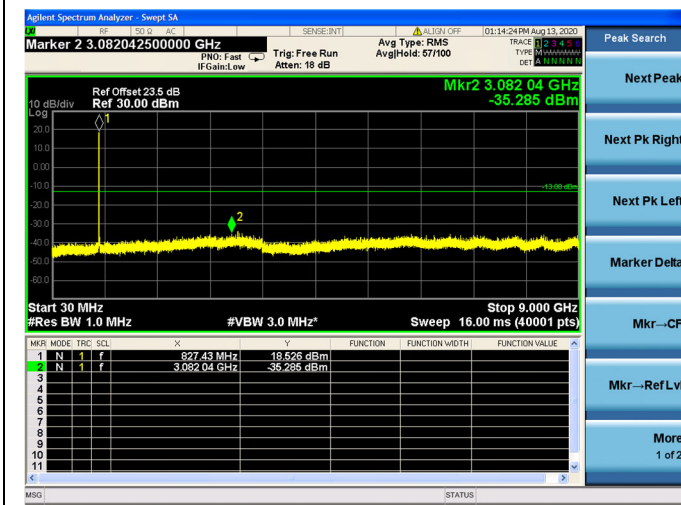
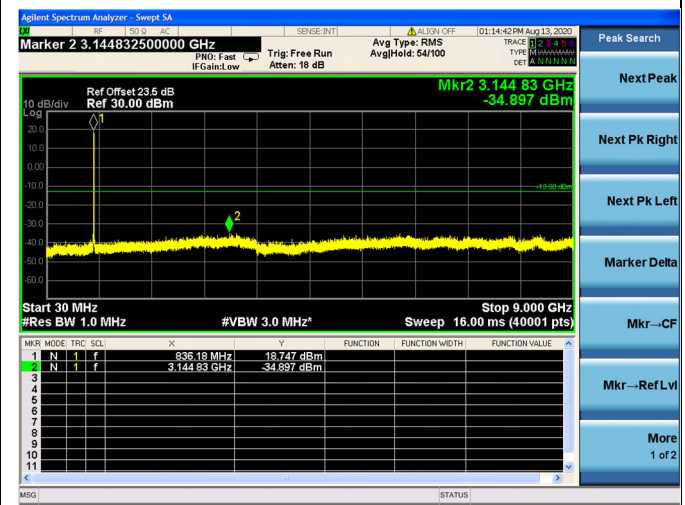




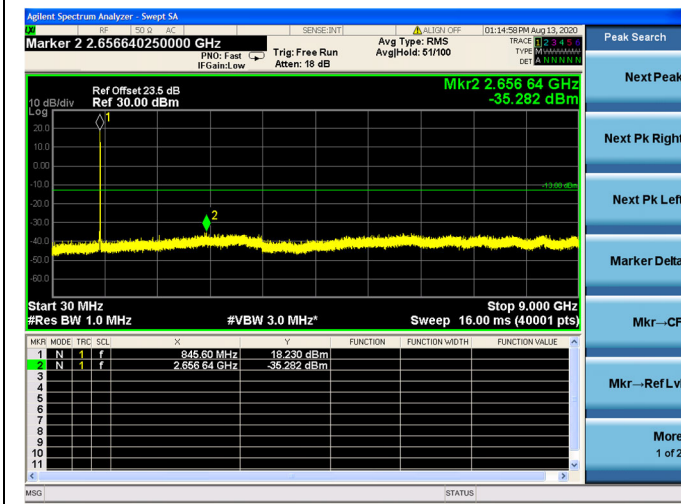
WCDMA Band V CH4132 826.4MHz



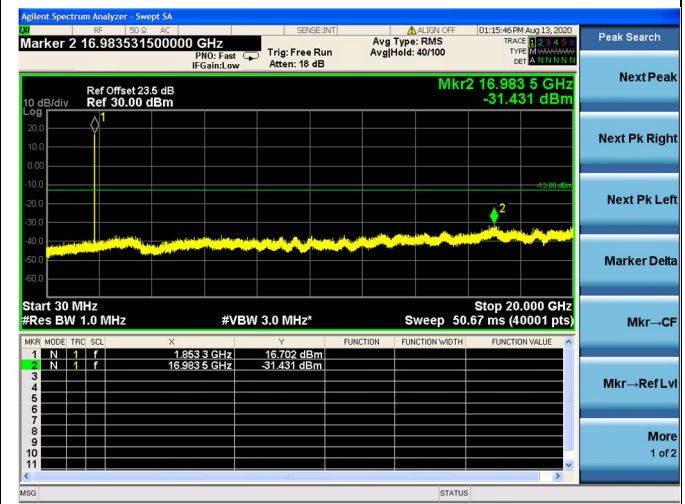
WCDMA Band V CH4182 836.4MHz



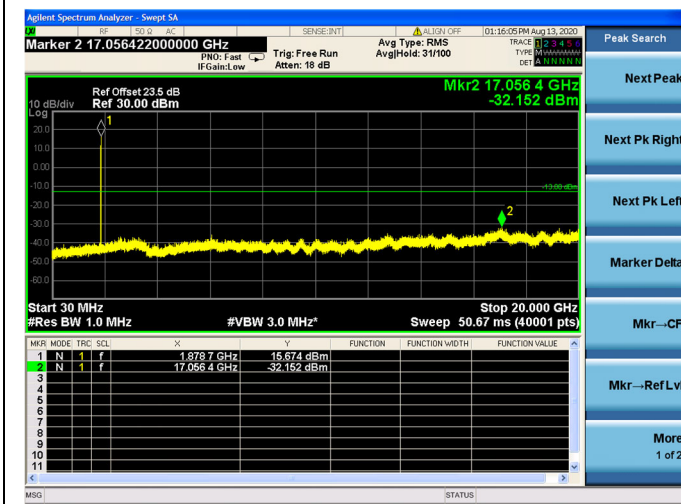
WCDMA Band V CH4233 846.6MHz



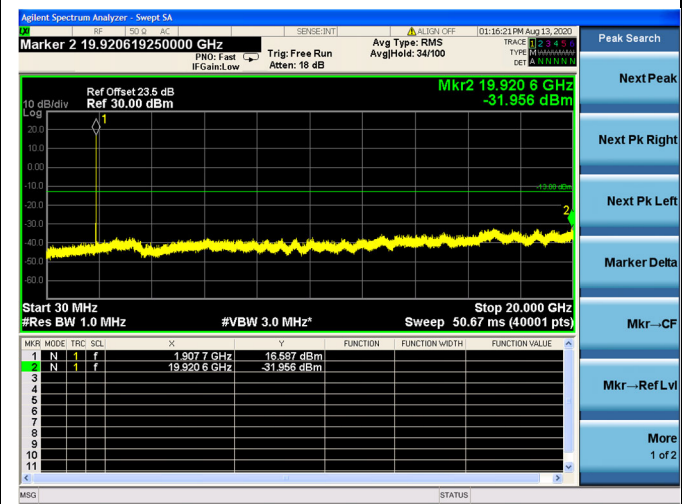
WCDMA Band II CH9262 1852.4MHz



WCDMA Band II CH9400 1880.0MHz

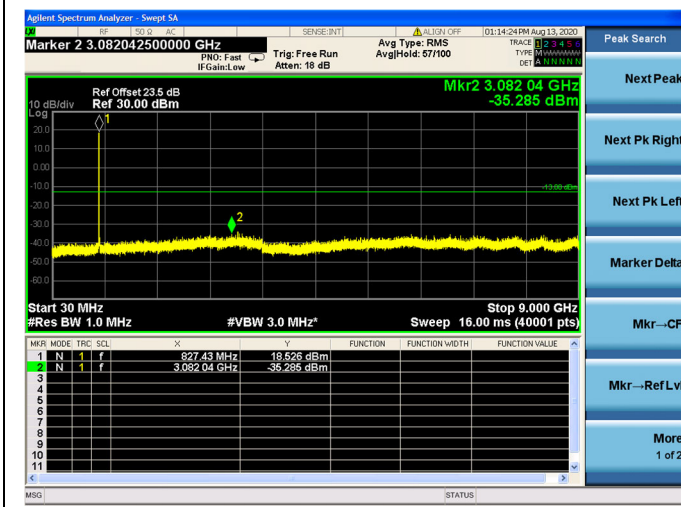


WCDMA Band II CH9538 1907.6MHz

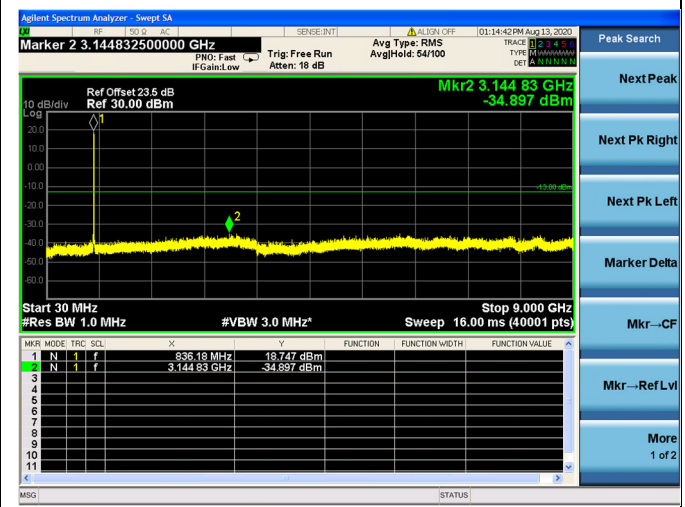




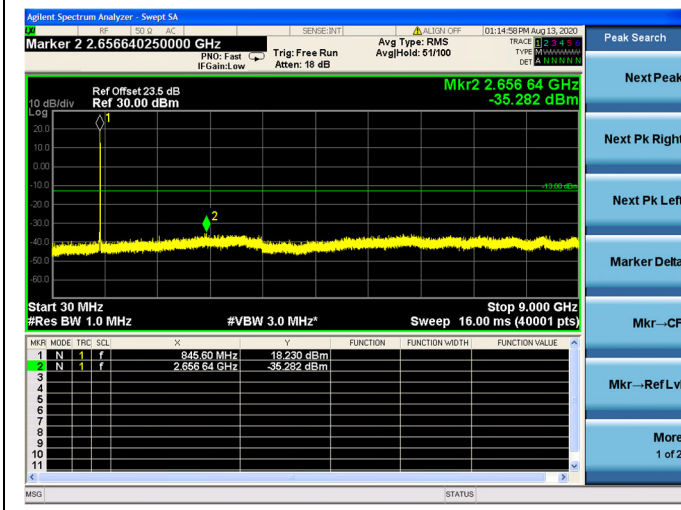
WCDMA Band IV CH1312 1712.4MHz



WCDMA Band IV CH1413 1732.6MHz



WCDMA Band IV CH1513 1752.6MHz



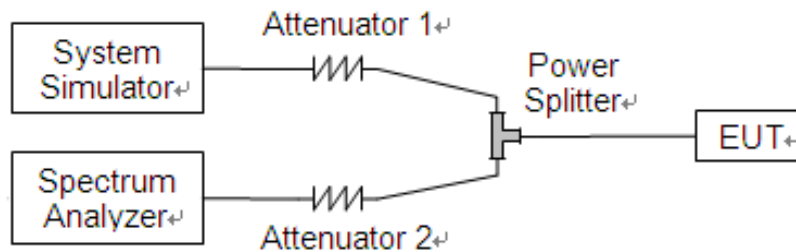
2.6. Band Edge

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:

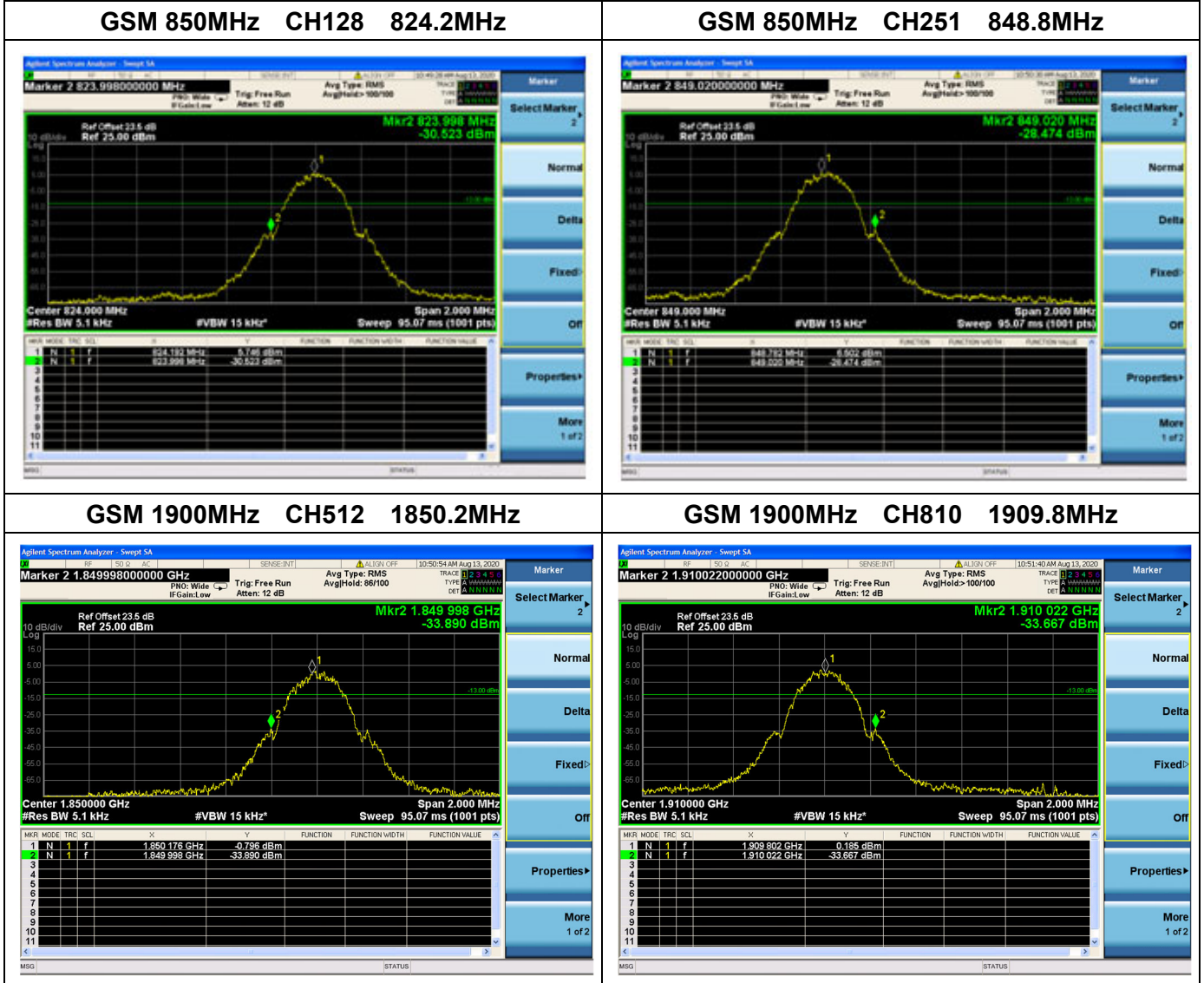


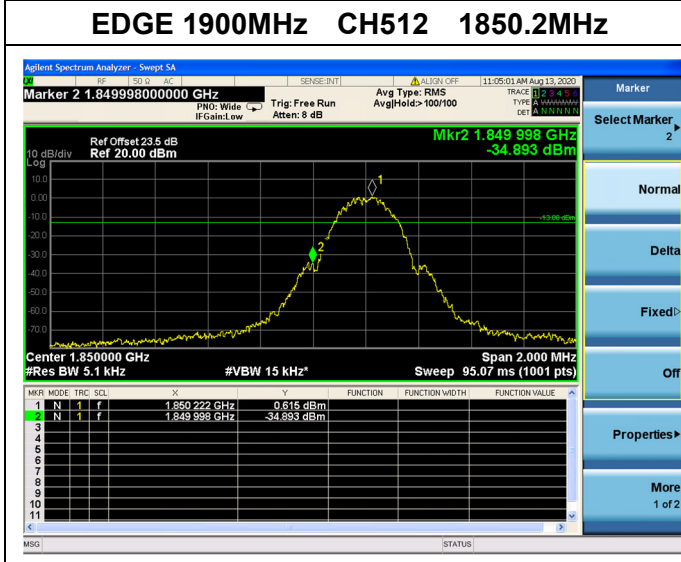
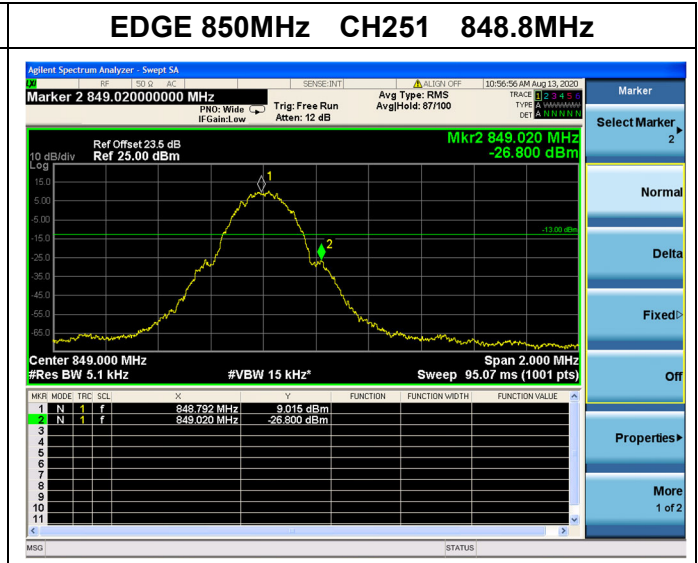
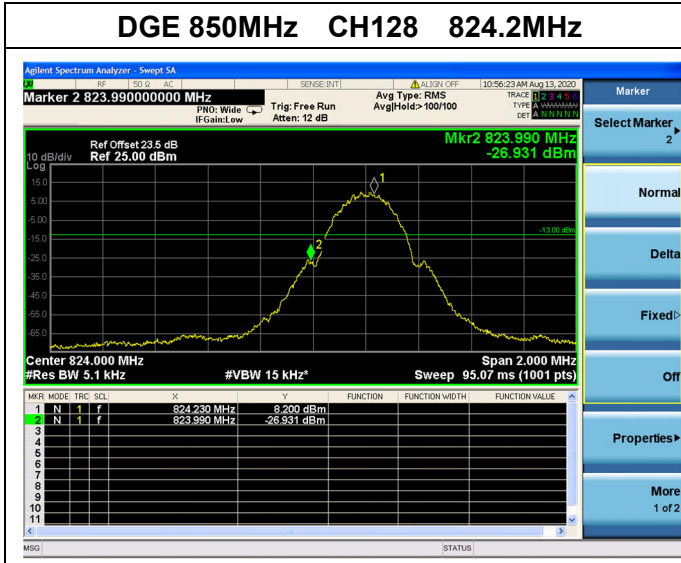
The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum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

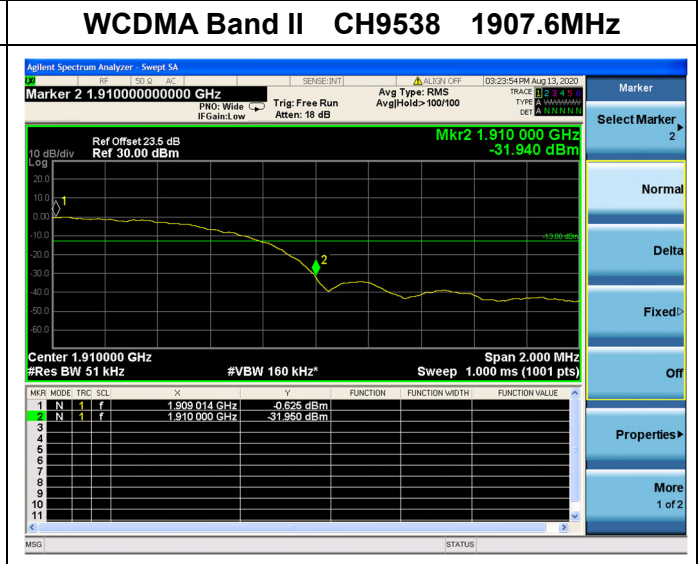
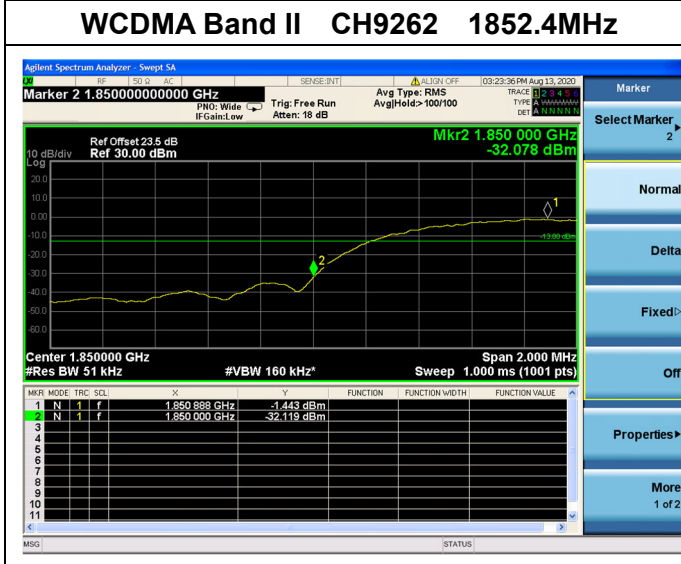
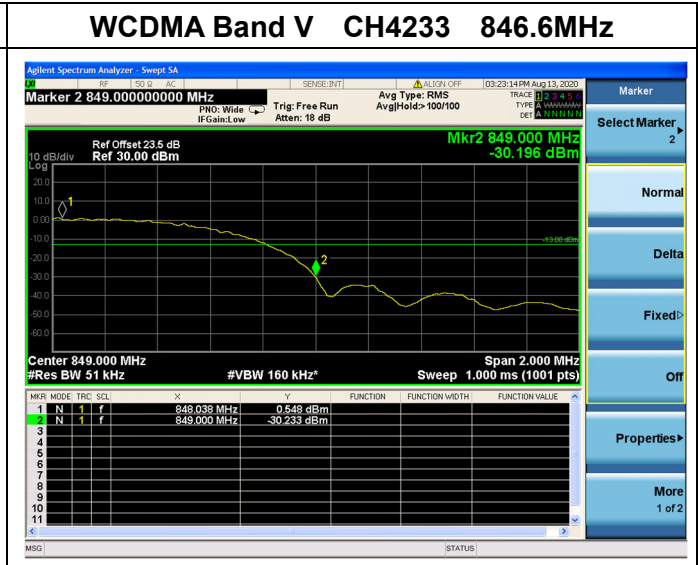
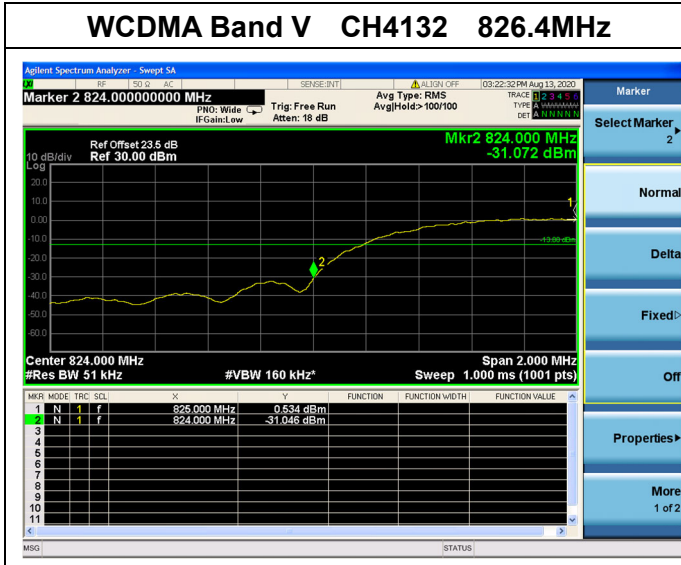


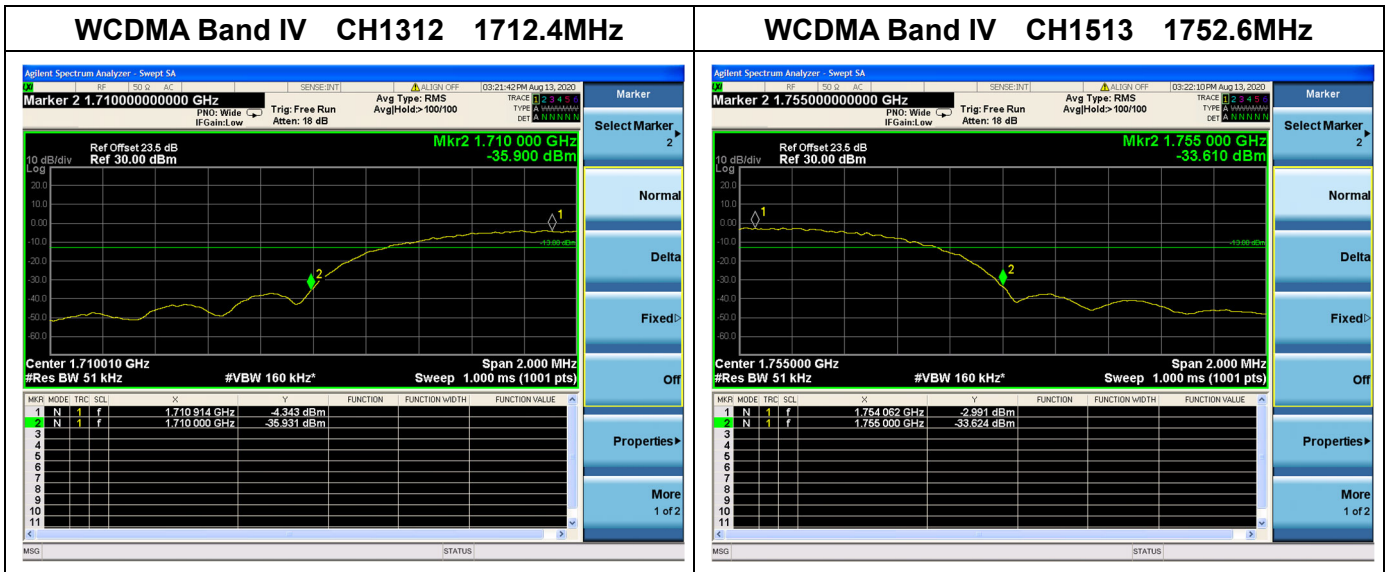
2.6.3. Test Result

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









2.7. Transmitter Radiated Power (EIRP/ERP)

2.7.1. Requirement

According to FCC section 22.913, the Effective Radiated Power (ERP) of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

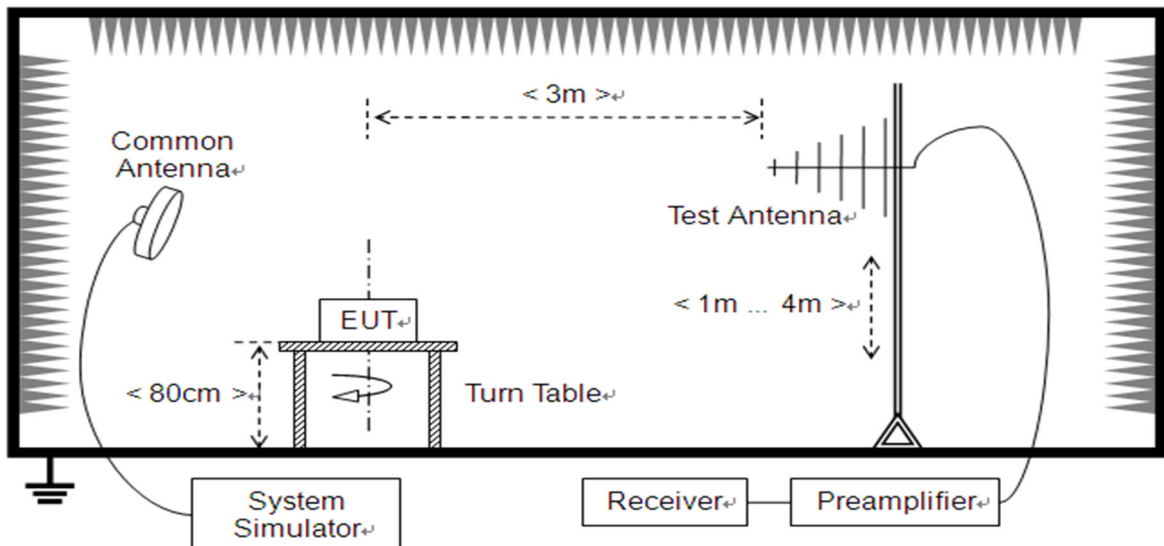
According to FCC section 24.232, the broadband PCS mobile station is limited to 2 Watts e.i.r.p. peak power.

According to FCC section 27.50, mobile, and portable (hand-held) stations is limited to 1 Watts e.i.r.p. peak power.

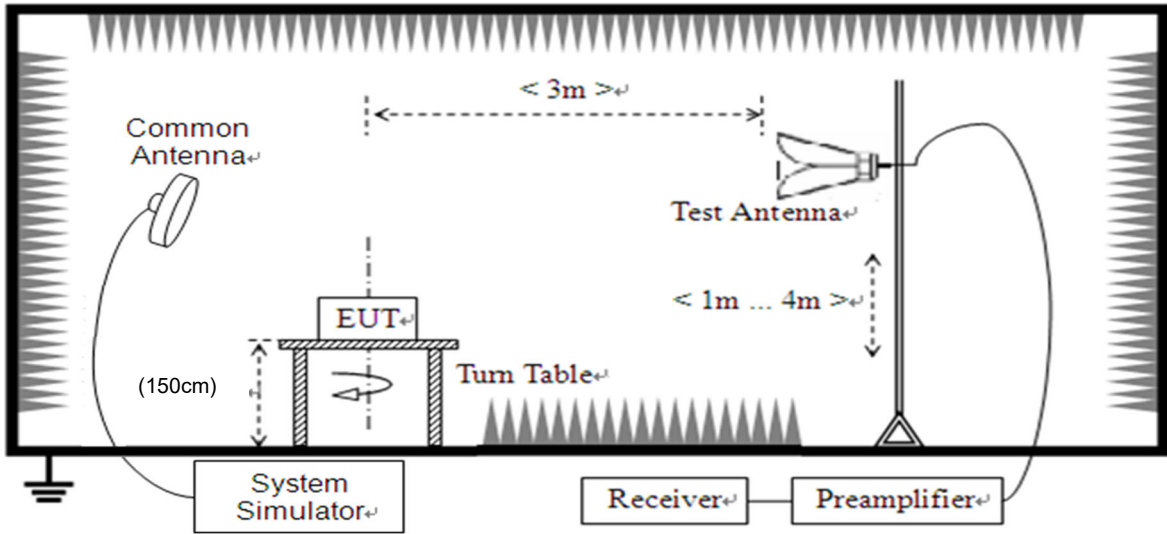
2.7.2. Test Description

Test Setup:

1) Below 1GHz



2) Above 1GHz



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 (i.e. GSM850MHz band Power Control Level (PCL) = 5/19 and Power Class = 4, GSM1900MHz band Power Control Level (PCL) = 0/15 and Power Class = 1), and only the test result of the maximum output power was recorded. Please refer to section 2.1.3 of this report.

- Step size (dB): 3dB

The Test Antenna is a Bi-Log one (used for 30MHz to 1GHz) or a Horn one (used for above 3GHz), it's located at the same height as the EUT. The Filters consists of Notch Filters and High Pass Filter.



2.7.3. Test Result

The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. The lowest, middle and highest channels are tested.

The substitution corrections are obtained as described below:

$$A_{\text{SUBST}} = P_{\text{SUBST_TX}} - P_{\text{SUBST_RX}} - L_{\text{SUBST_CABLES}} + G_{\text{SUBST_TX_ANT}}$$

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

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

$P_{\text{SUBST_TX}}$ is signal generator level,

$P_{\text{SUBST_RX}}$ is receiver level,

$L_{\text{SUBST_CABLES}}$ is cable losses including TX cable,

$G_{\text{SUBST_TX_ANT}}$ 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} .



GSM Test verdict:

Band	Channel	Frequency (MHz)	PCL	Measured ERP		Limit		Verdict
				dBm	W	dBm	W	
GSM 850MHz	128	824.20	5	29.84	0.964	38.5	7	PASS
	190	836.60	5	30.00	1.000			PASS
	251	848.80	5	30.11	1.026			PASS
GPRS 850MHz	128	824.20	5	29.87	0.971	38.5	7	PASS
	190	836.60	5	30.04	1.009			PASS
	251	848.80	5	30.17	1.040			PASS
EDGE 850MHz	128	824.20	5	24.09	0.256	38.5	7	PASS
	190	836.60	5	24.02	0.252			PASS
	251	848.80	5	23.92	0.247			PASS

Note 1: For the GPRS and EDGE model, all the slots were tested and just the worst data were recorded in this report.

Note 2: Both horizontal and vertical polarizations of the test antenna are evaluated respectively, only the worst data (horizontal) were recorded in this report.

Band	Channel	Frequency (MHz)	PCL	Measured EIRP		Limit		Verdict
				dBm	W	dBm	W	
GSM 1900MHz	512	1850.2	0	30.36	1.086	33	2	PASS
	661	1880.0	0	30.24	1.057			PASS
	810	1909.8	0	30.29	1.069			PASS
GPRS 1900MHz	512	1850.2	0	30.40	1.096	33	2	PASS
	661	1880.0	0	30.15	1.035			PASS
	810	1909.8	0	30.24	1.057			PASS
EDGE 1900MHz	512	1850.2	0	26.26	0.423	33	2	PASS
	661	1880.0	0	26.04	0.402			PASS
	810	1909.8	0	26.09	0.406			PASS

Note 1: For the GPRS and EDGE model, all the slots were tested and just the worst data were recorded in this report.

Note 2: Both horizontal and vertical polarizations of the test antenna are evaluated respectively, only the worst data (horizontal) were recorded in this report.



WCDMA Test verdict:

Band	Channel	Frequency (MHz)	Measured ERP		Limit		Verdict
			dBm	W	dBm	W	
WCDMA Band V	4132	826.4	21.52	0.142	38.5	7	PASS
	4182	836.4	21.33	0.136			PASS
	4233	846.6	21.44	0.139			PASS
HSDPA Band V	4132	826.4	20.47	0.111	38.5	7	PASS
	4182	836.4	20.34	0.108			PASS
	4233	846.6	20.60	0.115			PASS
HSUPA Band V	4132	826.4	20.50	0.112	38.5	7	PASS
	4182	836.4	20.34	0.108			PASS
	4233	846.6	20.56	0.114			PASS
HSPA+ Band V	4132	826.4	18.54	0.071	38.5	7	PASS
	4182	836.4	18.39	0.069			PASS
	4233	846.6	18.62	0.073			PASS

Note: Both horizontal and vertical polarizations of the test antenna are evaluated respectively, only the worst data (horizontal) were recorded in this report.

Band	Channel	Frequency (MHz)	Measured EIRP		Limit		Verdict
			dBm	W	dBm	W	
WCDMA Band II	9262	1852.4	23.95	0.248	33	2	PASS
	9400	1880.0	23.98	0.250			PASS
	9538	1907.6	23.99	0.251			PASS
HSDPA Band II	9262	1852.4	22.45	0.176	33	2	PASS
	9400	1880.0	22.49	0.177			PASS
	9538	1907.6	22.44	0.175			PASS
HSUPA Band II	9262	1852.4	22.61	0.182	33	2	PASS
	9400	1880.0	22.46	0.176			PASS
	9538	1907.6	22.39	0.173			PASS
HSPA+ Band II	9262	1852.4	20.71	0.118	33	2	PASS
	9400	1880.0	20.57	0.114			PASS
	9538	1907.6	20.54	0.113			PASS

Note: Both horizontal and vertical polarizations of the test antenna are evaluated respectively, only the worst data (horizontal) were recorded in this report.



Band	Channel	Frequency (MHz)	Measured EIRP		Limit		Verdict
			dBm	W	dBm	W	
WCDMA Band IV	1312	1712.4	23.58	0.228	30	1	PASS
	1413	1732.6	23.57	0.228			PASS
	1513	1752.6	23.63	0.231			PASS
HSDPA Band IV	1312	1712.4	22.57	0.181	30	1	PASS
	1413	1732.6	22.53	0.179			PASS
	1513	1752.6	22.48	0.177			PASS
HSUPA Band IV	1312	1712.4	22.55	0.180	30	1	PASS
	1413	1732.6	22.48	0.177			PASS
	1513	1752.6	22.49	0.177			PASS
HSPA+ Band IV	1312	1712.4	20.35	0.108	30	1	PASS
	1413	1732.6	20.27	0.106			PASS
	1513	1752.6	20.34	0.108			PASS

Note: Both horizontal and vertical polarizations of the test antenna are evaluated respectively, only the worst data (horizontal) were recorded in this report.

2.8. Radiated Out of Band Emissions

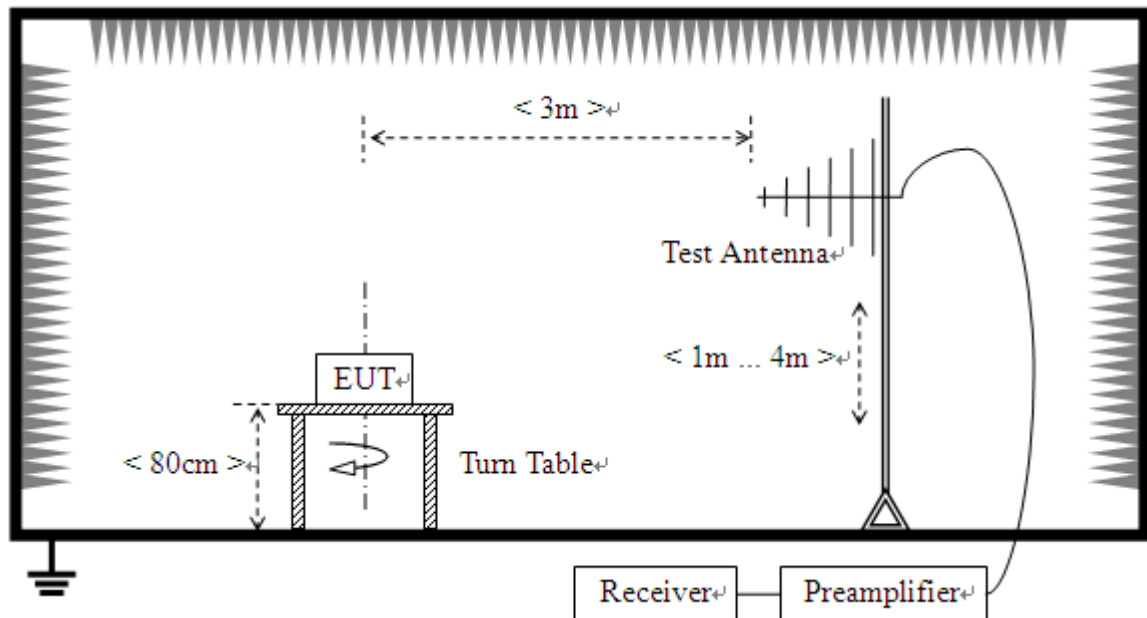
2.8.1. Requirement

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.

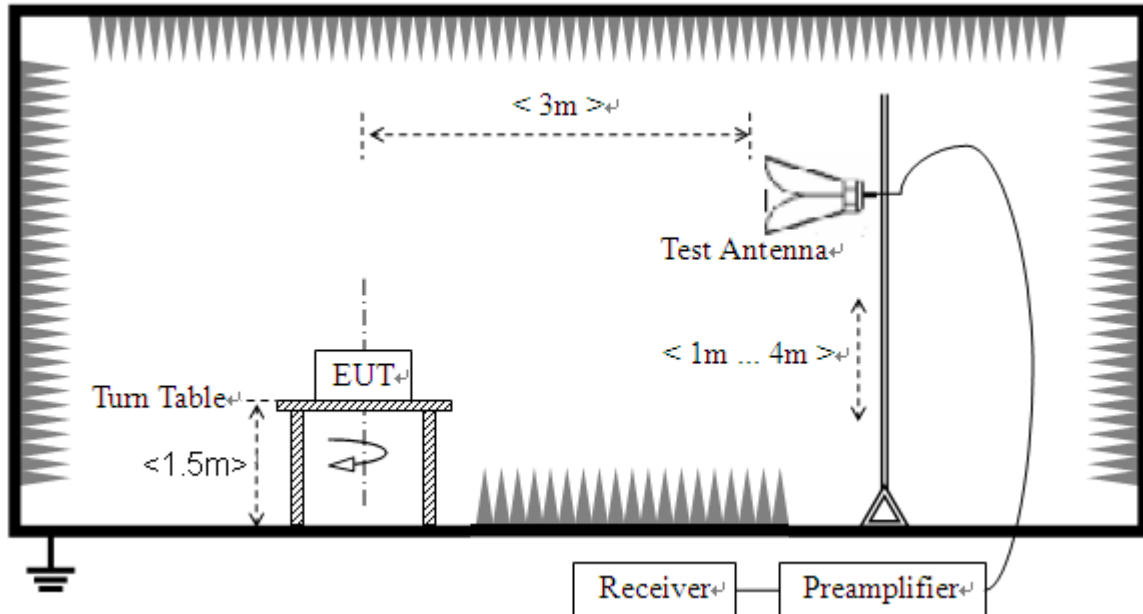
2.8.2. Test Description

Test Setup:

- 1) Below 1GHz



2) Above 1GHz



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 (i.e. GSM850MHz band Power Control Level (PCL) = 5/19 and Power Class = 4, GSM1900MHz band Power Control Level (PCL) = 0/15 and Power Class = 1), and only the test result of the maximum output power was recorded. Please refer to section 2.1.3 of this report.

- Step size (dB): 3dB

The Test Antenna is a Bi-Log one (used for 30MHz to 1GHz) and a Horn one (used for above 3 GHz), it's located at the same height as the EUT. 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.



2.8.3. Test Result

The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. The lowest, middle and highest channels are tested to verify the out of band emissions. The power of the EUT transmitting frequency should be ignored.

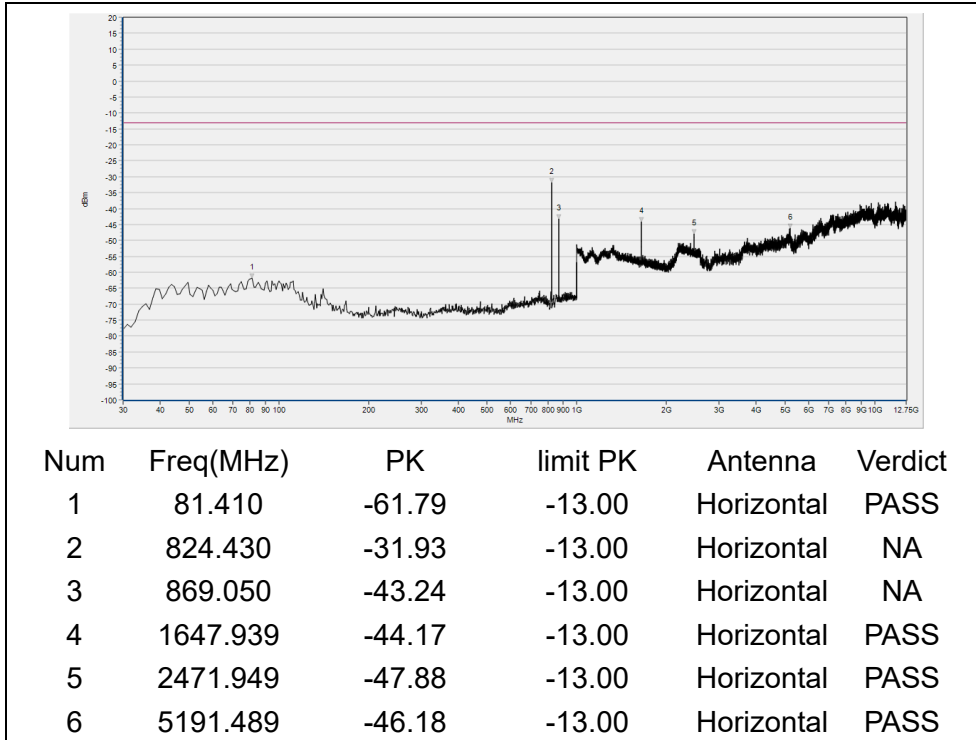
Band	Channel	Frequency (MHz)	Measured Max. Spurious Emission (dBm)		Limit (dBm)	Verdict
			Test Antenna Horizontal	Test Antenna Vertical		
GSM 850MHz	128	824.2	< -25	< -25	-13	PASS
	190	836.6	< -25	< -25		PASS
	251	848.8	< -25	< -25		PASS
GSM 1900MHz	512	1850.2	< -25	< -25	-13	PASS
	661	1880.0	< -25	< -25		PASS
	810	1909.8	< -25	< -25		PASS
EDGE 850MHz	128	824.2	< -25	< -25	-13	PASS
	190	836.6	< -25	< -25		PASS
	251	848.8	< -25	< -25		PASS
EDGE 1900MHz	512	1850.2	< -25	< -25	-13	PASS
	661	1880.0	< -25	< -25		PASS
	810	1909.8	< -25	< -25		PASS
WCDMA Band V	4132	826.4	< -25	< -25	-13	PASS
	4182	836.4	< -25	< -25		PASS
	4233	846.6	< -25	< -25		PASS
WCDMA Band II	9262	1852.4	< -25	< -25	-13	PASS
	9400	1880.0	< -25	< -25		PASS
	9538	1907.6	< -25	< -25		PASS
WCDMA Band IV	1312	1712.4	< -25	< -25	-13	PASS
	1413	1732.6	< -25	< -25		PASS
	1513	1752.6	< -25	< -25		PASS

Note 1: All test mode and condition mentioned were considered and evaluated respectively by performing full test, only the worst data were recorded and reported.

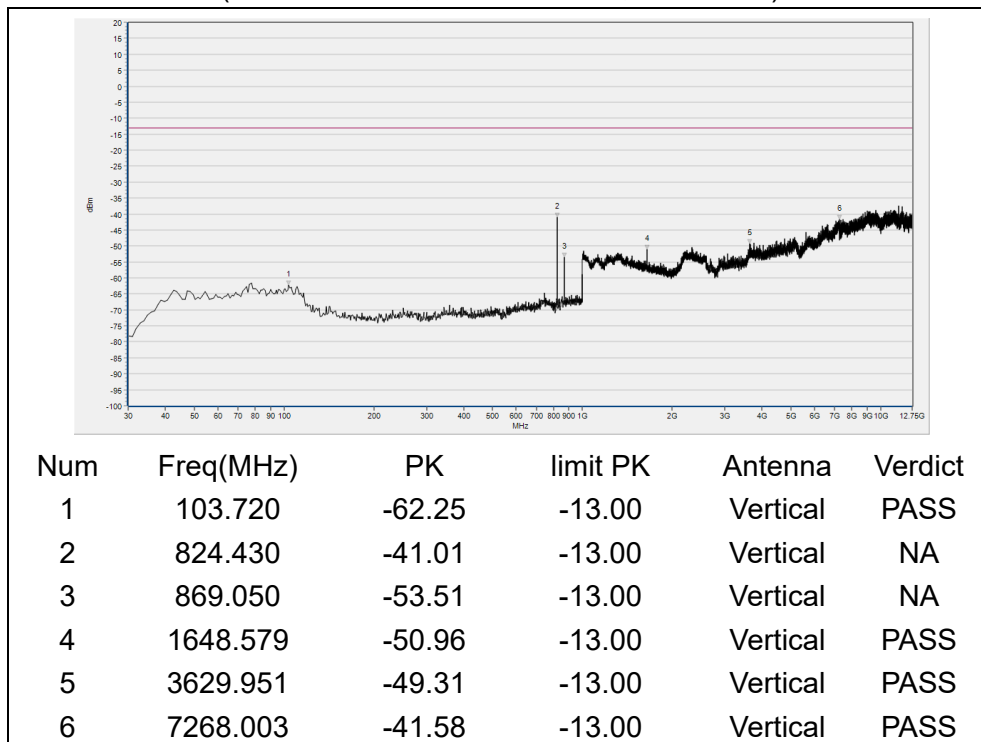
Note 2: All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.



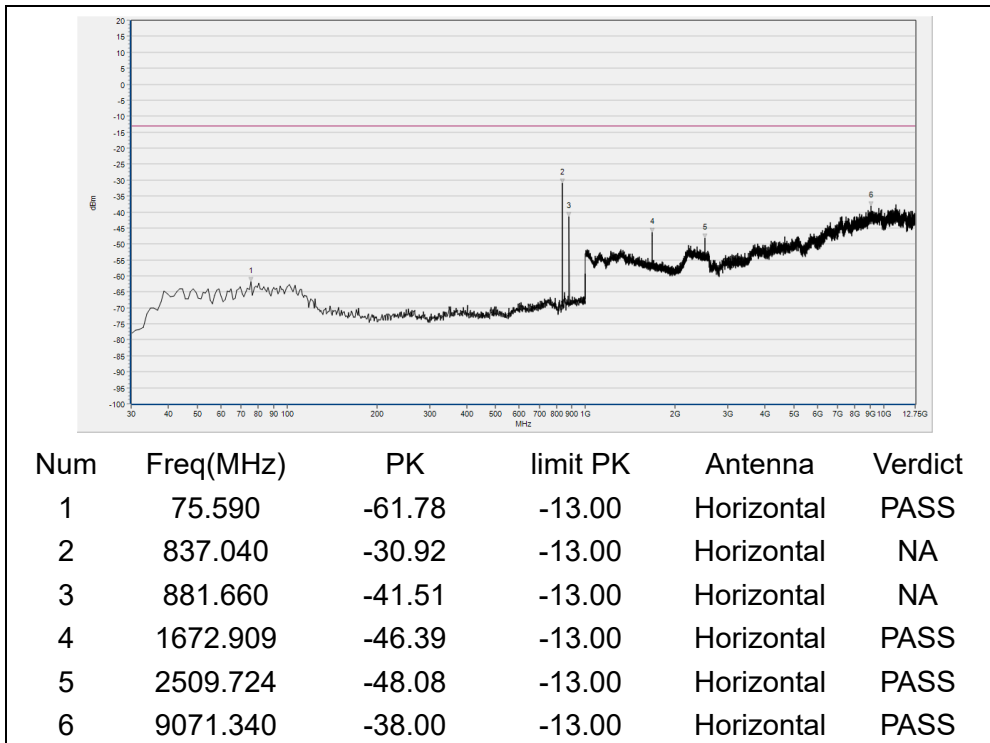
Top Antenna



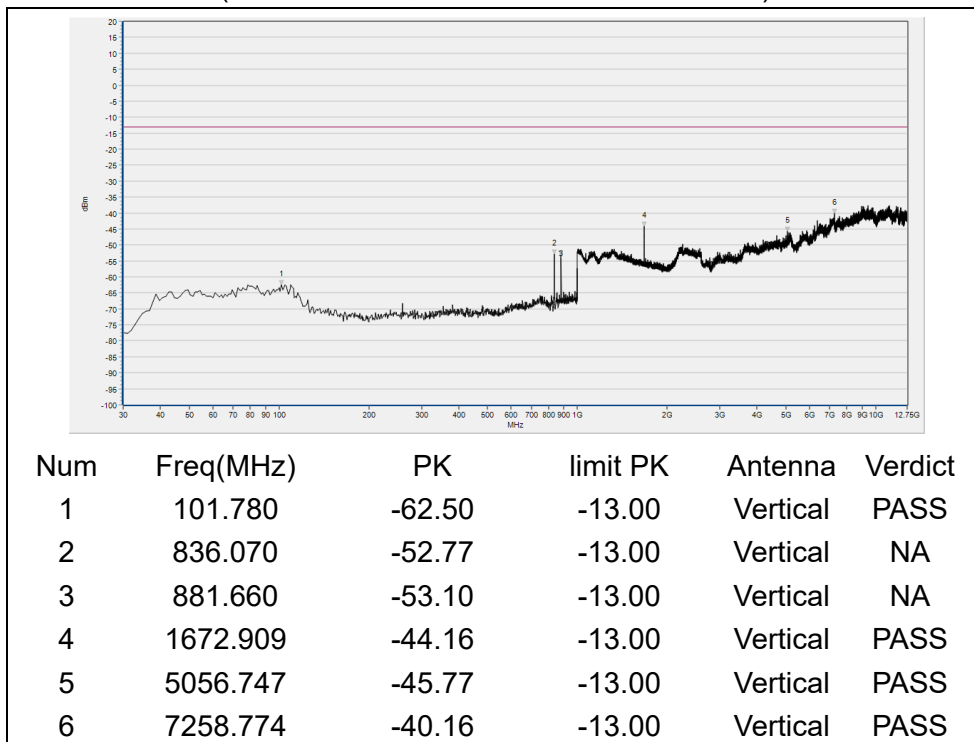
(GSM 850MHz, Channel = 128, Horizontal)



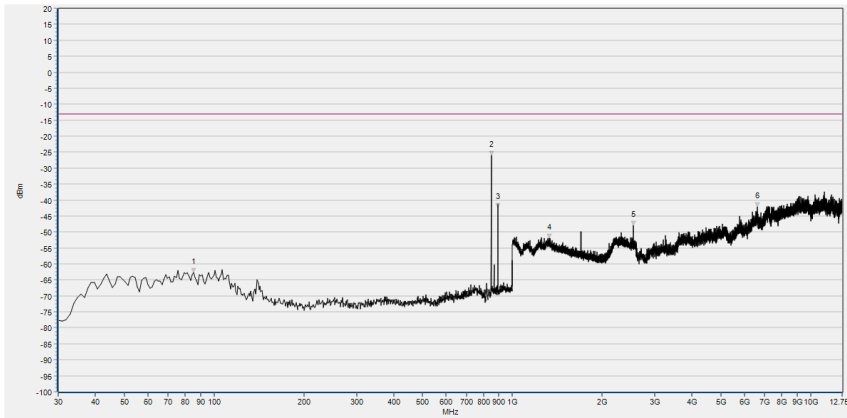
(GSM 850MHz, Channel = 128, Vertical)



(GSM850MHz, Channel = 190, Horizontal)

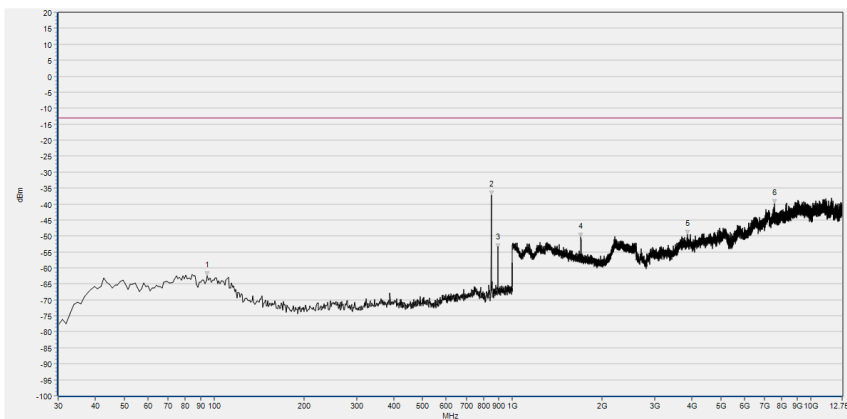


(GSM 850MHz, Channel = 190, Vertical)



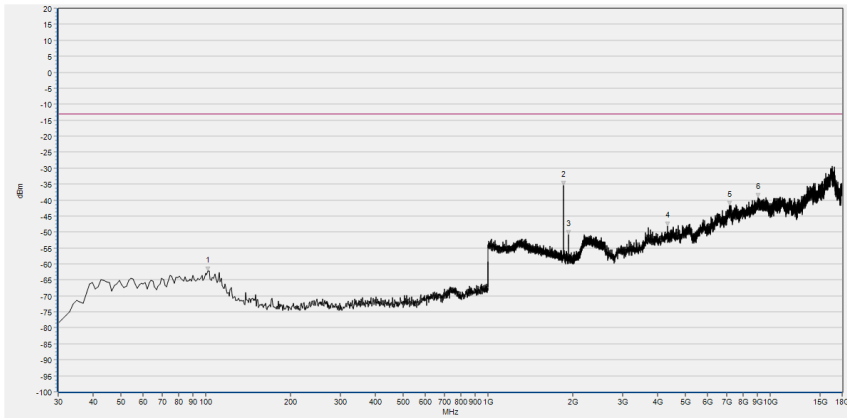
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	85.290	-62.61	-13.00	Horizontal	PASS
2	848.680	-25.94	-13.00	Horizontal	NA
3	894.270	-42.43	-13.00	Horizontal	NA
4	1325.890	-51.93	-13.00	Horizontal	PASS
5	2546.218	-47.84	-13.00	Horizontal	PASS
6	6636.743	-42.17	-13.00	Horizontal	PASS

(GSM 850MHz, Channel = 251, Horizontal)



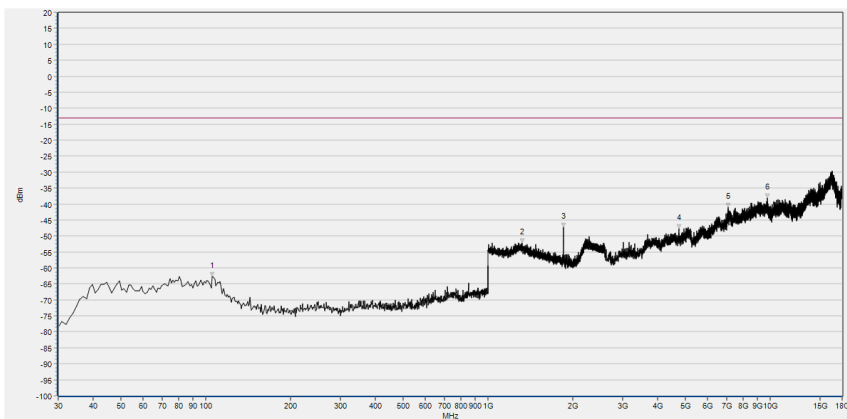
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	94.990	-62.53	-13.00	Vertical	PASS
2	848.680	-37.30	-13.00	Vertical	NA
3	893.300	-53.81	-13.00	Vertical	NA
4	1697.239	-50.45	-13.00	Vertical	PASS
5	3862.520	-49.49	-13.00	Vertical	PASS
6	7578.096	-39.81	-13.00	Vertical	PASS

(GSM 850MHz, Channel = 251, Vertical)



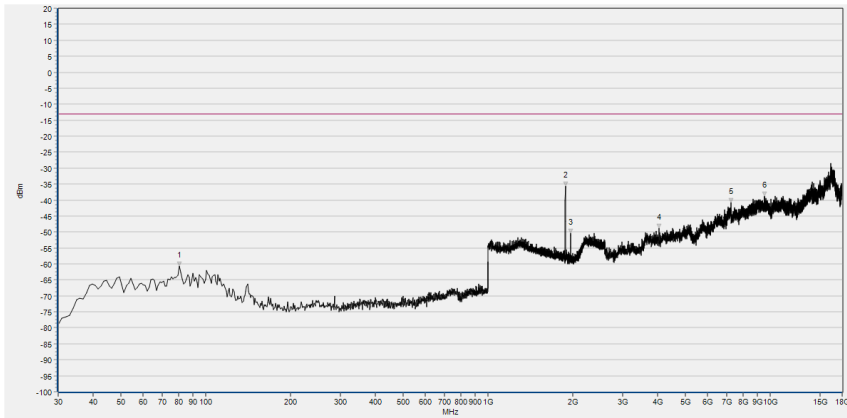
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	101.780	-62.19	-13.00	Horizontal	PASS
2	1850.260	-35.51	-13.00	Horizontal	NA
3	1930.292	-50.73	-13.00	Horizontal	NA
4	4327.914	-48.25	-13.00	Horizontal	PASS
5	7173.231	-41.71	-13.00	Horizontal	PASS
6	9049.573	-39.15	-13.00	Horizontal	PASS

(GSM 1900MHz, Channel = 512, Horizontal)



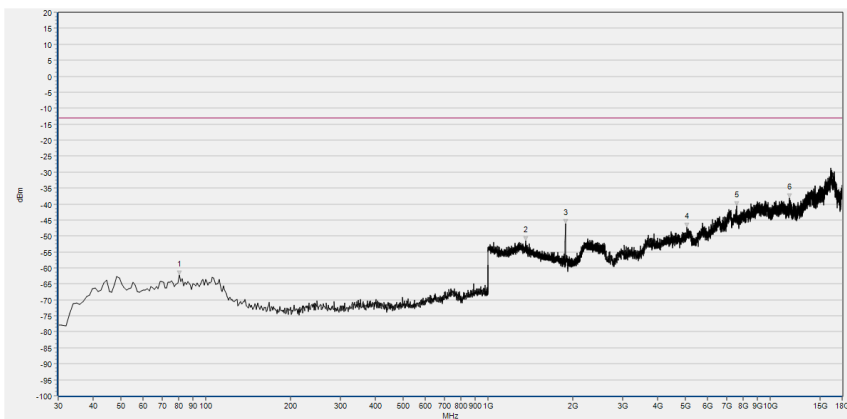
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	105.660	-62.72	-13.00	Vertical	PASS
2	1320.768	-52.25	-13.00	Vertical	PASS
3	1850.260	-47.29	-13.00	Vertical	NA
4	4739.589	-47.73	-13.00	Vertical	PASS
5	7108.820	-40.91	-13.00	Vertical	PASS
6	9783.306	-38.11	-13.00	Vertical	PASS

(GSM 1900MHz, Channel = 512, Vertical)



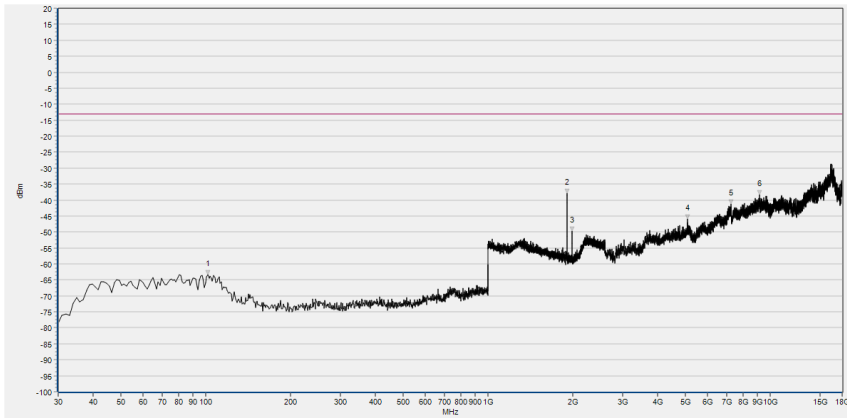
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	80.440	-60.68	-13.00	Horizontal	PASS
2	1879.712	-35.60	-13.00	Horizontal	NA
3	1959.744	-50.41	-13.00	Horizontal	NA
4	4036.661	-48.90	-13.00	Horizontal	PASS
5	7248.845	-40.85	-13.00	Horizontal	PASS
6	9553.664	-38.69	-13.00	Horizontal	PASS

(GSM 1900MHz, Channel = 661, Horizontal)



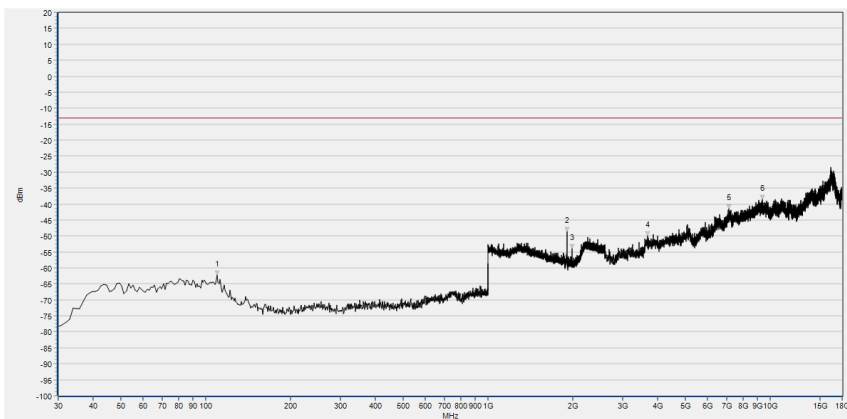
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	80.440	-62.15	-13.00	Vertical	PASS
2	1359.184	-51.43	-13.00	Vertical	PASS
3	1879.712	-46.18	-13.00	Vertical	NA
4	5058.847	-47.26	-13.00	Vertical	PASS
5	7590.507	-40.45	-13.00	Vertical	PASS
6	11732.460	-38.15	-13.00	Vertical	PASS

(GSM 1900MHz, Channel = 661, Vertical)



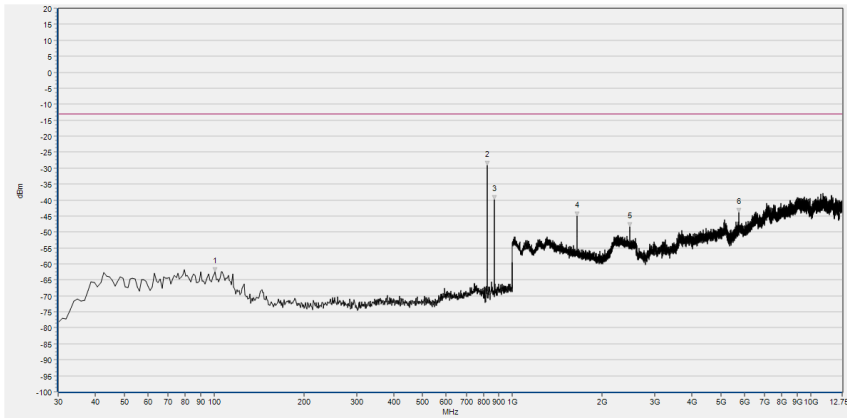
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	101.780	-63.31	-13.00	Horizontal	PASS
2	1909.804	-37.94	-13.00	Horizontal	NA
3	1989.836	-49.75	-13.00	Horizontal	NA
4	5095.254	-45.99	-13.00	Horizontal	PASS
5	7257.247	-41.12	-13.00	Horizontal	PASS
6	9155.992	-38.26	-13.00	Horizontal	PASS

(GSM 1900MHz, Channel = 810, Horizontal)



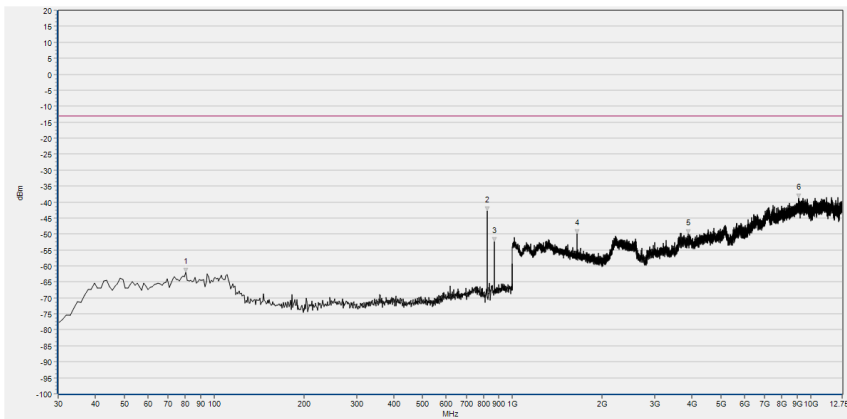
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	109.540	-62.33	-13.00	Vertical	PASS
2	1909.804	-48.59	-13.00	Vertical	NA
3	1989.836	-53.91	-13.00	Vertical	NA
4	3672.595	-49.96	-13.00	Vertical	PASS
5	7159.229	-41.47	-13.00	Vertical	PASS
6	9366.030	-38.47	-13.00	Vertical	PASS

(GSM 1900MHz, Channel = 810, Vertical)



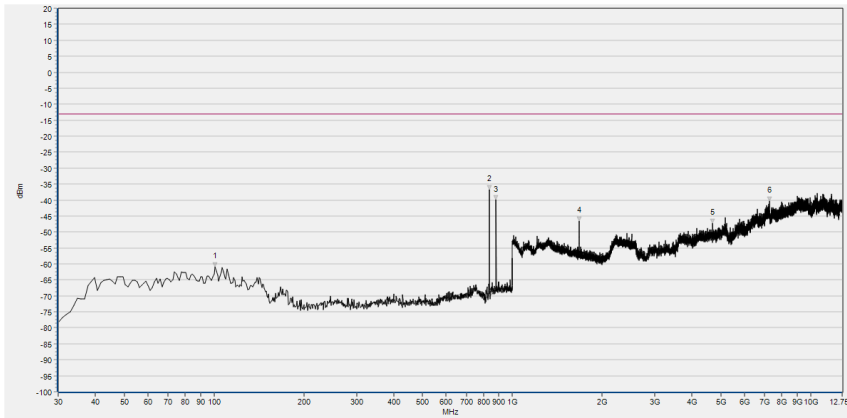
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	100.810	-62.57	-13.00	Horizontal	PASS
2	824.430	-29.27	-13.00	Horizontal	NA
3	869.050	-39.98	-13.00	Horizontal	NA
4	1647.939	-45.01	-13.00	Horizontal	PASS
5	2472.589	-48.29	-13.00	Horizontal	PASS
6	5748.918	-43.91	-13.00	Horizontal	PASS

(EDGE 850MHz, Channel = 128, Horizontal)



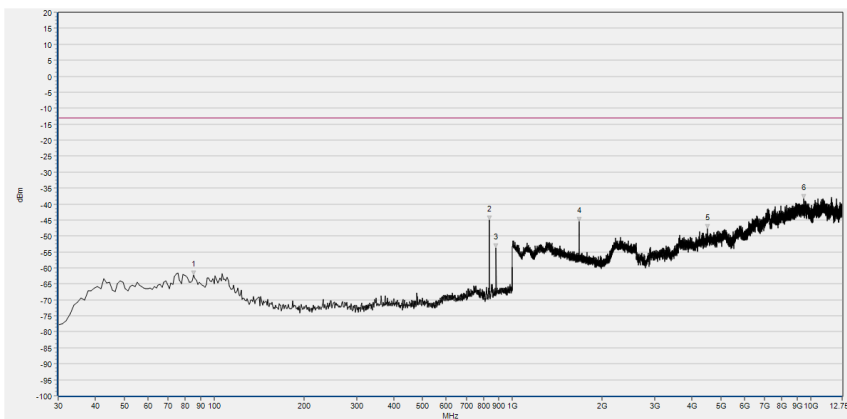
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	80.440	-62.04	-13.00	Vertical	PASS
2	824.430	-42.88	-13.00	Vertical	NA
3	869.050	-52.38	-13.00	Vertical	NA
4	1647.939	-49.89	-13.00	Vertical	PASS
5	3879.133	-50.04	-13.00	Vertical	PASS
6	9117.485	-38.85	-13.00	Vertical	PASS

(EDGE 850MHz, Channel = 128, Vertical)



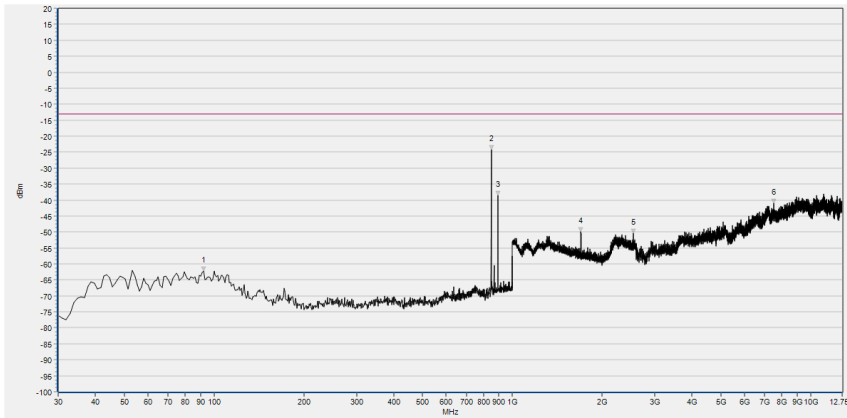
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	100.810	-60.80	-13.00	Horizontal	PASS
2	836.070	-36.83	-13.00	Horizontal	NA
3	881.660	-39.90	-13.00	Horizontal	NA
4	1672.909	-46.51	-13.00	Horizontal	PASS
5	4696.818	-47.31	-13.00	Horizontal	PASS
6	7268.003	-40.26	-13.00	Horizontal	PASS

(EDGE 850MHz, Channel = 190, Horizontal)



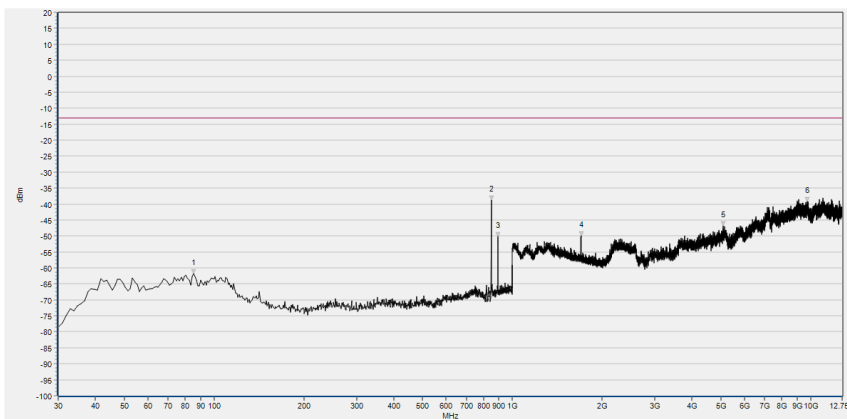
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	85.290	-62.22	-13.00	Vertical	PASS
2	837.040	-44.92	-13.00	Vertical	NA
3	881.660	-53.73	-13.00	Vertical	NA
4	1672.909	-45.53	-13.00	Vertical	PASS
5	4506.701	-47.82	-13.00	Vertical	PASS
6	9458.956	-38.28	-13.00	Vertical	PASS

(EDGE 850MHz, Channel = 190, Vertical)



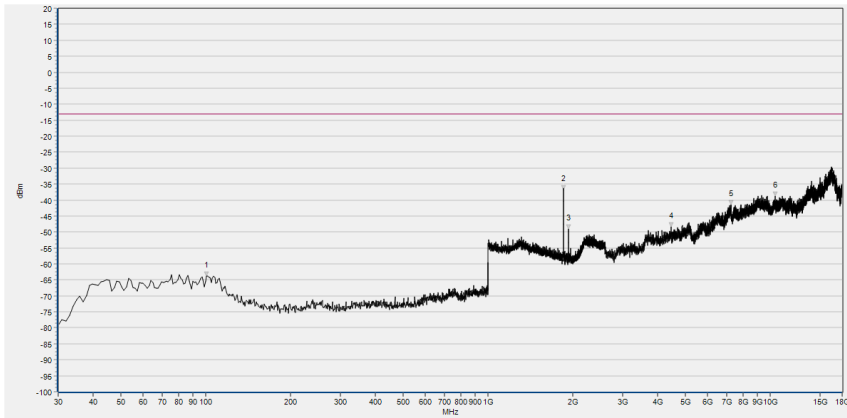
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	92.080	-62.19	-13.00	Horizontal	PASS
2	848.680	-24.23	-13.00	Horizontal	NA
3	894.270	-38.49	-13.00	Horizontal	NA
4	1697.239	-50.05	-13.00	Horizontal	PASS
5	2546.218	-50.47	-13.00	Horizontal	PASS
6	7500.573	-40.99	-13.00	Horizontal	PASS

(EDGE 850MHz, Channel = 251, Horizontal)



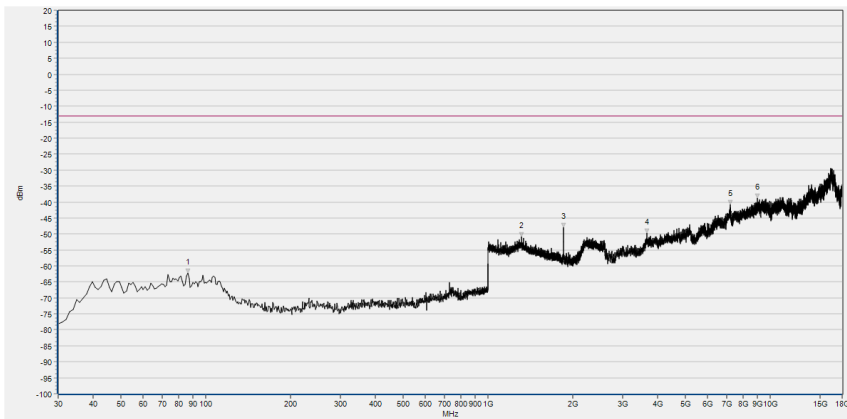
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	85.290	-61.75	-13.00	Vertical	PASS
2	848.680	-38.73	-13.00	Vertical	NA
3	894.270	-50.06	-13.00	Vertical	NA
4	1697.879	-49.93	-13.00	Vertical	PASS
5	5089.971	-46.81	-13.00	Vertical	PASS
6	9713.675	-39.30	-13.00	Vertical	PASS

(EDGE 850MHz, Channel = 251, Vertical)



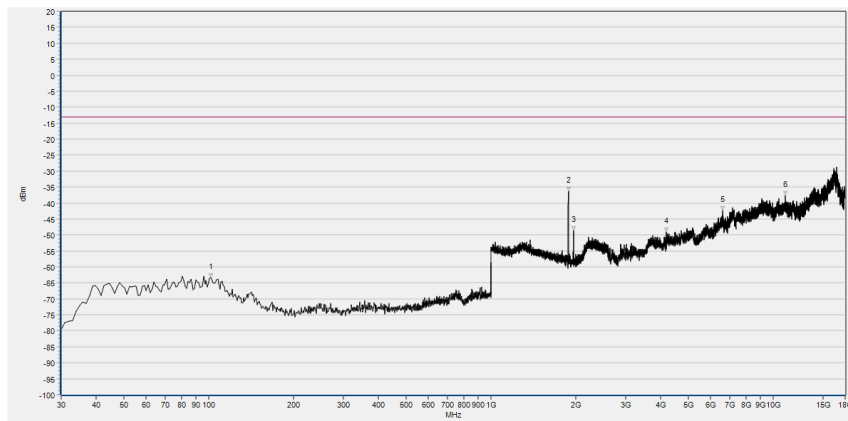
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	100.810	-63.73	-13.00	Horizontal	PASS
2	1849.620	-36.76	-13.00	Horizontal	NA
3	1930.292	-49.15	-13.00	Horizontal	NA
4	4456.738	-48.33	-13.00	Horizontal	PASS
5	7251.646	-41.40	-13.00	Horizontal	PASS
6	10427.423	-38.73	-13.00	Horizontal	PASS

(EDGE 1900MHz, Channel = 512, Horizontal)



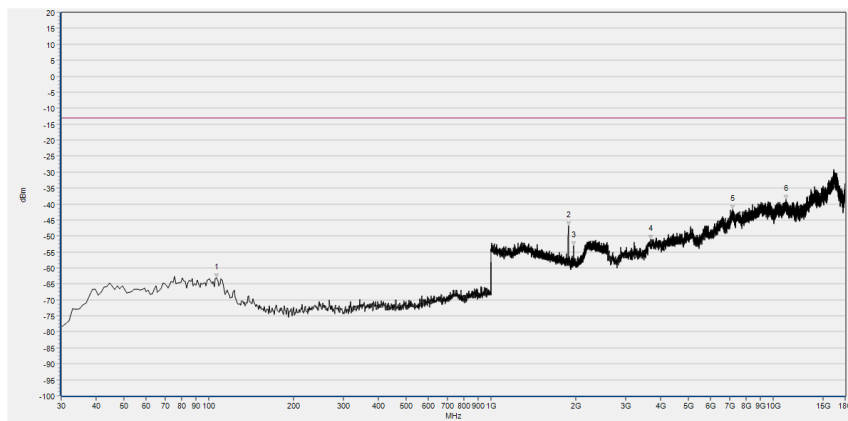
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	86.260	-62.23	-13.00	Vertical	PASS
2	1318.207	-50.94	-13.00	Vertical	PASS
3	1850.260	-47.84	-13.00	Vertical	NA
4	3664.193	-49.71	-13.00	Vertical	PASS
5	7220.840	-40.88	-13.00	Vertical	PASS
6	8999.163	-38.70	-13.00	Vertical	PASS

(EDGE 1900MHz, Channel = 512, Vertical)



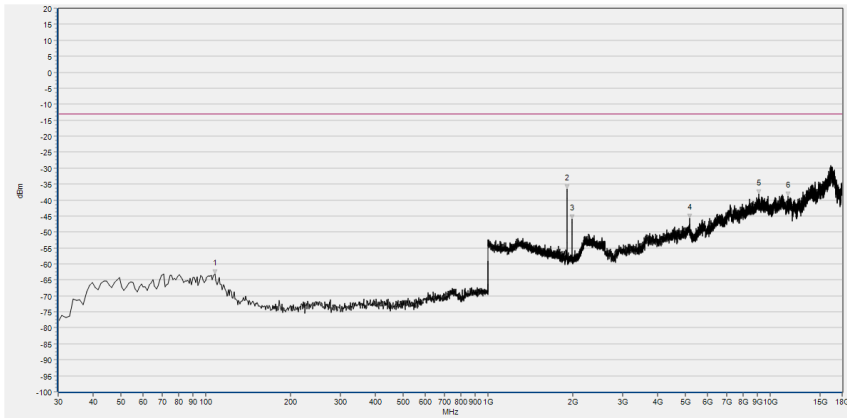
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	101.780	-63.34	-13.00	Horizontal	PASS
2	1879.712	-36.27	-13.00	Horizontal	NA
3	1959.744	-48.69	-13.00	Horizontal	NA
4	4185.088	-49.03	-13.00	Horizontal	PASS
5	6638.334	-42.30	-13.00	Horizontal	PASS
6	11029.533	-37.58	-13.00	Horizontal	PASS

(EDGE 1900MHz, Channel = 661, Horizontal)



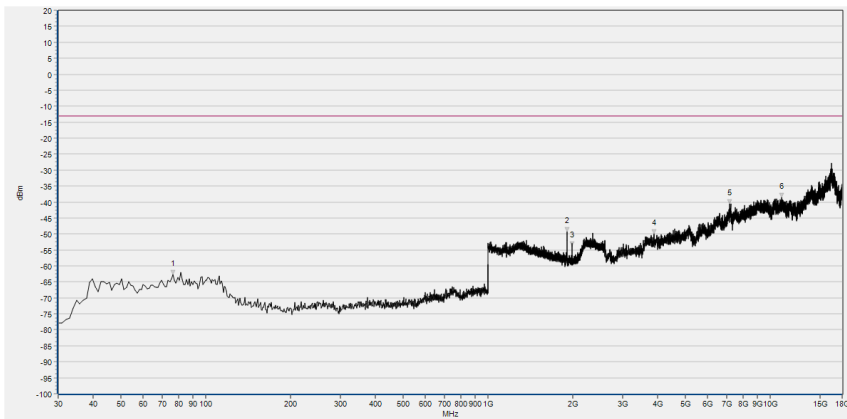
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	106.630	-63.09	-13.00	Vertical	PASS
2	1879.712	-46.73	-13.00	Vertical	NA
3	1959.744	-52.97	-13.00	Vertical	NA
4	3669.795	-51.15	-13.00	Vertical	PASS
5	7195.636	-41.78	-13.00	Vertical	PASS
6	11116.348	-38.48	-13.00	Vertical	PASS

(EDGE 1900MHz, Channel = 661, Vertical)



Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	107.600	-63.18	-13.00	Horizontal	PASS
2	1909.804	-36.51	-13.00	Horizontal	NA
3	1989.836	-45.96	-13.00	Horizontal	NA
4	5173.668	-45.68	-13.00	Horizontal	PASS
5	9111.184	-38.15	-13.00	Horizontal	PASS
6	11556.028	-38.72	-13.00	Horizontal	PASS

(EDGE 1900MHz, Channel = 810, Horizontal)



Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	76.560	-62.64	-13.00	Vertical	PASS
2	1909.804	-49.16	-13.00	Vertical	NA
3	1989.196	-53.78	-13.00	Vertical	NA
4	3868.631	-49.89	-13.00	Vertical	PASS
5	7164.830	-40.57	-13.00	Vertical	PASS
6	10995.927	-38.44	-13.00	Vertical	PASS

(EDGE 1900MHz, Channel = 810, Vertical)