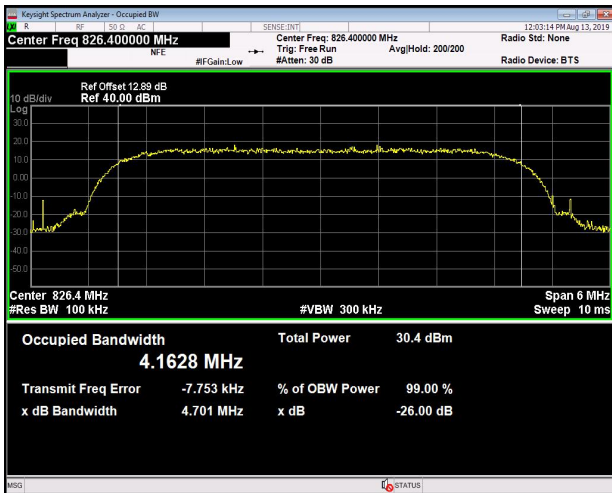
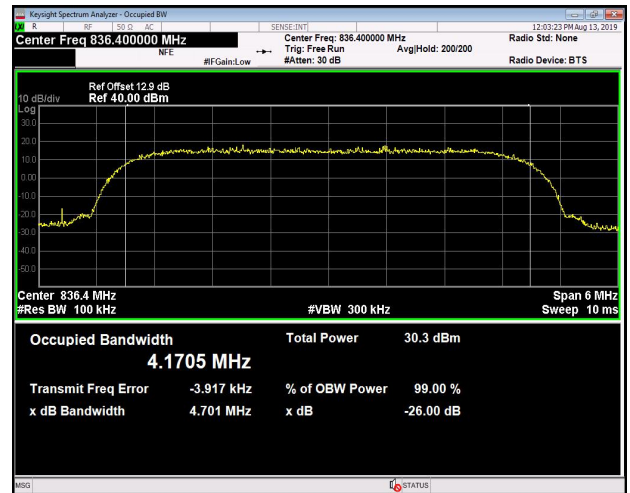
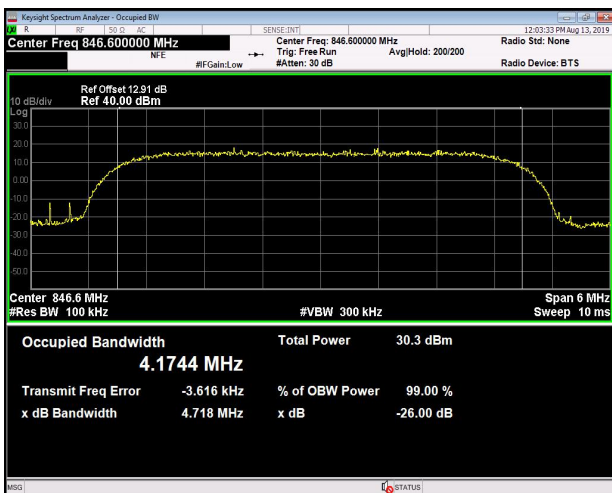
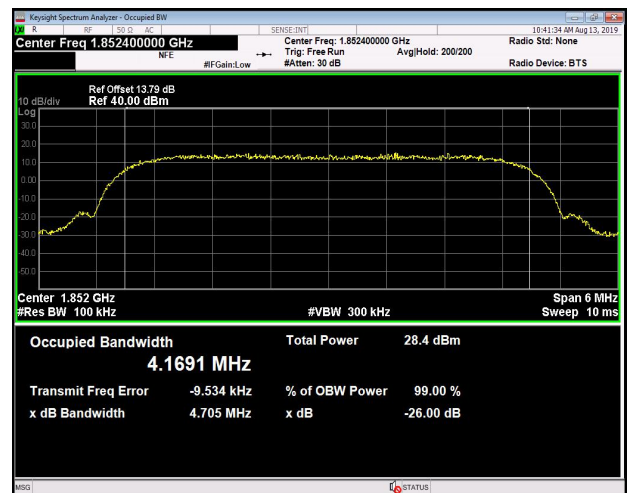
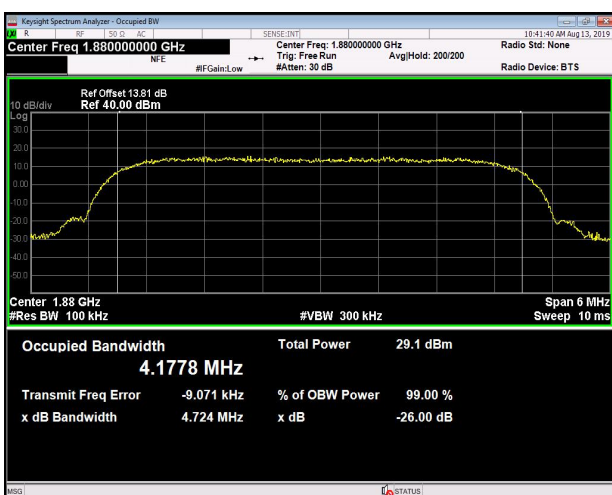
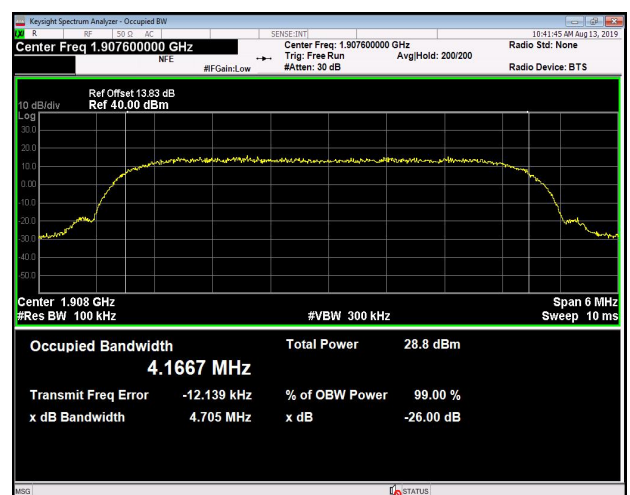
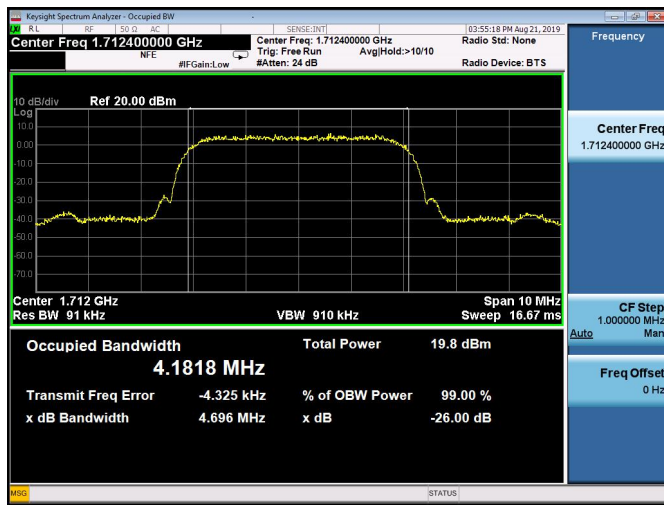
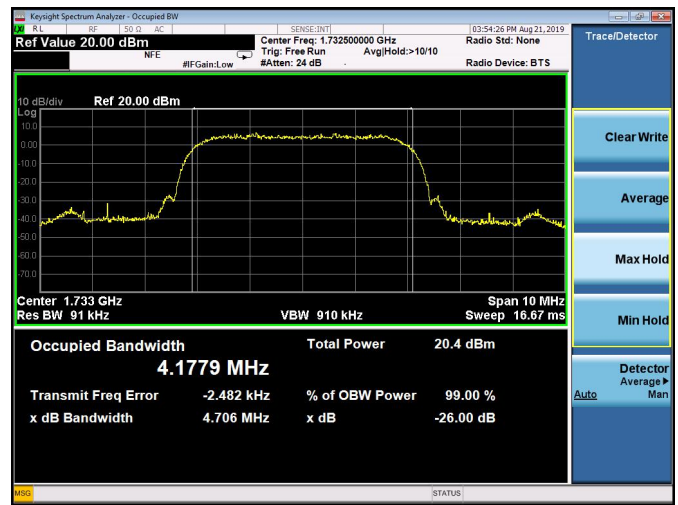
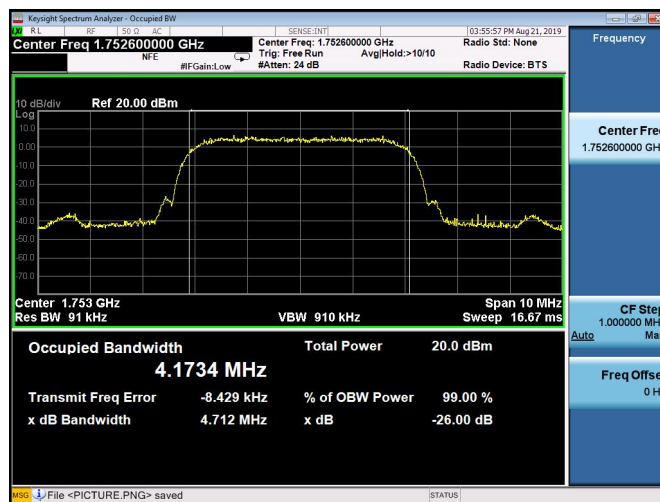


**WCDMA Band V CH4132 826.4MHz****WCDMA Band V CH4182 836.4MHz****WCDMA Band V CH4233 846.6MHz****WCDMA Band II CH9262 1852.4MHz****WCDMA Band II CH9400 1880.0MHz****WCDMA Band II CH9538 1907.6MHz**

**WCDMA Band IV CH1312 1712.4MHz****WCDMA Band IV CH1413 1732.6MHz****WCDMA Band IV CH1513 1752.6MHz**

2.4. Frequency Stability

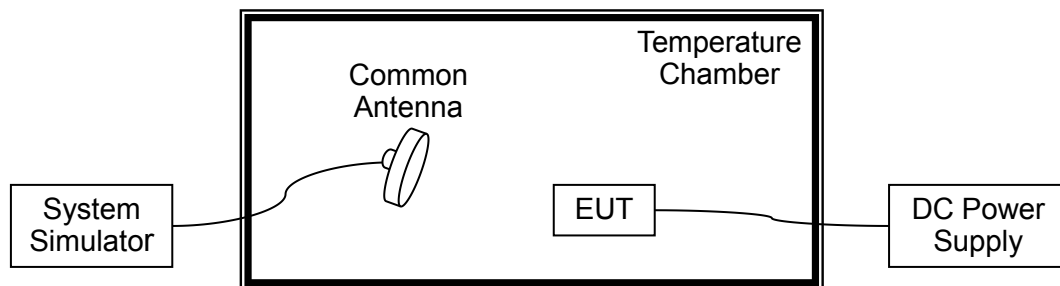
2.4.1. Requirement

According to FCC section 22.355, 24.235 and 27.54 the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. According to FCC section 2.1055, the test conditions are:

- (a) The temperature is varied from -15°C to $+55^{\circ}\text{C}$ at intervals of not more than 10°C .
- (b) For hand carried battery powered equipment, the primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacture. The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided.

2.4.2. Test Description

Test Setup:



The EUT, which is powered by the DC Power Supply directly, is located in the Temperature Chamber. The EUT is commanded by the System Simulator (SS) to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS via a Common Antenna.

**2.4.3. Test Result****A. Test Verdict:**

GSM 850MHz, Channel 190, Frequency 836.6MHz					
Limit = ± 2.5 ppm					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
100	3.8	+20(Ref)	43	0.051	PASS
100		-15	54	0.065	
100		-5	-34	-0.041	
100		+5	37	0.044	
100		15	-52	-0.062	
100		+25	46	0.055	
100		+35	-31	-0.037	
100		+45	45	0.054	
100		+55	-30	-0.036	
115	4.35	+20	33	0.039	
85	3.5	+20	-62	-0.074	

GSM 1900MHz, Channel 661, Frequency 1880.0MHz					
Limit =Within Authorized Band					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
100	3.8	+20(Ref)	16	0.019	PASS
100		-15	42	0.050	
100		-5	-32	-0.038	
100		+5	-27	-0.032	
100		15	19	0.023	
100		+25	22	0.026	
100		+35	-19	-0.023	
100		+45	6	0.007	
100		+55	-38	-0.045	
115	4.35	+20	29	0.035	
85	3.5	+20	4	0.005	



EDGE 850MHz, Channel 190, Frequency 836.6MHz					
Limit = ± 2.5 ppm					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
100	3.8	+20(Ref)	2	0.002	PASS
100		-15	74	0.088	
100		-5	-40	-0.048	
100		+5	-52	-0.062	
100		15	-9	-0.011	
100		+25	49	0.059	
100		+35	53	0.063	
100		+45	17	0.020	
100		+55	39	0.047	
115	4.35	+20	14	0.017	
85	3.5	+20	23	0.027	

EDGE 1900MHz, Channel 661, Frequency 1880.0MHz					
Limit =Within Authorized Band					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
100	3.8	+20(Ref)	-29	-0.035	PASS
100		-15	19	0.023	
100		-5	33	0.039	
100		+5	-57	-0.068	
100		15	-55	-0.066	
100		+25	-32	-0.038	
100		+35	13	0.016	
100		+45	6	0.007	
100		+55	-33	-0.039	
115	4.35	+20	-20	-0.024	
85	3.5	+20	58	0.069	



WCDMA Band V, Channel 4182, Frequency 836.4MHz					
Limit = ± 2.5 ppm					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
100	3.8	+20(Ref)	-48	-0.057	PASS
100		-15	21	0.025	
100		-5	-45	-0.054	
100		+5	-19	-0.023	
100		15	27	0.032	
100		+25	11	0.013	
100		+35	59	0.071	
100		+45	23	0.027	
100		+55	55	0.066	
115	4.35	+20	-45	-0.054	
85	3.5	+20	-60	-0.072	

WCDMA Band II, Channel 9400, Frequency 1880.0MHz					
Limit =Within Authorized Band					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
100	3.8	+20(Ref)	52	0.062	PASS
100		-15	73	0.087	
100		-5	-48	-0.057	
100		+5	-25	-0.030	
100		15	-59	-0.071	
100		+25	-43	-0.051	
100		+35	-35	-0.042	
100		+45	-49	-0.059	
100		+55	-1	-0.001	
115	4.35	+20	45	0.054	
85	3.5	+20	5	0.006	



WCDMA Band IV, Channel 1413, Frequency 1732.6MHz Limit =Within Authorized Band					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
100	3.8	+20(Ref)	65	0.078	PASS
100		-15	11	0.013	
100		-5	62	0.074	
100		+5	60	0.072	
100		15	-58	-0.069	
100		+25	-54	-0.065	
100		+35	65	0.078	
100		+45	-34	-0.041	
100		+55	-8	-0.010	
115	4.35	+20	-9	-0.011	
85	3.5	+20	-36	-0.043	

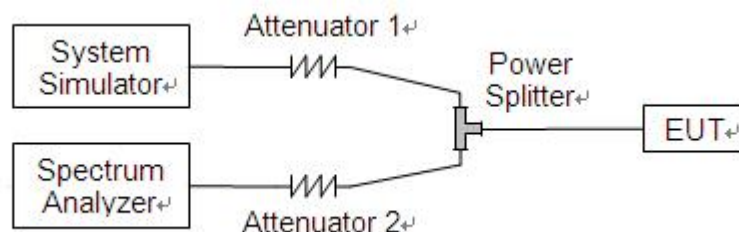
2.5. Conducted Out of Band Emissions

2.5.1. Requirement

According to FCC section 22.917(a), 24.238(a) and 27.53(h) 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 -13dBm.

2.5.2. Test Description

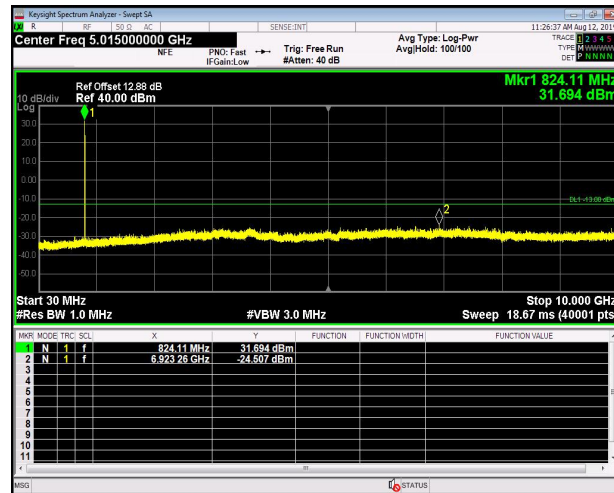
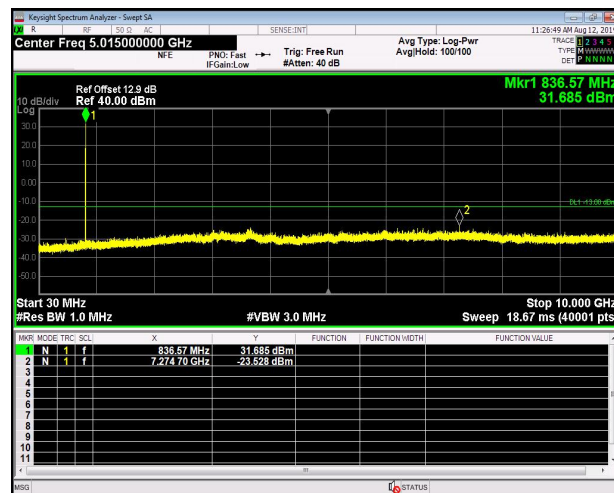
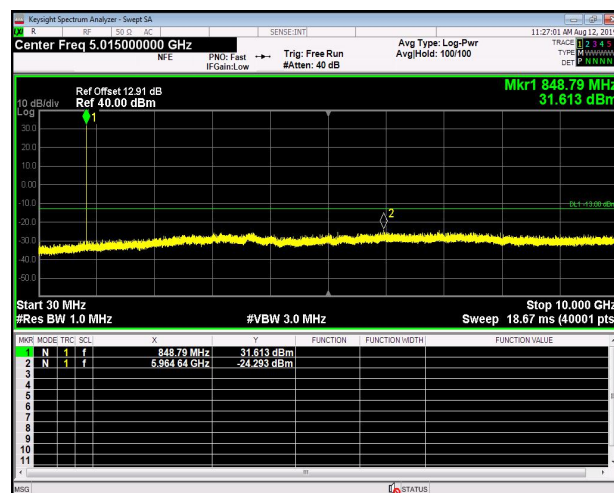
Test Setup:

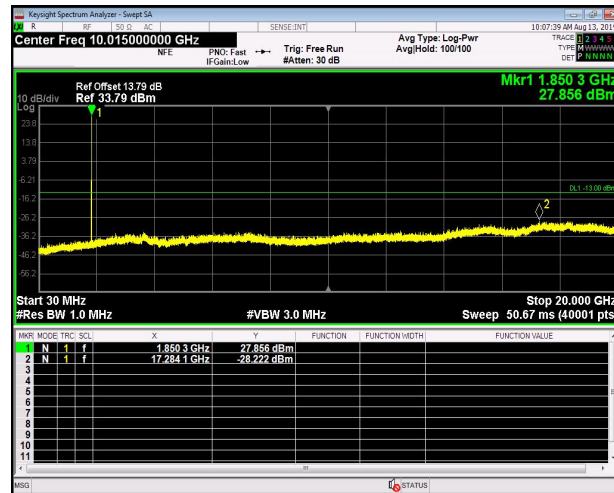
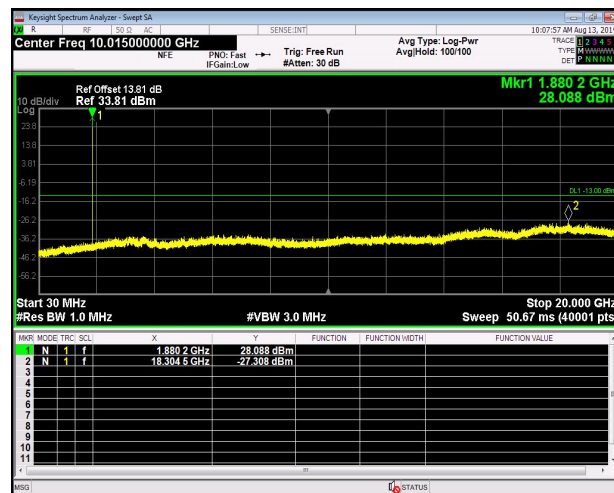
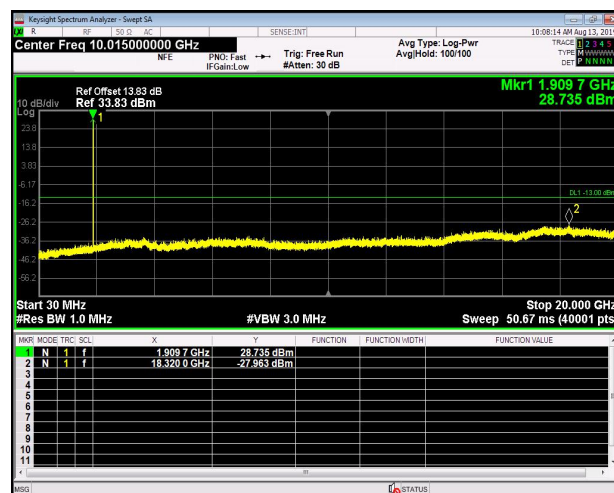


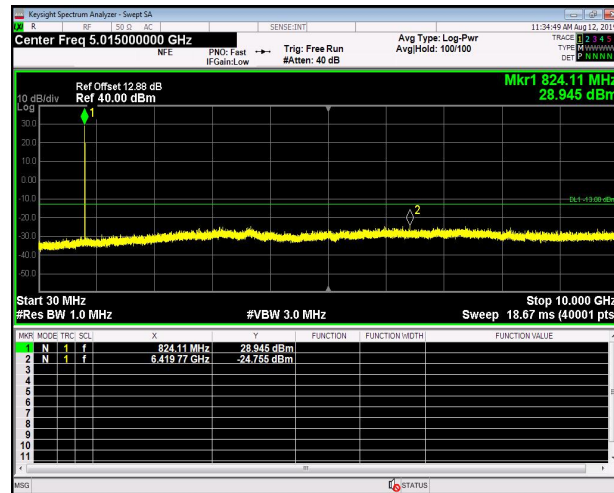
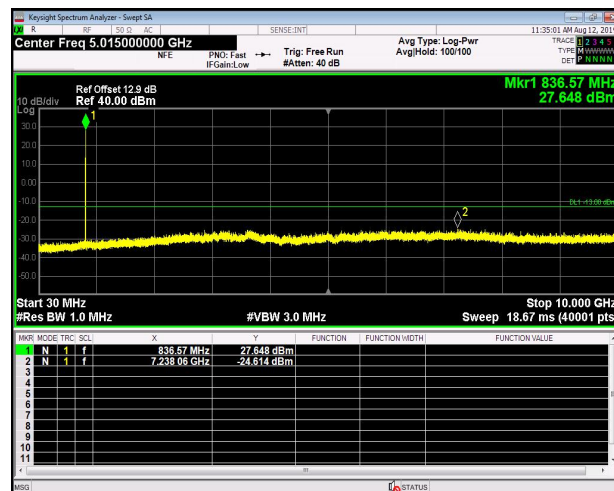
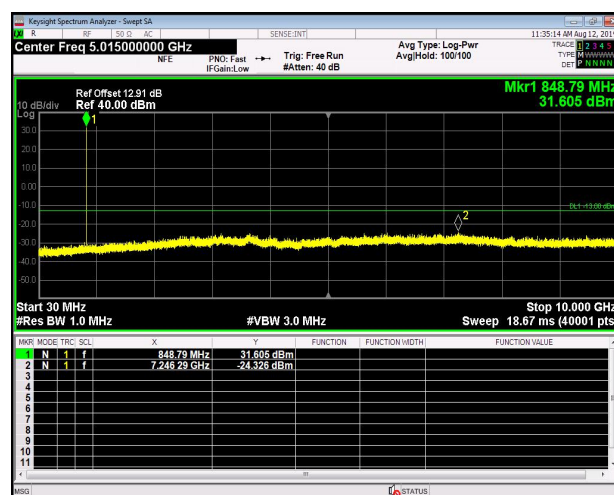
The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS.

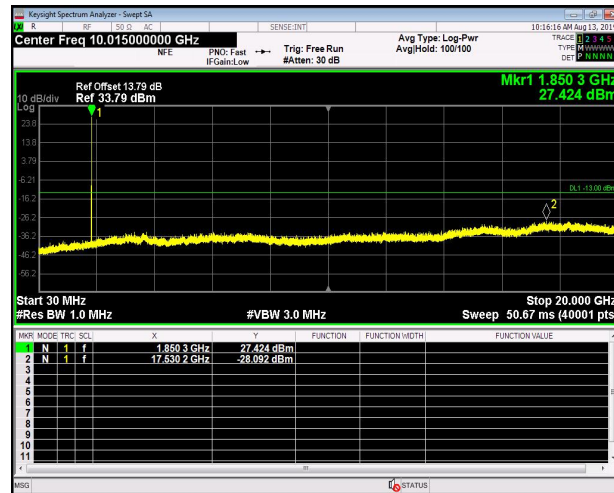
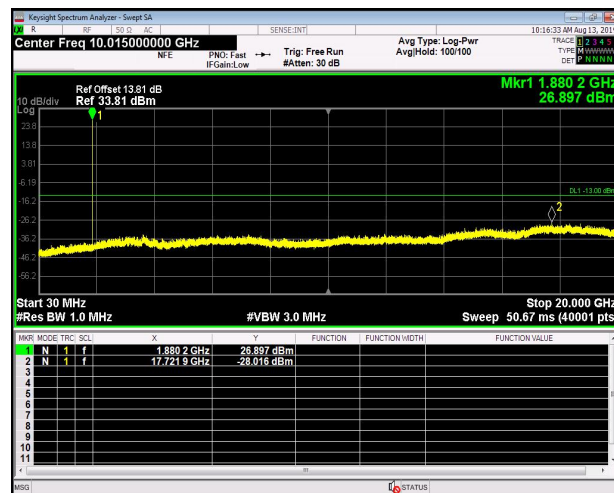
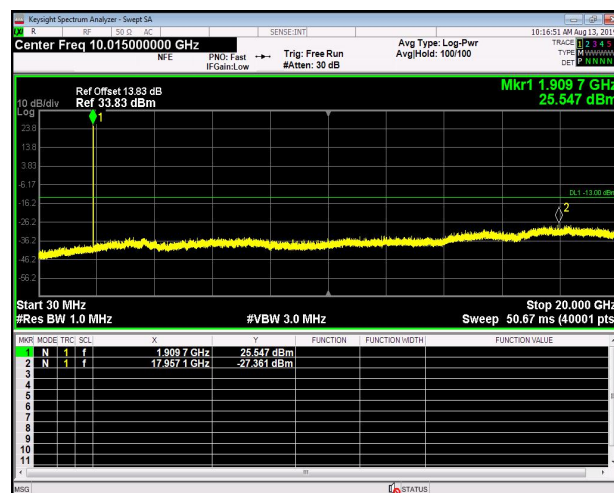
2.5.3. Test Result

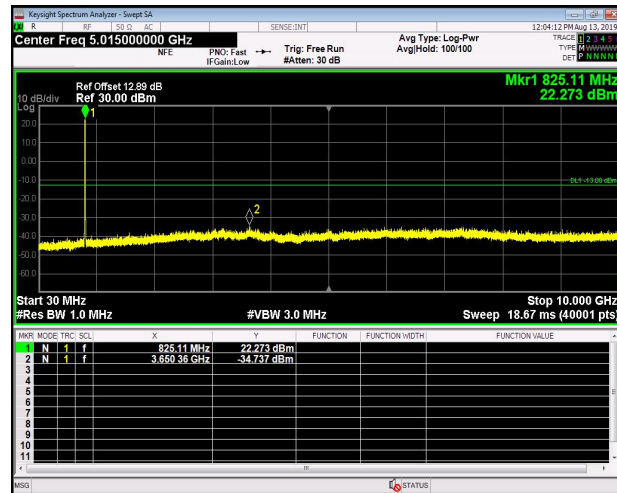
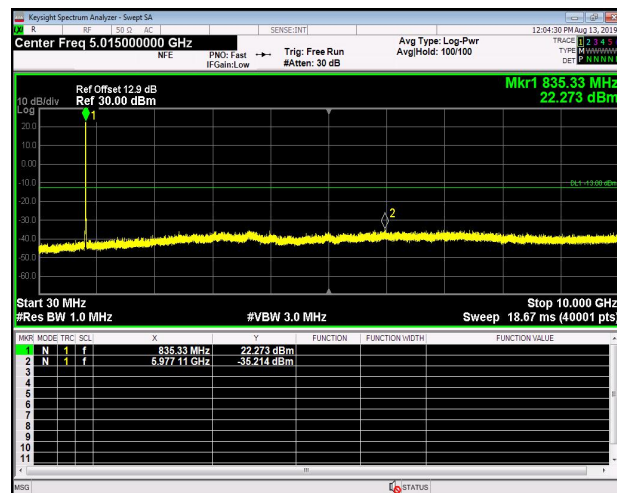
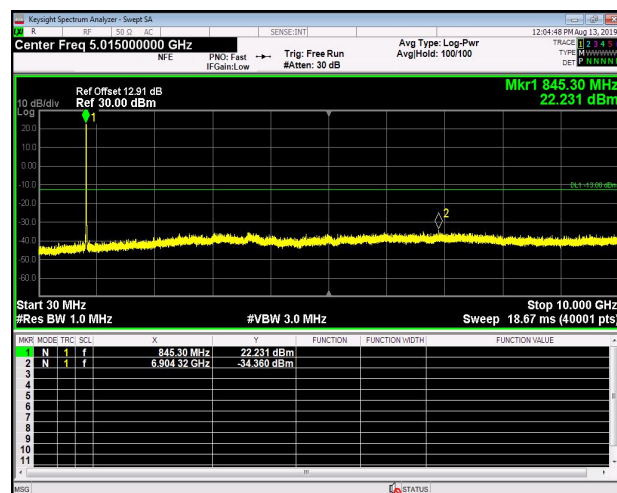
The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the out of band emissions.

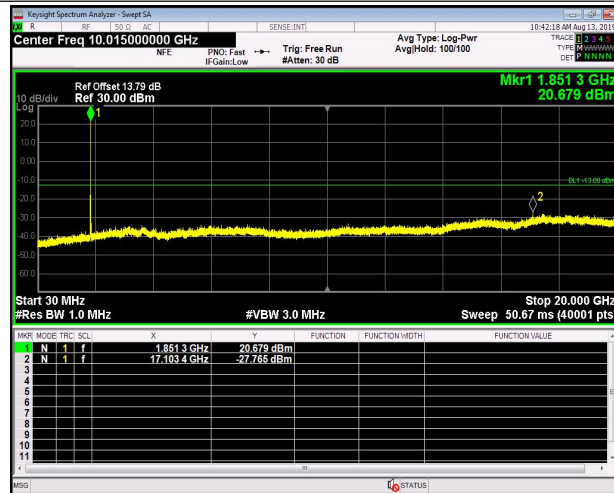
**GSM 850MHz CH128 824.2MHz****GSM 850MHz CH190 836.6MHz****GSM 850MHz CH251 848.8MHz**

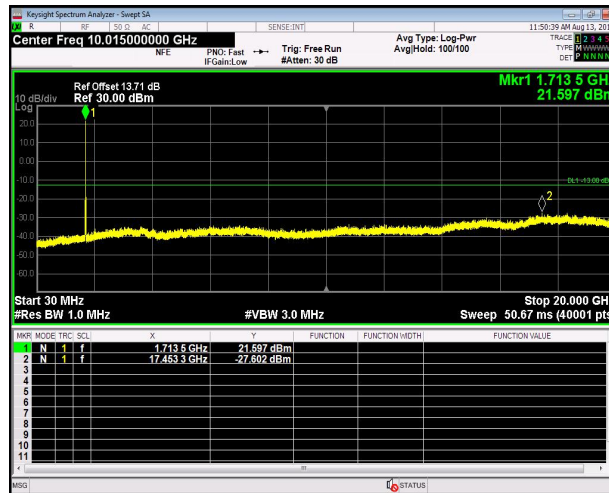
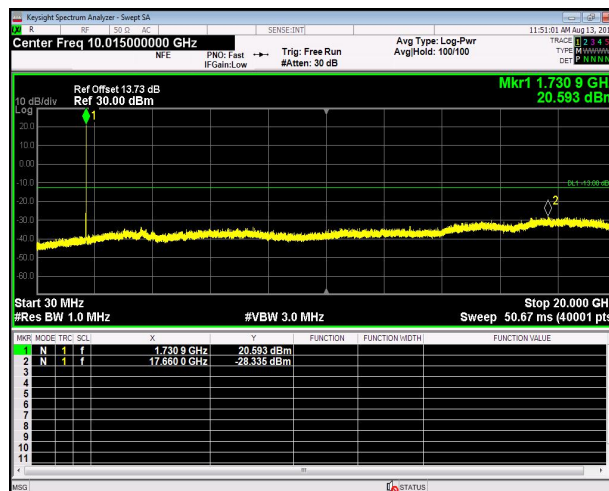
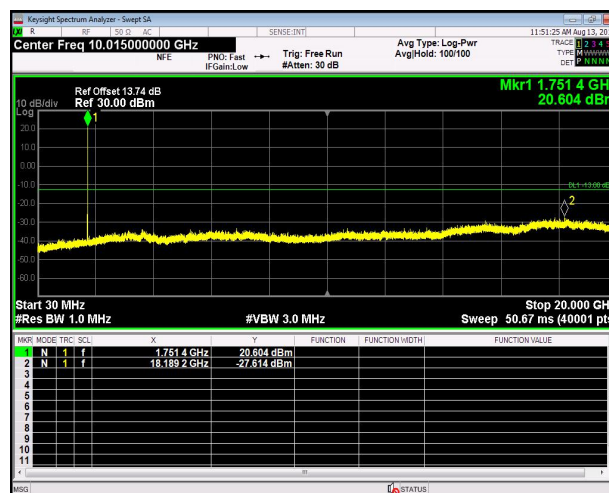
**GSM 1900MHz CH521 1850.2MHz****GSM 1900MHz CH661 1880.0MHz****GSM 1900MHz CH810 1909.8MHz**

**EDGE 850MHz CH128 824.2MHz****EDGE 850MHz CH190 836.6MHz****EDGE 850MHz CH251 848.8MHz**

**EDGE 1900MHz CH521 1850.2MHz****EDGE 1900MHz CH661 1880.0MHz****EDGE 1900MHz CH810 1909.8MHz**

**WCDMA Band V CH4132 826.4MHz****WCDMA Band V CH4182 836.4MHz****WCDMA Band V CH4233 846.6MHz**

**WCDMA Band II CH9262 1852.4MHz****WCDMA Band II CH9400 1880.0MHz****WCDMA Band II CH9538 1907.6MHz**

**WCDMA Band IV CH1312 1712.4MHz****WCDMA Band IV CH1412 1734.8MHz****WCDMA Band IV CH1513 1755MHz**

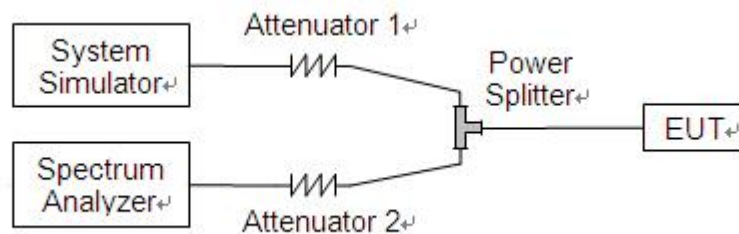
2.6. Band Edge

2.6.1. Requirement

According to FCC section 22.917(b), 24.238(b) and 27.53(h) in the 1MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth (26dB emission bandwidth) of the fundamental emission of the transmitter may be employed.

2.6.2. Test Description

Test Setup:

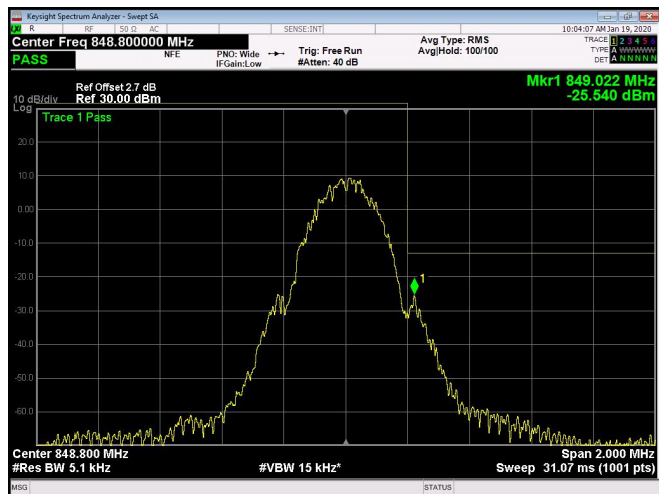
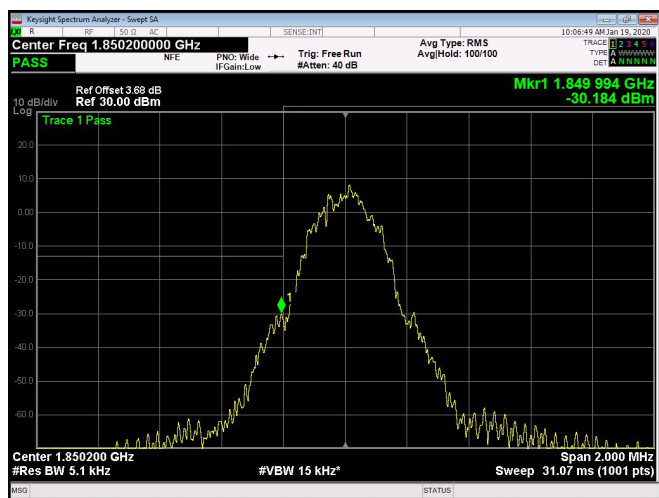
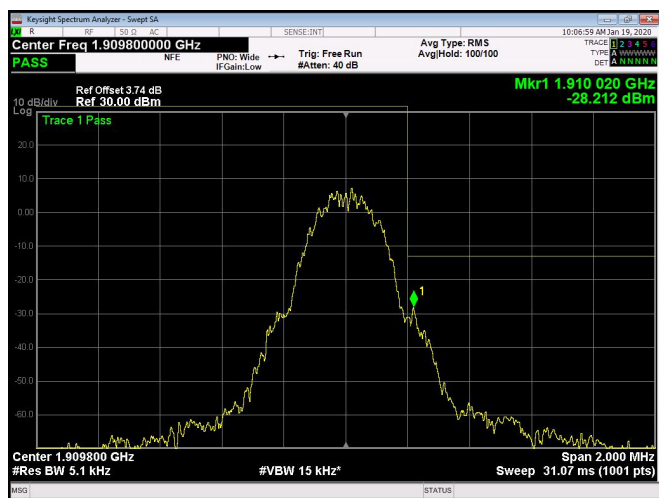


The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS.



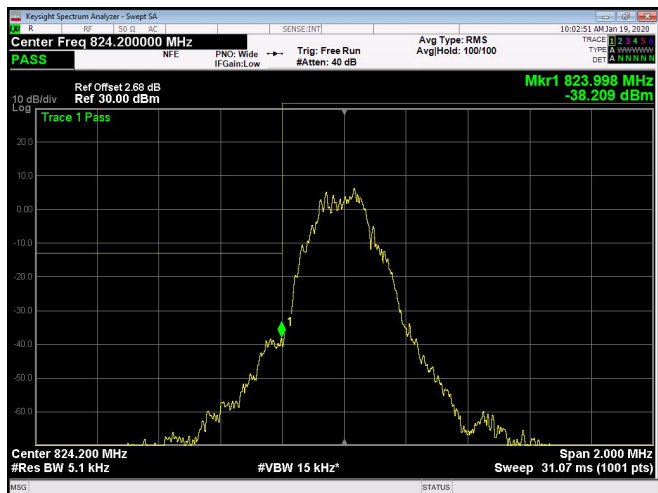
2.6.3. Test Result

The lowest and highest channels are tested to verify the band edge emissions.

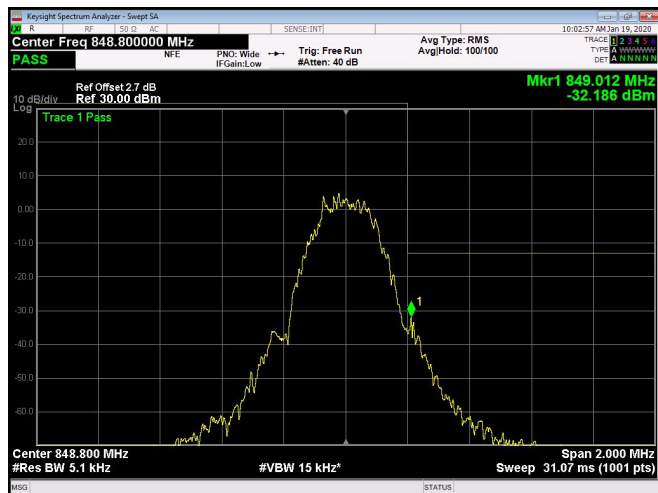
GSM 850MHz CH128 824.2MHz**GSM 850MHz CH251 848.8MHz****GSM 1900MHz CH512 1850.2MHz****GSM 1900MHz CH810 1909.8MHz**



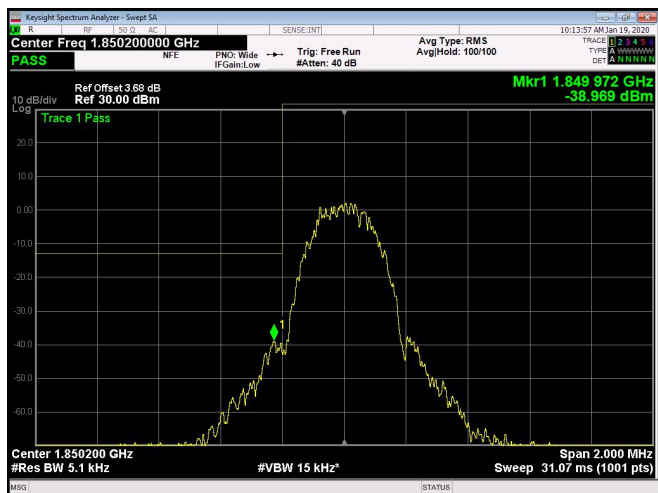
EDGE 850MHz CH128 824.2MHz



EDGE 850MHz CH251 848.8MHz



EDGE 1900MHz CH512 1850.2MHz



EDGE 1900MHz CH810 1909.8MHz

