

FCC RF Test Report

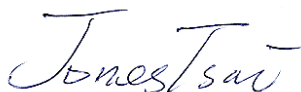
APPLICANT : SAMSUNG ELECTRONICS CO., LTD.
EQUIPMENT : Mobile
BRAND NAME : SAMSUNG
MODEL NAME : SCH-I939I
FCC ID : A3LSCHI939I
STANDARD : FCC 47 CFR Part 2, 22(H), 24(E)
CLASSIFICATION : PCS Licensed Transmitter Held to Ear (PCE)

The product was received on Jan. 03, 2014 and testing was completed on Feb. 08, 2014. We, SPORTON INTERNATIONAL (SHENZHEN) INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI / TIA / EIA-603-C-2004 and shown to be compliant with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL (SHENZHEN) INC., the test report shall not be reproduced except in full.



Reviewed by: Joseph Lin / Supervisor



Approved by: Jones Tsai / Manager



SPORTON INTERNATIONAL (SHENZHEN) INC.

No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan warehouse, Nanshan District, Shenzhen, Guangdong, P.R.C.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG410307	Rev. 01	Initial issue of report	Feb. 13, 2014

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	§2.1046	Conducted Output Power	N/A	PASS	-
3.2	§24.232(d)	Peak-to-Average Ratio	<13 dB	PASS	-
3.3	§22.913(a)(2)	Effective Radiated Power	< 7 Watts	PASS	-
3.3	§24.232(c)	Equivalent Isotropic Radiated Power	< 2 Watts	PASS	-
3.4	§2.1049 §22.917(a) §24.238(b)	Occupied Bandwidth	N/A	PASS	-
3.5	§2.1051 §22.917(a) §24.238(a)	Band Edge Measurement	$< 43 + 10\log_{10}(P[\text{Watts}])$	PASS	-
3.6	§2.1051 §22.917(a) §24.238(a)	Conducted Spurious Emission	$< 43 + 10\log_{10}(P[\text{Watts}])$	PASS	-
3.7	§2.1053 §22.917(a) §24.238(a)	Field Strength of Spurious Radiation	$< 43 + 10\log_{10}(P[\text{Watts}])$	PASS	Under limit 19.47 dB at 1648.400 MHz
3.8	§2.1055 §22.355 §24.235	Frequency Stability for Temperature & Voltage	< 2.5 ppm	PASS	-

1 General Description

1.1 Applicant

SAMSUNG ELECTRONICS CO., LTD.

416 Maetan-3dong, Yeongtong-gu, Suwon-City, Gyeonggi-do, 443-742, Korea

1.2 Manufacturer

SAMSUNG ELECTRONICS CO., LTD.

416 Maetan-3dong, Yeongtong-gu, Suwon-City, Gyeonggi-do, 443-742, Korea

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	Mobile
Brand Name	SAMSUNG
Model Name	SCH-I939I
FCC ID	A3LSCHI939I
GSM Operating Band(s)	GSM 850/900/1800/1900MHz
GPRS/EGPRS Multislot Class	GPRS Class 10, EGPRS Class 10
UMTS Operating Band(s):	FDDI/FDDII/FDDV
CDMA Operating Band(s):	BC0
Bluetooth Version	v3.0 + EDR, v4.0 LE
HW Version	I939I.02
SW Version	I939IKEUAMK1
EUT Stage	Pre-Production

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx Frequency	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz CDMA2000 BC0: 824.70 MHz ~ 848.31 MHz
Rx Frequency	GSM850: 869.2 MHz ~ 893.8 MHz GSM1900: 1930.2 MHz ~ 1989.8 MHz WCDMA Band V: 871.4 MHz ~ 891.6 MHz WCDMA Band II: 1932.4 MHz ~ 1987.6 MHz CDMA2000 BC0: 869.70 MHz ~ 893.31 MHz
Maximum Output Power to Antenna	SIM1 Card: GSM850 : 32.98 dBm GSM1900 : 29.93 dBm WCDMA Band V : 22.43 dBm WCDMA Band II : 21.32 dBm CDMA2000 BC0 : 24.40 dBm SIM2 Card: GSM1900 : 30.37 dBm
Antenna Type	IFA Antenna
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE: GMSK / 8PSK WCDMA: QPSK (Uplink) HSDPA/DC-HSDPA: QPSK (Uplink) HSUPA: QPSK (Uplink) DC-HSDPA: 64QAM (Downlink Only) CDMA2000 : QPSK CDMA2000 1xEV-DO : QPSK/8PSK

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Maximum ERP/EIRP Power, Frequency Tolerance, and Emission Designator

FCC Rule	System	Type of Modulation	Maximum ERP/EIRP (W)	Frequency Tolerance (ppm)	Emission Designator
SIM1 Card					
Part 22	GSM850 GSM	GMSK	0.49	0.018 ppm	246KGXW
Part 22	GSM850 EDGE class 8	8PSK	0.14	0.011 ppm	248KG7W
Part 22	WCDMA Band V RMC 12.2Kbps	QPSK	0.04	0.004 ppm	4M20F9W
Part 22	CDMA2000 BC0 1xRTT	QPSK	0.08	0.004 ppm	1M28F9W
Part 24	GSM1900 GSM	GMSK	0.42	0.012 ppm	244KGXW
Part 24	GSM1900 EDGE class 8	8PSK	0.20	0.011 ppm	244KG7W
Part 24	WCDMA Band II RMC 12.2Kbps	QPSK	0.08	0.006 ppm	4M32F9W
SIM2 Card					
Part 24	GSM1900 GSM	GMSK	0.37	0.010 ppm	250KGXW
Part 24	GSM1900 EDGE class 8	8PSK	0.26	0.009 ppm	246KG7W

1.7 Testing Site

Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.		
Test Site Location	No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan warehouse, Nanshan District, Shenzhen, Guangdong, P.R.C. TEL: +86-755- 3320-2398		
Test Site No.	Sporton Site No.		FCC Registration No.
	TH01-SZ	03CH01-SZ	831040

1.8 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC 47 CFR Part 2, 22(H), 24(E)
- ANSI / TIA / EIA-603-C-2004
- FCC KDB 971168 D01 Power Meas. License Digital Systems v02r01

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

2.1 Test Mode

During all testing, EUT is in link mode with base station emulator at maximum power level. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT was rotated on three test planes to find out the worst emission.

Frequency range investigated for radiated emission is as follows:

1. 30 MHz to 9000 MHz for GSM850, WCDMA Band V, and CDMA2000 BC0.
2. 30 MHz to 19000 MHz for GSM1900, WCDMA Band II.

Test Modes		
Band	Radiated TCs	Conducted TCs
GSM 850	■ GSM Link ■ EDGE class 8 Link	■ GSM Link ■ EDGE class 8 Link
GSM 1900	■ GSM Link ■ EDGE class 8 Link	■ GSM Link ■ EDGE class 8 Link
WCDMA Band V	■ RMC 12.2Kbps Link	■ RMC 12.2Kbps Link
WCDMA Band II	■ RMC 12.2Kbps Link	■ RMC 12.2Kbps Link
CDMA2000 BC0	■ 1xRTT Link Mode	■ 1xRTT Link Mode

'Note:

1. The maximum power levels are GSM mode for GMSK link, EDGE multi-slot class 8 mode for 8PSK link, RMC 12.2Kbps mode for WCDMA band V, RMC 12.2Kbps mode for WCDMA band II, and 1xRTT RC3+SO55 mode for CDMA2000 BC0 on QPSK Link, only these modes were used for all tests.
2. SIM1 Card supports GSM850, GSM1900, WCDMA Band V, WCDMA Band II, and CDMA2000 BC0; SIM2 Card only supports GSM1900.

The conducted power tables are as follows:

SIM1 Card:

Conducted Power (*Unit: dBm)						
Band	GSM850			GSM1900		
Channel	128	189	251	512	661	810
Frequency	824.2	836.4	848.8	1850.2	1880.0	1909.8
GSM	32.98	32.89	32.70	29.93	29.70	29.58
GPRS class 8	32.97	32.87	32.69	29.91	29.68	29.57
GPRS class 10	30.35	30.28	30.23	27.16	27.00	26.84
EGPRS class 8	26.98	27.02	26.94	25.66	25.42	25.25
EGPRS class 10	26.90	26.97	26.90	25.52	25.35	25.19

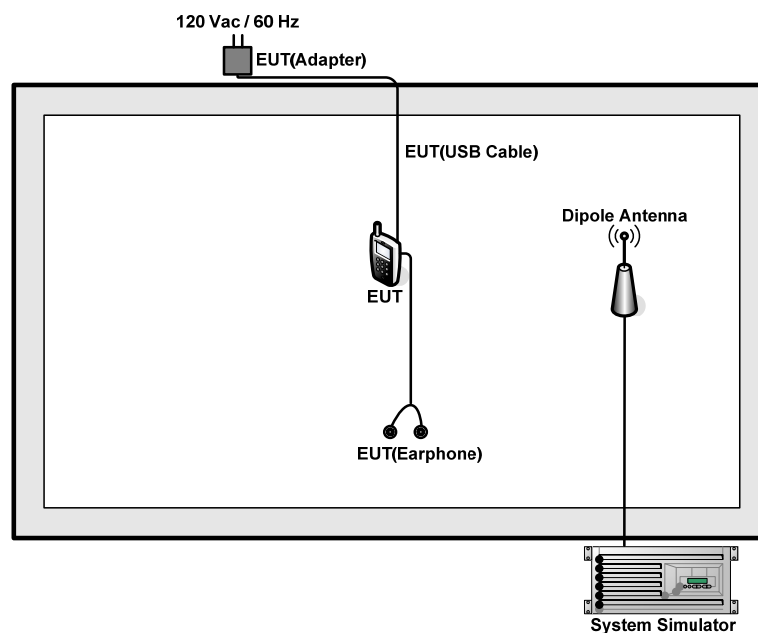
Conducted Power (*Unit: dBm)						
Band	WCDMA Band V			WCDMA Band II		
Channel	4132	4182	4233	9262	9400	9538
Frequency	826.4	836.4	846.6	1852.4	1880.0	1907.6
AMR 12.2K	22.41	22.40	22.37	21.30	21.27	21.29
RMC 12.2K	22.43	22.42	22.38	21.32	21.29	21.30
HSDPA Subtest-1	21.07	21.06	21.14	19.79	19.68	19.77
HSDPA Subtest-2	21.04	21.03	21.08	19.57	19.67	19.73
HSDPA Subtest-3	21.05	20.97	21.11	19.85	19.71	19.81
HSDPA Subtest-4	21.05	20.95	21.10	19.82	19.44	19.71
DC-HSDPA Subtest-1	21.06	21.06	21.12	19.82	19.66	19.76
DC-HSDPA Subtest-2	21.04	21.01	21.09	19.82	19.64	19.75
DC-HSDPA Subtest-3	21.05	20.95	21.08	19.73	19.58	19.71
DC-HSDPA Subtest-4	21.04	20.95	21.08	19.55	19.41	19.69
HSUPA Subtest-1	20.65	21.17	20.78	20.03	19.69	20.02
HSUPA Subtest-2	20.57	20.63	20.55	19.31	19.20	19.25
HSUPA Subtest-3	19.81	19.98	20.44	19.18	19.03	19.11
HSUPA Subtest-4	20.96	20.95	21.15	19.45	19.31	19.39
HSUPA Subtest-5	20.96	20.53	20.28	19.96	19.58	19.79

Conducted Power (*Unit: dBm)			
Band	CDMA2000 BC0		
Channel	1013	384	777
Frequency	824.7	836.52	848.31
1xRTT RC1 SO55	24.37	24.03	24.16
1xRTT RC3 SO55	24.40	24.06	24.26
1xRTT RC3 SO32(+ F-SCH)	24.37	23.97	24.15
1xRTT RC3 SO32(+SCH)	24.36	23.87	24.10
1xEV-DO RTAP 153.6kbps	23.77	23.57	23.56
1xEV-DO RETAP 4096Bits	23.75	23.45	23.44

SIM2 Card:

Conducted Power (*Unit: dBm)			
Band	GSM1900		
Channel	512	661	810
Frequency	1850.2	1880.0	1909.8
GSM	30.37	29.85	30.10
GPRS class 8	30.31	29.84	30.01
GPRS class 10	27.51	27.04	27.21
EGPRS class 8	26.07	25.56	25.72
EGPRS class 10	25.93	25.43	25.57

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	DC Power Supply	TOPWORD	3303DR	N/A	N/A	N/A

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 8 dB and 10dB attenuator.

Example :

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)} \\ &= 8 + 10 = 18 \text{ (dB)}\end{aligned}$$

3 Test Result

3.1 Conducted Output Power Measurement

3.1.1 Description of the Conducted Output Power Measurement

A base station simulator was used to establish communication with the EUT. Its parameters were set to transmit the maximum power on the EUT. The measured power in the radio frequency on the transmitter output terminals shall be reported.

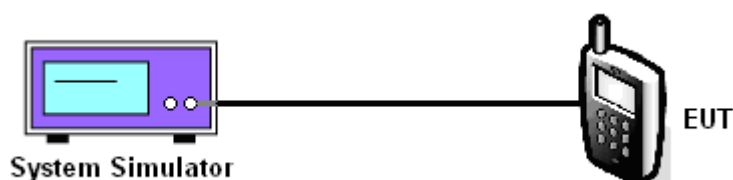
3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedures

1. The transmitter output port was connected to base station.
2. Set EUT at maximum power through base station.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Measure the maximum burst average power for GSM and maximum average power for other modulation signal.

3.1.4 Test Setup



3.1.5 Test Result of Conducted Output Power

SIM1 Card:

Cellular Band									
Modes	GSM850 (GSM)			GSM850 (EDGE class 8)			WCDMA Band V (RMC 12.2Kbps)		
Channel	128 (Low)	189 (Mid)	251 (High)	128 (Low)	189 (Mid)	251 (High)	4132 (Low)	4182 (Mid)	4233 (High)
Frequency (MHz)	824.2	836.4	848.8	824.2	836.4	848.8	826.4	836.4	846.6
Conducted Power (dBm)	32.98	32.89	32.70	26.98	27.02	26.94	22.43	22.42	22.38
Conducted Power (Watts)	1.99	1.95	1.86	0.50	0.50	0.49	0.17	0.17	0.17

PCS Band									
Modes	GSM1900 (GSM)			GSM1900 (EDGE class 8)			WCDMA Band II (RMC 12.2Kbps)		
Channel	512 (Low)	661 (Mid)	810 (High)	512 (Low)	661 (Mid)	810 (High)	9262 (Low)	9400 (Mid)	9538 (High)
Frequency (MHz)	1850.2	1880	1909.8	1850.2	1880	1909.8	1852.4	1880	1907.6
Conducted Power (dBm)	29.93	29.70	29.58	25.66	25.42	25.25	21.32	21.29	21.30
Conducted Power (Watts)	0.98	0.93	0.91	0.37	0.35	0.33	0.14	0.13	0.13

CDMA2000 BC0			
Test Mode	CDMA 2000 1xRTT		
Test Status	RC3+SO55		
Channel	1013 (Low)	384 (Mid)	777 (High)
Frequency (MHz)	824.70	836.52	848.31
Conducted Power (dBm)	24.40	24.06	24.26
Conducted Power (Watts)	0.28	0.25	0.27

Note: maximum burst average power for GSM, and maximum average power for WCDMA and CDMA2000.

SIM2 Card:

PCS Band						
Modes	GSM1900 (GSM)			GSM1900 (EDGE class 8)		
Channel	512 (Low)	661 (Mid)	810 (High)	512 (Low)	661 (Mid)	810 (High)
Frequency (MHz)	1850.2	1880	1909.8	1850.2	1880	1909.8
Conducted Power (dBm)	30.37	29.85	30.10	26.07	25.56	25.72
Conducted Power (Watts)	1.09	0.97	1.02	0.40	0.36	0.37

Note: maximum burst average power for GSM.

3.2 Peak-to-Average Ratio

3.2.1 Description of the PAR Measurement

The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

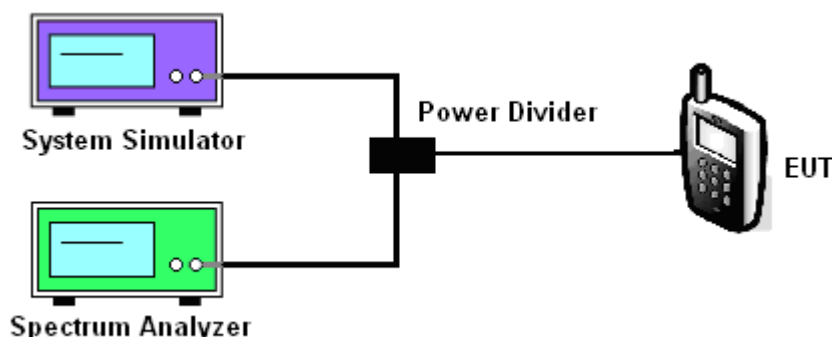
3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.2.3 Test Procedures

1. The EUT was connected to Spectrum Analyzer and System Simulator via power divider.
2. For GSM/EGPRS operating modes:
 - a. Set EUT in maximum power output.
 - b. Set the RBW = 1MHz, VBW = 3MHz, Peak detector in spectrum analyzer for first trace.
 - c. Set the RBW = 1MHz, VBW = 3MHz, RMS detector in spectrum analyzer for second trace.
 - d. The wanted burst signal is triggered by spectrum analyzer, and measured respectively the peak level and Mean level without burst-off time, after system simulator synchronized with the spectrum analyzer.
3. For UMTS operating modes:
 - a. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
 - b. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
4. Record the deviation as Peak to Average Ratio.

3.2.4 Test Setup



3.2.5 Test Result of Peak-to-Average Ratio

SIM1 Card:

PCS Band									
Modes	GSM1900 (GSM)			GSM1900 (EDGE class 8)			WCDMA Band II (RMC 12.2Kbps)		
Channel	512 (Low)	661 (Mid)	810 (High)	512 (Low)	661 (Mid)	810 (High)	9262 (Low)	9400 (Mid)	9538 (High)
Frequency (MHz)	1850.2	1880	1909.8	1850.2	1880	1909.8	1852.4	1880	1907.6
Peak-to-Average Ratio (dB)	0.45	0.46	0.46	3.27	3.49	3.28	2.56	1.92	1.92

SIM2 Card:

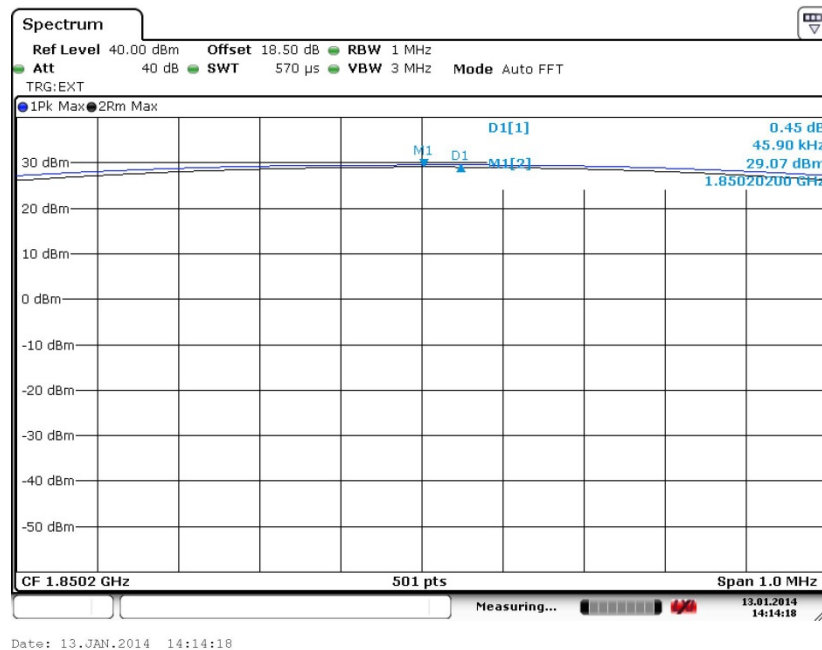
PCS Band						
Modes	GSM1900 (GSM)			GSM1900 (EDGE class 8)		
Channel	512 (Low)	661 (Mid)	810 (High)	512 (Low)	661 (Mid)	810 (High)
Frequency (MHz)	1850.2	1880	1909.8	1850.2	1880	1909.8
Peak-to-Average Ratio (dB)	0.39	0.40	0.40	3.18	3.19	3.19

3.2.6 Test Result (Plots) of Peak-to-Average Ratio

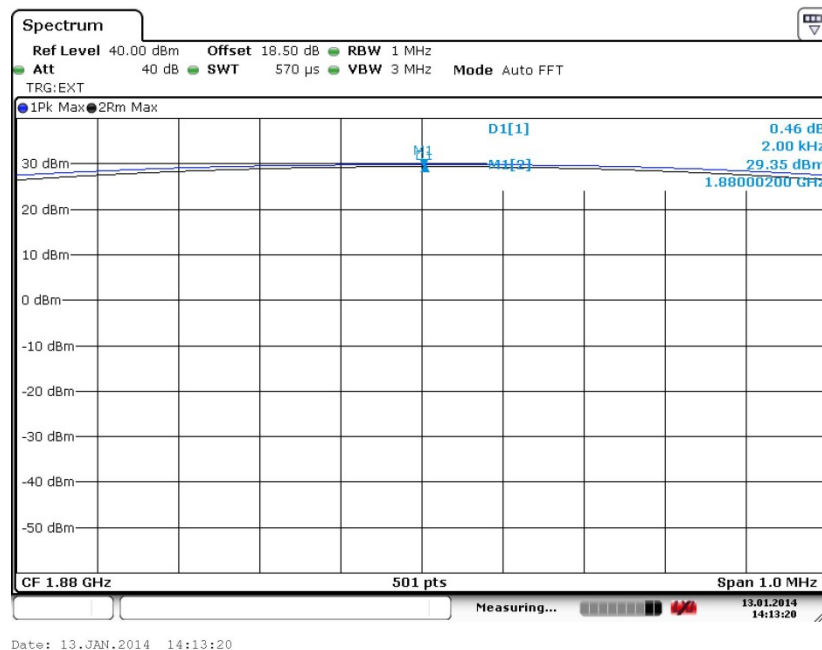
SIM1 Card:

Band :	GSM 1900	Test Mode :	GSM Link (GMSK)
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Peak-to-Average Ratio on Channel 512 (1850.2 MHz)

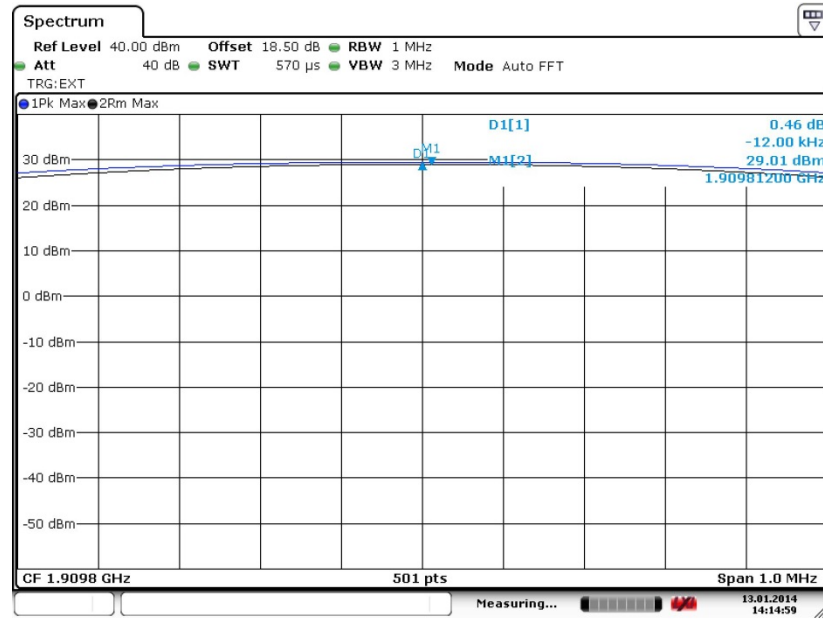


Peak-to-Average Ratio on Channel 661 (1880.0 MHz)





Peak-to-Average Ratio on Channel 810 (1909.8 MHz)

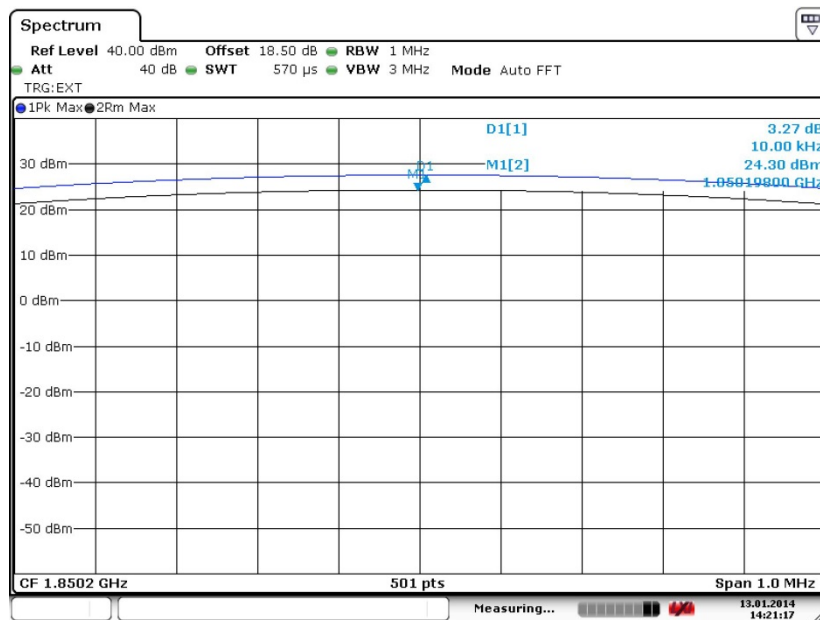


Date: 13.JAN.2014 14:15:00



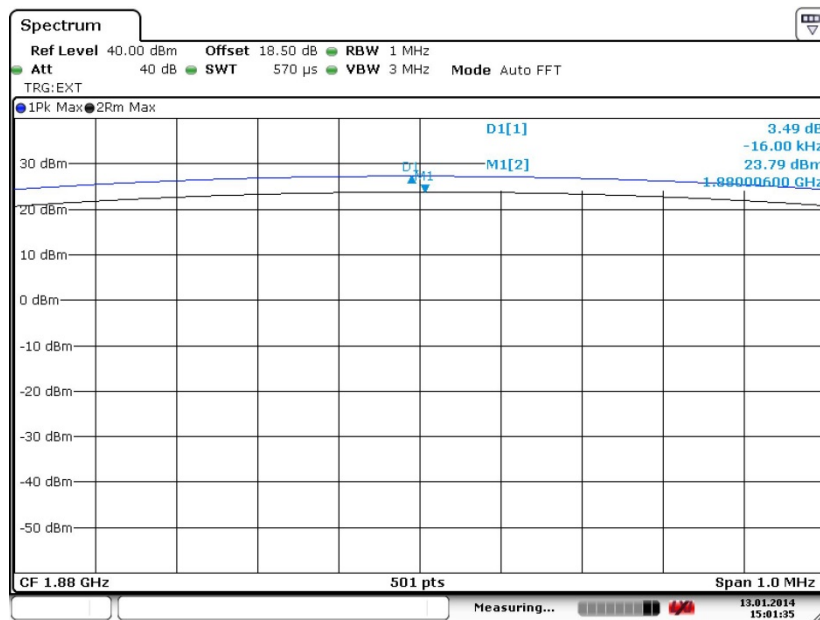
Band :	GSM 1900	Test Mode :	EDGE class 8 Link (8PSK)
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Peak-to-Average Ratio on Channel 512 (1850.2 MHz)



Date: 13.JAN.2014 14:21:17

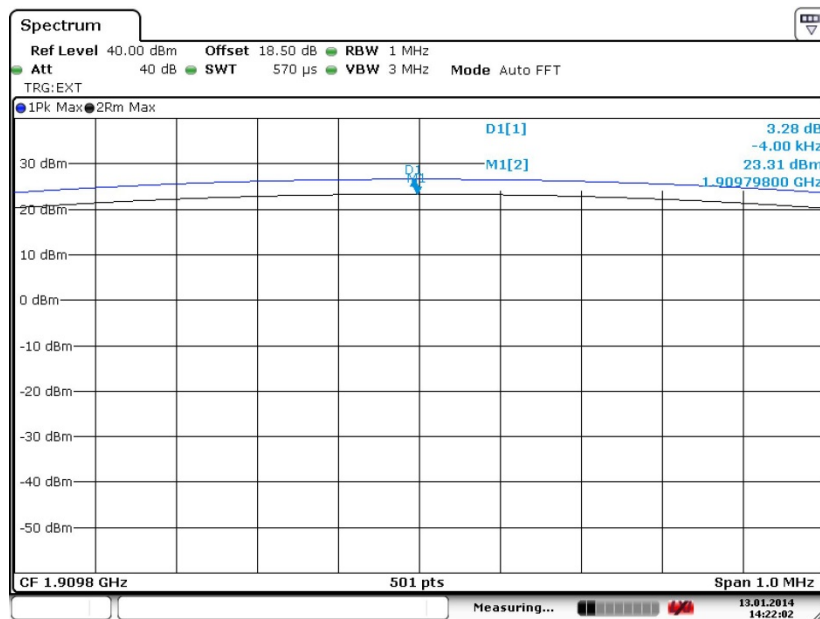
Peak-to-Average Ratio on Channel 661 (1880.0 MHz)



Date: 13.JAN.2014 15:01:35



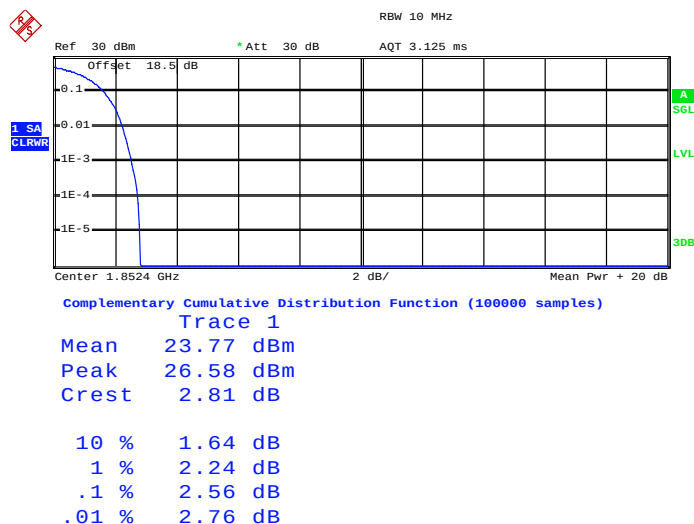
Peak-to-Average Ratio on Channel 810 (1909.8 MHz)



Date: 13.JAN.2014 14:22:02

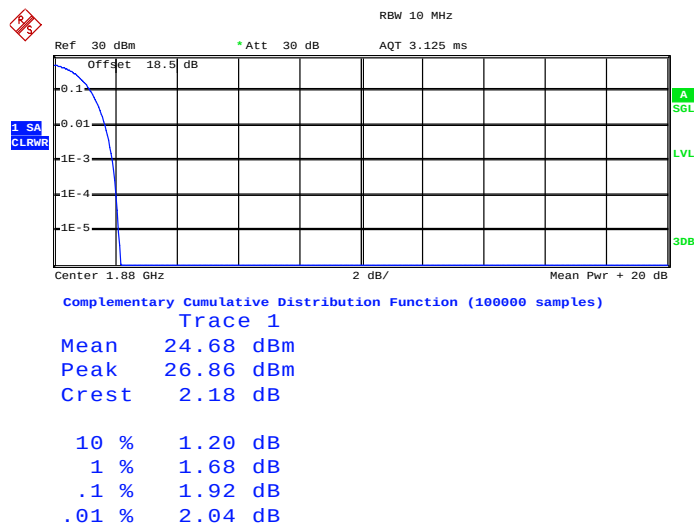
Band :	WCDMA Band II	Test Mode :	RMC 12.2Kbps Link (QPSK)
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Peak-to-Average Ratio on Channel 9262 (1852.4 MHz)



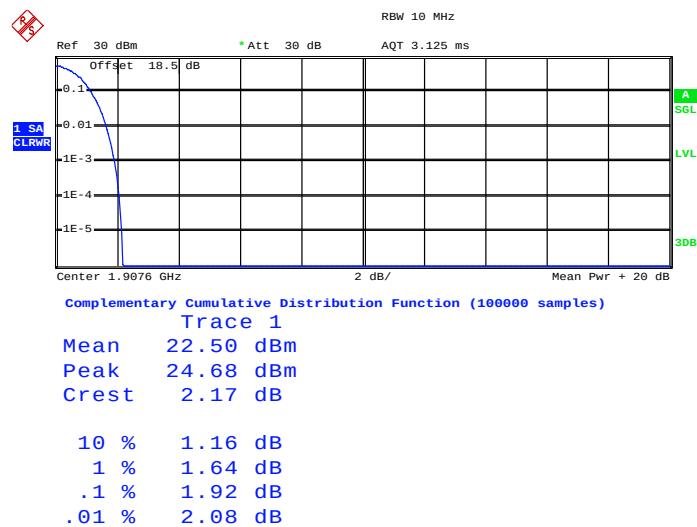
Date: 13.JAN.2014 20:06:59

Peak-to-Average Ratio on Channel 9400 (1880.0 MHz)



Date: 13.JAN.2014 20:06:12

Peak-to-Average Ratio on Channel 9538 (1907.6 MHz)



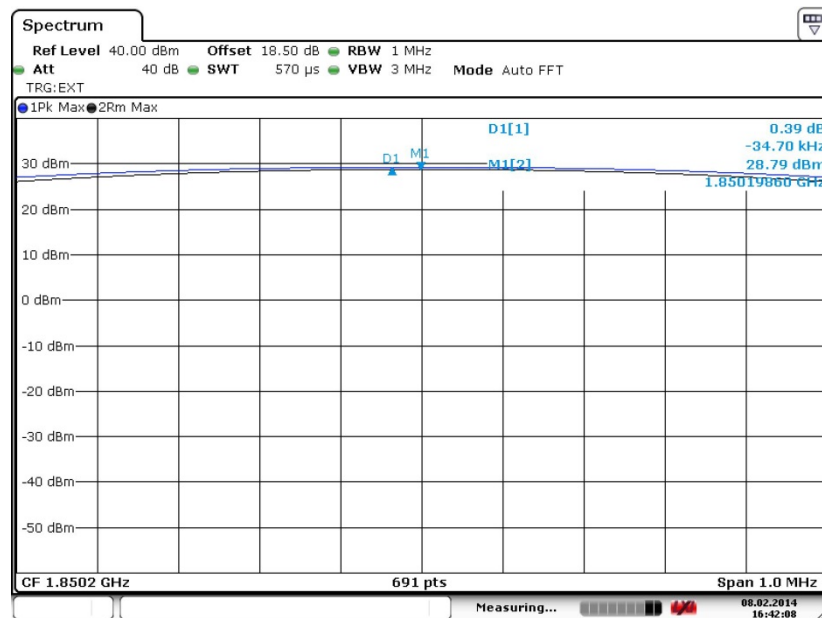
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SIM2 Card:

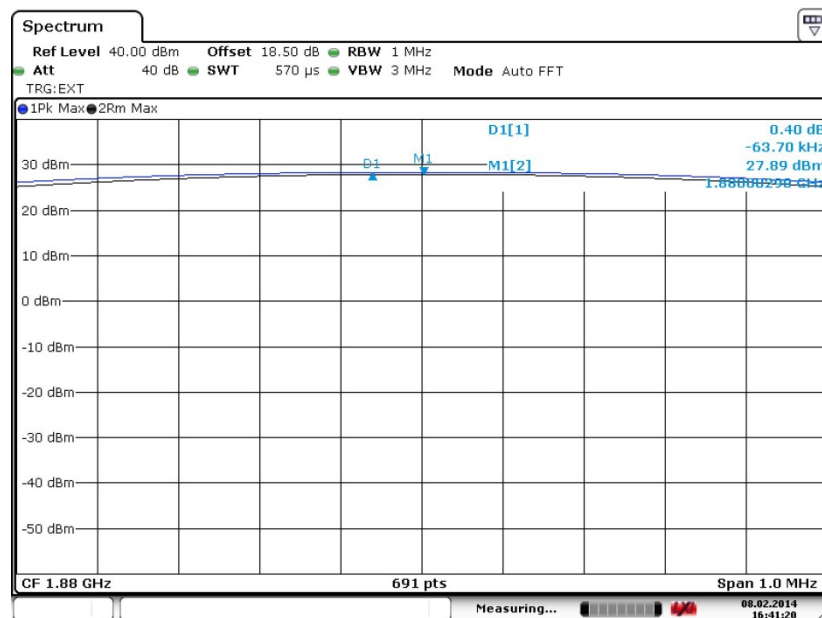
Band :	GSM 1900	Test Mode :	GSM Link (GMSK)
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Peak-to-Average Ratio on Channel 512 (1850.2 MHz)



Date: 8.FEB.2014 16:42:08

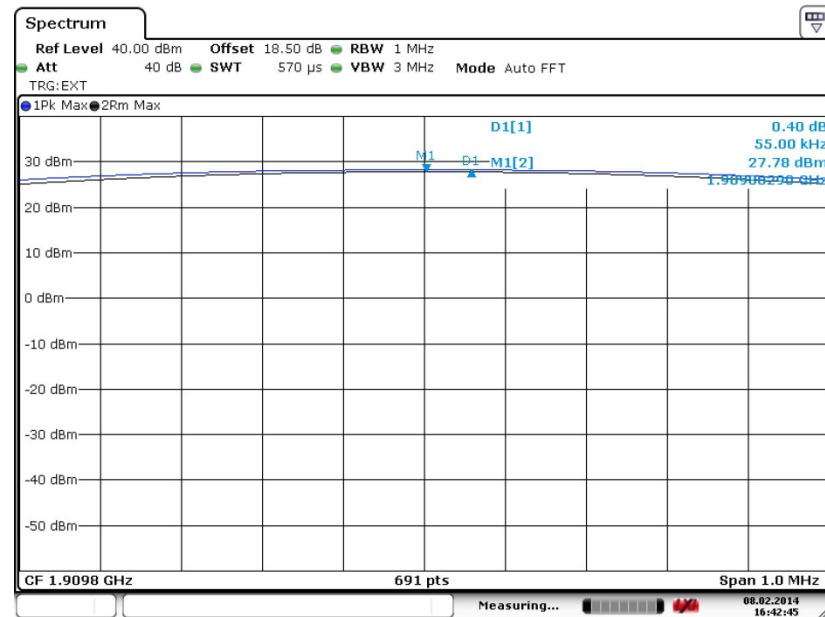
Peak-to-Average Ratio on Channel 661 (1880.0 MHz)



Date: 8.FEB.2014 16:41:21



Peak-to-Average Ratio on Channel 810 (1909.8 MHz)

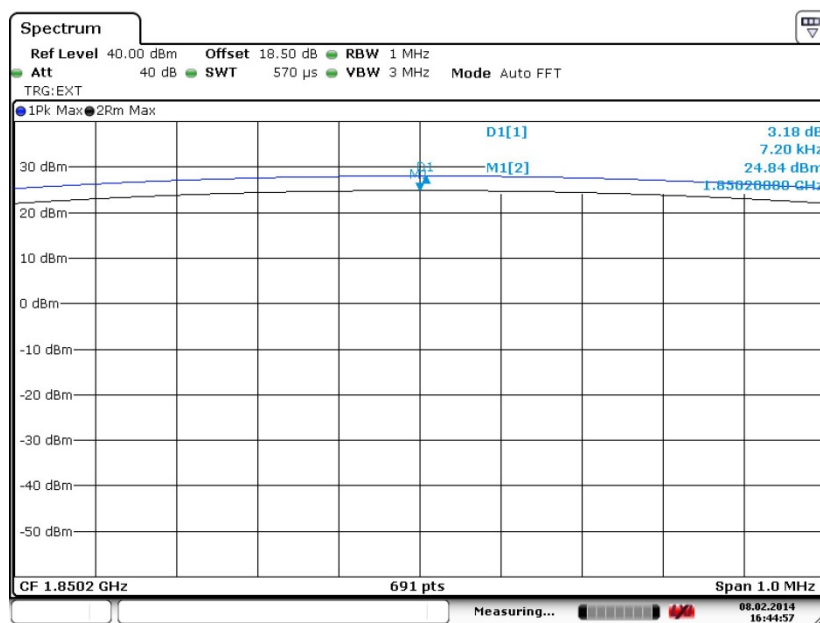


Date: 8.FEB.2014 16:42:46



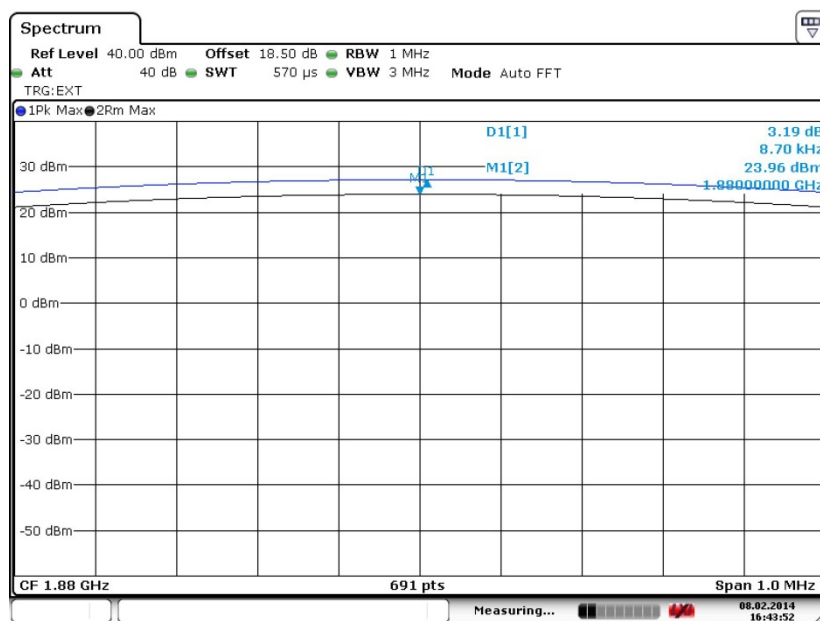
Band :	GSM 1900	Test Mode :	EDGE class 8 Link (8PSK)
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Peak-to-Average Ratio on Channel 512 (1850.2 MHz)



Date: 8.FEB.2014 16:44:57

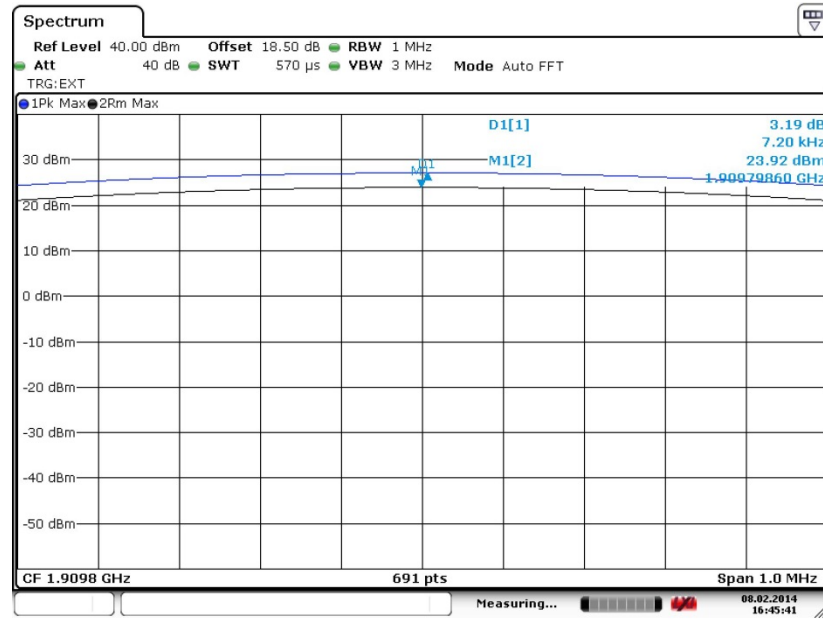
Peak-to-Average Ratio on Channel 661 (1880.0 MHz)



Date: 8.FEB.2014 16:43:53



Peak-to-Average Ratio on Channel 810 (1909.8 MHz)



Date: 8.FEB.2014 16:45:42

3.3 Effective Radiated Power and Effective Isotropic Radiated Power Measurement

3.3.1 Description of the ERP/EIRP Measurement

The substitution method, in ANSI / TIA / EIA-603-C-2004, was used for ERP/EIRP measurement, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v02r01. The ERP of mobile transmitters must not exceed 7 Watts and the EIRP of mobile transmitters are limited to 2 Watts.

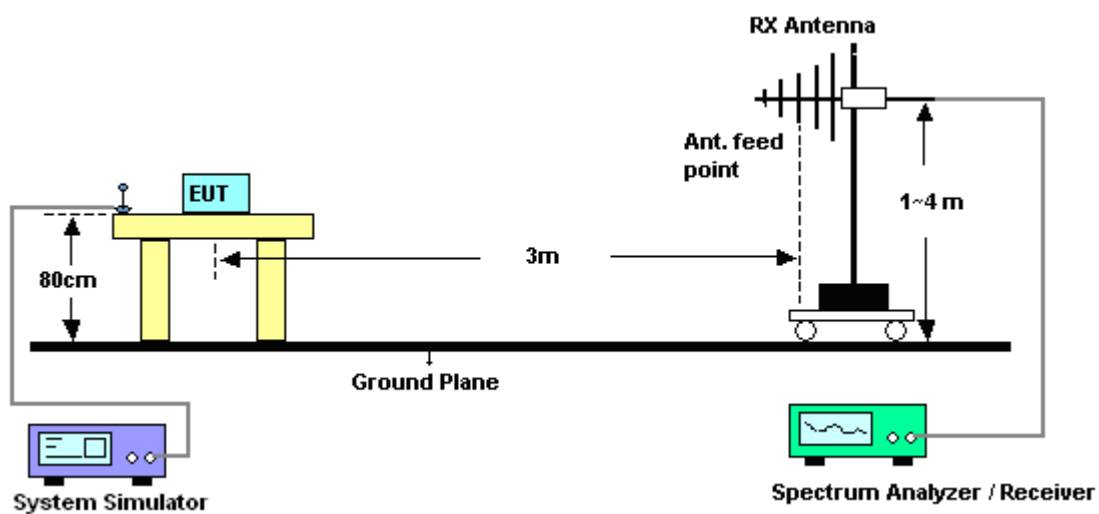
3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.3.3 Test Procedures

1. The EUT was placed on an non-conductive rotating platform with 0.8 meter height in a semi-anechoic chamber. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and a spectrum analyzer with RBW= 1MHz, VBW= 3MHz for GSM, RBW= 100 kHz, VBW= 300 kHz, used channel power option with bandwidth=5MHz for WCDMA, and RMS detector settings per KDB 971168 D01.
2. During the measurement, the EUT was enforced in maximum power and linked with a base station. The highest emission was recorded from analyzer power level (LVL) from the 360 degrees rotation of the turntable and the test antenna raised and lowered over a range from 1 to 4 meters in both horizontally and vertically polarized orientations.
3. Effective Isotropic Radiated Power (EIRP) was measured by substitution method according to TIA/EIA-603-C. The EUT was replaced by dipole antenna (substitution antenna) at same location, and then a known power from S.G. was applied into the dipole antenna through a Tx cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna. The correction factor (in dB) = S.G. - Tx Cable loss + Substitution antenna gain - Analyzer reading. Then the EUT's EIRP was calculated with the correction factor, $EIRP = LVL + \text{Correction factor}$ and $ERP = EIRP - 2.15$.

3.3.4 Test Setup



3.3.5 Test Result of ERP

SIM1 Card:

GSM850 (GSM) Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
824.2	-1.39	28.80	25.26	0.34
836.4	-1.95	28.58	24.48	0.28
848.8	-2.23	28.06	23.68	0.23
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
824.2	-3.57	32.60	26.88	0.49
836.4	-4.78	31.95	25.02	0.32
848.8	-5.36	31.56	24.05	0.25

* ERP = LVL (dBm) + Correction Factor (dB) – 2.15

GSM850 (EDGE class 8) Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
824.2	-6.59	28.80	20.06	0.10
836.4	-6.51	28.58	19.92	0.10
848.8	-6.28	28.06	19.63	0.09
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
824.2	-9.01	32.60	21.44	0.14
836.4	-9.32	31.95	20.48	0.11
848.8	-9.82	31.56	19.59	0.09

* ERP = LVL (dBm) + Correction Factor (dB) – 2.15

WCDMA Band V (RMC 12.2Kbps) Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
826.40	-12.77	28.95	14.03	0.03
836.40	-12.19	28.58	14.24	0.03
846.60	-10.56	28.05	15.34	0.03
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
826.40	-14.60	32.59	15.84	0.04
836.40	-14.66	31.95	15.14	0.03
846.60	-13.76	31.68	15.77	0.04

* ERP = LVL (dBm) + Correction Factor (dB) – 2.15

CDMA2000 BC0 1xRTT_RC3+SO55 Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
824.70	-10.25	28.82	16.42	0.04
836.52	-9.79	28.54	16.60	0.05
848.31	-7.75	28.01	18.11	0.06
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
824.70	-12.21	32.60	18.24	0.07
836.52	-12.05	31.95	17.75	0.06
848.31	-10.46	31.57	18.96	0.08

* ERP = LVL (dBm) + Correction Factor (dB) – 2.15

3.3.6 Test Result of EIRP

SIM1 Card:

GSM1900 (GSM) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1850.2	-13.86	39.63	25.77	0.38
1880.0	-14.16	40.35	26.19	0.42
1909.8	-14.12	40.05	25.93	0.39
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1850.2	-16.55	41.84	25.29	0.34
1880.0	-17.43	43.25	25.82	0.38
1909.8	-17.98	42.30	24.32	0.27

* EIRP = LVL (dBm) + Correction Factor (dB)

GSM1900 (EDGE class 8) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1850.2	-18.08	39.63	21.55	0.14
1880.0	-18.57	40.35	21.78	0.15
1909.8	-19.03	40.05	21.02	0.13
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1850.2	-19.68	41.84	22.16	0.16
1880.0	-20.15	43.25	23.10	0.20
1909.8	-22.92	42.30	19.38	0.09

* EIRP = LVL (dBm) + Correction Factor (dB)

WCDMA Band II (RMC 12.2Kbps) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.40	-21.97	39.22	17.25	0.05
1880.00	-22.83	40.35	17.52	0.06
1907.60	-21.75	39.92	18.17	0.07
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.40	-24.09	42.00	17.91	0.06
1880.00	-24.05	43.25	19.20	0.08
1907.60	-24.21	42.11	17.90	0.06

* EIRP = LVL (dBm) + Correction Factor (dB)

SIM2 Card:

GSM1900 (GSM) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1850.2	-14.69	39.63	24.94	0.31
1880.0	-14.82	40.35	25.53	0.36
1909.8	-14.88	40.05	25.17	0.33
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1850.2	-17.13	41.84	24.71	0.30
1880.0	-17.57	43.25	25.68	0.37
1909.8	-17.54	42.30	24.76	0.30

* EIRP = LVL (dBm) + Correction Factor (dB)

GSM1900 (EDGE class 8) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1850.2	-18.46	39.63	21.17	0.13
1880.0	-18.22	40.35	22.13	0.16
1909.8	-18.84	40.05	21.21	0.13
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1850.2	-19.57	41.84	22.27	0.17
1880.0	-19.11	43.25	24.14	0.26
1909.8	-20.89	42.30	21.41	0.14

* EIRP = LVL (dBm) + Correction Factor (dB)

3.4 99% Occupied Bandwidth and 26dB Bandwidth Measurement

3.4.1 Description of 99% Occupied Bandwidth and 26dB Bandwidth Measurement

The 99% occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

The emission bandwidth is defined as the width of the signal between two points, located at the 2 sides of the carrier frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

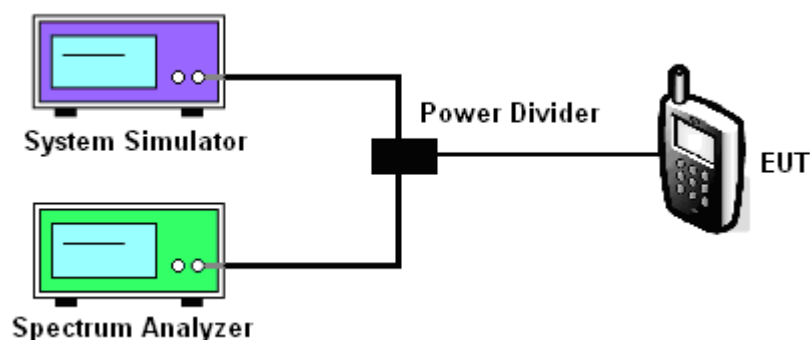
3.4.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.4.3 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 99% occupied bandwidth were measured, set RBW= 1% of span, VBW= 3*RBW, sample detector, trace maximum hold.
4. The 26dB bandwidth were measured, set RBW= 1% of EBW, VBW= 3*RBW, peak detector, trace maximum hold.

3.4.4 Test Setup



3.4.5 Test Result of Occupied Bandwidth and 26dB Bandwidth

SIM1 Card:

Cellular Band						
Modes	GSM850 (GSM)			GSM850 (EDGE class 8)		
Channel	128 (Low)	189 (Mid)	251 (High)	128 (Low)	189 (Mid)	251 (High)
Frequency (MHz)	824.2	836.4	848.8	824.2	836.4	848.8
99% OBW (kHz)	244.00	246.00	246.00	248.00	244.00	244.00
26dB BW (kHz)	310.00	312.00	306.00	302.00	314.00	300.00

PCS Band						
Modes	GSM1900 (GSM)			GSM1900 (EDGE class 8)		
Channel	512 (Low)	661 (Mid)	810 (High)	512 (Low)	661 (Mid)	810 (High)
Frequency (MHz)	1850.2	1880	1909.8	1850.2	1880	1909.8
99% OBW (kHz)	242.00	244.00	244.00	244.00	242.00	242.00
26dB BW (kHz)	304.00	314.00	308.00	302.00	304.00	300.00

Cellular Band			
Modes	WCDMA Band V (RMC 12.2Kbps)		
Channel	4132 (Low)	4182 (Mid)	4233 (High)
Frequency (MHz)	826.4	836.4	846.6
99% OBW (MHz)	4.18	4.20	4.18
26dB BW (MHz)	4.78	4.78	4.76

PCS Band			
Modes	WCDMA Band II (RMC 12.2Kbps)		
Channel	9262 (Low)	9400 (Mid)	9538 (High)
Frequency (MHz)	1852.4	1880	1907.6
99% OBW (MHz)	4.18	4.30	4.32
26dB BW (MHz)	4.80	5.04	5.02

CDMA2000 BC0			
Test Mode	CDMA 2000 1xRTT		
Test Status	RC3+SO55		
Channel	1013 (Low)	384 (Mid)	777 (High)
Frequency (MHz)	824.70	836.52	848.31
99% OBW (MHz)	1.28	1.27	1.27
26dB BW (MHz)	19.98	19.79	20.53

SIM2 Card:

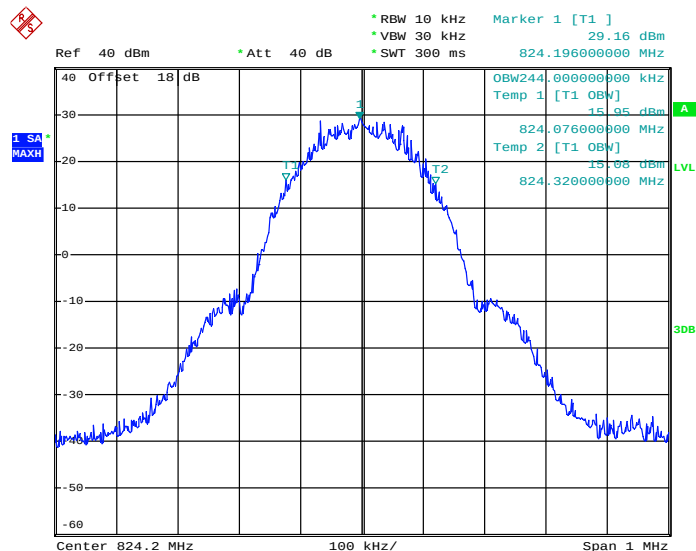
PCS Band						
Modes	GSM1900 (GSM)			GSM1900 (EDGE class 8)		
Channel	512 (Low)	661 (Mid)	810 (High)	512 (Low)	661 (Mid)	810 (High)
Frequency (MHz)	1850.2	1880	1909.8	1850.2	1880	1909.8
99% OBW (kHz)	242.00	250.00	244.00	246.00	244.00	246.00
26dB BW (kHz)	310.00	308.00	314.00	300.00	308.00	312.00

3.4.6 Test Result (Plots) of Occupied Bandwidth and 26dB Bandwidth

SIM1 Card:

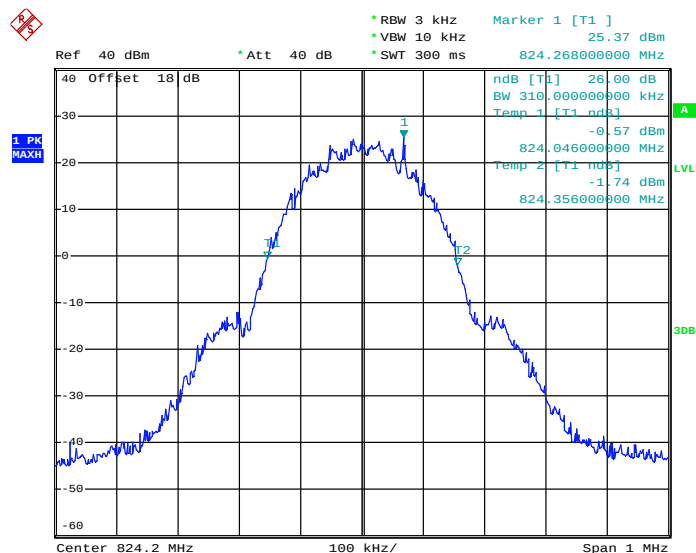
Band :	GSM 850	Test Mode :	GSM Link (GMSK)
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99% Occupied Bandwidth Plot on Channel 128 (824.2 MHz)



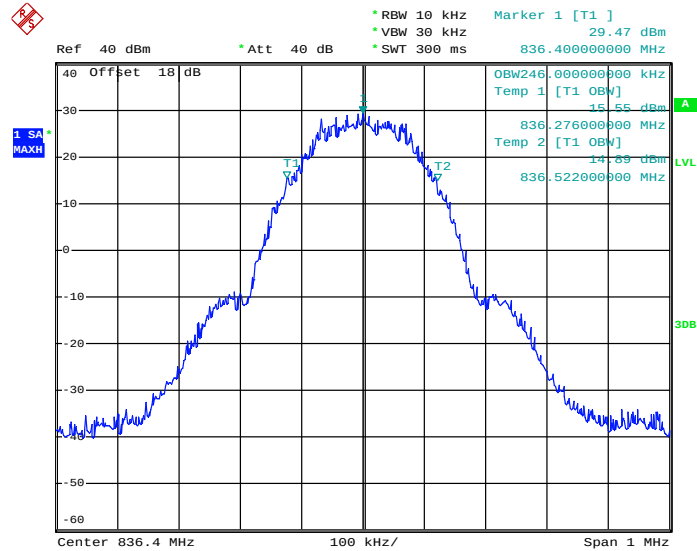
Date: 7.JAN.2014 18:38:20

26dB Bandwidth Plot on Channel 128 (824.2 MHz)



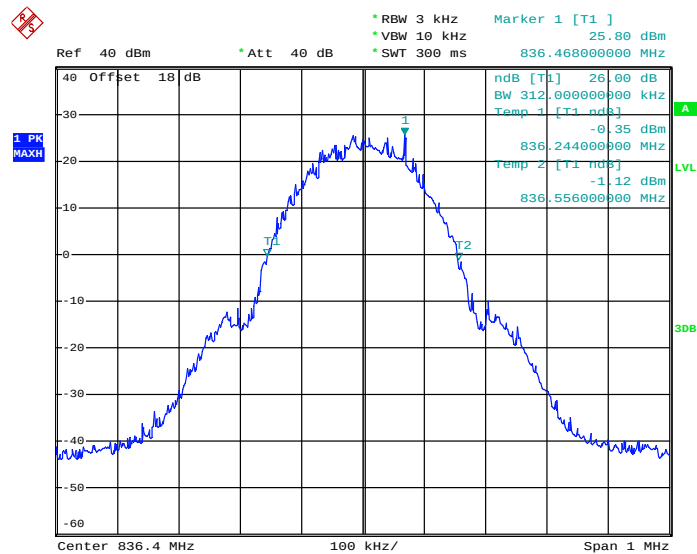
Date: 7.JAN.2014 18:31:17

99% Occupied Bandwidth Plot on Channel 189 (836.4 MHz)



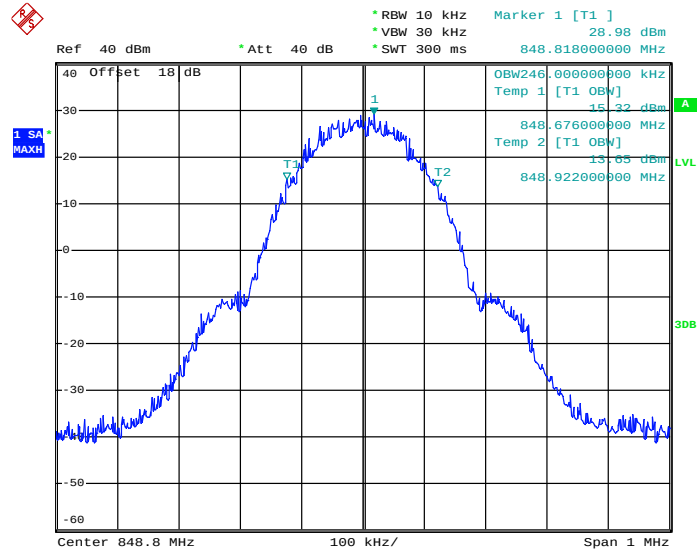
Date: 7.JAN.2014 18:36:20

26dB Bandwidth Plot on Channel 189 (836.4 MHz)



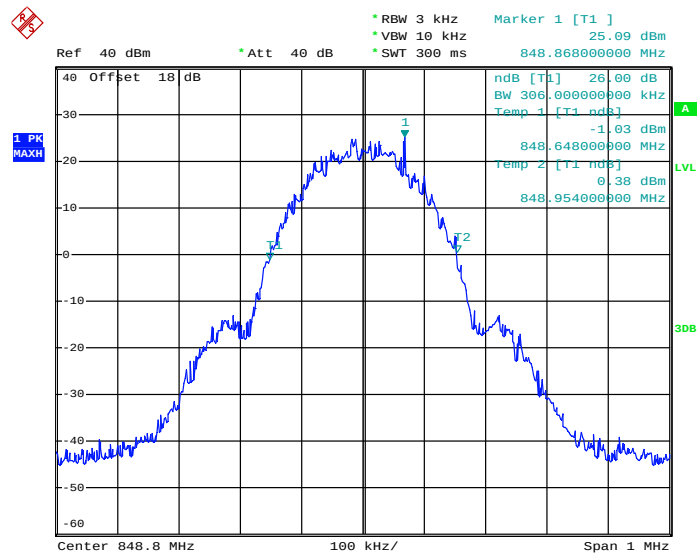
Date: 7.JAN.2014 18:30:16

99% Occupied Bandwidth Plot on Channel 251 (848.8 MHz)



Date: 7.JAN.2014 18:33:48

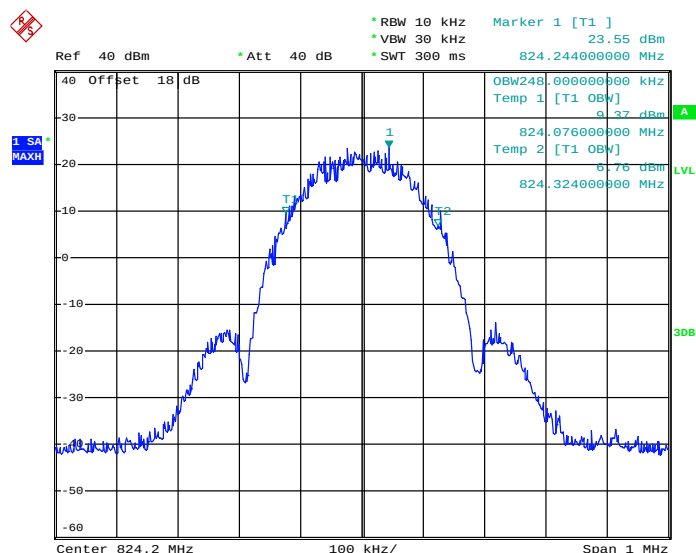
26dB Bandwidth Plot on Channel 251 (848.8 MHz)



Date: 7.JAN.2014 18:32:04

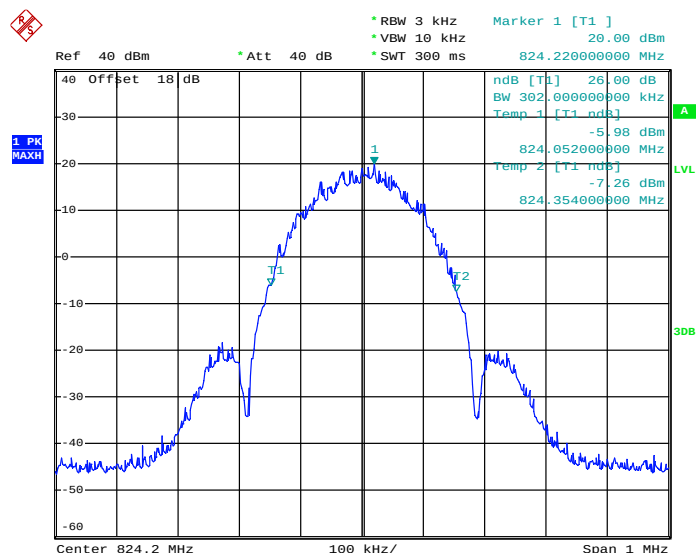
Band :	GSM 850	Test Mode :	EDGE class 8 Link (8PSK)
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99% Occupied Bandwidth Plot on Channel 128 (824.2 MHz)



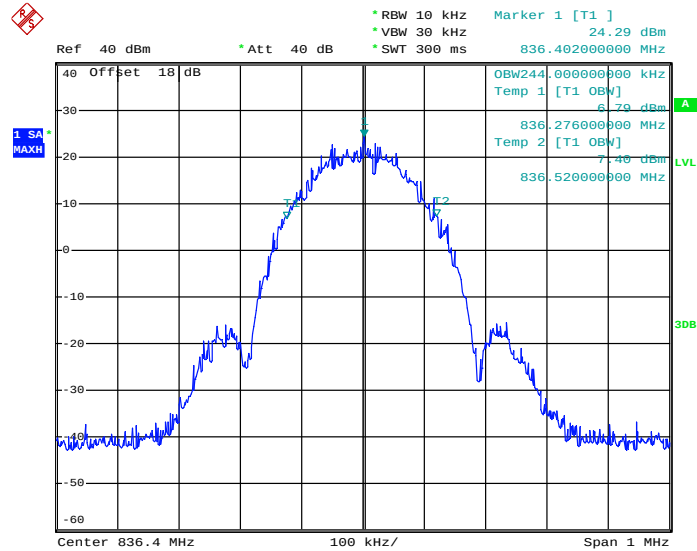
Date: 11.JAN.2014 00:41:51

26dB Bandwidth Plot on Channel 128 (824.2 MHz)



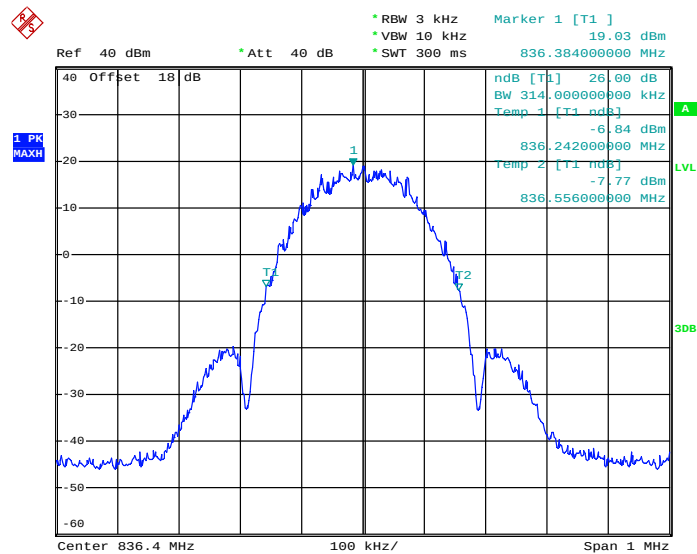
Date: 11.JAN.2014 00:39:50

99% Occupied Bandwidth Plot on Channel 189 (836.4 MHz)



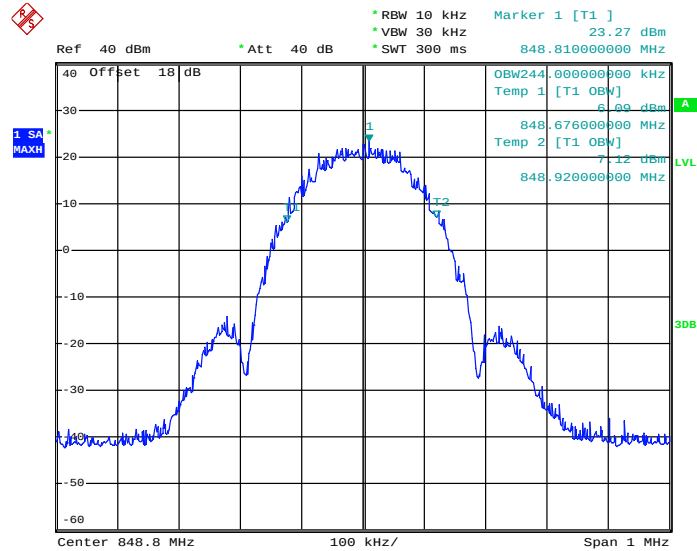
Date: 11.JAN.2014 00:44:12

26dB Bandwidth Plot on Channel 189 (836.4 MHz)



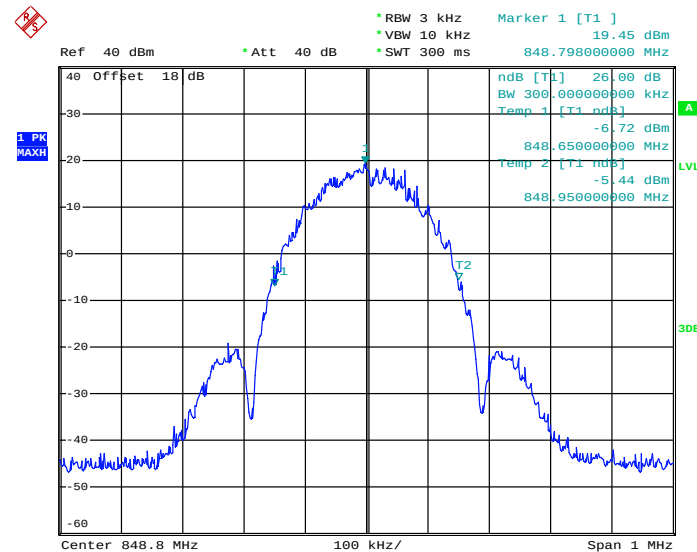
Date: 11.JAN.2014 00:38:40

99% Occupied Bandwidth Plot on Channel 251 (848.8 MHz)



Date: 11.JAN.2014 00:45:57

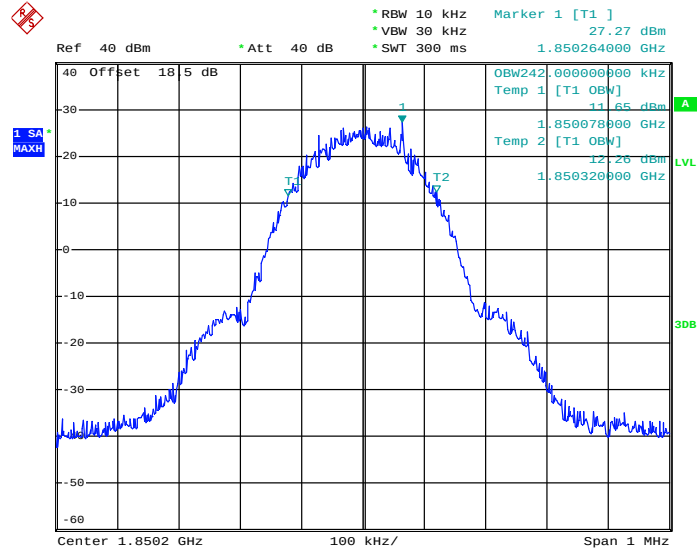
26dB Bandwidth Plot on Channel 251 (848.8 MHz)



Date: 11.JAN.2014 00:37:17

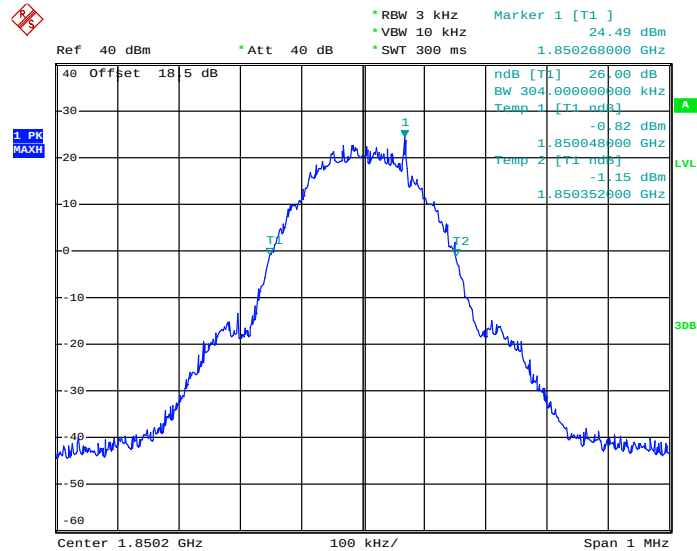
Band :	GSM 1900	Test Mode :	GSM Link (GMSK)
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99% Occupied Bandwidth Plot on Channel 512 (1850.2 MHz)



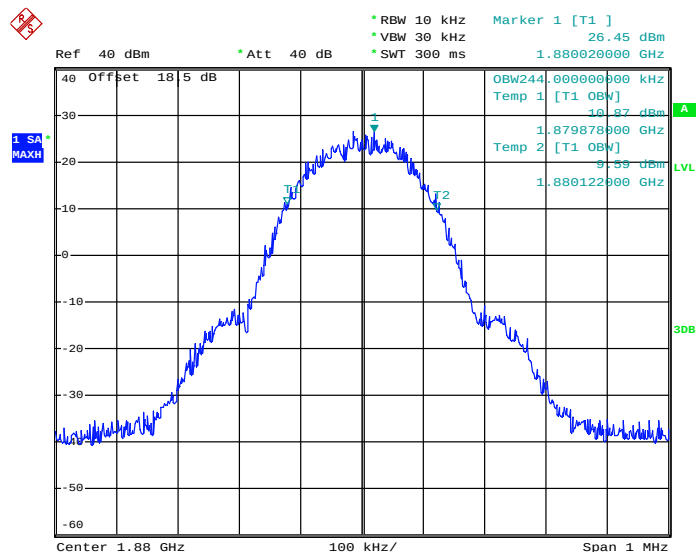
Date: 7.JAN.2014 19:15:34

26dB Bandwidth Plot on Channel 512 (1850.2 MHz)



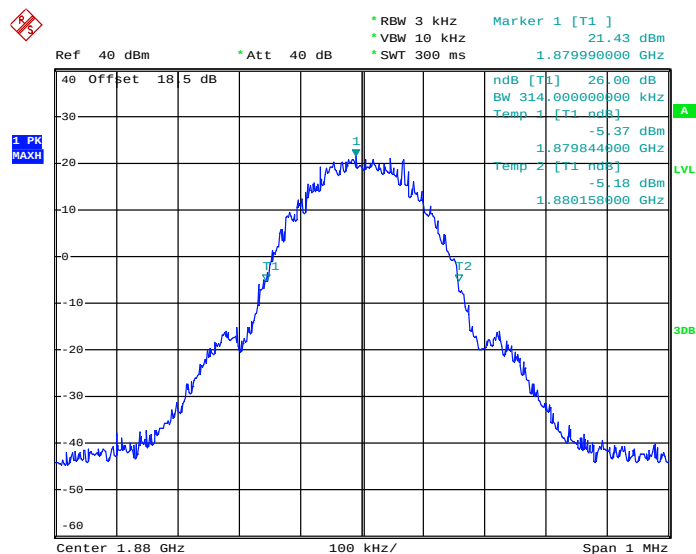
Date: 7.JAN.2014 19:13:44

99% Occupied Bandwidth Plot on Channel 661 (1880.0 MHz)



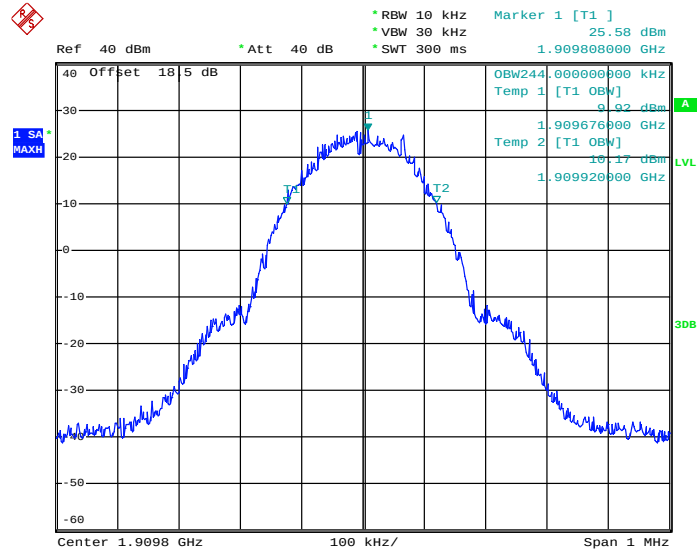
Date: 7.JAN.2014 19:17:12

26dB Bandwidth Plot on Channel 661 (1880.0 MHz)



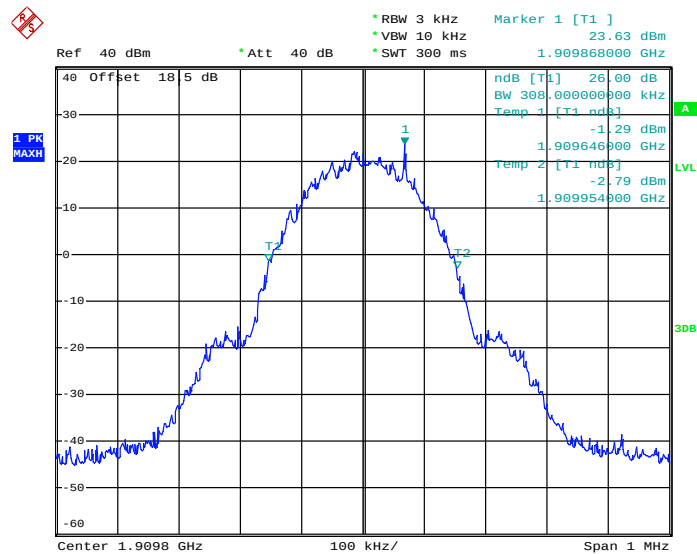
Date: 7.JAN.2014 19:11:55

99% Occupied Bandwidth Plot on Channel 810 (1909.8 MHz)



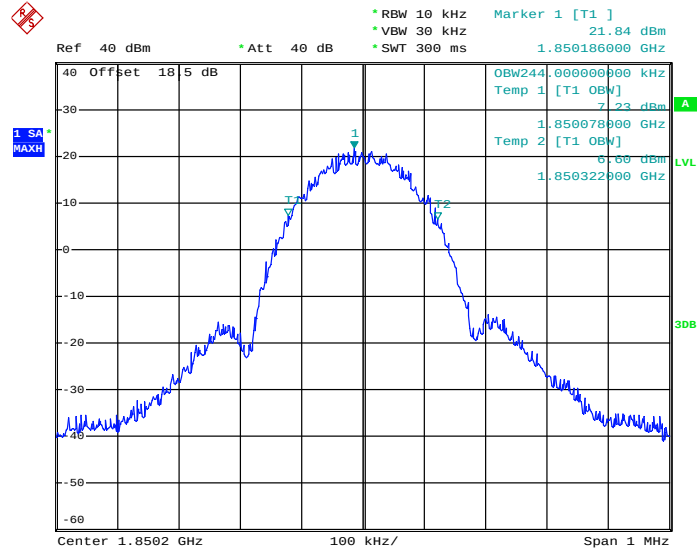
Date: 7.JAN.2014 19:19:22

26dB Bandwidth Plot on Channel 810 (1909.8 MHz)

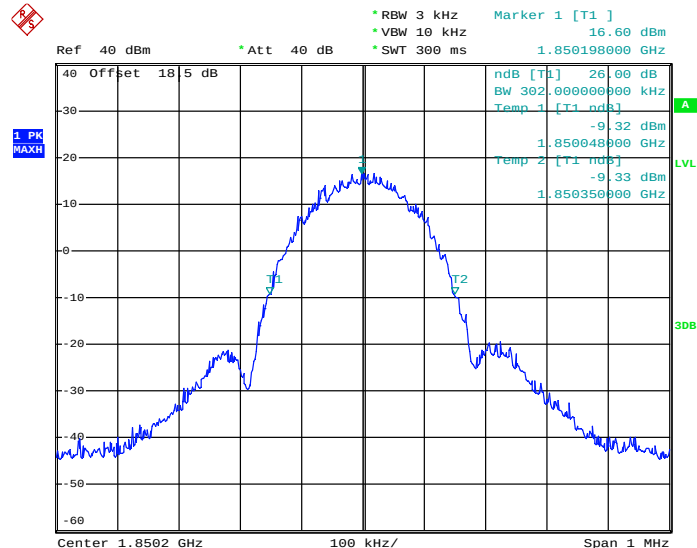


Date: 7.JAN.2014 19:10:22

Band :	GSM 1900	Test Mode :	EDGE class 8 Link (8PSK)
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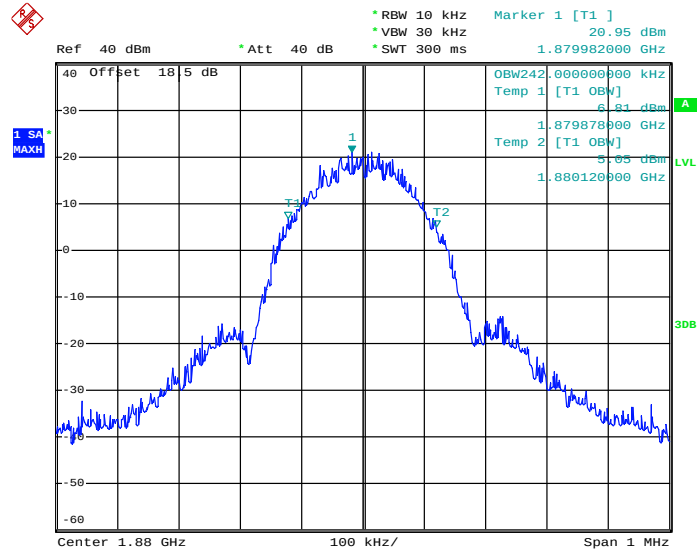
99% Occupied Bandwidth Plot on Channel 512 (1850.2 MHz)


Date: 13.JAN.2014 15:41:02

26dB Bandwidth Plot on Channel 512 (1850.2 MHz)


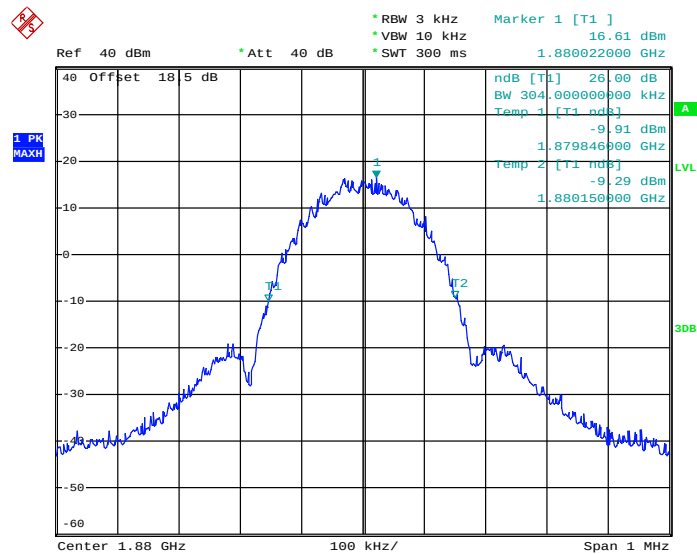
Date: 13.JAN.2014 15:20:40

99% Occupied Bandwidth Plot on Channel 661 (1880.0 MHz)



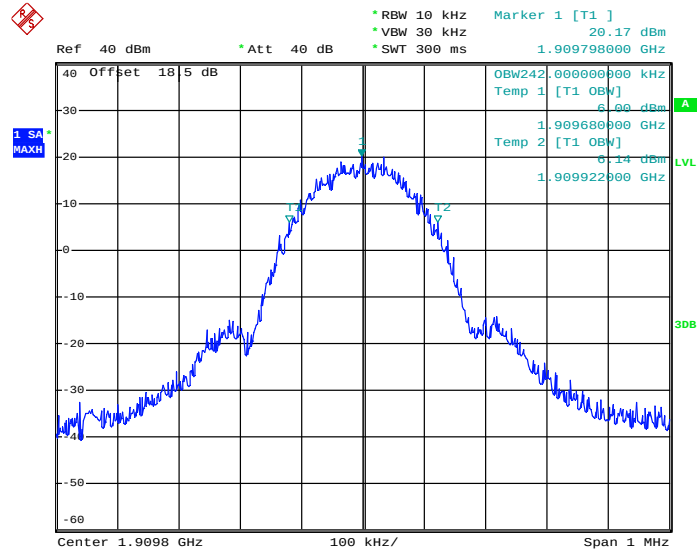
Date: 13.JAN.2014 15:35:05

26dB Bandwidth Plot on Channel 661 (1880.0 MHz)



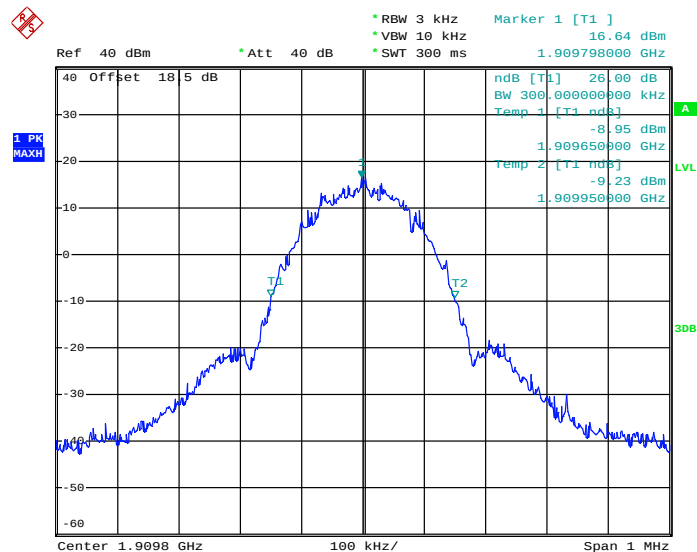
Date: 13.JAN.2014 15:18:56

99% Occupied Bandwidth Plot on Channel 810 (1909.8 MHz)



Date: 13.JAN.2014 15:33:30

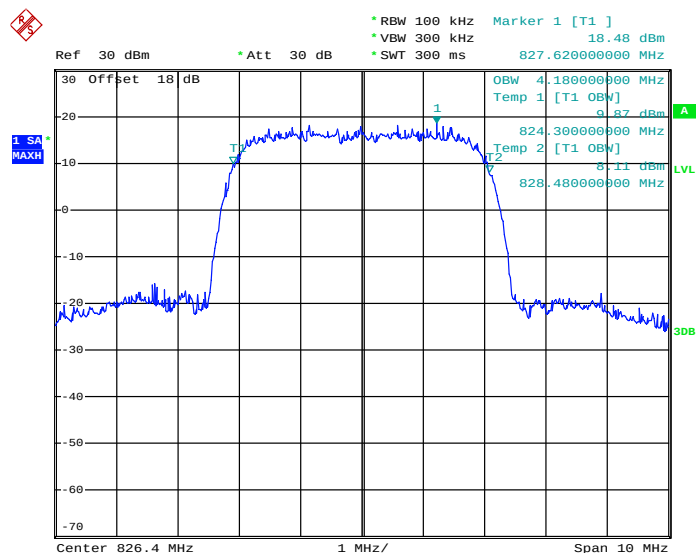
26dB Bandwidth Plot on Channel 810 (1909.8 MHz)



Date: 13.JAN.2014 15:24:17

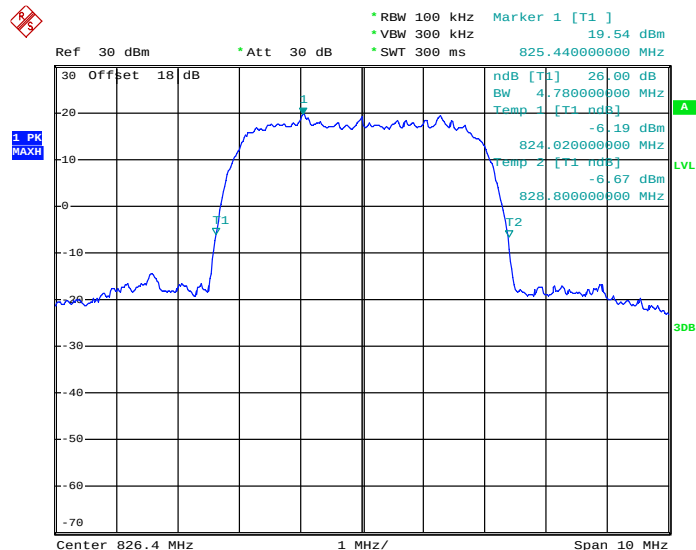
Band :	WCDMA Band V	Test Mode :	RMC 12.2Kbps Link (QPSK)
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99% Occupied Bandwidth Plot on Channel 4132 (826.4 MHz)



Date: 13.JAN.2014 19:58:14

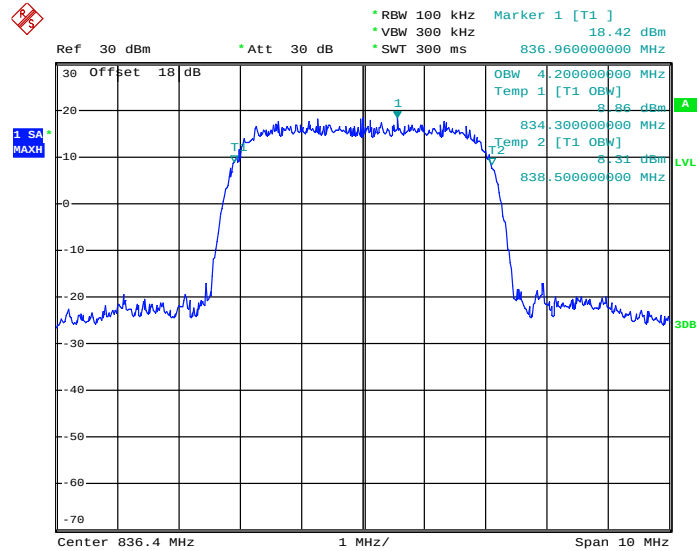
26dB Bandwidth Plot on Channel 4132 (826.4 MHz)



Date: 13.JAN.2014 19:50:18

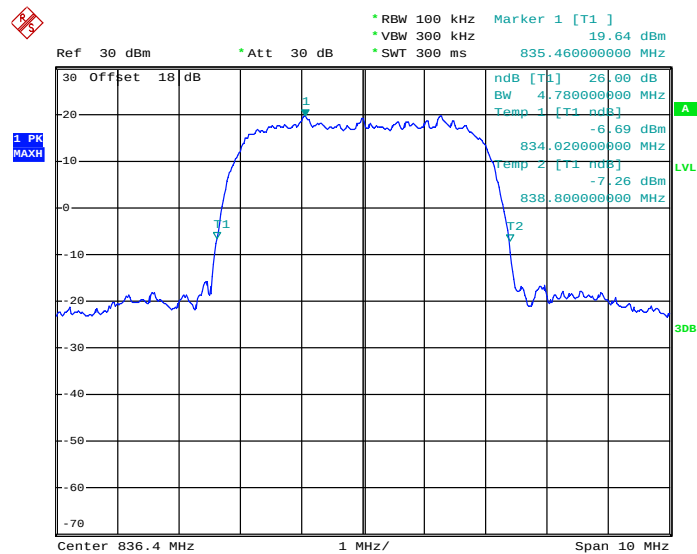


99% Occupied Bandwidth Plot on Channel 4182 (836.4 MHz)



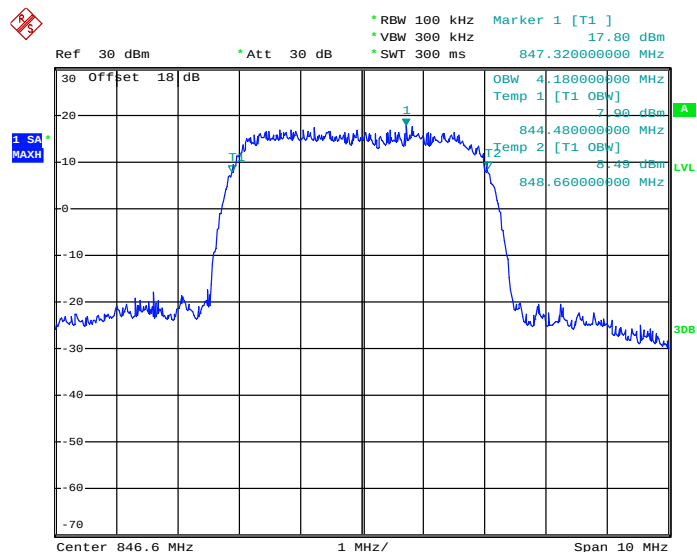
Date: 13.JAN.2014 19:53:59

26dB Bandwidth Plot on Channel 4182 (836.4 MHz)



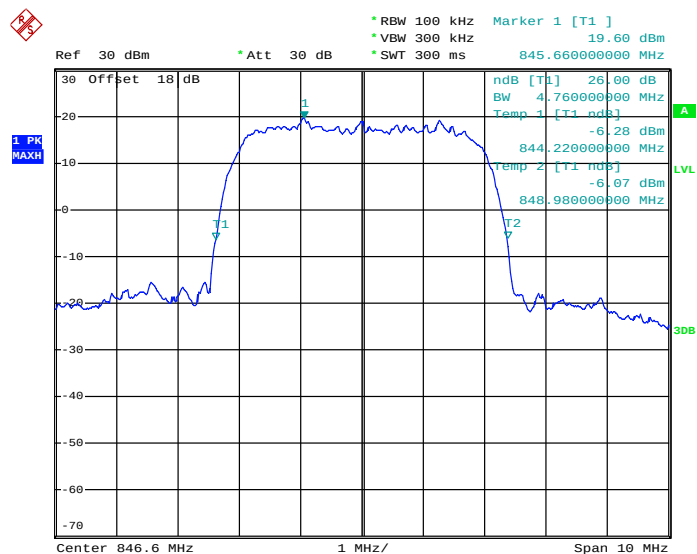
Date: 13.JAN.2014 19:51:58

99% Occupied Bandwidth Plot on Channel 4233 (846.6 MHz)



Date: 13.JAN.2014 20:00:28

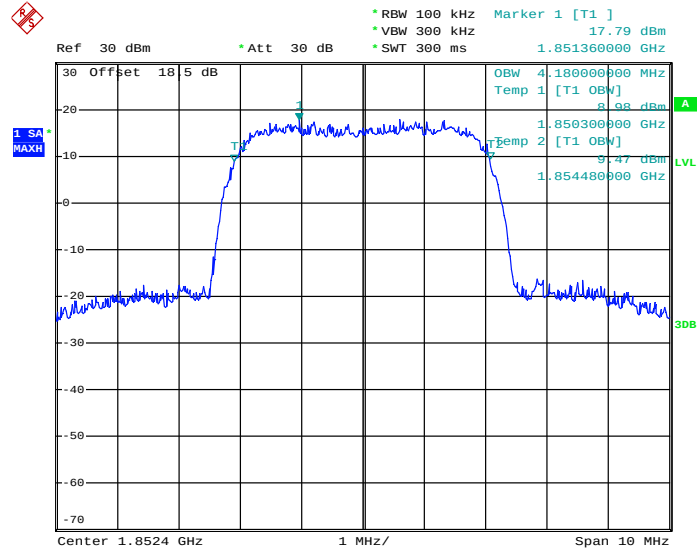
26dB Bandwidth Plot on Channel 4233 (846.6 MHz)



Date: 13.JAN.2014 19:49:17

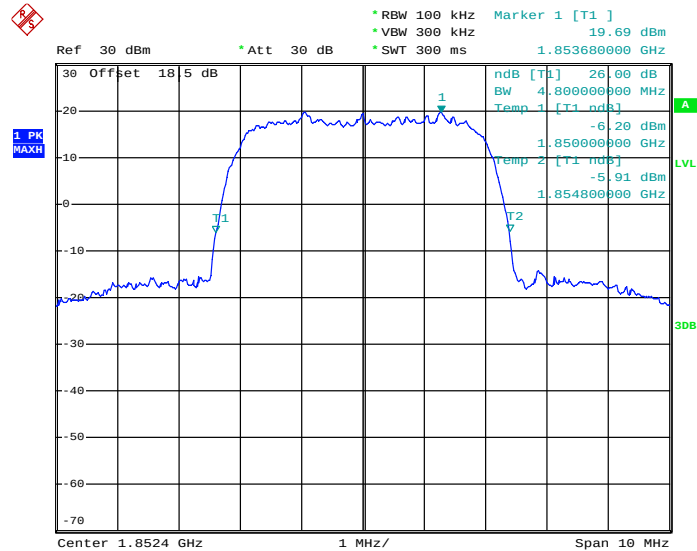
Band :	WCDMA Band II	Test Mode :	RMC 12.2Kbps Link (QPSK)
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99% Occupied Bandwidth Plot on Channel 9262 (1852.4 MHz)



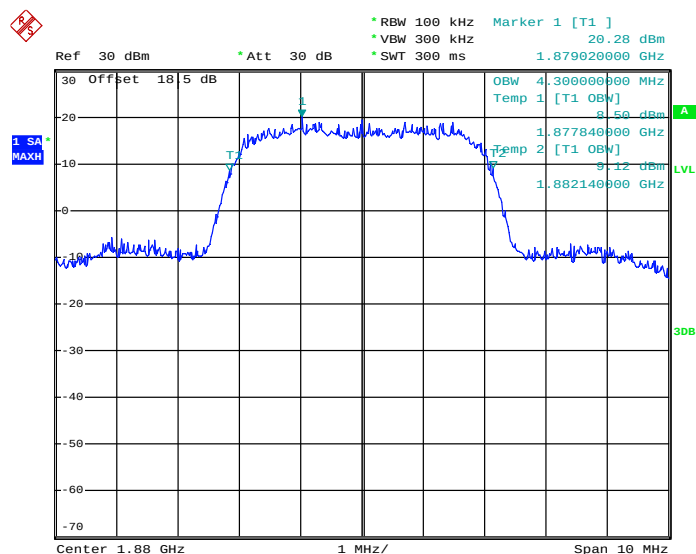
Date: 13.JAN.2014 19:29:42

26dB Bandwidth Plot on Channel 9262 (1852.4 MHz)



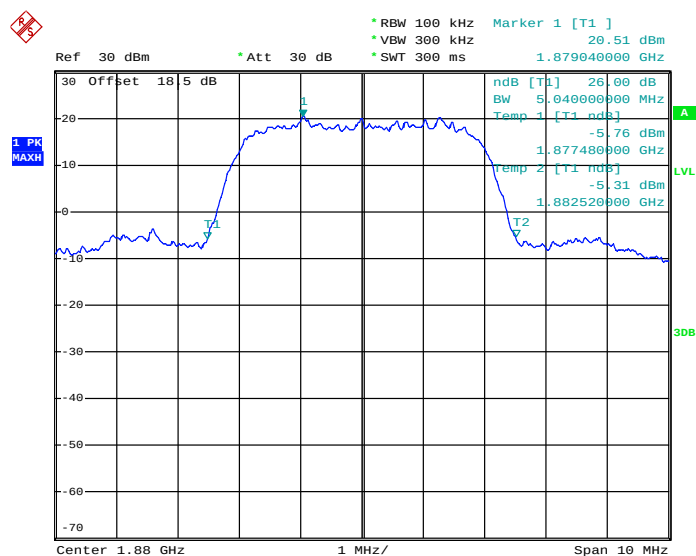
Date: 13.JAN.2014 19:19:20

99% Occupied Bandwidth Plot on Channel 9400 (1880.0 MHz)



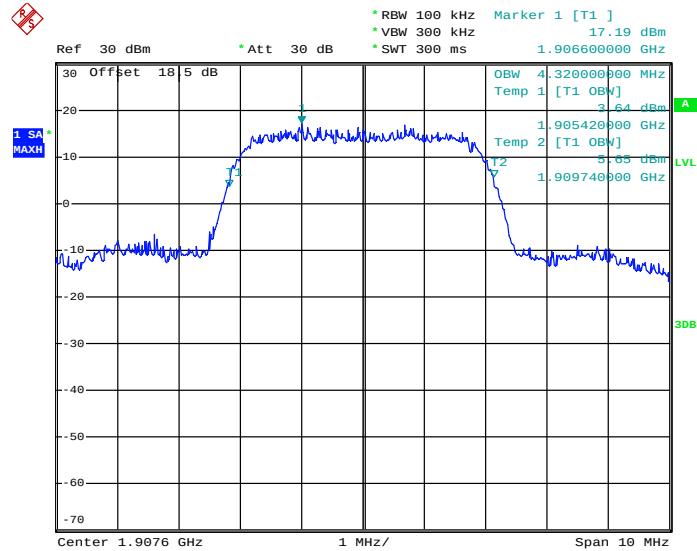
Date: 13.JAN.2014 19:28:21

26dB Bandwidth Plot on Channel 9400 (1880.0 MHz)



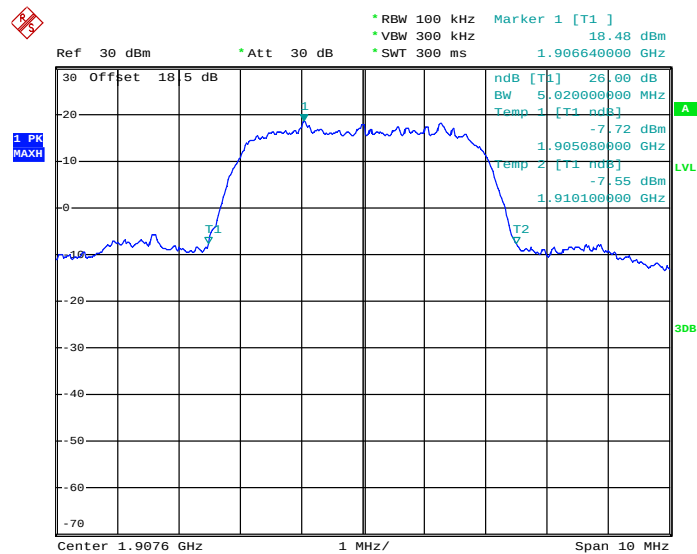
Date: 13.JAN.2014 19:23:05

99% Occupied Bandwidth Plot on Channel 9538 (1907.6 MHz)



Date: 13.JAN.2014 19:31:34

26dB Bandwidth Plot on Channel 9538 (1907.6 MHz)



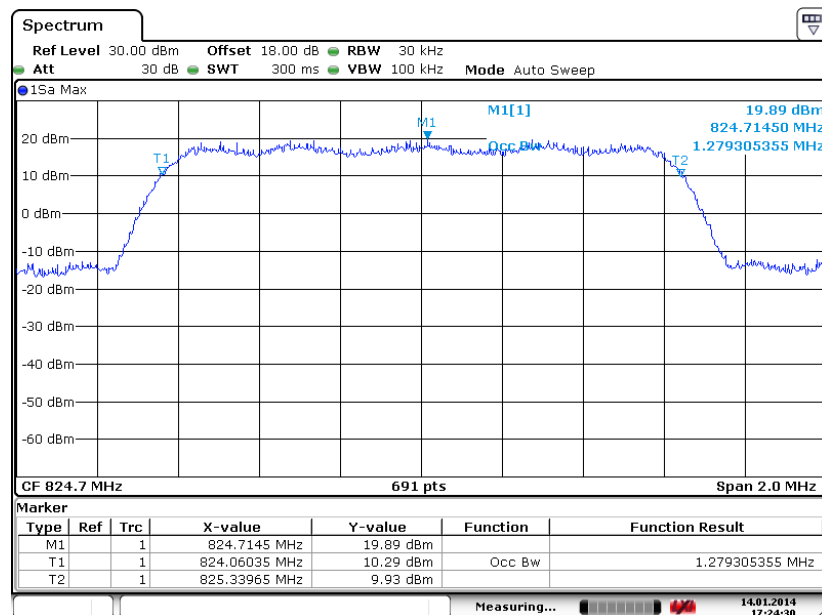
Date: 13.JAN.2014 19:22:08



Band : CDMA2000 BC0

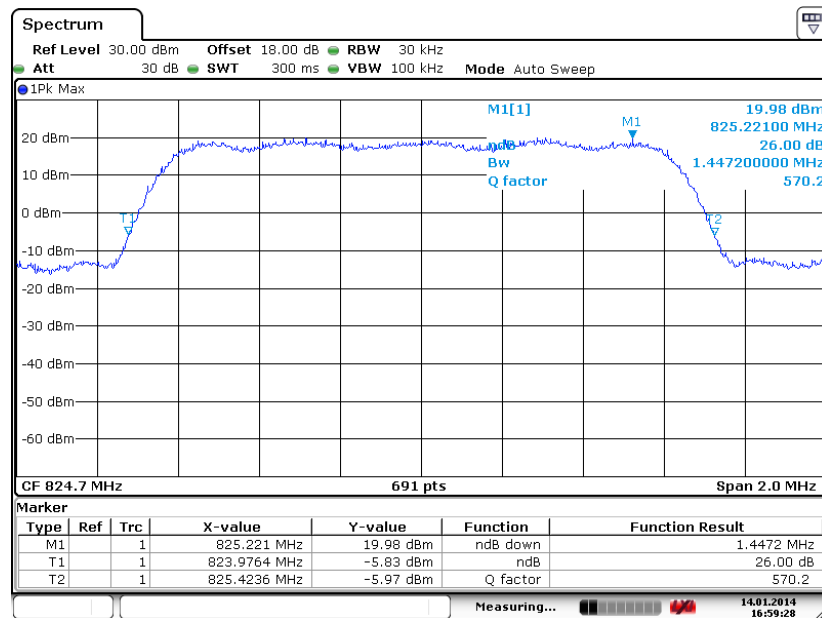
Test Mode : 1xRTT_RC3+SO55 (QPSK)

99% Occupied Bandwidth Plot on Channel 1013 (824.7 MHz)



Date: 14.JAN.2014 17:24:29

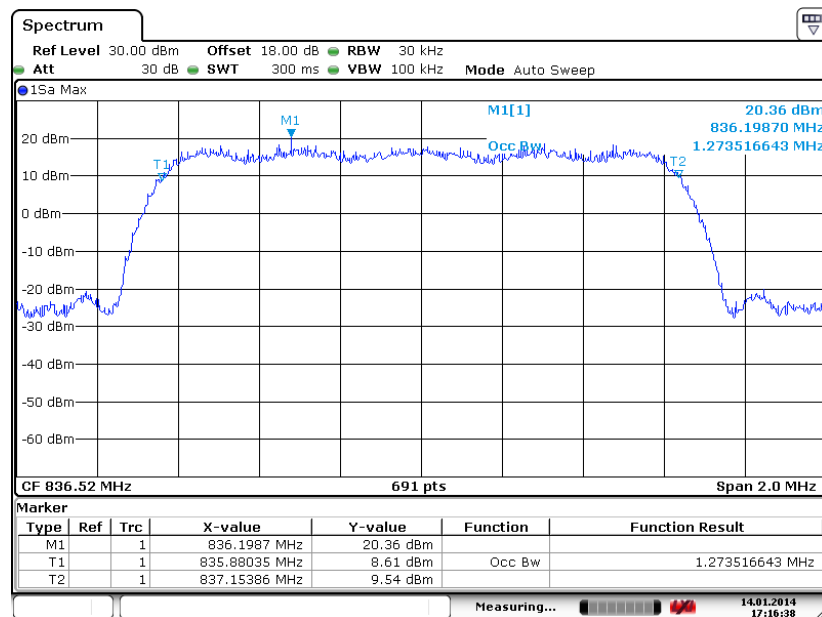
26dB Bandwidth Plot on Channel 1013 (824.7 MHz)



Date: 14.JAN.2014 16:59:28

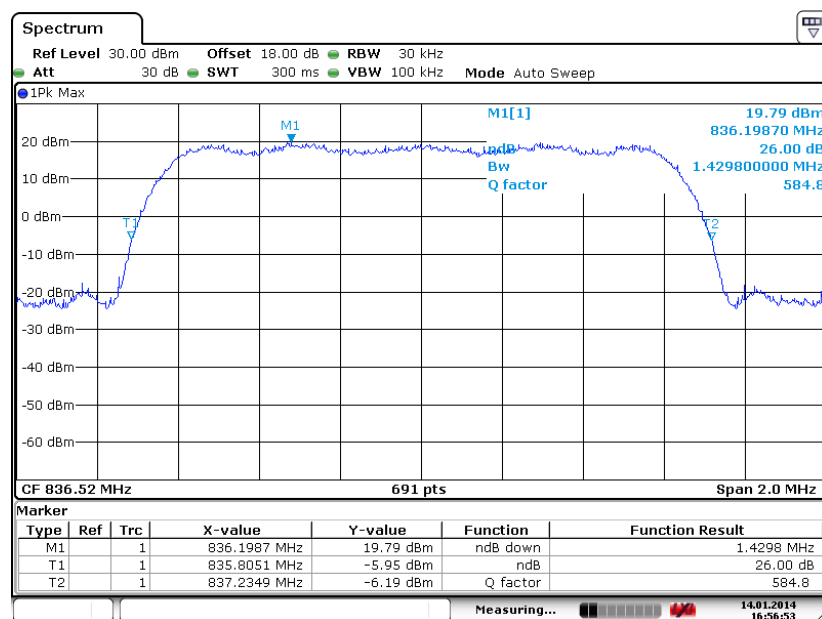


99% Occupied Bandwidth Plot on Channel 384 (836.52 MHz)



Date: 14. JAN. 2014 17:16:38

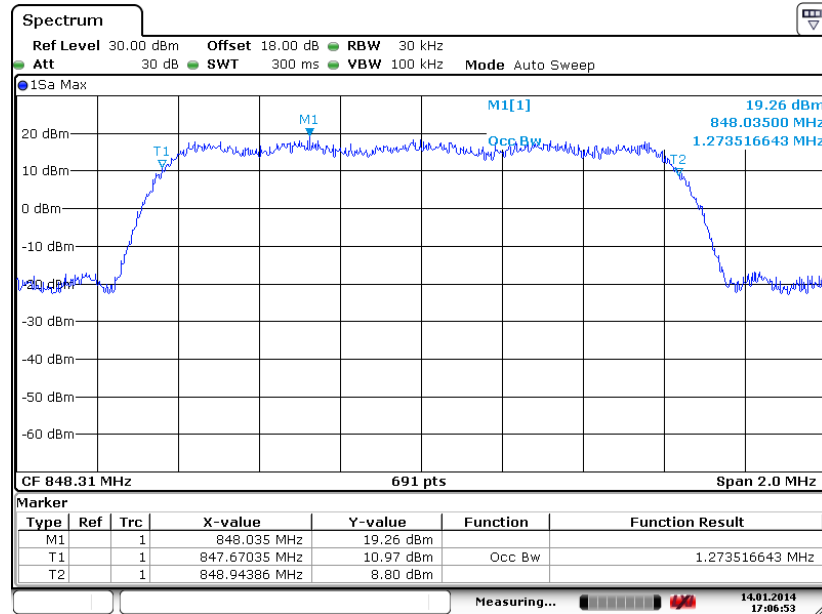
26dB Bandwidth Plot on Channel 384 (836.52 MHz)



Date: 14. JAN. 2014 16:56:52

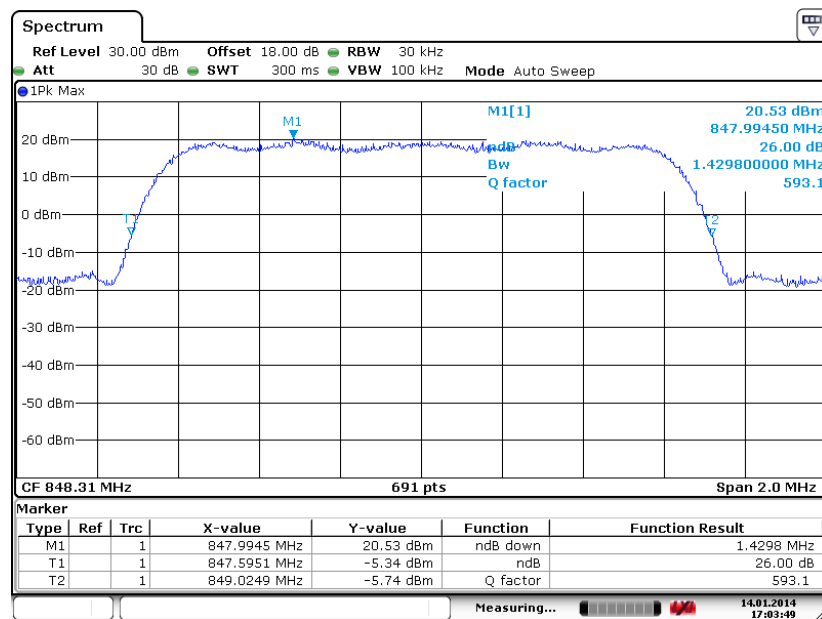


99% Occupied Bandwidth Plot on Channel 777 (848.31 MHz)



Date: 14. JAN. 2014 17:06:53

26dB Bandwidth Plot on Channel 777 (848.31 MHz)

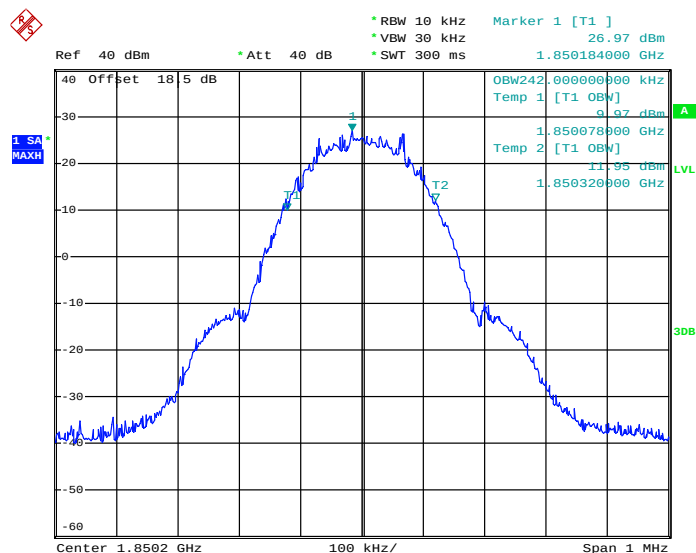


Date: 14. JAN. 2014 17:03:49

SIM2 Card:

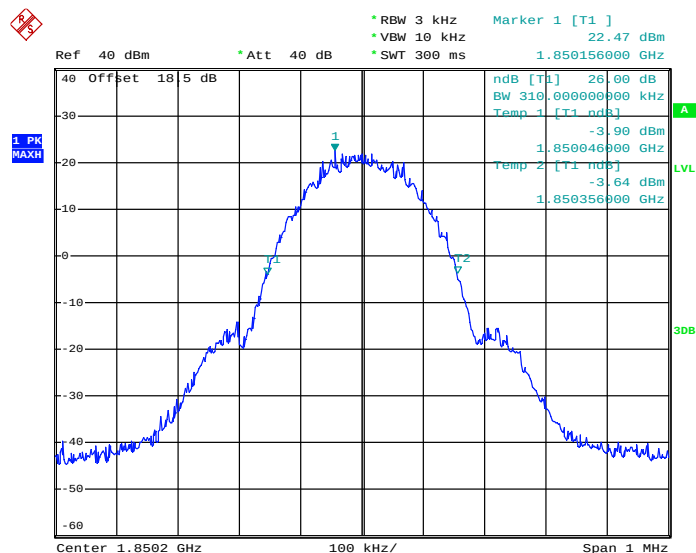
Band :	GSM 1900	Test Mode :	GSM Link (GMSK)
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99% Occupied Bandwidth Plot on Channel 512 (1850.2 MHz)



Date: 8.FEB.2014 19:02:09

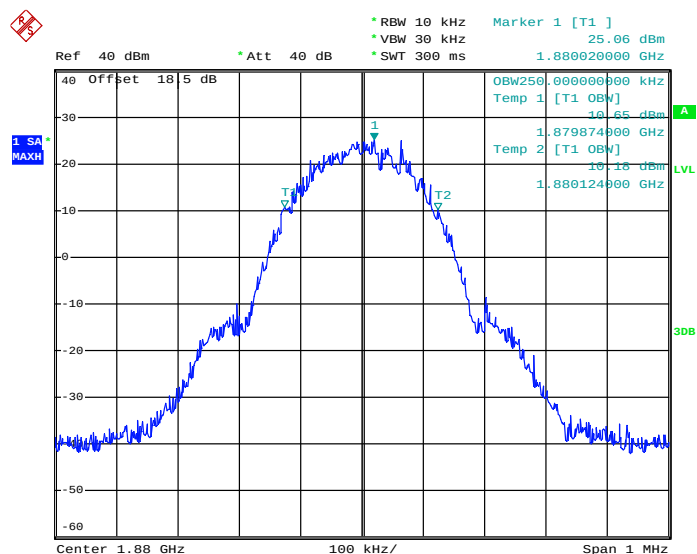
26dB Bandwidth Plot on Channel 512 (1850.2 MHz)



Date: 8.FEB.2014 18:46:49

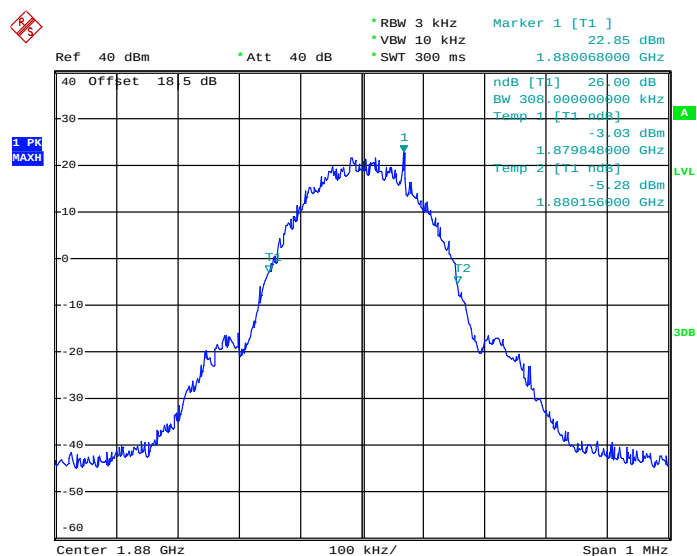


99% Occupied Bandwidth Plot on Channel 661 (1880.0 MHz)



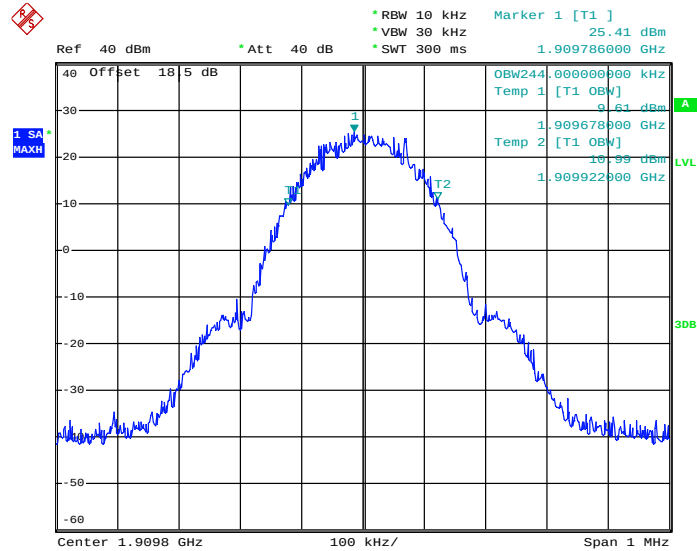
Date: 8.FEB.2014 18:56:02

26dB Bandwidth Plot on Channel 661 (1880.0 MHz)



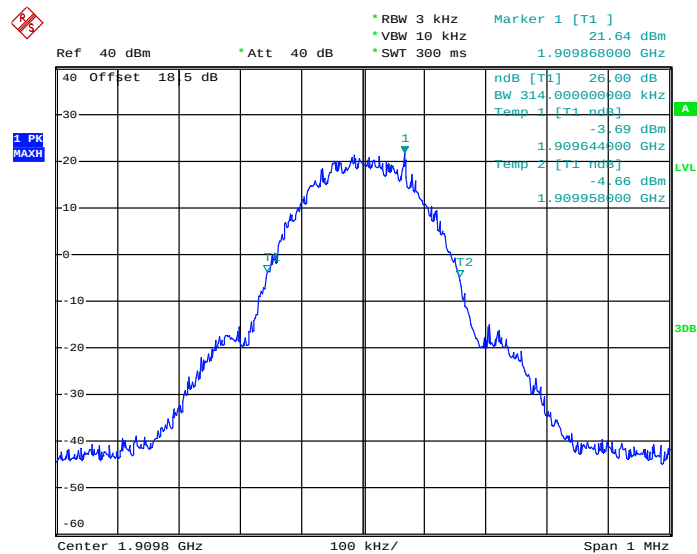
Date: 8.FEB.2014 18:22:55

99% Occupied Bandwidth Plot on Channel 810 (1909.8 MHz)



Date: 8.FEB.2014 18:54:23

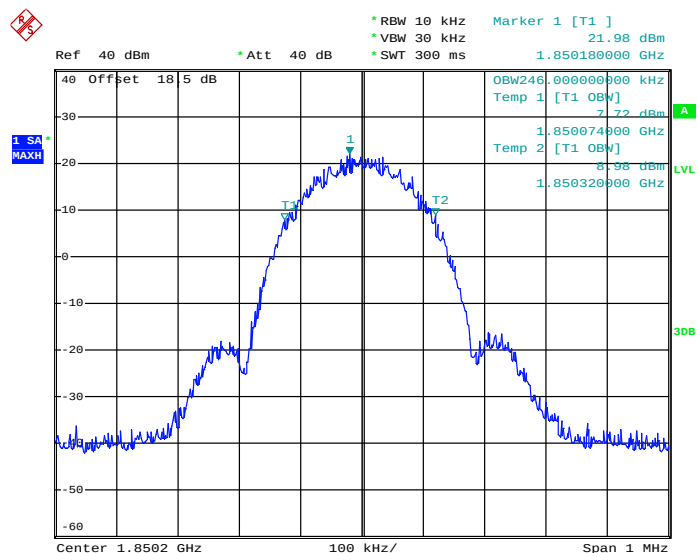
26dB Bandwidth Plot on Channel 810 (1909.8 MHz)



Date: 8.FEB.2014 18:48:47

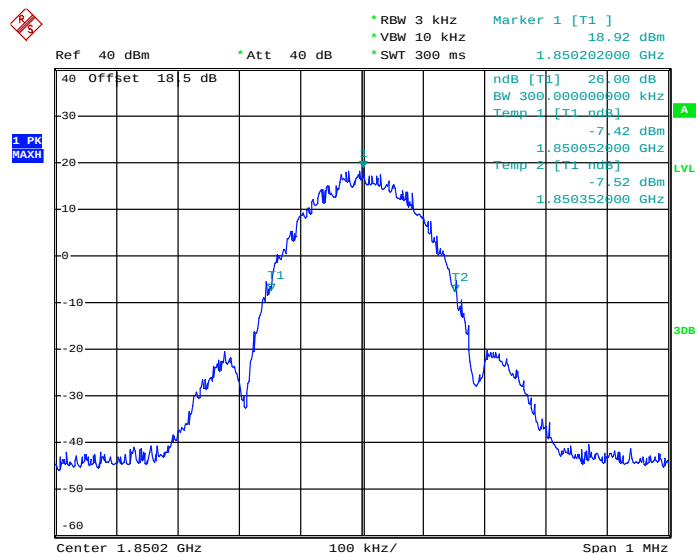
Band :	GSM 1900	Test Mode :	EDGE class 8 Link (8PSK)
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99% Occupied Bandwidth Plot on Channel 512 (1850.2 MHz)



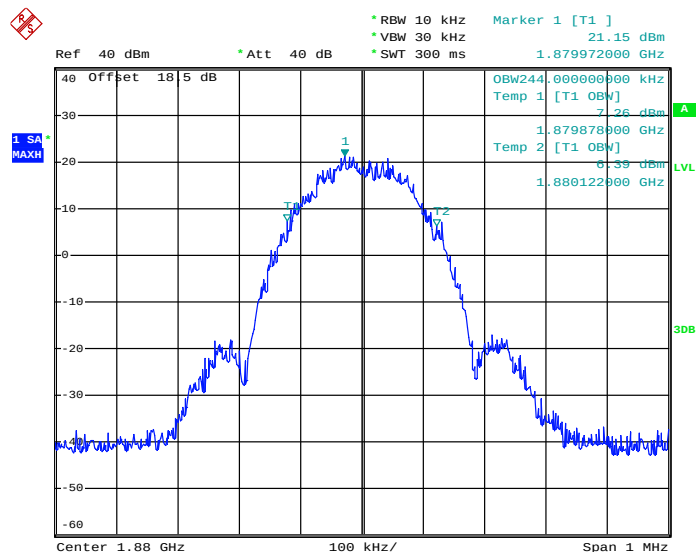
Date: 8.FEB.2014 20:59:50

26dB Bandwidth Plot on Channel 512 (1850.2 MHz)



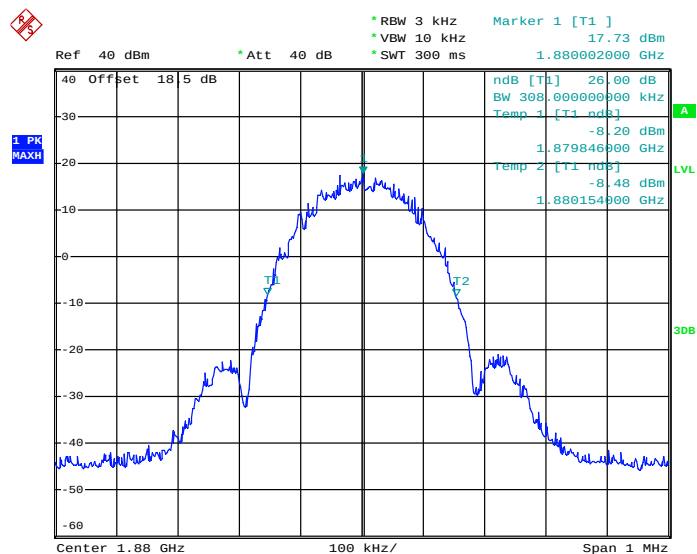
Date: 8.FEB.2014 21:10:31

99% Occupied Bandwidth Plot on Channel 661 (1880.0 MHz)



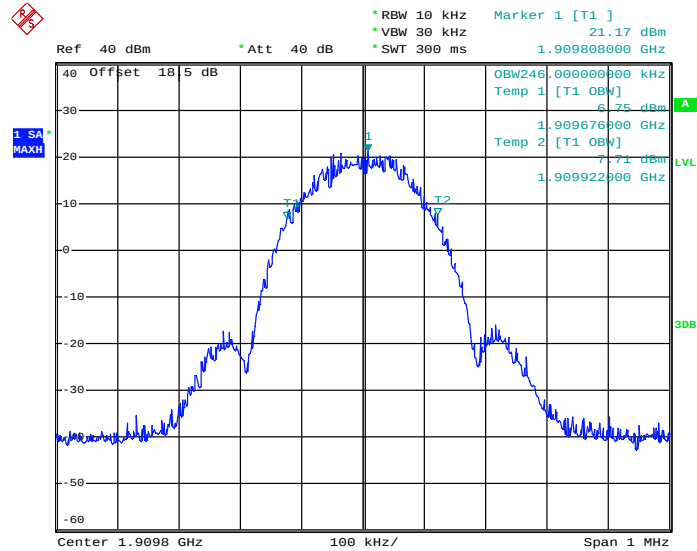
Date: 8.FEB.2014 20:57:20

26dB Bandwidth Plot on Channel 661 (1880.0 MHz)



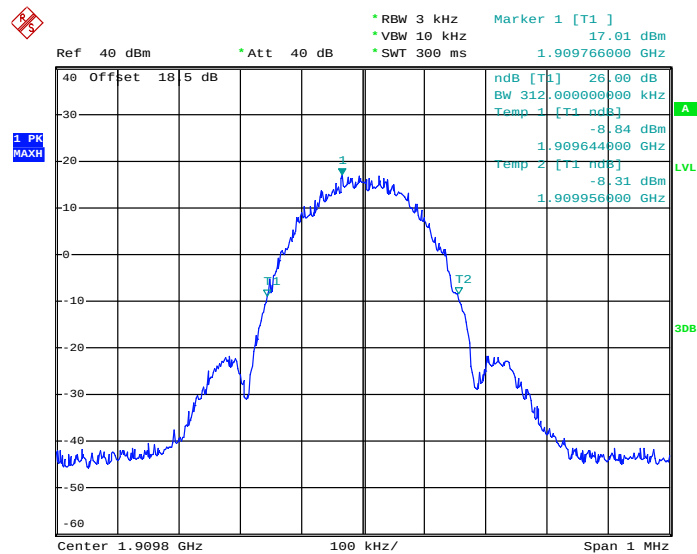
Date: 8.FEB.2014 21:08:40

99% Occupied Bandwidth Plot on Channel 810 (1909.8 MHz)



Date: 8.FEB.2014 20:55:55

26dB Bandwidth Plot on Channel 810 (1909.8 MHz)



Date: 8.FEB.2014 21:07:07

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

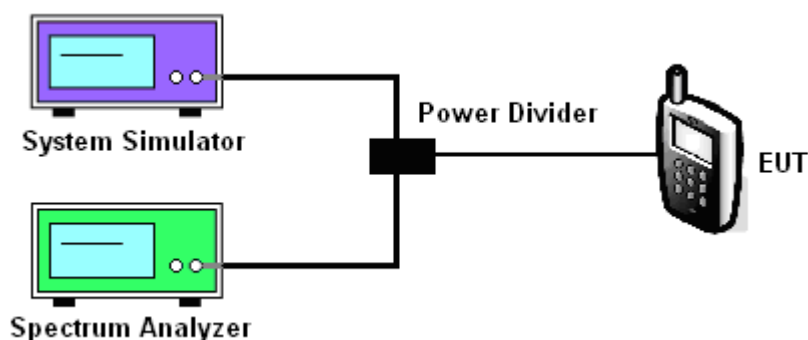
The measuring equipment is listed in the section 4 of this test report.

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.
4. The RBW was replaced by 10 kHz, slightly smaller than the value in (2), due to the spectrum analyzer limitation to set the exact value. A worst case correction factor of $10 \cdot \log (1\% \text{ emission-BW/measurement RBW})$ was compensated.
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)
 $= P(W) - [43 + 10 \log (P)] \text{ (dB)}$
 $= [30 + 10 \log (P)] \text{ (dBm)} - [43 + 10 \log (P)] \text{ (dB)}$
 $= -13 \text{ dBm}.$

3.5.4 Test Setup

<Conducted Band Edge >

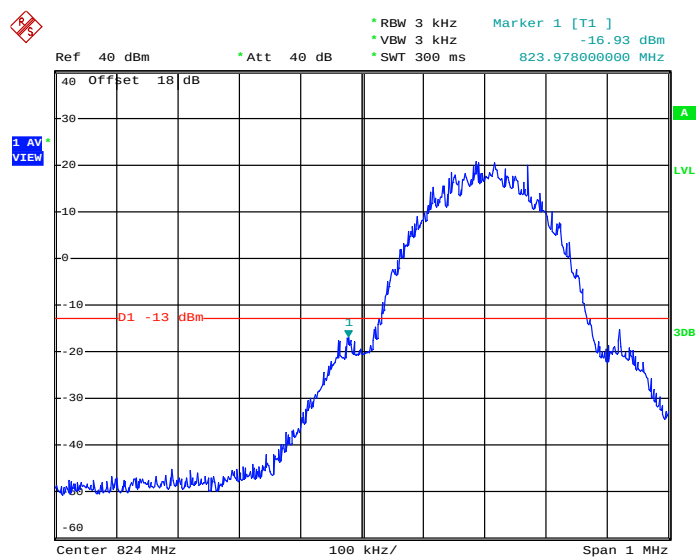


3.5.5 Test Result (Plots) of Conducted Band Edge

SIM1 Card:

Band :	GSM850	Test Mode :	GSM Link (GMSK)
Correction Factor :	0.17dB	Maximum 26dB Bandwidth :	0.312MHz
Band Edge :	-16.76dBm	Measurement Value :	-16.93dBm

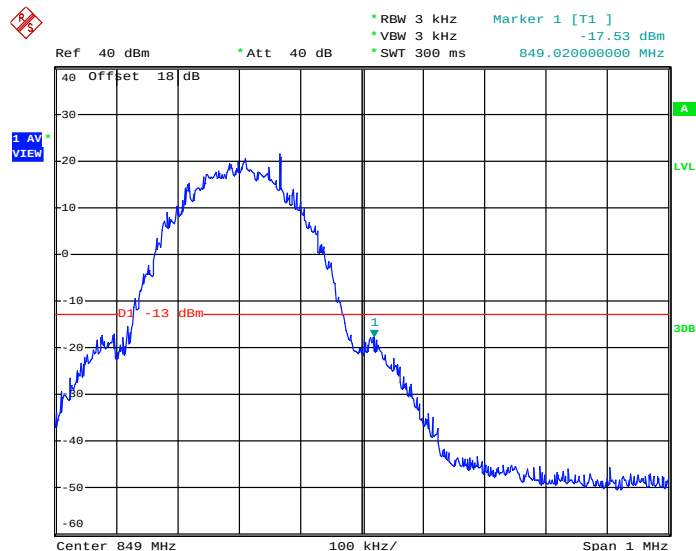
Lower Band Edge Plot on Channel 128 (824.2 MHz)



Date: 7.JAN.2014 18:40:03

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

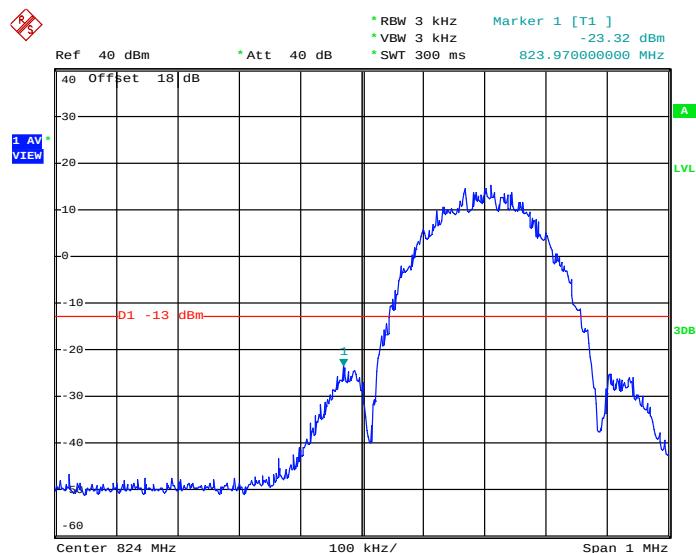
Band :	GSM850	Test Mode :	GSM Link (GMSK)
Correction Factor :	0.17dB	Maximum 26dB Bandwidth :	0.312MHz
Band Edge :	-17.36dBm	Measurement Value :	-17.53dBm

Higher Band Edge Plot on Channel 251 (848.8 MHz)


Date: 7.JAN.2014 18:42:31

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

Band :	GSM850	Test Mode :	EDGE class 8 Link (8PSK)
Correction Factor :	0.20dB	Maximum 26dB Bandwidth :	0.314MHz
Band Edge :	-23.12dBm	Measurement Value :	-23.32dBm

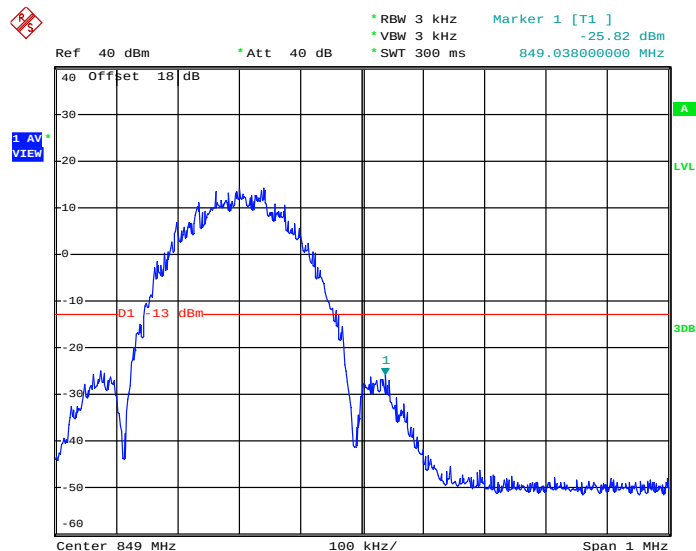
Lower Band Edge Plot on Channel 128 (824.2 MHz)


Date: 11.JAN.2014 00:34:59

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

Band :	GSM850	Test Mode :	EDGE class 8 Link (8PSK)
Correction Factor :	0.20dB	Maximum 26dB Bandwidth :	0.314MHz
Band Edge :	-25.62dBm	Measurement Value :	-25.82dBm

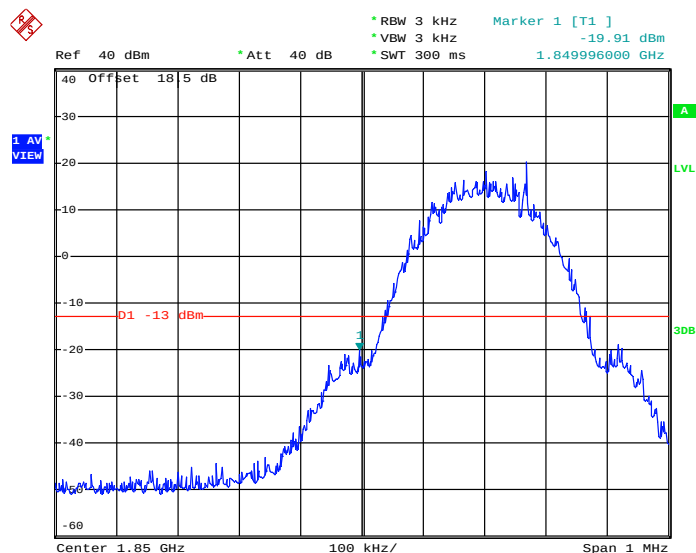
Higher Band Edge Plot on Channel 251 (848.8 MHz)



Date: 11.JAN.2014 00:36:16

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

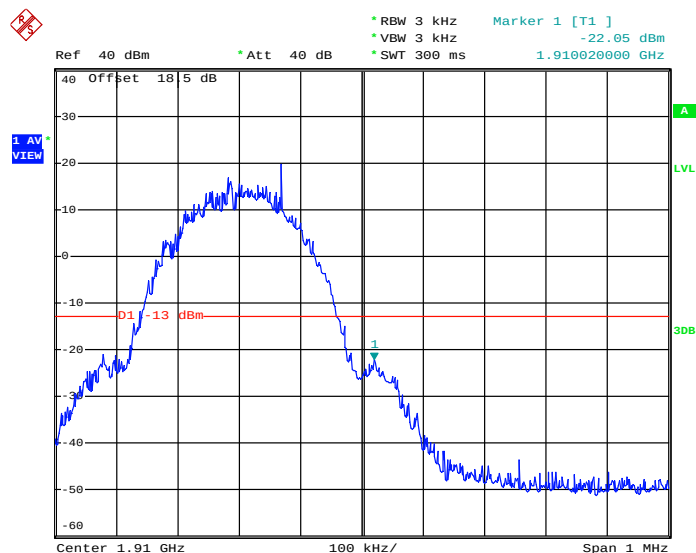
Band :	GSM1900	Test Mode :	GSM Link (GMSK)
Correction Factor :	0.20dB	Maximum 26dB Bandwidth :	0.314MHz
Band Edge :	-17.91dBm	Measurement Value :	-19.91dBm

Lower Band Edge Plot on Channel 512 (1850.2 MHz)


Date: 7.JAN.2014 19:21:36

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

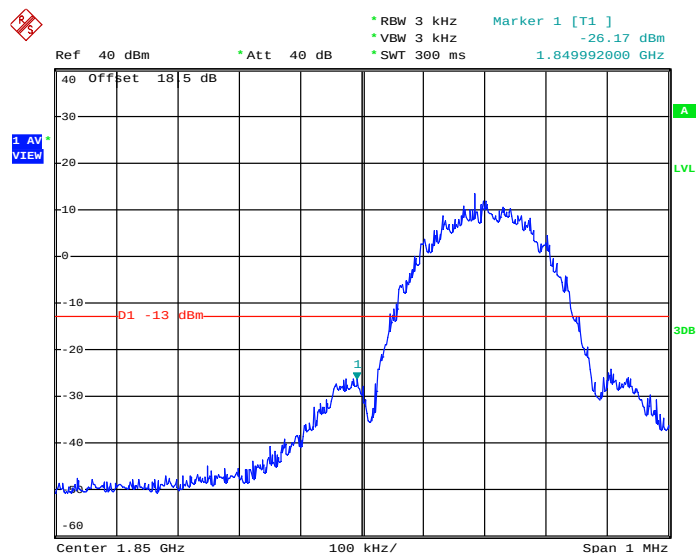
Band :	GSM1900	Test Mode :	GSM Link (GMSK)
Correction Factor :	0.20dB	Maximum 26dB Bandwidth :	0.314MHz
Band Edge :	-21.85dBm	Measurement Value :	-22.05dBm

Higher Band Edge Plot on Channel 810 (1909.8 MHz)


Date: 7.JAN.2014 19:20:39

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

Band :	GSM1900	Test Mode :	EDGE class 8 Link (8PSK)
Correction Factor :	0.06dB	Maximum 26dB Bandwidth :	0.304MHz
Band Edge :	-26.11dBm	Measurement Value :	-26.17dBm

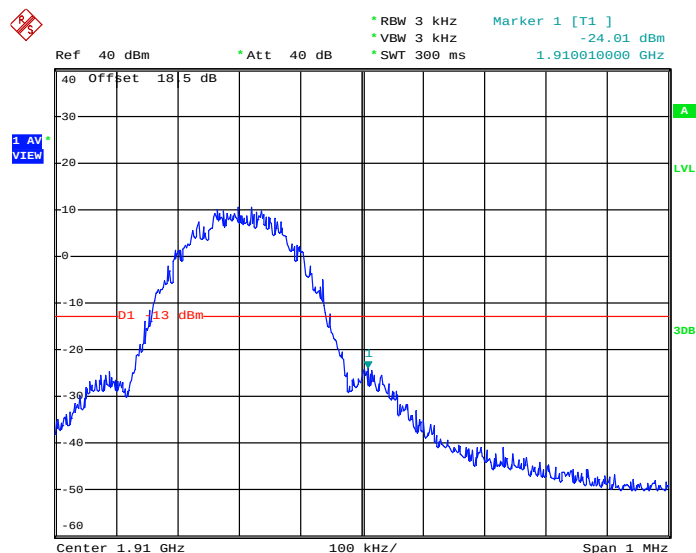
Lower Band Edge Plot on Channel 512 (1850.2 MHz)


Date: 13.JAN.2014 15:48:02

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

Band :	GSM1900	Test Mode :	EDGE class 8 Link (8PSK)
Correction Factor :	0.06dB	Maximum 26dB Bandwidth :	0.304MHz
Band Edge :	-23.95dBm	Measurement Value :	-24.01dBm

Higher Band Edge Plot on Channel 810 (1909.8 MHz)

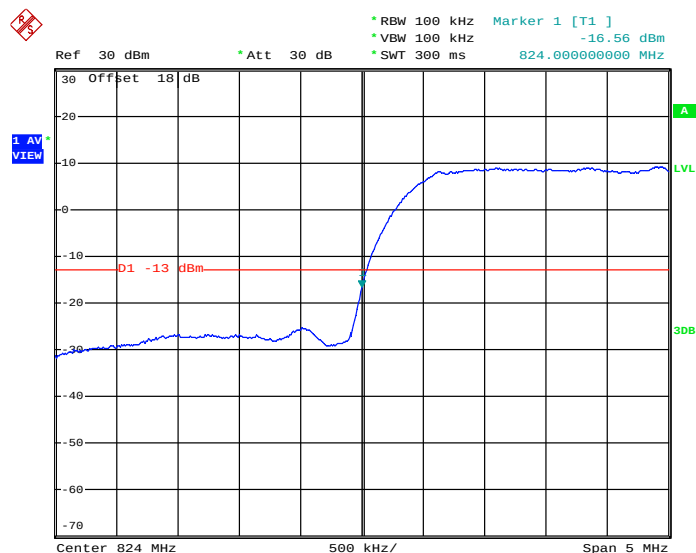


Date: 13.JAN.2014 15:49:47

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 :	-3.21dB	Maximum 26dB Bandwidth :	4.780MHz
Band Edge :	-19.77dBm	Measurement Value :	-16.56dBm

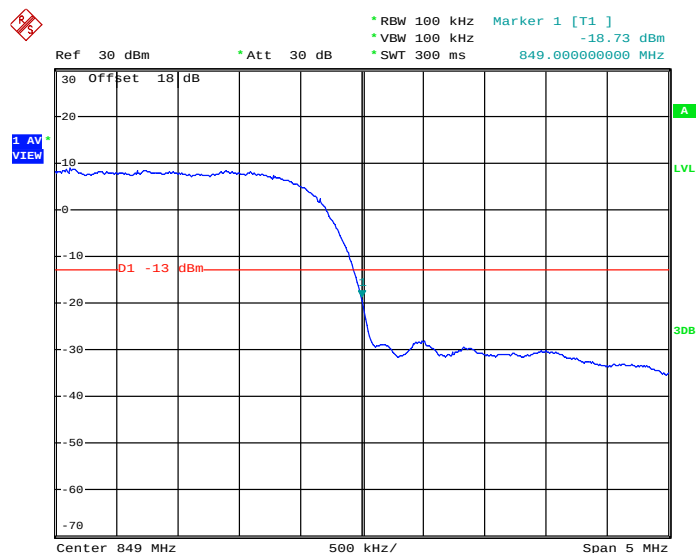
Lower Band Edge Plot on Channel 4132 (826.4 MHz)



Date: 13.JAN.2014 19:44:20

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 :	-3.21dB	Maximum 26dB Bandwidth :	4.780MHz
Band Edge :	-21.94dBm	Measurement Value :	-18.73dBm

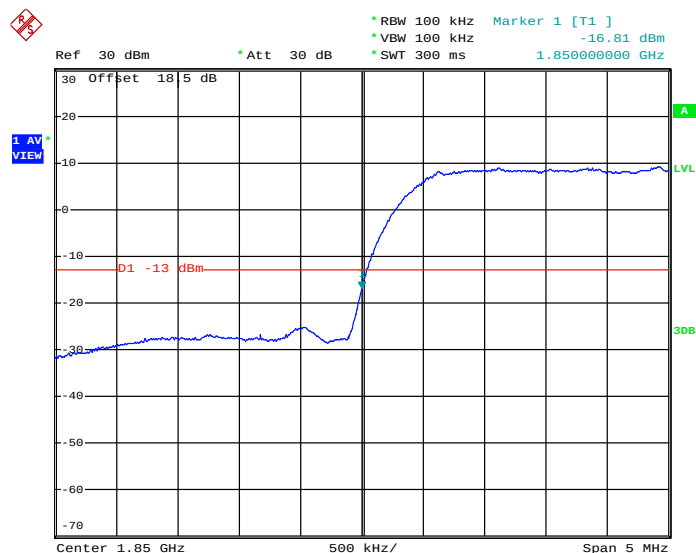
Higher Band Edge Plot on Channel 4233 (846.6 MHz)


Date: 13.JAN.2014 19:45:22

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 :	-2.98dB	Maximum 26dB Bandwidth :	5.040MHz
Band Edge :	-19.79dBm	Measurement Value :	-16.81dBm

Lower Band Edge Plot on Channel 9262 (1852.4 MHz)

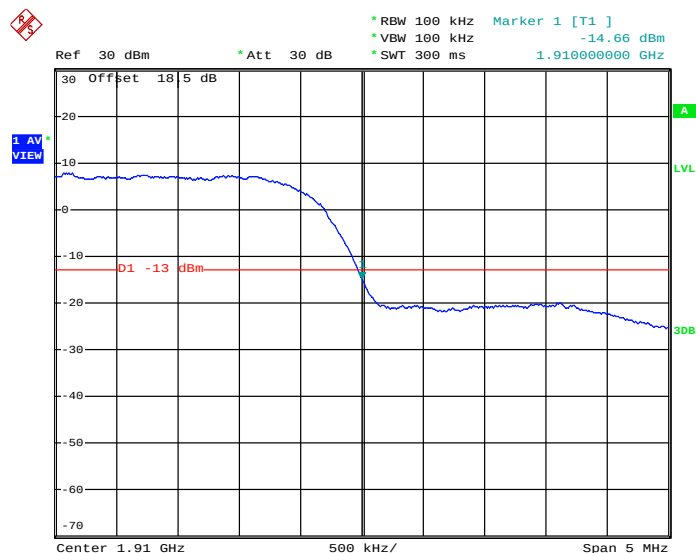


Date: 13.JAN.2014 19:42:08

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 :	-2.98dB	Maximum 26dB Bandwidth :	5.040MHz
Band Edge :	-17.64dBm	Measurement Value :	-14.66dBm

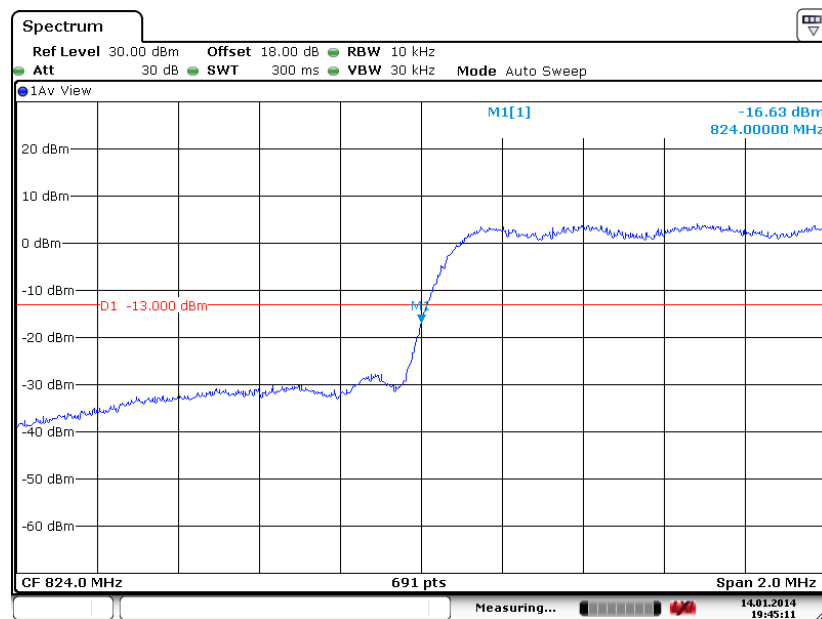
Higher Band Edge Plot on Channel 9538 (1907.6 MHz)



Date: 13.JAN.2014 19:41:24

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

Band :	CDMA2000 BC0	Test Mode :	1xRTT_RC3+SO55 (QPSK)
Correction Factor :	13.12dB	Maximum 26dB Bandwidth :	20.530MHz
Band Edge :	-3.51dBm	Measurement Value :	-16.63dBm

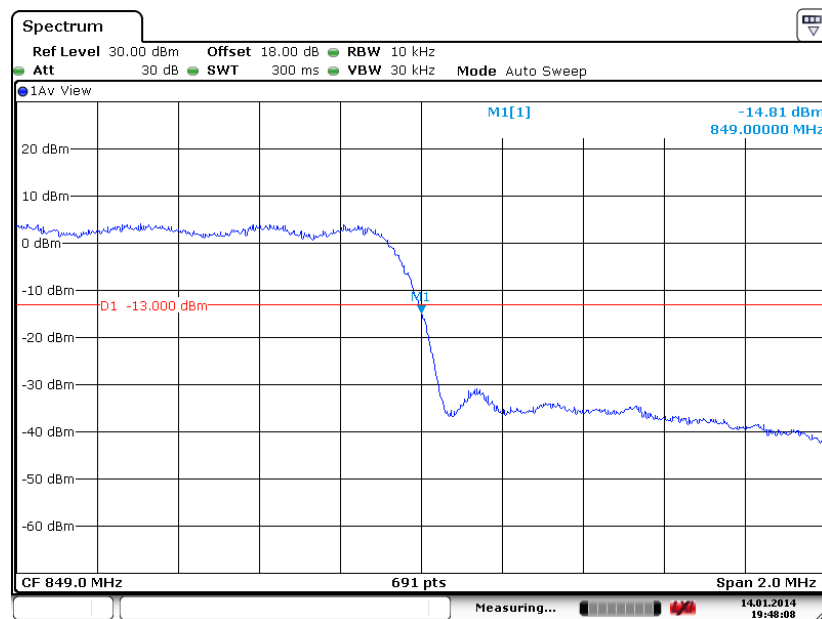
Lower Band Edge Plot on Channel 1013 (824.7 MHz)


Date: 14. JAN. 2014 19:45:11

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

Band :	CDMA2000 BC0	Test Mode :	1xRTT_RC3+SO55 (QPSK)
Correction Factor :	13.12dB	Maximum 26dB Bandwidth :	20.530MHz
Band Edge :	-1.69dBm	Measurement Value :	-14.81dBm

Higher Band Edge Plot on Channel 777 (848.31 MHz)

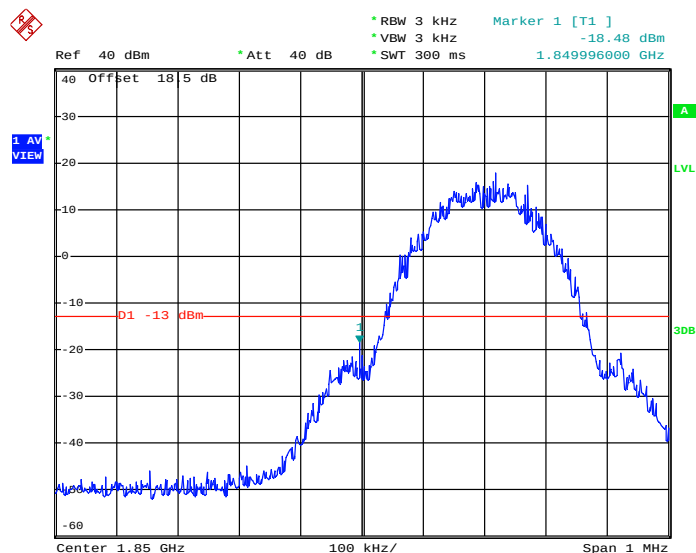


Date: 14. JAN. 2014 19:48:08

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

SIM2 Card:

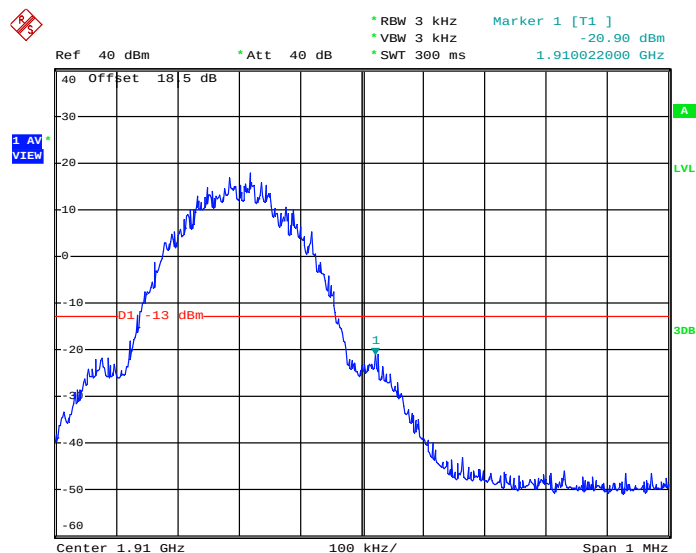
Band :	GSM1900	Test Mode :	GSM Link (GMSK)
Correction Factor :	0.20dB	Maximum 26dB Bandwidth :	0.314MHz
Band Edge :	-18.28dBm	Measurement Value :	-18.48dBm

Lower Band Edge Plot on Channel 512 (1850.2 MHz)


Date: 8.FEB.2014 19:12:10

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

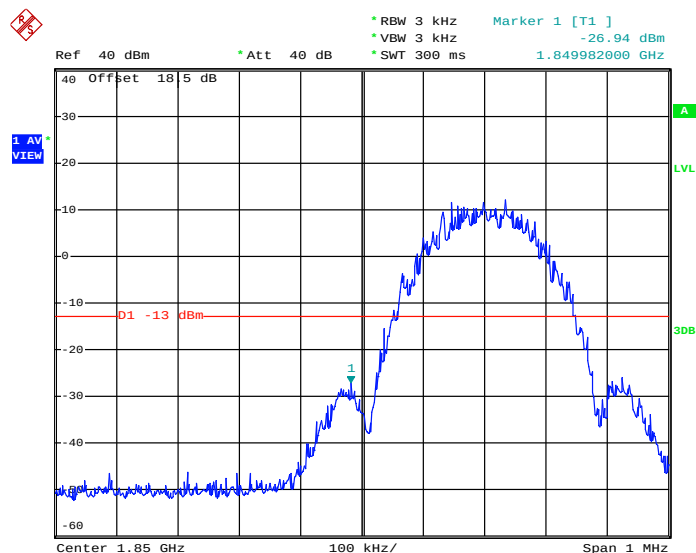
Band :	GSM1900	Test Mode :	GSM Link (GMSK)
Correction Factor :	0.20dB	Maximum 26dB Bandwidth :	0.314MHz
Band Edge :	-20.70dBm	Measurement Value :	-20.90dBm

Higher Band Edge Plot on Channel 810 (1909.8 MHz)


Date: 8.FEB.2014 19:13:43

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

Band :	GSM1900	Test Mode :	EDGE class 8 Link (8PSK)
Correction Factor :	0.17dB	Maximum 26dB Bandwidth :	0.312MHz
Band Edge :	-26.77dBm	Measurement Value :	-26.94dBm

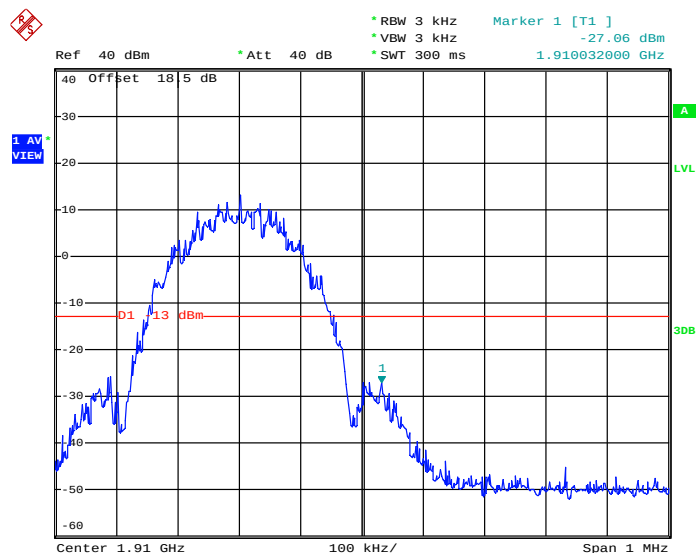
Lower Band Edge Plot on Channel 512 (1850.2 MHz)


Date: 8.FEB.2014 20:48:35

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

Band :	GSM1900	Test Mode :	EDGE class 8 Link (8PSK)
Correction Factor :	0.17dB	Maximum 26dB Bandwidth :	0.312MHz
Band Edge :	-26.89dBm	Measurement Value :	-27.06dBm

Higher Band Edge Plot on Channel 810 (1909.8 MHz)



Date: 8.FEB.2014 20:47:28

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.

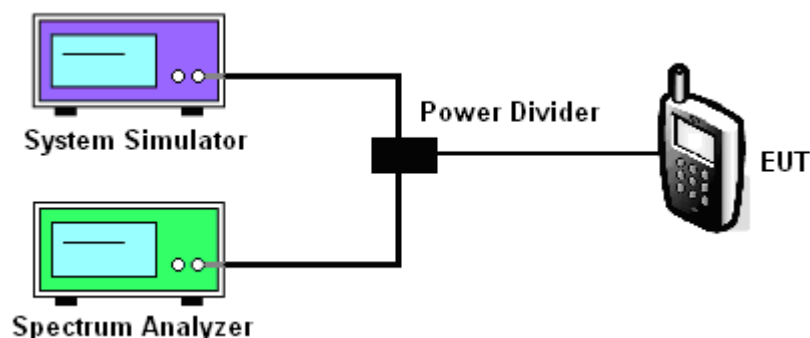
3.6.2 Measuring Instruments

The measuring equipment is listed in the section 4 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)
 $= P(W) - [43 + 10\log(P)]$ (dB)
 $= [30 + 10\log(P)]$ (dBm) - $[43 + 10\log(P)]$ (dB)
 $= -13\text{dBm}$.

3.6.4 Test Setup

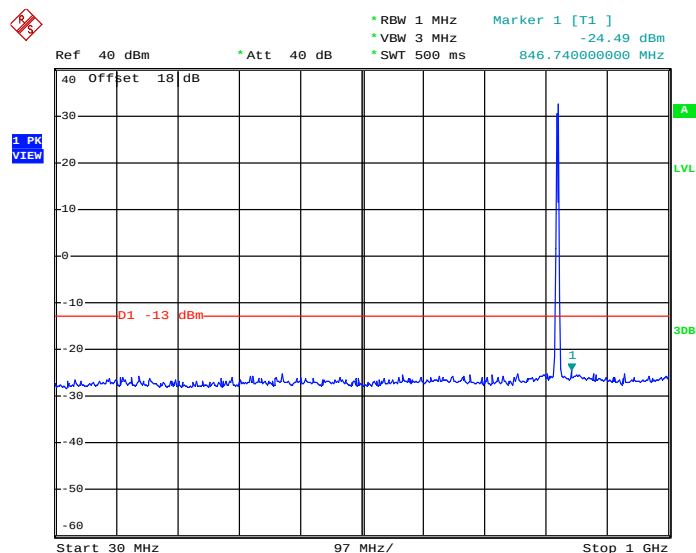


3.6.5 Test Result (Plots) of Conducted Spurious Emission

SIM1 Card:

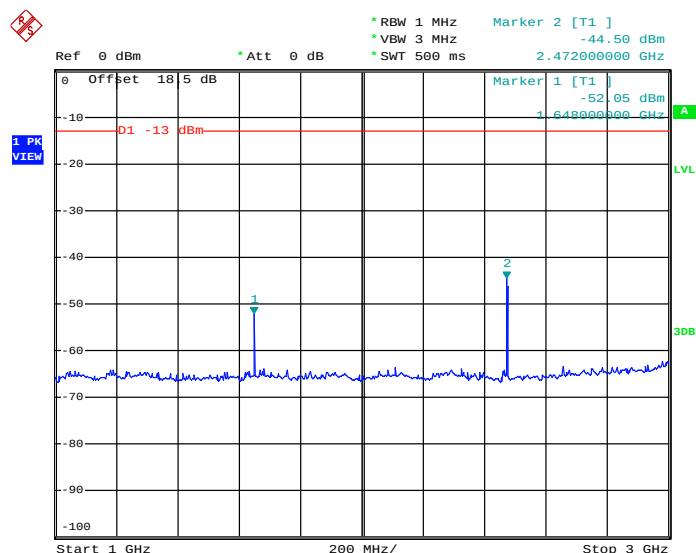
Band :	GSM850	Channel :	CH128
Test Mode :	GSM Link (GMSK)	Frequency :	824.2 MHz

Conducted Spurious Emission Plot between 30MHz ~ 1GHz



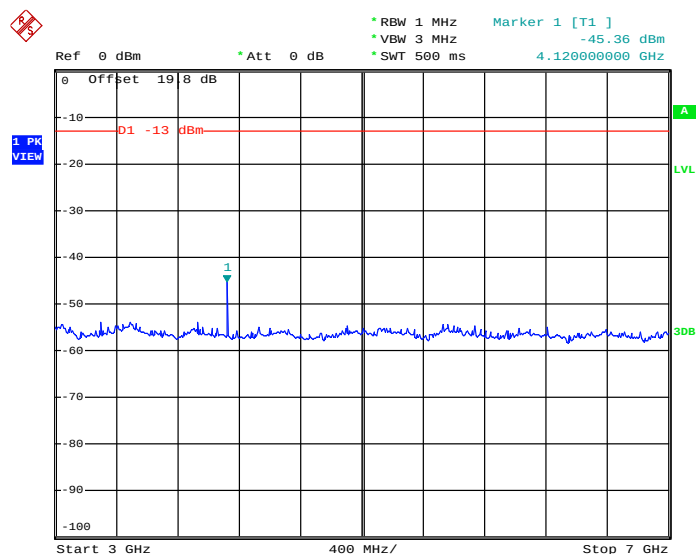
Date: 7.JAN.2014 18:45:25

Conducted Spurious Emission Plot between 1GHz ~ 3GHz



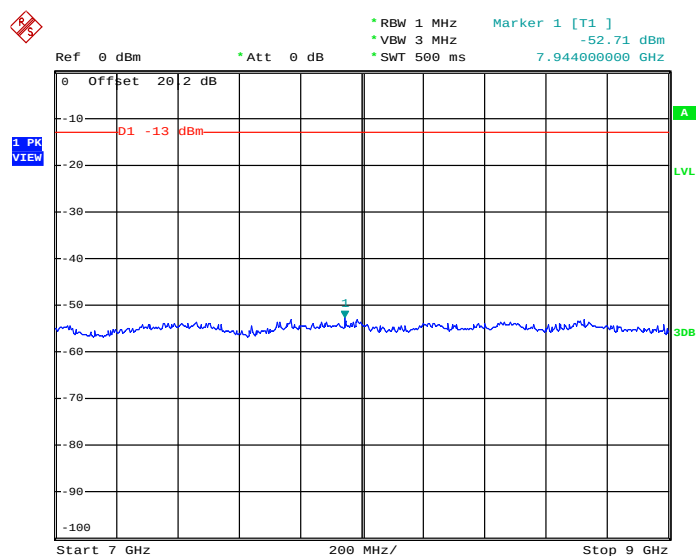
Date: 7.JAN.2014 18:47:42

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



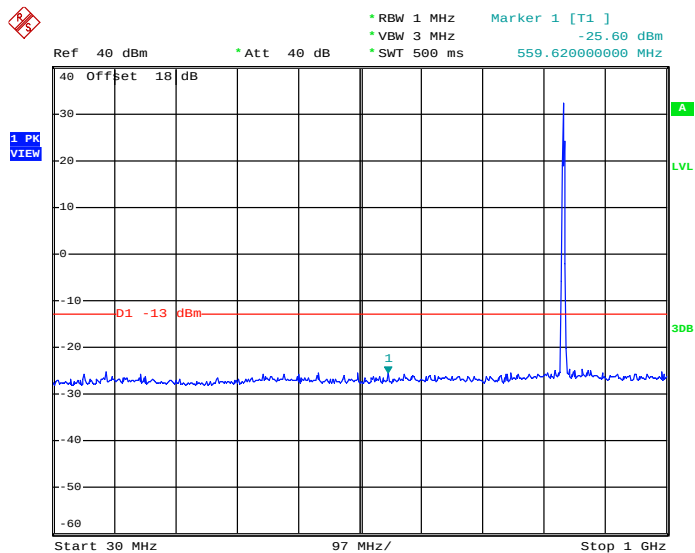
Date: 7.JAN.2014 18:53:52

Conducted Spurious Emission Plot between 7GHz ~ 9GHz

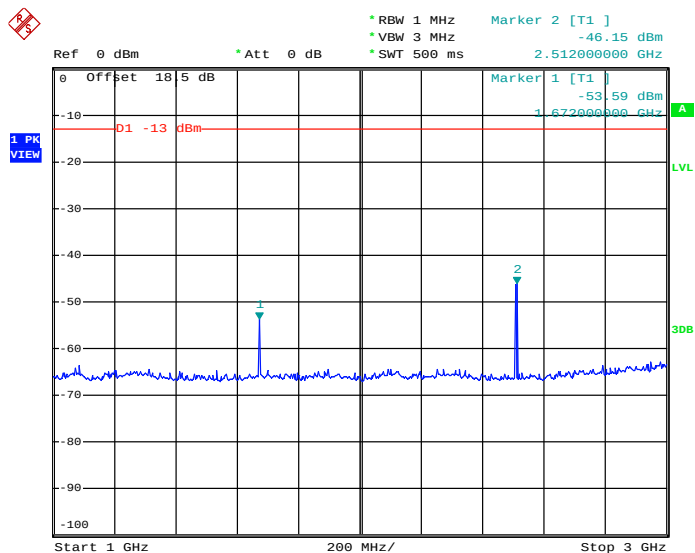


Date: 7.JAN.2014 18:54:38

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

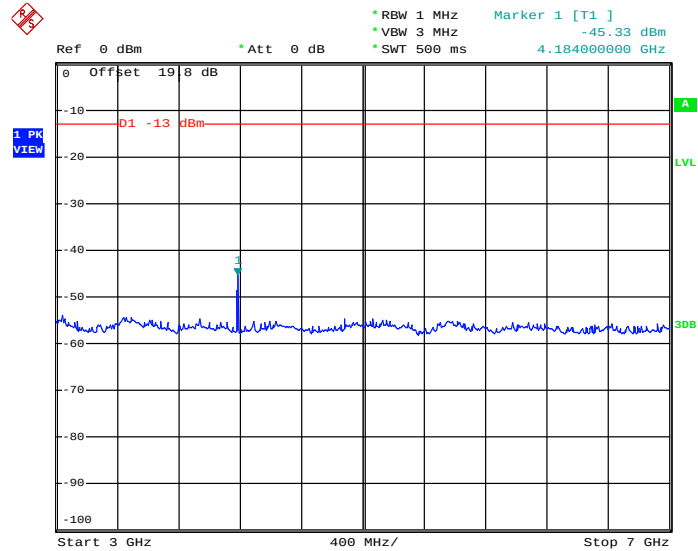
Conducted Spurious Emission Plot between 30MHz ~ 1GHz


Date: 7.JAN.2014 18:44:33

Conducted Spurious Emission Plot between 1GHz ~ 3GHz


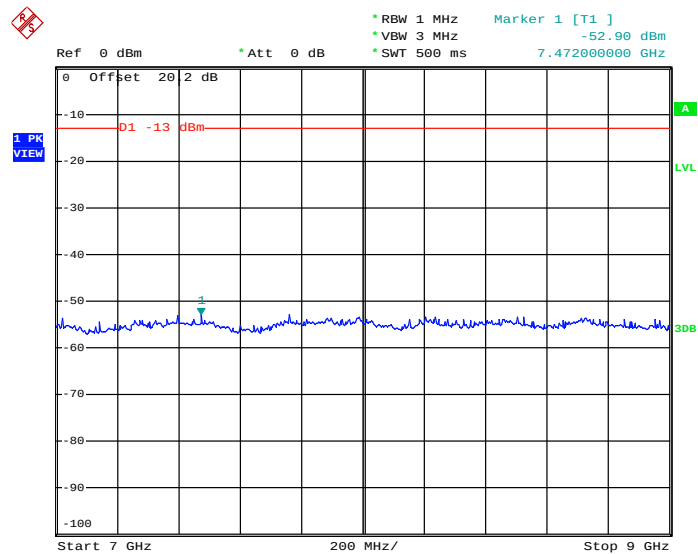
Date: 7.JAN.2014 18:49:11

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



Date: 7.JAN.2014 18:53:27

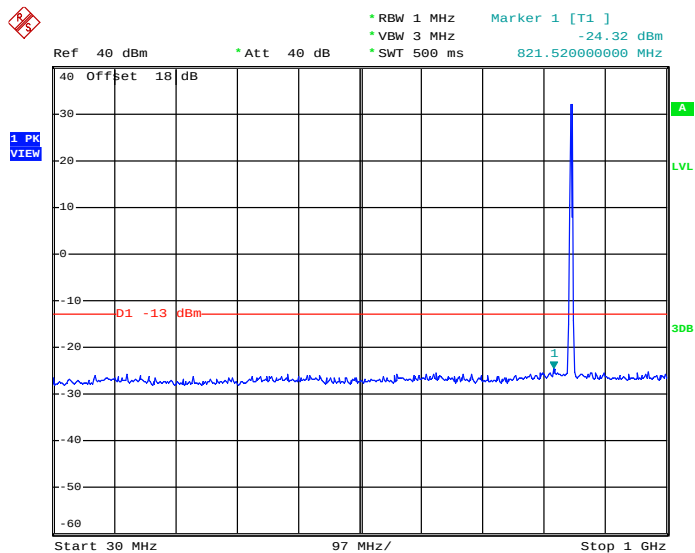
Conducted Spurious Emission Plot between 7GHz ~ 9GHz



Date: 7.JAN.2014 18:55:07

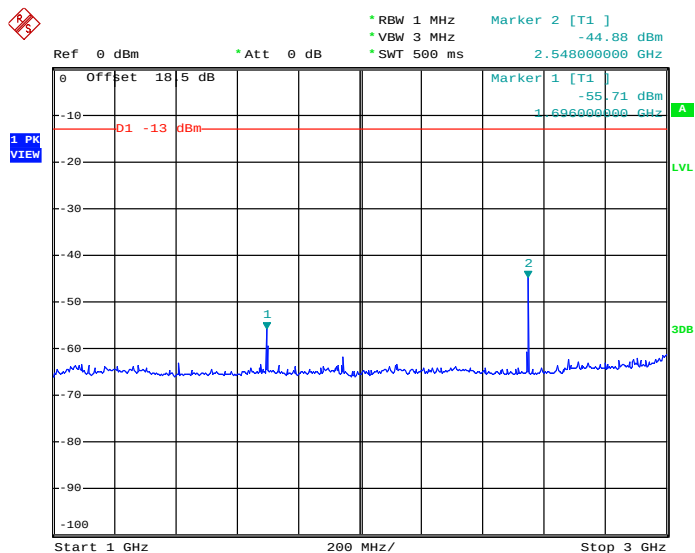
Band :	GSM850	Channel :	CH251
Test Mode :	GSM Link (GMSK)	Frequency :	848.8 MHz

Conducted Spurious Emission Plot between 30MHz ~ 1GHz



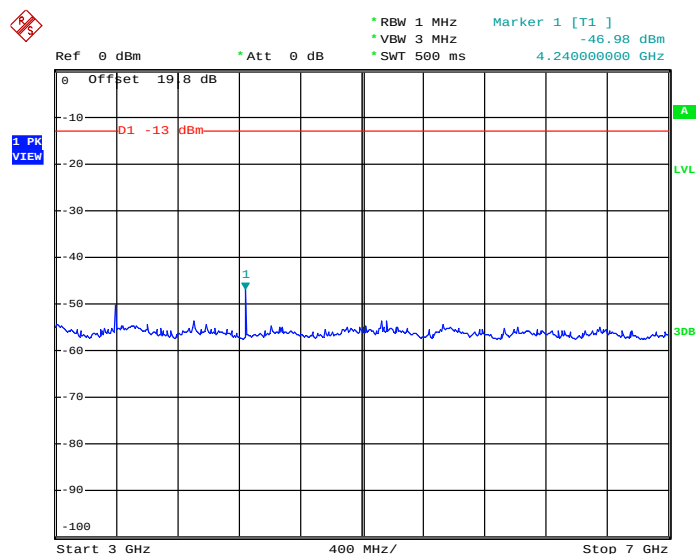
Date: 7.JAN.2014 18:43:48

Conducted Spurious Emission Plot between 1GHz ~ 3GHz



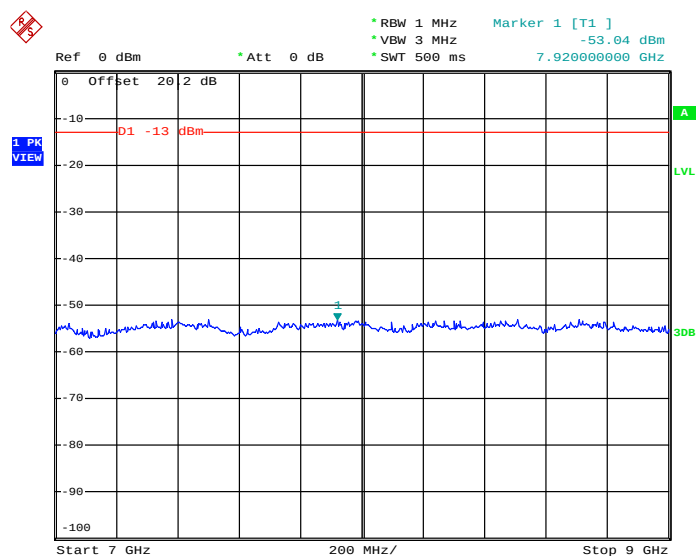
Date: 7.JAN.2014 18:51:15

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



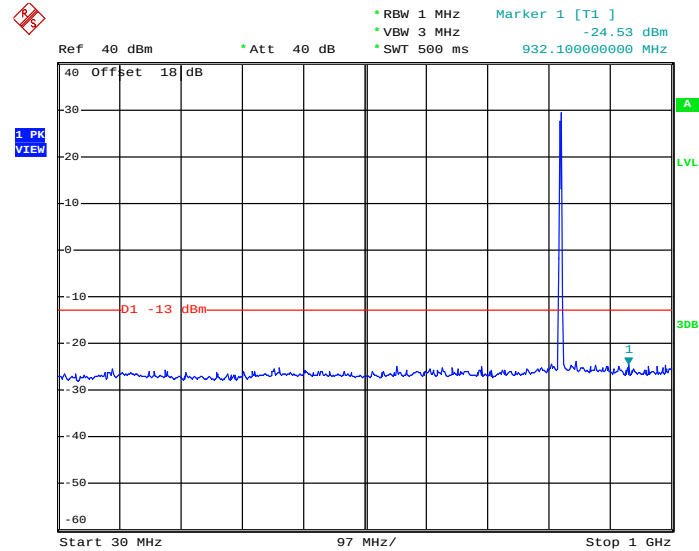
Date: 7.JAN.2014 18:53:08

Conducted Spurious Emission Plot between 7GHz ~ 9GHz

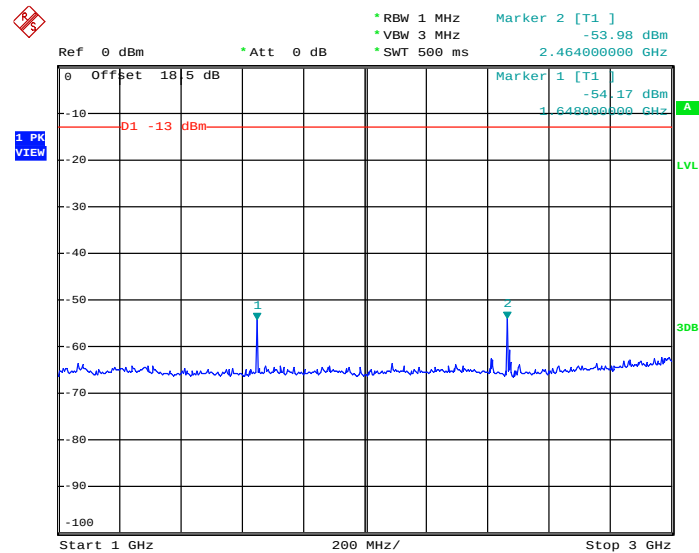


Date: 7.JAN.2014 18:55:58

Band :	GSM850	Channel :	CH128
Test Mode :	EDGE class 8 Link (8PSK)	Frequency :	824.2 MHz

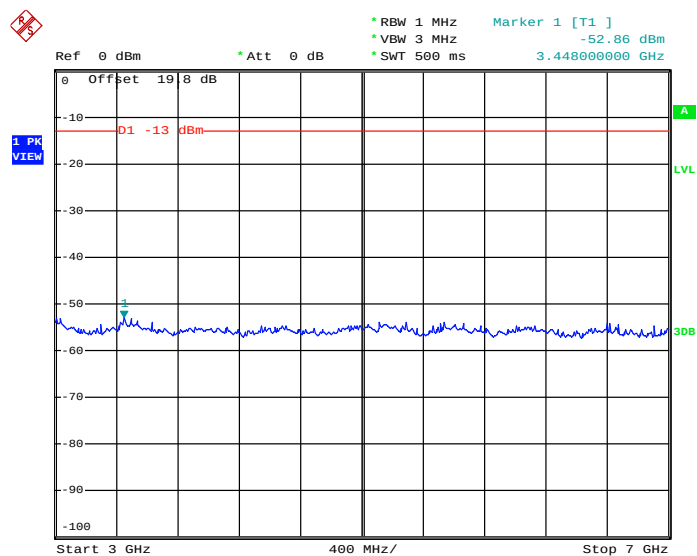
Conducted Spurious Emission Plot between 30MHz ~ 1GHz


Date: 11.JAN.2014 00:53:22

Conducted Spurious Emission Plot between 1GHz ~ 3GHz


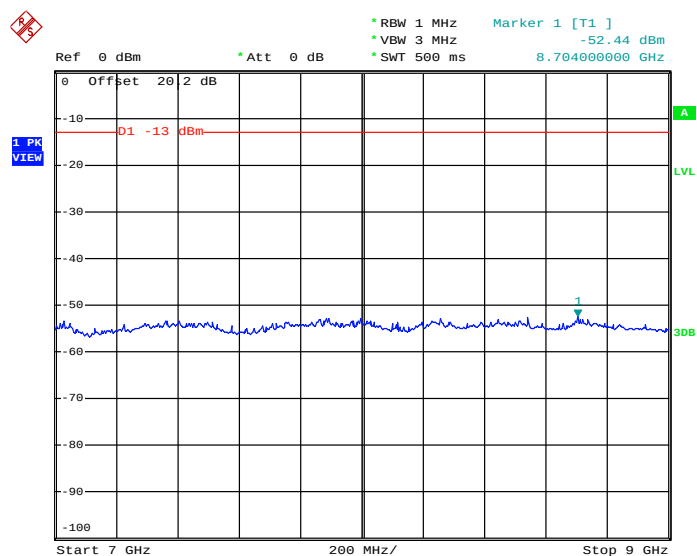
Date: 11.JAN.2014 01:03:40

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



Date: 11.JAN.2014 01:08:25

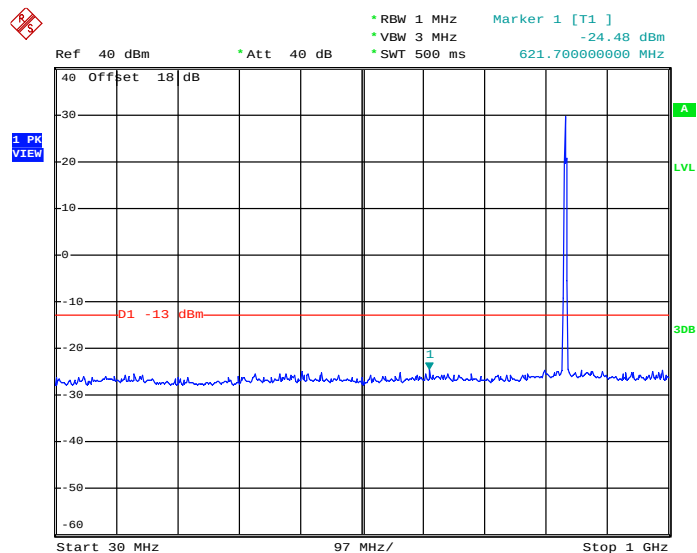
Conducted Spurious Emission Plot between 7GHz ~ 9GHz



Date: 11.JAN.2014 01:12:52

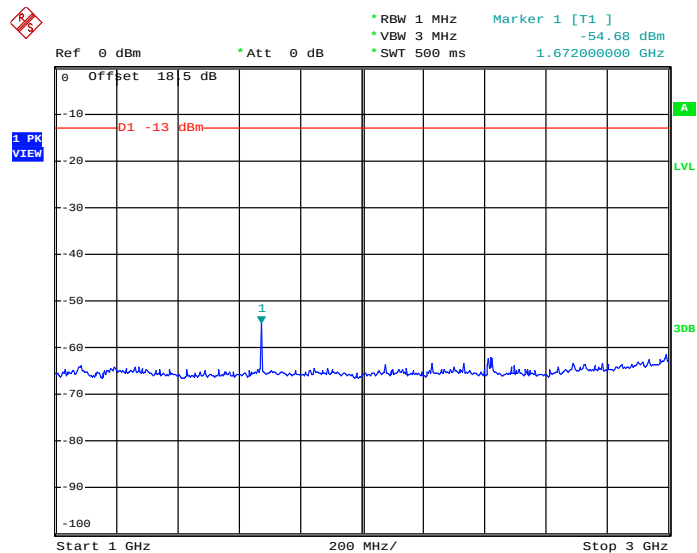
Band :	GSM850	Channel :	CH189
Test Mode :	EDGE class 8 Link (8PSK)	Frequency :	836.4 MHz

Conducted Spurious Emission Plot between 30MHz ~ 1GHz



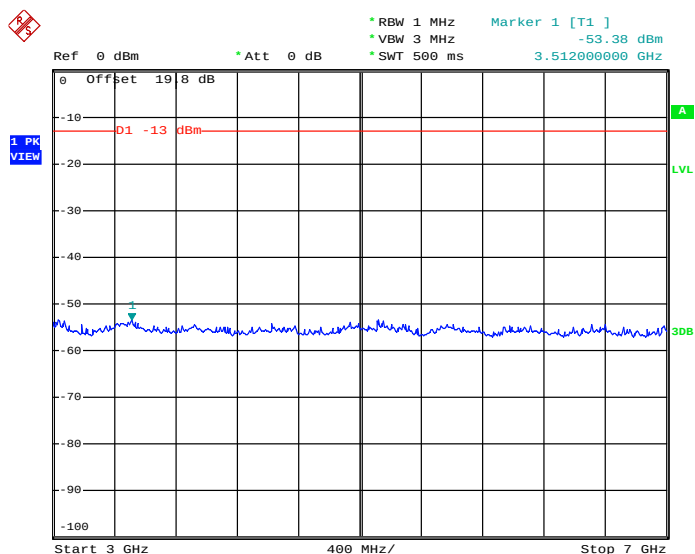
Date: 11.JAN.2014 00:52:43

Conducted Spurious Emission Plot between 1GHz ~ 3GHz



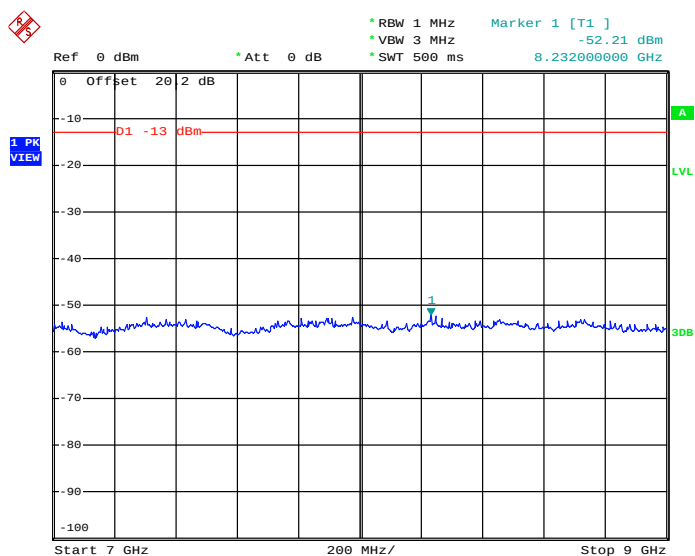
Date: 11.JAN.2014 01:07:19

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



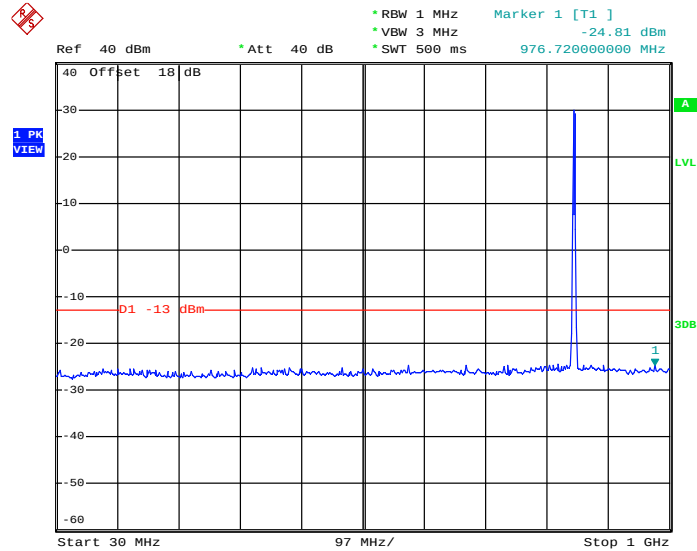
Date: 11.JAN.2014 01:09:13

Conducted Spurious Emission Plot between 7GHz ~ 9GHz

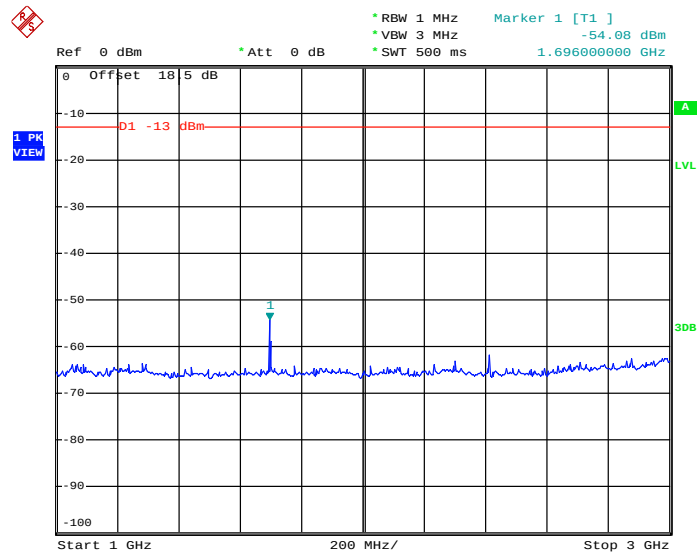


Date: 11.JAN.2014 01:12:09

Band :	GSM850	Channel :	CH251
Test Mode :	EDGE class 8 Link (8PSK)	Frequency :	848.8MHz

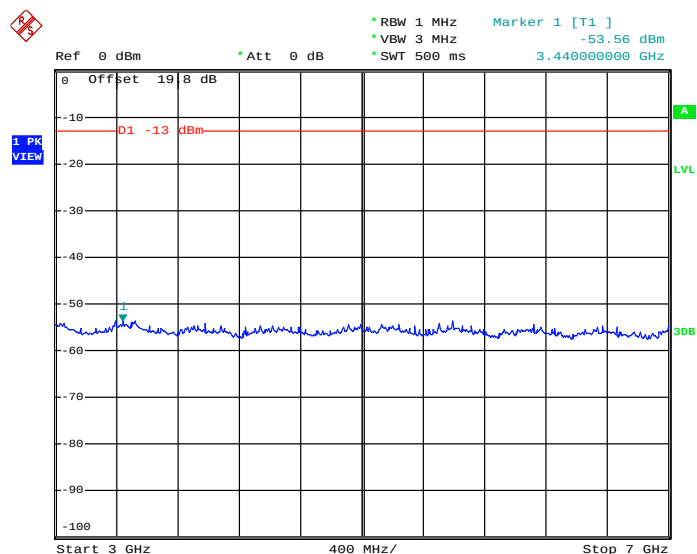
Conducted Spurious Emission Plot between 30MHz ~ 1GHz


Date: 11.JAN.2014 00:52:06

Conducted Spurious Emission Plot between 1GHz ~ 3GHz


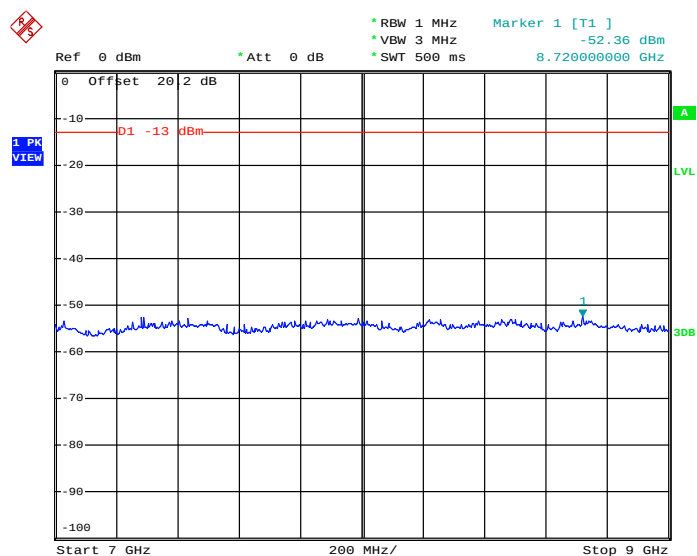
Date: 11.JAN.2014 01:06:39

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



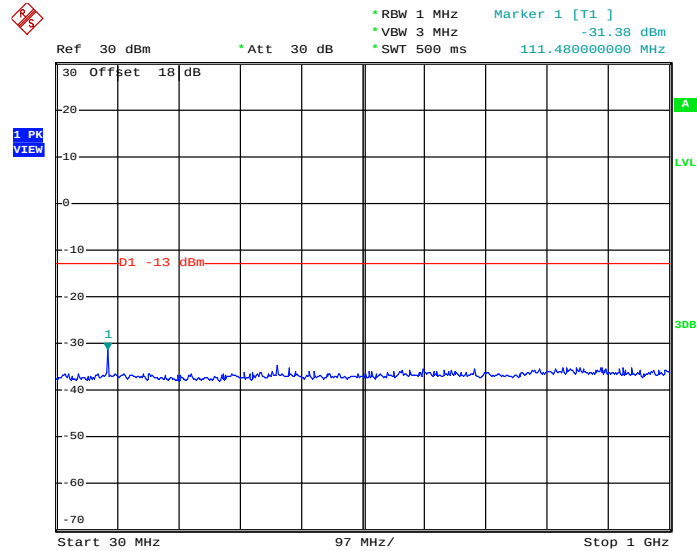
Date: 11.JAN.2014 01:10:06

Conducted Spurious Emission Plot between 7GHz ~ 9GHz

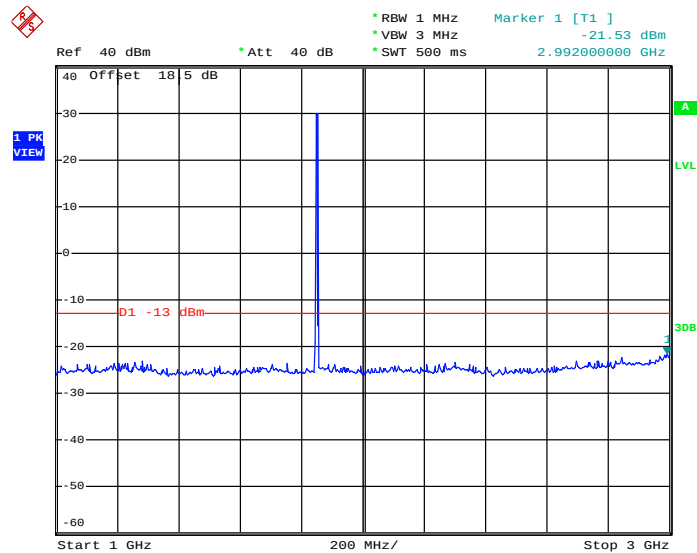


Date: 11.JAN.2014 01:11:23

Band :	GSM1900	Channel :	CH512
Test Mode :	GSM Link (GMSK)	Frequency :	1850.2 MHz

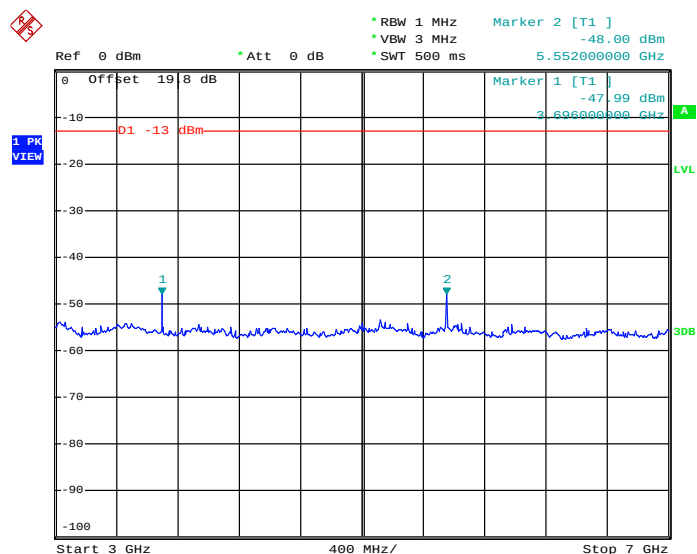
Conducted Spurious Emission Plot between 30MHz ~ 1GHz


Date: 7.JAN.2014 19:05:57

Conducted Spurious Emission Plot between 1GHz ~ 3GHz


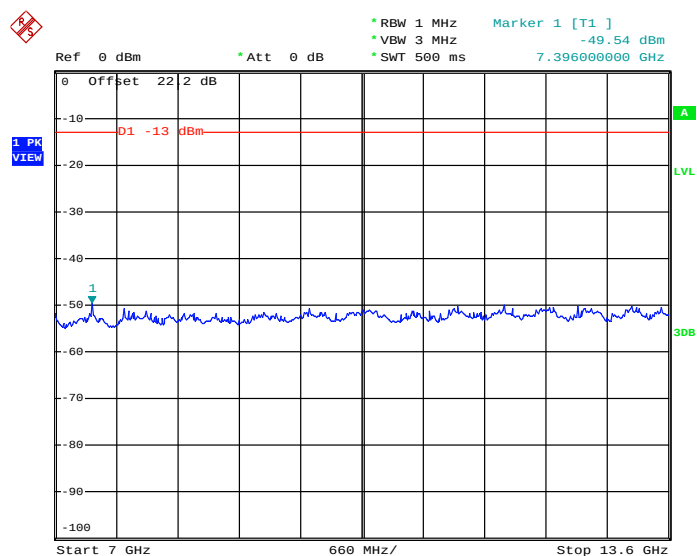
Date: 7.JAN.2014 19:06:47

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



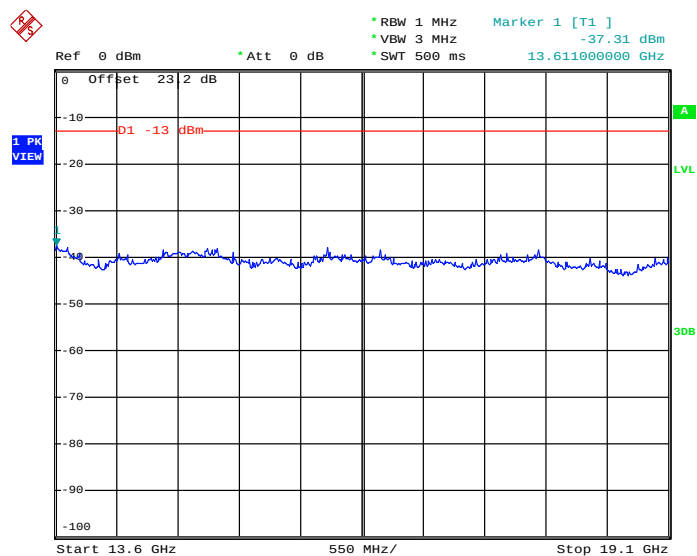
Date: 7.JAN.2014 18:59:16

Conducted Spurious Emission Plot between 7GHz ~ 13.6GHz



Date: 7.JAN.2014 19:01:56

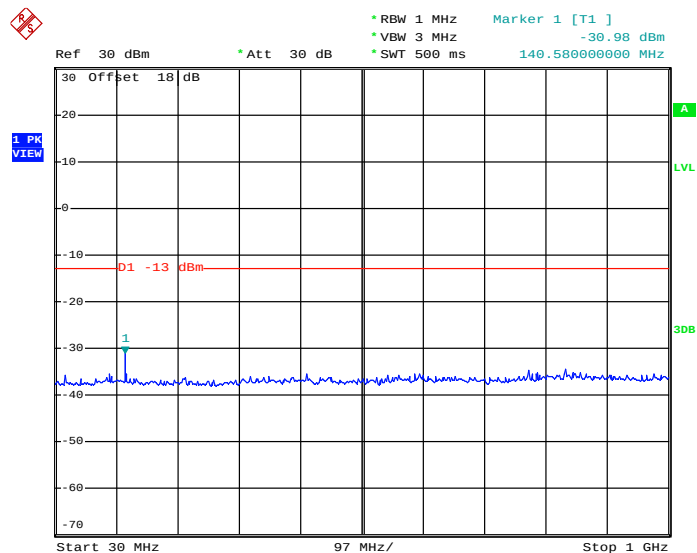
Conducted Spurious Emission Plot between 13.6GHz ~ 19.1GHz



Date: 7.JAN.2014 19:02:36

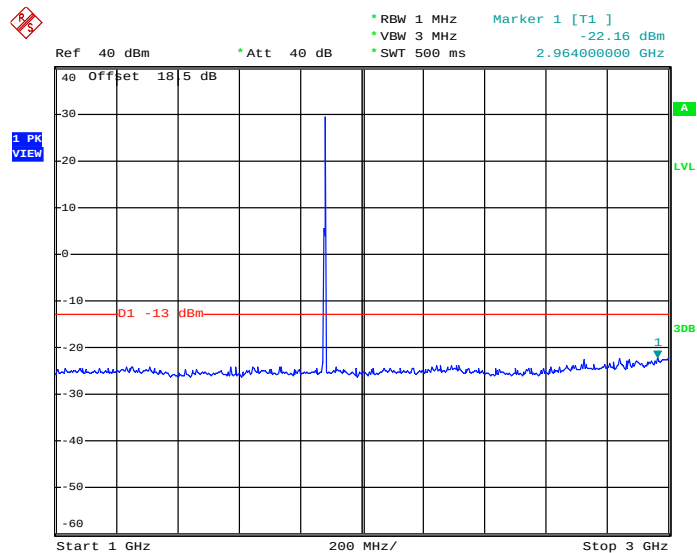
Band :	GSM1900	Channel :	CH661
Test Mode :	GSM Link (GMSK)	Frequency :	1880.0 MHz

Conducted Spurious Emission Plot between 30MHz ~ 1GHz



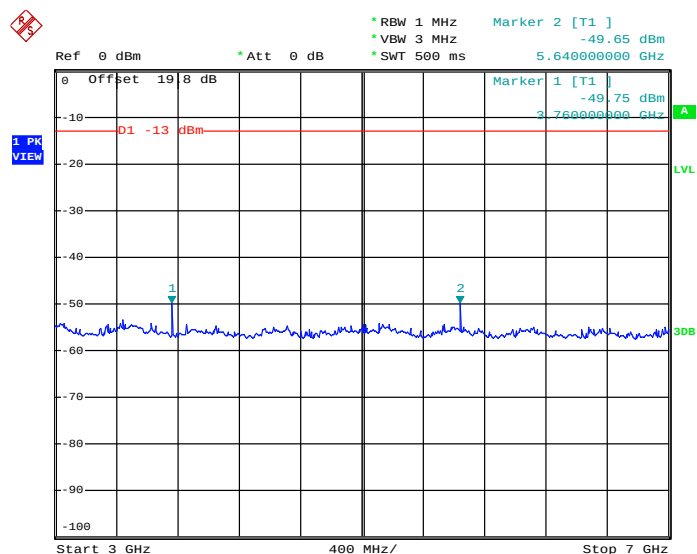
Date: 7.JAN.2014 19:05:27

Conducted Spurious Emission Plot between 1GHz ~ 3GHz



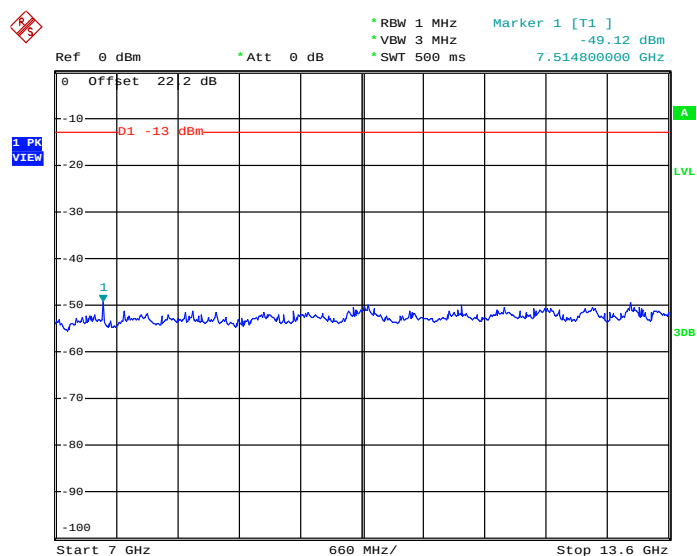
Date: 7.JAN.2014 19:07:23

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



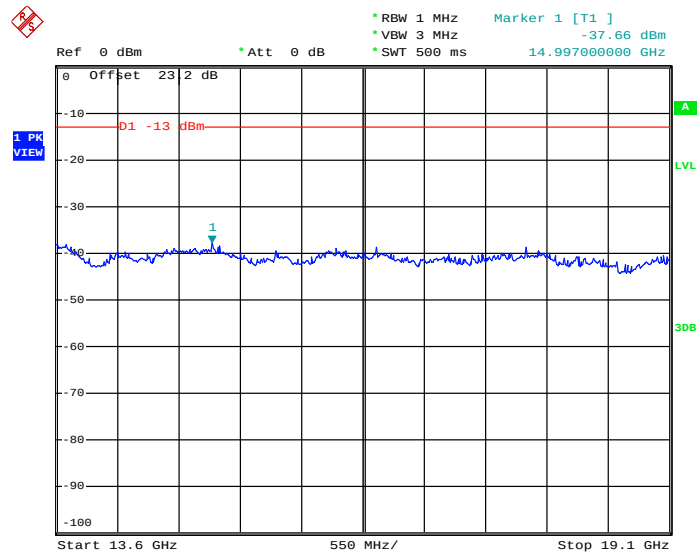
Date: 7.JAN.2014 18:58:26

Conducted Spurious Emission Plot between 7GHz ~ 13.6GHz



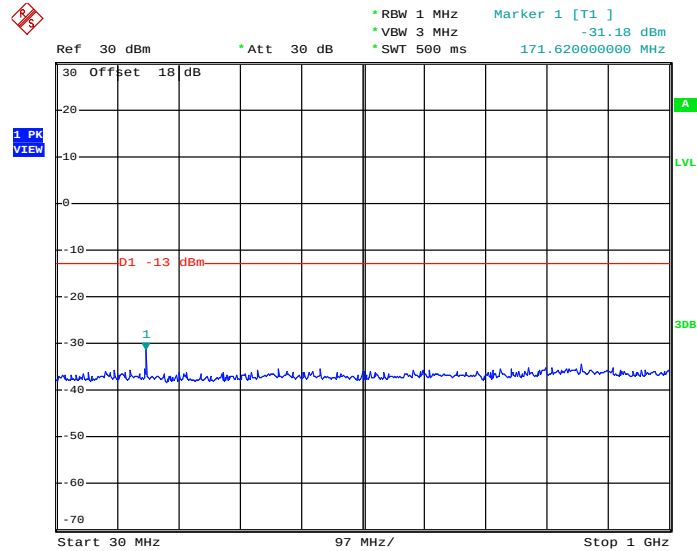
Date: 7.JAN.2014 19:01:21

Conducted Spurious Emission Plot between 13.6GHz ~ 19.1GHz

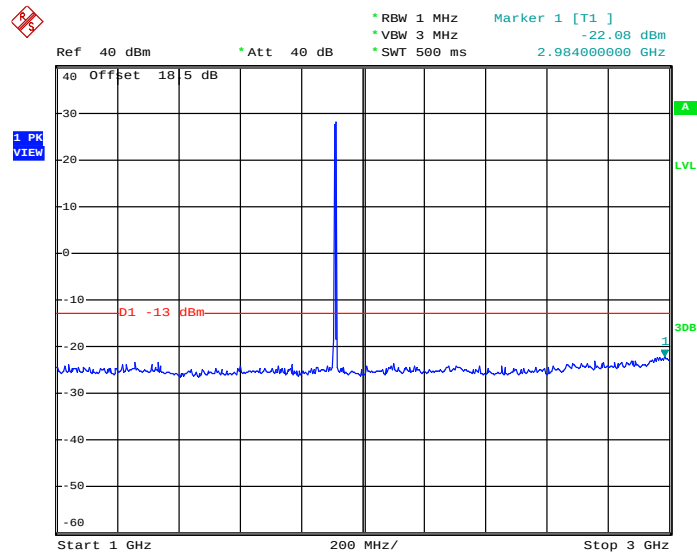


Date: 7.JAN.2014 19:03:00

Band :	GSM1900	Channel :	CH810
Test Mode :	GSM Link (GMSK)	Frequency :	1909.8 MHz

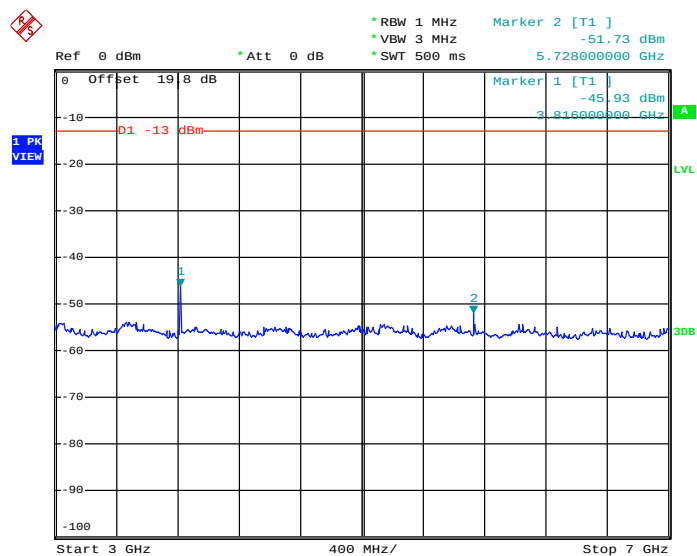
Conducted Spurious Emission Plot between 30MHz ~ 1GHz


Date: 7.JAN.2014 19:04:59

Conducted Spurious Emission Plot between 1GHz ~ 3GHz


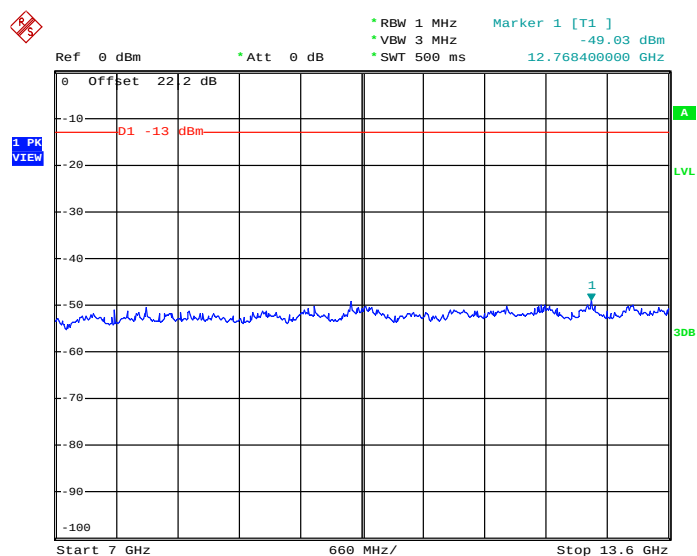
Date: 7.JAN.2014 19:08:08

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



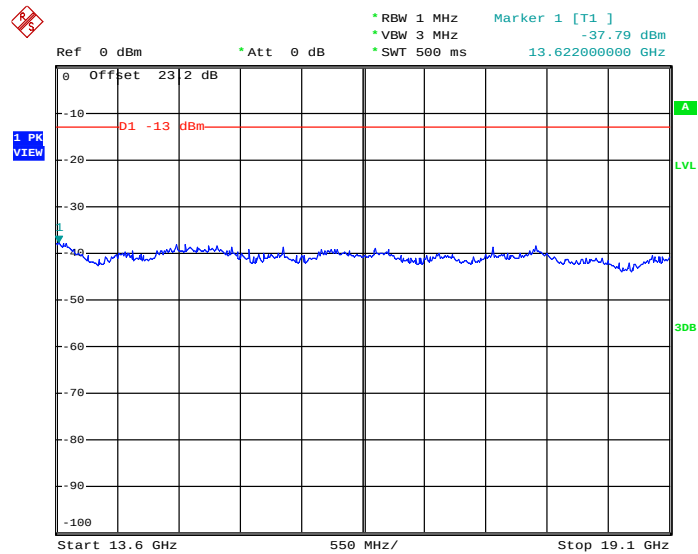
Date: 7.JAN.2014 19:00:01

Conducted Spurious Emission Plot between 7GHz ~ 13.6GHz



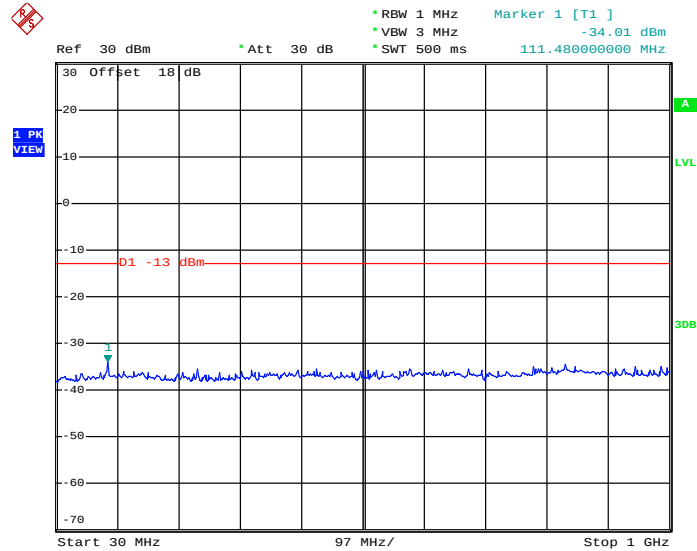
Date: 7.JAN.2014 19:00:55

Conducted Spurious Emission Plot between 13.6GHz ~ 19.1GHz

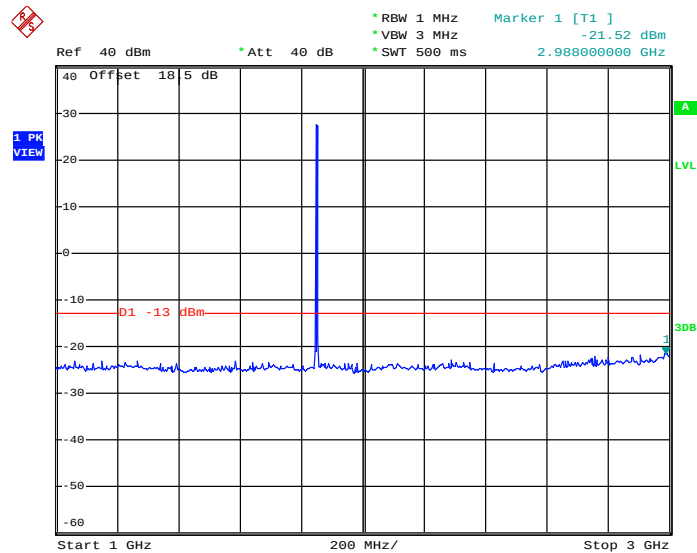


Date: 7.JAN.2014 19:03:35

Band :	GSM1900	Channel :	CH512
Test Mode :	EDGE class 8 Link (8PSK)	Frequency :	1850.2 MHz

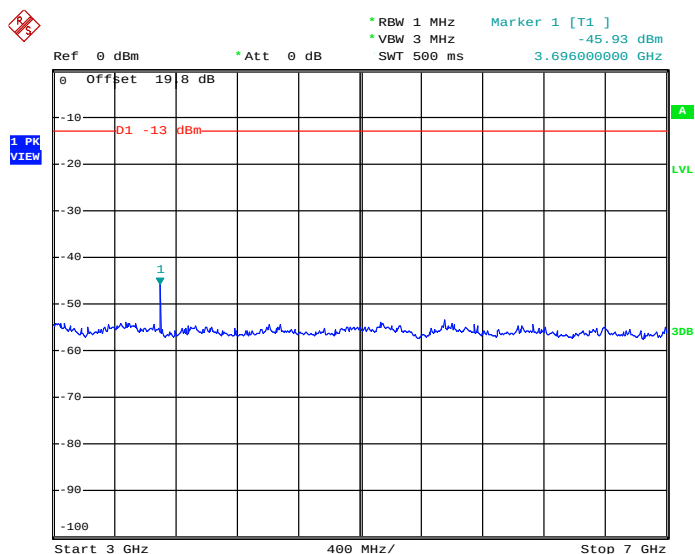
Conducted Spurious Emission Plot between 30MHz ~ 1GHz


Date: 13.JAN.2014 16:04:45

Conducted Spurious Emission Plot between 1GHz ~ 3GHz


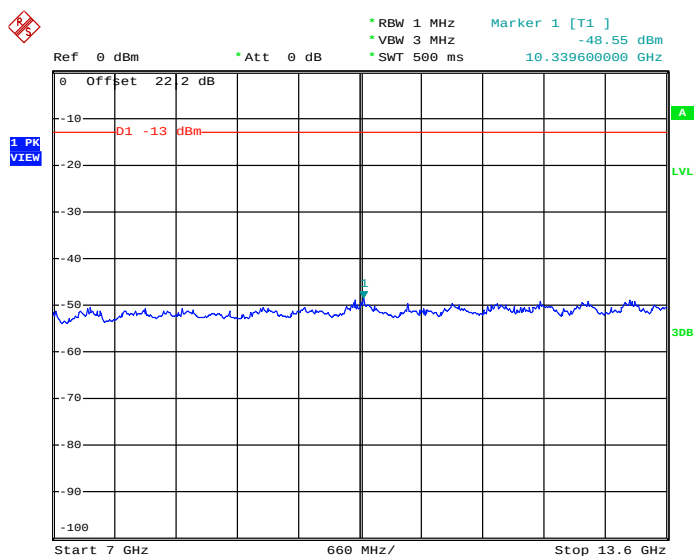
Date: 13.JAN.2014 16:33:44

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



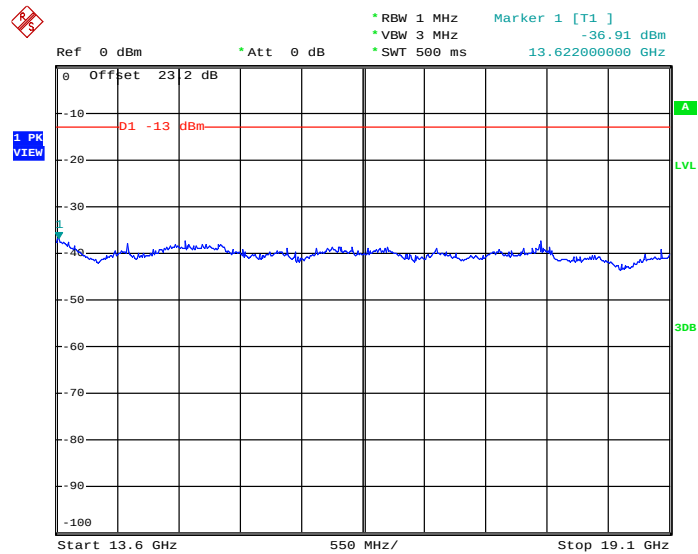
Date: 13.JAN.2014 16:36:01

Conducted Spurious Emission Plot between 7GHz ~ 13.6GHz



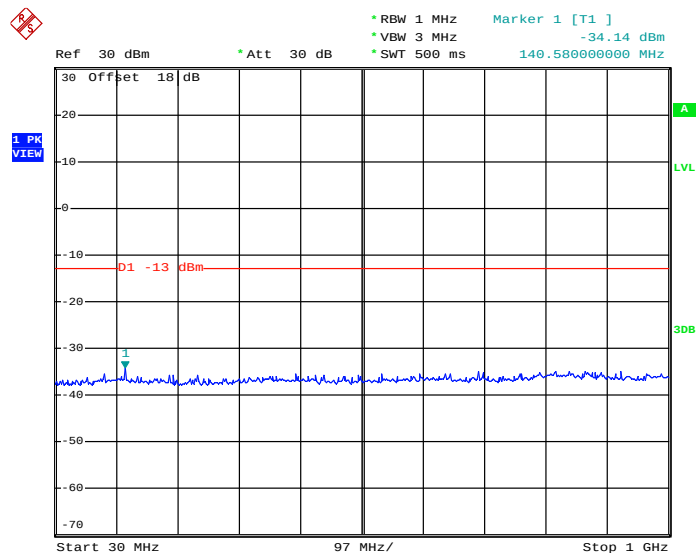
Date: 13.JAN.2014 16:43:17

Conducted Spurious Emission Plot between 13.6GHz ~ 19.1GHz

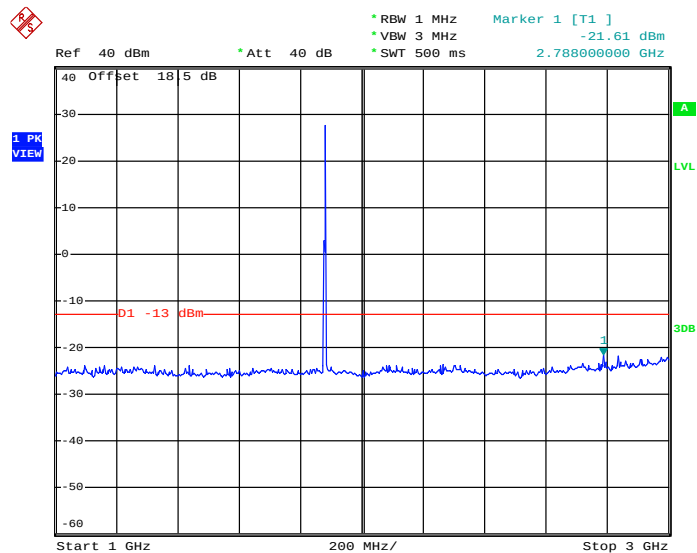


Date: 13.JAN.2014 16:45:20

Band :	GSM1900	Channel :	CH661
Test Mode :	EDGE class 8 Link (8PSK)	Frequency :	1880.0 MHz

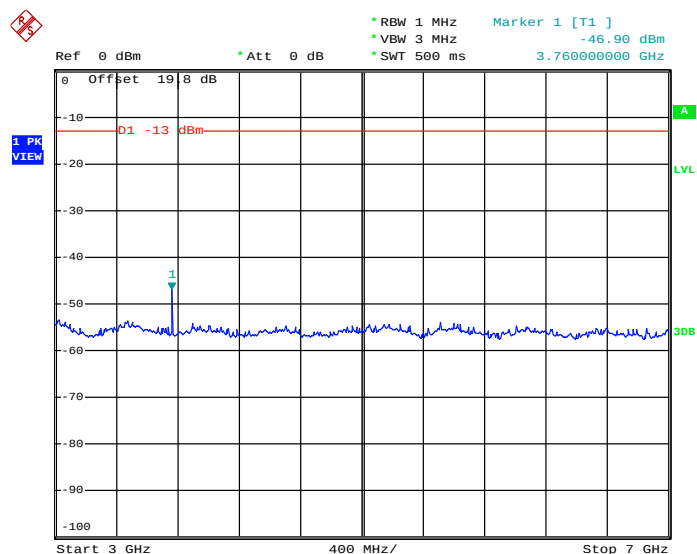
Conducted Spurious Emission Plot between 30MHz ~ 1GHz


Date: 13.JAN.2014 16:07:23

Conducted Spurious Emission Plot between 1GHz ~ 3GHz


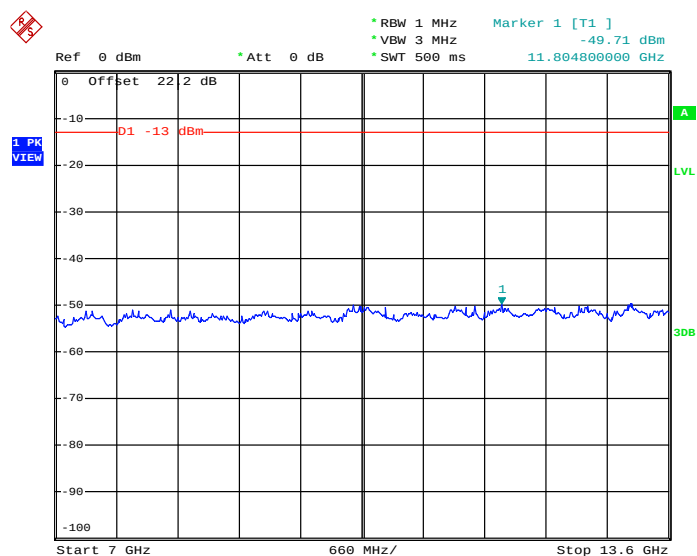
Date: 13.JAN.2014 16:31:26

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



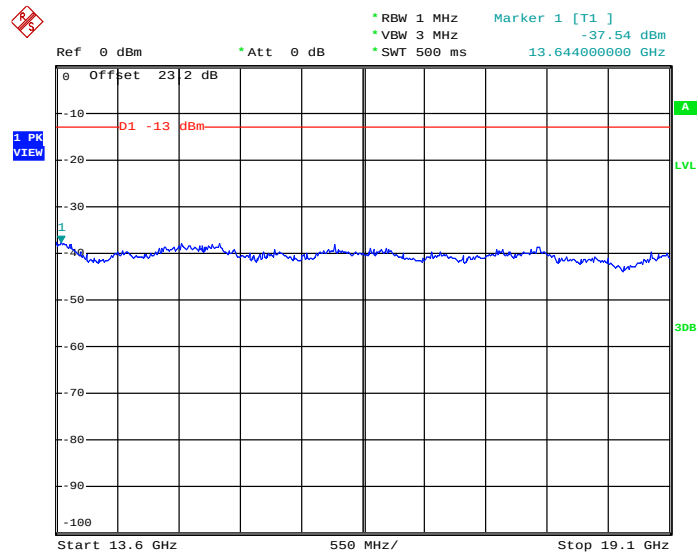
Date: 13.JAN.2014 16:36:46

Conducted Spurious Emission Plot between 7GHz ~ 13.6GHz



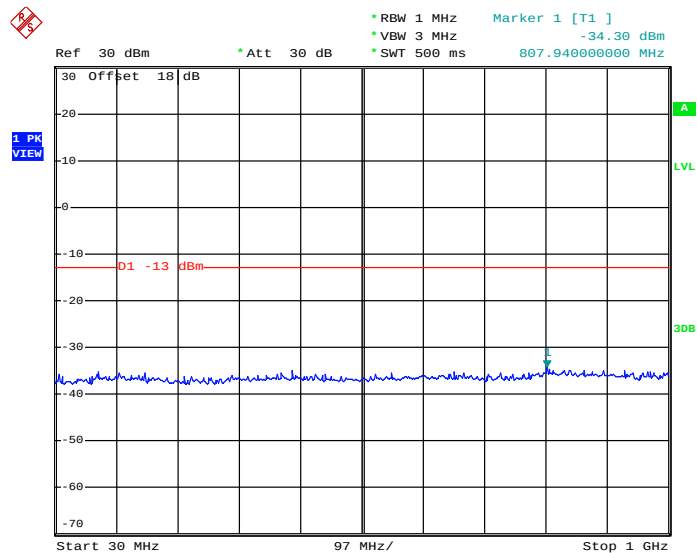
Date: 13.JAN.2014 16:39:25

Conducted Spurious Emission Plot between 13.6GHz ~ 19.1GHz

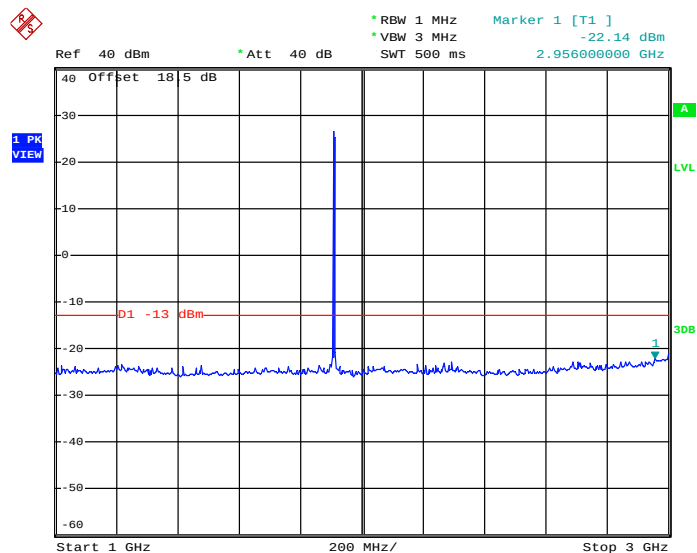


Date: 13.JAN.2014 16:46:25

Band :	GSM1900	Channel :	CH810
Test Mode :	EDGE class 8 Link (8PSK)	Frequency :	1909.8 MHz

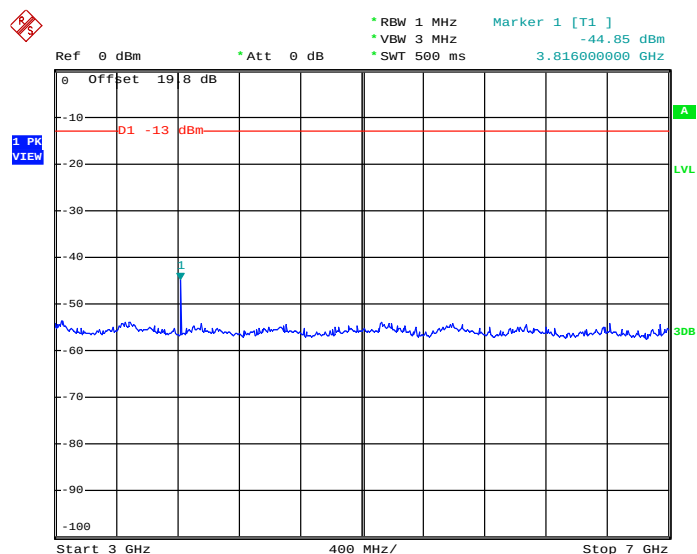
Conducted Spurious Emission Plot between 30MHz ~ 1GHz


Date: 13.JAN.2014 16:11:54

Conducted Spurious Emission Plot between 1GHz ~ 3GHz


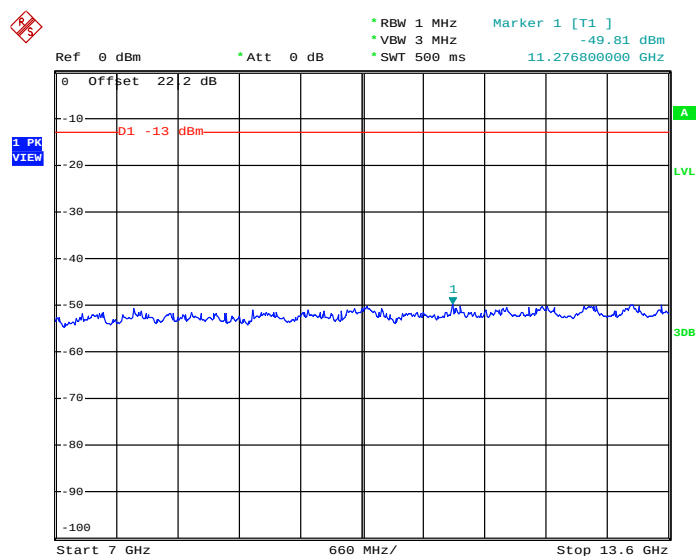
Date: 13.JAN.2014 16:14:48

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



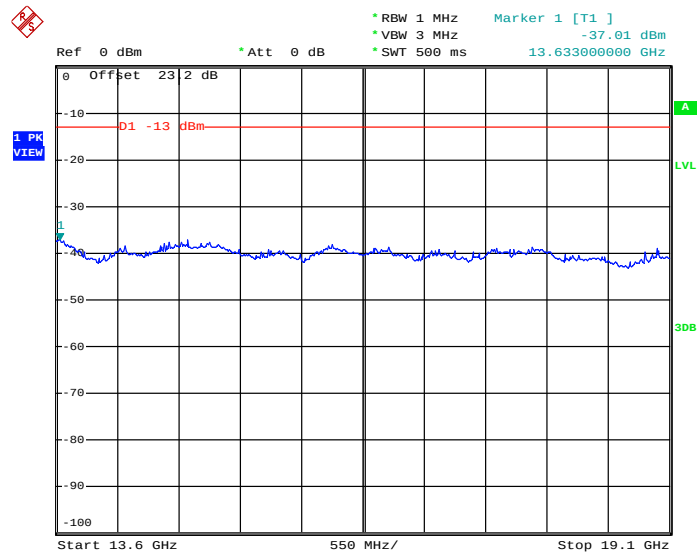
Date: 13.JAN.2014 16:37:39

Conducted Spurious Emission Plot between 7GHz ~ 13.6GHz



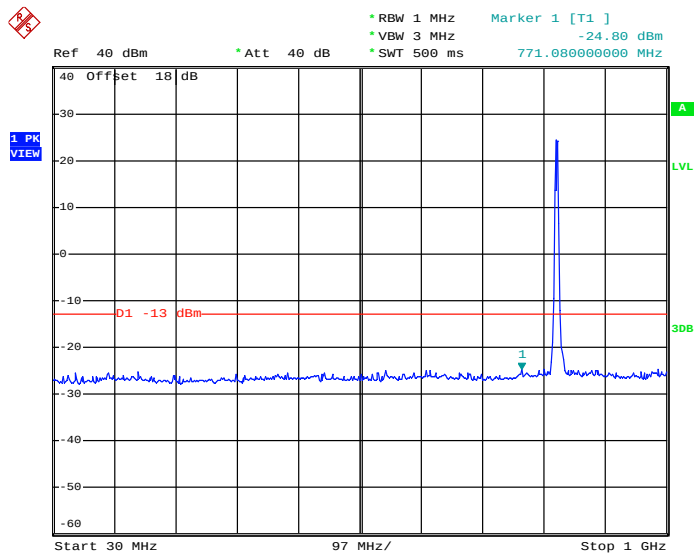
Date: 13.JAN.2014 16:38:44

Conducted Spurious Emission Plot between 13.6GHz ~ 19.1GHz

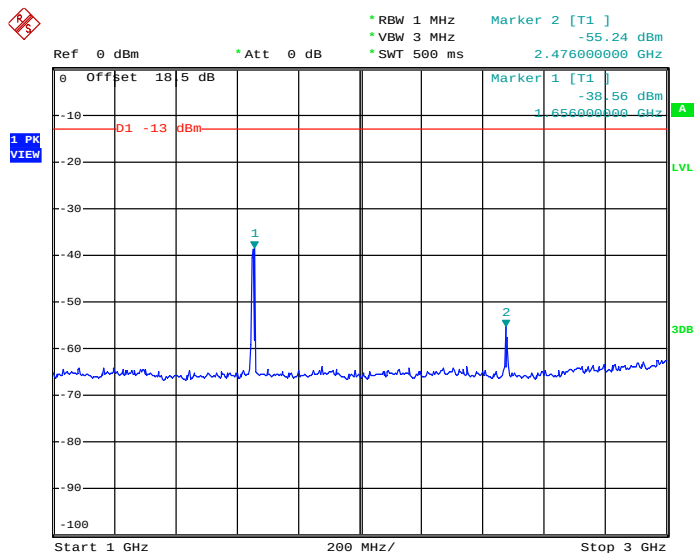


Date: 13.JAN.2014 16:50:22

Band :	WCDMA Band V	Channel :	CH4132
Test Mode :	RMC 12.2Kbps Link (QPSK)	Frequency :	826.4 MHz

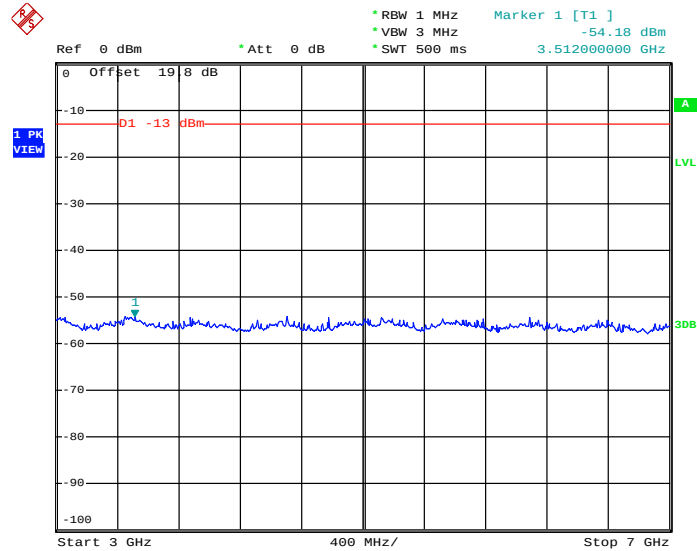
Conducted Spurious Emission Plot between 30MHz ~ 1GHz


Date: 13.JAN.2014 18:35:18

Conducted Spurious Emission Plot between 1GHz ~ 3GHz


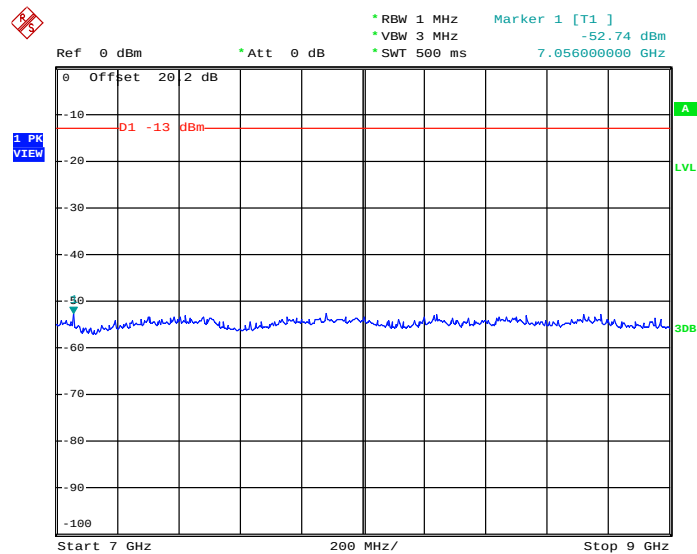
Date: 13.JAN.2014 18:39:22

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



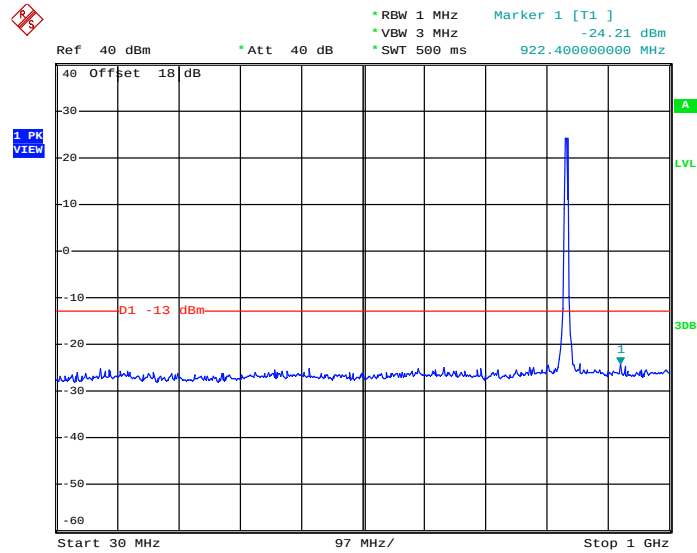
Date: 13.JAN.2014 18:41:30

Conducted Spurious Emission Plot between 7GHz ~ 9GHz

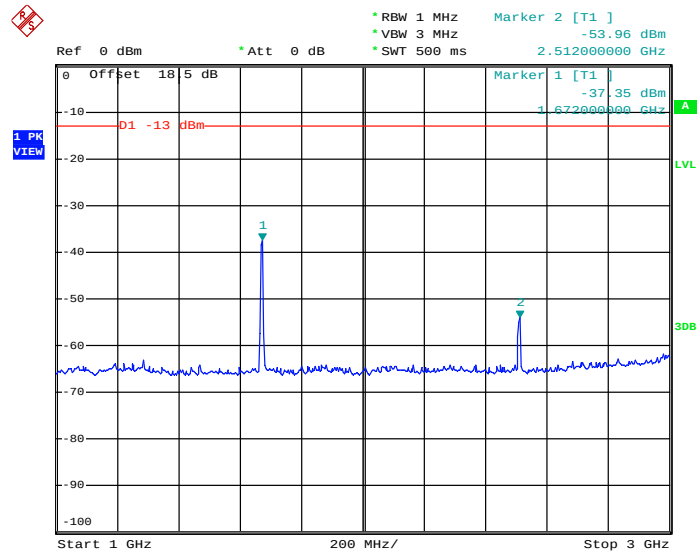


Date: 13.JAN.2014 18:43:35

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

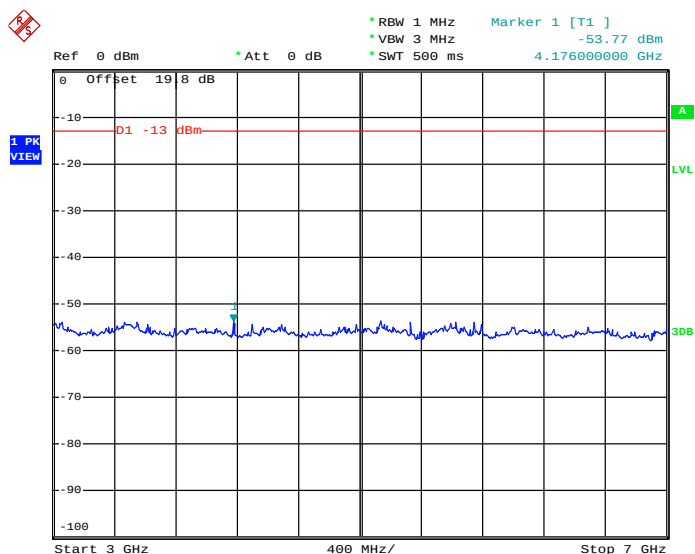
Conducted Spurious Emission Plot between 30MHz ~ 1GHz


Date: 13.JAN.2014 18:36:09

Conducted Spurious Emission Plot between 1GHz ~ 3GHz


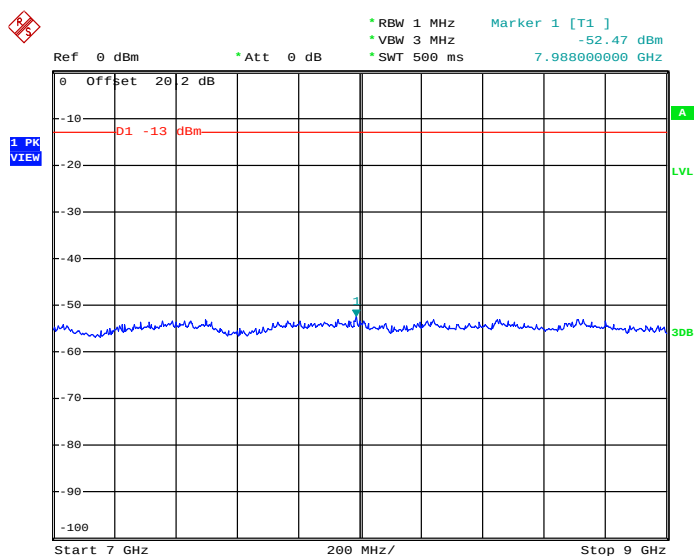
Date: 13.JAN.2014 18:38:37

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



Date: 13.JAN.2014 18:42:05

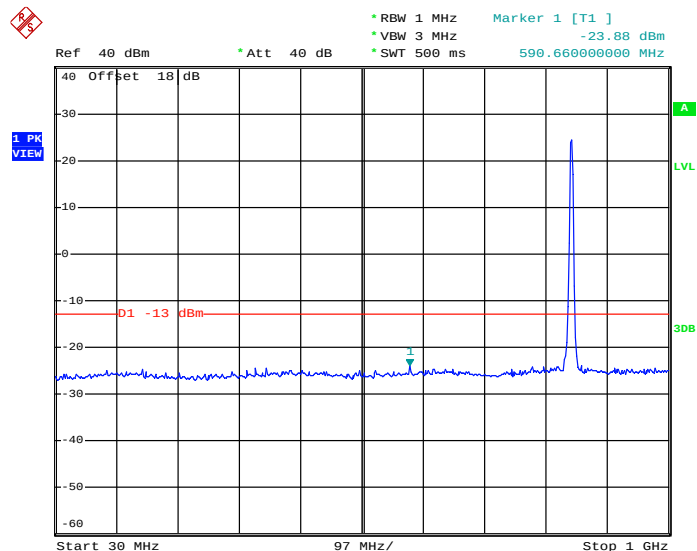
Conducted Spurious Emission Plot between 7GHz ~ 9GHz



Date: 13.JAN.2014 18:42:55

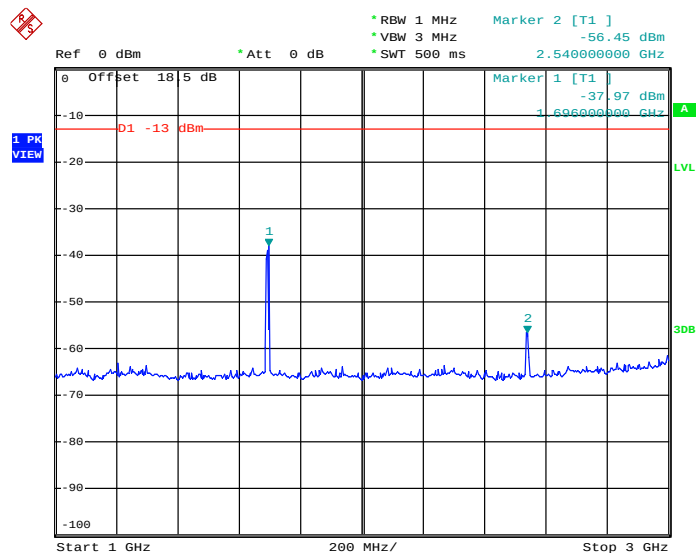
Band :	WCDMA Band V	Channel :	CH4233
Test Mode :	RMC 12.2Kbps Link (QPSK)	Frequency :	846.6 MHz

Conducted Spurious Emission Plot between 30MHz ~ 1GHz



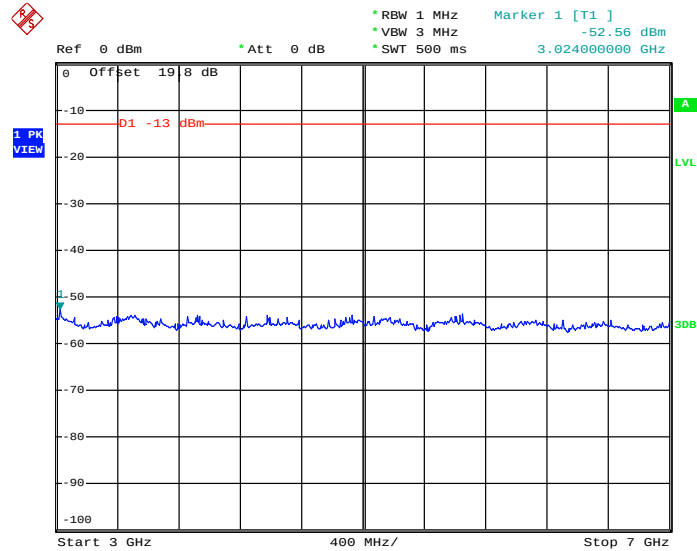
Date: 13.JAN.2014 18:29:34

Conducted Spurious Emission Plot between 1GHz ~ 3GHz



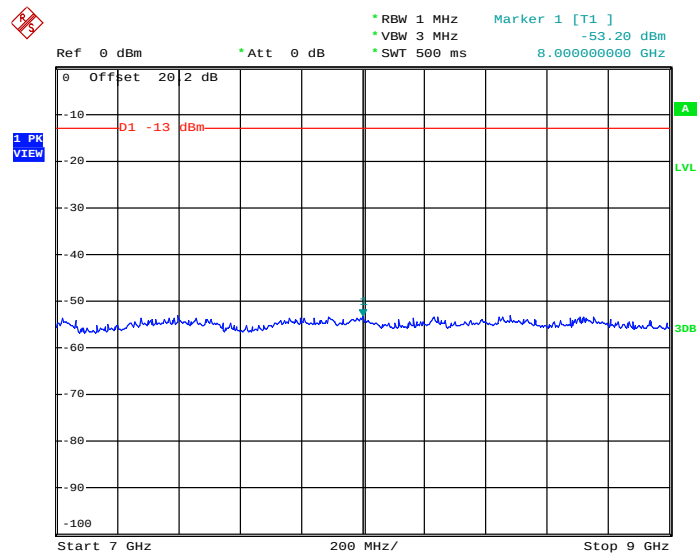
Date: 13.JAN.2014 18:40:02

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



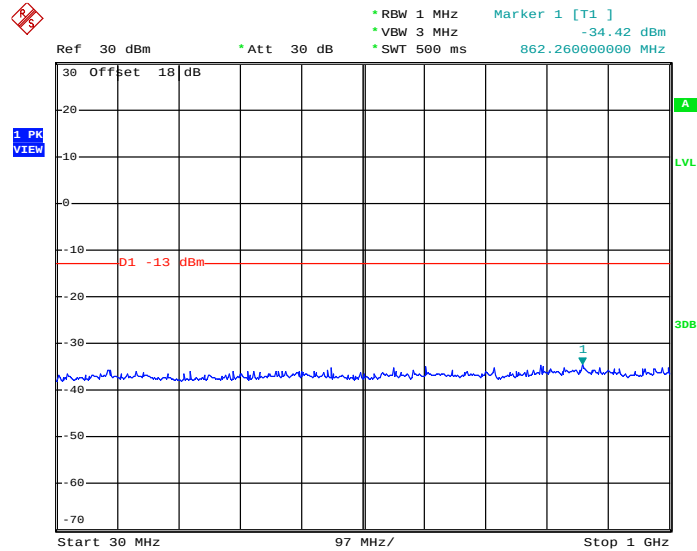
Date: 13.JAN.2014 18:41:02

Conducted Spurious Emission Plot between 7GHz ~ 9GHz

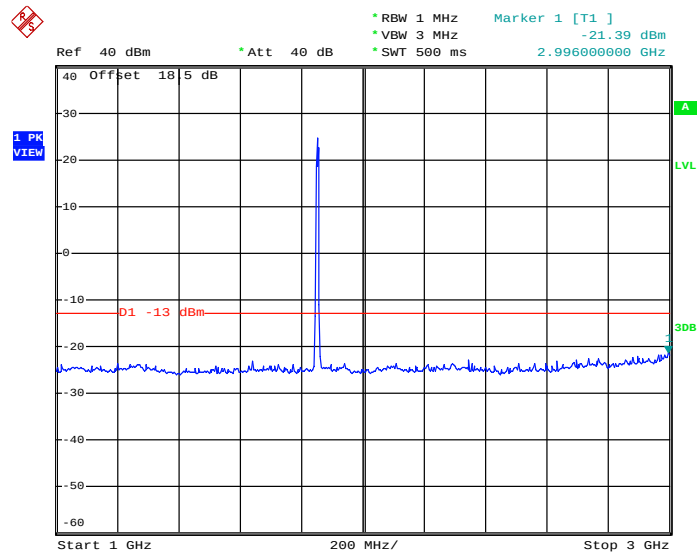


Date: 13.JAN.2014 18:44:26

Band :	WCDMA Band II	Channel :	CH9262
Test Mode :	RMC 12.2Kbps Link (QPSK)	Frequency :	1852.4 MHz

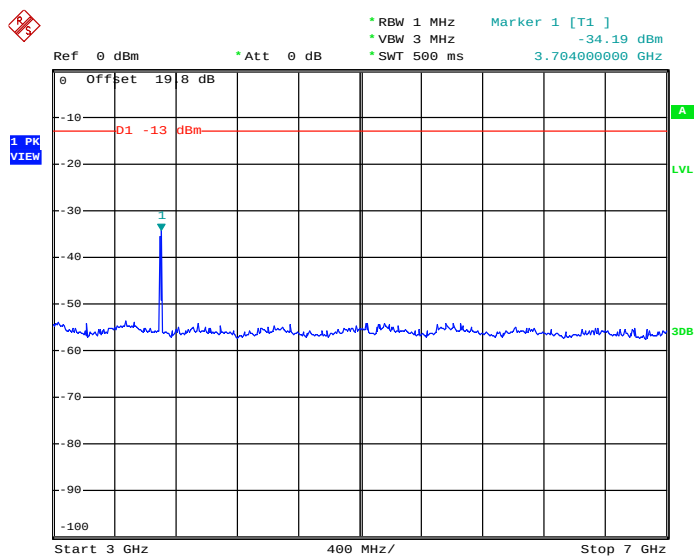
Conducted Spurious Emission Plot between 30MHz ~ 1GHz


Date: 13.JAN.2014 18:55:38

Conducted Spurious Emission Plot between 1GHz ~ 3GHz


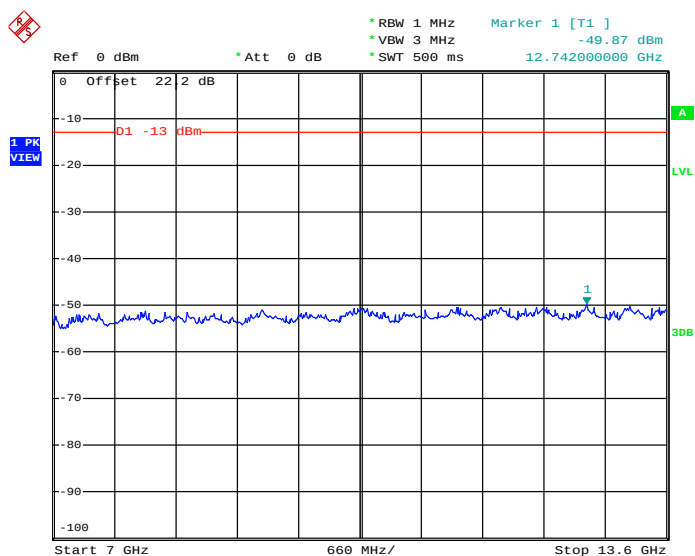
Date: 13.JAN.2014 18:59:43

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



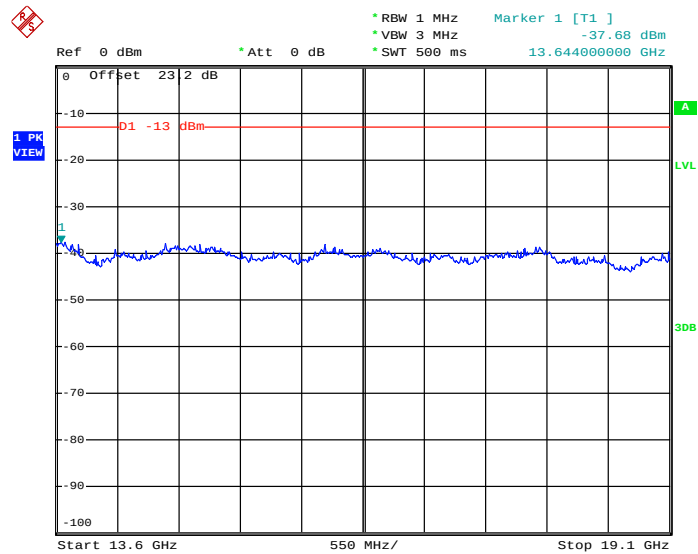
Date: 13.JAN.2014 19:03:19

Conducted Spurious Emission Plot between 7GHz ~ 13.6GHz



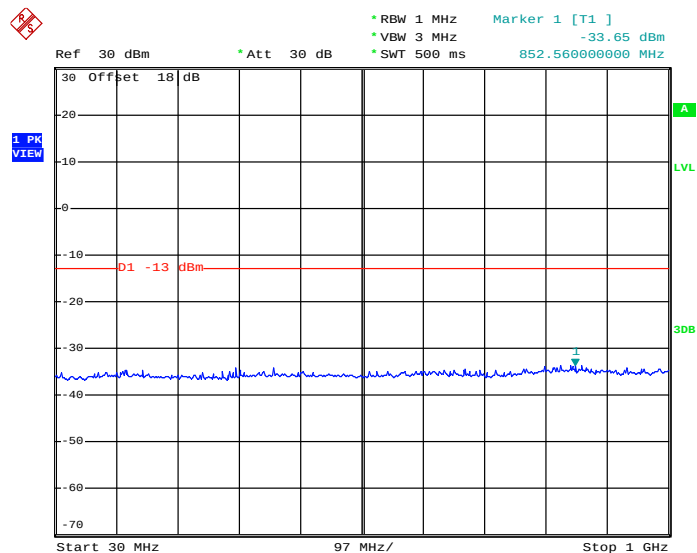
Date: 13.JAN.2014 19:06:26

Conducted Spurious Emission Plot between 13.6GHz ~ 19.1GHz

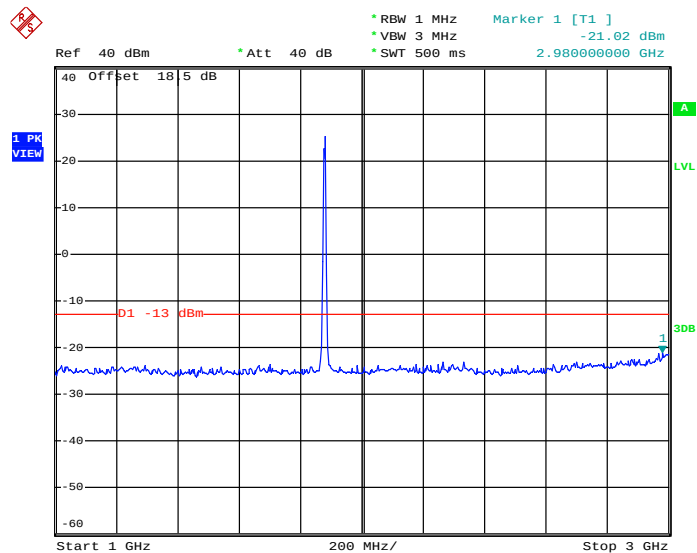


Date: 13.JAN.2014 19:12:39

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

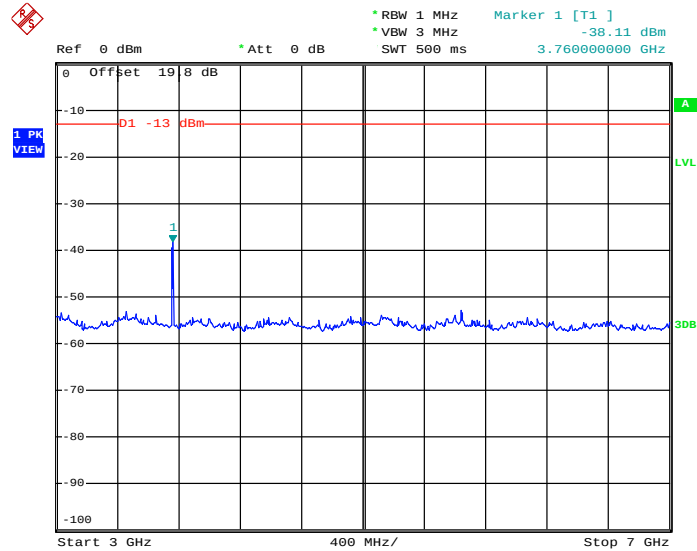
Conducted Spurious Emission Plot between 30MHz ~ 1GHz


Date: 13.JAN.2014 18:54:44

Conducted Spurious Emission Plot between 1GHz ~ 3GHz


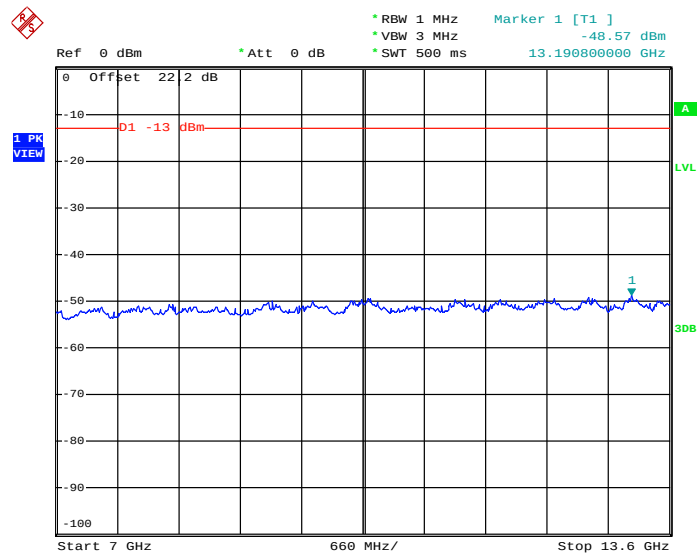
Date: 13.JAN.2014 19:00:35

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



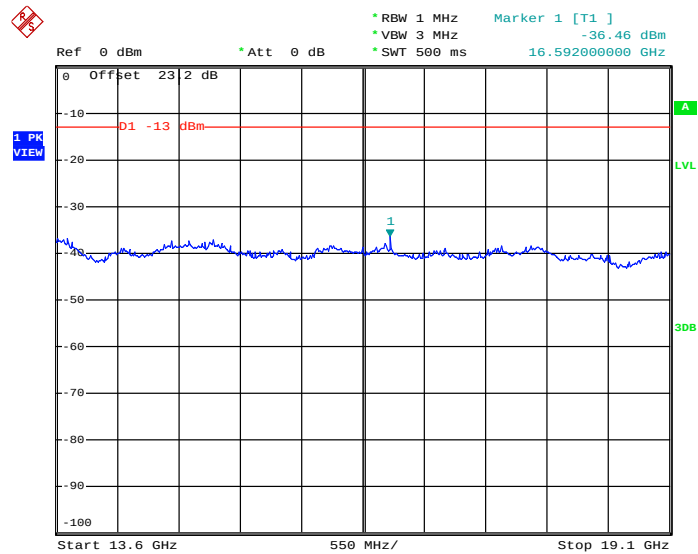
Date: 13.JAN.2014 19:02:40

Conducted Spurious Emission Plot between 7GHz ~ 13.6GHz



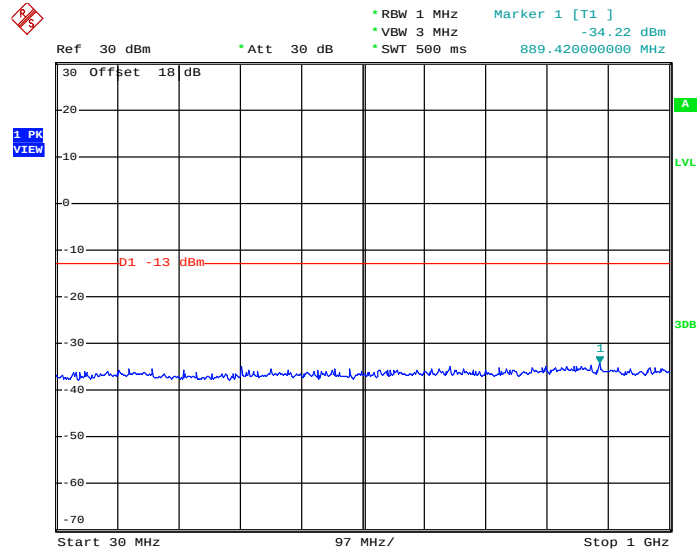
Date: 13.JAN.2014 19:09:06

Conducted Spurious Emission Plot between 13.6GHz ~ 19.1GHz

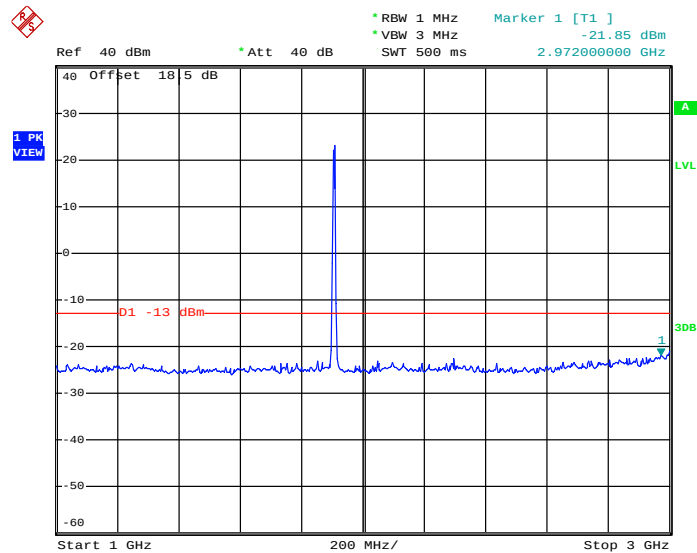


Date: 13.JAN.2014 19:12:01

Band :	WCDMA Band II	Channel :	CH9538
Test Mode :	RMC 12.2Kbps Link (QPSK)	Frequency :	1907.6 MHz

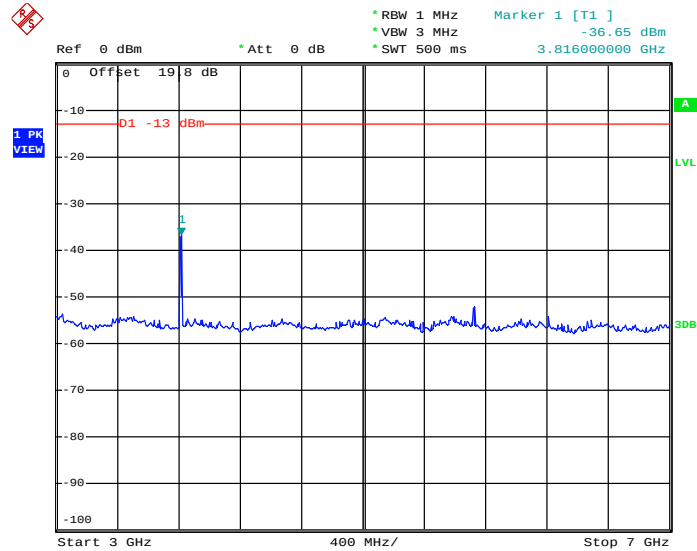
Conducted Spurious Emission Plot between 30MHz ~ 1GHz


Date: 13.JAN.2014 18:56:33

Conducted Spurious Emission Plot between 1GHz ~ 3GHz


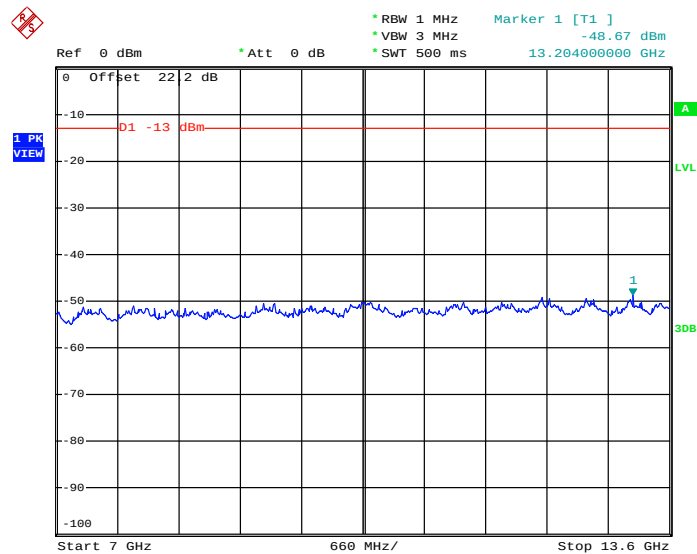
Date: 13.JAN.2014 18:58:40

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



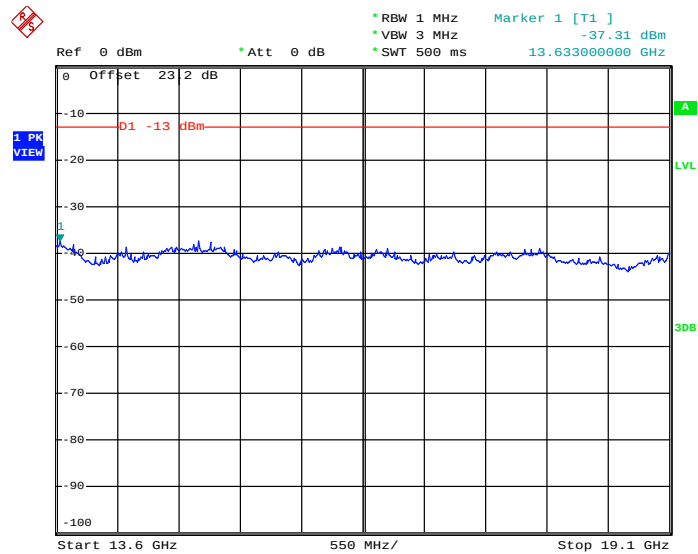
Date: 13.JAN.2014 19:04:27

Conducted Spurious Emission Plot between 7GHz ~ 13.6GHz



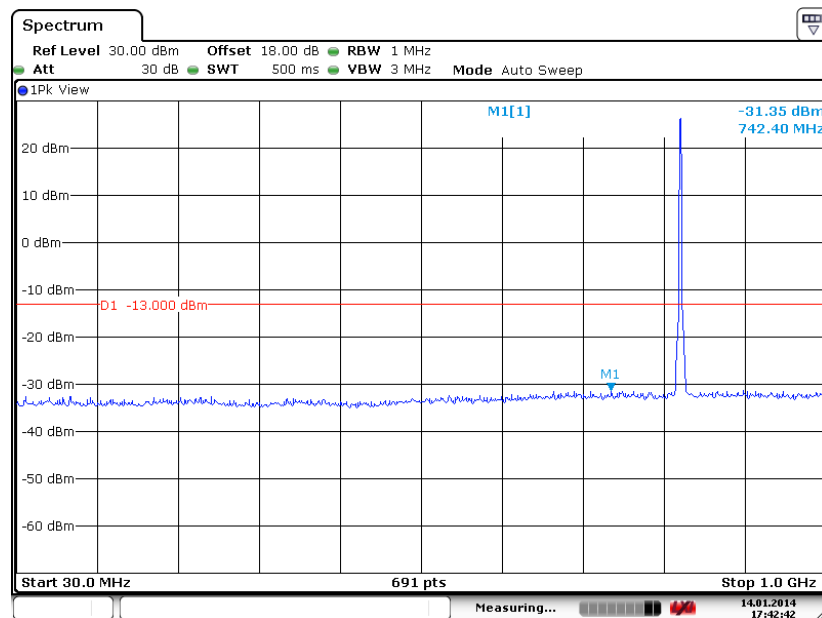
Date: 13.JAN.2014 19:05:52

Conducted Spurious Emission Plot between 13.6GHz ~ 19.1GHz

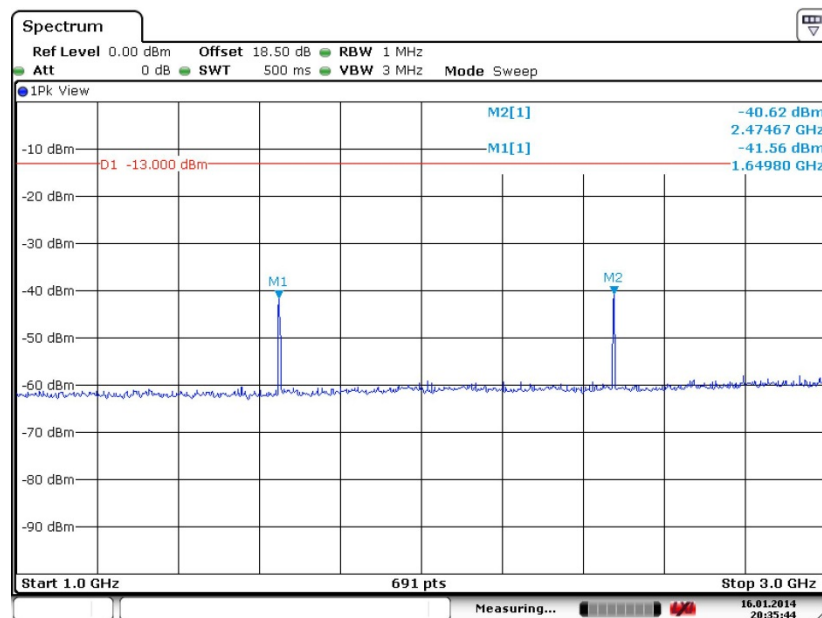


Date: 13.JAN.2014 19:13:22

Band :	CDMA2000 BC0	Channel :	CH1013
Test Mode :	1xRTT_RC3+SO55 (QPSK)	Frequency :	824.70 MHz

Conducted Spurious Emission Plot between 30MHz ~ 1GHz


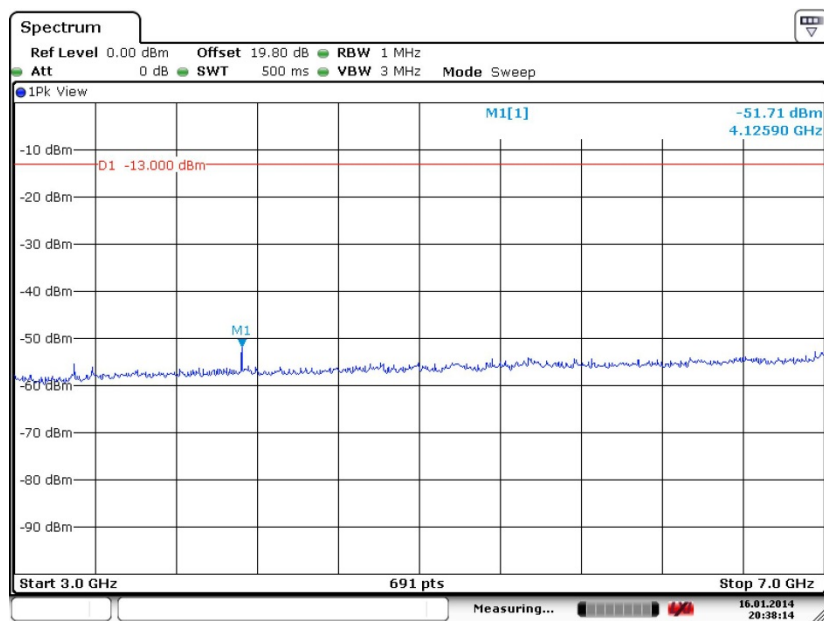
Date: 14.JAN.2014 17:42:42

Conducted Spurious Emission Plot between 1GHz ~ 3GHz


Date: 16.JAN.2014 20:35:44

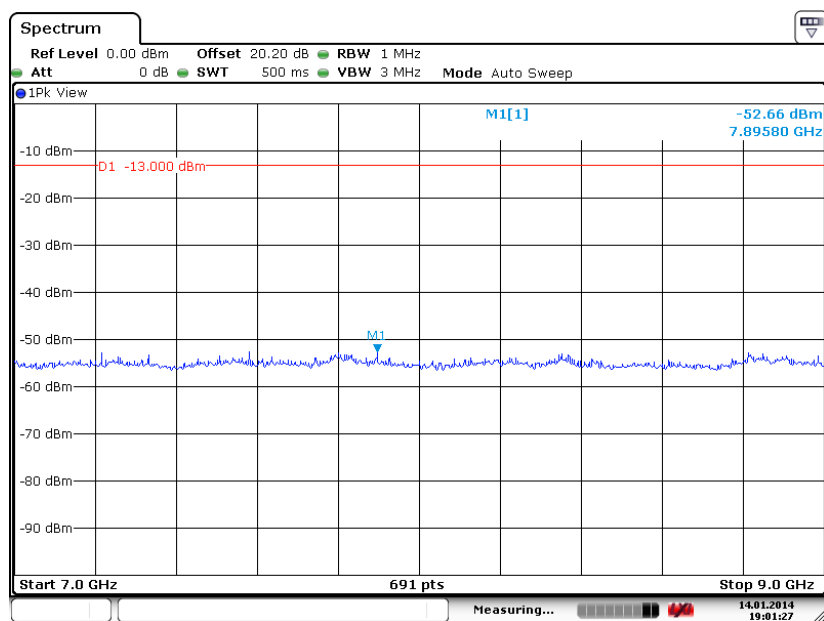


Conducted Spurious Emission Plot between 3GHz ~ 7GHz



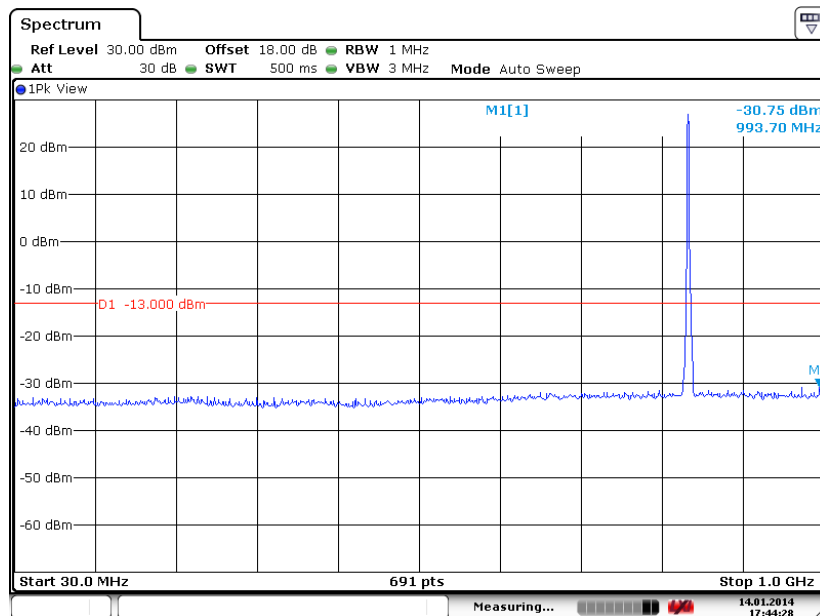
Date: 16.JAN.2014 20:38:14

Conducted Spurious Emission Plot between 7GHz ~ 9GHz

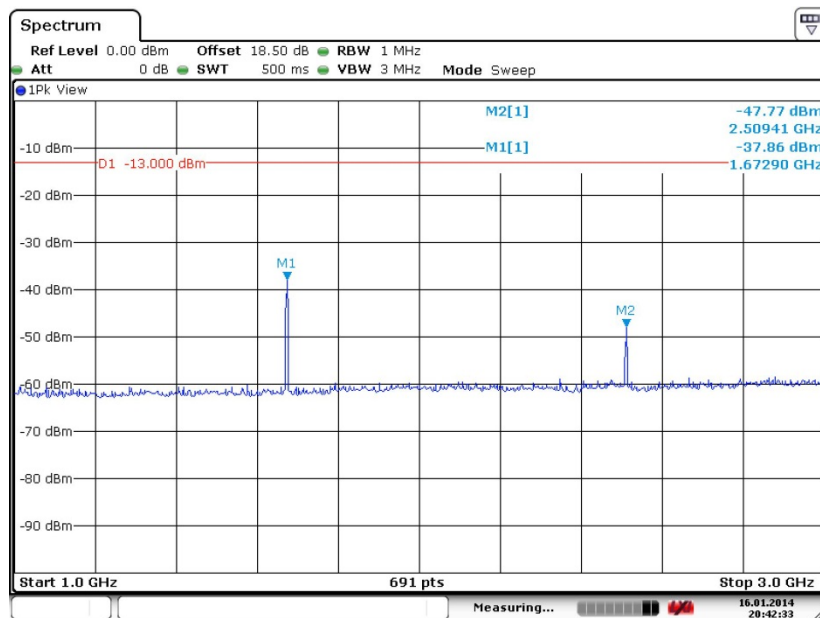


Date: 14.JAN.2014 19:01:27

Band :	CDMA2000 BC0	Channel :	CH384
Test Mode :	1xRTT_RC3+SO55 (QPSK)	Frequency :	836.52 MHz

Conducted Spurious Emission Plot between 30MHz ~ 1GHz


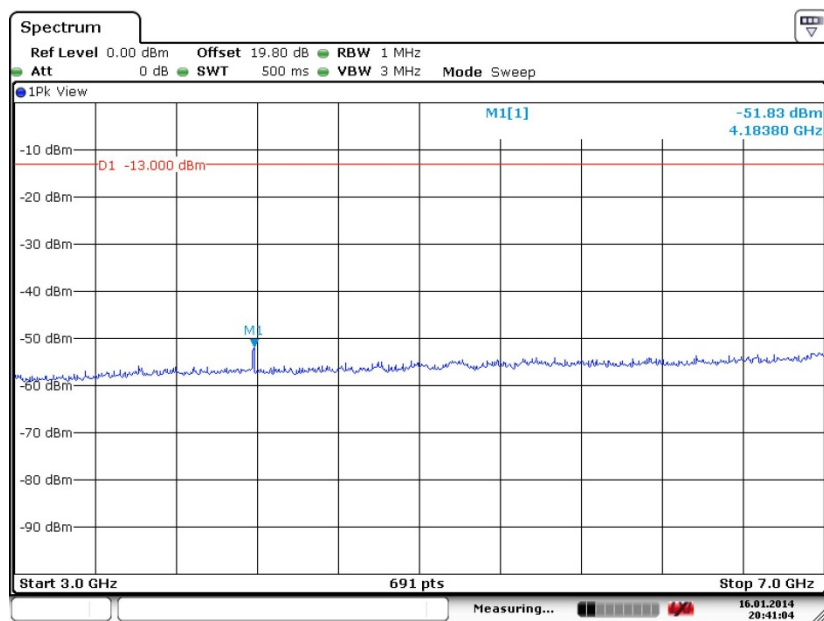
Date: 14.JAN.2014 17:44:27

Conducted Spurious Emission Plot between 1GHz ~ 3GHz


Date: 16.JAN.2014 20:42:34

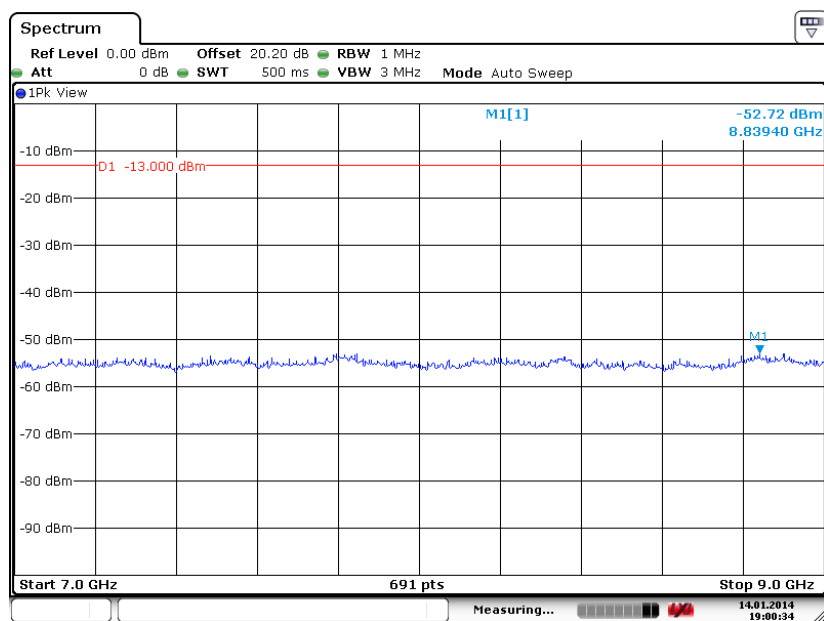


Conducted Spurious Emission Plot between 3GHz ~ 7GHz



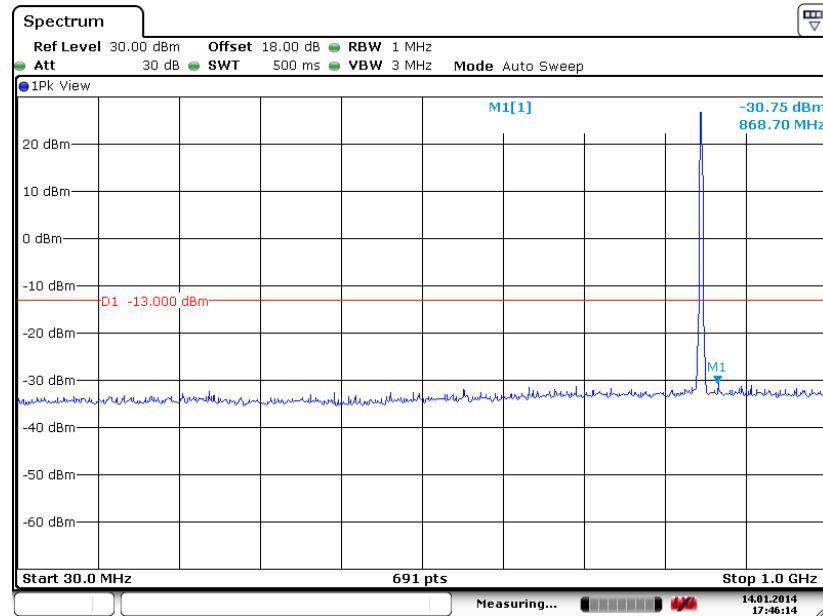
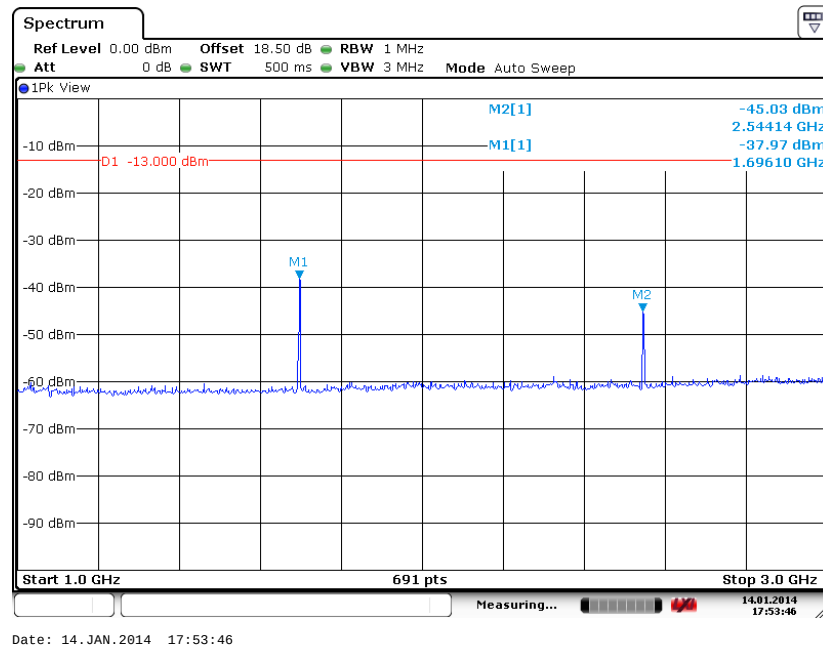
Date: 16.JAN.2014 20:41:04

Conducted Spurious Emission Plot between 7GHz ~ 9GHz



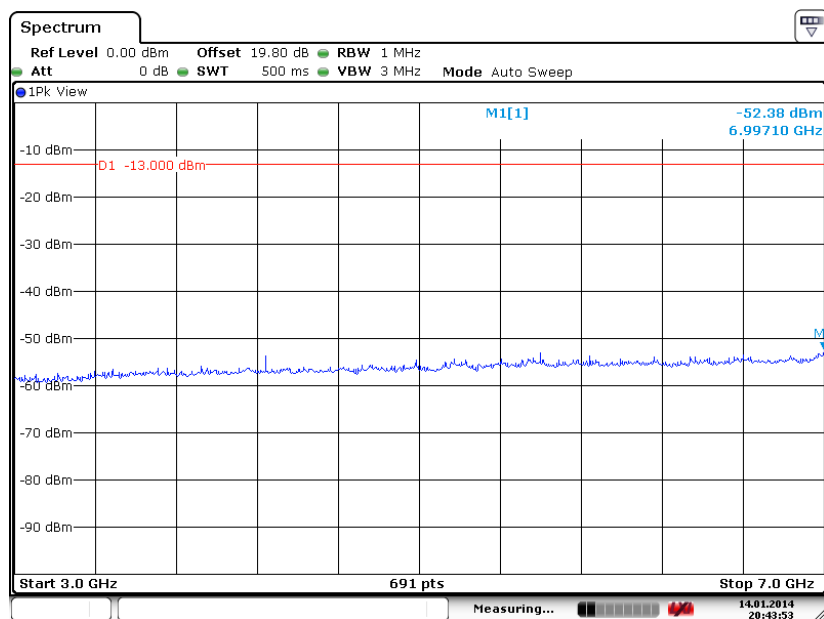
Date: 14.JAN.2014 19:00:34

Band :	CDMA2000 BC0	Channel :	CH777
Test Mode :	1xRTT_RC3+SO55 (QPSK)	Frequency :	848.31MHz

Conducted Spurious Emission Plot between 30MHz ~ 1GHz

Conducted Spurious Emission Plot between 1GHz ~ 3GHz


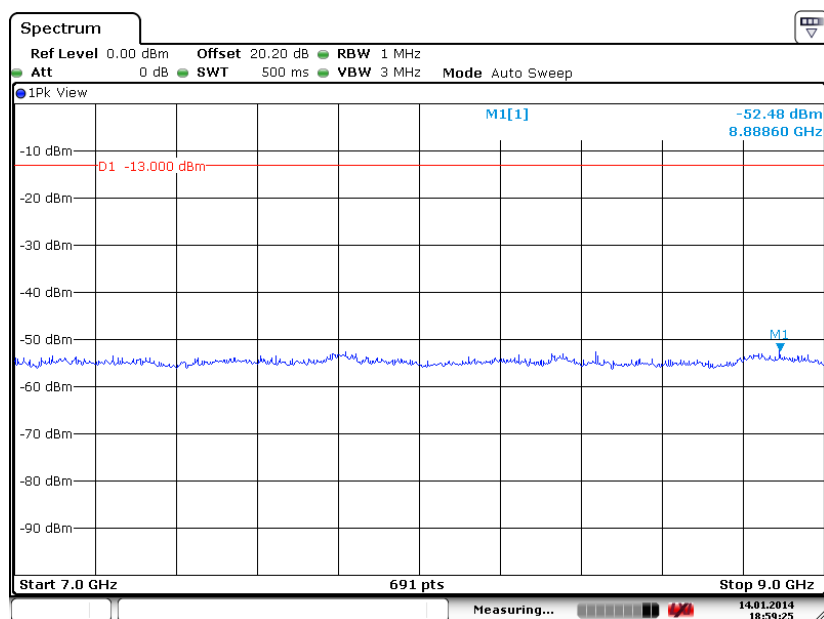


Conducted Spurious Emission Plot between 3GHz ~ 7GHz



Date: 14. JAN. 2014 20:43:52

Conducted Spurious Emission Plot between 7GHz ~ 9GHz



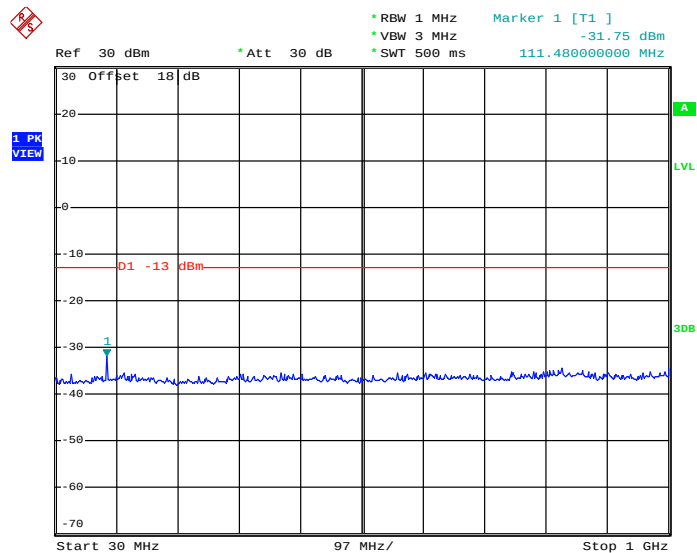
Date: 14. JAN. 2014 18:59:25



SIM2 Card:

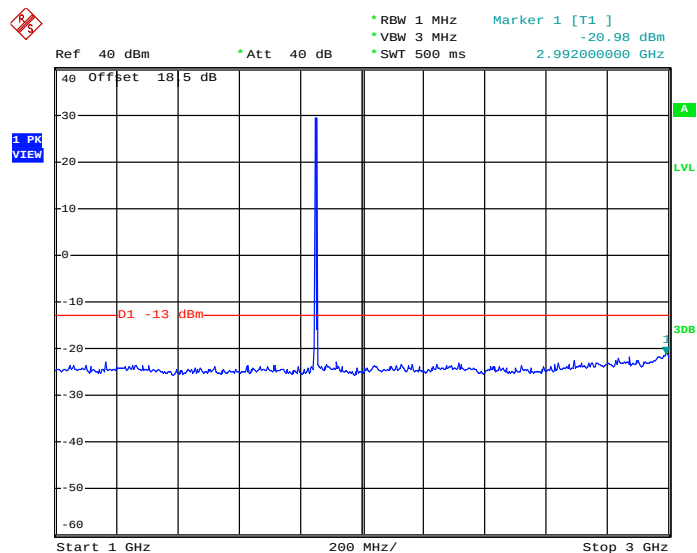
Band :	GSM1900	Channel :	CH512
Test Mode :	GSM Link (GMSK)	Frequency :	1850.2 MHz

Conducted Spurious Emission Plot between 30MHz ~ 1GHz



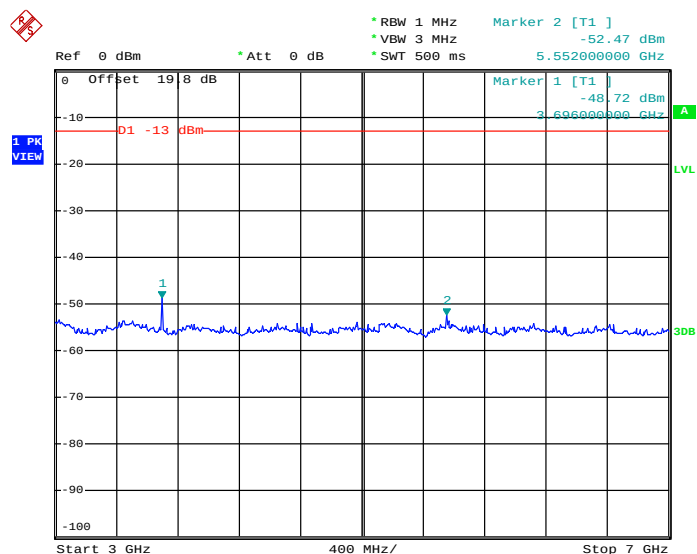
Date: 8.FEB.2014 19:17:09

Conducted Spurious Emission Plot between 1GHz ~ 3GHz



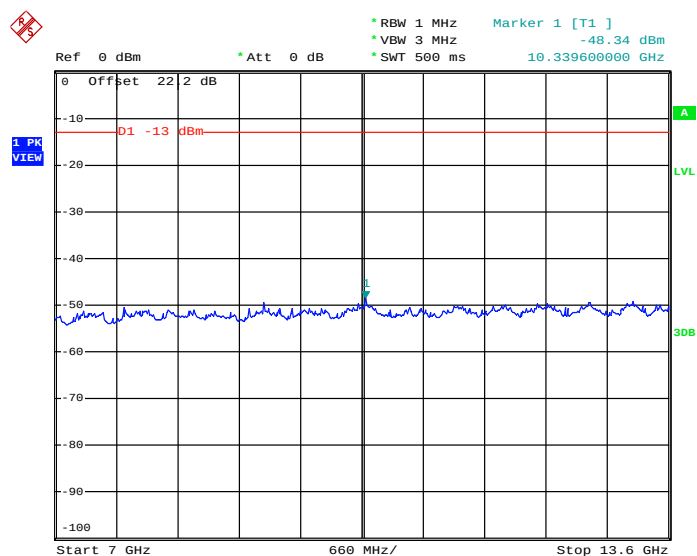
Date: 8.FEB.2014 19:19:00

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



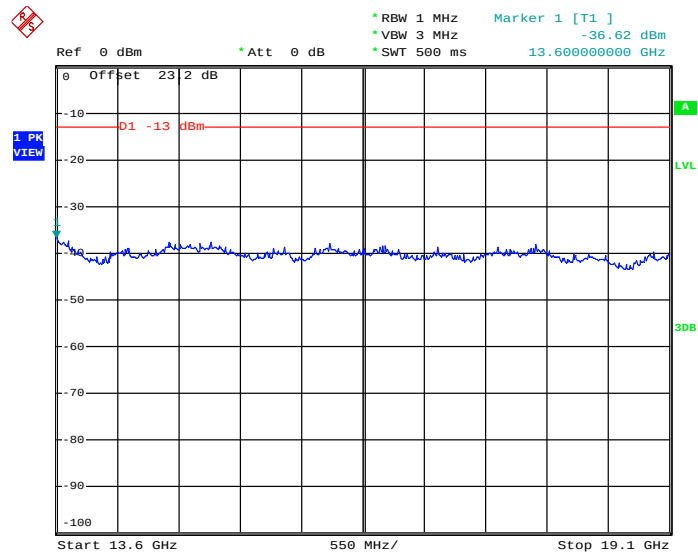
Date: 8.FEB.2014 19:38:04

Conducted Spurious Emission Plot between 7GHz ~ 13.6GHz



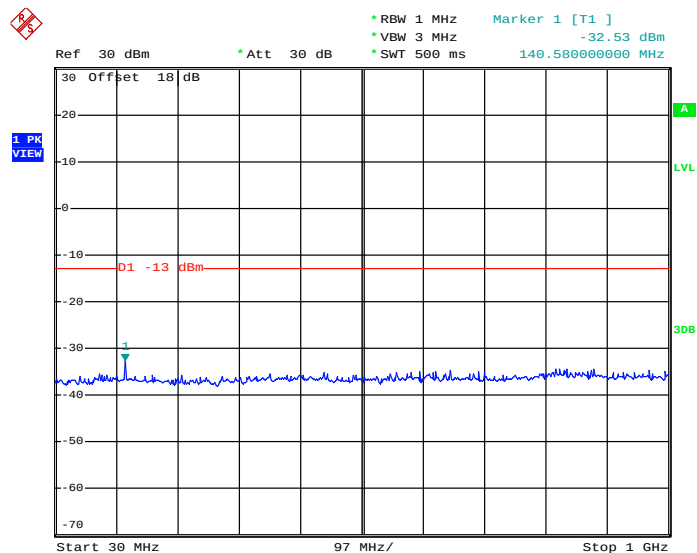
Date: 8.FEB.2014 19:43:11

Conducted Spurious Emission Plot between 13.6GHz ~ 19.1GHz

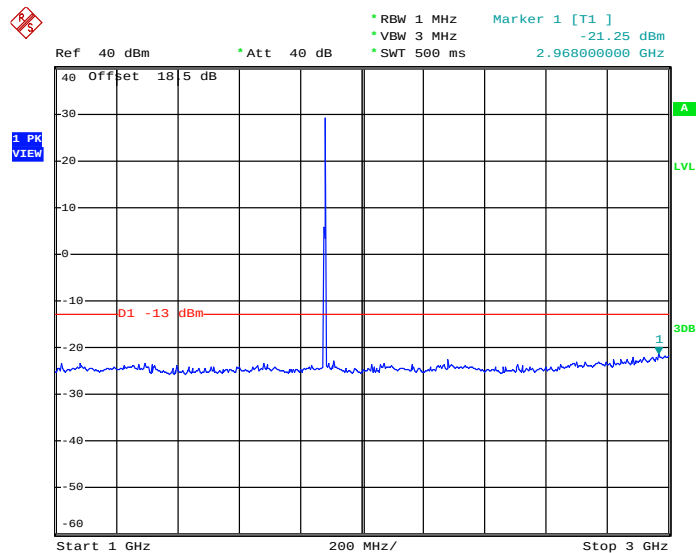


Date: 8.FEB.2014 19:48:39

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

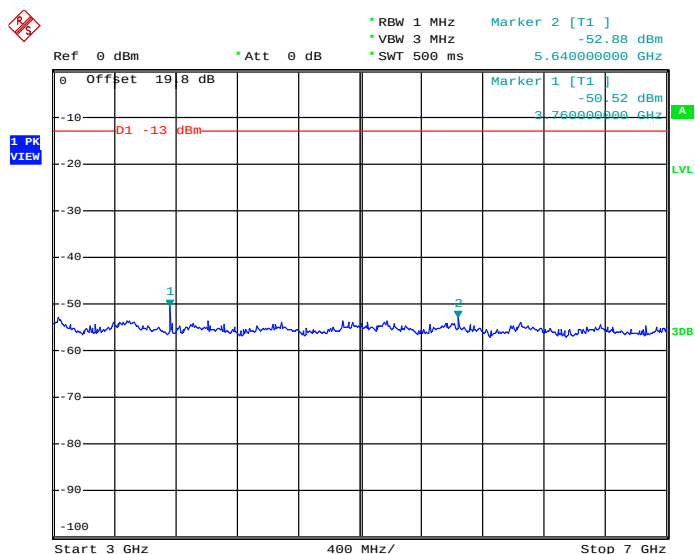
Conducted Spurious Emission Plot between 30MHz ~ 1GHz


Date: 8.FEB.2014 19:16:27

Conducted Spurious Emission Plot between 1GHz ~ 3GHz


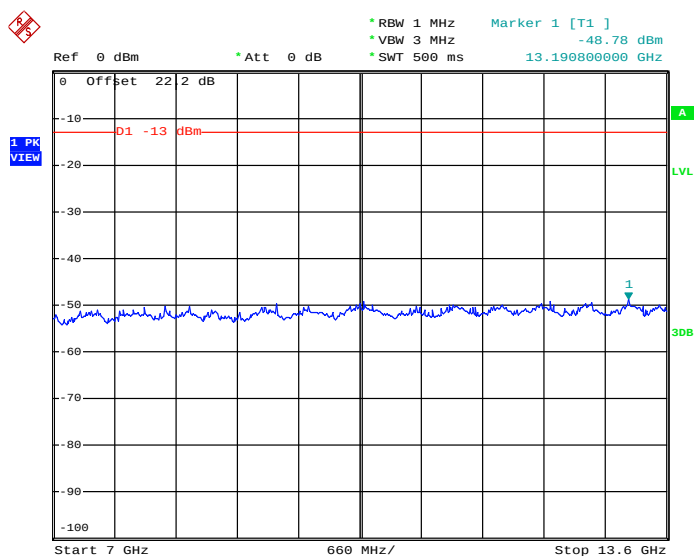
Date: 8.FEB.2014 19:20:12

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



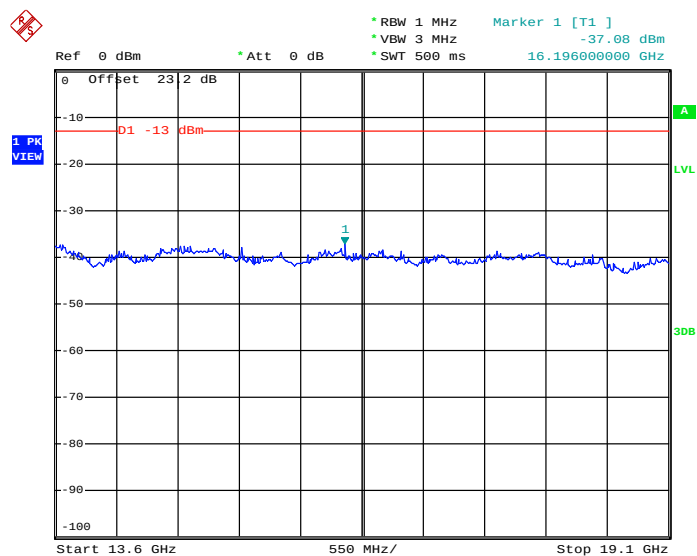
Date: 8.FEB.2014 19:36:22

Conducted Spurious Emission Plot between 7GHz ~ 13.6GHz



Date: 8.FEB.2014 19:44:22

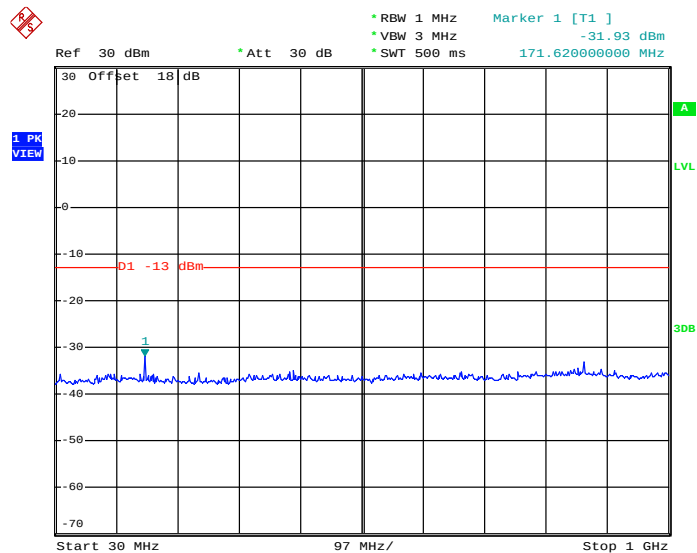
Conducted Spurious Emission Plot between 13.6GHz ~ 19.1GHz



Date: 8.FEB.2014 19:48:01

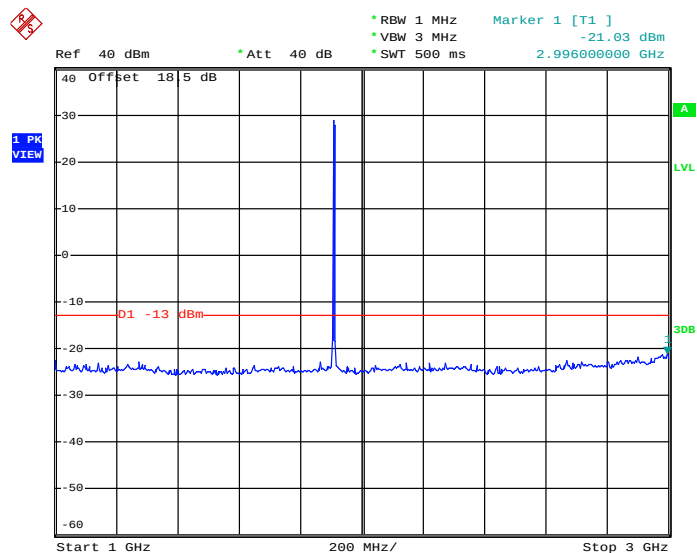
Band :	GSM1900	Channel :	CH810
Test Mode :	GSM Link (GMSK)	Frequency :	1909.8 MHz

Conducted Spurious Emission Plot between 30MHz ~ 1GHz



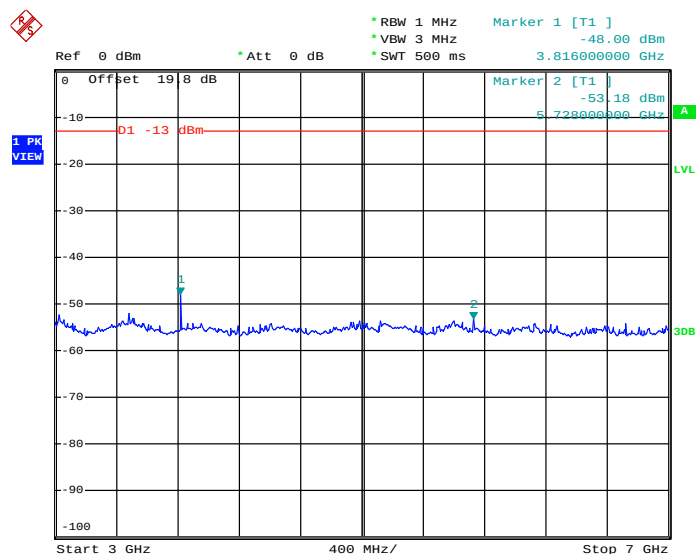
Date: 8.FEB.2014 19:15:48

Conducted Spurious Emission Plot between 1GHz ~ 3GHz



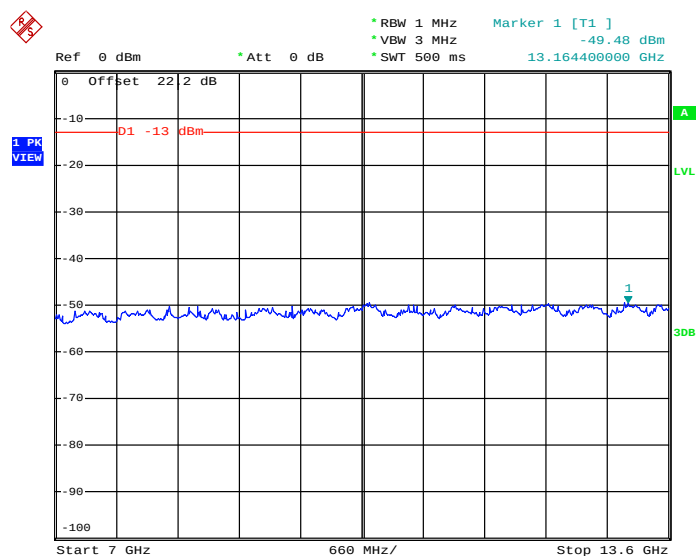
Date: 8.FEB.2014 19:22:31

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



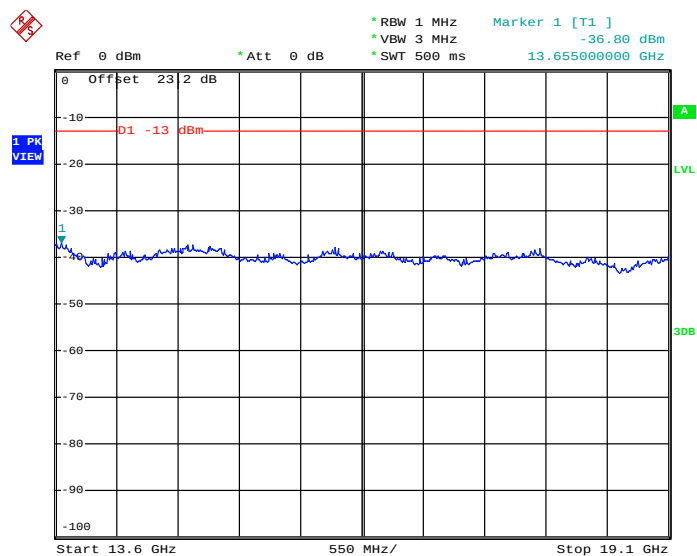
Date: 8.FEB.2014 19:34:45

Conducted Spurious Emission Plot between 7GHz ~ 13.6GHz



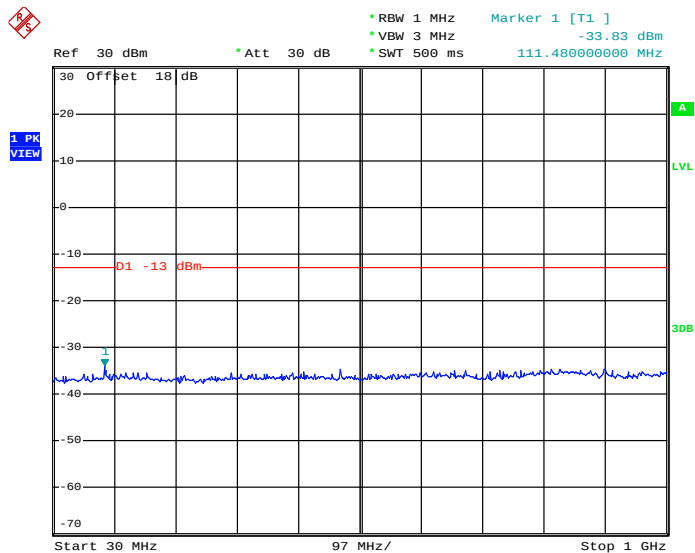
Date: 8.FEB.2014 19:45:47

Conducted Spurious Emission Plot between 13.6GHz ~ 19.1GHz

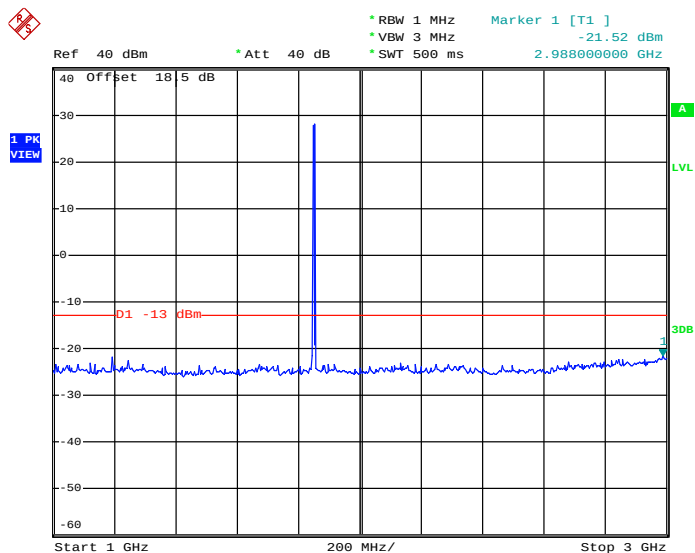


Date: 8.FEB.2014 19:47:13

Band :	GSM1900	Channel :	CH512
Test Mode :	EDGE class 8 Link (8PSK)	Frequency :	1850.2 MHz

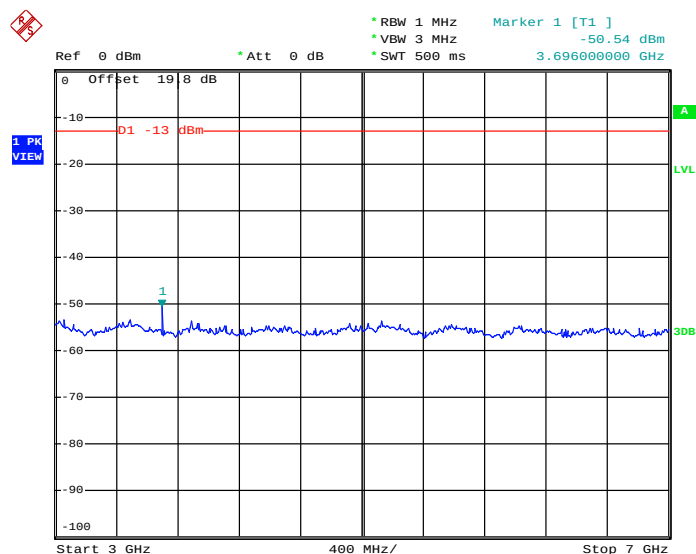
Conducted Spurious Emission Plot between 30MHz ~ 1GHz


Date: 8.FEB.2014 20:18:30

Conducted Spurious Emission Plot between 1GHz ~ 3GHz


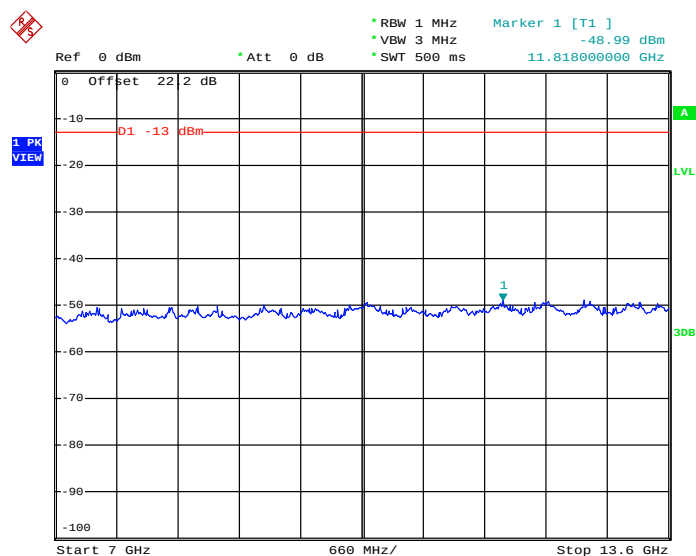
Date: 8.FEB.2014 20:17:12

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



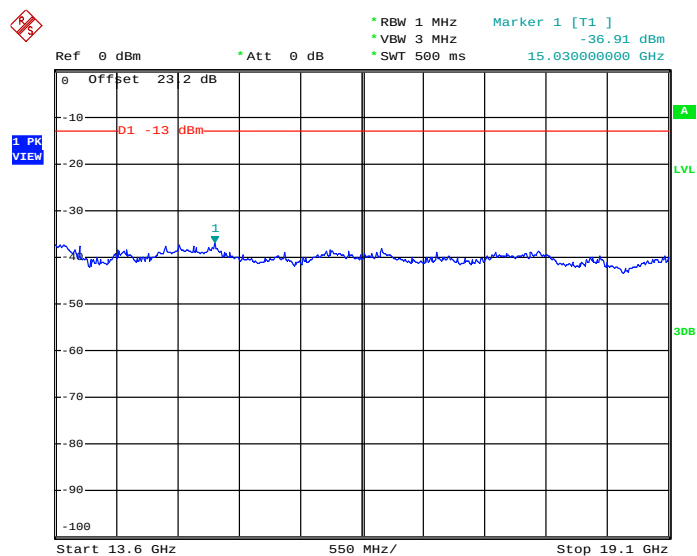
Date: 8.FEB.2014 20:00:49

Conducted Spurious Emission Plot between 7GHz ~ 13.6GHz



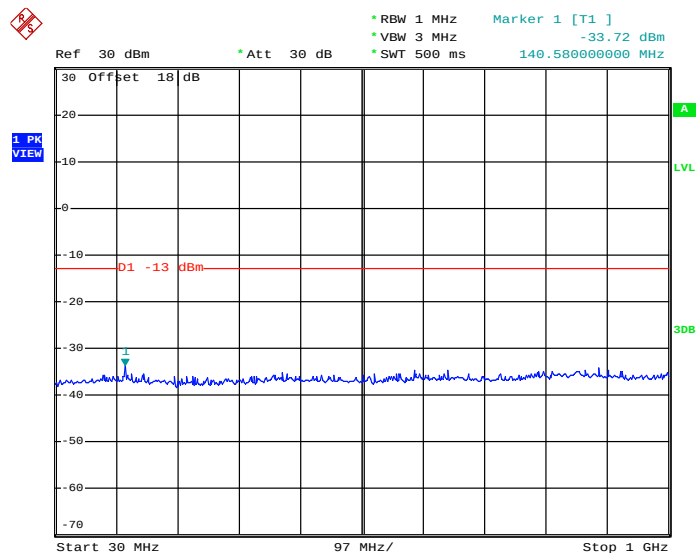
Date: 8.FEB.2014 19:55:46

Conducted Spurious Emission Plot between 13.6GHz ~ 19.1GHz

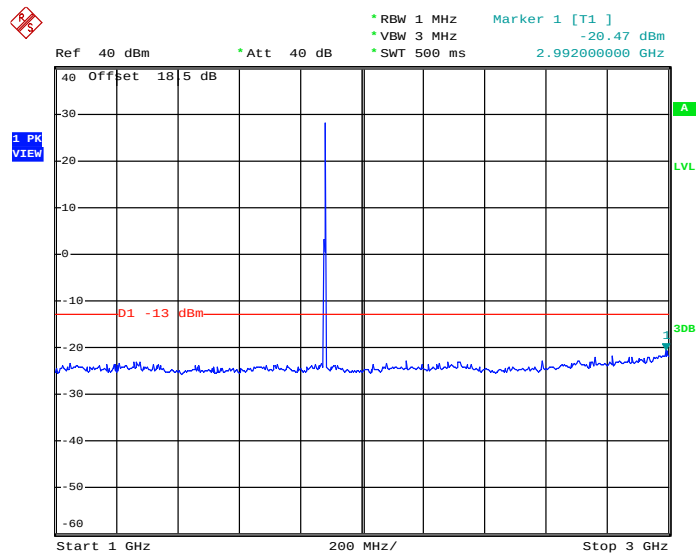


Date: 8.FEB.2014 19:54:06

Band :	GSM1900	Channel :	CH661
Test Mode :	EDGE class 8 Link (8PSK)	Frequency :	1880.0 MHz

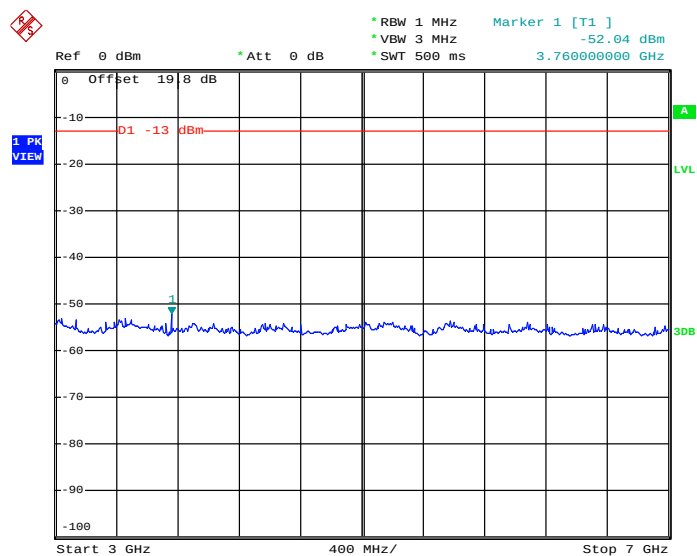
Conducted Spurious Emission Plot between 30MHz ~ 1GHz


Date: 8.FEB.2014 20:19:21

Conducted Spurious Emission Plot between 1GHz ~ 3GHz


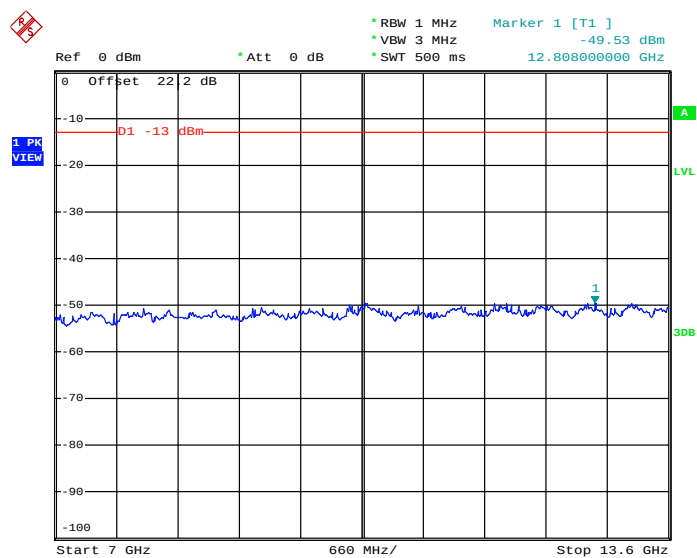
Date: 8.FEB.2014 20:15:56

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



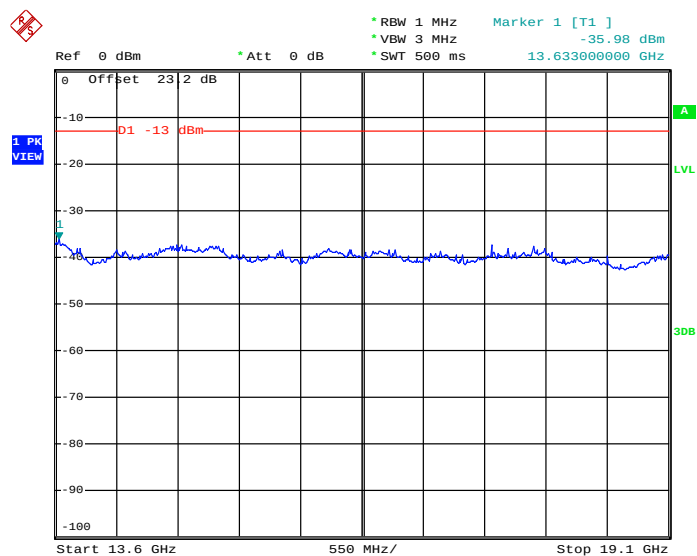
Date: 8.FEB.2014 20:00:09

Conducted Spurious Emission Plot between 7GHz ~ 13.6GHz



Date: 8.FEB.2014 19:56:29

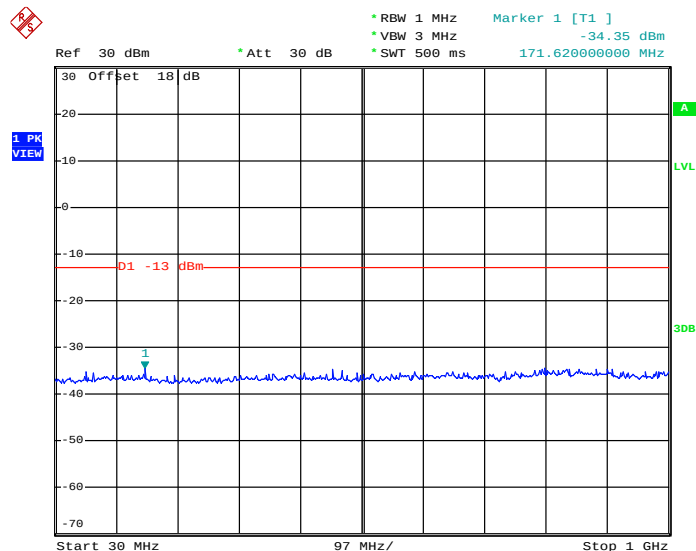
Conducted Spurious Emission Plot between 13.6GHz ~ 19.1GHz



Date: 8.FEB.2014 19:53:14

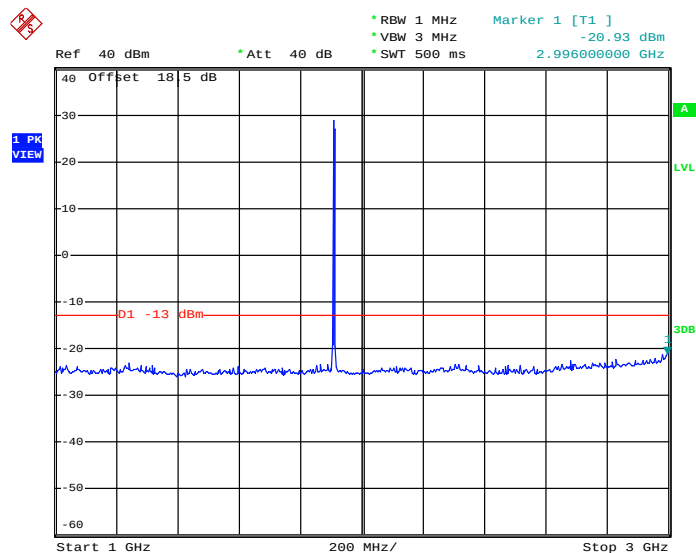
Band :	GSM1900	Channel :	CH810
Test Mode :	EDGE class 8 Link (8PSK)	Frequency :	1909.8 MHz

Conducted Spurious Emission Plot between 30MHz ~ 1GHz



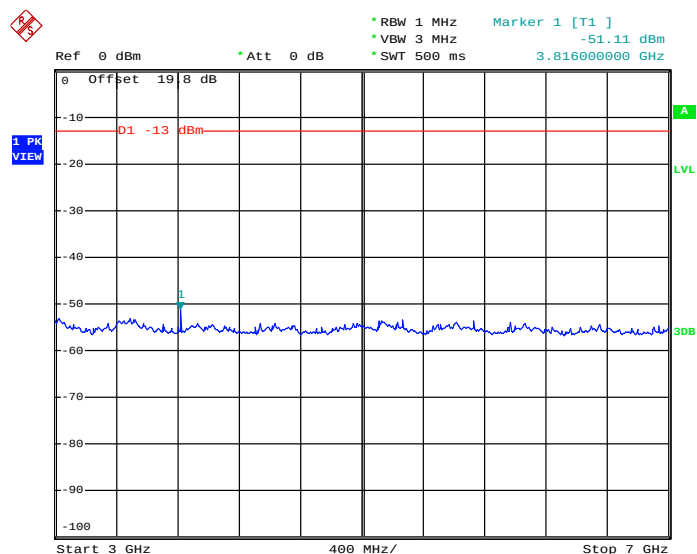
Date: 8.FEB.2014 20:20:29

Conducted Spurious Emission Plot between 1GHz ~ 3GHz



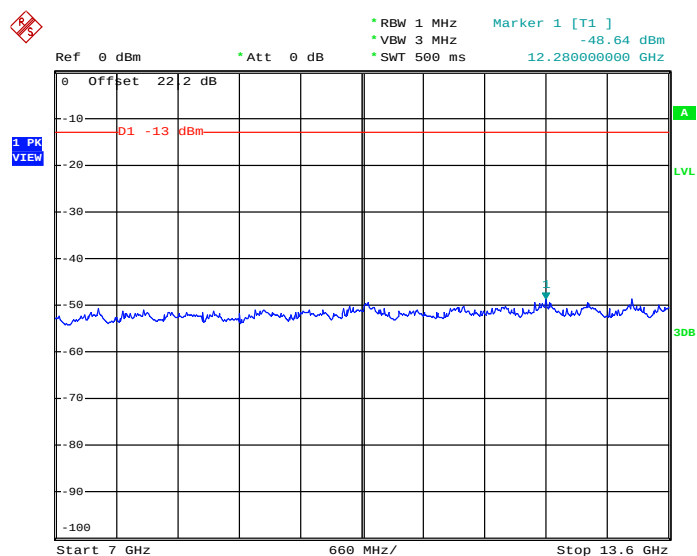
Date: 8.FEB.2014 10:25:14

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



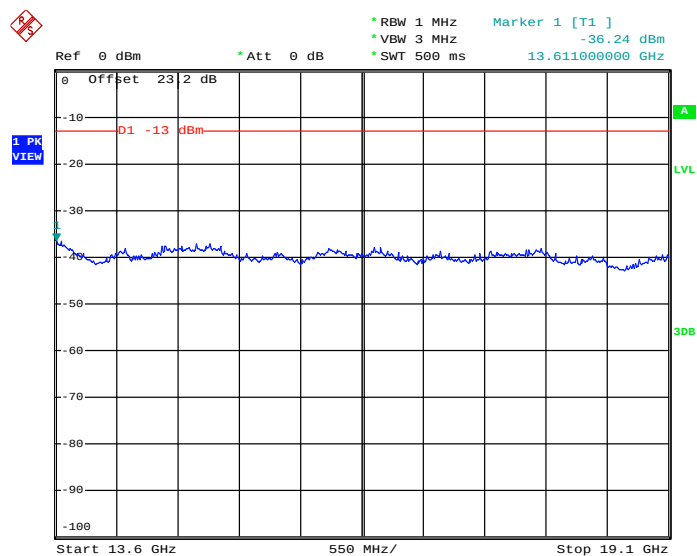
Date: 8.FEB.2014 19:59:02

Conducted Spurious Emission Plot between 7GHz ~ 13.6GHz



Date: 8.FEB.2014 19:57:15

Conducted Spurious Emission Plot between 13.6GHz ~ 19.1GHz



Date: 8.FEB.2014 19:51:54

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

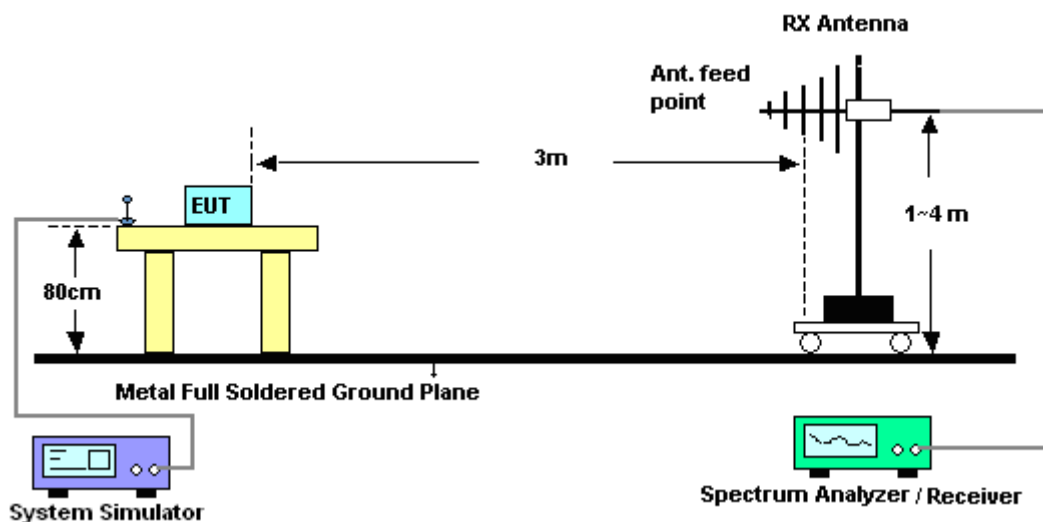
The measuring equipment is listed in the section 4 of this test report.

3.7.3 Test Procedures

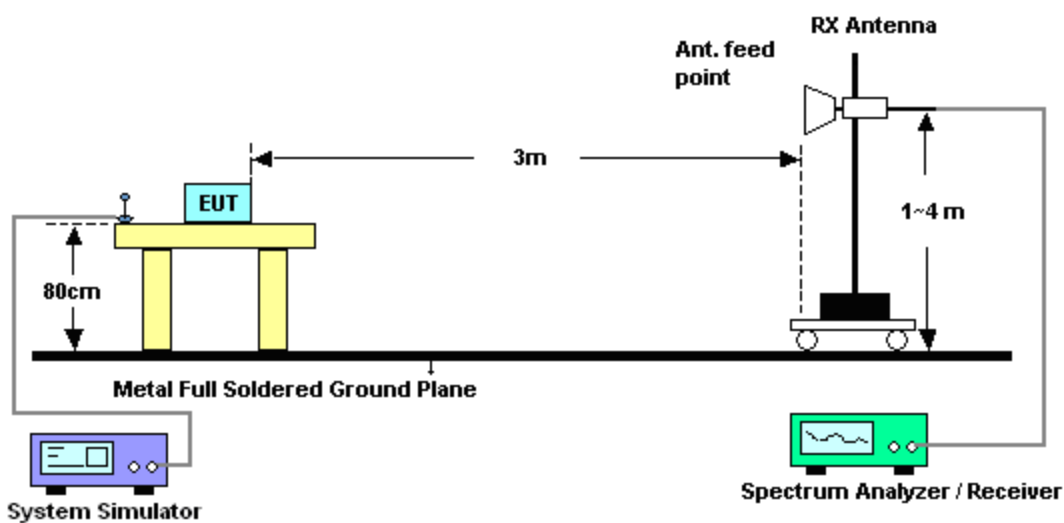
1. The EUT was placed on a rotatable wooden table with 0.8 meter above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving 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. $EIRP \text{ (dBm)} = S.G. \text{ Power} - Tx \text{ Cable Loss} + Tx \text{ Antenna Gain}$
11. $ERP \text{ (dBm)} = EIRP - 2.15$
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
13. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
$$= P(W) - [43 + 10\log(P)] \text{ (dB)}$$
$$= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$$
$$= -13\text{dBm}.$$

3.7.4 Test Setup

For radiated emissions from 30MHz to 1GHz



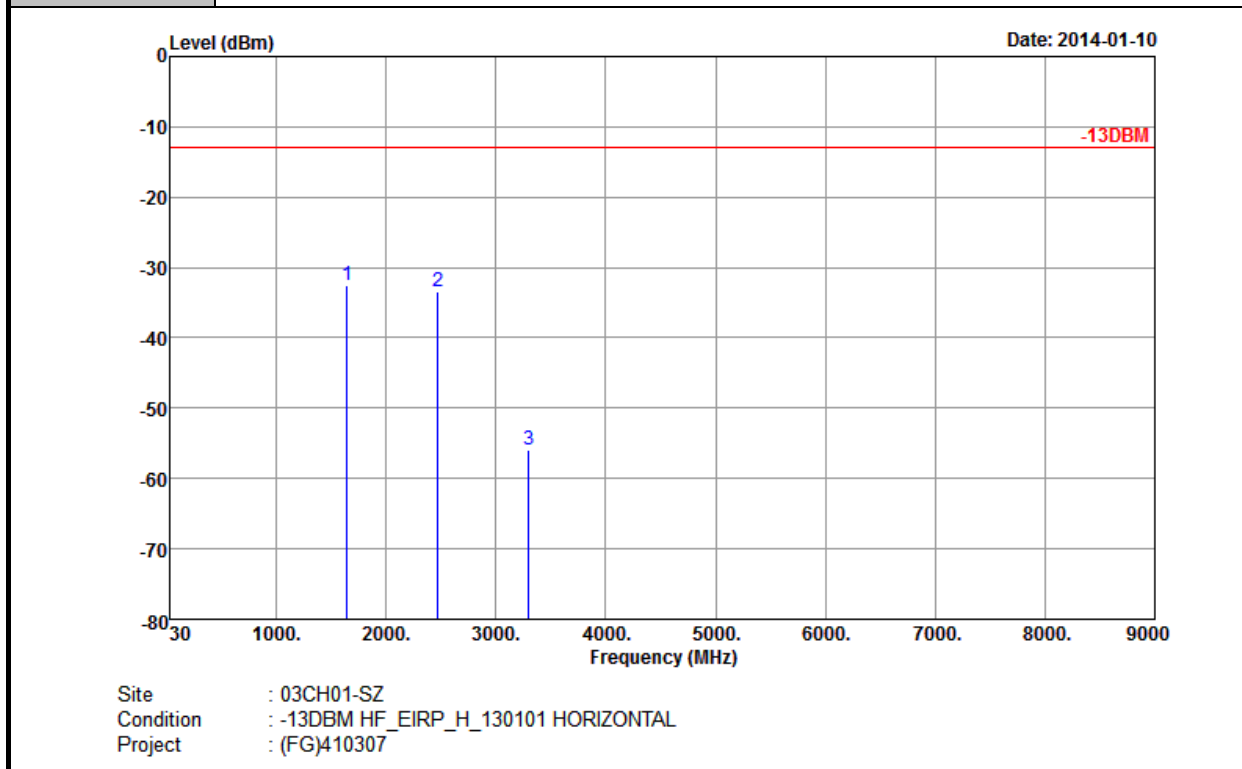
For radiated emissions above 1GHz



3.7.5 Test Result of Field Strength of Spurious Radiated

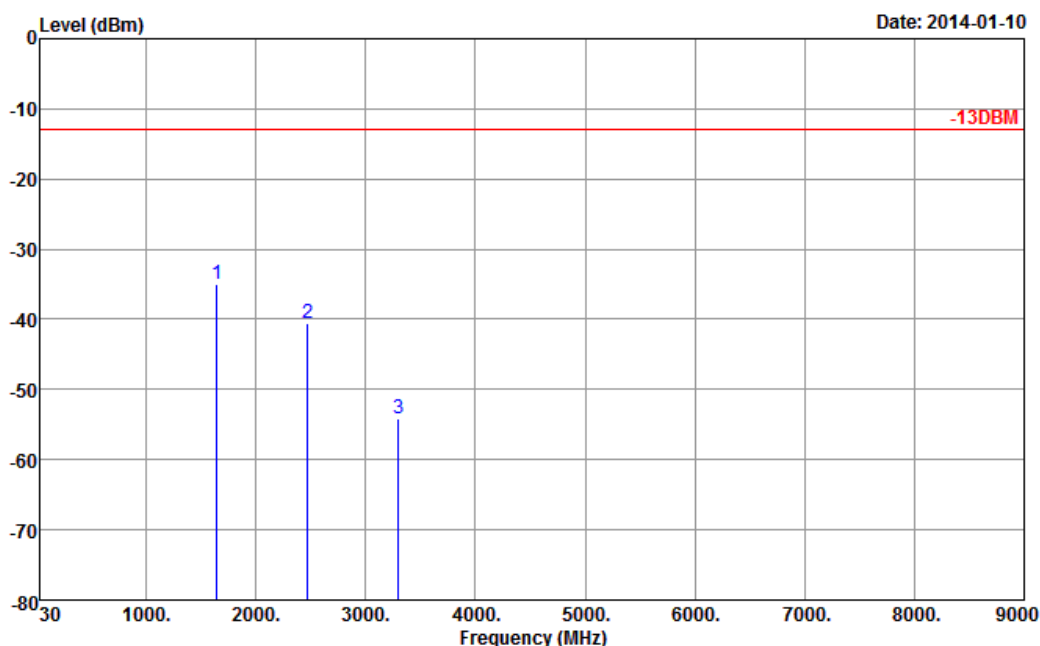
SIM1 Card:

Band :	GSM850 for CH128	Temperature :	23~25°C
Test Mode :	GSM Link (GMSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



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
1648.4	-32.47	-13	-19.47	-49.64	-35.29	0.73	5.70	H	Pass
2472.6	-33.36	-13	-20.36	-58.77	-35.72	0.91	5.42	H	Pass
3296.8	-55.99	-13	-42.99	-66.86	-60.63	1.07	7.86	H	Pass

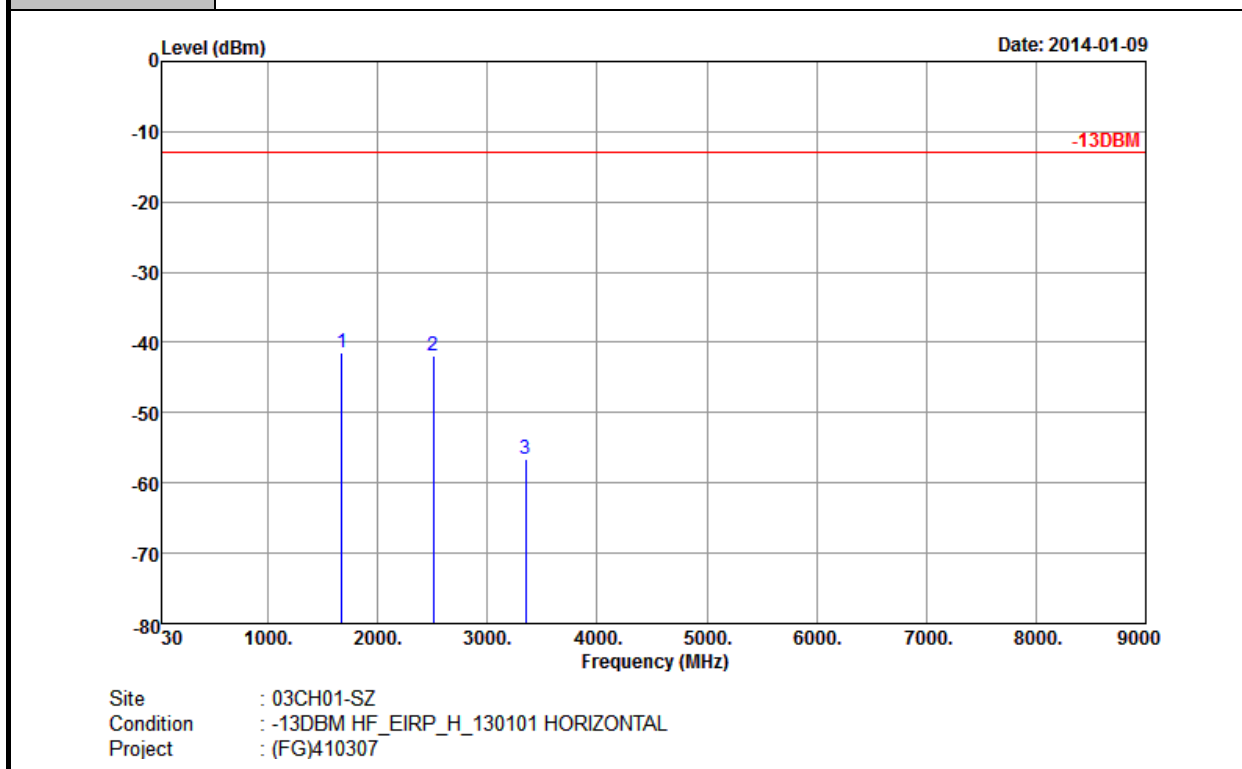
Band :	GSM850 for CH128	Temperature :	23~25°C
Test Mode :	GSM Link (GMSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_V_130101 VERTICAL
 Project : (FG)410307

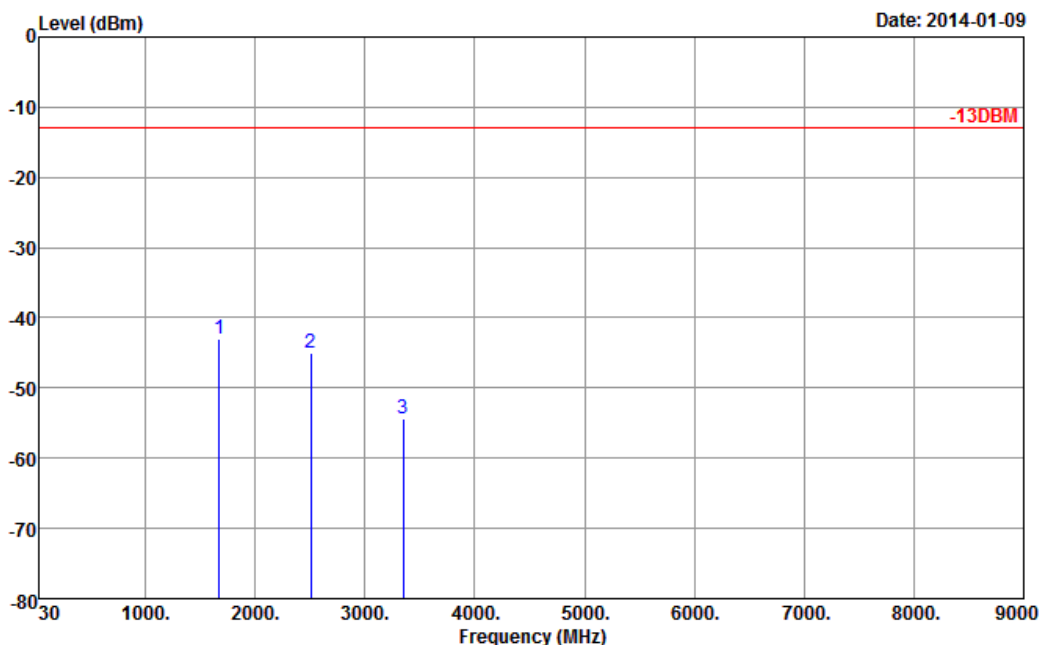
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1648.4	-35.08	-13	-22.08	-49.63	-37.90	0.73	5.70	V	Pass
2472.6	-40.63	-13	-27.63	-63.07	-42.99	0.91	5.42	V	Pass
3296.8	-54.18	-13	-41.18	-66.36	-58.82	1.07	7.86	V	Pass

Band :	GSM850 for CH189	Temperature :	23~25°C
Test Mode :	GSM Link (GMSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



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	-41.45	-13	-28.45	-57.93	-44.42	0.88	6.00	H	Pass
2510	-41.89	-13	-28.89	-65.81	-44.50	1.08	5.84	H	Pass
3346	-56.64	-13	-43.64	-67.24	-61.01	1.14	7.66	H	Pass

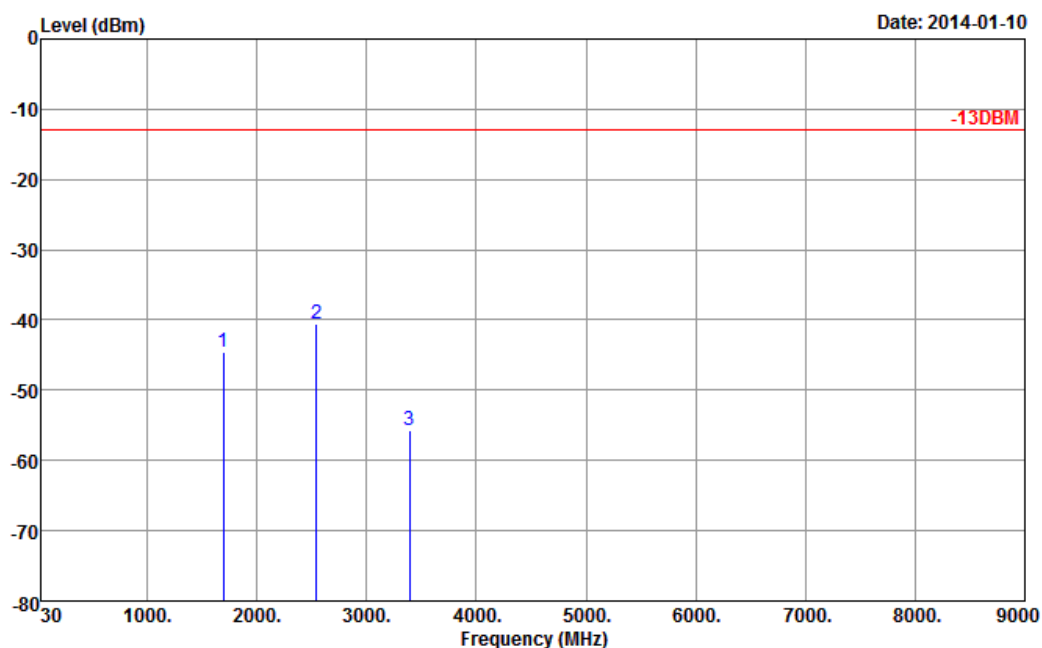
Band :	GSM850 for CH189	Temperature :	23~25°C
Test Mode :	GSM Link (GMSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_V_130101 VERTICAL
 Project : (FG)410307

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	-42.90	-13	-29.90	-56.27	-45.87	0.88	6.00	V	Pass
2510	-44.91	-13	-31.91	-66.30	-47.52	1.08	5.84	V	Pass
3346	-54.40	-13	-41.40	-66.23	-58.77	1.14	7.66	V	Pass

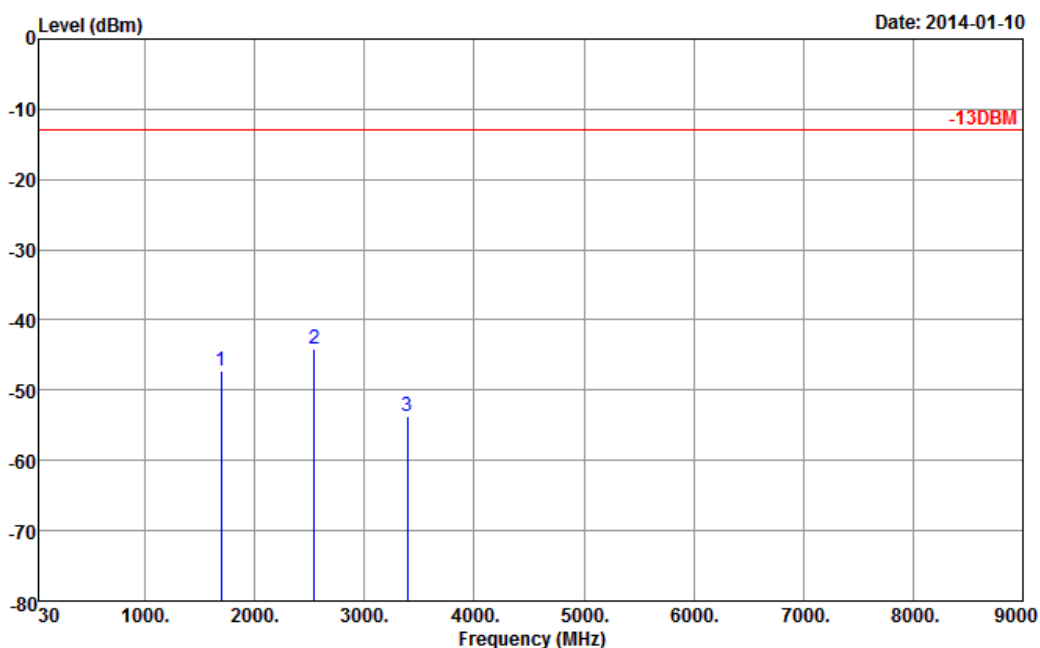
Band :	GSM850 for CH251	Temperature :	23~25°C
Test Mode :	GSM Link (GMSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_H_130101 HORIZONTAL
 Project : (FG)410307

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
1697.6	-44.48	-13	-31.48	-60.82	-47.27	0.95	5.89	H	Pass
2546.4	-40.54	-13	-27.54	-65.15	-43.25	1.12	5.98	H	Pass
3395.2	-55.76	-13	-42.76	-66.96	-60.16	1.25	7.80	H	Pass

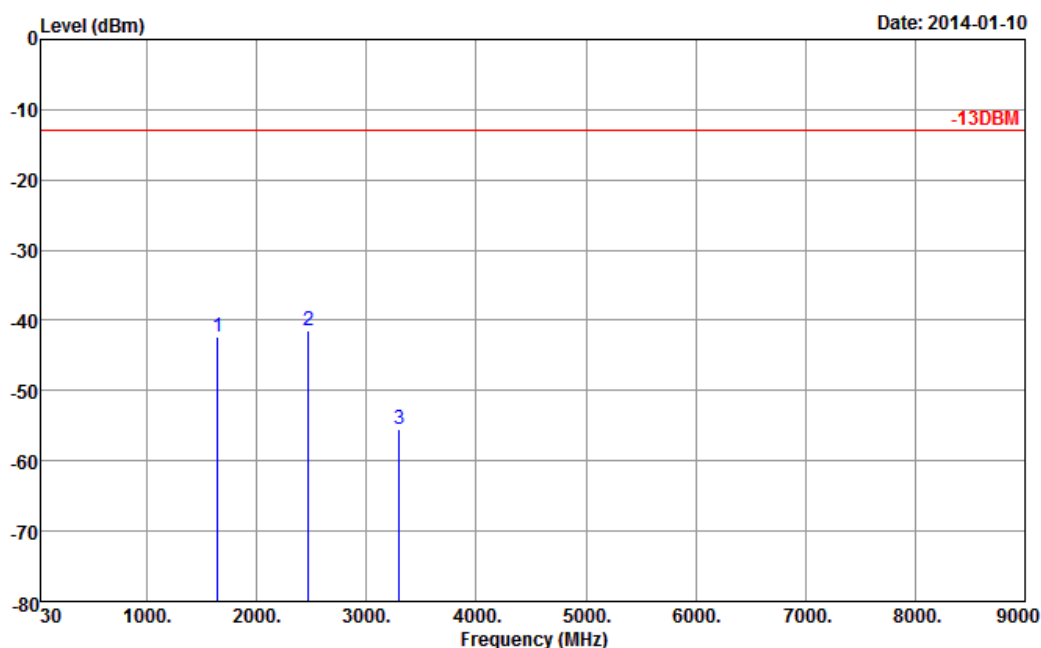
Band :	GSM850 for CH251	Temperature :	23~25°C
Test Mode :	GSM Link (GMSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_V_130101 VERTICAL
 Project : (FG)410307

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
1697.6	-47.30	-13	-34.30	-60.52	-50.09	0.95	5.89	V	Pass
2546.4	-44.22	-13	-31.22	-66.01	-46.93	1.12	5.98	V	Pass
3395.2	-53.74	-13	-40.74	-66.17	-58.14	1.25	7.80	V	Pass

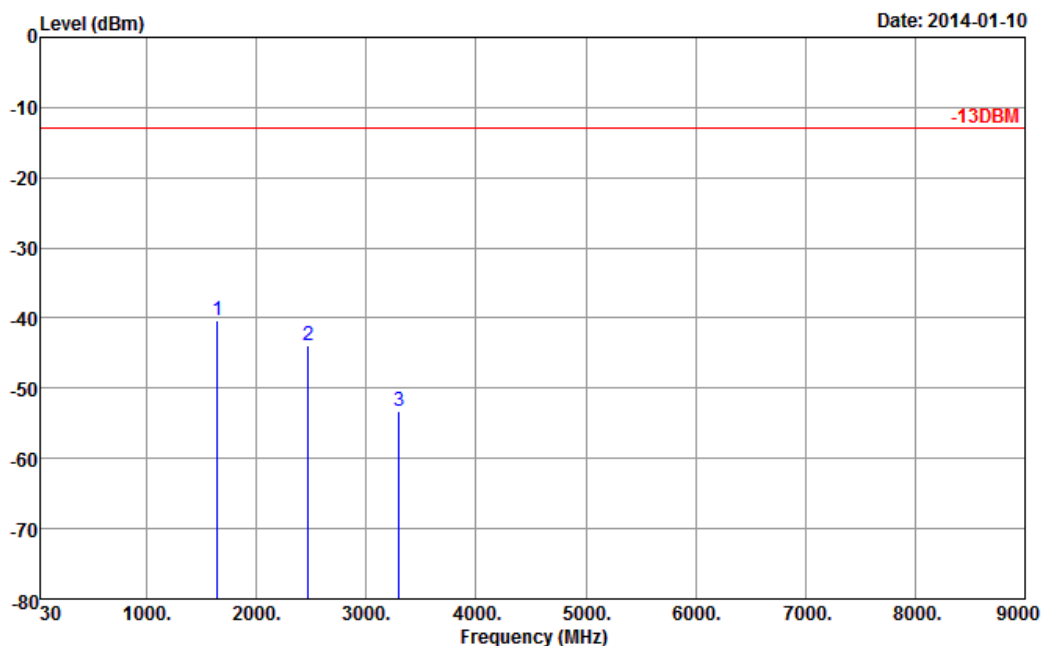
Band :	GSM850 for CH128	Temperature :	23~25°C
Test Mode :	EDGE class 8 Link (8PSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_H_130101 HORIZONTAL
 Project : (FG)410307

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
1648.4	-42.23	-13	-29.23	-59.08	-45.05	0.73	5.70	H	Pass
2472.6	-41.45	-13	-28.45	-65.76	-43.81	0.91	5.42	H	Pass
3296.8	-55.54	-13	-42.54	-66.41	-60.18	1.07	7.86	H	Pass

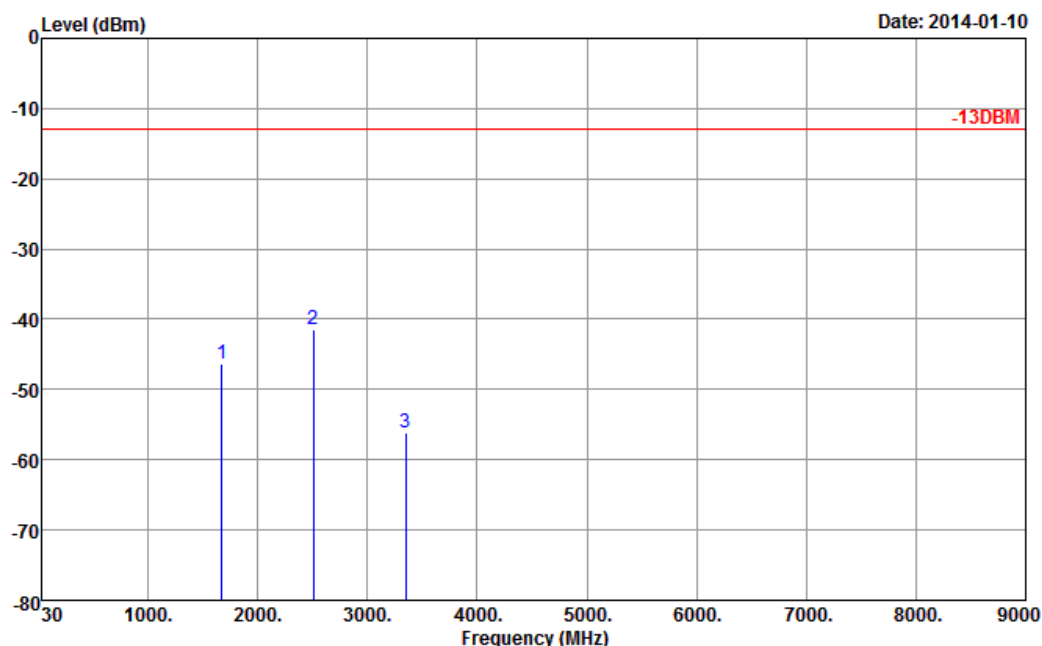
Band :	GSM850 for CH128	Temperature :	23~25°C
Test Mode :	EDGE class 8 Link (8PSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_V_130101 VERTICAL
 Project : (FG)410307

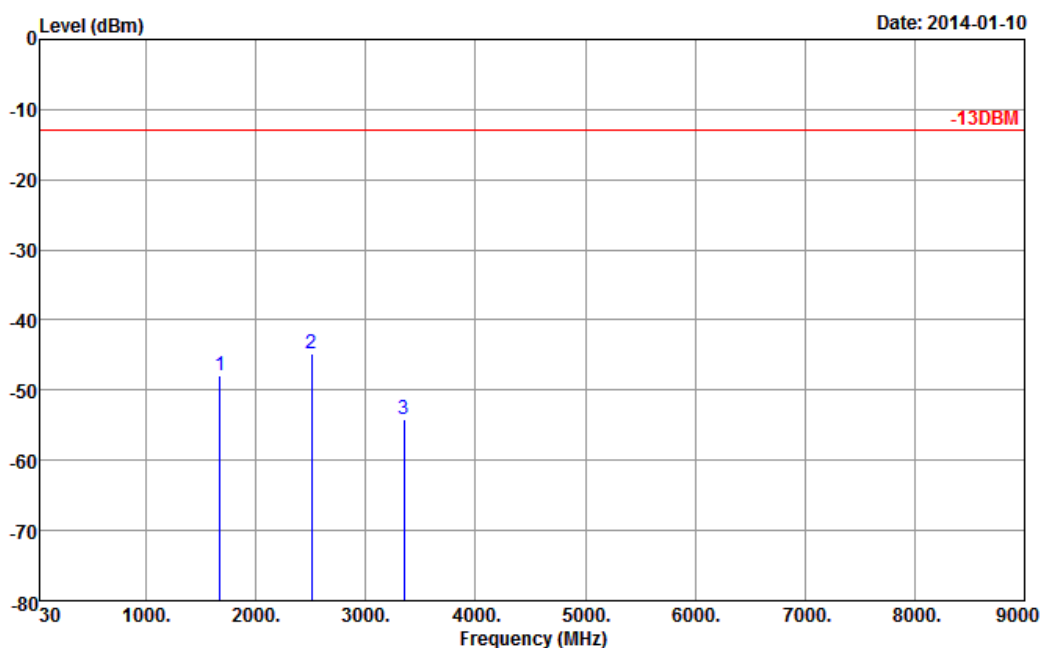
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1648.4	-40.39	-13	-27.39	-54.47	-43.21	0.73	5.70	V	Pass
2472.6	-44.01	-13	-31.01	-65.71	-46.37	0.91	5.42	V	Pass
3296.8	-53.15	-13	-40.15	-65.33	-57.79	1.07	7.86	V	Pass

Band :	GSM850 for CH189	Temperature :	23~25°C
Test Mode :	EDGE class 8 Link (8PSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



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	-46.41	-13	-33.41	-62.10	-49.38	0.88	6.00	H	Pass
2510	-41.38	-13	-28.38	-65.41	-43.99	1.08	5.84	H	Pass
3346	-56.07	-13	-43.07	-66.67	-60.44	1.14	7.66	H	Pass

Band :	GSM850 for CH189	Temperature :	23~25°C
Test Mode :	EDGE class 8 Link (8PSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

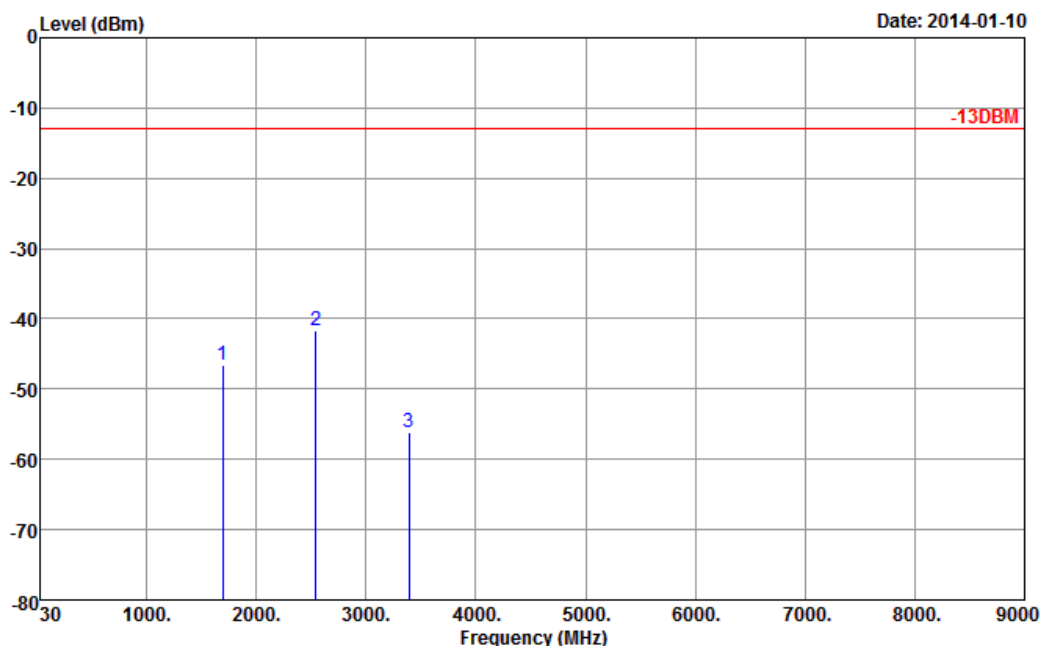


Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_V_130101 VERTICAL
 Project : (FG)410307

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	-47.92	-13	-34.92	-60.75	-50.89	0.88	6.00	V	Pass
2510	-44.76	-13	-31.76	-66.15	-47.37	1.08	5.84	V	Pass
3346	-54.24	-13	-41.24	-66.07	-58.61	1.14	7.66	V	Pass

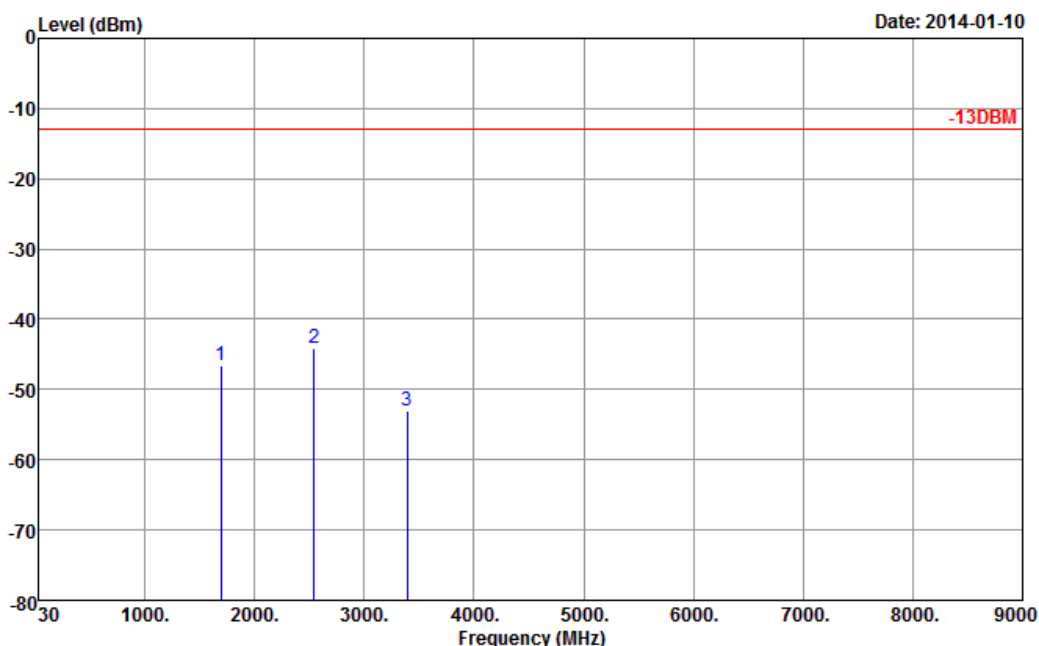


Band :	GSM850 for CH251	Temperature :	23~25°C
Test Mode :	EDGE class 8 Link (8PSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



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
1697.6	-46.54	-13	-33.54	-62.58	-49.33	0.95	5.89	H	Pass
2546.4	-41.76	-13	-28.76	-66.10	-44.47	1.12	5.98	H	Pass
3395.2	-56.05	-13	-43.05	-67.25	-60.45	1.25	7.80	H	Pass

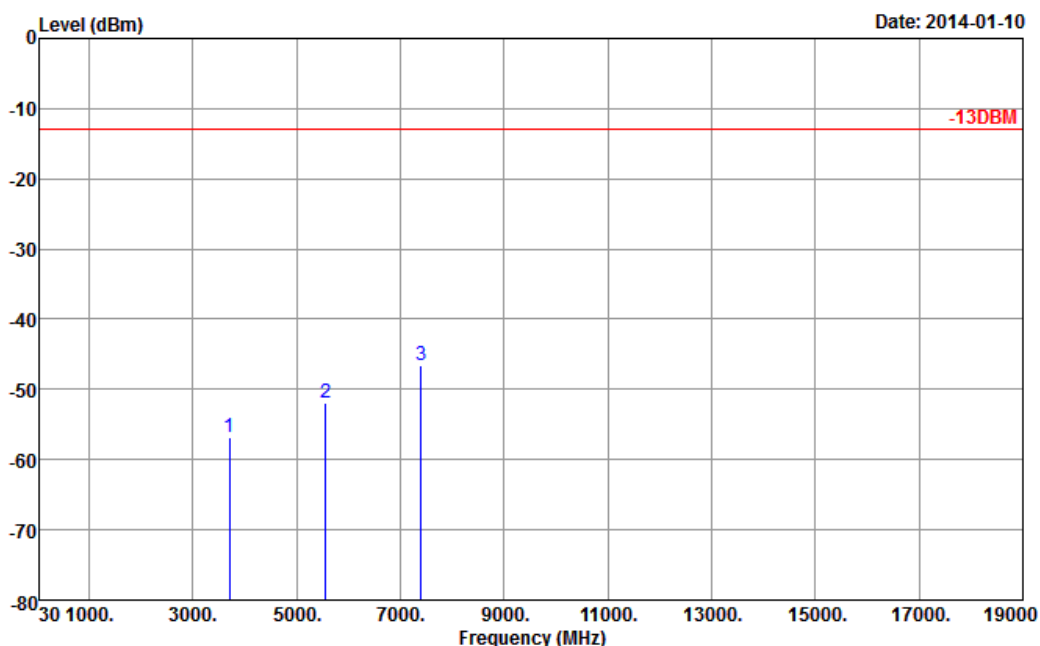
Band :	GSM850 for CH251	Temperature :	23~25°C
Test Mode :	EDGE class 8 Link (8PSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_V_130101 VERTICAL
 Project : (FG)410307

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
1697.6	-46.48	-13	-33.48	-59.96	-49.27	0.95	5.89	V	Pass
2546.4	-44.09	-13	-31.09	-65.88	-46.80	1.12	5.98	V	Pass
3395.2	-53.13	-13	-40.13	-65.56	-57.53	1.25	7.80	V	Pass

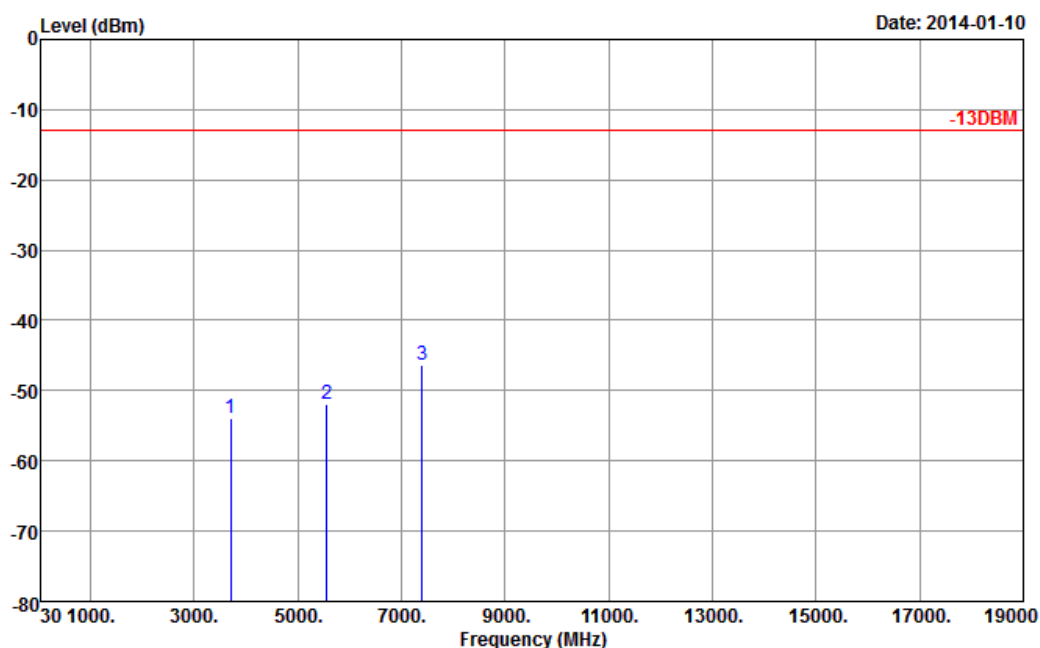
Band :	GSM1900 for CH512	Temperature :	23~25°C
Test Mode :	GSM Link (GMSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_H_130101 HORIZONTAL
 Project : (FG)410307

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
3700.4	-56.93	-13	-43.93	-68.48	-63.68	1.2	7.95	H	Pass
5550.6	-51.85	-13	-38.85	-69.24	-59.95	1.5	9.60	H	Pass
7400.8	-46.68	-13	-33.68	-68.26	-56.87	1.7	11.89	H	Pass

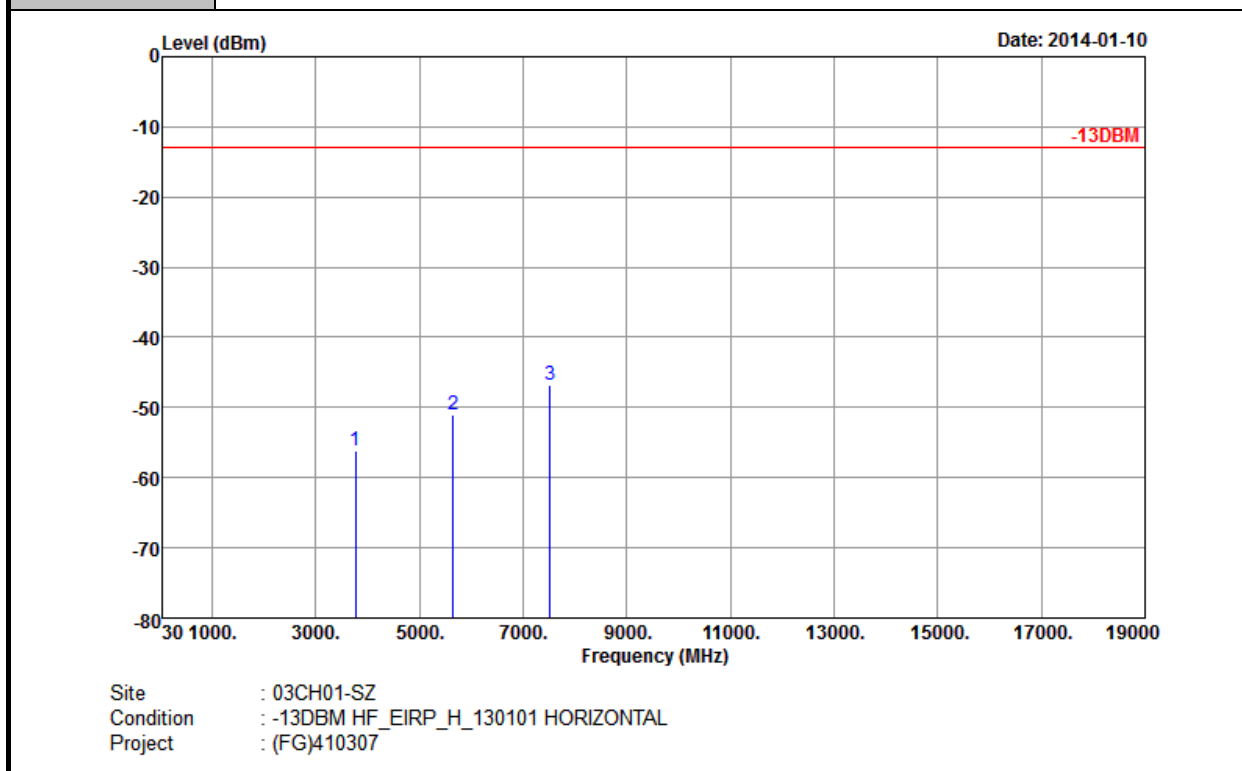
Band :	GSM1900 for CH512	Temperature :	23~25°C
Test Mode :	GSM Link (GMSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_V_130101 VERTICAL
 Project : (FG)410307

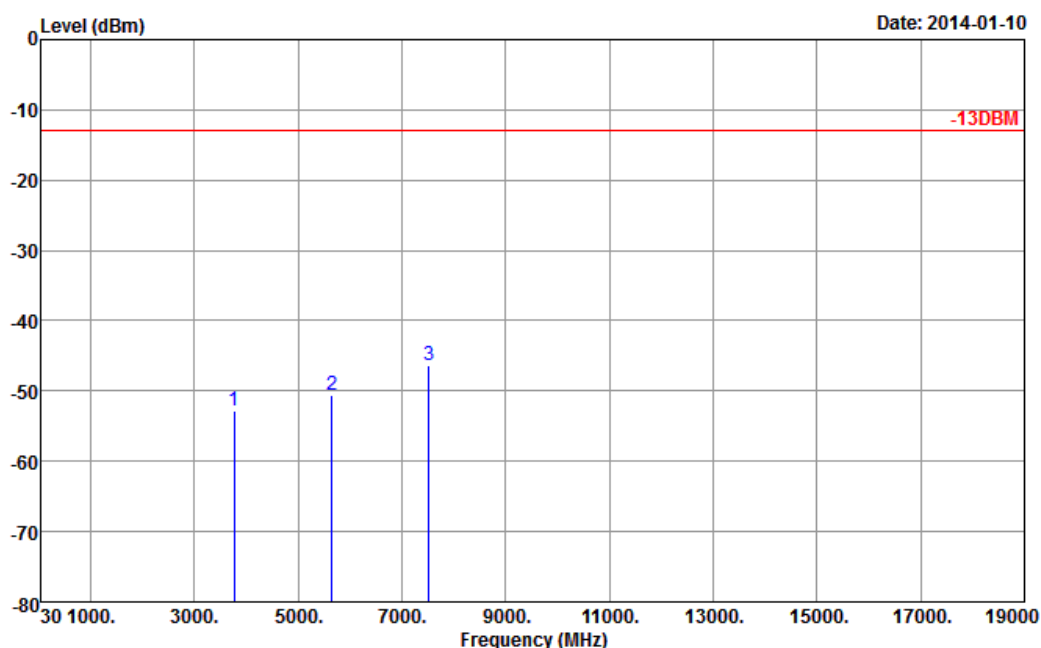
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3700.4	-53.85	-13	-40.85	-68.28	-60.60	1.2	7.95	V	Pass
5550.6	-51.89	-13	-38.89	-68.37	-59.99	1.5	9.60	V	Pass
7400.8	-46.43	-13	-33.43	-68.32	-56.62	1.7	11.89	V	Pass

Band :	GSM1900 for CH661	Temperature :	23~25°C
Test Mode :	GSM Link (GMSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



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	-56.09	-13	-43.09	-68.24	-62.83	1.28	8.02	H	Pass
5640	-50.93	-13	-37.93	-68.92	-59.35	1.58	10.00	H	Pass
7520	-46.71	-13	-33.71	-68.65	-57.03	1.78	12.10	H	Pass

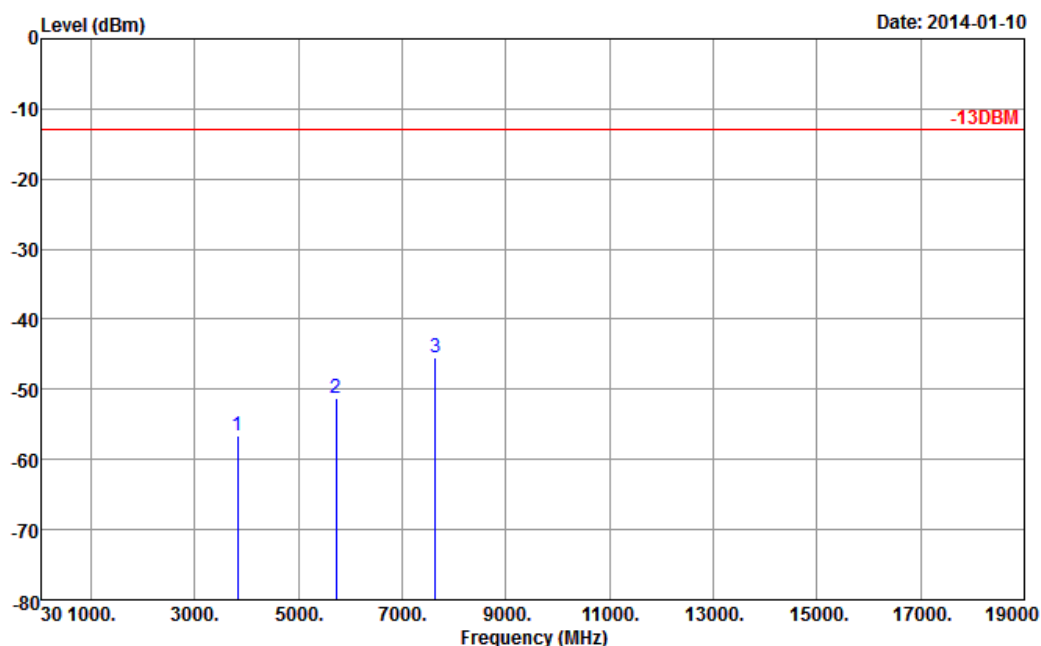
Band :	GSM1900 for CH661	Temperature :	23~25°C
Test Mode :	GSM Link (GMSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_V_130101 VERTICAL
 Project : (FG)410307

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	-52.78	-13	-39.78	-67.81	-59.52	1.28	8.02	V	Pass
5640	-50.63	-13	-37.63	-67.71	-59.05	1.58	10.00	V	Pass
7520	-46.33	-13	-33.33	-68.58	-56.65	1.78	12.10	V	Pass

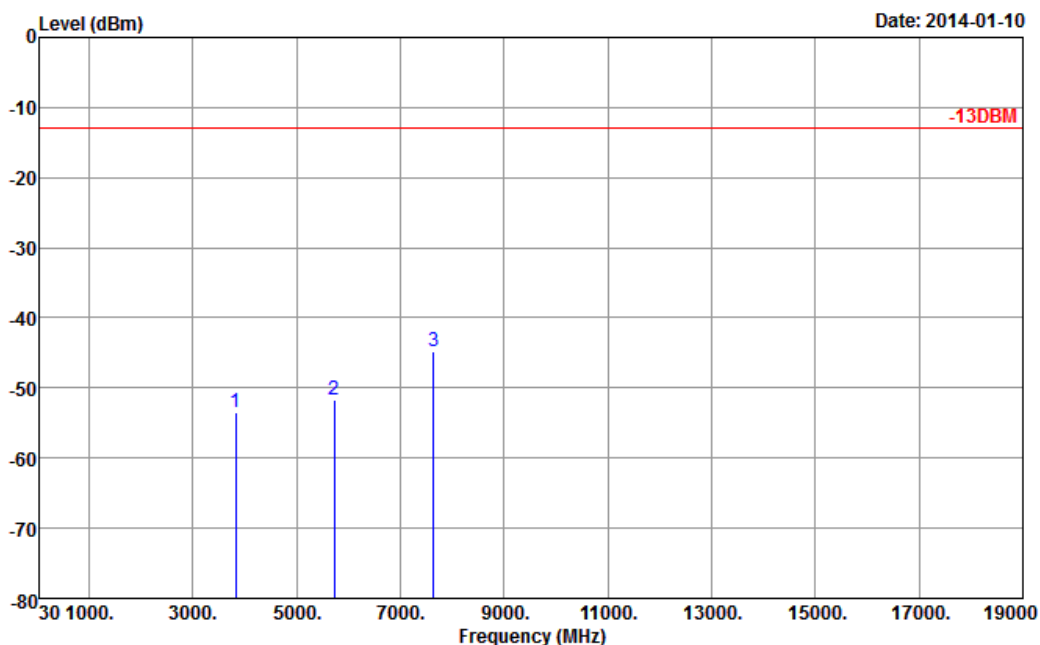
Band :	GSM1900 for CH810	Temperature :	23~25°C
Test Mode :	GSM Link (GMSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_H_130101 HORIZONTAL
 Project : (FG)410307

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
3819.6	-56.70	-13	-43.70	-68.27	-63.47	1.23	8.00	H	Pass
5729.4	-51.18	-13	-38.18	-68.98	-59.31	1.52	9.65	H	Pass
7639.2	-45.38	-13	-32.38	-67.62	-55.56	1.82	12.00	H	Pass

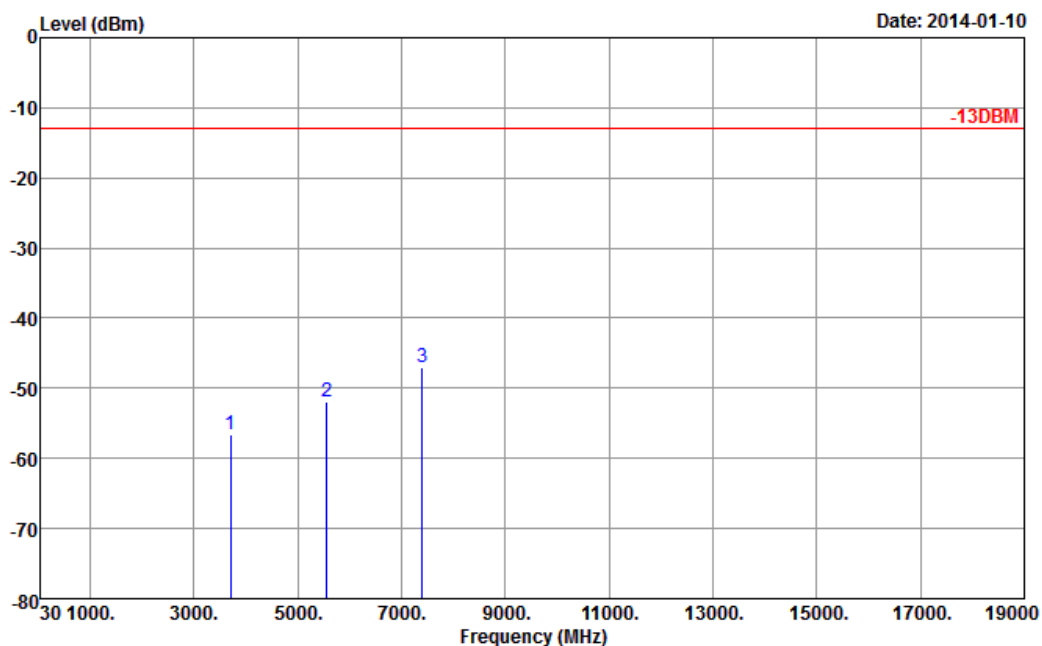
Band :	GSM1900 for CH810	Temperature :	23~25°C
Test Mode :	GSM Link (GMSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_V_130101 VERTICAL
 Project : (FG)410307

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
3819.6	-53.42	-13	-40.42	-67.87	-60.19	1.23	8.00	V	Pass
5729.4	-51.70	-13	-38.70	-68.59	-59.83	1.52	9.65	V	Pass
7639.2	-44.85	-13	-31.85	-67.4	-55.03	1.82	12.00	V	Pass

Band :	GSM1900 for CH512	Temperature :	23~25°C
Test Mode :	EDGE class 8 Link (8PSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

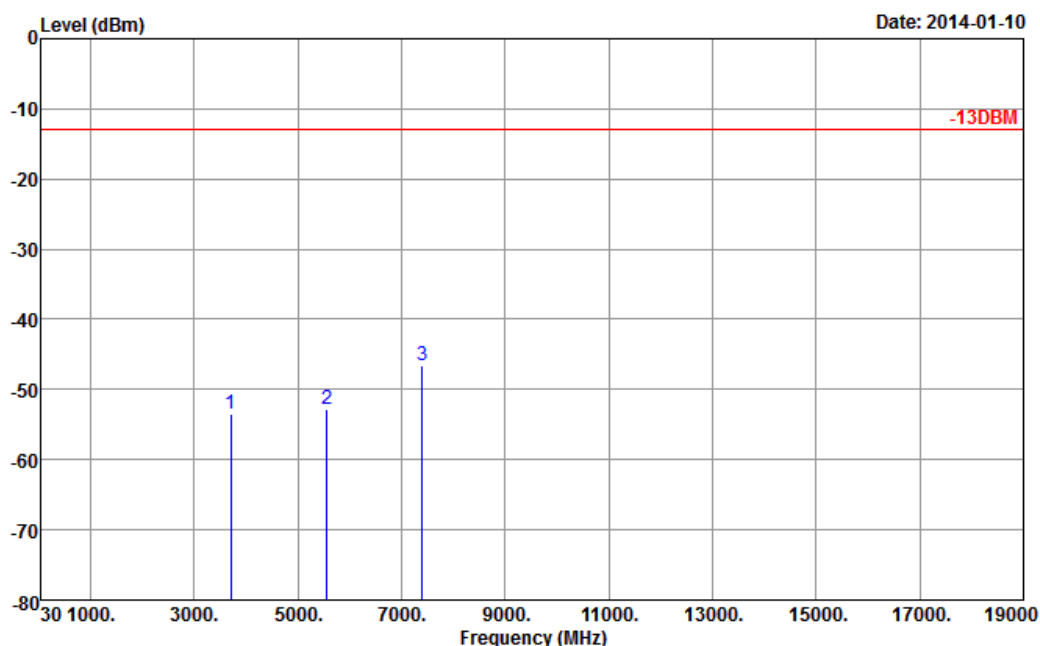


Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_H_130101 HORIZONTAL
 Project : (FG)410307

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
3700.4	-56.65	-13	-43.65	-68.20	-63.40	1.2	7.95	H	Pass
5550.6	-51.93	-13	-38.93	-69.32	-60.03	1.5	9.60	H	Pass
7400.8	-46.94	-13	-33.94	-68.52	-57.13	1.7	11.89	H	Pass



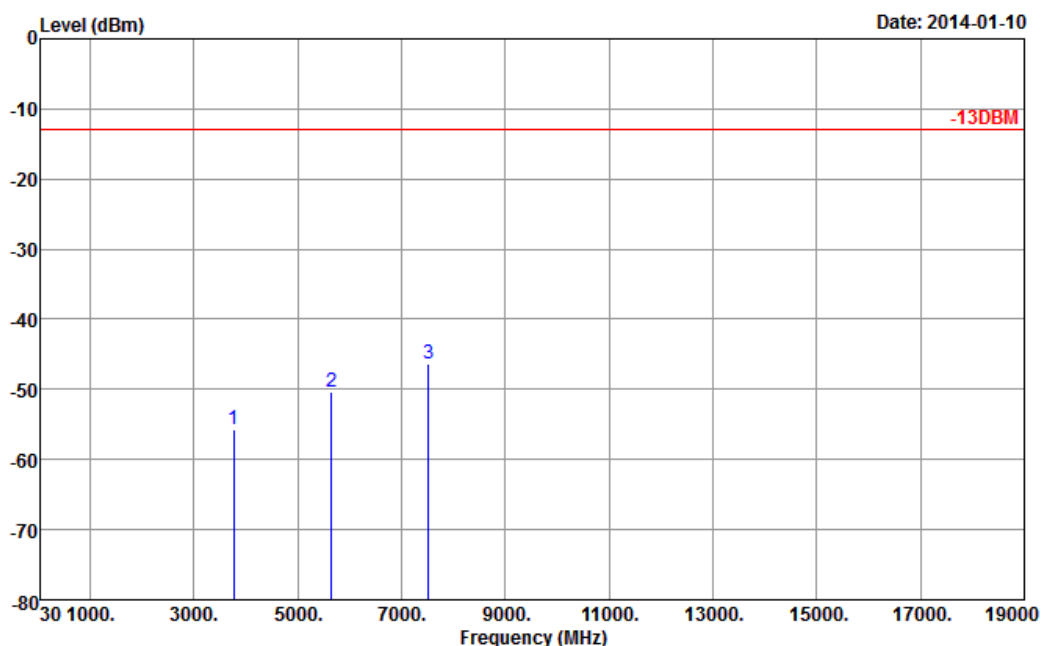
Band :	GSM1900 for CH512	Temperature :	23~25°C
Test Mode :	EDGE class 8 Link (8PSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
Condition : -13DBM HF_EIRP_V_130101 VERTICAL
Project : (FG)410307

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
3700.4	-53.59	-13	-40.59	-68.02	-60.34	1.2	7.95	V	Pass
5550.6	-52.71	-13	-39.71	-69.19	-60.81	1.5	9.60	V	Pass
7400.8	-46.60	-13	-33.60	-68.49	-56.79	1.7	11.89	V	Pass

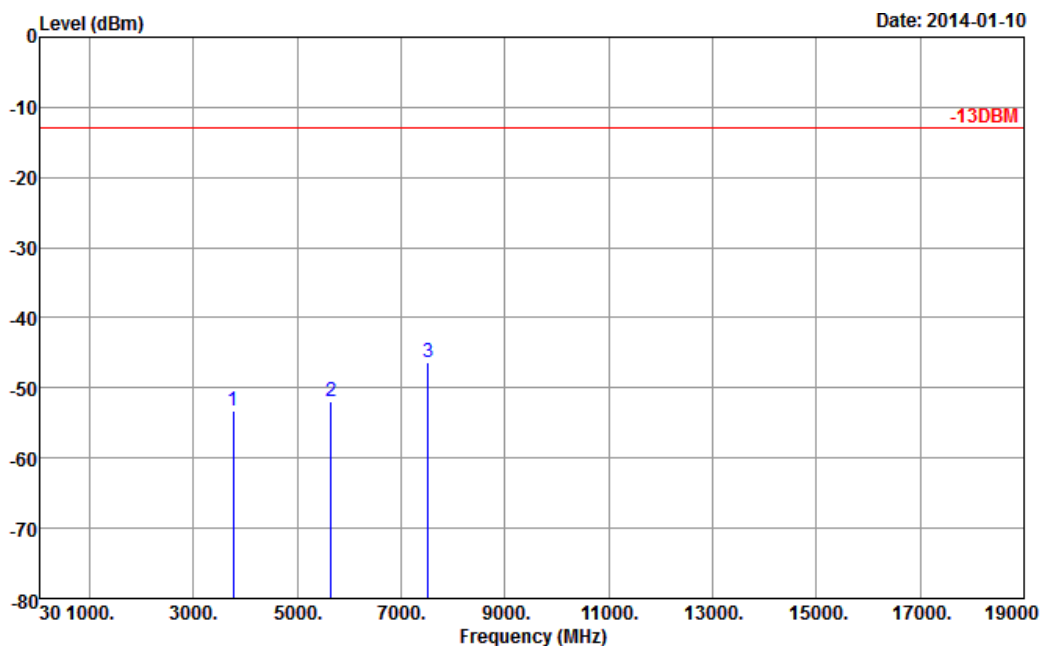
Band :	GSM1900 for CH661	Temperature :	23~25°C
Test Mode :	EDGE class 8 Link (8PSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
Condition : -13DBM HF_EIRP_H_130101 HORIZONTAL
Project : (FG)410307

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	-55.79	-13	-42.79	-67.94	-62.53	1.28	8.02	H	Pass
5640	-50.31	-13	-37.31	-68.30	-58.73	1.58	10.00	H	Pass
7520	-46.38	-13	-33.38	-68.32	-56.70	1.78	12.10	H	Pass

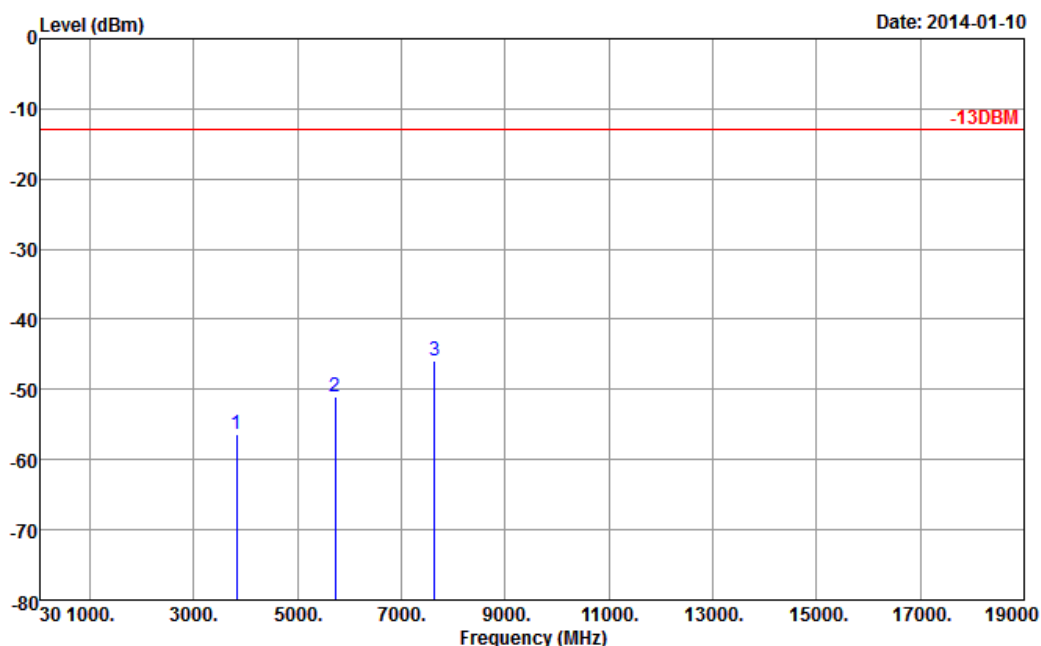
Band :	GSM1900 for CH661	Temperature :	23~25°C
Test Mode :	EDGE class 8 Link (8PSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_V_130101 VERTICAL
 Project : (FG)410307

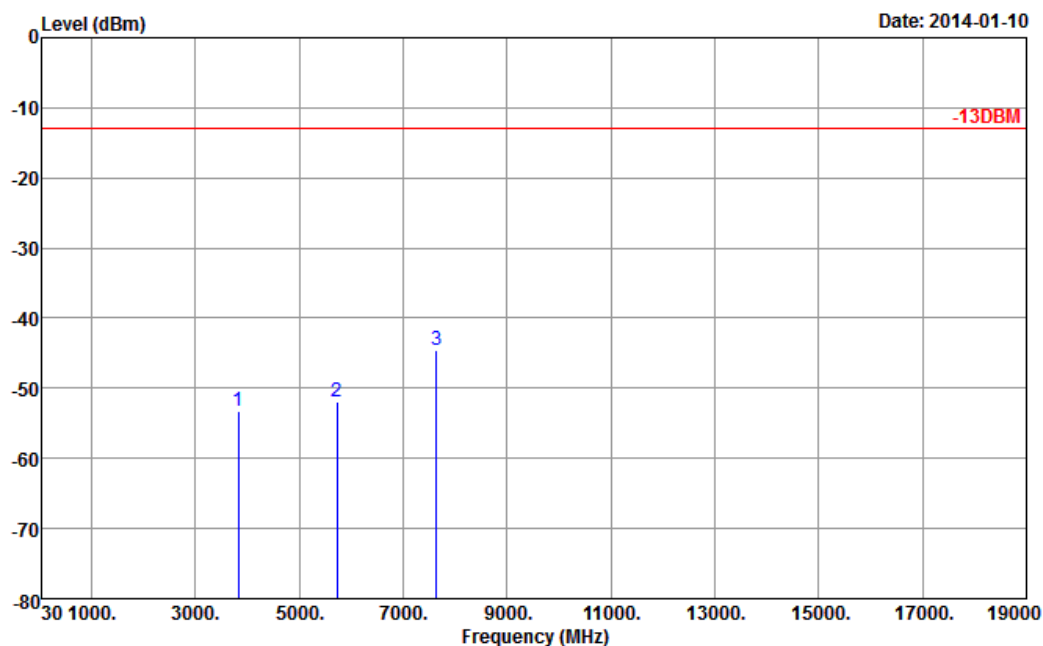
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3760	-53.26	-13	-40.26	-68.29	-60.00	1.28	8.02	V	Pass
5640	-51.88	-13	-38.88	-68.96	-60.30	1.58	10.00	V	Pass
7520	-46.28	-13	-33.28	-68.53	-56.60	1.78	12.10	V	Pass

Band :	GSM1900 for CH810	Temperature :	23~25°C
Test Mode :	EDGE class 8 Link (8PSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



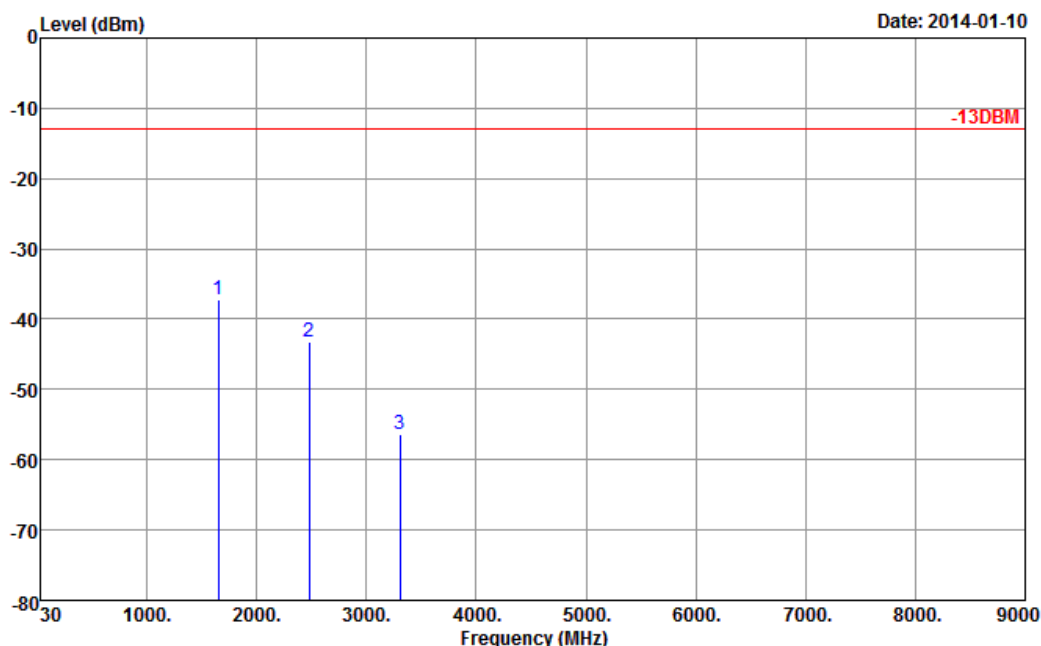
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3819.6	-56.32	-13	-43.32	-67.89	-63.09	1.23	8.00	H	Pass
5729.4	-51.06	-13	-38.06	-68.86	-59.19	1.52	9.65	H	Pass
7639.2	-45.80	-13	-32.80	-68.04	-55.98	1.82	12.00	H	Pass

Band :	GSM1900 for CH810	Temperature :	23~25°C
Test Mode :	EDGE class 8 Link (8PSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



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
3819.6	-53.15	-13	-40.15	-67.6	-59.92	1.23	8.00	V	Pass
5729.4	-51.95	-13	-38.95	-68.84	-60.08	1.52	9.65	V	Pass
7639.2	-44.61	-13	-31.61	-67.16	-54.79	1.82	12.00	V	Pass

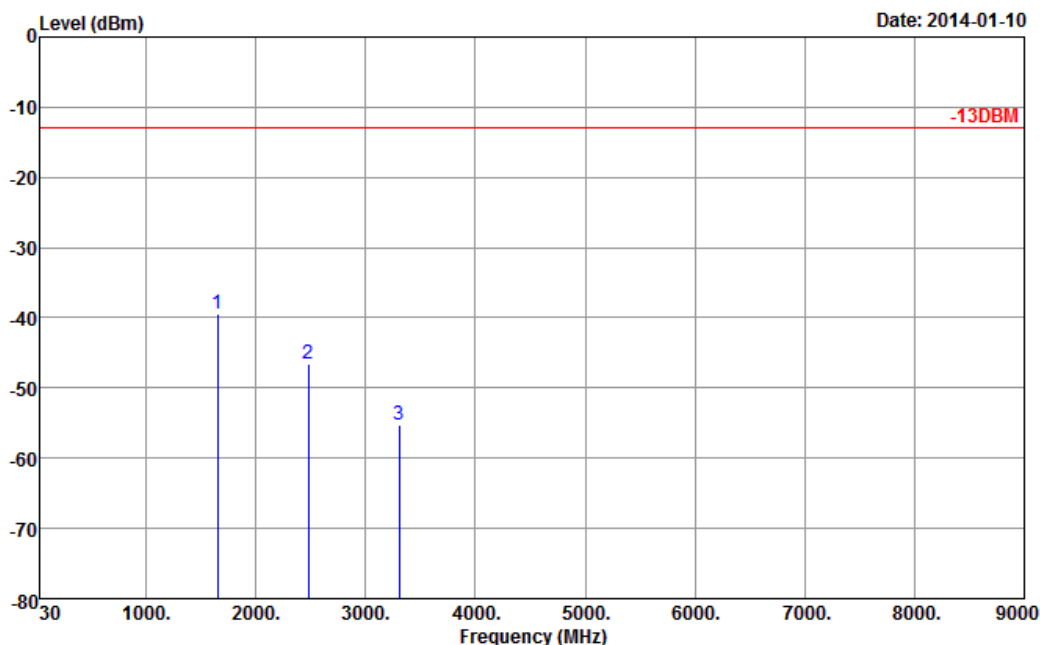
Band :	WCDMA Band V for CH4132	Temperature :	23~25°C
Test Mode :	RMC 12.2Kbps Link (QPSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_H_130101 HORIZONTAL
 Project : (FG)410307

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
1652.8	-37.31	-13	-24.31	-54.93	-40.30	0.81	5.95	H	Pass
2479.2	-43.15	-13	-30.15	-66.29	-45.60	1.2	5.80	H	Pass
3305.6	-56.29	-13	-43.29	-66.89	-60.59	1.25	7.70	H	Pass

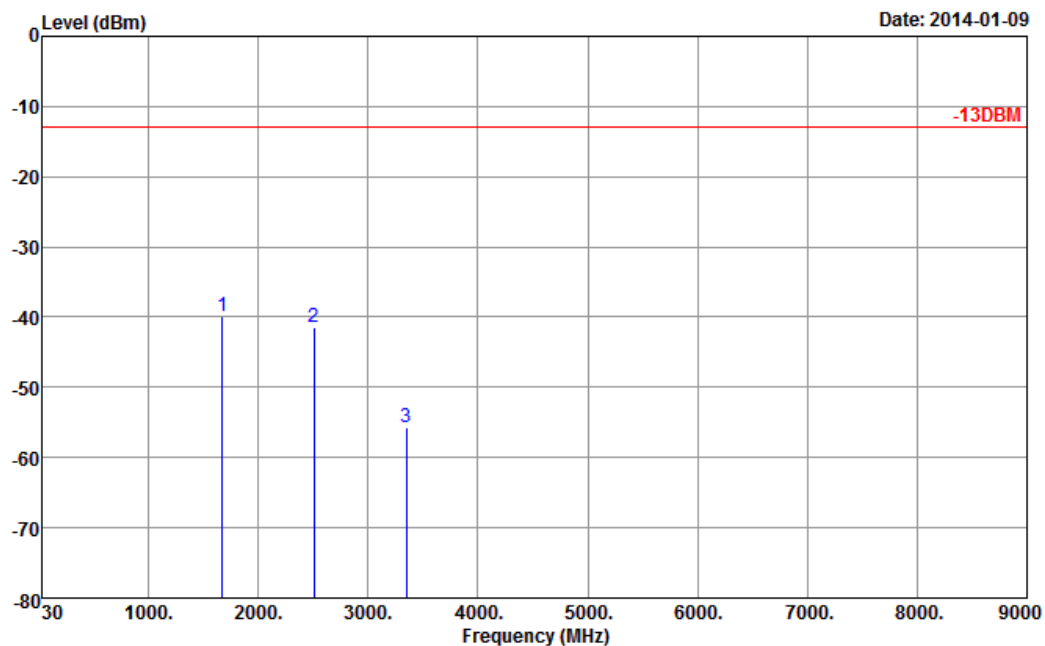
Band :	WCDMA Band V for CH4132	Temperature :	23~25°C
Test Mode :	RMC 12.2Kbps Link (QPSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_V_130101 VERTICAL
 Project : (FG)410307

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
1652.8	-39.39	-13	-26.39	-53.74	-42.38	0.81	5.95	V	Pass
2479.2	-46.57	-13	-33.57	-67.04	-49.02	1.20	5.80	V	Pass
3305.6	-55.29	-13	-42.29	-67.12	-59.59	1.25	7.70	V	Pass

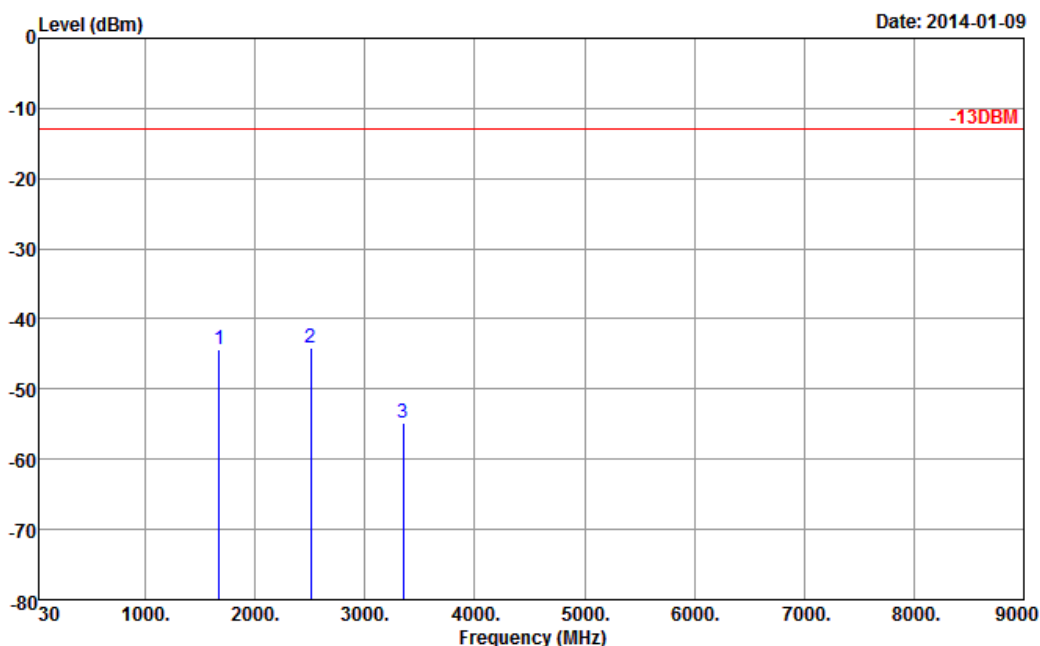
Band :	WCDMA Band V for CH4182	Temperature :	23~25°C
Test Mode :	RMC 12.2Kbps Link (QPSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_H_130101 HORIZONTAL
 Project : (FG)410307

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	-39.83	-13	-26.83	-56.50	-42.80	0.88	6.00	H	Pass
2510	-41.44	-13	-28.44	-65.46	-44.05	1.08	5.84	H	Pass
3346	-55.79	-13	-42.79	-66.39	-60.16	1.14	7.66	H	Pass

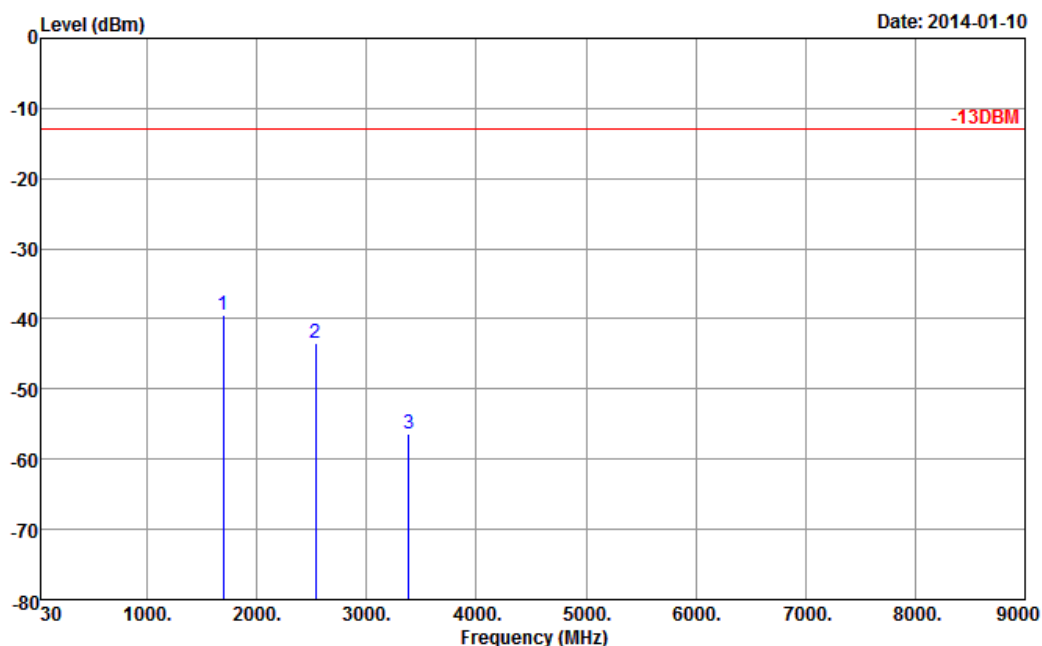
Band :	WCDMA Band V for CH4182	Temperature :	23~25°C
Test Mode :	RMC 12.2Kbps Link (QPSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_V_130101 VERTICAL
 Project : (FG)410307

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	-44.37	-13	-31.37	-57.78	-47.34	0.88	6.00	V	Pass
2510	-44.13	-13	-31.13	-65.53	-46.74	1.08	5.84	V	Pass
3346	-54.72	-13	-41.72	-66.55	-59.09	1.14	7.66	V	Pass

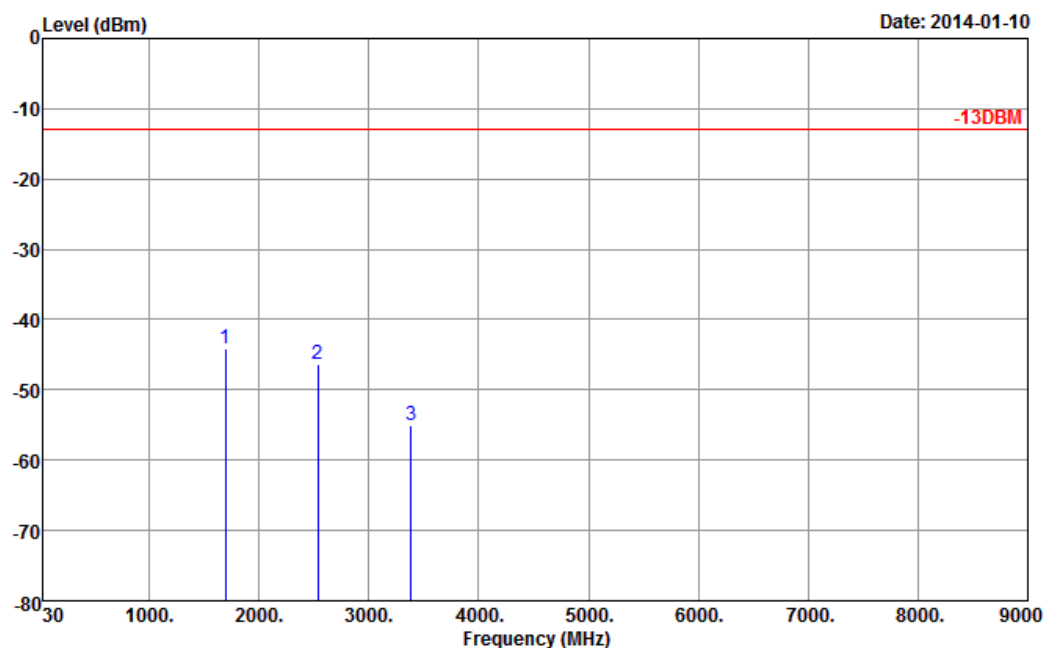
Band :	WCDMA Band V for CH4233	Temperature :	23~25°C
Test Mode :	RMC 12.2Kbps Link (QPSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_H_130101 HORIZONTAL
 Project : (FG)410307

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
1693.2	-39.40	-13	-26.40	-56.69	-42.73	0.82	6.30	H	Pass
2539.8	-43.53	-13	-30.53	-67.05	-46.14	1.08	5.84	H	Pass
3386.4	-56.42	-13	-43.42	-67.31	-60.54	1.23	7.50	H	Pass

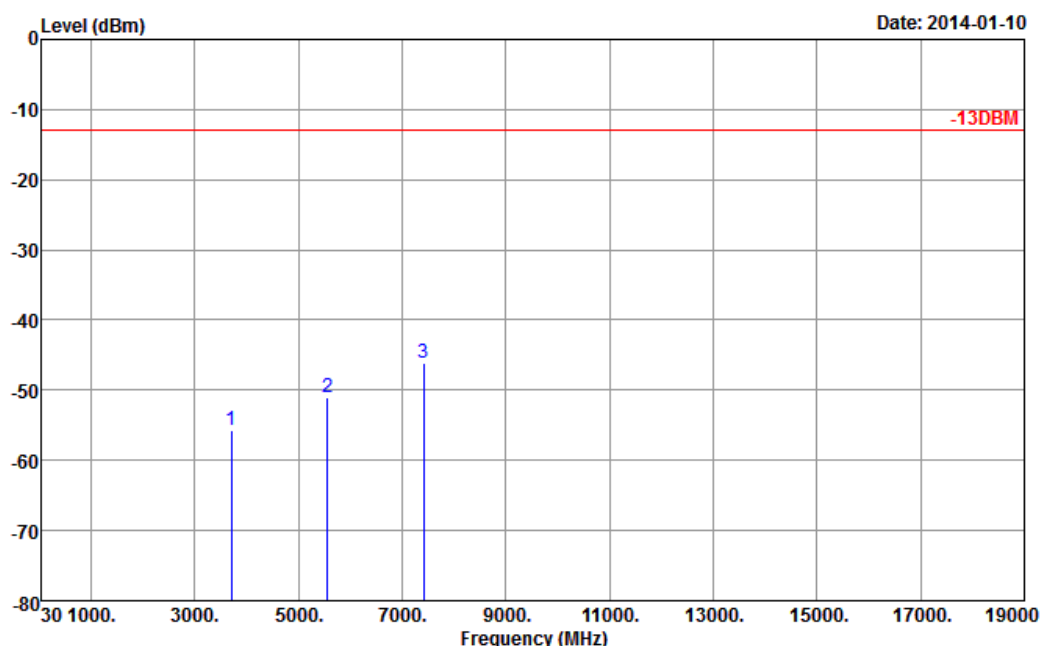
Band :	WCDMA Band V for CH4233	Temperature :	23~25°C
Test Mode :	RMC 12.2Kbps Link (QPSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_V_130101 VERTICAL
 Project : (FG)410307

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
1693.2	-44.19	-13	-31.19	-58.19	-47.52	0.82	6.30	V	Pass
2539.8	-46.28	-13	-33.28	-67.23	-48.89	1.08	5.84	V	Pass
3386.4	-55.14	-13	-42.14	-67.26	-59.26	1.23	7.50	V	Pass

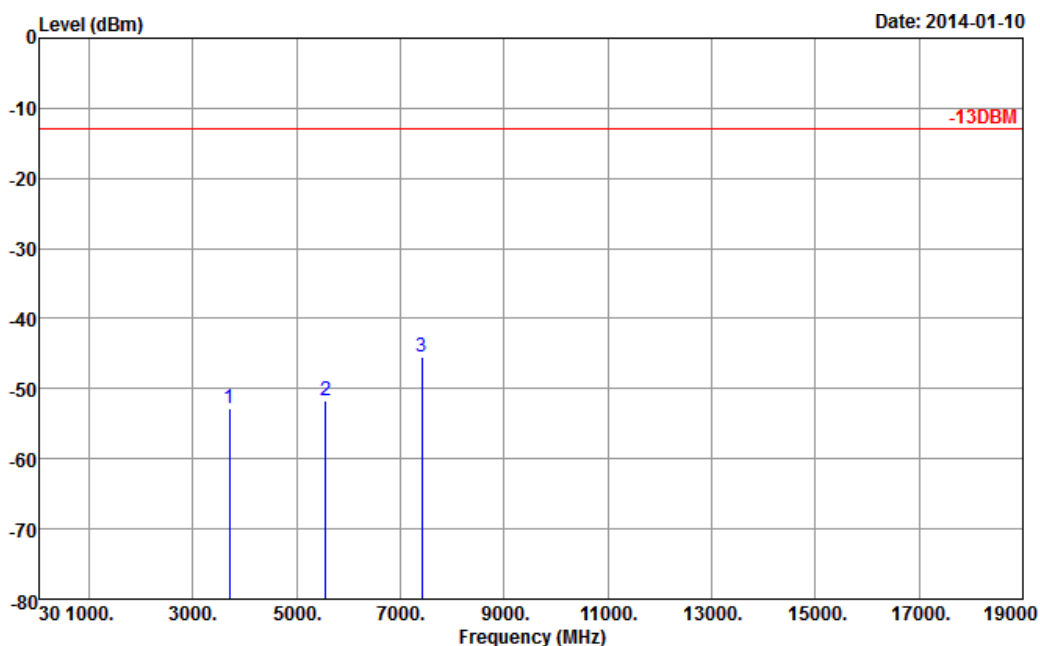
Band :	WCDMA Band II for CH9262	Temperature :	23~25°C
Test Mode :	RMC 12.2Kbps Link (QPSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_H_130101 HORIZONTAL
 Project : (FG)410307

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
3704.8	-55.80	-13	-42.80	-67.66	-62.65	1.35	8.20	H	Pass
5557.2	-51.12	-13	-38.12	-68.85	-59.73	1.65	10.26	H	Pass
7409.6	-46.04	-13	-33.04	-68.48	-56.38	1.82	12.16	H	Pass

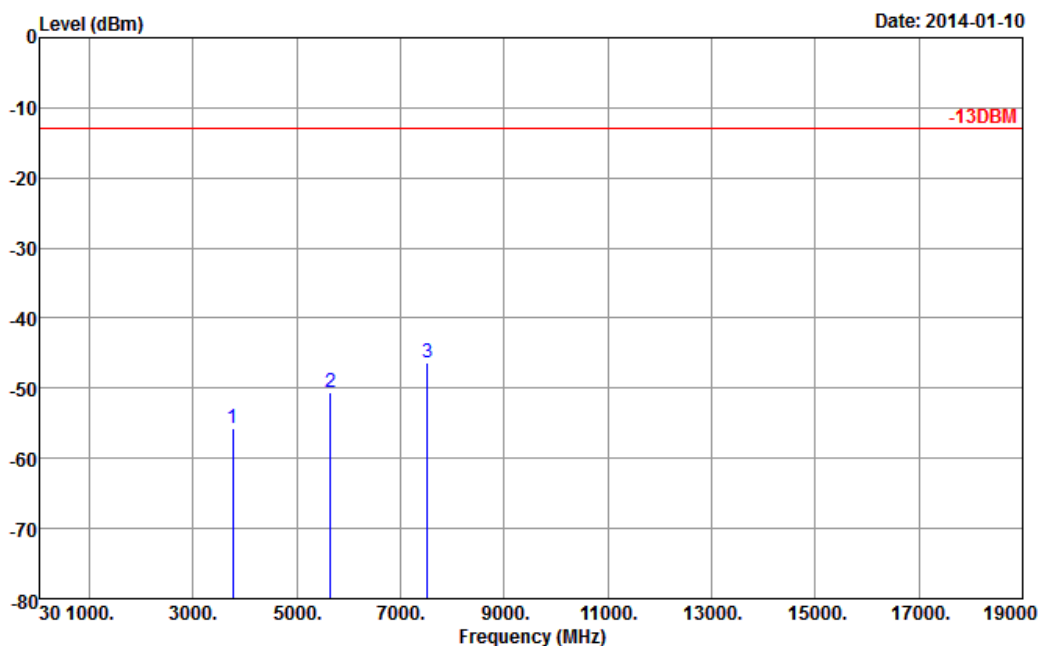
Band :	WCDMA Band II for CH9262	Temperature :	23~25°C
Test Mode :	RMC 12.2Kbps Link (QPSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_V_130101 VERTICAL
 Project : (FG)410307

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
3704.8	-52.81	-13	-39.81	-67.55	-59.66	1.35	8.20	V	Pass
5557.2	-51.79	-13	-38.79	-68.61	-60.40	1.65	10.26	V	Pass
7409.6	-45.38	-13	-32.38	-68.13	-55.72	1.82	12.16	V	Pass

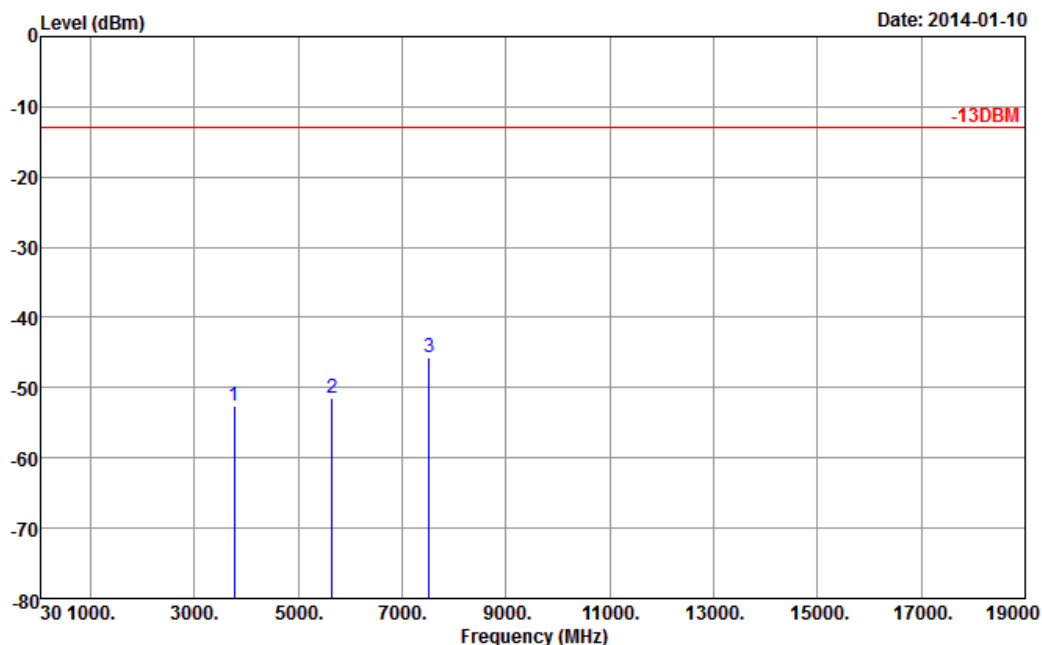
Band :	WCDMA Band II for CH9400	Temperature :	23~25°C
Test Mode :	RMC 12.2Kbps Link (QPSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
Condition : -13DBM HF_EIRP_H_130101 HORIZONTAL
Project : (FG)410307

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	-55.63	-13	-42.63	-67.78	-62.37	1.28	8.02	H	Pass
5640	-50.55	-13	-37.55	-68.54	-58.97	1.58	10.00	H	Pass
7520	-46.28	-13	-33.28	-68.22	-56.60	1.78	12.10	H	Pass

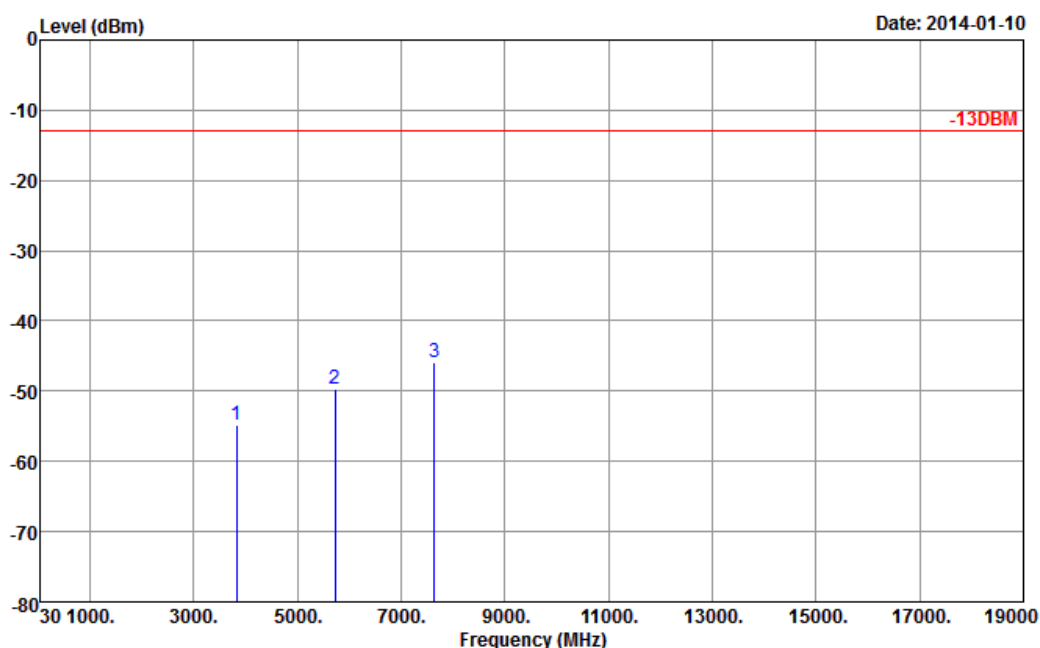
Band :	WCDMA Band II for CH9400	Temperature :	23~25°C
Test Mode :	RMC 12.2Kbps Link (QPSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
Condition : -13DBM HF_EIRP_V_130101 VERTICAL
Project : (FG)410307

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	-52.62	-13	-39.62	-67.65	-59.36	1.28	8.02	V	Pass
5640	-51.53	-13	-38.53	-68.61	-59.95	1.58	10.00	V	Pass
7520	-45.79	-13	-32.79	-68.04	-56.11	1.78	12.10	V	Pass

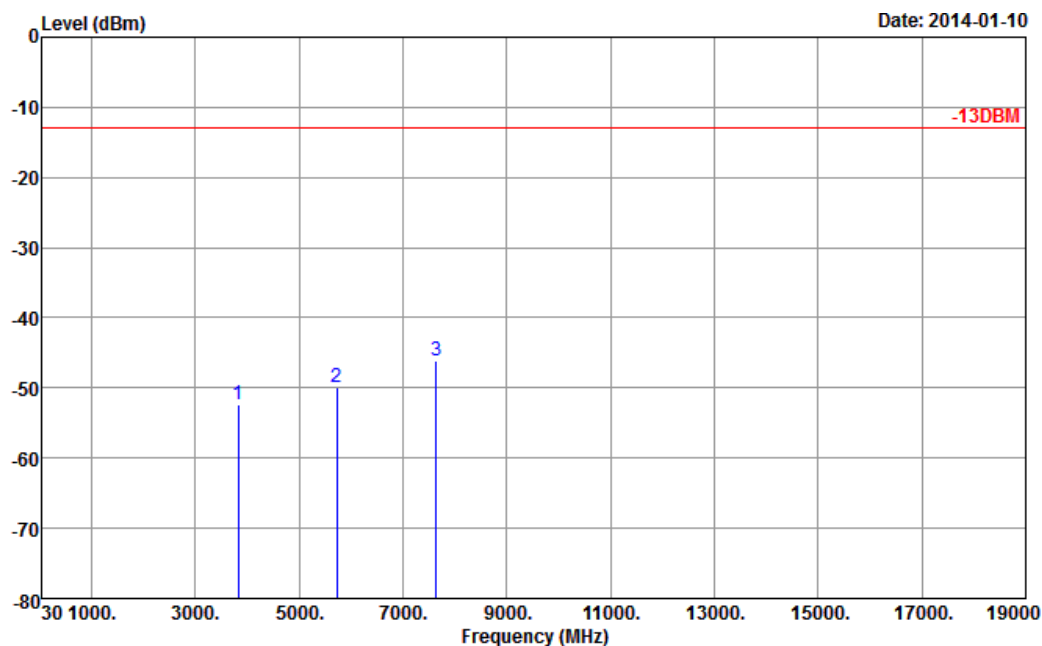
Band :	WCDMA Band II for CH9538	Temperature :	23~25°C
Test Mode :	RMC 12.2Kbps Link (QPSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_H_130101 HORIZONTAL
 Project : (FG)410307

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
3815.2	-54.88	-13	-41.88	-67.03	-61.62	1.28	8.02	H	Pass
5722.8	-49.63	-13	-36.63	-67.62	-58.05	1.58	10.00	H	Pass
7630.4	-45.84	-13	-32.84	-67.78	-56.16	1.78	12.10	H	Pass

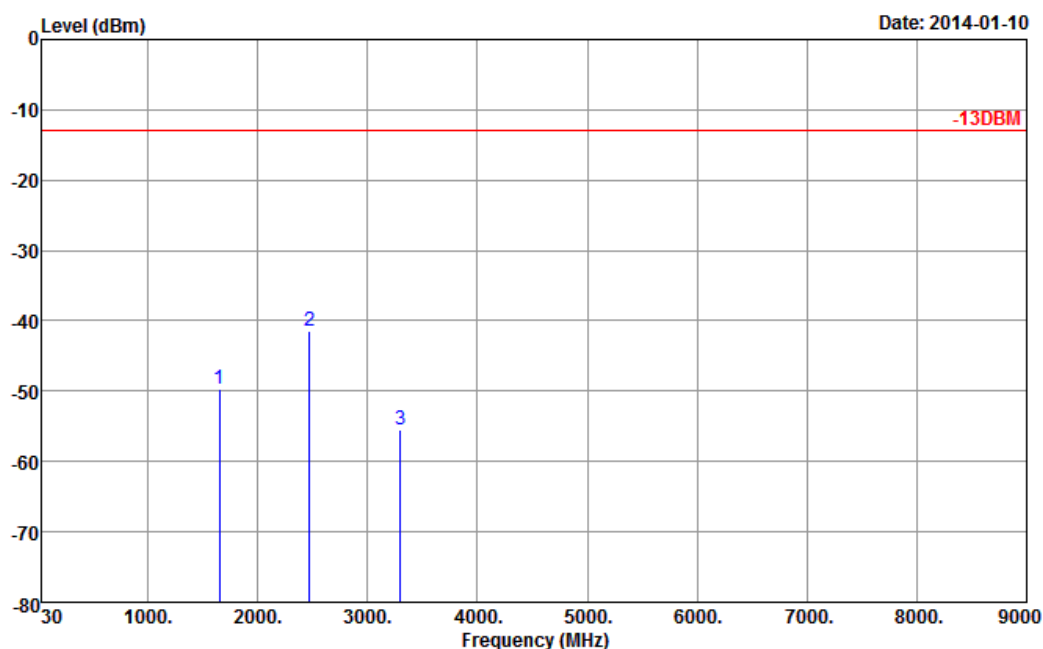
Band :	WCDMA Band II for CH9538	Temperature :	23~25°C
Test Mode :	RMC 12.2Kbps Link (QPSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_V_130101 VERTICAL
 Project : (FG)410307

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
3815.2	-52.39	-13	-39.39	-67.42	-59.13	1.28	8.02	V	Pass
5722.8	-49.83	-13	-36.83	-66.91	-58.25	1.58	10.00	V	Pass
7630.4	-46.06	-13	-33.06	-68.31	-56.38	1.78	12.10	V	Pass

Band :	CDMA2000 BC0 for CH1013	Temperature :	23~25°C
Test Mode :	1xRTT_RC3+SO55 (QPSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

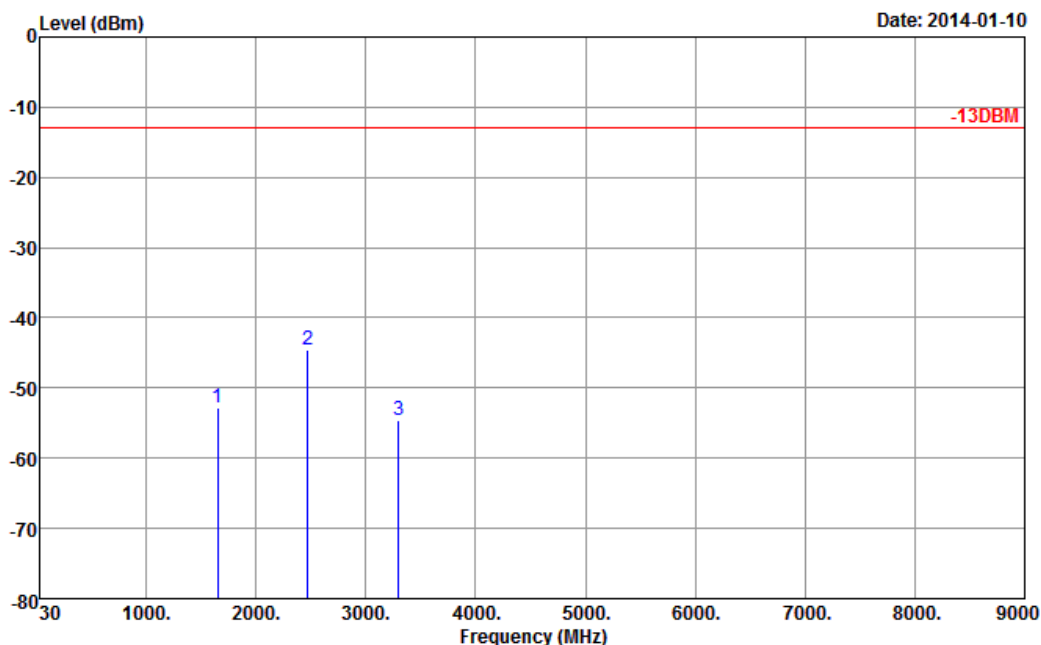


Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_H_130101 HORIZONTAL
 Project : (FG)410307

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
1649.4	-49.72	-13	-36.72	-63.94	-52.97	0.92	6.32	H	Pass
2474.1	-41.38	-13	-28.38	-65.41	-43.93	1.2	5.90	H	Pass
3298.8	-55.38	-13	-42.38	-66.58	-59.83	1.2	7.80	H	Pass



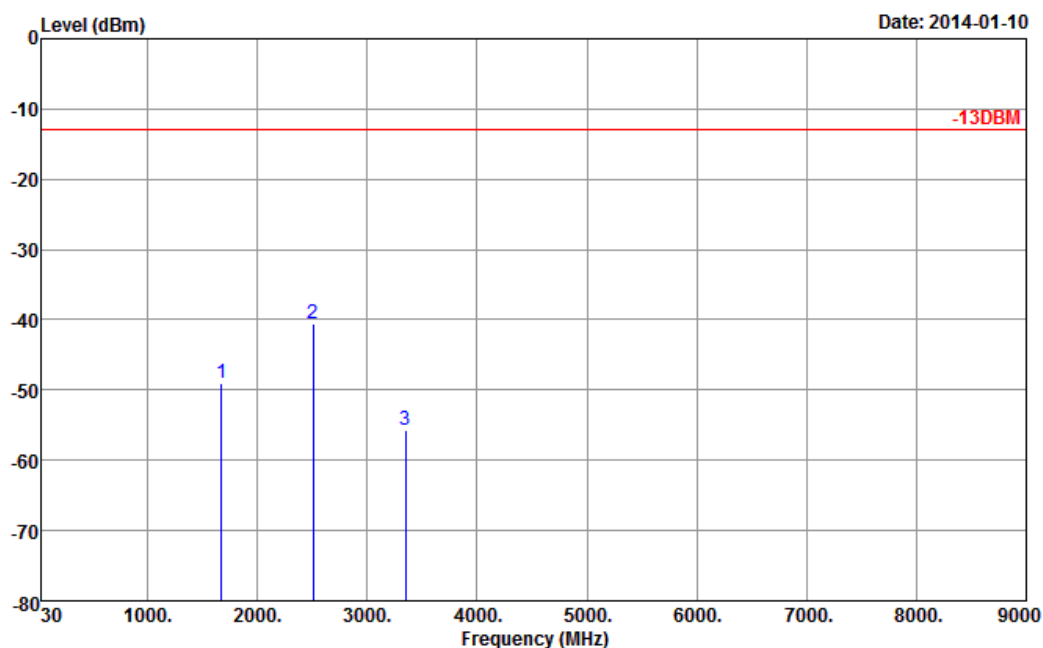
Band :	CDMA2000 BC0 for CH1013	Temperature :	23~25°C
Test Mode :	1xRTT_RC3+SO55 (QPSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
Condition : -13DBM HF_EIRP_V_130101 VERTICAL
Project : (FG)410307

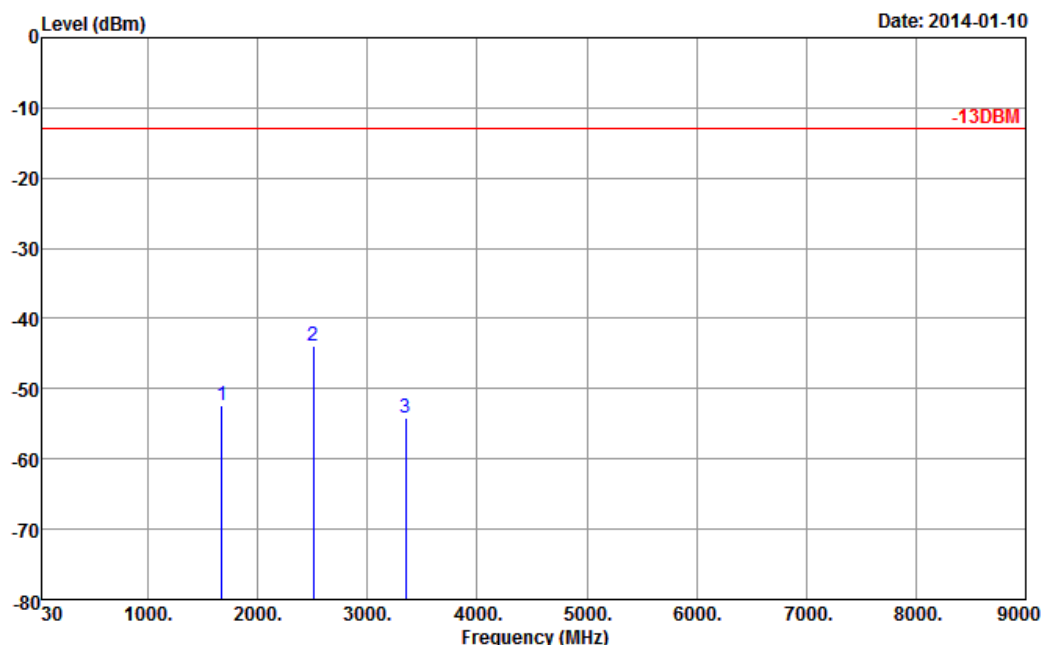
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1649.4	-52.79	-13	-39.79	-63.92	-56.04	0.92	6.32	V	Pass
2474.1	-44.62	-13	-31.62	-66.01	-47.17	1.20	5.90	V	Pass
3298.8	-54.55	-13	-41.55	-66.98	-59.00	1.20	7.80	V	Pass

Band :	CDMA2000 BC0 for CH384	Temperature :	23~25°C
Test Mode :	1xRTT_RC3+SO55 (QPSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



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	-49.03	-13	-36.03	-63.82	-52.00	0.88	6.00	H	Pass
2510	-40.61	-13	-27.61	-64.82	-43.22	1.08	5.84	H	Pass
3346	-55.74	-13	-42.74	-66.34	-60.11	1.14	7.66	H	Pass

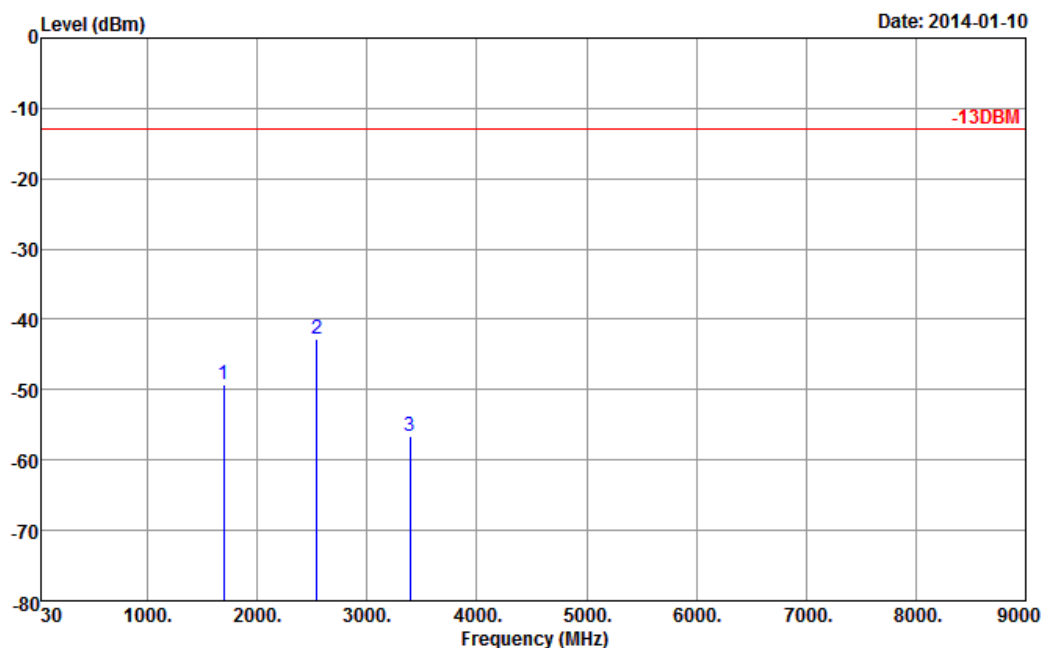
Band :	CDMA2000 BC0 for CH384	Temperature :	23~25°C
Test Mode :	1xRTT_RC3+SO55 (QPSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_V_130101 VERTICAL
 Project : (FG)410307

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	-52.34	-13	-39.34	-64.16	-55.31	0.88	6.00	V	Pass
2510	-43.79	-13	-30.79	-65.21	-46.40	1.08	5.84	V	Pass
3346	-54.08	-13	-41.08	-65.91	-58.45	1.14	7.66	V	Pass

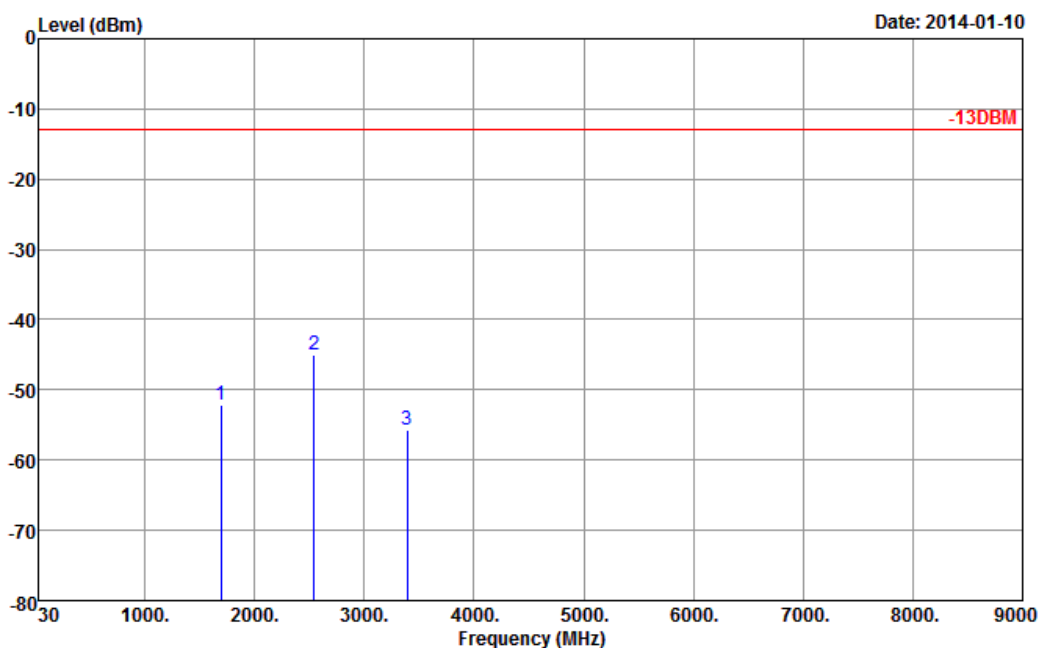
Band :	CDMA2000 BC0 for CH777	Temperature :	23~25°C
Test Mode :	1xRTT_RC3+SO55 (QPSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_H_130101 HORIZONTAL
 Project : (FG)410307

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
1696.62	-49.25	-13	-36.25	-64.62	-52.40	0.9	6.20	H	Pass
2544.93	-42.83	-13	-29.83	-66.03	-45.43	1.15	5.90	H	Pass
3393.24	-56.66	-13	-43.66	-66.46	-61.00	1.22	7.71	H	Pass

Band :	CDMA2000 BC0 for CH777	Temperature :	23~25°C
Test Mode :	1xRTT_RC3+SO55 (QPSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

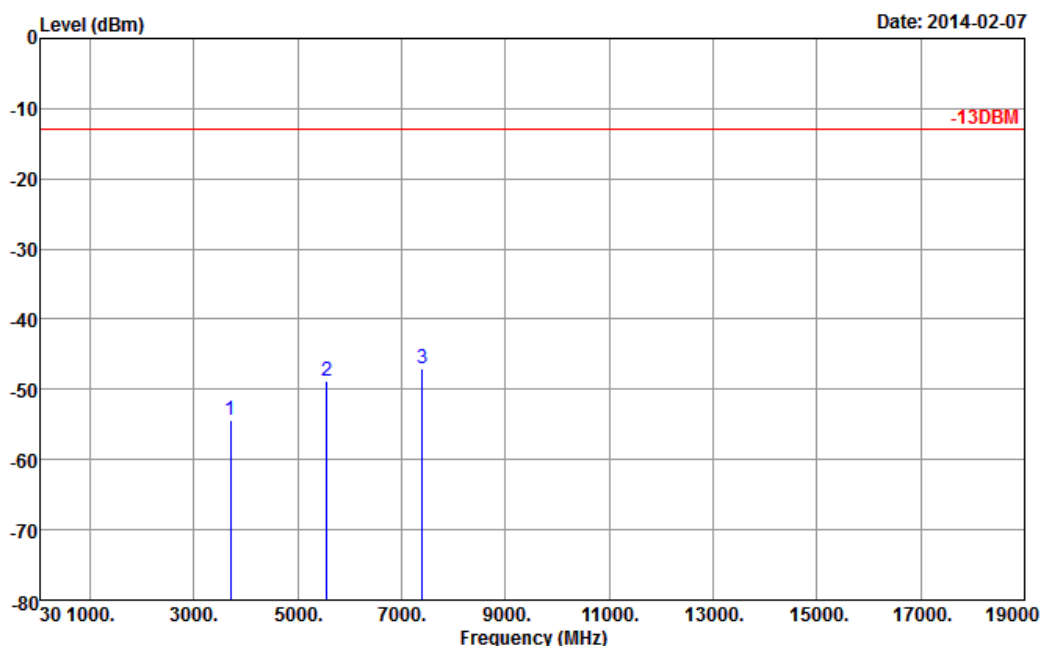


Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_V_130101 VERTICAL
 Project : (FG)410307

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
1696.62	-52.08	-13	-39.08	-64.61	-55.23	0.90	6.20	V	Pass
2544.93	-44.92	-13	-31.92	-65.85	-47.52	1.15	5.90	V	Pass
3393.24	-55.75	-13	-42.75	-66.78	-60.09	1.22	7.71	V	Pass

SIM2 Card:

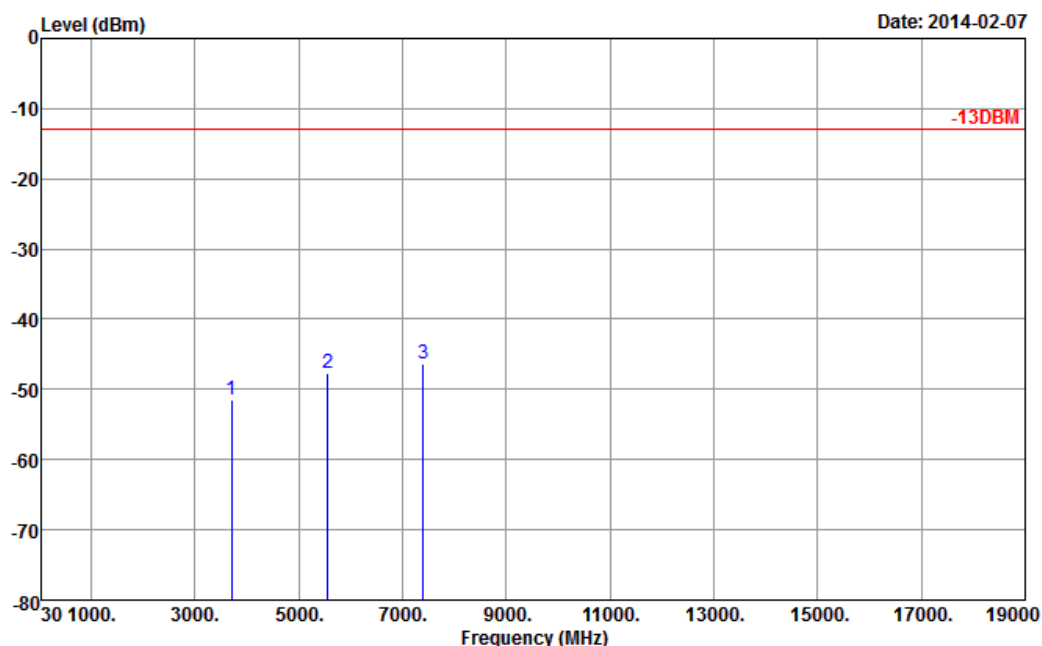
Band :	GSM1900 for CH512	Temperature :	23~25°C
Test Mode :	GSM Link (GMSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_H_130101 HORIZONTAL
 Project : (FG)410307

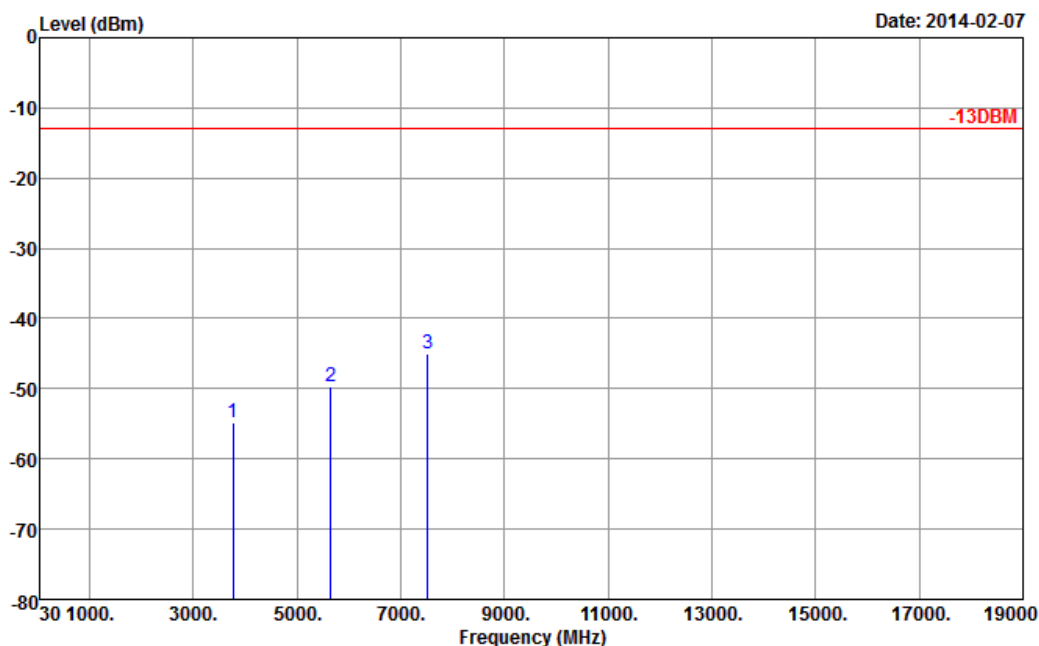
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3700.4	-54.28	-13	-41.28	-65.83	-61.03	1.2	7.95	H	Pass
5550.6	-48.78	-13	-35.78	-66.17	-56.88	1.5	9.60	H	Pass
7400.8	-47.02	-13	-34.02	-68.60	-57.21	1.7	11.89	H	Pass

Band :	GSM1900 for CH512	Temperature :	23~25°C
Test Mode :	GSM Link (GMSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



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
3700.4	-51.48	-13	-38.48	-65.91	-58.23	1.2	7.95	V	Pass
5550.6	-47.79	-13	-34.79	-64.27	-55.89	1.5	9.60	V	Pass
7400.8	-46.28	-13	-33.28	-68.17	-56.47	1.7	11.89	V	Pass

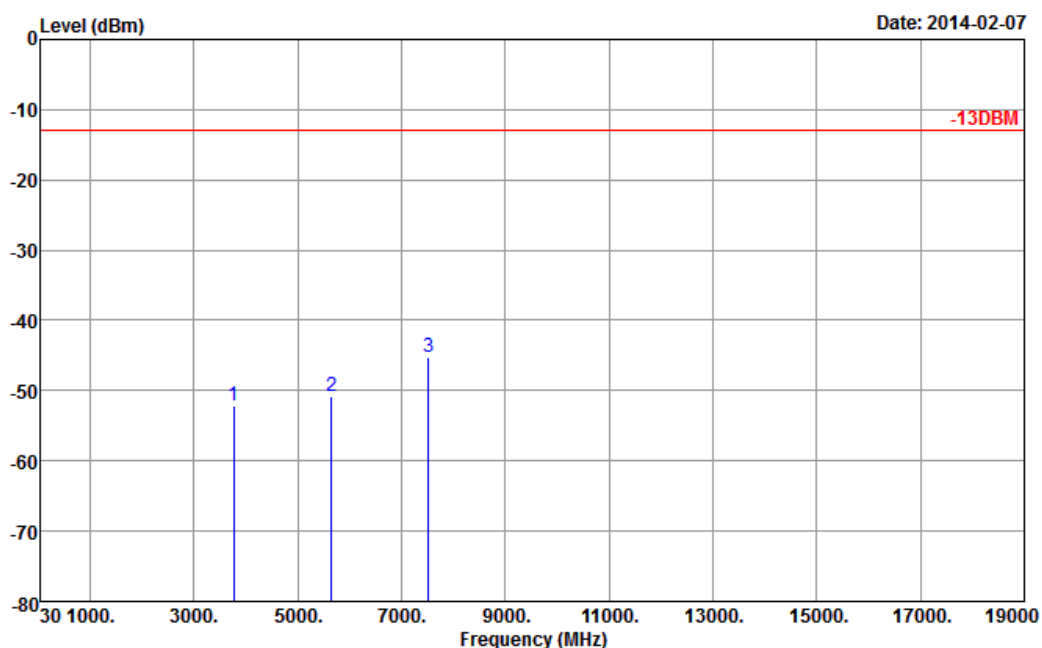
Band :	GSM1900 for CH661	Temperature :	23~25°C
Test Mode :	GSM Link (GMSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_H_130101 HORIZONTAL
 Project : (FG)410307

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	-54.80	-13	-41.80	-66.95	-61.54	1.28	8.02	H	Pass
5640	-49.63	-13	-36.63	-67.62	-58.05	1.58	10.00	H	Pass
7520	-45.08	-13	-32.08	-67.02	-55.40	1.78	12.10	H	Pass

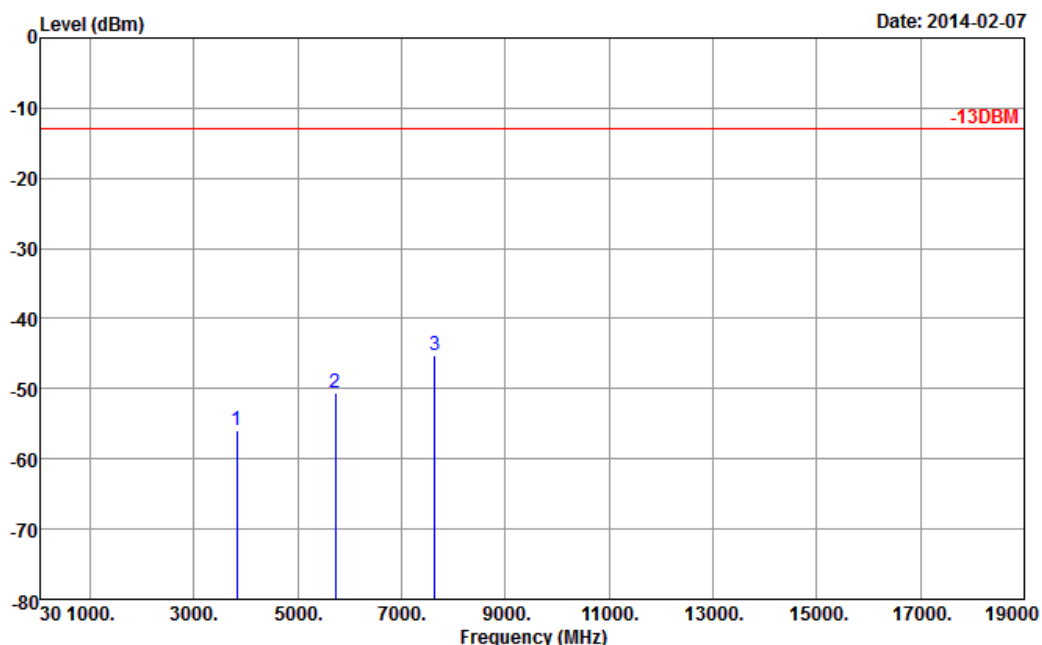
Band :	GSM1900 for CH661	Temperature :	23~25°C
Test Mode :	GSM Link (GMSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_V_130101 VERTICAL
 Project : (FG)410307

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	-52.09	-13	-39.09	-67.12	-58.83	1.28	8.02	V	Pass
5640	-50.74	-13	-37.74	-67.82	-59.16	1.58	10.00	V	Pass
7520	-45.31	-13	-32.31	-67.56	-55.63	1.78	12.10	V	Pass

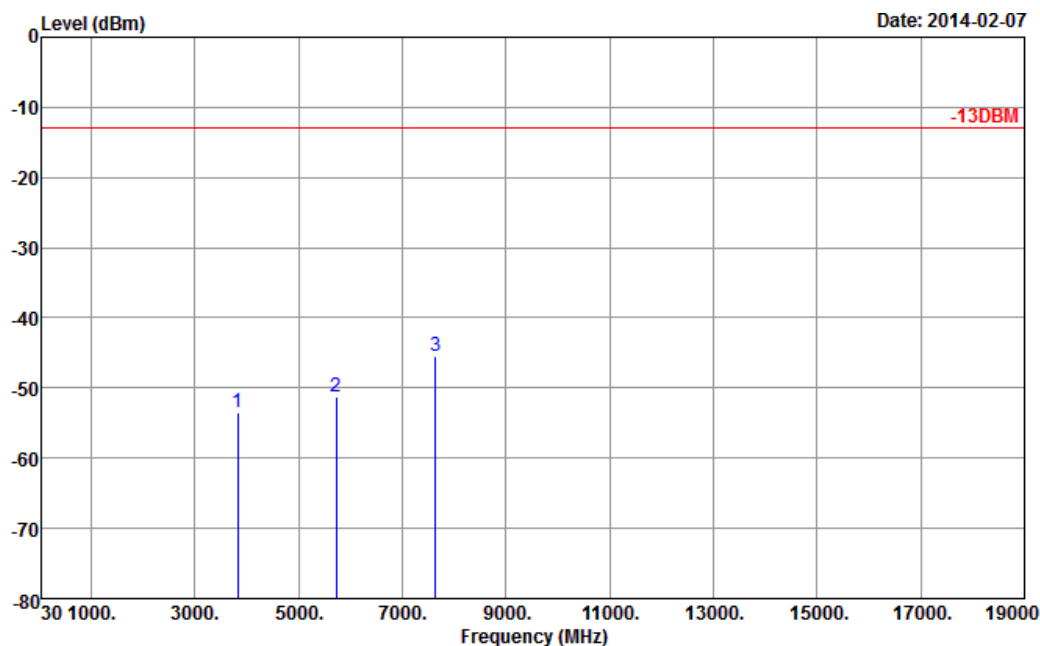
Band :	GSM1900 for CH810	Temperature :	23~25°C
Test Mode :	GSM Link (GMSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_H_130101 HORIZONTAL
 Project : (FG)410307

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
3819.6	-55.96	-13	-42.96	-67.53	-62.73	1.23	8.00	H	Pass
5729.4	-50.56	-13	-37.56	-68.36	-58.69	1.52	9.65	H	Pass
7639.2	-45.21	-13	-32.21	-67.45	-55.39	1.82	12.00	H	Pass

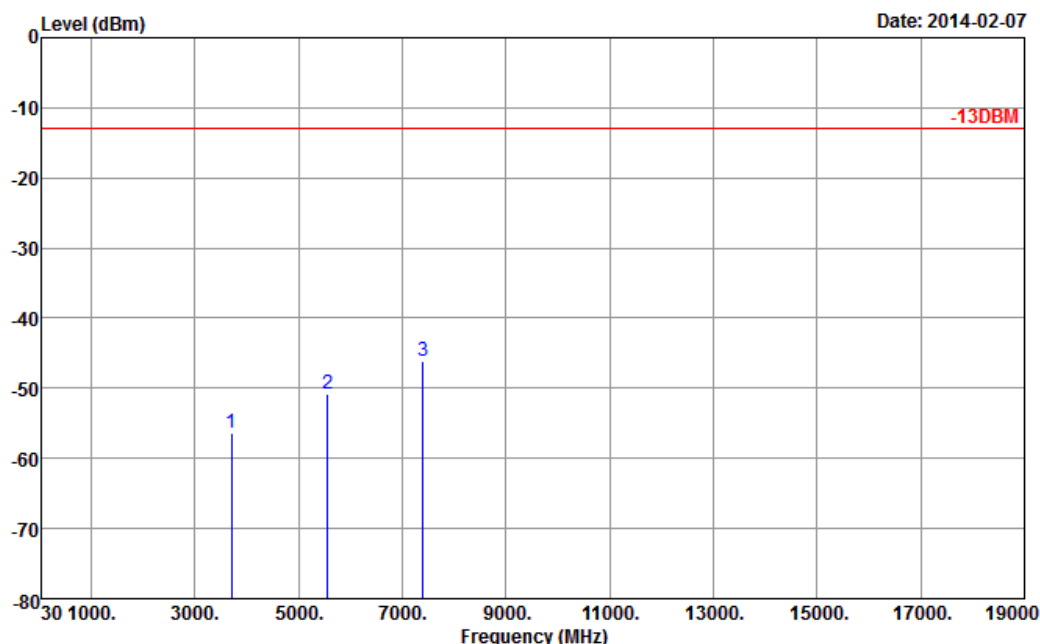
Band :	GSM1900 for CH810	Temperature :	23~25°C
Test Mode :	GSM Link (GMSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_V_130101 VERTICAL
 Project : (FG)410307

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
3819.6	-53.57	-13	-40.57	-68.02	-60.34	1.23	8.00	V	Pass
5729.4	-51.31	-13	-38.31	-68.2	-59.44	1.52	9.65	V	Pass
7639.2	-45.53	-13	-32.53	-68.08	-55.71	1.82	12.00	V	Pass

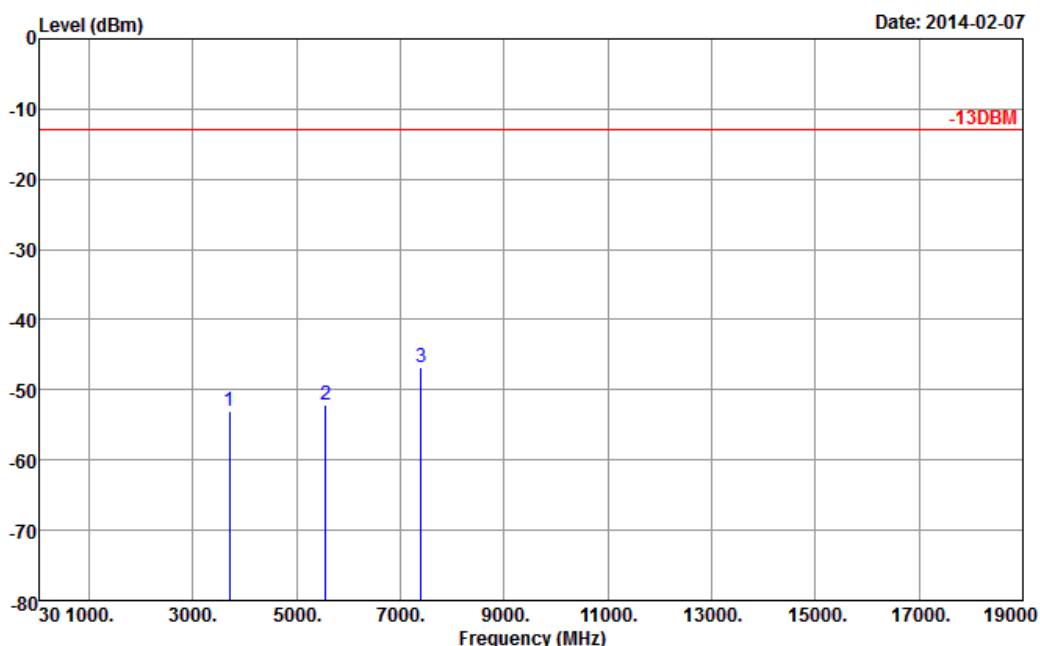
Band :	GSM1900 for CH512	Temperature :	23~25°C
Test Mode :	EDGE class 8 Link (8PSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
 Condition : -13DBM HF_EIRP_H_130101 HORIZONTAL
 Project : (FG)410307

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
3700.4	-56.38	-13	-43.38	-67.93	-63.13	1.2	7.95	H	Pass
5550.6	-50.89	-13	-37.89	-68.28	-58.99	1.5	9.60	H	Pass
7400.8	-46.13	-13	-33.13	-67.71	-56.32	1.7	11.89	H	Pass

Band :	GSM1900 for CH512	Temperature :	23~25°C
Test Mode :	EDGE class 8 Link (8PSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

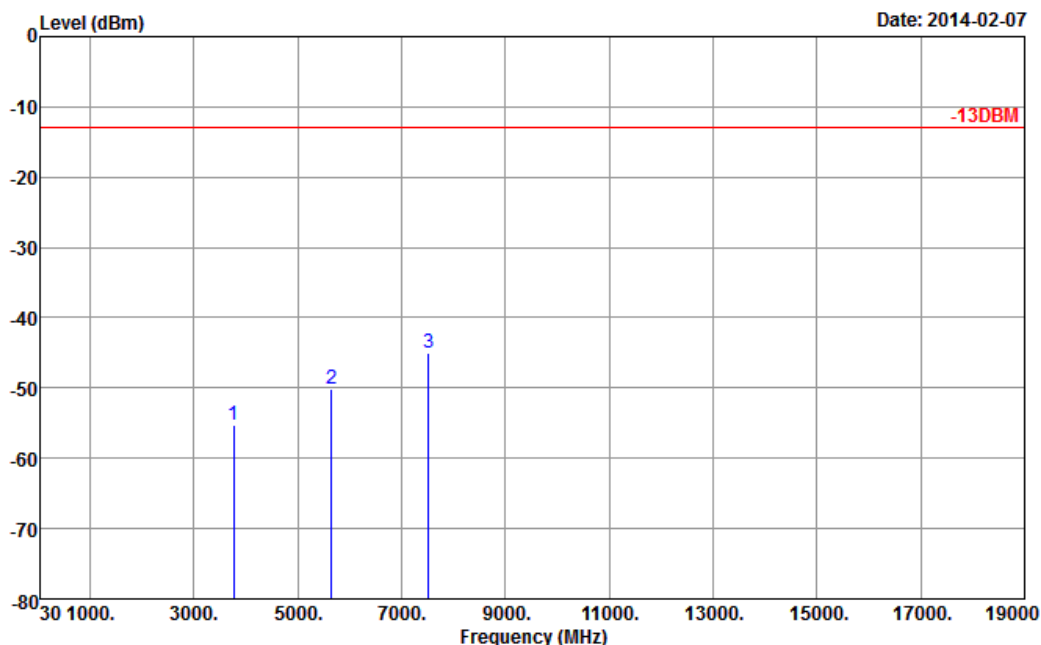


Site : 03CH01-SZ
Condition : -13DBM HF_EIRP_V_130101 VERTICAL
Project : (FG)410307

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
3700.4	-53.03	-13	-40.03	-67.46	-59.78	1.2	7.95	V	Pass
5550.6	-52.08	-13	-39.08	-68.56	-60.18	1.5	9.60	V	Pass
7400.8	-46.70	-13	-33.70	-68.59	-56.89	1.7	11.89	V	Pass



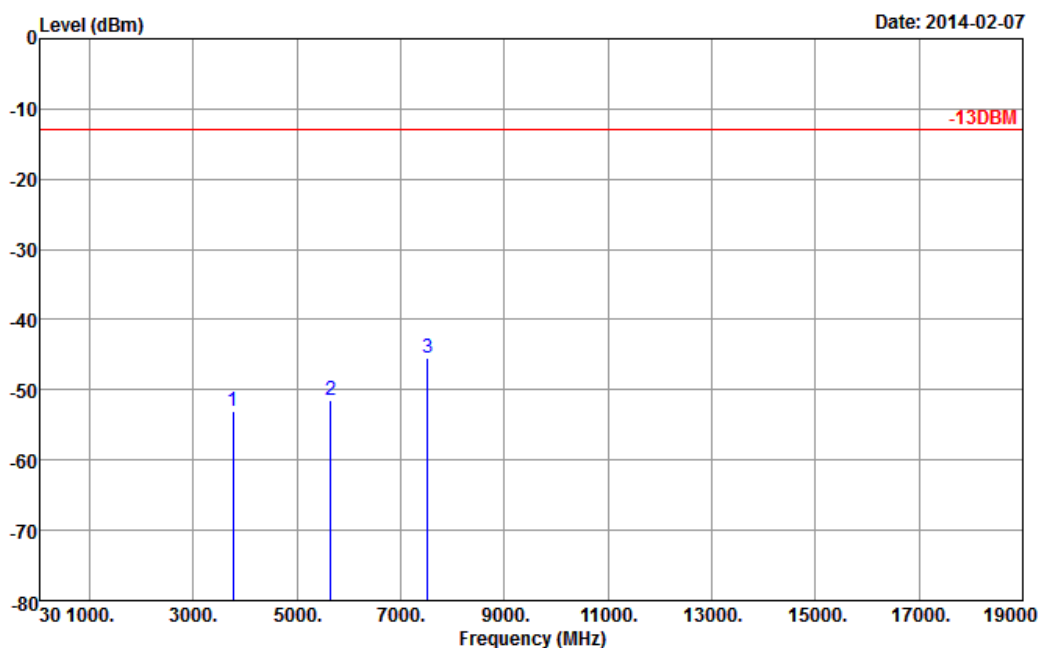
Band :	GSM1900 for CH661	Temperature :	23~25°C
Test Mode :	EDGE class 8 Link (8PSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
Condition : -13DBM HF_EIRP_H_130101 HORIZONTAL
Project : (FG)410307

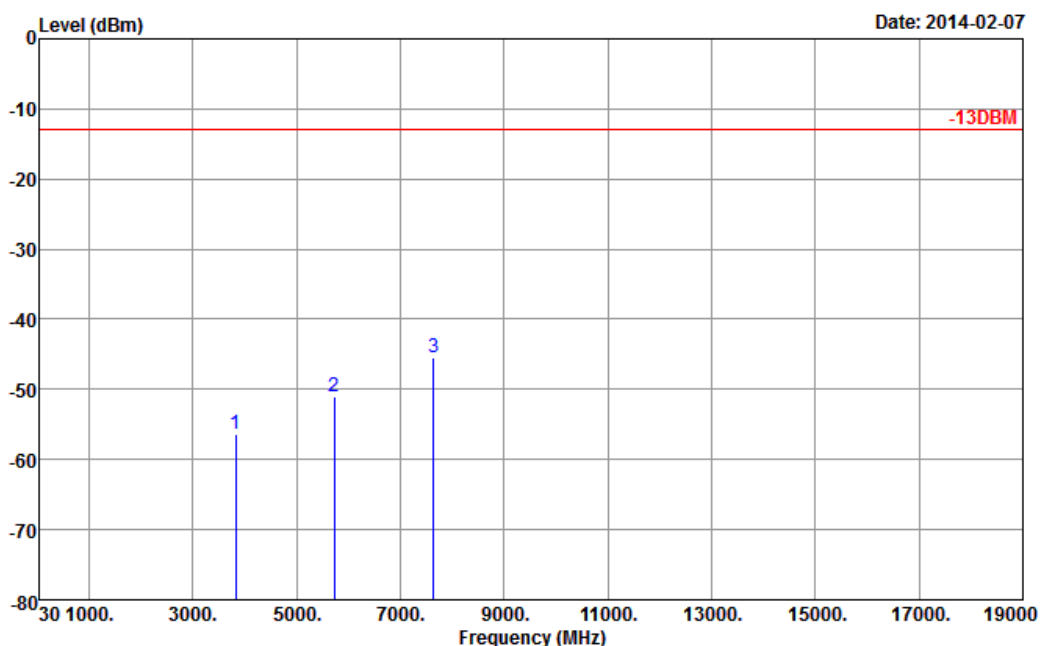
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3760	-55.30	-13	-42.30	-67.45	-62.04	1.28	8.02	H	Pass
5640	-50.17	-13	-37.17	-68.16	-58.59	1.58	10.00	H	Pass
7520	-45.12	-13	-32.12	-67.06	-55.44	1.78	12.10	H	Pass

Band :	GSM1900 for CH661	Temperature :	23~25°C
Test Mode :	EDGE class 8 Link (8PSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



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	-52.97	-13	-39.97	-68	-59.71	1.28	8.02	V	Pass
5640	-51.45	-13	-38.45	-68.53	-59.87	1.58	10.00	V	Pass
7520	-45.54	-13	-32.54	-67.79	-55.86	1.78	12.10	V	Pass

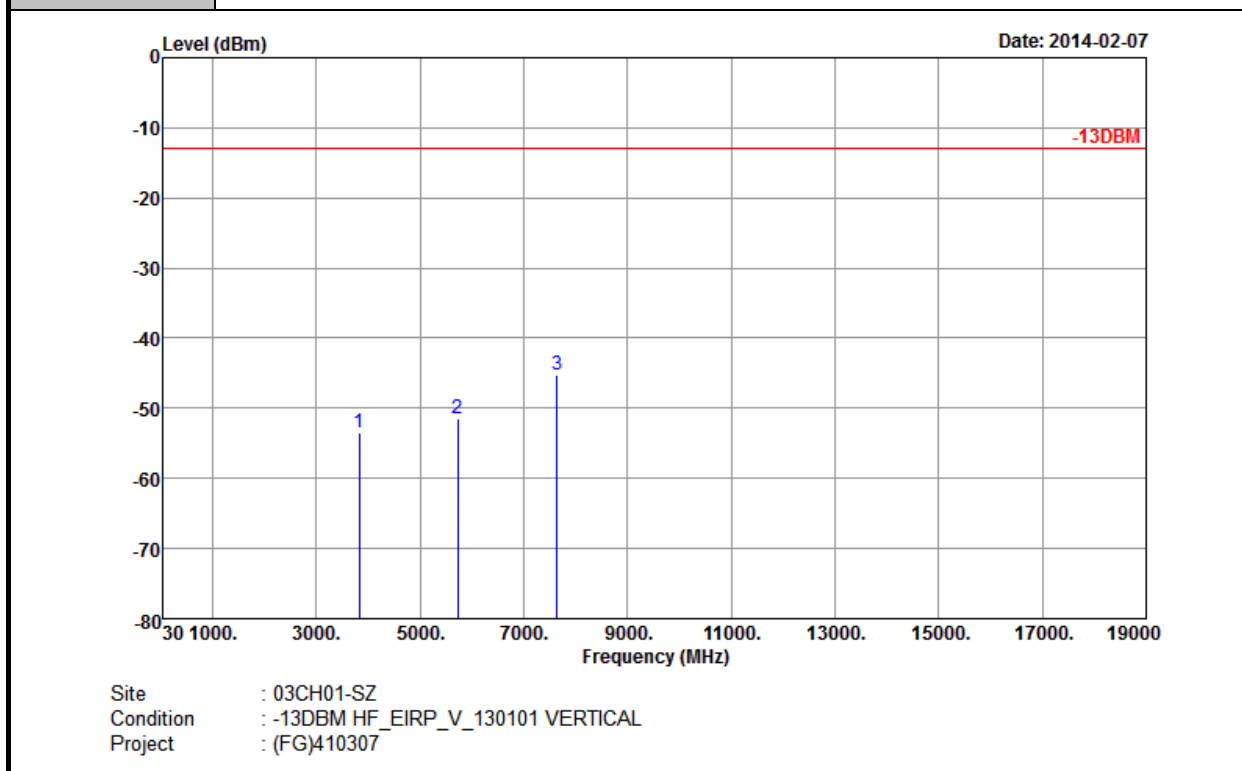
Band :	GSM1900 for CH810	Temperature :	23~25°C
Test Mode :	EDGE class 8 Link (8PSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Site : 03CH01-SZ
Condition : -13DBM HF_EIRP_H_130101 HORIZONTAL
Project : (FG)410307

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
3819.6	-56.39	-13	-43.39	-67.96	-63.16	1.23	8.00	H	Pass
5729.4	-51.00	-13	-38.00	-68.80	-59.13	1.52	9.65	H	Pass
7639.2	-45.54	-13	-32.54	-67.78	-55.72	1.82	12.00	H	Pass

Band :	GSM1900 for CH810	Temperature :	23~25°C
Test Mode :	EDGE class 8 Link (8PSK)	Relative Humidity :	48~52%
Test Engineer :	Gavin Zhang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



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
3819.6	-53.44	-13	-40.44	-67.89	-60.21	1.23	8.00	V	Pass
5729.4	-51.54	-13	-38.54	-68.43	-59.67	1.52	9.65	V	Pass
7639.2	-45.25	-13	-32.25	-67.8	-55.43	1.82	12.00	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

The measuring equipment is listed in the section 4 of this test report.

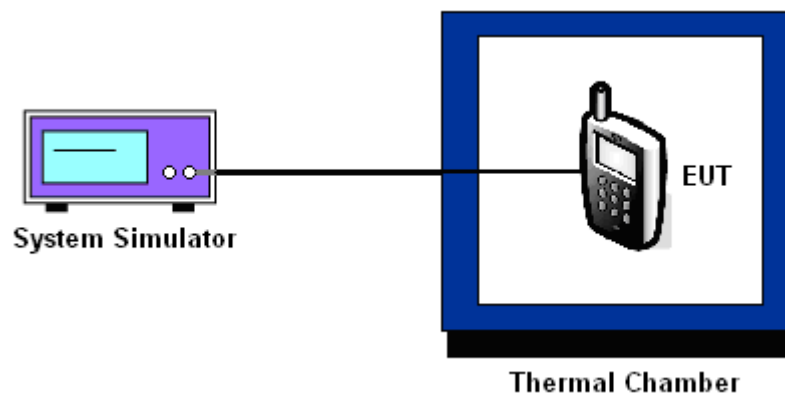
3.8.3 Test Procedures for Temperature Variation

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.

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

SIM1 Card:

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

Temperature (°C)	GSM		EDGE class 8		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	-14	-0.016	-8	-0.009	PASS
-20	-13	-0.015	-8	-0.009	
-10	-12	-0.014	-9	-0.011	
0	-12	-0.014	-8	-0.009	
10	-11	-0.013	-9	-0.011	
20	-14	-0.016	-7	-0.008	
30	-12	-0.014	-9	-0.011	
40	-13	-0.015	-8	-0.009	
50	-15	-0.018	-9	-0.011	

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

Temperature (°C)	GSM		EDGE class 8		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	20	+0.011	21	+0.011	PASS
-20	19	+0.010	19	+0.010	
-10	20	+0.011	20	+0.011	
0	17	+0.009	19	+0.010	
10	16	+0.008	17	+0.009	
20	18	+0.009	18	+0.009	
30	21	+0.011	20	+0.011	
40	20	+0.011	19	+0.010	
50	22	+0.012	21	+0.011	

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	3	+0.004	PASS
-20	2	+0.002	
-10	3	+0.004	
0	-3	-0.004	
10	3	+0.004	
20	3	+0.004	
30	2	+0.002	
40	3	+0.004	
50	3	+0.004	

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	-12	-0.006	PASS
-20	-12	-0.006	
-10	-10	-0.005	
0	-9	-0.005	
10	-9	-0.005	
20	-10	-0.005	
30	-12	-0.006	
40	-11	-0.006	
50	-12	-0.006	

Band :	CDMA2000 BC0 1xRTT_RC3+SO55	Channel :	384
Limit (ppm) :	2.5	Frequency :	836.52 MHz

Temperature (°C)	Freq. Dev. (Hz)	Deviation (ppm)	Result
-30	3	+0.004	PASS
-20	2	+0.002	
-10	3	+0.004	
0	3	+0.004	
10	2	+0.002	
20	3	+0.004	
30	3	+0.004	
40	2	+0.002	
50	3	+0.004	

SIM2 Card:

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

Temperature (°C)	GSM		EDGE class 8		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	17	+0.009	16	+0.008	PASS
-20	16	+0.008	17	+0.009	
-10	18	+0.009	16	+0.008	
0	16	+0.008	15	+0.008	
10	15	+0.008	16	+0.008	
20	17	+0.009	16	+0.008	
30	18	+0.009	15	+0.008	
40	16	+0.008	16	+0.008	
50	19	+0.010	18	+0.009	

3.8.7 Test Result of Voltage Variation

SIM1 Card:

Band & Channel	Mode	Voltage (Volt)	Freq. Dev. (Hz)	Deviation (ppm)	Limit (ppm)	Result
GSM 850 CH189	GSM	3.8	-14	-0.016	2.5	PASS
		BEP	-13	-0.015		
		4.35	-14	-0.016		
	EDGE class 8	3.8	-7	-0.008		
		BEP	-8	-0.009		
		4.35	-8	-0.009		
GSM 1900 CH661	GSM	3.8	18	+0.009		
		BEP	17	+0.009		
		4.35	19	+0.010		
	EDGE class 8	3.8	18	+0.009		
		BEP	20	+0.011		
		4.35	18	+0.009		
WCDMA Band V CH4182	RMC 12.2Kbps	3.8	3	+0.004		
		BEP	-2	-0.002		
		4.35	3	+0.004		
WCDMA Band II CH9400	RMC 12.2Kbps	3.8	-10	-0.005		
		BEP	-12	-0.006		
		4.35	-11	-0.006		
CDMA2000 BC0 CH384	1xRTT RC3+SO55	3.8	3	+0.004		
		BEP	3	+0.004		
		4.35	2	+0.002		

SIM2 Card:

Band & Channel	Mode	Voltage (Volt)	Freq. Dev. (Hz)	Deviation (ppm)	Limit (ppm)	Result
GSM 1900 CH661	GSM	3.8	17	+0.009	2.5	PASS
		BEP	15	+0.008		
		4.35	18	+0.009		
	EDGE class 8	3.8	16	+0.008		
		BEP	16	+0.008		
		4.35	17	+0.009		

Note:

1. Normal Voltage = 3.8V.
2. Battery End Point (BEP) = 3.4 V.

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP30	101400	9kHz~30GHz	Mar. 28, 2013	Jan. 07, 2014~ Feb. 08, 2014	Mar. 27, 2014	Conducted (TH01-SZ)
Spectrum Analyzer	R&S	FSV30	100845	9kHz~30GHz; Max input Power	Dec. 04, 2013	Jan. 07, 2014~ Feb. 08, 2014	Dec. 03, 2014	Conducted (TH01-SZ)
Power Meter	Anritsu	ML2495A	1218010	13dBm~20dBm	Mar. 28, 2013	Jan. 07, 2014~ Feb. 08, 2014	Mar. 27, 2014	Conducted (TH01-SZ)
Power Sensor	Anritsu	MA2411B	1207253	0.3GHz~40GHz	Mar. 28, 2013	Jan. 07, 2014~ Feb. 08, 2014	Mar. 27, 2014	Conducted (TH01-SZ)
Thermal Chamber	Hongzhan	LP-150U	HD20120425	-40℃~150℃	Mar. 28, 2013	Jan. 07, 2014~ Feb. 08, 2014	Mar. 27, 2014	Conducted (TH01-SZ)
Spectrum Analyzer	Agilent Technologies	N9038A	MY52260185	20Hz~26.5GHz	Apr. 04, 2013	Jan. 09, 2014~ Feb. 07, 2014	Apr. 03, 2014	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS Lindgren	3117	00119436	1GHz~18GHz	Oct. 26, 2013	Jan. 09, 2014~ Feb. 07, 2014	Oct. 25, 2014	Radiation (03CH01-SZ)
Bilog Antenna	SCHAFFNER	CBL6112B	2614	30MHz~2GHz	Dec. 25, 2013	Jan. 09, 2014~ Feb. 07, 2014	Dec. 24, 2014	Radiation (03CH01-SZ)
Amplifier	ADVANTEST	BB525C	E9007003	9kHz-3000MHz GAIN 30db	Mar. 28, 2013	Jan. 09, 2014~ Feb. 07, 2014	Mar. 27, 2014	Radiation (03CH01-SZ)
Amplifier	Yiai	AV3860B	04030	2GHz~26.5GHz	Mar. 28, 2013	Jan. 09, 2014~ Feb. 07, 2014	Mar. 27, 2014	Radiation (03CH01-SZ)
SHF-EHF-Horn	Schwarzbeck	BBHA9170	BBHA9170249	14GHz~40GHz	Nov. 22, 2013	Jan. 09, 2014~ Feb. 07, 2014	Nov. 21, 2014	Radiation (03CH01-SZ)
Turn Table	EM Electronics	EM 1000	N/A	0 ~ 360 degree	N/A	Jan. 09, 2014~ Feb. 07, 2014	N/A	Radiation (03CH01-SZ)
Antenna Mast	EM Electronics	EM 1000	N/A	1 m - 4 m	N/A	Jan. 09, 2014~ Feb. 07, 2014	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% ($U = 2U_c(y)$)	3.90
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