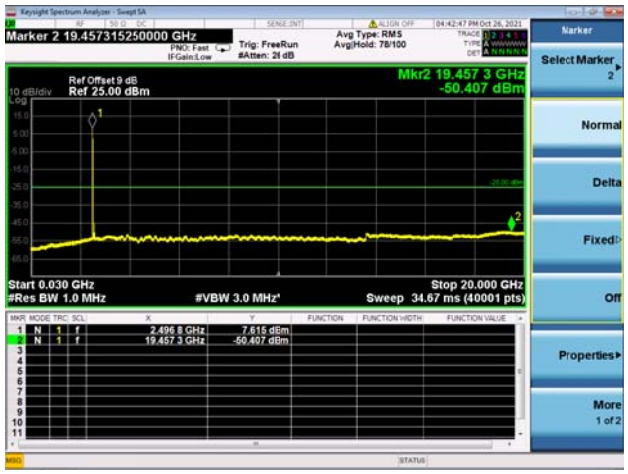
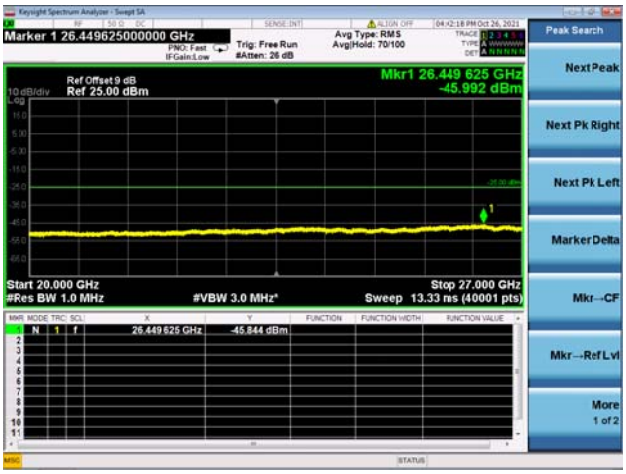
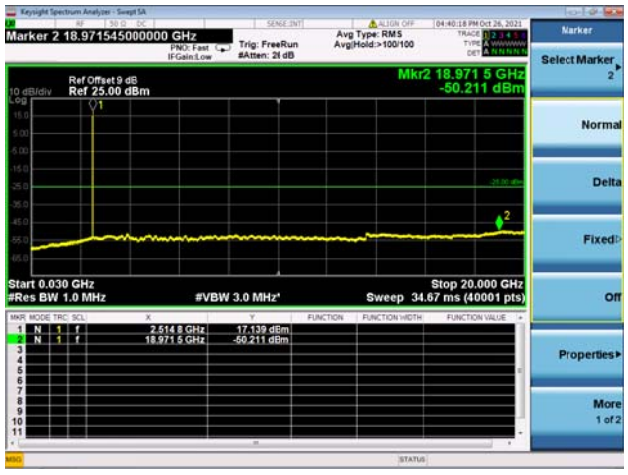
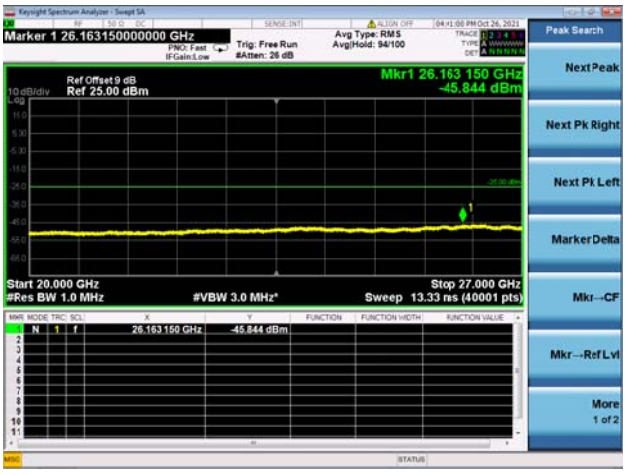
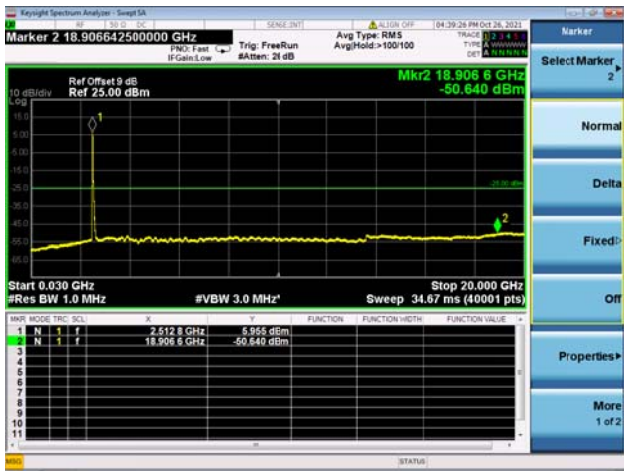
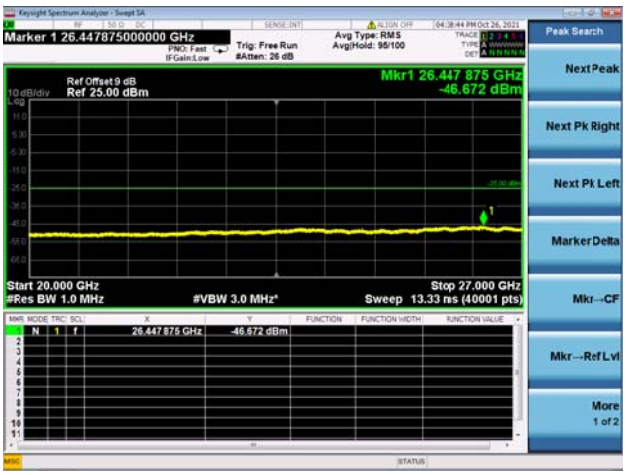
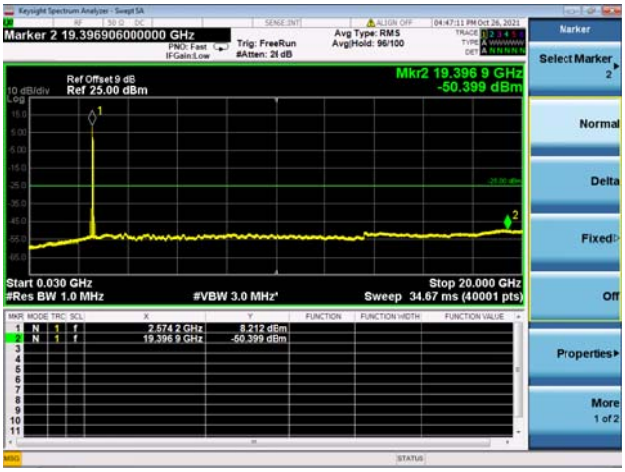
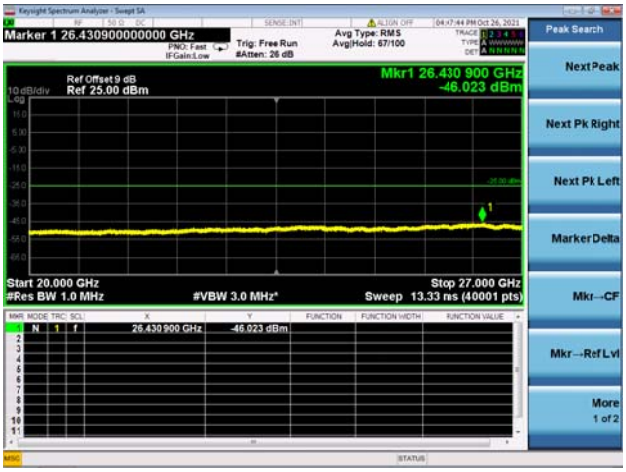
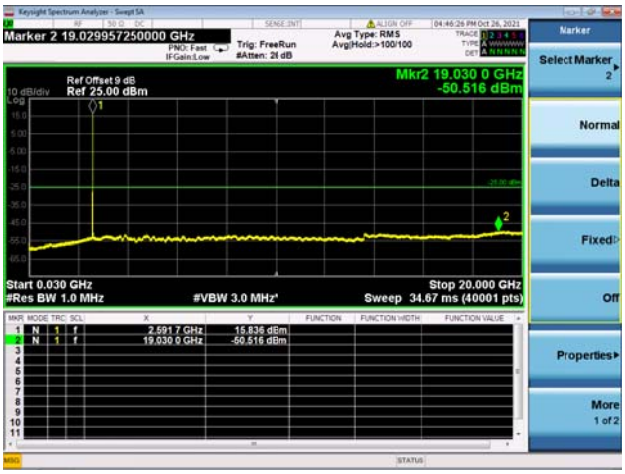
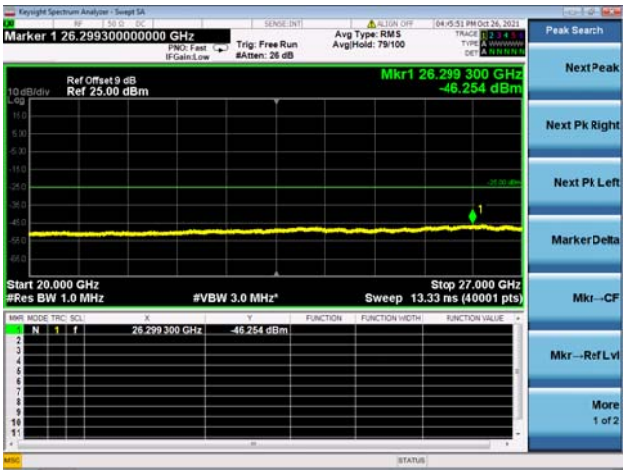
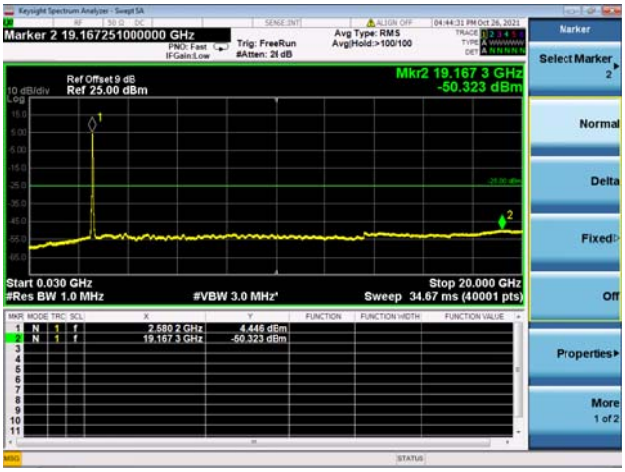
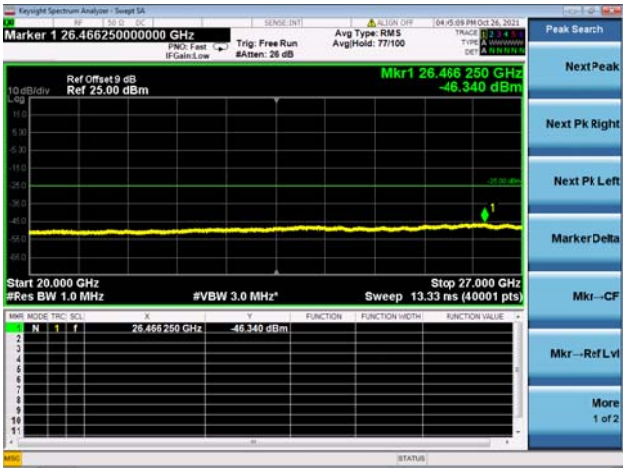
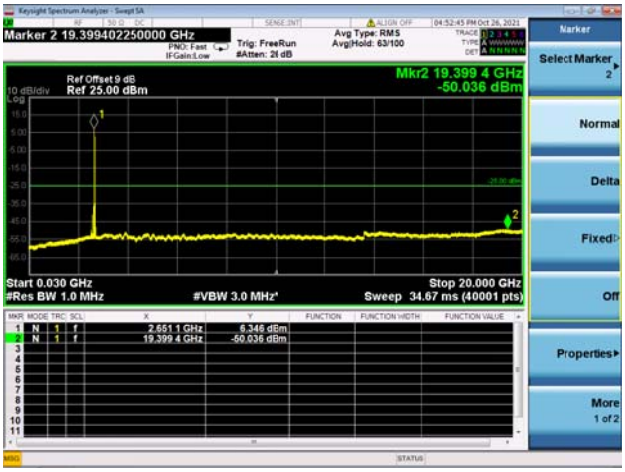
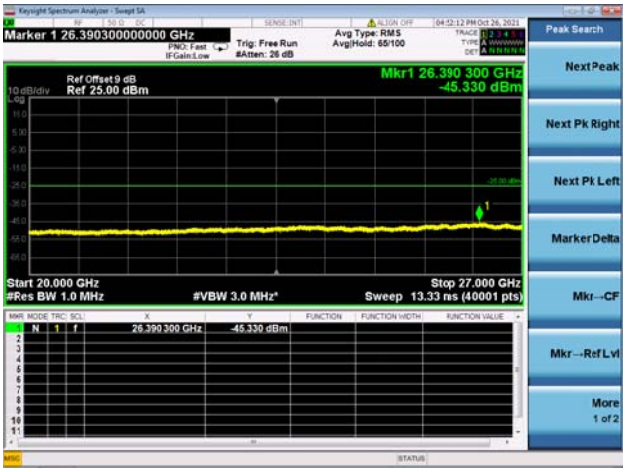
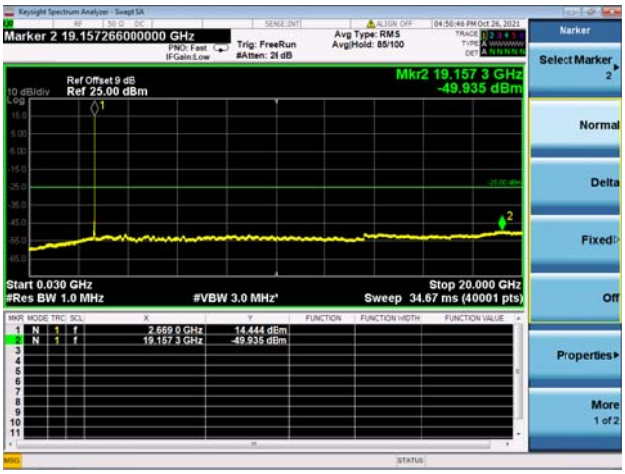
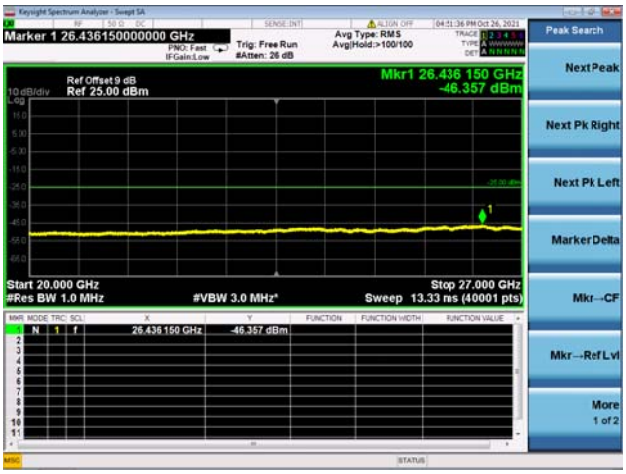
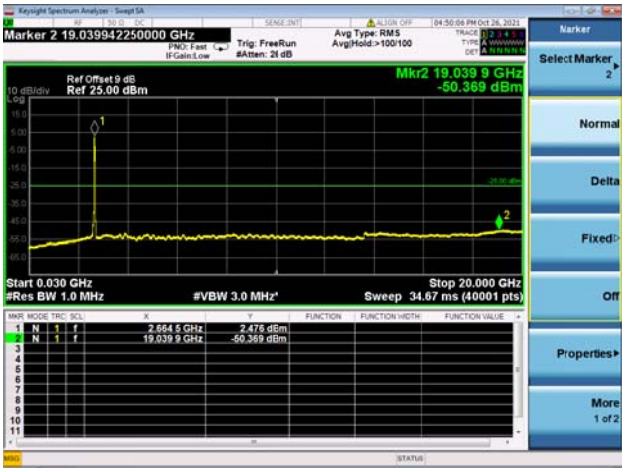
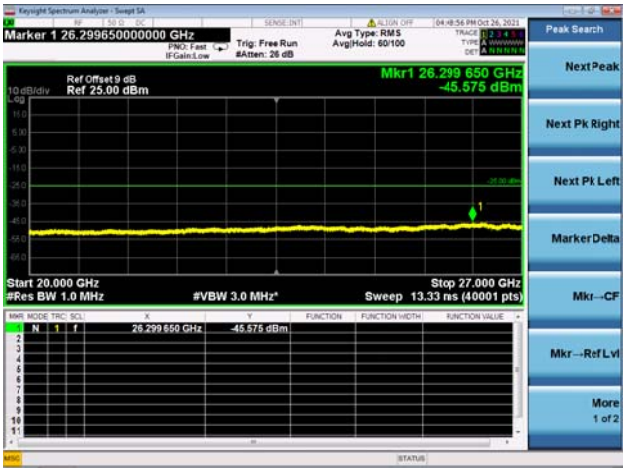
LTE CA_41C CSE	
Channel Bandwidth: 20MHz+20MHz	
LOW CH/QPSK/1RB0 and 1RB99	LOW CH/QPSK/1RB0 and 1RB99
	
LOW CH/QPSK/1RB99 and 1RB0	LOW CH/QPSK/1RB99 and 1RB0
	
LOW CH/QPSK/FULL RB	LOW CH/QPSK/FULL RB
	

Mid CH/QPSK/1RB0 and 1RB99	Mid CH/QPSK/1RB0 and 1RB99
	
Mid CH/QPSK/1RB99 and 1RB0	**Mid CH/QPSK/1RB99 and 1RB0**
	
Mid CH/QPSK/FULL RB	**Mid CH/QPSK/FULL RB**
	

High CH/QPSK/1RB0 and 1RB99	High CH/QPSK/1RB0 and 1RB99
	
High CH/QPSK/1RB99 and 1RB0	**High CH/QPSK/1RB99 and 1RB0**
	
High CH/QPSK/FULL RB	**High CH/QPSK/FULL RB**
	

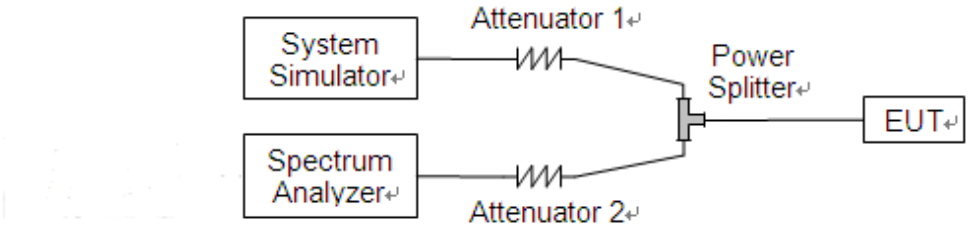
2.4. Band Edge

2.4.1. Requirement

According to FCC section 2.1051, 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.

According to FCC section 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.

2.4.2. Test Description



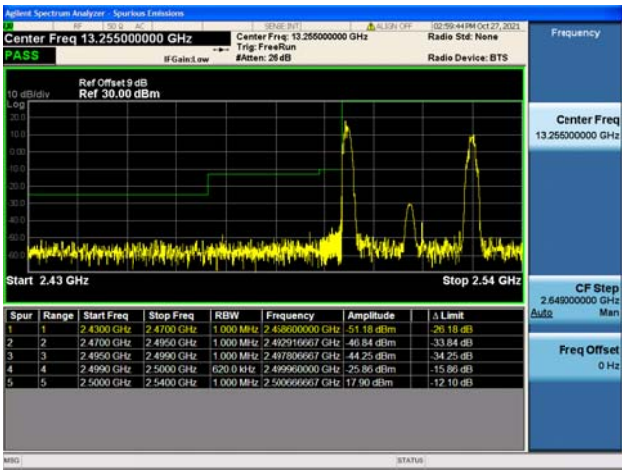
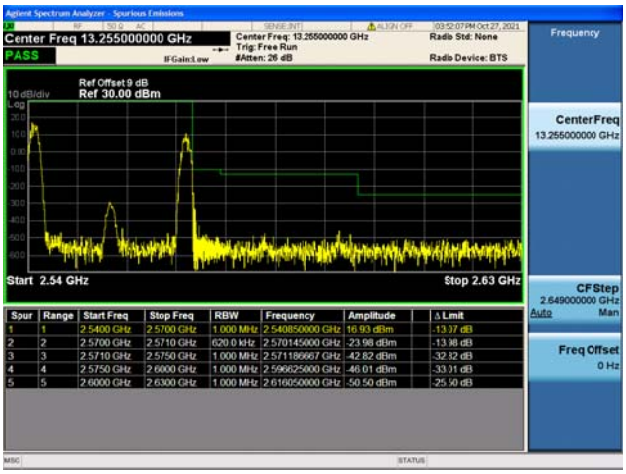
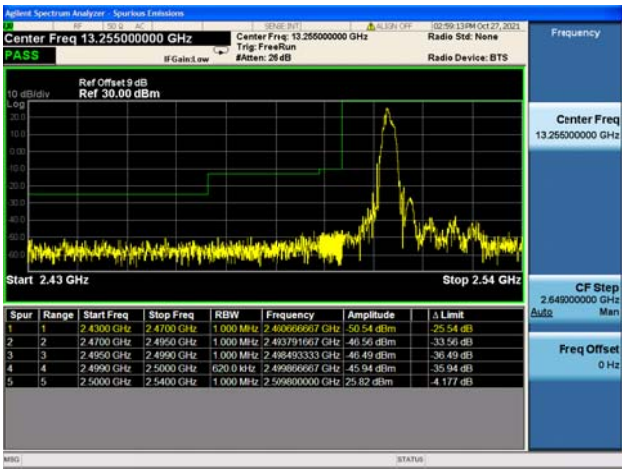
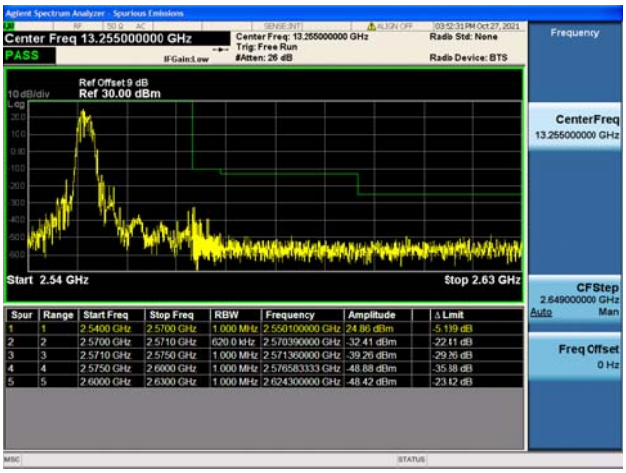
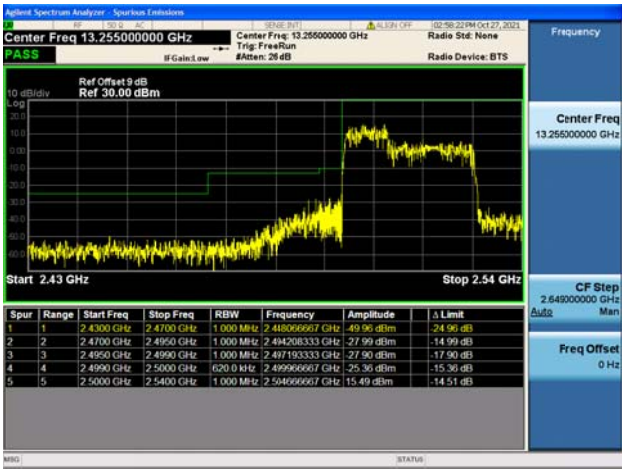
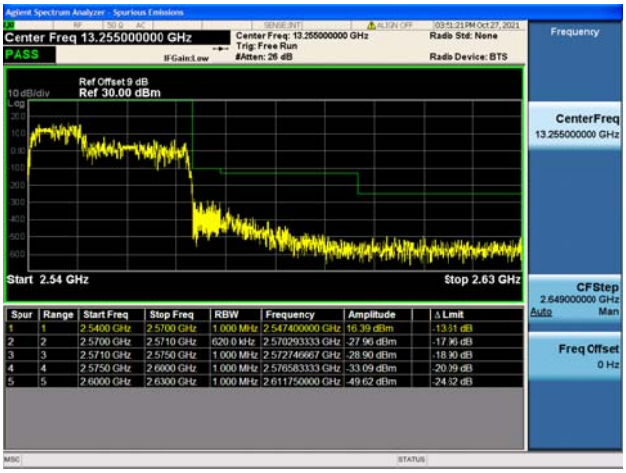
The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power. A call is established between the EUT and the SS.

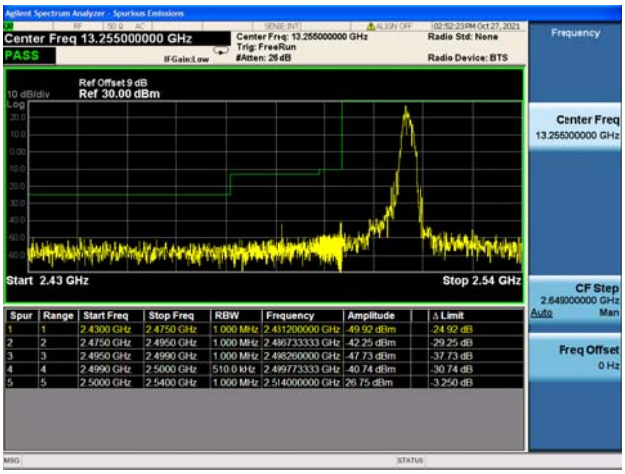
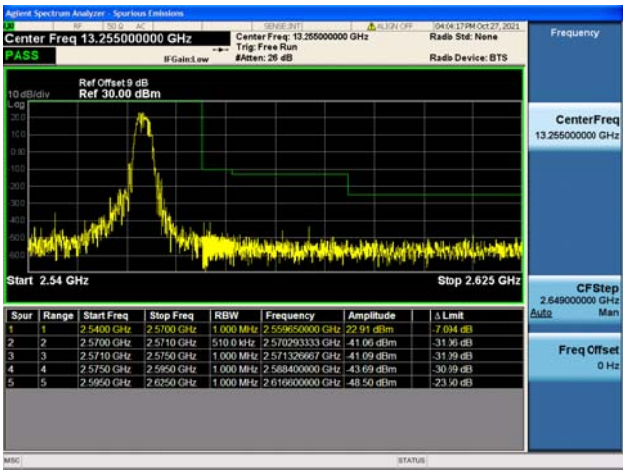
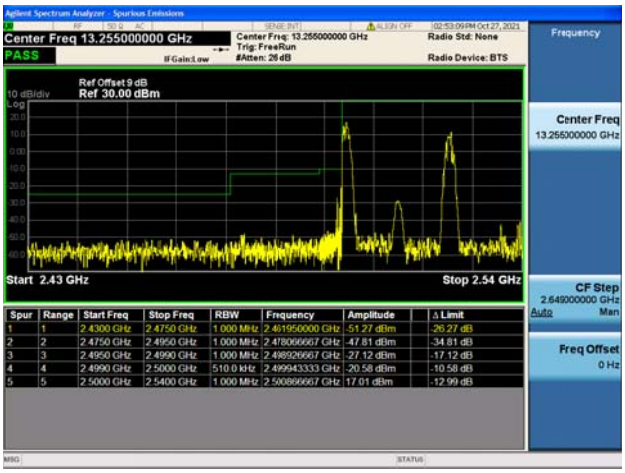
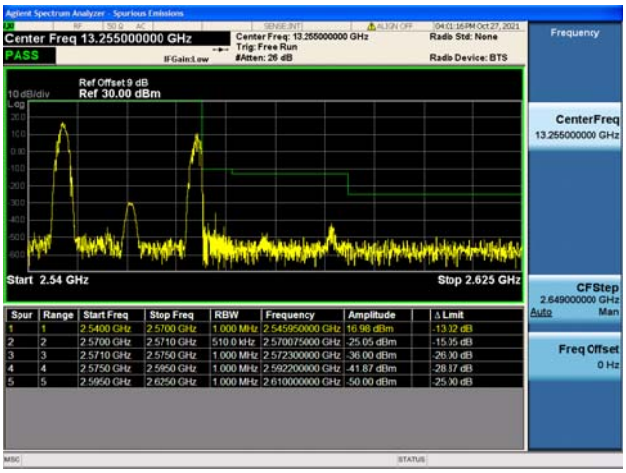
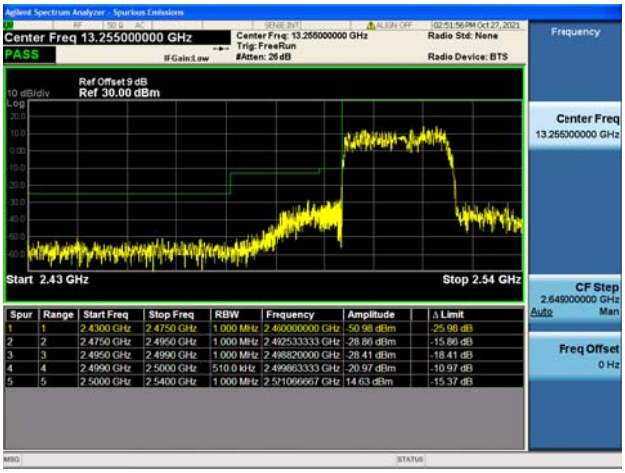
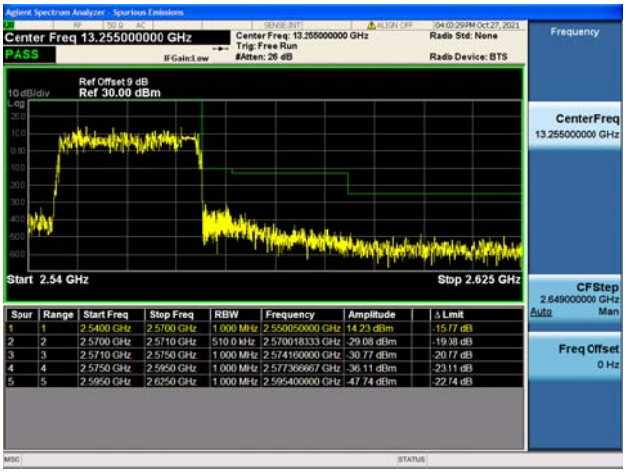
2.4.3. Test procedure

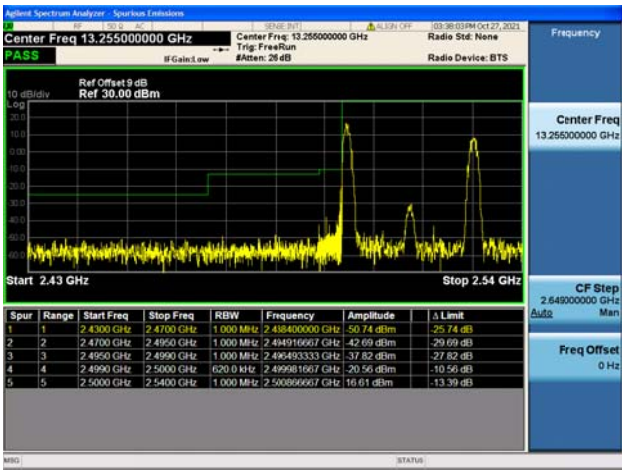
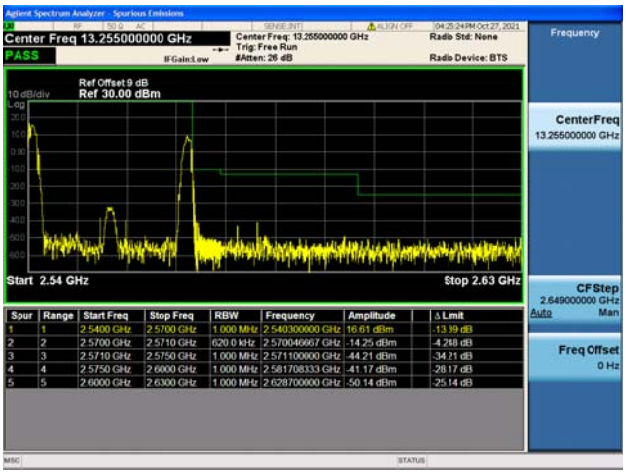
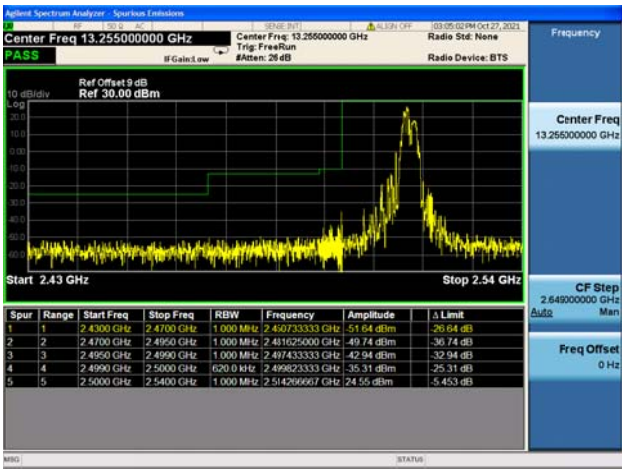
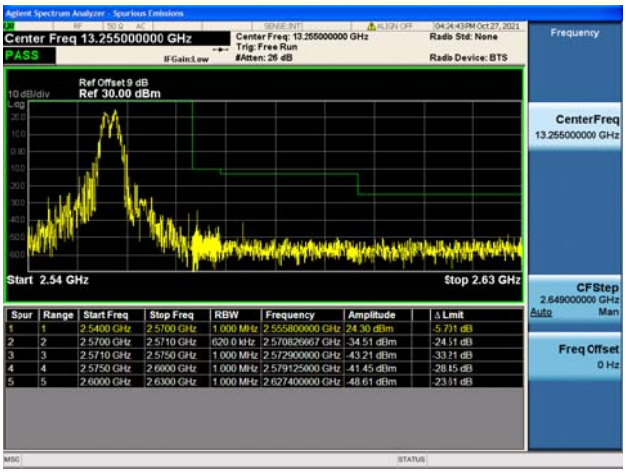
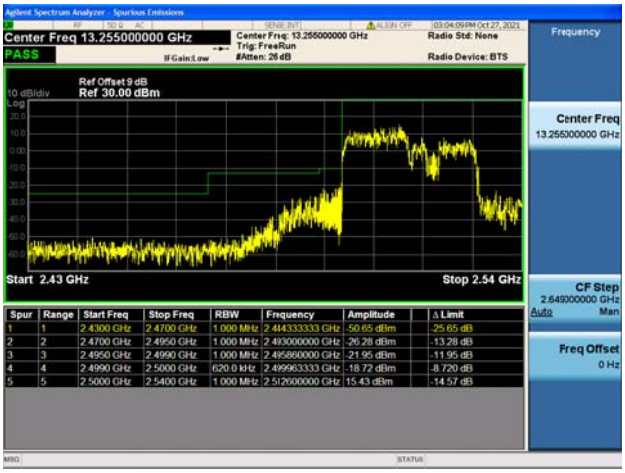
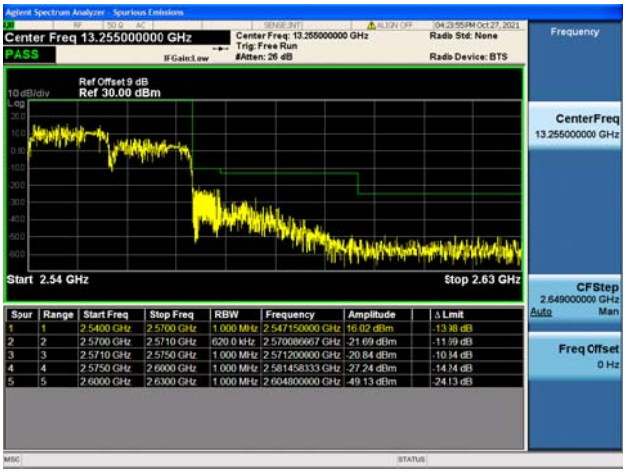
KDB 971168 D01v03 Section 6.0 and ANSI/TIA-603-E-2016.

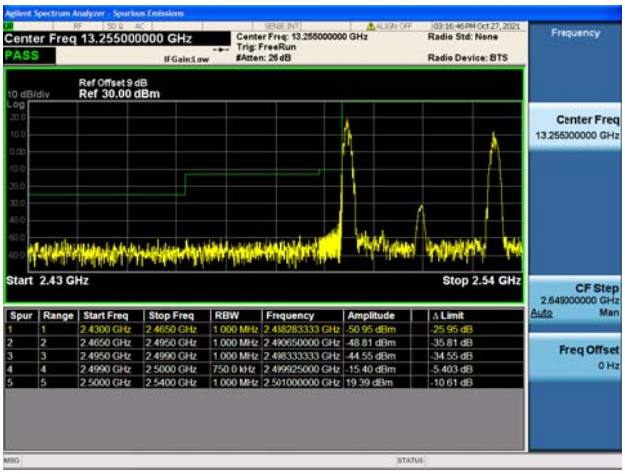
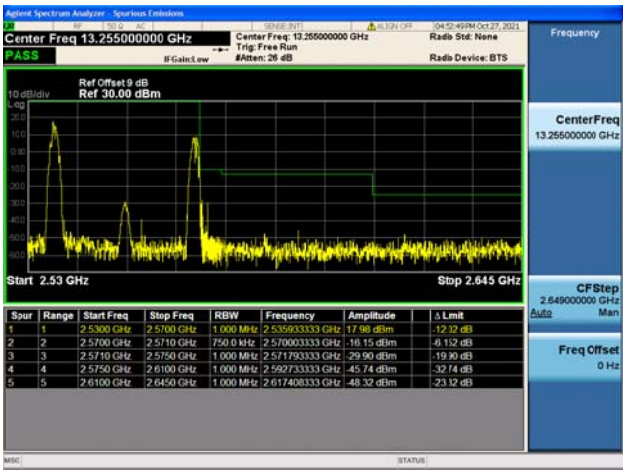
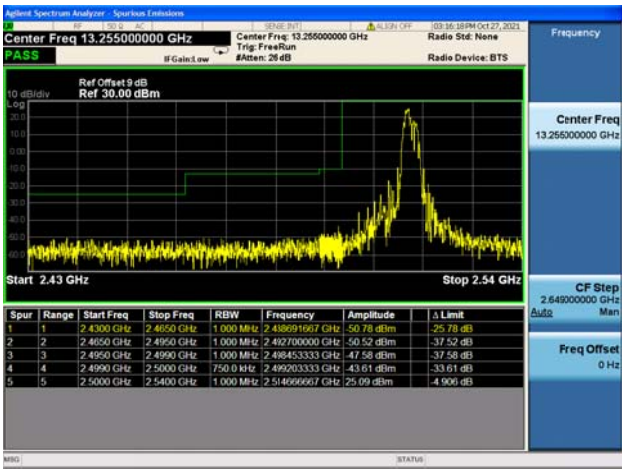
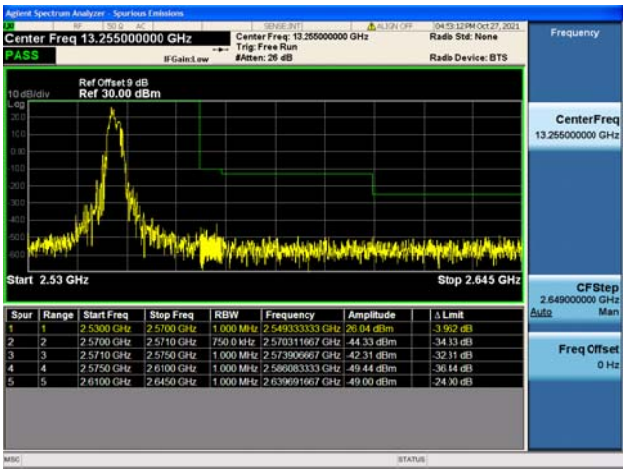
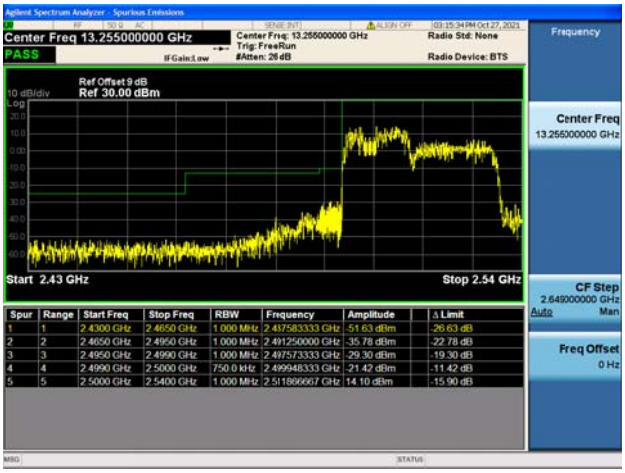
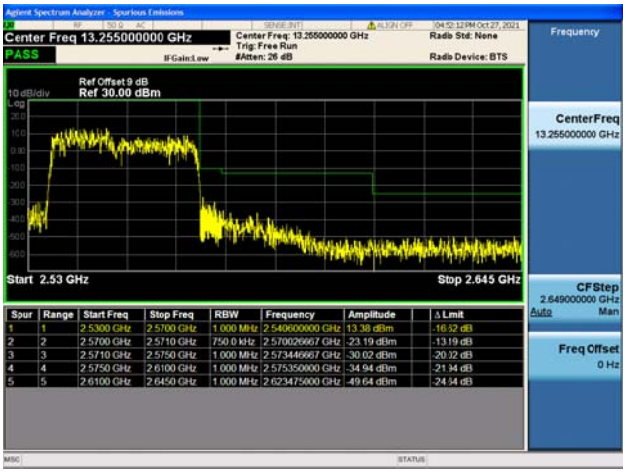
2.4.4. Test Result

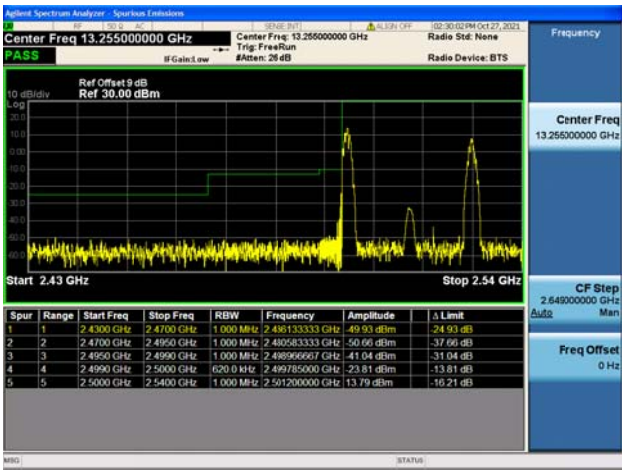
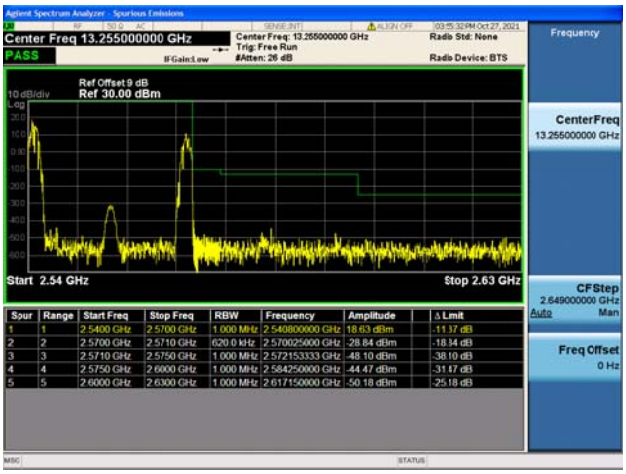
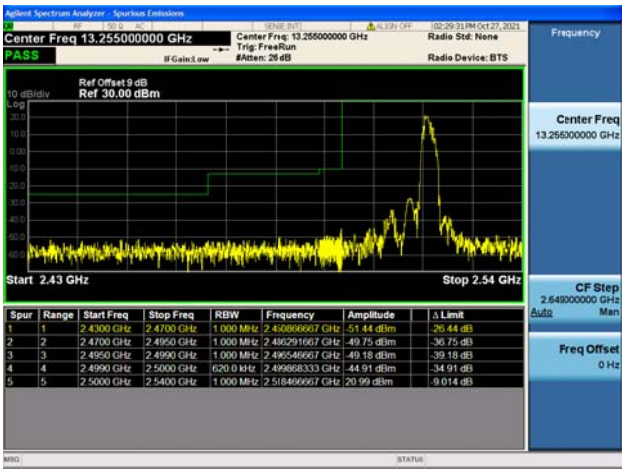
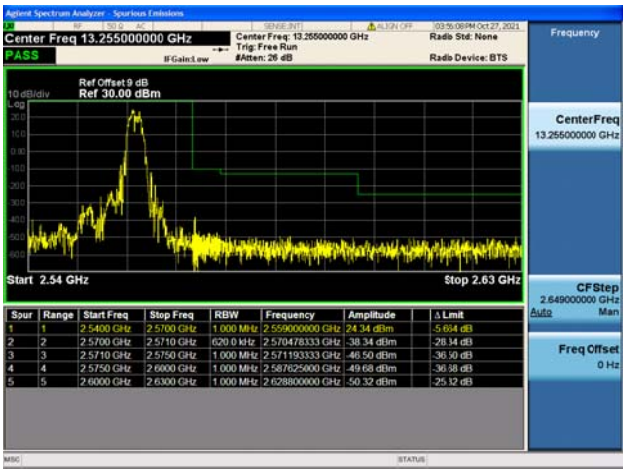
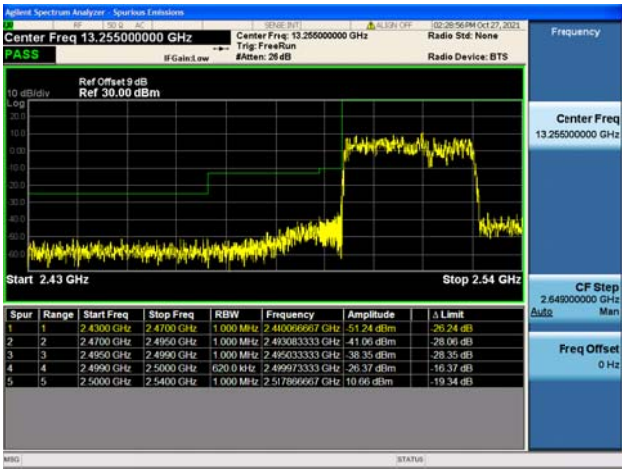
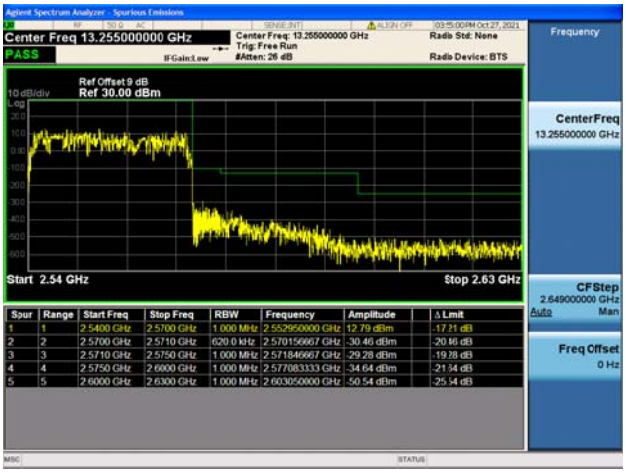
The center frequency of spectrum is the band edge frequency and span is 2MHz, Record the max trace into the test report.

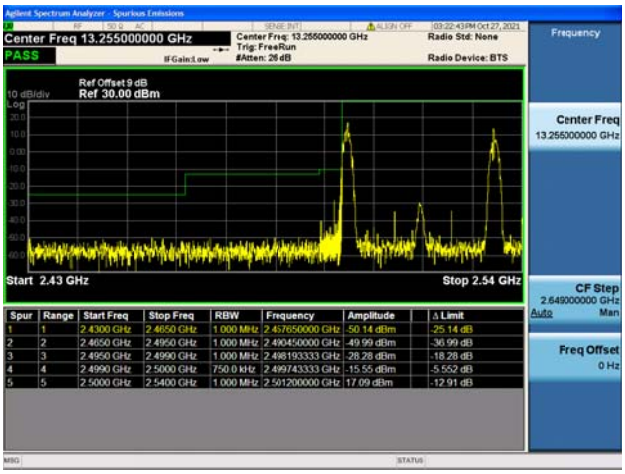
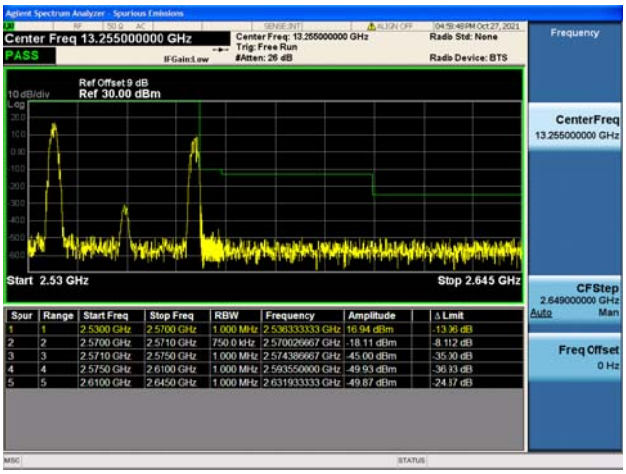
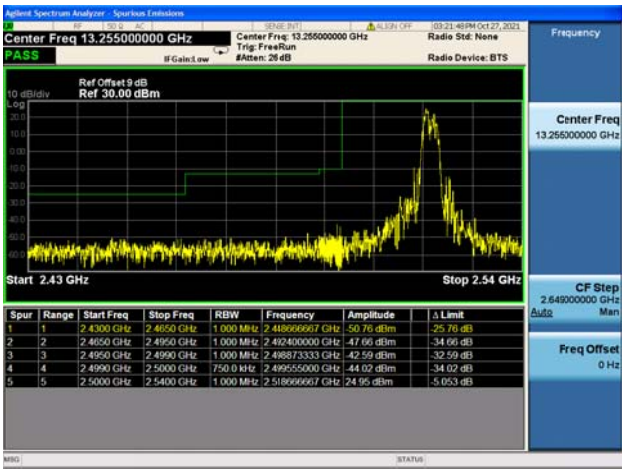
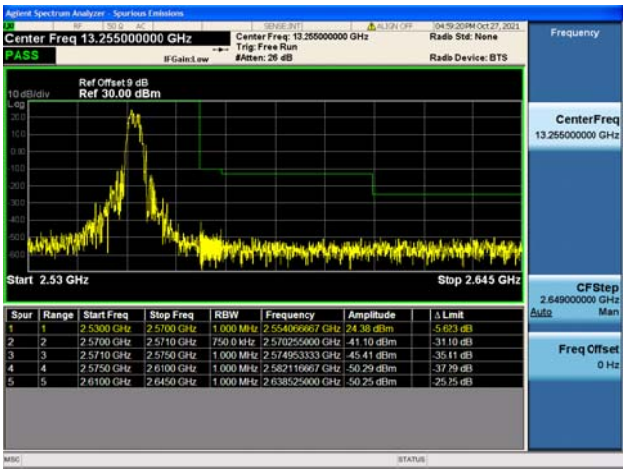
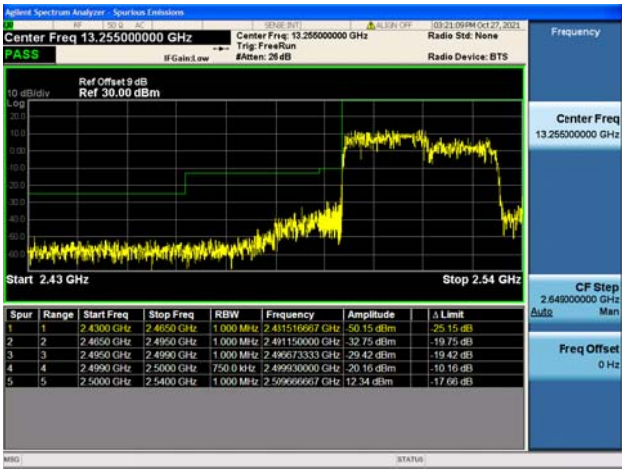
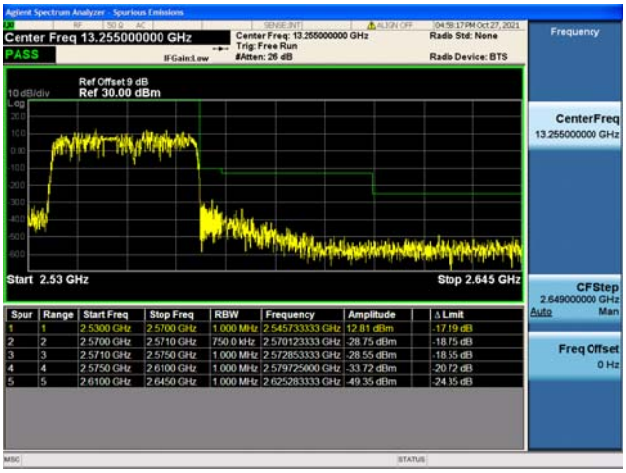
LTE CA_7C	
Channel Bandwidth: 10MHz+20MHz	
Low 1RB0 and 1RB99	High 1RB0 and 1RB99
	
Low 1RB49 and 1RB0	High 1RB49 and 1RB0
	
Low FULL RB	High FULL RB
	

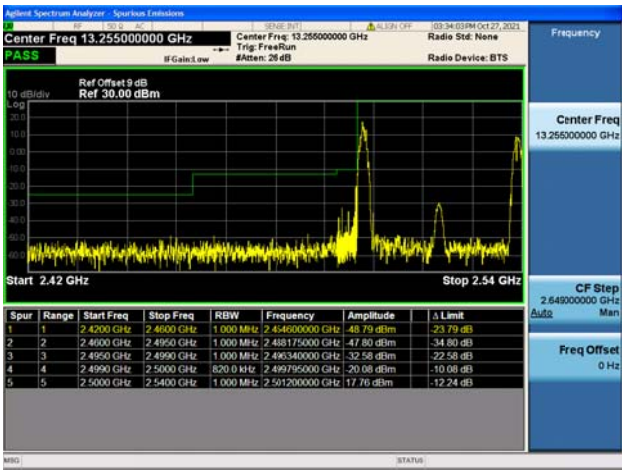
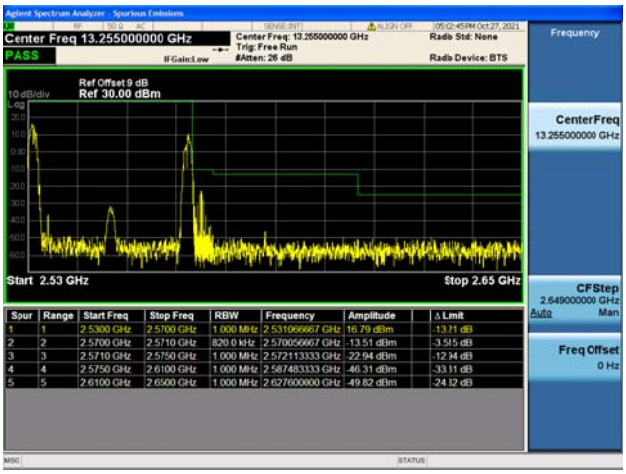
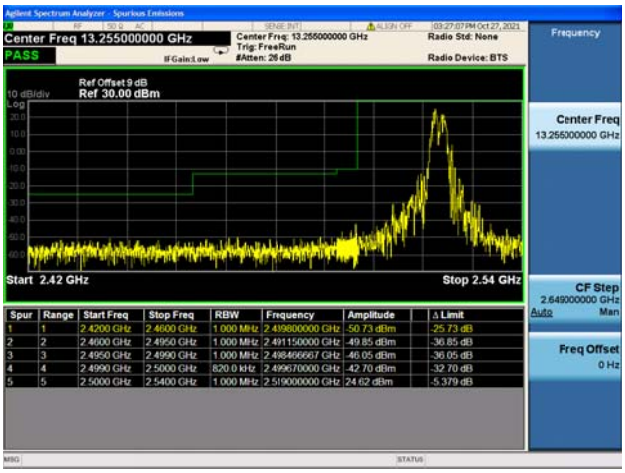
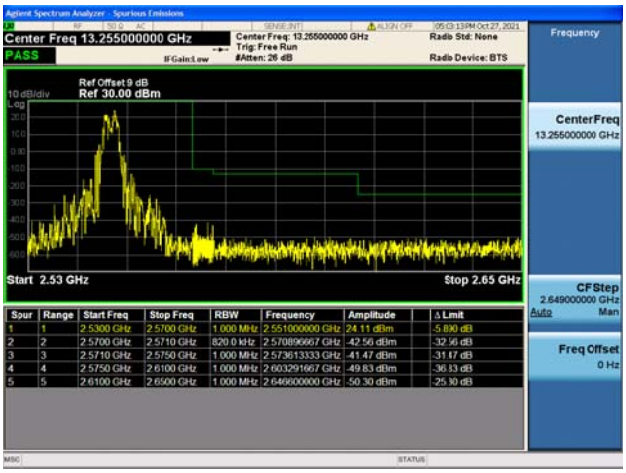
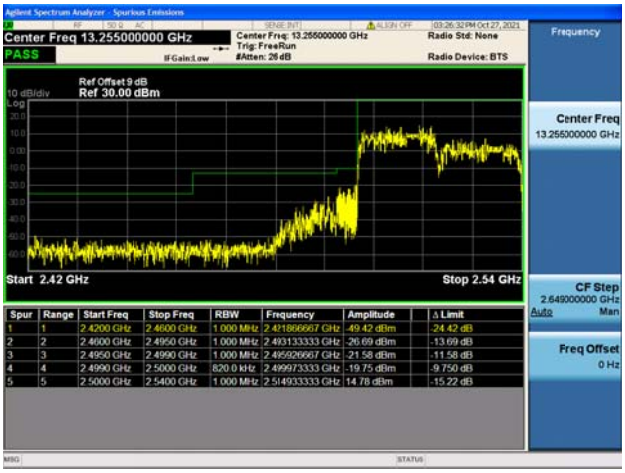
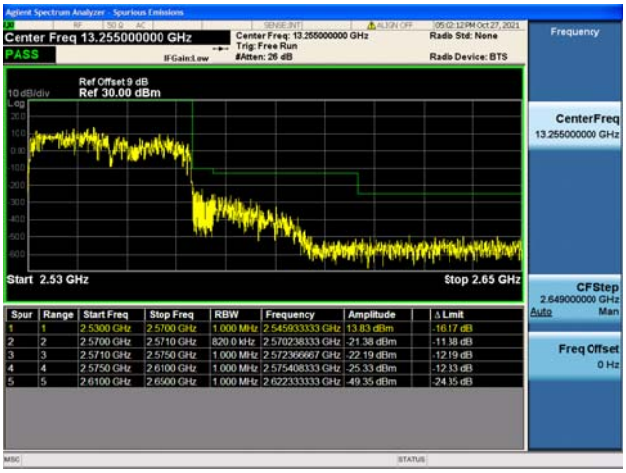
LTE CA_7C	
Channel Bandwidth: 15MHz+10MHz	
Low 1RB74 and 1RB0	High 1RB74 and 1RB0
	
Low 1RB0 and 1RB49	High 1RB0 and 1RB49
	
Low FULL RB	High FULL RB
	

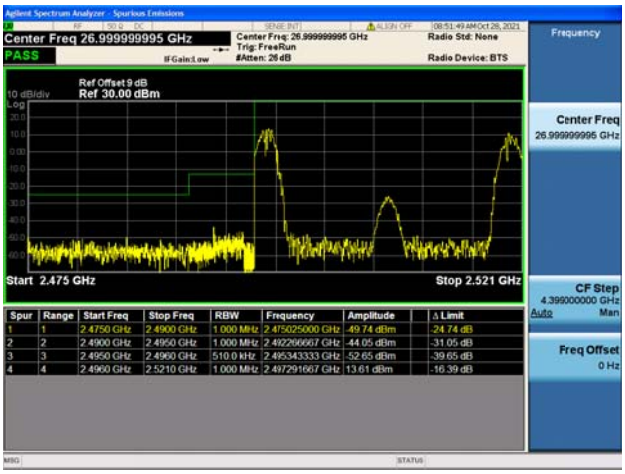
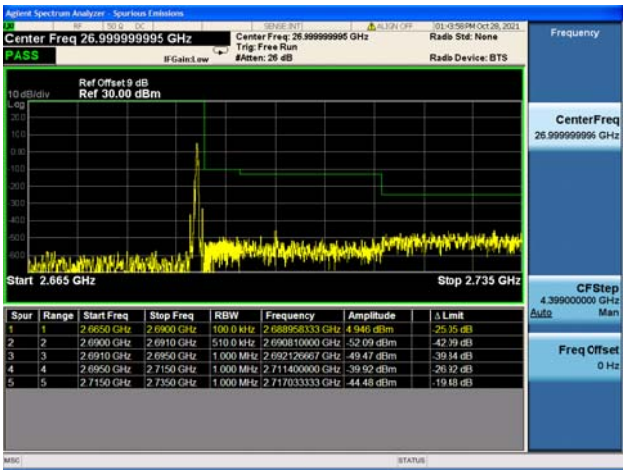
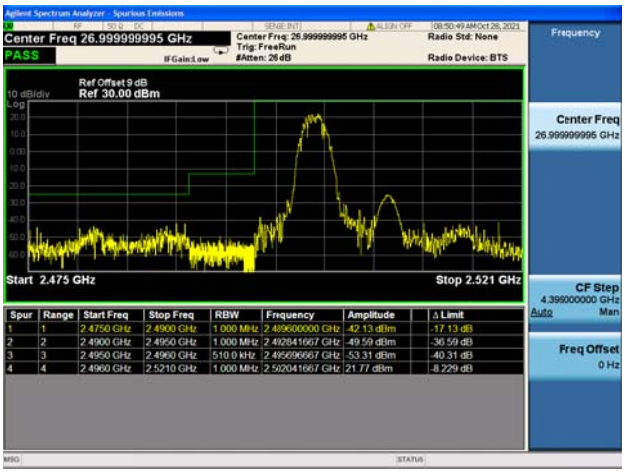
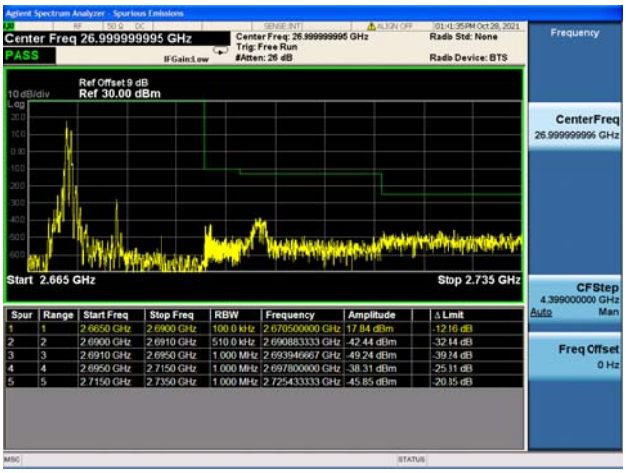
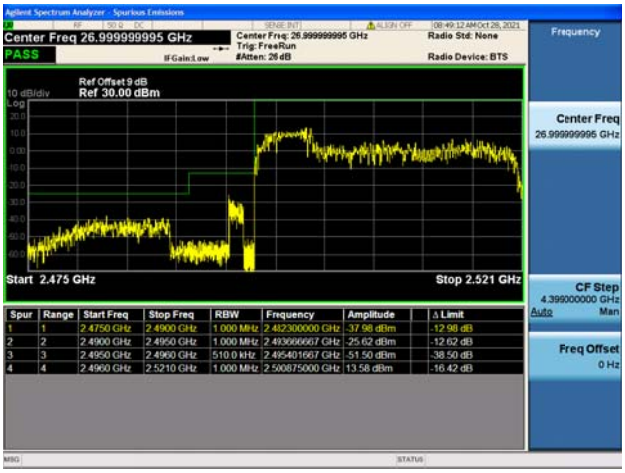
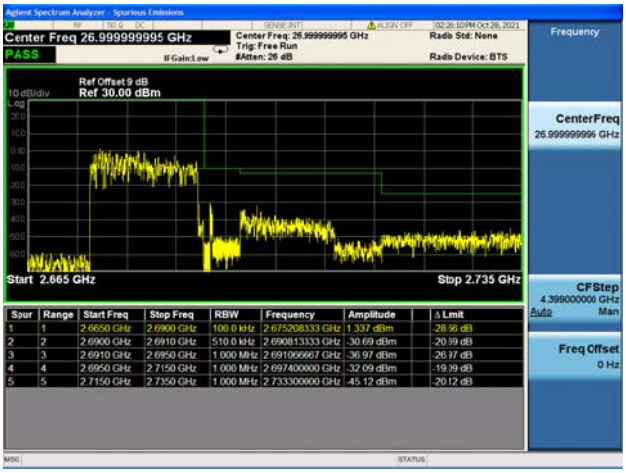
LTE CA_7C	
Channel Bandwidth: 15MHz+15MHz	
Low 1RB0 and 1RB74	High 1RB0 and 1RB74
	
Low 1RB74 and 1RB0	High 1RB74 and 1RB0
	
Low FULL RB	High FULL RB
	

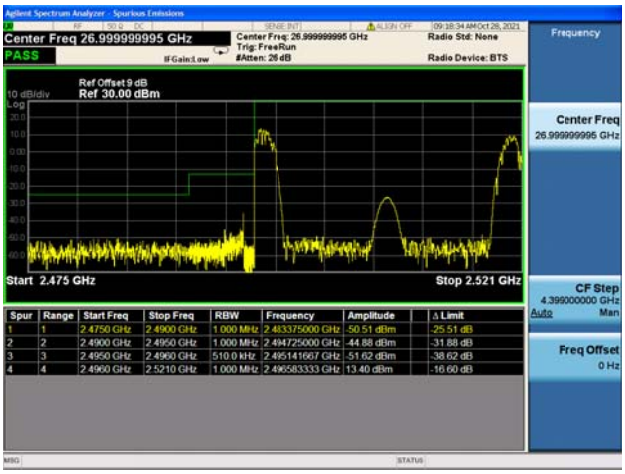
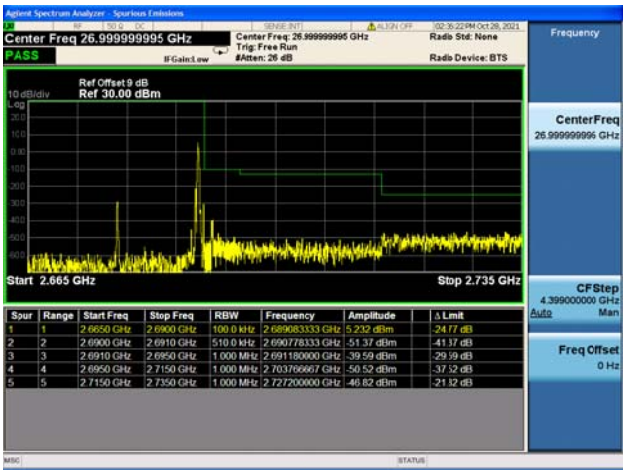
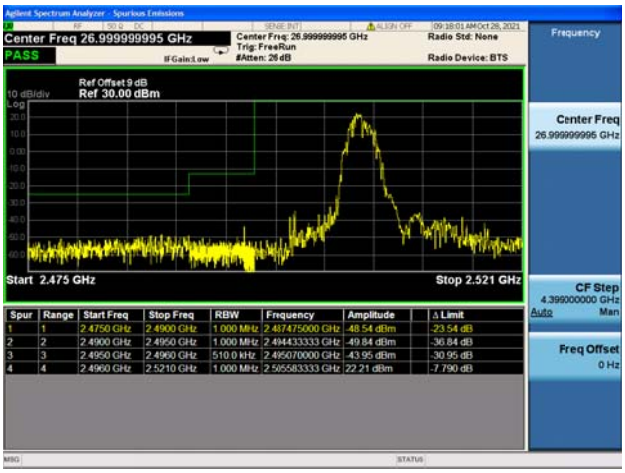
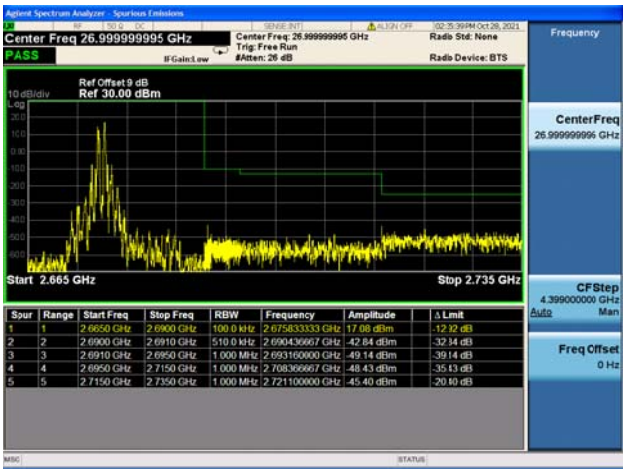
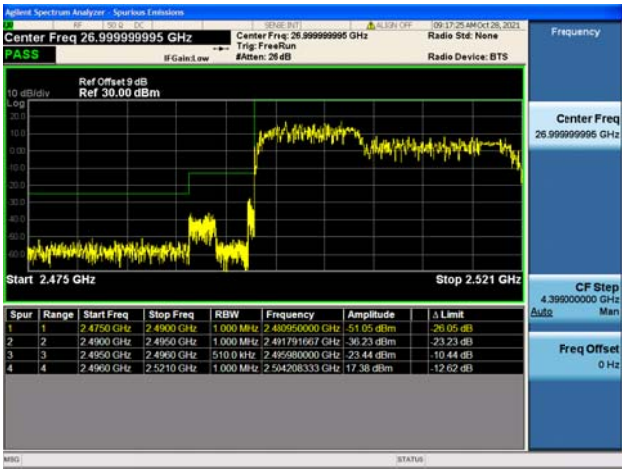
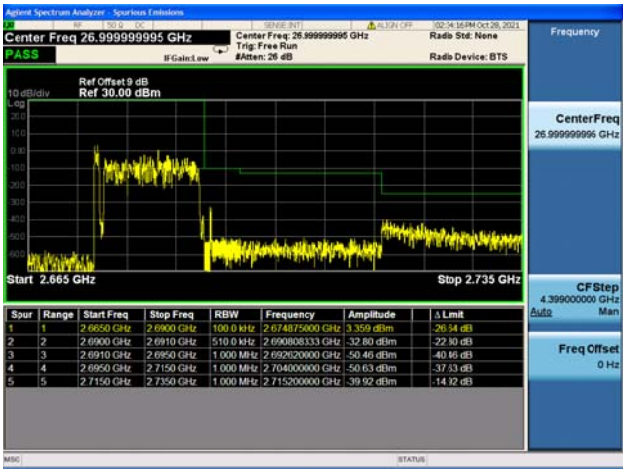
LTE CA_7C	
Channel Bandwidth: 15MHz+20MHz	
Low 1RB0 and 1RB99	High 1RB0 and 1RB99
	
Low 1RB74 and 1RB0	High 1RB74 and 1RB0
	
Low FULL RB	High FULL RB
	

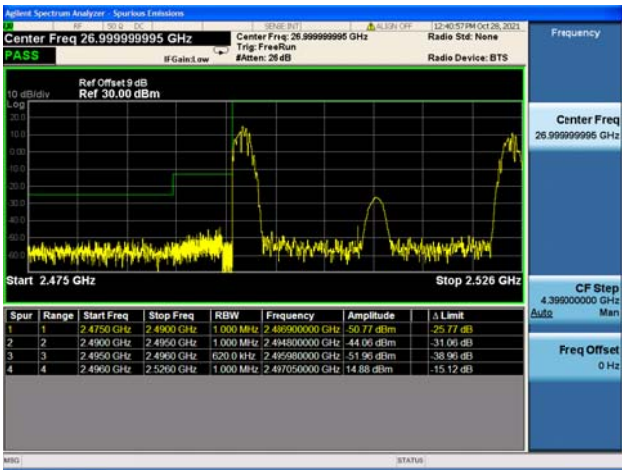
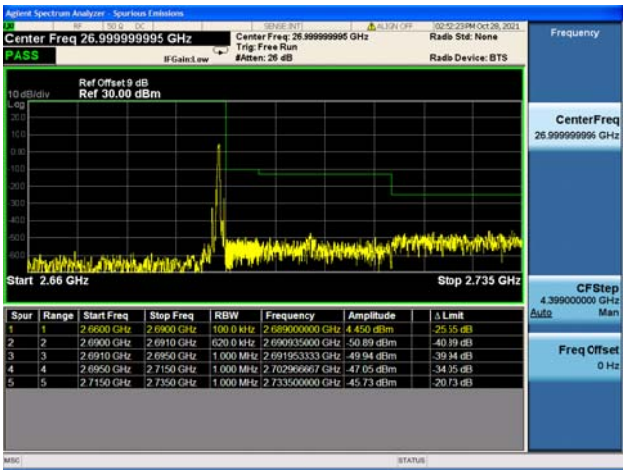
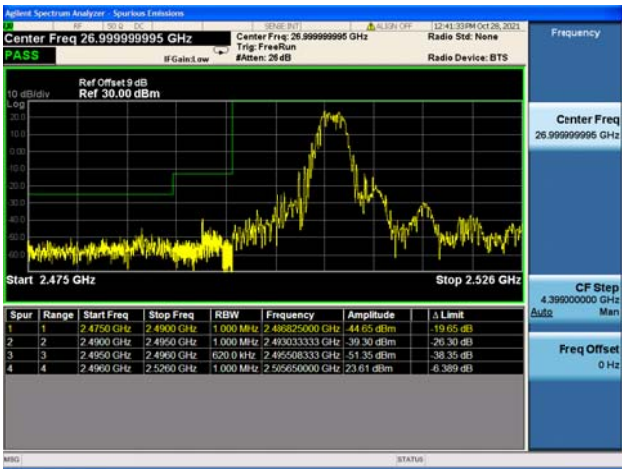
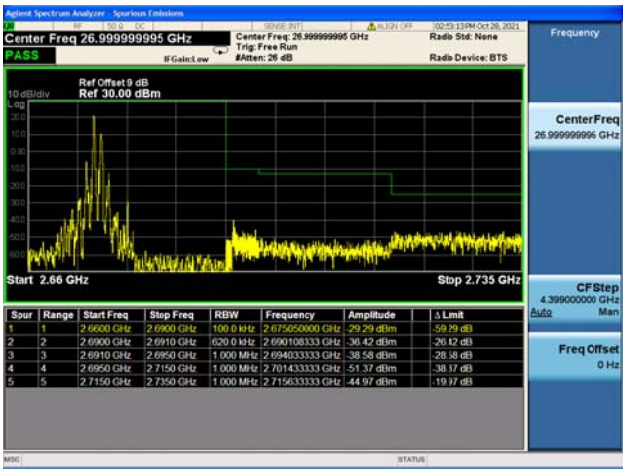
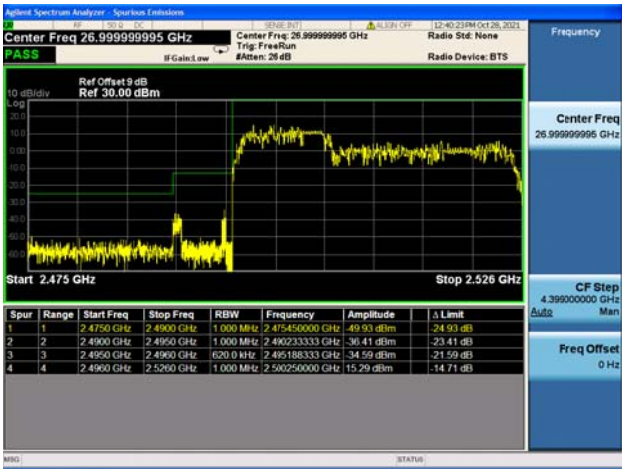
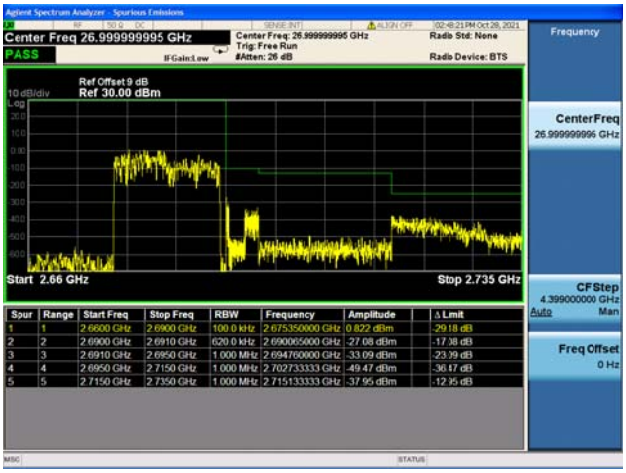
LTE CA_7C	
Channel Bandwidth: 20MHz+10MHz	
Low 1RB0 and 1RB49	High 1RB0 and 1RB49
	
Low 1RB99 and 1RB0	High 1RB99 and 1RB0
	
Low FULL RB	High FULL RB
	

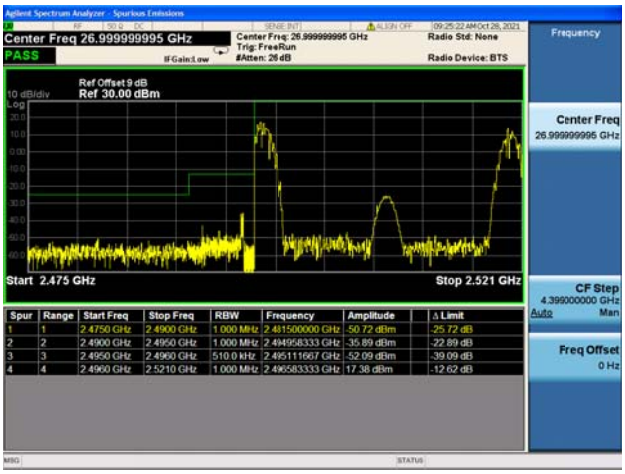
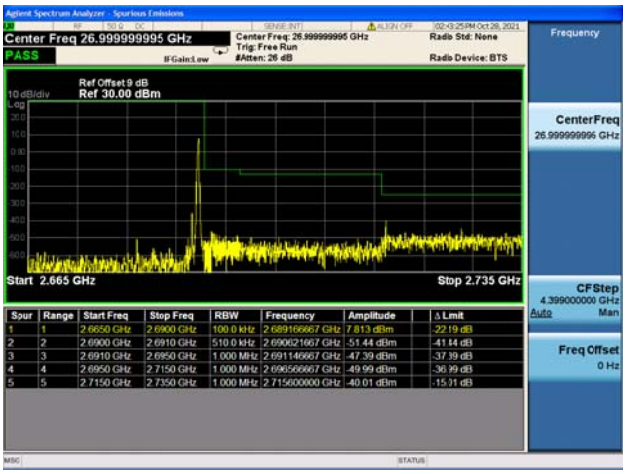
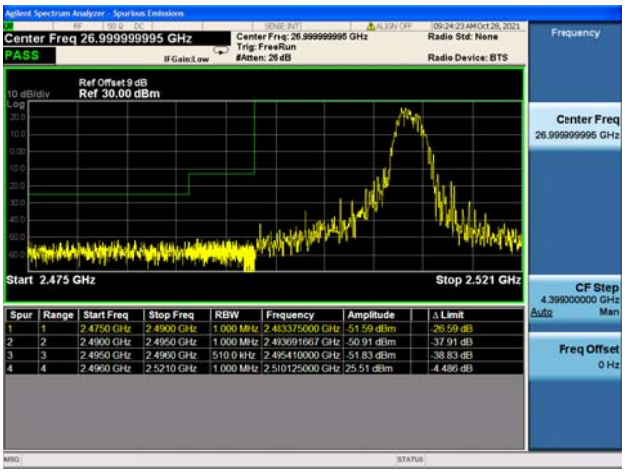
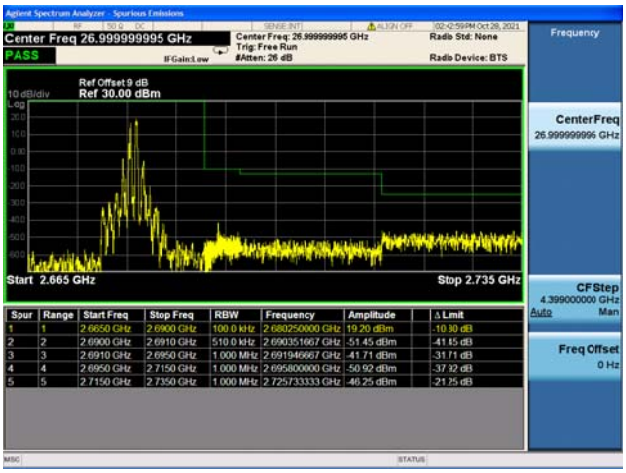
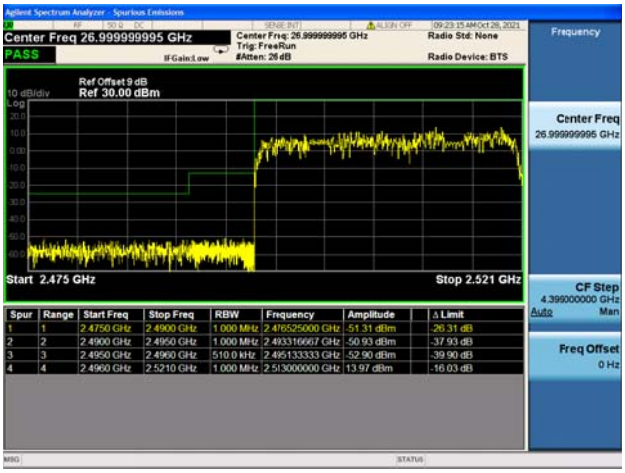
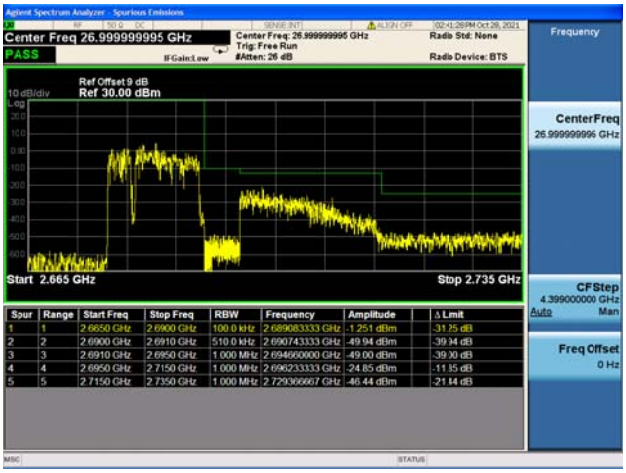
LTE CA_7C	
Channel Bandwidth: 20MHz+15MHz	
Low 1RB0 and 1RB74	High 1RB0 and 1RB74
	
Low 1RB99 and 1RB0	High 1RB99 and 1RB0
	
Low FULL RB	High FULL RB
	

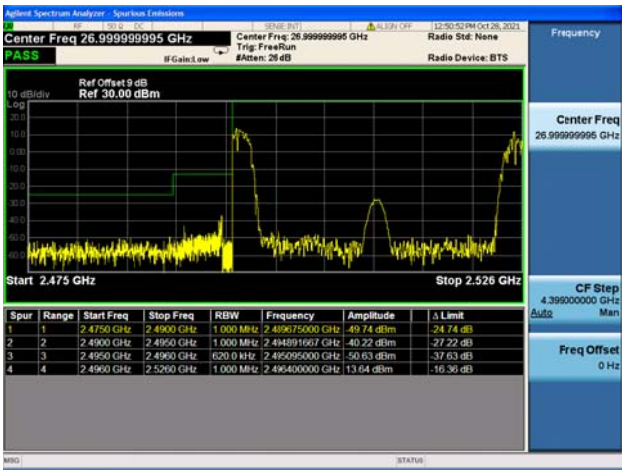
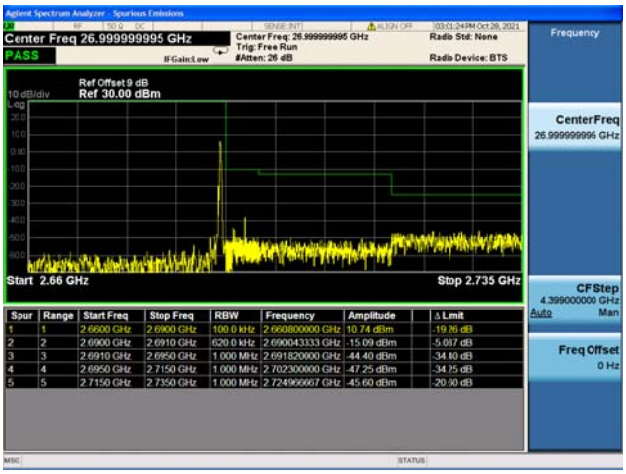
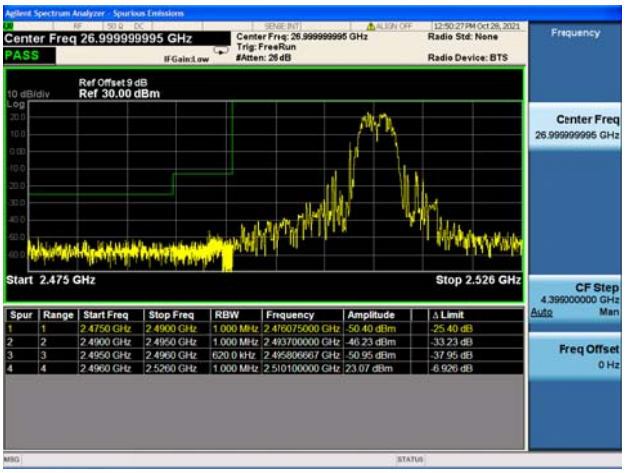
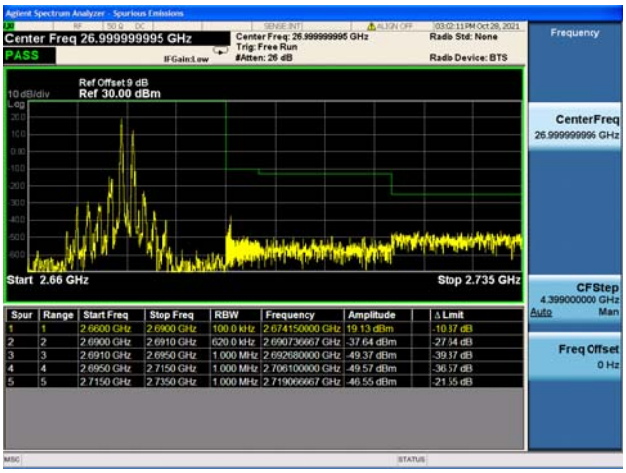
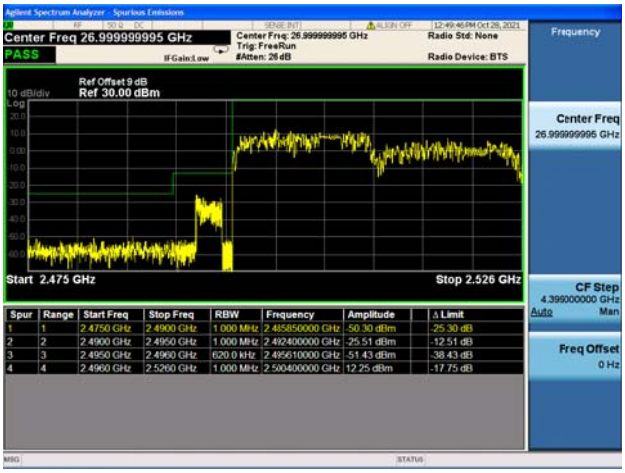
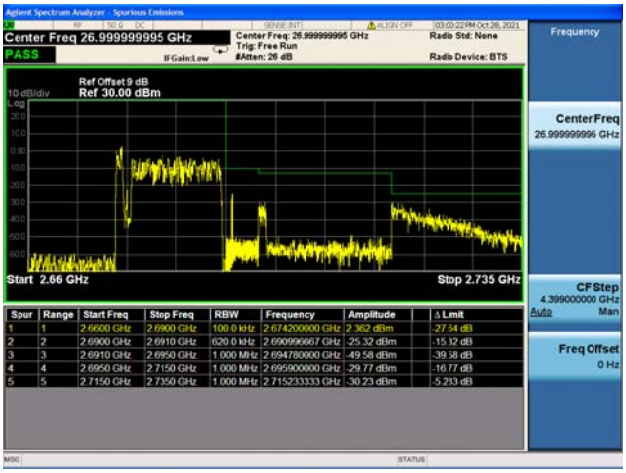
LTE CA_7C	
Channel Bandwidth: 20MHz+20MHz	
Low 1RB0 and 1RB99	High 1RB0 and 1RB99
	
Low 1RB99 and 1RB0	High 1RB99 and 1RB0
	
Low FULL RB	High FULL RB
	

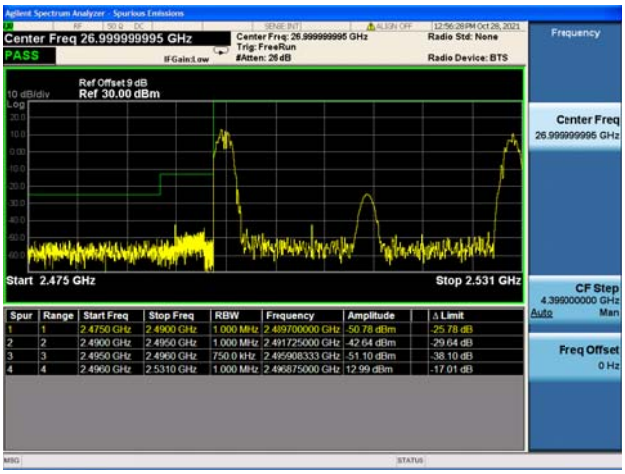
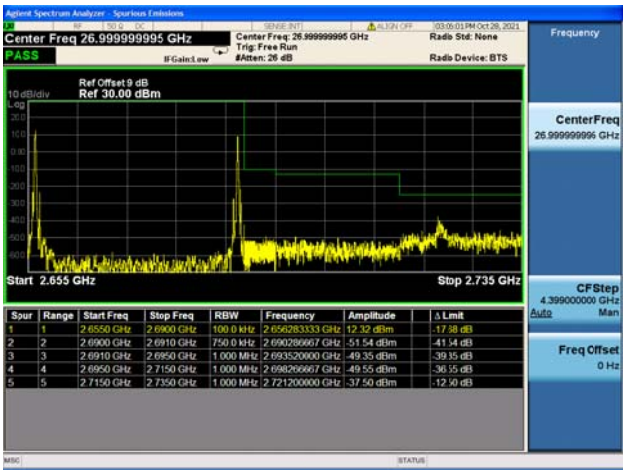
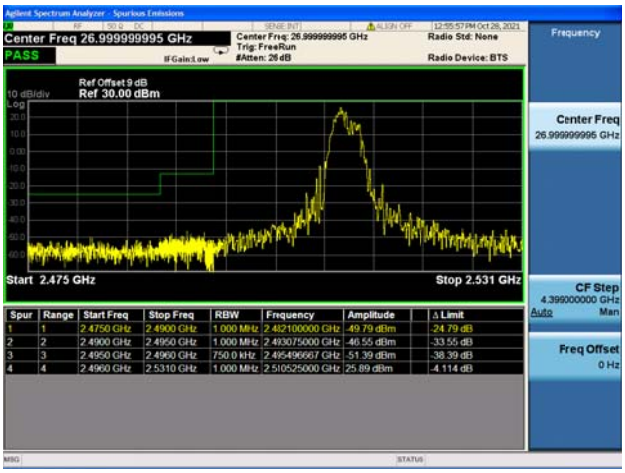
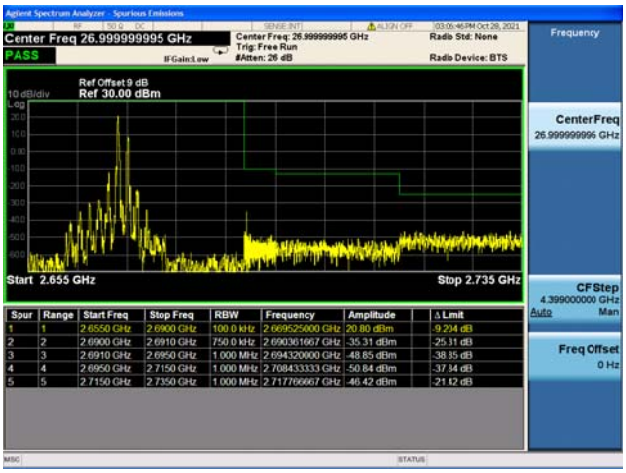
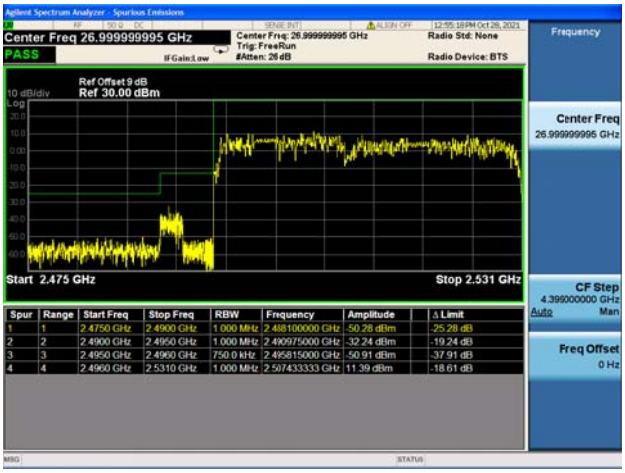
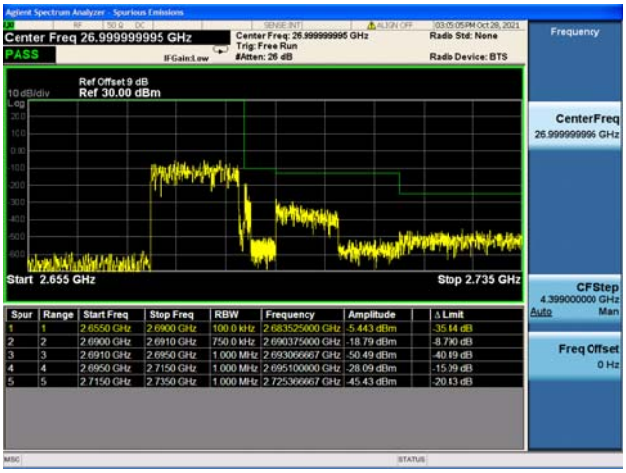
LTE CA_41C	
Channel Bandwidth: 5MHz+20MHz	
Low 1RB0 and 1RB99	High 1RB0 and 1RB99
	
Low 1RB24 and 1RB0	High 1RB24 and 1RB0
	
Low FULL RB	High FULL RB
	

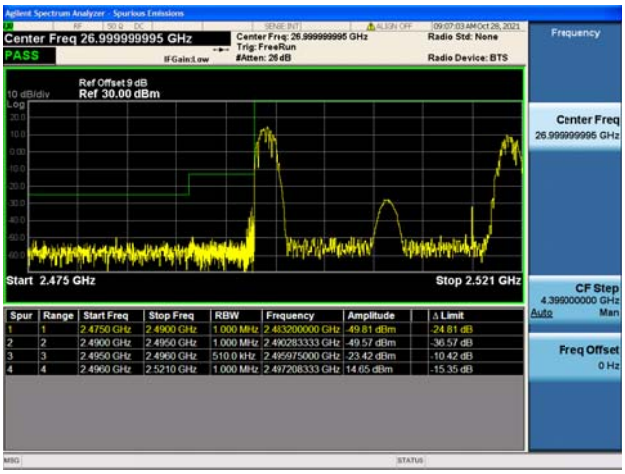
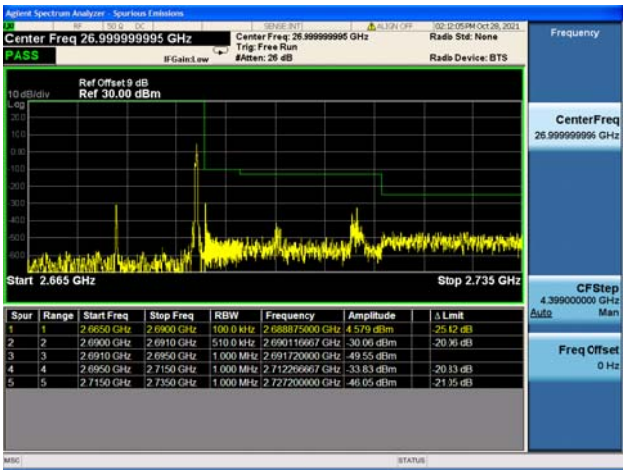
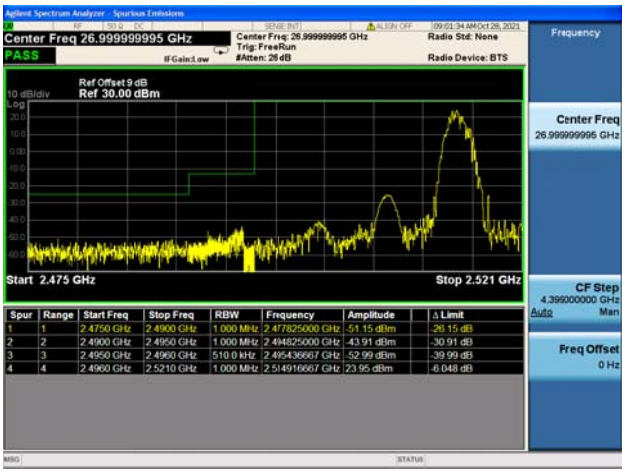
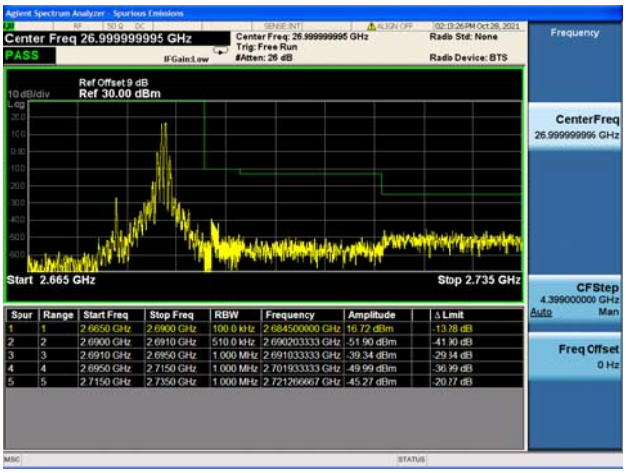
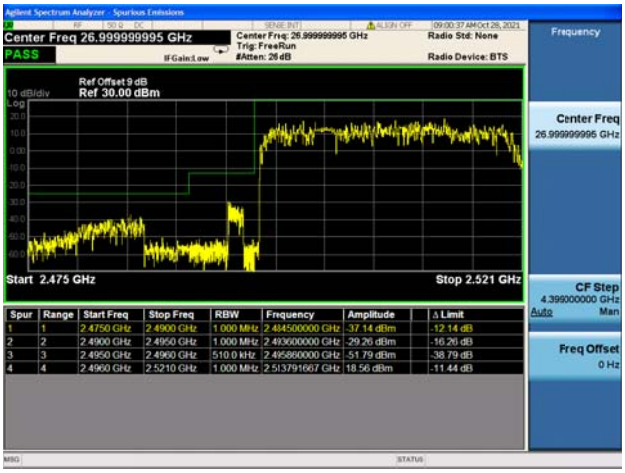
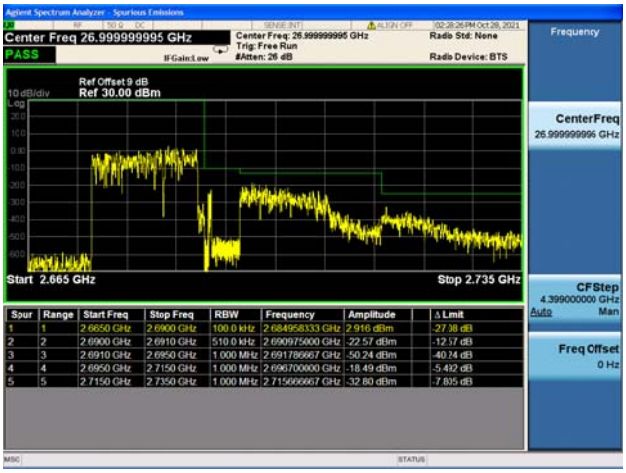
LTE CA_41C	
Channel Bandwidth: 10MHz+15MHz	
Low 1RB0 and 1RB74	High 1RB0 and 1RB74
	
Low 1RB49 and 1RB0	High 1RB49 and 1RB0
	
Low FULL RB	High FULL RB
	

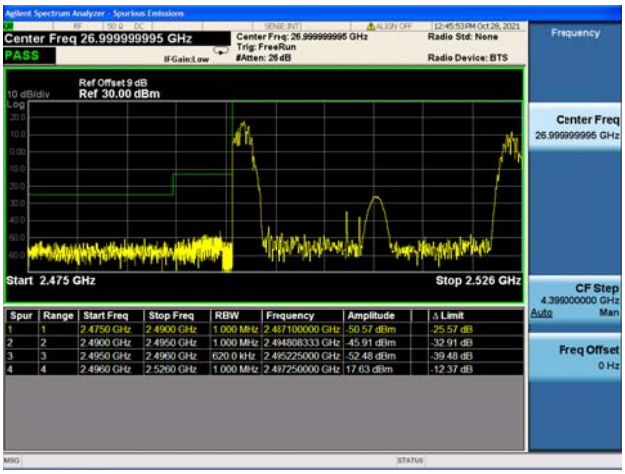
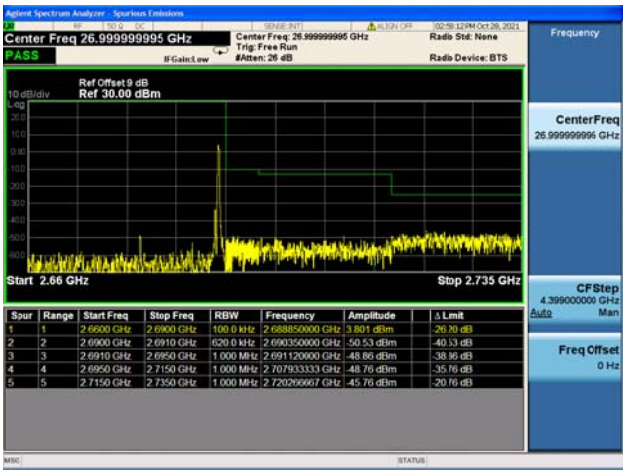
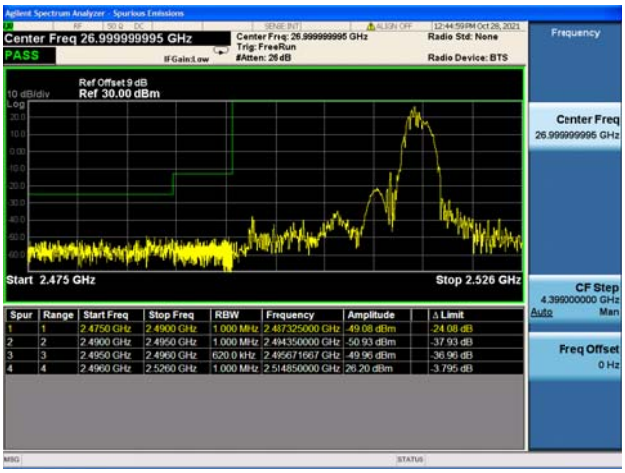
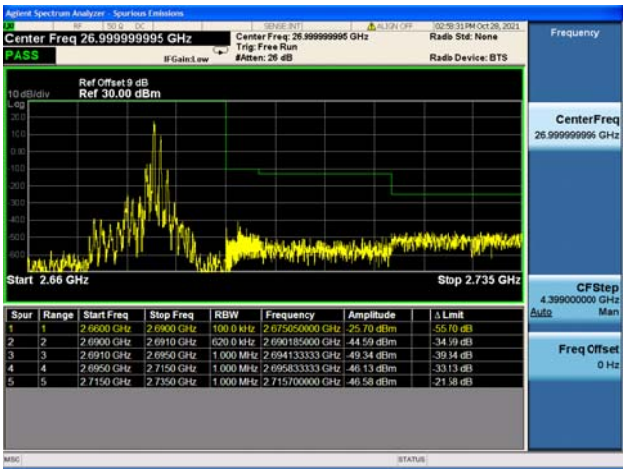
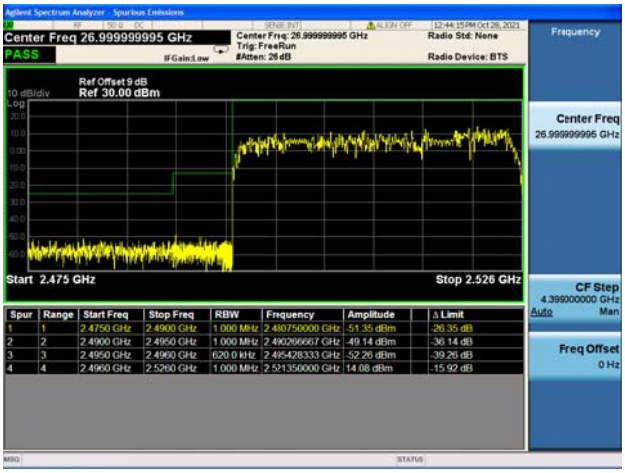
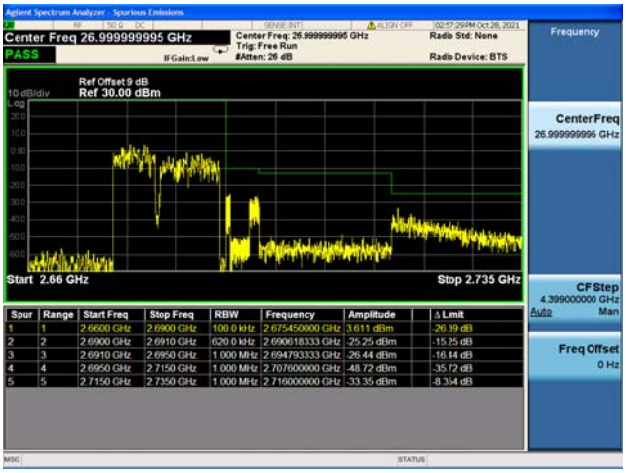
LTE CA_41C	
Channel Bandwidth: 10MHz+20MHz	
Low 1RB0 and 1RB99	High 1RB0 and 1RB99
	
Low 1RB49 and 1RB0	High 1RB49 and 1RB0
	
Low FULL RB	High FULL RB
	

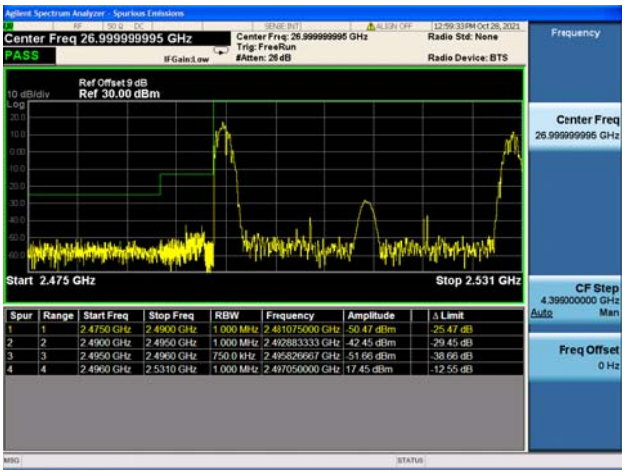
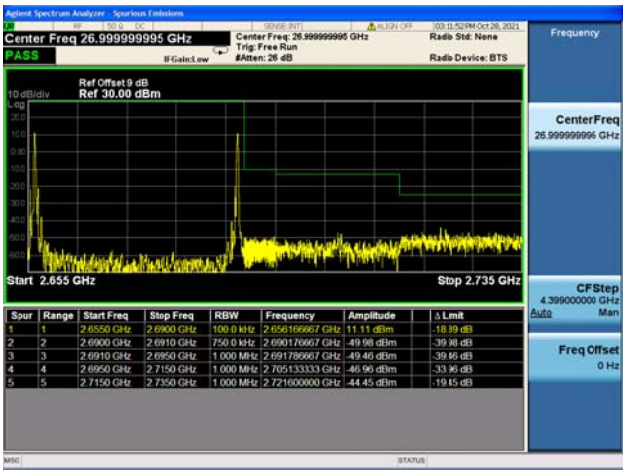
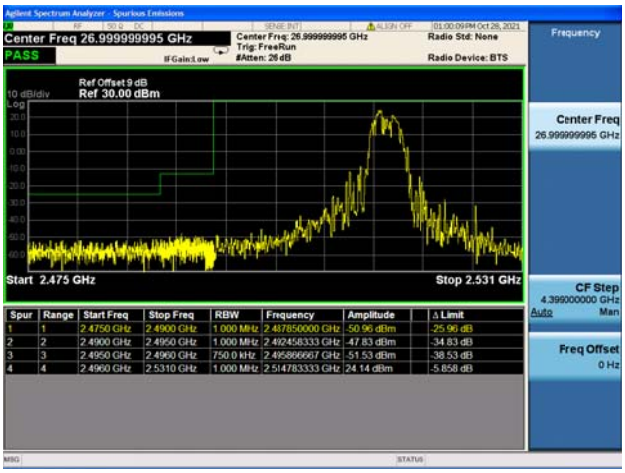
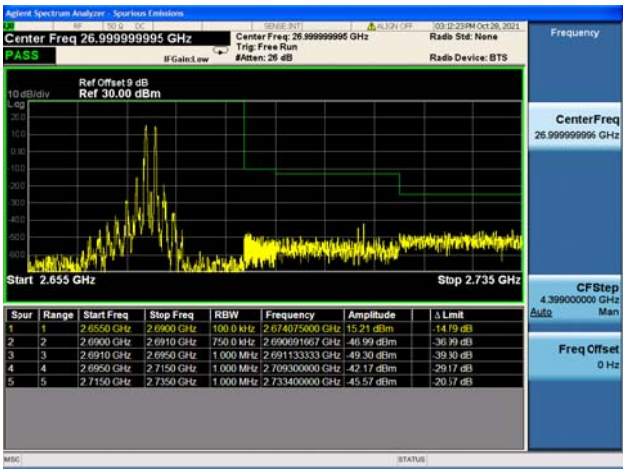
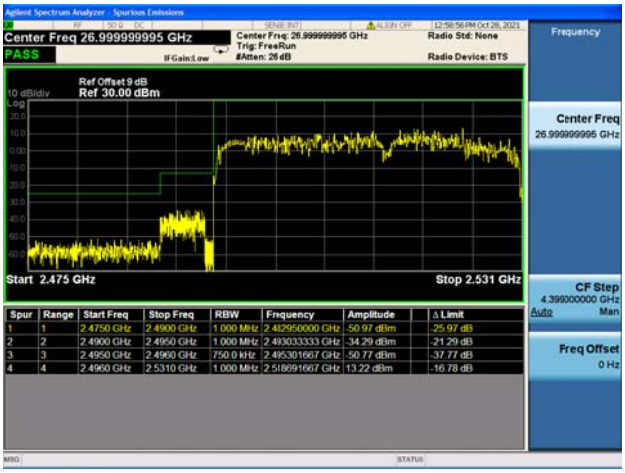
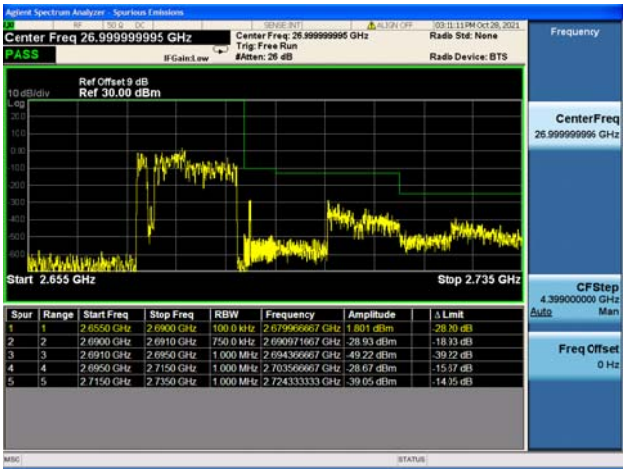
LTE CA_41C	
Channel Bandwidth: 15MHz+10MHz	
Low 1RB0 and 1RB49	High 1RB0 and 1RB49
	
Low 1RB74 and 1RB0	High 1RB74 and 1RB0
	
Low FULL RB	High FULL RB
	

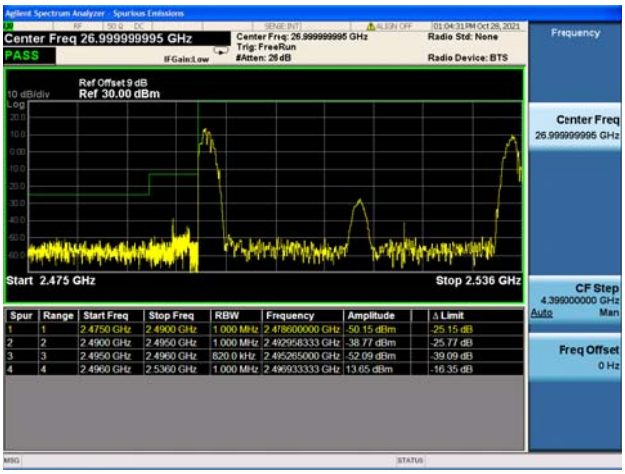
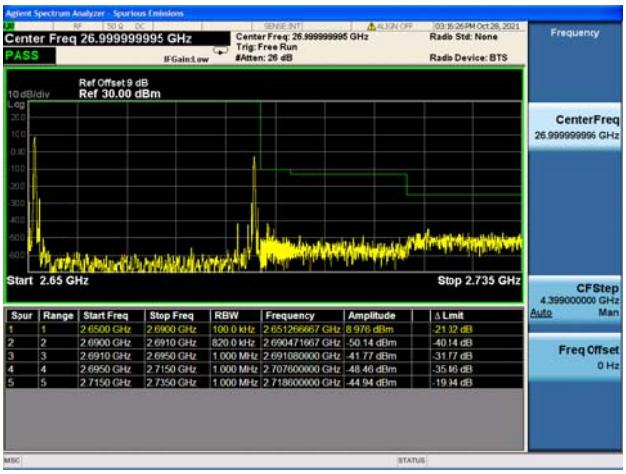
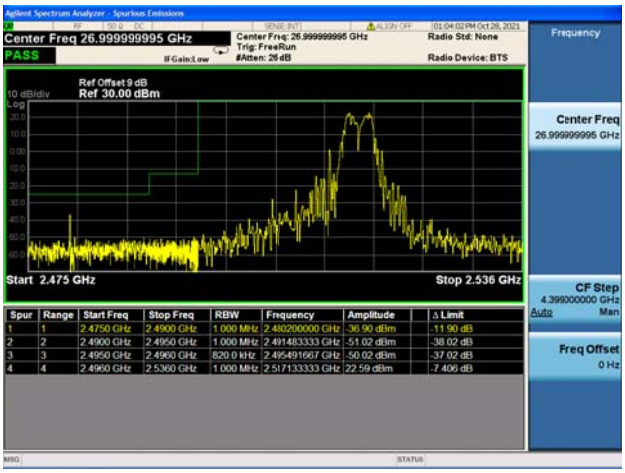
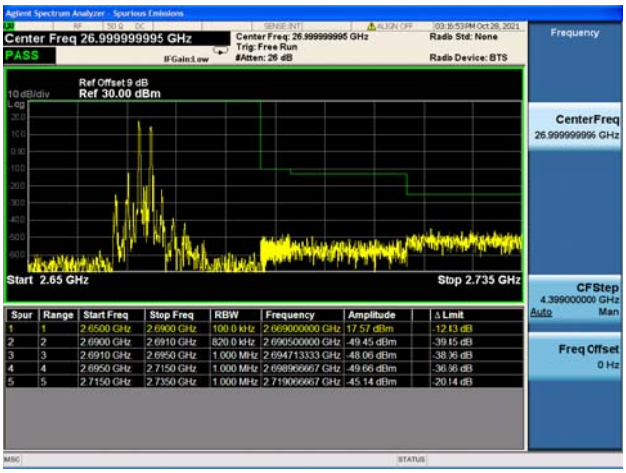
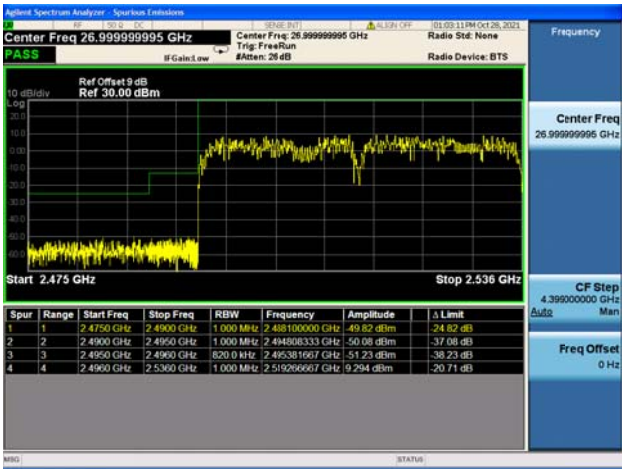
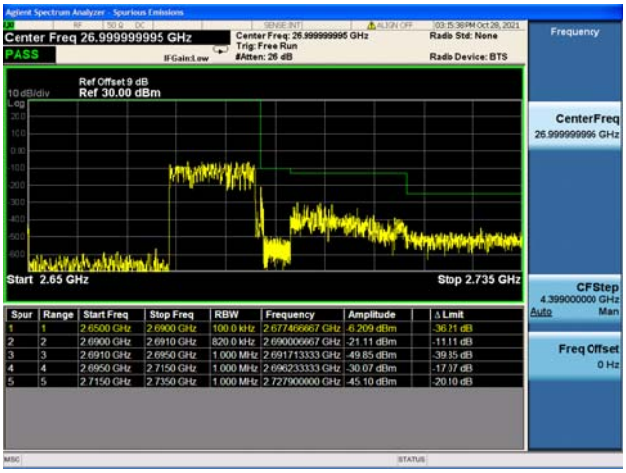
LTE CA_41C	
Channel Bandwidth: 15MHz+15MHz	
Low 1RB0 and 1RB74	High 1RB0 and 1RB74
	
Low 1RB74 and 1RB0	High 1RB74 and 1RB0
	
Low FULL RB	High FULL RB
	

LTE CA_41C	
Channel Bandwidth: 15MHz+20MHz	
Low 1RB0 and 1RB99	High 1RB0 and 1RB99
	
Low 1RB74 and 1RB0	High 1RB74 and 1RB0
	
Low FULL RB	High FULL RB
	

LTE CA_41C	
Channel Bandwidth: 20MHz+5MHz	
Low 1RB0 and 1RB24	High 1RB0 and 1RB24
	
Low 1RB99 and 1RB0	High 1RB99 and 1RB0
	
Low FULL RB	High FULL RB
	

LTE CA_41C	
Channel Bandwidth: 20MHz+10MHz	
Low 1RB0 and 1RB49	High 1RB0 and 1RB49
	
Low 1RB99 and 1RB0	High 1RB99 and 1RB0
	
Low FULL RB	High FULL RB
	

LTE CA_41C	
Channel Bandwidth: 20MHz+15MHz	
Low 1RB0 and 1RB74	High 1RB0 and 1RB74
	
Low 1RB99 and 1RB0	High 1RB99 and 1RB0
	
Low FULL RB	High FULL RB
	

LTE CA_41C	
Channel Bandwidth: 20MHz+20MHz	
Low 1RB0 and 1RB99	High 1RB0 and 1RB99
	
Low 1RB99 and 1RB0	High 1RB99 and 1RB0
	
Low FULL RB	High FULL RB
	

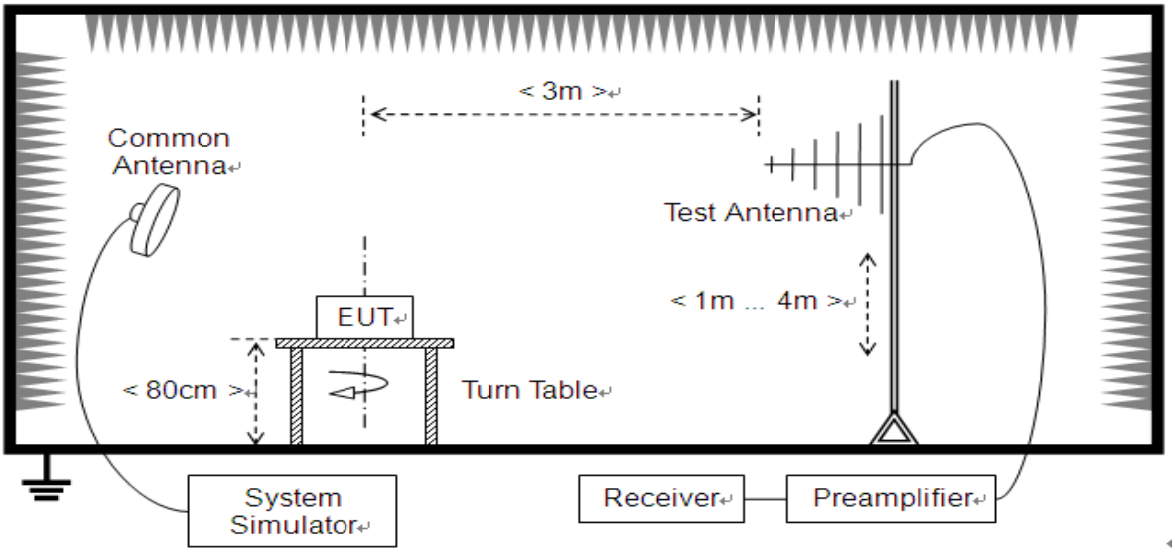
2.5. Radiated Spurious Emissions

2.5.1. Requirement

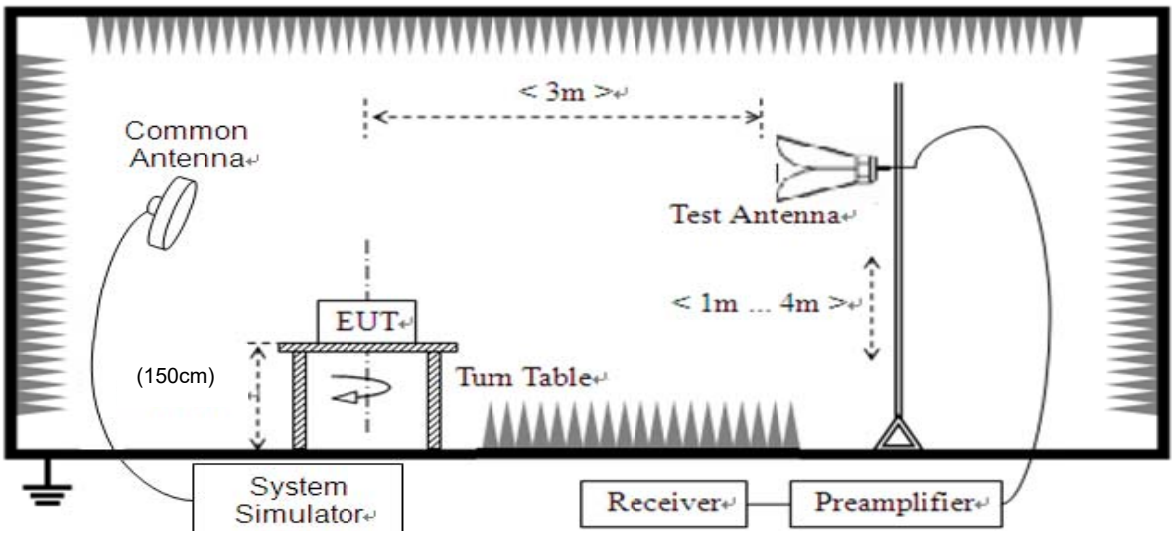
According to FCC section 2.1051, the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43+10*log(P) dB. This calculated to be -13 dBm.

Additional requirement for LTE Band 7, 41: 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 55 + 10 log(P) dB. This calculated to be -25dBm

2.5.2. Test Description



(For the test frequency from 30 MHz to 1 GHz)



(For the test frequency above 1 GHz)

The EUT is located in a 3m Full-Anechoic Chamber, the cable loss, air loss and so on of the site as factors are pre-calibrated using the "Substitution" method, and calculated to correct the reading.

A call is established between the EUT and the SS via a Common Antenna. The EUT is commanded by the SS to operate at the maximum and minimum output power, and only the test result of the maximum output power was recorded.

In the frequency range above 30 MHz, Bi-Log Test Antenna (30 MHz to 1 GHz) and Horn Test Antenna (above 1 GHz) are used. Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground and the Turn Table is actuated to turn from 0° to 360°to determine the maximum value of the radiated power.The emission levels at both horizontal and vertical polarizations should be tested.The Filters consists of Notch Filters and High Pass Filter.

Note: when doing measurements above 1GHz, the EUT has been within the 3dB cone width of the horn antenna during horizontal antenna.

2.5.3. Test procedure

KDB 971168 D01v03 Section 5.8 and ANSI/TIA-603-E-2016.

2.5.4. Test Result

The measurement frequency range is from 30 MHz to the 10th harmonic of the fundamental frequency. Test Antenna height is varied from 1m to 4m above the ground, and the Turn Table is actuated to turn from 0° to 360°, both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

The substitution corrections are obtained as described below:

$A_{SUBST} = P_{SUBST\_TX} - P_{SUBST\_RX} - L_{SUBST\_CABLES} + G_{SUBST\_TX\_ANT}$

$A_{TOT} = L_{CABLES} + A_{SUBST}$

Where A_{SUBST} is the final substitution correction including receive antenna gain.

P_{SUBST_TX} is signal generator level,

P_{SUBST_RX} is receiver level,

L_{SUBST_CABLES} is cable losses including TX cable,

$G_{SUBST\_TX\_ANT}$ is substitution antenna gain.

A_{TOT} is total correction factor including cable loss and substitution correction

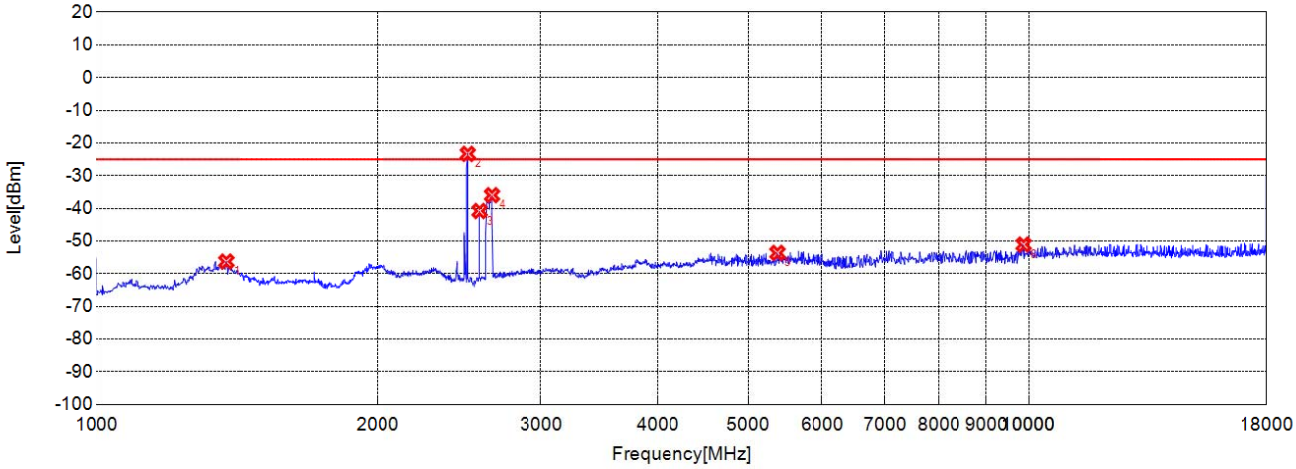
During the test, the data of A_{TOT} was added in the Test Spectrum Analyze, so Spectrum Analyze reading is the final values which contain the data of A_{TOT}.

Note1: The power of the EUT transmitting frequency should be ignored.

Note2: All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Note3: All bandwidth and test channel were considered and evaluated respectively by performing full test for each band, only the worst cases were recorded in this test report.

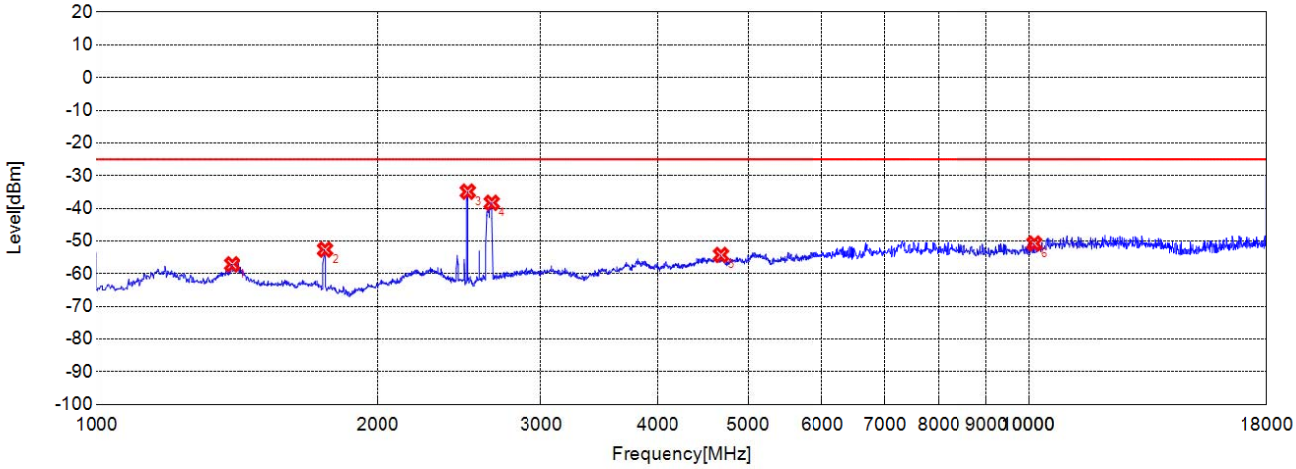
Test Graph



Suspected List								
NO.	Freq. [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Path [dB]	Air [dB]	Ant. Pol.
1	1376.3760	-56.29	-25	31.29	-8.24	-45.31	37.07	Horizontal
2	2501.5020	-23.34	-25	-1.66	-10.43	-47.11	36.68	NA
3	2575.5760	-40.83	-25	15.83	-10.43	-47.30	36.87	NA
4	2655.6560	-35.99	-25	10.99	-10.18	-47.31	37.13	NA
5	5371.8720	-53.66	-25	28.66	-2.26	-43.02	40.76	Horizontal
6	9872.8730	-51.09	-25	26.09	12.81	-35.72	48.53	Horizontal

CA_7C 低 20M QPSK PCC RB 1 0 SCC RB 0 0 1-18G H

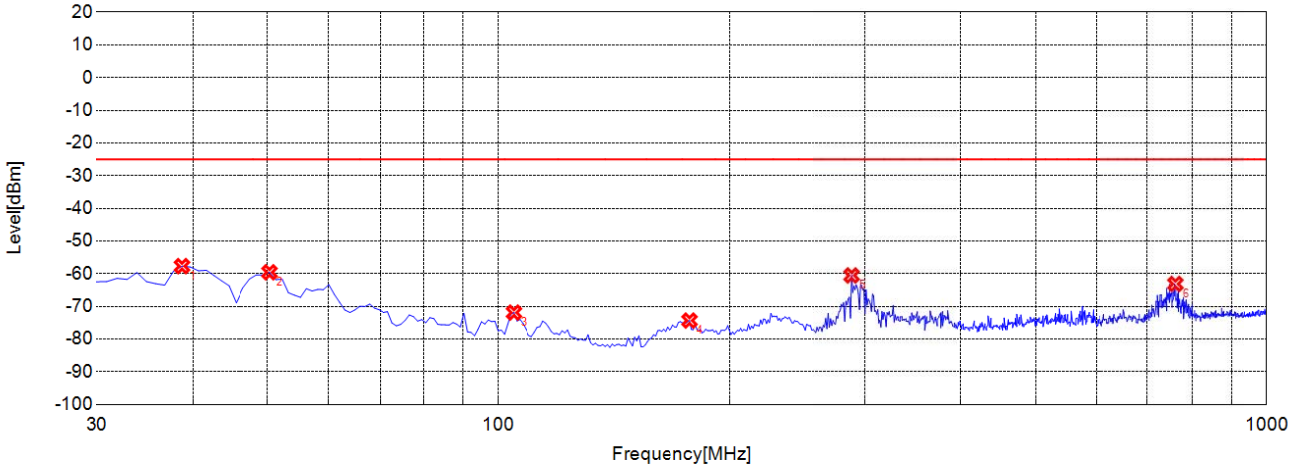
Test Graph



Suspected List								
NO.	Freq. [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Path [dB]	Air [dB]	Ant. Pol.
1	1396.3960	-57.14	-25	32.14	-8.08	-45.34	37.26	Vertical
2	1756.7570	-52.62	-25	27.62	-9.26	-46.27	37.01	Vertical
3	2501.5020	-34.9	-25	9.90	-10.57	-47.11	36.54	NA
4	2653.6540	-38.31	-25	13.31	-10.38	-47.30	36.92	NA
5	4678.1780	-54.27	-25	29.27	-4.30	-44.86	40.56	Vertical
6	10137.6380	-50.76	-25	25.76	12.22	-36.04	48.26	Vertical

CA_7C 低 20M QPSK PCC RB 1 0 SCC RB 0 0 1-18G V

Test Graph



○ Final Test

Suspected List								
NO.	Freq. [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Path [dB]	Air [dB]	Ant. Pol.
1	38.7390	-57.69	-25.00	32.69	-7.63	-39.55	31.92	Horizontal
2	50.3900	-59.57	-25.00	34.57	-7.16	-39.46	32.30	Horizontal
3	104.7650	-71.9	-25.00	46.90	-17.53	-38.70	21.17	Horizontal
4	177.5880	-74.34	-25.00	49.34	-17.59	-38.11	20.52	Horizontal
5	288.2780	-60.55	-25.00	35.55	-11.81	-36.98	25.17	Horizontal
6	761.1410	-63.14	-25.00	38.14	-2.51	-34.21	31.70	Horizontal

CA_7C 低 20M QPSK PCC RB 1 0 SCC RB 0 0 30M-1G H