive integer less than 4, or said N is a positive integer; and/or the second CQI table includes entries for at least one modulation method of 16QAM;

Where, the modulation method for the entry in the said second CQI table only includes QPSK, 16QAM and 64QAM.

2. The method based on Claim 1, characterized in that entries for at least one modulation method of QPSK in the said second CQI table comprises:

The entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are evenly spaced; or,

The entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are unevenly spaced; or,

The entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are non-continuous, and at least one entry other than the one with the largest CQI index among all entries for modulation method of QPSK in the said second CQI table; or,

The entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are continuous, and at least one entry other than the one with the largest CQI index among all the QPSK entries in the said CQI table.

3. The method based on Claim 1, characterized in that entries for at least one modulation method of 16QAM in the said second CQI table comprises:

All entries in the said second CQI table where the modulation method is 16QAM; or,

At least one entry, other than the one corresponding to the smallest CQI index among all the entries in the said second CQI table where the modulation method is 16QAM.

4. The method based on any of Claims 1 to 3, characterized in that the said first CQI table further comprises:

The entries for at least one modulation method of 64QAM in the said second

1 CQI table.

2 5. The method based on Claim 4, characterized in that entries for at least one
3 modulation method of 64QAM comprises:

4 All entries in the said second CQI table where the modulation method is
5 64QAM; or,

6 Partial entries in the said second CQI table where the modulation method is
7 64QAM, and at least one entry other than the one corresponding to the largest CQI
8 index among all the 64QAM entries in the said second CQI table.

9 6. The method based on Claim 1, characterized in that the spectral efficiency
10 of the entries with the smallest corresponding CQI index among the entries in the said
11 first CQI table with modulation method of higher than 64QAM is equal to the spectral
12 efficiency of the entries with the largest corresponding CQI index among all entries in
13 the said second CQI table with modulation method of 64QAM; or,

14 The spectral efficiency of the T entries with the smallest CQI index
15 corresponding to modulation methods higher than 64QAM is equal to or
16 approximately equal to the spectral efficiency of the T entries with the largest CQI
17 index among all the entries in the said second CQI table where the modulation method
18 is 64QAM, where T is any natural number between 1 and 5.

19 7. The method based on Claim 1, characterized in that the spectral efficiency
20 of the entries with the largest corresponding CQI index among the entries in the said
21 first CQI table with modulation method of higher than 64QAM is:

22 The spectral efficiency of the entries with the largest CQI index among all the
23 entries in the said second CQI table where the modulation method is 64QAM,
24 multiplied by $\frac{4}{3}$;

25 Alternatively, 8 times the terminal's maximum coding rate, where the
26 maximum coding rate is a positive real number less than 1;

27 Or, 7.4063;

28 Or, 7.432.

29 8. The method based on Claim 1, characterized in that the spectral efficiencies
30 of the X entries with the largest CQI indices in the said first CQI tables, when arranged
31 in ascending order of spectral efficiency, form an arithmetic progression or an
32 approximately arithmetic progression; Where, when the spectral efficiency of the X
33 entries with the largest CQI index in the said first CQI table is arranged in an arithmetic
34 sequence in ascending order of spectral efficiency, it means that starting from the
35 second entry of the said X entries, the difference in spectral efficiency between each
36 entry and its preceding entry is equal to the same constant; When the spectral
37 efficiency of the X entries with the largest CQI index in the said first CQI table is
38 arranged in an approximately arithmetic sequence in ascending order of spectral
39 efficiency, it means that starting from the second entry of the X entries, the difference
40 in spectral efficiency between each entry and its preceding entry falls within a range
41 defined by a constant minus a preset value and the same constant plus the preset value;
42 Here, the said X is an integer greater than 2;

43 Where, the spectral efficiency of the entries with the smallest CQI index among
44 the X entries with the largest CQI index in the said first CQI table is equal to the

1 spectral efficiency of the entries with the largest CQI index among all the entries in
2 the said second CQI table where the modulation method is 64QAM;

3 The spectral efficiency of the entries with the largest CQI index among the X
4 entries with the largest CQI index in the said first CQI table is:

5 The spectral efficiency of the entries with the largest CQI index among all the
6 entries in the said second CQI table where the modulation method is 64QAM,
7 multiplied by $\frac{4}{3}$;

8 Alternatively, 8 times the terminal's maximum coding rate, where the
9 maximum coding rate is a positive real number less than 1;

10 Or, 7.4063;

11 Or, 7.432.

12 9. The method based on any of Claims 1-3, 7 and 8, characterized in that the
13 spectral efficiency of the entry in the said first CQI table with modulation method of
14 higher than 64QAM comprises at least one of the following values:

$\{5.5547 \quad 6.1805 \quad 6.8062 \quad 7.432\}$,
 $\{6.1805 \quad 6.8062 \quad 7.432\}$,
 $\{5.5547 \quad 6.1797 \quad 6.8047 \quad 7.4297\}$,
 $\{6.1797 \quad 6.8047 \quad 7.4297\}$,
 $\{5.5547 \quad 6.1719 \quad 6.7891 \quad 7.4063\}$,
 $\{6.1719 \quad 6.7891 \quad 7.4063\}$,
 $\{5.5547 \quad 6.4934 \quad 7.432\}$,
 $\{6.4934 \quad 7.432\}$,
 $\{5.5547 \quad 6.4922 \quad 7.4297\}$,
 $\{6.4922 \quad 7.4297\}$,
 $\{5.5547 \quad 6.4805 \quad 7.4063\}$,
 $\{6.4805 \quad 7.4063\}$,
 $\{5.5547 \quad 6.4844 \quad 7.4063\}$,
 $\{6.4844 \quad 7.4063\}$,
 $\{5.5547 \quad 6.0240 \quad 6.4934 \quad 6.9627 \quad 7.432\}$,
 $\{6.0234 \quad 6.4922 \quad 6.9609 \quad 7.4297\}$,
 $\{5.5547 \quad 6.0234 \quad 6.4922 \quad 6.9609 \quad 7.4297\}$,

{6.0176 6.4805 6.9434 7.4063},
 {5.5547 6.0176 6.4805 6.9434 7.4063},
 {6.0176 6.4805 6.9434 7.4063},
 {5.5547 6.0156 6.4844 6.9453 7.4063},
 {6.0156 6.4844 6.9453 7.4063},
 { 5.5547 5.9302 6.3056 6.6811 7.0565 7.432},
 {5.9302 6.3056 6.6811 7.0565 7.432},
 { 5.5547 5.9297 6.3047 6.6797 7.0547 7.4297 },
 {5.9297 6.3047 6.6797 7.0547 7.4297 },
 { 5.5547 5.9250 6.2953 6.6656 7.0360 7.4063},
 {5.9250 6.2953 6.6656 7.0360 7.4063},
 { 5.5547 5.9219 6.2969 6.6641 7.0391 7.4063},
 {5.9219 6.2969 6.6641 7.0391 7.4063}。

10. The method based on Claim 1, characterized in that the range of values of CQI indexes in the said first CQI table is the same as the range of values of CQI indexes in the said second CQI table.

11. A notification method for Modulation and Coding Scheme (MCS), characterized in that it comprises:

Receiving the first Channel Quality Indicator (CQI) Number sent by the terminal (UE), and the said first CQI index is determined by the said UE based on the acquired first CQI table;

Determining the first MCS index based on the first CQI table acquired, the first MCS table acquired, and the first CQI index received;

Sending the said determined first MCS index to the said UE;

Wherein, the said first CQI table includes:

Entries for modulation methods higher than 64QAM;

The said first MCS table includes:

Entries for modulation methods higher than 64QAM;

The entries for at least one modulation method of QPSK in the said second

1 MCS table, and the entries for at least one said modulation method of QPSK includes
2 combinations formed from the entries for at least one modulation method of QPSK in
3 the said second MCS table, excluding the second combination. The said second
4 combination consists of the K largest consecutive MCS index corresponding to QPSK
5 in the said second MCS table, where K is equal to 4, or K is a positive integer less than
6 5, or K is a positive integer; and/or at least one entry for a 16QAM modulation method
7 in the said second MCS table;

8 The modulation methods in the said second MCS table include only QPSK,
9 16QAM, and 64QAM.

10 12. The method based on Claim 11, characterized in that,
11 the said first CQI table further comprises:

12 The entries for at least one modulation method of QPSK in the second CQI
13 table, and the entries for at least one said modulation method of QPSK includes
14 combinations formed from entries corresponding to QPSK in the said second CQI
15 table, excluding the first combination. The said first combination consists of the N
16 largest consecutive CQI index entries corresponding to QPSK in the said second CQI
17 table, where N is equal to 3, or N is a positive integer less than 4, or said N is a positive
18 integer; and/or the second CQI table includes entries for at least one modulation
19 method of 16QAM;

20 The modulation methods in the said second CQI table include only QPSK,
21 16QAM, and 64QAM.

22 13. The method based on Claim 11 or 12, characterized in that, based on the
23 acquired first CQI table, the first MCS table acquired, and the first CQI index received,
24 the determining the first MCS index comprises:

25 Determining the first TBS index and the first MCS index from the acquired
26 first PRB count, the first CQI table, the first MCS table, the first TBS table, and the
27 received first CQI index.

28 Where, the said first PRB count is the PRB count allocated by the base station
29 to the UE; or, the said first PRB count is the largest integer less than or equal to the
30 product of the PRB count allocated to the UE and a specific coefficient;

31 The said first TBS table includes at least one PRB count corresponding to each
32 TBS index, as well as the transmission block size corresponding to each PRB count;
33 the said first TBS table is the TBS table corresponding to the said first MCS table.

34 14. The method based on Claim 13, characterized in that,
35 the range of TBS index in the said first TBS table is from 0 to A, where A is a
36 positive integer less than or equal to 26; or, the range of TBS index in the said first
37 TBS table is from 0 to B, where B is a positive integer greater than or equal to 26, and
38 the transmission block size corresponding to TBS index from 0 to C in the said first
39 TBS table is the same as the transmission block size corresponding to TBS index from
40 0 to C in the second TBS table, where C is a non-negative integer less than or equal to
41 26. The range of TBS index in the said second TBS table is from 0 to 26, and the said
42 second TBS table includes at least one PRB count corresponding to each TBS index,
43 as well as the transmission block size corresponding to each PRB count.

44 15. The method based on Claim 13, characterized in that, based on the first CQI

1 table, the first PRB count, the first TBS table, and the first CQI index received,
2 determine first TBS index comprises:

3 Determining the first modulation method and first spectral efficiency
4 corresponding to the received first CQI index based on the first CQI table and the
5 received first CQI index;

6 Determining the first transmission block size transmitted to the said UE based
7 on the first PRB count and the first spectral efficiency;

8 Acquired the first TBS index corresponding to the said first transmission block
9 size described in the first TBS table and the first PRB count based on the first TBS
10 table.

11 16. The method based on any of Claims 13 to 15, characterized in that,
12 the said first TBS table includes a TBS index Y1, where for each PRB count,
13 the transmission block size corresponding to TBS index Y1 is greater than the
14 transmission block size corresponding to TBS index 25 in the said second TBS table,
15 and smaller than the transmission block size corresponding to TBS index 26 in the
16 said second TBS table; where the range of TBS index in the said second TBS table is
17 from 0 to 26, and the said second TBS table includes at least one PRB count
18 corresponding to each TBS index, as well as the transmission block size corresponding
19 to each PRB count.

20 17. The method based on any of Claims 13-15, characterized in that,
21 the said first TBS table includes TBS index Y2 and at least one of the following
22 TBS index Y2 in Table A, where any one of them includes a PRB count and the
23 transmission block size corresponding to that PRB count:

Table A

TBS index	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y2	648	1320	1992	2664	3368	4008	4584	5352	5992	6712
TBS index	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y2	7224	7992	8504	9144	9912	10680	11448	11832	12576	12960
TBS index	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y2	14112	14688	15264	15840	16416	16992	17568	18336	19080	19848
TBS index	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y2	20616	21384	22152	22920	22920	23688	24496	25456	25456	26416
TBS index	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y2	27376	27376	28336	29296	29296	30576	31704	31704	32856	32856
TBS index	PRB Count									
	51	52	53	54	55	56	57	58	59	60
27	34008	34008	35160	35160	36696	36696	37888	37888	39232	39232
TBS index	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y2	40576	40576	42368	42368	43816	43816	43816	45352	45352	46888
TBS index	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y2	46888	46888	48936	48936	48936	51024	51024	51024	52752	52752
TBS index	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y2	52752	55056	55056	55056	57336	57336	57336	59256	59256	59256
TBS index	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y2	59256	61664	61664	61664	63776	63776	63776	63776	66592	66592
TBS index	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y2	66592	66592	68808	68808	68808	71112	71112	71112	71112	73712

and/or,

The said first TBS table includes TBS index Y3, as well as at least one entry corresponding to TBS index Y3 in Tables B1, B2, B3, or B4, where any entries include a PRB count and the transmission block size corresponding to that PRB count;

Table B1

TBS inde x	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y3	936	1928	2856	3880	4776	5736	6712	7736	8504	9528
TBS inde x	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y3	10680	11448	12576	13536	14112	15264	16416	16992	18336	19080
TBS inde x	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y3	19848	21384	22152	22920	23688	24496	25456	26416	27376	28336
TBS inde x	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y3	29296	30576	31704	32856	34008	34008	35160	36696	37888	37888
TBS inde x	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y3	39232	40576	40576	42368	43816	43816	45352	45352	46888	46888
TBS inde x	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y3	48936	48936	51024	51024	52752	52752	55056	55056	57336	57336
TBS inde x	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y3	59256	59256	59256	61664	61664	63776	63776	63776	66592	66592
TBS inde x	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y3	68808	68808	71112	71112	71112	73712	73712	75376	76208	76208
TBS inde x	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y3	78704	78704	78704	81176	81176	81176	84760	84760	84760	84760
TBS inde x	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	87936	87936	90816	90816	90816	90816	93800	93800	93800	101840
TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	101840	101840	101840	101840	101840	101840	101840	101840	101840	101840

Table B2

TBS inde x	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	87936	87936	90816	90816	90816	90816	93800	93800	93800	93800

TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	97896	97896	97896	101840	101840	101840	101840	105528	105528

Table B3

TBS inde x	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y3	968	1992	2984	4008	4968	5992	6968	7992	8760	9912
TBS inde x	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y3	10680	11832	12960	13536	14688	15840	16992	17568	19080	19848
TBS inde x	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y3	20616	21384	22920	23688	24496	25456	26416	27376	28336	29296
TBS inde x	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y3	30576	31704	32856	34008	35160	35160	36696	37888	37888	39232
TBS inde x	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y3	40576	40576	42368	43816	43816	45352	46888	46888	48936	48936
TBS inde x	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y3	51024	51024	52752	52752	55056	55056	55056	57336	57336	59256
TBS inde x	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y3	59256	61664	61664	63776	63776	63776	66592	66592	68808	68808
TBS inde x	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y3	71112	71112	71112	73712	75376	76208	76208	76208	78704	78704
TBS inde x	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y3	81176	81176	81176	81176	84760	84760	84760	87936	87936	87936
TBS inde x	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	90816	90816	90816	93800	93800	93800	93800	97896	97896	97896
TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	97896	97896	97896	97896	97896	97896	97896	97896	97896

Table B4

TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	101840	101840	101840	105528	105528	105528	105528	105528	110136

and/or,

The said first TBS table includes TBS Number Y4_1 to Y4_5, as well as at least one entry in Tables C1 or C2 corresponding to TBS Number Y4_1 to Y4_5, where any entries include a PRB count and the five transmission block sizes

1 corresponding to that PRB count;

Table C1

TBS index	PRB									
	1	2	3	4	5 Count	6	7	8	9	10
Y4_1	680	1384	2088	2792	3496	4136	4968	5544	6200	6968
Y4_2	712	1480	2216	2984	3624	4392	5160	5992	6712	7224
Y4_3	744	1544	2280	3112	3880	4584	5352	6200	6968	7736
Y4_4	776	1608	2408	3240	4008	4776	5736	6456	7224	7992
Y4_5	840	1672	2536	3368	4264	5160	5992	6712	7480	8504
TBS index	PRB									
	11	12	13	14	15 Count	16	17	18	19	20
Y4_1	7736	8248	9144	9912	10296	11064	11832	12576	13536	14112
Y4_2	7992	8760	9528	10296	11064	11832	12576	12960	14112	14688
Y4_3	8504	9144	9912	10680	11448	12216	12960	14112	14688	15264
Y4_4	8760	9528	10680	11448	12216	12960	13536	14688	15264	16416
Y4_5	9144	10296	11064	11832	12576	13536	14112	15264	15840	16992
TBS index	PRB									
	21	22	23	24	25 Count	26	27	28	29	30
Y4_1	14688	15264	15840	16992	17568	18336	19080	19848	20616	20616
Y4_2	15264	16416	16992	17568	18336	19080	19848	20616	21384	22152
Y4_3	16416	16992	17568	18336	19080	19848	20616	21384	22152	22920
Y4_4	16992	17568	18336	19080	20616	21384	22152	22920	23688	24496
Y4_5	17568	18336	19848	20616	21384	22152	22920	23688	24496	25456
TBS index	PRB									
	31	32	33	34	35 Count	36	37	38	39	40
Y4_1	21384	22152	22920	23688	24496	25456	25456	26416	27376	28336
Y4_2	22920	23688	24496	25456	25456	26416	27376	28336	28336	29296
Y4_3	23688	24496	25456	26416	27376	27376	28336	29296	30576	30576
Y4_4	25456	25456	26416	27376	28336	29296	30576	30576	31704	32856
Y4_5	26416	27376	28336	28336	29296	30576	31704	31704	32856	34008
TBS index	PRB									
	41	42	43	44	45 Count	46	47	48	49	50
Y4_1	28336	29296	30576	30576	31704	31704	32856	34008	34008	35160
Y4_2	30576	30576	31704	32856	32856	34008	35160	35160	36696	36696
Y4_3	31704	32856	32856	34008	35160	35160	36696	36696	37888	39232
Y4_4	32856	34008	35160	35160	36696	37888	37888	39232	39232	40576
Y4_5	35160	35160	36696	37888	37888	39232	39232	40576	42368	42368
TBS index	PRB									
	51	52	53	54	55 Count	56	57	58	59	60
Y4_1	35160	36696	36696	37888	37888	39232	40576	40576	40576	42368
Y4_2	37888	37888	39232	39232	40576	40576	42368	42368	43816	43816
Y4_3	39232	40576	40576	42368	42368	43816	43816	45352	45352	46888
Y4_4	40576	42368	42368	43816	45352	45352	46888	46888	46888	48936
Y4_5	43816	43816	45352	45352	46888	46888	48936	48936	51024	51024
TBS index	PRB									
	61	62	63	64	65 Count	66	67	68	69	70
Y4_1	42368	43816	43816	45352	45352	46888	46888	46888	48936	48936
Y4_2	45352	45352	46888	46888	48936	48936	48936	51024	51024	51024
Y4_3	46888	48936	48936	48936	51024	51024	51024	52752	52752	55056
Y4_4	48936	51024	51024	52752	52752	52752	55056	55056	55056	57336
Y4_5	51024	52752	52752	55056	55056	55056	57336	57336	59256	59256

2

TBS index	PRB									
	71	72	73	74	75 Count	76	77	78	79	80
Y4_1	48936	51024	51024	51024	52752	52752	55056	55056	55056	55056
Y4_2	52752	52752	52752	55056	55056	55056	57336	57336	57336	59256
Y4_3	55056	55056	57336	57336	57336	59256	59256	59256	61664	61664
Y4_4	57336	59256	59256	59256	61664	61664	61664	63776	63776	63776
Y4_5	59256	61664	61664	63776	63776	63776	66592	66592	66592	68808
TBS index	PRB									
	81	82	83	84	85 Count	86	87	88	89	90
Y4_1	57336	57336	57336	59256	59256	59256	61664	61664	61664	63776
Y4_2	59256	59256	61664	61664	61664	63776	63776	63776	66592	66592
Y4_3	61664	63776	63776	63776	66592	66592	66592	68808	68808	68808
Y4_4	66592	66592	66592	68808	68808	68808	71112	71112	71112	73712
Y4_5	68808	68808	71112	71112	71112	73712	73712	75376	75376	76208
TBS index	PRB									
	91	92	93	94	95 Count	96	97	98	99	100
Y4_1	63776	63776	63776	66592	66592	66592	68808	68808	68808	71112
Y4_2	66592	68808	68808	68808	71112	71112	71112	71112	73712	73712
Y4_3	71112	71112	71112	73712	73712	73712	75376	76208	76208	76208
Y4_4	73712	75376	75376	76208	76208	78704	78704	78704	81176	81176
Y4_5	76208	78704	78704	78704	81176	81176	81176	84760	84760	84760
TBS index	PRB									
	101	102	103	104	105 Count	106	107	108	109	110
Y4_1	71112	71112	71112	73712	73712	73712	75376	75376	76208	76208
Y4_2	73712	75376	76208	76208	76208	78704	78704	78704	81176	81176
Y4_3	78704	78704	78704	81176	81176	81176	81176	84760	84760	84760
Y4_4	81176	81176	84760	84760	84760	84760	87936	87936	87936	87936
Y4_5	84760	87936	87936	87936	87936	90816	90816	90816	93800	93800

Table C2

TBS index	PRB									
	1	2	3	4	5 Count	6	7	8	9	10
Y4_1	680	1384	2088	2792	3496	4264	4968	5544	6200	6968
Y4_2	712	1480	2216	2984	3624	4392	5160	5992	6712	7224
Y4_3	744	1544	2344	3112	3880	4584	5352	6200	6968	7736
Y4_4	808	1608	2408	3240	4008	4968	5736	6456	7224	7992
Y4_5	840	1672	2536	3368	4264	5160	5992	6712	7736	8504
TBS index	PRB									
	11	12	13	14	15 Count	16	17	18	19	20
Y4_1	7736	8504	9144	9912	10680	11064	11832	12576	13536	14112
Y4_2	7992	8760	9528	10296	11064	11832	12576	13536	14112	14688
Y4_3	8504	9144	9912	10680	11448	12216	12960	14112	14688	15264
Y4_4	8760	9912	10680	11448	12216	12960	13536	14688	15264	16416
Y4_5	9144	10296	11064	11832	12576	13536	14688	15264	16416	16992
TBS index	PRB									
	21	22	23	24	25 Count	26	27	28	29	30
Y4_1	14688	15264	15840	16992	17568	18336	19080	19848	20616	21384
Y4_2	15264	16416	16992	17568	18336	19080	19848	20616	21384	22152
Y4_3	16416	16992	17568	18336	19080	19848	20616	21384	22152	22920
Y4_4	16992	17568	18336	19848	20616	21384	22152	22920	23688	24496
Y4_5	17568	18336	19848	20616	21384	22152	22920	23688	24496	25456
TBS index	PRB									
	31	32	33	34	35 Count	36	37	38	39	40
Y4_1	21384	22152	22920	23688	24496	25456	25456	26416	27376	28336
Y4_2	22920	23688	24496	25456	25456	26416	27376	28336	28336	29296
Y4_3	23688	24496	25456	26416	27376	28336	28336	29296	30576	30576
Y4_4	25456	26416	26416	27376	28336	29296	30576	30576	31704	32856
Y4_5	26416	27376	28336	29296	29296	30576	31704	32856	32856	34008
TBS index	PRB									
	41	42	43	44	45 Count	46	47	48	49	50
Y4_1	28336	29296	30576	30576	31704	31704	32856	34008	34008	35160

Y4_2	30576	30576	31704	32856	32856	34008	35160	35160	36696	36696
Y4_3	31704	32856	32856	34008	35160	35160	36696	36696	37888	39232
Y4_4	32856	34008	35160	35160	36696	37888	37888	39232	39232	40576
Y4_5	35160	35160	36696	37888	37888	39232	40576	40576	42368	42368
TBS index	PRB									
	51	52	53	54	55	Count 56	57	58	59	60
Y4_1	35160	36696	36696	37888	37888	39232	40576	40576	40576	42368
Y4_2	37888	37888	39232	39232	40576	40576	42368	42368	43816	43816
Y4_3	39232	40576	40576	42368	42368	43816	43816	45352	45352	46888
Y4_4	40576	42368	42368	43816	45352	45352	46888	46888	48936	48936
Y4_5	43816	43816	45352	45352	46888	46888	48936	48936	51024	51024
TBS index	PRB									
	61	62	63	64	65	Count 66	67	68	69	70
Y4_1	42368	43816	43816	45352	45352	46888	46888	46888	48936	48936
Y4_2	45352	45352	46888	46888	48936	48936	48936	51024	51024	51024
Y4_3	46888	48936	48936	48936	51024	51024	52752	52752	52752	55056
Y4_4	48936	51024	51024	52752	52752	52752	55056	55056	55056	57336
Y4_5	51024	52752	52752	55056	55056	55056	57336	57336	59256	59256
TBS index	PRB									
	71	72	73	74	75	Count 76	77	78	79	80
Y4_1	48936	51024	51024	51024	52752	52752	55056	55056	55056	55056
Y4_2	52752	52752	52752	55056	55056	55056	57336	57336	59256	59256
Y4_3	55056	55056	57336	57336	57336	59256	59256	61664	61664	61664
Y4_4	57336	59256	59256	59256	61664	61664	61664	63776	63776	63776
Y4_5	59256	61664	61664	63776	63776	63776	66592	66592	66592	68808
TBS index	PRB									
	81	82	83	84	85	Count 86	87	88	89	90
Y4_1	57336	57336	57336	59256	59256	59256	61664	61664	61664	63776
Y4_2	59256	61664	61664	61664	63776	63776	63776	63776	66592	66592
Y4_3	63776	63776	63776	63776	66592	66592	66592	68808	68808	68808
Y4_4	66592	66592	66592	68808	68808	68808	71112	71112	71112	73712
Y4_5	68808	68808	71112	71112	71112	73712	73712	75376	75376	76208
TBS index	PRB									
	91	92	93	94	95	Count 96	97	98	99	100
Y4_1	63776	63776	66592	66592	66592	66592	68808	68808	68808	71112
Y4_2	66592	68808	68808	68808	71112	71112	71112	71112	73712	73712
Y4_3	71112	71112	71112	73712	73712	73712	75376	76208	76208	78704
Y4_4	73712	75376	75376	76208	76208	78704	78704	78704	81176	81176
Y4_5	76208	78704	78704	78704	81176	81176	81176	84760	84760	84760
TBS index	PRB									
	101	102	103	104	105	Count 106	107	108	109	110
Y4_1	71112	71112	71112	73712	73712	73712	75376	75376	76208	76208
Y4_2	75376	75376	76208	76208	78704	78704	78704	78704	81176	81176
Y4_3	78704	78704	78704	81176	81176	81176	84760	84760	84760	84760
Y4_4	81176	81176	84760	84760	84760	84760	87936	87936	87936	90816
Y4_5	84760	87936	87936	87936	87936	90816	90816	90816	93800	93800

o.

18. The method based on any of Claims 12 to 17, characterized in that, entries for at least one modulation method of QPSK in the said second CQI table comprises:

The entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are evenly spaced; or,

The entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are unevenly spaced; or,

The entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are non-continuous, and at least one entry other than the one with the largest CQI index among all entries for modulation method of QPSK in the said second CQI table; or,

1 The entries in the said second CQI table where the modulation method is QPSK,
2 and the CQI index corresponding to the said entries are continuous, and at least one
3 entry other than the one with the largest CQI index among all the QPSK entries in the
4 said CQI table.

5 19. The method based on any one of Claims 12 to 17, characterized in that
6 entries for at least one modulation method of 16QAM in the second CQI table
7 comprises:

8 All entries in the said second CQI table where the modulation method is
9 16QAM; or,

10 At least one entry, other than the one corresponding to the smallest CQI index
11 among all the entries in the said second CQI table where the modulation method is
12 16QAM.

13 20. The method based on any of Claims 12-19, characterized in that the first
14 CQI table further comprises:

15 The entries for at least one modulation method of 64QAM in the said second
16 CQI table.

17 21. The method based on Claim 20, characterized in that entries for at least one
18 modulation method of 64QAM comprises:

19 All entries in the said second CQI table where the modulation method is
20 64QAM; or,

21 Partial entries in the said second CQI table where the modulation method is
22 64QAM, and at least one entry other than the one corresponding to the largest CQI
23 index among all the 64QAM entries in the said second CQI table.

24 22. The method based on Claim 12-21, characterized in that the spectral
25 efficiency of the entries with the smallest corresponding CQI index among the entries
26 in the said first CQI table with modulation method of higher than 64QAM is equal to
27 the spectral efficiency of the entries with the largest corresponding CQI index among
28 all entries in the said second CQI table with modulation method of 64QAM; or,

29 The spectral efficiency of the T entries with the smallest CQI index
30 corresponding to modulation methods higher than 64QAM is equal to or
31 approximately equal to the spectral efficiency of the T entries with the largest CQI
32 index among all the entries in the said second CQI table where the modulation method
33 is 64QAM, where T is any natural number between 1 and 5.

34 23. The method based on Claims 12 to 22, characterized in that the range of
35 values of CQI indexes in the said first CQI table is the same as the range of values of
36 CQI indexes in the said second CQI table.

37 24. The method based on any of Claims 11 to 15, characterized in that entries
38 for at least one modulation method of QPSK in the said second MCS table comprises:

39 The partial entries in the said second CQI table where the modulation method
40 is QPSK, and the CQI index corresponding to the said entries are evenly spaced; or,

41 The partial entries in the said second MCS table where the modulation method
42 is QPSK, and the MCS index corresponding to the said entries are unevenly spaced;
43 or,

44 The partial entries in the said second MCS table where the modulation method

1 is QPSK, and the MCS index corresponding to the said entries are non-continuous,
2 and at least one entry other than the one with the largest MCS index among all entries
3 for modulation method of QPSK in the said second MCS table; or,

4 The partial entries in the said second MCS table where the modulation method
5 is QPSK, and the MCS index corresponding to the said entries are continuous, and at
6 least one entry other than the one with the largest MCS index among all entries for
7 modulation method of QPSK in the said second MCS table.

8 25. The method based on any one of Claims 11-15, characterized in that entries
9 for at least one modulation method of 16QAM in the said second MCS table comprises:

10 All entries in the said second MCS table where the modulation method is
11 16QAM; or,

12 The partial entries in the said second MCS table where the modulation method
13 is 16QAM, and the MCS index corresponding to the said partial entries are evenly
14 spaced; or,

15 The partial entries in the said second MCS table where the modulation method
16 is 16QAM, and the MCS index corresponding to the said partial entries are unevenly
17 spaced; or,

18 The partial entries in the said second MCS table where the modulation method
19 is 16QAM, and the MCS index corresponding to the said partial entries are non-
20 continuous, and at least one entry other than the one with the largest second MCS
21 index among all entries for modulation method of 16QAM in the said second MCS
22 table;

23 The partial entries in the said second MCS table where the modulation method
24 is 16QAM, and the MCS index corresponding to the said partial entries are continuous,
25 and at least one entry other than the one with the largest second MCS index among all
26 entries for modulation method of 16QAM in the said second MCS table;

27 The partial entries in the said second MCS table where the modulation method
28 is 16QAM, and at least one entry other than the one with the largest and smallest MCS
29 index among all entries for modulation method of 16QAM in the said second MCS
30 table.

31 26. The method based on any of Claims 11-15, 24 and 25, characterized in that
32 the first MCS table further includes:

33 The entries for at least one modulation method of 64QAM in the said second
34 MCS table.

35 27. The method based on Claim 26, characterized in that entries for at least one
36 modulation method of 64QAM in the said second MCS table comprises:

37 All entries in the said second MCS table where the modulation method is
38 64QAM; or,

39 The partial entries in the said second MCS table where the modulation method
40 is 64QAM, and at least one entry other than the one with the smallest MCS index
41 among all entries for modulation method of 64QAM in the said second MCS table; or,

42 The partial entries in the said second MCS table where the modulation method
43 is 64QAM, and at least one entry other than the one with the largest MCS index among
44 all entries for modulation method of 64QAM in the said second MCS table.

1 28. The method based on Claim 26 or 27, characterized in that
2 the TBS index of the entries with the lowest MCS index among all entries in
3 the said first MCS table with a modulation method higher than 64QAM is the same as
4 the TBS index of the entries with the highest MCS index among all entries with a
5 modulation method of 64QAM in the said second MCS table; or,

6 The TBS index of the R entries with the smallest MCS index among the entries
7 in the said first MCS table with a modulation method higher than 64QAM is equal to
8 the TBS index of the R entries with the largest MCS index among all entries with
9 modulation method of 64QAM and MCS index not greater than 27 in the said second
10 MCS table; where R is a natural number.

11 29. The method based on any of Claims 11-15 and 24-28, characterized in that
12 the range of values of MCS indexes in the said first MCS table are the same as the
13 range of values of MCS indexes in the said second MCS table.

14 30. The method based on any of Claims 11-15, 17, 24-29, characterized in that
15 the said first MCS table further includes at least one of the following tables D1, D2,
16 D3, D4, or D5, where any one of them includes a MCS index, and the modulation
17 order and TBS index corresponding to the MCS index:

Table D1

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	11
7	4	12
8	4	13
9	4	14
10	4	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

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Table D2

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	11
7	4	12
8	4	13
9	4	14
10	4	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	6	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

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Table D3

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	12
7	4	13
8	4	14
9	4	15
10	6	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	8	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

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Table D4

MCS index I_{MCS}	Modulation order r	TBS index I_{TBS}
0	2^m	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	12
7	4	13
8	4	14
9	4	15
10	6	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

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Table D5

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	12
7	4	14
8	4	15
9	6	15
10	6	16
11	6	17
12	6	18
13	6	19
14	6	20
15	6	21
16	6	22
17	6	23
18	6	24
19	6	25
20	8	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

。

31. A notification method for Modulation and Coding Scheme (MCS), characterized in that it comprises:

the first MCS index sent by the receiving base station; the said first MCS index is determined by the base station based on the first MCS table;

Determine the modulation order and coding block size based on the first MCS table and the received first MCS index;

Where, the said first MCS table comprises:

Entries for modulation methods higher than 64QAM;

The entries for at least one modulation method of QPSK in the said second MCS table, and the entries for at least one said modulation method of QPSK includes combinations formed from the entries for at least one modulation method of QPSK in the said second MCS table, excluding the second combination. The said second combination consists of the K largest consecutive MCS index corresponding to QPSK in the said second MCS table, where K is equal to 4, or K is a positive integer less than

5, or K is a positive integer; and/or at least one entry for a 16QAM modulation method in the said second MCS table;

The modulation methods in the said second MCS table include only QPSK, 16QAM, and 64QAM.

32. The method based on Claim 31, characterized in that, the modulation order and the encoding block size determining based on the first MCS table and the received first MCS index comprises:

Determining the first TBS index and modulation order based on the first MCS table and the first MCS index received;

Determining the size of the coding block based on the first TBS index, first PRB count, and the first TBS table;

Where, the said first PRB count is the PRB count allocated by the base station to the UE; or, the said first PRB count is the largest integer less than or equal to the product of the PRB count allocated to the UE and a specific coefficient;

The said first TBS table includes at least one PRB count corresponding to each TBS index, as well as the transmission block size corresponding to each PRB count; the said first TBS table is the TBS table corresponding to the said first MCS table.

33. The method based on Claim 32, characterized in that, the range of TBS index in the said first TBS table is from 0 to A, where A is a positive integer less than or equal to 26; or, the range of TBS index in the said first TBS table is from 0 to B, where B is a positive integer greater than or equal to 26, and the transmission block size corresponding to TBS index from 0 to C in the said first TBS table is the same as the transmission block size corresponding to TBS index from 0 to C in the second TBS table, where C is a non-negative integer less than or equal to 26. The range of TBS index in the said second TBS table is from 0 to 26, and the said second TBS table includes at least one PRB count corresponding to each TBS index, as well as the transmission block size corresponding to each PRB count.

34. The method based on Claim 32 or 33, characterized in that, the said first TBS table includes a TBS index Y1, where for each PRB count, the transmission block size corresponding to TBS index Y1 is greater than the transmission block size corresponding to TBS index 25 in the said second TBS table, and smaller than the transmission block size corresponding to TBS index 26 in the said second TBS table; where the range of TBS index in the said second TBS table is from 0 to 26, and the said second TBS table includes at least one PRB count corresponding to each TBS index, as well as the transmission block size corresponding to each PRB count.

35. The method based on Claim 32 or 33, characterized in that, the said first TBS table includes TBS index Y2 and at least one of the following TBS index Y2 in Table A, where any one of them includes a PRB count and the transmission block size corresponding to that PRB count:

Table A

TBS index	PRB									
	1	2	3	4	5 Count	6	7	8	9	10
Y2	648	1320	1992	2664	3368	4008	4584	5352	5992	6712
TBS index	PRB									
	11	12	13	14	15 Count	16	17	18	19	20
Y2	7224	7992	8504	9144	9912	10680	11448	11832	12576	12960
TBS index	PRB									
	21	22	23	24	25 Count	26	27	28	29	30
Y2	14112	14688	15264	15840	16416	16992	17568	18336	19080	19848
TBS index	PRB									
	31	32	33	34	35 Count	36	37	38	39	40
Y2	20616	21384	22152	22920	22920	23688	24496	25456	25456	26416
TBS index	PRB									
	41	42	43	44	45 Count	46	47	48	49	50
Y2	27376	27376	28336	29296	29296	30576	31704	31704	32856	32856
TBS index	PRB									
	51	52	53	54	55 Count	56	57	58	59	60
Y2	34008	34008	35160	35160	36696	36696	37888	37888	39232	39232
TBS index	PRB									
	61	62	63	64	65 Count	66	67	68	69	70
Y2	40576	40576	42368	42368	43816	43816	43816	45352	45352	46888
TBS index	PRB									
	71	72	73	74	75 Count	76	77	78	79	80
Y2	46888	46888	48936	48936	48936	51024	51024	51024	52752	52752
TBS index	PRB									
	81	82	83	84	85 Count	86	87	88	89	90
Y2	52752	55056	55056	55056	57336	57336	57336	59256	59256	59256
TBS index	PRB									
	91	92	93	94	95 Count	96	97	98	99	100
Y2	59256	61664	61664	61664	63776	63776	63776	63776	66592	66592
TBS index	PRB									
	101	102	103	104	105 Count	106	107	108	109	110
Y2	66592	66592	68808	68808	68808	71112	71112	71112	71112	73712

and/or,

The said first TBS table includes TBS index Y3, as well as at least one entry corresponding to TBS index Y3 in Tables B1, B2, B3, or B4, where any entries include a PRB count and the transmission block size corresponding to that PRB count;

Table B1

TBS inde x	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y3	936	1928	2856	3880	4776	5736	6712	7736	8504	9528
TBS inde x	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y3	10680	11448	12576	13536	14112	15264	16416	16992	18336	19080
TBS inde x	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y3	19848	21384	22152	22920	23688	24496	25456	26416	27376	28336
TBS inde x	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y3	29296	30576	31704	32856	34008	34008	35160	36696	37888	37888
TBS inde x	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y3	39232	40576	40576	42368	43816	43816	45352	45352	46888	46888
TBS inde x	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y3	48936	48936	51024	51024	52752	52752	55056	55056	57336	57336
TBS inde x	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y3	59256	59256	59256	61664	61664	63776	63776	63776	66592	66592
TBS inde x	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y3	68808	68808	71112	71112	71112	73712	73712	75376	76208	76208
TBS inde x	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y3	78704	78704	78704	81176	81176	81176	84760	84760	84760	84760
TBS inde x	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	87936	87936	90816	90816	90816	90816	93800	93800	93800	101840
TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	101840	101840	101840	101840	101840	101840	101840	101840	101840	101840

Table B2

TBS inde x	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	87936	87936	90816	90816	90816	90816	93800	93800	93800	93800
TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	97896	97896	97896	101840	101840	101840	101840	105528	105528

Table B3

TBS inde x	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y3	968	1992	2984	4008	4968	5992	6968	7992	8760	9912
TBS inde x	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y3	10680	11832	12960	13536	14688	15840	16992	17568	19080	19848
TBS inde x	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y3	20616	21384	22920	23688	24496	25456	26416	27376	28336	29296
TBS inde x	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y3	30576	31704	32856	34008	35160	35160	36696	37888	37888	39232
TBS inde x	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y3	40576	40576	42368	43816	43816	45352	46888	46888	48936	48936
TBS inde x	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y3	51024	51024	52752	52752	55056	55056	55056	57336	57336	59256
TBS inde x	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y3	59256	61664	61664	63776	63776	63776	66592	66592	68808	68808
TBS inde x	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y3	71112	71112	71112	73712	75376	76208	76208	76208	78704	78704
TBS inde x	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y3	81176	81176	81176	81176	84760	84760	84760	87936	87936	87936
TBS inde x	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	90816	90816	90816	93800	93800	93800	93800	97896	97896	97896
TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	97896	97896	97896	97896	97896	97896	97896	97896	97896

Table B4

TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	101840	101840	101840	105528	105528	105528	105528	105528	110136

and/or,

The said first TBS table includes TBS Number Y4_1 to Y4_5, as well as at least one entry in Tables C1 or C2 corresponding to TBS Number Y4_1 to Y4_5, where any entries include a PRB count and the five transmission block sizes corresponding to that PRB count;

Table C1

TBS index	PRB									
	1	2	3	4	5	Count 6	7	8	9	10
Y4 1	680	1384	2088	2792	3496	4136	4968	5544	6200	6968
Y4 2	712	1480	2216	2984	3624	4392	5160	5992	6712	7224
Y4 3	744	1544	2280	3112	3880	4584	5352	6200	6968	7736
Y4 4	776	1608	2408	3240	4008	4776	5736	6456	7224	7992
Y4 5	840	1672	2536	3368	4264	5160	5992	6712	7480	8504

TBS index	PRB									
	11	12	13	14	15	Count 16	17	18	19	20
Y4 1	7736	8248	9144	9912	10296	11064	11832	12576	13536	14112
Y4 2	7992	8760	9528	10296	11064	11832	12576	12960	14112	14688
Y4 3	8504	9144	9912	10680	11448	12216	12960	14112	14688	15264
Y4 4	8760	9528	10680	11448	12216	12960	13536	14688	15264	16416
Y4 5	9144	10296	11064	11832	12576	13536	14112	15264	15840	16992

TBS index	PRB									
	21	22	23	24	25	Count 26	27	28	29	30
Y4 1	14688	15264	15840	16992	17568	18336	19080	19848	20616	20616
Y4 2	15264	16416	16992	17568	18336	19080	19848	20616	21384	22152
Y4 3	16416	16992	17568	18336	19080	19848	20616	21384	22152	22920
Y4 4	16992	17568	18336	19080	20616	21384	22152	22920	23688	24496
Y4 5	17568	18336	19848	20616	21384	22152	22920	23688	24496	25456

TBS index	PRB									
	31	32	33	34	35	Count 36	37	38	39	40
Y4 1	21384	22152	22920	23688	24496	25456	25456	26416	27376	28336
Y4 2	22920	23688	24496	25456	25456	26416	27376	28336	28336	29296
Y4 3	23688	24496	25456	26416	27376	27376	28336	29296	30576	30576
Y4 4	25456	25456	26416	27376	28336	29296	30576	30576	31704	32856
Y4 5	26416	27376	28336	28336	29296	30576	31704	31704	32856	34008

TBS index	PRB									
	41	42	43	44	45	Count 46	47	48	49	50
Y4 1	28336	29296	30576	30576	31704	31704	32856	34008	34008	35160
Y4 2	30576	30576	31704	32856	32856	34008	35160	35160	36696	36696
Y4 3	31704	32856	32856	34008	35160	35160	36696	36696	37888	39232
Y4 4	32856	34008	35160	35160	36696	37888	37888	39232	39232	40576
Y4 5	35160	35160	36696	37888	37888	39232	39232	40576	42368	42368

TBS index	PRB									
	51	52	53	54	55	Count 56	57	58	59	60
Y4 1	35160	36696	36696	37888	37888	39232	40576	40576	40576	42368
Y4 2	37888	37888	39232	39232	40576	40576	42368	42368	43816	43816
Y4 3	39232	40576	40576	42368	42368	43816	43816	45352	45352	46888
Y4 4	40576	42368	42368	43816	45352	45352	46888	46888	46888	48936
Y4 5	43816	43816	45352	45352	46888	46888	48936	48936	51024	51024

1
2
3

TBS index	PRB									
	61	62	63	64	65 Count	66	67	68	69	70
Y4_1	42368	43816	43816	45352	45352	46888	46888	46888	48936	48936
Y4_2	45352	45352	46888	46888	48936	48936	48936	51024	51024	51024
Y4_3	46888	48936	48936	48936	51024	51024	51024	52752	52752	55056
Y4_4	48936	51024	51024	52752	52752	52752	55056	55056	55056	57336
Y4_5	51024	52752	52752	55056	55056	55056	57336	57336	59256	59256
TBS index	PRB									
	71	72	73	74	75 Count	76	77	78	79	80
Y4_1	48936	51024	51024	51024	52752	52752	55056	55056	55056	55056
Y4_2	52752	52752	52752	55056	55056	55056	57336	57336	57336	59256
Y4_3	55056	55056	57336	57336	57336	59256	59256	59256	61664	61664
Y4_4	57336	59256	59256	59256	61664	61664	61664	63776	63776	63776
Y4_5	59256	61664	61664	63776	63776	63776	66592	66592	66592	68808
TBS index	PRB									
	81	82	83	84	85 Count	86	87	88	89	90
Y4_1	57336	57336	57336	59256	59256	59256	61664	61664	61664	63776
Y4_2	59256	59256	61664	61664	61664	63776	63776	63776	66592	66592
Y4_3	61664	63776	63776	63776	66592	66592	66592	68808	68808	68808
Y4_4	66592	66592	66592	68808	68808	68808	71112	71112	71112	73712
Y4_5	68808	68808	71112	71112	71112	73712	73712	75376	75376	76208
TBS index	PRB									
	91	92	93	94	95 Count	96	97	98	99	100
Y4_1	63776	63776	63776	66592	66592	66592	68808	68808	68808	71112
Y4_2	66592	68808	68808	68808	71112	71112	71112	71112	73712	73712
Y4_3	71112	71112	71112	73712	73712	73712	75376	76208	76208	76208
Y4_4	73712	75376	75376	76208	76208	78704	78704	78704	81176	81176
Y4_5	76208	78704	78704	78704	81176	81176	81176	84760	84760	84760
TBS index	PRB									
	101	102	103	104	105 Count	106	107	108	109	110
Y4_1	71112	71112	71112	73712	73712	73712	75376	75376	76208	76208
Y4_2	73712	75376	76208	76208	76208	78704	78704	78704	81176	81176
Y4_3	78704	78704	78704	81176	81176	81176	81176	84760	84760	84760
Y4_4	81176	81176	84760	84760	84760	84760	87936	87936	87936	87936
Y4_5	84760	87936	87936	87936	87936	90816	90816	90816	93800	93800

Table C2

TBS index	PRB									
	1	2	3	4	5 Count	6	7	8	9	10
Y4_1	680	1384	2088	2792	3496	4264	4968	5544	6200	6968
Y4_2	712	1480	2216	2984	3624	4392	5160	5992	6712	7224
Y4_3	744	1544	2344	3112	3880	4584	5352	6200	6968	7736
Y4_4	808	1608	2408	3240	4008	4968	5736	6456	7224	7992
Y4_5	840	1672	2536	3368	4264	5160	5992	6712	7736	8504
TBS index	PRB									
	11	12	13	14	15 Count	16	17	18	19	20
Y4_1	7736	8504	9144	9912	10680	11064	11832	12576	13536	14112
Y4_2	7992	8760	9528	10296	11064	11832	12576	13536	14112	14688
Y4_3	8504	9144	9912	10680	11448	12216	12960	14112	14688	15264
Y4_4	8760	9912	10680	11448	12216	12960	13536	14688	15264	16416
Y4_5	9144	10296	11064	11832	12576	13536	14688	15264	16416	16992
TBS index	PRB									
	21	22	23	24	25 Count	26	27	28	29	30
Y4_1	14688	15264	15840	16992	17568	18336	19080	19848	20616	21384
Y4_2	15264	16416	16992	17568	18336	19080	19848	20616	21384	22152
Y4_3	16416	16992	17568	18336	19080	19848	20616	21384	22152	22920
Y4_4	16992	17568	18336	19848	20616	21384	22152	22920	23688	24496
Y4_5	17568	18336	19848	20616	21384	22152	22920	23688	24496	25456
TBS index	PRB									
	31	32	33	34	35 Count	36	37	38	39	40
Y4_1	21384	22152	22920	23688	24496	25456	25456	26416	27376	28336

Y4_2	22920	23688	24496	25456	25456	26416	27376	28336	28336	29296
Y4_3	23688	24496	25456	26416	27376	28336	28336	29296	30576	30576
Y4_4	25456	26416	26416	27376	28336	29296	30576	30576	31704	32856
Y4_5	26416	27376	28336	29296	29296	30576	31704	32856	32856	34008
TBS index	PRB									
	41	42	43	44	45 Count	46	47	48	49	50
Y4_1	28336	29296	30576	30576	31704	31704	32856	34008	34008	35160
Y4_2	30576	30576	31704	32856	32856	34008	35160	35160	36696	36696
Y4_3	31704	32856	32856	34008	35160	35160	36696	36696	37888	39232
Y4_4	32856	34008	35160	35160	36696	37888	37888	39232	39232	40576
Y4_5	35160	35160	36696	37888	37888	39232	40576	40576	42368	42368
TBS index	PRB									
	51	52	53	54	55 Count	56	57	58	59	60
Y4_1	35160	36696	36696	37888	37888	39232	40576	40576	40576	42368
Y4_2	37888	37888	39232	39232	40576	40576	42368	42368	43816	43816
Y4_3	39232	40576	40576	42368	42368	43816	43816	45352	45352	46888
Y4_4	40576	42368	42368	43816	45352	45352	46888	46888	48936	48936
Y4_5	43816	43816	45352	45352	46888	46888	48936	48936	51024	51024
TBS index	PRB									
	61	62	63	64	65 Count	66	67	68	69	70
Y4_1	42368	43816	43816	45352	45352	46888	46888	46888	48936	48936
Y4_2	45352	45352	46888	46888	48936	48936	48936	51024	51024	51024
Y4_3	46888	48936	48936	48936	51024	51024	52752	52752	52752	55056
Y4_4	48936	51024	51024	52752	52752	52752	55056	55056	55056	57336
Y4_5	51024	52752	52752	55056	55056	55056	57336	57336	59256	59256
TBS index	PRB									
	71	72	73	74	75 Count	76	77	78	79	80
Y4_1	48936	51024	51024	51024	52752	52752	55056	55056	55056	55056
Y4_2	52752	52752	52752	55056	55056	55056	57336	57336	59256	59256
Y4_3	55056	55056	57336	57336	57336	59256	59256	61664	61664	61664
Y4_4	57336	59256	59256	59256	61664	61664	61664	63776	63776	63776
Y4_5	59256	61664	61664	63776	63776	63776	66592	66592	66592	68808
TBS index	PRB									
	81	82	83	84	85 Count	86	87	88	89	90
Y4_1	57336	57336	57336	59256	59256	59256	61664	61664	61664	63776
Y4_2	59256	61664	61664	61664	63776	63776	63776	63776	66592	66592
Y4_3	63776	63776	63776	63776	66592	66592	66592	68808	68808	68808
Y4_4	66592	66592	66592	68808	68808	68808	71112	71112	71112	73712
Y4_5	68808	68808	71112	71112	71112	73712	73712	75376	75376	76208
TBS index	PRB									
	91	92	93	94	95 Count	96	97	98	99	100
Y4_1	63776	63776	66592	66592	66592	66592	68808	68808	68808	71112
Y4_2	66592	68808	68808	68808	71112	71112	71112	71112	73712	73712
Y4_3	71112	71112	71112	73712	73712	73712	75376	76208	76208	78704
Y4_4	73712	75376	75376	76208	76208	78704	78704	78704	81176	81176
Y4_5	76208	78704	78704	78704	81176	81176	81176	84760	84760	84760
TBS index	PRB									
	101	102	103	104	105 Count	106	107	108	109	110
Y4_1	71112	71112	71112	73712	73712	73712	75376	75376	76208	76208
Y4_2	75376	75376	76208	76208	78704	78704	78704	78704	81176	81176
Y4_3	78704	78704	78704	81176	81176	81176	84760	84760	84760	84760
Y4_4	81176	81176	84760	84760	84760	84760	87936	87936	87936	90816
Y4_5	84760	87936	87936	87936	87936	90816	90816	90816	93800	93800

36. The method based on any of Claims 31 to 33, characterized in that entries for at least one modulation method of QPSK in the said second MCS table comprises:

The partial entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are evenly spaced; or,

1 The partial entries in the said second MCS table where the modulation method
2 is QPSK, and the MCS index corresponding to the said entries are unevenly spaced;
3 or,

4 The partial entries in the said second MCS table where the modulation method
5 is QPSK, and the MCS index corresponding to the said entries are non-continuous,
6 and at least one entry other than the one with the largest MCS index among all entries
7 for modulation method of QPSK in the said second MCS table; or,

8 The partial entries in the said second MCS table where the modulation method
9 is QPSK, and the corresponding MCS index of the partial entries is consecutive, and
10 at least one entry other than the one with the largest MCS Number among all entries
11 for modulation method of QPSK in the said second MCS table.

12 37. The method based on any one of Claims 31 to 33, characterized in that
13 entries for at least one modulation method of 16QAM in the said second MCS table
14 comprises:

15 All entries in the said second MCS table where the modulation method is
16 16QAM; or,

17 The partial entries in the said second MCS table where the modulation method
18 is 16QAM, and the MCS index corresponding to the said partial entries are evenly
19 spaced; or,

20 The partial entries in the said second MCS table where the modulation method
21 is 16QAM, and the MCS index corresponding to the said partial entries are unevenly
22 spaced; or,

23 The partial entries in the said second MCS table where the modulation method
24 is 16QAM, and the MCS index corresponding to the said partial entries are non-
25 continuous, and at least one entry other than the one with the largest second MCS
26 index among all entries for modulation method of 16QAM in the said second MCS
27 table; or

28 The partial entries in the said second MCS table where the modulation method
29 is 16QAM, and the MCS index corresponding to the said partial entries are continuous,
30 and at least one entry other than the one with the largest second MCS index among all
31 entries for modulation method of 16QAM in the said second MCS table; or

32 The partial entries in the said second MCS table where the modulation method
33 is 16QAM, and at least one entry other than the one with the largest and smallest MCS
34 index among all entries for modulation method of 16QAM in the said second MCS
35 table.

36 38. The method based on any of Claims 31 to 37, characterized in that the said
37 first MCS table further includes:

38 The entries for at least one modulation method of 64QAM in the said second
39 MCS table.

40 39. The method based on Claim 38, characterized in that entries for at least one
41 modulation method of 64QAM in the said second MCS table comprises:

42 All entries in the said second MCS table where the modulation method is
43 64QAM; or,

44 The partial entries in the said second MCS table where the modulation method

1 is 64QAM, and at least one entry other than the one with the smallest MCS index
2 among all entries for modulation method of 64QAM in the said second MCS table; or,

3 The partial entries in the said second MCS table where the modulation method
4 is 64QAM, and at least one entry other than the one with the largest MCS index among
5 all entries for modulation method of 64QAM in the said second MCS table.

6 40. The method based on Claim 38 or 39, characterized in that,
7 the TBS index of the entries with the lowest MCS index among all entries in
8 the said first MCS table with a modulation method higher than 64QAM is the same as
9 the TBS index of the entries with the highest MCS index among all entries with a
10 modulation method of 64QAM in the said second MCS table; or,

11 The TBS index of the R entries with the smallest MCS Number among the
12 entries in the said first MCS table with a modulation method higher than 64QAM is
13 equal to the TBS index of the R entries with the largest MCS Number among all entries
14 with modulation method of 64QAM and MCS Number not greater than 27 in the said
15 second MCS table; where R is a natural number.

16 41. The method based on any one of Claims 31-40, characterized in that the
17 range of values of MCS indexes in the said first MCS table are the same as the range
18 of values of MCS indexes in the second MCS table.

19 42. The method based on any one of Claims 31 to 41, characterized in that the
20 said first MCS table further includes at least one of the following tables D1, D2, D3,
21 D4, or D5, where any one of them includes a MCS index, and the modulation order
22 and TBS index corresponding to the MCS index:

Table D1

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	11
7	4	12
8	4	13
9	4	14
10	4	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

Table D2

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	11
7	4	12
8	4	13
9	4	14
10	4	15
11	6	16
12	6	17
13	6	18

14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	6	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

Table D3

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	12
7	4	13
8	4	14
9	4	15
10	6	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	8	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

Table D4

MCS index I_{MCS}	Modulation Order Q_m	TBS Index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	12
7	4	13
8	4	14
9	4	15
10	6	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

Table D5

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	12
7	4	14
8	4	15
9	6	15
10	6	16
11	6	17
12	6	18
13	6	19

14	6	20
15	6	21
16	6	22
17	6	23
18	6	24
19	6	25
20	8	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

43. A notification device for Channel Quality Indication (CQI), characterized in that it comprises:

an acquisition module for acquiring a first CQI table;

Acquisition module one: For obtains the first CQI index based on the acquired first CQI table by the said acquisition module;

Sending module: For sends the first CQI index acquired by the said acquisition module to the base station, so that the base station determines the first Modulation and Coding Scheme (MCS) index based on the first CQI index;

The first CQI table acquired by the said acquisition module includes:

Entries for modulation methods higher than 64-phases Quadrature Amplitude Modulation (QAM);

The entries for at least one modulation method of Quadrature Phase Shift Keying (QPSK) in the second CQI table, and the entries for at least one said modulation method of QPSK includes combinations formed from entries corresponding to QPSK in the said second CQI table, excluding the first combination. The said first combination consists of the N largest consecutive CQI index entries corresponding to QPSK in the said second CQI table, where N is equal to 3, or N is a positive integer less than 4, or said N is a positive integer; and/or the second CQI table includes entries for at least one modulation method of 16QAM;

Where, the modulation method for the entry in the said second CQI table only includes QPSK, 16QAM and 64QAM.

44. The device based on Claim 43, characterized in that the entries for at least one modulation method of QPSK in the second CQI table acquired by the said acquisition module from the first CQI table comprises:

The entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are evenly spaced; or,

The entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are unevenly spaced; or,

1 The entries in the said second CQI table where the modulation method is QPSK,
2 and the CQI index corresponding to the said entries are non-continuous, and at least
3 one entry other than the one with the largest CQI index among all entries for
4 modulation method of QPSK in the said second CQI table; or,

5 The entries in the said second CQI table where the modulation method is QPSK,
6 and the CQI index corresponding to the said entries are continuous, and at least one
7 entry other than the one with the largest CQI index among all the QPSK entries in the
8 said CQI table.

9 45. The device based on Claim 43, characterized in that the entries for at least
10 one modulation method of 16QAM in the said second CQI table acquired by the said
11 acquisition module from the first CQI table comprises:

12 All entries in the said second CQI table where the modulation method is
13 16QAM; or,

14 At least one entry, other than the one corresponding to the smallest CQI index
15 among all the entries in the said second CQI table where the modulation method is
16 16QAM.

17 46. The device based on any one of Claims 43 to 45, characterized in that the
18 said first CQI table acquired by the said acquisition module further comprises:

19 The entries for at least one modulation method of 64QAM in the said second
20 CQI table.

21 47. The device based on Claim 46, characterized in that the entries for at least
22 one modulation method of 64QAM acquired by the said acquisition module from the
23 first CQI table comprises:

24 All entries in the said second CQI table where the modulation method is
25 64QAM; or,

26 Partial entries in the said second CQI table where the modulation method is
27 64QAM, and at least one entry other than the one corresponding to the largest CQI
28 index among all the 64QAM entries in the said second CQI table.

29 48. The device based on Claim 43, characterized in that the spectral efficiency
30 of the entries with the smallest corresponding CQI index among the entries in the said
31 first CQI table with modulation method of higher than 64QAM is equal to the spectral
32 efficiency of the entries with the largest corresponding CQI index among all entries in
33 the said second CQI table with modulation method of 64QAM; or,

34 The spectral efficiency of the T entries with the smallest CQI index
35 corresponding to modulation methods higher than 64QAM in the said first CQI table
36 is equal to or approximately equal to the spectral efficiency of the T entries with the
37 largest CQI index among all the entries in the said second CQI table where the
38 modulation method is 64QAM, where T is any natural number between 1 and 5.

39 49. The device based on Claim 43, characterized in that the spectral efficiency
40 of the entries with the largest corresponding CQI index among the entries in the said
41 first CQI table with modulation method of higher than 64QAM is:

42 The spectral efficiency of the entries with the largest CQI index among all the
43 entries in the said second CQI table where the modulation method is 64QAM,
44 multiplied by $\frac{4}{3}$;

1 Alternatively, 8 times the terminal's maximum coding rate, where the
2 maximum coding rate is a positive real number less than 1;

3 Or, 7.4063;

4 Or, 7.432.

5 50. The device based on claim 43, characterized in that the spectral efficiencies
6 of the X entries with the largest CQI indices in the said first CQI tables, when arranged
7 in ascending order of spectral efficiency, form an arithmetic progression or an
8 approximately arithmetic progression; Where, when the spectral efficiency of the X
9 entries with the largest CQI index in the said first CQI table is arranged in an arithmetic
10 sequence in ascending order of spectral efficiency, it means that starting from the
11 second entry of the said X entries, the difference in spectral efficiency between each
12 entry and its preceding entry is equal to the same constant; When the spectral
13 efficiency of the X entries with the largest CQI index in the said first CQI table is
14 arranged in an approximately arithmetic sequence in ascending order of spectral
15 efficiency, it means that starting from the second entry of the X entries, the difference
16 in spectral efficiency between each entry and its preceding entry falls within a range
17 defined by a constant minus a preset value and the same constant plus the preset value;
18 Here, the said X is an integer greater than 2;

19 Where, the spectral efficiency of the entries with the smallest CQI index among
20 the X entries with the largest CQI index in the said first CQI table is equal to the
21 spectral efficiency of the entries with the largest CQI index among all the entries in
22 the said second CQI table where the modulation method is 64QAM;

23 The spectral efficiency of the entries with the largest CQI index among the X
24 entries with the largest CQI index in the said first CQI table is:

25 The spectral efficiency of the entries with the largest CQI index among all the
26 entries in the said second CQI table where the modulation method is 64QAM,
27 multiplied by 4/3;

28 Alternatively, 8 times the terminal's maximum coding rate, where the
29 maximum coding rate is a positive real number less than 1;

30 Or, 7.4063;

31 Or, 7.432.

32 51. The device based on any one of Claims 43-45, 49, and 50, characterized in
33 that the spectral efficiency of the entry in the said first CQI table with modulation
34 method of higher than 64QAM comprises at least one of the following values:

{5.5547 6.1805 6.8062 7.432} ,

{6.1805 6.8062 7.432},

{5.5547 6.1797 6.8047 7.4297},

{6.1797 6.8047 7.4297},

{ 5.5547 6.1719 6.7891 7.4063 },

{6.1719 6.7891 7.4063},

{5.5547 6.4934 7.432},

1
2
3

{6.4934 7.432},
{ 5.5547 6.4922 7.4297 },
{ 6.4922 7.4297 },
{ 5.5547 6.4805 7.4063},
{6.4805 7.4063},
{ 5.5547 6.4844 7.4063},
{6.4844 7.4063},
{5.5547 6.0240 6.4934 6.9627 7.432},
{6.0234 6.4922 6.9609 7.4297},
{5.5547 6.0234 6.4922 6.9609 7.4297 },
{6.0176 6.4805 6.9434 7.4063},
{5.5547 6.0176 6.4805 6.9434 7.4063},
{6.0176 6.4805 6.9434 7.4063},
{5.5547 6.0156 6.4844 6.9453 7.4063},
{6.0156 6.4844 6.9453 7.4063},
{ 5.5547 5.9302 6.3056 6.6811 7.0565 7.432},
{5.9302 6.3056 6.6811 7.0565 7.432},
{ 5.5547 5.9297 6.3047 6.6797 7.0547 7.4297 },
{5.9297 6.3047 6.6797 7.0547 7.4297 },
{ 5.5547 5.9250 6.2953 6.6656 7.0360 7.4063},
{5.9250 6.2953 6.6656 7.0360 7.4063},

{ 5.5547 5.9219 6.2969 6.6641 7.0391 7.4063 };

{ 5.9219 6.2969 6.6641 7.0391 7.4063 }。

52. The device based on Claim 43, characterized in that the range of values of CQI indexes in the said first CQI table acquired by the said acquisition module is the same as the range of values of CQI indexes in the said second CQI table.

53. A notification device for Modulation and Coding Scheme (MCS), characterized in that it comprises:

an acquisition module for acquiring a first CQI table and a first MCS table;

Receiving module: For receive the first Channel Quality Indicator (CQI) Number sent by the terminal (UE), and the said first CQI index is determined by the said UE based on the acquired first CQI table;

Determining module: For determines a first MCS index from a first CQI table acquired by an acquisition module, a first MCS table acquired by an acquisition module, and a first CQI index received by the said receiving module;

Sending module: For sends the said determined first MCS index to the said UE;

Where, the first CQI table acquired by the said acquisition module includes: Entries for modulation methods higher than 64QAM;

The first MCS table acquired by the said acquisition module comprises:

Entries for modulation methods higher than 64QAM;

The entries for at least one modulation method of QPSK in the said second MCS table, and the entries for at least one said modulation method of QPSK includes combinations formed from the entries for at least one modulation method of QPSK in the said second MCS table, excluding the second combination. The said second combination consists of the K largest consecutive MCS index corresponding to QPSK in the said second MCS table, where K is equal to 4, or K is a positive integer less than 5, or K is a positive integer; and/or at least one entry for a 16QAM modulation method in the said second MCS table;

The modulation methods in the said second MCS table include only QPSK, 16QAM, and 64QAM.

54. The device based on Claim 53, characterized in that, the said first CQI table further comprises:

The entries for at least one modulation method of QPSK in the second CQI table, and the entries for at least one said modulation method of QPSK includes combinations formed from entries corresponding to QPSK in the said second CQI table, excluding the first combination. The said first combination consists of the N largest consecutive CQI index entries corresponding to QPSK in the said second CQI table, where N is equal to 3, or N is a positive integer less than 4, or said N is a positive integer; and/or the second CQI table includes entries for at least one modulation method of 16QAM;

The modulation methods in the said second CQI table include only QPSK, 16QAM, and 64QAM.

55. The device based on Claim 53 or 54, characterized in that the said

1 determining module is specifically used to:

2 Determining the first TBS index and the first MCS index based on the acquired
3 first PRB count, the first CQI table acquired by the said acquisition module, the first
4 TBS table, and the received first CQI index;

5 Where, the said first PRB count is the PRB count allocated by the base station
6 to the UE; or, the said first PRB count is the largest integer less than or equal to the
7 product of the PRB count allocated to the UE and a specific coefficient;

8 The said first TBS table includes at least one PRB count corresponding to each
9 TBS index, as well as the transmission block size corresponding to each PRB count;
10 the said first TBS table is the TBS table corresponding to the said first MCS table.

11 56. The device based on Claim 55, characterized in that,
12 the range of TBS index in the said first TBS table is from 0 to A, where A is a
13 positive integer less than or equal to 26; or, the range of TBS index in the said first
14 TBS table is from 0 to B, where B is a positive integer greater than or equal to 26, and
15 the transmission block size corresponding to TBS index from 0 to C in the said first
16 TBS table is the same as the transmission block size corresponding to TBS index from
17 0 to C in the second TBS table, where C is a non-negative integer less than or equal to
18 26. The range of TBS index in the said second TBS table is from 0 to 26, and the said
19 second TBS table includes at least one PRB count corresponding to each TBS index,
20 as well as the transmission block size corresponding to each PRB count.

21
22 57. The device based on Claim 55, characterized in that the said determining
23 module comprises:

24 First determined sub-module: For determining a first modulation method and a
25 first spectral efficiency corresponding to the received first CQI index based on the first
26 CQI table acquired by the said acquisition module and the first CQI index received by
27 the receiving module;

28 Second determined sub-module: The said first spectral efficiency determined
29 based on a first PRB count and the first determining submodule for the acquisition,
30 acquired a first transport block size for transmit to the said UE;

31 Acquired the first TBS index corresponding to the said first transmission block
32 size determined by the second determining module described in the first TBS table and
33 the first PRB count based on the first TBS table.

34 58. The device based on any one of Claims 55 to 57, characterized in that,
35 the said first TBS table includes a TBS index Y1, where for each PRB count,
36 the transmission block size corresponding to TBS index Y1 is greater than the
37 transmission block size corresponding to TBS index 25 in the said second TBS table,
38 and smaller than the transmission block size corresponding to TBS index 26 in the
39 said second TBS table; where the range of TBS index in the said second TBS table is
40 from 0 to 26, and the said second TBS table includes at least one PRB count
41 corresponding to each TBS index, as well as the transmission block size corresponding
42 to each PRB count.

43 59. The device based on any one of Claims 55 to 57, characterized in that,
44 the said first TBS table includes TBS index Y2 and at least one of the following

- 1 TBS index Y2 in Table A, where any one of them includes a PRB count and the
 2 transmission block size corresponding to that PRB count:

TBS index	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y2	648	1320	1992	2664	3368	4008	4584	5352	5992	6712

TBS index	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y2	7224	7992	8504	9144	9912	10680	11448	11832	12576	12960

TBS index	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y2	14112	14688	15264	15840	16416	16992	17568	18336	19080	19848

TBS index	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y2	20616	21384	22152	22920	22920	23688	24496	25456	25456	26416

TBS index	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y2	27376	27376	28336	29296	29296	30576	31704	31704	32856	32856

TBS index	PRB Count									
	51	52	53	54	55	56	57	58	59	60
27	34008	34008	35160	35160	36696	36696	37888	37888	39232	39232

TBS index	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y2	40576	40576	42368	42368	43816	43816	43816	45352	45352	46888

TBS index	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y2	46888	46888	48936	48936	48936	51024	51024	51024	52752	52752

TBS index	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y2	52752	55056	55056	55056	57336	57336	57336	59256	59256	59256

TBS index	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y2	59256	61664	61664	61664	63776	63776	63776	63776	66592	66592

TBS index	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y2	66592	66592	68808	68808	68808	71112	71112	71112	71112	73712

and/or,

- 7 The said first TBS table includes TBS index Y3, as well as at least one entry
 8 corresponding to TBS index Y3 in Tables B1, B2, B3, or B4, where any entries include
 9 a PRB count and the transmission block size corresponding to that PRB count;

Table B1

TBS inde x	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y3	936	1928	2856	3880	4776	5736	6712	7736	8504	9528
TBS inde x	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y3	10680	11448	12576	13536	14112	15264	16416	16992	18336	19080
TBS inde x	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y3	19848	21384	22152	22920	23688	24496	25456	26416	27376	28336
TBS inde x	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y3	29296	30576	31704	32856	34008	34008	35160	36696	37888	37888

TBS inde x	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y3	39232	40576	40576	42368	43816	43816	45352	45352	46888	46888
TBS inde x	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y3	48936	48936	51024	51024	52752	52752	55056	55056	57336	57336
TBS inde x	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y3	59256	59256	59256	61664	61664	63776	63776	63776	66592	66592
TBS inde x	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y3	68808	68808	71112	71112	71112	73712	73712	75376	76208	76208
TBS inde x	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y3	78704	78704	78704	81176	81176	81176	84760	84760	84760	84760
TBS inde x	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	87936	87936	90816	90816	90816	90816	93800	93800	93800	101840
TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	101840	101840	101840	101840	101840	101840	101840	101840	101840	101840

Table B2

TBS inde x	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	87936	87936	90816	90816	90816	90816	93800	93800	93800	93800
TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	97896	97896	97896	101840	101840	101840	101840	105528	105528

Table B3

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TBS inde x	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y3	968	1992	2984	4008	4968	5992	6968	7992	8760	9912
TBS inde x	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y3	10680	11832	12960	13536	14688	15840	16992	17568	19080	19848
TBS inde x	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y3	20616	21384	22920	23688	24496	25456	26416	27376	28336	29296
TBS inde x	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y3	30576	31704	32856	34008	35160	35160	36696	37888	37888	39232

TBS inde x	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y3	40576	40576	42368	43816	43816	45352	46888	46888	48936	48936
TBS inde x	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y3	51024	51024	52752	52752	55056	55056	55056	57336	57336	59256
TBS inde x	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y3	59256	61664	61664	63776	63776	63776	66592	66592	68808	68808
TBS inde x	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y3	71112	71112	71112	73712	75376	76208	76208	76208	78704	78704
TBS inde x	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y3	81176	81176	81176	81176	84760	84760	84760	87936	87936	87936
TBS inde x	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	90816	90816	90816	93800	93800	93800	93800	97896	97896	97896
TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	97896	97896	97896	97896	97896	97896	97896	97896	97896

Table B4

TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	101840	101840	101840	105528	105528	105528	105528	105528	110136

and/or,

The said first TBS table includes TBS index Y4_1 to Y4_5, as well as at least one entry in Tables C1 or C2 corresponding to TBS index Y4_1 to Y4_5, where any entries include a PRB count and the five transmission block sizes corresponding to that PRB count;

Table C1

TBS inde	PRB									
	1	2	3	4	5	Count 6	7	8	9	10
Y4_1	680	1384	2088	2792	3496	4136	4968	5544	6200	6968
Y4_2	712	1480	2216	2984	3624	4392	5160	5992	6712	7224
Y4_3	744	1544	2280	3112	3880	4584	5352	6200	6968	7736
Y4_4	776	1608	2408	3240	4008	4776	5736	6456	7224	7992
Y4_5	840	1672	2536	3368	4264	5160	5992	6712	7480	8504
TBS inde	PRB									
	11	12	13	14	15	Count 16	17	18	19	20
Y4_1	7736	8248	9144	9912	10296	11064	11832	12576	13536	14112
Y4_2	7992	8760	9528	10296	11064	11832	12576	12960	14112	14688
Y4_3	8504	9144	9912	10680	11448	12216	12960	14112	14688	15264
Y4_4	8760	9528	10680	11448	12216	12960	13536	14688	15264	16416

1

Y4 5	9144	10296	11064	11832	12576	13536	14112	15264	15840	16992
TBS inde	PRB									
x	21	22	23	24	25 Count	26	27	28	29	30
Y4 1	14688	15264	15840	16992	17568	18336	19080	19848	20616	20616
Y4 2	15264	16416	16992	17568	18336	19080	19848	20616	21384	22152
Y4 3	16416	16992	17568	18336	19080	19848	20616	21384	22152	22920
Y4 4	16992	17568	18336	19080	20616	21384	22152	22920	23688	24496
Y4 5	17568	18336	19848	20616	21384	22152	22920	23688	24496	25456
TBS inde	PRB									
x	31	32	33	34	35 Count	36	37	38	39	40
Y4 1	21384	22152	22920	23688	24496	25456	25456	26416	27376	28336
Y4 2	22920	23688	24496	25456	25456	26416	27376	28336	28336	29296
Y4 3	23688	24496	25456	26416	27376	27376	28336	29296	30576	30576
Y4 4	25456	25456	26416	27376	28336	29296	30576	30576	31704	32856
Y4 5	26416	27376	28336	28336	29296	30576	31704	31704	32856	34008
TBS inde	PRB									
x	41	42	43	44	45 Count	46	47	48	49	50
Y4 1	28336	29296	30576	30576	31704	31704	32856	34008	34008	35160
Y4 2	30576	30576	31704	32856	32856	34008	35160	35160	36696	36696
Y4 3	31704	32856	32856	34008	35160	35160	36696	36696	37888	39232
Y4 4	32856	34008	35160	35160	36696	37888	37888	39232	39232	40576
Y4 5	35160	35160	36696	37888	37888	39232	39232	40576	42368	42368
TBS inde	PRB									
x	51	52	53	54	55 Count	56	57	58	59	60
Y4 1	35160	36696	36696	37888	37888	39232	40576	40576	40576	42368
Y4 2	37888	37888	39232	39232	40576	40576	42368	42368	43816	43816
Y4 3	39232	40576	40576	42368	42368	43816	43816	45352	45352	46888
Y4 4	40576	42368	42368	43816	45352	45352	46888	46888	46888	48936
Y4 5	43816	43816	45352	45352	46888	46888	48936	48936	51024	51024
TBS inde	PRB									
x	61	62	63	64	65 Count	66	67	68	69	70
Y4 1	42368	43816	43816	45352	45352	46888	46888	46888	48936	48936
Y4 2	45352	45352	46888	46888	48936	48936	48936	51024	51024	51024
Y4 3	46888	48936	48936	48936	51024	51024	51024	52752	52752	55056
Y4 4	48936	51024	51024	52752	52752	52752	55056	55056	55056	57336
Y4 5	51024	52752	52752	55056	55056	55056	57336	57336	59256	59256
TBS inde	PRB									
x	71	72	73	74	75 Count	76	77	78	79	80
Y4 1	48936	51024	51024	51024	52752	52752	55056	55056	55056	55056
Y4 2	52752	52752	52752	55056	55056	55056	57336	57336	57336	59256
Y4 3	55056	55056	57336	57336	57336	59256	59256	59256	61664	61664
Y4 4	57336	59256	59256	59256	61664	61664	61664	63776	63776	63776
Y4 5	59256	61664	61664	63776	63776	63776	66592	66592	66592	68808
TBS inde	PRB									
x	81	82	83	84	85 Count	86	87	88	89	90
Y4 1	57336	57336	57336	59256	59256	59256	61664	61664	61664	63776
Y4 2	59256	59256	61664	61664	61664	63776	63776	63776	66592	66592
Y4 3	61664	63776	63776	63776	66592	66592	66592	68808	68808	68808
Y4 4	66592	66592	66592	68808	68808	68808	71112	71112	71112	73712
Y4 5	68808	68808	71112	71112	71112	73712	73712	75376	75376	76208
TBS inde	PRB									
x	91	92	93	94	95 Count	96	97	98	99	100
Y4 1	63776	63776	63776	66592	66592	66592	68808	68808	68808	71112
Y4 2	66592	68808	68808	68808	71112	71112	71112	71112	73712	73712
Y4 3	71112	71112	71112	73712	73712	73712	75376	76208	76208	76208
Y4 4	73712	75376	75376	76208	76208	78704	78704	78704	81176	81176
Y4 5	76208	78704	78704	78704	81176	81176	81176	84760	84760	84760
TBS inde	PRB									
x	101	102	103	104	105 Count	106	107	108	109	110
Y4 1	71112	71112	71112	73712	73712	73712	75376	75376	76208	76208
Y4 2	73712	75376	76208	76208	76208	78704	78704	78704	81176	81176
Y4 3	78704	78704	78704	81176	81176	81176	81176	84760	84760	84760

Y4 4	81176	81176	84760	84760	84760	84760	87936	87936	87936	87936
Y4 5	84760	87936	87936	87936	87936	90816	90816	90816	93800	93800

Table C2

TBS inde x	PRB									
	1	2	3	4	5 Count	6	7	8	9	10
Y4 1	680	1384	2088	2792	3496	4264	4968	5544	6200	6968
Y4 2	712	1480	2216	2984	3624	4392	5160	5992	6712	7224
Y4 3	744	1544	2344	3112	3880	4584	5352	6200	6968	7736
Y4 4	808	1608	2408	3240	4008	4968	5736	6456	7224	7992
Y4 5	840	1672	2536	3368	4264	5160	5992	6712	7736	8504
TBS inde x	PRB									
	11	12	13	14	15 Count	16	17	18	19	20
Y4 1	7736	8504	9144	9912	10680	11064	11832	12576	13536	14112
Y4 2	7992	8760	9528	10296	11064	11832	12576	13536	14112	14688
Y4 3	8504	9144	9912	10680	11448	12216	12960	14112	14688	15264
Y4 4	8760	9912	10680	11448	12216	12960	13536	14688	15264	16416
Y4 5	9144	10296	11064	11832	12576	13536	14688	15264	16416	16992
TBS inde x	PRB									
	21	22	23	24	25 Count	26	27	28	29	30
Y4 1	14688	15264	15840	16992	17568	18336	19080	19848	20616	21384
Y4 2	15264	16416	16992	17568	18336	19080	19848	20616	21384	22152
Y4 3	16416	16992	17568	18336	19080	19848	20616	21384	22152	22920
Y4 4	16992	17568	18336	19848	20616	21384	22152	22920	23688	24496
Y4 5	17568	18336	19848	20616	21384	22152	22920	23688	24496	25456
TBS inde x	PRB									
	31	32	33	34	35 Count	36	37	38	39	40
Y4 1	21384	22152	22920	23688	24496	25456	25456	26416	27376	28336
Y4 2	22920	23688	24496	25456	25456	26416	27376	28336	28336	29296
Y4 3	23688	24496	25456	26416	27376	28336	28336	29296	30576	30576
Y4 4	25456	26416	26416	27376	28336	29296	30576	30576	31704	32856
Y4 5	26416	27376	28336	29296	29296	30576	31704	32856	32856	34008
TBS inde x	PRB									
	41	42	43	44	45 Count	46	47	48	49	50
Y4 1	28336	29296	30576	30576	31704	31704	32856	34008	34008	35160
Y4 2	30576	30576	31704	32856	32856	34008	35160	35160	36696	36696
Y4 3	31704	32856	32856	34008	35160	35160	36696	36696	37888	39232
Y4 4	32856	34008	35160	35160	36696	37888	37888	39232	39232	40576
Y4 5	35160	35160	36696	37888	37888	39232	40576	40576	42368	42368
TBS inde x	PRB									
	51	52	53	54	55 Count	56	57	58	59	60
Y4 1	35160	36696	36696	37888	37888	39232	40576	40576	40576	42368
Y4 2	37888	37888	39232	39232	40576	40576	42368	42368	43816	43816
Y4 3	39232	40576	40576	42368	42368	43816	43816	45352	45352	46888
Y4 4	40576	42368	42368	43816	45352	45352	46888	46888	48936	48936
Y4 5	43816	43816	45352	45352	46888	46888	48936	48936	51024	51024
TBS inde x	PRB									
	61	62	63	64	65 Count	66	67	68	69	70
Y4 1	42368	43816	43816	45352	45352	46888	46888	46888	48936	48936
Y4 2	45352	45352	46888	46888	48936	48936	48936	51024	51024	51024
Y4 3	46888	48936	48936	48936	51024	51024	52752	52752	52752	55056
Y4 4	48936	51024	51024	52752	52752	52752	55056	55056	55056	57336
Y4 5	51024	52752	52752	55056	55056	55056	57336	57336	59256	59256
TBS inde x	PRB									
	71	72	73	74	75 Count	76	77	78	79	80
Y4 1	48936	51024	51024	51024	52752	52752	55056	55056	55056	55056
Y4 2	52752	52752	52752	55056	55056	55056	57336	57336	59256	59256
Y4 3	55056	55056	57336	57336	57336	59256	59256	61664	61664	61664
Y4 4	57336	59256	59256	59256	61664	61664	61664	63776	63776	63776
Y4 5	59256	61664	61664	63776	63776	63776	66592	66592	66592	68808

TBS inde x	PRB										
	81	82	83	84	85	Count	86	87	88	89	90
Y4_1	57336	57336	57336	59256	59256	59256	61664	61664	61664	63776	
Y4_2	59256	61664	61664	61664	63776	63776	63776	63776	66592	66592	66592
Y4_3	63776	63776	63776	63776	66592	66592	66592	66592	68808	68808	68808
Y4_4	66592	66592	66592	68808	68808	68808	71112	71112	71112	73712	
Y4_5	68808	68808	71112	71112	71112	73712	73712	73712	75376	75376	76208

TBS inde x	PRB										
	91	92	93	94	95	Count	96	97	98	99	100
Y4_1	63776	63776	66592	66592	66592	66592	68808	68808	68808	71112	
Y4_2	66592	68808	68808	68808	71112	71112	71112	71112	73712	73712	
Y4_3	71112	71112	71112	73712	73712	73712	75376	76208	76208	78704	
Y4_4	73712	75376	75376	76208	76208	78704	78704	78704	78704	81176	81176
Y4_5	76208	78704	78704	78704	81176	81176	81176	81176	84760	84760	84760

TBS inde x	PRB										
	101	102	103	104	105	Count	106	107	108	109	110
Y4_1	71112	71112	71112	73712	73712	73712	75376	75376	76208	76208	
Y4_2	75376	75376	76208	76208	78704	78704	78704	78704	81176	81176	
Y4_3	78704	78704	78704	81176	81176	81176	84760	84760	84760	84760	
Y4_4	81176	81176	84760	84760	84760	84760	87936	87936	87936	90816	
Y4_5	84760	87936	87936	87936	87936	90816	90816	90816	90816	93800	93800

60. The device based on any one of Claims 54 to 59, characterized in that entries for at least one modulation method of QPSK in the said second CQI table acquired by the said acquisition module in the first CQI table comprises:

The entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are evenly spaced; or,

The entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are unevenly spaced; or,

The entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are non-continuous, and at least one entry other than the one with the largest CQI index among all entries for modulation method of QPSK in the said second CQI table; or,

The entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are continuous, and at least one entry other than the one with the largest CQI index among all the QPSK entries in the said CQI table.

61. The device based on any one of Claims 54 to 59, characterized in that entries for at least one modulation method of 16QAM in the said second CQI table acquired by the said acquisition module in the first CQI table comprises:

All entries in the said second CQI table where the modulation method is 16QAM; or,

At least one entry, other than the one corresponding to the smallest CQI index among all the entries in the said second CQI table where the modulation method is 16QAM.

62. The device based on any one of Claims 54 to 61, characterized in that the said first CQI table acquired by the said acquisition module further comprises:

The entries for at least one modulation method of 64QAM in the said second CQI table.

63. The device based on Claim 62, characterized in that the entries for at least one modulation method of 64QAM in the said second CQI table acquired by the said acquisition module from the first CQI table comprises:

All entries in the said second CQI table where the modulation method is 64QAM; or,

Partial entries in the said second CQI table where the modulation method is 64QAM, and at least one entry other than the one corresponding to the largest CQI index among all the 64QAM entries in the said second CQI table.

64. The device based on any one of Claims 54 to 63, characterized in that the spectral efficiency of the entries with the smallest corresponding CQI index among the entries in the said first CQI table with modulation method of higher than 64QAM is equal to the spectral efficiency of the entries with the largest corresponding CQI index among all entries in the said second CQI table with modulation method of 64QAM; or,

The spectral efficiency of the T entries with the smallest CQI index corresponding to modulation methods higher than 64QAM in the said first CQI table is equal to or approximately equal to the spectral efficiency of the T entries with the largest CQI index among all the entries in the said second CQI table where the modulation method is 64QAM, where T is any natural number between 1 and 5.

65. The device based on any one of Claims 54 to 64, characterized in that the range of values of CQI indexes in the said first CQI table acquired by the said acquisition module is the same as the range of values of CQI indexes in the said second CQI table.

66. The device based on any of Claims 53-57, characterized in that entries for at least one modulation method of QPSK in the first MCS table and the said second MCS table acquired by the said acquisition module comprises:

The partial entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are evenly spaced; or,

The partial entries in the said second MCS table where the modulation method is QPSK, and the MCS index corresponding to the said entries are unevenly spaced; or,

The partial entries in the said second MCS table where the modulation method is QPSK, and the MCS index corresponding to the said entries are non-continuous, and at least one entry other than the one with the largest MCS index among all entries for modulation method of QPSK in the said second MCS table; or,

The partial entries in the said second MCS table where the modulation method is QPSK, and the corresponding MCS index of the partial entries is consecutive, and at least one entry other than the one with the largest MCS Number among all entries for modulation method of QPSK in the said second MCS table.

67. The device based on any one of Claims 53 to 57, characterized in that entries for at least one modulation method of 16QAM in the said second MCS table acquired by the said acquisition module in the first CQI table comprises:

All entries in the said second MCS table where the modulation method is 16QAM; or,

1 The partial entries in the said second MCS table where the modulation method
2 is 16QAM, and the MCS index corresponding to the said partial entries are evenly
3 spaced; or,

4 The partial entries in the said second MCS table where the modulation method
5 is 16QAM, and the MCS index corresponding to the said partial entries are unevenly
6 spaced; or,

7 The partial entries in the said second MCS table where the modulation method
8 is 16QAM, and the MCS index corresponding to the said partial entries are non-
9 continuous, and at least one entry other than the one with the largest second MCS
10 index among all entries for modulation method of 16QAM in the said second MCS
11 table; or

12 The partial entries in the said second MCS table where the modulation method
13 is 16QAM, and the MCS index corresponding to the said partial entries are continuous,
14 and at least one entry other than the one with the largest second MCS index among all
15 entries for modulation method of 16QAM in the said second MCS table; or

16 The partial entries in the said second MCS table where the modulation method
17 is 16QAM, and at least one entry other than the one with the largest and smallest MCS
18 index among all entries for modulation method of 16QAM in the said second MCS
19 table.

20 68. The device based on any of Claims 53-57, 66 and 67, characterized in that
21 the first MCS table acquired by the said acquisition module further comprises:

22 The entries for at least one modulation method of 64QAM in the said second
23 MCS table.

24 69. The device based on Claim 68, characterized in that entries for at least one
25 modulation method of 64QAM in the second MCS table acquired by the said
26 acquisition module in the first CQI table comprises:

27 All entries in the said second MCS table where the modulation method is
28 64QAM; or,

29 The partial entries in the said second MCS table where the modulation method
30 is 64QAM, and at least one entry other than the one with the smallest MCS index
31 among all entries for modulation method of 64QAM in the said second MCS table; or,

32 The partial entries in the said second MCS table where the modulation method
33 is 64QAM, and at least one entry other than the one with the largest MCS index among
34 all entries for modulation method of 64QAM in the said second MCS table.

35 70. The device based on Claim 68 or 69, characterized in that,
36 the TBS index of the entries with the lowest MCS index among all entries in
37 the said first MCS table with a modulation method higher than 64QAM is the same as
38 the TBS index of the entries with the highest MCS index among all entries with a
39 modulation method of 64QAM in the said second MCS table; or,

40 The TBS index of the R entries with the smallest MCS Number among the
41 entries in the said first MCS table with a modulation method higher than 64QAM is
42 equal to the TBS index of the R entries with the largest MCS Number among all entries
43 with modulation method of 64QAM and MCS Number not greater than 27 in the said
44 second MCS table; where R is a natural number.

71. The device based on any of Claims 53-57 and 66-70, characterized in that the range of MCS index in the first MCS table obtained by the said acquisition module is the same as the range of MCS indexes in the said second MCS table.

72. The device based on any one of Claims 53-57, 59, 66-71, characterized in that,

the said first MCS table further comprises at least one of the following tables D1, D2, D3, D4 or D5, where any one of them includes a MCS index, and the modulation order and TBS index corresponding to the MCS index:

Table D1

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	11
7	4	12
8	4	13
9	4	14
10	4	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

Table D2

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	11
7	4	12

8	4	13
9	4	14
10	4	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	6	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

Table D3

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	12
7	4	13
8	4	14
9	4	15
10	6	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	8	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

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Table D4

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	12
7	4	13
8	4	14
9	4	15
10	6	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

Table D5

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	12
7	4	14

8	4	15
9	6	15
10	6	16
11	6	17
12	6	18
13	6	19
14	6	20
15	6	21
16	6	22
17	6	23
18	6	24
19	6	25
20	8	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

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73. A notification device for Modulation and Coding Scheme (MCS), characterized in that it comprises:

an acquisition module for acquiring a first MCS table;

Receiving module: For the first MCS index sent by the receiving base station; the said first MCS index is determined by the base station based on the said first MCS table acquired by the said acquisition module;

Determining module: For determining a modulation order and a coding block size from a first MCS table acquired by the said acquisition module and a first MCS index received by the receiving module;

Wherein the first MCS table acquired by the said acquisition module comprises:

Entries for modulation methods higher than 64QAM;

The entries for at least one modulation method of QPSK in the said second MCS table, and the entries for at least one said modulation method of QPSK includes combinations formed from the entries for at least one modulation method of QPSK in the said second MCS table, excluding the second combination. The said second combination consists of the K largest consecutive MCS index corresponding to QPSK in the said second MCS table, where K is equal to 4, or K is a positive integer less than 5, or K is a positive integer; and/or at least one entry for a 16QAM modulation method in the said second MCS table;

The modulation methods in the said second MCS table include only QPSK, 16QAM, and 64QAM.

74. The device based on Claim 73, characterized in that the said determining module comprises:

First determined sub-module: For determining the first TBS index and

modulation order based on the first MCS table acquired by the said acquisition module and the first MCS index received;

Second determined sub-module: For determining the size of the coding block based on the first TBS index, first PRB count, and the first TBS table;

Where, the said first PRB count is the PRB count allocated by the base station to the UE; or, the said first PRB count is the largest integer less than or equal to the product of the PRB count allocated to the UE and a specific coefficient;

The said first TBS table includes at least one PRB count corresponding to each TBS index, as well as the transmission block size corresponding to each PRB count; the said first TBS table is the TBS table corresponding to the said first MCS table.

75. The device based on Claim 74, characterized in that, the range of TBS index in the said first TBS table is from 0 to A, where A is a positive integer less than or equal to 26; or, the range of TBS index in the said first TBS table is from 0 to B, where B is a positive integer greater than or equal to 26, and the transmission block size corresponding to TBS index from 0 to C in the said first TBS table is the same as the transmission block size corresponding to TBS index from 0 to C in the second TBS table, where C is a non-negative integer less than or equal to 26. The range of TBS index in the said second TBS table is from 0 to 26, and the said second TBS table includes at least one PRB count corresponding to each TBS index, as well as the transmission block size corresponding to each PRB count.

76. The device based on Claim 74 or 75, characterized in that, the said first TBS table includes a TBS index Y1, where for each PRB count, the transmission block size corresponding to TBS index Y1 is greater than the transmission block size corresponding to TBS index 25 in the said second TBS table, and smaller than the transmission block size corresponding to TBS index 26 in the said second TBS table; where the range of TBS index in the said second TBS table is from 0 to 26, and the said second TBS table includes at least one PRB count corresponding to each TBS index, as well as the transmission block size corresponding to each PRB count.

77. The device based on Claim 74 or 75, characterized in that, the said first TBS table includes TBS index Y2 and at least one of the following TBS index Y2 in Table A, where any one of them includes a PRB count and the transmission block size corresponding to that PRB count:

Table A

TBS inde x	PRB									
	1	2	3	4	5 Count	6	7	8	9	10
Y2	648	1320	1992	2664	3368	4008	4584	5352	5992	6712
TBS inde x	PRB									
	11	12	13	14	15 Count	16	17	18	19	20
Y2	7224	7992	8504	9144	9912	10680	11448	11832	12576	12960
TBS inde x	PRB									
	21	22	23	24	25 Count	26	27	28	29	30
Y2	14112	14688	15264	15840	16416	16992	17568	18336	19080	19848
TBS inde x	PRB									
	31	32	33	34	35 Count	36	37	38	39	40
Y2	20616	21384	22152	22920	22920	23688	24496	25456	25456	26416
TBS inde x	PRB									
	41	42	43	44	45 Count	46	47	48	49	50
Y2	27376	27376	28336	29296	29296	30576	31704	31704	32856	32856
TBS inde x	PRB									
	51	52	53	54	55 Count	56	57	58	59	60
27	34008	34008	35160	35160	36696	36696	37888	37888	39232	39232
TBS inde x	PRB									
	61	62	63	64	65 Count	66	67	68	69	70
Y2	40576	40576	42368	42368	43816	43816	43816	45352	45352	46888
TBS inde x	PRB									
	71	72	73	74	75 Count	76	77	78	79	80
Y2	46888	46888	48936	48936	48936	51024	51024	51024	52752	52752
TBS inde x	PRB									
	81	82	83	84	85 Count	86	87	88	89	90
Y2	52752	55056	55056	55056	57336	57336	57336	59256	59256	59256
TBS inde x	PRB									
	91	92	93	94	95 Count	96	97	98	99	100
Y2	59256	61664	61664	61664	63776	63776	63776	63776	66592	66592
TBS inde x	PRB									
	101	102	103	104	105 Count	106	107	108	109	110
Y2	66592	66592	68808	68808	68808	71112	71112	71112	71112	73712

and/or,

The said first TBS table includes TBS index Y3, as well as at least one entry corresponding to TBS index Y3 in Tables B1, B2, B3, or B4, where any entries include a PRB count and the transmission block size corresponding to that PRB count;

Table B1

TBS inde x	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y3	936	1928	2856	3880	4776	5736	6712	7736	8504	9528
TBS inde x	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y3	10680	11448	12576	13536	14112	15264	16416	16992	18336	19080
TBS inde x	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y3	19848	21384	22152	22920	23688	24496	25456	26416	27376	28336
TBS inde x	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y3	29296	30576	31704	32856	34008	34008	35160	36696	37888	37888
TBS inde x	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y3	39232	40576	40576	42368	43816	43816	45352	45352	46888	46888
TBS inde x	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y3	48936	48936	51024	51024	52752	52752	55056	55056	57336	57336
TBS inde x	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y3	59256	59256	59256	61664	61664	63776	63776	63776	66592	66592
TBS inde x	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y3	68808	68808	71112	71112	71112	73712	73712	75376	76208	76208
TBS inde x	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y3	78704	78704	78704	81176	81176	81176	84760	84760	84760	84760
TBS inde x	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	87936	87936	90816	90816	90816	90816	93800	93800	93800	101840
TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	101840	101840	101840	101840	101840	101840	101840	101840	101840	101840

Table B2

TBS inde x	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	87936	87936	90816	90816	90816	90816	93800	93800	93800	93800

TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	97896	97896	97896	101840	101840	101840	101840	105528	105528

Table B3
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TBS inde x	PRB Count									
	1	2	3	4	5	6	7	8	9	10
Y3	968	1992	2984	4008	4968	5992	6968	7992	8760	9912
TBS inde x	PRB Count									
	11	12	13	14	15	16	17	18	19	20
Y3	10680	11832	12960	13536	14688	15840	16992	17568	19080	19848
TBS inde x	PRB Count									
	21	22	23	24	25	26	27	28	29	30
Y3	20616	21384	22920	23688	24496	25456	26416	27376	28336	29296
TBS inde x	PRB Count									
	31	32	33	34	35	36	37	38	39	40
Y3	30576	31704	32856	34008	35160	35160	36696	37888	37888	39232
TBS inde x	PRB Count									
	41	42	43	44	45	46	47	48	49	50
Y3	40576	40576	42368	43816	43816	45352	46888	46888	48936	48936
TBS inde x	PRB Count									
	51	52	53	54	55	56	57	58	59	60
Y3	51024	51024	52752	52752	55056	55056	55056	57336	57336	59256
TBS inde x	PRB Count									
	61	62	63	64	65	66	67	68	69	70
Y3	59256	61664	61664	63776	63776	63776	66592	66592	68808	68808
TBS inde x	PRB Count									
	71	72	73	74	75	76	77	78	79	80
Y3	71112	71112	71112	73712	75376	76208	76208	76208	78704	78704
TBS inde x	PRB Count									
	81	82	83	84	85	86	87	88	89	90
Y3	81176	81176	81176	81176	84760	84760	84760	87936	87936	87936
TBS inde x	PRB Count									
	91	92	93	94	95	96	97	98	99	100
Y3	90816	90816	90816	93800	93800	93800	93800	97896	97896	97896
TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	97896	97896	97896	97896	97896	97896	97896	97896	97896

Table B4

TBS inde x	PRB Count									
	101	102	103	104	105	106	107	108	109	110
Y3	97896	101840	101840	101840	105528	105528	105528	105528	105528	110136

and/or,

The said first TBS table includes TBS Number Y4_1 to Y4_5, as well as at least one entry in Tables C1 or C2 corresponding to TBS Number Y4_1 to Y4_5, where any entries include a PRB count and the five transmission block sizes

1 corresponding to that PRB count;

TBS index	PRB									
	1	2	3	4	5 Count	6	7	8	9	10
Y4 1	680	1384	2088	2792	3496	4136	4968	5544	6200	6968
Y4 2	712	1480	2216	2984	3624	4392	5160	5992	6712	7224
Y4 3	744	1544	2280	3112	3880	4584	5352	6200	6968	7736
Y4 4	776	1608	2408	3240	4008	4776	5736	6456	7224	7992
Y4 5	840	1672	2536	3368	4264	5160	5992	6712	7480	8504
TBS index	PRB									
	11	12	13	14	15 Count	16	17	18	19	20
Y4 1	7736	8248	9144	9912	10296	11064	11832	12576	13536	14112
Y4 2	7992	8760	9528	10296	11064	11832	12576	12960	14112	14688
Y4 3	8504	9144	9912	10680	11448	12216	12960	14112	14688	15264
Y4 4	8760	9528	10680	11448	12216	12960	13536	14688	15264	16416
Y4 5	9144	10296	11064	11832	12576	13536	14112	15264	15840	16992
TBS index	PRB									
	21	22	23	24	25 Count	26	27	28	29	30
Y4 1	14688	15264	15840	16992	17568	18336	19080	19848	20616	20616
Y4 2	15264	16416	16992	17568	18336	19080	19848	20616	21384	22152
Y4 3	16416	16992	17568	18336	19080	19848	20616	21384	22152	22920
Y4 4	16992	17568	18336	19080	20616	21384	22152	22920	23688	24496
Y4 5	17568	18336	19848	20616	21384	22152	22920	23688	24496	25456
TBS index	PRB									
	31	32	33	34	35 Count	36	37	38	39	40
Y4 1	21384	22152	22920	23688	24496	25456	25456	26416	27376	28336
Y4 2	22920	23688	24496	25456	25456	26416	27376	28336	28336	29296
Y4 3	23688	24496	25456	26416	27376	27376	28336	29296	30576	30576
Y4 4	25456	25456	26416	27376	28336	29296	30576	30576	31704	32856
Y4 5	26416	27376	28336	28336	29296	30576	31704	31704	32856	34008
TBS index	PRB									
	41	42	43	44	45 Count	46	47	48	49	50
Y4 1	28336	29296	30576	30576	31704	31704	32856	34008	34008	35160
Y4 2	30576	30576	31704	32856	32856	34008	35160	35160	36696	36696
Y4 3	31704	32856	32856	34008	35160	35160	36696	36696	37888	39232
Y4 4	32856	34008	35160	35160	36696	37888	37888	39232	39232	40576
Y4 5	35160	35160	36696	37888	37888	39232	39232	40576	42368	42368
TBS index	PRB									
	51	52	53	54	55 Count	56	57	58	59	60
Y4 1	35160	36696	36696	37888	37888	39232	40576	40576	40576	42368
Y4 2	37888	37888	39232	39232	40576	40576	42368	42368	43816	43816
Y4 3	39232	40576	40576	42368	42368	43816	43816	45352	45352	46888
Y4 4	40576	42368	42368	43816	45352	45352	46888	46888	46888	48936
Y4 5	43816	43816	45352	45352	46888	46888	48936	48936	51024	51024
TBS index	PRB									
	61	62	63	64	65 Count	66	67	68	69	70
Y4 1	42368	43816	43816	45352	45352	46888	46888	46888	48936	48936
Y4 2	45352	45352	46888	46888	48936	48936	48936	51024	51024	51024
Y4 3	46888	48936	48936	48936	51024	51024	51024	52752	52752	55056
Y4 4	48936	51024	51024	52752	52752	52752	55056	55056	55056	57336
Y4 5	51024	52752	52752	55056	55056	55056	57336	57336	59256	59256

2
3

TBS index	PRB									
	71	72	73	74	75 Count	76	77	78	79	80
Y4_1	48936	51024	51024	51024	52752	52752	55056	55056	55056	55056
Y4_2	52752	52752	52752	55056	55056	55056	57336	57336	57336	59256
Y4_3	55056	55056	57336	57336	57336	59256	59256	59256	61664	61664
Y4_4	57336	59256	59256	59256	61664	61664	61664	63776	63776	63776
Y4_5	59256	61664	61664	63776	63776	63776	66592	66592	66592	68808
TBS index	PRB									
	81	82	83	84	85 Count	86	87	88	89	90
Y4_1	57336	57336	57336	59256	59256	59256	61664	61664	61664	63776
Y4_2	59256	59256	61664	61664	61664	63776	63776	63776	66592	66592
Y4_3	61664	63776	63776	63776	66592	66592	66592	68808	68808	68808
Y4_4	66592	66592	66592	68808	68808	68808	71112	71112	71112	73712
Y4_5	68808	68808	71112	71112	71112	73712	73712	75376	75376	76208
TBS index	PRB									
	91	92	93	94	95 Count	96	97	98	99	100
Y4_1	63776	63776	63776	66592	66592	66592	68808	68808	68808	71112
Y4_2	66592	68808	68808	68808	71112	71112	71112	71112	73712	73712
Y4_3	71112	71112	71112	73712	73712	73712	75376	76208	76208	76208
Y4_4	73712	75376	75376	76208	76208	78704	78704	78704	81176	81176
Y4_5	76208	78704	78704	78704	81176	81176	81176	84760	84760	84760
TBS index	PRB									
	101	102	103	104	105 Count	106	107	108	109	110
Y4_1	71112	71112	71112	73712	73712	73712	75376	75376	76208	76208
Y4_2	73712	75376	76208	76208	76208	78704	78704	78704	81176	81176
Y4_3	78704	78704	78704	81176	81176	81176	81176	84760	84760	84760
Y4_4	81176	81176	84760	84760	84760	84760	87936	87936	87936	87936
Y4_5	84760	87936	87936	87936	87936	90816	90816	90816	93800	93800

Table C2

TBS index	PRB									
	1	2	3	4	5 Count	6	7	8	9	10
Y4_1	680	1384	2088	2792	3496	4264	4968	5544	6200	6968
Y4_2	712	1480	2216	2984	3624	4392	5160	5992	6712	7224
Y4_3	744	1544	2344	3112	3880	4584	5352	6200	6968	7736
Y4_4	808	1608	2408	3240	4008	4968	5736	6456	7224	7992
Y4_5	840	1672	2536	3368	4264	5160	5992	6712	7736	8504
TBS index	PRB									
	11	12	13	14	15 Count	16	17	18	19	20
Y4_1	7736	8504	9144	9912	10680	11064	11832	12576	13536	14112
Y4_2	7992	8760	9528	10296	11064	11832	12576	13536	14112	14688
Y4_3	8504	9144	9912	10680	11448	12216	12960	14112	14688	15264
Y4_4	8760	9912	10680	11448	12216	12960	13536	14688	15264	16416
Y4_5	9144	10296	11064	11832	12576	13536	14688	15264	16416	16992
TBS index	PRB									
	21	22	23	24	25 Count	26	27	28	29	30
Y4_1	14688	15264	15840	16992	17568	18336	19080	19848	20616	21384
Y4_2	15264	16416	16992	17568	18336	19080	19848	20616	21384	22152
Y4_3	16416	16992	17568	18336	19080	19848	20616	21384	22152	22920
Y4_4	16992	17568	18336	19848	20616	21384	22152	22920	23688	24496
Y4_5	17568	18336	19848	20616	21384	22152	22920	23688	24496	25456
TBS index	PRB									
	31	32	33	34	35 Count	36	37	38	39	40
Y4_1	21384	22152	22920	23688	24496	25456	25456	26416	27376	28336
Y4_2	22920	23688	24496	25456	25456	26416	27376	28336	28336	29296
Y4_3	23688	24496	25456	26416	27376	28336	28336	29296	30576	30576
Y4_4	25456	26416	26416	27376	28336	29296	30576	30576	31704	32856
Y4_5	26416	27376	28336	29296	29296	30576	31704	32856	32856	34008
TBS index	PRB									
	41	42	43	44	45 Count	46	47	48	49	50
Y4_1	28336	29296	30576	30576	31704	31704	32856	34008	34008	35160

Y4_2	30576	30576	31704	32856	32856	34008	35160	35160	36696	36696
Y4_3	31704	32856	32856	34008	35160	35160	36696	36696	37888	39232
Y4_4	32856	34008	35160	35160	36696	37888	37888	39232	39232	40576
Y4_5	35160	35160	36696	37888	37888	39232	40576	40576	42368	42368
TBS index	PRB									
	51	52	53	54	55 Count	56	57	58	59	60
Y4_1	35160	36696	36696	37888	37888	39232	40576	40576	40576	42368
Y4_2	37888	37888	39232	39232	40576	40576	42368	42368	43816	43816
Y4_3	39232	40576	40576	42368	42368	43816	43816	45352	45352	46888
Y4_4	40576	42368	42368	43816	45352	45352	46888	46888	48936	48936
Y4_5	43816	43816	45352	45352	46888	46888	48936	48936	51024	51024
TBS index	PRB									
	61	62	63	64	65 Count	66	67	68	69	70
Y4_1	42368	43816	43816	45352	45352	46888	46888	46888	48936	48936
Y4_2	45352	45352	46888	46888	48936	48936	48936	51024	51024	51024
Y4_3	46888	48936	48936	48936	51024	51024	52752	52752	52752	55056
Y4_4	48936	51024	51024	52752	52752	52752	55056	55056	55056	57336
Y4_5	51024	52752	52752	55056	55056	55056	57336	57336	59256	59256
TBS index	PRB									
	71	72	73	74	75 Count	76	77	78	79	80
Y4_1	48936	51024	51024	51024	52752	52752	55056	55056	55056	55056
Y4_2	52752	52752	52752	55056	55056	55056	57336	57336	59256	59256
Y4_3	55056	55056	57336	57336	57336	59256	59256	61664	61664	61664
Y4_4	57336	59256	59256	59256	61664	61664	61664	63776	63776	63776
Y4_5	59256	61664	61664	63776	63776	63776	66592	66592	66592	68808
TBS index	PRB									
	81	82	83	84	85 Count	86	87	88	89	90
Y4_1	57336	57336	57336	59256	59256	59256	61664	61664	61664	63776
Y4_2	59256	61664	61664	61664	63776	63776	63776	63776	66592	66592
Y4_3	63776	63776	63776	63776	66592	66592	66592	68808	68808	68808
Y4_4	66592	66592	66592	68808	68808	68808	71112	71112	71112	73712
Y4_5	68808	68808	71112	71112	71112	73712	73712	75376	75376	76208
TBS index	PRB									
	91	92	93	94	95 Count	96	97	98	99	100
Y4_1	63776	63776	66592	66592	66592	66592	68808	68808	68808	71112
Y4_2	66592	68808	68808	68808	71112	71112	71112	71112	73712	73712
Y4_3	71112	71112	71112	73712	73712	73712	75376	76208	76208	78704
Y4_4	73712	75376	75376	76208	76208	78704	78704	78704	81176	81176
Y4_5	76208	78704	78704	78704	81176	81176	81176	84760	84760	84760
TBS index	PRB									
	101	102	103	104	105 Count	106	107	108	109	110
Y4_1	71112	71112	71112	73712	73712	73712	75376	75376	76208	76208
Y4_2	75376	75376	76208	76208	78704	78704	78704	78704	81176	81176
Y4_3	78704	78704	78704	81176	81176	81176	84760	84760	84760	84760
Y4_4	81176	81176	84760	84760	84760	84760	87936	87936	87936	90816
Y4_5	84760	87936	87936	87936	87936	90816	90816	90816	93800	93800

78. The device based on any one of Claims 73 to 75, characterized in that entries for at least one modulation method of QPSK in second MCS table acquired by the said acquisition module in the first MCS table comprises:

The partial entries in the said second CQI table where the modulation method is QPSK, and the CQI index corresponding to the said entries are evenly spaced; or,

The partial entries in the said second MCS table where the modulation method is QPSK, and the MCS index corresponding to the said entries are unevenly spaced; or,

The partial entries in the said second MCS table where the modulation method is QPSK, and the MCS index corresponding to the said entries are non-continuous,

1 and at least one entry other than the one with the largest MCS index among all entries
2 for modulation method of QPSK in the said second MCS table; or,

3 The partial entries in the said second MCS table where the modulation method
4 is QPSK, and the corresponding MCS index of the partial entries is consecutive, and
5 at least one entry other than the one with the largest MCS Number among all entries
6 for modulation method of QPSK in the said second MCS table.

7 79. The device based on any one of Claims 73 to 75, characterized in that
8 entries for at least one modulation method of 16QAM in the said second MCS table
9 obtained by the said acquisition module in the first MCS table comprises:

10 All entries in the said second MCS table where the modulation method is
11 16QAM; or,

12 The partial entries in the said second MCS table where the modulation method
13 is 16QAM, and the MCS index corresponding to the said partial entries are evenly
14 spaced; or,

15 The partial entries in the said second MCS table where the modulation method
16 is 16QAM, and the MCS index corresponding to the said partial entries are unevenly
17 spaced; or,

18 The partial entries in the said second MCS table where the modulation method
19 is 16QAM, and the MCS index corresponding to the said partial entries are non-
20 continuous, and at least one entry other than the one with the largest second MCS
21 index among all entries for modulation method of 16QAM in the said second MCS
22 table; or

23 The partial entries in the said second MCS table where the modulation method
24 is 16QAM, and the MCS index corresponding to the said partial entries are continuous,
25 and at least one entry other than the one with the largest second MCS index among all
26 entries for modulation method of 16QAM in the said second MCS table; or

27 The partial entries in the said second MCS table where the modulation method
28 is 16QAM, and at least one entry other than the one with the largest and smallest MCS
29 index among all entries for modulation method of 16QAM in the said second MCS
30 table.

31 80. The device based on any one of Claims 73 to 79, characterized in that the
32 first MCS table acquired by the said acquisition module further comprises:

33 The entries for at least one modulation method of 64QAM in the said second
34 MCS table.

35 81. The device based on Claim 80, characterized in that entries for at least one
36 modulation method of 64QAM in the said second MCS table acquired by the said
37 acquisition module in the first MCS table comprises:

38 All entries in the said second MCS table where the modulation method is
39 64QAM; or,

40 The partial entries in the said second MCS table where the modulation method
41 is 64QAM, and at least one entry other than the one with the smallest MCS index
42 among all entries for modulation method of 64QAM in the said second MCS table; or,

43 The partial entries in the said second MCS table where the modulation method
44 is 64QAM, and at least one entry other than the one with the largest MCS index among

1 all entries for modulation method of 64QAM in the said second MCS table.

2 82. The device based on Claim 80 or 81, characterized in that
3 the TBS index of the entries with the lowest MCS index among all entries in
4 the said first MCS table with a modulation method higher than 64QAM is the same as
5 the TBS index of the entries with the highest MCS index among all entries with a
6 modulation method of 64QAM in the said second MCS table; or,

7 The TBS index of the R entries with the smallest MCS Number among the
8 entries in the said first MCS table with a modulation method higher than 64QAM is
9 equal to the TBS index of the R entries with the largest MCS Number among all entries
10 with modulation method of 64QAM and MCS Number not greater than 27 in the said
11 second MCS table; where R is a natural number.

12 83. The device according to any one of claims 73 to 82, characterized in that
13 the range of MCS numbers in the first MCS table obtained by the acquisition module
14 is the same as the range of MCS numbers in the second MCS table.

15 84. The device based on any one of Claims 73 to 83, characterized in that,
16 the said first MCS table further comprises at least one of the following tables
17 D1, D2, D3, D4 or D5, where any one of them includes a MCS index, and the
18 modulation order and TBS index corresponding to the MCS index:

Table D1

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	11
7	4	12
8	4	13
9	4	14
10	4	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

Table D2

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	11
7	4	12
8	4	13
9	4	14
10	4	15
11	6	16
12	6	17
13	6	18

14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	6	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

Table D3

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	12
7	4	13
8	4	14
9	4	15
10	6	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	8	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

Table D4

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
5	4	10
6	4	12
7	4	13
8	4	14
9	4	15
10	6	15
11	6	16
12	6	17
13	6	18
14	6	19
15	6	20
16	6	21
17	6	22
18	6	23
19	6	24
20	6	25
21	8	Y2
22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
27	8	Y3
28	2	Retain
29	4	
30	6	
31	8	

Table D5

MCS index I_{MCS}	Modulation Order Q_m	TBS index I_{TBS}
0	2	0
1	2	2
2	2	4
3	2	6
4	2	8
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19	6	25
20	8	25
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22	8	Y4_1
23	8	Y4_2
24	8	Y4_3
25	8	Y4_4
26	8	Y4_5
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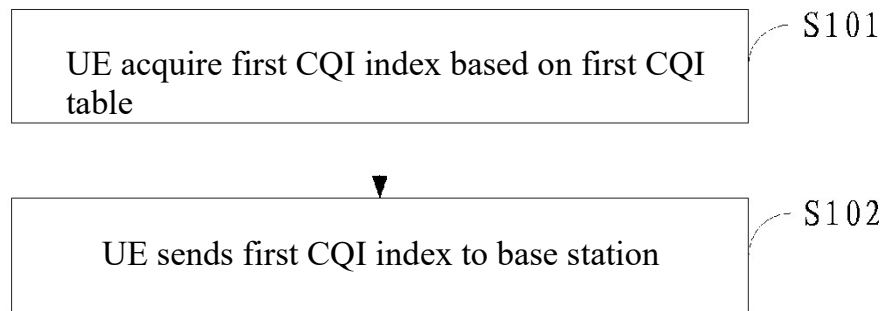


Fig. 1

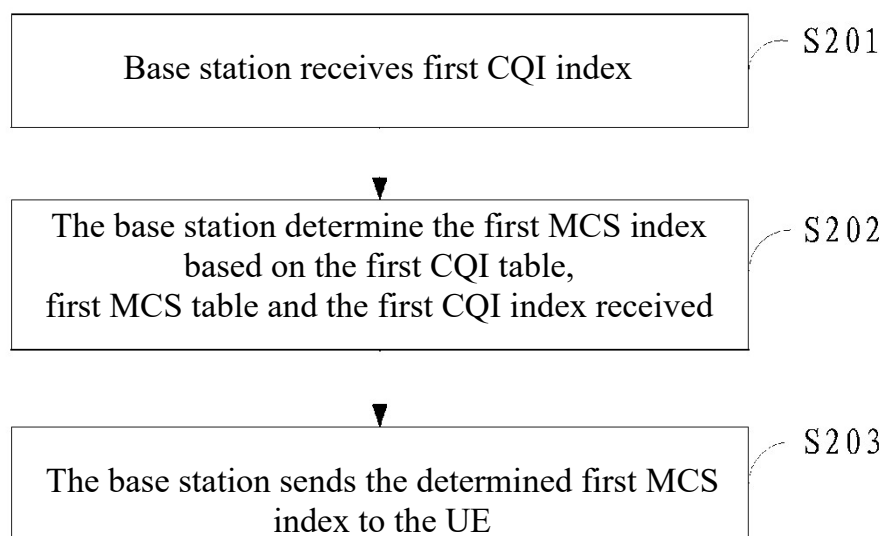


Fig. 2

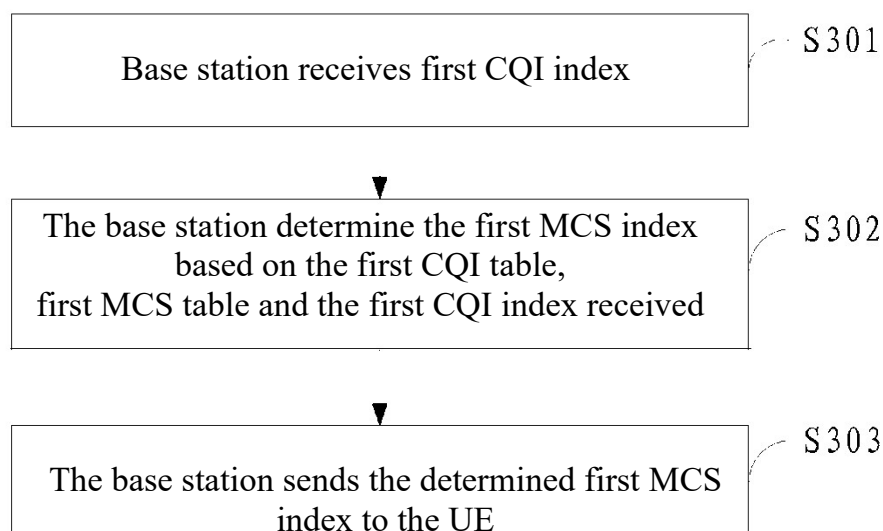


Fig. 3

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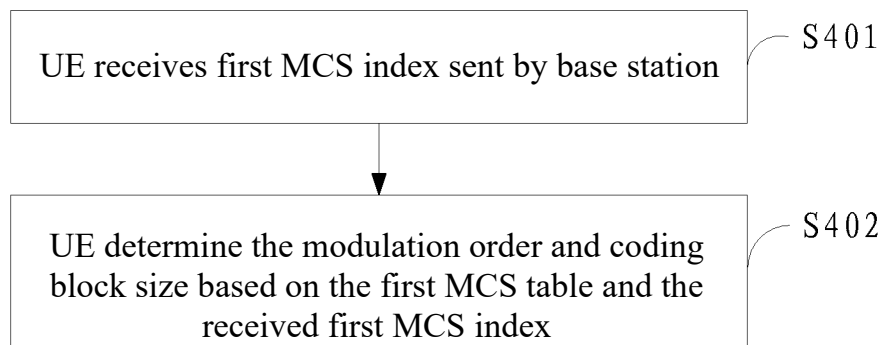


Fig. 4

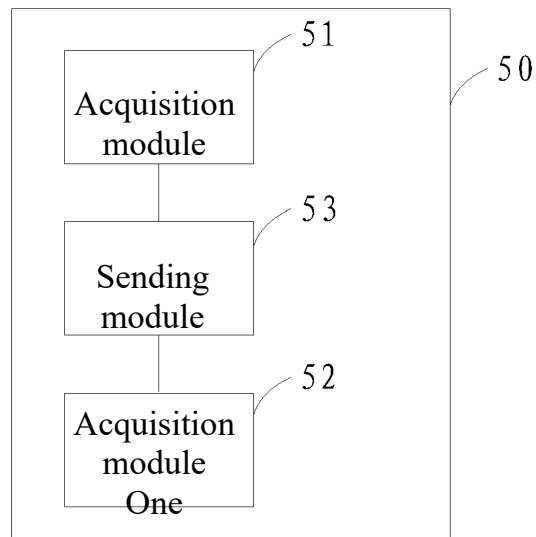


Fig. 5

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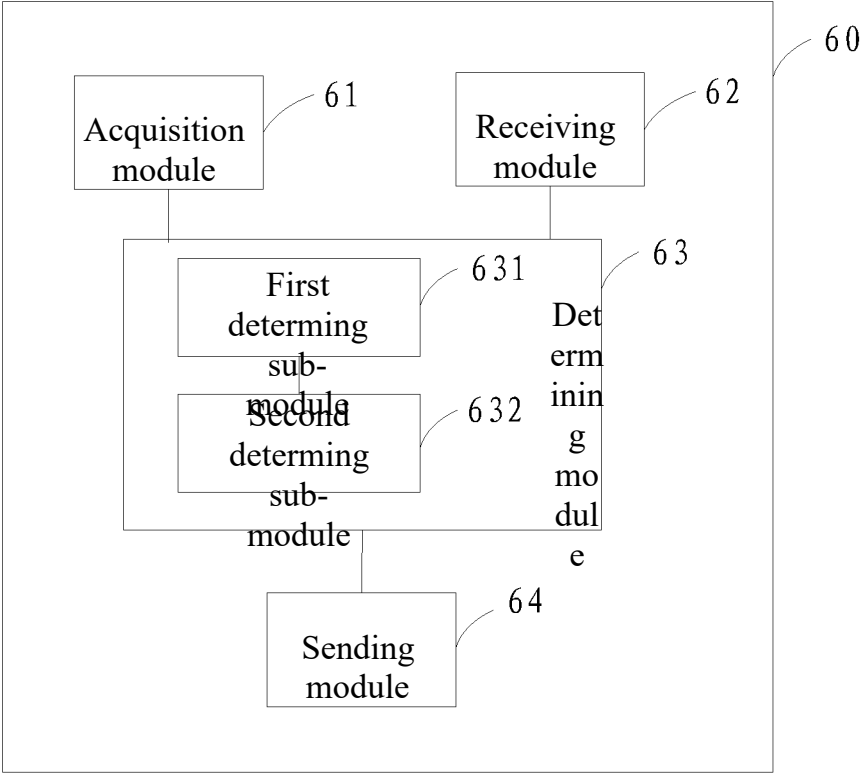


Fig. 6

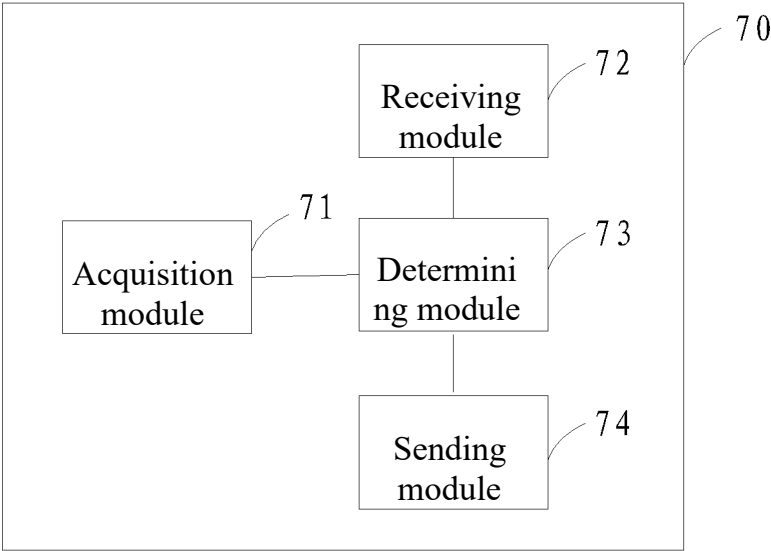


Fig. 7

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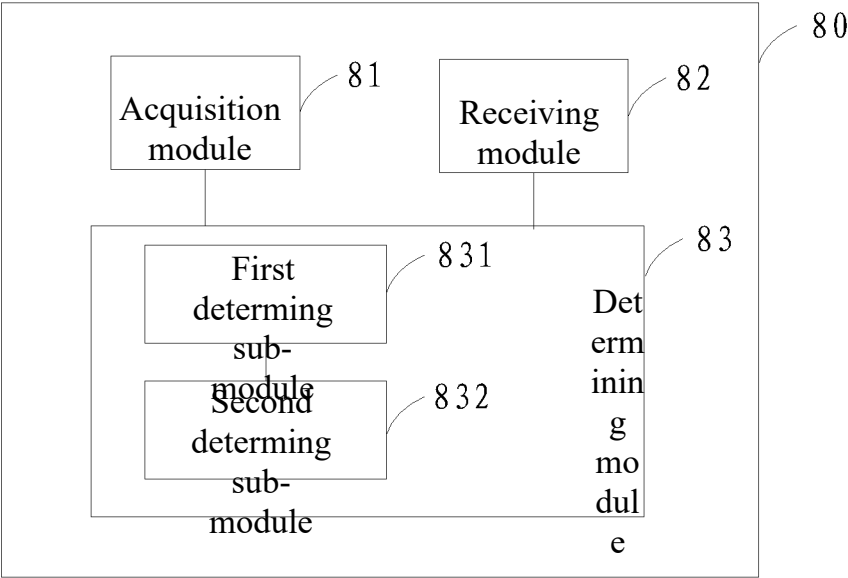


Fig. 8

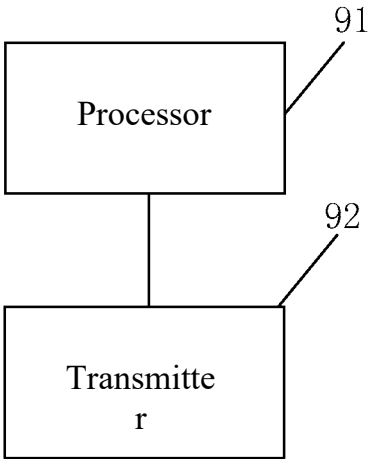


Fig. 9

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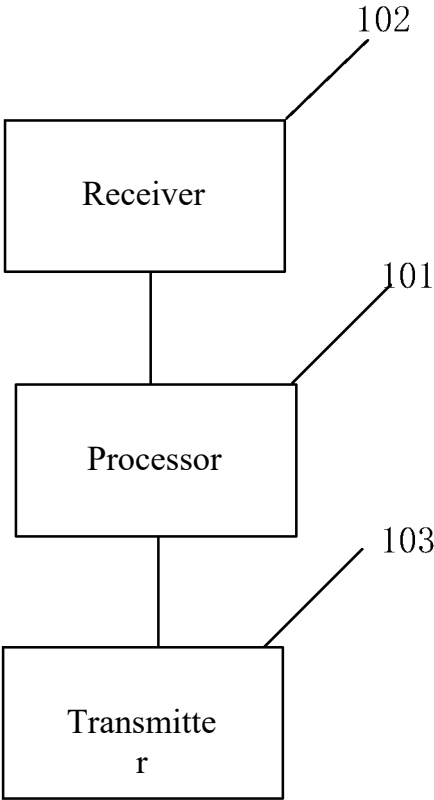


Fig.
10

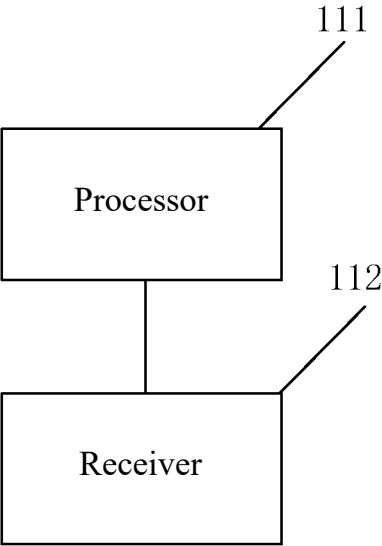
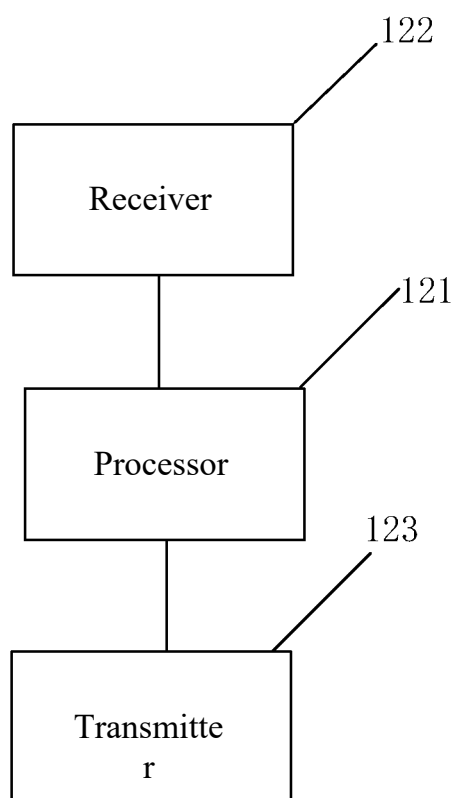


Fig.
11

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Fig.
12

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2014/071296**A. CLASSIFICATION OF SUBJECT MATTER**

H04L 1/00 (2006.01) i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC: H04L; H04Q; H04M; H04B; H04W

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI; EPODOC; CNPAT; CNKI: CQI, MCS, QAM, QPSK, list, number, channel w quality, modulation w coding

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CN 102334357 A (NTT DOCOMO INC.), 25 January 2012 (25.01.2012), description, paragraphs 30-55	1-84
A	CN 102624481 A (ZTE CORP.), 01 August 2012 (01.08.2012), the whole document	1-84
A	CN 101568145 A (CHONGQING CYIT COMMUNICATION TECHNOLOGIES CO., LTD.), 28 October 2009 (28.10.2009), the whole document	1-84
A	US 2009/0245408 A1 (MUJTABA, S.A. et al.), 01 October 2009 (01.10.2009), the whole document	1-84

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	"&" document member of the same patent family

Date of the actual completion of the international search 12 March 2014 (12.03.2014)	Date of mailing of the international search report 27 March 2014 (27.03.2014)
Name and mailing address of the ISA/CN: State Intellectual Property Office of the P. R. China No. 6, Xitucheng Road, Jimenqiao Haidian District, Beijing 100088, China Facsimile No.: (86-10) 62019451	Authorized officer ZHANG, Wei Telephone No.: (86-10) 62413356

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CN2014/071296

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
CN 102334357 A	25.01.2012	WO 2010098168 A1	02.09.2010
		JP 2010200218 A	09.09.2010
		US 2012076227 A1	29.03.2012
CN 102624481 A	01.08.2012	None	
CN 101568145 A	28.10.2009	None	
US 2009/0245408 A1	01.10.2009	DE 102009014785 A1	08.10.2009
		US 2012182899 A1	19.07.2012

A. Classification of Subject Matter

H04L 1/00 (2006.01) i

According to International Patent Classification (IPC) or to both national classification and IPC

B. Fields Searched

Minimum Literature Searched (indicate classification system and classification number)

IPC: H04L;H04Q;H04M;H04B;H04W

Search articles other than minimal articles included in the search field

Electronic databases consulted during international searches (name of database, and search terms used (if used))

WPI;EPODOC; CNPAT; CNKI:channel quality, CQI, modulation code, MCS, QAM, QPSK, table, list, number, channel w quality, modulation w coding

C. Relevant Documents

Type*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to Claim No.
A	CN 102334357 A (NTT Dukomo Co., Ltd.) January 25, 2012 (01/25/2012) Paragraphs 30-55 of the Specification	1-84
A	CN 102624481 A (ZTE Corporation) August 01, 2012 (08/01/2012) Full Text	1-84
A	CN 101568145 A (Chongqing Hmail and Communications Technology Co., Ltd.) October 28, 2009 (10/28/2009) Ffull text	1-84
A	US 2009/0245408 A1 (MUJTABA, Syed Aon et al.) October 01, 2009 (10/01/2009) Full text	1-84

☐ Further documents are listed in the continuation of Box C.
☒ See patent family annex.

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“O” Document referring to an oral disclosure, use, exhibition or other means

“P” Document published prior to the international filing date but later than the priority date claimed

“T” Later Document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

“X” Document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

“Y” Document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

“&” Document member of the same patent family

Date of the actual completion of the international search
March 12, 2014 (03/12/2014)Date of mailing of the international search report
March 27, 2014 (03/27/2014)

Name and mailing address of ISA/CN:

China National Intellectual Property Administration
No. 6, Xitucheng Road, Jimenqiao, Haidian District, Beijing 100088, China
Fax number: (86-10) 62019451

Authorized Officer

Zhang WeiPhone Number: (86-10) **62413356**

International Search Report
Information on patent families

International Application No.
PCT/CN2014/071296

Patent Document/s Cited in Search Report	Publication Date	Patent Family Member/s	Publication Date
CN102334357A	25.01.2012	WO2010098168A1	02.09.2010
		JP2010200218A	09.09.2010
		US2012076227A1	29.03.2012
CN102624481A	01.08.2012	Non	
CN101568145A	28.10.2009	Non	
US2009/0245408A1	01.10.2009	DE102009014785A1	08.10.2009
		US2012182899A1	19.07.2012