

3.5 Band Edge Measurement

3.5.1 Description of Band Edge Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

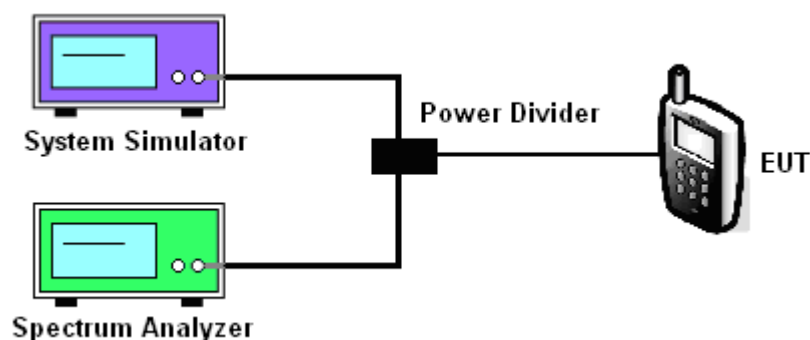
3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

3.5.3 Test Procedures

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. The band edges of low and high channels for the highest RF powers were measured. Setting RBW as roughly BW/100.
4. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
5. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10\log(P)] \text{ (dB)}$
 $= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$
 $= -13\text{dBm}.$

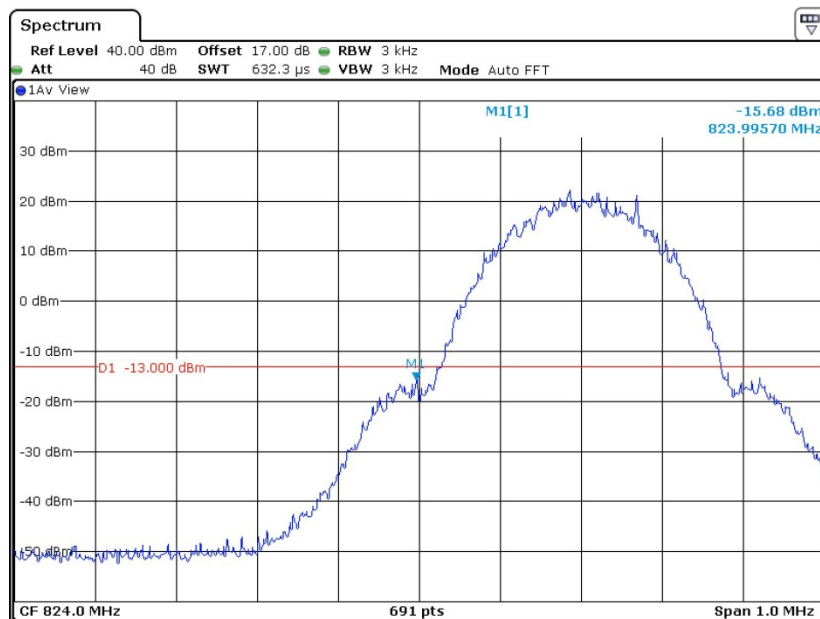
3.5.4 Test Setup



3.5.5 Test Result (Plots) of Conducted Band Edge

Band :	GSM850	Test Mode :	GSM Link (GMSK)
Correction Factor :	0.24dB	Maximum 26dB Bandwidth :	0.317MHz
Band Edge :	-15.44dBm	Measurement Value :	-15.68dBm

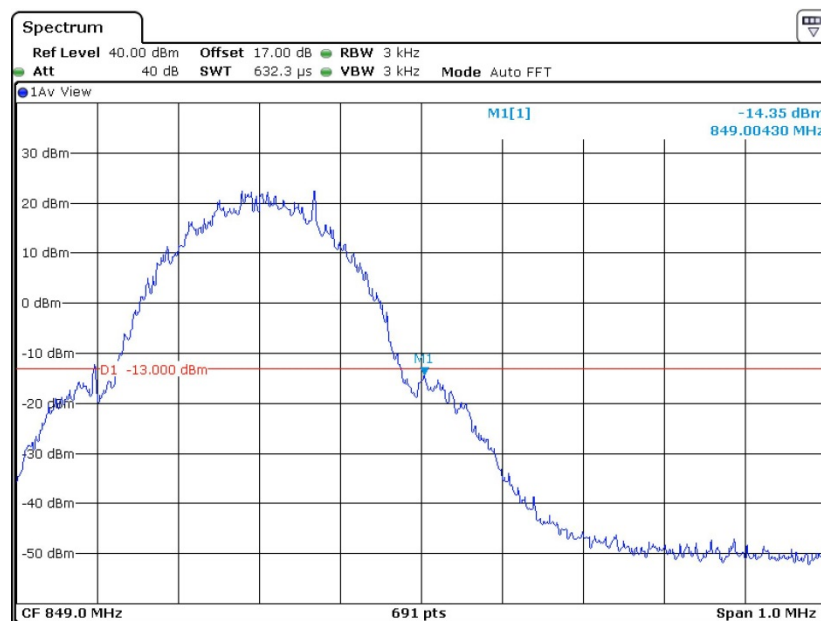
Lower Band Edge Plot on Channel 128 (824.2 MHz)



Date: 5.MAY.2013 06:06:36

1. Correction Factor(dB)= $10\log(1\% \text{ Emission BW/RBW})$
2. Band Edge= Measurement Value + Correction Factor(dB)
For example, $-15.68\text{dBm} + 0.24\text{dB} = -15.44\text{dBm}$

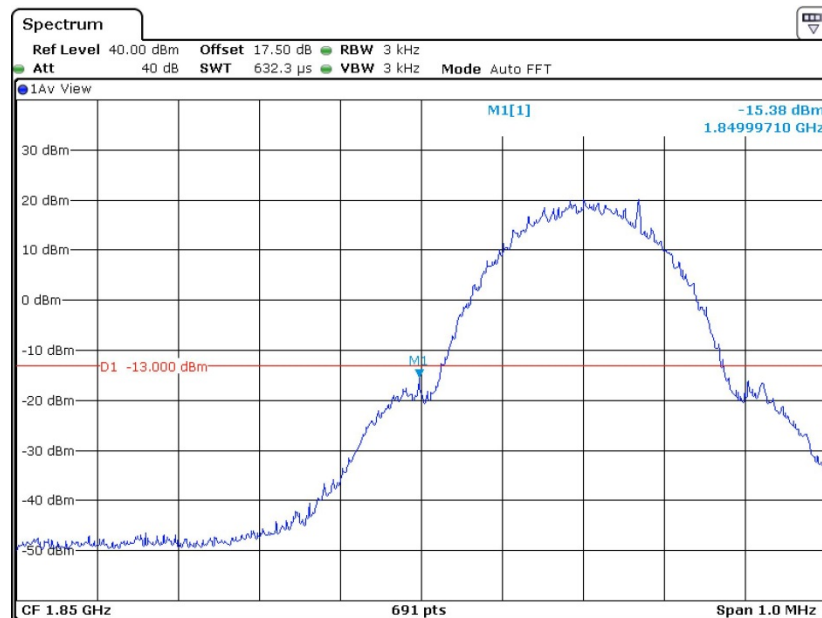
Band :	GSM850	Test Mode :	GSM Link (GMSK)
Correction Factor :	0.24dB	Maximum 26dB Bandwidth :	0.317MHz
Band Edge :	-14.11dBm	Measurement Value :	-14.35dBm

Higher Band Edge Plot on Channel 251 (848.8 MHz)


Date: 5.MAY.2013 06:17:30

1. Correction Factor(dB)= $10\log(1\% \text{ Emission BW/RBW})$
2. Band Edge= Measurement Value + Correction Factor(dB)

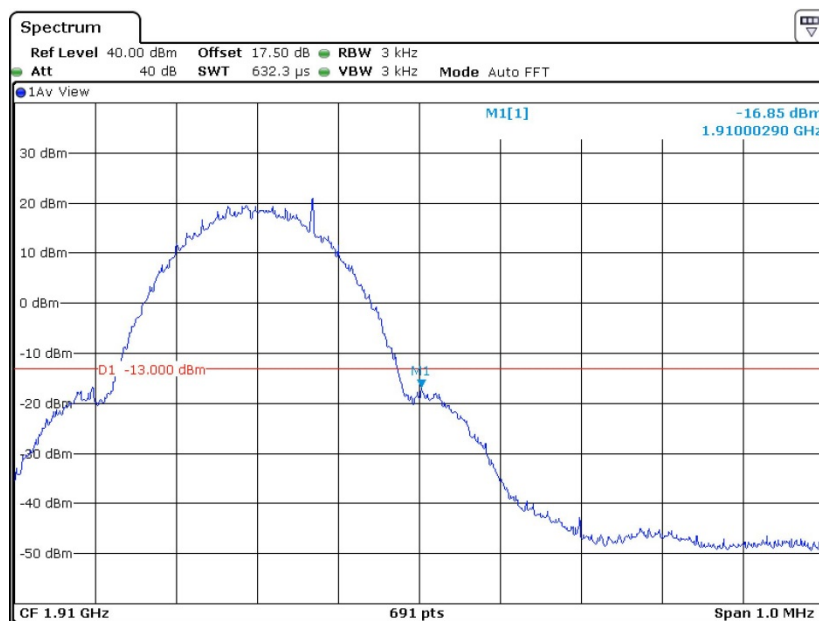
Band :	GSM1900	Test Mode :	GSM Link (GMSK)
Correction Factor :	0.24dB	Maximum 26dB Bandwidth :	0.317MHz
Band Edge :	-15.14dBm	Measurement Value :	-15.38dBm

Lower Band Edge Plot on Channel 512 (1850.2 MHz)


Date: 6.MAY.2013 04:02:05

1. $\text{Correction Factor(dB)} = 10\log(1\% \text{ Emission BW/RBW})$
2. $\text{Band Edge} = \text{Measurement Value} + \text{Correction Factor(dB)}$

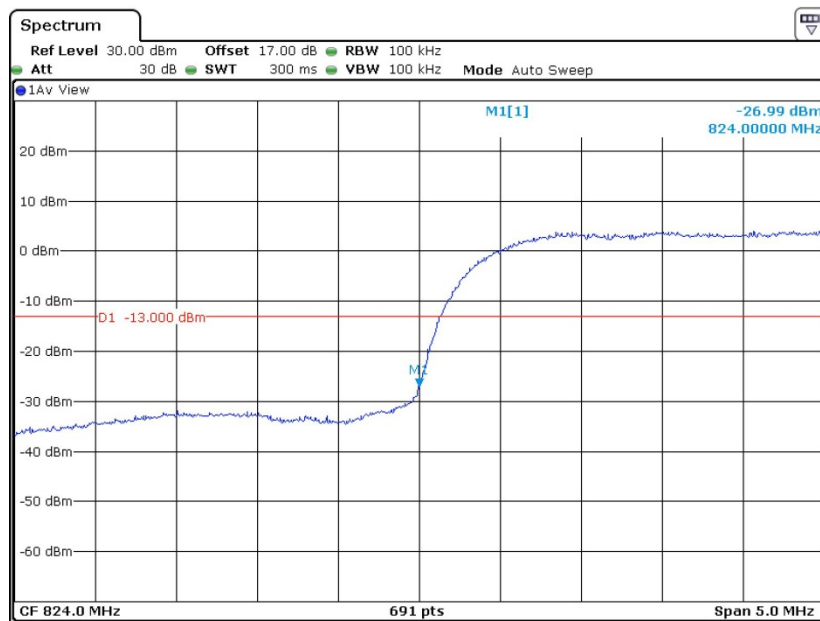
Band :	GSM1900	Test Mode :	GSM Link (GMSK)
Correction Factor :	0.24dB	Maximum 26dB Bandwidth :	0.317MHz
Band Edge :	-16.61dBm	Measurement Value :	-16.85dBm

Higher Band Edge Plot on Channel 810 (1909.8 MHz)


Date: 5.MAY.2013 06:25:59

1. Correction Factor(dB)= $10\log(1\% \text{ Emission BW/RBW})$
2. Band Edge= Measurement Value + Correction Factor(dB)

Band :	WCDMA Band V	Test Mode :	RMC 12.2Kbps Link (QPSK)
Correction Factor :	-3.26dB	Maximum 26dB Bandwidth :	4.718MHz
Band Edge :	-30.25dBm	Measurement Value :	-26.99dBm

Lower Band Edge Plot on Channel 4132 (826.4 MHz)


Date: 4.MAY.2013 11:02:18

1. Correction Factor(dB)= $10\log(1\% \text{ Emission BW/RBW})$
2. Band Edge= Measurement Value + Correction Factor(dB)

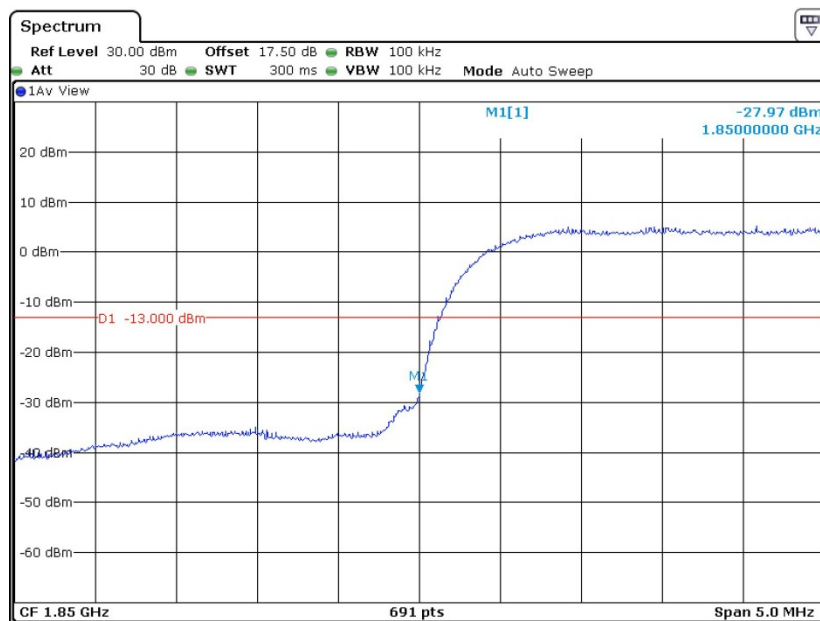
Band :	WCDMA Band V	Test Mode :	RMC 12.2Kbps Link (QPSK)
Correction Factor :	-3.26dB	Maximum 26dB Bandwidth :	4.718MHz
Band Edge :	-31.48dBm	Measurement Value :	-28.22dBm

Higher Band Edge Plot on Channel 4233 (846.6 MHz)


Date: 4.MAY.2013 11:03:01

1. Correction Factor(dB)= $10\log(1\% \text{ Emission BW/RBW})$
2. Band Edge= Measurement Value + Correction Factor(dB)

Band :	WCDMA Band II	Test Mode :	RMC 12.2Kbps Link (QPSK)
Correction Factor :	-3.26dB	Maximum 26dB Bandwidth :	4.718MHz
Band Edge :	-31.23dBm	Measurement Value :	-27.97dBm

Lower Band Edge Plot on Channel 9262 (1852.4 MHz)


Date: 4.MAY.2013 10:27:31

1. Correction Factor(dB)= $10\log(1\% \text{ Emission BW/RBW})$
2. Band Edge= Measurement Value + Correction Factor(dB)

Band :	WCDMA Band II	Test Mode :	RMC 12.2Kbps Link (QPSK)
Correction Factor :	-3.26dB	Maximum 26dB Bandwidth :	4.718MHz
Band Edge :	-28.86dBm	Measurement Value :	-25.60dBm

Higher Band Edge Plot on Channel 9538 (1907.6 MHz)


Date: 4.MAY.2013 10:28:04

1. Correction Factor(dB)= $10\log(1\% \text{ Emission BW/RBW})$
2. Band Edge= Measurement Value + Correction Factor(dB)

3.6 Conducted Spurious Emission Measurement

3.6.1 Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

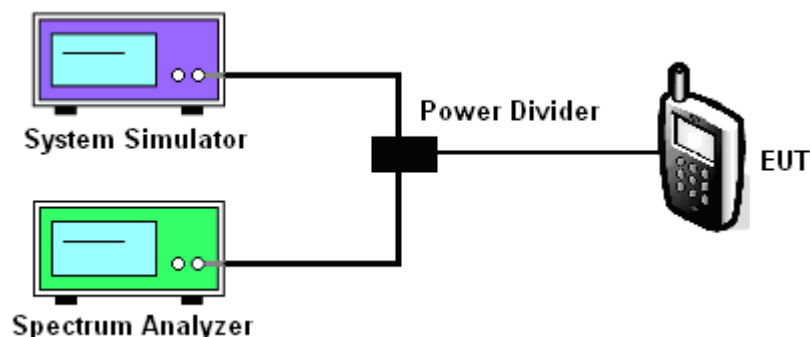
1. The EUT was connected to spectrum analyzer and base station via power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. The middle channel for the highest RF power within the transmitting frequency was measured.
4. The conducted spurious emission for the whole frequency range was taken.
5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
6. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)

$$= P(W) - [43 + 10\log(P)] \text{ (dB)}$$

$$= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$$

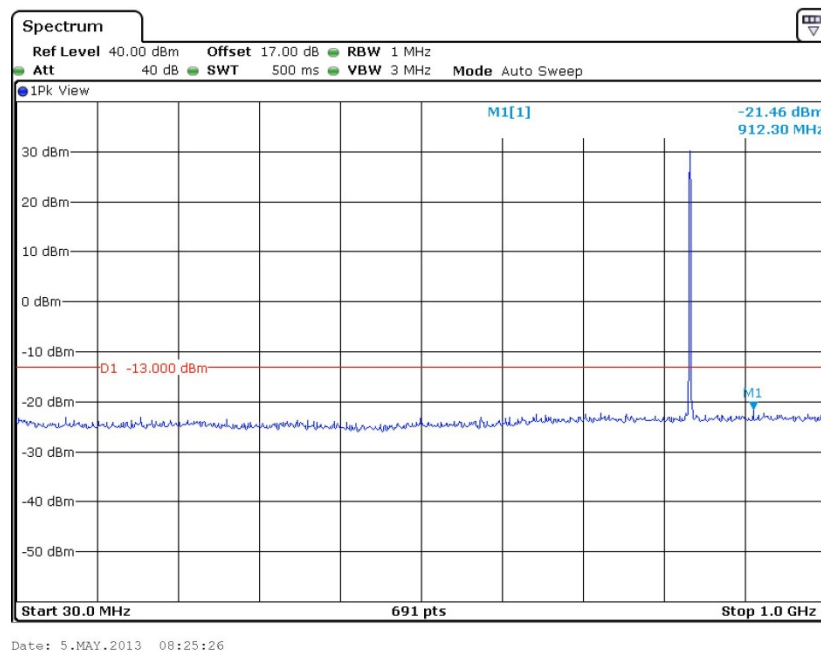
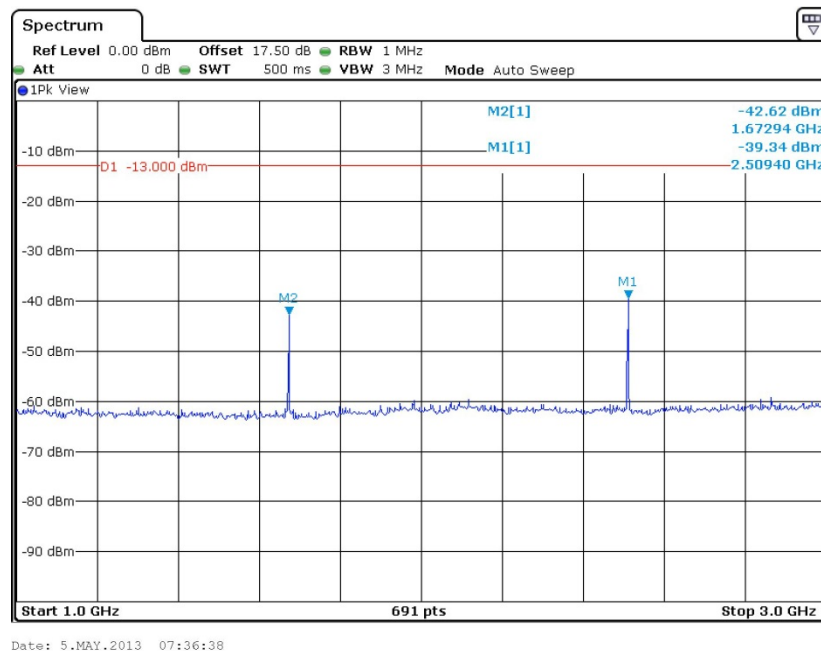
$$= -13\text{dBm}$$

3.6.4 Test Setup

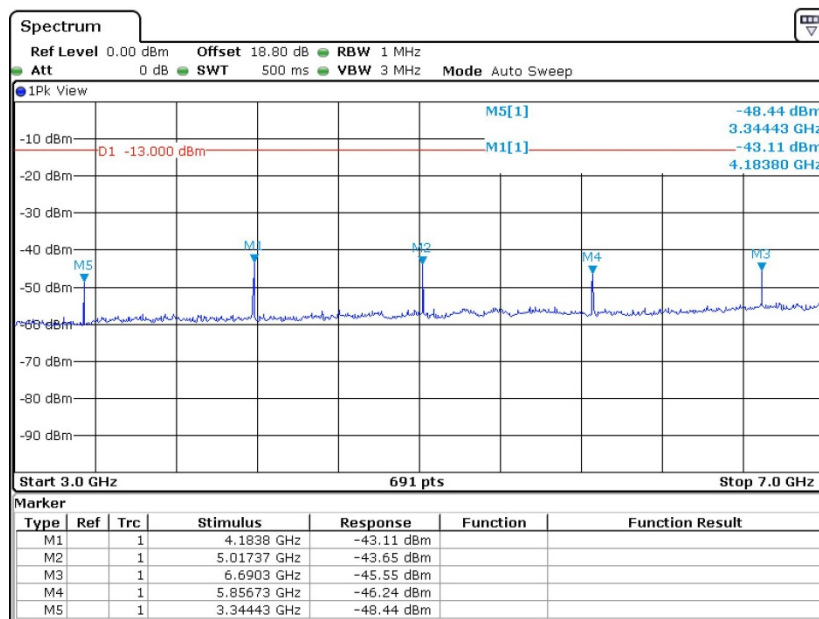


3.6.5 Test Result (Plots) of Conducted Spurious Emission

Band :	GSM850	Channel :	CH189
Test Mode :	GSM Link (GMSK)	Frequency :	836.4 MHz

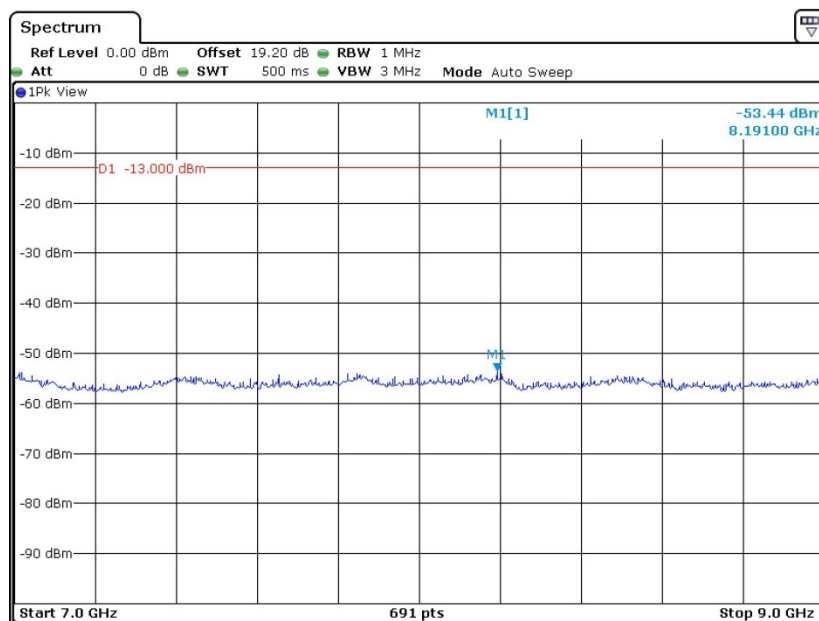
Conducted Spurious Emission Plot between 30MHz ~ 1GHz

Conducted Spurious Emission Plot between 1GHz ~ 3GHz


Conducted Spurious Emission Plot between 3GHz ~ 7GHz



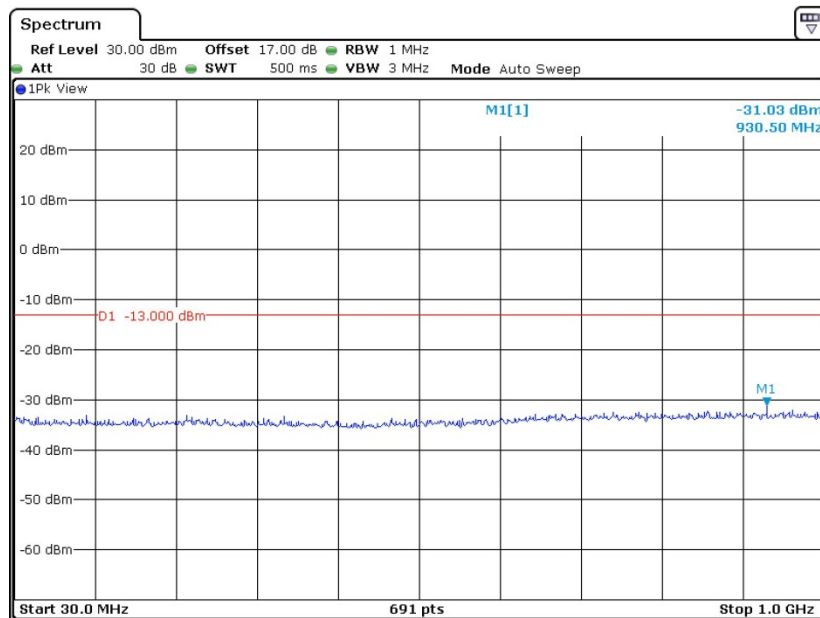
Date: 5.MAY.2013 07:39:14

Conducted Spurious Emission Plot between 7GHz ~ 9GHz

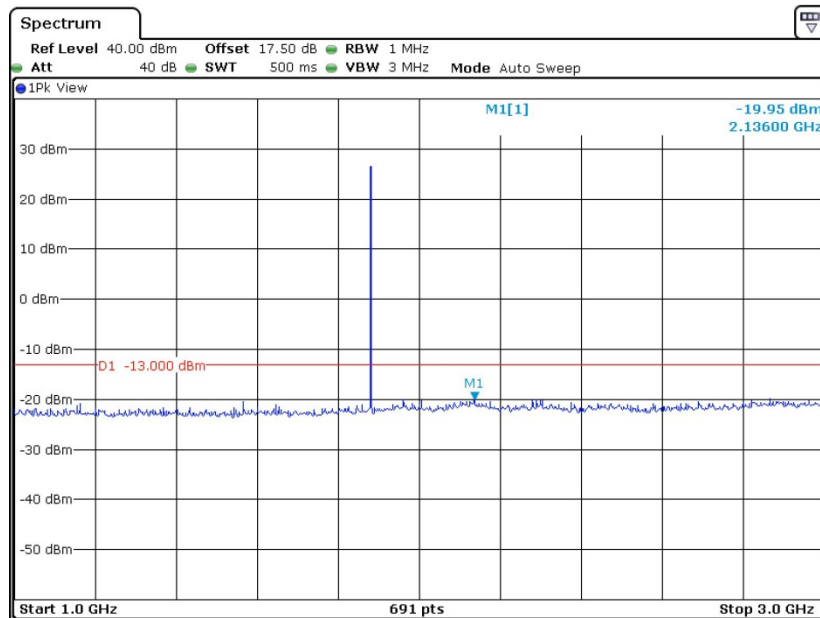


Date: 5.MAY.2013 07:41:08

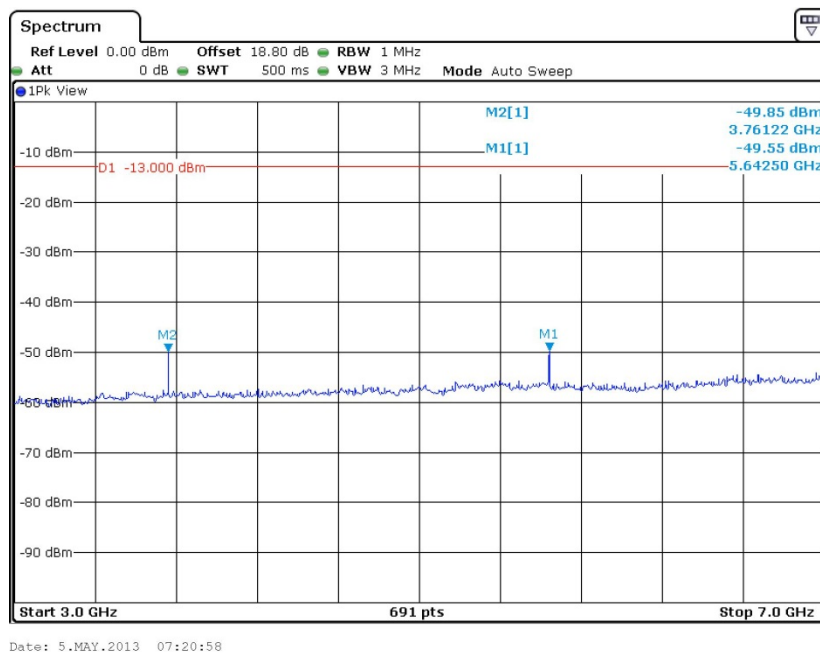
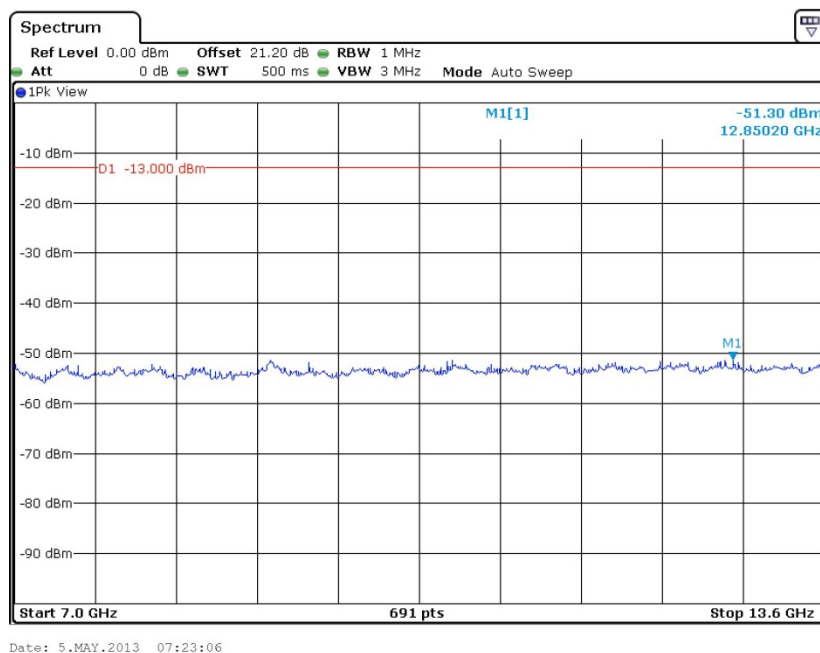
Band :	GSM1900	Channel :	CH661
Test Mode :	GSM Link (GMSK)	Frequency :	1880.0 MHz

Conducted Spurious Emission Plot between 30MHz ~ 1GHz


Date: 5.MAY.2013 07:09:02

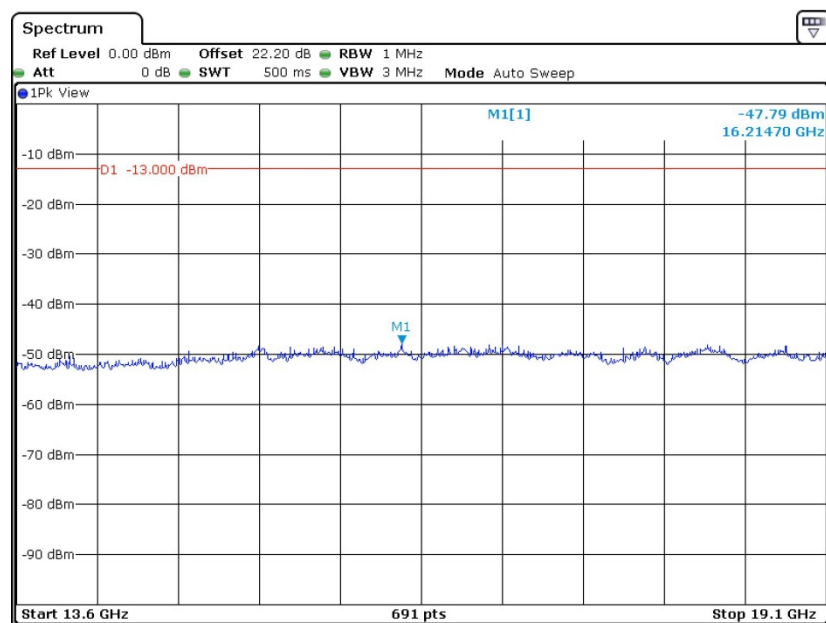
Conducted Spurious Emission Plot between 1GHz ~ 3GHz


Date: 5.MAY.2013 07:15:03

Conducted Spurious Emission Plot between 3GHz ~ 7GHz

Conducted Emission Plot between 7GHz ~ 13.6GHz




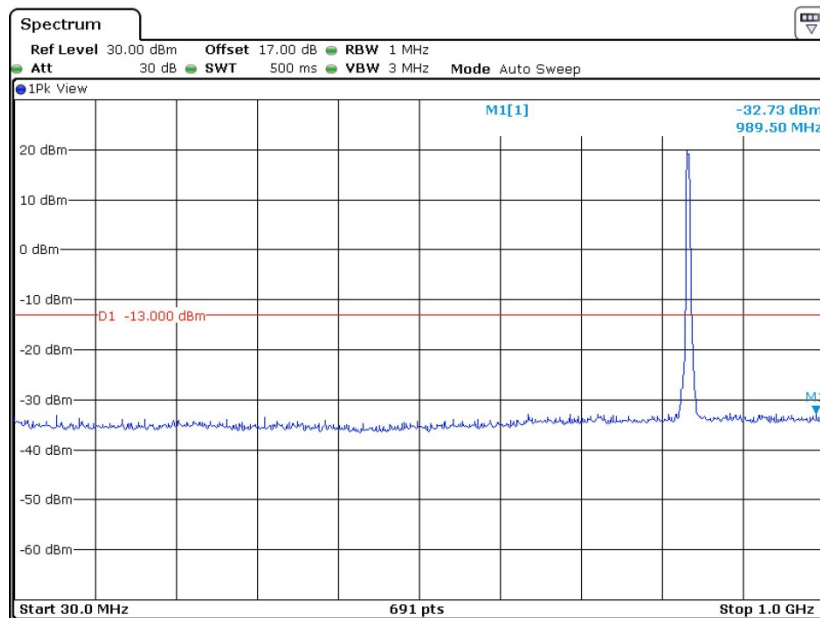
Conducted Spurious Emission Plot between 13.6GHz ~ 19.1GHz



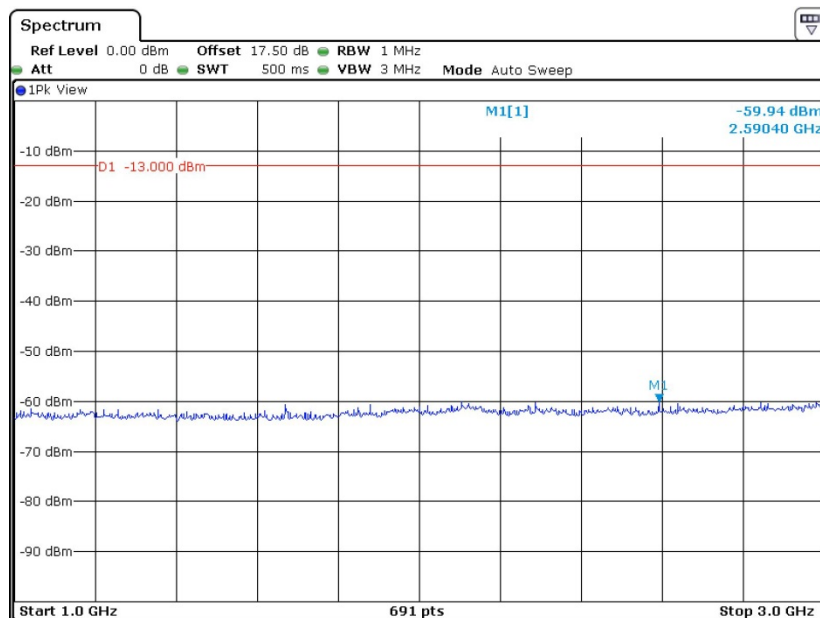
Date: 5.MAY.2013 07:25:30



Band :	WCDMA Band V	Channel :	CH4182
Test Mode :	RMC 12.2Kbps Link (QPSK)	Frequency :	836.4 MHz

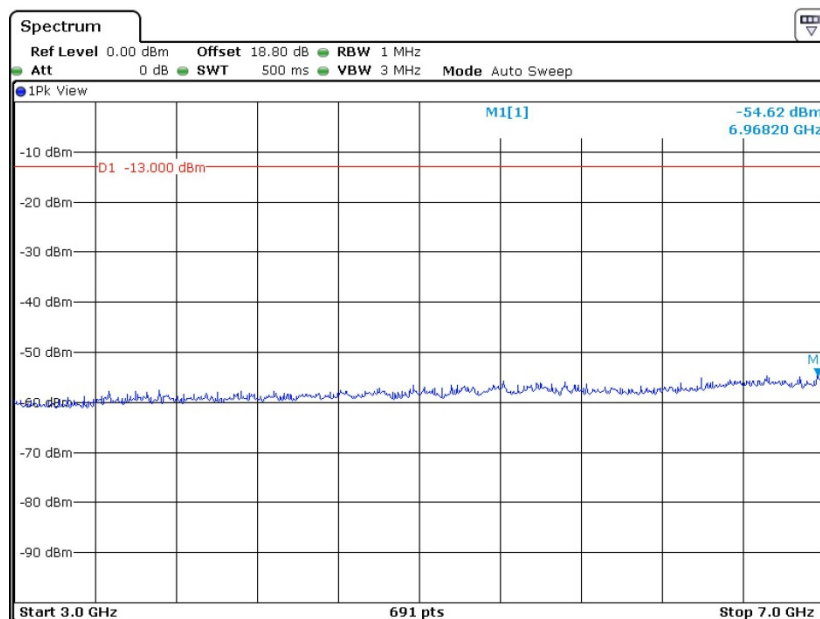
Conducted Spurious Emission Plot between 30MHz ~ 1GHz

Date: 4.MAY.2013 11:00:19

Conducted Spurious Emission Plot between 1GHz ~ 3GHz

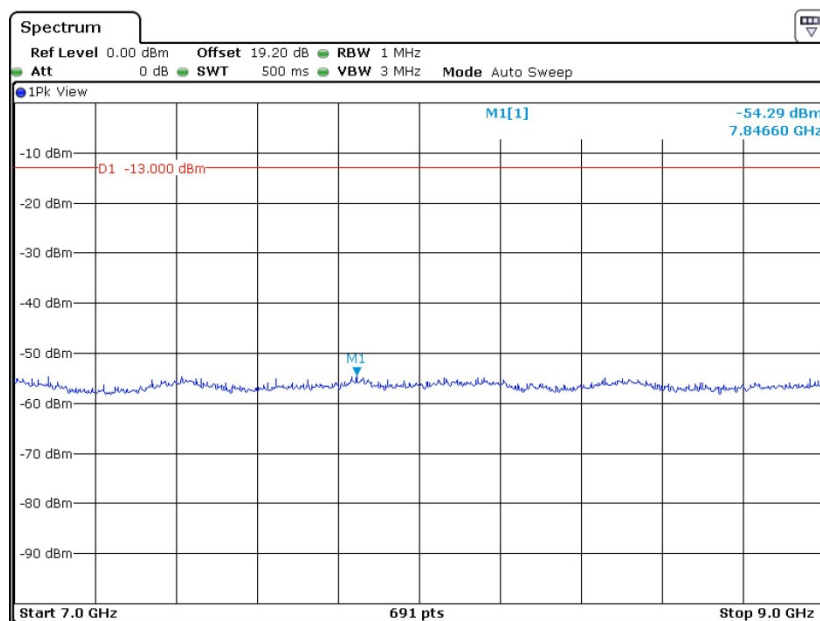
Date: 4.MAY.2013 10:56:28

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



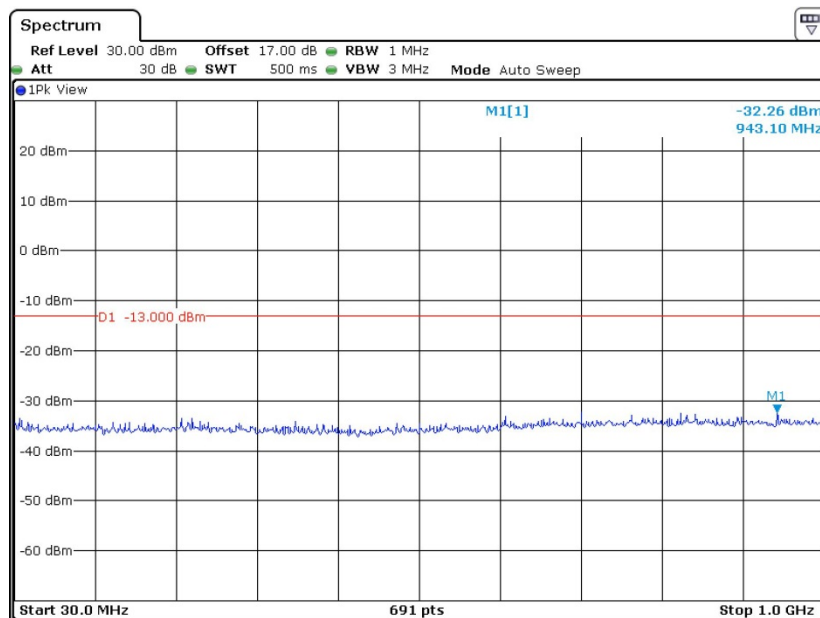
Date: 4.MAY.2013 10:57:27

Conducted Spurious Emission Plot between 7GHz ~ 9GHz

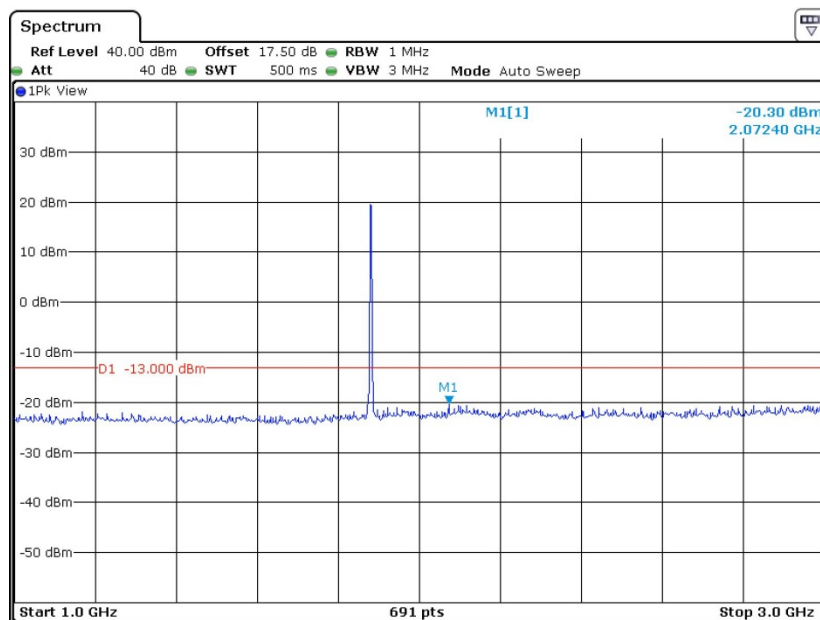


Date: 4.MAY.2013 10:58:28

Band :	WCDMA Band II	Channel :	CH9400
Test Mode :	RMC 12.2Kbps Link (QPSK)	Frequency :	1880.0 MHz

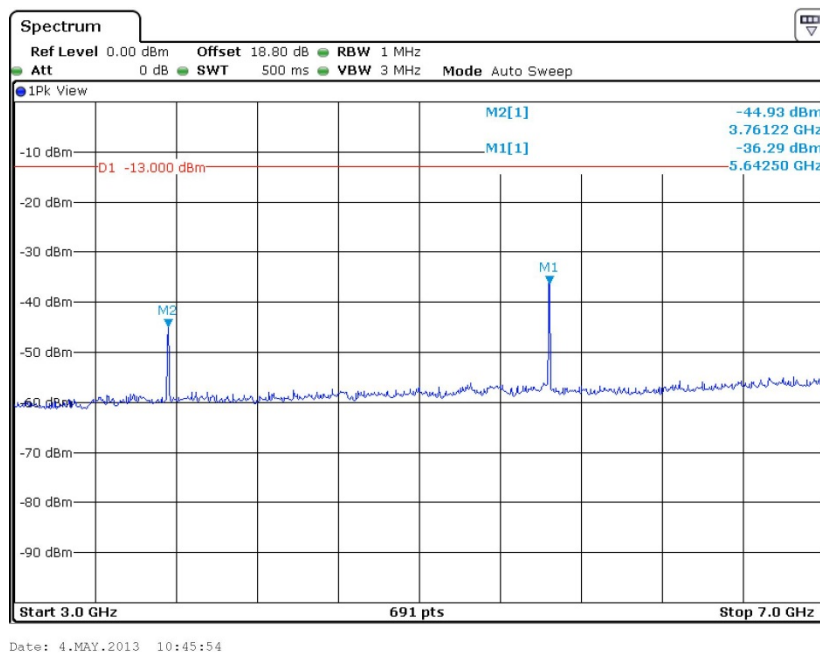
Conducted Spurious Emission Plot between 30MHz ~ 1GHz


Date: 4.MAY.2013 10:44:00

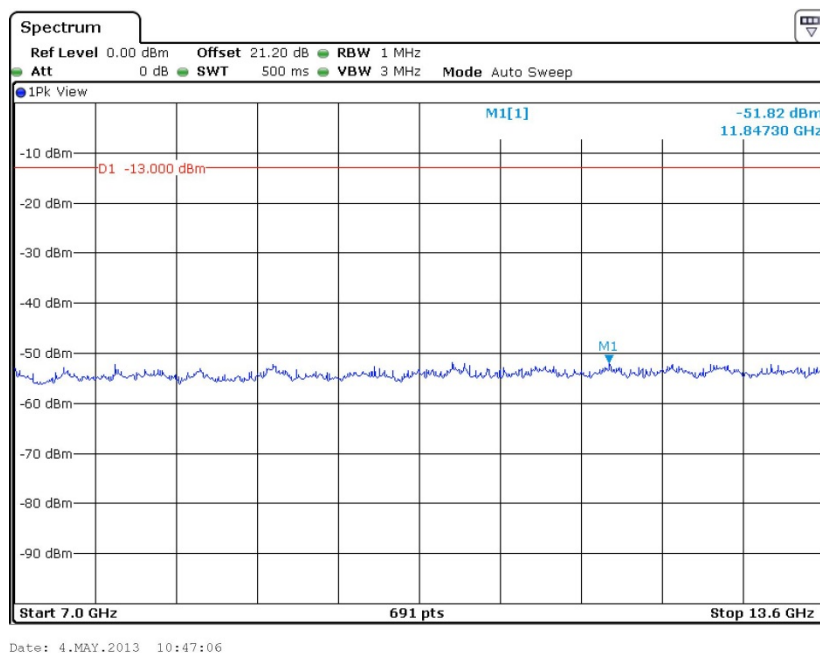
Conducted Spurious Emission Plot between 1GHz ~ 3GHz


Date: 4.MAY.2013 10:43:00

Conducted Spurious Emission Plot between 3GHz ~ 7GHz

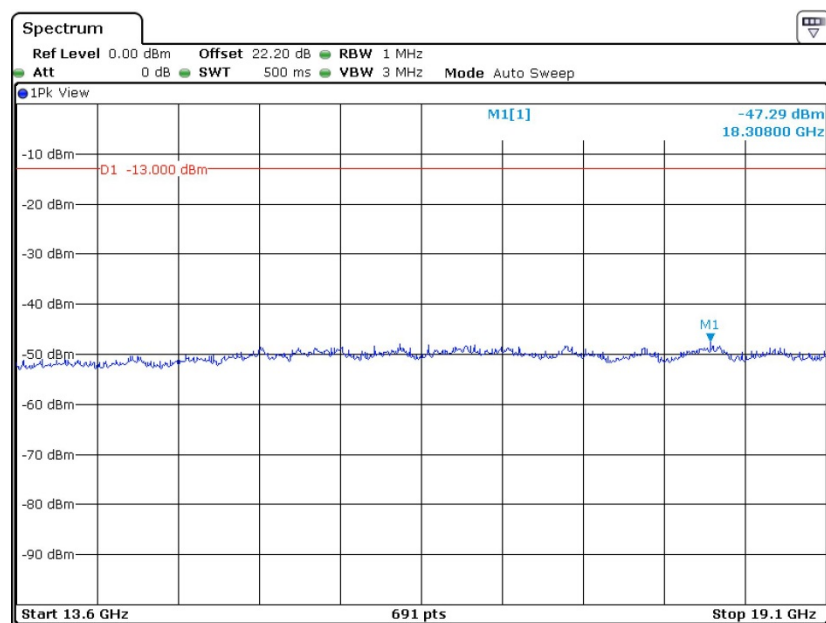


Conducted Spurious Emission Plot between 7GHz ~ 13.6GHz





Conducted Spurious Emission Plot between 13.6GHz ~ 19.1GHz



Date: 4.MAY.2013 10:48:19

3.7 Field Strength of Spurious Radiation Measurement

3.7.1 Description of Field Strength of Spurious Radiated Measurement

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

3.7.2 Measuring Instruments

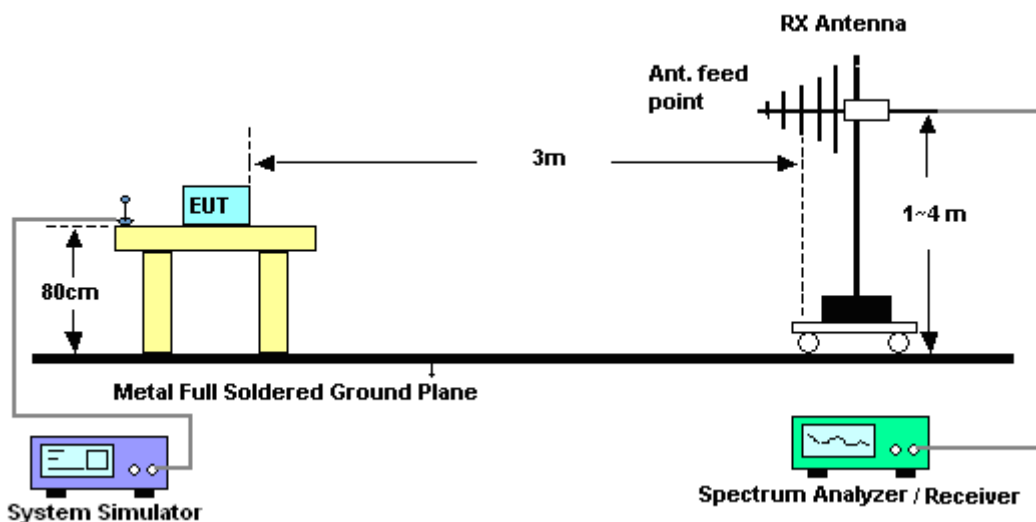
See list of measuring instruments of this test report.

3.7.3 Test Procedures

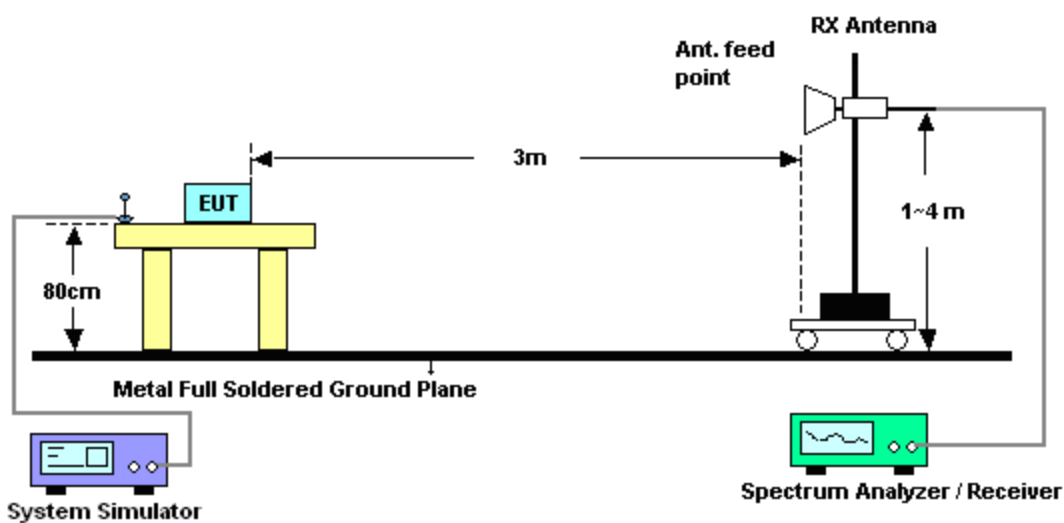
1. The EUT was placed on a rotatable wooden table with 0.8 meter above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
11. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10\log(P)] \text{ (dB)}$
 $= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$
 $= -13\text{dBm}.$
12. $\text{EIRP (dBm)} = \text{S.G. Power} - \text{Tx Cable Loss} + \text{Tx Antenna Gain}$
13. $\text{ERP (dBm)} = \text{EIRP} - 2.15$

3.7.4 Test Setup

For radiated emissions from 30MHz to 1GHz

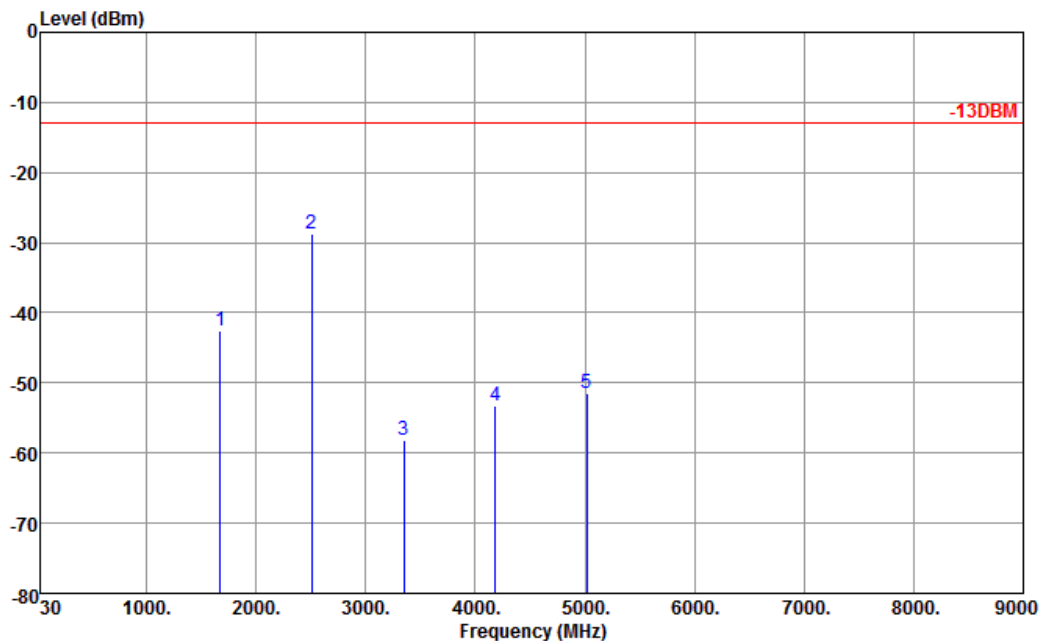


For radiated emissions above 1GHz



3.7.5 Test Result of Field Strength of Spurious Radiated

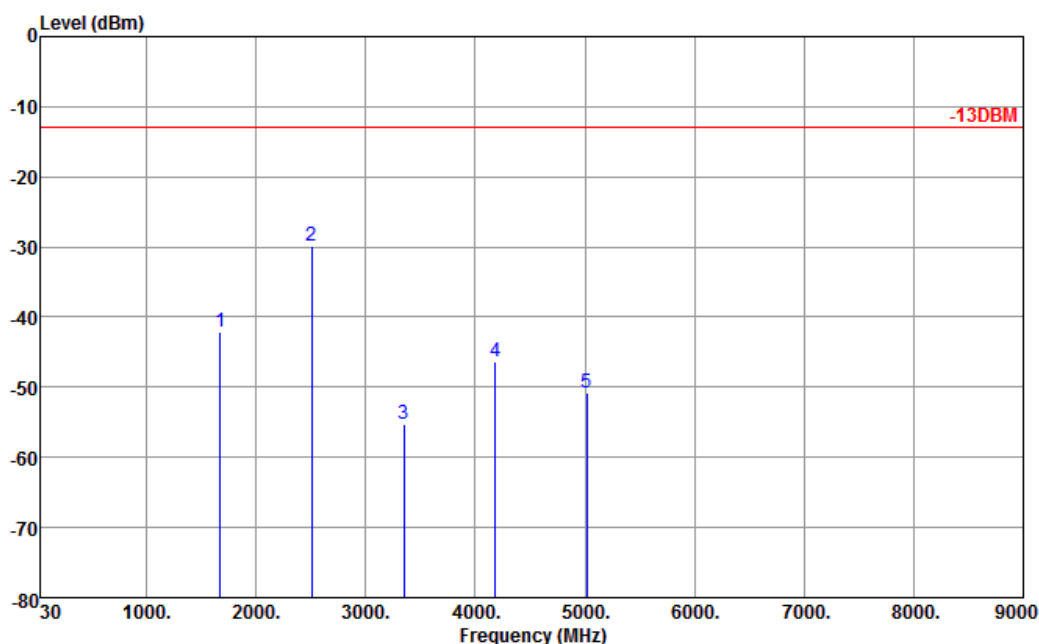
Band :	GSM850	Temperature :	24~25°C
Test Mode :	GSM Link (GMSK)	Relative Humidity :	43~44%
Test Engineer :	John Zheng	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_H_130101 HORIZONTAL
 Project : (FG) 342511

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1672	-42.54	-13	-29.54	-58.84	-43.19	0.57	3.37	H	Pass
2510	-28.69	-13	-15.69	-54.10	-30.92	0.78	5.16	H	Pass
3346	-58.27	-13	-45.27	-68.87	-61.91	0.87	6.66	H	Pass
4182	-53.26	-13	-40.26	-68.02	-57.85	0.97	7.71	H	Pass
5018	-51.52	-13	-38.52	-69.81	-57.19	1.09	8.91	H	Pass

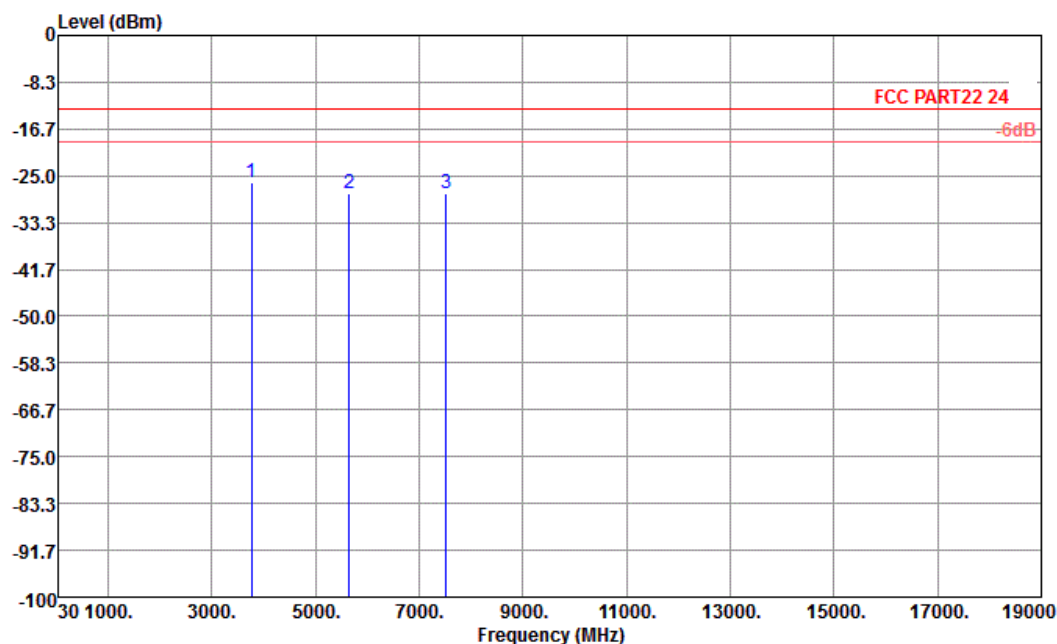
Band :	GSM850	Temperature :	24~25°C
Test Mode :	GSM Link (GMSK)	Relative Humidity :	43~44%
Test Engineer :	John Zheng	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_V_130101 VERTICAL
 Project : (FG) 342511

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1672	-42.20	-13	-29.20	-55.65	-42.85	0.57	3.37	V	Pass
2510	-29.75	-13	-16.75	-52.78	-31.98	0.78	5.16	V	Pass
3346	-55.23	-13	-42.23	-67.06	-58.87	0.87	6.66	V	Pass
4182	-46.35	-13	-33.35	-61.57	-50.94	0.97	7.71	V	Pass
5018	-50.75	-13	-37.75	-68.20	-56.42	1.09	8.91	V	Pass

Band :	GSM1900	Temperature :	22~23°C
Test Mode :	GSM Link (GMSK)	Relative Humidity :	41~42%
Test Engineer :	Steven Hao	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

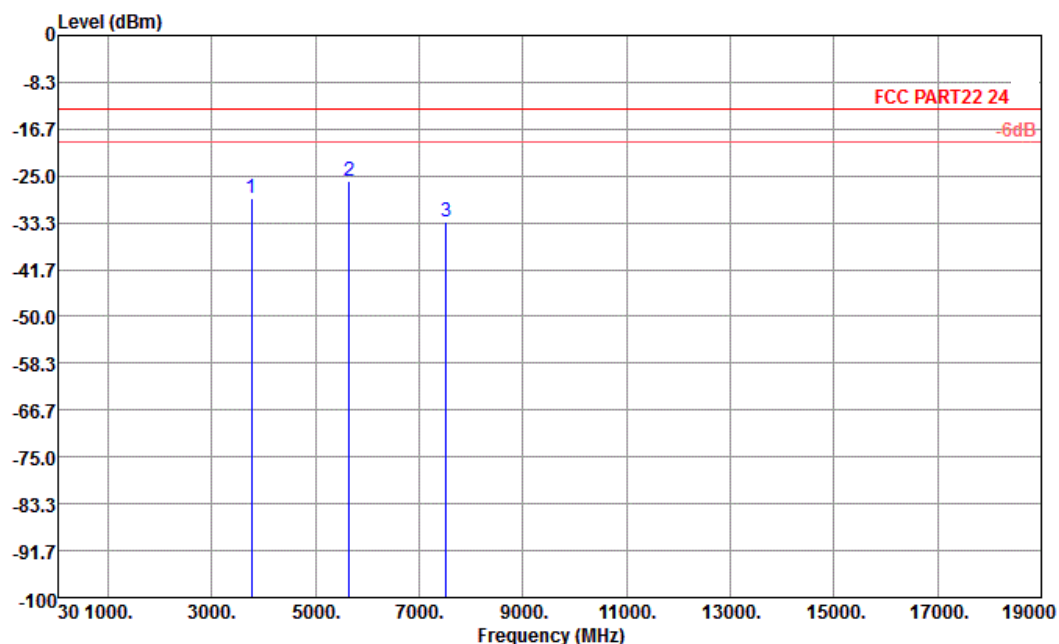


Site : 03CH01-KS
 Condition : FCC PART22 24 HF EIRP FACTOR HORIZONTAL
 EUT : (FG)342511

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3760	-26.07	-13	-13.07	-41.24	-32.45	0.78	7.16	H	Pass
5640	-28.24	-13	-15.24	-48.86	-36.78	1.04	9.58	H	Pass
7520	-28.21	-13	-15.21	-51.75	-38.32	1.35	11.46	H	Pass



Band :	GSM1900	Temperature :	24~25°C
Test Mode :	GSM Link (GMSK)	Relative Humidity :	43~44%
Test Engineer :	Steven Hao	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

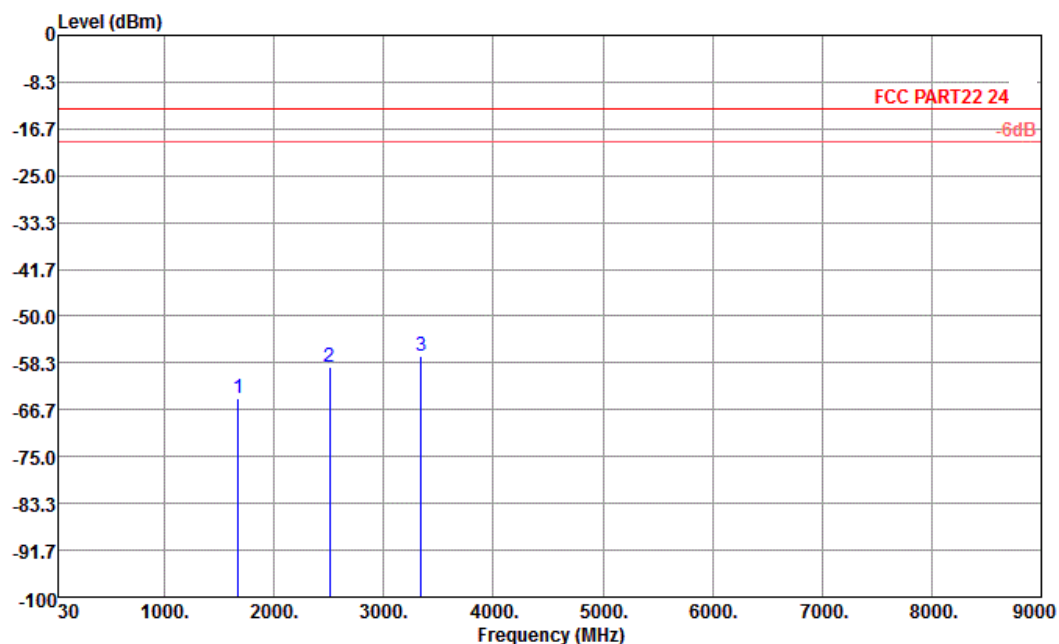


Site : 03CH01-KS
Condition : FCC PART22 24 HF EIRP FACTOR VERTICAL
EUT : (FG)342511

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3760	-29.07	-13	-16.07	-45.69	-35.45	0.78	7.16	V	Pass
5640	-25.85	-13	-12.85	-47.04	-34.39	1.04	9.58	V	Pass
7520	-33.15	-13	-20.15	-55.43	-43.26	1.35	11.46	V	Pass



Band :	WCDMA Band V	Temperature :	22~23°C
Test Mode :	RMC 12.2Kbps Link (QPSK)	Relative Humidity :	41~42%
Test Engineer :	Steven Hao	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

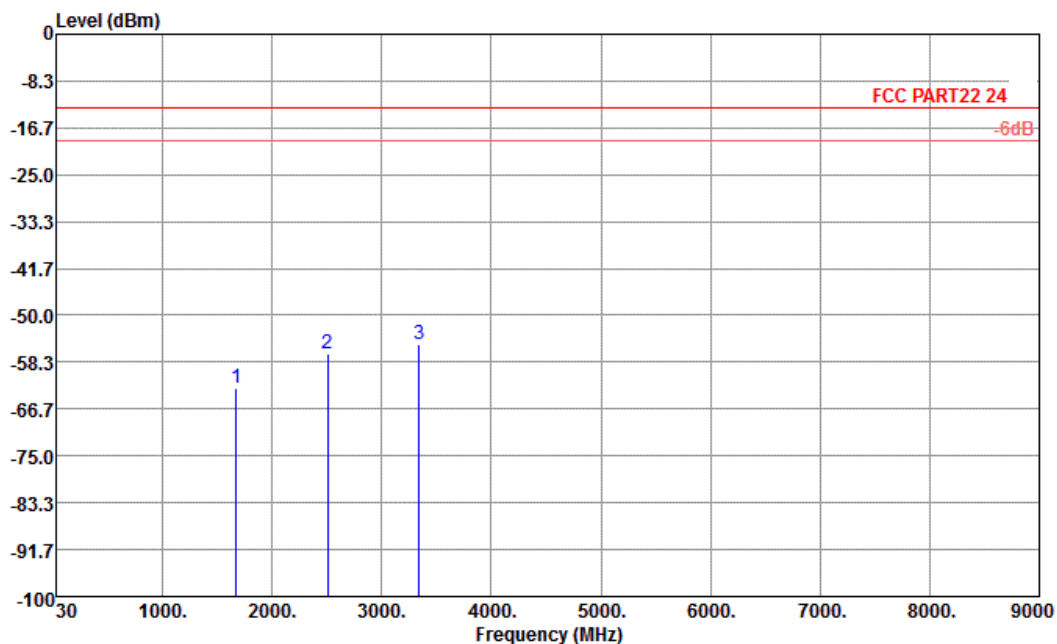


Site : 03CH01-KS
Condition : FCC PART22 24 HF EIRP FACTOR HORIZONTAL
EUT : (FG)342511

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1672	-64.62	-13	-51.62	-63.78	-65.27	0.57	3.37	H	Pass
2508	-58.93	-13	-45.93	-64.64	-61.16	0.78	5.16	H	Pass
3344	-57.06	-13	-44.06	-63.70	-60.70	0.87	6.66	H	Pass



Band :	WCDMA Band V	Temperature :	22~23°C
Test Mode :	RMC 12.2Kbps Link (QPSK)	Relative Humidity :	41~42%
Test Engineer :	Steven Hao	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

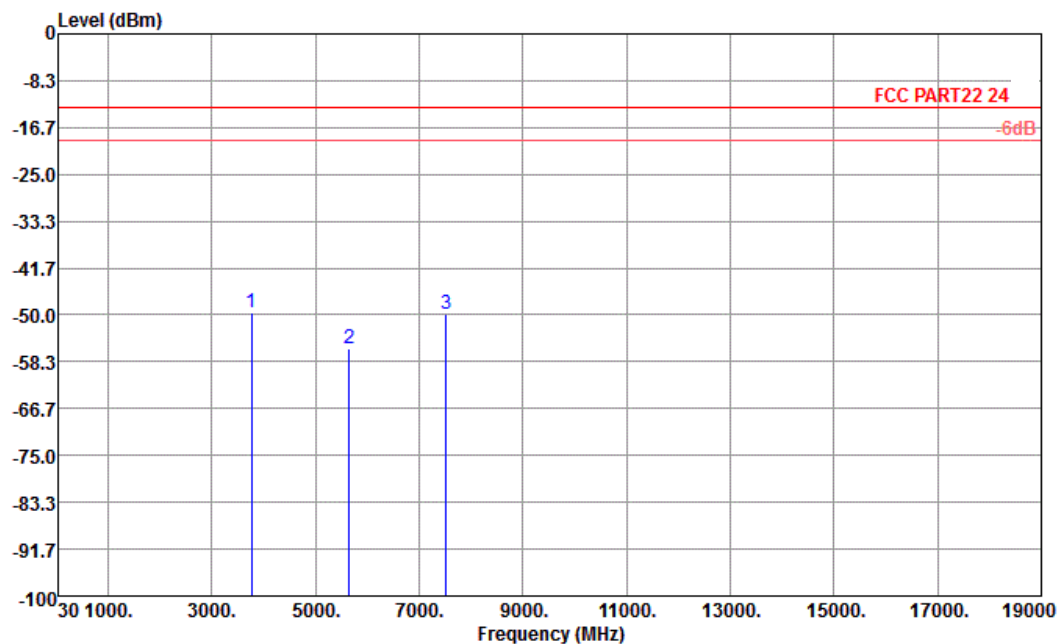


Site : 03CH01-KS
 Condition : FCC PART22 24 HF EIRP FACTOR VERTICAL
 EUT : (FG)342511

Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1672	-62.89	-13	-49.89	-63.51	-63.54	0.57	3.37	V	Pass
2508	-56.86	-13	-43.86	-65.05	-59.09	0.78	5.16	V	Pass
3344	-55.28	-13	-42.28	-63.73	-58.92	0.87	6.66	V	Pass



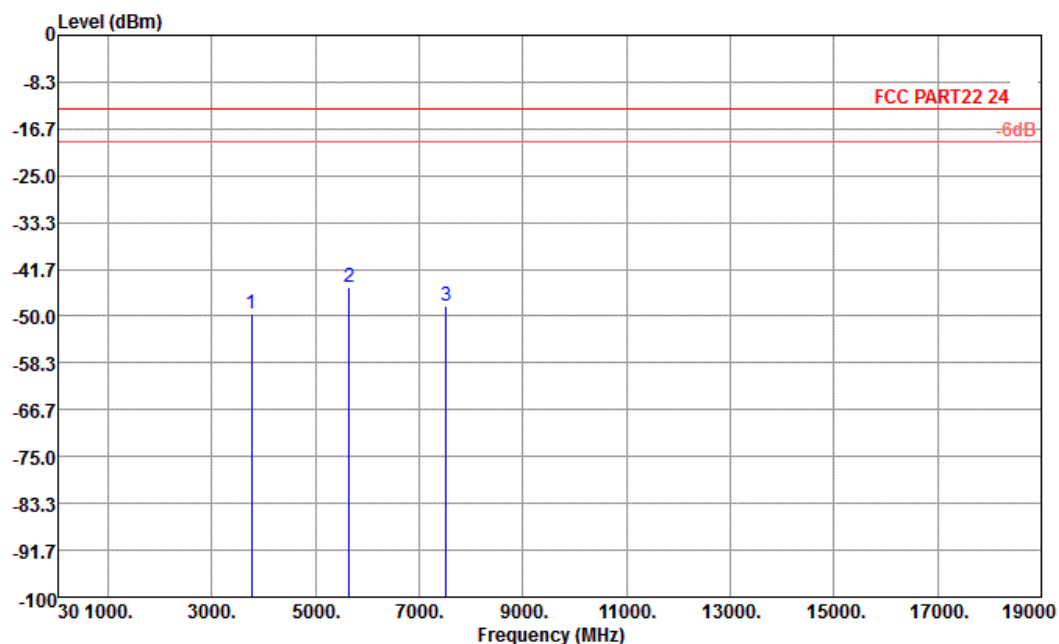
Band :	WCDMA Band II	Temperature :	22~23°C
Test Mode :	RMC 12.2Kbps Link (QPSK)	Relative Humidity :	41~42%
Test Engineer :	Steven Hao	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-KS
Condition : FCC PART22 24 HF EIRP FACTOR HORIZONTAL
EUT : (FG)342511

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3760	-49.51	-13	-36.51	-59.42	-55.89	0.78	7.16	H	Pass
5640	-56.05	-13	-43.05	-64.73	-64.59	1.04	9.58	H	Pass
7520	-49.93	-13	-36.93	-65.03	-60.04	1.35	11.46	H	Pass

Band :	WCDMA Band II	Temperature :	22~23°C
Test Mode :	RMC 12.2Kbps Link (QPSK)	Relative Humidity :	41~42%
Test Engineer :	Steven Hao	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-KS
 Condition : FCC PART22 24 HF EIRP FACTOR VERTICAL
 EUT : (FG)342511

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3762	-49.72	-13	-36.72	-60.79	-56.10	0.78	7.16	V	Pass
5642	-44.78	-13	-31.78	-60.48	-53.32	1.04	9.58	V	Pass
7520	-48.29	-13	-35.29	-65.5	-58.40	1.35	11.46	V	Pass

3.8 Frequency Stability Measurement

3.8.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ ($\pm 2.5\text{ppm}$) of the center frequency.

3.8.2 Measuring Instruments

See list of measuring instruments of this test report.

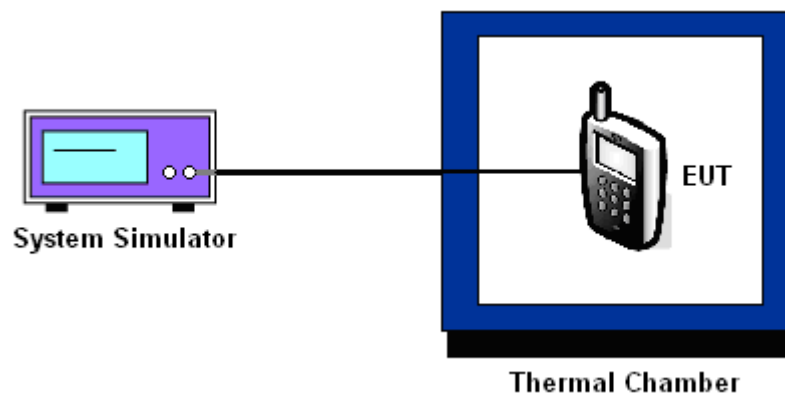
3.8.3 Test Procedures for Temperature Variation

1. The EUT was set up in the thermal chamber and connected with the base station.
2. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
3. With power OFF, the temperature was raised in 10°C step up to 50°C . The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.
4. If the EUT cannot be turned on at -30°C , the testing lowest temperature will be raised in 10°C step until the EUT can be turned on.

3.8.4 Test Procedures for Voltage Variation

1. The EUT was placed in a temperature chamber at $25\pm 5^{\circ}\text{C}$ and connected with the base station.
2. The power supply voltage to the EUT was varied from BEP to 115% of the nominal value measured at the input to the EUT.
3. The variation in frequency was measured for the worst case.

3.8.5 Test Setup



3.8.6 Test Result of Temperature Variation

Band :	GSM 850	Channel :	189
Limit (ppm) :	2.5	Frequency :	836.4 MHz

Temperature (°C)	GSM		Result
	Freq. Dev. (Hz)	Deviation (ppm)	
-30	-46	-0.05	PASS
-20	-43	-0.05	
-10	-42	-0.05	
0	-39	-0.05	
10	-38	-0.04	
20	-35	-0.04	
30	-37	-0.04	
40	-38	-0.04	
50	-39	-0.05	

Band :	GSM 1900	Channel :	661
Limit (ppm) :	2.5	Frequency :	1880.0 MHz

Temperature (°C)	GSM		Result
	Freq. Dev. (Hz)	Deviation (ppm)	
-30	-31	-0.02	PASS
-20	-28	-0.01	
-10	-26	-0.01	
0	-27	-0.01	
10	-26	-0.01	
20	-29	-0.02	
30	-31	-0.02	
40	-33	-0.02	
50	-34	-0.02	

Band :	WCDMA Band V	Channel :	4182
Limit (ppm) :	2.5	Frequency :	836.4 MHz

Temperature (°C)	RMC 12.2Kbps		Result
	Freq. Dev. (Hz)	Deviation (ppm)	
-30	-8	-0.01	PASS
-20	-6	-0.01	
-10	-7	-0.01	
0	-6	-0.01	
10	8	+0.01	
20	7	+0.01	
30	-7	-0.01	
40	-8	-0.01	
50	8	+0.01	

Band :	WCDMA Band II	Channel :	9400
Limit (ppm) :	2.5	Frequency :	1880.0 MHz

Temperature (°C)	RMC 12.2Kbps		Result
	Freq. Dev. (Hz)	Deviation (ppm)	
-30	19	+0.01	PASS
-20	15	+0.01	
-10	17	+0.01	
0	-13	-0.01	
10	-9	+0.01	
20	-11	-0.01	
30	-12	-0.01	
40	-9	+0.01	
50	-11	-0.01	

3.8.7 Test Result of Voltage Variation

Band & Channel	Mode	Voltage (Volt)	Freq. Dev. (Hz)	Deviation (ppm)	Limit (ppm)	Result
GSM 850 CH189	GSM	3.7	-35	-0.04	2.5	PASS
		BEP	-34	-0.04		
		4.2	-37	-0.04		
GSM 1900 CH661	GSM	3.7	-29	-0.02		
		BEP	-27	-0.01		
		4.2	-29	-0.02		
WCDMA Band V CH4182	RMC 12.2Kbps	3.7	7	+0.01		
		BEP	-6	-0.01		
		4.2	-8	-0.01		
WCDMA Band II CH9400	RMC 12.2Kbps	3.7	-11	-0.01		
		BEP	-9	+0.01		
		4.2	-12	-0.01		

Note:

1. Normal Voltage = 3.7V.
2. Battery End Point (BEP) = 3.5 V.



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100319	9kHz~40GHz	Dec. 29, 2012	May 04, 2013~ May 06, 2013	Dec. 28, 2013	Conducted (TH01-KS)
Thermal Chamber	Ten Billion	TTC-B3S	TBN-960502	N/A	Dec. 29, 2012	May 04, 2013~ May 06, 2013	Dec. 28, 2013	Conducted (TH01-KS)
EMI Test Receiver	R&S	ESCI	100534	9kHz~3GHz	Nov. 08, 2012	May 07, 2013	Nov. 07, 2013	Radiation (03CH01-KS)
Spectrum Analyzer	R&S	FSP30	100400	9kHz~30GHz	Jun. 01, 2012	May 07, 2013	May 31, 2013	Radiation (03CH01-KS)
Bilog Antenna	SCHAFFNER	CBL6112D	23182	25MHz~2GHz	Dec. 07, 2012	May 07, 2013	Dec. 06, 2013	Radiation (03CH01-KS)
Double Ridge Horn Antenna	EMCO	3117	00075959	1GHz~18GHz	Jan. 06, 2013	May 07, 2013	Jan. 05, 2014	Radiation (03CH01-KS)
Amplifier	com-power	PA-103A	161069	1MHz~1GHz	Jun. 01, 2012	May 07, 2013	May 31, 2013	Radiation (03CH01-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Dec. 29, 2012	May 07, 2013	Dec. 28, 2013	Radiation (03CH01-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	9170249	15GHz~40GHz	Nov. 23, 2012	May 07, 2013	Nov. 22, 2013	Radiation (03CH01-KS)
Turn Table	MF	MF7802	N/A	0 ~ 360 degree	N/A	May 07, 2013	N/A	Radiation (03CH01-KS)
Antenna Mast	MF	MF7802	N/A	1 m - 4 m	N/A	May 07, 2013	N/A	Radiation (03CH01-KS)
ESCI TEST Receiver	R&S	ESCI	100724	9kHz~3GHz	Mar. 28, 2013	May 07, 2013	Mar. 27, 2014	Radiation (03CH01-SZ)
Spectrum Analyzer	R&S	FSP30	101362	9kHz~30GHz	Oct. 11, 2012	May 07, 2013	Oct. 10, 2013	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS Lindgren	3117	00119436	1GHz~18GHz	Oct. 12, 2012	May 07, 2013	Oct. 11, 2013	Radiation (03CH01-SZ)
Bilog Antenna	SCHAFFNER	CBL6112B	2614	30MHz~2GHz	Nov. 03, 2012	May 07, 2013	Nov. 02, 2013	Radiation (03CH01-SZ)
Amplifier	ADVANTEST	BB525C	E9007003	9kHz~3GHz Gain 30dB	Mar. 28, 2013	May 07, 2013	Mar. 27, 2014	Radiation (03CH01-SZ)
Amplifier	Yiai	AV3860B	04030	2GHz~26.5GHz	Mar. 28, 2013	May 07, 2013	Mar. 27, 2014	Radiation (03CH01-SZ)
SHF-EHF-Horn	Schwarzbeck	BBHA9170	BBHA9170249	14GHz~40GHz	Nov. 23, 2012	May 07, 2013	Nov. 22, 2013	Radiation (03CH01-SZ)
Turn Table	EM Electronic	EM 1000	N/A	0 ~ 360 degree	N/A	May 07, 2013	N/A	Radiation (03CH01-SZ)
Antenna Mast	EM Electronic	EM 1000	N/A	1 m - 4 m	N/A	May 07, 2013	N/A	Radiation (03CH01-SZ)

5 Uncertainty of Evaluation

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.54
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	4.72
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Appendix A. Photographs of EUT

Please refer to Sporton report number EP342511 as below.