

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NOKIA OF AMERICA CORPORATION., ERICSSON INC.
Petitioners

v.

IPCOM GMBH & CO. KG
Patent Owner

Case No. IPR2021-00533
U.S. Patent No. 6,983,147 B1

DECLARATION OF SUSANNA KALLIO

PETITIONERS' EXHIBIT 147-1011

1. I have been asked to provide this declaration to describe how documents that are drafted and adopted by the Third Generation Partnership project (“3GPP”) are made available to the general public.

2. 3GPP produces Technical Specifications to be transposed by relevant standardization bodies (Organizational Partners) into appropriate deliverables (*e.g.*, standards). The seven 3GPP Organizational Partners—from Asia, Europe and North America—determine the general policy and strategy of 3GPP. There are over a hundred telecommunications industry participants that are members of the Organizational Partners and 3GPP that work together to produce proposals, reports and specifications that are developed to define 3GPP mobile telecommunication networks.

3. I have six years of experience working as a delegate and the head of a delegation in a working group and a technical specification group of 3GPP. Based on my experience, I can speak with authority as to how the 3GPP standards are developed across the working groups and how 3GPP documents are drafted, distributed, stored and made available to the public without restriction.

I. PROFESSIONAL BACKGROUND

4. I graduated from the Technical University of Espoo, Finland with a Masters in Radio Technology and Electronics in 1990. I joined Nokia as a Standardization Specialist in the Espoo office in the beginning of 1999.

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5. Since I joined Nokia, I have held a number of positions relating to the 3GPP standardization and standardization in other forums. I am still employed by Nokia in Espoo as a Senior Standards Specialist.

A. 3GPP Experience

6. In the 1999-2002 timeframe, 3GPP consisted of five Technical Specifications Groups ("TSGs"), also called "plenary groups": Service and System Aspects ("TSG-SA," "SA," or "SP"); GSM/Edge Radio Access Network ("TSG-GERAN," "GERAN," or "GP"); Radio Access Network ("TSG-RAN," "RAN," or "RP"); Core Network ("TSG-CN," "CN," or "NP") and Terminals ("TSG-T," "T," or "TP").

7. Each of the plenary groups, in turn, consisted of a number of working groups. For example, TSG-SA had five working groups: Working Group 1 – Services ("SA-1" or "S1"); Working Group 2 – Architecture ("SA-2" or "S2"); Working Group 3 – Security ("SA-3" or "S3"); Working Group 4 – Codecs ("SA-4" or "S4"); and Working Group 5 – Management ("SA-5" or "S5").

8. In my experience, the working groups met approximately every month and had primary responsibility for drafting and editing specifications and change requests. The specifications and change requests then had to be approved by the plenary group, which met roughly every three months. Meetings for each plenary and working group were numbered sequentially (*e.g.*, TSG-SA, Meeting #14 ("SP-

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14"); SA-2, Meeting #22 ("S2-22")). The members of the plenary and working groups were typically employees of various companies in the telecommunications industry.

9. My work with 3GPP began in February 1999 when I joined TSG-SA's Working Group 2 as a delegate for Nokia. SA-2 and was responsible for developing the logical architecture and main functions for 3GPP mobile telecommunications networks. By "logical architecture," I mean that SA-2 defined the logical entities, their roles, their relationships with each other, and the information they exchanged. In the beginning, my focus area was Mobility Management.

10. In September 1999, I became the head of Nokia's SA-2 delegation expanding my responsibility area to network architecture and its main functions.

11. In 2001, I became the head of Nokia's delegation in TSG-CN plenary group. TSG-CN was responsible for the core network parts and protocols of systems based on 3GPP specifications as well as the interface between core network and the mobile terminal. I moved from 3GPP to other standardization forums after March 2005.

12. I am currently a member of the Nokia delegation for the European Telecommunication Standards Institute Environmental Engineering (ETSI EE) group. In that role, my work focuses on the Circular Economy and resource efficiency of telecommunication networks.

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B. 3GPP Documents

13. The development of technical specifications and the documentation relevant to that development has always been a very structured process at 3GPP.

14. As explained earlier, each 3GPP working group met roughly every month and was responsible for drafting and editing specifications and proposing change requests. The drafts and proposed change requests were approved by the relevant plenary group, which met approximately every three months.

15. When there were new concepts to discuss, the working group would start a technical report ("TR") (e.g., "TR 23.825") to further develop those ideas. Technical reports follow specific procedures for naming and changing 3GPP documents, and for naming files on 3GPP's publicly available servers. These procedures are followed because it is very important that the changes that are brought into the standard, from the past, at present and in the future, are well documented and controlled, so that technical consistency and backwards tracing are ensured. As such, the title of a TR document follows a structured numbering system that provides details regarding the subject matter and technology to which the TR document pertains. The number system is **3GPP TR aa.bbb Vx.y.z (yyyy-mm)**:

- **aa** is the "series" number to which the specification belongs (e.g., "23 Series" corresponds to Technical realization ("stage 2")).

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- **bbb** is the “report” number; if the number begins with an “8” that indicates that it is not intended to be transposed into publications by 3GPP’s Organizational Partners; if the number begins with a “9” that indicates that it is to be further disseminated by 3GPP’s Organizational Partners.
- **Vx.y.z** is Version *x.y.z* where *x* is 1 if the document is presented to TSG for information; *x* is 2 if the document is presented to TSG for approval; and *x* is 3 or greater to indicate that it is a TSG approved document under change control (at this stage the number corresponds to the 3GPP release number); *y* is incremented every time a change of substance occurs (*i.e.*, technical enhancements, corrections, updates, etc.) and when the TSG approves one or more Change Requests (*y* is reset to zero every time the *x* field is incremented); and *z* is incremented when purely editorial changes have been incorporated in the document (*z* is also reset to zero every time the *y* field is incremented or reset to zero).
- **yyyy** is the year that the relevant TSG or Working Group approved the document.
- **mm** is the month that the relevant TSG or Working Group approved the document.

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The format for the filename of a TR document on the 3GPP server at least includes aabb_xyz, which provides information regarding the contents and stage of development of the contents of the document.

16. When there was sufficient consensus on a TR, the working group moves the concepts of the TR into a normative or technical specification (TS) (*e.g.*, “TS-23.125”). Exhibit 147-1007 is a true and accurate copy of 3GPP TS-25.331 V1.0.0 (1999-04), *RRC Protocol Specification* (“TS-25.331”) The title of a TS document follows the same structured numbering system to that of the TR documents that provides details regarding the subject matter and technology to which the TS document pertains. The number system is **3GPP TS aa.bbb Vx.y.z (yyyy-mm)**:

- **aa** is the “series” number to which the specification belongs (*e.g.*, “23 Series” corresponds to Technical realization (“stage 2”)).
- **bbb** is the “specification” number.
- **Vx.y.z** is Version *x.y.z* where *x* is 1 if the document is presented to TSG for information; *x* is 2 if the document is presented to TSG for approval; and *x* is 3 or greater to indicate that it is a TSG approved document under change control (at this stage the number corresponds to the 3GPP release number); *y* is incremented every time a change of substance occurs (*i.e.*, technical enhancements, corrections, updates, etc.) and

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when the TSG approves one or more Change Requests (y is reset to zero every time the x field is incremented); and z is incremented when purely editorial changes have been incorporated in the document (z is also reset to zero every time the y field is incremented or reset to zero).

- $yyyy$ is the year that the relevant TSG or Working Group approved the document.
- mm is the month that the relevant TSG or Working Group approved the document.

Like TR documents, the format for the filename of a TS document on the 3GPP server at least includes $aabbb_xyz$, which provides information regarding the contents and stage of development of the contents of the document.

17. In the ordinary course of 3GPP's regularly conducted business activities and pursuant to its standard business practices, all members may make contributions for consideration by the Technical Specification Group or Working Group. Such documents are referred to as "temporary documents," and are commonly referred to as "Tdocs." Before, during, and after meetings, all Tdocs are distributed to all of the members of the TSG or WG to which they pertain, and all Tdocs are made publicly available on 3GPP's servers. Exhibit 147-1008 is a true and accurate copy of TSG-RAN Working Group 2, Meeting Number 4, Tdoc R2-99438, *RRC Parameters for the Support of Transmission Diversity*, prepared by

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contributing member Motorola for Meeting Number 4 held on or between May 25, 1999 and May 28, 1999 in Berlin, Germany (the “Motorola Proposal”).

18. Each TSG or WG selects a structured numbering system for the documents associated with their meetings, and those systems typically follow a consistent numbering system as shown in the following example: *xminnzzzz*. This numbering system has six logical elements: (1) **x**: a single letter corresponding to the TSG; where x is one of **R** (Radio Access Network), **N** (Core Network), **S** (Service and System Aspects), **T** (Terminals), **G** (GSM/EDGE Radio Access Network), **C** (Core network and Terminals); (2) **m** A single character corresponding to the Working Group identity (typically 1, 2, 3, etc.) or, in the case of the TSG itself, the letter “**P**”; (3) **i**: Normally the hyphen character “-”, although it may take on other values depending on the nature of the meeting at which the document is presented, e.g. the identity of a subgroup, or an “h” to indicate an ad hoc meeting; (4) **nn**: two digits to indicate the year, i.e. 99, 00, 01, etc; and (5) **zzzz**: A unique number of the document.

19. In the 1999-2002 timeframe, if a 3GPP delegate wanted to contribute, for example a change request to a TR or TS document, the member first requested a document number from the secretary of the TSG or WG. A unique number was then created based on a format for that TSG or WG, like the example disclosed in the preceding paragraph, and assigned to that member. At that point, the number and

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title for that contribution is fixed, and the filename for the document that is stored on the publicly available 3GPP server is that fixed number.

20. In the ordinary course of 3GPP's regularly-conducted business activities and pursuant to its standard business practices, 3GPP published all proposals, technical reports, technical specifications and other documents related to the development of cellular telecommunications standards to the 3GPP's publicly-available, unrestricted, online ftp server: <http://www.3gpp.org/ftp/>. Draft proposals, technical reports, technical specifications, change requests, and other documents ("Tdocs") were assigned a document number ("Tdoc number") and uploaded to 3GPP's public ftp server before, during, and after meetings. Making the documents publicly available encouraged discussion and promoted establishment of industry standards for cellular telecommunications.

21. In the ordinary course of 3GPP's regularly conducted business activities and pursuant to its standard business practices, documents uploaded to the publicly-available, unrestricted, online ftp server would receive a date and time stamp. Take, for example, R2-99438 (the "Motorola Proposal") (Exhibit 147-1008). Any member of the public could navigate to this Tdoc as follows:

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The Mobile
Broadband
Standard



A Global
Partnership



[About 3GPP](#)
[Specifications Groups](#)
[Specifications](#)
[3GPP Calendar](#)
[Technologies](#)
[News & Events](#)
[Home](#)
[Sitemap](#)
[Contact](#)

3GPP meetings for group R2

[Go to 3GPP meetings page](#)

[Click here to go to the Liaisons page.](#)

Meeting click for details and reference a file number	Title	Topic click for meeting invitation directory	Start click for agenda	End click for report	First & Last Date Click range for "last document" Click "full document list" for full document list for this meeting	Regular	Participants	Files	3GPP click for calendar (space reserved too)	Feedback click for complete meeting satisfaction questionnaire
R2-5	3GPP RAN2-#5	Sophia Antipolis	1999-07-05	1999-07-09	R2-99506 - R2-99704 full document list	-	Participants	Files		
R2-4	3GPP RAN2-#4	Berlin	1999-05-25	1999-05-28	R2-99349 - R2-99506 full document list	-	Participants	Files		
R2-3	3GPP RAN2-#3	YOKOHAMA	1999-04-13	1999-04-16	R2-99197 - R2-99348 full document list	-	Participants	Files		

Available at <https://www.3gpp.org/dynareport/Meetings-R2.htm?Itemid=406>

(highlighting added).

[Back to meeting list](#)

RAN2-#4 - Meeting information

Meeting Identifier : 9968
Meeting Contacts :
Meeting Reference : 3GPP RAN2-#4
Meeting Type : Ordinary
Location : Berlin , DE
Start Date : 25 May 1999 00:00 (GMT+02:00) Brussels, Copenhagen, Madrid, Paris
End Date : 28 May 1999 00:00 (GMT+02:00) Brussels, Copenhagen, Madrid, Paris
Check-in starts at : 00:00 (GMT+02:00) Brussels, Copenhagen, Madrid, Paris

More options

[Meeting contributions \(docs\)](#)
[Agenda](#)
[Report](#)
[Invitation](#)

[List of 123 Topics](#)
Contribution not available
Downloaded Tuesday, 16/06/2015

Available at <https://portal.3gpp.org/Home.aspx#/meeting?MtgId=9068>

(highlighting added).

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[www.3gpp.org / ftp / tsg_ran / WG2_RL2 / TSGR2_04 / Docs / Zip](http://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_04/Docs/Zip)

sort by name/desc sort by date/desc sort by size/desc

 R2-99435.zip	1999/06/01 11:57	6,1 KB
 R2-99436.zip	1999/06/01 11:57	19,6 KB
 r2-99438.zip	1999/05/25 10:12	6,4 KB
 R2-99439.ZIP	1999/05/21 8:31	40,1 KB
 R2-99443.zip	1999/05/25 10:12	24,5 KB

Available at https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_04/Docs/Zip/ (highlighting added). Documents uploaded to the publicly-available, unrestricted, 3GPP ftp server would receive a date and time stamp. In my experience, all documents are retained on the public 3GPP server indefinitely, and the date and time stamp can be relied upon to indicate when the upload occurred. Here, R2-99438 was uploaded to the FTP site on May 25, 1999.

22. In the ordinary course of 3GPP’s regularly conducted business activities and pursuant to its standard business practices, the TSGs would formally approve incremental versions of the standards (*e.g.*, V1.0.0, V1.1.0, *etc.*). These formally-approved versions were made available on the 3GPP specifications page: <http://www.3gpp.org/specifications/79-specification-numbering>. Take, for example,

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TS-25.331 V1.0.0 (Exhibit 147-1007). Any member of the public could navigate to the relevant page as follows:

Specification Numbering			
All 3GPP specifications have a specification number consisting of 4 or 5 digits. (e.g. 09.02 or 29.002).			
The first two digits define the series, followed by 2 further digits for the 01 to 13 series or 3 further digits for the 21 to 55 series.			
The full title, specification number and latest version number for every specification can be found in the current status list (warning: large file!).			
An automated list of Specification numbers - with the Title and details of the Specification Group responsible.			
Subject of specification series	3G and beyond / GSM (R99 and later)	GSM only (Rel-4 and later)	GSM only (before Rel-4)
General information (long defunct)			00 series
Requirements	21 series	41 series	01 series
Service aspects ("stage 1")	22 series	42 series	02 series
Technical realization ("stage 2")	23 series	43 series	03 series
Signalling protocols ("stage 3") - user equipment to network	24 series	44 series	04 series
Radio aspects	25 series	45 series	05 series
CODECs	26 series	46 series	06 series
Data	27 series	47 series (none exists)	07 series

Available at <https://www.3gpp.org/specifications/specification-numbering> (highlighting added).

TS 25.324	Broadcast/Multicast Control (BMC)
TS 25.327	High Speed Packet Access (HSPA); Requirements on User Equipments (UEs) supporting a release-independent frequency band and multi-carrier configuration
TS 25.331	Radio Resource Control (RRC); Protocol specification
TS 25.346	Introduction of the Multimedia Broadcast/Multicast Service (MBMS) in the Radio Access Network (RAN); Stage 2
TS 25.367	Mobility procedures for Home Node B (HNB); Overall description; Stage 2

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Available at <https://www.3gpp.org/DynaReport/25-series.htm> (highlighting added).

3GPP Portal

General Versions Responsibility Related **Specification #: 25.331**

Reference: 25.331
Title: Radio Resource Control (RRC); Protocol specification
Status: Under change control **CR**
Type: Technical specification (TS)
Initial planned Release: Release 1999
Internal: ☐
Common IMS Specification: ☐
Radio technology: ☐ 2G ☒ 3G ☐ LTE ☐ 5G
[Click to see all versions of this specification](#)

Remarks (2)

Creation date	Author	Remark
2017-07-04 10:48 UTC	John M Meredith	Txferred from RAN2 to RAN6.
2016-01-08 16:11 UTC	John M Meredith	A NW or UE vendor wishing to implement/support the Second Broadcast Channel must use the version 12.8.0 (or later) of TS 25.331.

History

Action date	Action	Author
2017-03-21 10:44 UTC	Prime Rapporteur has been changed to Ritesh Shreevastav. Previous: Mark Curran	Juha Korhonen
2017-07-04 10:54 UTC	Txferred from RAN2 to RAN6.	John M Meredith

Available [https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx](https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=1180)
[x?specificationId=1180](#) (highlighting added).

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 www.3gpp.org / ftp / Specs / archive / 25_series / 25.331		
sort by name/desc	sort by date/desc	sort by size/desc
 25331-100.zip	1999/05/05 11:56	165,9 KB
 25331-110.zip	1999/06/28 6:41	197,6 KB
 25331-300.zip	1999/10/18 15:36	850,9 KB

Available at https://www.3gpp.org/ftp//Specs/archive/25_series/25.331/

(highlighting added). As discussed above, zip file name “25331-100” corresponds to TS 25.331 V1.0.0. Documents uploaded to the publicly-available, unrestricted, online 3GPP specifications page would receive a date stamp. In my experience, all standards are retained on the 3GPP specifications page indefinitely, and the date stamp for each standard can be relied upon to indicate when the upload occurred. Here, TS 25.331 V1.0.0 was uploaded to the FTP site on May 5, 1999.

23. In the ordinary course of 3GPP’s regularly conducted business activities and pursuant to its standard business practices, Tdocs and discussion documents were also sometimes distributed using 3GPP’s public email exploders. In my experience, when an email was sent to the exploder list, the email and any attachments were immediately available to (1) any members of the public who subscribed to the list; and (2) any members of the public who navigated to the email exploder’s online archive that is maintained by one of 3GPP’s Organizational Partners, the European Telecommunications Standards Institute (ETSI):

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<http://list.etsi.org/scripts/wa.exe?INDEX>. Emails and documents uploaded to 3GPP's publicly-available, unrestricted, online email exploder archive would receive a time and date stamp. In my experience, all emails and documents are retained on the 3GPP's email exploder archive indefinitely, and the date and time stamp for each email and document can be relied upon to indicate when the upload occurred.

24. In addition to the logical document storage mechanism offered by 3GPP and ETSI, because each of the (1) 3GPP ftp server, (2) 3GPP Specifications Page, and (3) email exploder's online archive are freely available on the internet, the documents stored on each of those servers are fully searchable and available to users via conventional search engines like, for example, the Google search engine.

II. SPECIFIC REFERENCES

25. In the following paragraphs, I identify specific 3GPP documents.

26. For each document available on the public 3GPP ftp server, I navigated to the relevant file, as described above. I reviewed the publicly-available file in order to confirm that it had been correctly uploaded to the public 3GPP ftp server. In my experience, the date and time stamp for each file can be relied upon to indicate when the upload occurred.

27. For each standard available on the 3GPP specifications page, I navigated to the relevant standard and version number, as described above. I

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reviewed the publicly-available standard in order to confirm that it had been correctly uploaded to 3GPP's specifications page. In my experience, the date stamp for each standard can be relied upon to indicate when the upload occurred.

28. For each email and document available on 3GPP's email exploder archive, I navigated to the relevant email, as described above. I reviewed the publicly-available email and its attachments in order to confirm that they had been correctly uploaded to 3GPP's email exploder archive. In my experience, the date and time stamp for each email and document available on 3GPP's email exploder archive can be relied upon to indicate when the upload occurred.

A. TS-25.331 V1.0.0 (1999-04), RRC Protocol Specification, ("TS-25.331") (Exhibit 147-1007)

29. Based on my personal knowledge and my review of 3GPP's business records, I recognize Exhibit 147-1007 as a true and correct copy of 3GPP TS-25.331 V1.0.0 (1999-04), *3rd Generation Partnership Project; Technical Specification Group (TSG) RAN; Working Group 2 (WG2); RRC Protocol Specification*, available at https://www.3gpp.org/ftp/Specs/archive/25_series/25.331. This document was published and freely available on 3GPP's specifications page as of May 5, 1999, at 11:56 AM.

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**B. R2-99438, RRC Parameters for the Support of Transmission Diversity,
Motorola, May 25-28, 1999 (“Motorola Proposal”) (Exhibit 147-1008)**

30. Based on my personal knowledge and my review of 3GPP’s business records, I recognize Exhibit 147-1008 as a true and correct copy of 3GPP TSG-RAN Working Group 2, Meeting Number 4, Tdoc R2-99438, *RRC Parameters for the Support of Transmission Diversity* (May 25-28, 1999), available as “r2-99438.zip” at https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_04/Docs/Zip/. This document was published and freely available on 3GPP’s public ftp server as of May 25, 1999, at 10:12 AM.

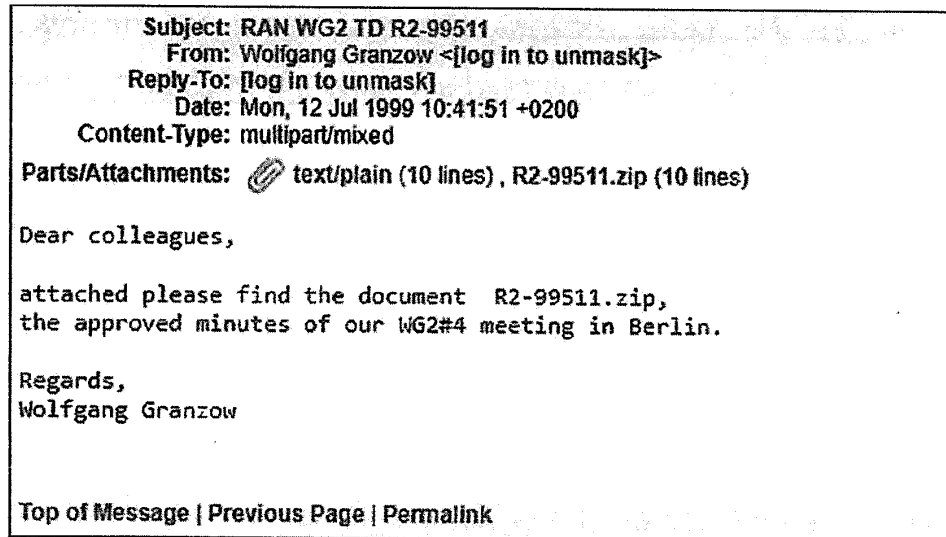
**C. RAN Meeting Report, Working Group 2 (Radio L2 and Radio L3)
TSGR2#5(99)511 (Exhibit 147-1012)**

31. Based on my personal knowledge and my review of 3GPP’s business records, I recognize Exhibit 147-1012 as a true and correct copy of 3GPP RAN Meeting Report, Working Group 2 (Radio L2 and Radio L3) TSGR2#5(99)511. The meeting report lists technical documents for this meeting by subject and also lists all technical documents by title. I downloaded this meeting report as an attachment to an email sent by Wolfgang Granzow at the following location: available at https://list.etsi.org/scripts/wa.exe?A2=ind9907&L=3GPP_TSG_RAN_WG2&O=D&P=30186. Both the email and the attachment to be downloaded can be accessed

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at that link. A screenshot of that email is below, showing that the email with the attachment was sent on Monday, July 12, 1999:



32. Thus, I can confirm that Exhibit 147-1012 was available as of Monday, July 12, 1999, at 10:41:51 +0200.

D. TS-25.303 V3.0.0 (1999-06), UE Functions and Interlayer Procedures in Connected Mode, (“TS-25.303”) (Exhibit 147-1016)

33. Based on my personal knowledge and my review of 3GPP’s business records, I recognize Exhibit 147-1016 as a true and correct copy of 3GPP TS-25.303 V3.0.0 (1999-06), *3rd Generation Partnership Project; Technical Specification Group (TSG) RAN; Working Group 2 (WG2); UE Functions and Interlayer Procedures in Connected Mode*, available at <https://www.3gpp.org/ftp/Specs/archi>

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ve/25_series/25.303. This document was published and freely available on 3GPP's specifications page as of June 28, 1999, at 6:41AM.

E. TS-25.211 V2.0.0 (1999-04), *Physical Channels and Mapping of Transport Channels Onto Physical Channels*, ("TS-25.211") (Exhibit 147-1017)

34. Based on my personal knowledge and my review of 3GPP's business records, I recognize Exhibit 147-1017 as a true and correct copy of 3GPP TS-25.211 V2.0.0 (1999-04), *3rd Generation Partnership Project; Physical Channels and Mapping of Transport Channels Onto Physical Channels*, available at https://www.3gpp.org/ftp/Specs/archive/25_series/25.211. This document was published and freely available on 3GPP's specifications page as of May 5, 1999, at 11:55 AM.

35. I hereby declare that all statements made of my own knowledge are true and that all statements made on information and belief are believed to be true. I further declare that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of the Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this proceeding.

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Executed this 11th day of February, 2021 in Espoo, Finland by:



Susanna Kallio

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