WCDMA Band V CH4132 826.4MHz

WCDMA Band V CH4233 846.6MHz

WCDMA Band II CH9262 1852.4MHz

WCDMA Band II CH9538 1907.6MHz

WCDMA Band IV CH1312 1712.4MHz

WCDMA Band IV CH1513 1752.6MHz

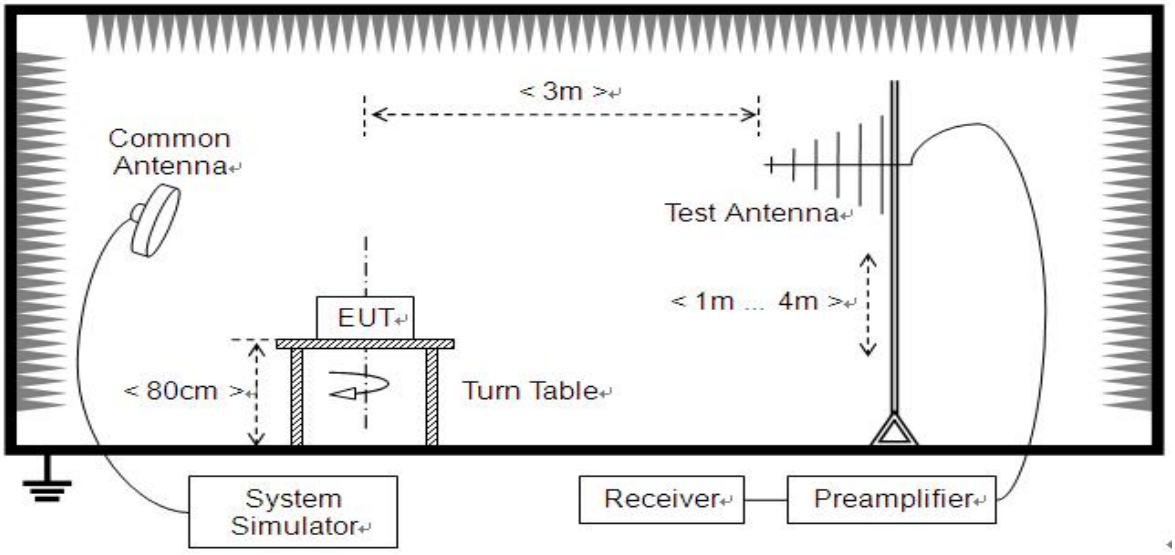
2.7. Transmitter Radiated Power (EIRP/ERP)

2.7.1. Requirement

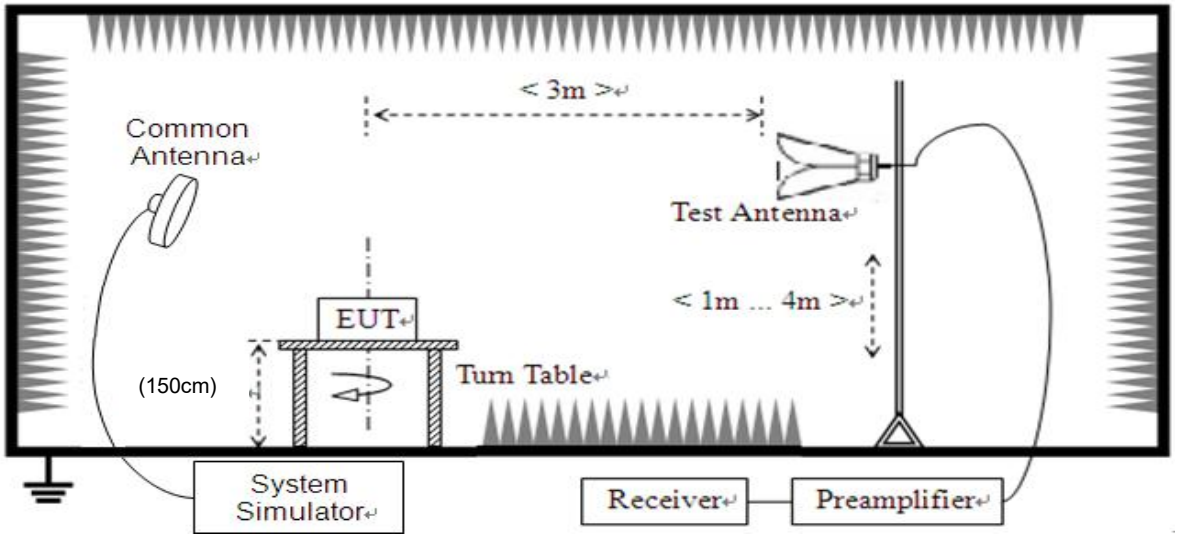
According to FCC section 22.913, the Effective Radiated Power (ERP) of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.
According to FCC section 24.232, the broadband PCS mobile station is limited to 2 Watts e.i.r.p. peak power.
According to FCC section 27.50, mobile, and portable (hand-held) stations is limited to 1 Watts e.i.r.p. peak power.

2.7.2. Test Description

Test Setup:
1) Below1GHz



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:

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

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

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}.

GSM Test verdict:

Band	Channel	Frequency (MHz)	PCL	Measured ERP		Limit		Verdict
				dBm	W	dBm	W	
GSM 850MHz	128	824.20	5	28.63	0.729	38.5	7	PASS
	190	836.60	5	28.46	0.701			PASS
	251	848.80	5	28.53	0.713			PASS
GPRS 850MHz	128	824.20	5	28.61	0.726	38.5	7	PASS
	190	836.60	5	28.45	0.700			PASS
	251	848.80	5	28.56	0.718			PASS
EDGE 850MHz	128	824.20	5	21.75	0.150	38.5	7	PASS
	190	836.60	5	21.93	0.156			PASS
	251	848.80	5	21.76	0.150			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	28.56	0.718	33	2	PASS
	661	1880.0	0	28.55	0.716			PASS
	810	1909.8	0	28.40	0.692			PASS
GPRS 1900MHz	512	1850.2	0	28.52	0.711	33	2	PASS
	661	1880.0	0	28.53	0.713			PASS
	810	1909.8	0	28.38	0.689			PASS
EDGE 1900MHz	512	1850.2	0	24.28	0.268	33	2	PASS
	661	1880.0	0	24.62	0.290			PASS
	810	1909.8	0	24.58	0.287			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	18.23	0.067	38.5	7	PASS
	4182	836.4	18.18	0.066			PASS
	4233	846.6	19.22	0.084			PASS
HSDPA Band V	4132	826.4	18.19	0.066	38.5	7	PASS
	4182	836.4	19.20	0.083			PASS
	4233	846.6	19.24	0.084			PASS
HSUPA Band V	4132	826.4	18.19	0.066	38.5	7	PASS
	4182	836.4	19.20	0.083			PASS
	4233	846.6	19.24	0.084			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	21.08	0.128	33	2	PASS
	9400	1880.0	21.17	0.131			PASS
	9538	1907.6	21.18	0.131			PASS
HSDPA Band II	9262	1852.4	21.03	0.127	33	2	PASS
	9400	1880.0	21.18	0.131			PASS
	9538	1907.6	21.19	0.132			PASS
HSUPA Band II	9262	1852.4	21.01	0.126	33	2	PASS
	9400	1880.0	21.20	0.132			PASS
	9538	1907.6	21.22	0.132			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	21.14	0.130	33	2	PASS
	1413	1732.6	21.10	0.129			PASS
	1513	1752.6	21.03	0.127			PASS
HSDPA Band IV	1312	1712.4	21.12	0.129	33	2	PASS
	1413	1732.6	21.16	0.132			PASS
	1513	1752.6	21.05	0.127			PASS
HSUPA Band IV	1312	1712.4	21.13	0.130	33	2	PASS
	1413	1732.6	21.10	0.129			PASS
	1513	1752.6	21.01	0.126			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

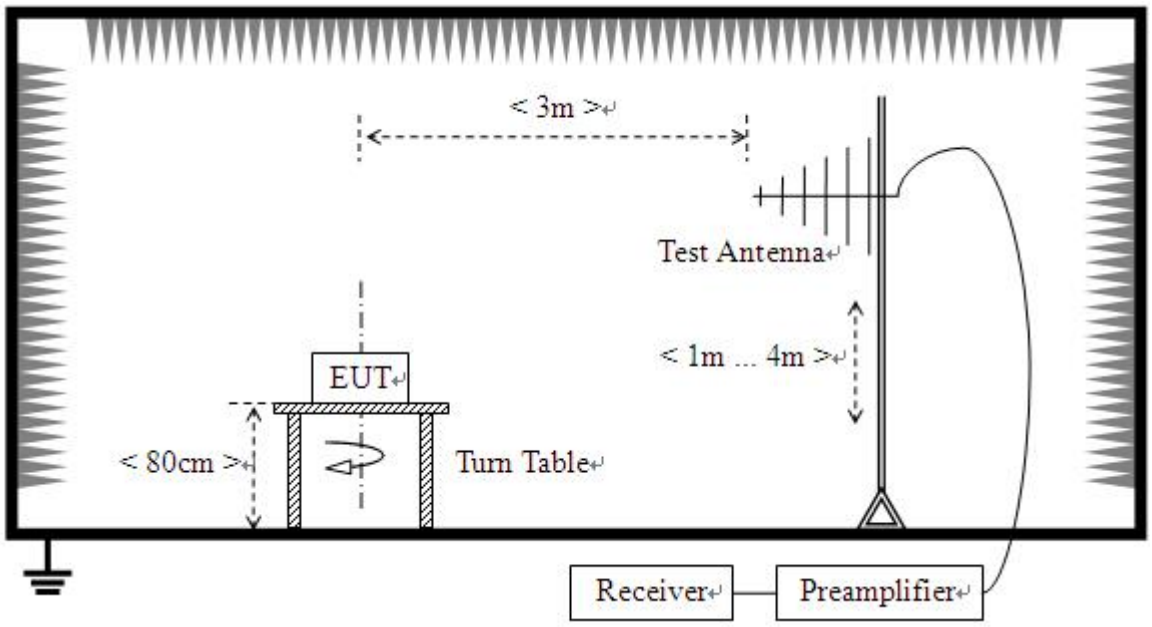
2.8.1. Requirement

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.

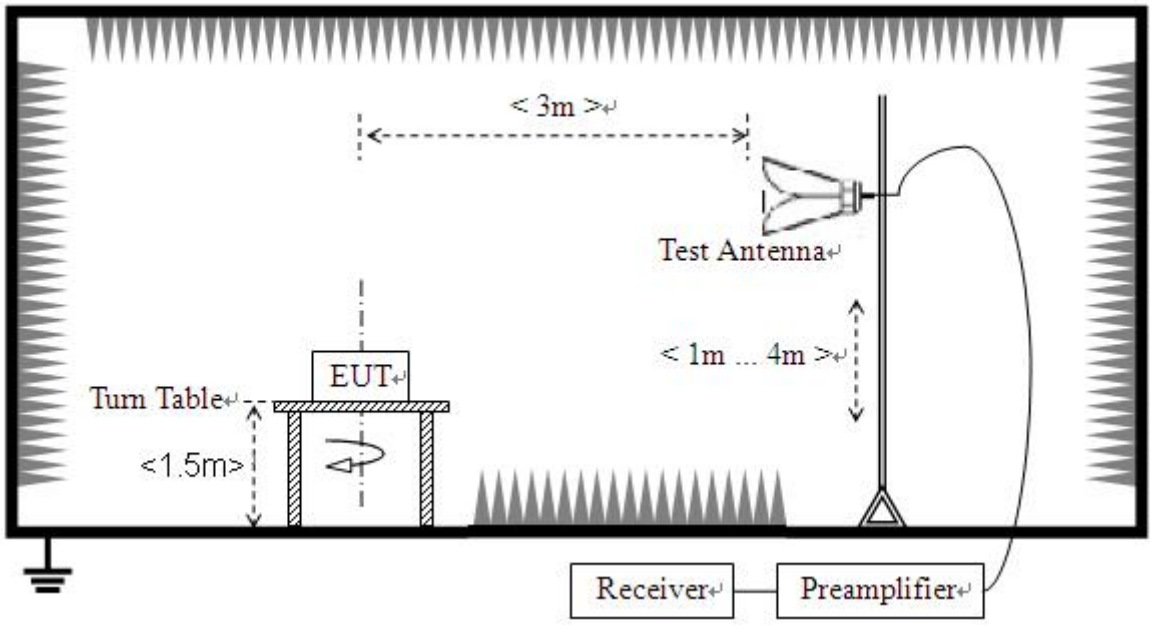
2.8.2. Test Description

Test Setup:

1) Below1GHz



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.

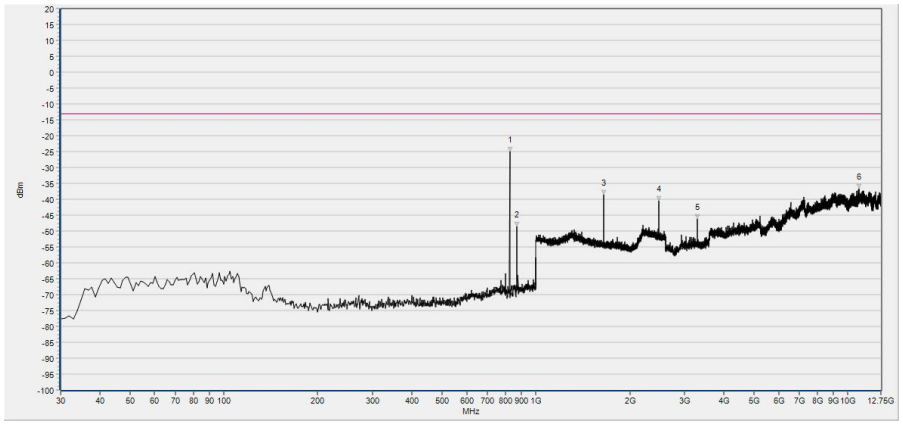
Note: when doing measurements above 1GHz, the EUT has been within the 3dB cone width of the horn antenna during horizontal antenna.

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.

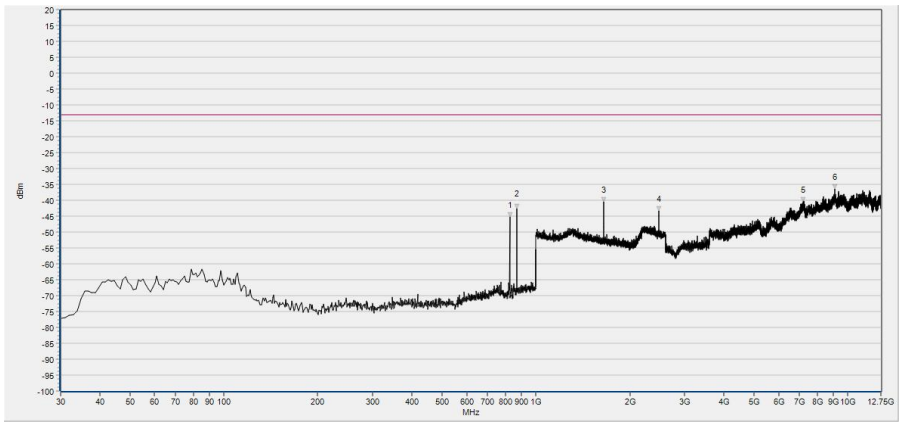
Band	Channel	Frequency (MHz)	Measured Max. Spurious Emission (dBm)		Limit (dBm)	Verdict
			Test Antenna Horizontal	Test Antenna Vertical		
GSM 850MHz	128	824.2	< -25	< -25	-13	PASS
	190	836.6	< -25	< -25		PASS
	251	848.8	< -25	< -25		PASS
GSM 1900MHz	512	1850.2	< -25	< -25	-13	PASS
	661	1880.0	< -25	< -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

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.



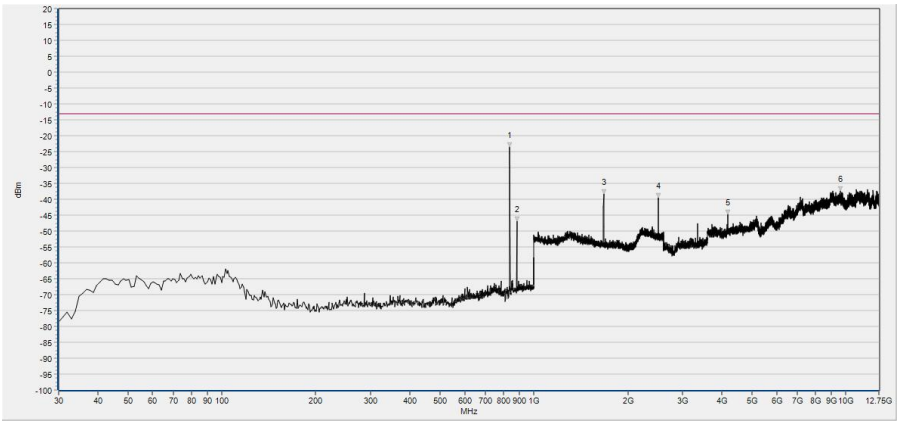
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	824.430	-24.91	-13.00	Horizontal	N/A
2	869.050	-48.56	-13.00	Horizontal	N/A
3	1647.939	-38.52	-13.00	Horizontal	PASS
4	2472.589	-40.45	-13.00	Horizontal	PASS
5	3295.863	-46.09	-13.00	Horizontal	PASS
6	10821.149	-36.76	-13.00	Horizontal	PASS

(GSM 850MHz, Channel = 128, Horizontal)



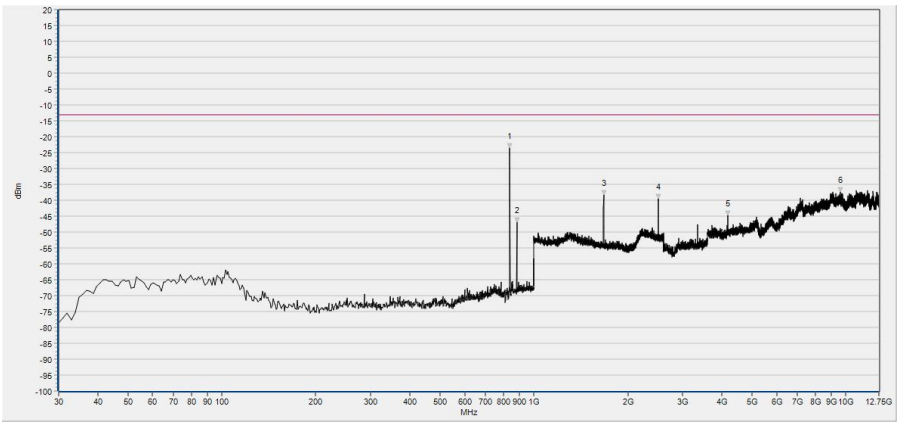
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	824.430	-45.22	-13.00	Vertical	N/A
2	869.050	-42.72	-13.00	Vertical	N/A
3	1648.579	-40.55	-13.00	Vertical	PASS
4	2472.589	-43.23	-13.00	Vertical	PASS
5	7170.176	-40.40	-13.00	Vertical	PASS
6	9095.336	-36.51	-13.00	Vertical	PASS

(GSM 850MHz, Channel = 128, Vertical)



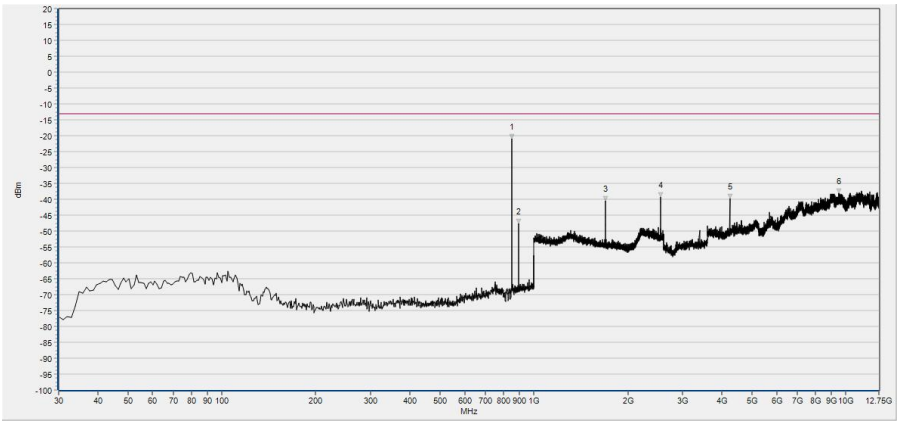
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	837.040	-23.59	-13.00	Horizontal	N/A
2	881.660	-46.80	-13.00	Horizontal	N/A
3	1672.909	-38.27	-13.00	Horizontal	PASS
4	2509.724	-39.49	-13.00	Horizontal	PASS
5	4183.688	-44.68	-13.00	Horizontal	PASS
6	9610.311	-37.49	-13.00	Horizontal	PASS

(GSM850MHz, Channel = 190, Horizontal)



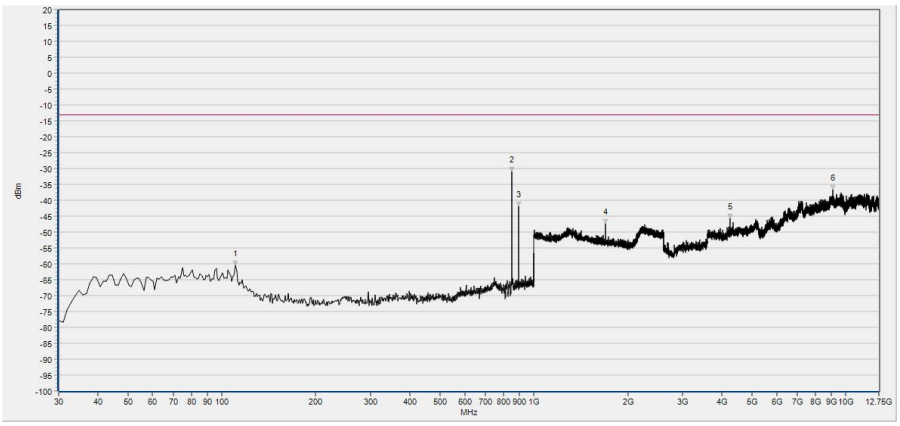
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	837.040	-23.59	-13.00	Vertical	N/A
2	881.660	-46.80	-13.00	Vertical	N/A
3	1672.909	-38.27	-13.00	Vertical	PASS
4	2509.724	-39.49	-13.00	Vertical	PASS
5	4183.688	-44.68	-13.00	Vertical	PASS
6	9610.311	-37.49	-13.00	Vertical	PASS

(GSM 850MHz, Channel = 190, Vertical)



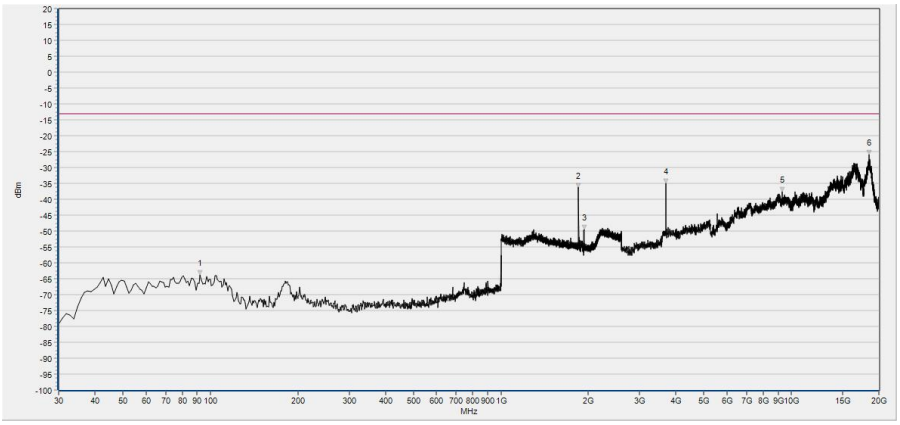
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	848.680	-20.87	-13.00	Horizontal	N/A
2	893.300	-47.56	-13.00	Horizontal	N/A
3	1697.239	-40.55	-13.00	Horizontal	PASS
4	2546.218	-39.29	-13.00	Horizontal	PASS
5	4242.753	-39.78	-13.00	Horizontal	PASS
6	9475.568	-38.05	-13.00	Horizontal	PASS

(GSM 850MHz, Channel = 251, Horizontal)



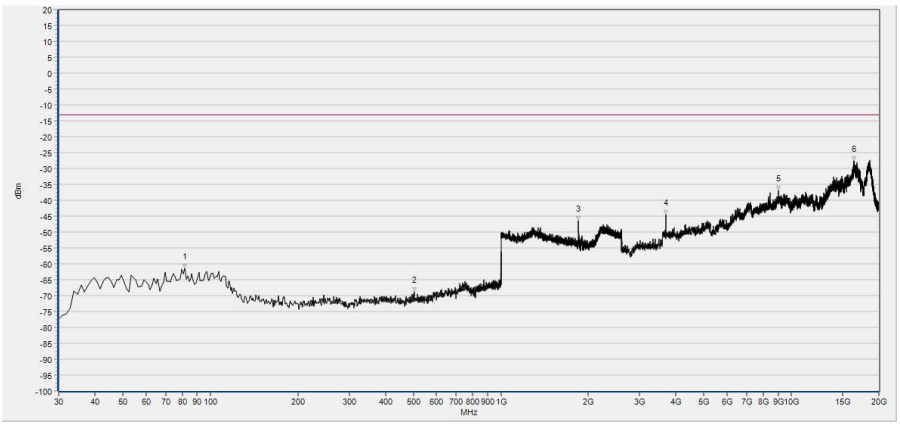
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	110.510	-60.56	-13.00	Vertical	PASS
2	848.680	-31.00	-13.00	Vertical	N/A
3	893.300	-41.95	-13.00	Vertical	N/A
4	1697.239	-47.38	-13.00	Vertical	PASS
5	4244.599	-45.76	-13.00	Vertical	PASS
6	9073.186	-36.75	-13.00	Vertical	PASS

(GSM 850MHz, Channel = 251, Vertical)



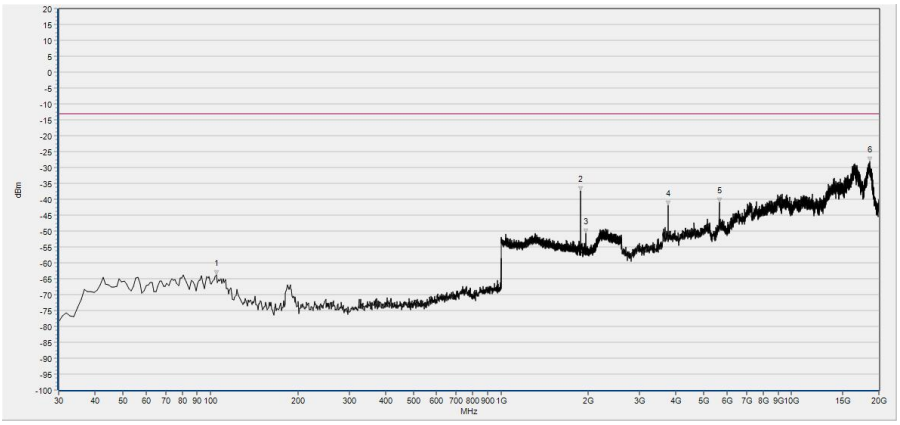
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	92.080	-63.80	-13.00	Horizontal	PASS
2	1849.620	-36.40	-13.00	Horizontal	N/AS
3	1930.292	-49.56	-13.00	Horizontal	N/A
4	3699.836	-34.94	-13.00	Horizontal	PASS
5	9309.002	-37.72	-13.00	Horizontal	PASS
6	18547.627	-26.01	-13.00	Horizontal	PASS

(GSM 1900MHz, Channel = 512, Horizontal)



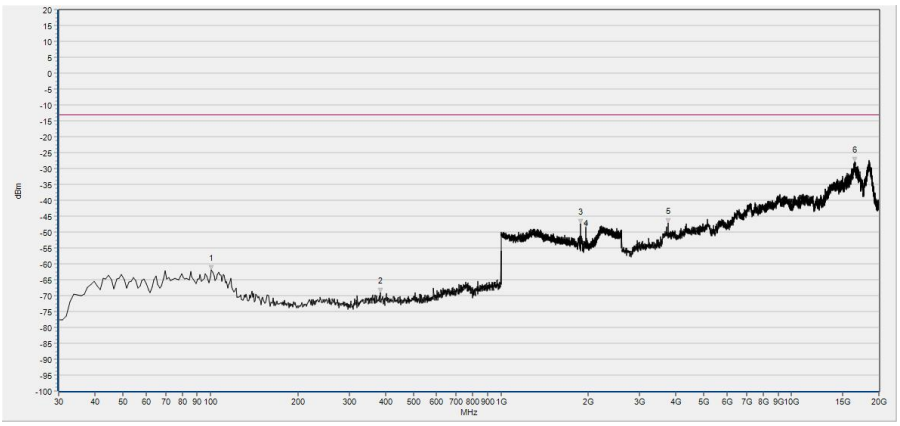
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	81.410	-61.39	-13.00	Vertical	PASS
2	502.390	-68.81	-13.00	Vertical	PASS
3	1850.260	-46.47	-13.00	Vertical	N/A
4	3699.836	-44.53	-13.00	Vertical	PASS
5	9023.859	-36.99	-13.00	Vertical	PASS
6	16392.762	-27.56	-13.00	Vertical	PASS

(GSM 1900MHz, Channel = 512, Vertical)



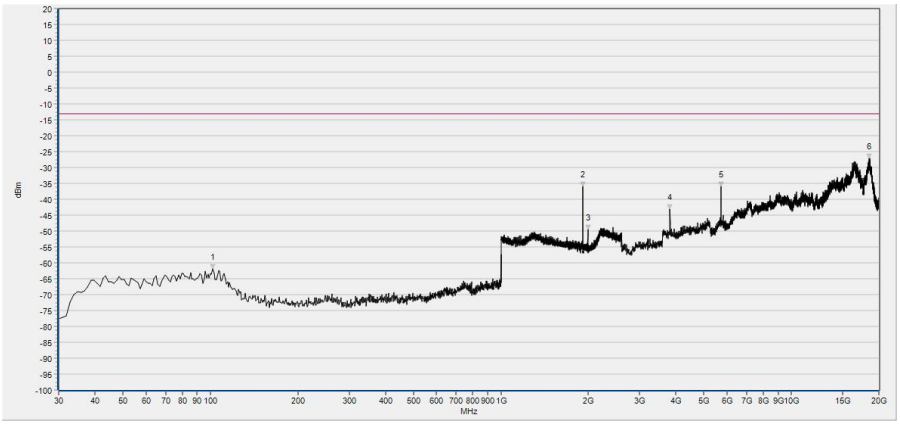
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	104.690	-63.78	-13.00	Horizontal	PASS
2	1879.712	-37.30	-13.00	Horizontal	N/A
3	1959.744	-50.63	-13.00	Horizontal	N/A
4	3760.938	-41.97	-13.00	Horizontal	PASS
5	5638.807	-40.86	-13.00	Horizontal	PASS
6	18616.876	-28.20	-13.00	Horizontal	PASS

(GSM 1900MHz, Channel = 661, Horizontal)



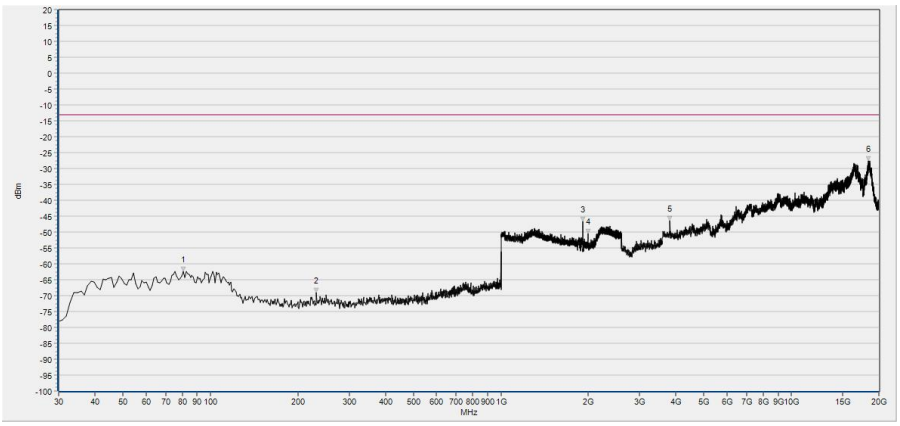
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	100.810	-62.01	-13.00	Vertical	PASS
2	384.050	-69.10	-13.00	Vertical	PASS
3	1879.712	-47.45	-13.00	Vertical	N/A
4	1959.744	-48.39	-13.00	Vertical	N/A
5	3760.938	-47.16	-13.00	Vertical	PASS
6	16539.407	-27.86	-13.00	Vertical	PASS

(GSM 1900MHz, Channel = 661, Vertical)



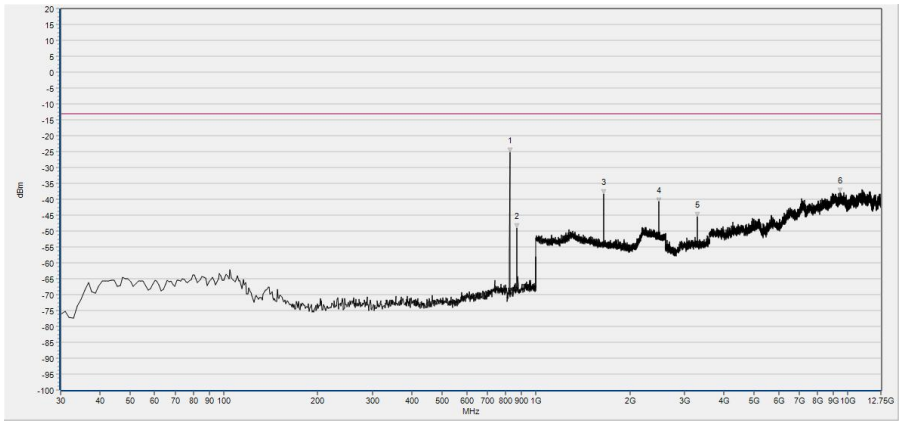
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	101.780	-61.84	-13.00	Horizontal	PASS
2	1909.804	-36.04	-13.00	Horizontal	N/A
3	1989.836	-49.56	-13.00	Horizontal	N/A
4	3817.967	-43.14	-13.00	Horizontal	PASS
5	5728.423	-35.85	-13.00	Horizontal	PASS
6	18555.774	-27.05	-13.00	Horizontal	PASS

(GSM 1900MHz, Channel = 810, Horizontal)



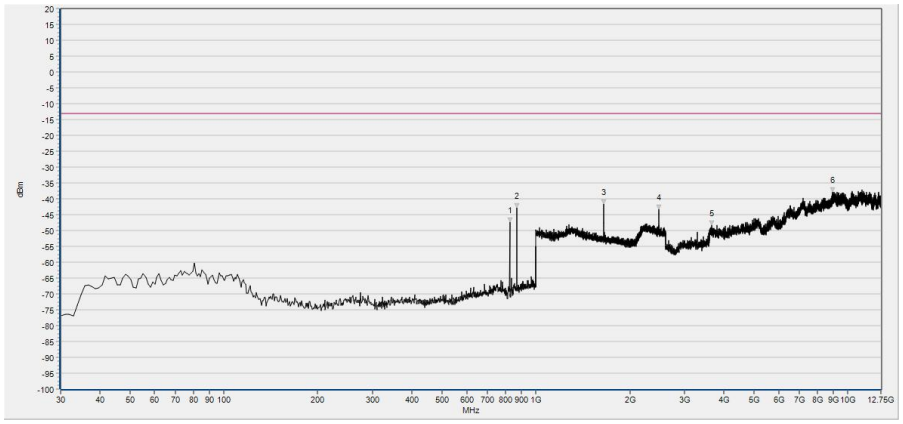
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	80.440	-62.44	-13.00	Vertical	PASS
2	231.760	-68.96	-13.00	Vertical	PASS
3	1909.804	-46.55	-13.00	Vertical	N/A
4	1989.836	-50.56	-13.00	Vertical	N/A
5	3817.967	-46.42	-13.00	Vertical	PASS
6	18441.717	-27.63	-13.00	Vertical	PASS

(GSM 1900MHz, Channel = 810, Vertical)



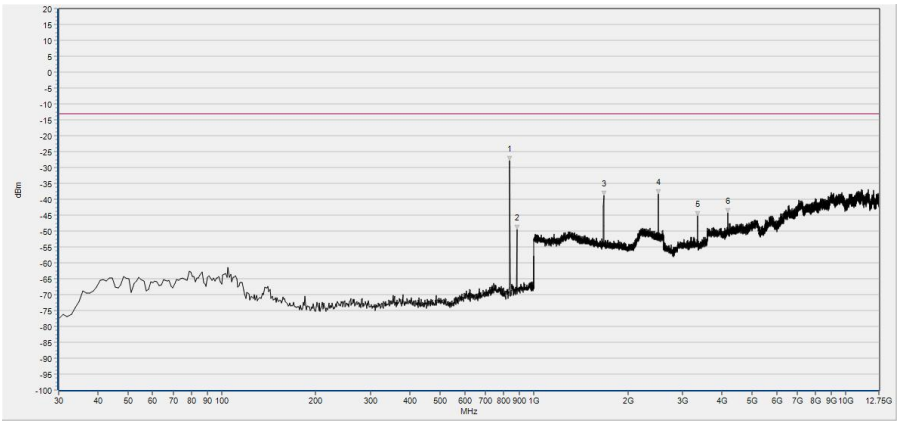
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	824.430	-25.16	-13.00	Horizontal	N/A
2	869.050	-49.13	-13.00	Horizontal	N/A
3	1647.939	-38.25	-13.00	Horizontal	PASS
4	2471.949	-41.02	-13.00	Horizontal	PASS
5	3295.863	-45.44	-13.00	Horizontal	PASS
6	9446.036	-37.88	-13.00	Horizontal	PASS

(EDGE 850MHz, Channel = 128, Horizontal)



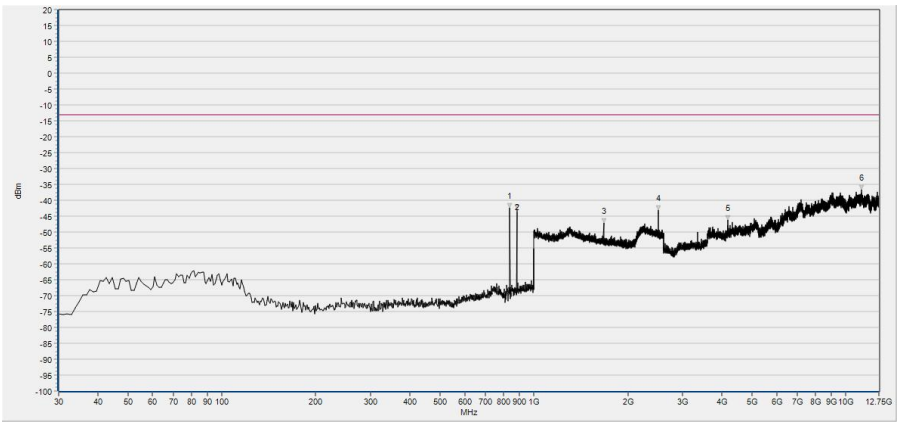
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	824.430	-47.46	-13.00	Vertical	N/A
2	869.050	-42.89	-13.00	Vertical	N/A
3	1647.939	-41.76	-13.00	Vertical	PASS
4	2472.589	-43.34	-13.00	Vertical	PASS
5	3657.638	-48.43	-13.00	Vertical	PASS
6	8934.752	-37.80	-13.00	Vertical	PASS

(EDGE 850MHz, Channel = 128, Vertical)



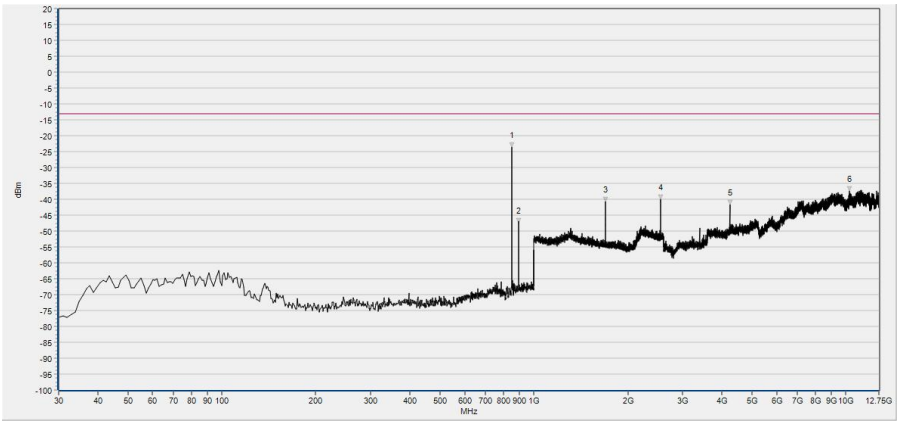
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	837.040	-27.79	-13.00	Horizontal	N/A
2	881.660	-49.48	-13.00	Horizontal	N/A
3	1672.909	-38.87	-13.00	Horizontal	PASS
4	2509.724	-38.39	-13.00	Horizontal	PASS
5	3345.699	-45.33	-13.00	Horizontal	PASS
6	4181.842	-44.28	-13.00	Horizontal	PASS

(EDGE 850MHz, Channel = 190, Horizontal)



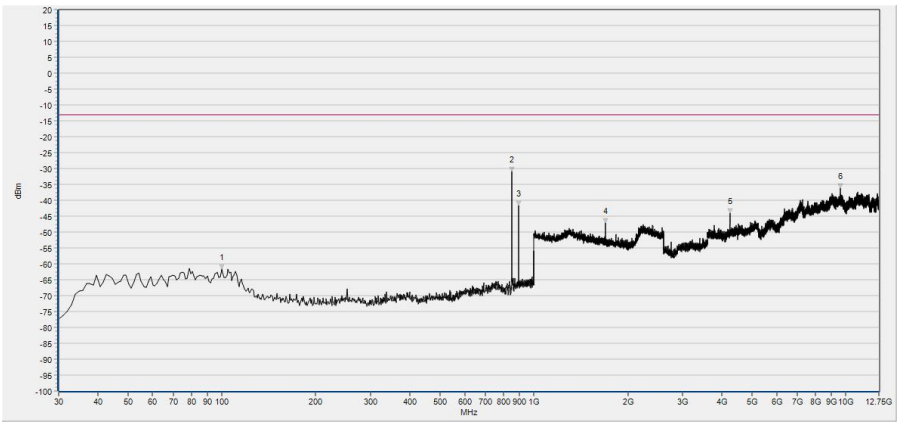
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	836.070	-42.27	-13.00	Vertical	N/A
2	881.660	-42.76	-13.00	Vertical	N/A
3	1672.909	-47.06	-13.00	Vertical	PASS
4	2509.724	-43.20	-13.00	Vertical	PASS
5	4181.842	-46.08	-13.00	Vertical	PASS
6	11225.377	-36.71	-13.00	Vertical	PASS

(EDGE 850MHz, Channel = 190, Vertical)



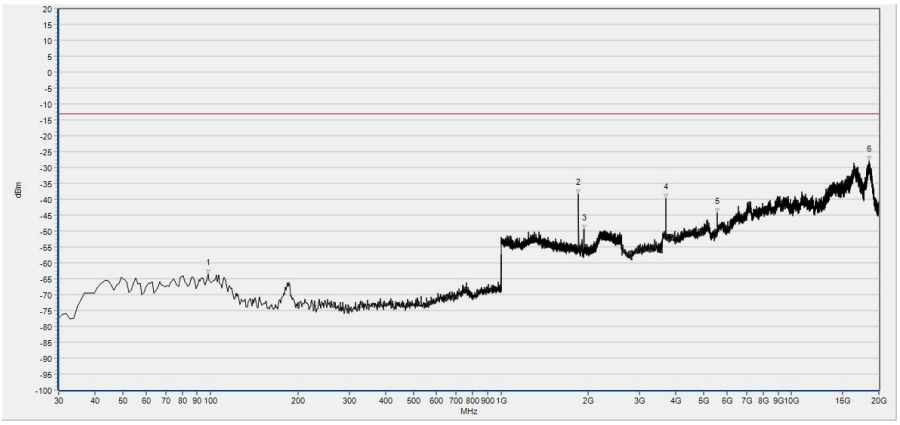
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	848.680	-23.64	-13.00	Horizontal	N/A
2	893.300	-47.41	-13.00	Horizontal	N/A
3	1697.239	-40.70	-13.00	Horizontal	PASS
4	2546.218	-40.05	-13.00	Horizontal	PASS
5	4244.599	-41.78	-13.00	Horizontal	PASS
6	10274.795	-37.46	-13.00	Horizontal	PASS

(EDGE 850MHz, Channel = 251, Horizontal)



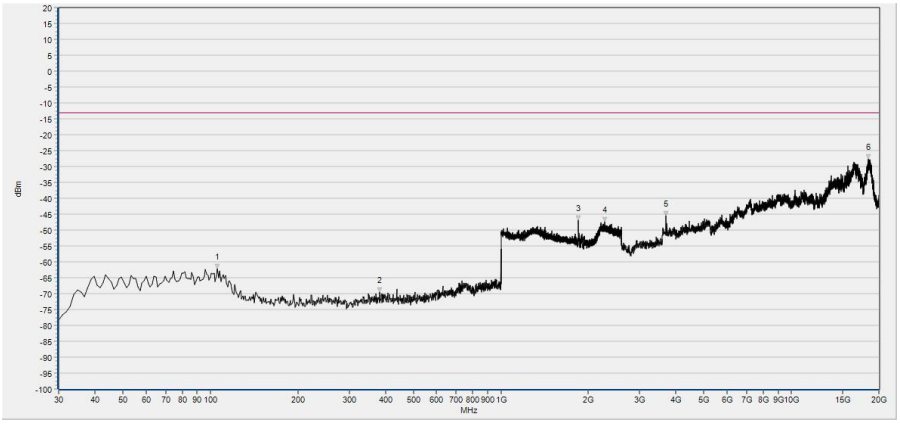
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	99.840	-61.59	-13.00	Vertical	PASS
2	848.680	-31.06	-13.00	Vertical	N/A
3	893.300	-41.66	-13.00	Vertical	N/A
4	1697.239	-47.04	-13.00	Vertical	PASS
5	4244.599	-44.12	-13.00	Vertical	PASS
6	9593.699	-36.28	-13.00	Vertical	PASS

(EDGE 850MHz, Channel = 251, Vertical)



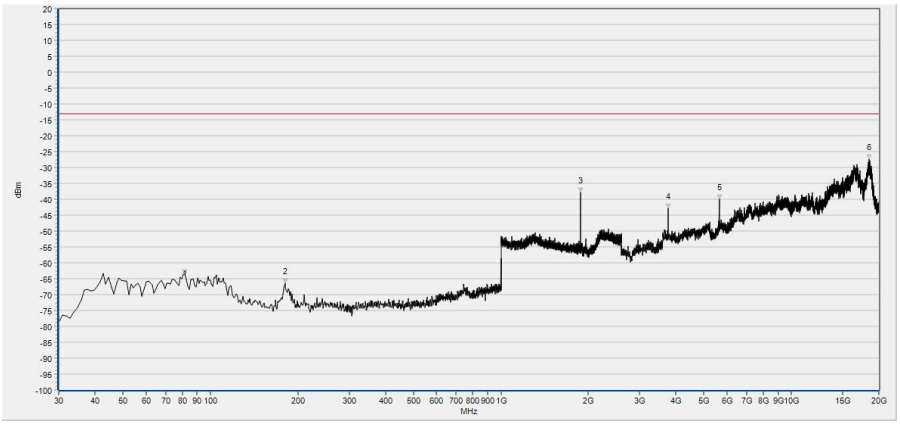
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	97.900	-63.54	-13.00	Horizontal	PASS
2	1850.260	-38.31	-13.00	Horizontal	N/A
3	1930.292	-49.53	-13.00	Horizontal	N/A
4	3699.836	-39.85	-13.00	Horizontal	PASS
5	5549.191	-44.26	-13.00	Horizontal	PASS
6	18490.598	-27.86	-13.00	Horizontal	PASS

(EDGE 1900MHz, Channel = 512, Horizontal)



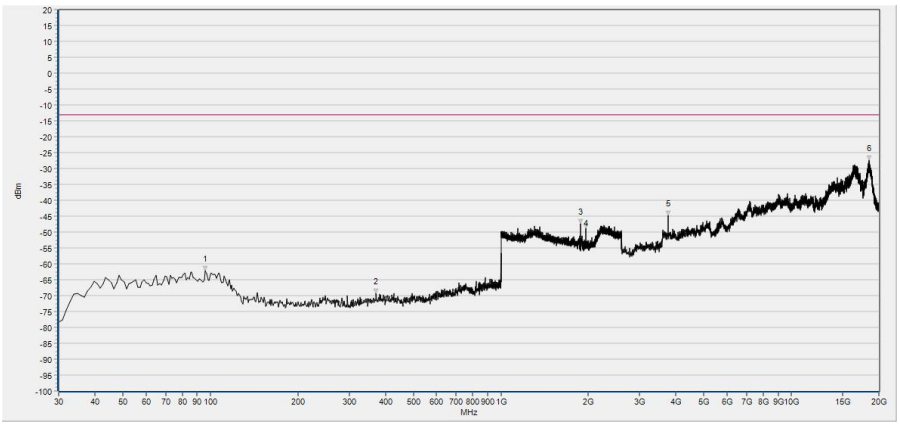
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	105.660	-62.18	-13.00	Vertical	PASS
2	382.110	-69.52	-13.00	Vertical	PASS
3	1850.260	-46.80	-13.00	Vertical	N/A
4	2272.829	-47.46	-13.00	Vertical	PASS
5	3699.836	-45.49	-13.00	Vertical	PASS
6	18380.615	-27.68	-13.00	Vertical	PASS

(EDGE 1900MHz, Channel = 512, Vertical)



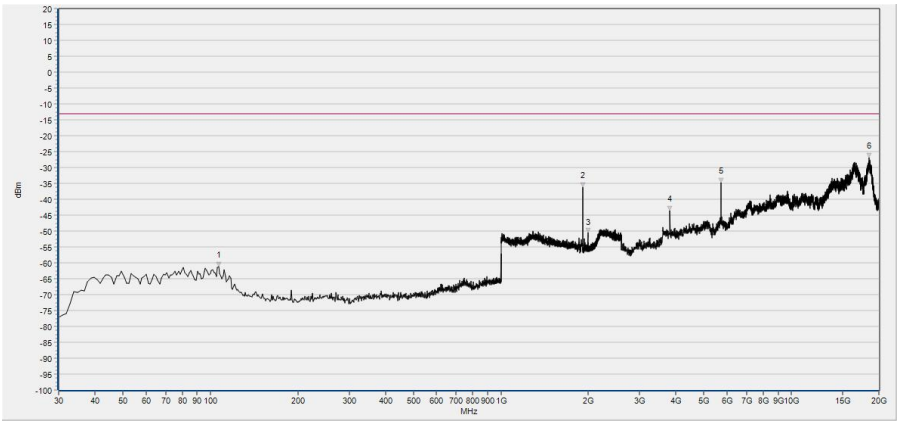
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	81.410	-63.63	-13.00	Horizontal	PASS
2	180.350	-66.52	-13.00	Horizontal	PASS
3	1879.712	-37.89	-13.00	Horizontal	N/A
4	3760.938	-42.74	-13.00	Horizontal	PASS
5	5638.807	-40.03	-13.00	Horizontal	PASS
6	18474.304	-27.50	-13.00	Horizontal	PASS

(EDGE 1900MHz, Channel = 661, Horizontal)



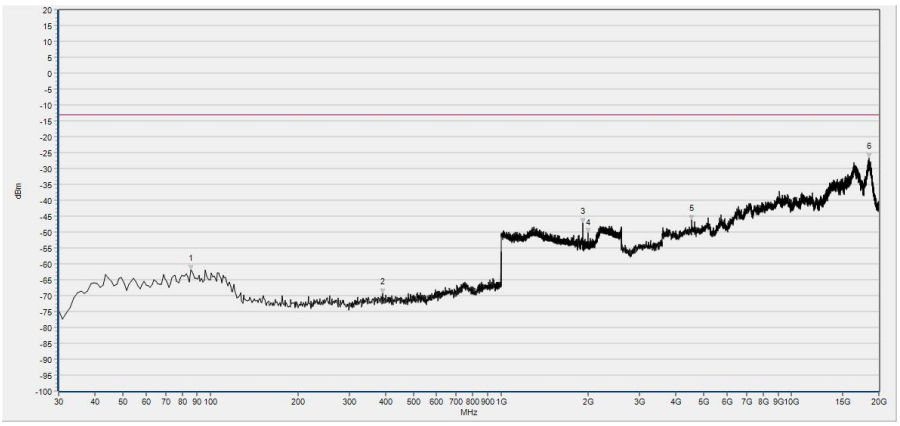
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	95.960	-62.11	-13.00	Vertical	PASS
2	371.440	-69.40	-13.00	Vertical	PASS
3	1879.712	-47.42	-13.00	Vertical	N/A
4	1959.744	-48.92	-13.00	Vertical	N/A
5	3760.938	-44.84	-13.00	Vertical	PASS
6	18555.774	-27.27	-13.00	Vertical	PASS

(EDGE 1900MHz, Channel = 661, Vertical)



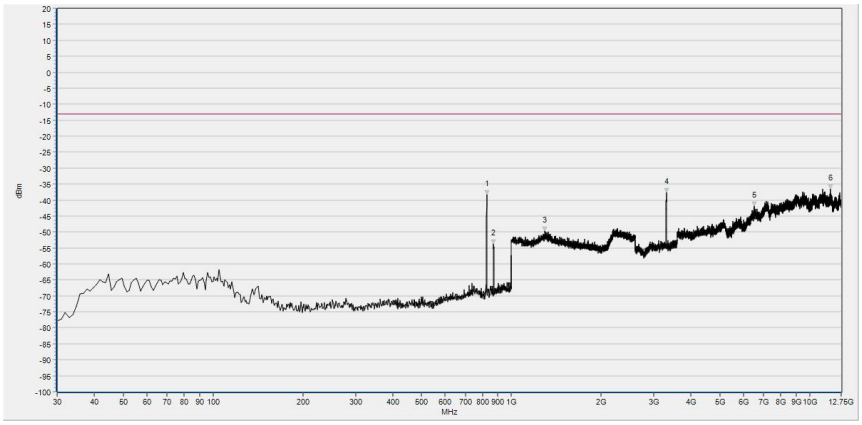
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	106.630	-61.16	-13.00	Horizontal	PASS
2	1909.804	-36.28	-13.00	Horizontal	N/A
3	1989.836	-50.56	-13.00	Horizontal	N/A
4	3817.967	-43.62	-13.00	Horizontal	PASS
5	5728.423	-34.80	-13.00	Horizontal	PASS
6	18462.084	-26.90	-13.00	Horizontal	PASS

(EDGE 1900MHz, Channel = 810, Horizontal)



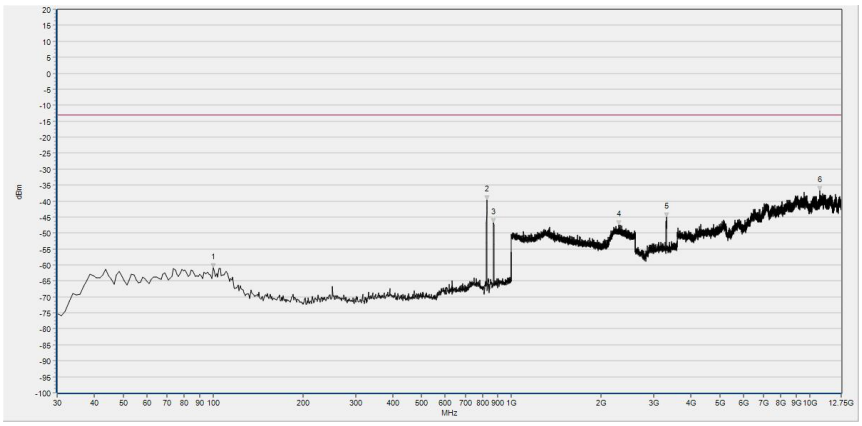
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	85.290	-61.92	-13.00	Vertical	PASS
2	390.840	-69.32	-13.00	Vertical	PASS
3	1909.804	-47.08	-13.00	Vertical	N/A
4	1989.836	-50.32	-13.00	Vertical	N/A
5	4543.044	-46.10	-13.00	Vertical	PASS
6	18449.864	-26.64	-13.00	Vertical	PASS

(EDGE 1900MHz, Channel = 810, Vertical)



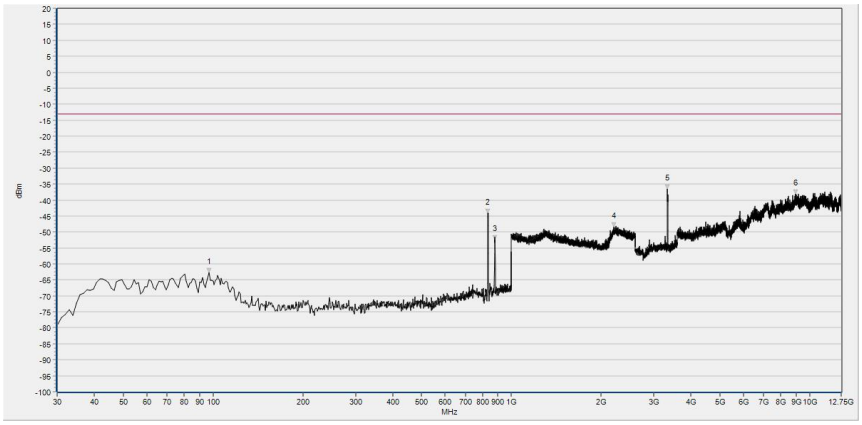
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	828.310	-38.43	-13.00	Horizontal	N/A
2	870.990	-53.85	-13.00	Horizontal	N/A
3	1295.798	-49.65	-13.00	Horizontal	PASS
4	3308.783	-37.67	-13.00	Horizontal	PASS
5	6524.150	-41.96	-13.00	Horizontal	PASS
6	11731.124	-36.62	-13.00	Horizontal	PASS

(WCDMA Band V, Channel = 4132, Horizontal)



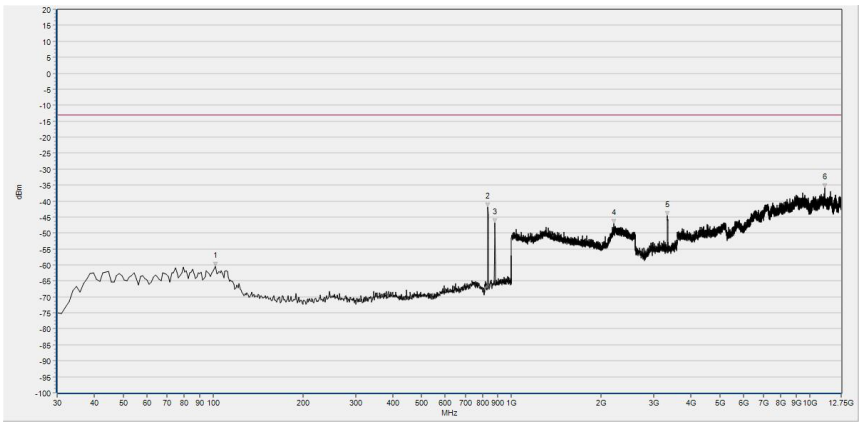
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	99.840	-60.98	-13.00	Vertical	PASS
2	827.340	-39.60	-13.00	Vertical	N/A
3	871.960	-46.72	-13.00	Vertical	N/A
4	2290.116	-47.58	-13.00	Vertical	PASS
5	3310.629	-45.13	-13.00	Vertical	PASS
6	10834.070	-36.69	-13.00	Vertical	PASS

(WCDMA Band V, Channel = 4132, Vertical)



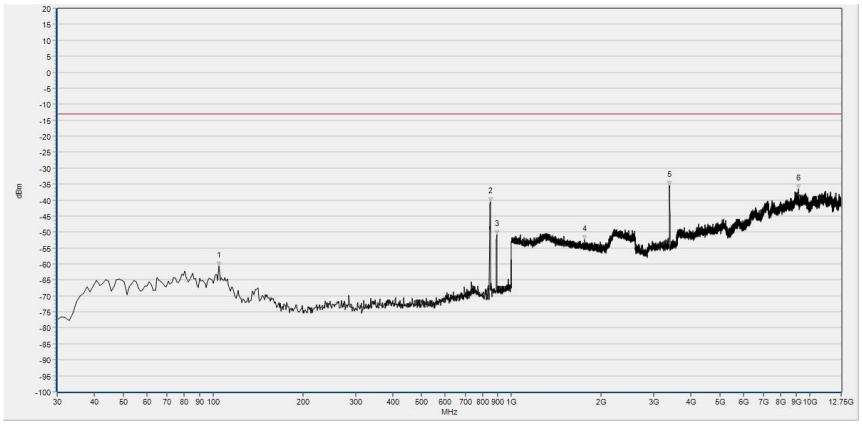
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	96.930	-62.72	-13.00	Horizontal	PASS
2	834.130	-44.06	-13.00	Horizontal	N/A
3	881.660	-52.46	-13.00	Horizontal	N/A
4	2206.242	-48.34	-13.00	Horizontal	PASS
5	3336.470	-36.57	-13.00	Horizontal	PASS
6	8967.976	-38.02	-13.00	Horizontal	PASS

(WCDMA Band V, Channel = 4182, Horizontal)



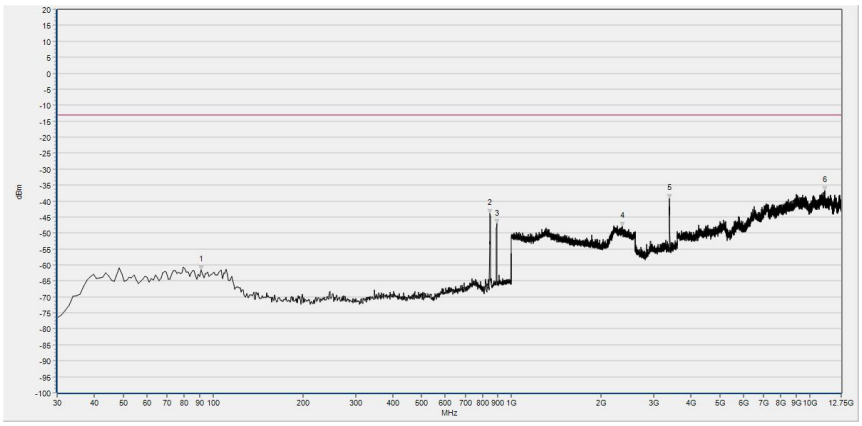
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	101.780	-60.55	-13.00	Vertical	PASS
2	834.130	-41.84	-13.00	Vertical	N/A
3	878.750	-46.82	-13.00	Vertical	N/A
4	2203.041	-47.14	-13.00	Vertical	PASS
5	3336.470	-44.65	-13.00	Vertical	PASS
6	11212.457	-35.90	-13.00	Vertical	PASS

(WCDMA Band V, Channel = 4182, Vertical)



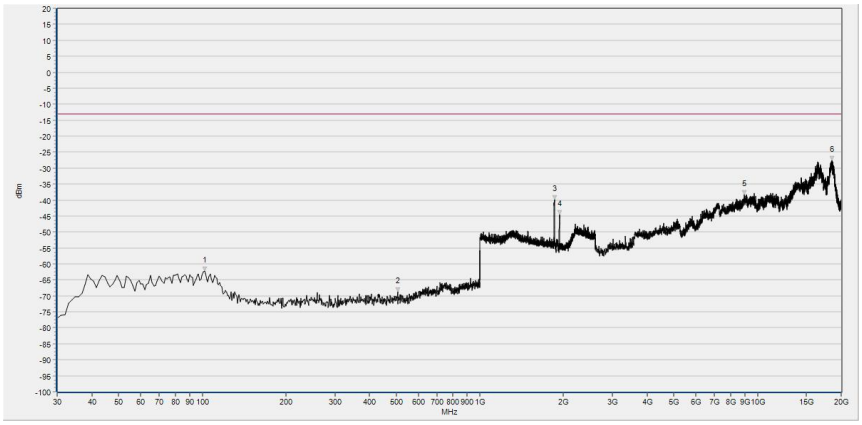
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	104.690	-60.75	-13.00	Horizontal	PASS
2	848.680	-40.61	-13.00	Horizontal	N/A
3	892.330	-50.73	-13.00	Horizontal	N/A
4	1759.344	-52.30	-13.00	Horizontal	PASS
5	3389.998	-35.40	-13.00	Horizontal	PASS
6	9165.476	-36.52	-13.00	Horizontal	PASS

(WCDMA Band V, Channel = 4233, Horizontal)



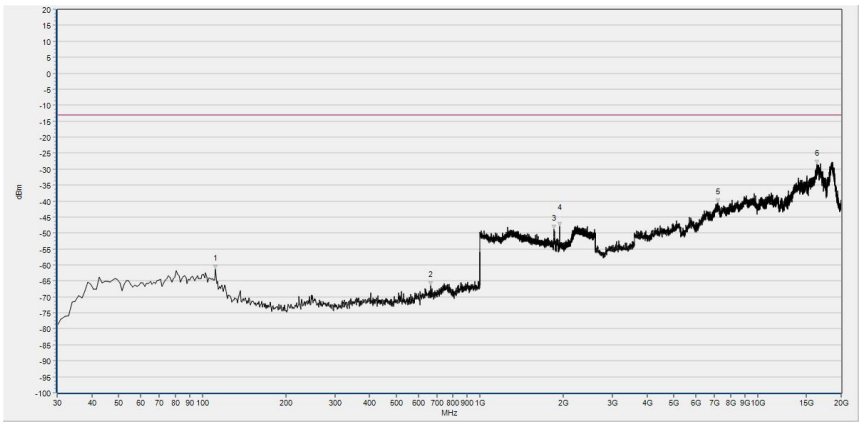
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	91.110	-61.53	-13.00	Vertical	PASS
2	847.710	-43.98	-13.00	Vertical	N/A
3	892.330	-46.97	-13.00	Vertical	N/A
4	2356.703	-47.87	-13.00	Vertical	PASS
5	3391.844	-39.19	-13.00	Vertical	PASS
6	11225.377	-36.82	-13.00	Vertical	PASS

(WCDMA Band V, Channel = 4233, Vertical)



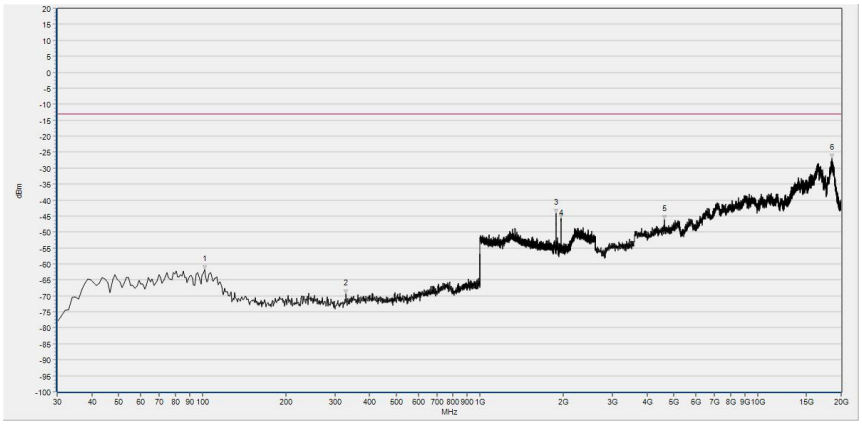
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	101.780	-62.16	-13.00	Horizontal	PASS
2	505.300	-68.63	-13.00	Horizontal	PASS
3	1852.821	-39.84	-13.00	Horizontal	N/A
4	1933.493	-44.52	-13.00	Horizontal	N/A
5	8930.169	-38.42	-13.00	Horizontal	PASS
6	18527.260	-27.57	-13.00	Horizontal	PASS

(WCDMA Band II, Channel = 9262, Horizontal)



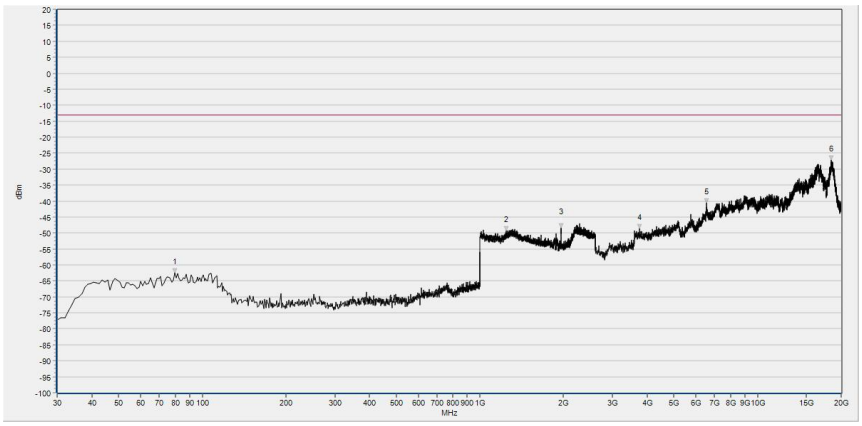
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	111.480	-61.38	-13.00	Vertical	PASS
2	663.410	-66.54	-13.00	Vertical	PASS
3	1850.900	-48.87	-13.00	Vertical	N/A
4	1933.493	-47.92	-13.00	Vertical	N/A
5	7190.798	-40.67	-13.00	Vertical	PASS
6	16400.909	-28.54	-13.00	Vertical	PASS

(WCDMA Band II, Channel = 9262, Vertical)



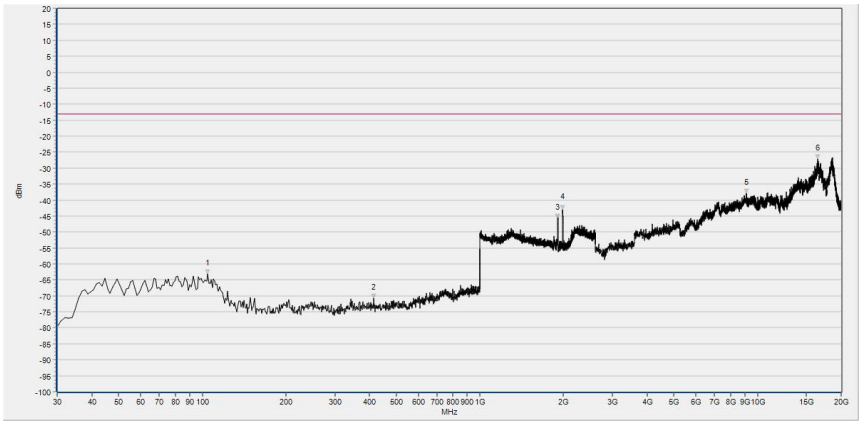
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	101.780	-61.72	-13.00	Horizontal	PASS
2	328.760	-69.33	-13.00	Horizontal	PASS
3	1878.431	-44.12	-13.00	Horizontal	N/A
4	1961.024	-45.66	-13.00	Horizontal	N/A
5	4624.514	-46.12	-13.00	Horizontal	PASS
6	18486.525	-26.89	-13.00	Horizontal	PASS

(WCDMA Band II, Channel = 9400, Horizontal)



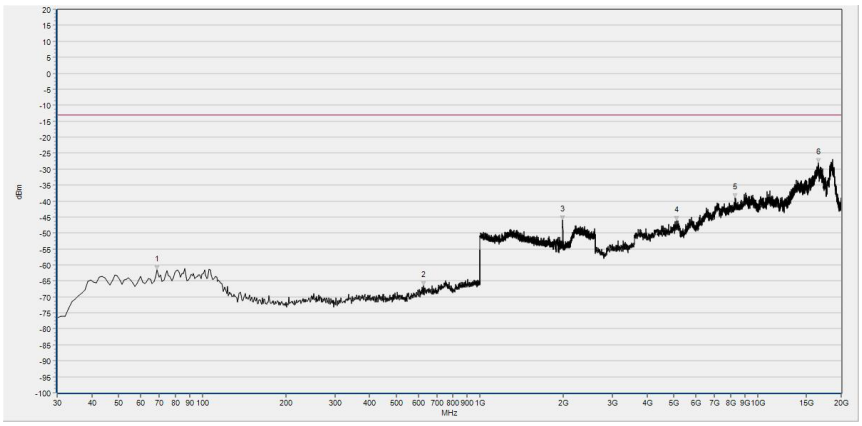
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	79.470	-62.39	-13.00	Vertical	PASS
2	1241.377	-49.23	-13.00	Vertical	PASS
3	1960.384	-48.27	-13.00	Vertical	N/A
4	3756.865	-48.61	-13.00	Vertical	N/A
5	6530.897	-40.56	-13.00	Vertical	PASS
6	18368.394	-27.25	-13.00	Vertical	PASS

(WCDMA Band II, Channel = 9400, Vertical)



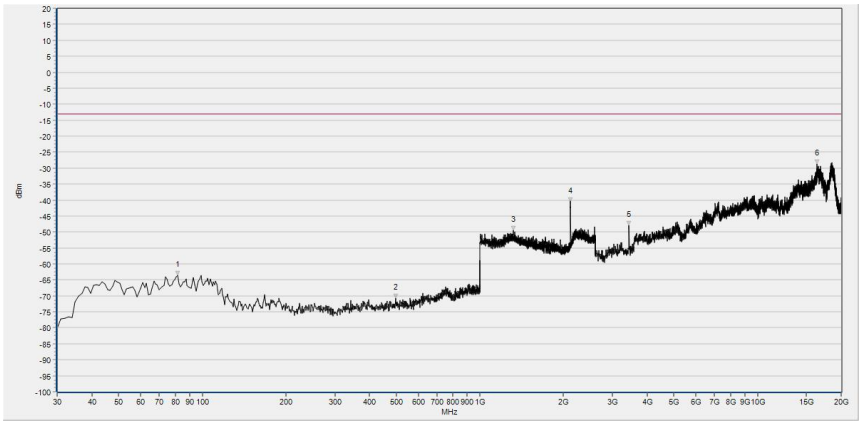
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	104.690	-63.17	-13.00	Horizontal	PASS
2	415.090	-70.64	-13.00	Horizontal	PASS
3	1907.883	-45.70	-13.00	Horizontal	N/A
4	1987.915	-43.04	-13.00	Horizontal	N/A
5	9109.402	-37.83	-13.00	Horizontal	PASS
6	16437.570	-27.14	-13.00	Horizontal	PASS

(WCDMA Band II, Channel = 9538, Horizontal)



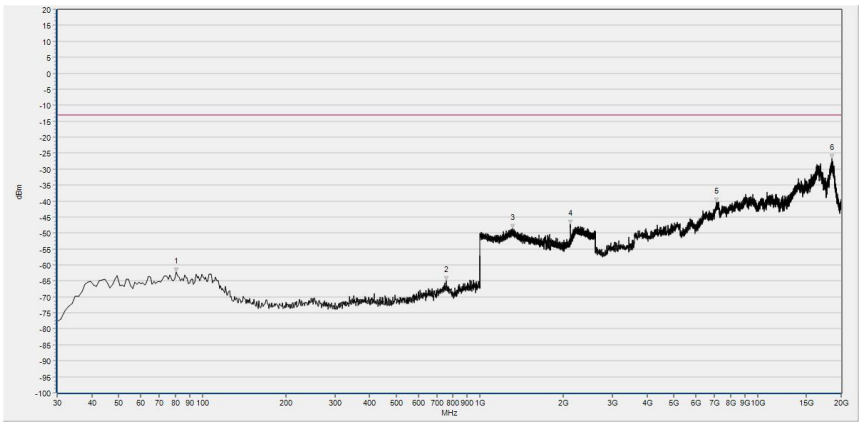
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	68.800	-61.53	-13.00	Vertical	PASS
2	624.610	-66.55	-13.00	Vertical	PASS
3	1987.275	-45.87	-13.00	Vertical	N/A
4	5109.256	-46.11	-13.00	Vertical	PASS
5	8311.002	-39.00	-13.00	Vertical	PASS
6	16555.701	-27.96	-13.00	Vertical	PASS

(WCDMA Band II, Channel = 9538, Vertical)



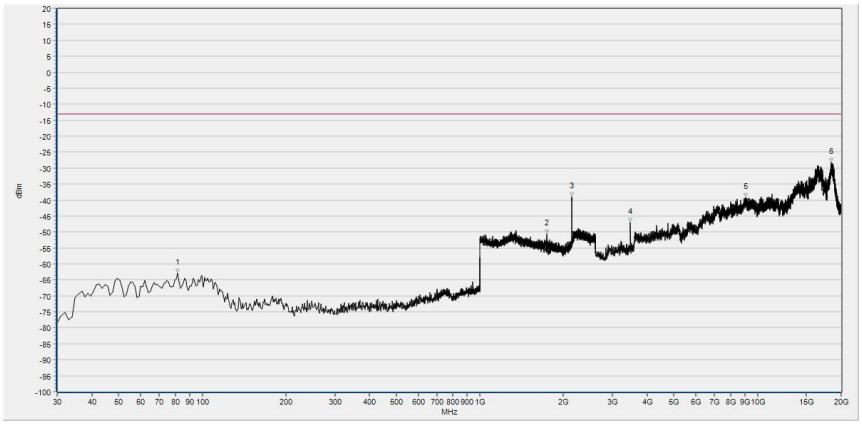
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	81.410	-63.60	-13.00	Horizontal	PASS
2	496.570	-70.82	-13.00	Horizontal	PASS
3	1315.646	-49.52	-13.00	Horizontal	PASS
4	2119.168	-40.67	-13.00	Horizontal	N/A
5	3439.134	-47.86	-13.00	Horizontal	PASS
6	16396.836	-28.69	-13.00	Horizontal	PASS

(WCDMA Band IV, Channel = 1312, Horizontal)



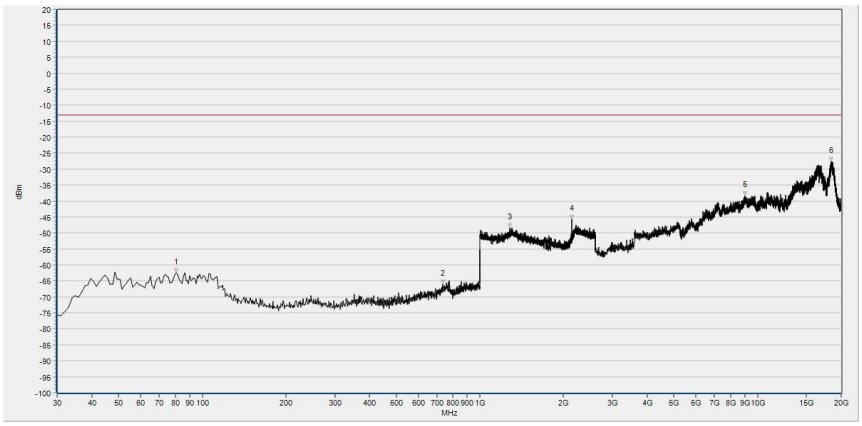
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	80.440	-62.24	-13.00	Vertical	PASS
2	757.500	-64.90	-13.00	Vertical	PASS
3	1311.805	-48.71	-13.00	Vertical	PASS
4	2117.887	-47.35	-13.00	Vertical	N/A
5	7088.962	-40.40	-13.00	Vertical	PASS
6	18543.553	-26.64	-13.00	Vertical	PASS

(WCDMA Band IV, Channel = 1312, Vertical)



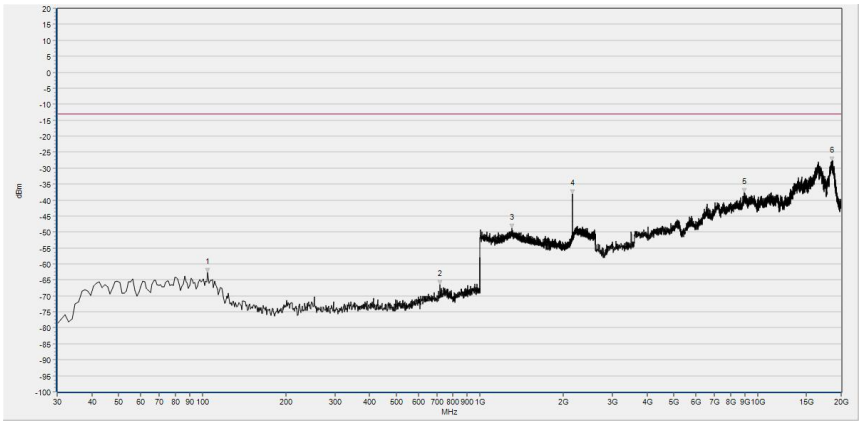
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	81.410	-62.97	-13.00	Horizontal	PASS
2	1738.215	-50.66	-13.00	Horizontal	N/A
3	2141.577	-39.07	-13.00	Horizontal	N/A
4	3475.796	-46.95	-13.00	Horizontal	PASS
5	9056.447	-39.14	-13.00	Horizontal	PASS
6	18360.247	-28.17	-13.00	Horizontal	PASS

(WCDMA Band IV, Channel = 1413, Horizontal)



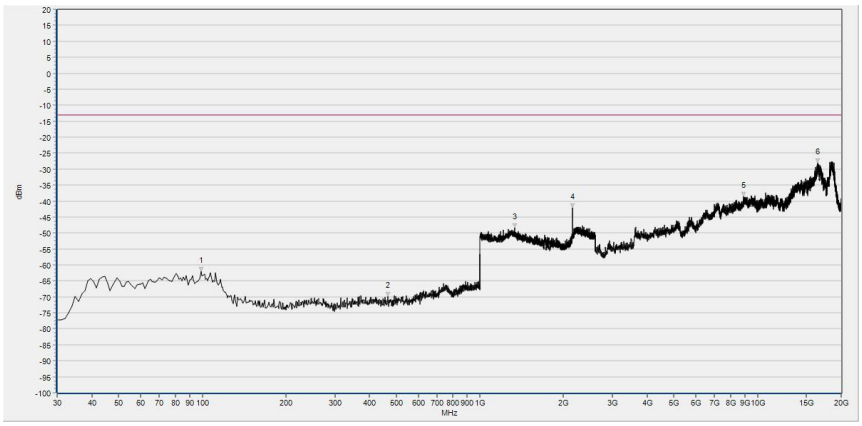
Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	80.440	-62.44	-13.00	Vertical	PASS
2	733.250	-66.04	-13.00	Vertical	PASS
3	1281.713	-48.48	-13.00	Vertical	PASS
4	2140.296	-45.76	-13.00	Vertical	N/A
5	9015.712	-38.35	-13.00	Vertical	PASS
6	18441.717	-27.50	-13.00	Vertical	PASS

(WCDMA Band IV, Channel = 1413, Vertical)



Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	104.690	-62.78	-13.00	Horizontal	PASS
2	717.730	-66.54	-13.00	Horizontal	PASS
3	1303.481	-48.75	-13.00	Horizontal	PASS
4	2153.101	-38.05	-13.00	Horizontal	N/A
5	8946.463	-37.72	-13.00	Horizontal	PASS
6	18478.378	-27.89	-13.00	Horizontal	PASS

(WCDMA Band IV, Channel = 1513, Horizontal)



Num	Freq(MHz)	PK	limit PK	Antenna	Verdict
1	98.870	-61.94	-13.00	Vertical	PASS
2	464.560	-69.74	-13.00	Vertical	PASS
3	1331.012	-48.33	-13.00	Vertical	PASS
4	2151.821	-42.23	-13.00	Vertical	N/A
5	8905.728	-38.64	-13.00	Vertical	PASS
6	16486.452	-28.06	-13.00	Vertical	PASS

(WCDMA Band IV, Channel = 1513, Vertical)

Annex A Test Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for test performed on the EUT as specified in CISPR 16-1-2:

Test items	Uncertainty
Output Power	±2.22dB
Bandwidth	±5%
Conducted Spurious Emission	±2.77 dB
Radiated Emission	±2.95dB

This uncertainty represent an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2

Annex B Testing Laboratory Information

1. Identification of the Responsible Testing Laboratory

Laboratory Name:	Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory
Laboratory Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525

2. Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

3. Facilities and Accreditations

All measurement facilities used to collect the measurement data are located at FL.3, Building A, FeiYang Science Park, Block 67, BaoAn District, Shenzhen, 518101 P. R. China. The test site is constructed in conformance with the requirements of ANSI C63.10-2013 and CISPR Publication 22; the FCC designation number is CN1192, the test firm registration number is 226174.

4. Test Equipments Utilized

4.1 Conducted Test Equipments

Equipment Name	Serial No.	Type	Manufacturer	Cal. Date	Cal. Due
Power Splitter	NW521	1506A	Weinschel	2018.04.17	2019.04.16
Attenuator 1	(N/A.)	10dB	Resnet	2018.04.17	2019.04.16
Attenuator 2	(N/A.)	3dB	Resnet	2018.04.17	2019.04.16
EXA Signal Analzyer	MY53470836	N9010A	Agilent	2018.11.06	2019.11.05
Wireless synthesizer	MY48364176	8960 -E5515C	Agilent	2018.04.17	2019.04.16
RF cable (30MHz-26GHz)	CB01	RF01	Morlab	N/A	N/A
Coaxial cable	CB02	RF02	Morlab	N/A	N/A
SMA connector	CN01	RF03	HUBER-SUHNER	N/A	N/A
Temperature Chamber	(N/A)	HUT705P	CHONGQING HANBA EXPERIMENTAL EQUIPMENT CO.,LTD	2018.04.17	2019.04.16
Computer	T430i	Think Pad	Lenovo	N/A	N/A

4.2 Radiated Test Equipments

Equipment Name	Serial No.	Type	Manufacturer	Cal. Date	Cal. Due
System Simulator	152038	CMW500	R&S	2018.08.04	2019.08.03
Receiver	MY54130016	N9038A	Agilent	2018.05.18	2019.05.17
Test Antenna - Bi-Log	9163-519	VULB 9163	Schwarzbeck	2018.05.18	2019.05.17
Test Antenna - Horn	9170C-531	BBHA9170	Schwarzbeck	2018.08.06	2019.08.05
Test Antenna - Horn	01774	BBHA 9120D	Schwarzbeck	2018.08.02	2019.08.01
Coaxial cable (N male) (9KHz-30MHz)	CB04	EMC04	Morlab	N/A	N/A
Coaxial cable (N male) (30MHz-26GHz)	CB02	EMC02	Morlab	N/A	N/A
Coaxial cable (N male) (30MHz-26GHz)	CB03	EMC03	Morlab	N/A	N/A
1-18GHz pre-Amplifier	MA02	TS-PR18	Rohde& Schwarz	2018.05.08	2019.05.07
18-26.5GHz pre-Amplifier	MA03	TS-PR18	Rohde& Schwarz	2018.05.08	2019.05.07
Notch Filter	N/A	WRCG-GSM 850	Wainwright	2018.12.01	2019.11.30
Notch Filter	N/A	WRCG-GSM 1900	Wainwright	2018.12.01	2019.11.30
Notch Filter	N/A	WRCGV-W Band V	Wainwright	2018.12.01	2019.11.30
Notch Filter	N/A	WRCGV-W Band II	Wainwright	2018.12.01	2019.11.30
Notch Filter	N/A	WRCGV-W Band IV	Wainwright	2018.12.01	2019.11.30
Anechoic Chamber	N/A	9m*6m*6m	CRT	2017.11.19	2020.11.18

END OF REPORT