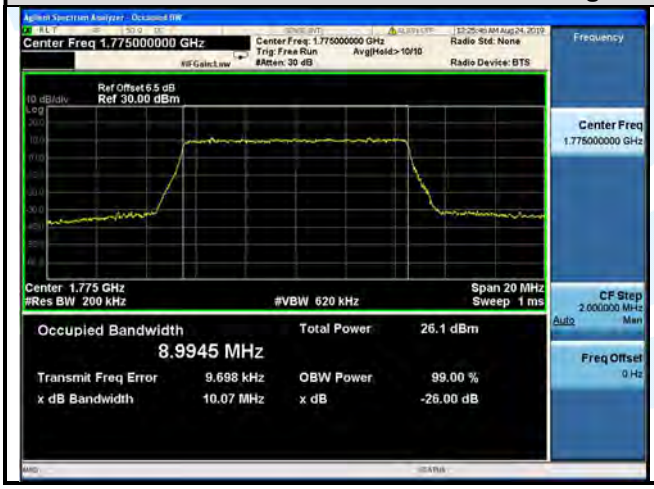
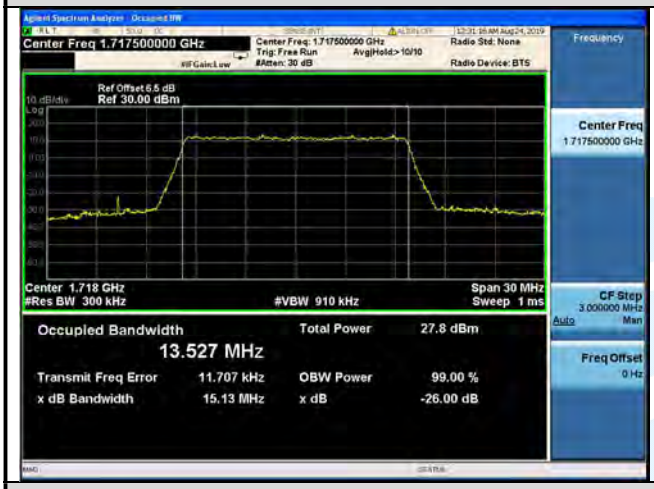
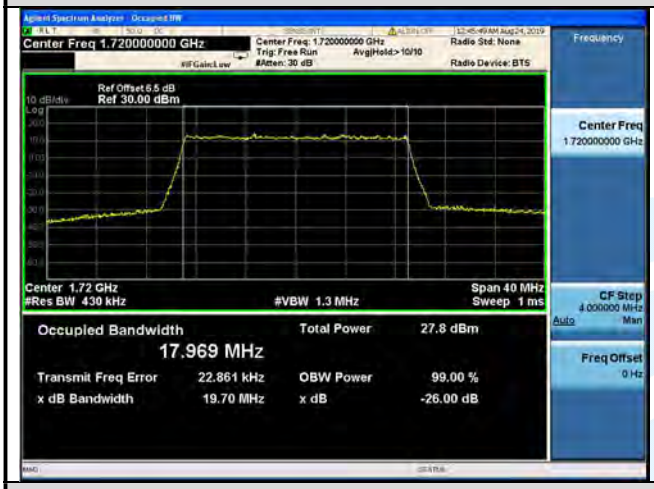
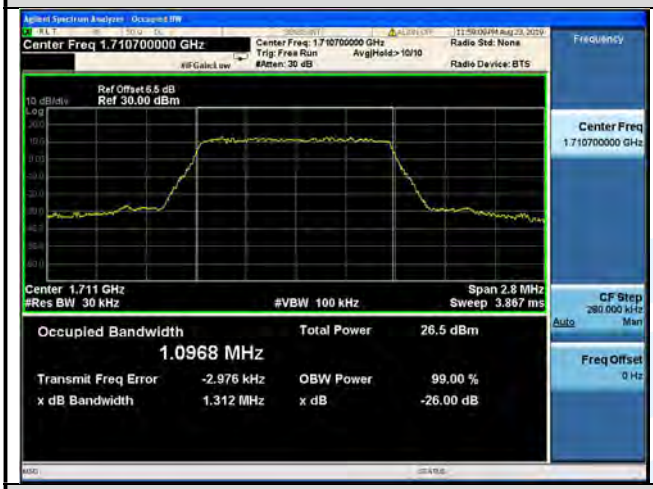
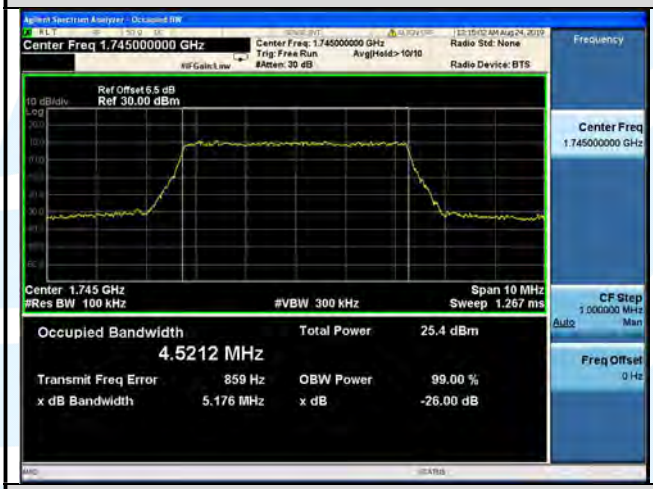
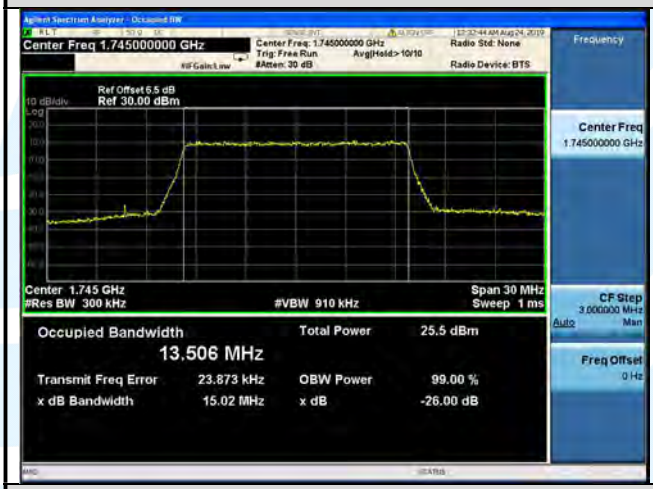
LTE Band 66_ Channel Bandwidth: 10 MHz	
QPSK	16QAM
Lowest Channel	
Middle Channel	
Highest Channel	
	

LTE Band 66_ Channel Bandwidth: 15 MHz	
QPSK	16QAM
Lowest Channel	
	
Middle Channel	
Highest Channel	

LTE Band 66_ Channel Bandwidth: 20 MHz	
QPSK	16QAM
Lowest Channel	
	
Middle Channel	
Highest Channel	

LTE Band 66 / 1.4MHz / 64QAM	LTE Band 66 / 3MHz / 64QAM
Lowest Channel	
	
Middle Channel	
Highest Channel	

LTE Band 66 / 5MHz / 64QAM	LTE Band 66 / 10MHz / 64QAM
Lowest Channel	
Middle Channel	
	
Highest Channel	

LTE Band 66 / 15MHz / 64QAM	LTE Band 66 / 20MHz / 64QAM
Lowest Channel	
Middle Channel	
	
Highest Channel	

5.6 BAND EDGE AT ANTENNA TERMINALS

Test Requirement: **LTE Band 2 & LTE Band 25:** FCC 47 CFR Part 24.238(a)
LTE Band 4 & LTE Band 66: FCC 47 CFR Part 27.53(h)(1)
LTE Band 5 & LTE Band 26: FCC 47 CFR Part 22.917(a)
LTE Band 7 & Band 41: FCC 47 CFR Part 27.53(m)(4)
LTE Band 12 & Band 17: FCC 47 CFR Part 27.53(g)
LTE Band 13: 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;

FCC 47 CFR Part 90.691:
(a)(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log10(f/6.1) decibels or 50 + 10 Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.
(a)(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

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

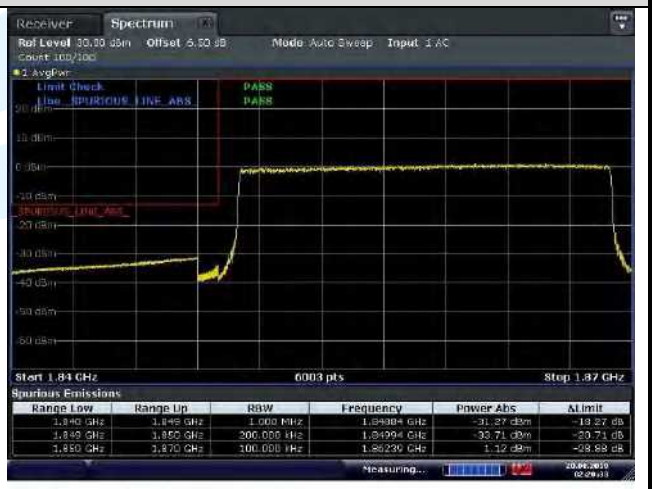
Lowest Channel

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

LTE Band 2 / 1.4 MHz / 64QAM

1 RB	Full RB

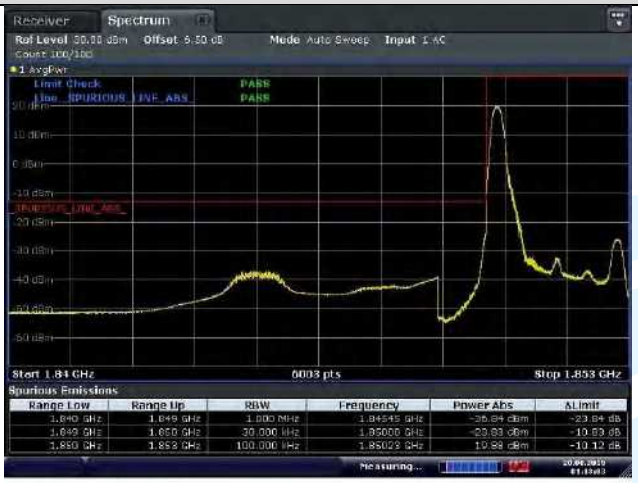
Lowest Channel

Highest Channel

LTE Band 2 / 3 MHz / 64QAM

1 RB	Full RB

Lowest Channel

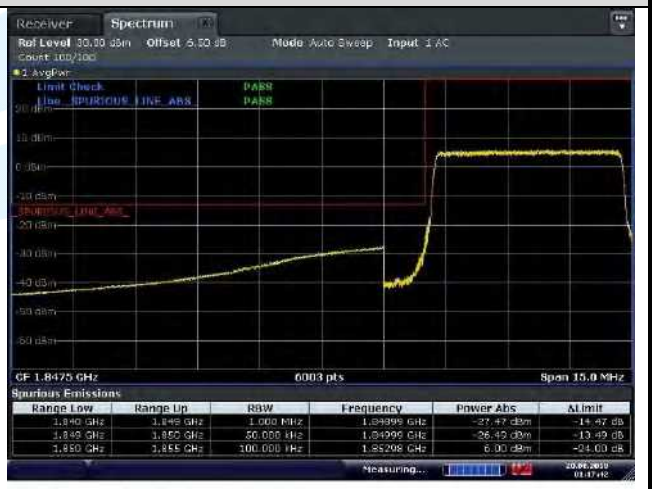


Highest Channel

LTE Band 2 / 5 MHz / 64QAM

1 RB	Full RB

Lowest Channel



Highest Channel

LTE Band 2 / 10 MHz / 64QAM

1 RB	Full RB

Lowest Channel

Highest Channel

LTE Band 2 / 15 MHz / 64QAM	
1 RB	Full RB
Lowest Channel	
Highest Channel	

LTE Band 2 / 20 MHz / 64QAM	
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

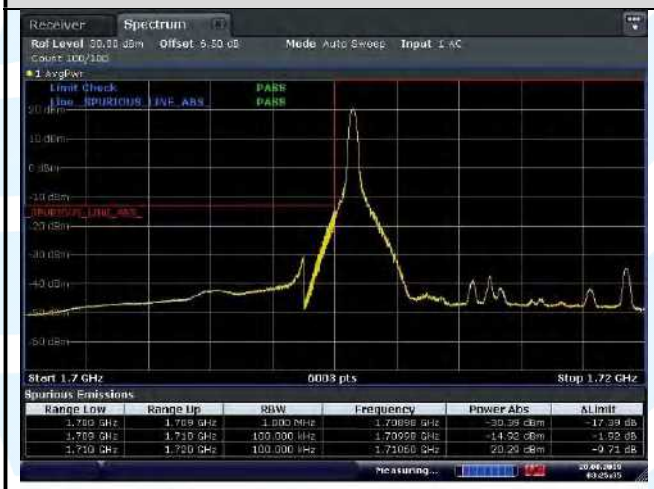
Lowest Channel

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

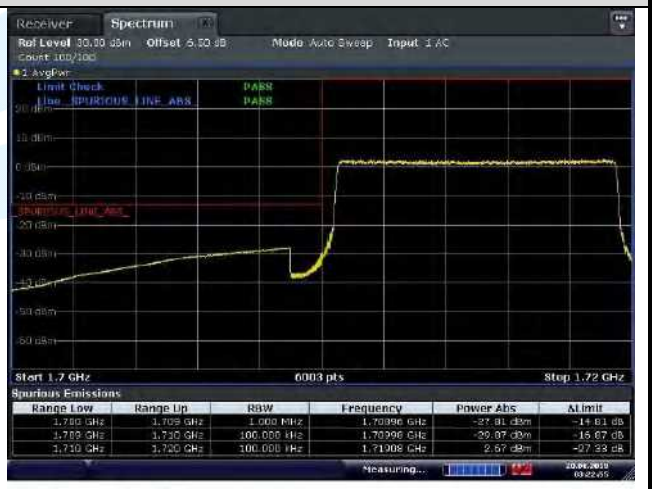
Lowest Channel

Highest Channel

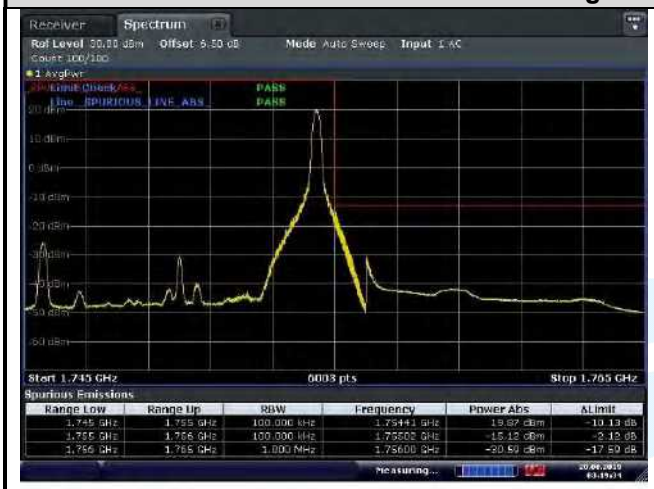
LTE Band 4 / 10 MHz / 16QAM

1 RB	Full RB

Lowest Channel



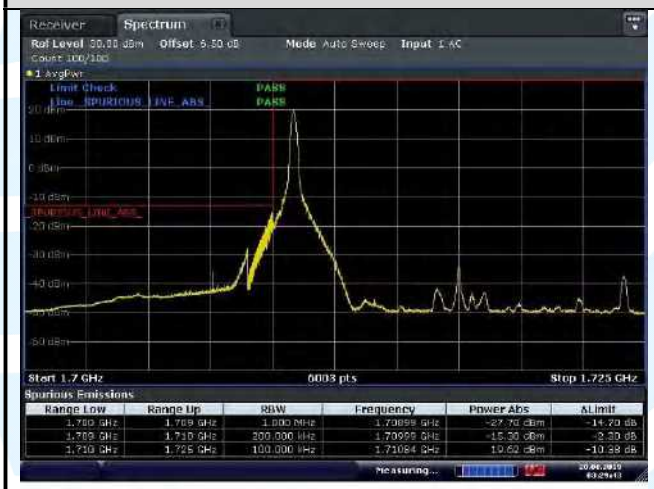
Highest Channel



LTE Band 4 / 15 MHz / 16QAM

1 RB	Full RB

Lowest Channel

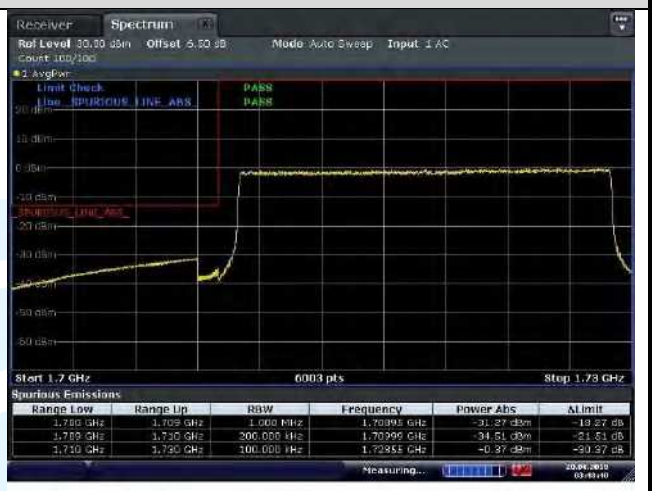


Highest Channel

LTE Band 4 / 20 MHz / 16QAM

1 RB	Full RB

Lowest Channel



Highest Channel

LTE Band 4 / 1.4 MHz / 64QAM

1 RB	Full RB

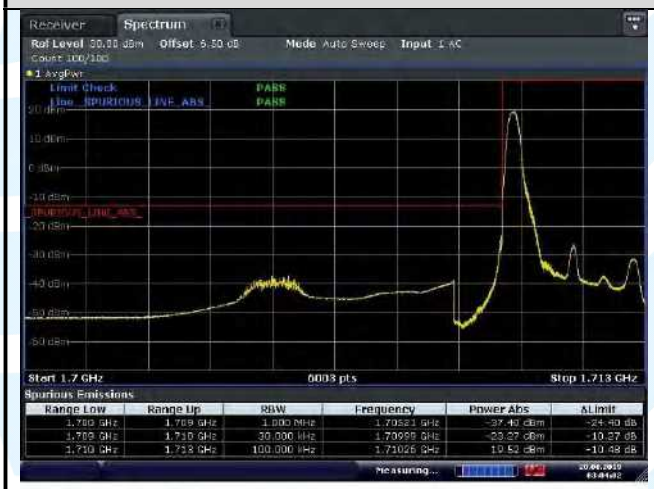
Lowest Channel

Highest Channel

LTE Band 4 / 3 MHz / 64QAM

1 RB	Full RB

Lowest Channel



Highest Channel

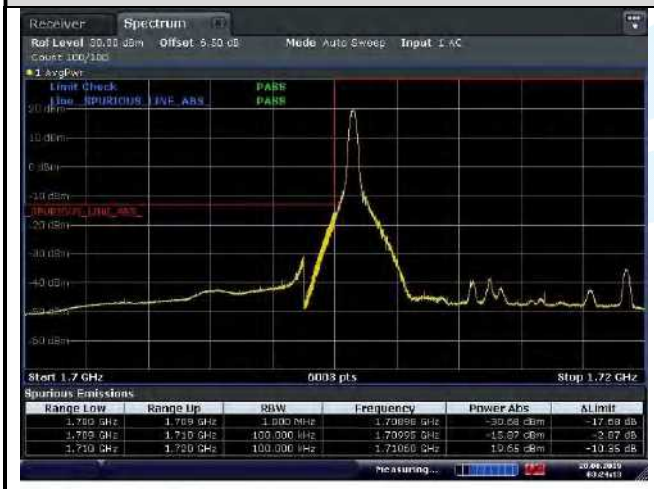
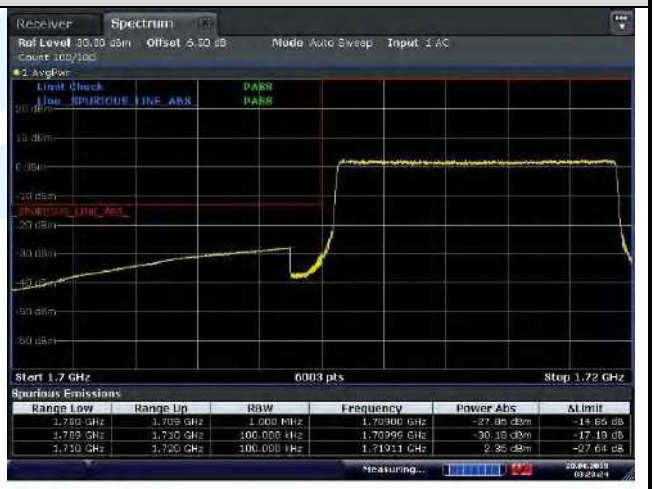
LTE Band 4 / 5 MHz / 64QAM

1 RB	Full RB

Lowest Channel

Highest Channel

LTE Band 4 / 10 MHz / 64QAM

1 RB	Full RB

Lowest Channel