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PATTERSON + SHERIDAN LLP

Petitioner's Demonstrative

Qualcomm Incorporated v. Cobblestone Wireless, LLC
IPR2024-01336

U.S. Patent No. 7,924,802



Presented by:

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DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Instituted Grounds

Ground	Basis	Reference(s)	Claims
1	§103	**Rick**	1
2	§103	**Suzuki**	1-4, 6-8, 10, 13, 17, 21-22
3	§103	**Suzuki**, Jalali	7-9, 22-23
4	§103	**Suzuki**, Chen	14, 24-25
5	§103	**Suzuki**, Etemad	6, 13, 21
6	§103	**Fernandez, Montojo**	1-4, 6-8, 10, 13, 17, 21-22
7	§103	**Fernandez, Montojo**, Jalali	7-9, 22-23
8	§103	**Fernandez, Montojo**, Chen	14, 24-25
9	§103	**Fernandez, Montojo**, Etemad	6, 13, 21

Pet., Paper 4, at 4; Institution Decision, Paper 15, at 21

’802 Patent, Claim 1

Claim	Limitation
1pre	A method of transmitting information in a wireless communication channel comprising:
1a	transmitting **first information** across a first frequency range using a wireless transmitter, the first frequency range having a first center frequency, a first highest frequency, and a first lowest frequency; and
1b	simultaneously transmitting **second information** across a second frequency range using the same wireless transmitter, the second frequency range having a second center frequency greater than the first center frequency, a second highest frequency, and a second lowest frequency.

Pet., Paper 4, at 3; ’802 Patent, Ex. 1001, Claim 1 (emphasis added)

’802 Patent, Claim 10

Claim	Limitation
10pre	A method of transmitting information in a wireless communication channel comprising:
10a	receiving a **first digital signal comprising first data to be transmitted**;
10b	receiving a **second digital signal comprising second data to be transmitted**;
. . .	. . .
10e	up-converting the first analog signal to a first RF center frequency to produce a **first up-converted analog signal**, wherein the first up-converted analog signal comprises a first up-converted frequency range from the first RF center frequency minus one-half the first frequency range to the first RF center frequency plus one-half the first frequency range;
10f	up-converting the second analog signal to a second RF center frequency greater than the first center RF frequency to produce **a second up-converted analog signal**, wherein the second up- converted analog signal comprises a second up-converted frequency range from the second RF center frequency minus one-half the second frequency range to the second RF center frequency plus one-half the second frequency range, and wherein a frequency difference between the first RF center frequency and the second RF center frequency is greater than the sum of one- half the first frequency range and one-half the second frequency range;
. . .	. . .

Pet., Paper 4, at 4-5; ’802 Patent, Ex. 1001, Claim 10 (emphasis added)

’802 Patent, Claim 17

Claim	Limitation
17pre	A wireless communication system comprising:
17a	**a baseband digital system** for providing a **first digital signal comprising a first data to be transmitted** and a **second digital signal comprising a second data to be transmitted**;
. . .	. . .
17d	a first up-converter circuit having a first input coupled to receive the first analog signal and a second input coupled to receive a first modulation signal having a first RF frequency, wherein the first up-converter outputs a **first up-converted analog signal** comprising a first up-converted frequency range from the first RF frequency minus one-half the first frequency range to the first RF frequency plus one-half the first frequency range;
17e	a second up-converter circuit having a first input coupled to receive the second analog signal and a second input coupled to receive a second modulation signal having a second RF frequency, wherein the second up-converter outputs a **second up-converted analog signal** comprising a second up-converted frequency range from the second RF frequency minus one-half the second frequency range to the second RF frequency plus one- half the second frequency range, and wherein frequency difference between the first RF frequency and the second RF frequency is greater than the sum of one-half the first frequency range and one-half the second frequency range; and
. . .	. . .

Pet., Paper 4, at 6-7; ’802 Patent, Ex. 1001, Claim 17 (emphasis added)

’802 Patent, Claim 24

Claim	Limitation
24pre	An electronic circuit comprising:
24a	a first down-converter circuit having a first input coupled to receive a first up-converted signal, a second input coupled to receive a first demodulation signal having a first RF frequency, and an output, wherein the first down-converter circuit outputs a first down-converted signal on the first down-converter output;
24b	a second down-converter circuit having a first input coupled to receive the first up-converted signal, a second input coupled to receive a second demodulation signal having a second RF frequency different than the first RF frequency, and an output, wherein the second down-converter outputs a second down-converted signal on the second down-converter output, wherein the first up-converted signal comprises a first signal modulated at the first RF frequency and a second signal modulated at the second RF frequency; and
24c	a filter having an input coupled to the output of the first down- converter and the output of the second down-converter, and in accordance therewith, **the filter receives the first and second down-converted signals**.

Pet., Paper 4, at 6-7; ’802 Patent, Ex. 1001, Claim 24 (emphasis added)

Suzuki, Figure 6

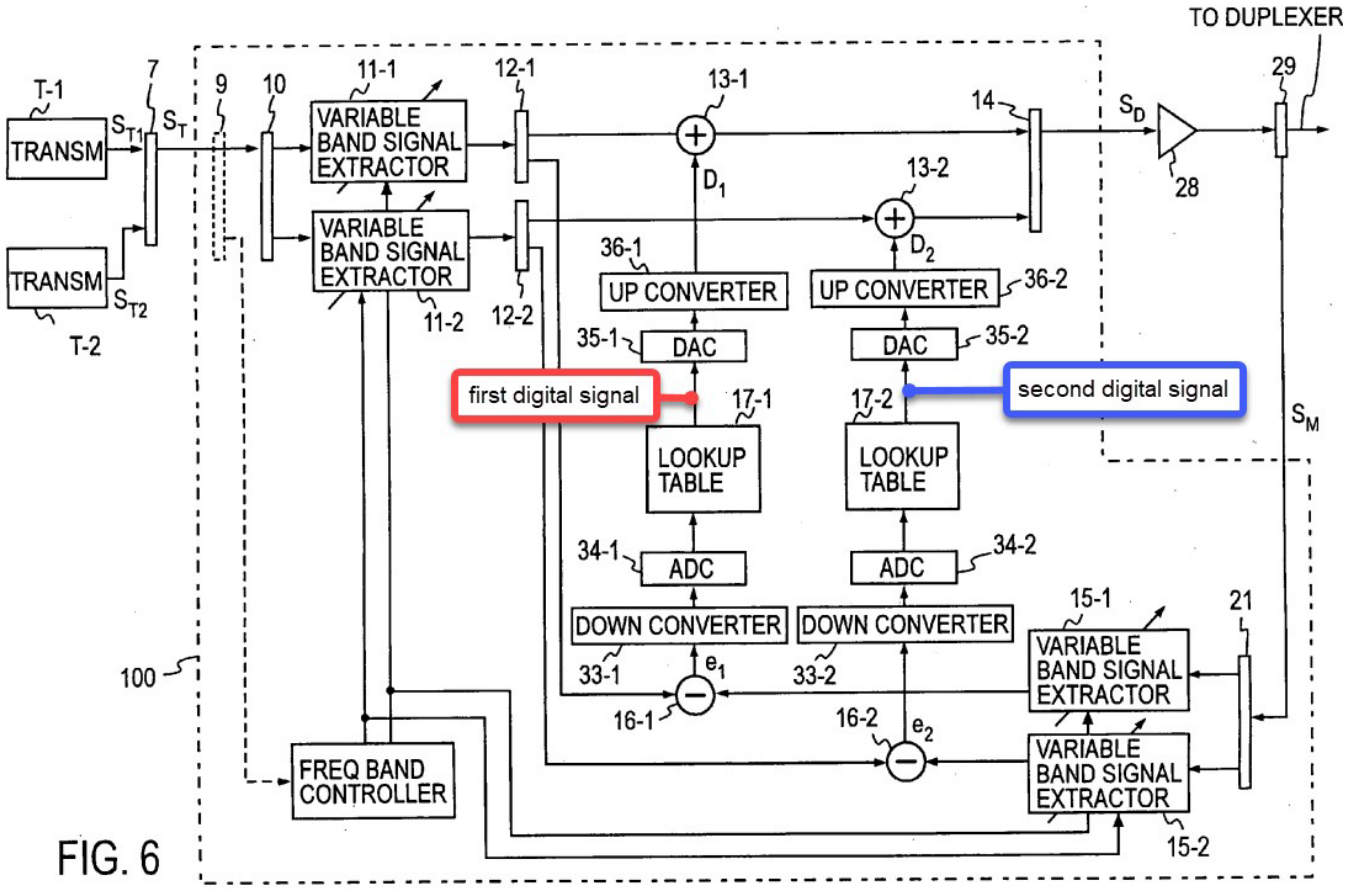


FIG. 6

Pet., Paper 4, at 32; Almeroth Decl., Ex. 1003 ¶ 131; Suzuki, Ex. 1004, Fig. 6 (annotated)

Suzuki, Figure 8

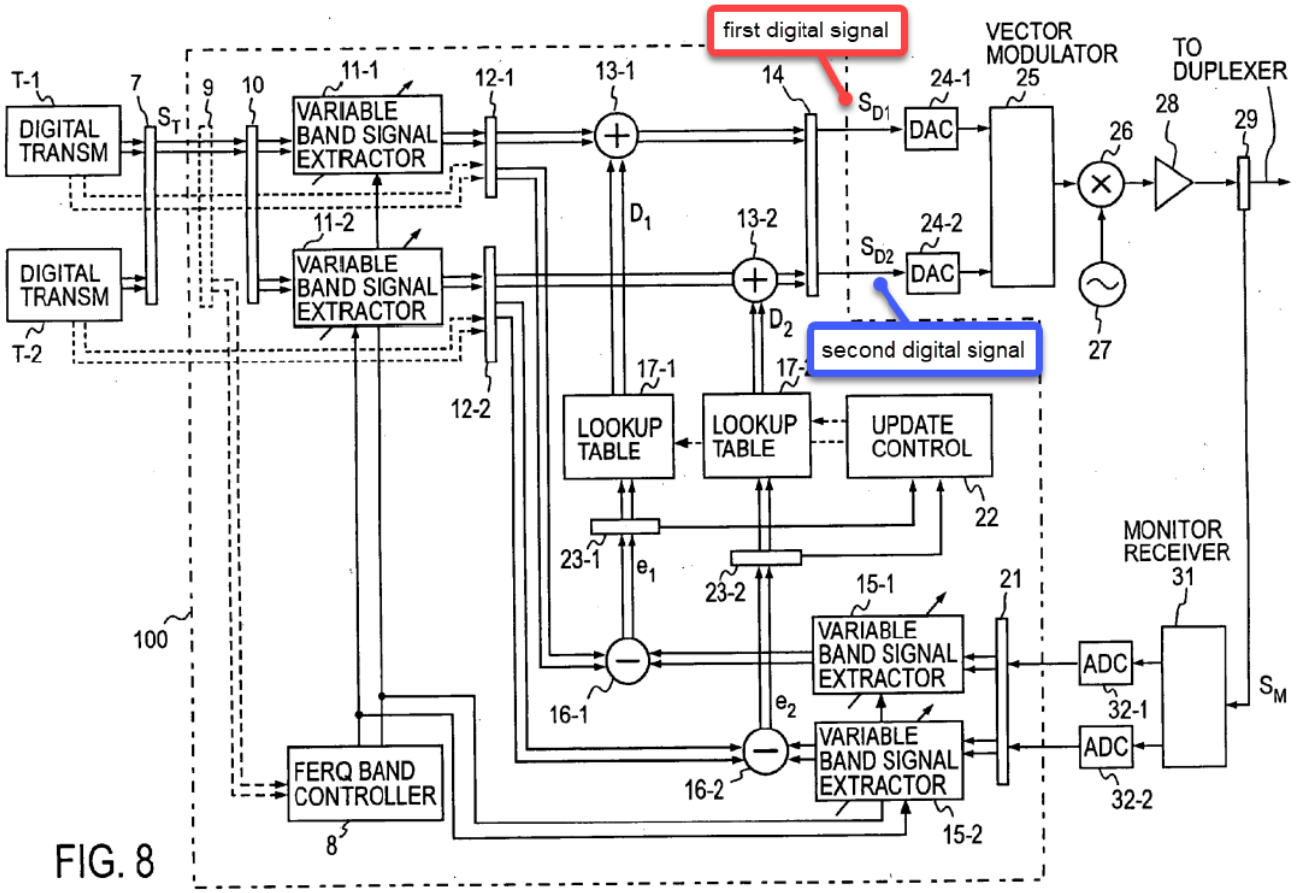
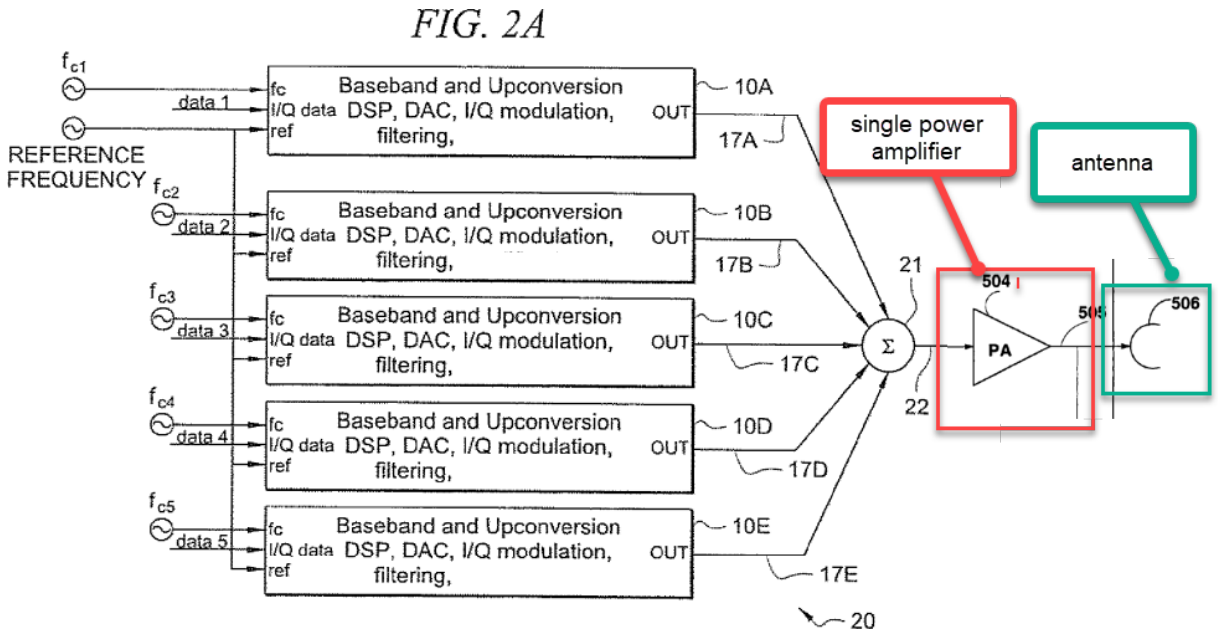


FIG. 8

Pet., Paper 4, at 33; Almeroth Decl., Ex. 1003 ¶ 132; Suzuki, Ex. 1004, Fig. 8 (annotated)

Fernandez-Montojo Combination



Pet., Paper 4, at 79; Almeroth Decl., Ex. 1003 ¶ 237; Fernandez, Ex. 1005, Fig. 2A (modified to include Montojo's amplifier)

Conclusion

Claims	35 U.S.C. §	Reference(s)/Basis	Unpatentable Claims
1	103	Rick	1
1-4, 6-8, 10, 13, 17, 21-22	103	Suzuki	1-4, 6-8, 10, 13, 17, 21-22
7-9, 22-23	103	Suzuki, Jalali	7-9, 22-23
14, 24-25	103	Suzuki, Chen	14, 24-25
6, 13, 21	103	Suzuki, Etemad	6, 13, 21
1-4, 6-8, 10, 13, 17, 21-22	103	Fernandez, Montojo	1-4, 6-8, 10, 13, 17, 21-22
7-9, 22-23	103	Fernandez, Montojo, Jalali	7-9, 22-23
14, 24-25	103	Fernandez, Montojo, Chen	14, 24-25
6, 13, 21	103	Fernandez, Montojo, Etemad	6, 13, 21
Overall Outcome			1-4, 6-10, 13, 14, 17, 21-25