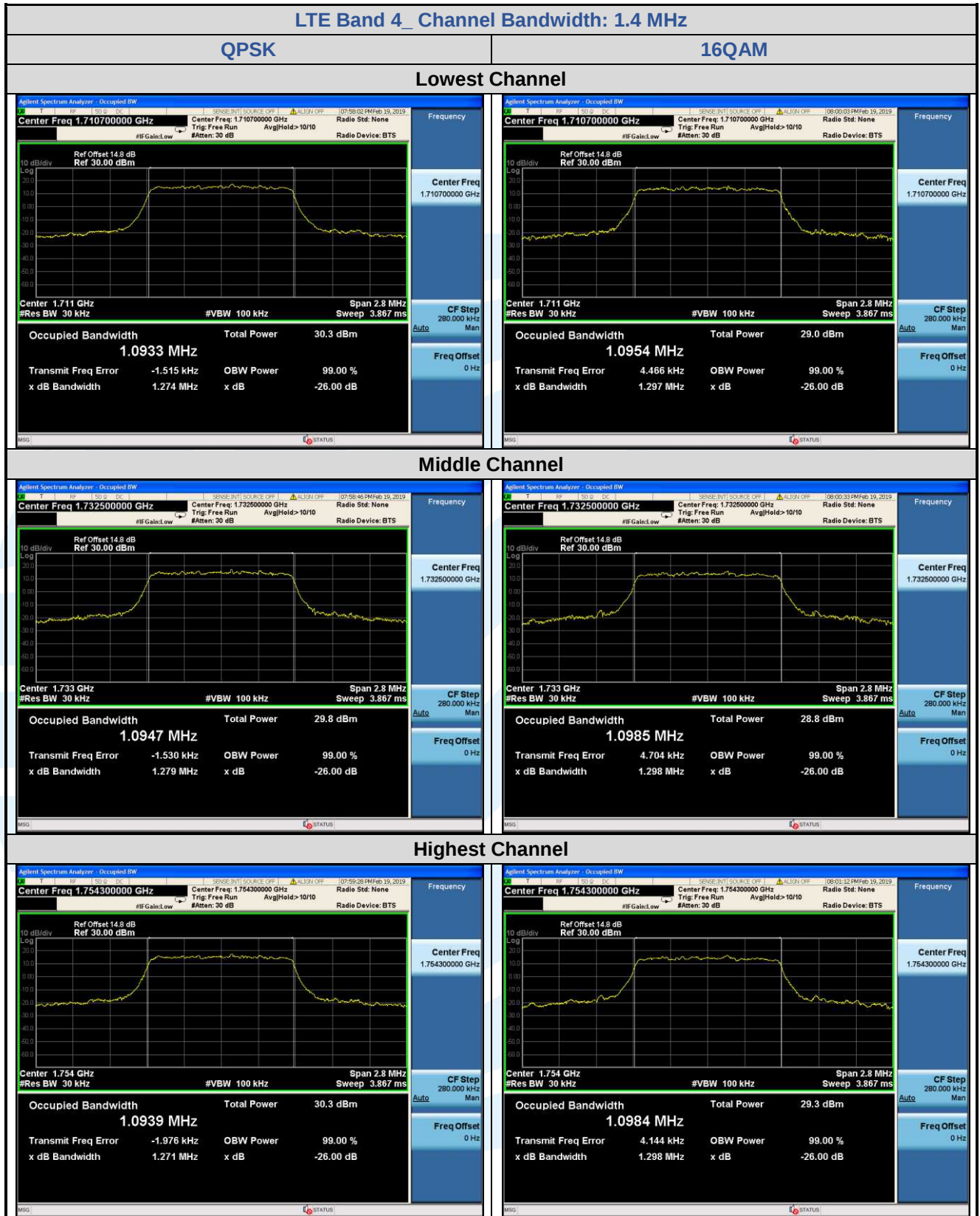
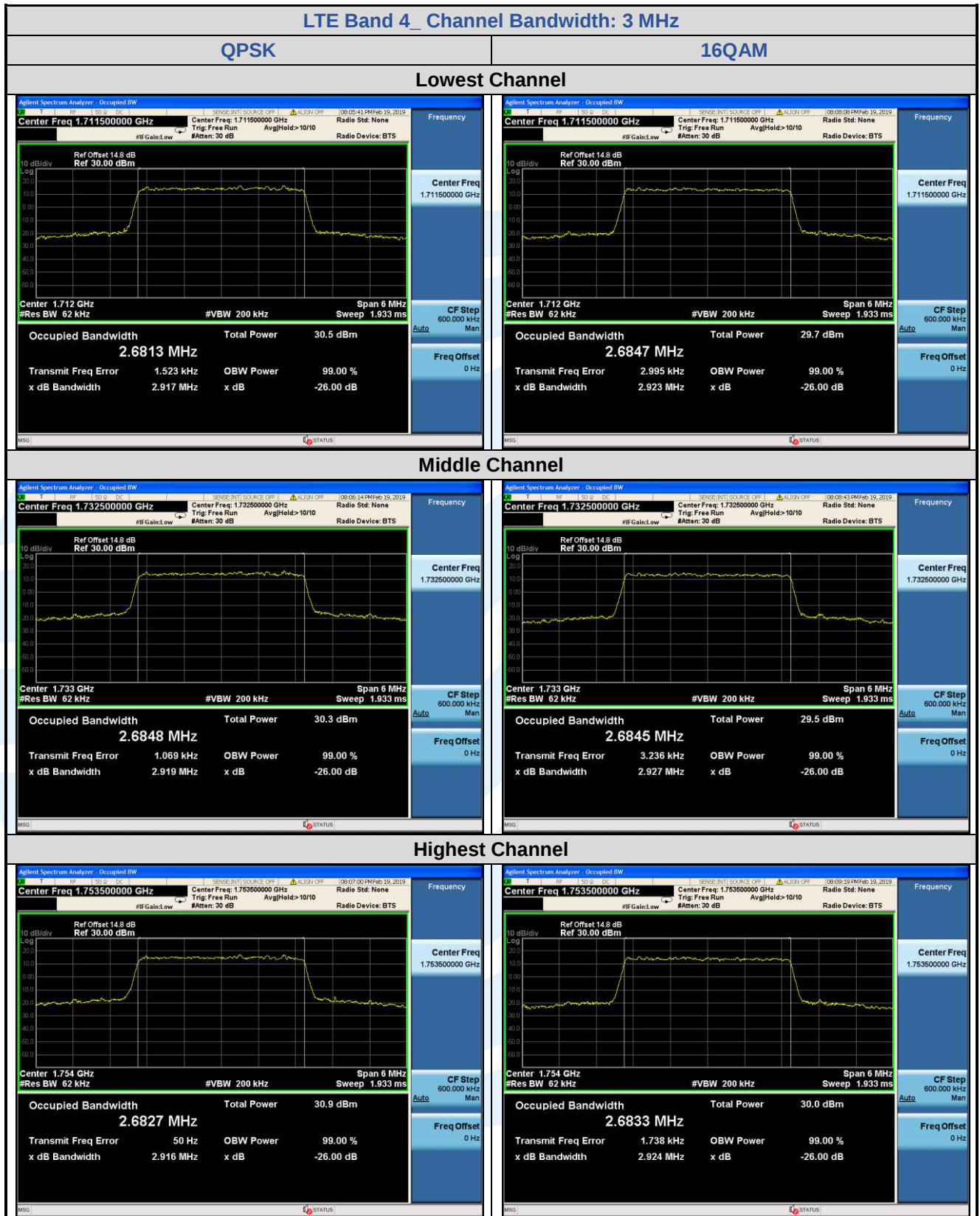
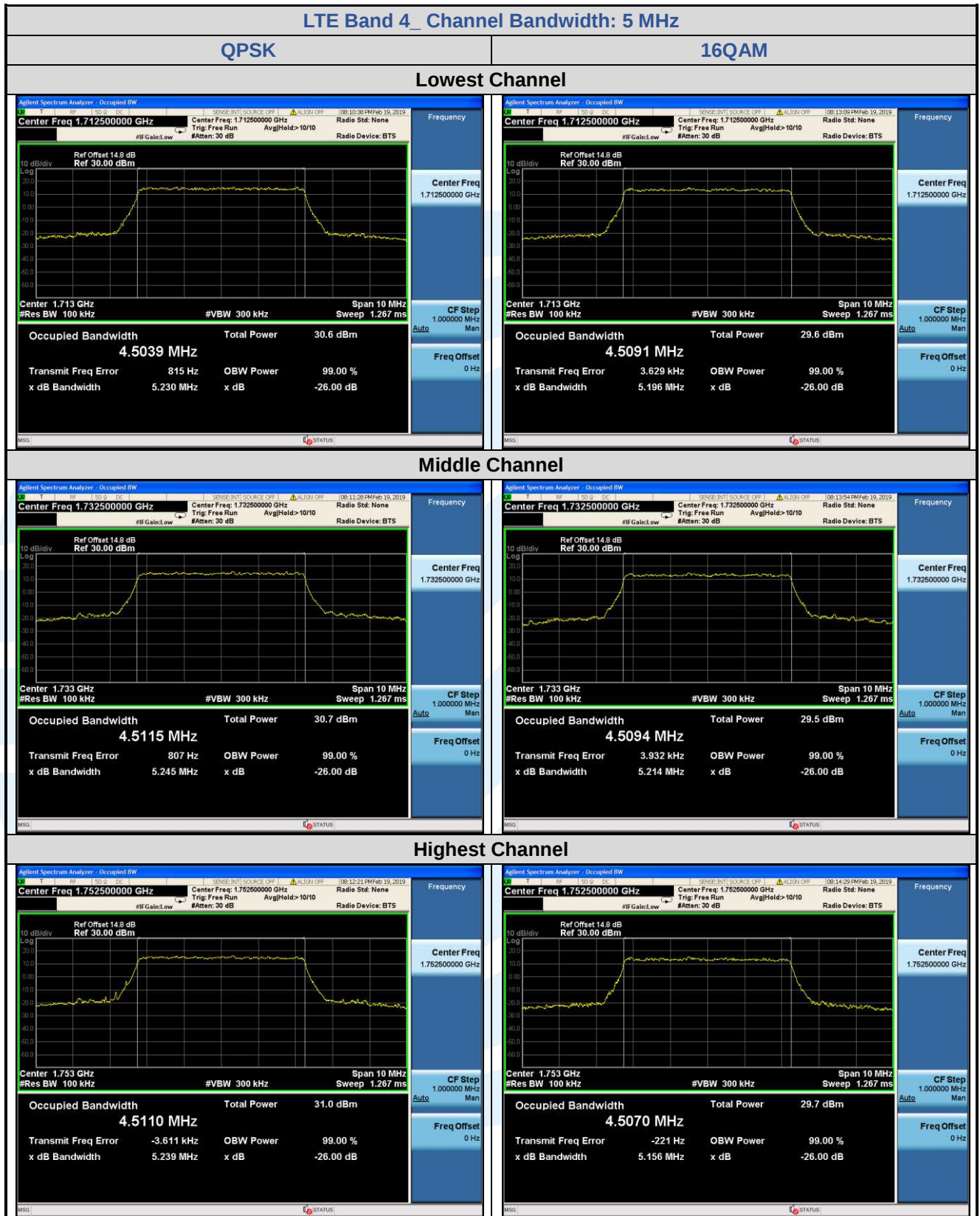


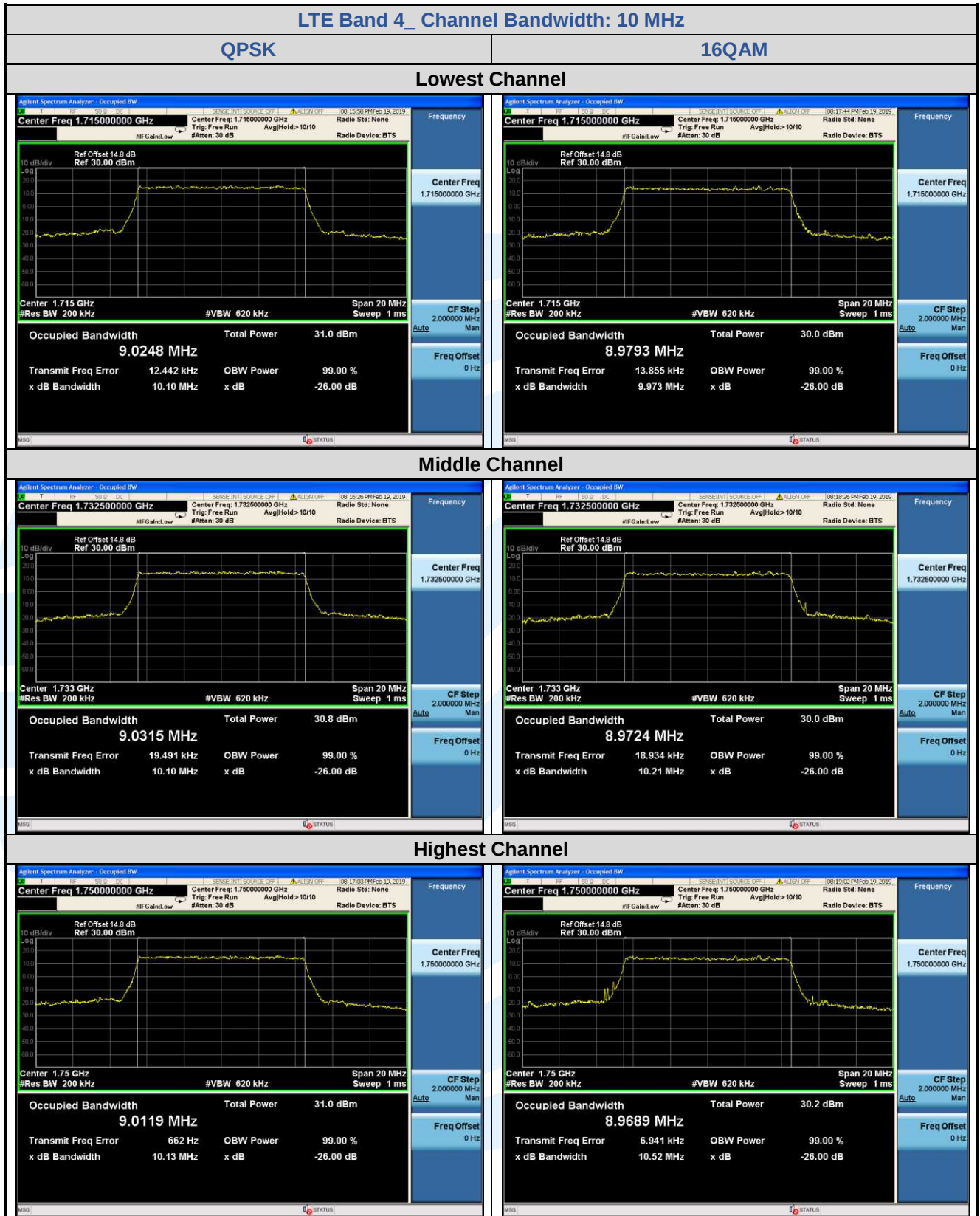
LTE Band 4

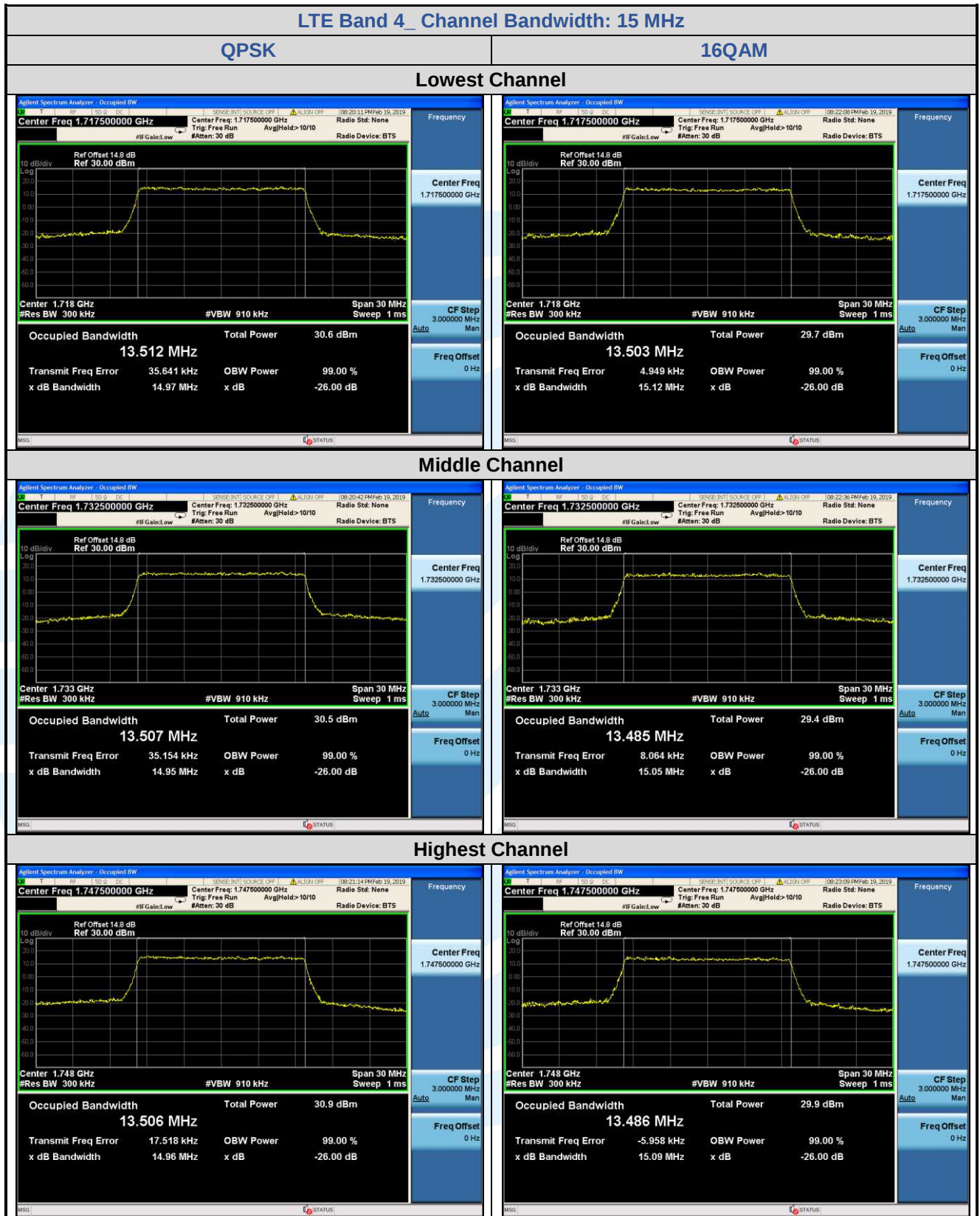
LTE Band 4								
Channel	RB Configuration		26 dB BW (MHz)			99% BW (MHz)		
	Size	Offset	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Channel Bandwidth: 1.4 MHz								
Lowest	6	0	1.274	1.297	N/A	1.0933	1.0954	N/A
Middle	6	0	1.279	1.298	N/A	1.0947	1.0985	N/A
Highest	6	0	1.271	1.298	N/A	1.0939	1.0984	N/A
Channel Bandwidth: 3 MHz								
Lowest	15	0	2.917	2.923	N/A	2.6813	2.6847	N/A
Middle	15	0	2.919	2.927	N/A	2.6848	2.6845	N/A
Highest	15	0	2.916	2.924	N/A	2.6827	2.6833	N/A
Channel Bandwidth: 5 MHz								
Lowest	25	0	5.230	5.196	N/A	4.5039	4.5091	N/A
Middle	25	0	5.245	5.214	N/A	4.5115	4.5094	N/A
Highest	25	0	5.239	5.156	N/A	4.5110	4.5070	N/A
Channel Bandwidth: 10 MHz								
Lowest	50	0	10.10	9.973	N/A	9.0248	8.9793	N/A
Middle	50	0	10.10	10.21	N/A	9.0315	8.9724	N/A
Highest	50	0	10.13	10.52	N/A	9.0119	8.9689	N/A
Channel Bandwidth: 15 MHz								
Lowest	75	0	14.97	15.12	N/A	13.512	13.503	N/A
Middle	75	0	14.95	15.05	N/A	13.507	13.485	N/A
Highest	75	0	14.96	15.09	N/A	13.506	13.486	N/A
Channel Bandwidth: 20 MHz								
Lowest	100	0	19.72	19.84	N/A	18.002	18.037	N/A
Middle	100	0	19.72	19.72	N/A	17.966	17.968	N/A
Highest	100	0	19.73	19.75	N/A	17.987	18.008	N/A

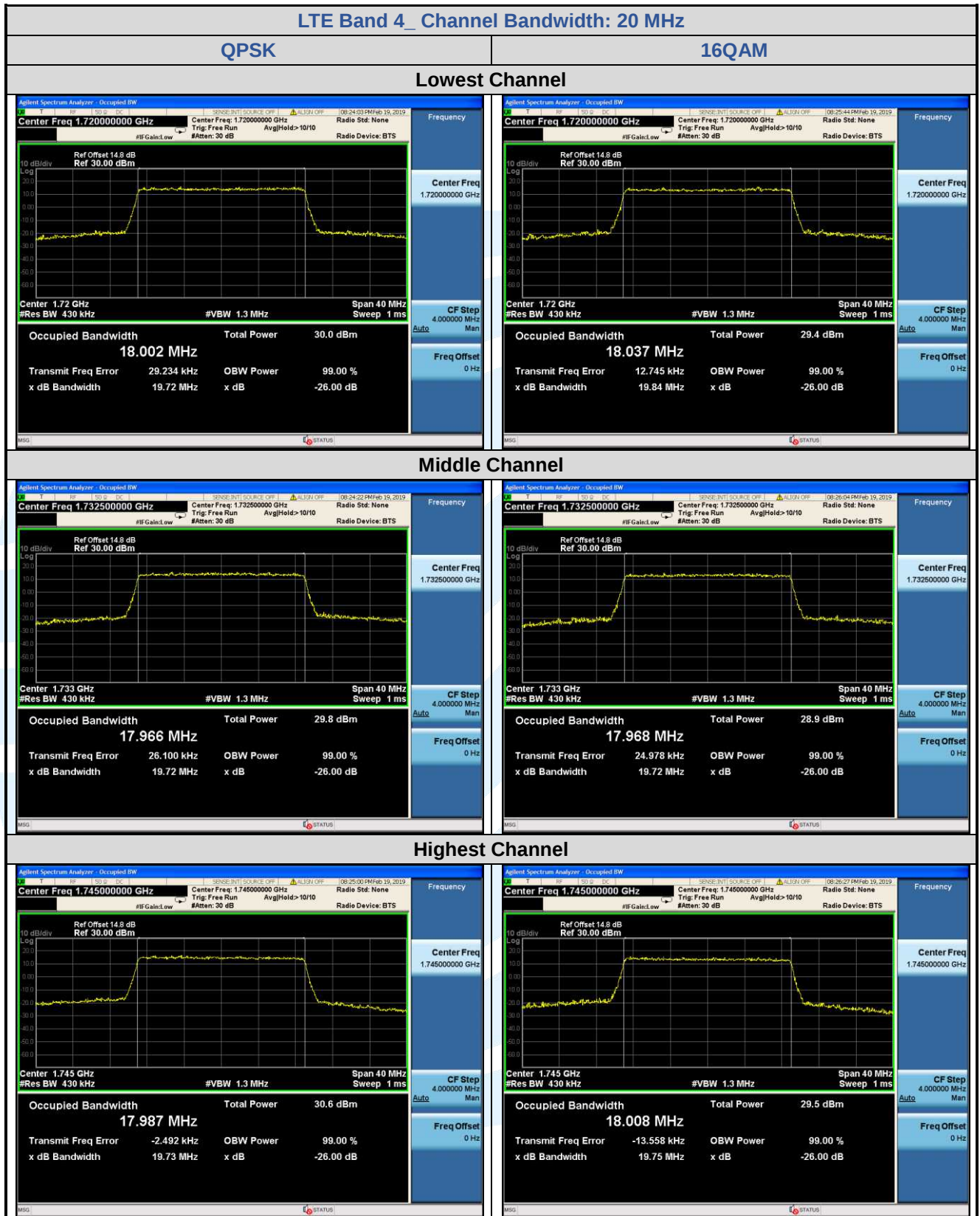












LTE Band 5

LTE Band 5								
Channel	RB Configuration		26 dB BW (MHz)			99% BW (MHz)		
	Size	Offset	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Channel Bandwidth: 1.4 MHz								
Lowest	6	0	1.286	1.279	N/A	1.1057	1.0958	N/A
Middle	6	0	1.306	1.300	N/A	1.0982	1.0957	N/A
Highest	6	0	1.289	1.310	N/A	1.0962	1.1013	N/A
Channel Bandwidth: 3 MHz								
Lowest	15	0	2.931	2.939	N/A	2.7023	2.6916	N/A
Middle	15	0	2.919	2.939	N/A	2.6948	2.6918	N/A
Highest	15	0	2.934	2.934	N/A	2.7027	2.6938	N/A
Channel Bandwidth: 5 MHz								
Lowest	25	0	5.201	5.179	N/A	4.5382	4.5198	N/A
Middle	25	0	5.157	5.197	N/A	4.5251	4.5462	N/A
Highest	25	0	5.202	5.225	N/A	4.5242	4.5529	N/A
Channel Bandwidth: 10 MHz								
Lowest	50	0	10.10	10.10	N/A	8.9980	9.0095	N/A
Middle	50	0	10.21	10.13	N/A	9.0359	9.0092	N/A
Highest	50	0	10.02	10.08	N/A	9.0014	9.0189	N/A

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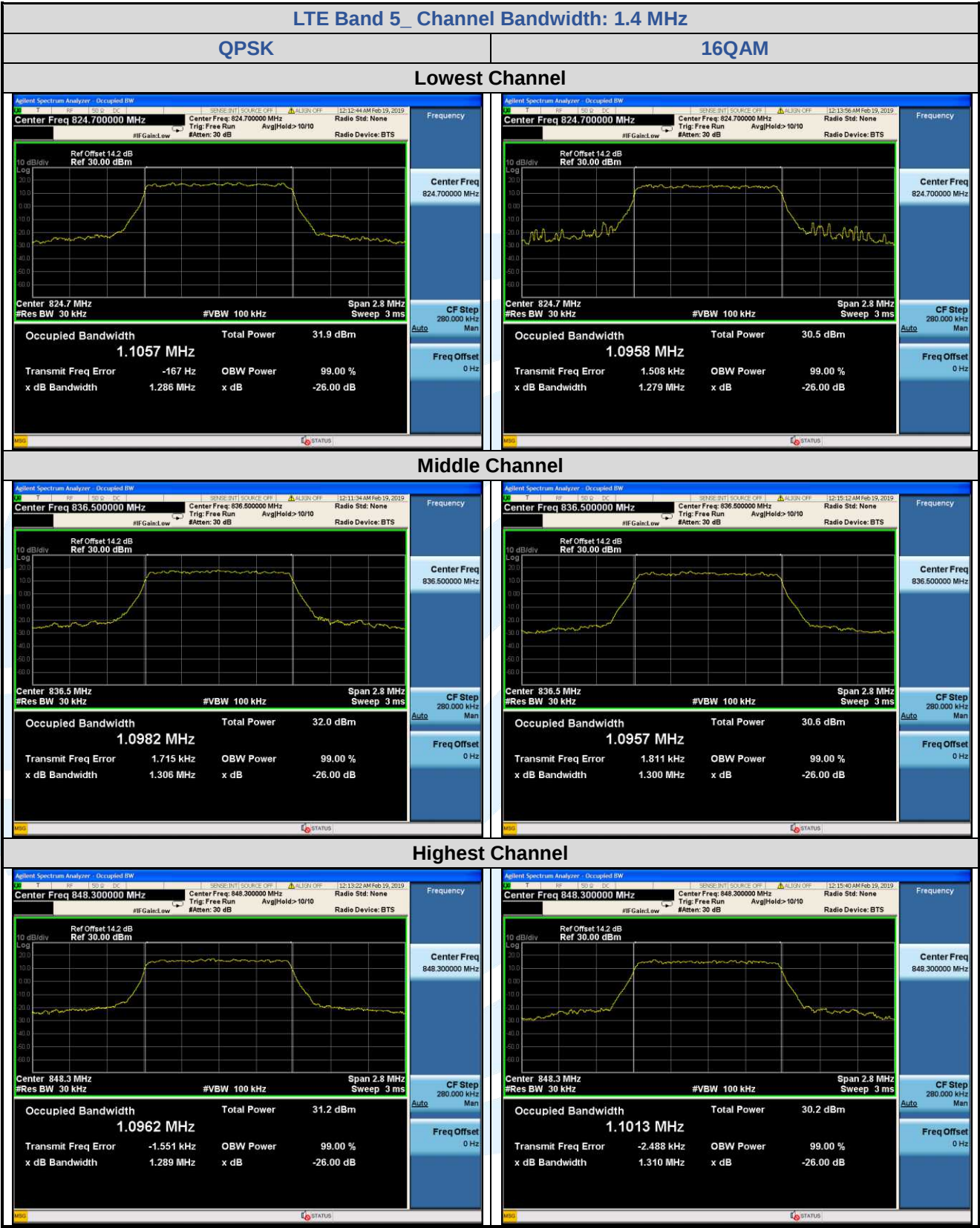
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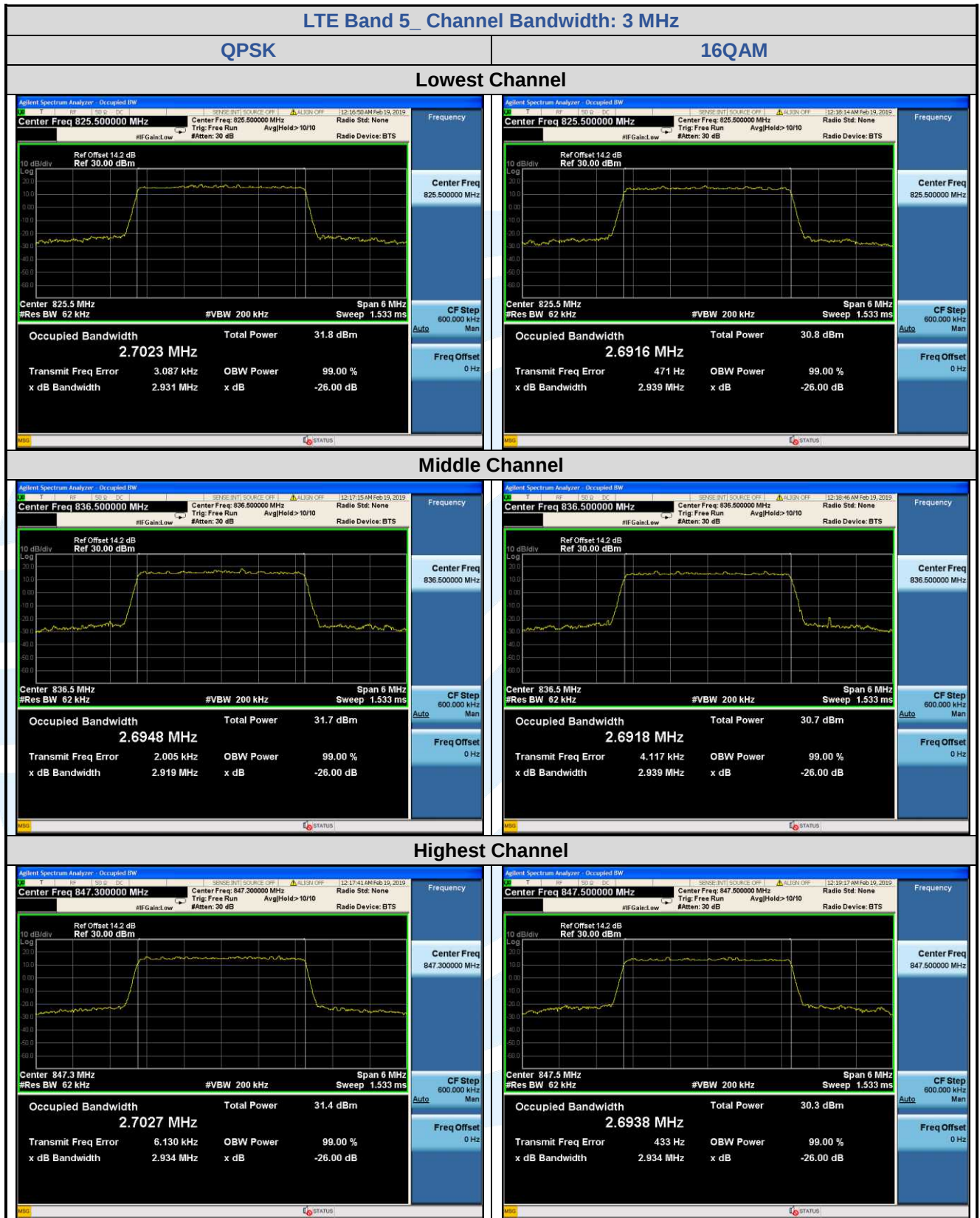
Tel: +86-755-28230888

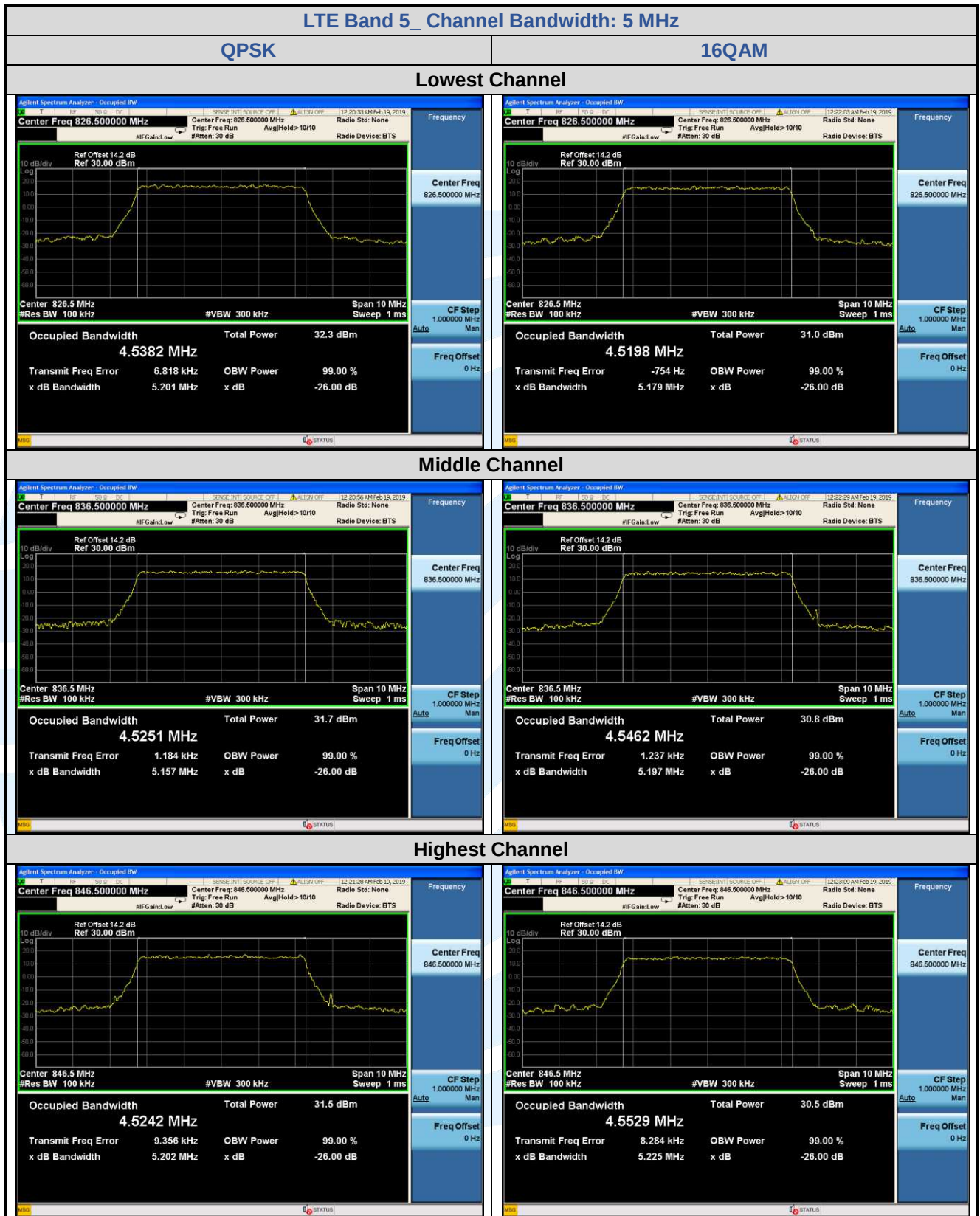
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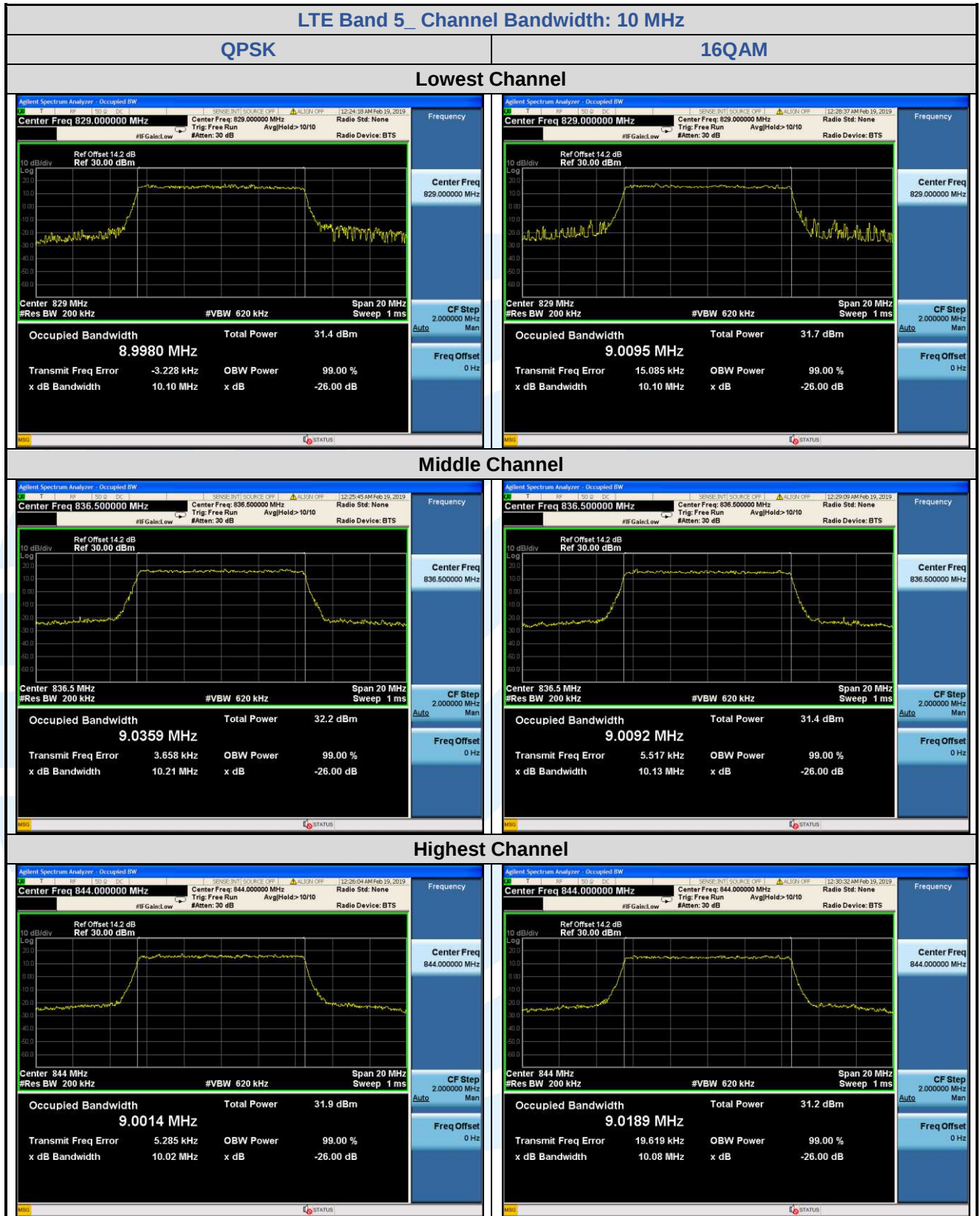
E-mail: info@uttlab.com

[Http://www.uttlab.com](http://www.uttlab.com)









LTE Band 7

LTE Band 7								
Channel	RB Configuration		26 dB BW (MHz)			99% BW (MHz)		
	Size	Offset	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Channel Bandwidth: 5 MHz								
Lowest	25	0	5.162	5.259	N/A	4.5163	4.5487	N/A
Middle	25	0	5.631	5.127	N/A	4.5405	4.5286	N/A
Highest	25	0	5.221	5.250	N/A	4.5217	4.5459	N/A
Channel Bandwidth: 10 MHz								
Lowest	50	0	10.17	10.13	N/A	9.0215	9.0130	N/A
Middle	50	0	10.20	9.913	N/A	9.0243	9.0231	N/A
Highest	50	0	10.08	9.941	N/A	8.9828	9.0095	N/A
Channel Bandwidth: 15 MHz								
Lowest	75	0	15.11	14.98	N/A	13.532	13.524	N/A
Middle	75	0	15.04	15.03	N/A	13.518	13.534	N/A
Highest	75	0	15.09	14.97	N/A	13.497	13.484	N/A
Channel Bandwidth: 20 MHz								
Lowest	100	0	19.68	19.91	N/A	18.015	18.025	N/A
Middle	100	0	19.63	19.80	N/A	17.976	18.025	N/A
Highest	100	0	19.69	19.82	N/A	17.984	18.023	N/A

Shenzhen UnionTrust Quality and Technology Co., Ltd.

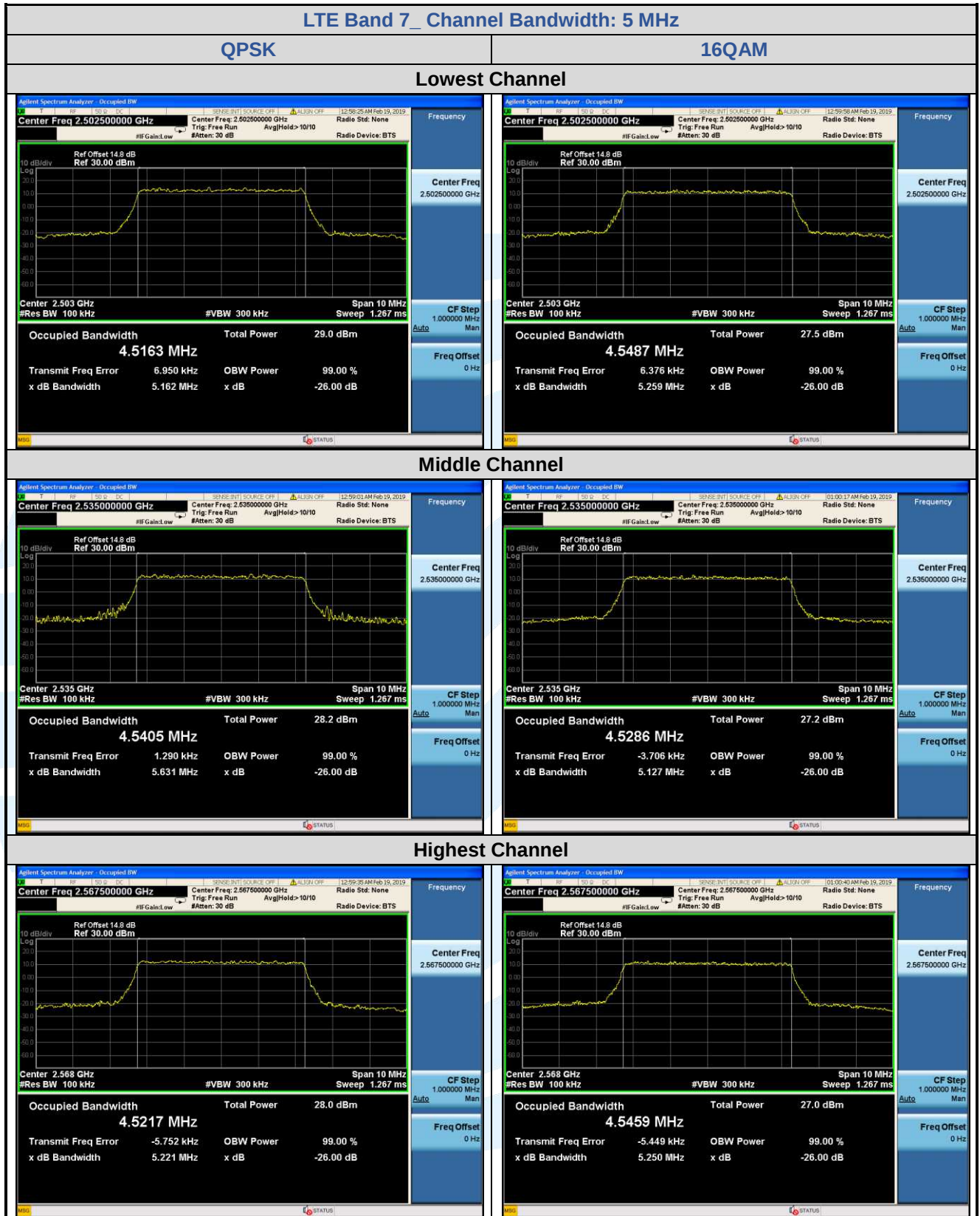
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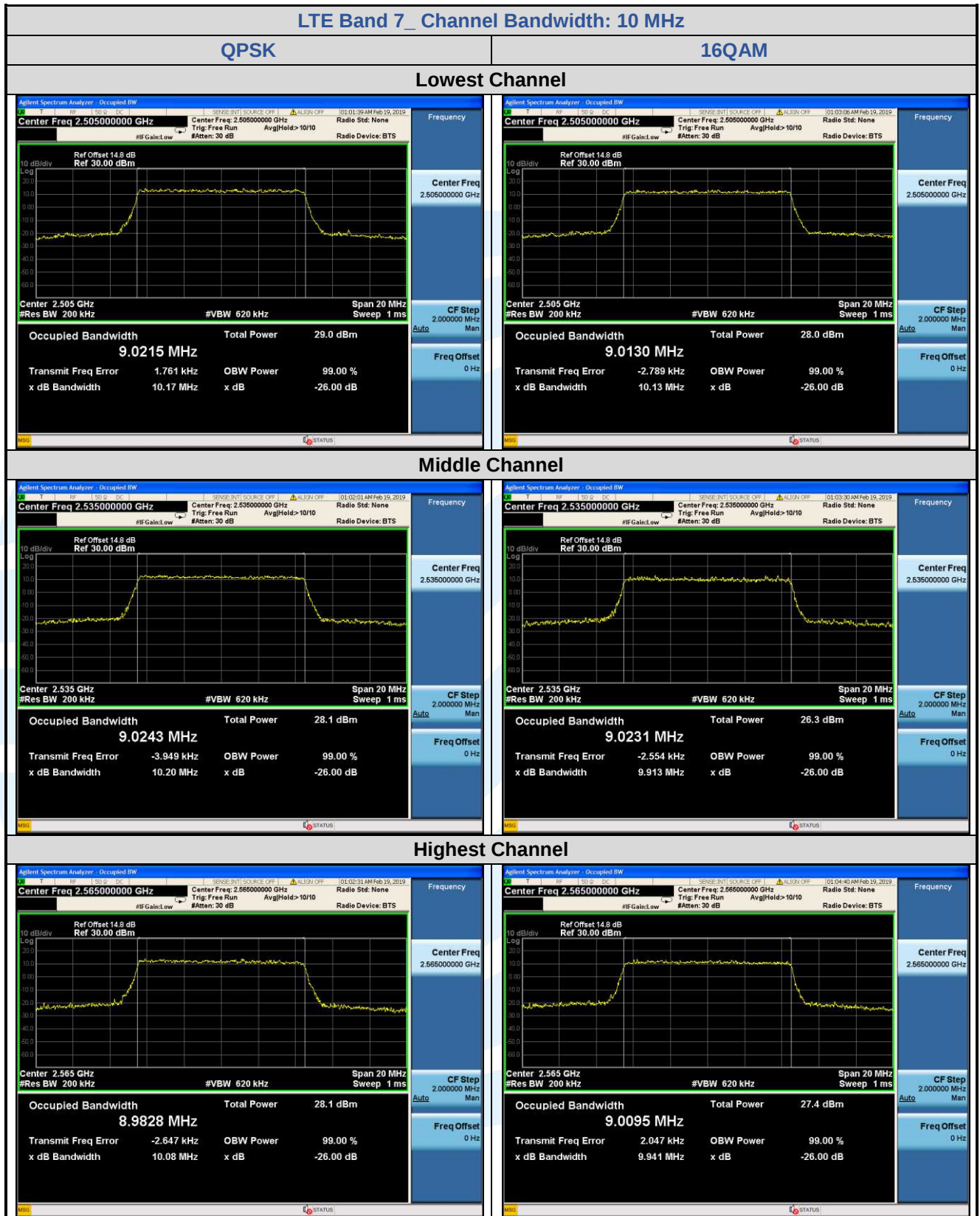
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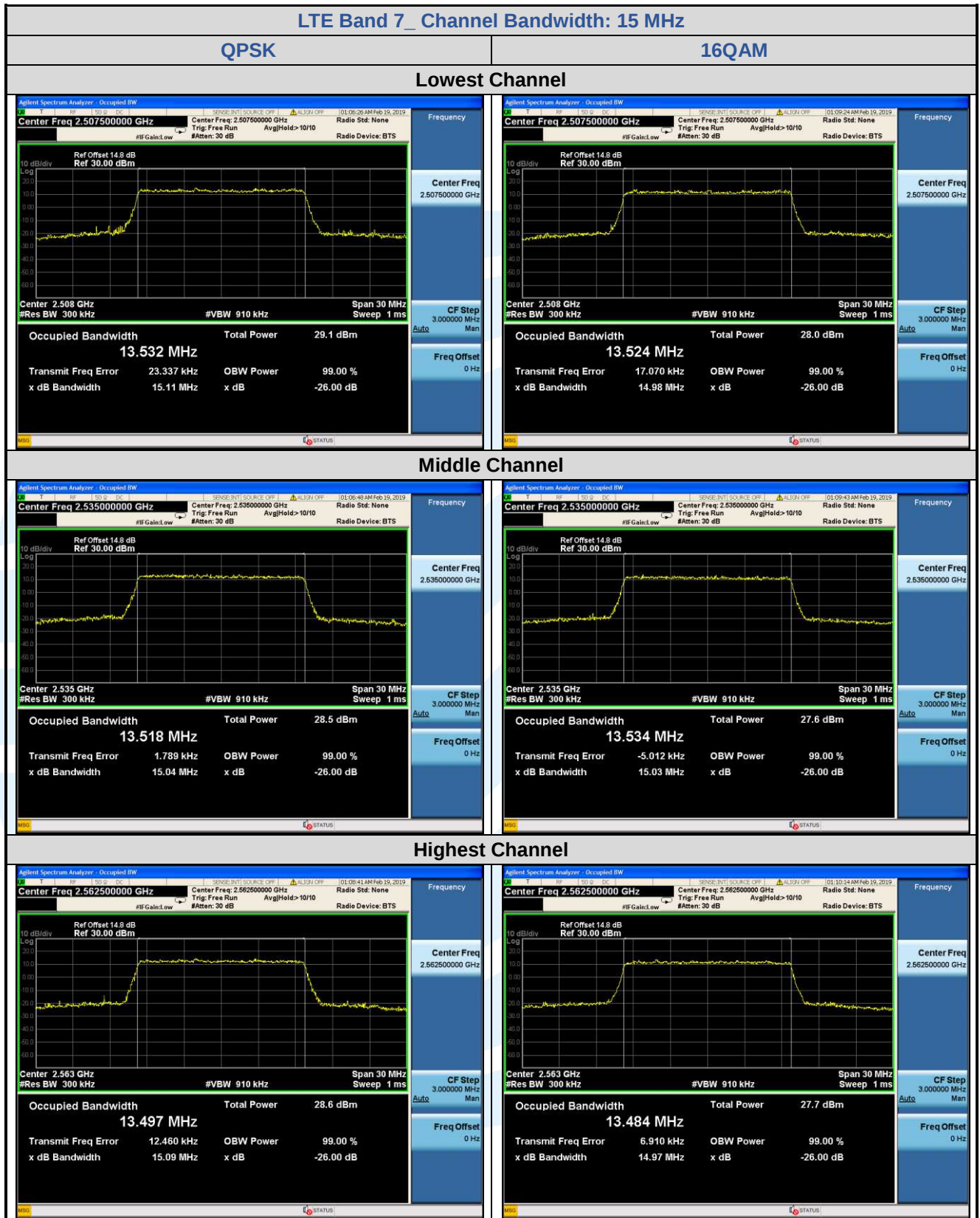
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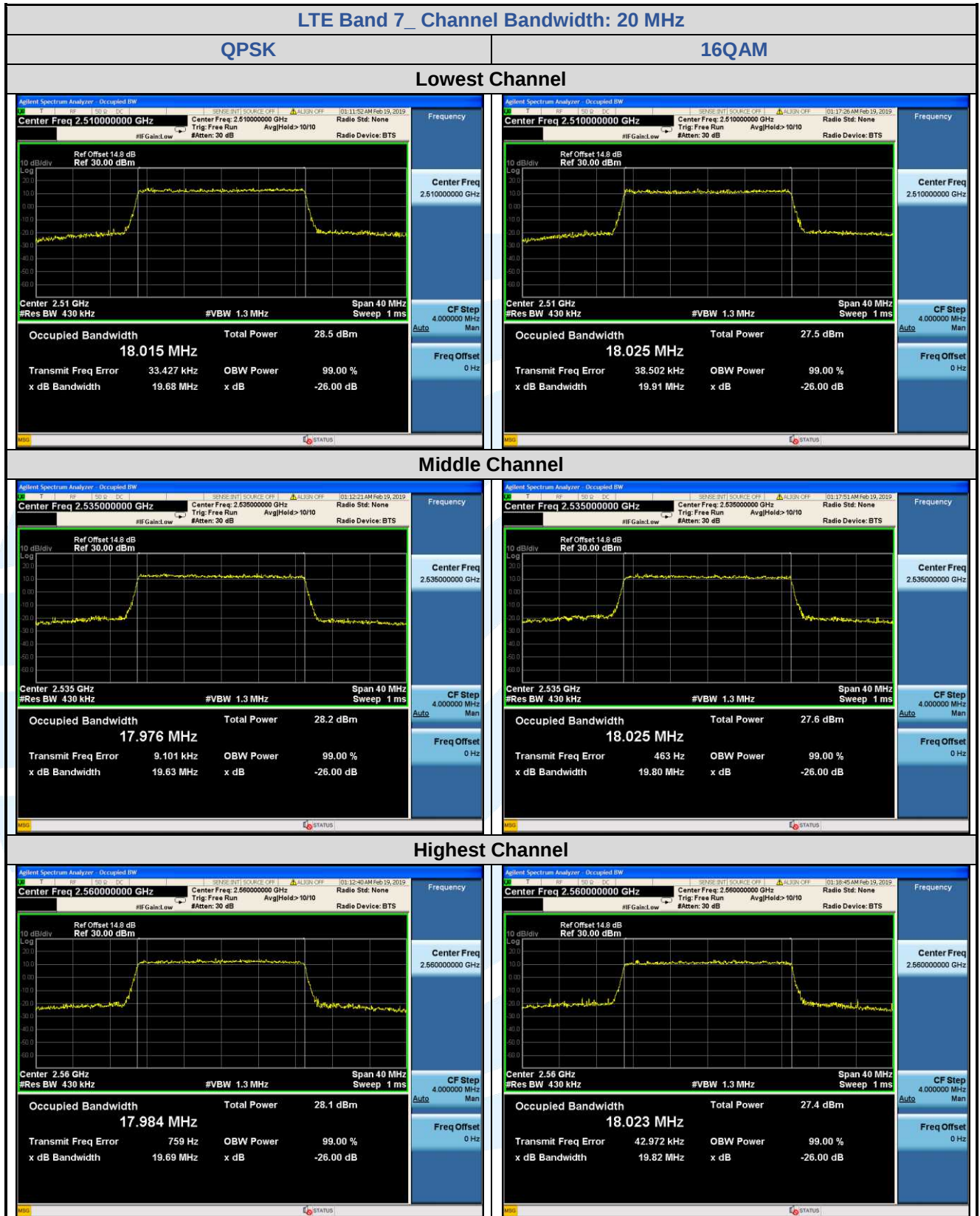
E-mail: info@uttlab.com

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5.6 BAND EDGE AT ANTENNA TERMINALS

Test Requirement: FCC 47 CFR Part 2.1051,
GSM 850 & WCDMA Band V & LTE Band 5: FCC 47 CFR Part 22.917(a),
GSM 1900 & WCDMA Band II & LTE Band 2: FCC 47 CFR Part 24.238(a),
LTE Band 4: FCC 47 CFR Part 27.53(h)(1),
LTE Band 7: FCC 47 CFR Part 27.53(m)(4)

Test Method: ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01

Limit:

FCC 47 CFR Part 22 & FCC 47 CFR Part 24: The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. The emission limit equal to -13 dBm.

FCC 47 CFR Part 27.53(h)(1): Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB. The emission limit equal to -13 dBm.

FCC 47 CFR Part 27.53(m)(4): For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log(P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log(P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log(P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log(P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log(P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

Test Procedure:

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer.

For each band edge measurement:

- 1) Set the spectrum analyzer span to include the block edge frequency.
- 2) Set a marker to point the corresponding band edge frequency in each test case.
- 3) Set display line at -13 dBm
- 4) Set resolution bandwidth to at least 1% of emission bandwidth.
- 5) Set spectrum analyzer with RMS detector.
- 6) Record the max trace plot into the test report

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

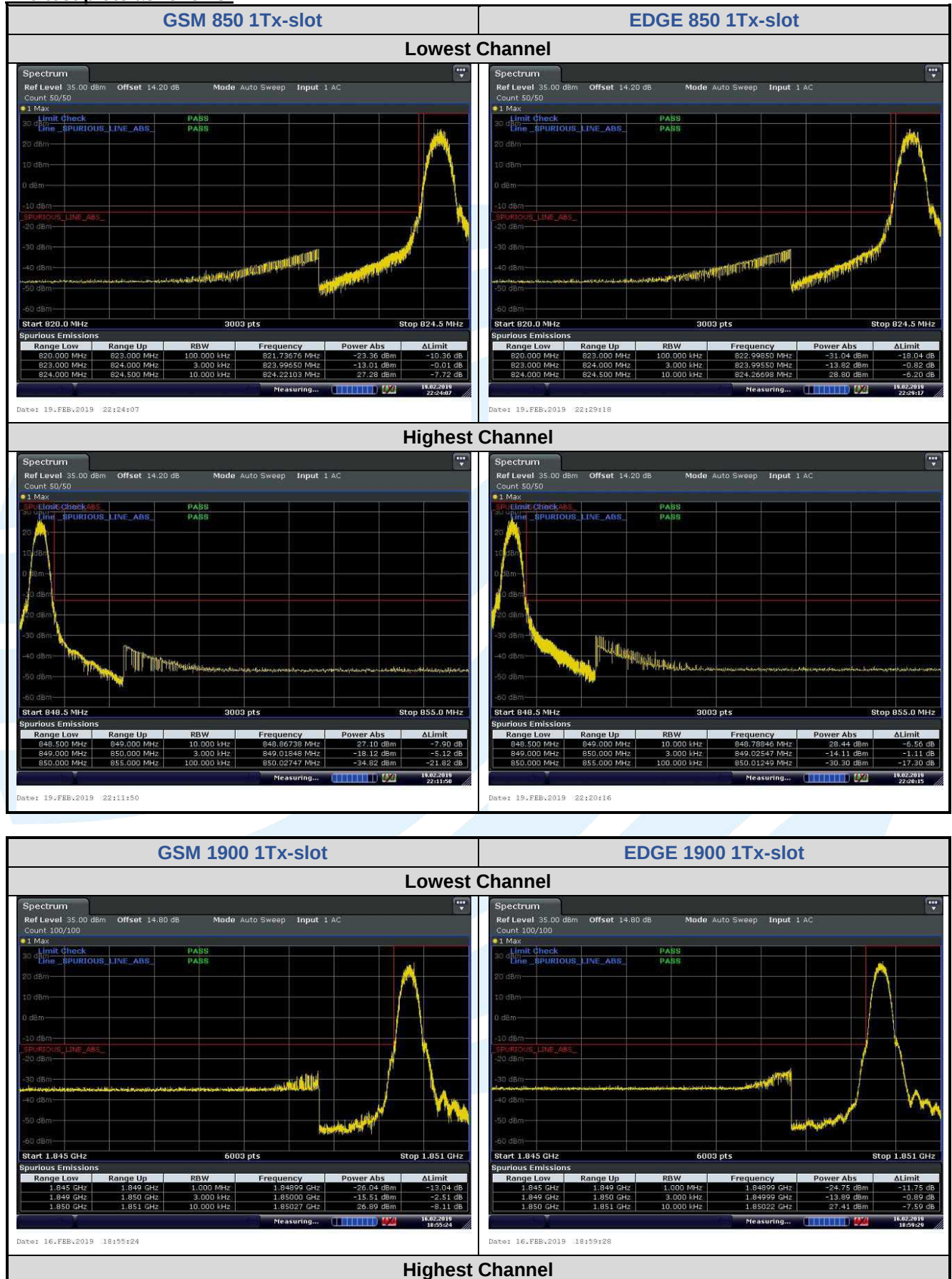
Test Setup: Refer to section 4.2.2 for details.

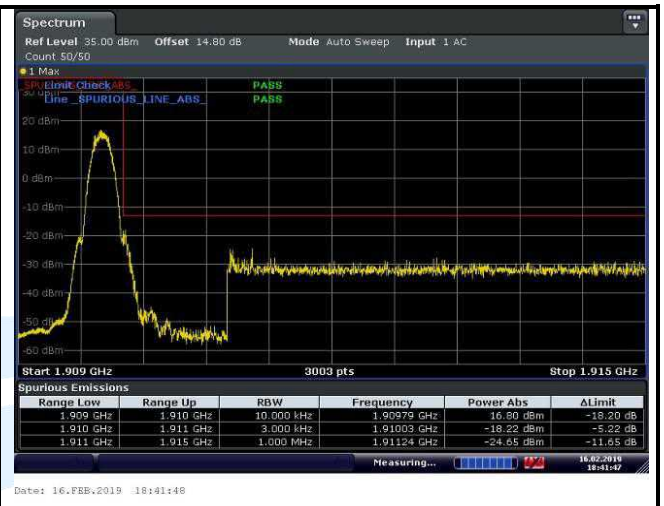
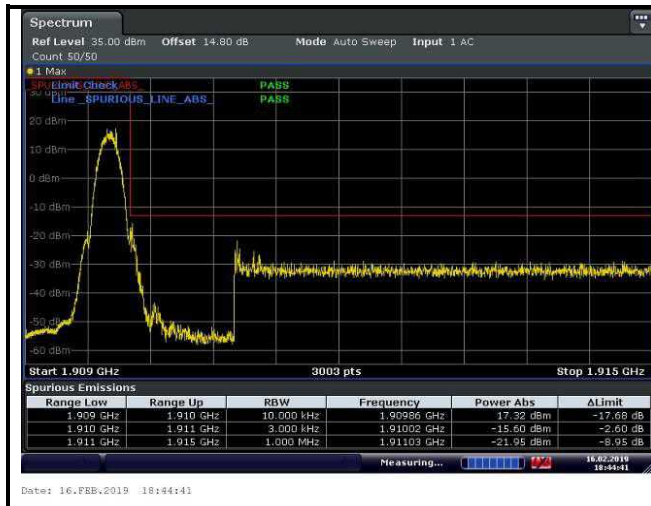
Instruments Used: Refer to section 3 for details

Test Mode: Link mode

Test Results: Pass

The test plots as follows:





WCDMA Band II

Lowest Channel



Highest Channel



WCDMA Band V

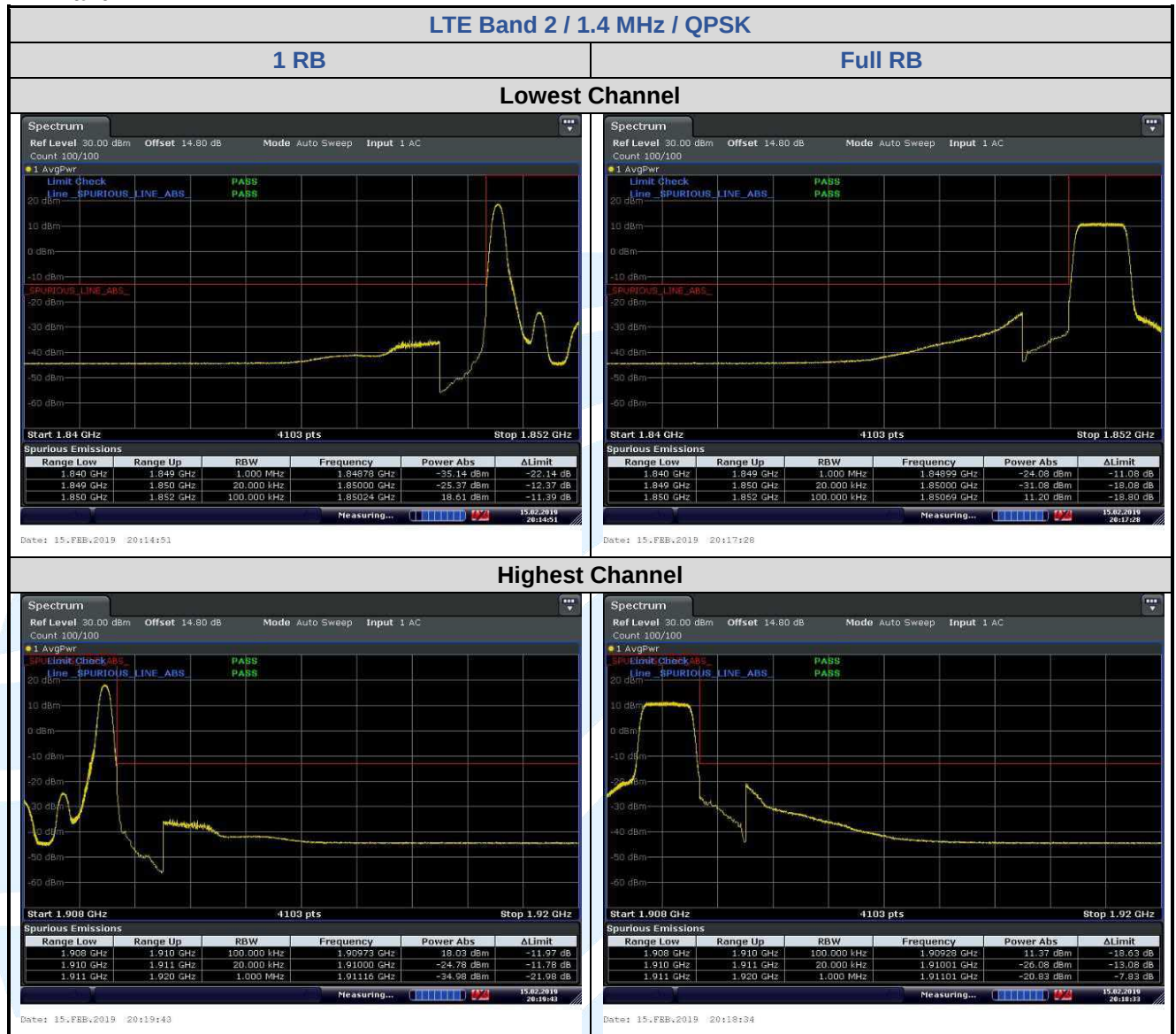
Lowest Channel

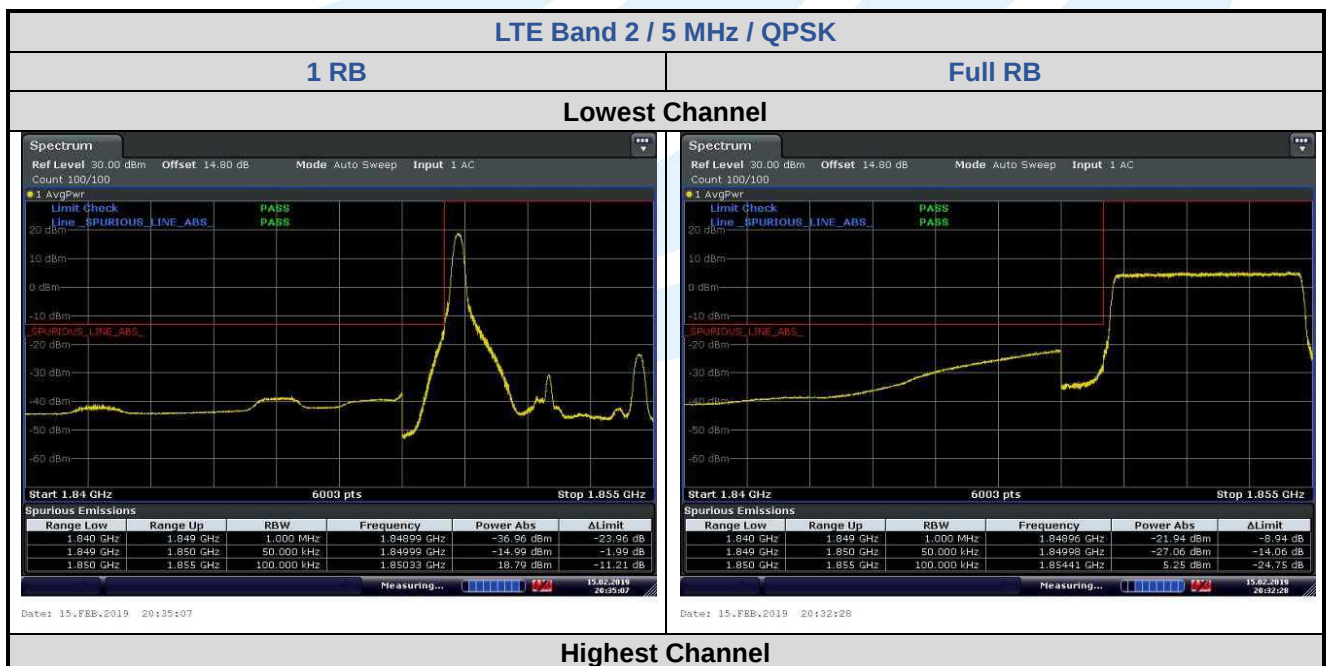
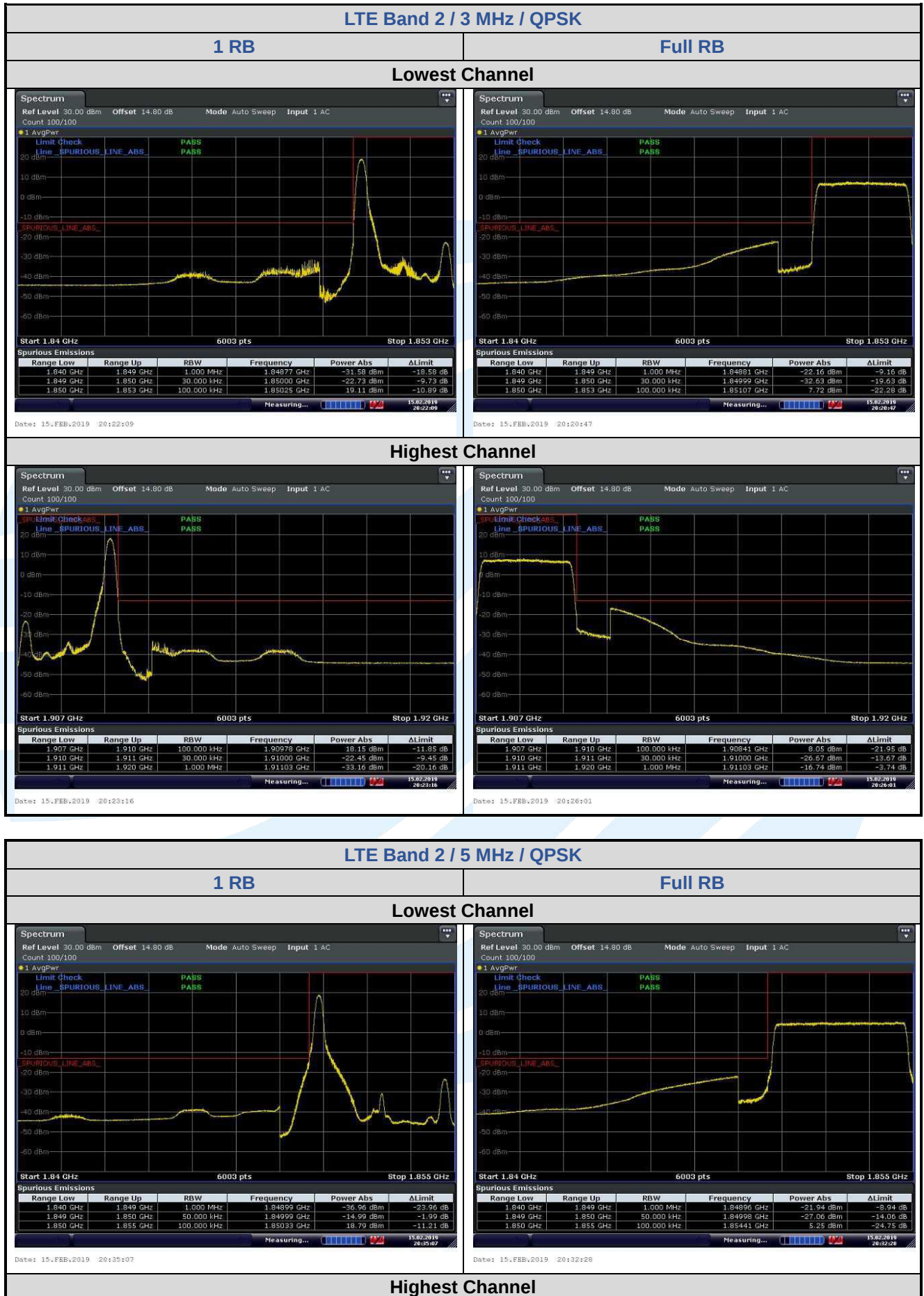


Highest Channel



LTE Band 2





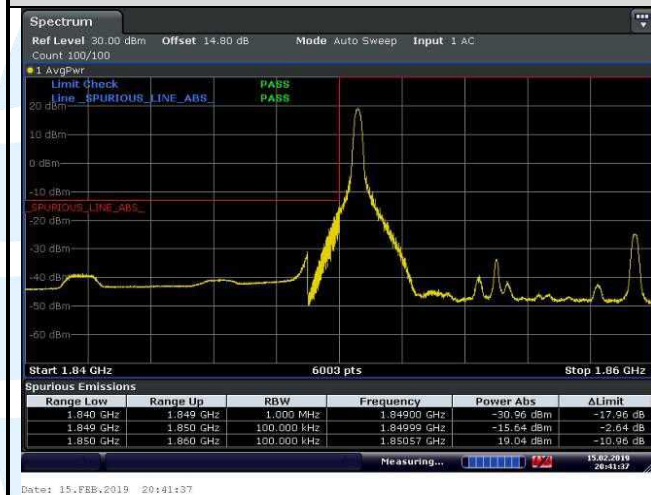


LTE Band 2 / 10 MHz / QPSK

1 RB

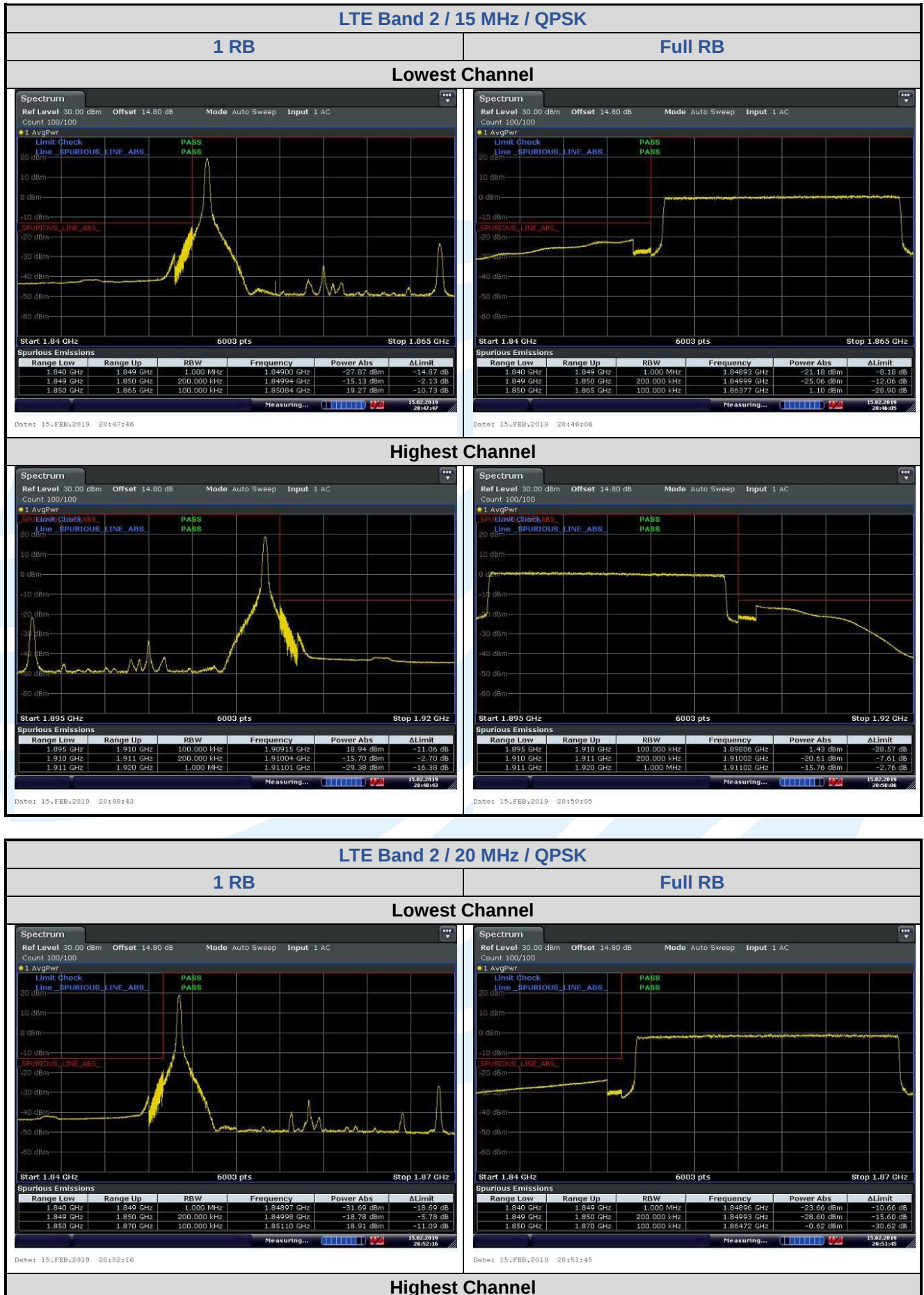
Full RB

Lowest Channel



Highest Channel




LTE Band 2 / 20 MHz / QPSK
1 RB
Full RB
Lowest Channel



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84997 GHz	-31.69 dBm	-18.69 dB
1.849 GHz	1.850 GHz	200.000 kHz	1.84998 GHz	-18.78 dBm	-5.78 dB
1.850 GHz	1.870 GHz	100.000 kHz	1.85110 GHz	18.91 dBm	-11.09 dB

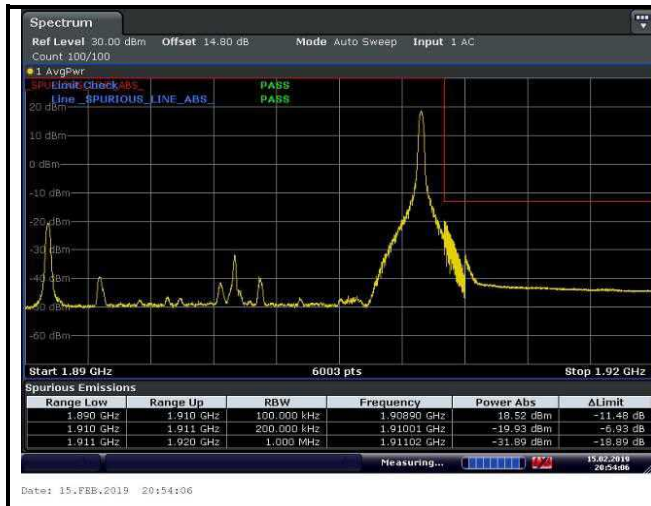
Date: 15.FEB.2019 20:52:16



Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84996 GHz	-23.66 dBm	-10.66 dB
1.849 GHz	1.850 GHz	200.000 kHz	1.84993 GHz	-28.60 dBm	-15.60 dB
1.850 GHz	1.870 GHz	100.000 kHz	1.85472 GHz	-0.62 dBm	-30.62 dB

Date: 15.FEB.2019 20:51:45

Highest Channel



LTE Band 2 / 1.4 MHz / 16QAM

1 RB

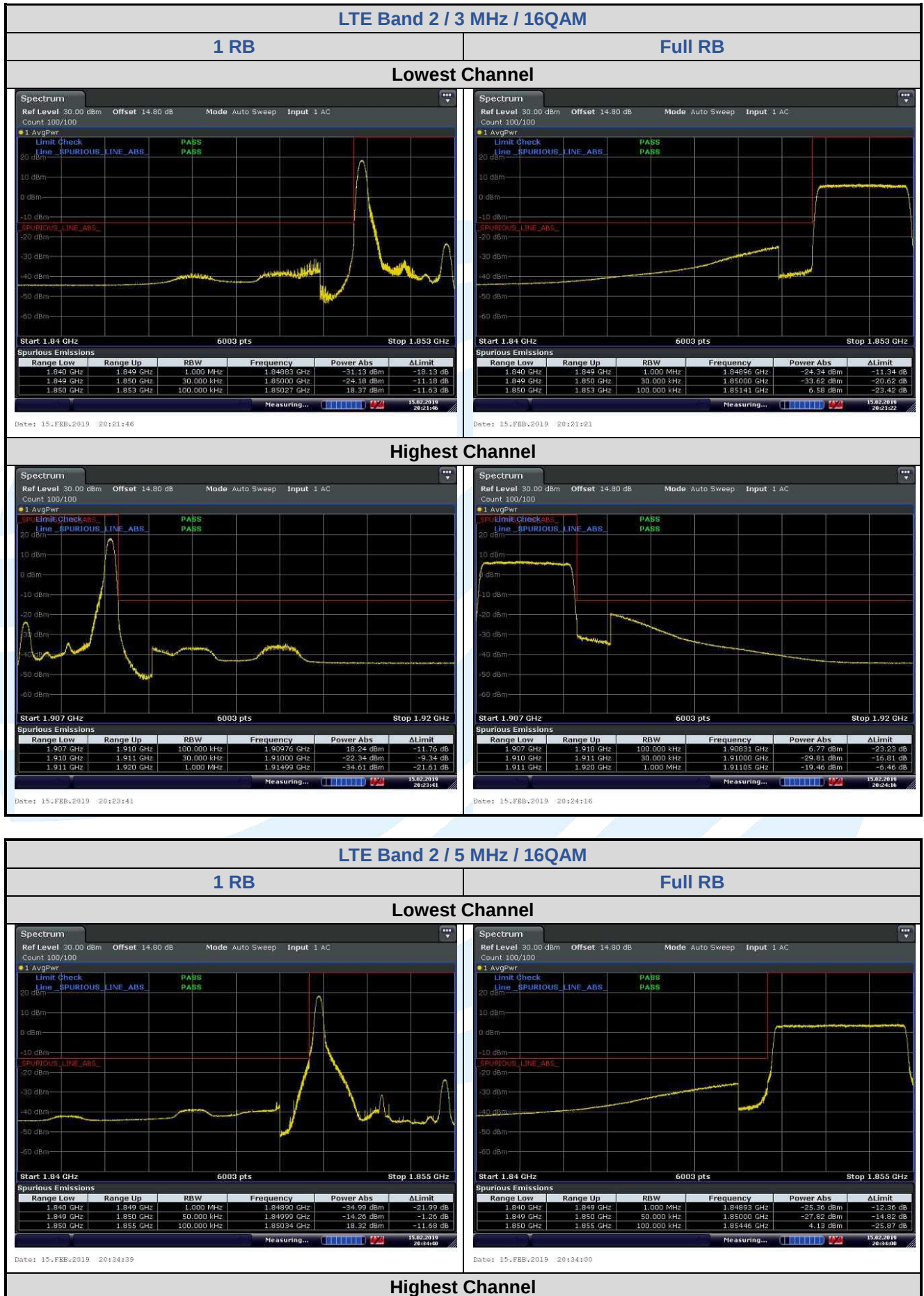
Full RB

Lowest Channel



Highest Channel

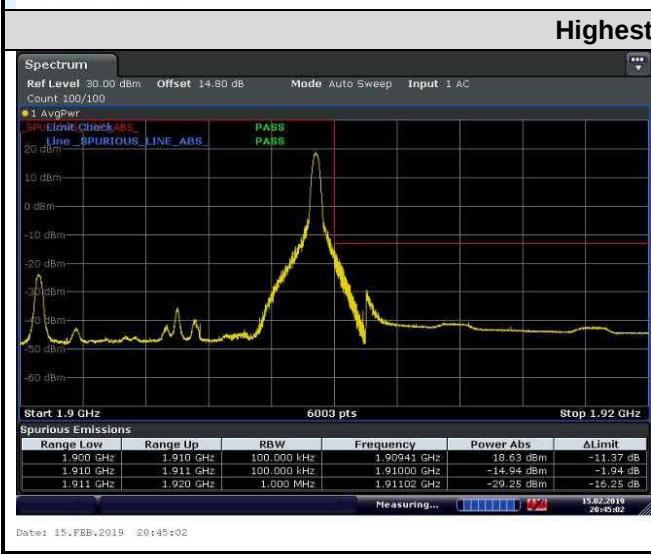
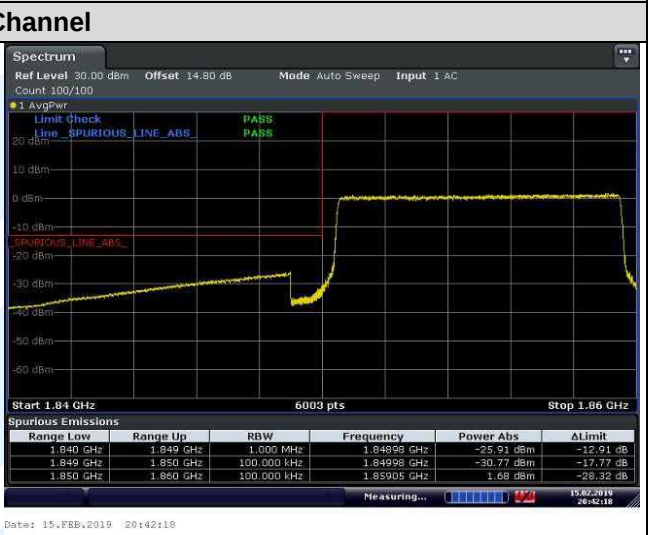


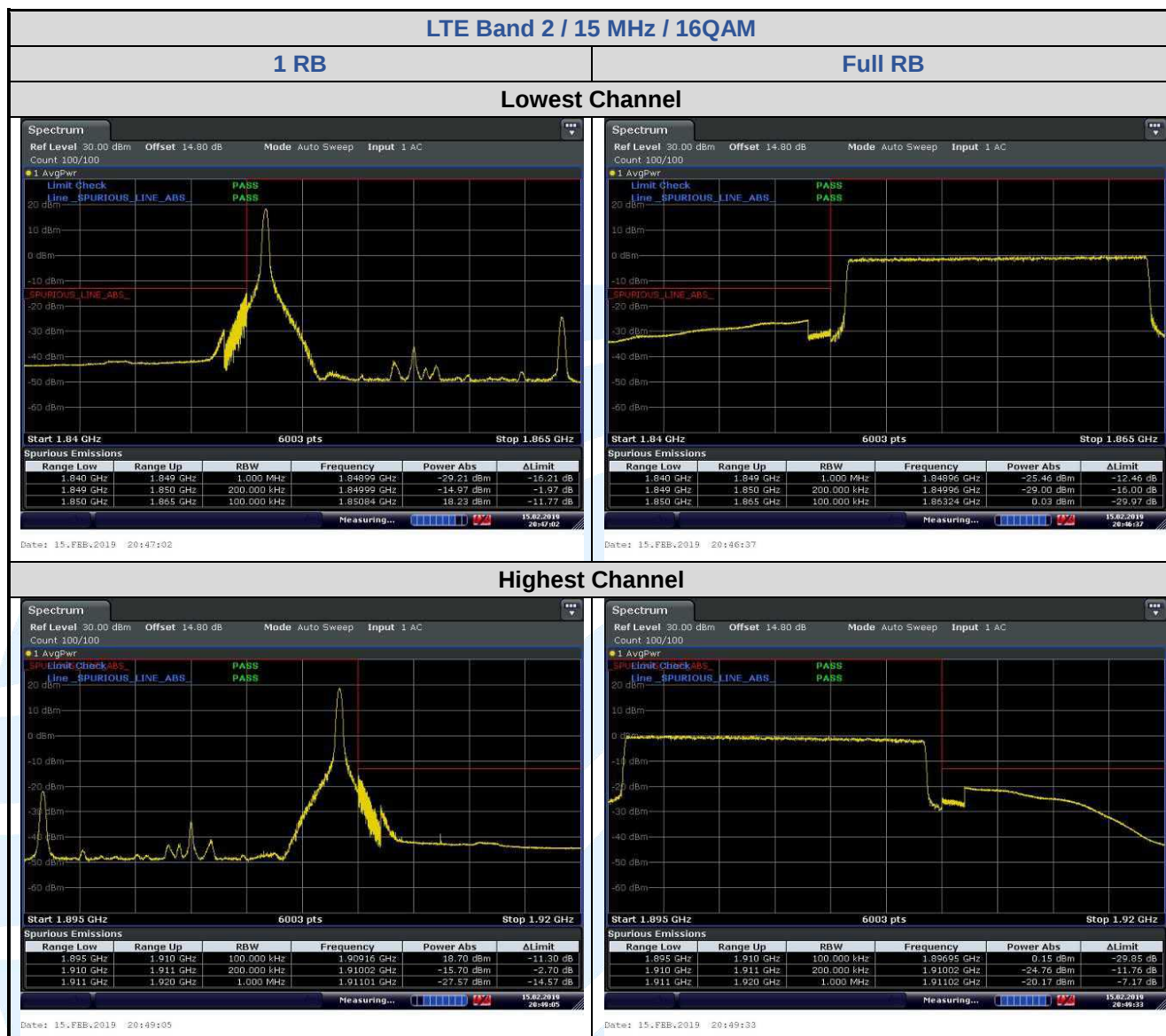


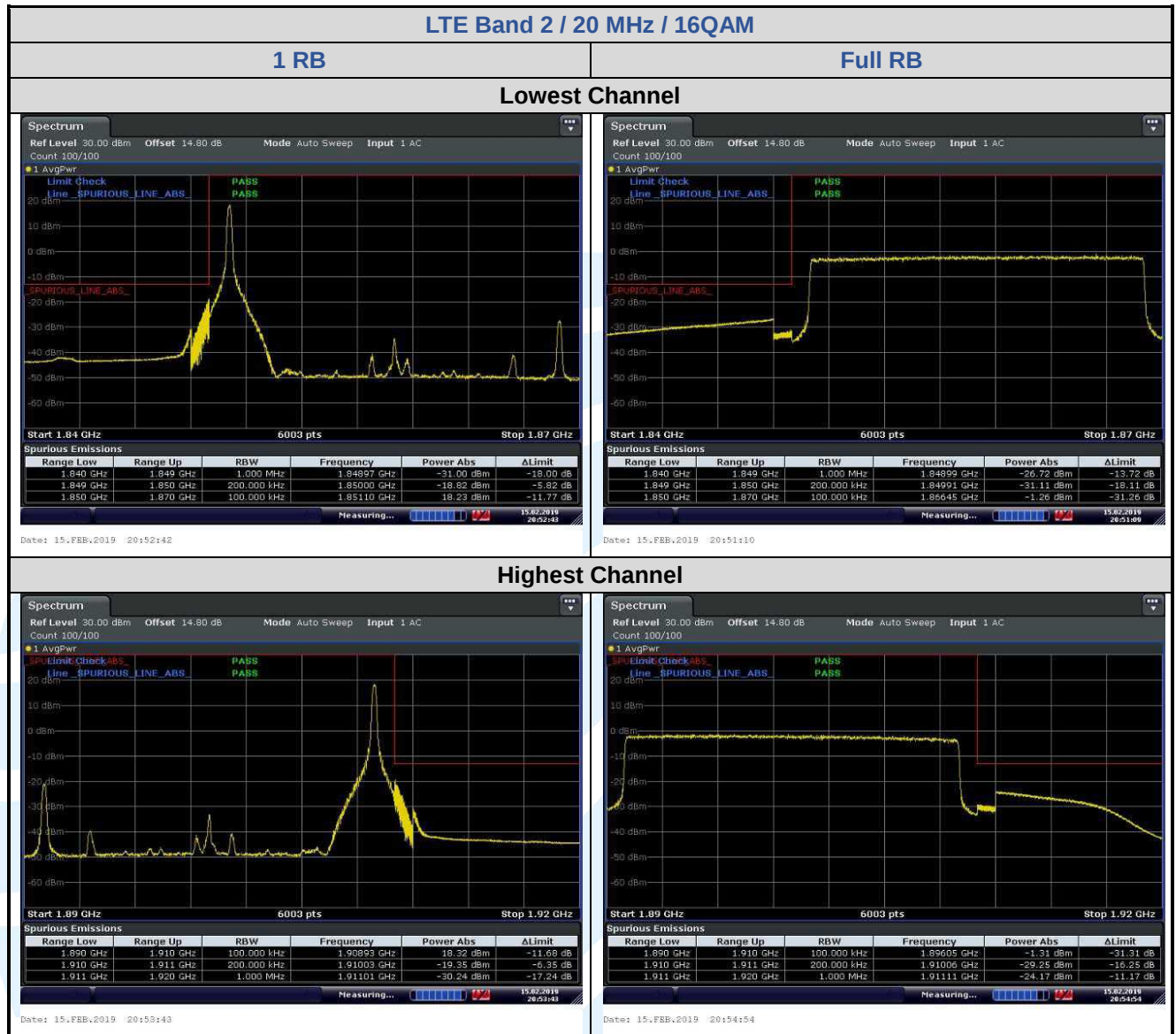


LTE Band 2 / 10 MHz / 16QAM

1 RB Full RB







LTE Band 4

