Figure 10-2: Out of Band emission at antenna terminals – GPRS CH Mid

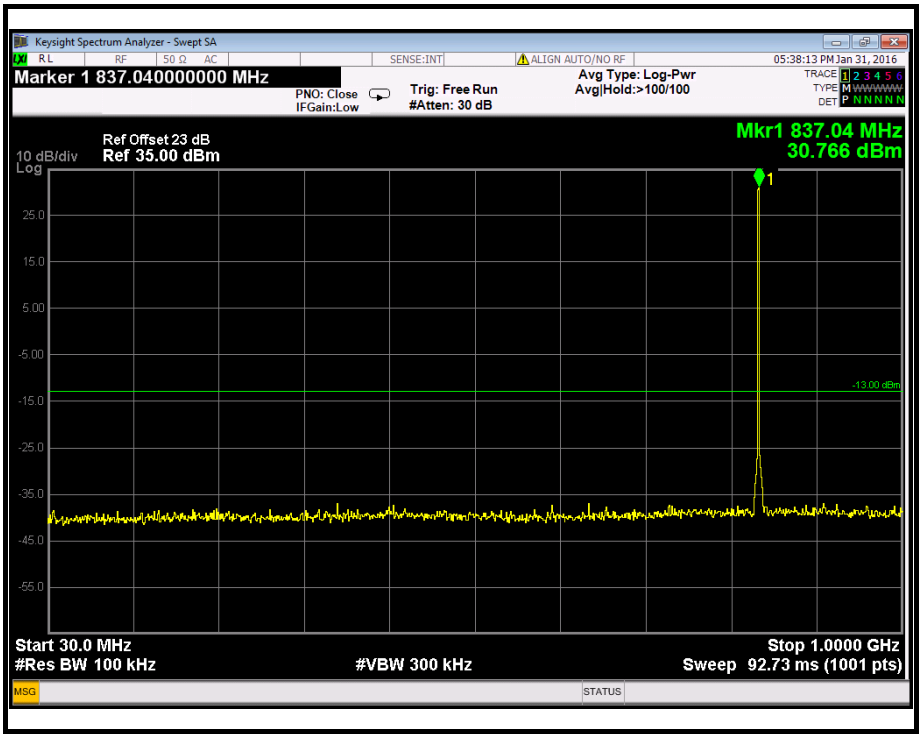


Figure 10-3: Out of Band emission at antenna terminals – GPRS CH Mid

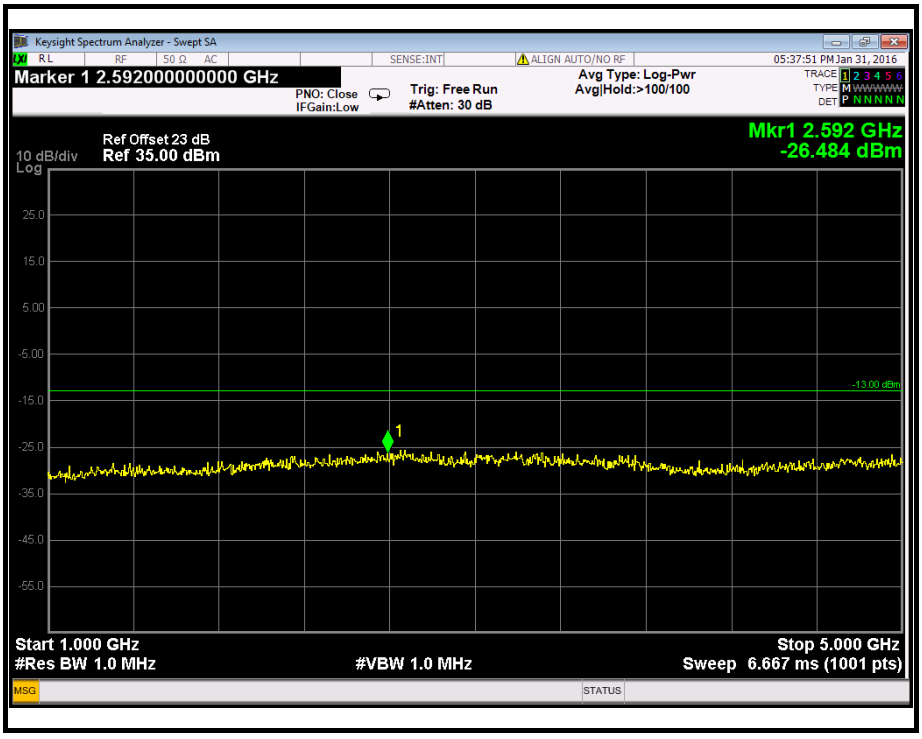


Figure 10-4: Out of Band emission at antenna terminals – GPRS CH Mid

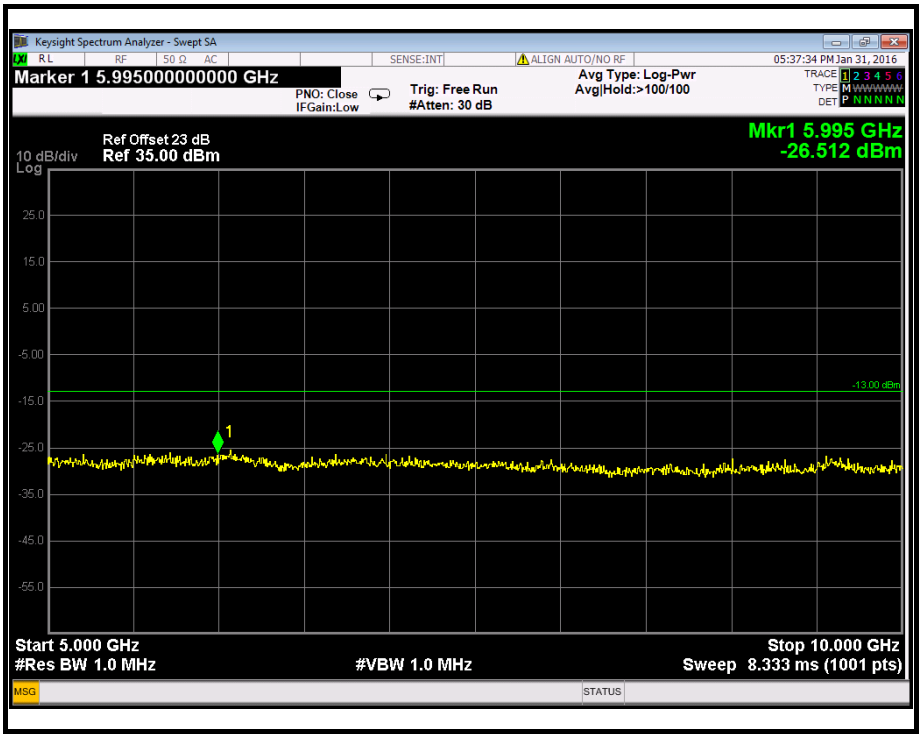


Figure 10-5: Out of Band emission at antenna terminals – GPRS CH High

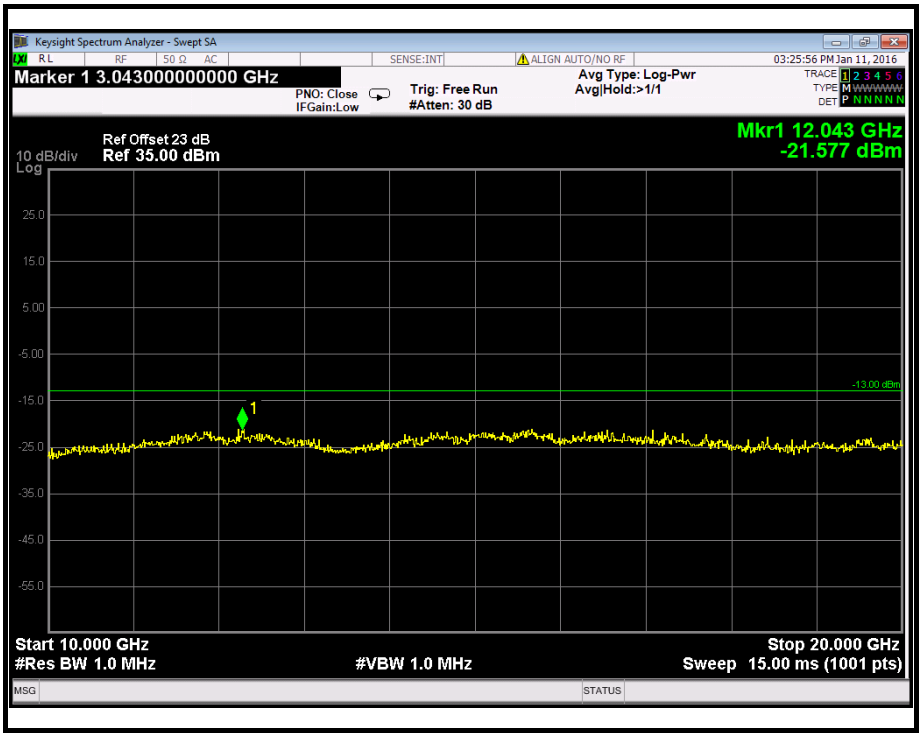


Figure 11-1: Out of Band emission at antenna terminals – GPRS CH High

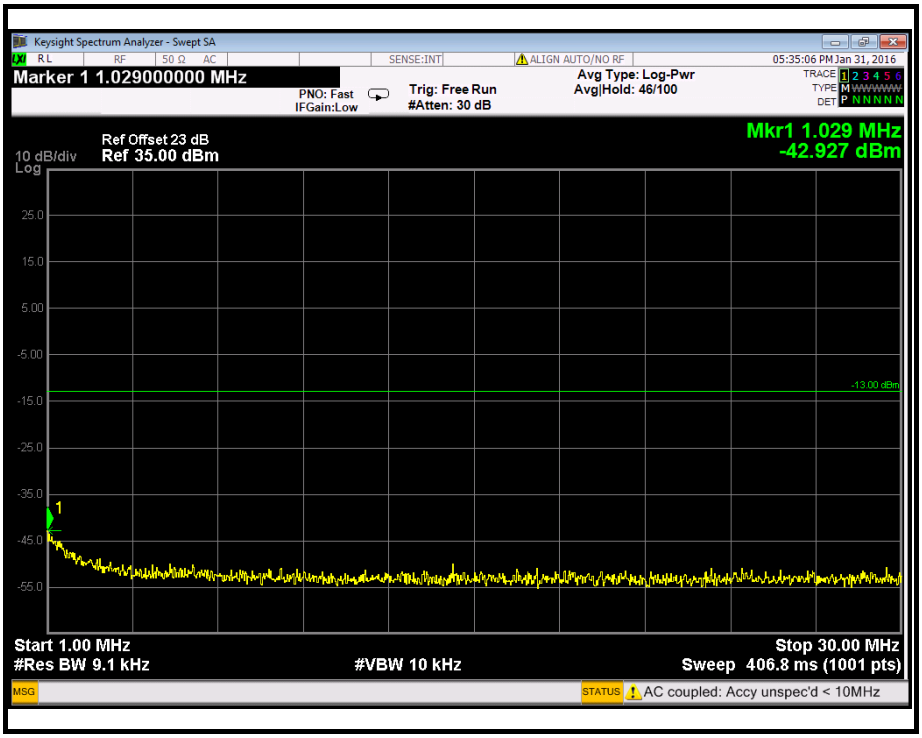


Figure 11-2: Out of Band emission at antenna terminals – GPRS CH High

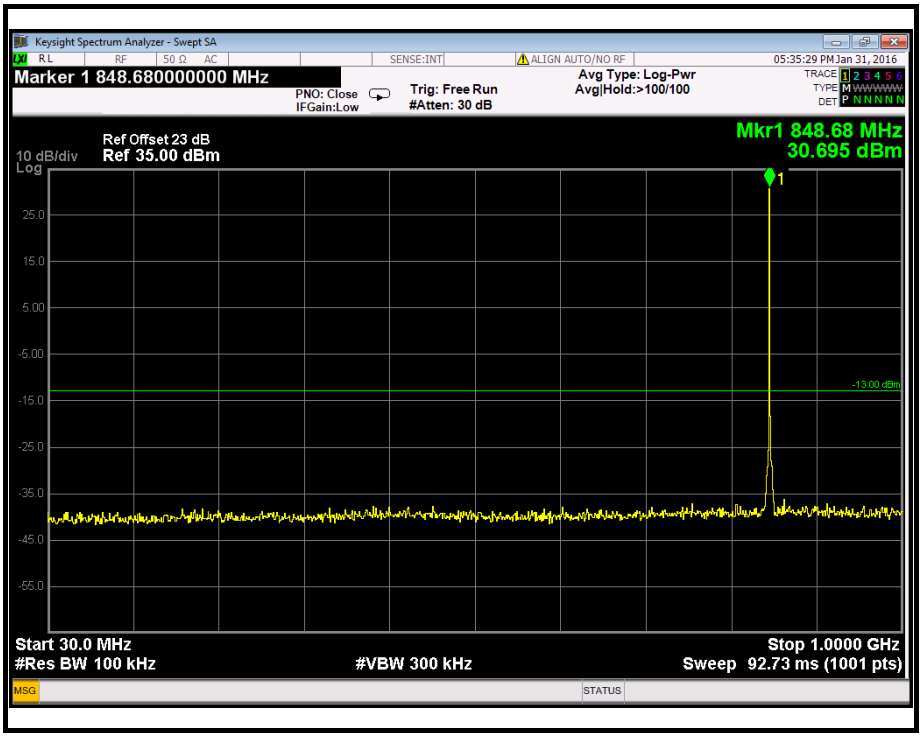


Figure 11-3: Out of Band emission at antenna terminals – GPRS CH High

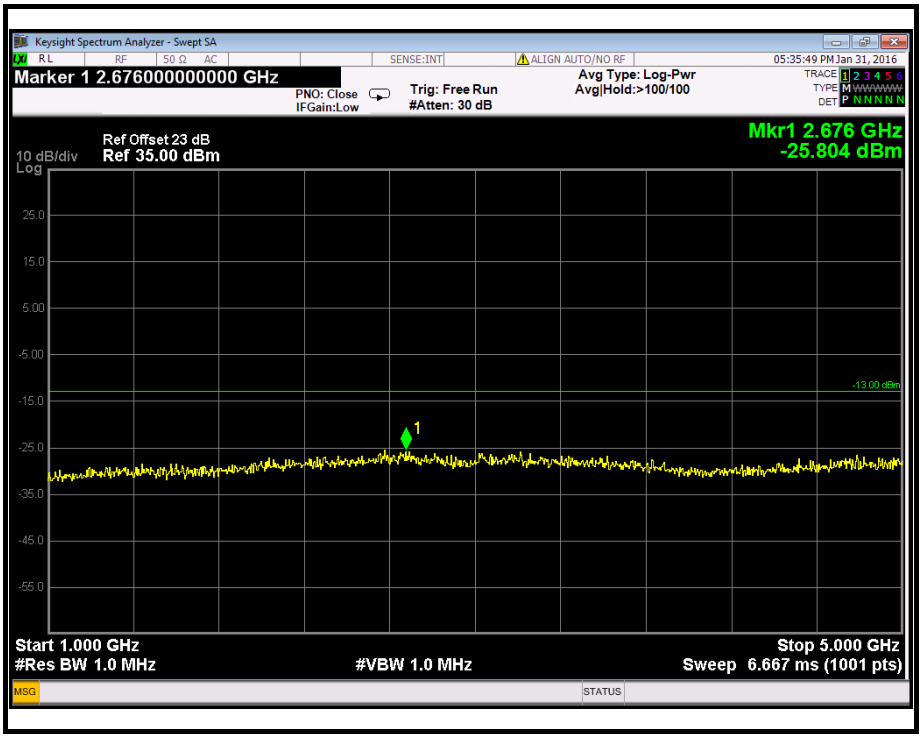


Figure 11-4: Out of Band emission at antenna terminals – GPRS CH High

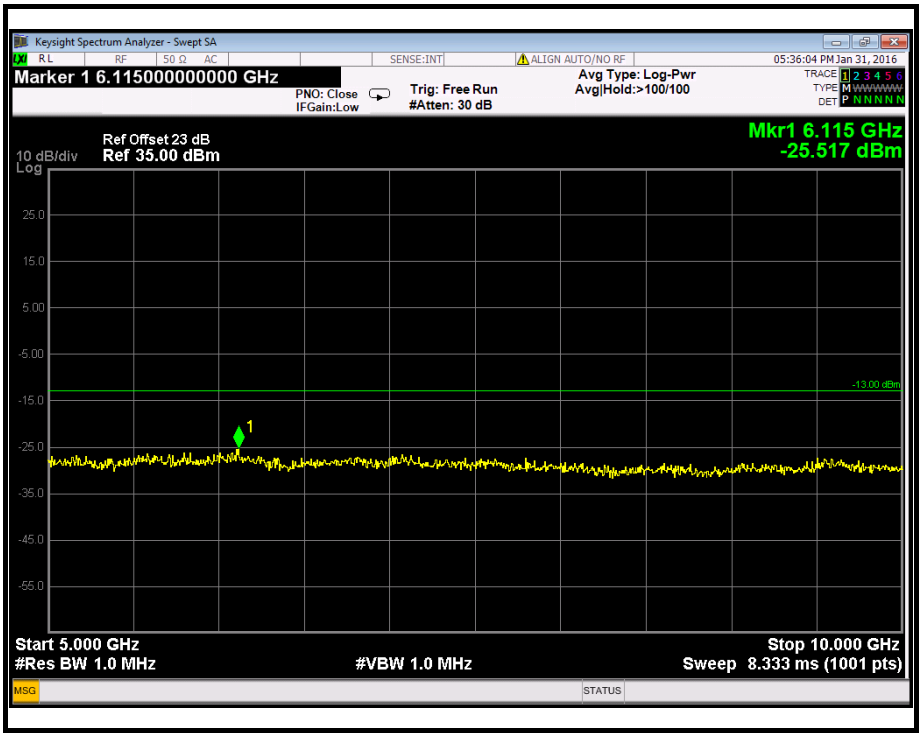
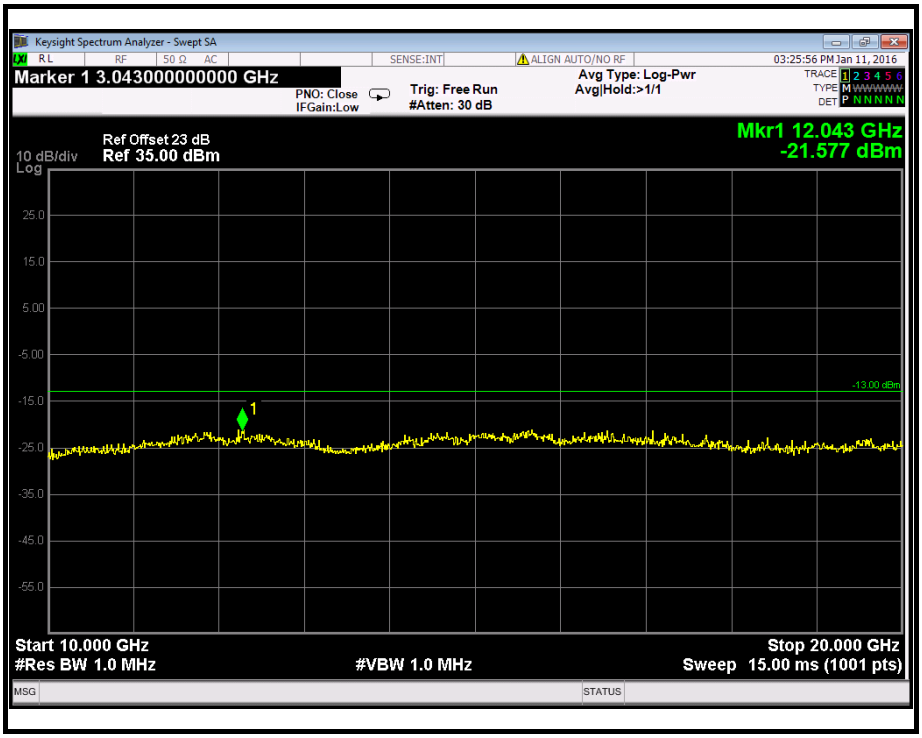


Figure 11-5: Out of Band emission at antenna terminals – GPRS CH High



EDGE 1900

Figure 12-1: Out of Band emission at antenna terminals – GPRS CH Low

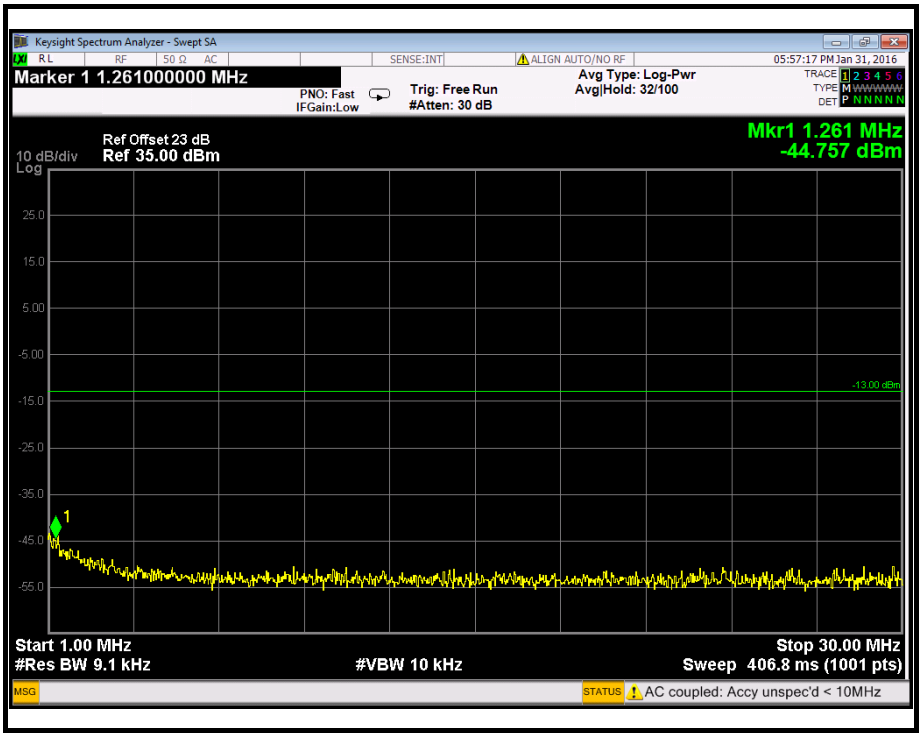


Figure 12-2: Out of Band emission at antenna terminals – GPRS CH Low

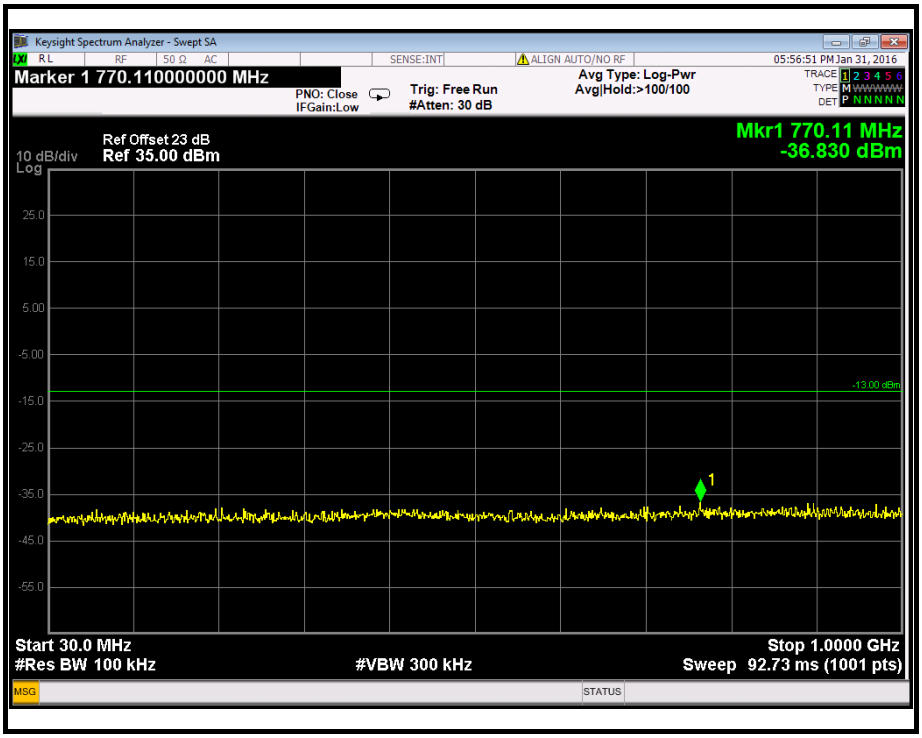


Figure 12-3: Out of Band emission at antenna terminals –GPRS CH Low

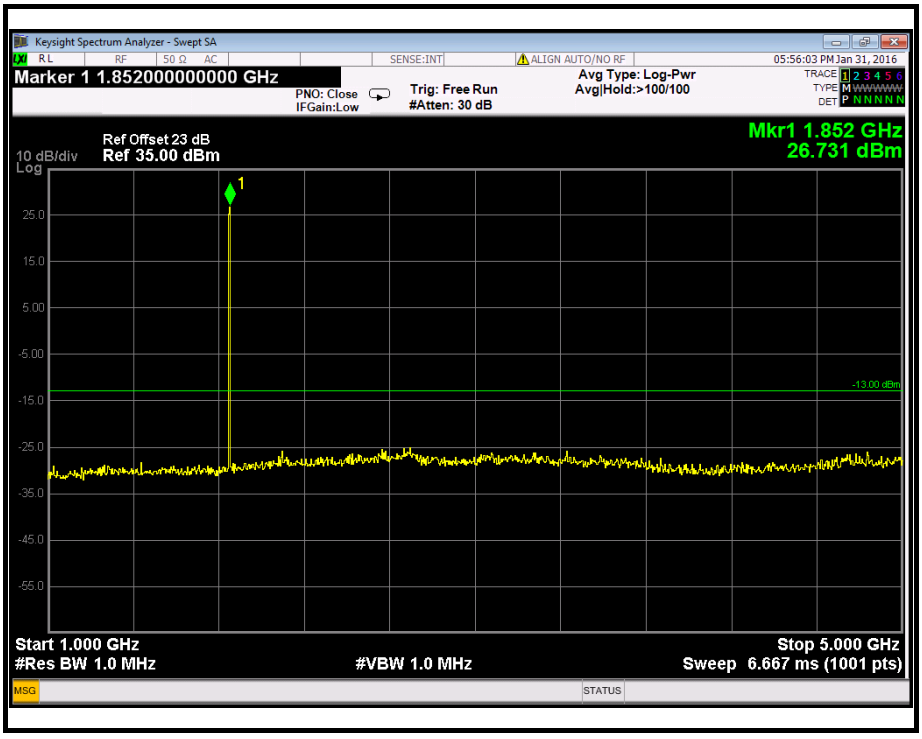


Figure 12-4: Out of Band emission at antenna terminals –GPRS CH Low

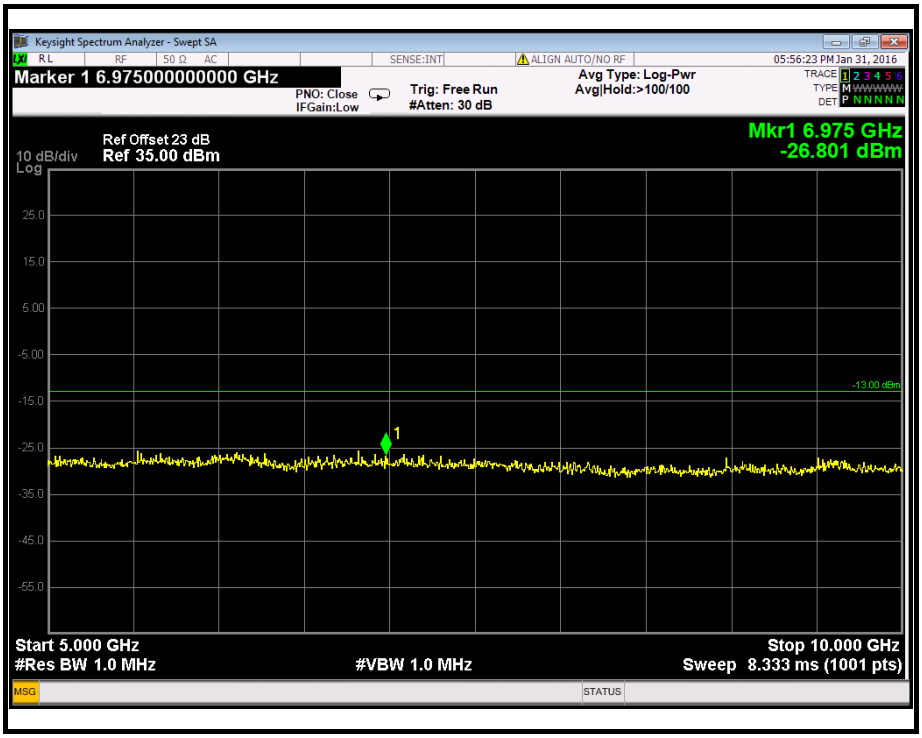


Figure 12-5: Out of Band emission at antenna terminals –GPRS CH Low

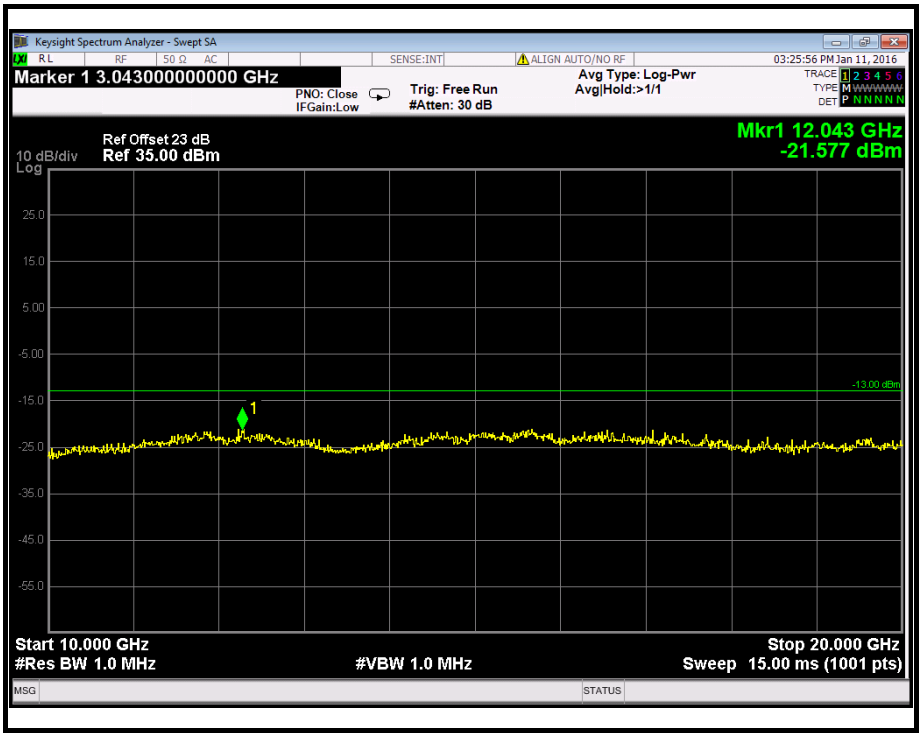


Figure 13-1: Out of Band emission at antenna terminals –GPRS CH Mid

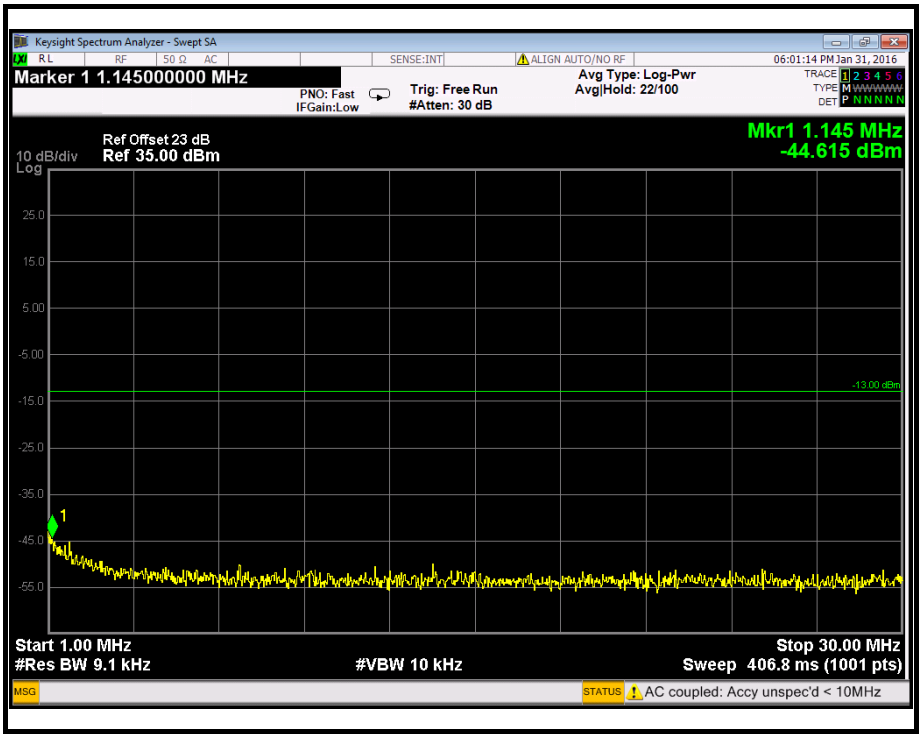


Figure 13-2: Out of Band emission at antenna terminals –GPRS CH Mid

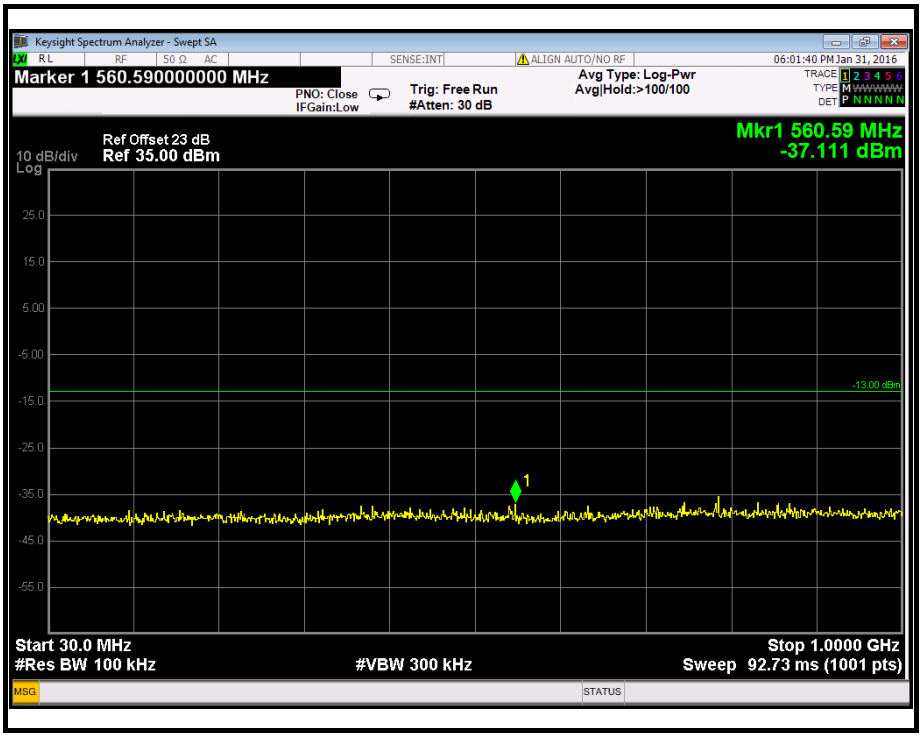


Figure 13-3: Out of Band emission at antenna terminals –GPRS CH Mid

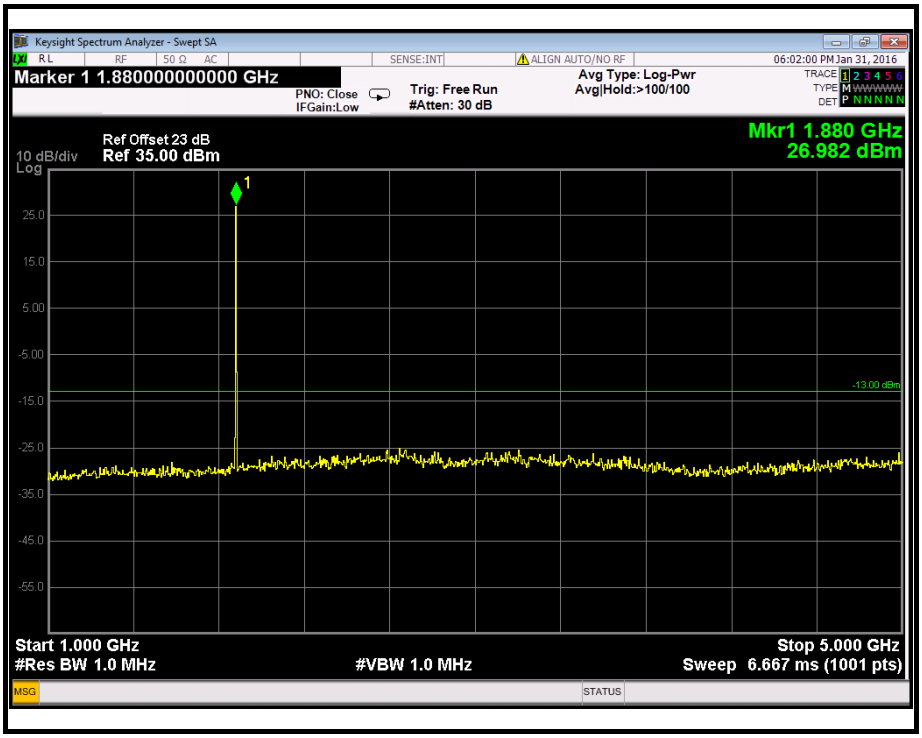


Figure 13-4: Out of Band emission at antenna terminals –GPRS CH Mid

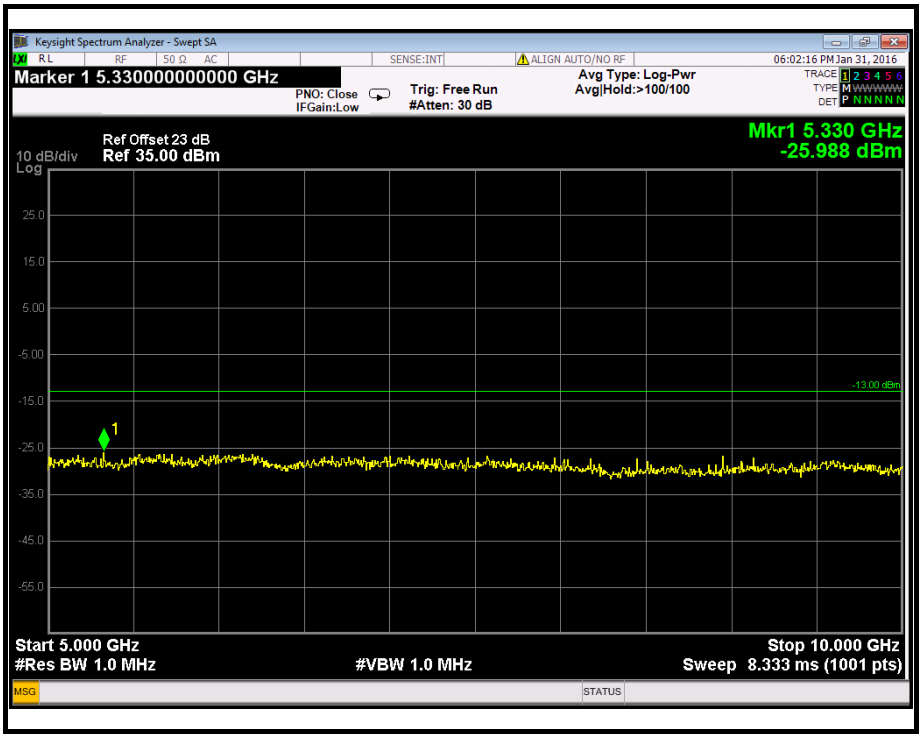


Figure 13-5: Out of Band emission at antenna terminals –GPRS CH Mid

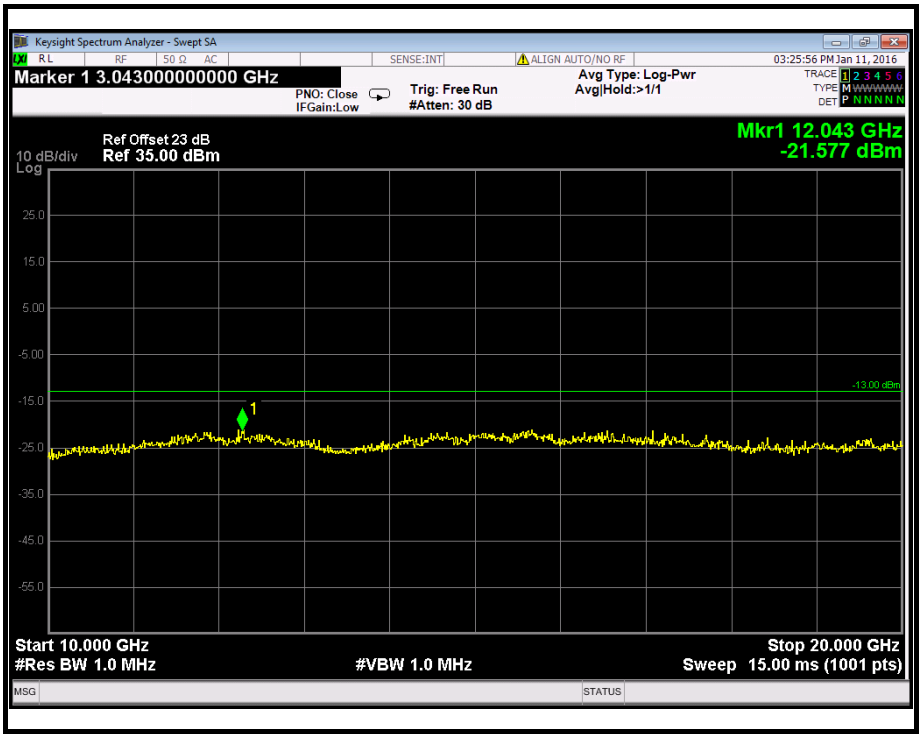


Figure 14-1: Out of Band emission at antenna terminals –GPRS CH High

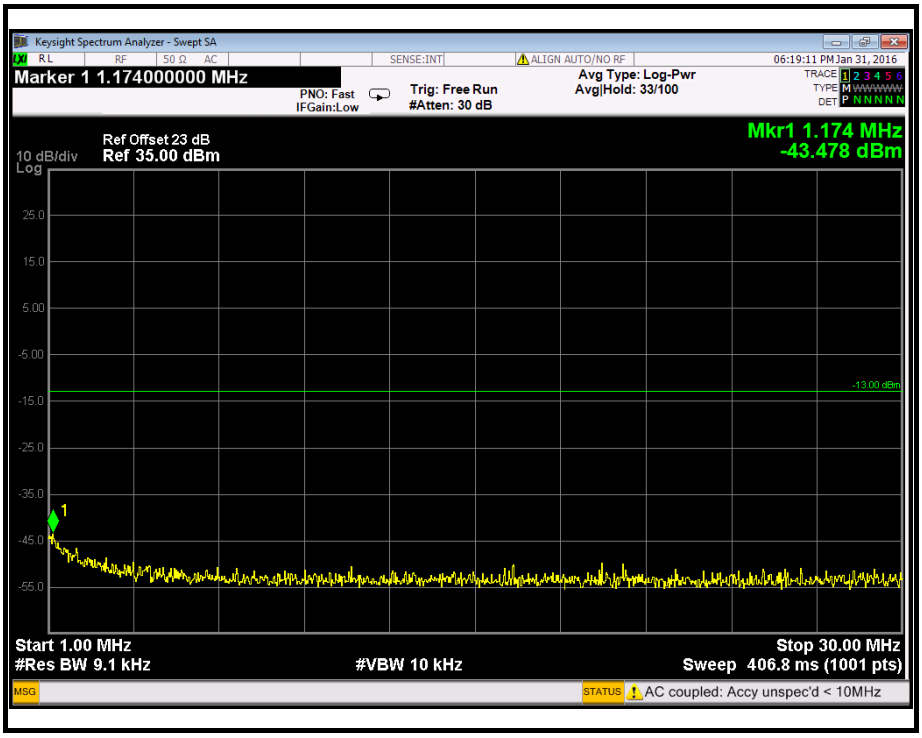


Figure 14-2: Out of Band emission at antenna terminals –GPRS CH High

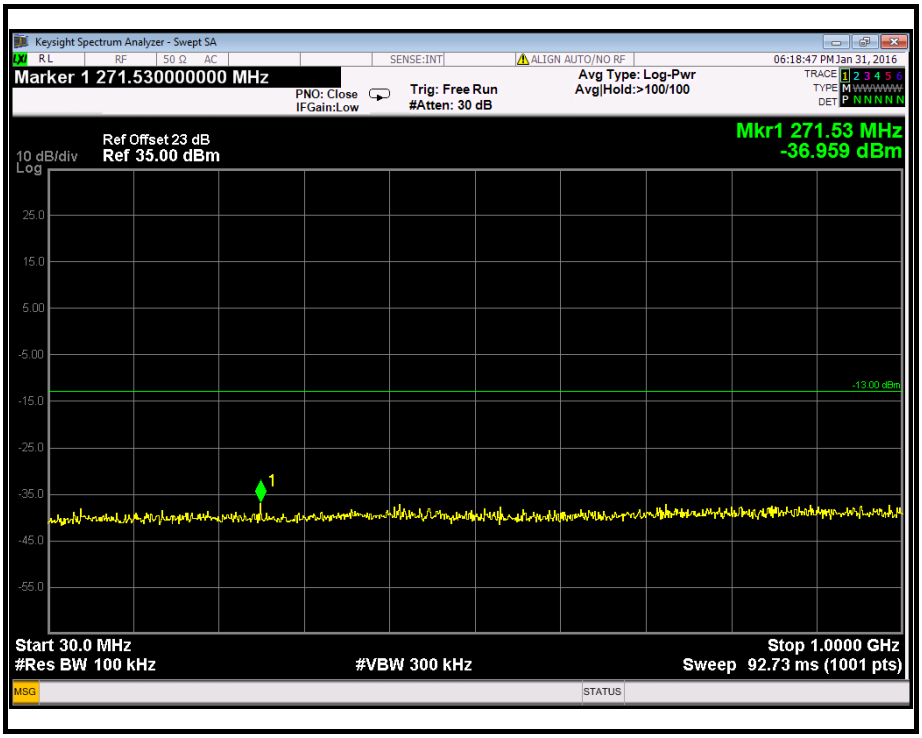


Figure 14-3: Out of Band emission at antenna terminals –GPRS CH High

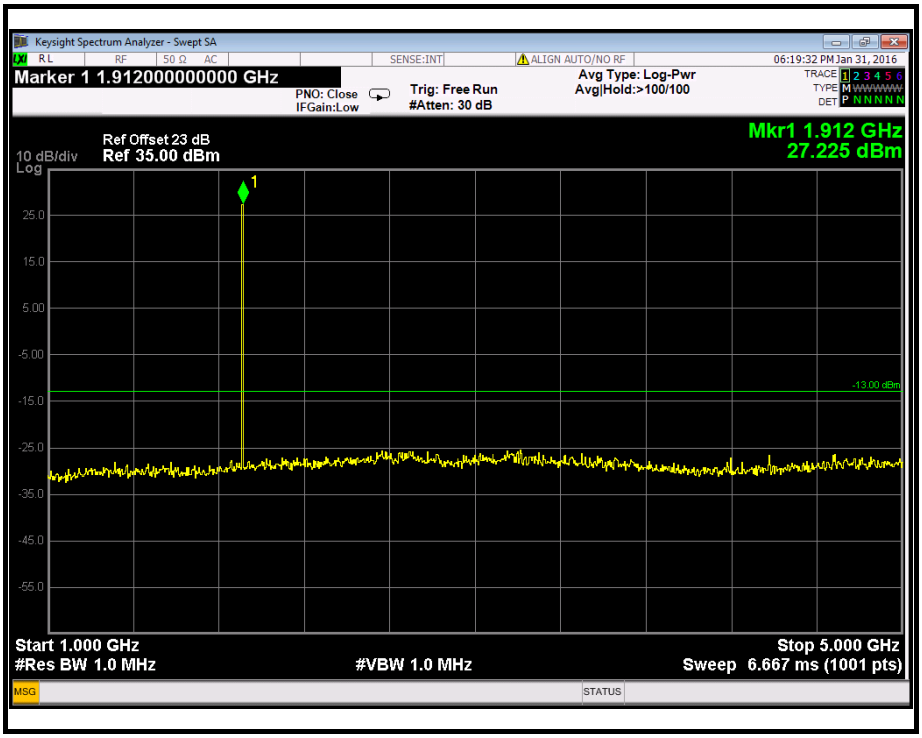


Figure 14-4: Out of Band emission at antenna terminals –GPRS CH High

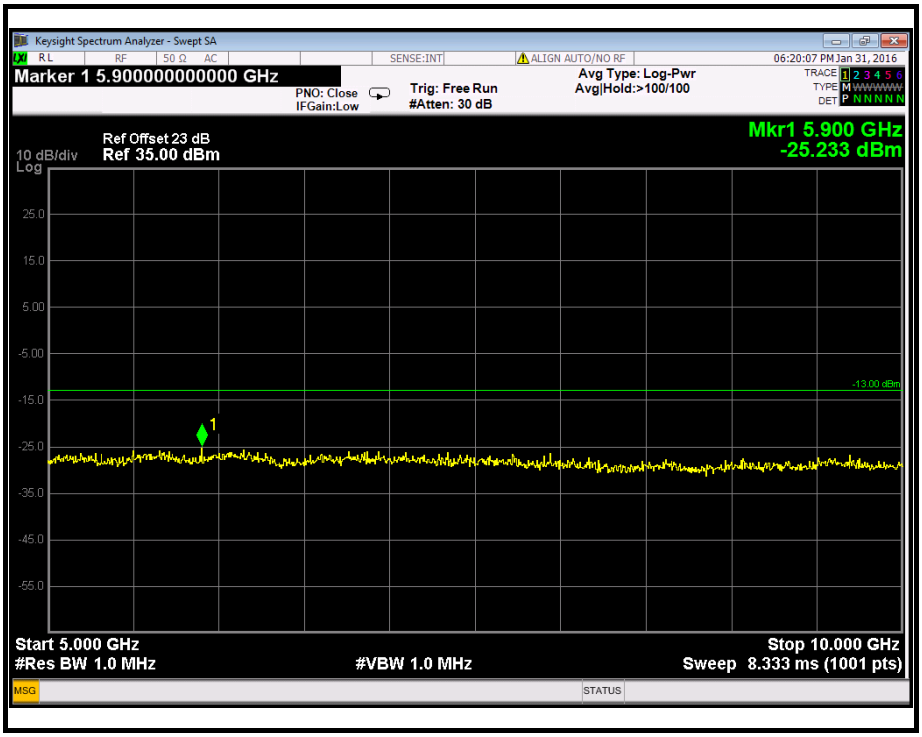
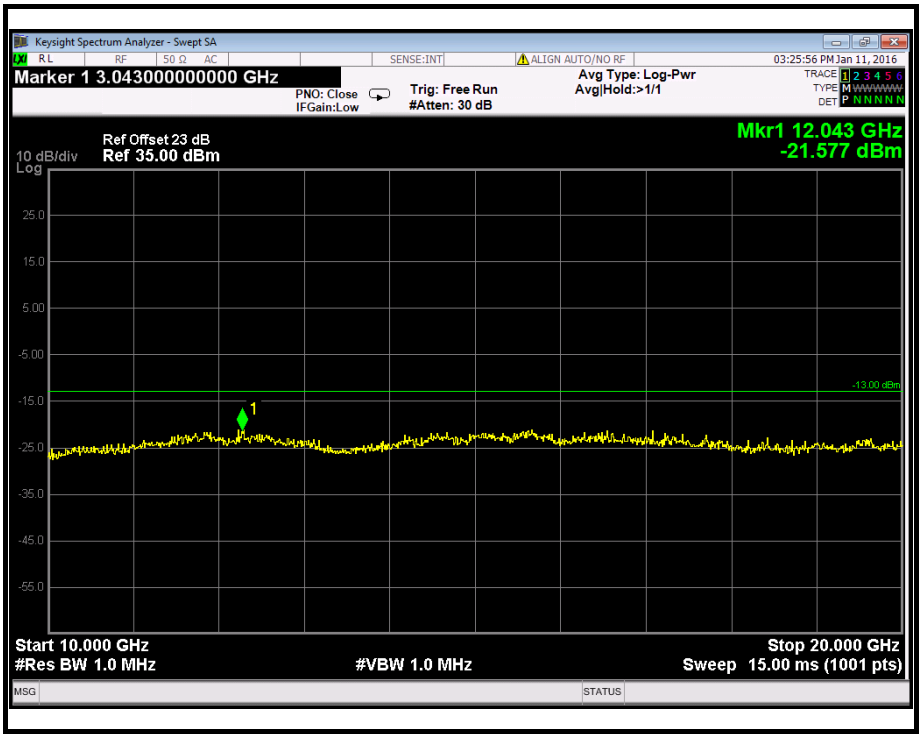


Figure 14-5: Out of Band emission at antenna terminals –GPRS CH High



EDGE 850

Figure 15-1: Band Edge emissions – GPRS CH Low

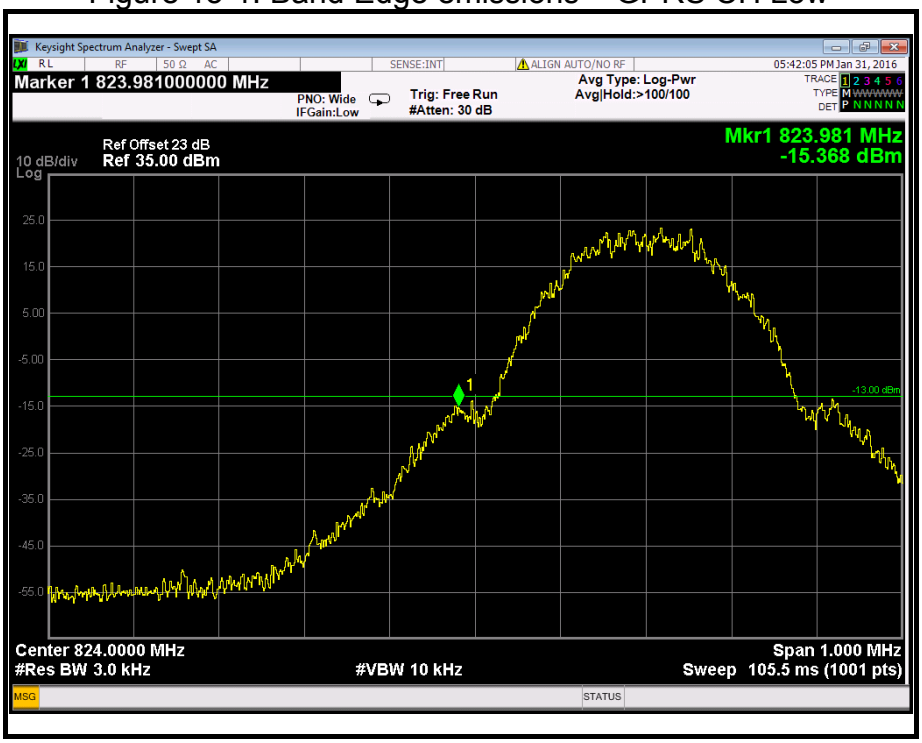
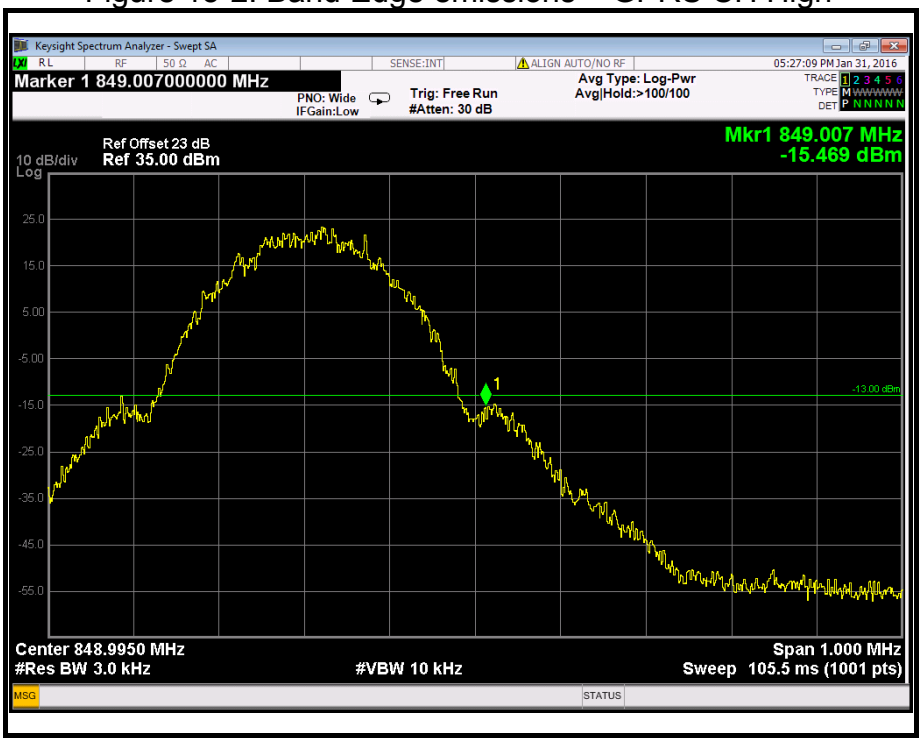


Figure 15-2: Band Edge emissions – GPRS CH High



EDGE 1900

Figure 16-1: Band Edge emissions – GPRS CH Low

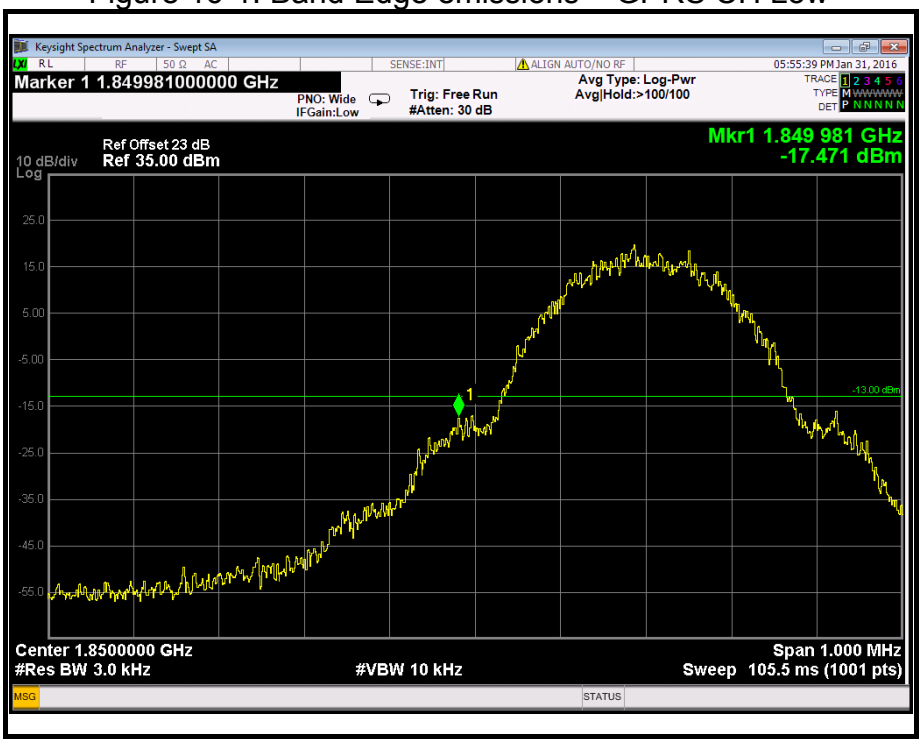
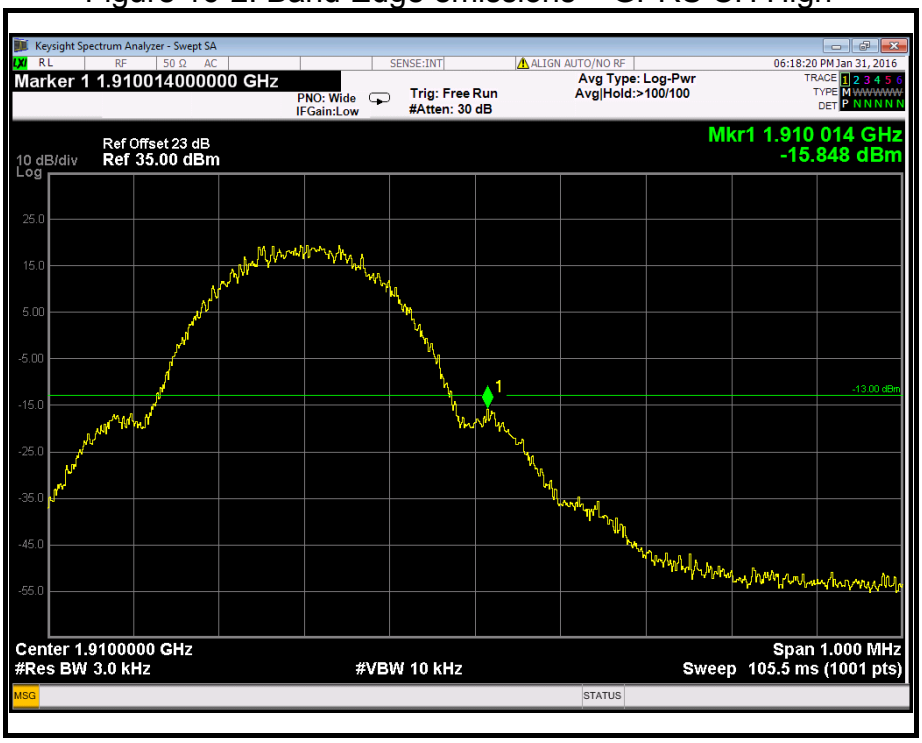


Figure 16-2: Band Edge emissions – GPRS CH High



WCDMA (Band II)

Figure 17-1: Out of Band emission at antenna terminals – WCDMA CH Low

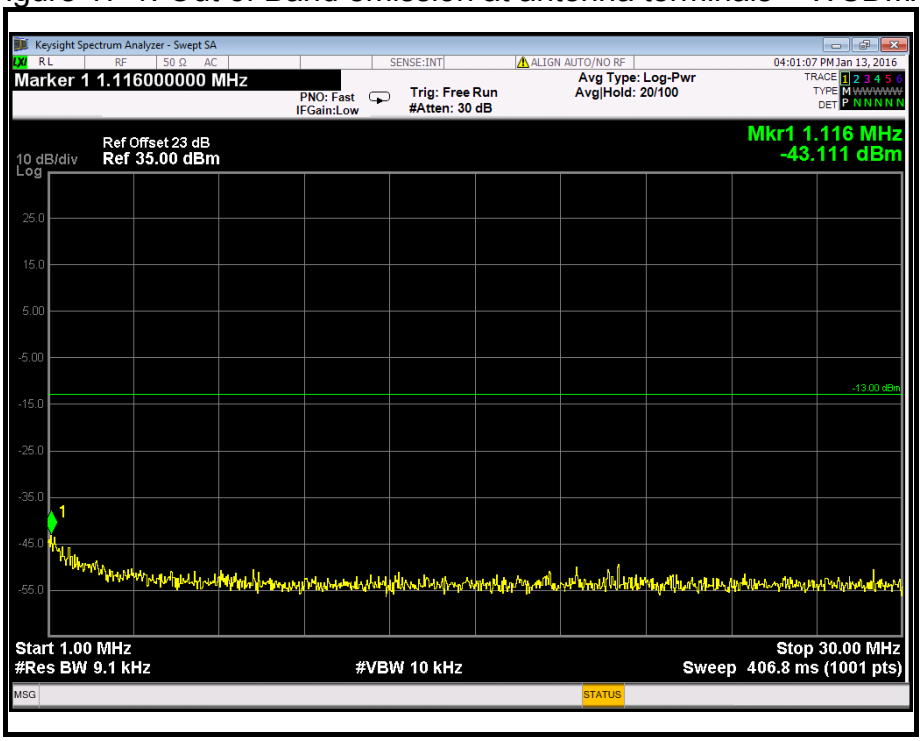


Figure 17-2: Out of Band emission at antenna terminals – WCDMA CH Low

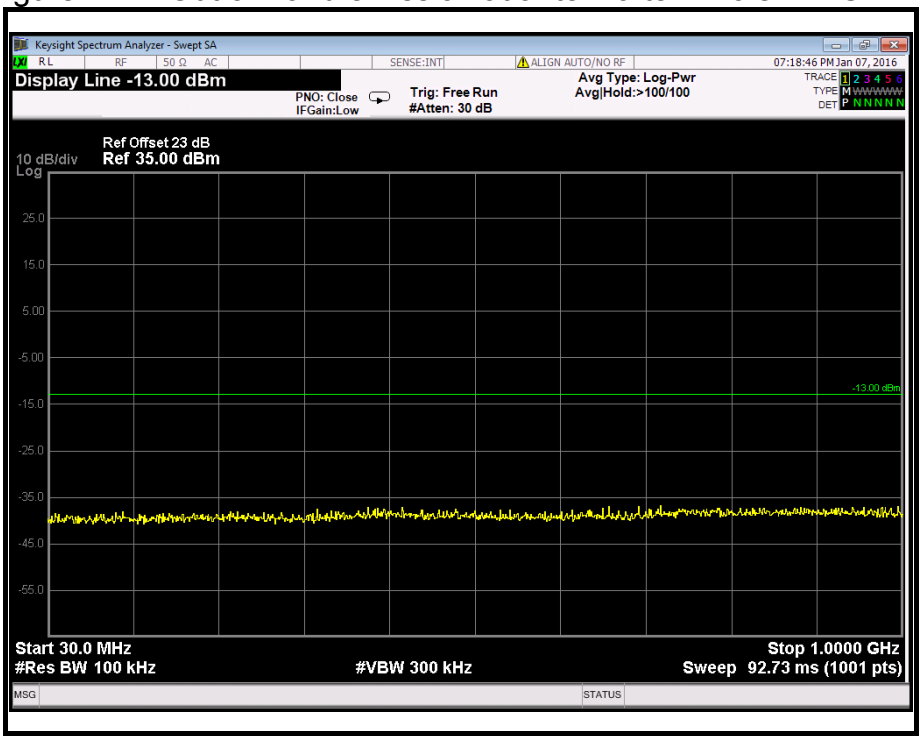


Figure 17-3: Out of Band emission at antenna terminals – WCDMA CH Low

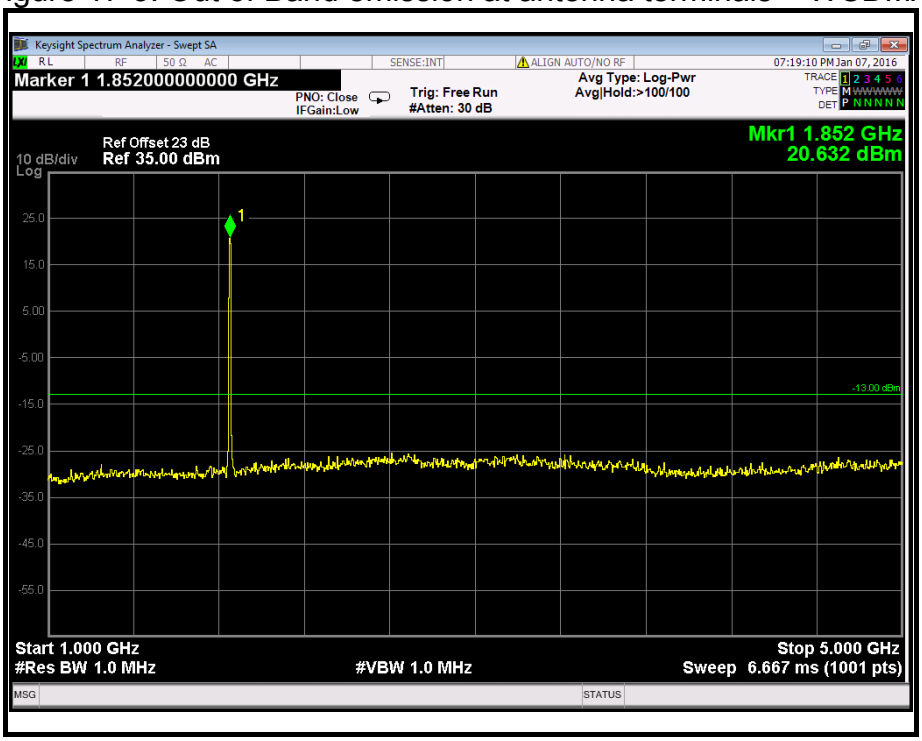


Figure 17-4: Out of Band emission at antenna terminals – WCDMA CH Low

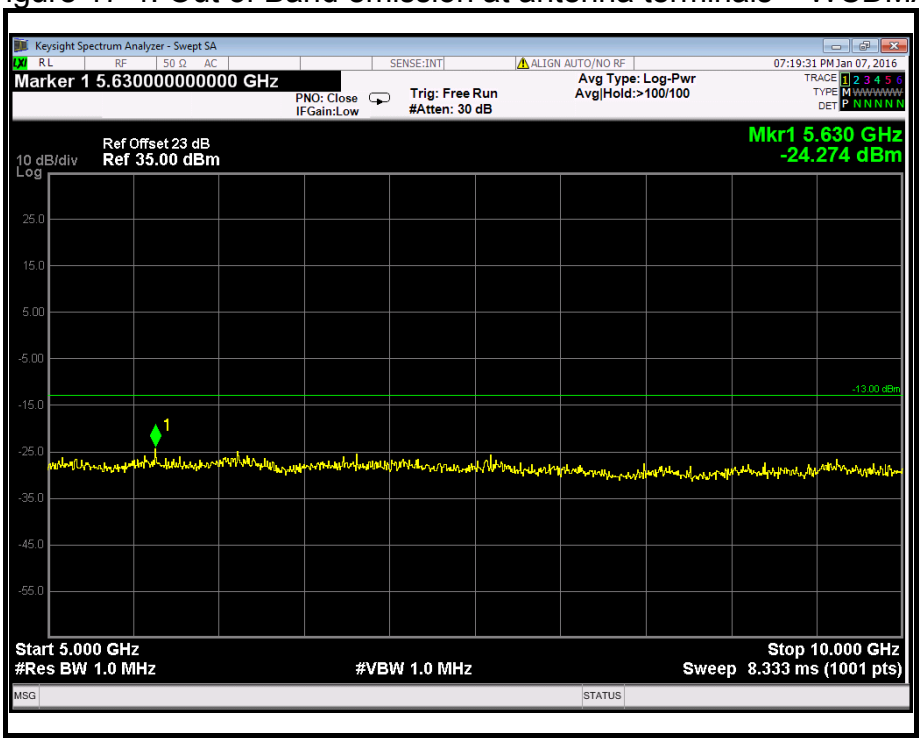


Figure 17-5: Out of Band emission at antenna terminals – WCDMA CH Low

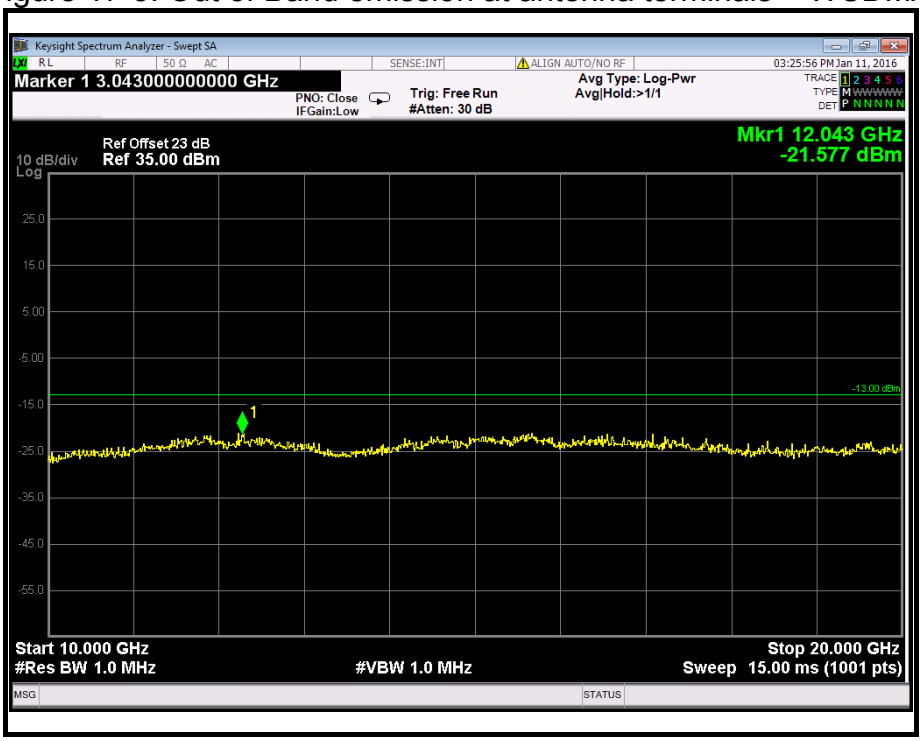


Figure 18-1: Out of Band emission at antenna terminals – WCDMA CH Mid

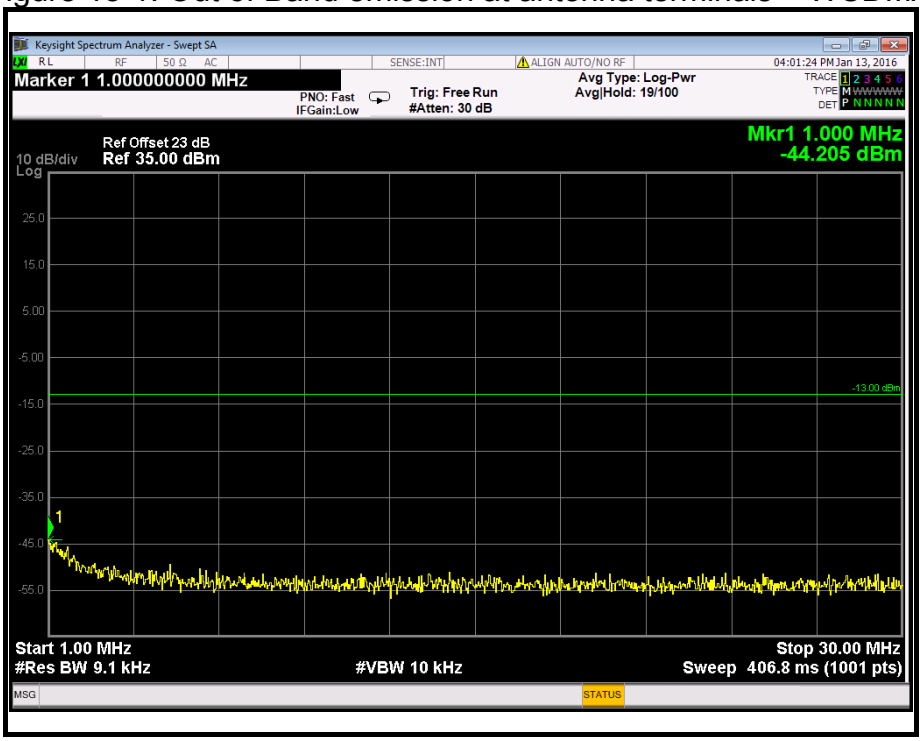


Figure 18-2: Out of Band emission at antenna terminals – WCDMA CH Mid

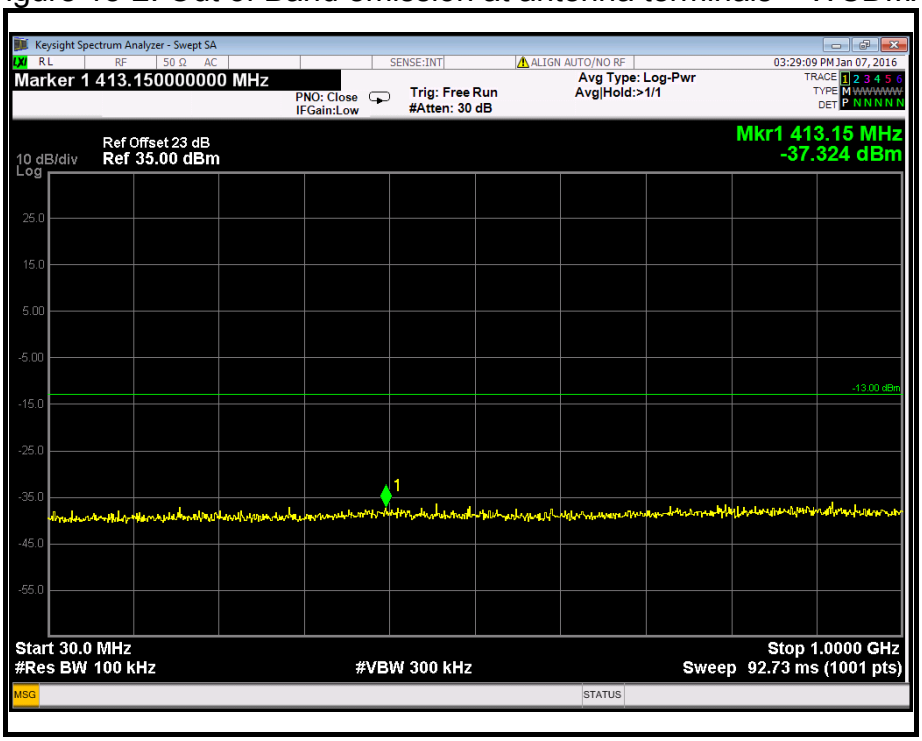


Figure 18-3: Out of Band emission at antenna terminals – WCDMA CH Mid

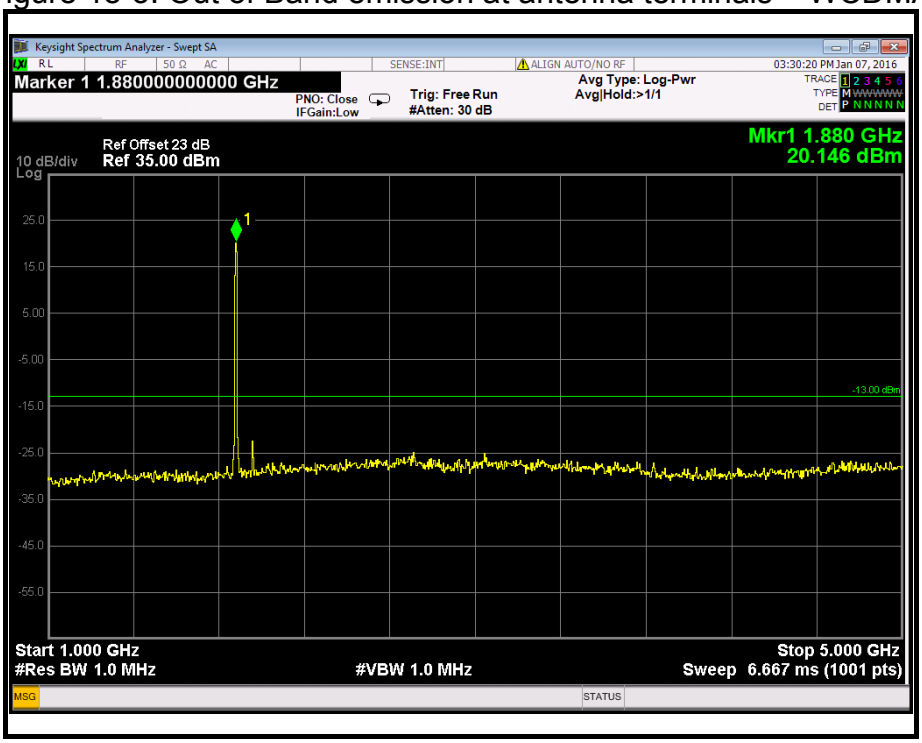


Figure 18-4: Out of Band emission at antenna terminals – WCDMA CH Mid

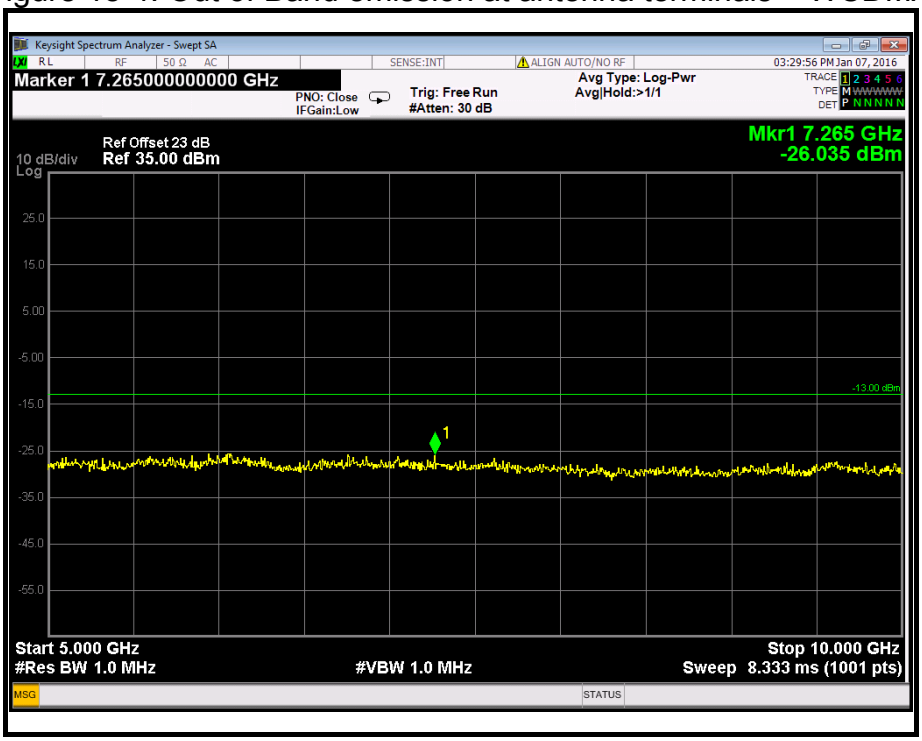


Figure 18-5: Out of Band emission at antenna terminals – WCDMA CH Mid

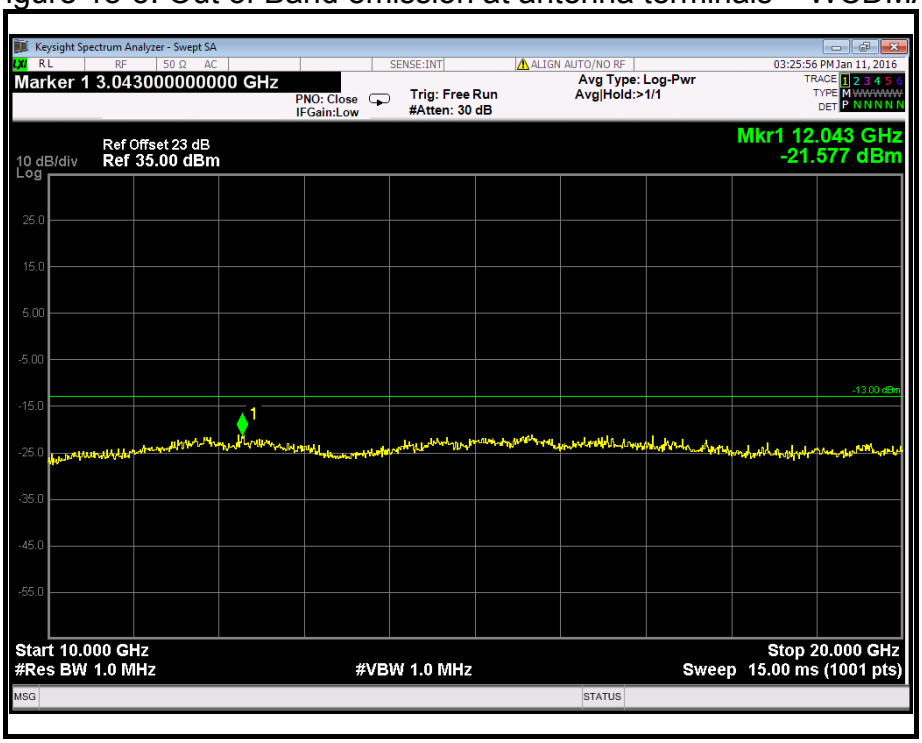


Figure 19-1: Out of Band emission at antenna terminals – WCDMA CH High

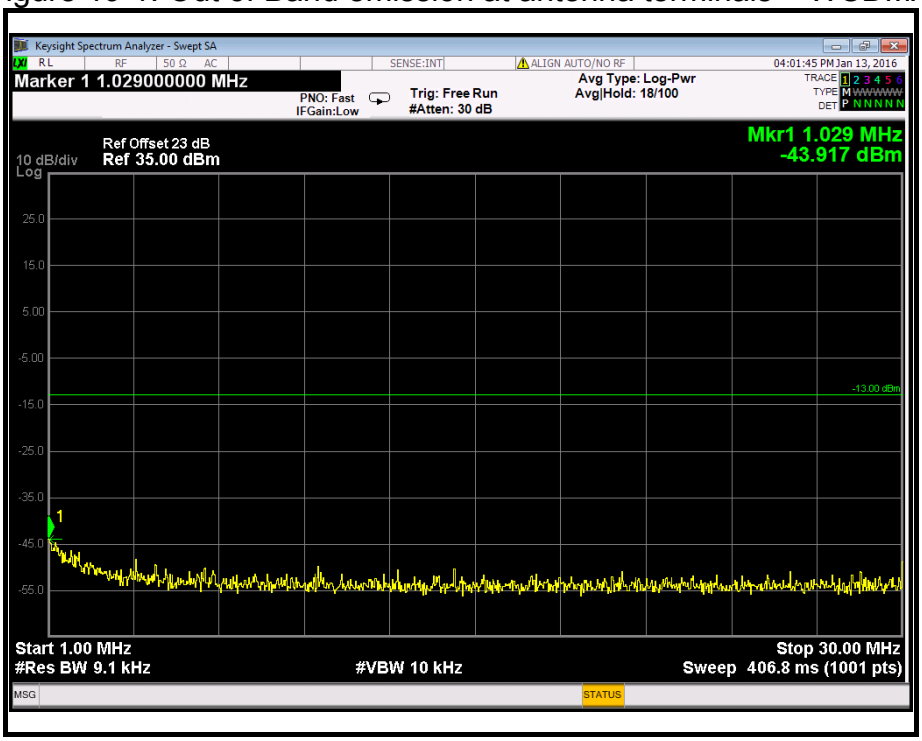


Figure 19-2: Out of Band emission at antenna terminals – WCDMA CH High

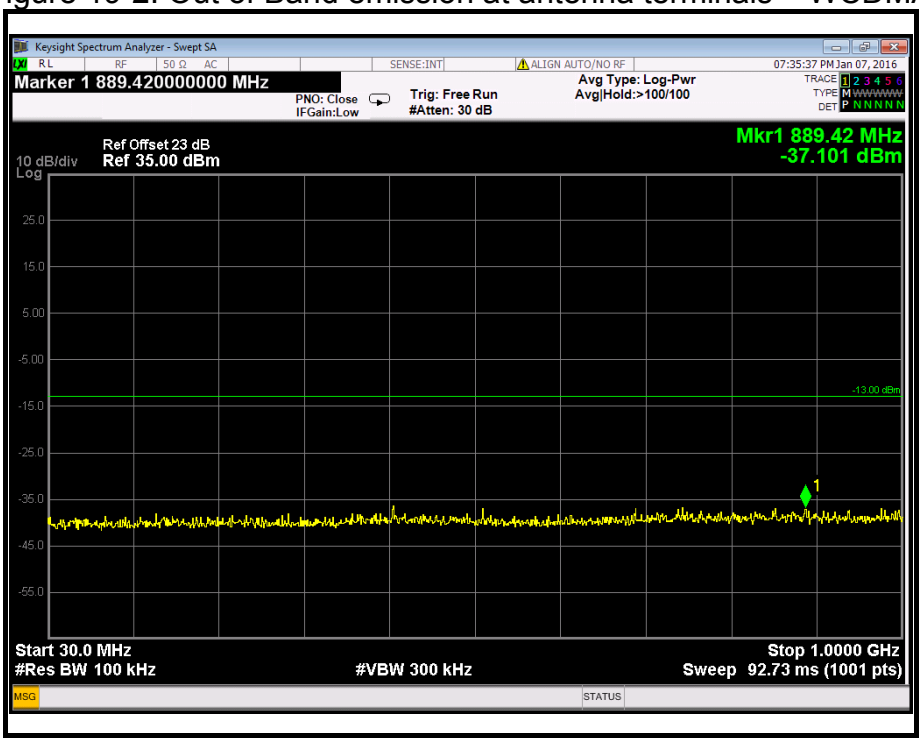


Figure 19-3: Out of Band emission at antenna terminals – WCDMA CH High

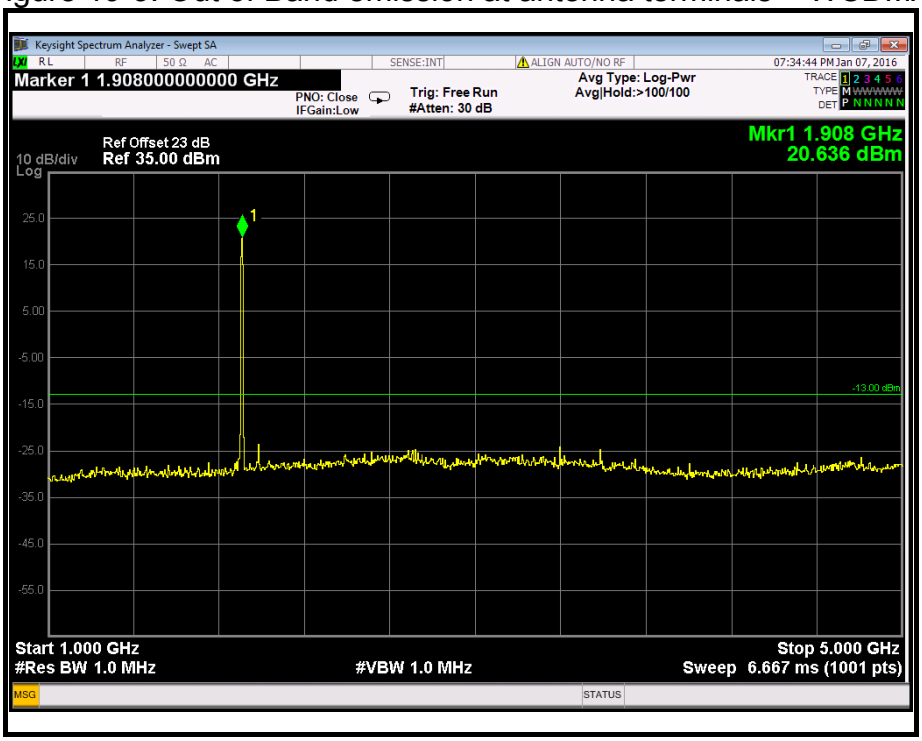


Figure 19-4: Out of Band emission at antenna terminals – WCDMA CH High

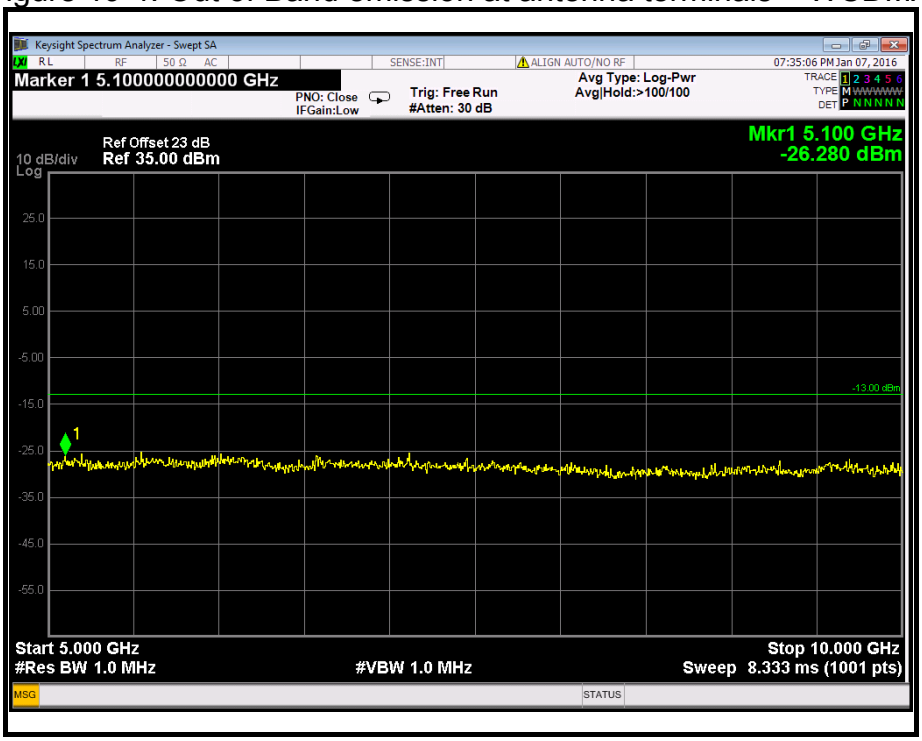
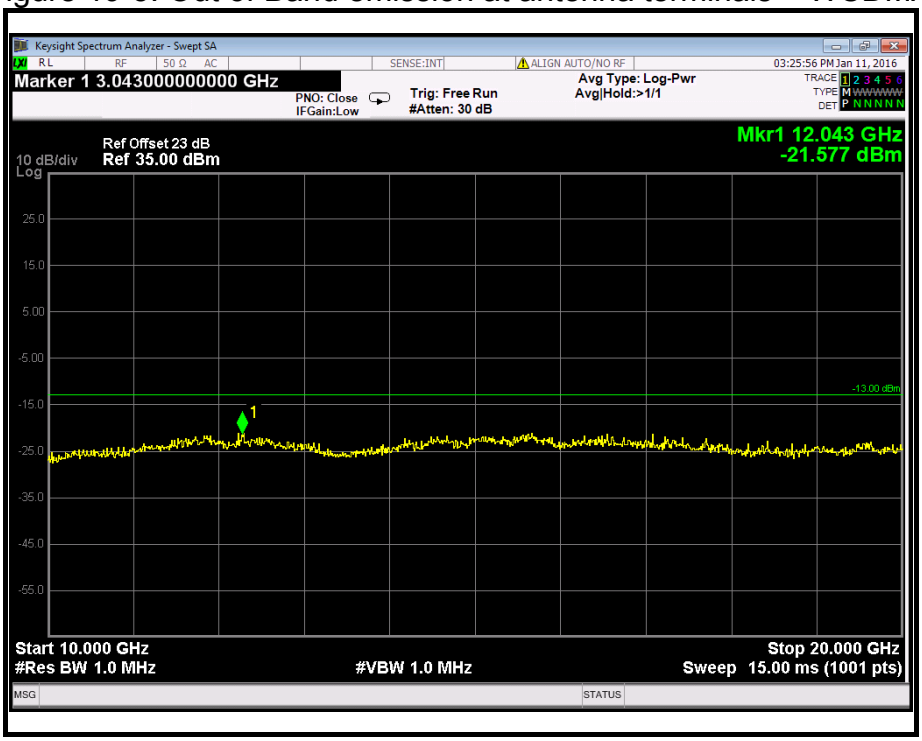


Figure 19-5: Out of Band emission at antenna terminals – WCDMA CH High



WCDMA (Band V)

Figure 20-1: Out of Band emission at antenna terminals – WCDMA CH Low

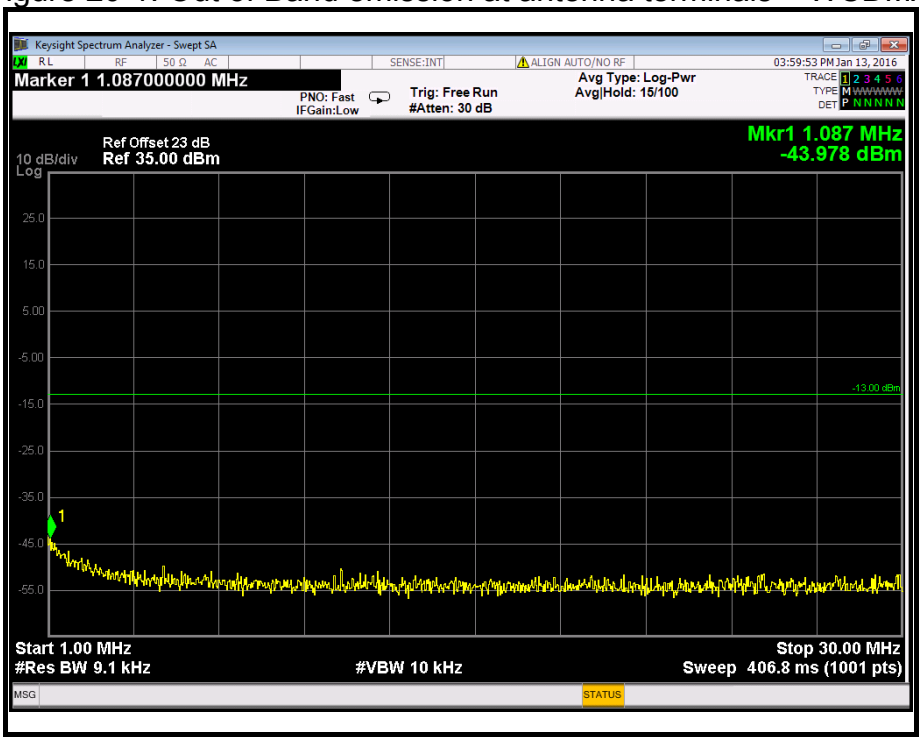


Figure 20-2: Out of Band emission at antenna terminals – WCDMA CH Low

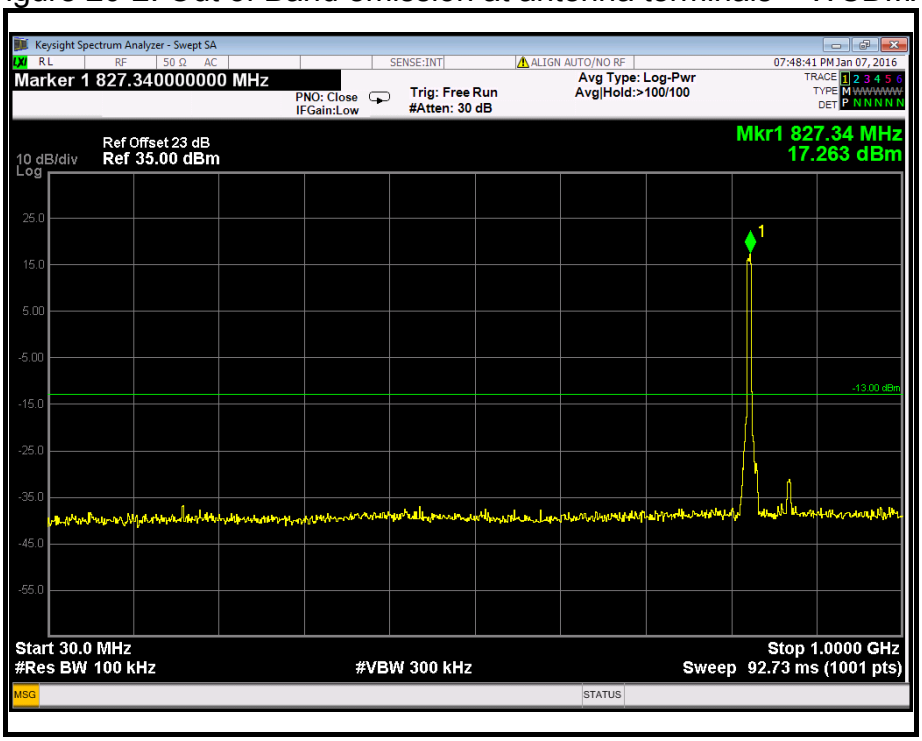


Figure 20-3: Out of Band emission at antenna terminals – WCDMA CH Low

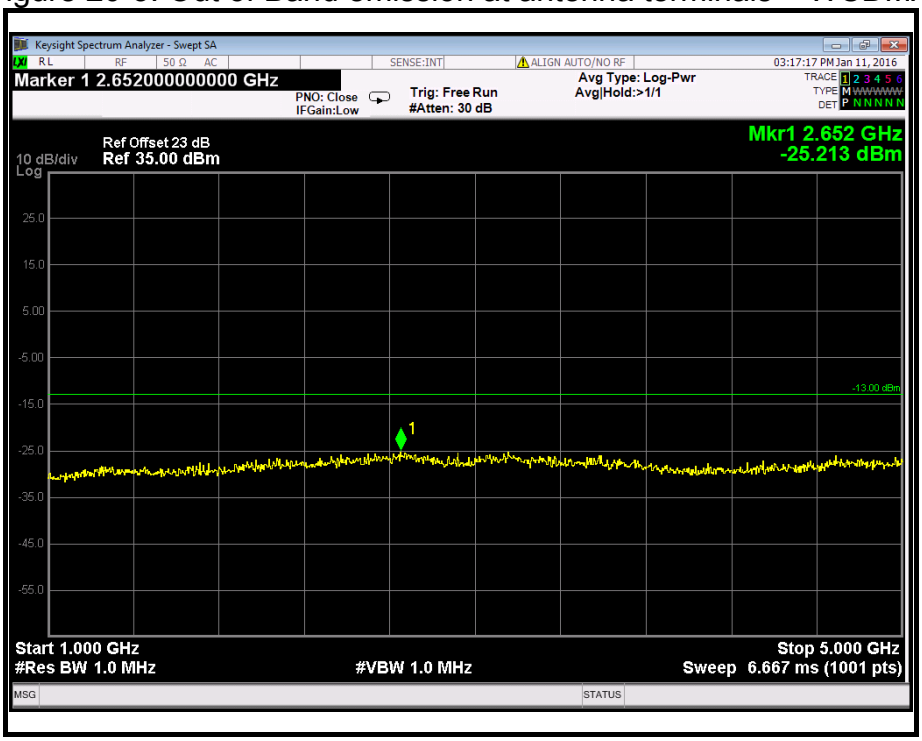


Figure 20-4: Out of Band emission at antenna terminals – WCDMA CH Low

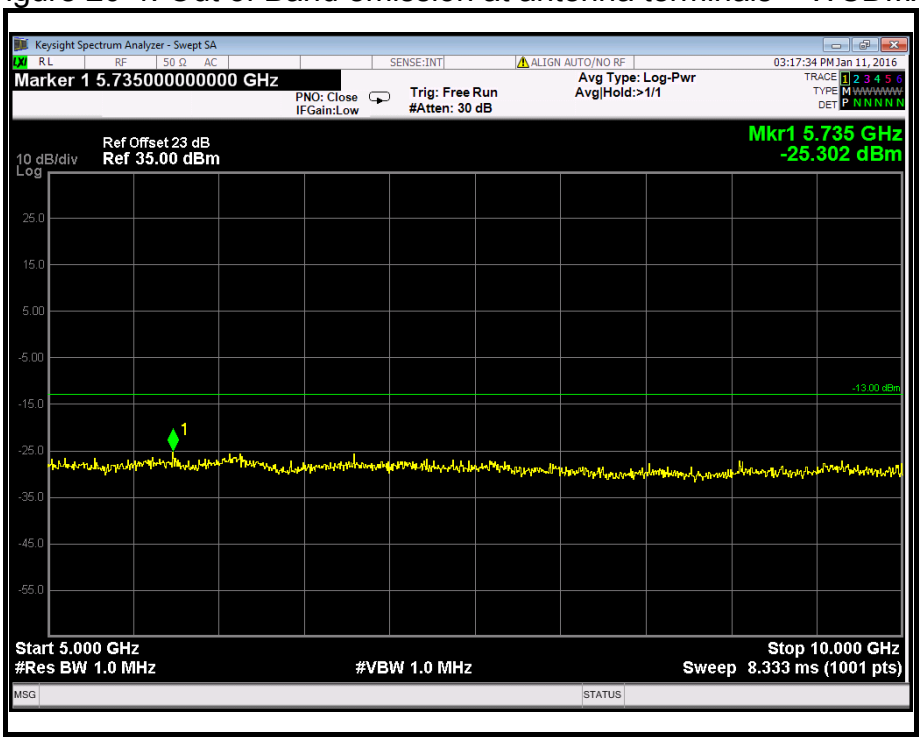


Figure 20-5: Out of Band emission at antenna terminals – WCDMA CH Low

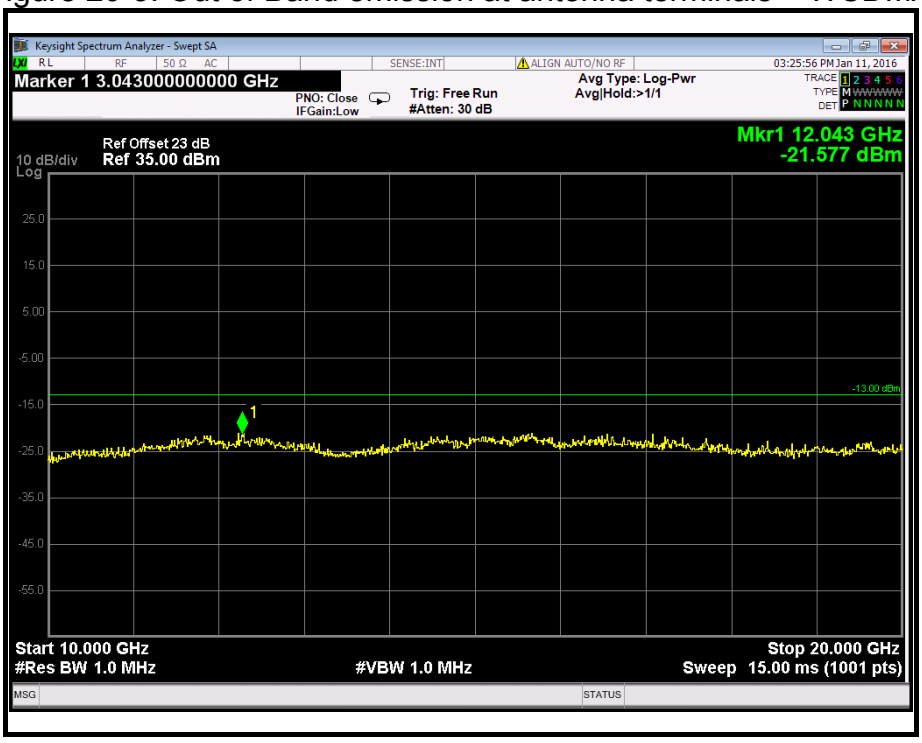


Figure 21-1: Out of Band emission at antenna terminals – WCDMA CH Mid

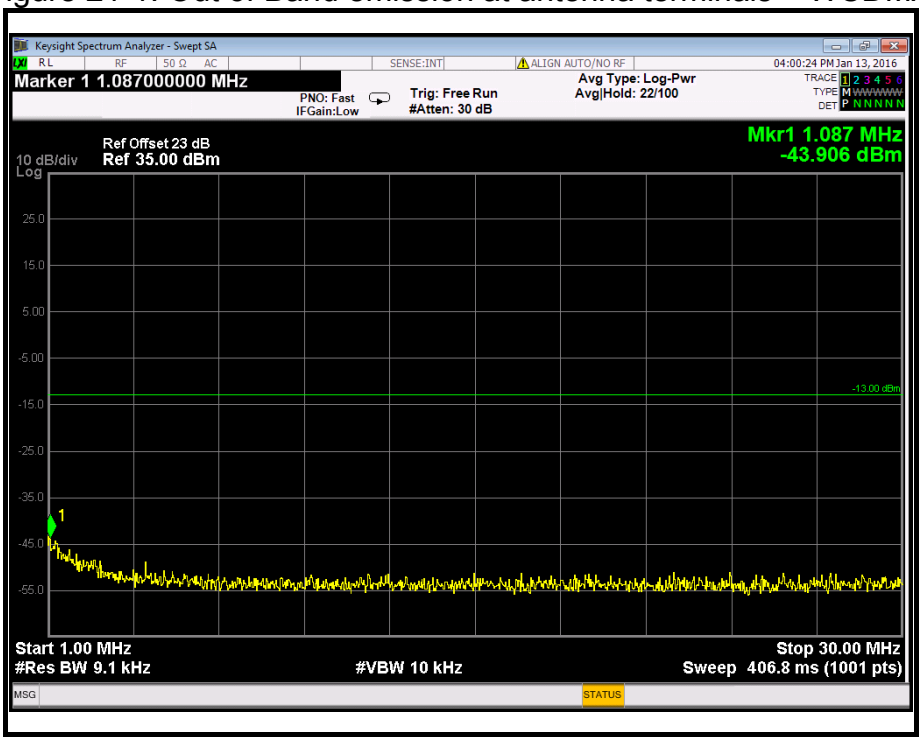


Figure 21-2: Out of Band emission at antenna terminals – WCDMA CH Mid

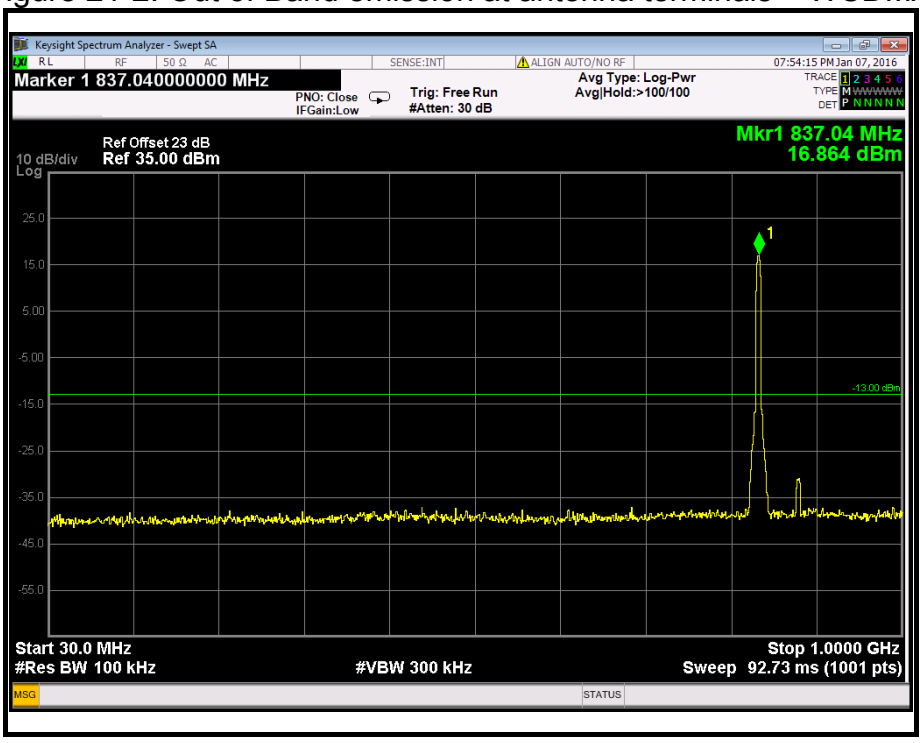


Figure 21-3: Out of Band emission at antenna terminals – WCDMA CH Mid

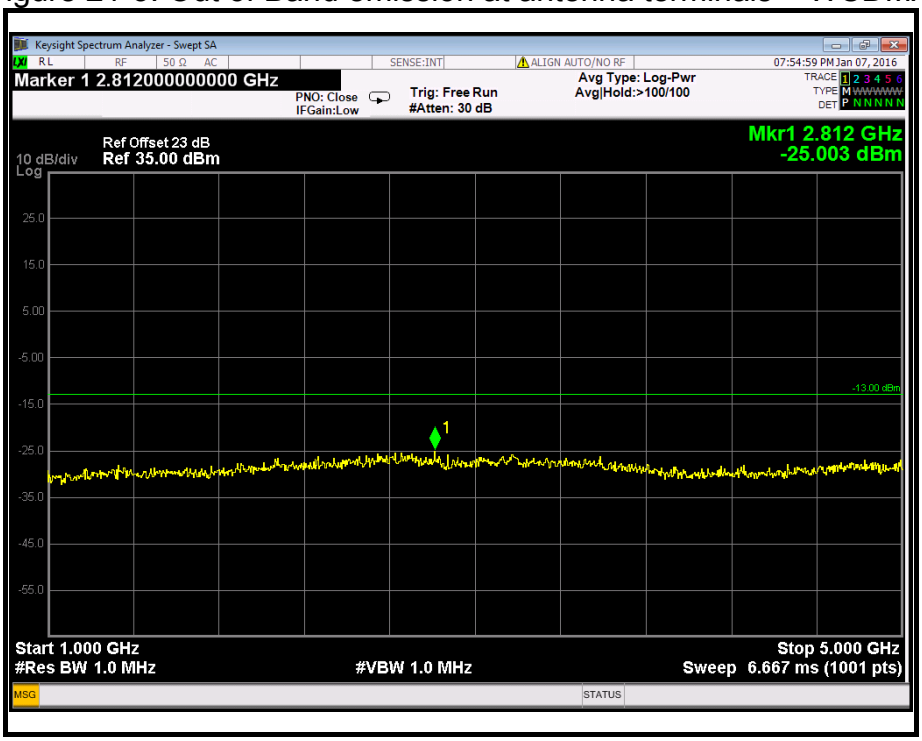


Figure 21-4: Out of Band emission at antenna terminals – WCDMA CH Mid

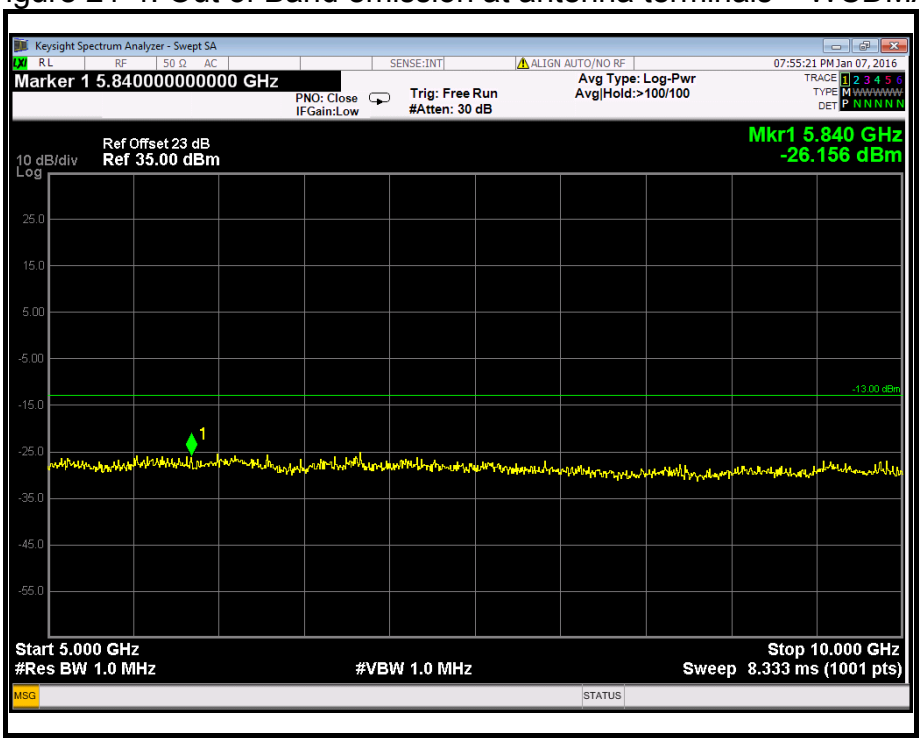


Figure 21-5: Out of Band emission at antenna terminals – WCDMA CH Mid

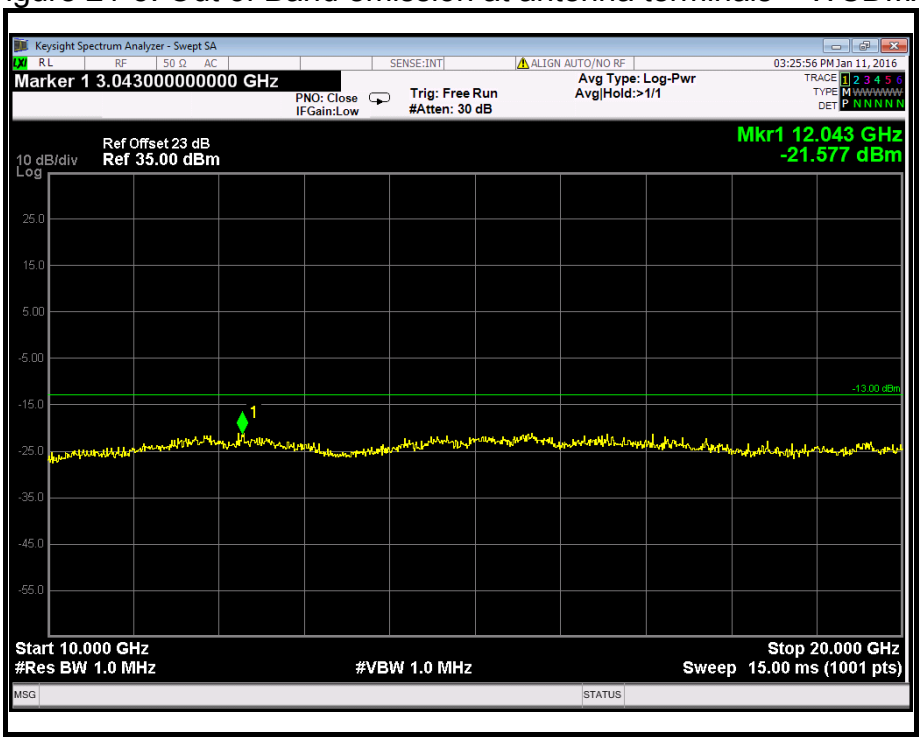


Figure 22-1: Out of Band emission at antenna terminals – WCDMA CH High

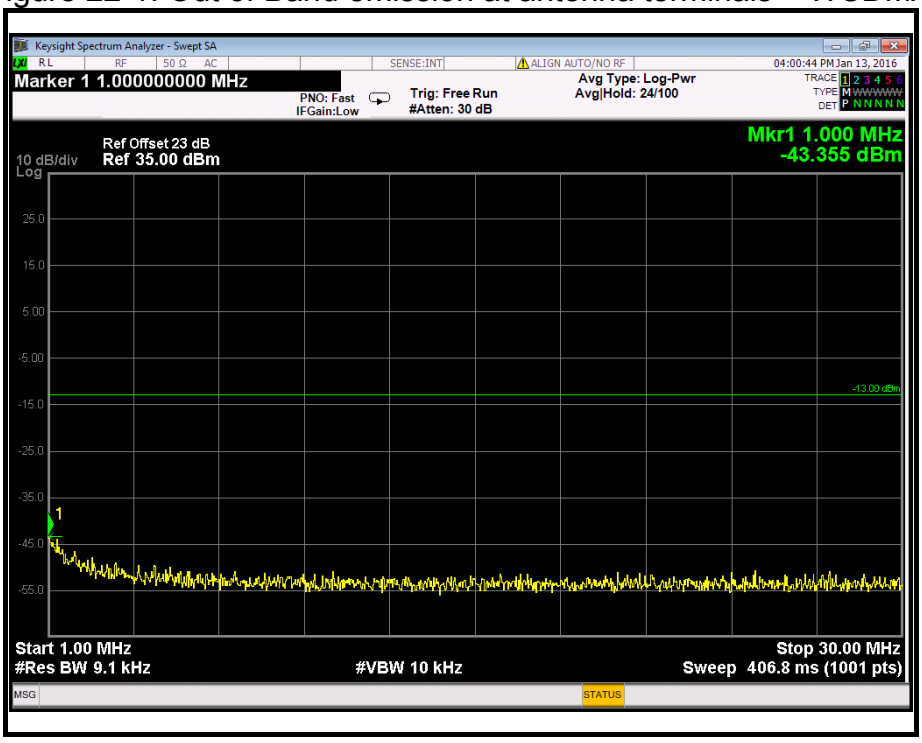


Figure 22-2: Out of Band emission at antenna terminals – WCDMA CH High

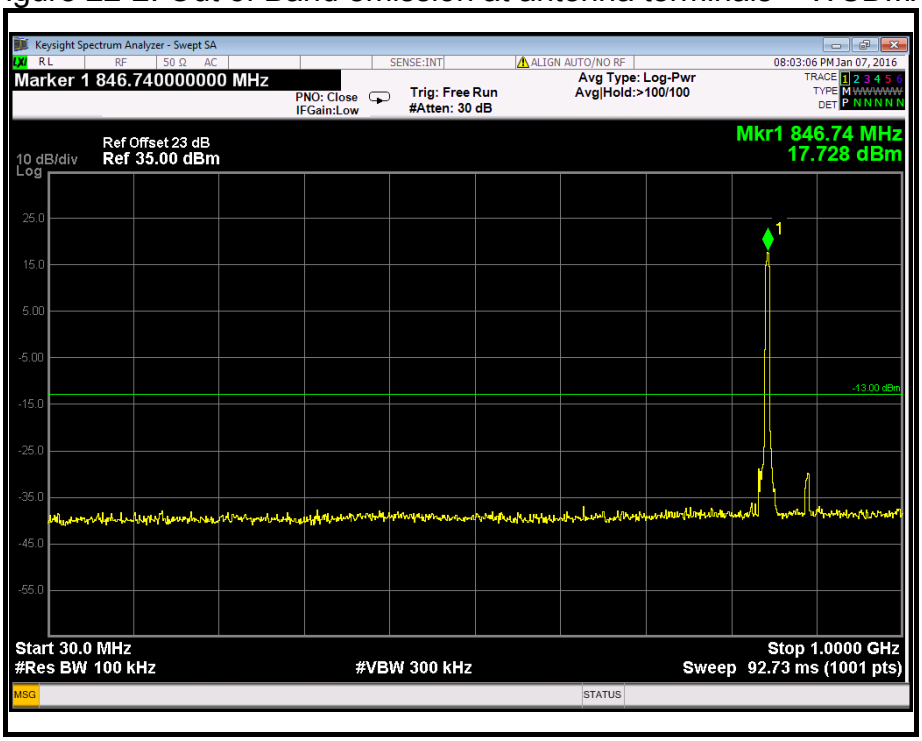


Figure 22-3: Out of Band emission at antenna terminals – WCDMA CH High

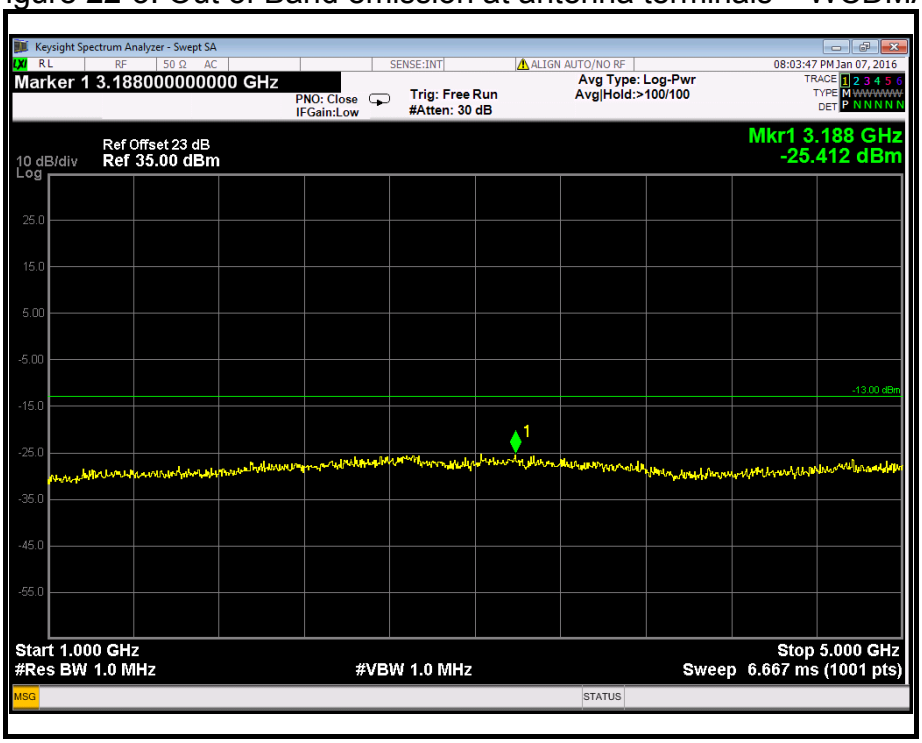


Figure 22-4: Out of Band emission at antenna terminals – WCDMA CH High

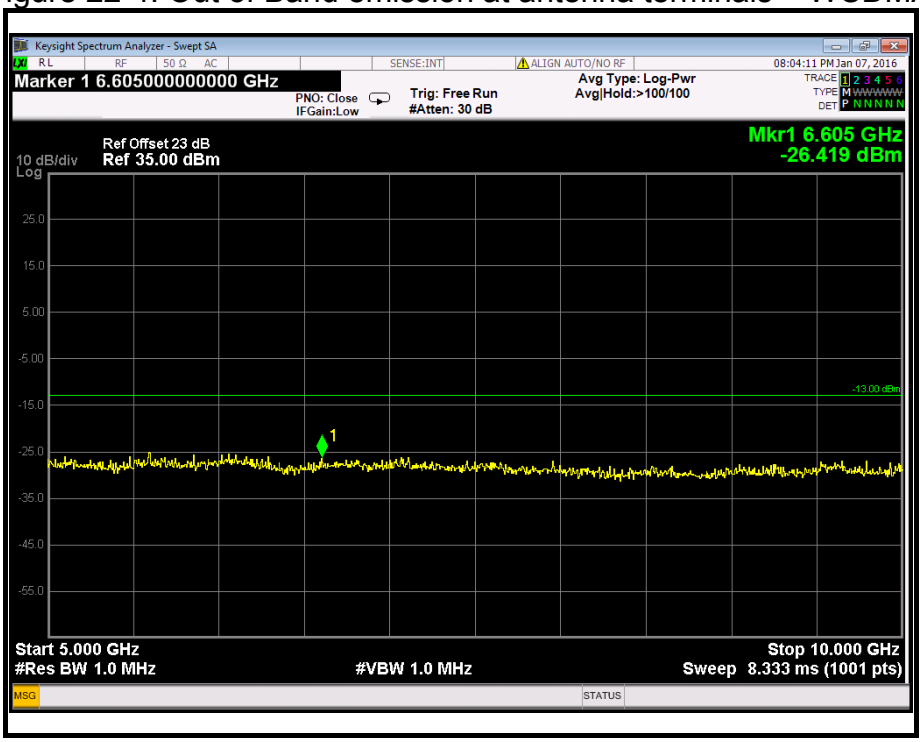
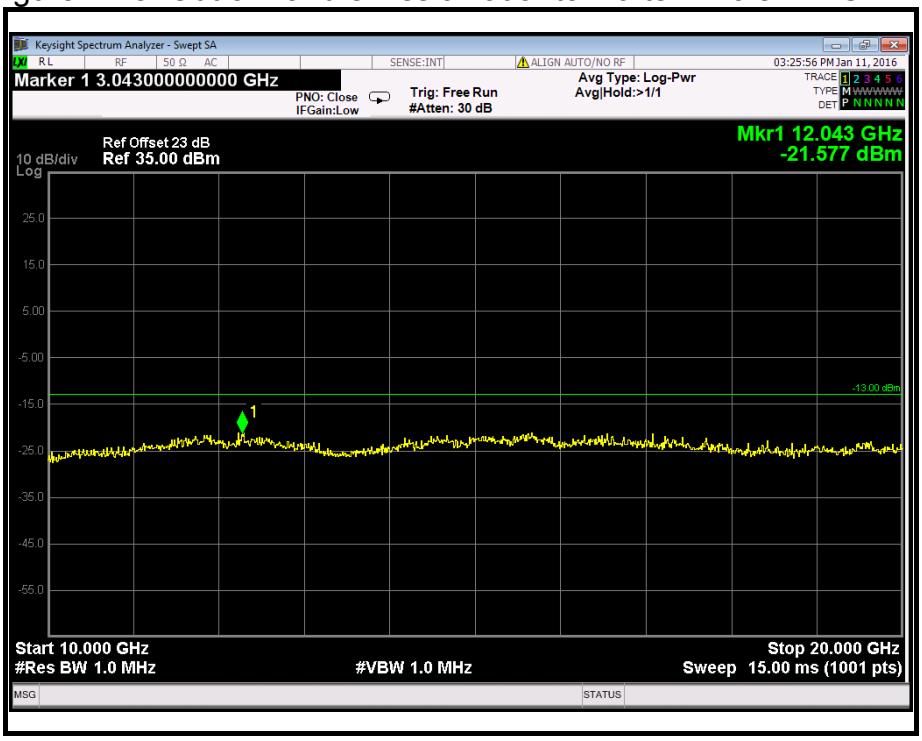


Figure 22-5: Out of Band emission at antenna terminals – WCDMA CH High



WCDMA (Band II)

Figure 23-1: Band Edge emissions –WCDMA CH Low

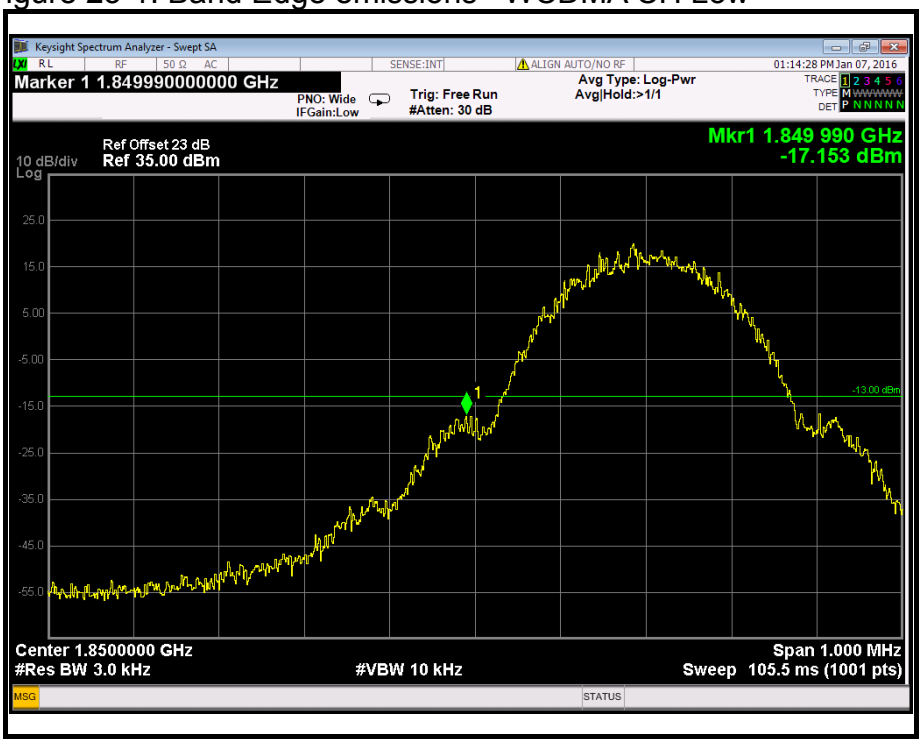
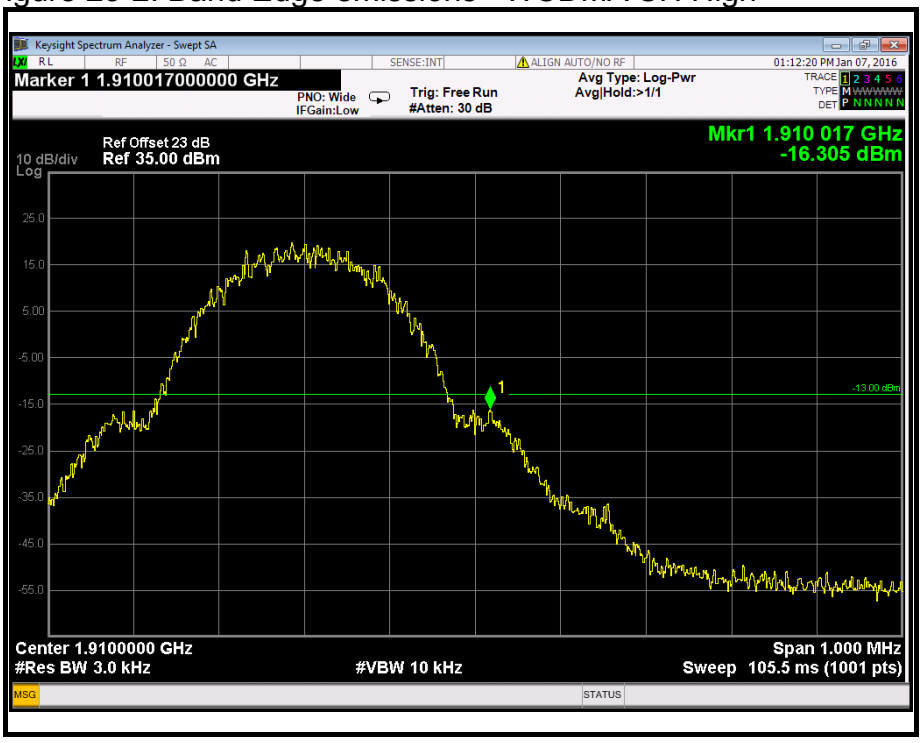


Figure 23-2: Band Edge emissions –WCDMA CH High



WCDMA (Band V)

Figure 24-1: Band Edge emissions –WCDMA CH Low

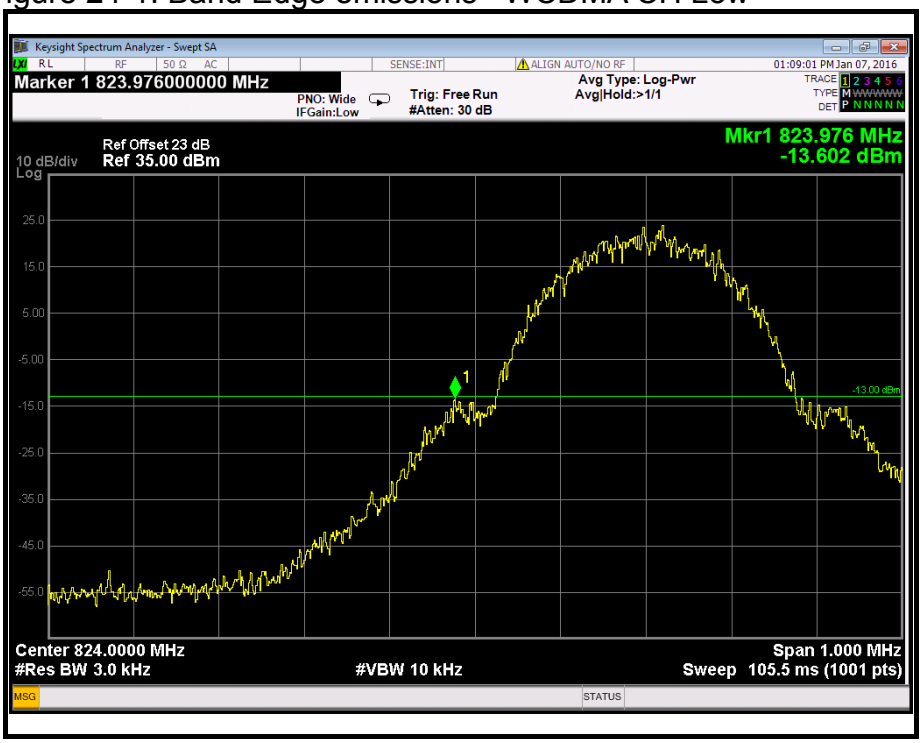
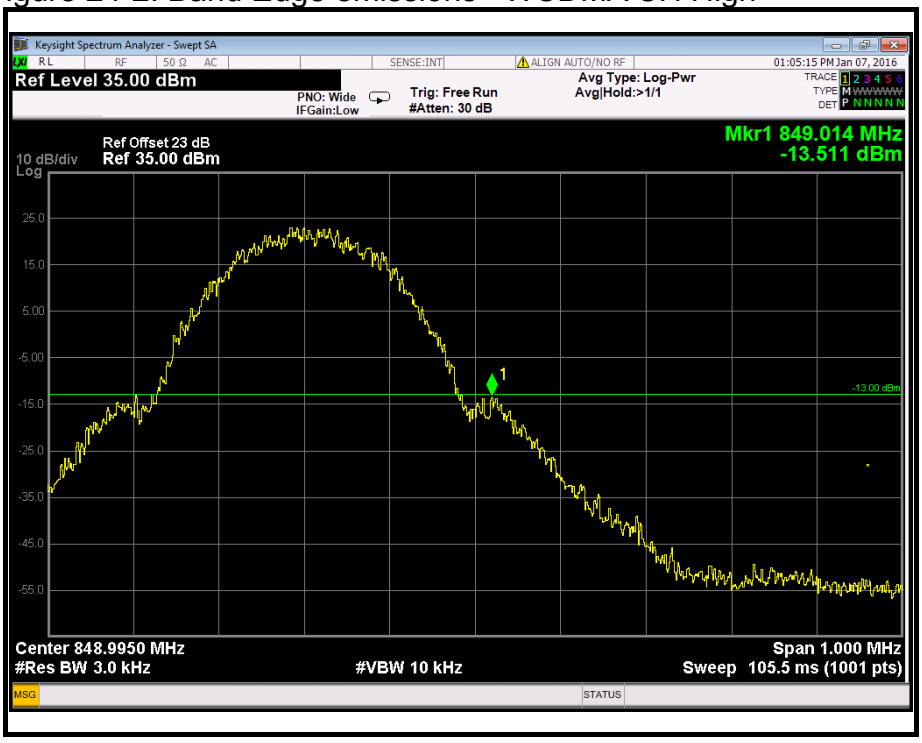


Figure 24-2: Band Edge emissions –WCDMA CH High



6.6. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

.6.7.1. LIMIT

According to FCC §2.1053, RSS-132 (4.6) & RSS-133 (6.5).

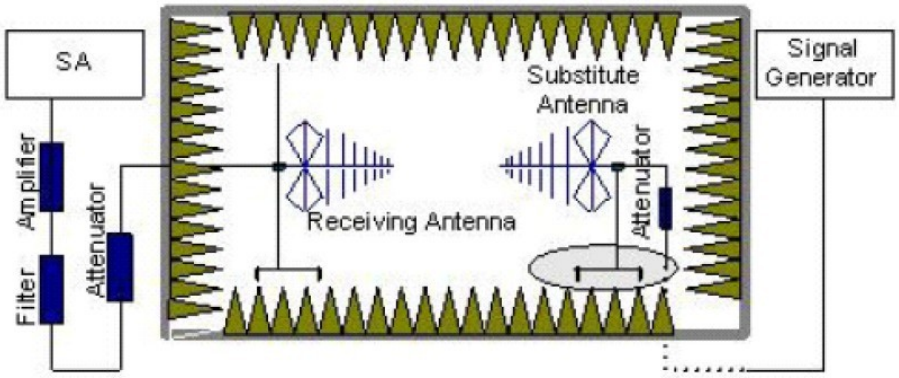
.6.7.2. MEASUREMENT EQUIPMENT USED

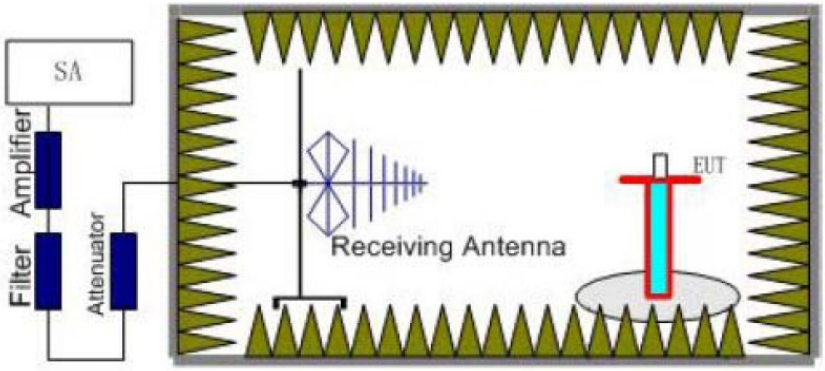
Name of Equipment	Manufacturer	Model Number	Serial Number	Last Calibration	Due Calibration
Spectrum Analyzer	Agilent	E4446A	US44300399	02/28/2015	02/27/2016
Spectrum Analyzer	Agilent	N9010A	MY52221469	09/24/2015	09/23/2016
Signal Generator	Anritsu	MG3694A	#050125	03/01/2015	03/01/2016
Bilog Antenna	SCHAFFNER	CBL6143	5063	02/28/2015	02/27/2016
Turn Table	N/A	N/A	N/A	N.C.R	N.C.R
Controller	Sunol Sciences	SC104V	022310-1	N.C.R	N.C.R
Controller	CT	N/A	N/A	N.C.R	N.C.R
Temp. / Humidity Meter	Anymetre	JR913	N/A	02/28/2015	02/27/2016
Antenna Tower	SUNOL	TLT2	N/A	N.C.R	N.C.R
Test S/W	FARAD	LZ-RF / CCS-SZ-3A2			

Remark: *Each piece of equipment is scheduled for calibration once a year.*

.6.7.3. TEST CONFIGURATION

Below 1GHz





.6.7.4. TEST PROCEDURE

1. EUT was placed on a 1.50 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.50 m. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all transmit frequencies in three channels (High, Middle, Low) were measured with peak detector.
2. A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
3. The EUT is then put into continuously transmitting mode at its maximum power level during the test. Set Test Receiver or Spectrum RBW=1MHz,VBW=3MHz, And the maximum value of the receiver should be recorded as (P_r).
4. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (P_{Mea}) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (P_r). The power of signal source (P_{Mea}) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
5. An amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (P_{cl}) ,the Substitution Antenna Gain (G_a) and the Amplifier Gain (P_{Ag}) should be recorded after test. The measurement results are obtained as described below:
   Power (EIRP) =P_{Mea}- P_{Ag} - P_{cl} + G_a
6. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power.
7. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP -2.15dBi.
8. In order to make sure test results more clearly,we set frequency range and sweep time for difference frequency range as follows table:

Working Frequency	Subrange (GHz)	RBW	VBW	Sweep time (s)
UMTS/TM3/ WCDMA Band V	0.00009~0.15	1KHz	3KHz	30
	0.00015~0.03	10KHz	30KHz	10
	0.03~1	100KHz	300KHz	10
	1~2	1 MHz	3 MHz	2
	2~5	1 MHz	3 MHz	3
	5~8	1 MHz	3 MHz	3
	8~10	1 MHz	3 MHz	3
UMTS/TM3/ WCDMA Band II	0.00009~0.15	1KHz	3KHz	30
	0.00015~0.03	10KHz	30KHz	10
	0.03~1	100KHz	300KHz	10
	1~2	1 MHz	3 MHz	2
	2~5	1 MHz	3 MHz	3
	5~8	1 MHz	3 MHz	3
	8~11	1 MHz	3 MHz	3
	11~14	1 MHz	3 MHz	3
	14~18	1 MHz	3 MHz	3
	18~20	1 MHz	3 MHz	2
TM1/GPRS850	0.00009~0.15	1KHz	3KHz	30
	0.00015~0.03	10KHz	30KHz	10
	0.03~1	100KHz	300KHz	10
	1~2	1 MHz	3 MHz	2
	2~5	1 MHz	3 MHz	3
	5~8	1 MHz	3 MHz	3
	8~10	1 MHz	3 MHz	3
TM1/GPRS1900	0.00009~0.15	1KHz	3KHz	30
	0.00015~0.03	10KHz	30KHz	10
	0.03~1	100KHz	300KHz	10
	1~2	1 MHz	3 MHz	2
	2~5	1 MHz	3 MHz	3
	5~8	1 MHz	3 MHz	3
	8~11	1 MHz	3 MHz	3
	11~14	1 MHz	3 MHz	3
	14~18	1 MHz	3 MHz	3
	18~20	1 MHz	3 MHz	2

.6.7.5. TEST RESULTS

Refer to the attached tabular data sheets.

Remark:

1. *We were tested all refer 3GPP TS151 010 for GSM, 3GPP TS 134 121*
2. *EIRP=P_{Mea}(dBm)-P_{cl}(dB) +G_a(dBi)*
3. *We were not recorded other points as values lower than limits.*
4. *Margin = EIRP - Limit*

Radiated Spurious Emission Measurement Result

GSM/TM1/GPRS850_ Low Channel

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1648.40	-55.12	5.92	3.00	7.66	-53.38	-13.00	-40.38	H
2472.60	-48.00	6.88	3.00	10.13	-44.75	-13.00	-31.75	H
1648.40	-44.95	5.92	3.00	7.66	-43.21	-13.00	-30.21	V
2472.60	-53.98	6.88	3.00	10.13	-50.73	-13.00	-37.73	V

GSM/TM1/GPRS850_ Middle Channel

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1673.20	-55.01	5.97	3.00	7.79	-53.19	-13.00	-40.19	H
2509.80	-46.51	6.95	3.00	10.38	-43.08	-13.00	-30.08	H
1673.20	-46.24	5.97	3.00	7.79	-44.42	-13.00	-31.42	V
2509.80	-52.90	6.95	3.00	10.38	-49.47	-13.00	-36.47	V

GSM/TM1/GPRS850_ High Channel

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1697.60	-55.21	6.01	3.00	7.83	-53.39	-13.00	-40.39	H
2546.40	-44.85	7.00	3.00	10.42	-41.43	-13.00	-28.43	H
1697.60	-46.60	6.01	3.00	7.83	-44.78	-13.00	-31.78	V
2546.40	-55.57	7.00	3.00	10.42	-52.15	-13.00	-39.15	V

GSM/TM2/EDGE850_ Low Channel

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1648.40	-65.19	5.92	3.00	7.66	-63.45	-13.00	-50.45	H
2472.60	-62.53	6.88	3.00	10.13	-59.28	-13.00	-46.28	H
1648.40	-61.33	5.92	3.00	7.66	-59.59	-13.00	-46.59	V
2472.60	-62.56	6.88	3.00	10.13	-59.31	-13.00	-46.31	V

GSM/TM2/EDGE850_ Middle Channel

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1673.20	-61.91	5.97	3.00	7.79	-60.09	-13.00	-47.09	H
2509.80	-63.61	6.95	3.00	10.38	-60.18	-13.00	-47.18	H
1673.20	-59.98	5.97	3.00	7.79	-58.16	-13.00	-45.16	V
2509.80	-61.78	6.95	3.00	10.38	-58.35	-13.00	-45.35	V

GSM/TM2/EDGE850_ High Channel

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1697.60	-64.85	6.01	3.00	7.83	-63.03	-13.00	-50.03	H
2546.40	-58.72	7.00	3.00	10.42	-55.30	-13.00	-42.30	H
1697.60	-63.82	6.01	3.00	7.83	-62.00	-13.00	-49.00	V
2546.40	-63.90	7.00	3.00	10.42	-60.48	-13.00	-47.48	V

GSM/TM1/GPRS1900_ Low Channel

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3700.40	-52.46	8.18	3.00	10.06	-50.58	-13.00	-37.58	H
5550.60	-60.30	10.26	3.00	11.55	-59.01	-13.00	-46.01	H
3700.40	-55.33	8.18	3.00	10.06	-53.45	-13.00	-40.45	V
5550.60	-57.90	10.26	3.00	11.55	-56.61	-13.00	-43.61	V

GSM/TM1/GPRS1900_ Middle Channel

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3760.00	-59.06	8.19	3.00	10.09	-57.16	-13.00	-44.16	H
5640.00	-60.21	10.32	3.00	11.58	-58.95	-13.00	-45.95	H
3760.00	-62.70	8.19	3.00	10.09	-60.80	-13.00	-47.80	V
5640.00	-59.73	10.32	3.00	11.58	-58.47	-13.00	-45.47	V

GSM/TM1/GPRS1900_ High Channel

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3819.60	-57.08	8.25	3.00	10.13	-55.20	-13.00	-42.20	H
5729.40	-60.22	10.39	3.00	11.65	-58.96	-13.00	-45.96	H
3819.60	-56.57	8.25	3.00	10.13	-54.69	-13.00	-41.69	V
5729.40	-56.87	10.39	3.00	11.65	-55.61	-13.00	-42.61	V

GSM/TM2/EDGE1900_ Low Channel

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3700.40	-58.29	8.18	3.00	10.06	-56.41	-13.00	-43.41	H
5550.60	-62.65	10.26	3.00	11.55	-61.36	-13.00	-48.36	H
3700.40	-63.79	8.18	3.00	10.06	-61.91	-13.00	-48.91	V
5550.60	-54.33	10.26	3.00	11.55	-53.04	-13.00	-40.04	V

GSM/TM2/EDGE1900_ Middle Channel

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3760.00	-54.89	8.19	3.00	10.09	-52.99	-13.00	-39.99	H
5640.00	-60.70	10.32	3.00	11.58	-59.44	-13.00	-46.44	H
3760.00	-63.77	8.19	3.00	10.09	-61.87	-13.00	-48.87	V
5640.00	-54.67	10.32	3.00	11.58	-53.41	-13.00	-40.41	V

GSM/TM2/EDGE1900_ High Channel

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3819.60	-54.40	8.25	3.00	10.13	-52.52	-13.00	-39.52	H
5729.40	-60.95	10.39	3.00	11.65	-59.69	-13.00	-46.69	H
3819.60	-63.79	8.25	3.00	10.13	-61.91	-13.00	-48.91	V
5729.40	-56.02	10.39	3.00	11.65	-54.76	-13.00	-41.76	V

UMTS/TM3/ WCDMA Band II _ Low Channel

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3704.80	-45.96	8.18	3.00	10.06	-44.08	-13.00	-31.08	H
5557.20	-49.31	10.26	3.00	11.55	-48.02	-13.00	-35.02	H
3704.80	-47.77	8.18	3.00	10.06	-45.89	-13.00	-32.89	V
5557.20	-49.06	10.26	3.00	11.55	-47.77	-13.00	-34.77	V

UMTS/TM3/ WCDMA Band II _ Middle Channel

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3760.00	-48.29	8.19	3.00	10.09	-46.39	-13.00	-33.39	H
5640.00	-51.18	10.32	3.00	11.58	-49.92	-13.00	-36.92	H
3760.00	-52.47	8.19	3.00	10.09	-50.57	-13.00	-37.57	V
5640.00	-51.75	10.32	3.00	11.58	-50.49	-13.00	-37.49	V

UMTS/TM3/ WCDMA Band II _ High Channel

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3815.20	-45.33	8.25	3.00	10.13	-43.45	-13.00	-30.45	H
5722.80	-49.28	10.39	3.00	11.65	-48.02	-13.00	-35.02	H
3815.20	-46.83	8.25	3.00	10.13	-44.95	-13.00	-31.95	V
5722.80	-49.54	10.39	3.00	11.65	-48.28	-13.00	-35.28	V

UMTS/TM3/ WCDMA Band V _ Low Channel

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1652.80	-53.52	5.92	3.00	7.66	-51.78	-13.00	-38.78	H
2479.20	-53.83	6.88	3.00	10.13	-50.58	-13.00	-37.58	H
1652.80	-51.55	5.92	3.00	7.66	-49.81	-13.00	-36.81	V
2479.20	-51.07	6.88	3.00	10.13	-47.82	-13.00	-34.82	V

UMTS/TM3/ WCDMA Band V _ Middle Channel

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1672.80	-54.10	5.97	3.00	7.79	-52.28	-13.00	-39.28	H
2509.20	-53.72	6.95	3.00	10.38	-50.29	-13.00	-37.29	H
1672.80	-52.13	5.97	3.00	7.79	-50.31	-13.00	-37.31	V
2509.20	-51.25	6.95	3.00	10.38	-47.82	-13.00	-34.82	V

UMTS/TM3/ WCDMA Band V _ High Channel

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1693.20	-49.74	6.01	3.00	7.83	-47.92	-13.00	-34.92	H
2539.80	-52.24	7.00	3.00	10.42	-48.82	-13.00	-35.82	H
1693.20	-54.62	6.01	3.00	7.83	-52.80	-13.00	-39.80	V
2539.80	-51.80	7.00	3.00	10.42	-48.38	-13.00	-35.38	V

6.7. RADIATED RECEIVER SPURIOUS EMISSIONS

.6.8.1. LIMIT

According to RSS-132 (4.6) & RSS-133 (6.7).

If a radiated measurement is made, all spurious emissions shall comply with the limits of Table below. The resolution bandwidth of the spectrum analyzer shall be 100 kHz for spurious emissions measurements below 1.0 GHz, and 1.0 MHz for measurements above 1.0 GHz.

Spurious Frequency (MHz)	Field Strength (microvolts/m at 3 metres)
30-88	100
88-216	150
216-960	200
Above 960	500

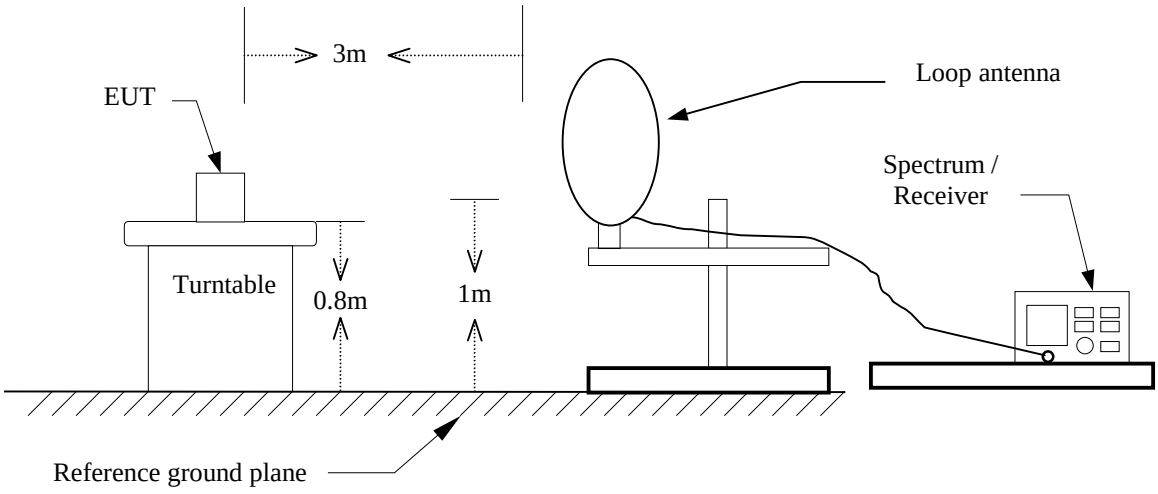
.6.8.2. MEASUREMENT EQUIPMENT USED

Radiated Emission Test Site 966（2）					
Name of Equipment	**Manufacturer**	**Model Number**	**Serial Number**	**Last Calibration**	**Due Calibration**
PSA Series Spectrum Analyzer	Agilent	E4446A	US44300399	02/28/2015	02/27/2016
EMI TEST RECEIVER	ROHDE&SCHWARZ	ESCI	100783	02/28/2015	02/27/2016
Amplifier	MITEQ	AM-1604-3000	1123808	03/18/2015	03/18/2016
High Noise Amplifier	Agilent	8449B	3008A01838	02/28/2015	02/27/2016
Board-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170-497	02/28/2015	02/27/2016
Bilog Antenna	SCHAFFNER	CBL6143	5082	02/28/2015	02/27/2016
Horn Antenna	SCHWARZBECK	BBHA9120	D286	02/28/2015	02/27/2016
Loop Antenna	COM-POWER	AL-130	121044	09/25/2015	09/24/2016
Turn Table	N/A	N/A	N/A	N.C.R	N.C.R
Controller	Sunol Sciences	SC104V	022310-1	N.C.R	N.C.R
Controller	CT	N/A	N/A	N.C.R	N.C.R
Temp. / Humidity Meter	Anymetre	JR913	N/A	02/28/2015	02/27/2016
Antenna Tower	SUNOL	TLT2	N/A	N.C.R	N.C.R
Test S/W	FARAD	LZ-RF / CCS-SZ-3A2			

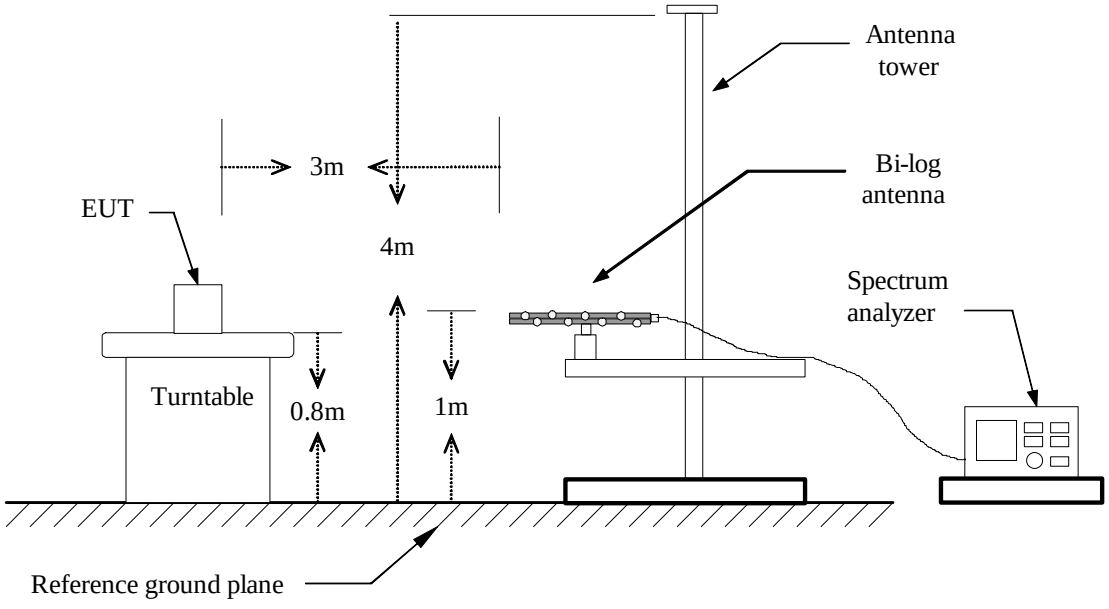
Remark: *Each piece of equipment is scheduled for calibration once a year.*

.6.8.3. TEST CONFIGURATION

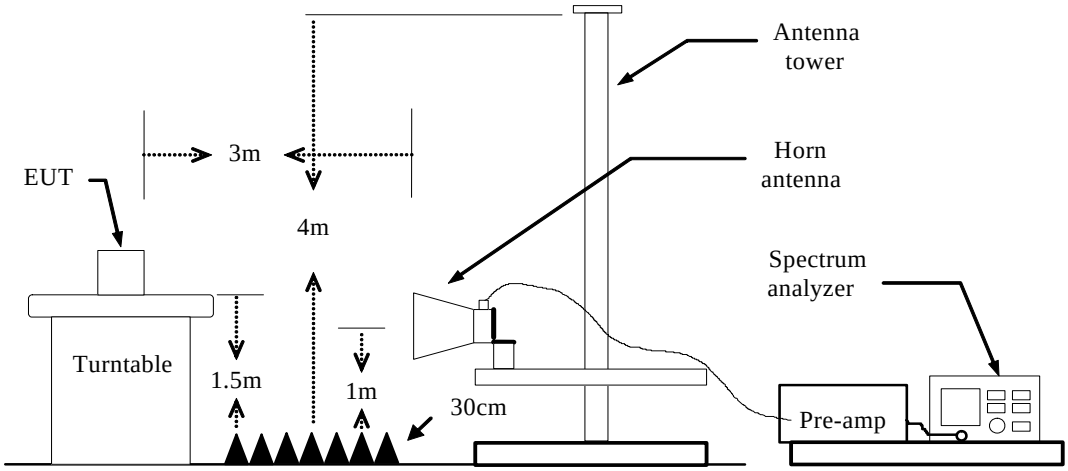
Below 30MHz



Below 1 GHz



Above 1 GHz



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

.6.8.4. TEST PROCEDURE

The search for spurious emissions shall be from the lowest frequency internally generated or used in the receiver (local oscillator frequency, intermediate frequency or carrier frequency), or 30 MHz, whichever is the higher, to at least 3 times the highest tunable and local oscillator frequencies.

.6.8.5. TEST RESULTS

No non-compliance noted.

Receiver Spurious Emission Measurement Result / Below 1GHz

Test Mode: GPRS 850 / RX **Tested by:** Eve Wang

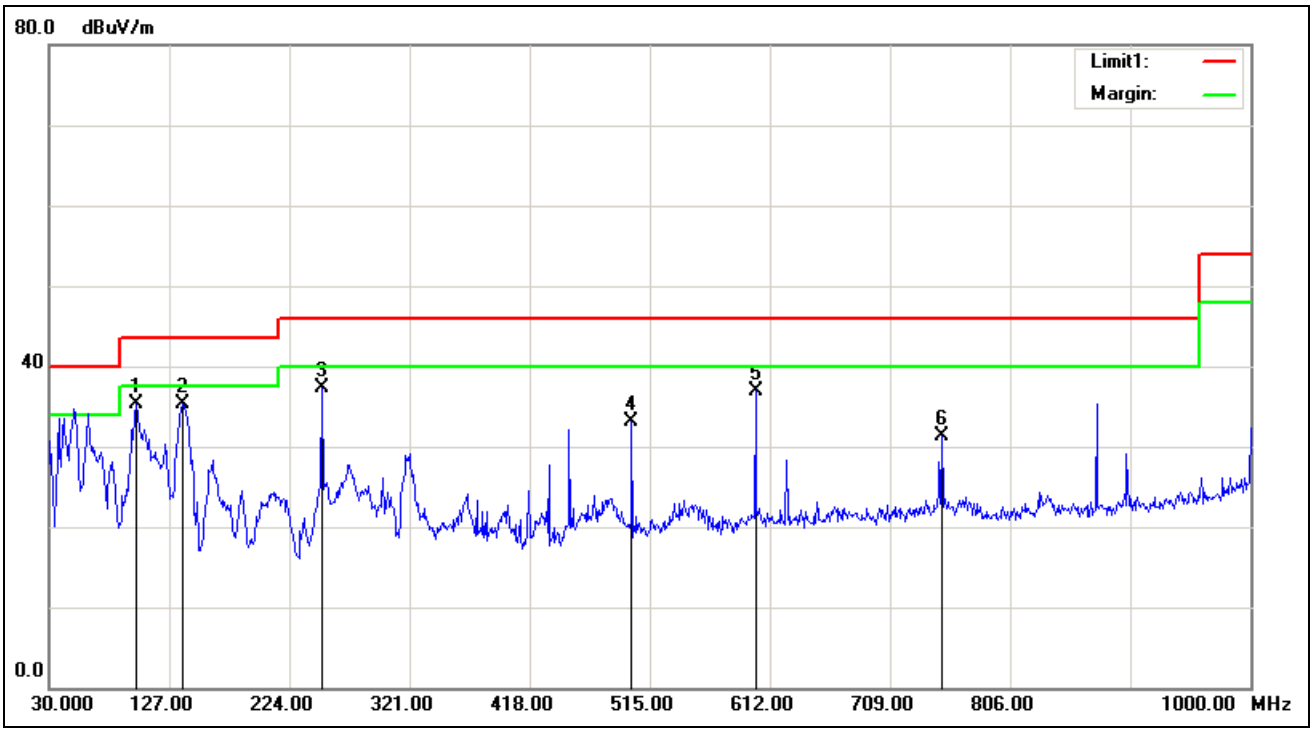
Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** January 8, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
100.8100	49.39	-14.08	35.31	43.50	-8.19	V	QP
137.6700	47.33	-12.09	35.24	43.50	-8.26	V	QP
250.1900	48.16	-10.79	37.37	46.00	-8.63	V	QP
500.4500	40.08	-6.88	33.20	46.00	-12.80	V	QP
600.3600	42.82	-5.84	36.98	46.00	-9.02	V	QP
750.7100	34.89	-3.51	31.38	46.00	-14.62	V	QP
50.3700	44.26	-12.31	31.95	40.00	-8.05	H	QP
250.1900	52.13	-10.79	41.34	46.00	-4.66	H	QP
321.0000	43.29	-9.87	33.42	46.00	-12.58	H	QP
500.4500	40.25	-6.88	33.37	46.00	-12.63	H	QP
600.3600	38.91	-5.84	33.07	46.00	-12.93	H	QP
750.7100	40.28	-3.51	36.77	46.00	-9.23	H	QP

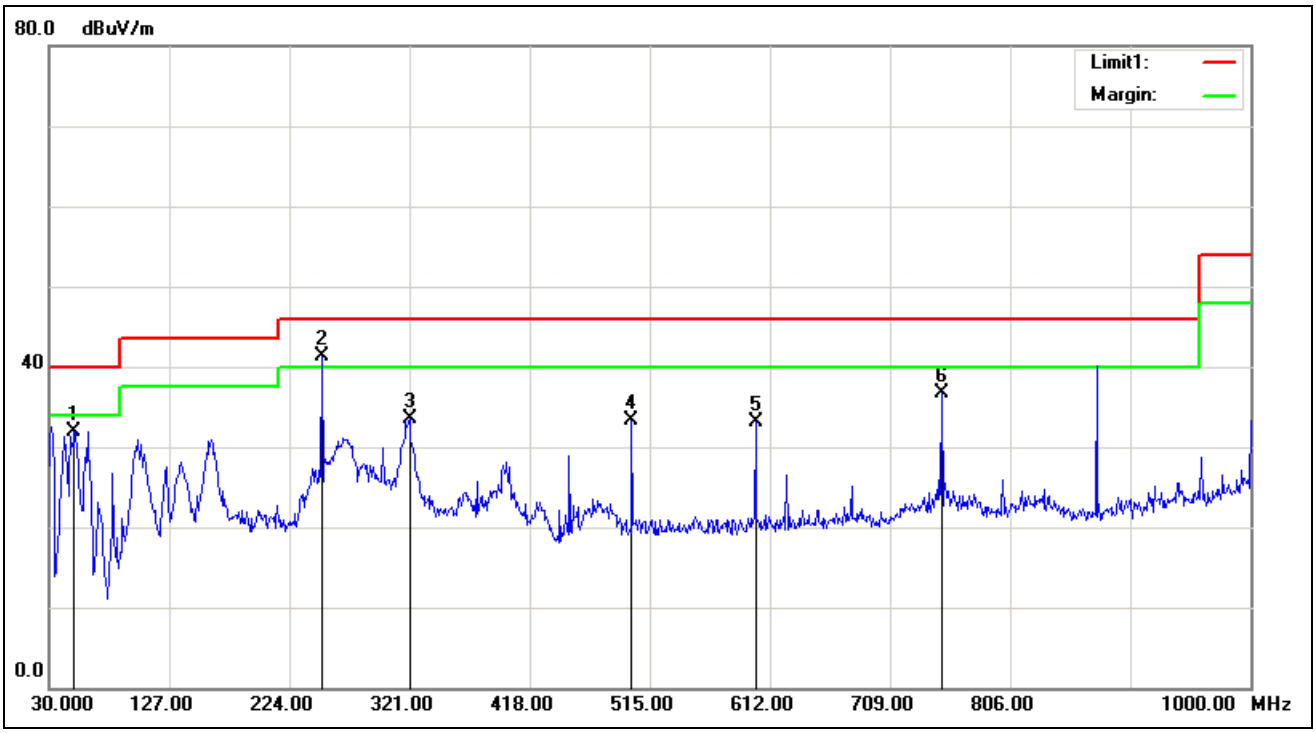
Remark:

1. The emission behaviour belongs to narrowband spurious emission.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

Vertical



Horizontal



Test Mode: GPRS 1900 / RX **Tested by:** Eve Wang

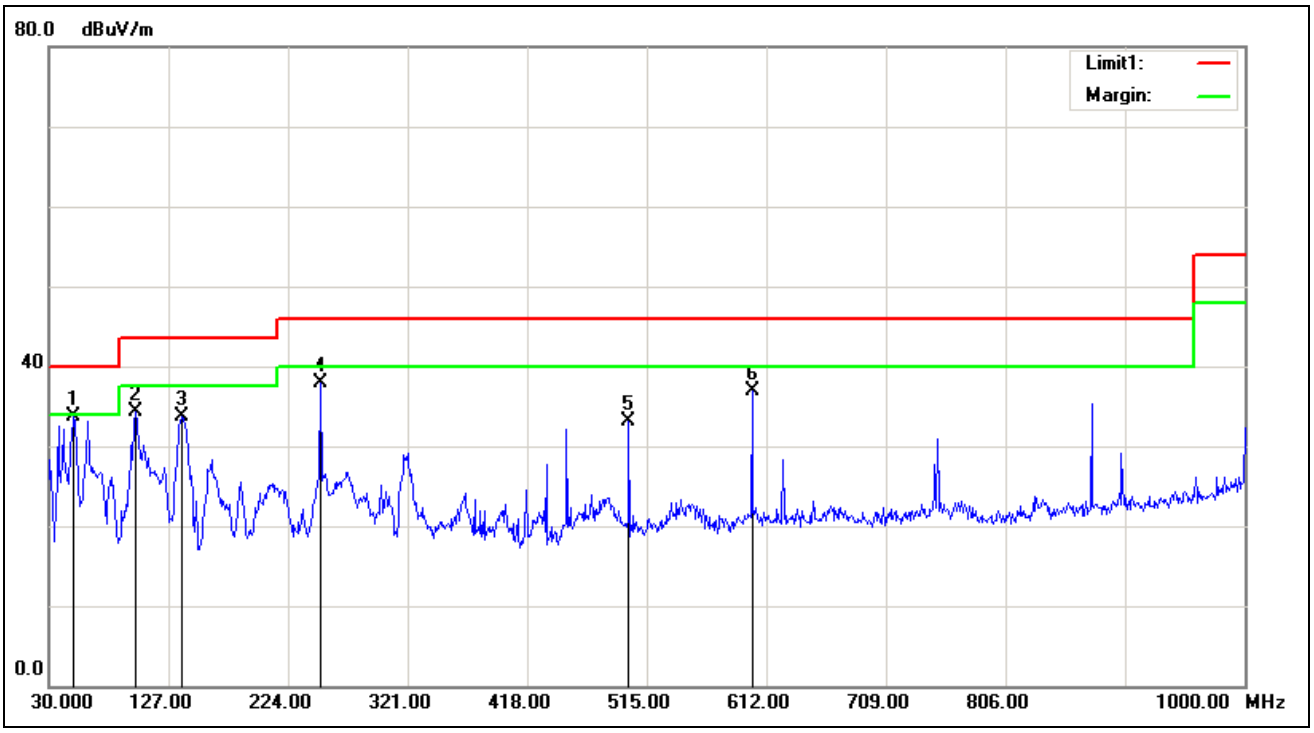
Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** January 8, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
50.3700	45.95	-12.31	33.64	40.00	-6.36	V	QP
100.8100	48.39	-14.08	34.31	43.50	-9.19	V	QP
137.6700	45.83	-12.09	33.74	43.50	-9.76	V	QP
250.1900	48.66	-10.79	37.87	46.00	-8.13	V	QP
500.4500	40.08	-6.88	33.20	46.00	-12.80	V	QP
600.3600	42.82	-5.84	36.98	46.00	-9.02	V	QP
61.0400	45.80	-13.43	32.37	40.00	-7.63	H	QP
160.9500	43.67	-11.85	31.82	43.50	-11.68	H	QP
250.1900	51.13	-10.79	40.34	46.00	-5.66	H	QP
321.0000	43.79	-9.87	33.92	46.00	-12.08	H	QP
500.4500	40.75	-6.88	33.87	46.00	-12.13	H	QP
600.3600	38.91	-5.84	33.07	46.00	-12.93	H	QP

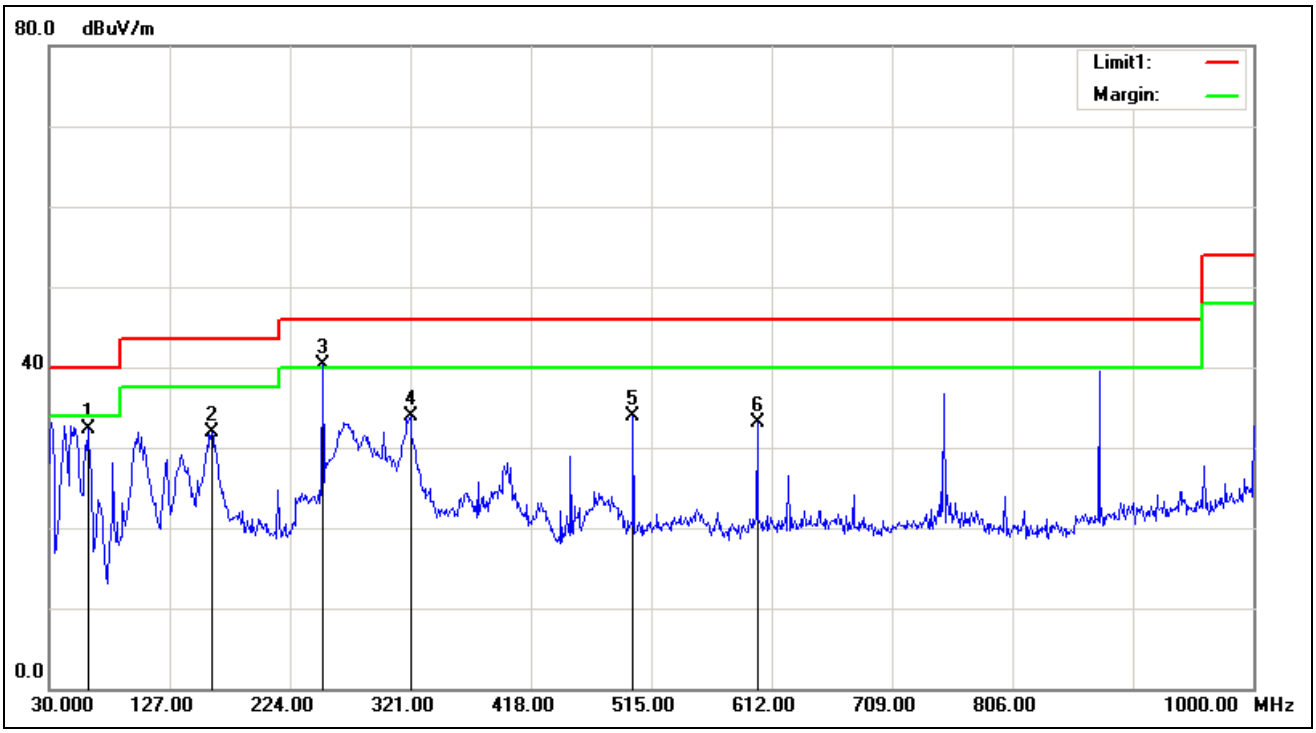
Remark:

1. The emission behaviour belongs to narrowband spurious emission.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

Vertical



Horizontal



Test Mode: EDGE 850 / RX **Tested by:** Eve Wang

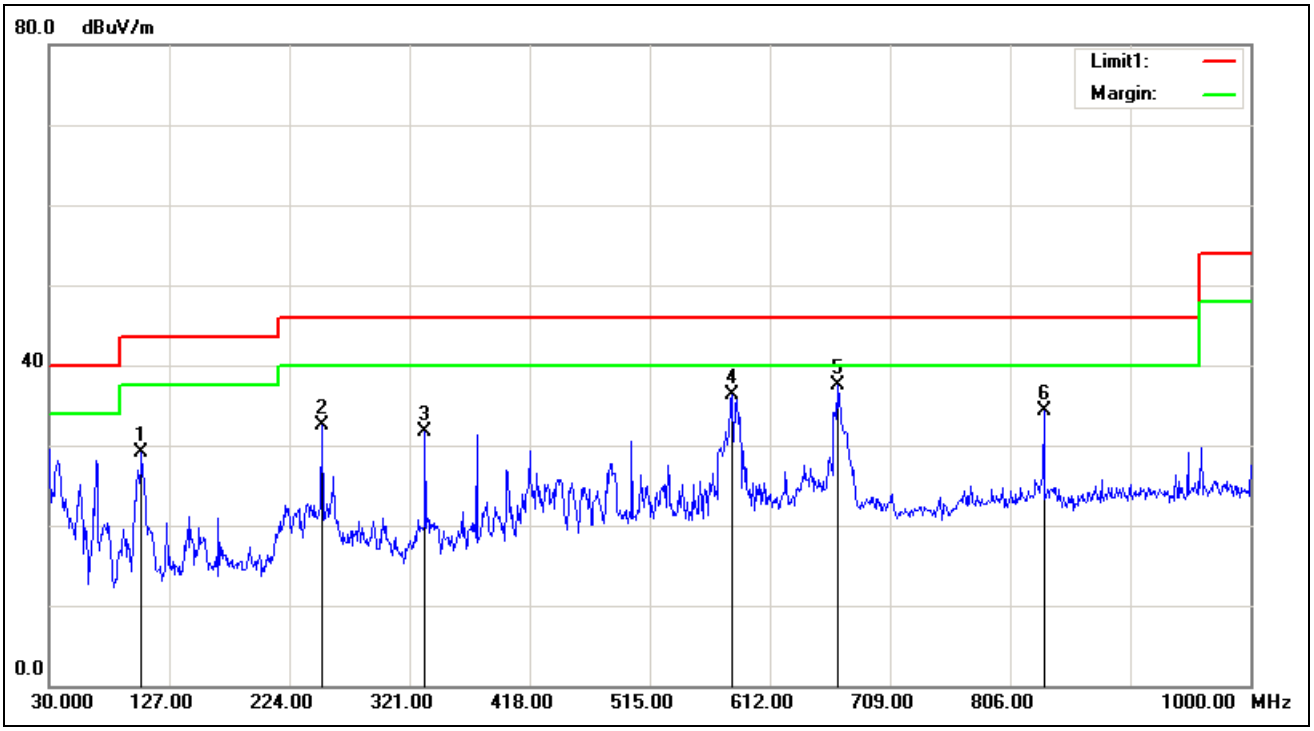
Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** January 8, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
104.6900	51.95	-22.81	29.14	43.50	-14.36	V	QP
250.1900	53.51	-21.06	32.45	46.00	-13.55	V	QP
333.6100	49.99	-18.31	31.68	46.00	-14.32	V	QP
580.9600	49.48	-13.10	36.38	46.00	-9.62	V	QP
666.3200	49.67	-12.22	37.45	46.00	-8.55	V	QP
833.1600	44.89	-10.63	34.26	46.00	-11.74	V	QP
68.8000	55.02	-25.49	29.53	40.00	-10.47	H	QP
126.0300	52.47	-20.90	31.57	43.50	-11.93	H	QP
220.1200	52.78	-20.37	32.41	46.00	-13.59	H	QP
333.6100	50.47	-18.31	32.16	46.00	-13.84	H	QP
431.5800	49.50	-15.60	33.90	46.00	-12.10	H	QP
666.3200	46.65	-12.22	34.43	46.00	-11.57	H	QP

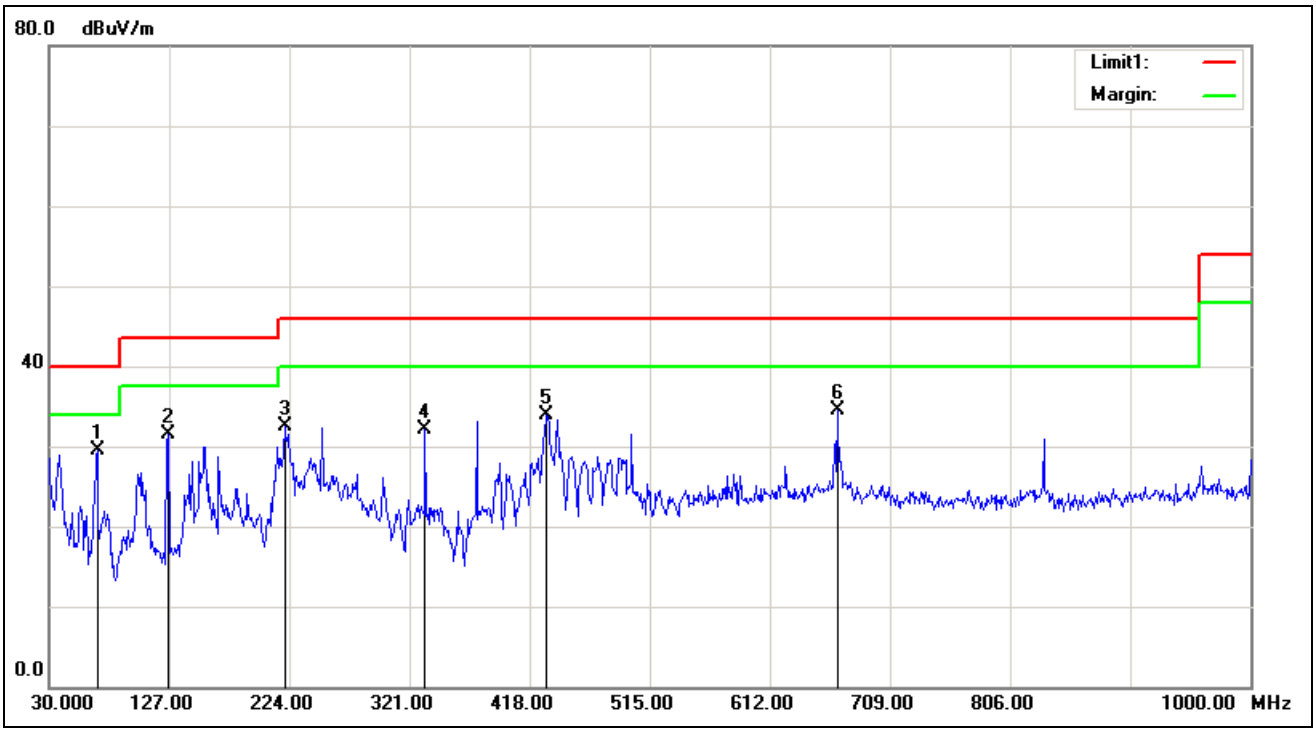
Remark:

3. The emission behaviour belongs to narrowband spurious emission.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

Vertical



Horizontal



Test Mode: EDGE 1900 / RX **Tested by:** Eve Wang

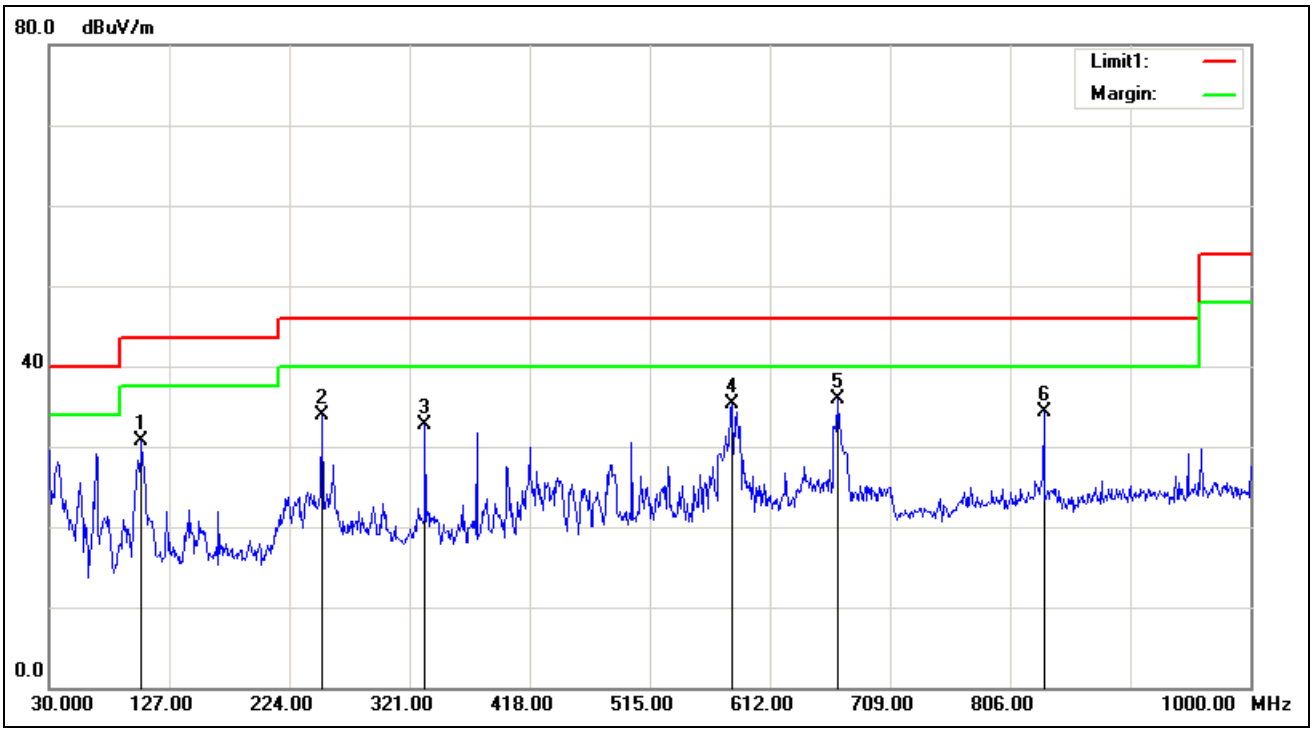
Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** January 8, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
104.6900	53.45	-22.81	30.64	43.50	-12.86	V	QP
250.1900	55.01	-21.06	33.95	46.00	-12.05	V	QP
333.6100	50.99	-18.31	32.68	46.00	-13.32	V	QP
580.9600	48.49	-13.10	35.39	46.00	-10.61	V	QP
666.3200	48.17	-12.22	35.95	46.00	-10.05	V	QP
833.1600	44.89	-10.63	34.26	46.00	-11.74	V	QP
126.0300	54.47	-20.90	33.57	43.50	-9.93	H	QP
220.1200	53.28	-20.37	32.91	46.00	-13.09	H	QP
250.1900	53.87	-21.06	32.81	46.00	-13.19	H	QP
375.3200	50.90	-16.82	34.08	46.00	-11.92	H	QP
431.5800	50.50	-15.60	34.90	46.00	-11.10	H	QP
666.3200	47.15	-12.22	34.93	46.00	-11.07	H	QP

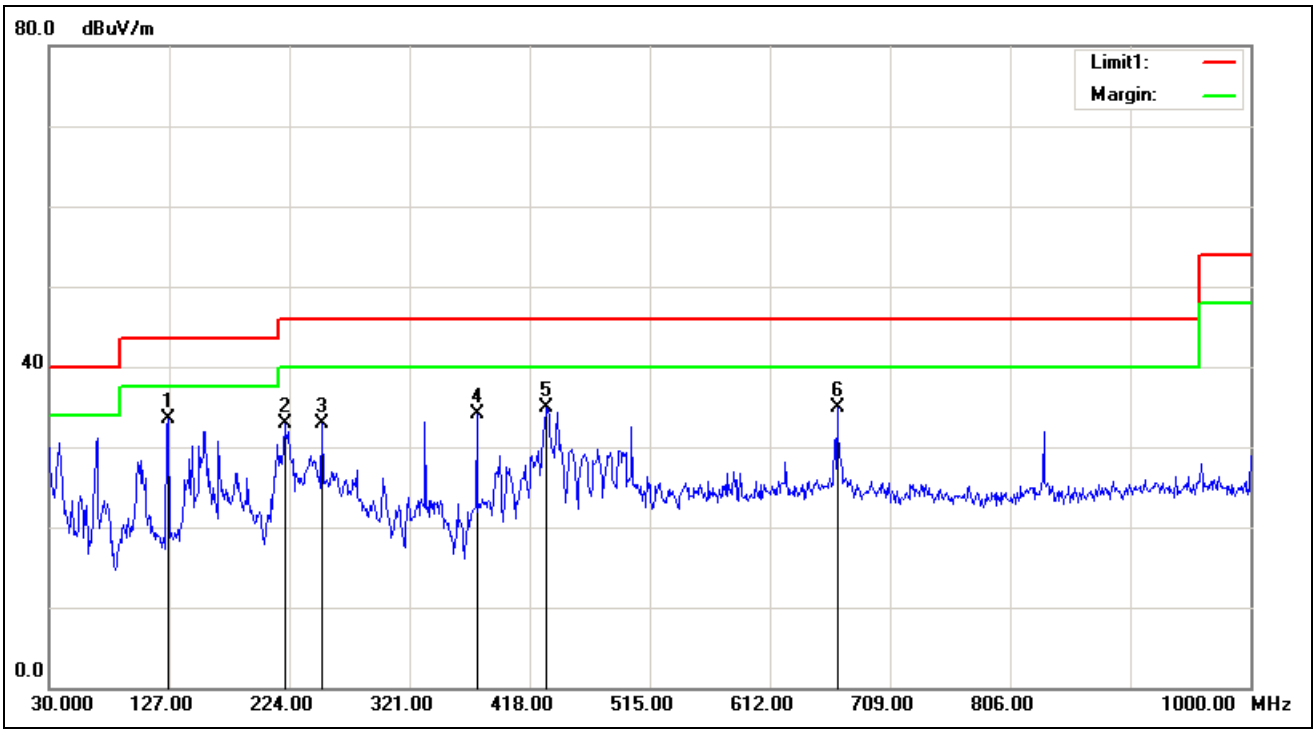
Remark:

3. The emission behaviour belongs to narrowband spurious emission.
4. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

Vertical



Horizontal



Test Mode: WCDMA(Band Ⅱ) / RX **Tested by:** Eve Wang

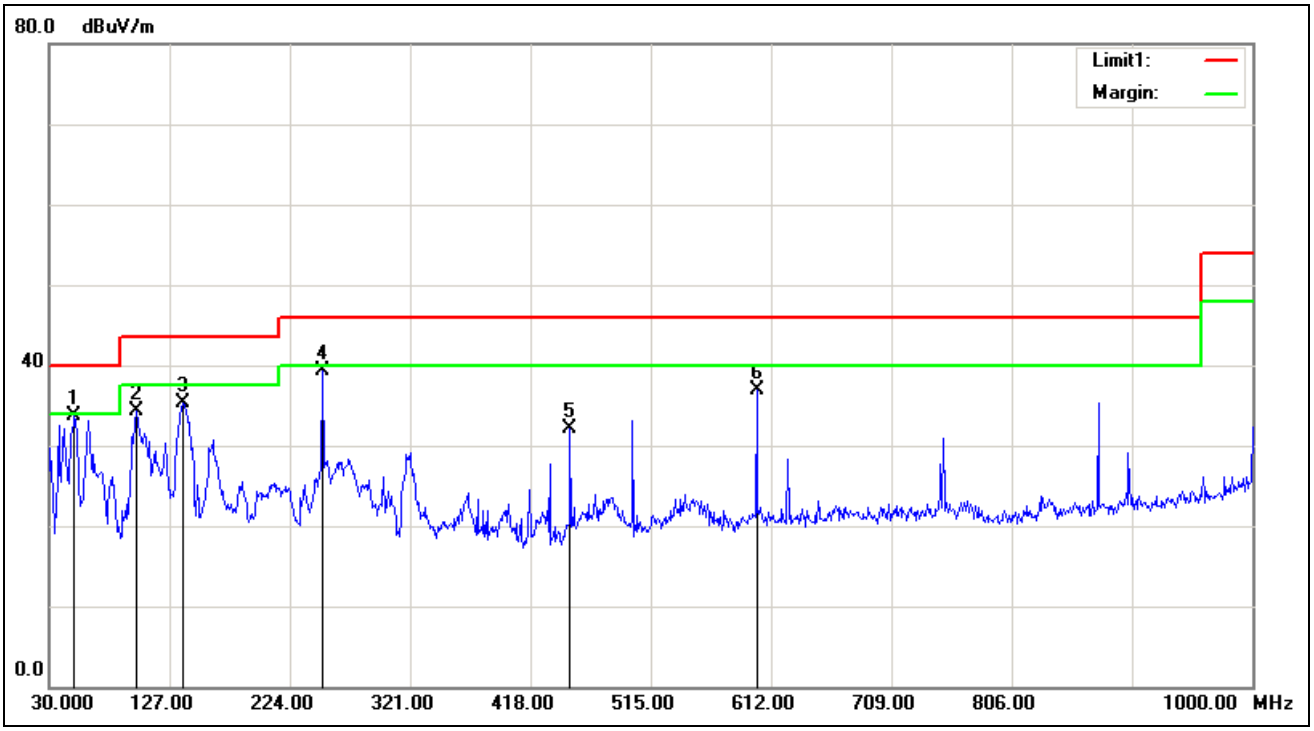
Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** January 8, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
50.3700	45.95	-12.31	33.64	40.00	-6.36	V	QP
100.8100	48.39	-14.08	34.31	43.50	-9.19	V	QP
137.6700	47.33	-12.09	35.24	43.50	-8.26	V	QP
250.1900	50.16	-10.79	39.37	46.00	-6.63	V	QP
450.0100	40.69	-8.51	32.18	46.00	-13.82	V	QP
600.3600	42.82	-5.84	36.98	46.00	-9.02	V	QP
61.0400	46.80	-13.43	33.37	40.00	-6.63	H	QP
101.7800	47.43	-14.02	33.41	43.50	-10.09	H	QP
160.9500	44.66	-11.85	32.81	43.50	-10.69	H	QP
250.1900	50.63	-10.79	39.84	46.00	-6.16	H	QP
321.0000	44.79	-9.87	34.92	46.00	-11.08	H	QP
500.4500	40.75	-6.88	33.87	46.00	-12.13	H	QP

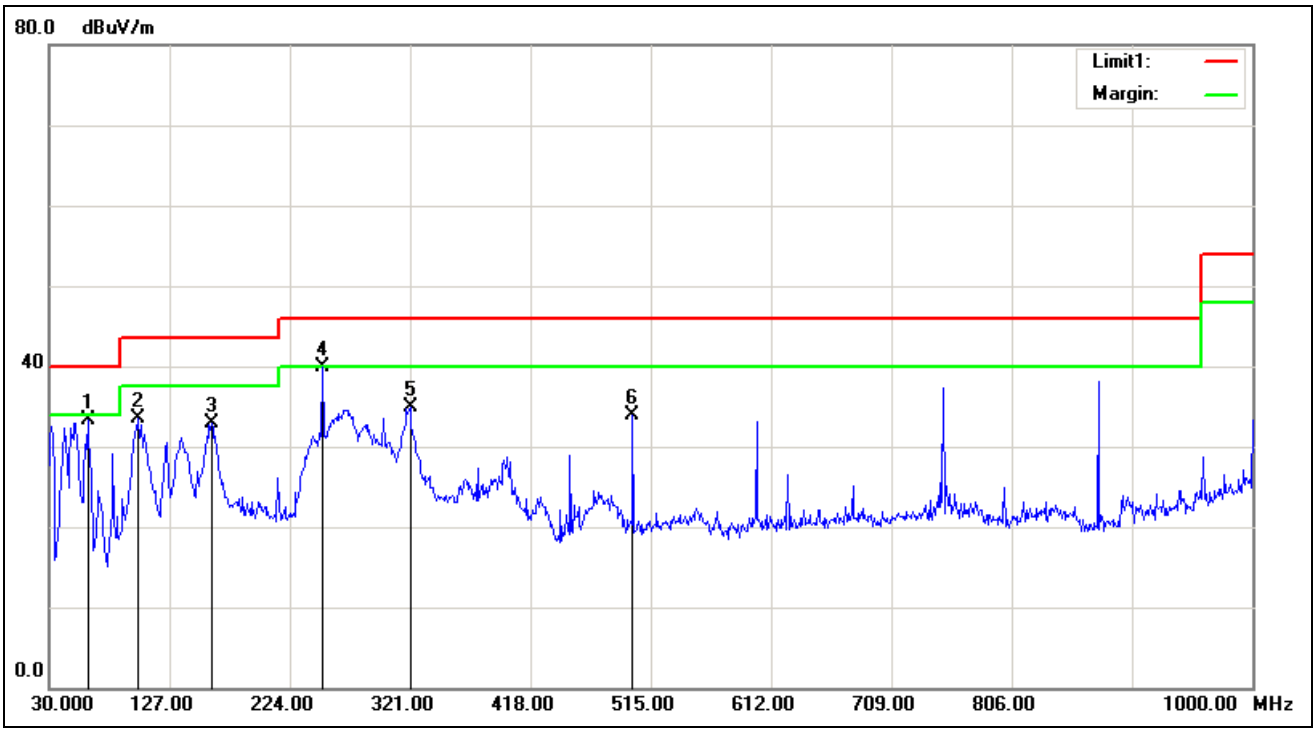
Remark:

1. The emission behaviour belongs to narrowband spurious emission.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

Vertical



Horizontal



Test Mode: WCDMA(Band V) / RX **Tested by:** Eve Wang

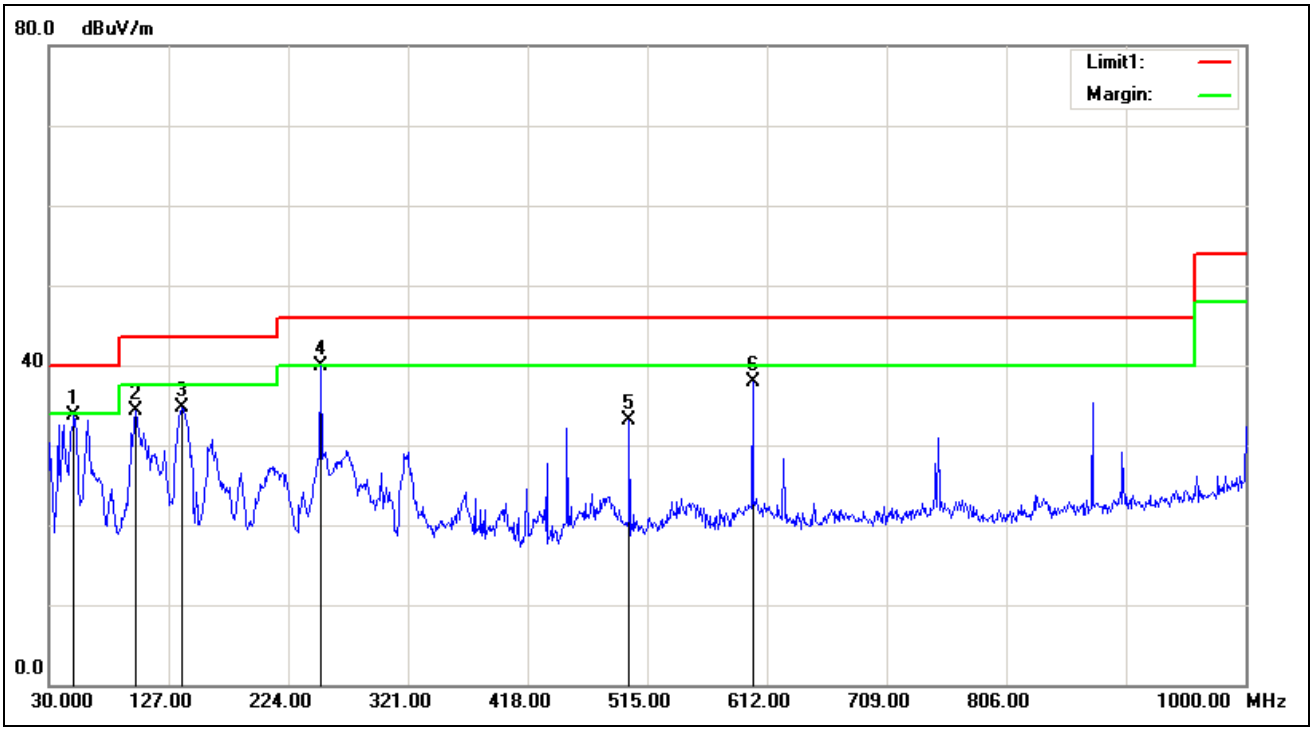
Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** January 8, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
50.3700	45.95	-12.31	33.64	40.00	-6.36	V	QP
100.8100	48.39	-14.08	34.31	43.50	-9.19	V	QP
137.6700	46.83	-12.09	34.74	43.50	-8.76	V	QP
250.1900	50.66	-10.79	39.87	46.00	-6.13	V	QP
500.4500	40.08	-6.88	33.20	46.00	-12.80	V	QP
600.3600	43.82	-5.84	37.98	46.00	-8.02	V	QP
50.3700	46.26	-12.31	33.95	40.00	-6.05	H	QP
101.7800	47.93	-14.02	33.91	43.50	-9.59	H	QP
250.1900	50.63	-10.79	39.84	46.00	-6.16	H	QP
321.0000	43.79	-9.87	33.92	46.00	-12.08	H	QP
450.0100	37.47	-8.51	28.96	46.00	-17.04	H	QP
600.3600	39.41	-5.84	33.57	46.00	-12.43	H	QP

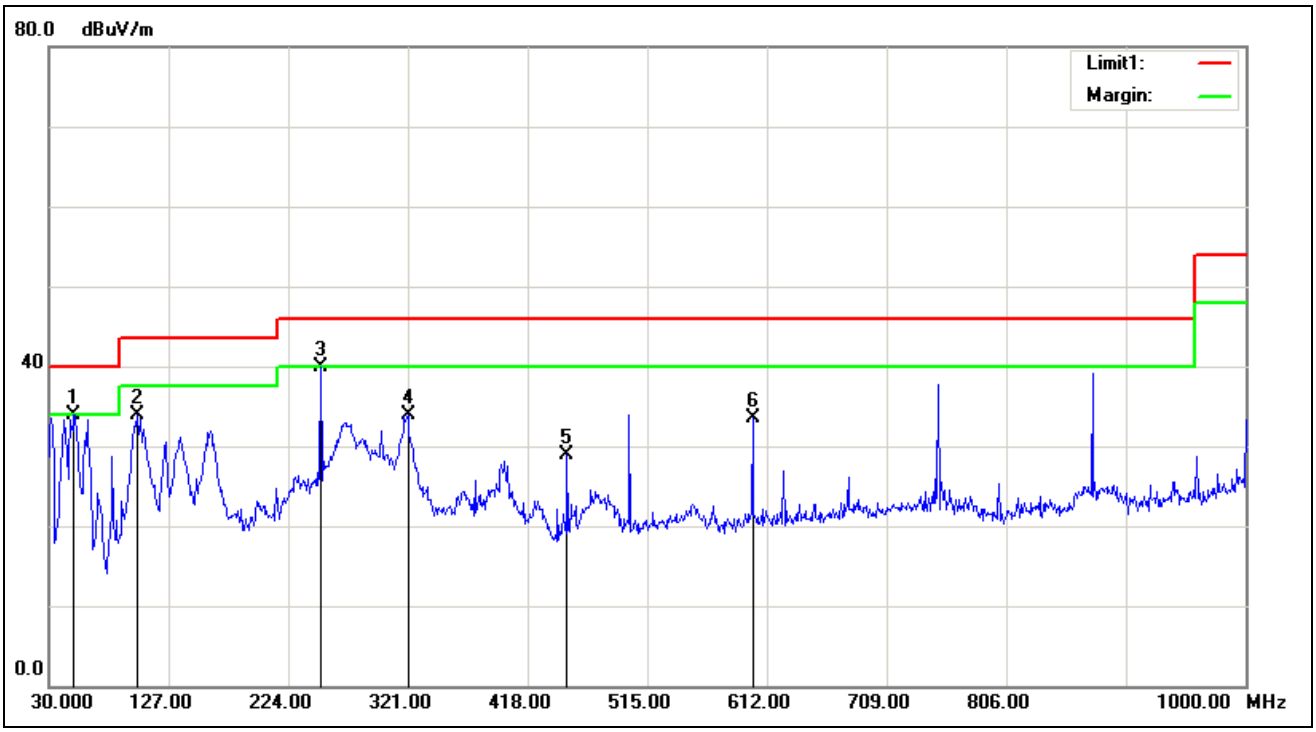
Remark:

1. The emission behaviour belongs to narrowband spurious emission.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

Vertical



Horizontal



Receiver Spurious Emission Measurement Result / Above 1GHz

Test Mode: GPRS 850 / RX **Tested by:** Eve Wang

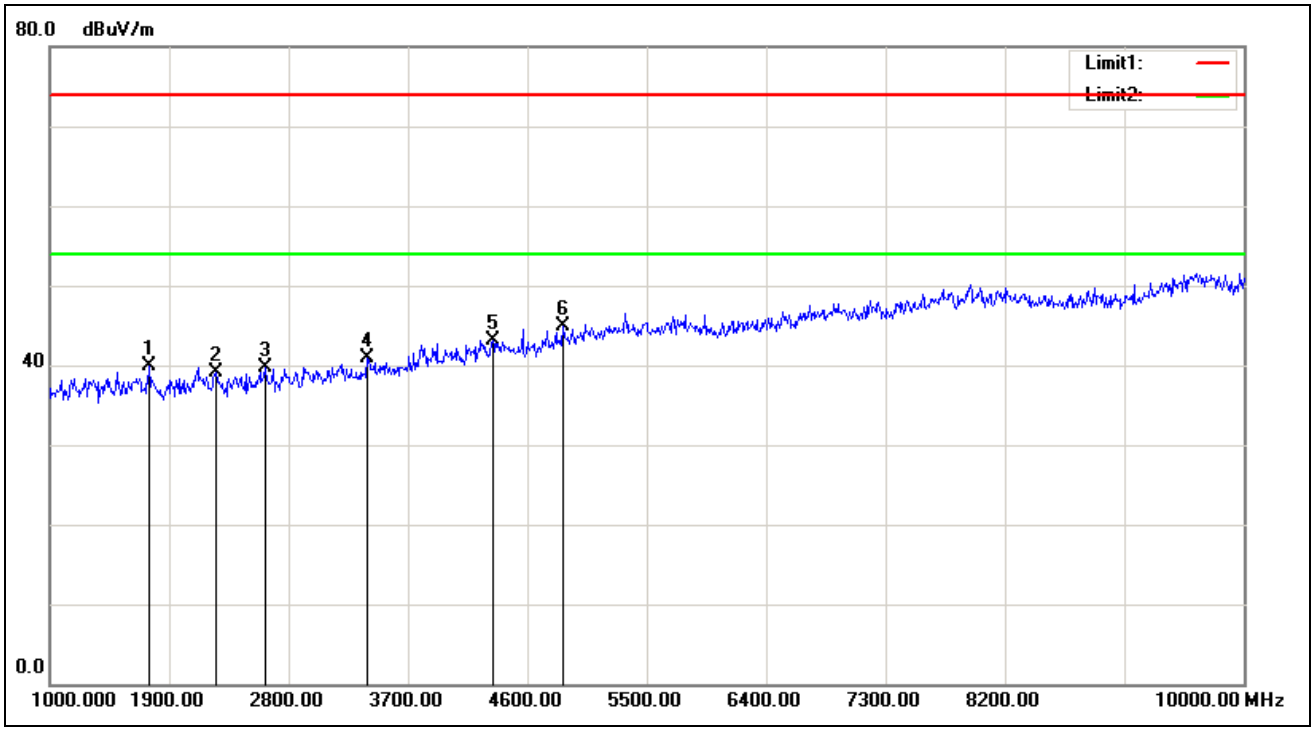
Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** January 8, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1747.000	46.27	-6.38	39.89	74.00	-34.11	V	QP
2251.000	42.80	-3.62	39.18	74.00	-34.82	V	QP
2620.000	41.67	-2.04	39.63	74.00	-34.37	V	QP
3394.000	41.60	-0.70	40.90	74.00	-33.10	V	QP
4339.000	40.32	2.78	43.10	74.00	-30.90	V	QP
4870.000	40.27	4.56	44.83	74.00	-29.17	V	QP
1351.000	46.15	-7.24	38.91	74.00	-35.09	H	QP
1504.000	47.75	-6.87	40.88	74.00	-33.12	H	QP
2260.000	43.20	-3.58	39.62	74.00	-34.38	H	QP
2503.000	42.73	-2.25	40.48	74.00	-33.52	H	QP
3286.000	41.62	-0.88	40.74	74.00	-33.26	H	QP
3709.000	41.32	0.36	41.68	74.00	-32.32	H	QP

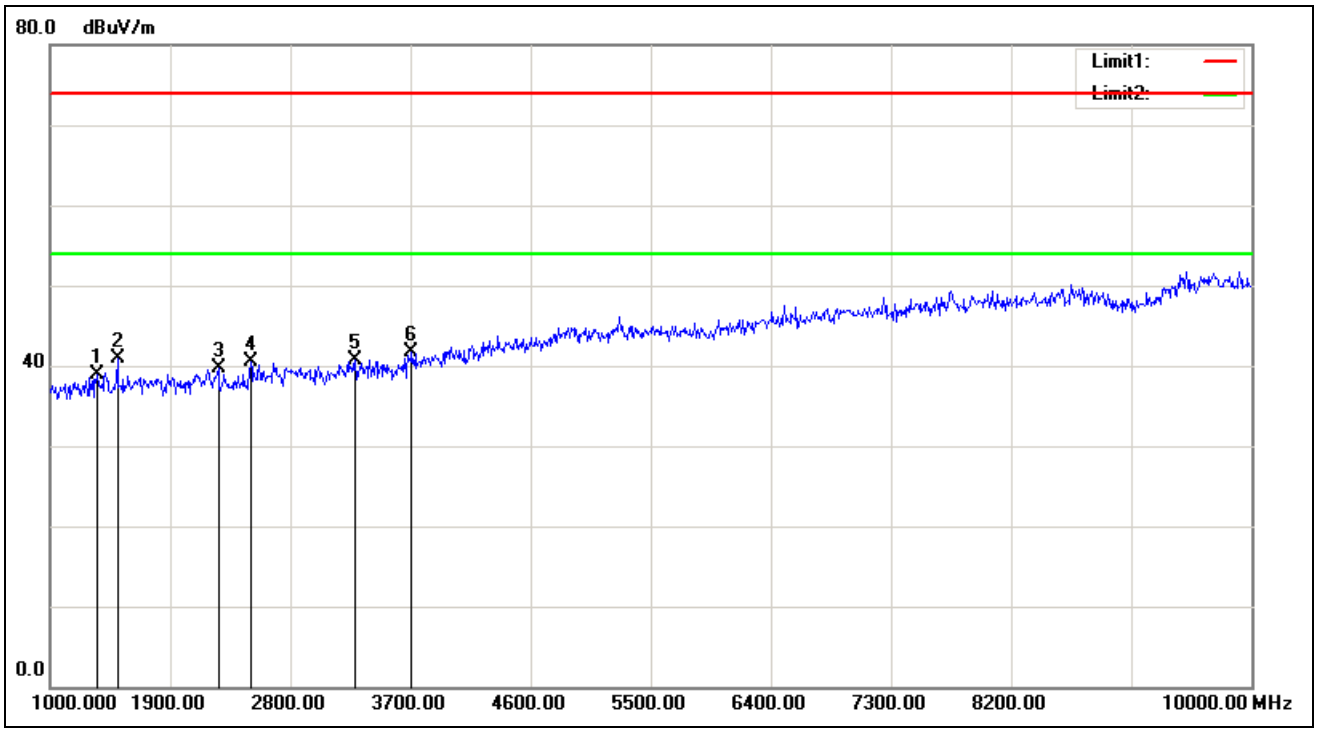
Remark:

1. The emission behaviour belongs to narrowband spurious emission.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

Vertical



Horizontal



Test Mode: GPRS 1900 / RX **Tested by:** Eve Wang

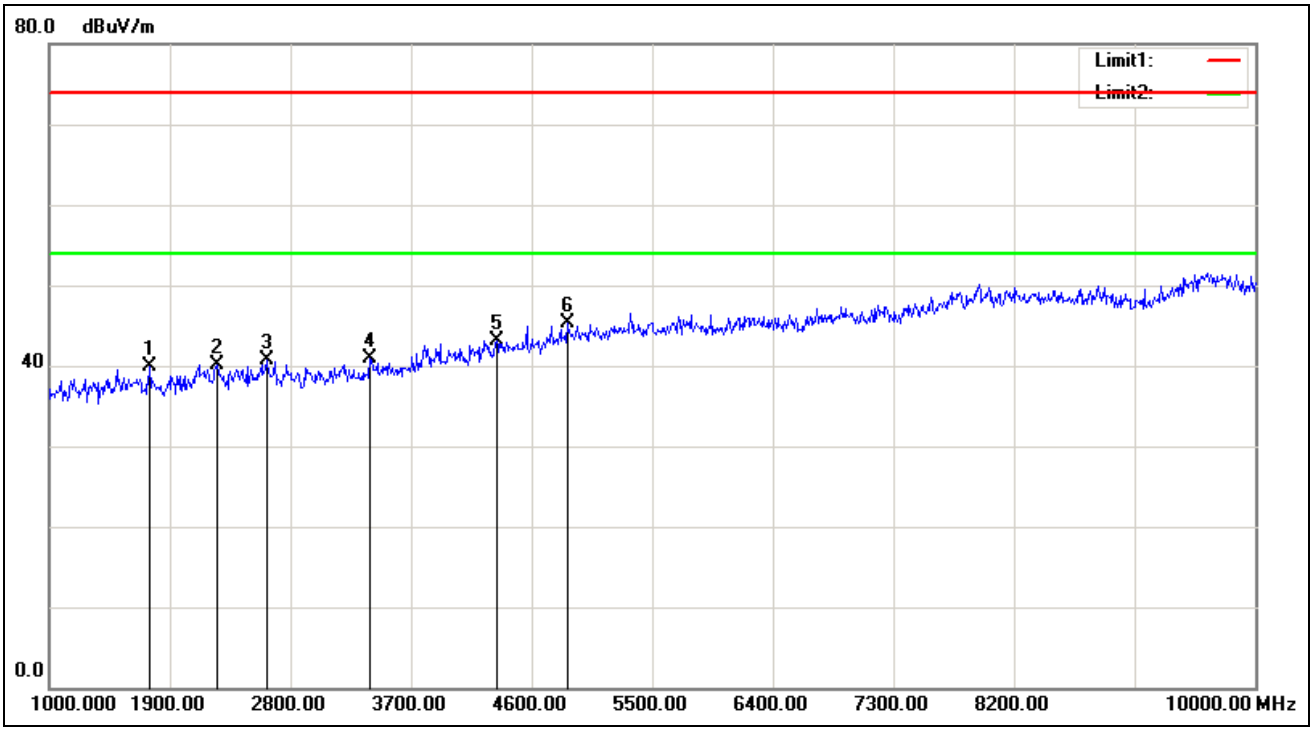
Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** January 8, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1747.000	46.27	-6.38	39.89	74.00	-34.11	V	QP
2251.000	43.80	-3.62	40.18	74.00	-33.82	V	QP
2620.000	42.67	-2.04	40.63	74.00	-33.37	V	QP
3394.000	41.60	-0.70	40.90	74.00	-33.10	V	QP
4339.000	40.32	2.78	43.10	74.00	-30.90	V	QP
4870.000	40.77	4.56	45.33	74.00	-28.67	V	QP
1504.000	47.75	-6.87	40.88	74.00	-33.12	H	QP
2503.000	42.73	-2.25	40.48	74.00	-33.52	H	QP
3286.000	41.62	-0.88	40.74	74.00	-33.26	H	QP
4006.000	40.61	1.61	42.22	74.00	-31.78	H	QP
4357.000	40.84	2.85	43.69	74.00	-30.31	H	QP
5266.000	40.16	5.45	45.61	74.00	-28.39	H	QP

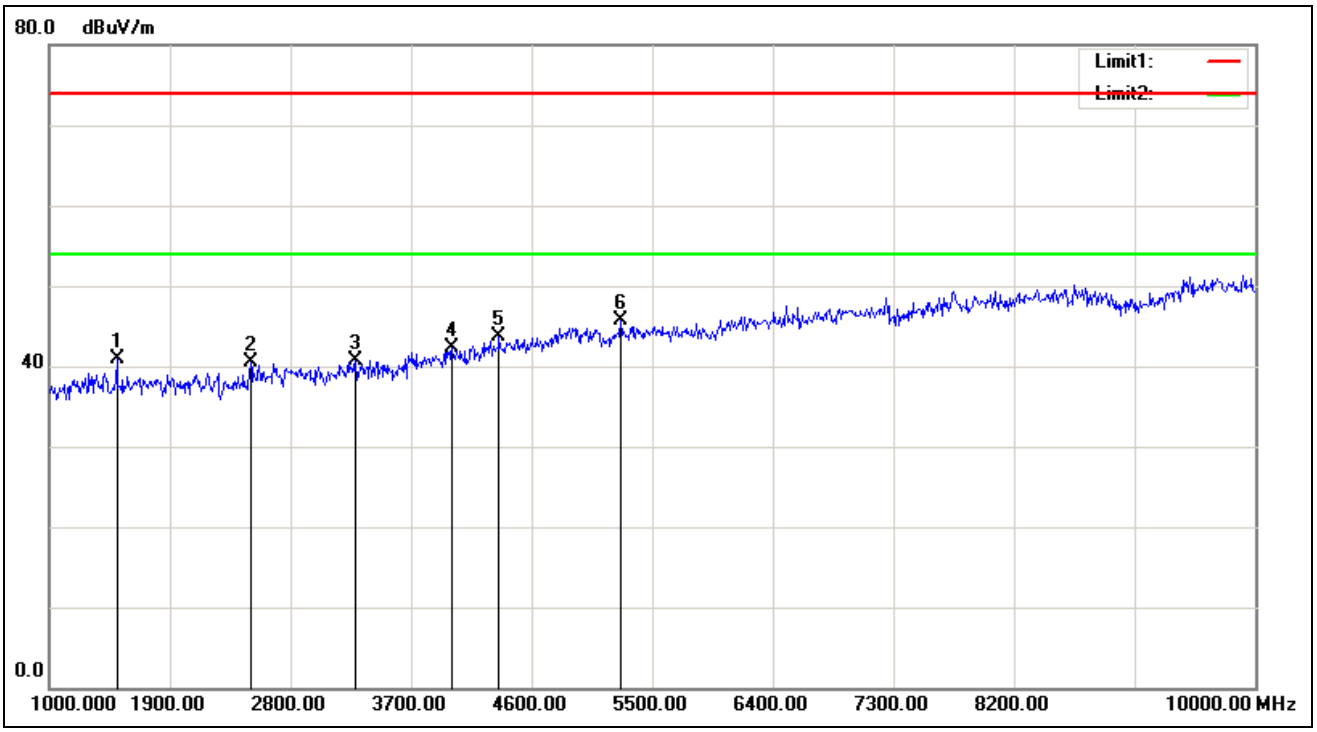
Remark:

1. The emission behavior belongs to narrowband spurious emission.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

Vertical



Horizontal



Test Mode: DEGE 850 / RX **Tested by:** Eve Wang

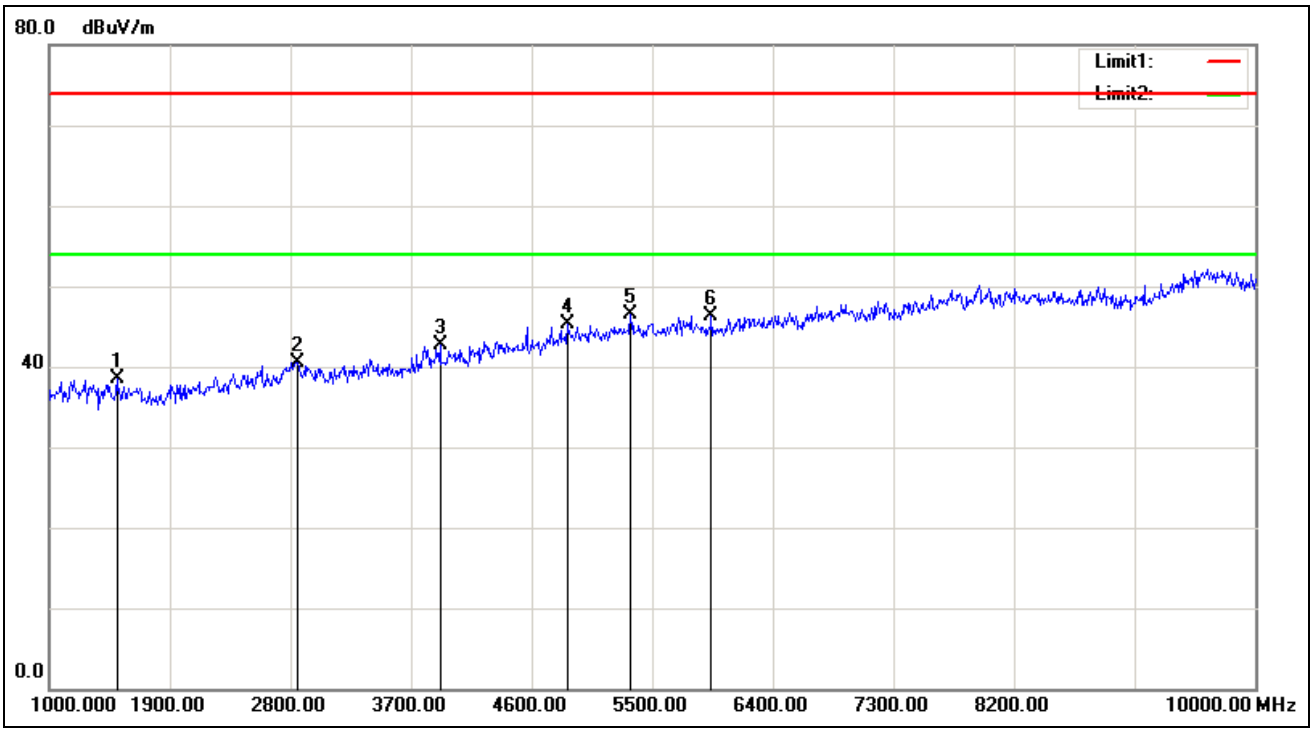
Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** January 8, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1504.000	45.42	-6.87	38.55	74.00	-35.45	V	QP
2854.000	42.21	-1.62	40.59	74.00	-33.41	V	QP
3916.000	41.52	1.24	42.76	74.00	-31.24	V	QP
4870.000	40.77	4.56	45.33	74.00	-28.67	V	QP
5338.000	40.84	5.58	46.42	74.00	-27.58	V	QP
5941.000	40.16	6.06	46.22	74.00	-27.78	V	QP
2098.000	44.36	-4.46	39.90	74.00	-34.10	H	QP
2764.000	42.01	-1.78	40.23	74.00	-33.77	H	QP
3709.000	41.32	0.36	41.68	74.00	-32.32	H	QP
4357.000	40.34	2.85	43.19	74.00	-30.81	H	QP
5266.000	40.66	5.45	46.11	74.00	-27.89	H	QP
6499.000	40.11	6.89	47.00	74.00	-27.00	H	QP

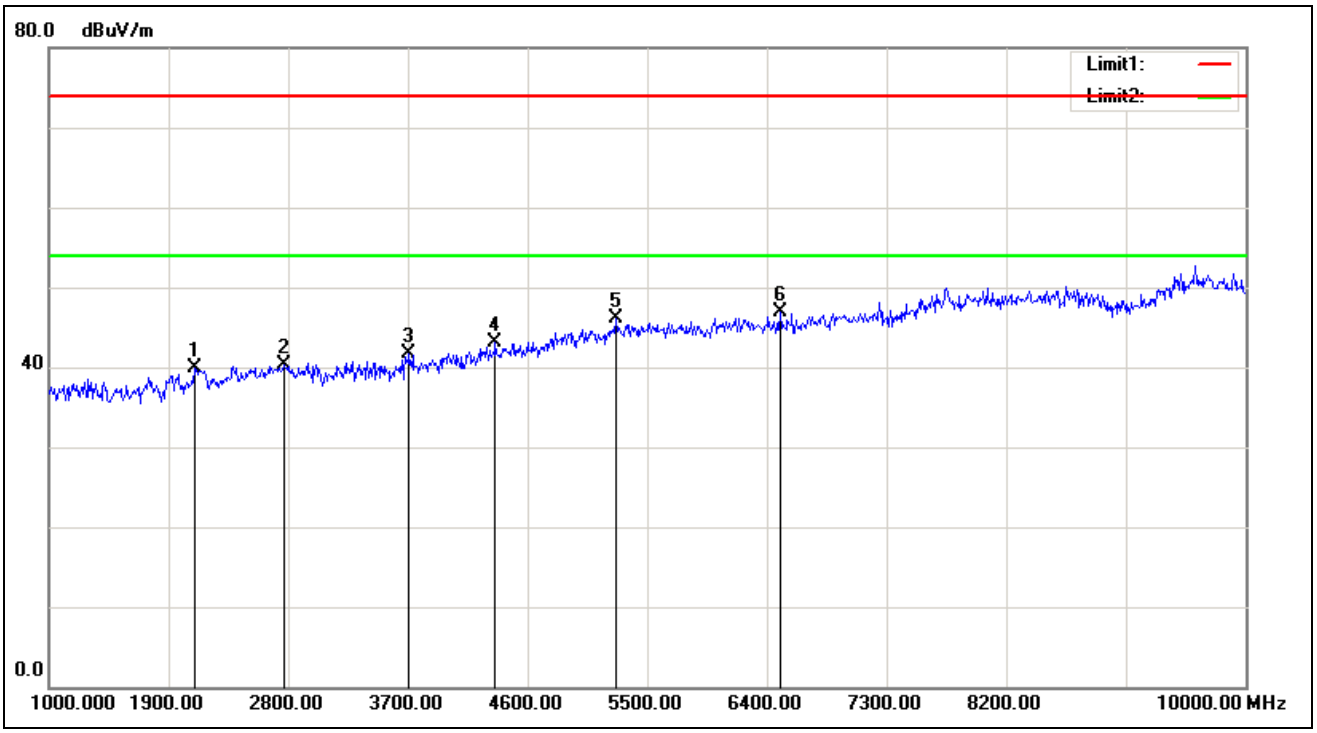
Remark:

1. The emission behaviour belongs to narrowband spurious emission.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

Vertical



Horizontal



Test Mode: EDGE 1900 / RX **Tested by:** Eve Wang

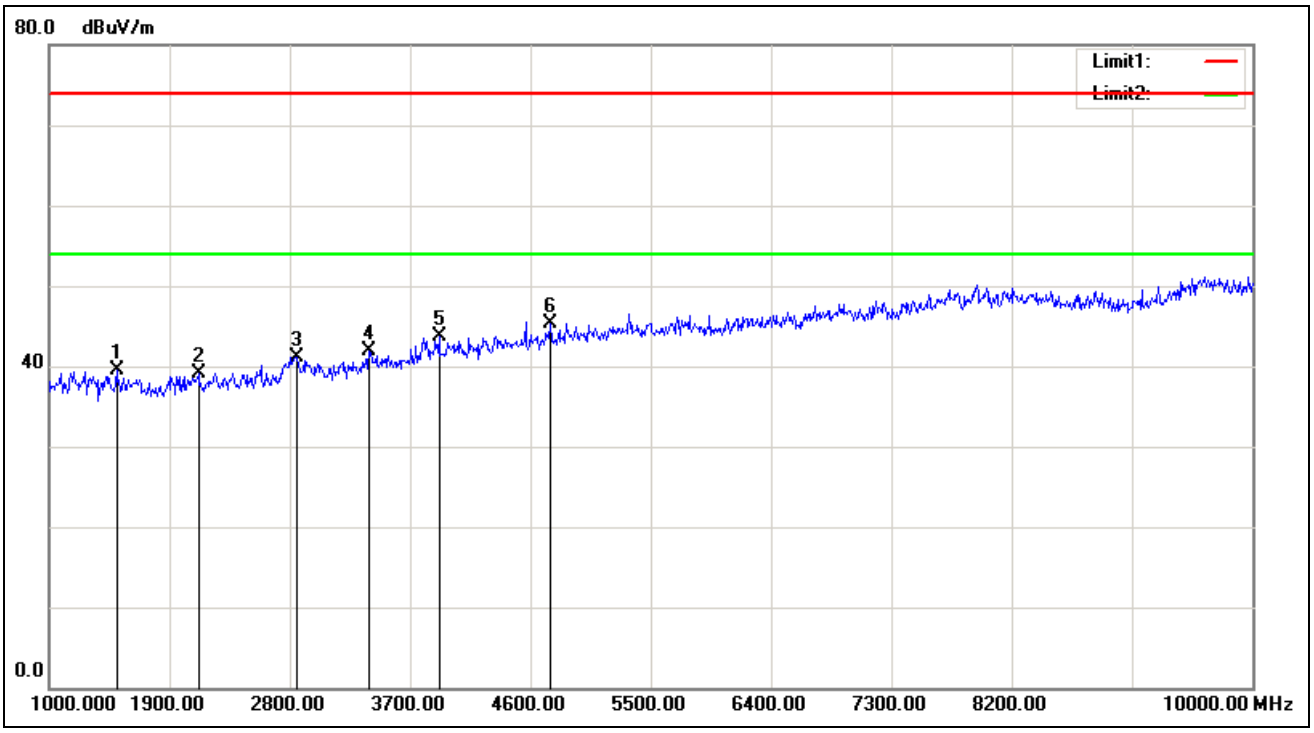
Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** January 8, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1504.000	46.42	-6.87	39.55	74.00	-34.45	V	QP
2116.000	43.51	-4.36	39.15	74.00	-34.85	V	QP
2854.000	42.71	-1.62	41.09	74.00	-32.91	V	QP
3394.000	42.60	-0.70	41.90	74.00	-32.10	V	QP
3916.000	42.52	1.24	43.76	74.00	-30.24	V	QP
4744.000	41.23	4.15	45.38	74.00	-28.62	V	QP
1297.000	46.99	-7.44	39.55	74.00	-34.45	H	QP
1747.000	46.08	-6.38	39.70	74.00	-34.30	H	QP
2098.000	44.36	-4.46	39.90	74.00	-34.10	H	QP
2386.000	42.97	-2.88	40.09	74.00	-33.91	H	QP
3286.000	41.62	-0.88	40.74	74.00	-33.26	H	QP
4357.000	40.84	2.85	43.69	74.00	-30.31	H	QP

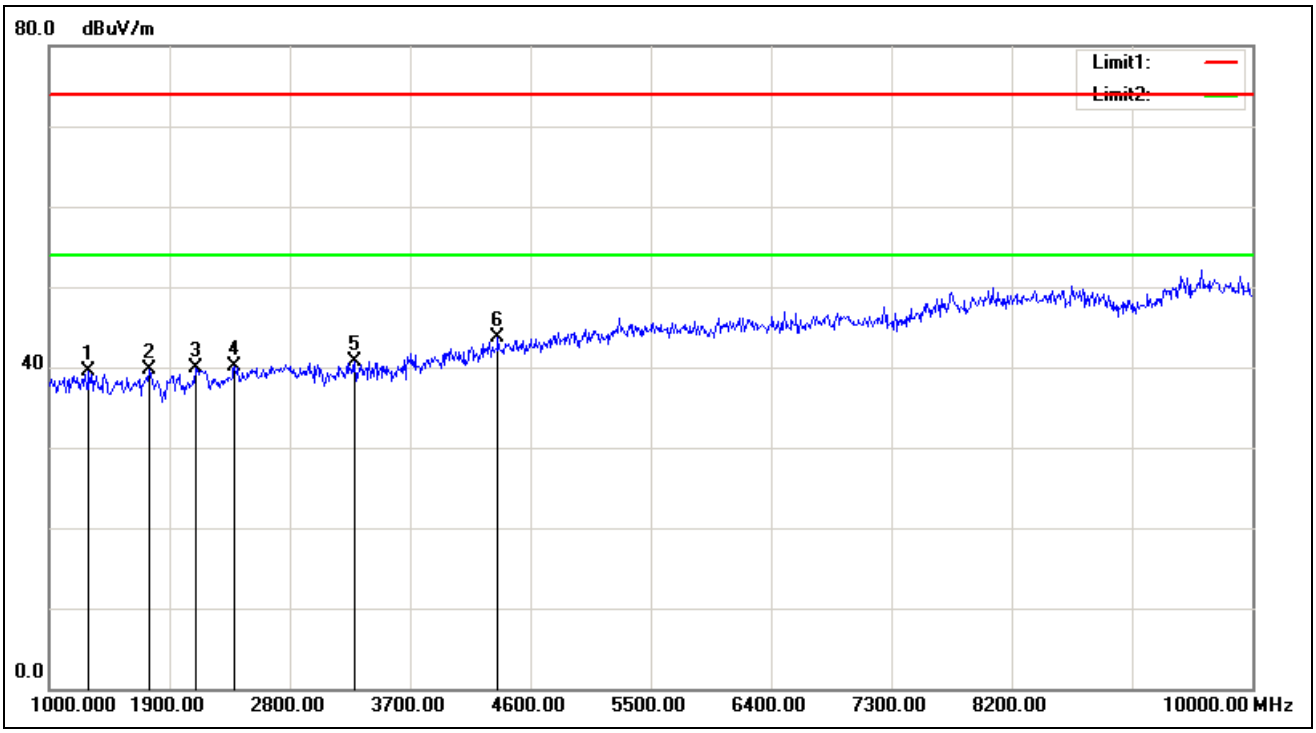
Remark:

1. The emission behaviour belongs to narrowband spurious emission.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

Vertical



Horizontal



Test Mode: WCDMA(Band Ⅱ) / RX **Tested by:** Eve Wang

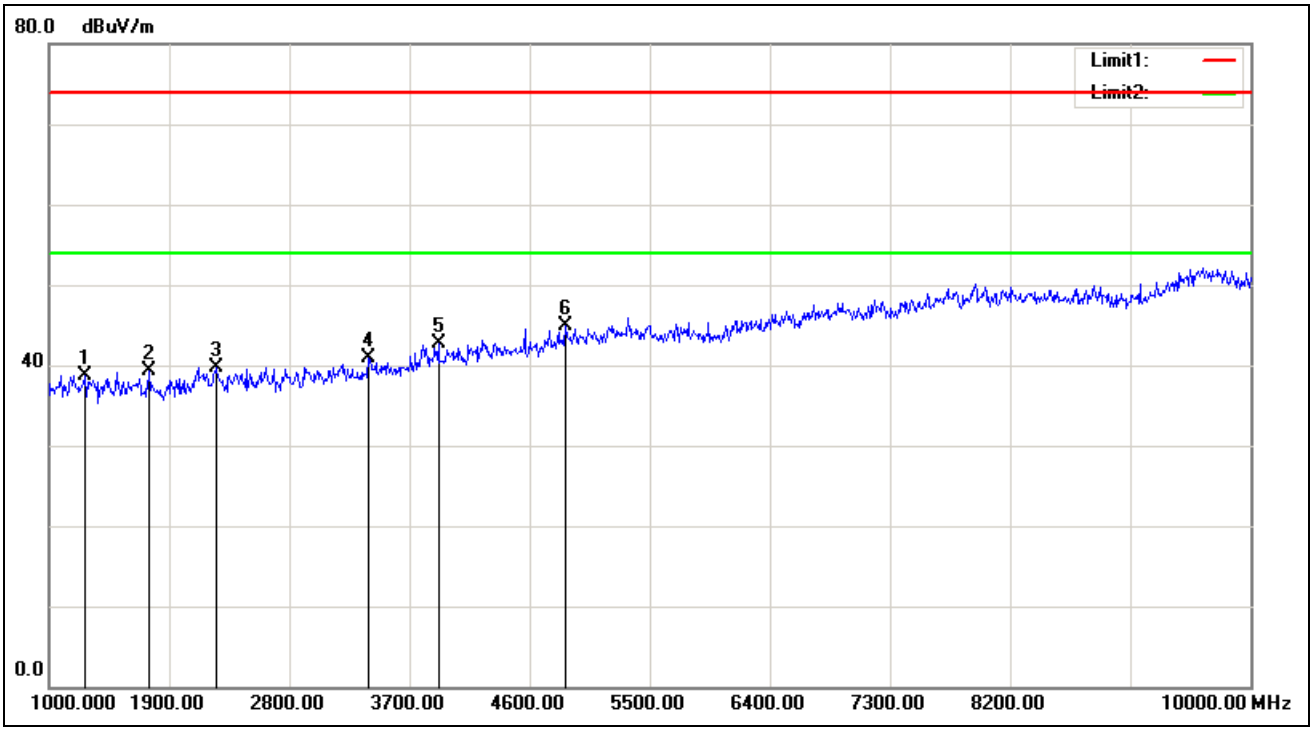
Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** January 8, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1270.000	46.31	-7.53	38.78	74.00	-35.22	V	QP
1747.000	45.77	-6.38	39.39	74.00	-34.61	V	QP
2251.000	43.30	-3.62	39.68	74.00	-34.32	V	QP
3394.000	41.60	-0.70	40.90	74.00	-33.10	V	QP
3916.000	41.52	1.24	42.76	74.00	-31.24	V	QP
4870.000	40.27	4.56	44.83	74.00	-29.17	V	QP
1504.000	47.25	-6.87	40.38	74.00	-33.62	H	QP
2503.000	42.73	-2.25	40.48	74.00	-33.52	H	QP
2674.000	42.26	-1.95	40.31	74.00	-33.69	H	QP
3709.000	41.32	0.36	41.68	74.00	-32.32	H	QP
4357.000	40.84	2.85	43.69	74.00	-30.31	H	QP
4807.000	40.41	4.35	44.76	74.00	-29.24	H	QP

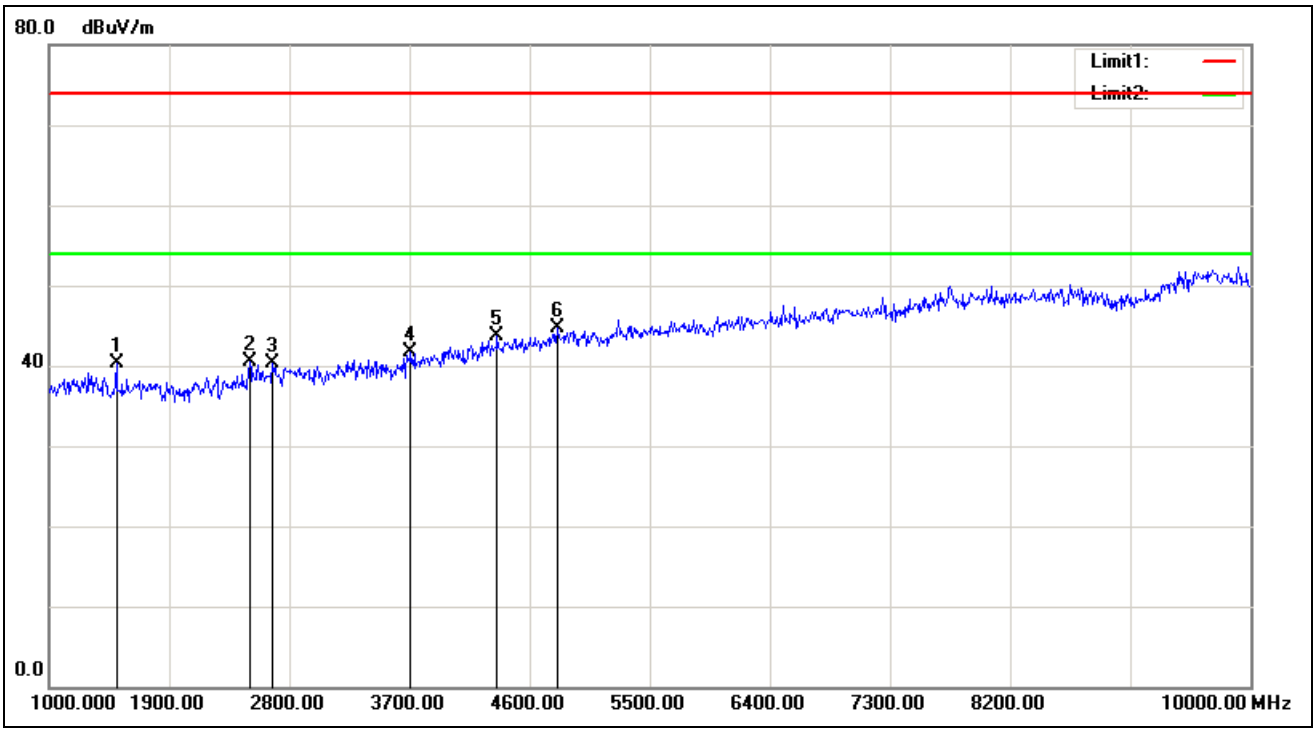
Remark:

1. The emission behaviour belongs to narrowband spurious emission.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

Vertical



Horizontal



Test Mode: WCDMA(Band Ⅴ) / RX **Tested by:** Eve Wang

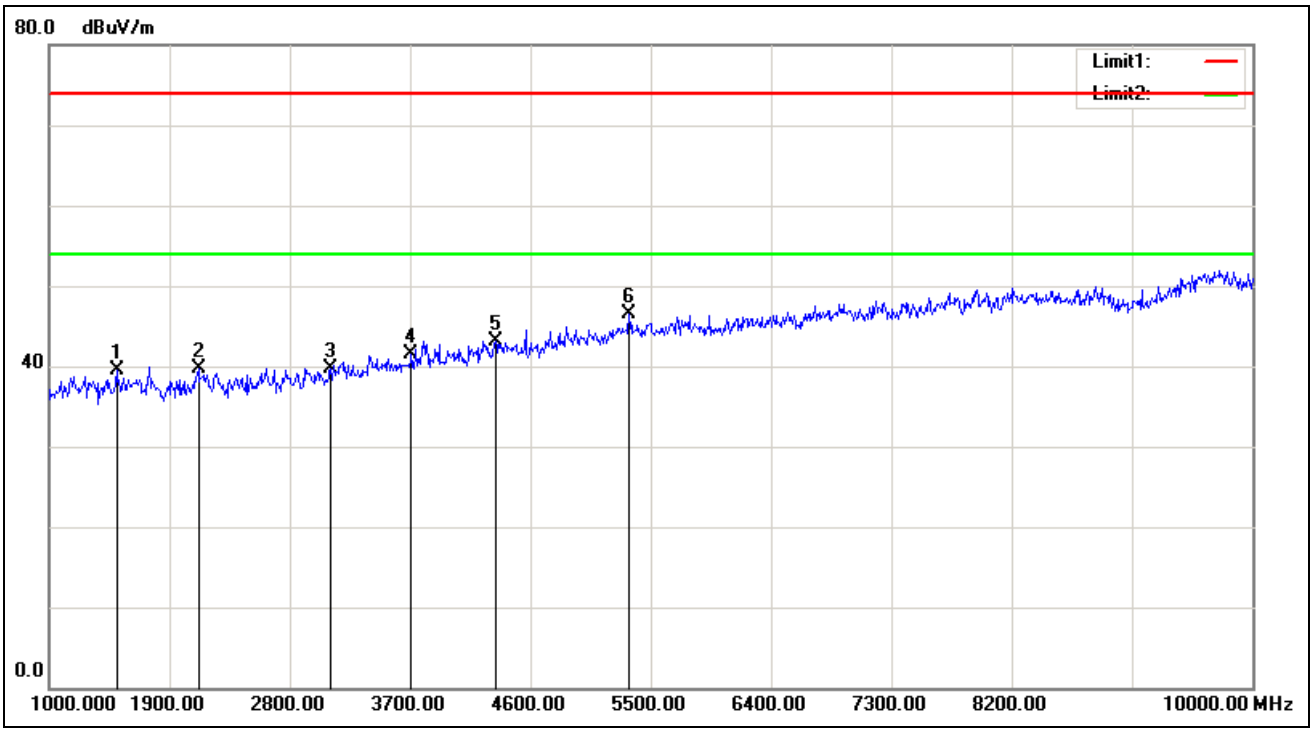
Ambient temperature: 24°C **Relative humidity:** 52% RH **Date:** January 8, 2016

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1504.000	46.42	-6.87	39.55	74.00	-34.45	V	QP
2116.000	44.01	-4.36	39.65	74.00	-34.35	V	QP
3106.000	40.94	-1.18	39.76	74.00	-34.24	V	QP
3709.000	41.15	0.36	41.51	74.00	-32.49	V	QP
4339.000	40.32	2.78	43.10	74.00	-30.90	V	QP
5338.000	40.84	5.58	46.42	74.00	-27.58	V	QP
1504.000	47.75	-6.87	40.88	74.00	-33.12	H	QP
2503.000	42.73	-2.25	40.48	74.00	-33.52	H	QP
3709.000	41.32	0.36	41.68	74.00	-32.32	H	QP
4357.000	40.84	2.85	43.69	74.00	-30.31	H	QP
5014.000	39.78	5.00	44.78	74.00	-29.22	H	QP
5266.000	40.16	5.45	45.61	74.00	-28.39	H	QP

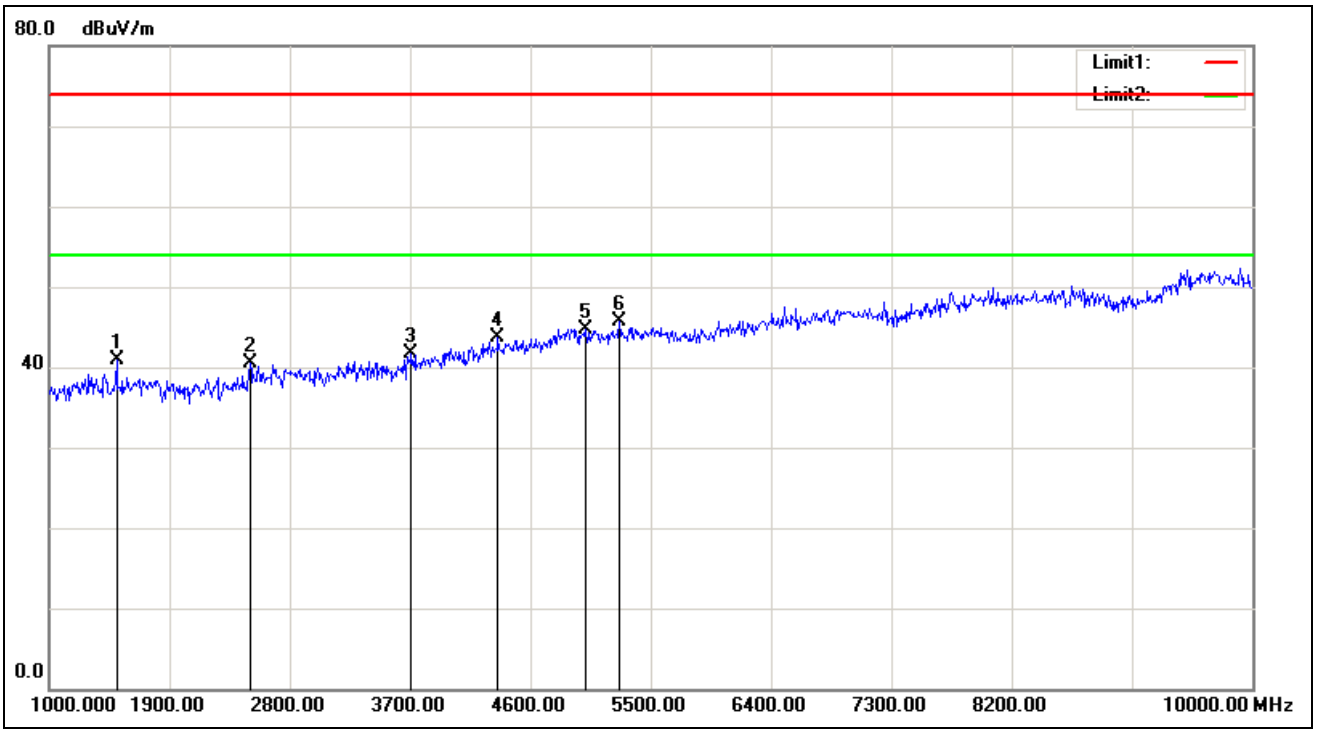
Remark:

1. The emission behaviour belongs to narrowband spurious emission.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.

Vertical



Horizontal



6.8. FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT

.6.9.1. LIMIT

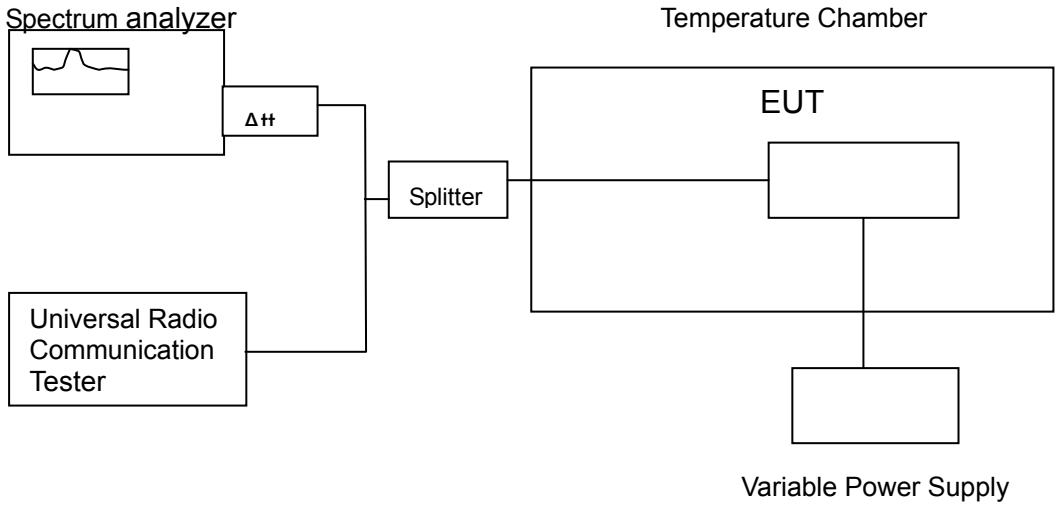
According to FCC §2.1055, FCC §24.235, RSS-132 (4.3) & RSS-133 (6.3).
Frequency Tolerance: 2.5 ppm

.6.9.2. MEASUREMENT EQUIPMENT USED

Name of Equipment	Manufacturer	Model	Serial Number	Last Calibration	Due Calibration
Spectrum Analyzer	Agilent	N9010A	MY52221469	10/25/2015	10/24/2016
Temperature Chamber	YOUNG CHENN	QA-LP-10	200302001	10/27/2015	10/26/2016
DC POWER	QJE	QJ3003XE	018398	N/A	N/A
Universal Radio Communication Tester	Agilent	8960	MY48367671	09/04/2015	09/03/2016

Remark: *Each piece of equipment is scheduled for calibration once a year.*

.6.9.3. TEST CONFIGURATION



Remark: *Measurement setup for testing on Antenna connector.*

.6.9.4. TEST PROCEDURE

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20^{o}C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to –30^{o}C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10^{o}C increased per stage until the highest temperature of +50^{o}C reached.

.6.9.5. TEST RESULTS

No non-compliance noted.

Reference Frequency: GPRS Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
230	50	83599979	-13	2090
	40	83599969	-23	
	30	83599980	-12	
	20	83599992	0	
	10	83599969	-23	
	0	83599980	-12	
	-10	83599968	-24	
	-20	83599979	-13	
	-30	83599985	-7	

Reference Frequency: GPRS Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
230	50	1879999979	4	4700
	40	1879999974	-1	
	30	1879999980	5	
	20	1879999975	0	
	10	1879999984	9	
	0	1879999980	5	
	-10	1879999975	0	
	-20	1879999969	-6	
	-30	1879999972	-3	

Reference Frequency: EDGE Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
230	50	83599959	-45	2090
	40	83599965	-39	
	30	83599964	-40	
	20	83600004	0	
	10	83599980	-24	
	0	83599972	-32	
	-10	83599969	-35	
	-20	83599974	-30	
	-30	83599985	-19	

Reference Frequency: EDGE Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
230	50	1879999985	-3	4700
	40	1879999987	-1	
	30	1879999979	-9	
	20	1879999988	0	
	10	1879999978	-10	
	0	1879999969	-19	
	-10	1879999986	-2	
	-20	1879999979	-9	
	-30	1879999986	-2	

Reference Frequency: WCDMA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
230	50	1879999997	-15	4700
	40	1879999997	-15	
	30	1879999995	-17	
	20	1880000012	0	
	10	1879999998	-14	
	0	1880000004	-8	
	-10	1880000003	-9	
	-20	1880000003	-9	
	-30	1880000001	-11	

Reference Frequency: WCDMA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: +/- 2.5 ppm = 2090 Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
230	50	83599998	-33	2090
	40	83599999	-32	
	30	83599995	-36	
	20	83600031	0	
	10	83599992	-39	
	0	83599991	-40	
	-10	83600001	-30	
	-20	83600006	-25	
	-30	83599998	-33	

6.9. FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT

.6.10.1. LIMIT

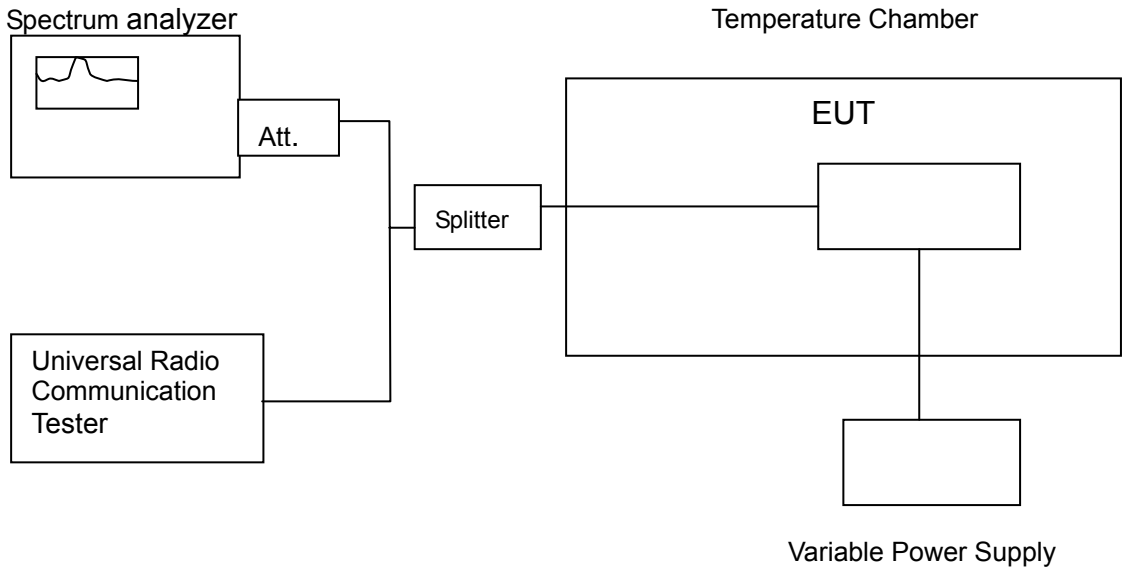
According to FCC §2.1055, FCC §24.235,
Frequency Tolerance: 2.5 ppm.

According to RSS-132 (4.3) & RSS-133 (6.3).
The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations and ±1.0 ppm for base stations.

.6.10.2. MEASUREMENT EQUIPMENT USED

Name of Equipment	Manufacturer	Model	Serial Number	Last Calibration	Due Calibration
Spectrum Analyzer	Agilent	N9010A	MY52221469	10/25/2015	10/24/2016
Temperature Chamber	YOUNG CHENN	QA-LP-10	200302001	10/27/2015	10/26/2016
DC POWER	QJE	QJ3003XE	018398	N/A	N/A
Universal Radio Communication Tester	Agilent	8960	MY48367671	09/04/2015	09/03/2016

.6.10.3. TEST CONFIGURATION



Remark: *Measurement setup for testing on Antenna connector.*

.6.10.4. TEST PROCEDURE

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.
Reduce the input voltage to specify extreme voltage variation (± 15%) and endpoint, record the maximum frequency change.

.6.10.5. TEST RESULTS

No non-compliance noted.

Reference Frequency: GPRS Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
253	20	83599988	-4	2090
230		83599992	0	
207		83600008	16	

Reference Frequency: GPRS Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
253	20	1879999960	-11	4700
230		1879999971	0	
207		1879999966	-5	

Reference Frequency: EDGE Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
253	20	83600009	5	2090
230		83600004	0	
207		83600003	-1	

Reference Frequency: EDGE Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vdc	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
253	20	1879999990	2	4700
230		1879999988	0	
207		1879999947	-41	

Reference Frequency: WCDMA Band II Mid Channel 1880 MHz @ 20°C				
Limit: ± 2.5 ppm = 4700Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
253	20	1880000016	4	4700
230		1880000012	0	
207		1880000013	1	

Reference Frequency: WCDMA Band V Mid Channel 836.6 MHz @ 20°C				
Limit: ± 2.5 ppm = 2090Hz				
Power Supply Vac	Environment Temperature (°C)	Frequency (Hz)	Delta (Hz)	Limit (Hz)
253	20	83600017	-14	2090
230		83600031	0	
207		83600025	-6	

6.10. POWERLINE CONDUCTED EMISSION

.6.11.1. LIMIT

According to §15.207(a) & RSS-Gen §7.2.4, except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency Range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5	56	46
5 to 30	60	50

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

6.10.1. TEST INSTRUMENTS

Conducted Emission Test Site					
Name of Equipment	Manufacturer	Model Number	Serial Number	Last Calibration	Due Calibration
EMI TEST RECEIVER	ROHDE&SCHWARZ	ESCI	100783	02/28/2015	02/27/2016
LISN(EUT)	ROHDE&SCHWARZ	ENV216	101543-WX	02/28/2015	02/27/2016
LISN	EMCO	3825/2	8901-1459	02/28/2015	02/27/2016
Temp. / Humidity Meter	VICTOR	HTC-1	N/A	02/28/2015	02/27/2016
Test S/W	FARAD	EZ-EMC/ CCS-3A1-CE			

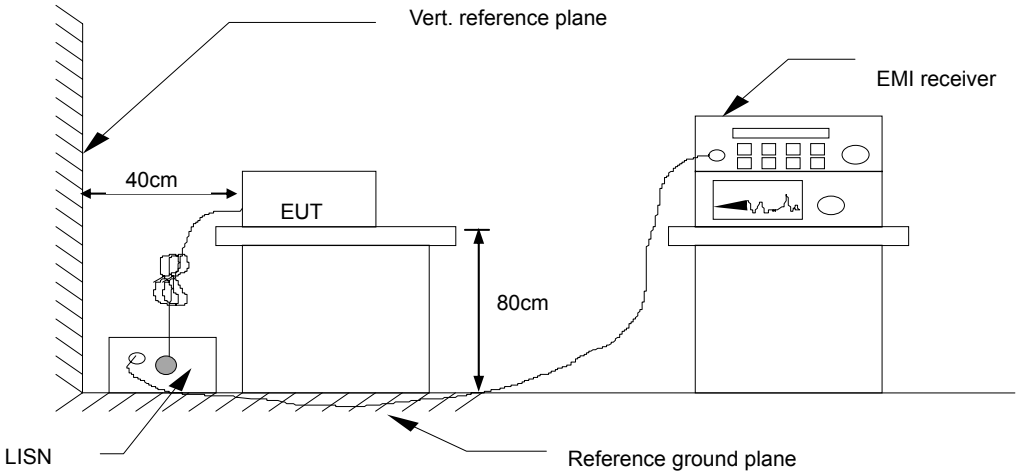
NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. N.C.R = No Calibration Request.

6.10.2. TEST PROCEDURES (please refer to measurement standard)

- The EUT was placed on a table, which is 0.8m above ground plane.
- Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- Repeat above procedures until all frequency measured were complete.

6.10.3. TEST SETUP



See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

6.10.4. TEST RESULTS

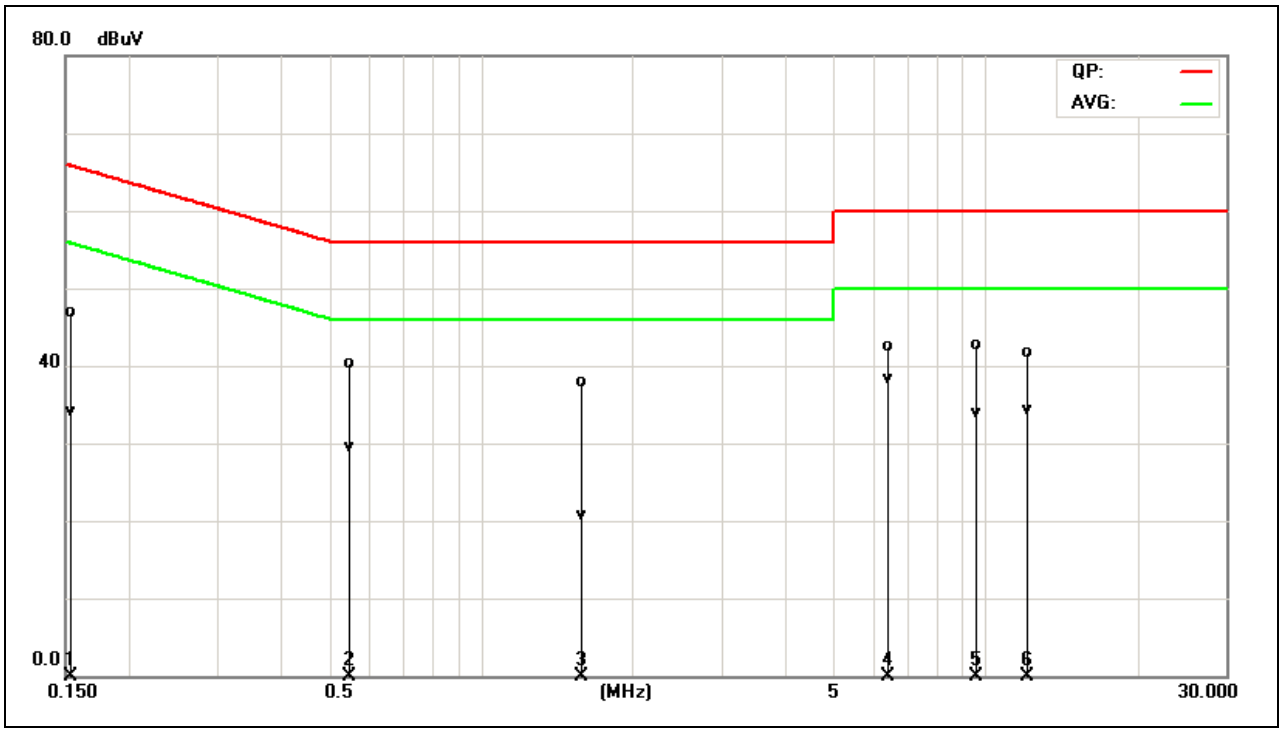
The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. Significant peaks are then marked as shown on the following data page, and these signals are then quasi-peaked.

Test Data

Operation Mode: 100Mbps 10% **Test Date:** December 31, 2015

Temperature: 22°C **Humidity:** 45% RH

Tested by: Eve Wang



Frequency (MHz)	QuasiPeak Reading (dBuV)	Average Reading (dBuV)	Correction Factor (dB)	QuasiPeak Result (dBuV)	Average Result (dBuV)	QuasiPeak Limit (dBuV)	Average Limit (dBuV)	QuasiPeak Margin (dB)	Average Margin (dB)	Line (L1/L2)
0.1539	37.26	24.60	9.59	46.85	34.19	65.78	55.79	-18.93	-21.60	L1
0.5460	30.53	19.72	9.70	40.23	29.42	56.00	46.00	-15.77	-16.58	L1
1.5780	28.21	11.02	9.72	37.93	20.74	56.00	46.00	-18.07	-25.26	L1
6.3740	32.78	28.59	9.75	42.53	38.34	60.00	50.00	-17.47	-11.66	L1
9.5980	32.86	24.05	9.86	42.72	33.91	60.00	50.00	-17.28	-16.09	L1
12.0100	31.90	24.32	9.89	41.79	34.21	60.00	50.00	-18.21	-15.79	L1

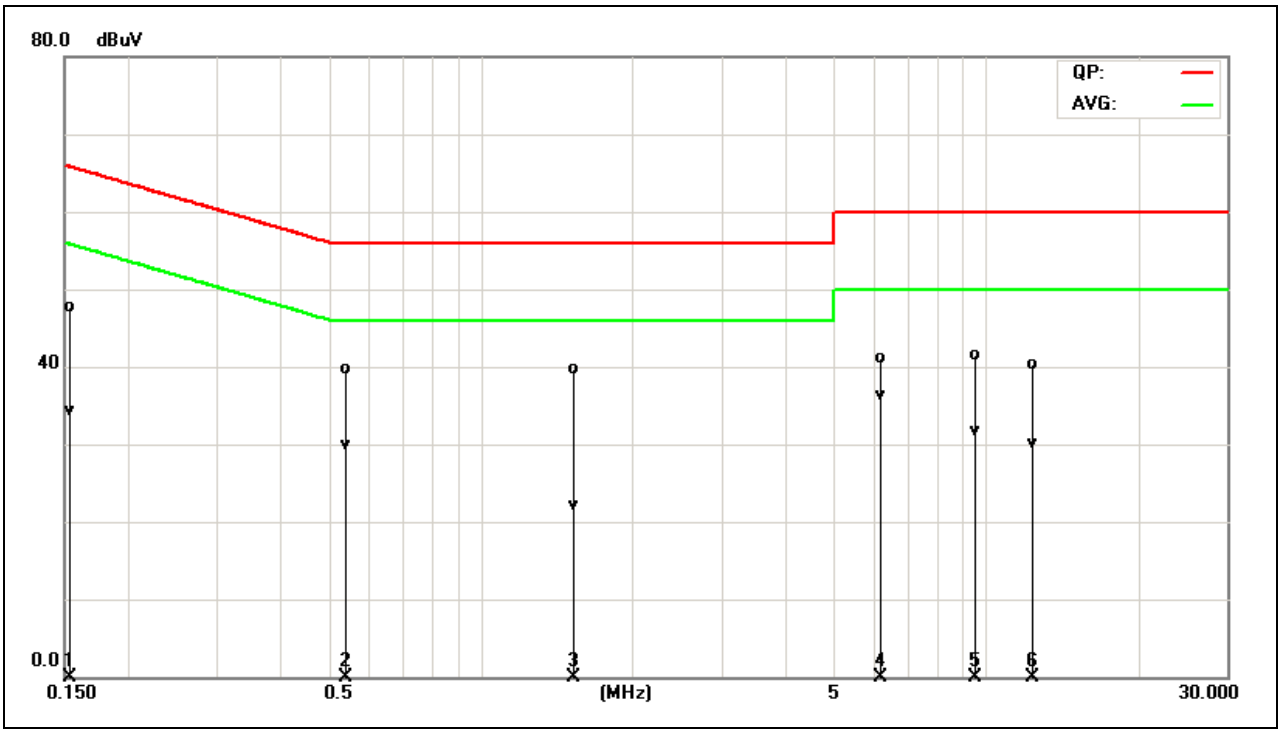
Note:

1. *Measuring frequencies from 0.15 MHz to 30MHz.*
2. *The emissions measured in frequency range from 0.15 MHz to 30MHz were made with an instrument using Peak detector, Quasi-peak detector and average detector.*
3. *"---" denotes the emission level was or more than 2dB below the Average limit.*
4. *The IF bandwidth of SPA between 0.15MHz to 30MHz was 10kHz; the IF bandwidth of Test Receiver between 0.15MHz to 30MHz was 9kHz;*
5. *L1= Line One (Live Line)*

Operation Mode: 100Mbps 10% **Test Date:** December 31, 2015

Temperature: 22 °C **Humidity:** 45% RH

Tested by: Eve Wang



Frequency (MHz)	QuasiPeak Reading (dBuV)	Average Reading (dBuV)	Correction Factor (dB)	QuasiPeak Result (dBuV)	Average Result (dBuV)	QuasiPeak Limit (dBuV)	Average Limit (dBuV)	QuasiPeak Margin (dB)	Average Margin (dB)	Line (L1/L2)
0.1539	37.84	24.50	9.78	47.62	34.28	65.78	55.79	-18.16	-21.51	L2
0.5380	29.94	20.19	9.68	39.62	29.87	56.00	46.00	-16.38	-16.13	L2
1.5220	29.84	12.27	9.77	39.61	22.04	56.00	46.00	-16.39	-23.96	L2
6.1740	31.27	26.59	9.78	41.05	36.37	60.00	50.00	-18.95	-13.63	L2
9.4620	31.65	21.91	9.85	41.50	31.76	60.00	50.00	-18.50	-18.24	L2
12.2780	30.47	20.26	9.80	40.27	30.06	60.00	50.00	-19.73	-19.94	L2

Note:

1. *Measuring frequencies from 0.15 MHz to 30MHz.*
2. *The emissions measured in frequency range from 0.15 MHz to 30MHz were made with an instrument using Peak detector, Quasi-peak detector and average detector.*
3. *"---" denotes the emission level was or more than 2dB below the Average limit.*
4. *The IF bandwidth of SPA between 0.15MHz to 30MHz was 10kHz; the IF bandwidth of Test Receiver between 0.15MHz to 30MHz was 9kHz;*
5. *L2= Line Two (Neutral Line)*