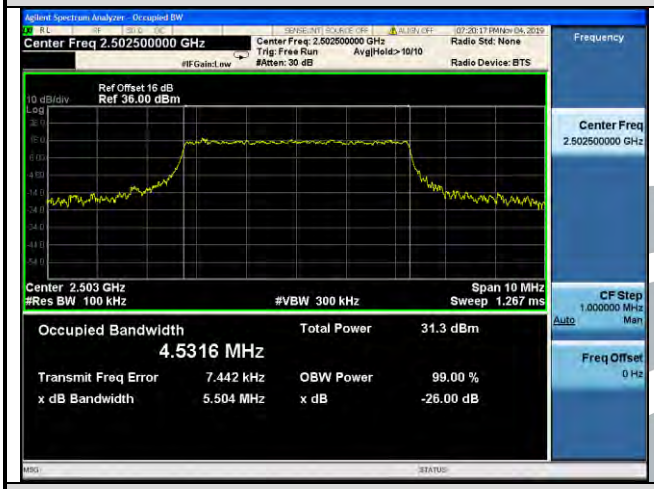
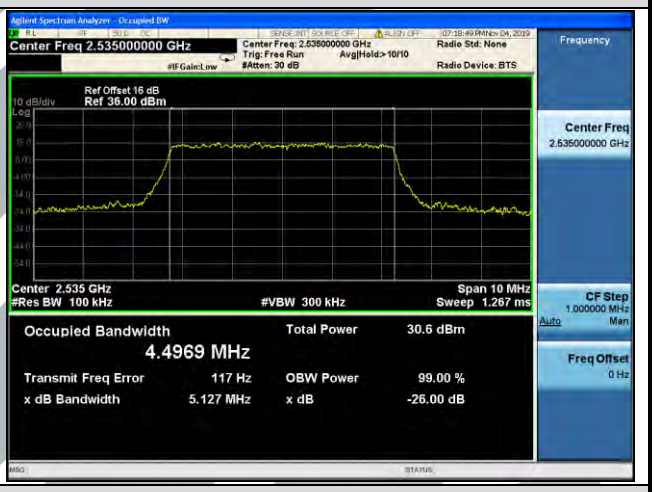
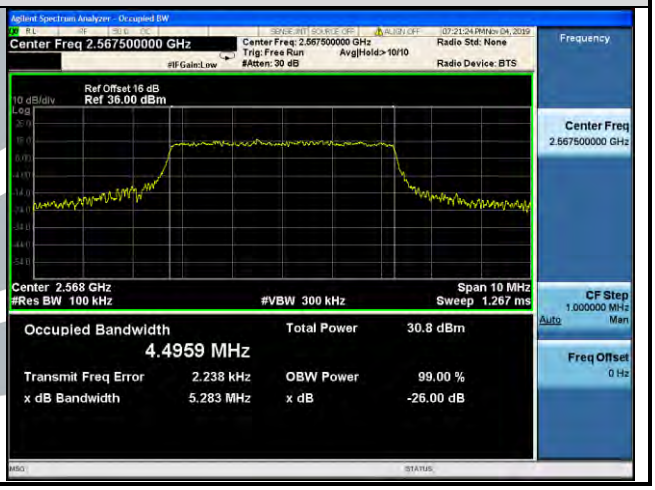
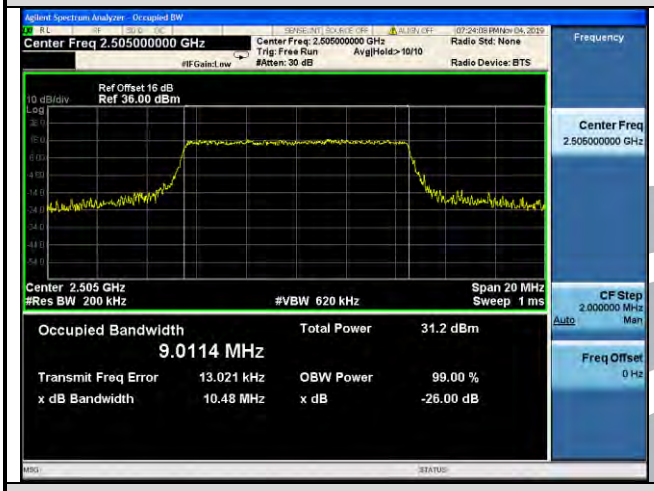
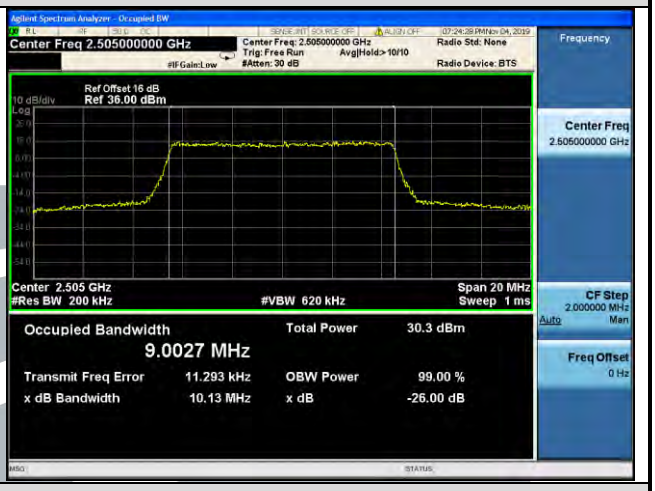
LTE Band 7_ Channel Bandwidth: 5 MHz	
QPSK	16QAM
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

LTE Band 7_ Channel Bandwidth: 10 MHz

QPSK	16QAM

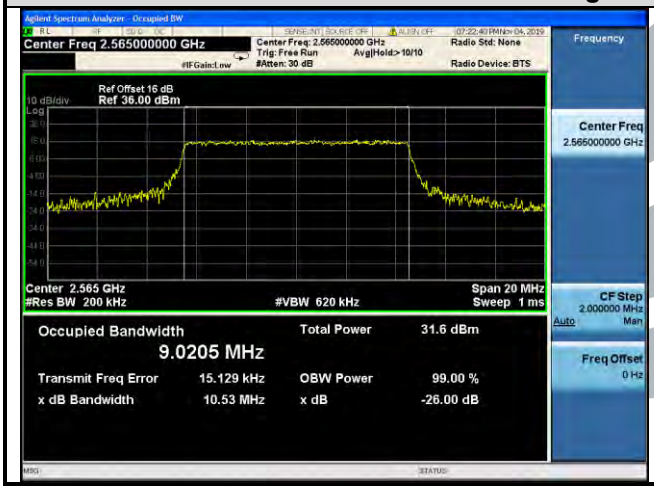
Lowest Channel

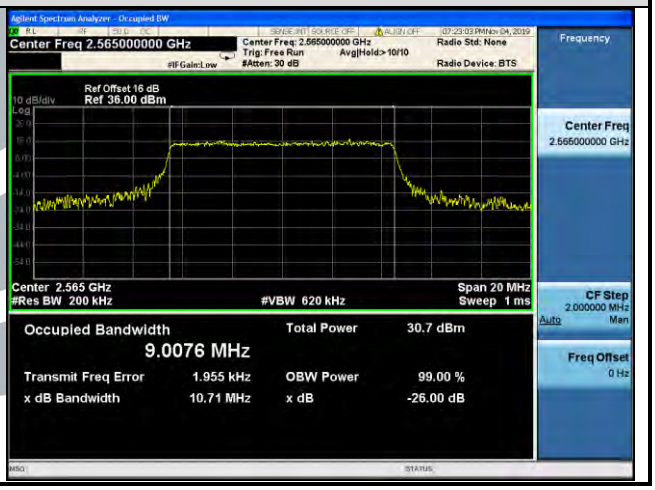




Middle Channel

Highest Channel

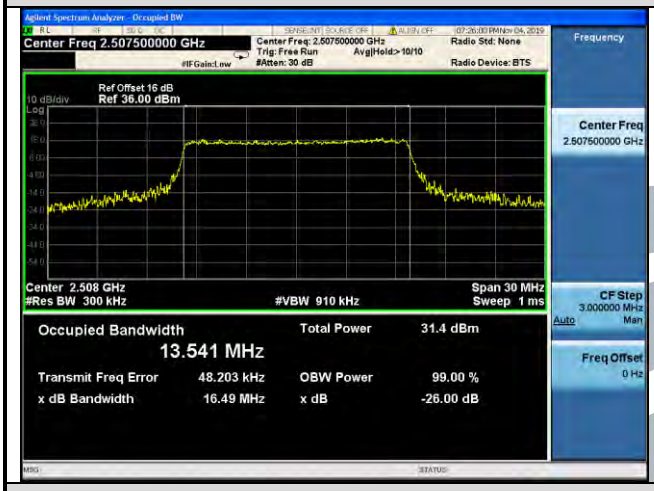




LTE Band 7_ Channel Bandwidth: 15 MHz

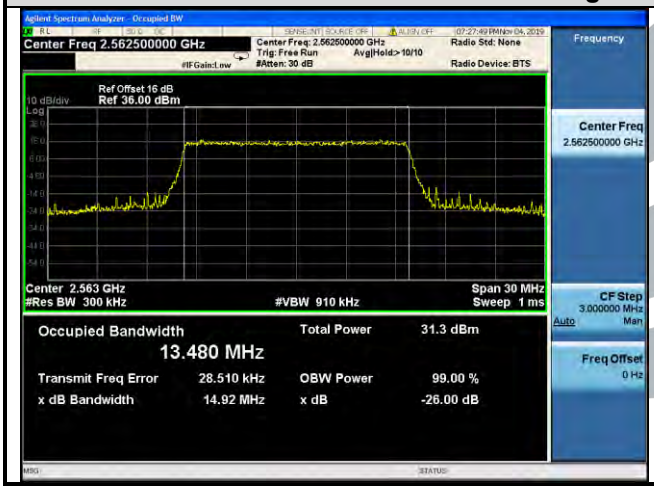
QPSK	16QAM

Lowest Channel



Middle Channel

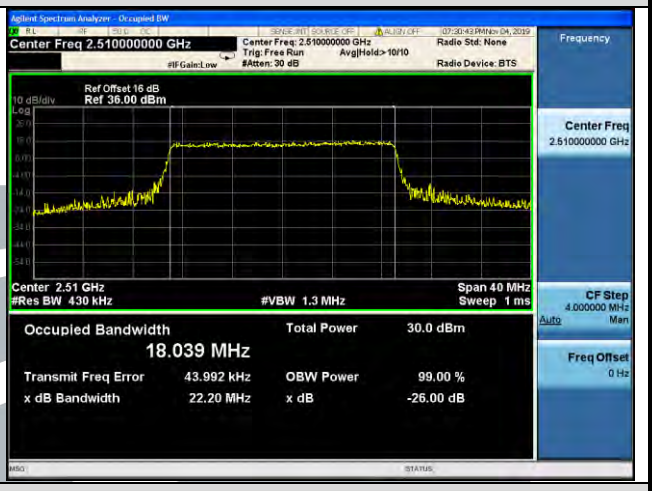
Highest Channel



LTE Band 7_ Channel Bandwidth: 20 MHz

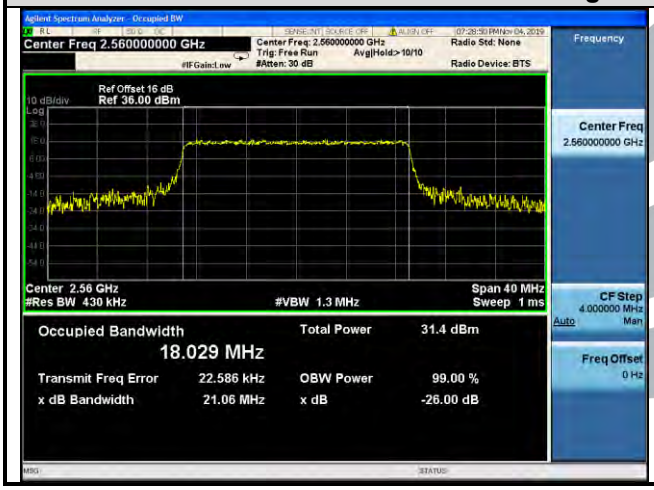
QPSK	16QAM

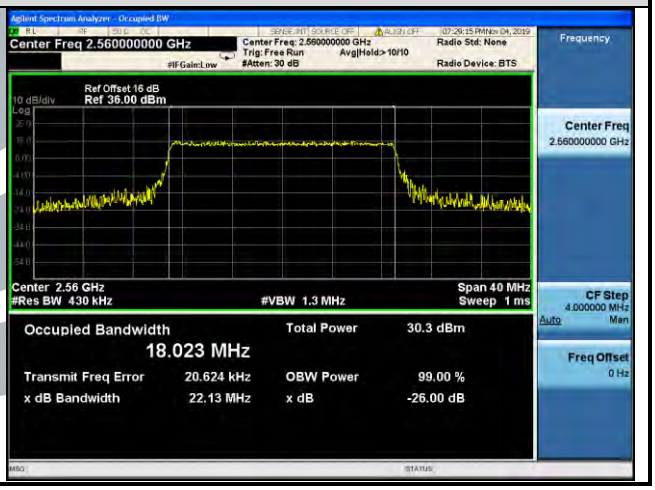
Lowest Channel



Middle Channel

Highest Channel



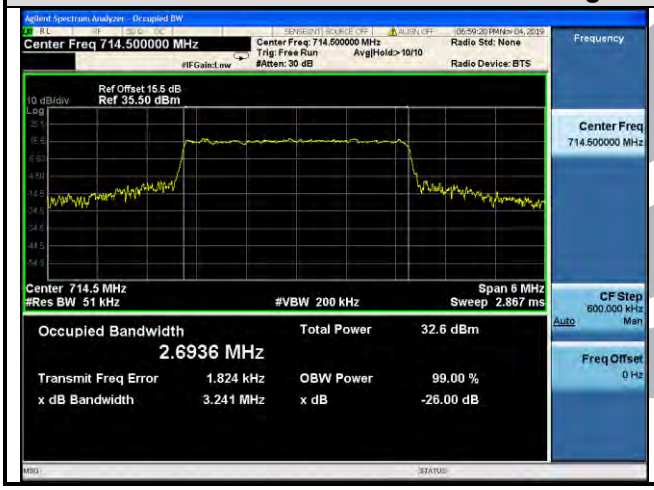


5.5.5 LTE Band 12

LTE Band 12								
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	1.283	1.277	/	1.0976	1.0929	/
Middle	6	0	1.290	1.296	/	1.0961	1.0905	/
Highest	6	0	1.278	1.278	/	1.0957	1.0913	/
Channel Bandwidth: 3 MHz								
Lowest	15	0	2.903	2.895	/	2.6859	2.6786	/
Middle	15	0	2.913	2.887	/	2.6862	2.6771	/
Highest	15	0	3.241	2.889	/	2.6936	2.6780	/
Channel Bandwidth: 5 MHz								
Lowest	25	0	5.172	5.214	/	4.5184	4.5412	/
Middle	25	0	5.162	5.085	/	4.5098	4.4889	/
Highest	25	0	5.141	5.138	/	4.5178	4.5035	/
Channel Bandwidth: 10 MHz								
Lowest	50	0	10.14	10.10	/	8.9956	9.0135	/
Middle	50	0	10.06	9.936	/	8.9743	8.9740	/
Highest	50	0	10.07	9.980	/	8.9888	8.9878	/

LTE Band 12_ Channel Bandwidth: 1.4 MHz

QPSK	16QAM
Lowest Channel	
Middle Channel	
Highest Channel	

LTE Band 12_ Channel Bandwidth: 3 MHz	
QPSK	16QAM
Lowest Channel	
Middle Channel	
Highest Channel	
	

LTE Band 12_ Channel Bandwidth: 5 MHz	
QPSK	16QAM
Lowest Channel	
Middle Channel	
Highest Channel	

LTE Band 12_ Channel Bandwidth: 10 MHz

QPSK	16QAM

Lowest Channel

Middle Channel

Highest Channel

5.5.6 LTE Band 17

LTE Band 13								
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	5.147	5.116	/	4.5181	4.4888	/
Middle	25	0	5.116	5.078	/	4.5129	4.4943	/
Highest	25	0	5.100	5.079	/	4.5195	4.5031	/
Channel Bandwidth: 10 MHz								
Lowest	50	0	10.06	10.00	/	8.9807	8.9650	/
Middle	50	0	10.04	10.06	/	8.9870	8.9673	/
Highest	50	0	10.28	10.04	/	8.9800	8.9898	/

LTE Band 13_ Channel Bandwidth: 5 MHz	
QPSK	16QAM
Lowest Channel	
Middle Channel	
Highest Channel	

LTE Band 13_ Channel Bandwidth: 10 MHz	
QPSK	16QAM
Lowest Channel	
Middle Channel	
Highest Channel	

5.6 BAND EDGE AT ANTENNA TERMINALS

Test Requirement: **LTE Band 2:** FCC 47 CFR Part 24.238(a)
LTE Band 4: FCC 47 CFR Part 27.53(h)(1)
LTE Band 5: FCC 47 CFR Part 22.917(a)
LTE Band 7: FCC 47 CFR Part 27.53(m)(4)
LTE Band 12: FCC 47 CFR Part 27.53(g)
LTE Band 17: FCC 47 CFR Part 27.53(c)(2)

Test Method: ANSI C63.26-2015 & KDB 971168 D01v03r01

Limit:

FCC 47 CFR Part 24.238(a), 27.53(h)(1), 22.917(a) :
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(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 that 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.

FCC 47 CFR Part 27.53(g):
For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

FCC 47 CFR Part 27.53(c)(2):
On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;

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.

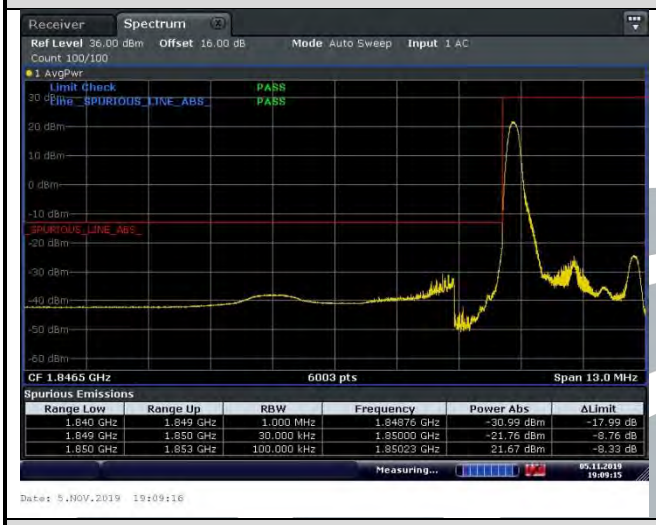
Instruments Used: Refer to section 3 for details

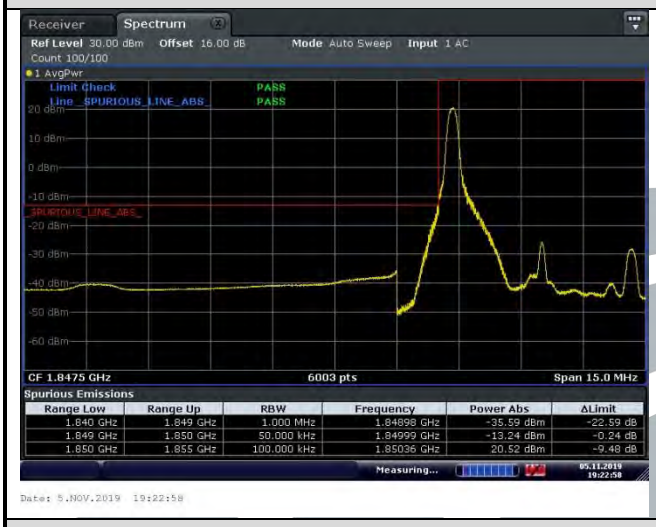
Test Mode: Link mode

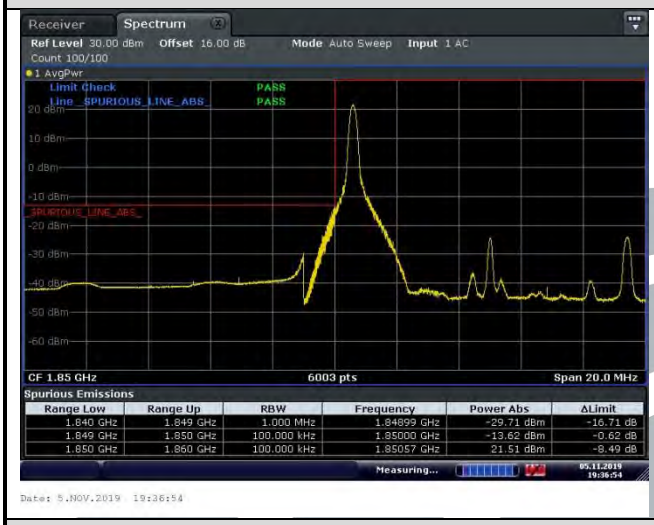
Test Results: Pass

5.6.1 LTE Band 2

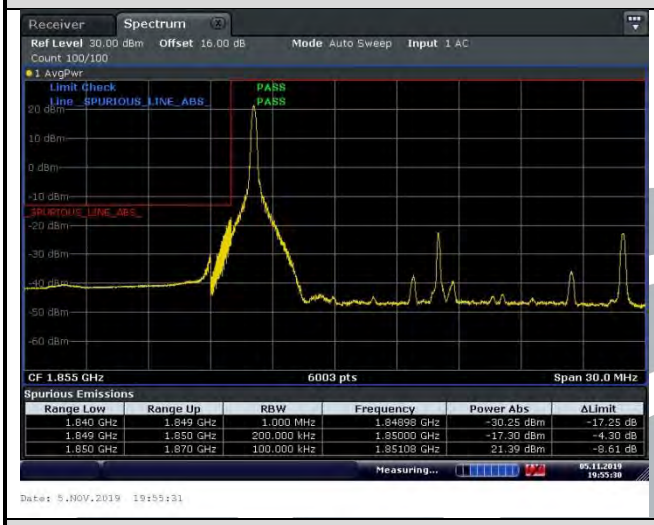
LTE Band 2 / 1.4 MHz / QPSK	
1 RB	Full RB
Lowest Channel	
Highest Channel	

LTE Band 2 / 3 MHz / QPSK	
1 RB	Full RB
Lowest Channel	
	
Highest Channel	

LTE Band 2 / 5 MHz / QPSK	
1 RB	Full RB
Lowest Channel	
	
Highest Channel	

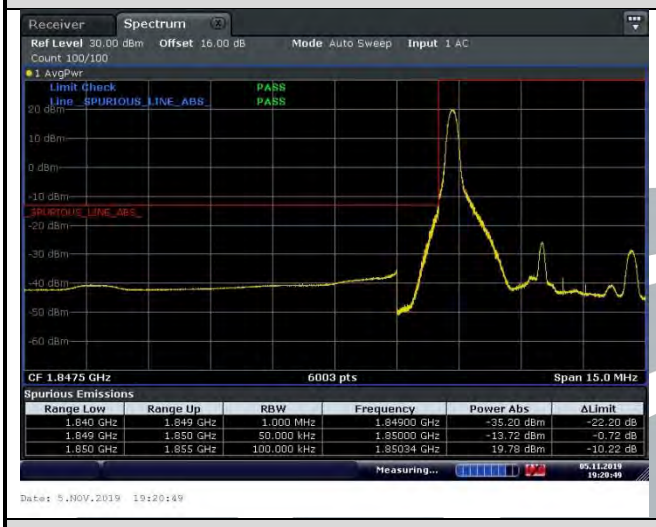
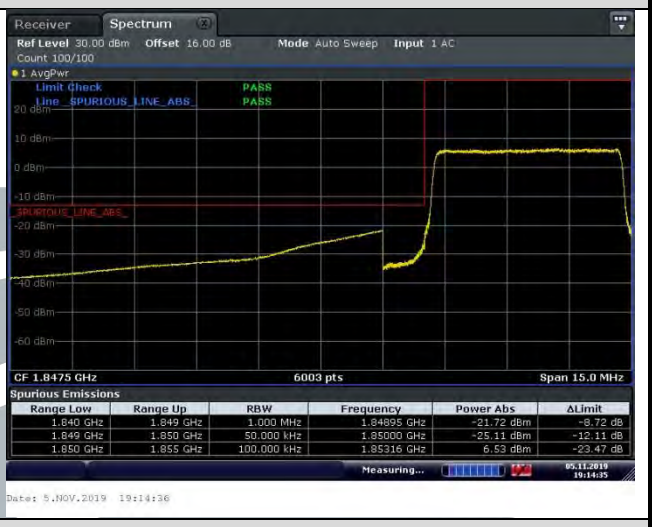
LTE Band 2 / 10 MHz / QPSK	
1 RB	Full RB
Lowest Channel	
	
Highest Channel	

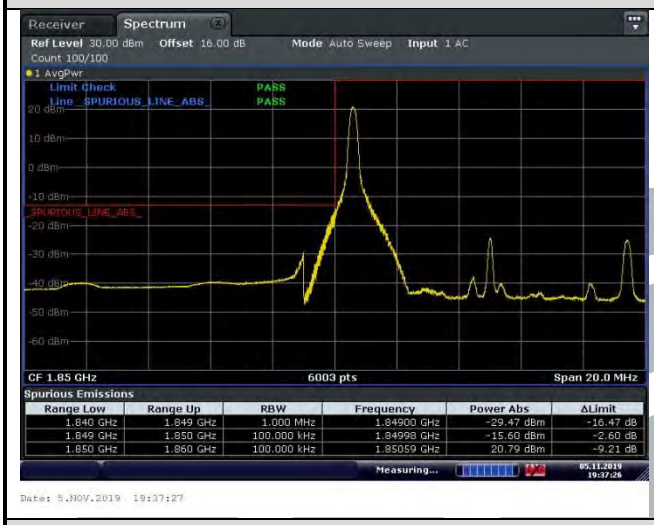
LTE Band 2 / 15 MHz / QPSK	
1 RB	Full RB
Lowest Channel	
Highest Channel	

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

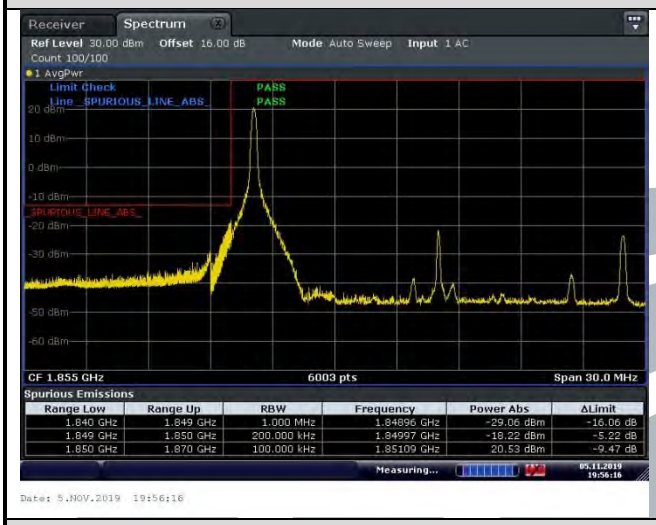
LTE Band 2 / 1.4 MHz / 16QAM	
1 RB	Full RB
Lowest Channel	
Highest Channel	

LTE Band 2 / 3 MHz / 16QAM	
1 RB	Full RB
Lowest Channel	
Highest Channel	

LTE Band 2 / 5 MHz / 16QAM	
1 RB	Full RB
Lowest Channel	
	
Highest Channel	

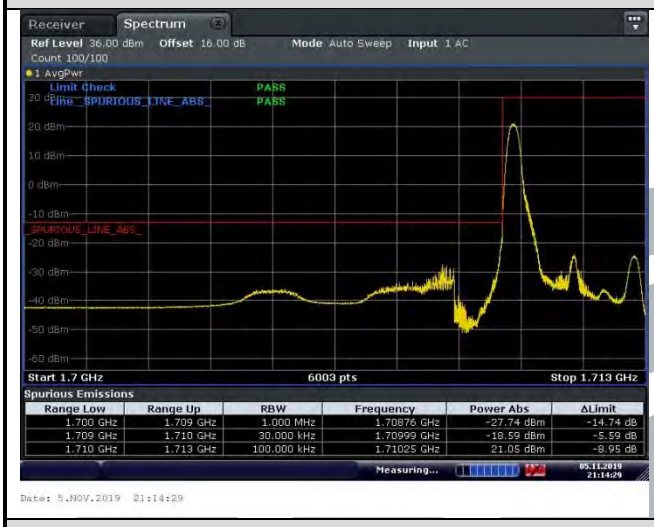
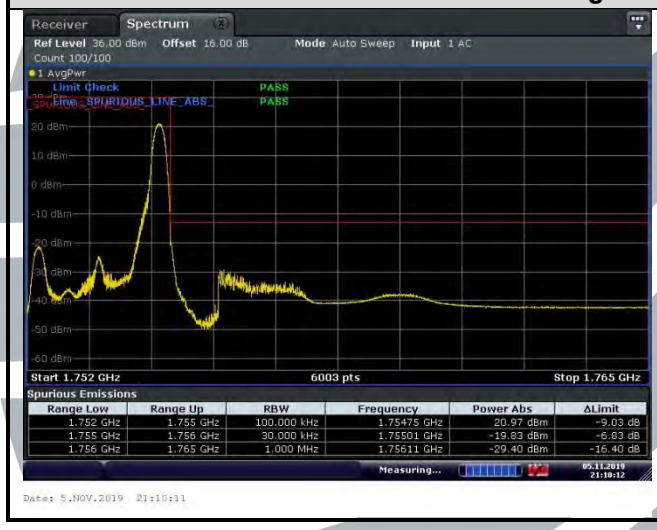
LTE Band 2 / 10 MHz / 16QAM	
1 RB	Full RB
Lowest Channel	
	
Highest Channel	

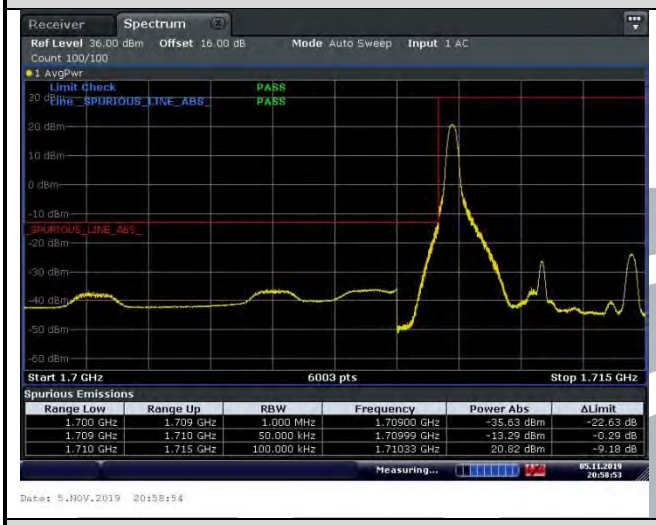
LTE Band 2 / 15 MHz / 16QAM	
1 RB	Full RB
Lowest Channel	
Highest Channel	

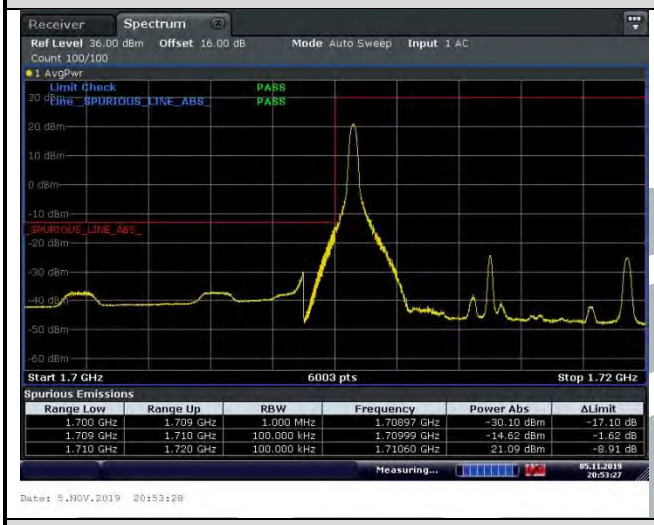
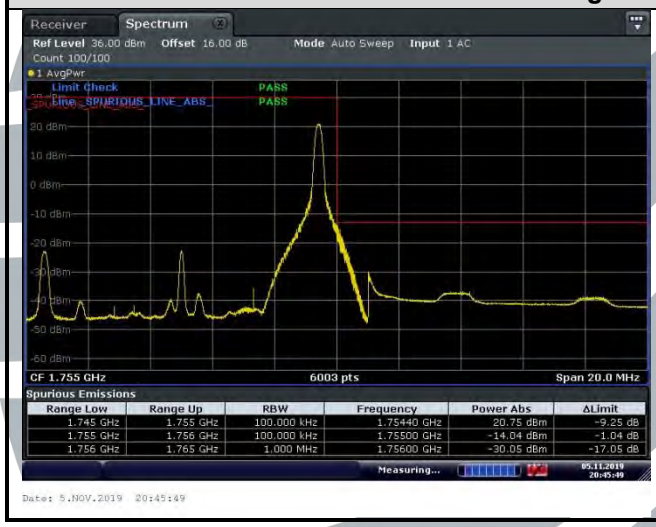
LTE Band 2 / 20 MHz / 16QAM	
1 RB	Full RB
Lowest Channel	
	
Highest Channel	

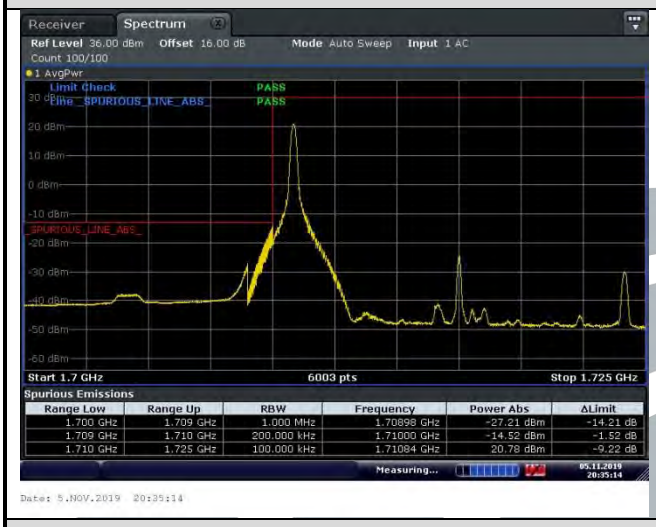
5.6.2 LTE Band 4

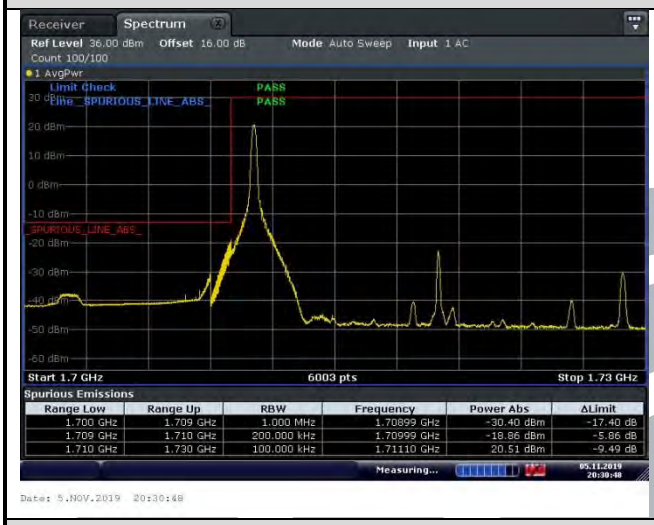
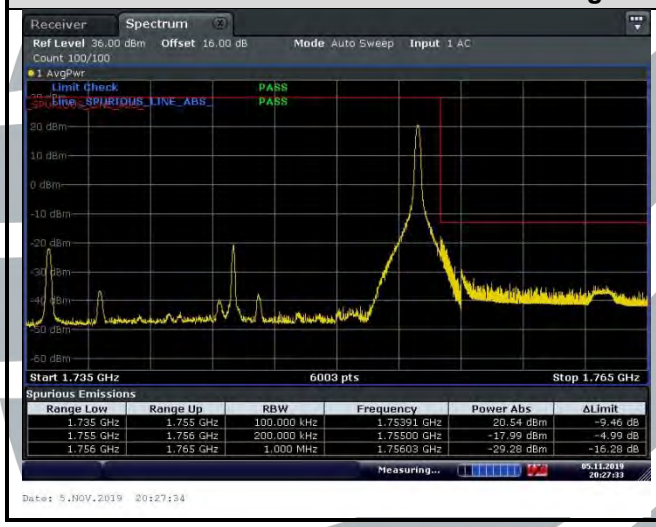
LTE Band 4 / 1.4 MHz / QPSK	
1 RB	Full RB
Lowest Channel	
Highest Channel	

LTE Band 4 / 3 MHz / QPSK	
1 RB	**Full RB**
Lowest Channel	
	
Highest Channel	
	

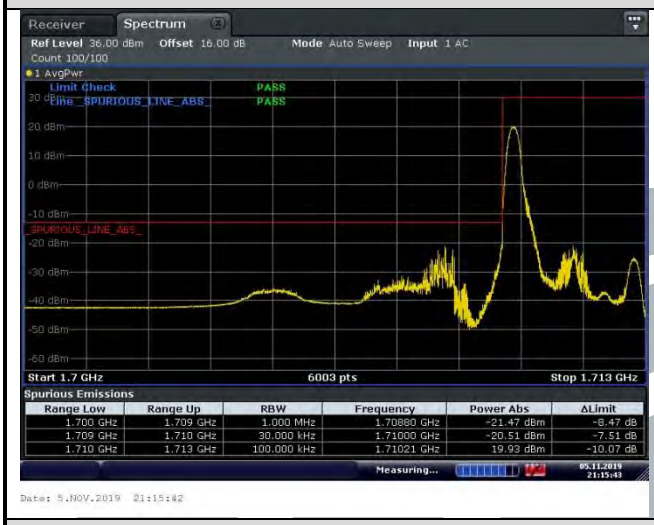
LTE Band 4 / 5 MHz / QPSK	
1 RB	**Full RB**
Lowest Channel	
	
Highest Channel	

LTE Band 4 / 10 MHz / QPSK	
1 RB	Full RB
Lowest Channel	
	
Highest Channel	
	

LTE Band 4 / 15 MHz / QPSK	
1 RB	**Full RB**
Lowest Channel	
	
Highest Channel	

LTE Band 4 / 20 MHz / QPSK	
1 RB	Full RB
Lowest Channel	
	
Highest Channel	
	

LTE Band 4 / 1.4 MHz / 16QAM	
1 RB	Full RB
Lowest Channel	
Highest Channel	

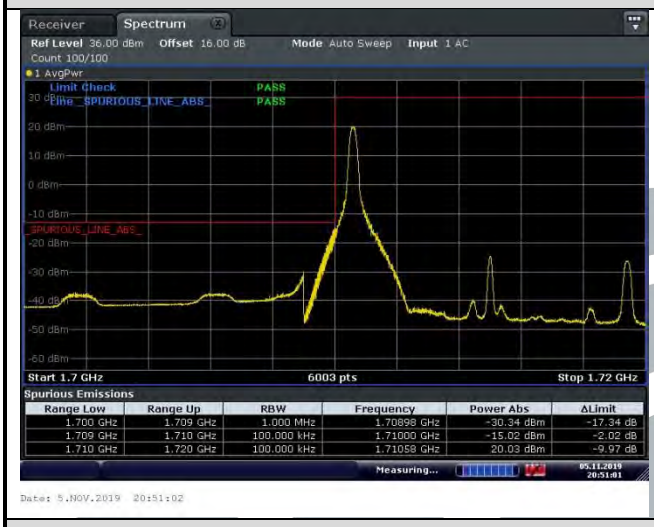
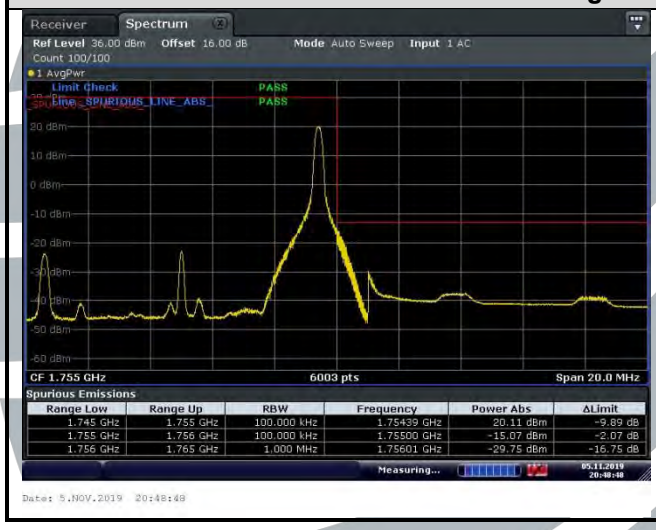
LTE Band 4 / 3 MHz / 16QAM	
1 RB	Full RB
Lowest Channel	
	
Highest Channel	

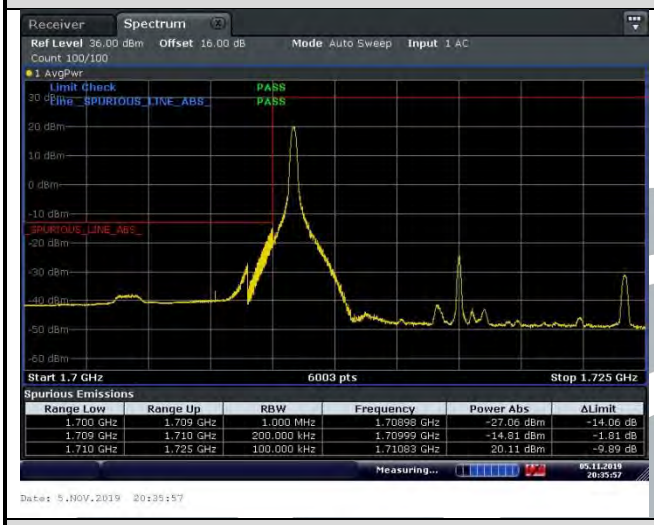
LTE Band 4 / 5 MHz / 16QAM

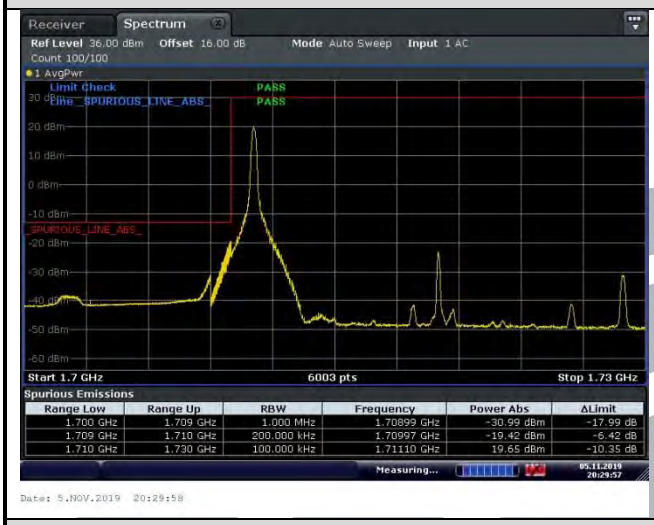
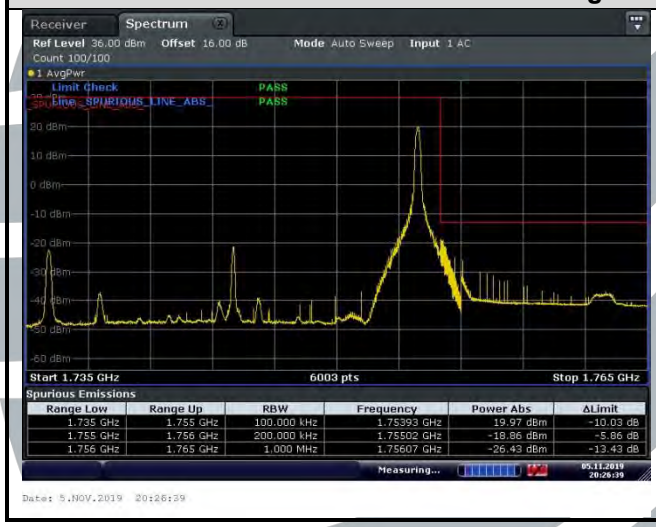
1 RB	Full RB

Lowest Channel

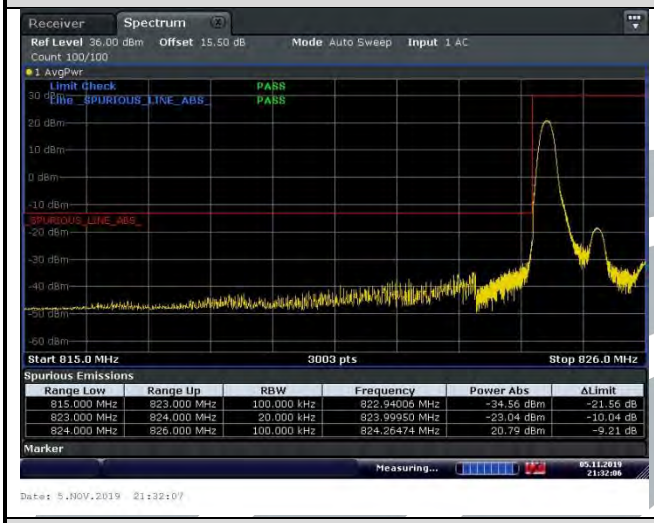
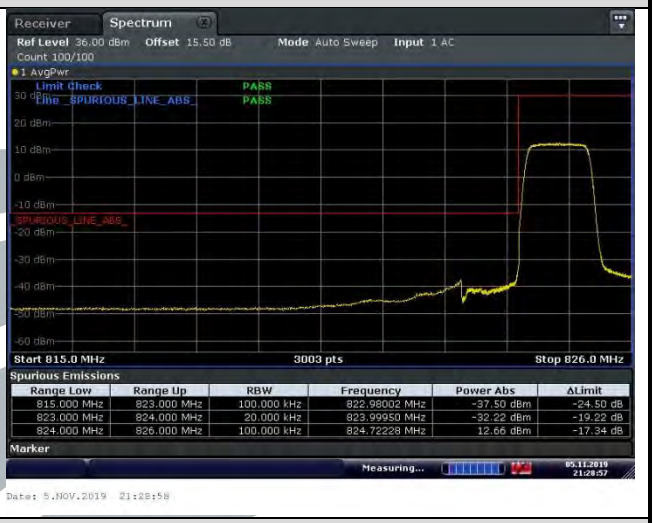
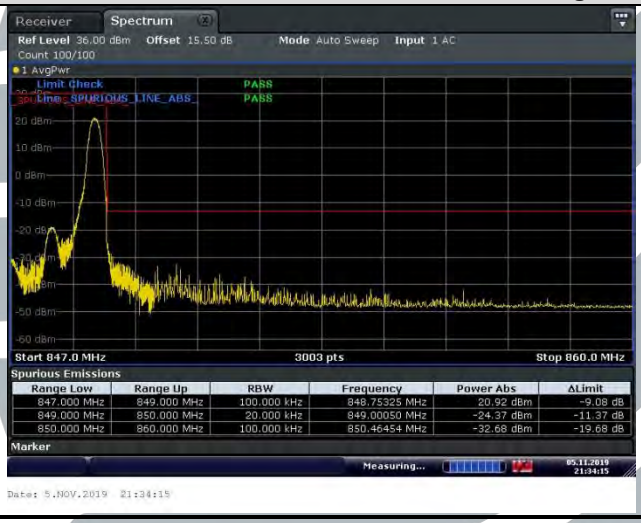
Highest Channel

LTE Band 4 / 10 MHz / 16QAM	
1 RB	Full RB
Lowest Channel	
	
Highest Channel	
	

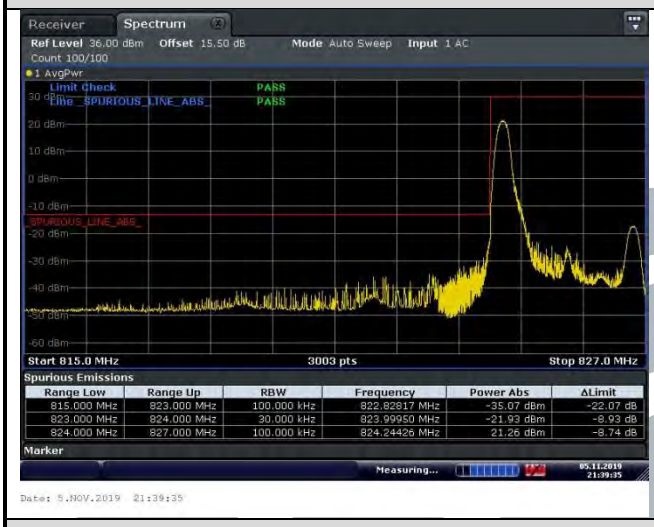
LTE Band 4 / 15 MHz / 16QAM	
1 RB	Full RB
Lowest Channel	
	
Highest Channel	

LTE Band 4 / 20 MHz / 16QAM	
1 RB	Full RB
Lowest Channel	
	
Highest Channel	
	

5.6.3 LTE Band 5

LTE Band 5 / 1.4 MHz / QPSK	
1 RB	Full RB
Lowest Channel	
	
Highest Channel	
	

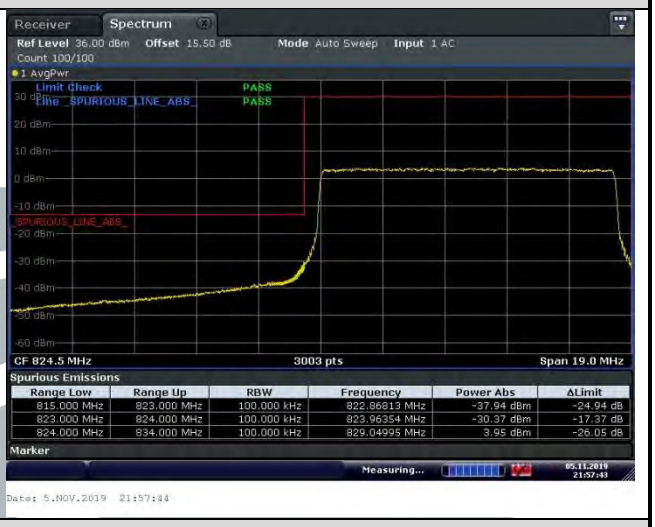
LTE Band 5 / 3 MHz / QPSK	
1 RB	Full RB
Lowest Channel	



Highest Channel	

LTE Band 5 / 5 MHz / QPSK	
1 RB	Full RB
Lowest Channel	

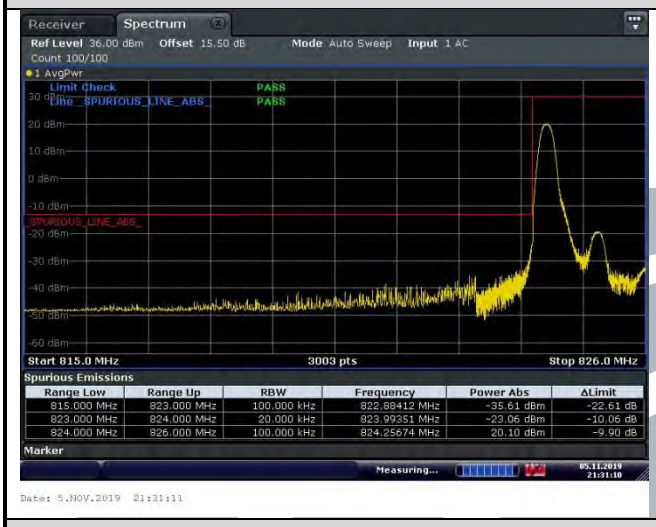
Highest Channel	

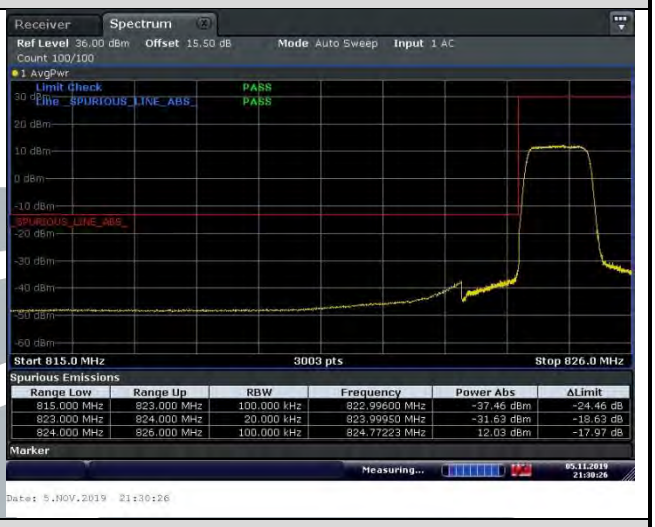
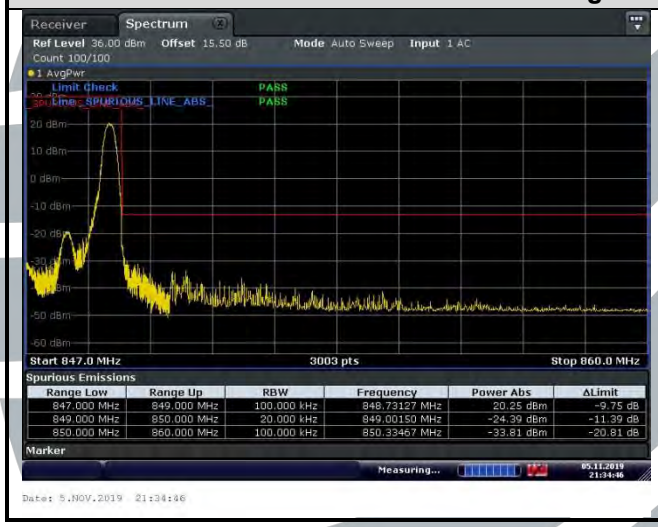
LTE Band 5 / 10 MHz / QPSK	
1 RB	Full RB
Lowest Channel	
	
Highest Channel	

LTE Band 5 / 1.4 MHz / 16QAM

1 RB	Full RB

Lowest Channel





Highest Channel