

FCC RF Test Report

APPLICANT : LG ELECTRONICS MOBILECOMM U.S.A., INC.
EQUIPMENT : GSM/WCDMA TRI-BAND PHONE WITH BT,
WLAN, AND NFC
BRAND NAME : LG
MODEL NAME : LG-E960, E960, LGE960
MARKETING NAME : LG-E960
FCC ID : ZNFE960
STANDARD : FCC 47 CFR Part 2, 22(H), 24(E), 27(L)
CLASSIFICATION : PCS Licensed Transmitter Held to Ear (PCE)

This is a variant report for FCC permissions change, and the product was received on Sep. 10, 2012 and completely tested on Sep. 25, 2012. We, SPORTON INTERNATIONAL 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 compliance with the applicable technical standards.

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

Reviewed by:



Jones Tsai / Manager



SPORTON INTERNATIONAL INC.

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SPORTON INTERNATIONAL INC.

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FCC ID : ZNFE960

Page Number : 1 of 149

Report Issued Date : Sep. 26, 2012

Report Version : Rev. 01

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG291007	Rev. 01	Please refer to FCC ID : ZNFE960 report.	Sep. 26, 2012

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	§2.1046	N/A	Conducted Output Power	N/A	PASS	-
3.2	§24.232(d) §27.50(d)(5)	N/A	Peak-to-Average Ratio	< 13 dB	PASS	-
3.3	§22.913(a)(2)	RSS-132(4.4) SRSP-503(5.1.3)	Effective Radiated Power	< 7 Watts	PASS	-
3.3	§24.232(c)	RSS-133 (6.4) SRSP-510(5.1.2)	Equivalent Isotropic Radiated Power	< 2 Watts	PASS	-
3.3	§27.50(d)(4)	RSS-139 (6.4) SRSP-513(5.1.2)	Equivalent Isotropic Radiated Power	< 1 Watts	PASS	-
3.4	§2.1049 §22.917(a) §24.238(a) §27.53(g)	N/A	Occupied Bandwidth	N/A	PASS	-
3.5	§2.1051 §22.917(a) §24.238(a) §27.53(g)	RSS-132 (4.5.1) RSS-133 (6.5.1) RSS-139 (6.5)	Band Edge Measurement	< 43+10log ₁₀ (P[Watts])	PASS	-
3.6	§2.1051 §22.917(a) §24.238(a) §27.53(g)	RSS-132 (4.5.1) RSS-133 (6.5.1) RSS-139 (6.5)	Conducted Emission	< 43+10log ₁₀ (P[Watts])	PASS	-
3.7	§2.1053 §22.917(a) §24.238(a) §27.53(g)	RSS-132 (4.5.1) RSS-133 (6.5.1) RSS-139 (6.5)	Field Strength of Spurious Radiation	< 43+10log ₁₀ (P[Watts])	PASS	Under limit 15.53 dB at 1672.000 MHz
3.8	§2.1055 §22.355 §24.235 §27.54	RSS-132 (4.3) RSS-133 (6.3) RSS-139 (6.3)	Frequency Stability for Temperature & Voltage	< 2.5 ppm	PASS	-



1 General Description

1.1 Applicant

LG ELECTRONICS MOBILECOMM U.S.A., INC.
1000 SYLVAN AVENUE ENGLEWOOD CLIFFS, NEW JERSEY 07632

1.2 Manufacturer

LG ELECTRONICS MOBILECOMM U.S.A., INC.
1000 SYLVAN AVENUE ENGLEWOOD CLIFFS, NEW JERSEY 07632

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	GSM/WCDMA TRI-BAND PHONE WITH BT, WLAN, AND NFC
Brand Name	LG
Model Name	LG-E960, E960, LGE960
Marketing Name	LG-E960
FCC ID	ZNFE960
EUT supports Radios application	GSM/EGPRS/WCDMA/HSPA WLAN 11abgn / Bluetooth / NFC
EUT Stage	Production Unit

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

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 IV : 1712.4 MHz ~ 1752.5 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 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 IV : 2112.4 MHz ~ 2152.6 MHz WCDMA Band II : 1932.4 MHz ~ 1987.6 MHz
Maximum Output Power to Antenna	GSM850 : 33.64 dBm GSM1900 : 30.18 dBm WCDMA Band V : 23.65 dBm WCDMA Band IV : 23.59 dBm WCDMA Band II : 23.55 dBm
Antenna Type	PIFA Antenna
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE: 8PSK WCDMA: QPSK (Uplink) HSDPA: QPSK (Uplink) HSUPA: QPSK (Uplink)

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

FCC Rule	System	Type of Modulation	Maximum (Peak) ERP/EIRP (W)	Maximum (RMS) ERP/EIRP (W)	Frequency Tolerance (% , Hz, ppm)	Emission Designator
Part 22	GSM850 GSM	GMSK	1.0375	1.0023	0.04 ppm	250KGXW
Part 22	GSM850 EDGE 8	GMSK / 8PSK	0.3972	0.2203	0.06 ppm	246KG7W
Part 22	WCDMA Band V RMC 12.2Kbps	QPSK	0.1660	0.0798	0.01 ppm	4M18F9W
Part 24	GSM1900 GSM	GMSK	1.3900	1.3521	0.03 ppm	250KGXW
Part 24	GSM1900 EDGE 8	GMSK / 8PSK	0.8954	0.5129	0.03 ppm	250KG7W
Part 24	WCDMA Band II RMC 12.2Kbps	QPSK	0.4571	0.2163	0.01 ppm	4M20F9W
Part 27	WCDMA Band IV RMC 12.2Kbps	QPSK	0.8610	0.3589	0.01 ppm	4M20F9W

1.5 Testing Site

Test Site	SPORTON INTERNATIONAL INC.		
Test Site Location	No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978		
Test Site No.	Sporton Site No.		FCC/IC Registration No.
	TH02-HY	03CH07-HY	722060/4086B-1

1.6 Applied Standards

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

- Preliminary Guidance for Receiving Applications for Certification of 3G Device. May 9, 2006.
- 47 CFR Part 2, 22(H), 24(E), 27(L)
- ANSI / TIA / EIA-603-C-2004
- FCC KDB 971168 D01 Power Meas. License Digital Systems v01
- IC RSS-132 Issue 2
- IC RSS-133 Issue 5
- IC RSS-139 Issue 2

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

1.7 Ancillary Equipment List

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	AC Adapter 1	SUNLIN	MCS-01WR	N/A	N/A	N/A
2.	AC Adapter 2	TENPAO	MCS-01WT	N/A	N/A	N/A
3.	AC Adapter 3	DONG DO	MCS-01WD	N/A	N/A	N/A
4.	Battery	LG Chem	BL-T5	N/A	N/A	N/A
5.	USB Cable 1	INTERFACESAMIL	EAD62330101	N/A	N/A	Shielded, 1.1 m
6.	USB Cable 2	NINGBO	EAD62330102	N/A	N/A	Shielded, 1.1 m
7.	Wireless charging pad adaptor	LG	PSTA-D01WT	N/A	N/A	Shielded, 1.5 m
8.	Wireless charging pad	LG	NA	N/A	N/A	NA
9.	Earphone	LG	N/A	N/A	N/A	Shielded, 1.1 m

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 is 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 and WCDMA Band V, and (2) 30 MHz to 18000 MHz for WCDMA Band IV, and to 19000 MHz for GSM1900 and WCDMA Band II.

Test Modes		
Band	Radiated TCs	Conducted TCs
GSM 850	■ GSM Link + Earphone + USB Cable 1 (Charging form Adapter 2) ■ GSM Link + Earphone ■ GSM Link (Standalone) ■ <u>GSM Link + Wireless Charging Pad + Earphone</u> ■ GSM Link + Wireless Charging Pad ■ EDGE 8 Link + Earphone + USB Cable 1 (Charging form Adapter 2) ■ <u>EDGE 8 Link + Wireless Charging Pad + Earphone</u>	■ GSM Link ■ EDGE 8 Link
GSM 1900	■ <u>GSM Link + Earphone + USB Cable 1 (Charging form Adapter 2)</u> ■ GSM Link + Earphone ■ GSM Link(Standalone) ■ GSM Link + Wireless Charging Pad + Earphone ■ GSM Link + Wireless Charging Pad ■ <u>EDGE 8 Link + Earphone + USB Cable 1 (Charging from Adapter 2)</u> ■ EDGE 8 Link + Wireless Charging Pad + Earphone	■ GSM Link ■ EDGE 8 Link
WCDMA Band V	■ RMC 12.2Kbps Link + Earphone + USB Cable 1 (Charging form Adapter 2) ■ RMC 12.2Kbps Link + Earphone ■ RMC 12.2Kbps Link (Standalone) ■ RMC 12.2Kbps Link + Wireless Charging Pad + Earphone ■ <u>RMC 12.2Kbps Link + Wireless Charging Pad</u>	■ RMC 12.2Kbps Link
WCDMA Band IV	■ <u>RMC 12.2Kbps Link + Earphone + USB Cable 1 (Charging form Adapter 2)</u> ■ RMC 12.2Kbps Link + Earphone ■ RMC 12.2Kbps Link (Standalone) ■ RMC 12.2Kbps Link + Wireless Charging Pad + Earphone ■ RMC 12.2Kbps Link + Wireless Charging Pad	■ RMC 12.2Kbps Link

WCDMA Band II	■ RMC 12.2Kbps Link + Earphone + USB Cable 1 (Charging form Adapter 2)	■ RMC 12.2Kbps Link
	■ RMC 12.2Kbps Link + Earphone	
	■ RMC 12.2Kbps Link (Standalone)	
	■ RMC 12.2Kbps Link + Wireless Charging Pad + Earphone	
	■ RMC 12.2Kbps Link + Wireless Charging Pad	

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 IV, and RMC 12.2Kbps mode for WCDMA band II, only these modes were used for all tests.
2. Because there are individual antennas for each WWAN, WLAN, and Bluetooth, the co-location test modes are not required.
3. After pre-scanned radiated spurious emissions under different configurations as listed above table, only worst results (marked as under line) for each band are showed in this report. All configurations are compliance with FCC limits.

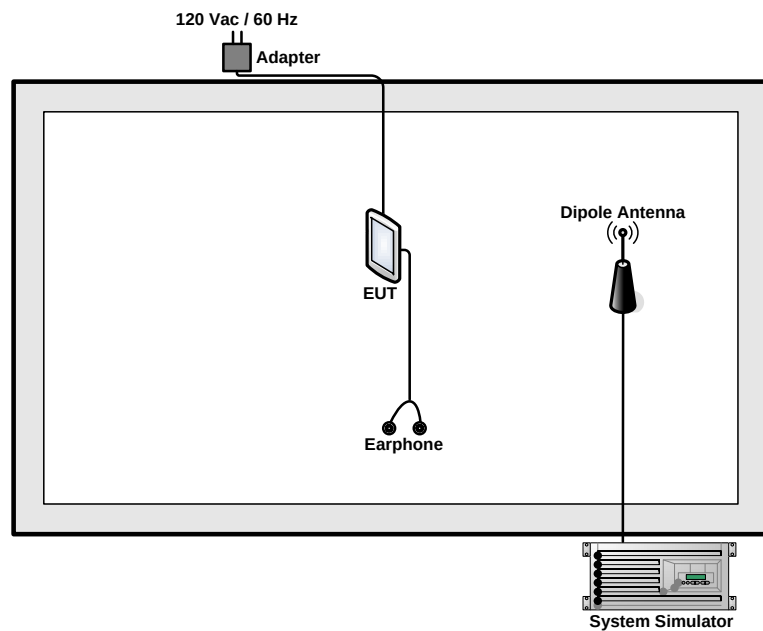
The conducted power tables are as follows:

Conducted Power (*Unit: dBm)						
Band	GSM850			GSM1900		
Channel	128	189	251	512	661	810
Frequency	824.2	836.4	848.8	1850.2	1880	1909.8
GSM	33.34	33.51	33.64	30.01	29.87	30.18
GPRS 8	33.40	33.56	33.58	30.00	29.88	30.17
GPRS 10	30.75	30.93	30.94	28.08	28.11	28.24
EGPRS 8	27.52	27.58	27.65	25.42	25.44	25.42
EGPRS 10	27.44	27.45	27.51	25.25	25.27	25.32

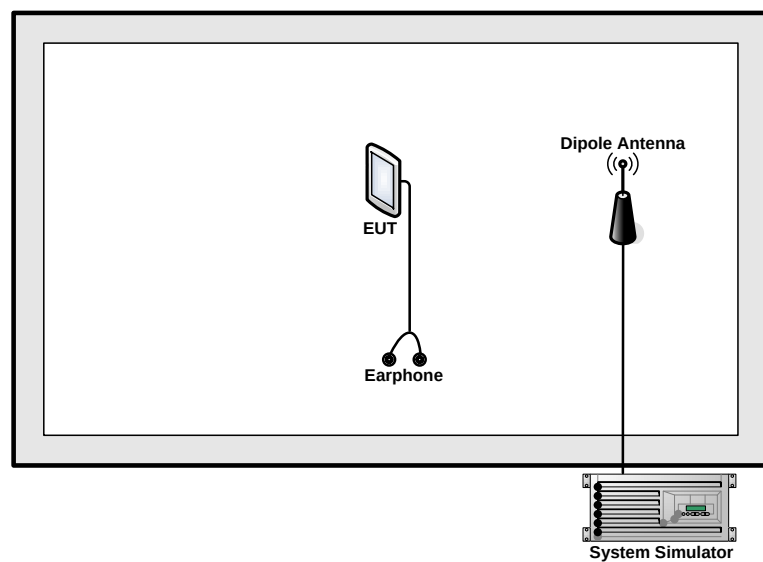
Conducted Power (*Unit: dBm)									
Band	WCDMA Band V			WCDMA Band II			WCDMA Band IV		
Tx Channel	4132	4182	4233	9262	9400	9538	1312	1413	1862
Rx Channel	4357	4408	4458	9662	9800	9938	1537	1638	2087
Frequency	826.4	836.4	846.6	1852.4	1880	1907.6	1712.4	1732.6	1752.5
RMC 12.2K	23.60	23.62	23.65	23.55	23.32	23.29	23.59	23.44	23.55
HSDPA Subtest-1	23.56	23.64	23.45	23.37	23.26	23.35	23.50	23.44	23.39
HSDPA Subtest-2	23.61	23.55	23.58	23.39	23.17	23.32	23.42	23.46	23.38
HSDPA Subtest-3	23.12	23.00	23.01	22.94	22.68	22.71	22.92	22.94	23.05
HSDPA Subtest-4	23.08	23.04	23.00	22.92	22.55	22.66	22.90	22.92	22.96
HSUPA Subtest-1	23.40	23.03	22.91	22.75	22.76	23.17	22.85	23.20	22.95
HSUPA Subtest-2	21.43	21.68	21.66	21.62	21.53	21.18	21.65	21.50	21.67
HSUPA Subtest-3	22.41	22.50	22.20	22.09	21.78	22.23	22.28	22.23	22.45
HSUPA Subtest-4	22.29	22.44	22.36	22.22	21.94	22.09	22.37	22.36	22.18
HSUPA Subtest-5	23.64	23.63	23.56	23.45	23.36	23.39	23.55	23.56	23.54

2.2 Connection Diagram of Test System

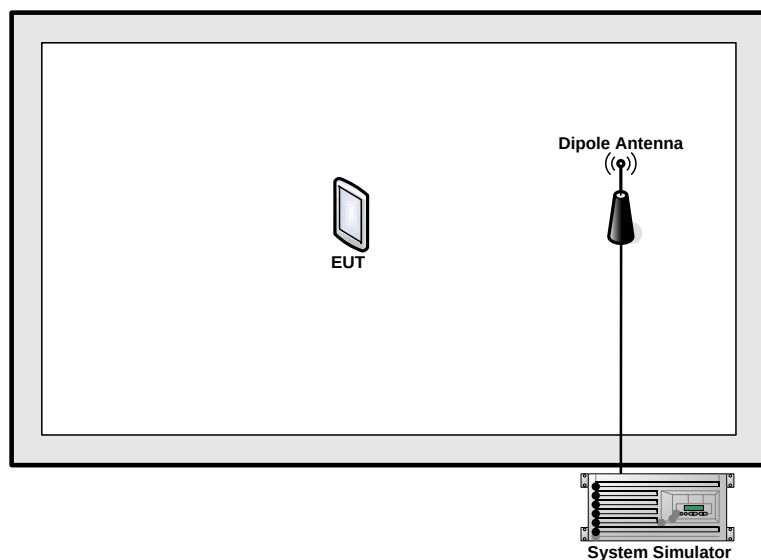
<EUT with Earphone and Adapter>



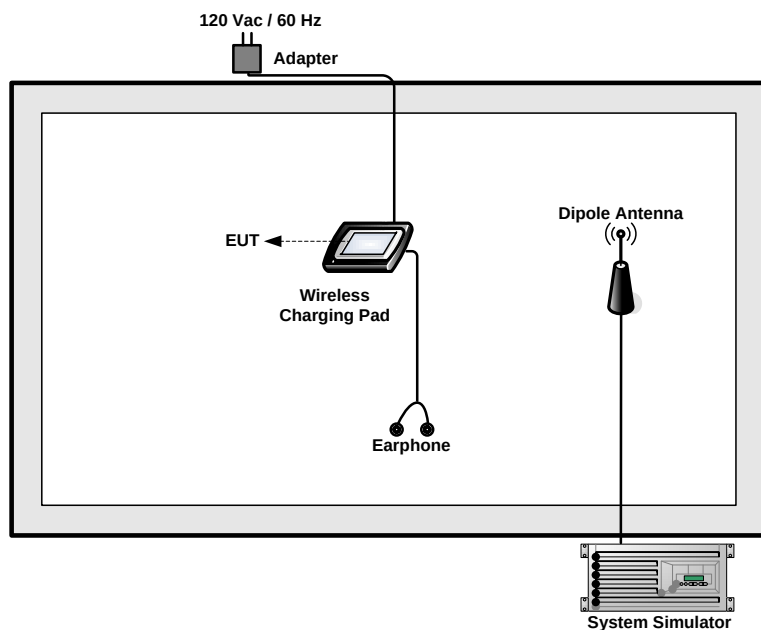
<EUT with Earphone>



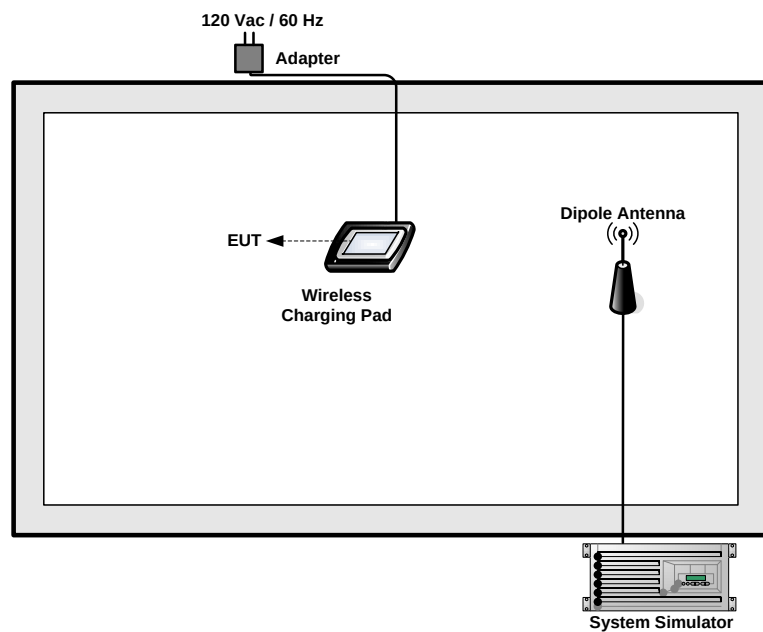
<EUT Standalone>



<EUT with Earphone and Wireless Charging Pad>



<EUT with Wireless Charging Pad>



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.

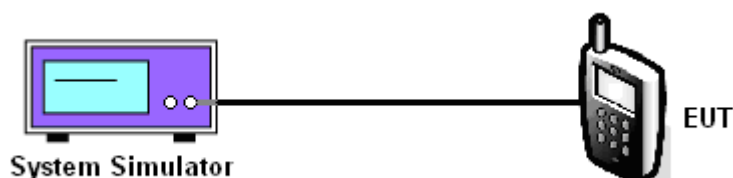
3.1.2 Measuring Instruments

See list of measuring instruments 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

Cellular Band									
Modes	GSM850 (GSM)			GSM850 (EDGE 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)	33.34	33.51	33.64	27.52	27.58	27.65	23.60	23.62	23.65
Conducted Power (Watts)	2.16	2.24	2.31	0.56	0.57	0.58	0.23	0.23	0.23

PCS Band									
Modes	GSM1900 (GSM)			GSM1900 (EDGE 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)	30.01	29.87	30.18	25.42	25.44	25.42	23.55	23.32	23.29
Conducted Power (Watts)	1.00	0.97	1.04	0.35	0.35	0.35	0.23	0.21	0.21

AWS Band			
Modes	WCDMA Band IV (RMC 12.2Kbps)		
Channel	1312(Low)	1413 (Mid)	1862 (High)
Frequency (MHz)	1712.4	1732.6	1752.5
Conducted Power (dBm)	23.59	23.44	23.55
Conducted Power (Watts)	0.23	0.22	0.23

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

3.2 Peak-to-Average Ratio

3.2.1 Description of the PAR Measurement

Power Complementary Cumulative Distribution Function (CCDF) curves provide a means for characterizing the power peaks of a digitally modulated signal on a statistical basis. A CCDF curve depicts the probability of the peak signal amplitude exceeding the average power level. Most contemporary measurement instrumentation include the capability to produce CCDF curves for an input signal provided that the instrument's resolution bandwidth can be set wide enough to accommodate the entire input signal bandwidth. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

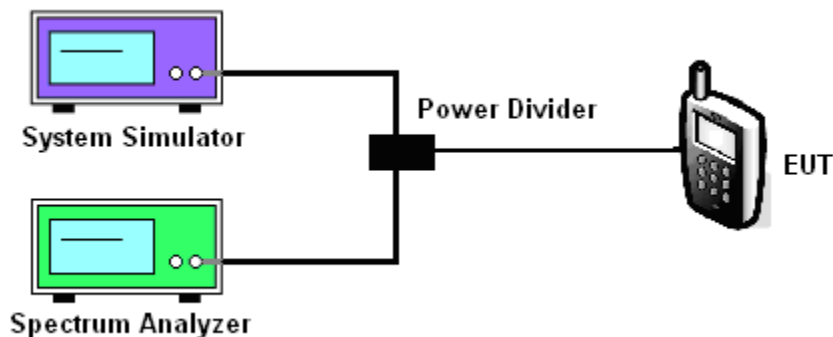
3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. For GSM/EGPRS operating modes:
 - a. Set the RBW = 1MHz, VBW = 1MHz, Peak detector in spectrum analyzer.
 - b. Set EUT in maximum power output, and triggered the burst signal.
 - c. Measured respectively the Peak level and Mean level, and the deviation was recorded as Peak to Average Ratio.
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 %.

3.2.4 Test Setup



3.2.5 Test Result of Peak-to-Average Ratio

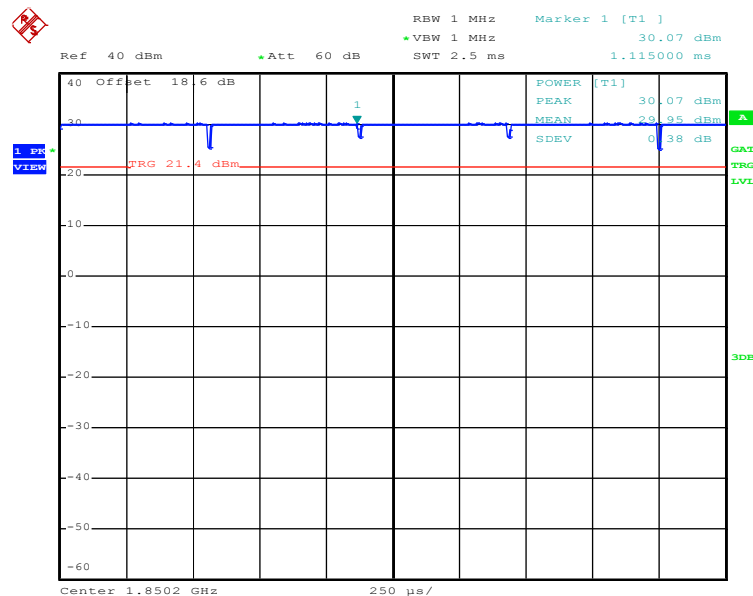
PCS Band									
Modes	GSM1900 (GSM)			GSM1900 (EDGE 8)			WCDMA Band II (RMC 12.2Kbps)		
Channel	512 (Low)	661 (Mid)	810 (High)	512 (Low)	661 (Mid)	810 (High)	9262 (Low)	9400 (Mid)	9538 (High)
Frequency (MHz)	1850.2	1880	1909.8	1850.2	1880	1909.8	1852.4	1880	1907.6
Peak-to-Average Ratio (dB)	0.12	0.11	0.09	0.51	0.52	0.52	3.44	3.24	3.28

AWS Band			
Modes	WCDMA Band IV (RMC 12.2Kbps)		
Channel	1312(Low)	1413 (Mid)	1862 (High)
Frequency (MHz)	1712.4	1732.6	1752.5
Peak-to-Average Ratio (dB)	3.44	3.44	3.40

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

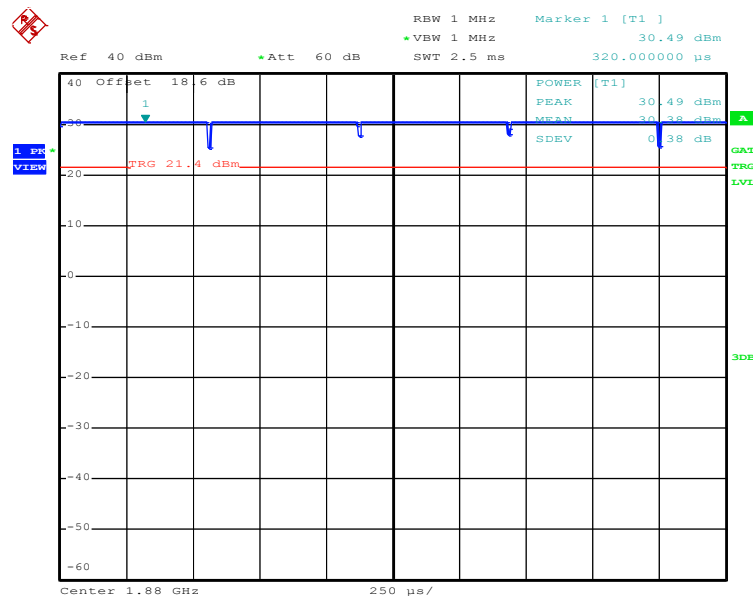
Band :	GSM 1900	Test Mode :	GSM Link
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Peak-to-Average Ratio on Channel 512 (1850.2 MHz)



Date: 17.SEP.2012 14:31:25

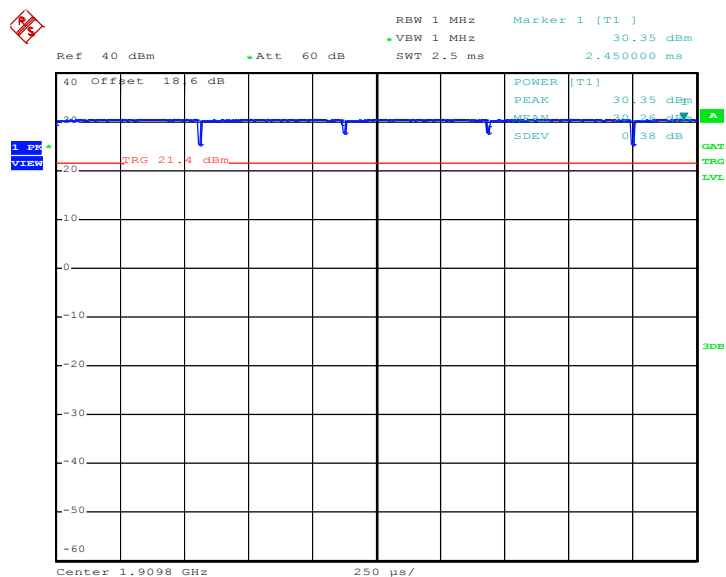
Peak-to-Average Ratio on Channel 661 (1880.0 MHz)



Date: 17.SEP.2012 14:32:05



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

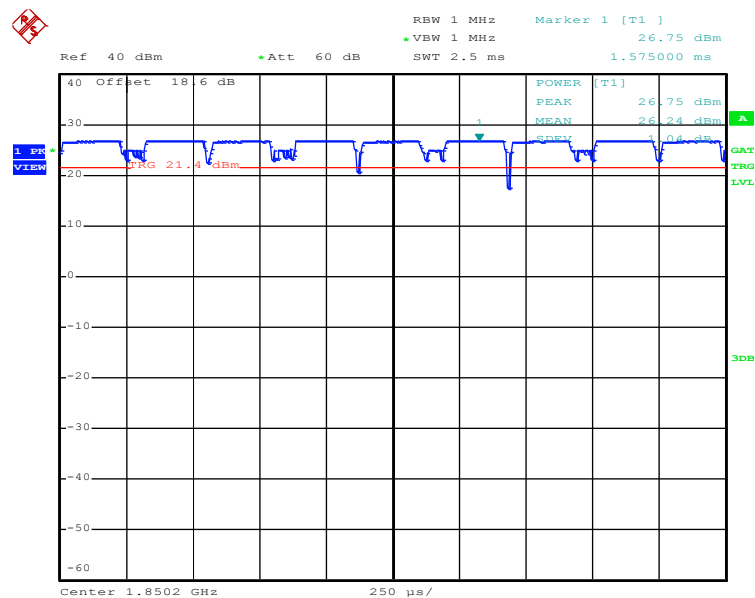


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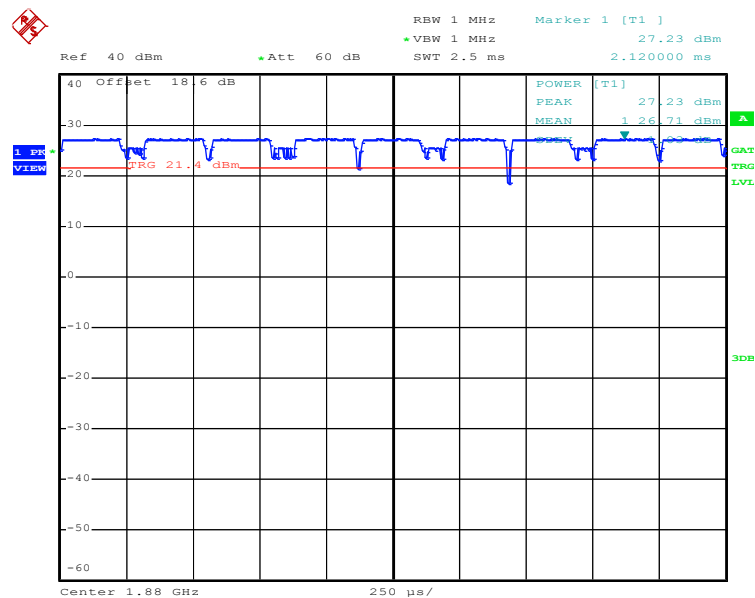
Band :	GSM 1900	Test Mode :	EDGE 8 Link
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Peak-to-Average Ratio on Channel 512 (1850.2 MHz)



Date: 17.SEP.2012 14:38:00

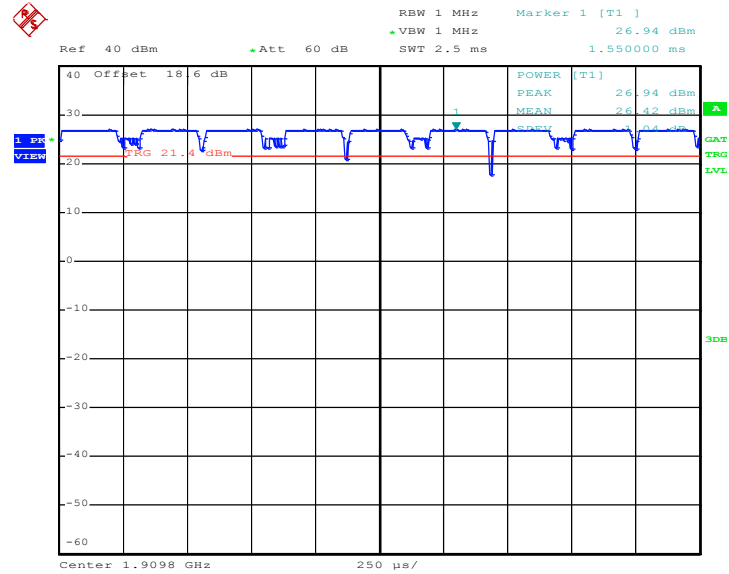
Peak-to-Average Ratio on Channel 661 (1880.0 MHz)



Date: 17.SEP.2012 14:36:59



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

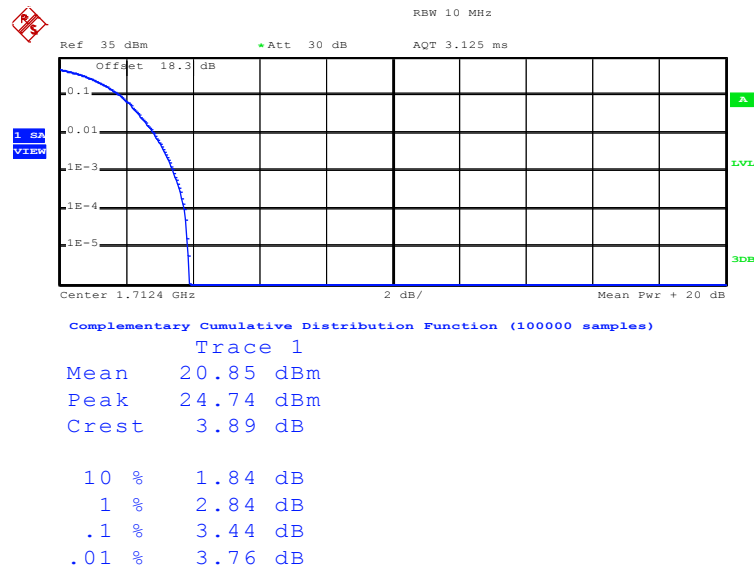


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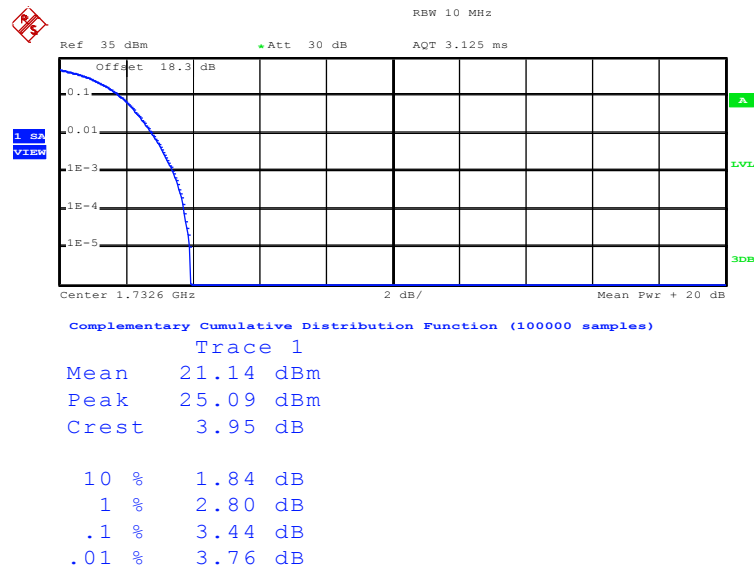
Band :	WCDMA Band IV	Test Mode :	RMC 12.2Kbps Link
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Peak-to-Average Ratio on Channel 1312 (1712.4 MHz)



Date: 17.SEP.2012 14:12:06

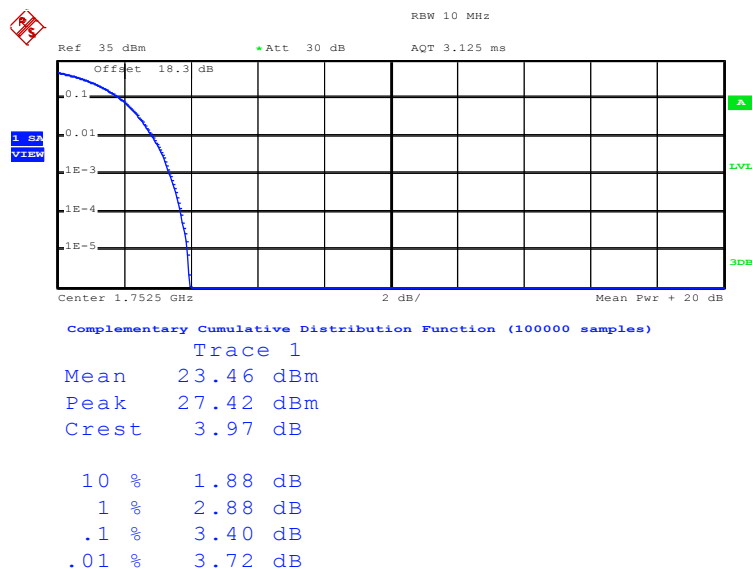
Peak-to-Average Ratio on Channel 1413 (1732.6 MHz)



Date: 17.SEP.2012 14:11:16



Peak-to-Average Ratio on Channel 1862 (1752.5 MHz)

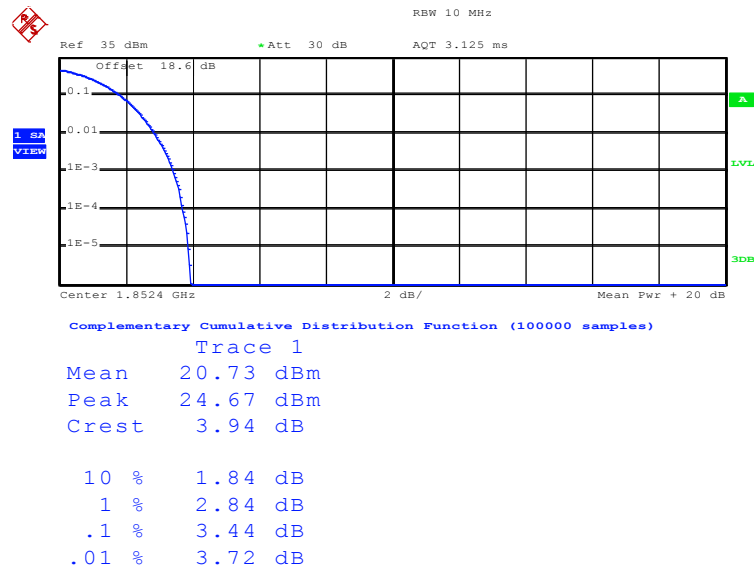


Date: 24.SEP.2012 16:17:38



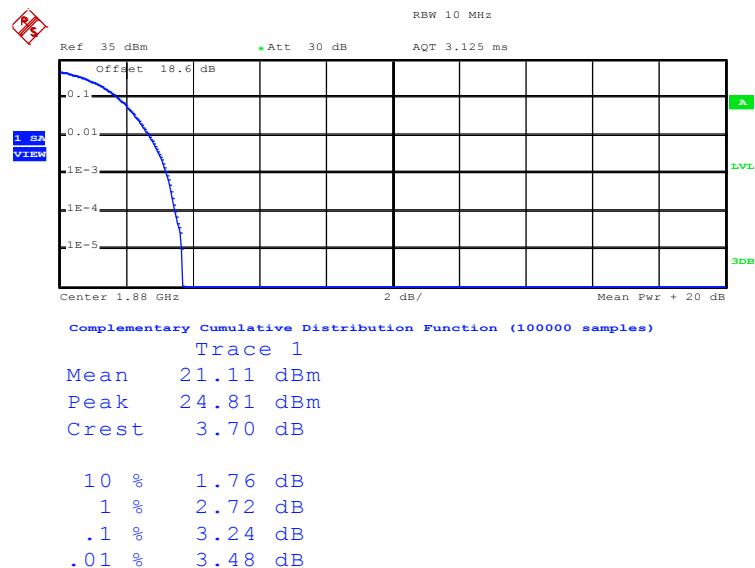
Band :	WCDMA Band II	Test Mode :	RMC 12.2Kbps Link
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Peak-to-Average Ratio on Channel 9262 (1852.4 MHz)



Date: 17.SEP.2012 13:46:47

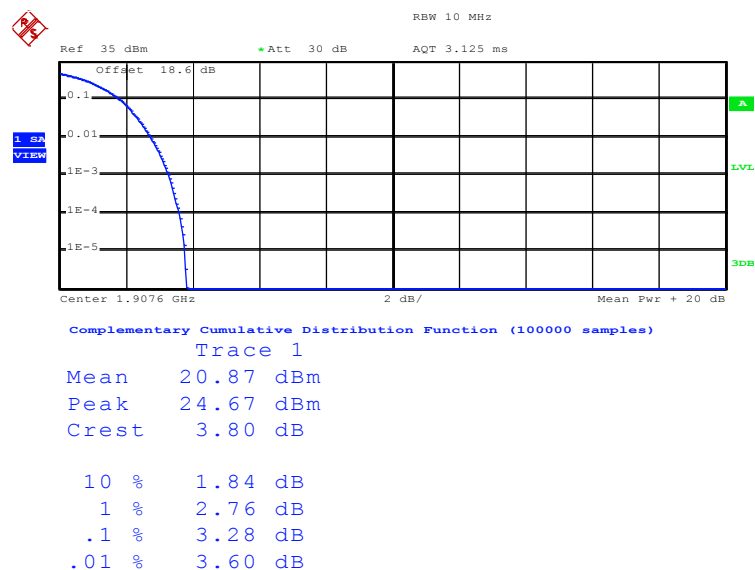
Peak-to-Average Ratio on Channel 9400 (1880.0 MHz)



Date: 17.SEP.2012 13:45:52



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



Date: 17.SEP.2012 13:44:56

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 v01. 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

See list of measuring instruments of this test report.

3.3.3 Test Procedures

- 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 frequencies were measured at 3 m with a test antenna and a spectrum analyzer with RBW= 1MHz, VBW= 3MHz for GSM for RMS, and the RBW= 300KHz, VBW= 1MHz for WCDMA, and RMS detector with channel power measurement option =5MHz settings per section 4.0 of KDB 971168 D01. Below is the details of settings for Peak EIRP/ERP measurement, and RMS EIRP/ERP measurement settings.

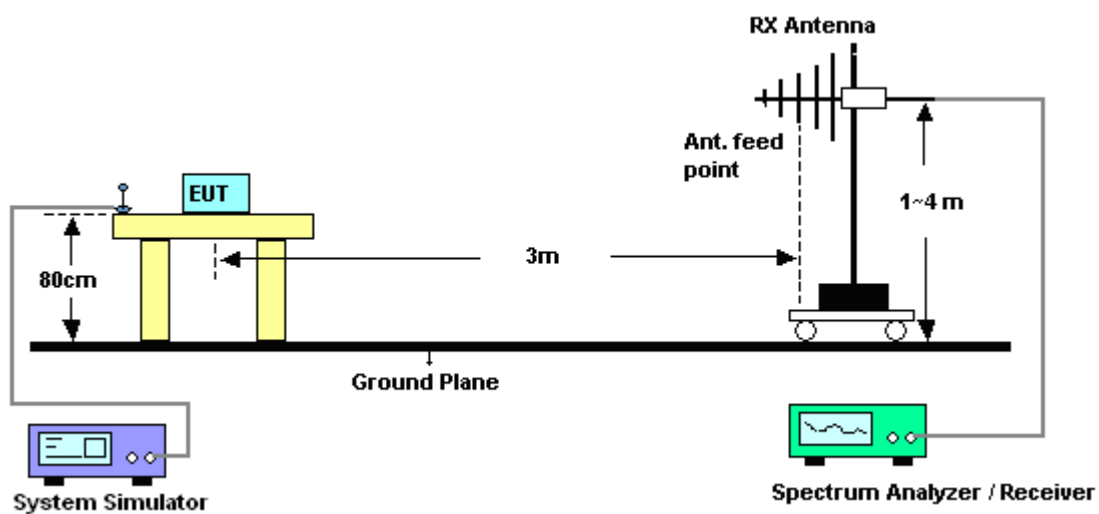
RF		GSM/GPRS	EDGE	WCDMA/HSPA
Bandwidth		200kHz	200kHz	5MHz
Peak Meas.	Span	5MHz	5MHz	15MHz
	RBW	1MHz	1MHz	10MHz
	VBW	3MHz	3MHz	10MHz
	Detector	Peak	Peak	Peak
RMS Meas.	Span	5MHz	5MHz	10MHz
	RBW	1MHz	1MHz	300kHz
	VBW	3MHz	3MHz	1MHz
	Detector	RMS	RMS	RMS

- 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

<RMS>

<EUT Standalone>

GSM850 (GSM) Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
824.2	-3.59	31.54	25.80	0.3802
836.4	-3.10	32.04	26.79	0.4775
848.8	-1.51	32.59	28.93	0.7816
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
824.2	-12.76	32.93	18.02	0.0634
836.4	-12.12	32.82	18.55	0.0716
848.8	-11.66	33.62	19.81	0.0957

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

GSM850 (EDGE 8) Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
824.2	-9.84	31.54	19.55	0.0902
836.4	-9.03	32.04	20.86	0.1219
848.8	-8.29	32.59	22.15	0.1641
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
824.2	-18.63	32.93	12.15	0.0164
836.4	-17.75	32.82	12.92	0.0196
848.8	-16.60	33.62	14.87	0.0307

* 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)
826.4	-10.51	31.44	18.78	0.0755
836.4	-11.54	32.04	18.35	0.0684
846.6	-11.62	32.63	18.86	0.0769
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
826.4	-19.26	32.78	11.37	0.0137
836.4	-19.02	32.82	11.65	0.0146
846.6	-19.60	33.4	11.65	0.0146

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

WCDMA Band V (HSUPA) Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
826.4	-11.89	31.44	17.40	0.0550
836.4	-13.22	32.04	16.67	0.0465
846.6	-12.16	32.63	18.32	0.0679
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
826.4	-20.58	32.78	10.05	0.0101
836.4	-21.64	32.82	9.03	0.0080
846.6	-21.27	33.4	9.98	0.0100

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

<EUT with Earphone>

GSM850 (GSM) Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
848.8	-0.43	32.59	30.01	1.0023
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
848.8	-9.67	33.62	21.80	0.1514

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

GSM850 (EDGE 8) Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
848.8	-7.01	32.59	23.43	0.2203
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
848.8	-13.10	33.62	18.37	0.0687

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

<EUT with Wireless Charging Pad and Earphone>

GSM850 (GSM) Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
848.8	-1.76	32.59	28.68	0.7379
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
848.8	-18.27	33.62	13.20	0.0209

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

GSM850 (EDGE 8) Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
848.8	-7.86	32.59	22.58	0.1811
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
848.8	-22.18	33.62	9.29	0.0085

* 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)
846.6	-11.46	32.63	19.02	0.0798
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
846.6	-18.62	33.4	12.63	0.0183

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

WCDMA Band V (HSUPA) Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
846.6	-12.18	32.63	18.30	0.0676
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
846.6	-21.61	33.4	9.64	0.0092

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

<EUT with Wireless Charging Pad>

GSM850 (GSM) Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
848.8	-1.96	32.59	28.48	0.7047
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
848.8	-18.72	33.62	12.75	0.0188

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

GSM850 (EDGE 8) Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
848.8	-8.26	32.59	22.18	0.1652
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
848.8	-22.62	33.62	8.85	0.0077

* 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)
846.6	-11.55	32.63	18.93	0.0782
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
846.6	-19.78	33.4	11.47	0.0140

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

WCDMA Band V (HSUPA) Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
846.6	-12.25	32.63	18.23	0.0665
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
846.6	-21.82	33.4	9.43	0.0088

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

<Peak>

<EUT Standalone>

GSM850 (GSM) Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
824.2	-3.42	31.54	25.97	0.3954
836.4	-2.99	32.04	26.90	0.4898
848.8	-1.40	32.59	29.04	0.8017
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
824.2	-12.65	32.93	18.13	0.0650
836.4	-12.05	32.82	18.62	0.0728
848.8	-11.57	33.62	19.90	0.0977

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

GSM850 (EDGE 8) Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
824.2	-7.70	31.54	21.69	0.1476
836.4	-7.08	32.04	22.81	0.1910
848.8	-5.77	32.59	24.67	0.2931
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
824.2	-16.27	32.93	14.51	0.0282
836.4	-15.27	32.82	15.40	0.0347
848.8	-14.47	33.62	17.00	0.0501

* 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)
826.4	-7.09	31.44	22.20	0.1660
836.4	-9.20	32.04	20.69	0.1172
846.6	-8.86	32.63	21.62	0.1452
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
826.4	-16.15	32.78	14.48	0.0281
836.4	-16.45	32.82	14.22	0.0264
846.6	-16.02	33.4	15.23	0.0333

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

WCDMA Band V (HSUPA) Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
826.4	-7.87	31.44	21.42	0.1387
836.4	-9.10	32.04	20.79	0.1199
846.6	-8.42	32.63	22.06	0.1607
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
826.4	-16.48	32.78	14.15	0.0260
836.4	-18.37	32.82	12.30	0.0170
846.6	-17.58	33.4	13.67	0.0233

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

<EUT with Earphone>

GSM850 (GSM) Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
848.8	-0.28	32.59	30.16	1.0375
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
848.8	-9.58	33.62	21.89	0.1545

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

GSM850 (EDGE 8) Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
848.8	-4.45	32.59	25.99	0.3972
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
848.8	-12.06	33.62	19.41	0.0873

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

<EUT with Wireless Charging Pad and Earphone>

GSM850 (GSM) Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
848.8	-1.65	32.59	28.79	0.7568
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
848.8	-18.20	33.62	13.27	0.0212

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

GSM850 (EDGE 8) Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
848.8	-5.45	32.59	24.99	0.3155
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
848.8	-19.87	33.62	11.60	0.0145

* 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)
846.6	-9.23	32.63	21.25	0.1334
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
846.6	-17.15	33.4	14.10	0.0257

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

WCDMA Band V (HSUPA) Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
846.6	-8.77	32.63	21.71	0.1483
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
846.6	-17.09	33.4	14.16	0.0261

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

<EUT with Wireless Charging Pad>

GSM850 (GSM) Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
848.8	-1.85	32.59	28.59	0.7228
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
848.8	-18.63	33.62	12.84	0.0192

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

GSM850 (EDGE 8) Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
848.8	-6.01	32.59	24.43	0.2773
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
848.8	-20.25	33.62	11.22	0.0132

* 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)
846.6	-9.35	32.63	21.13	0.1297
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
846.6	-16.88	33.4	14.37	0.0274

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

WCDMA Band V (HSUPA) Radiated Power ERP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
846.6	-8.92	32.63	21.56	0.1432
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)	ERP (W)
846.6	-17.76	33.4	13.49	0.0223

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

3.3.6 Test Result of EIRP

<RMS>

<EUT Standalone>

GSM1900 (GSM) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1850.2	-17.61	43.69	26.08	0.4055
1880.0	-17.79	44.79	27.00	0.5012
1909.8	-19.42	43.59	24.17	0.2612
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1850.2	-18.44	45.72	27.28	0.5346
1880.0	-16.78	46.78	30.00	1.0000
1909.8	-17.93	46.77	28.84	0.7656

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

GSM1900 (EDGE 8) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1850.2	-21.28	43.69	22.41	0.1742
1880.0	-20.85	44.79	23.94	0.2477
1909.8	-20.94	43.59	22.65	0.1841
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1850.2	-21.62	45.72	24.10	0.2570
1880.0	-19.89	46.78	26.89	0.4887
1909.8	-21.31	46.77	25.46	0.3516

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

WCDMA Band IV (RMC 12.2Kbps) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-16.19	41.74	25.55	0.3589
1732.6	-17.48	42.41	24.93	0.3112
1752.5	-18.89	41.82	22.93	0.1963
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-31.42	43.38	11.96	0.0157
1732.6	-32.75	45.43	12.68	0.0185
1752.5	-33.08	44.43	11.35	0.0136

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

WCDMA Band IV (HSUPA) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-16.61	41.74	25.13	0.3258
1732.6	-18.14	42.41	24.27	0.2673
1752.5	-18.50	41.82	23.32	0.2148
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-29.59	43.38	13.79	0.0239
1732.6	-28.86	45.43	16.57	0.0454
1752.5	-29.32	44.43	15.11	0.0324

* 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)
1852.4	-20.80	44.15	23.35	0.2163
1880.0	-22.91	44.79	21.88	0.1542
1907.6	-24.46	44.21	19.75	0.0944
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.4	-27.19	45.73	18.54	0.0714
1880.0	-25.83	46.78	20.95	0.1245
1907.6	-25.91	46.49	20.58	0.1143

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

WCDMA Band II (HSUPA) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.4	-21.24	44.15	22.91	0.1954
1880.0	-23.58	44.79	21.21	0.1321
1907.6	-23.63	44.21	20.58	0.1143
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.4	-25.58	45.73	20.15	0.1035
1880.0	-26.53	46.78	20.25	0.1059
1907.6	-26.42	46.49	20.07	0.1016

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

<EUT with Earphone and Adapter>

GSM1900 (GSM) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1880.0	-17.82	44.79	26.97	0.4977
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1880.0	-15.47	46.78	31.31	1.3521

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

GSM1900 (EDGE 8) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1880.0	-23.02	44.79	21.77	0.1503
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1880.0	-19.71	46.78	27.07	0.5093

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

WCDMA Band IV (RMC 12.2Kbps) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-16.49	41.74	25.25	0.3350
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-29.51	43.38	13.87	0.0244

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

WCDMA Band IV (HSUPA) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-16.87	41.74	24.87	0.3069
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-30.10	43.38	13.28	0.0213

* 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)
1852.4	-23.48	44.15	20.67	0.1167
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.4	-22.93	45.73	22.80	0.1905

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

WCDMA Band II (HSUPA) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.4	-21.90	44.15	22.25	0.1679
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.4	-23.22	45.73	22.51	0.1782

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

<EUT with Wireless Charging Pad and Earphone>

GSM1900 (GSM) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1880.0	-14.31	44.79	30.48	1.1169
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1880.0	-26.50	46.78	20.28	0.1067

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

GSM1900 (EDGE 8) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1880.0	-17.69	44.79	27.10	0.5129
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1880.0	-30.44	46.78	16.34	0.0431

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

WCDMA Band IV (RMC 12.2Kbps) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-16.93	41.74	24.81	0.3027
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-31.68	43.38	11.70	0.0148

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

WCDMA Band IV (HSUPA) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-19.02	41.74	22.72	0.1871
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-32.26	43.38	11.12	0.0129

* 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)
1852.4	-20.82	44.15	23.33	0.2153
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.4	-32.52	45.73	13.21	0.0209

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

WCDMA Band II (HSUPA) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.4	-21.14	44.15	23.01	0.2000
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.4	-34.14	45.73	11.59	0.0144

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

<EUT with Wireless Charging Pad>

GSM1900 (GSM) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1880.0	-14.11	44.79	30.68	1.1695
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1880.0	-27.33	46.78	19.45	0.0881

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

GSM1900 (EDGE 8) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1880.0	-18.10	44.79	26.69	0.4667
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1880.0	-30.68	46.78	16.10	0.0407

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

WCDMA Band IV (RMC 12.2Kbps) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-17.66	41.74	24.08	0.2559
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-31.94	43.38	11.44	0.0139

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

WCDMA Band IV (HSUPA) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-18.81	41.74	22.93	0.1963
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-32.69	43.38	10.69	0.0117

* 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)
1852.4	-21.02	44.15	23.13	0.2056
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.4	-32.97	45.73	12.76	0.0189

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

WCDMA Band II (HSUPA) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.4	-21.35	44.15	22.80	0.1905
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.4	-34.81	45.73	10.92	0.0124

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

<Peak>

<EUT Standalone>

GSM1900 (GSM) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1850.2	-17.52	43.69	26.17	0.4140
1880.0	-17.70	44.79	27.09	0.5117
1909.8	-19.36	43.59	24.23	0.2649
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1850.2	-18.36	45.72	27.36	0.5445
1880.0	-16.71	46.78	30.07	1.0162
1909.8	-17.81	46.77	28.96	0.7870

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

GSM1900 (EDGE 8) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1850.2	-18.74	43.69	24.95	0.3126
1880.0	-18.25	44.79	26.54	0.4508
1909.8	-18.65	43.59	24.94	0.3119
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1850.2	-19.32	45.72	26.40	0.4365
1880.0	-17.65	46.78	29.13	0.8185
1909.8	-18.97	46.77	27.80	0.6026

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

WCDMA Band IV (RMC 12.2Kbps) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-13.89	41.74	27.85	0.6095
1732.6	-15.17	42.41	27.24	0.5297
1752.5	-15.50	41.82	26.32	0.4285
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-27.99	43.38	15.39	0.0346
1732.6	-30.37	45.43	15.06	0.0321
1752.5	-29.85	44.43	14.58	0.0287

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

WCDMA Band IV (HSUPA) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-12.60	41.74	29.14	0.8204
1732.6	-14.80	42.41	27.61	0.5768
1752.5	-13.86	41.82	27.96	0.6252
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-25.48	43.38	17.90	0.0617
1732.6	-25.82	45.43	19.61	0.0914
1752.5	-24.75	44.43	19.68	0.0929

* 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)
1852.4	-18.01	44.15	26.14	0.4111
1880.0	-19.75	44.79	25.04	0.3192
1907.6	-21.73	44.21	22.48	0.1770
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.4	-24.81	45.73	20.92	0.1236
1880.0	-22.83	46.78	23.95	0.2483
1907.6	-22.95	46.49	23.54	0.2259

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

WCDMA Band II (HSUPA) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.4	-18.98	44.15	25.17	0.3289
1880.0	-20.85	44.79	23.94	0.2477
1907.6	-21.12	44.21	23.09	0.2037
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.4	-23.44	45.73	22.29	0.1694
1880.0	-23.93	46.78	22.85	0.1928
1907.6	-23.71	46.49	22.78	0.1897

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

<EUT with Earphone and Adapter>

GSM1900 (GSM) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1880.0	-17.71	44.79	27.08	0.5105
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1880.0	-15.35	46.78	31.43	1.3900

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

GSM1900 (EDGE 8) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1880.0	-20.60	44.79	24.19	0.2624
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1880.0	-17.26	46.78	29.52	0.8954

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

WCDMA Band IV (RMC 12.2Kbps) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-14.07	41.74	27.67	0.5848
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-26.06	43.38	17.32	0.0540

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

WCDMA Band IV (HSUPA) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-12.39	41.74	29.35	0.8610
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-25.45	43.38	17.93	0.0621

* 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)
1852.4	-20.97	44.15	23.18	0.2080
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.4	-20.39	45.73	25.34	0.3420

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

WCDMA Band II (HSUPA) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.4	-18.40	44.15	25.75	0.3758
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.4	-19.75	45.73	25.98	0.3963

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

<EUT with Wireless Charging Pad and Earphone>

GSM1900 (GSM) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1880.0	-14.20	44.79	30.59	1.1455
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1880.0	-26.39	46.78	20.39	0.1094

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

GSM1900 (EDGE 8) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1880.0	-15.28	44.79	29.51	0.8933
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1880.0	-28.05	46.78	18.73	0.0746

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

WCDMA Band IV (RMC 12.2Kbps) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-14.53	41.74	27.21	0.5260
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-27.99	43.38	15.39	0.0346

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

WCDMA Band IV (HSUPA) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-14.19	41.74	27.55	0.5689
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-27.59	43.38	15.79	0.0379

* 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)
1852.4	-18.40	44.15	25.75	0.3758
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.4	-30.18	45.73	15.55	0.0359

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

WCDMA Band II (HSUPA) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.4	-17.55	44.15	26.60	0.4571
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.4	-31.13	45.73	14.60	0.0288

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

<EUT with Wireless Charging Pad>

GSM1900 (GSM) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1880.0	-14.06	44.79	30.73	1.1830
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1880.0	-27.20	46.78	19.58	0.0908

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

GSM1900 (EDGE 8) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1880.0	-15.75	44.79	29.04	0.8017
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1880.0	-28.22	46.78	18.56	0.0718

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

WCDMA Band IV (RMC 12.2Kbps) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-14.59	41.74	27.15	0.5188
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-28.29	43.38	15.09	0.0323

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

WCDMA Band IV (HSUPA) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-14.07	41.74	27.67	0.5848
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1712.4	-27.96	43.38	15.42	0.0348

* 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)
1852.4	-18.71	44.15	25.44	0.3499
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.4	-30.64	45.73	15.09	0.0323

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

WCDMA Band II (HSUPA) Radiated Power EIRP				
Horizontal Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.4	-17.92	44.15	26.23	0.4198
Vertical Polarization				
Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
1852.4	-31.77	45.73	13.96	0.0249

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

3.4 Occupied Bandwidth and 26dB Bandwidth Measurement

3.4.1 Description of Occupied Bandwidth and 26dB Bandwidth Measurement

The 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.

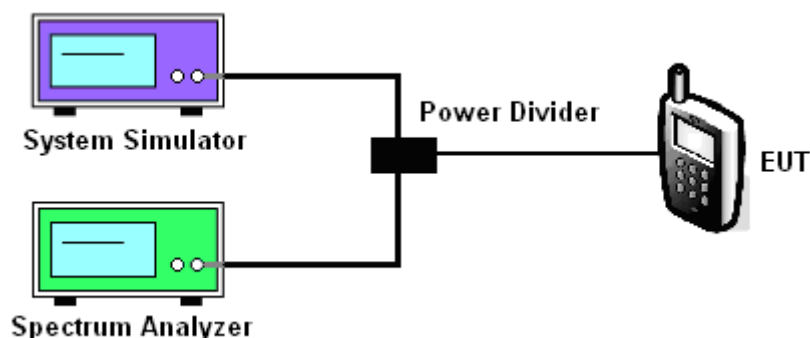
3.4.2 Measuring Instruments

See list of measuring instruments 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 99% occupied bandwidth and 26 dB bandwidth of the middle channel for the highest RF powers were measured.

3.4.4 Test Setup



3.4.5 Test Result of Occupied Bandwidth and 26dB Bandwidth

Cellular Band						
Modes	GSM850 (GSM)			GSM850 (EDGE 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)	250.00	250.00	246.00	246.00	246.00	240.00
26dB BW (KHz)	314.00	310.00	314.00	310.00	312.00	302.00

PCS Band						
Modes	GSM1900 (GSM)			GSM1900 (EDGE 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)	250.00	242.00	248.00	250.00	244.00	244.00
26dB BW (KHz)	312.00	292.00	314.00	310.00	296.00	304.00

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	4.18	4.18
26dB BW (MHz)	4.68	4.68	4.68

AWS Band			
Modes	WCDMA Band IV (RMC 12.2Kbps)		
Channel	1312(Low)	1413 (Mid)	1862 (High)
Frequency (MHz)	1712.4	1732.6	1752.5
99% OBW (MHz)	4.18	4.20	4.18
26dB BW (MHz)	4.68	4.68	4.68

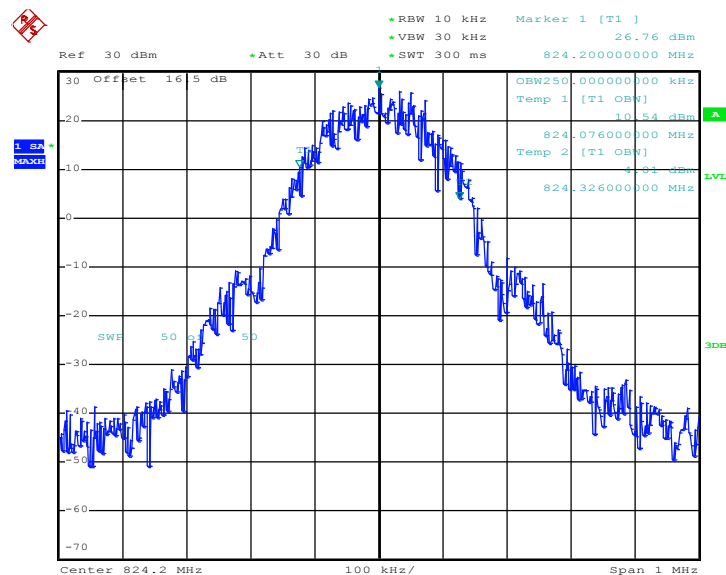


PCS Band			
Modes	WCDMA Band II (RMC 12.2Kbps)		
Channel	9262 (Low)	9400 (Mid)	9538 (High)
Frequency (MHz)	1852.4	1880	1907.6
99% OBW (MHz)	4.20	4.18	4.16
26dB BW (MHz)	4.68	4.68	4.68

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

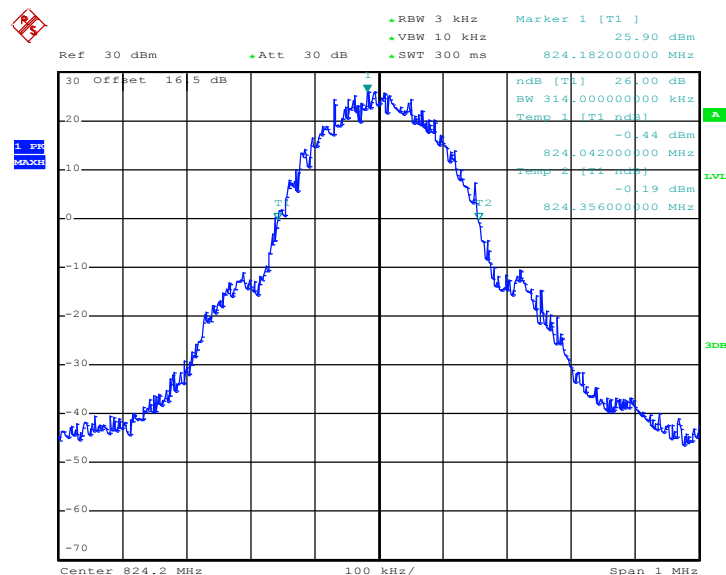
Band :	GSM 850	Test Mode :	GSM Link
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99% Occupied Bandwidth Plot on Channel 128 (824.2 MHz)



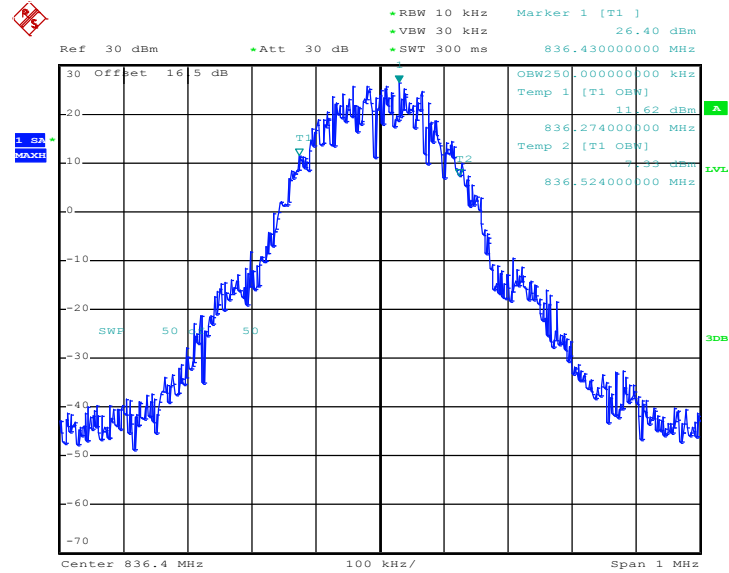
Date: 17.SEP.2012 11:12:28

26dB Bandwidth Plot on Channel 128 (824.2 MHz)



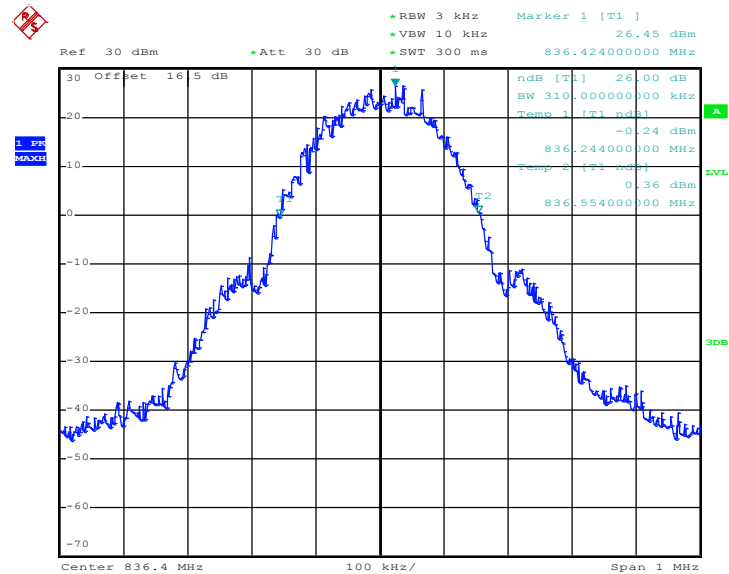
Date: 17.SEP.2012 10:40:13

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



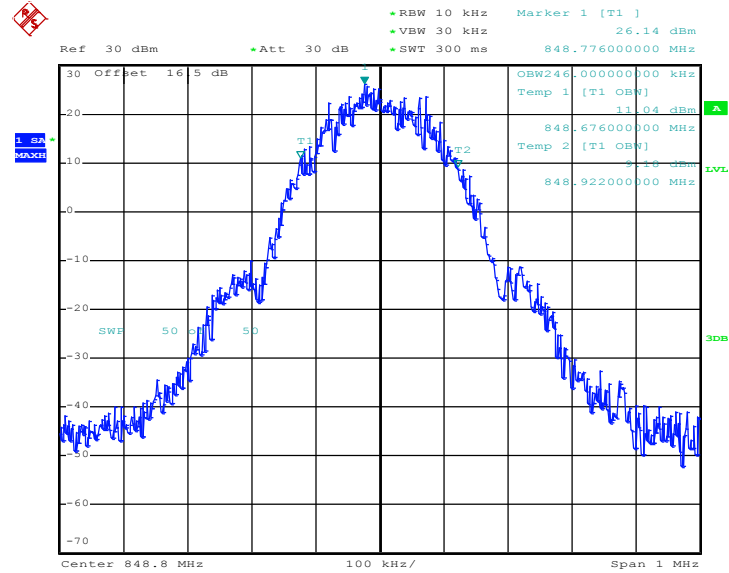
Date: 17.SEP.2012 11:12:48

26dB Bandwidth Plot on Channel 189 (836.4 MHz)



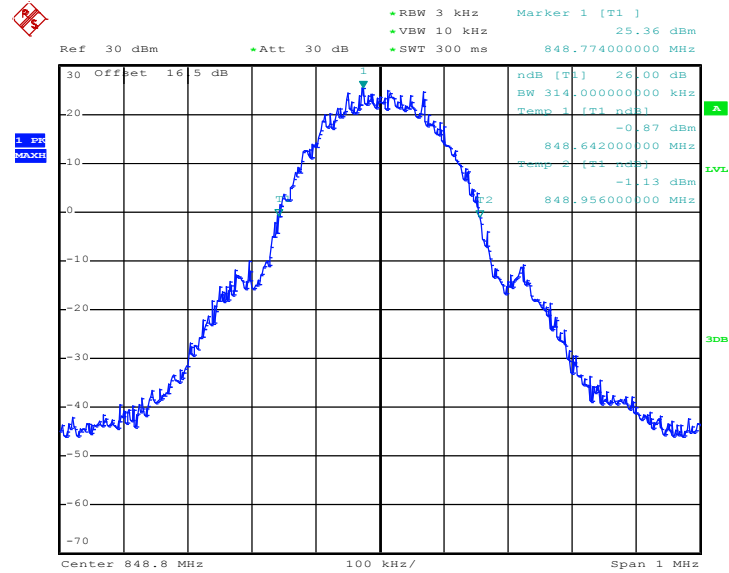
Date: 17.SEP.2012 10:40:39

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



Date: 17.SEP.2012 11:13:07

26dB Bandwidth Plot on Channel 251 (848.8 MHz)

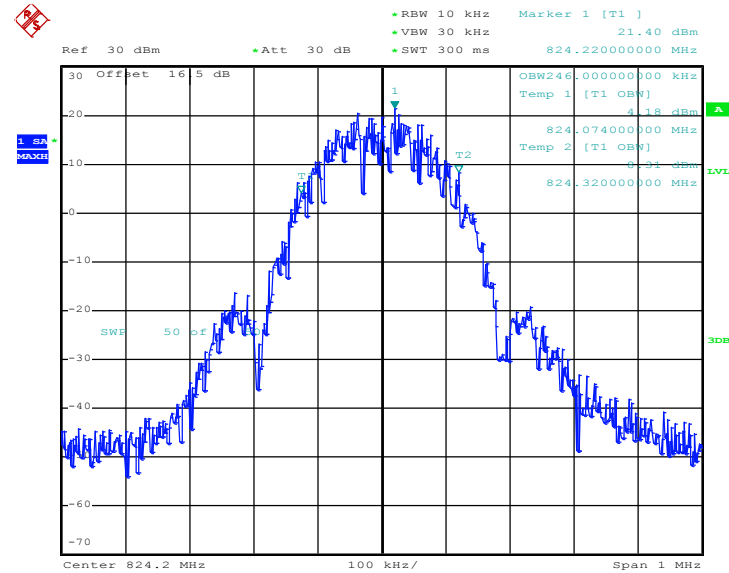


Date: 17.SEP.2012 10:41:05



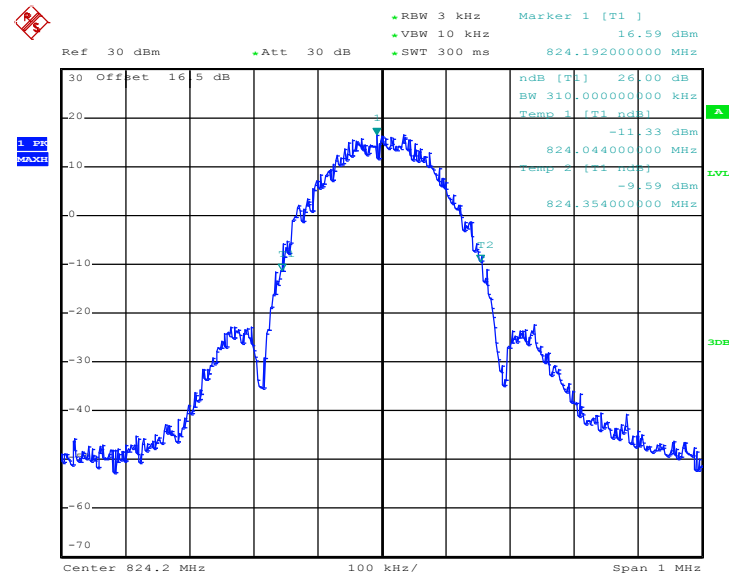
Band :	GSM 850	Test Mode :	EDGE 8 Link
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99% Occupied Bandwidth Plot on Channel 128 (824.2 MHz)



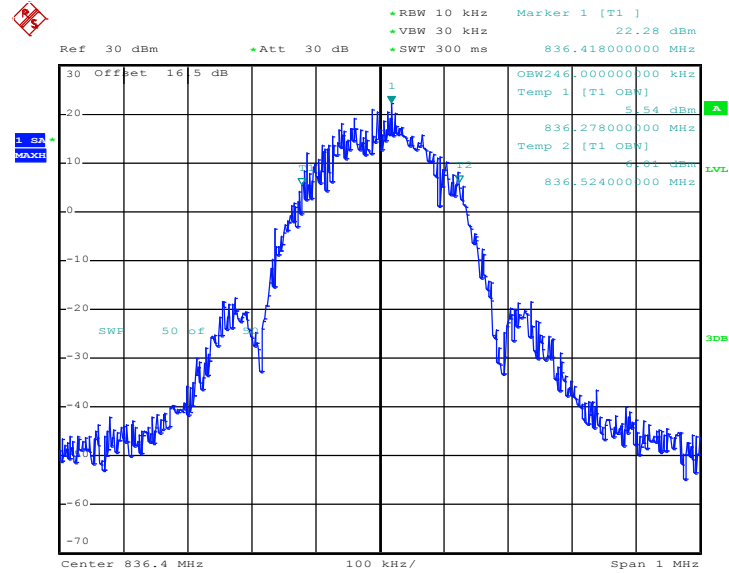
Date: 17.SEP.2012 11:35:47

26dB Bandwidth Plot on Channel 128 (824.2 MHz)



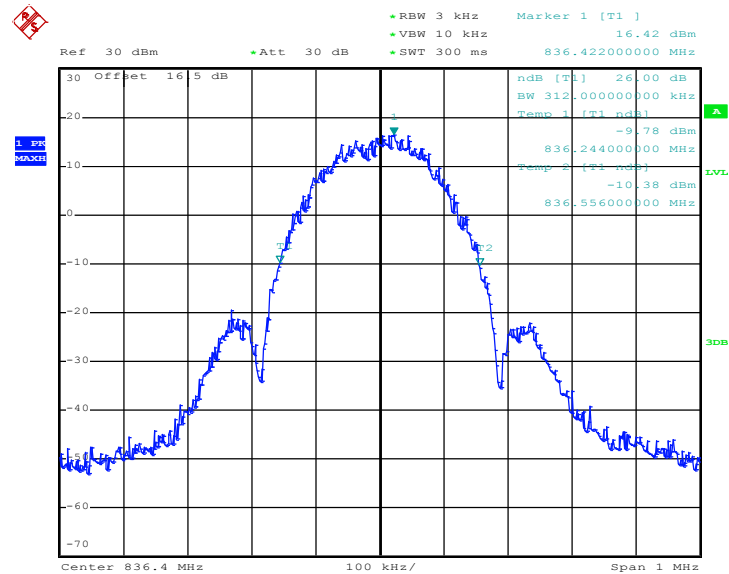
Date: 17.SEP.2012 11:22:06

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



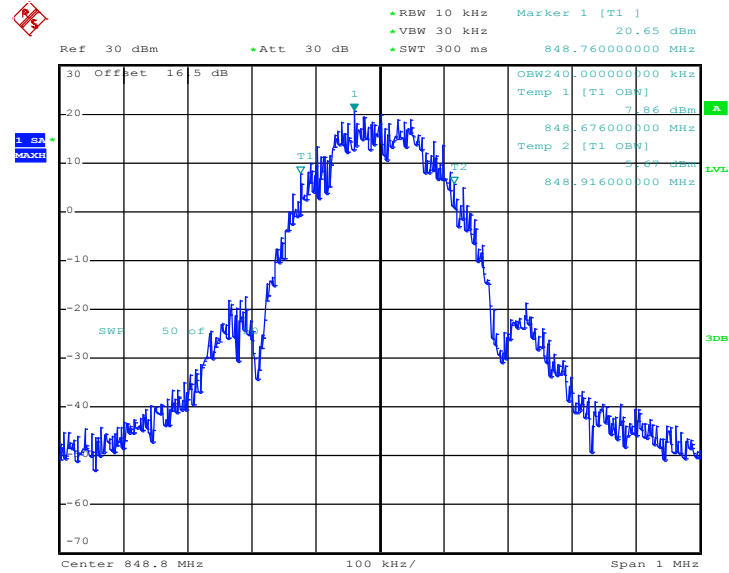
Date: 17.SEP.2012 11:36:06

26dB Bandwidth Plot on Channel 189 (836.4 MHz)



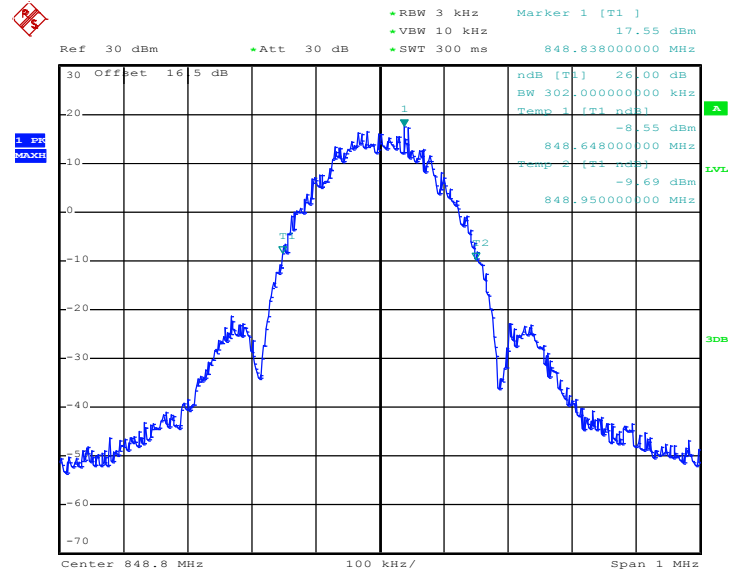
Date: 17.SEP.2012 11:22:32

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



Date: 17.SEP.2012 11:36:26

26dB Bandwidth Plot on Channel 251 (848.8 MHz)

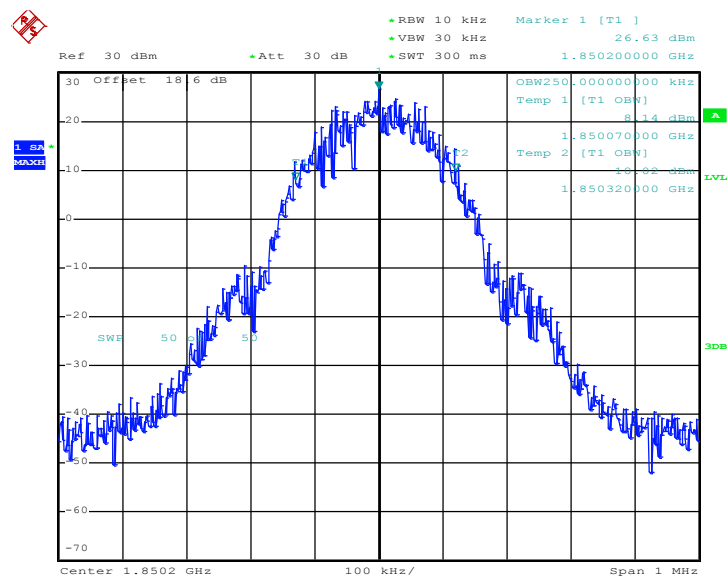


Date: 17.SEP.2012 11:22:58



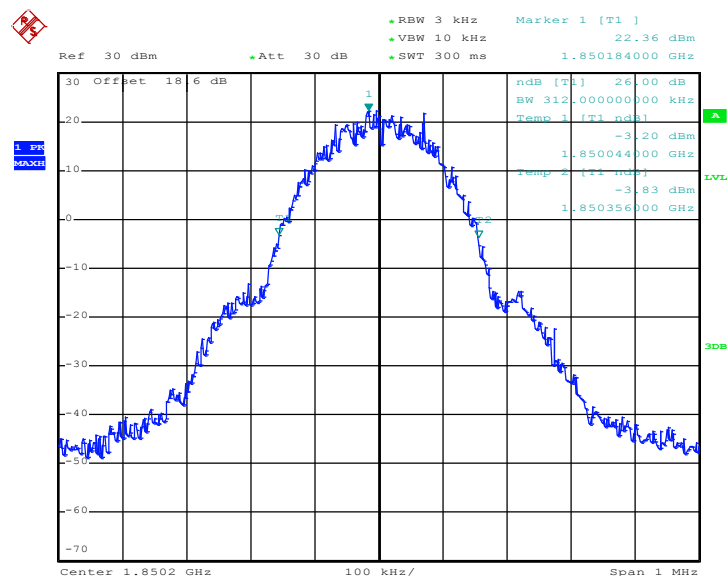
Band :	GSM 1900	Test Mode :	GSM Link
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99% Occupied Bandwidth Plot on Channel 512 (1850.2 MHz)



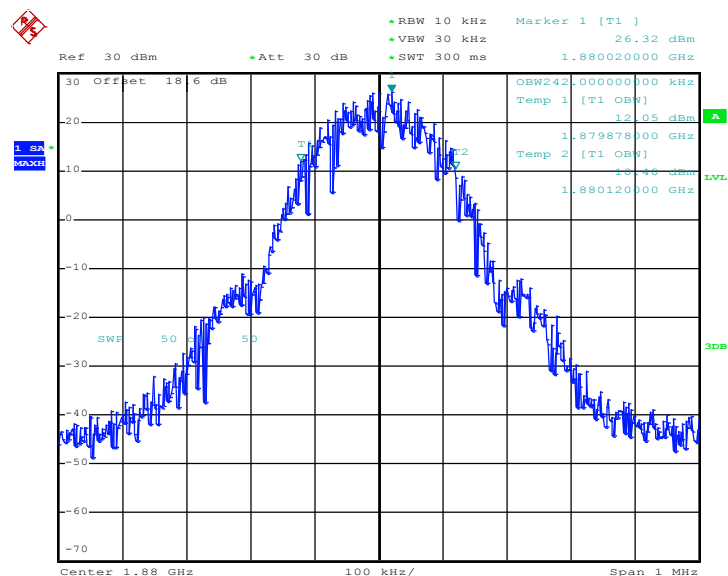
Date: 17.SEP.2012 14:24:30

26dB Bandwidth Plot on Channel 512 (1850.2 MHz)



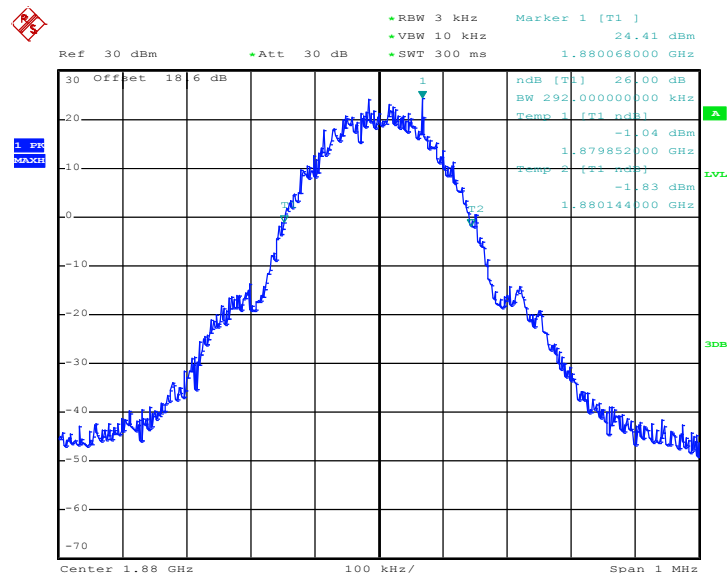
Date: 17.SEP.2012 14:22:00

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



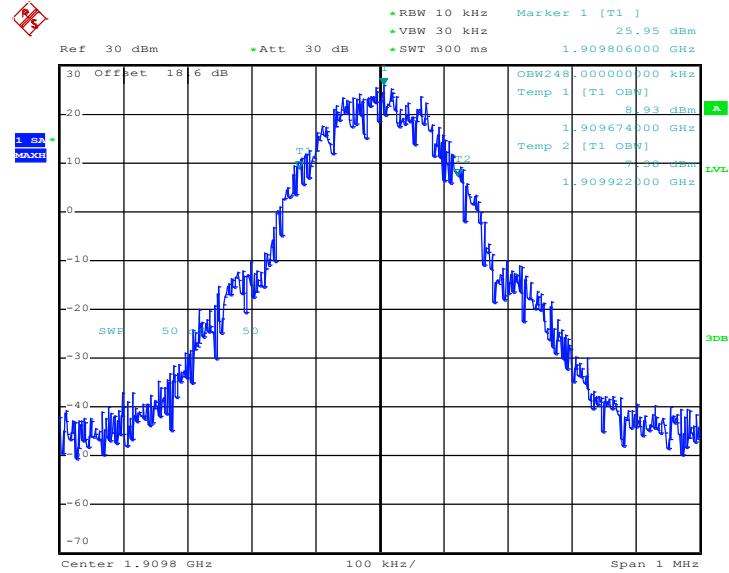
Date: 17.SEP.2012 14:24:49

26dB Bandwidth Plot on Channel 661 (1880.0 MHz)



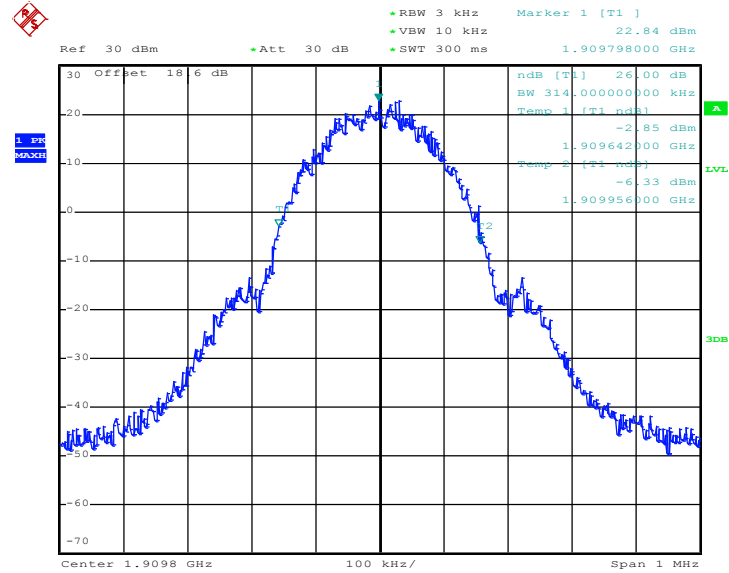
Date: 17.SEP.2012 14:22:26

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



Date: 17.SEP.2012 14:25:09

26dB Bandwidth Plot on Channel 810 (1909.8 MHz)

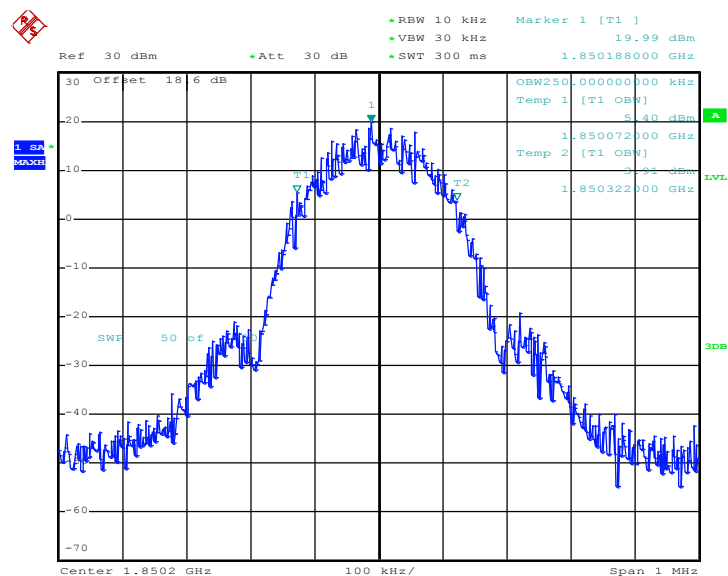


Date: 17.SEP.2012 14:22:52



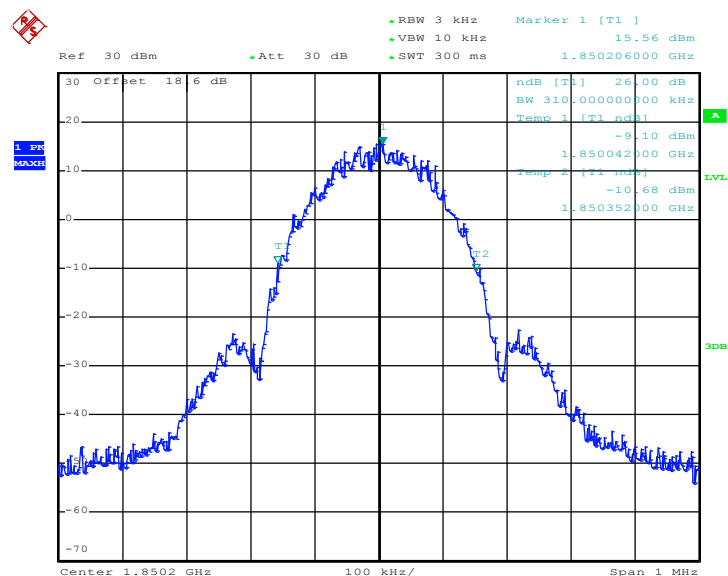
Band :	GSM 1900	Test Mode :	EDGE 8 Link
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99% Occupied Bandwidth Plot on Channel 512 (1850.2 MHz)



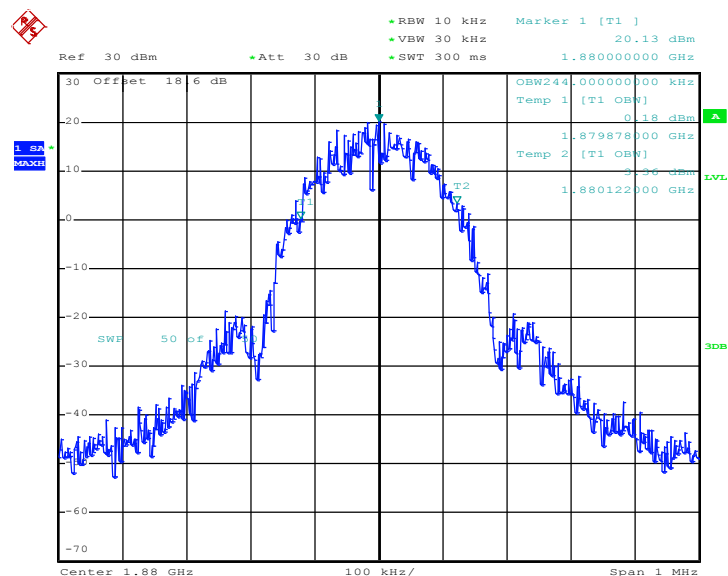
Date: 17.SEP.2012 14:45:12

26dB Bandwidth Plot on Channel 512 (1850.2 MHz)



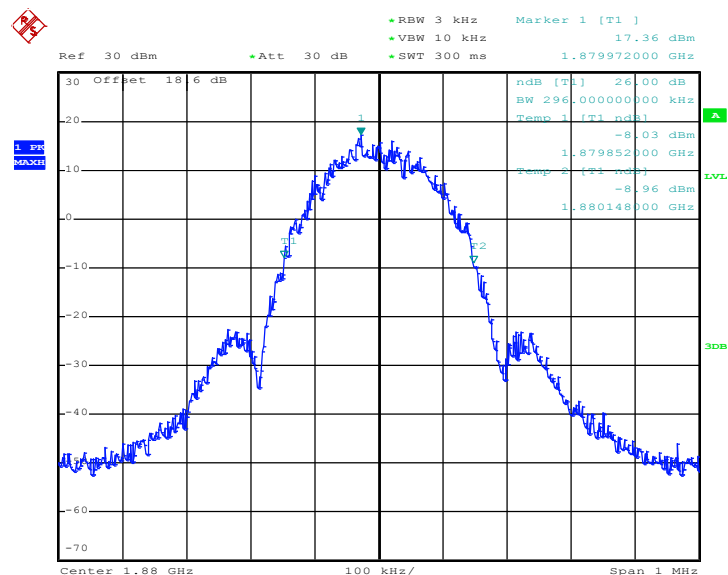
Date: 17.SEP.2012 14:42:41

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

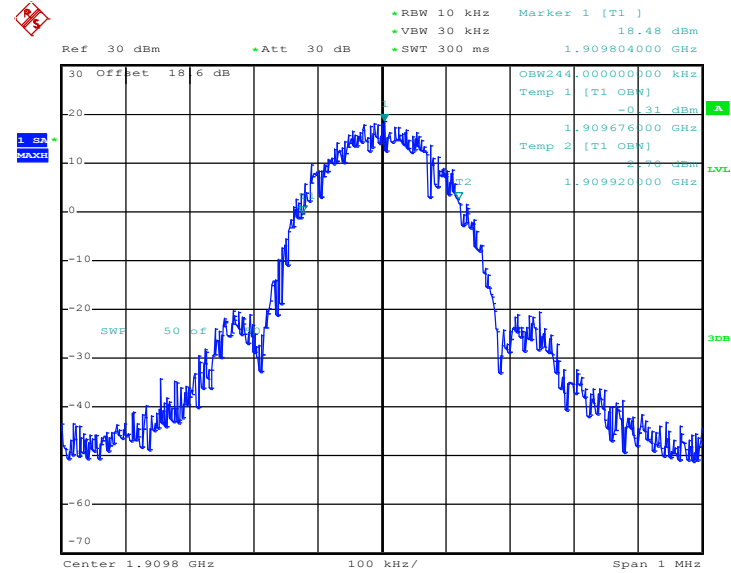


Date: 17.SEP.2012 14:45:31

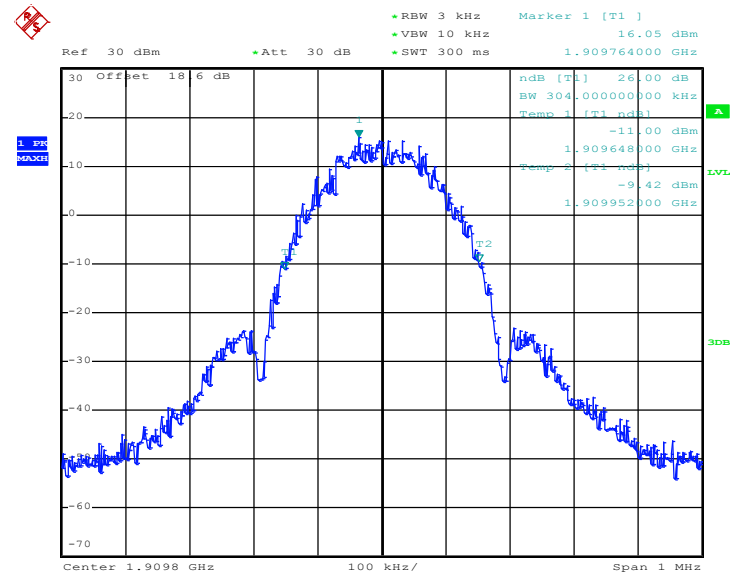
26dB Bandwidth Plot on Channel 661 (1880.0 MHz)



Date: 17.SEP.2012 14:43:07

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


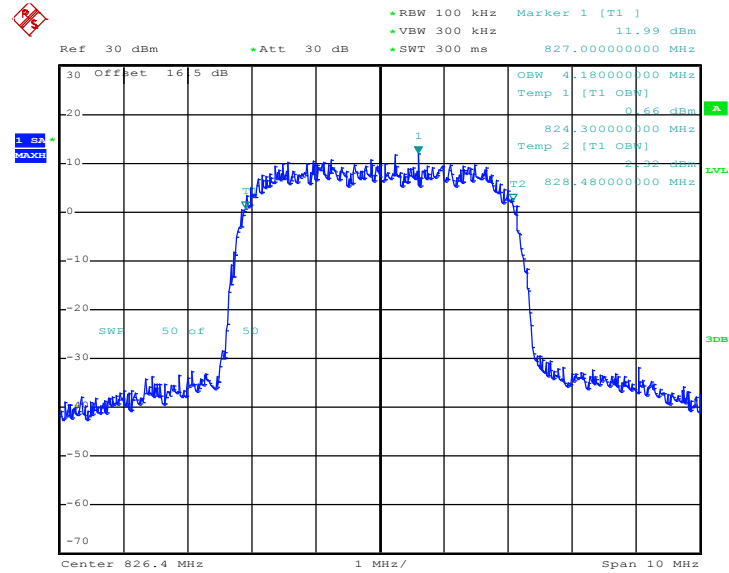
Date: 17.SEP.2012 14:45:51

26dB Bandwidth Plot on Channel 810 (1909.8 MHz)


Date: 17.SEP.2012 14:43:34

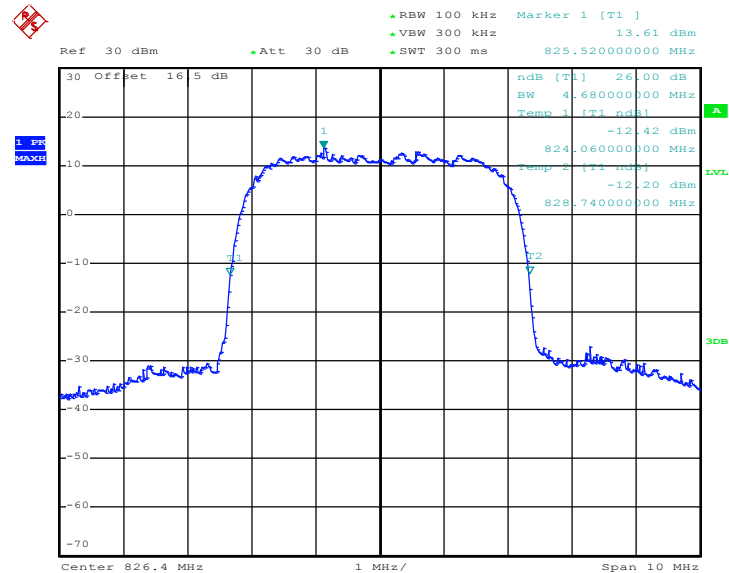
Band :	WCDMA Band V	Test Mode :	RMC 12.2Kbps Link
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99% Occupied Bandwidth Plot on Channel 4132 (826.4 MHz)



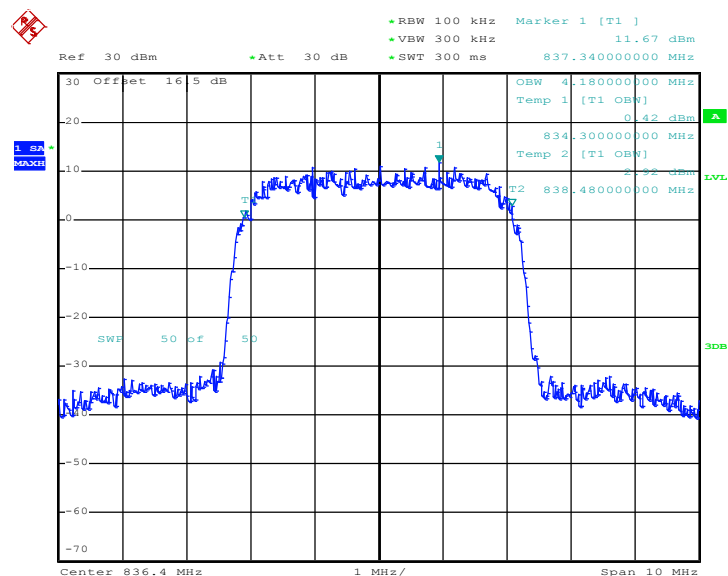
Date: 17.SEP.2012 11:59:30

26dB Bandwidth Plot on Channel 4132 (826.4 MHz)



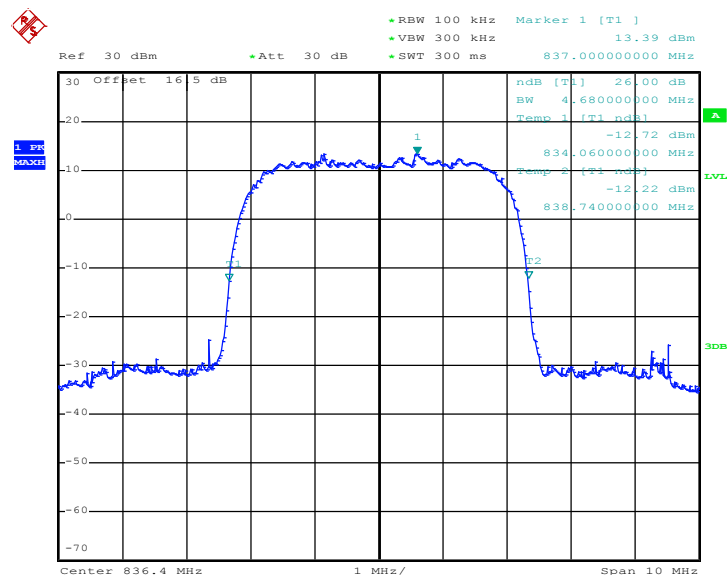
Date: 17.SEP.2012 11:56:59

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



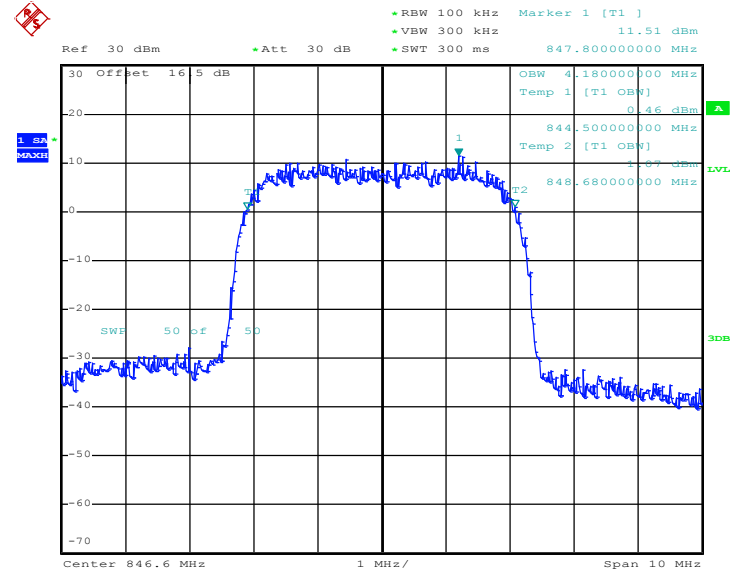
Date: 17.SEP.2012 11:59:50

26dB Bandwidth Plot on Channel 4182 (836.4 MHz)



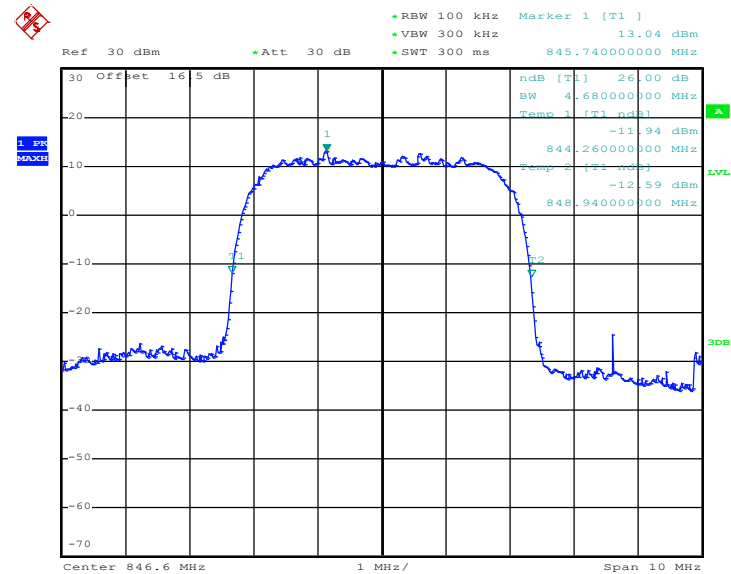
Date: 17.SEP.2012 11:57:25

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



Date: 17.SEP.2012 12:00:11

26dB Bandwidth Plot on Channel 4233 (846.6 MHz)

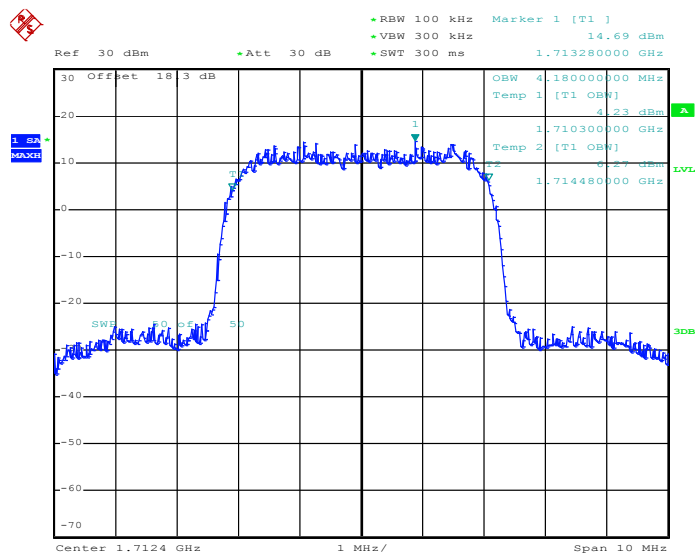


Date: 17.SEP.2012 11:57:51



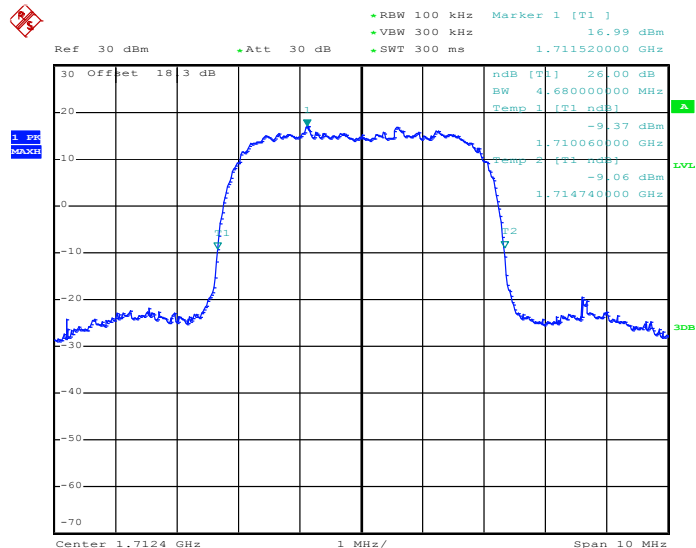
Band :	WCDMA Band IV	Test Mode :	RMC 12.2Kbps Link
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99% Occupied Bandwidth Plot on Channel 1312 (1712.4 MHz)

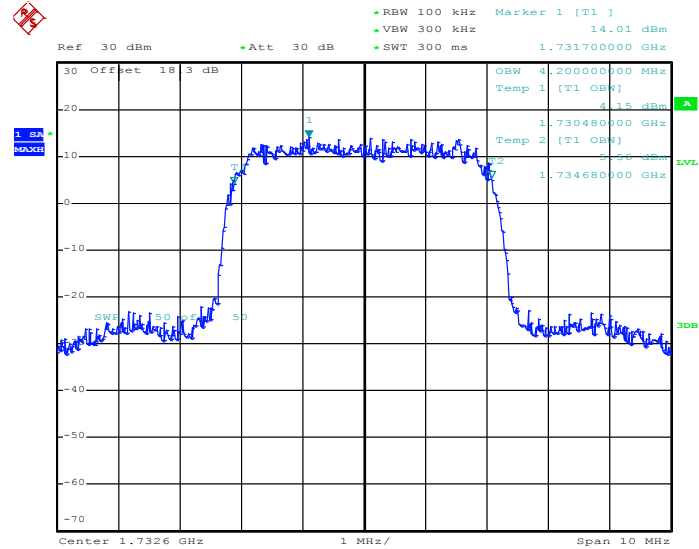


Date: 17.SEP.2012 14:06:28

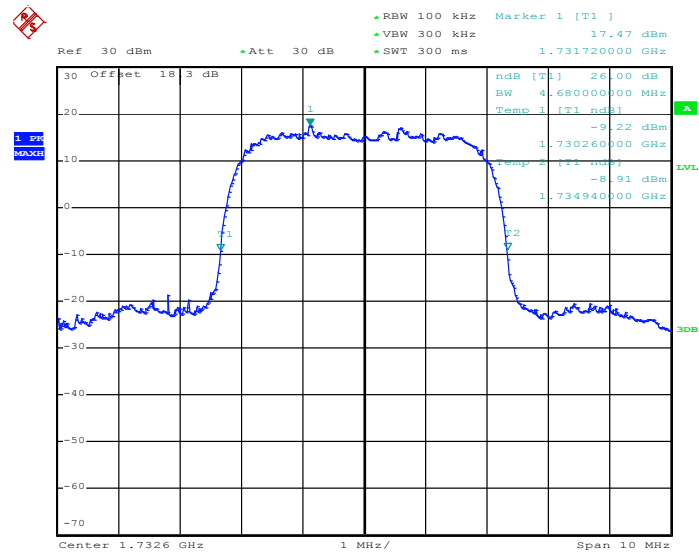
26dB Bandwidth Plot on Channel 1312 (1712.4 MHz)



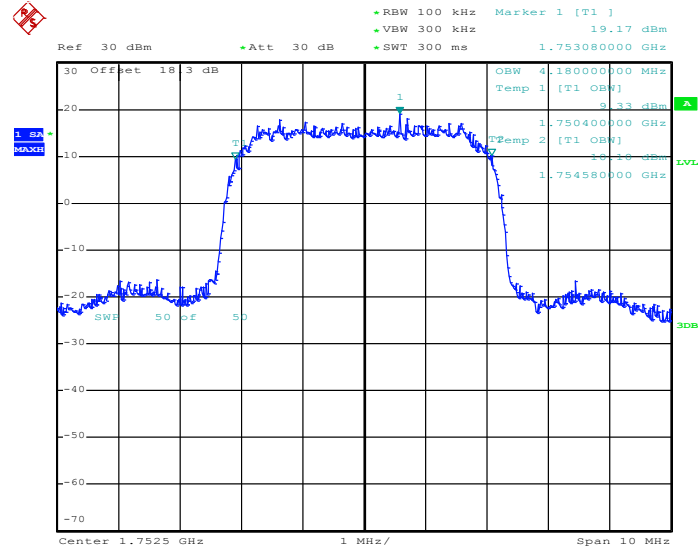
Date: 17.SEP.2012 14:03:57

99% Occupied Bandwidth Plot on Channel 1413 (1732.6 MHz)


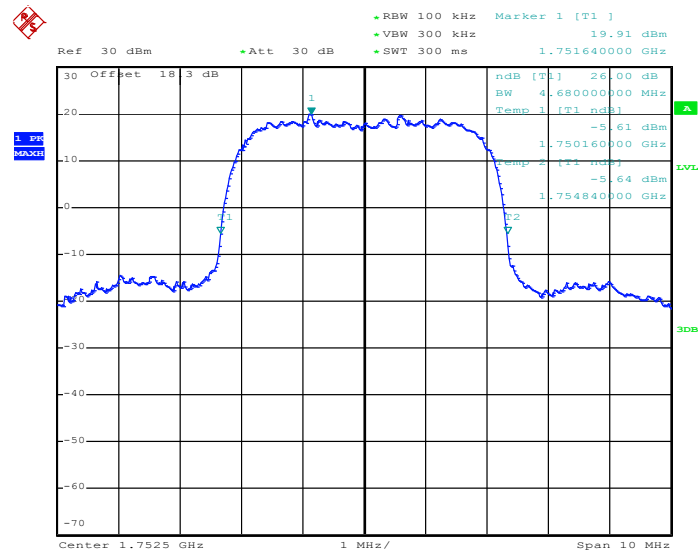
Date: 17.SEP.2012 14:06:48

26dB Bandwidth Plot on Channel 1413 (1732.6 MHz)


Date: 17.SEP.2012 14:04:23

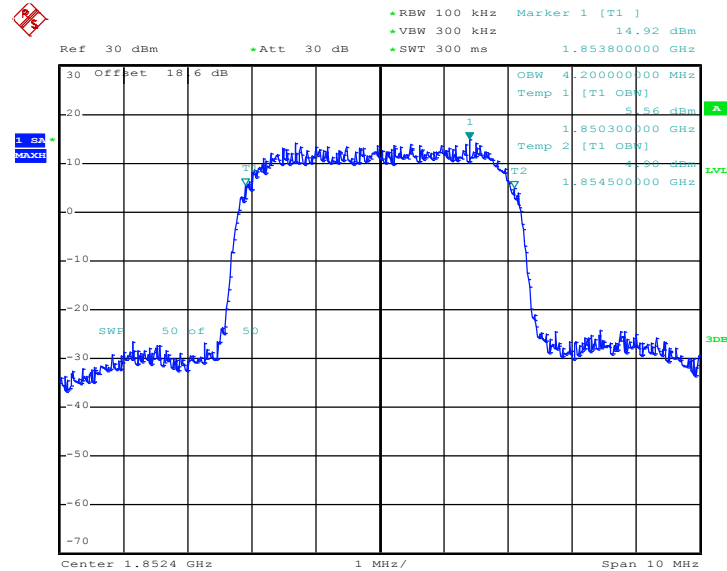
99% Occupied Bandwidth Plot on Channel 1862 (1752.5 MHz)


Date: 24.SEP.2012 16:28:43

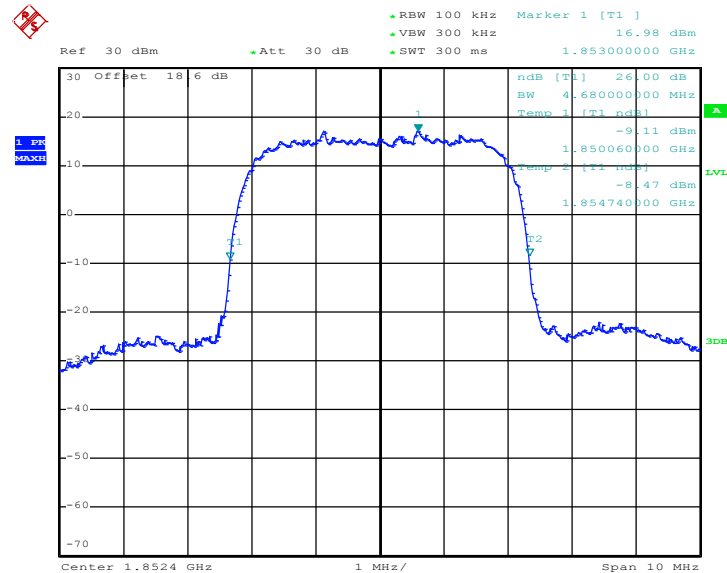
26dB Bandwidth Plot on Channel 1862 (1752.5 MHz)


Date: 24.SEP.2012 16:20:07

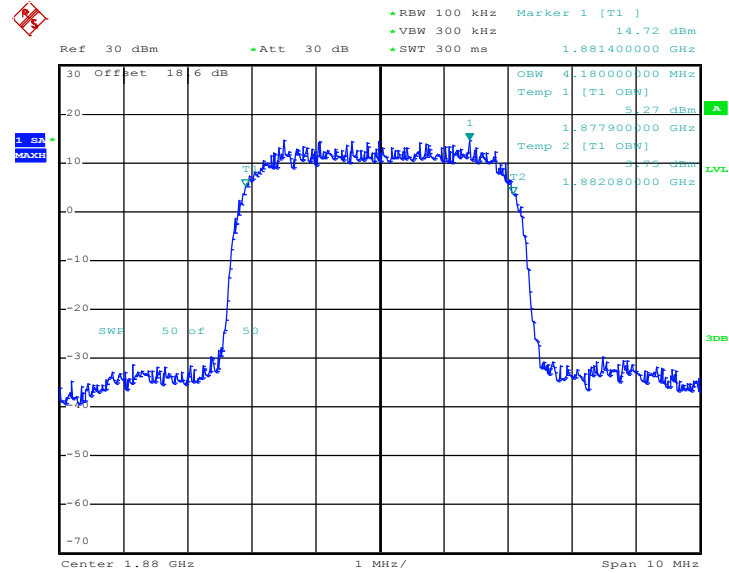
Band :	WCDMA Band II	Test Mode :	RMC 12.2Kbps Link
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99% Occupied Bandwidth Plot on Channel 9262 (1852.4 MHz)


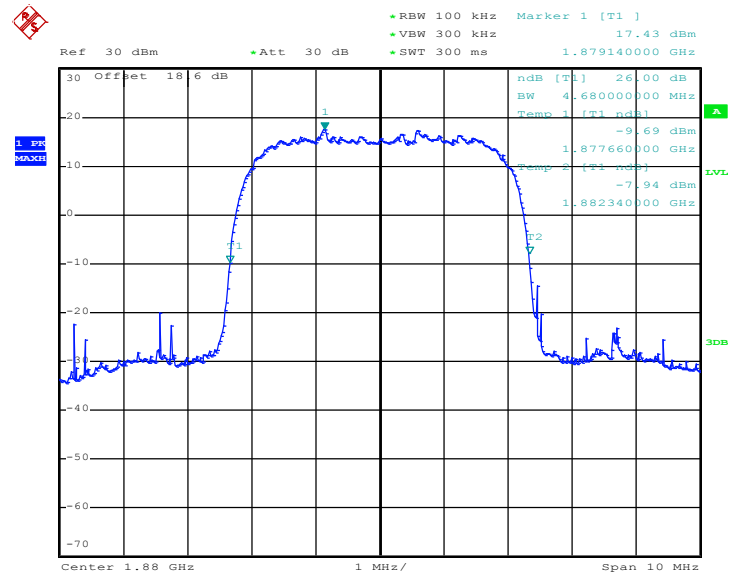
Date: 17.SEP.2012 13:35:35

26dB Bandwidth Plot on Channel 9262 (1852.4 MHz)


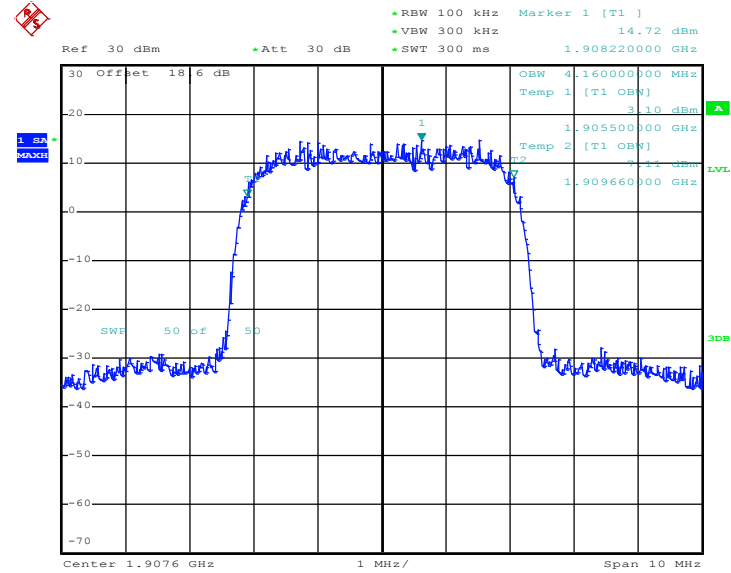
Date: 17.SEP.2012 13:33:04

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


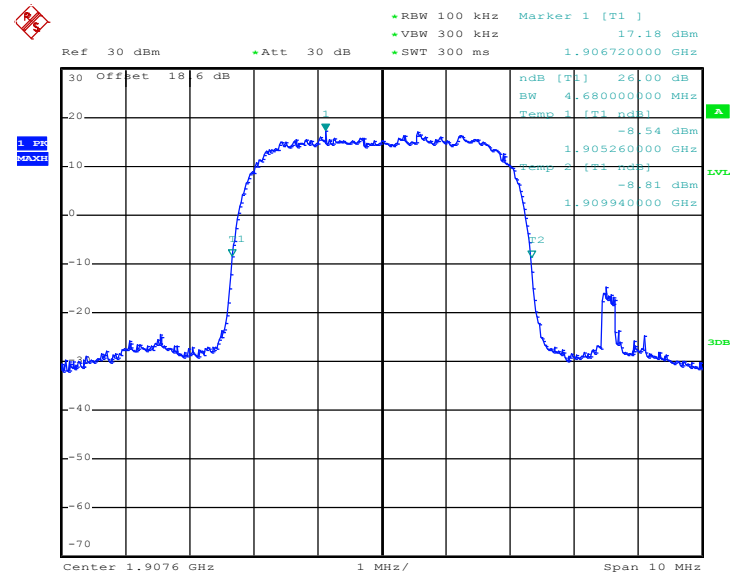
Date: 17.SEP.2012 13:35:55

26dB Bandwidth Plot on Channel 9400 (1880.0 MHz)


Date: 17.SEP.2012 13:33:30

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


Date: 17.SEP.2012 13:36:16

26dB Bandwidth Plot on Channel 9538 (1907.6 MHz)


Date: 17.SEP.2012 13:33:56

3.5 Band Edge Measurement

3.5.1 Description of Band Edge Measurement

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

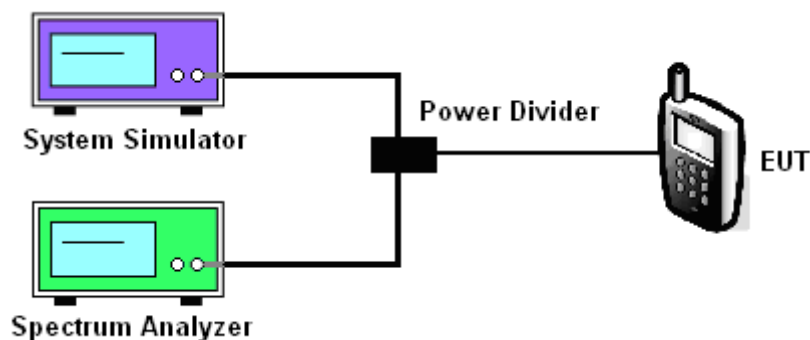
3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

3.5.3 Test Procedures

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The band edges of low and high channels for the highest RF powers were measured. Setting RBW as roughly BW/100.

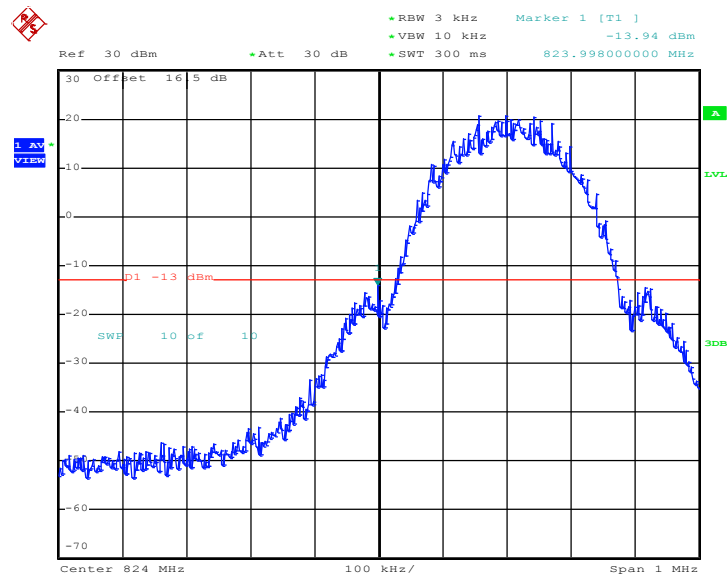
3.5.4 Test Setup



3.5.5 Test Result (Plots) of Conducted Band Edge

Band :	GSM850	Test Mode :	GSM Link
Correction Factor :	0.20dB	Maximum 26dB Bandwidth :	0.314MHz
Band Edge :	-13.74dBm	Measurement Value :	-13.94dBm

Lower Band Edge Plot on Channel 128 (824.2 MHz)

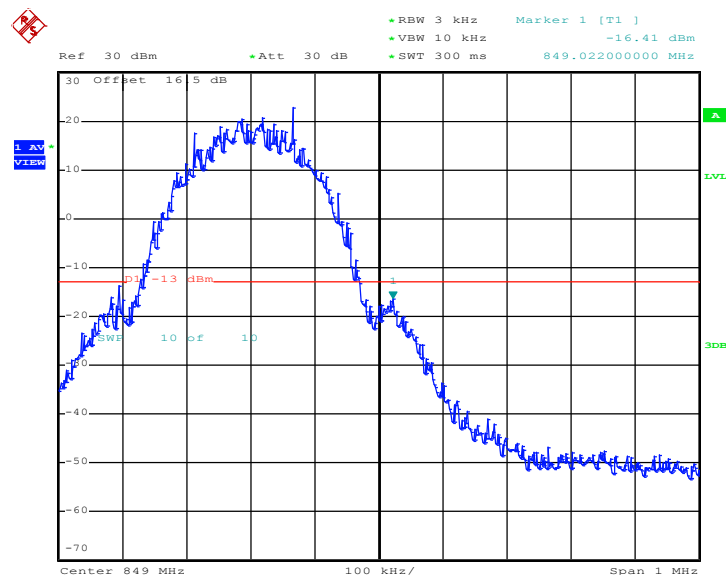


Date: 17.SEP.2012 10:44:47

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
Correction Factor :	0.20dB	Maximum 26dB Bandwidth :	0.314MHz
Band Edge :	-16.21dBm	Measurement Value :	-16.41dBm

Higher Band Edge Plot on Channel 251 (848.8 MHz)

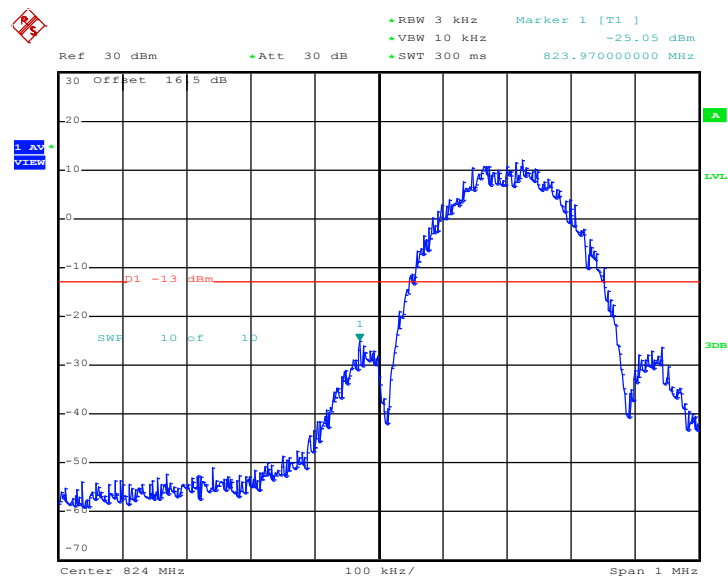


Date: 17.SEP.2012 10:45:16

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

Band :	GSM850	Test Mode :	EDGE 8 Link
Correction Factor :	0.17dB	Maximum 26dB Bandwidth :	0.312MHz
Band Edge :	-24.88dBm	Measurement Value :	-25.05dBm

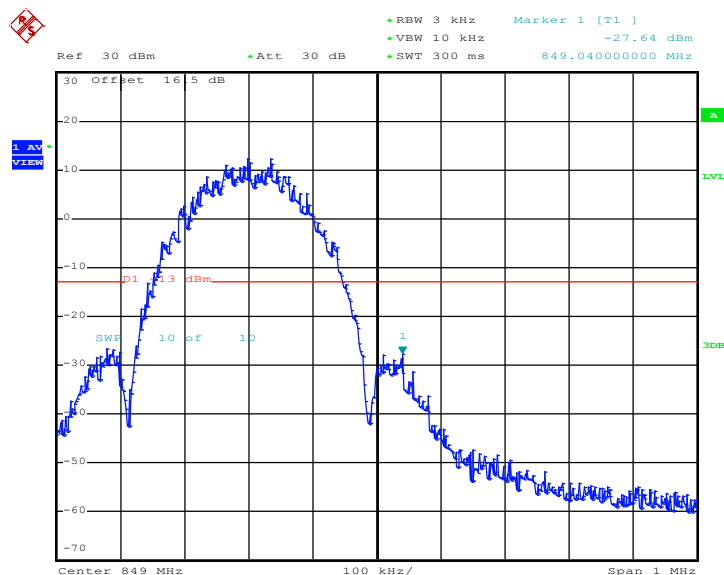
Lower Band Edge Plot on Channel 128 (824.2 MHz)



Date: 17.SEP.2012 11:26:38

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

Band :	GSM850	Test Mode :	EDGE 8 Link
Correction Factor :	0.17dB	Maximum 26dB Bandwidth :	0.312MHz
Band Edge :	-27.47dBm	Measurement Value :	-27.64dBm

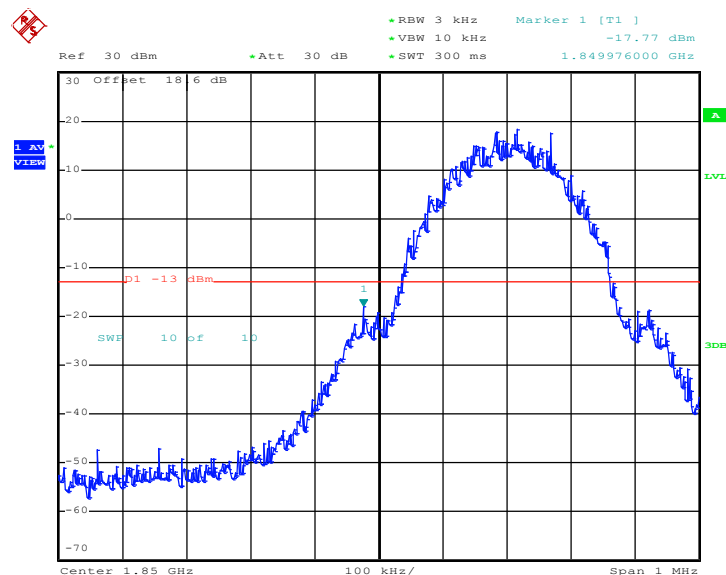
Higher Band Edge Plot on Channel 251 (848.8 MHz)


Date: 17.SEP.2012 11:27:07

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
Correction Factor :	0.20dB	Maximum 26dB Bandwidth :	0.314MHz
Band Edge :	-17.57dBm	Measurement Value :	-17.77dBm

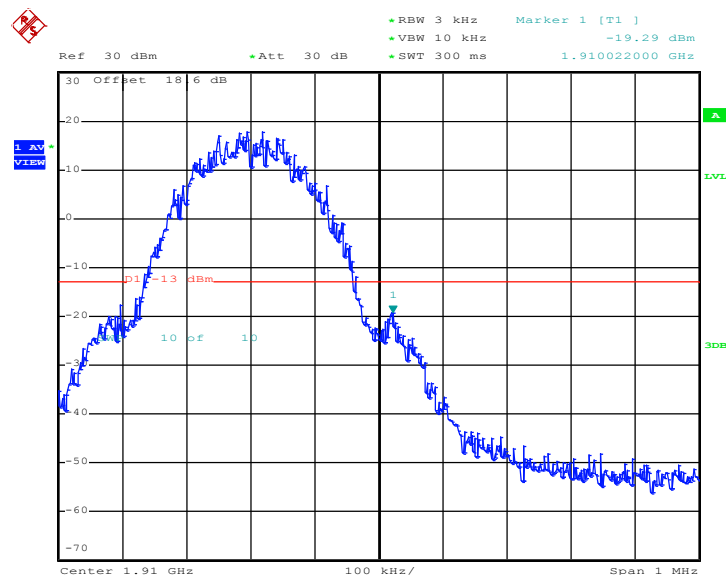
Lower Band Edge Plot on Channel 512 (1850.2 MHz)



Date: 17.SEP.2012 14:26:31

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

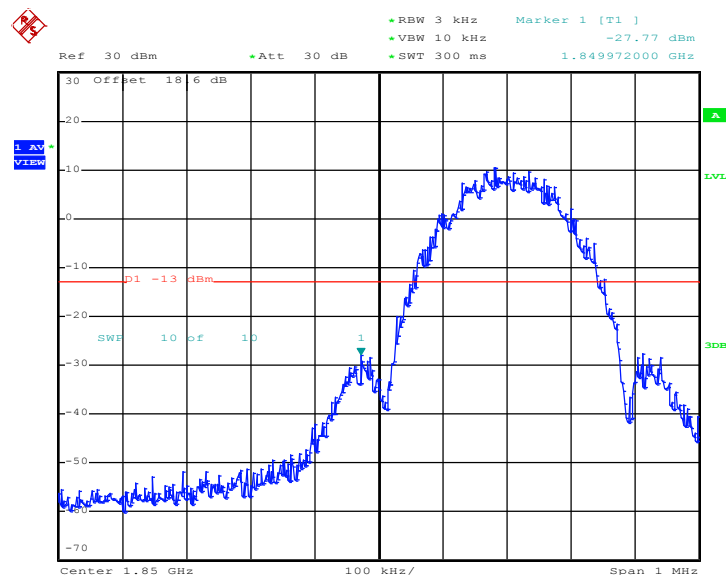
Band :	GSM1900	Test Mode :	GSM Link
Correction Factor :	0.20dB	Maximum 26dB Bandwidth :	0.314MHz
Band Edge :	-19.09dBm	Measurement Value :	-19.29dBm

Higher Band Edge Plot on Channel 810 (1909.8 MHz)


Date: 17.SEP.2012 14:27:00

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

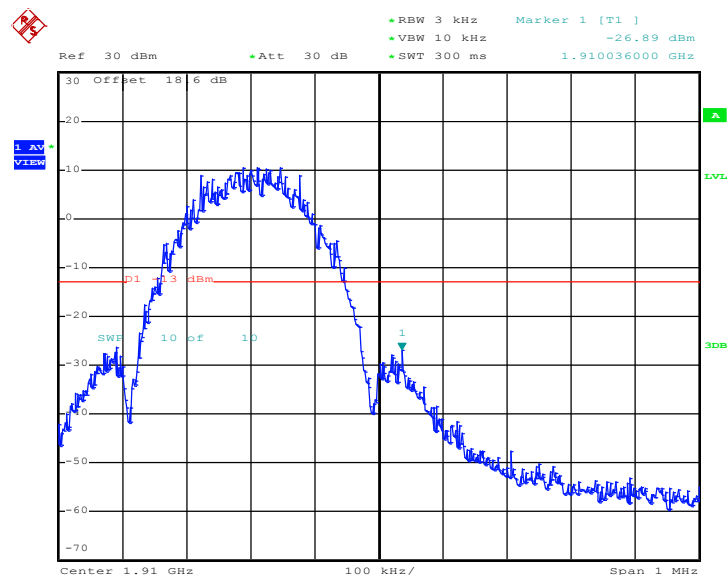
Band :	GSM1900	Test Mode :	EDGE 8 Link
Correction Factor :	0.14dB	Maximum 26dB Bandwidth :	0.310MHz
Band Edge :	-27.63dBm	Measurement Value :	-27.77dBm

Lower Band Edge Plot on Channel 512 (1850.2 MHz)


Date: 17.SEP.2012 14:54:57

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

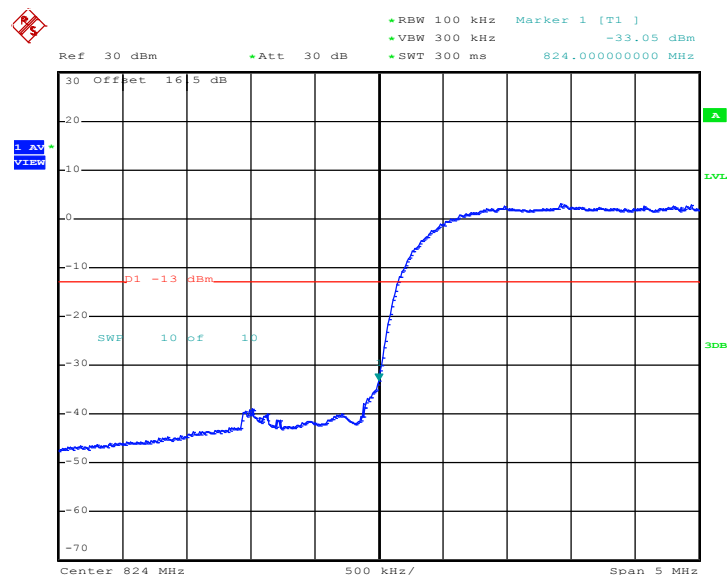
Band :	GSM1900	Test Mode :	EDGE 8 Link
Correction Factor :	0.14dB	Maximum 26dB Bandwidth :	0.310MHz
Band Edge :	-26.75dBm	Measurement Value :	-26.89dBm

Higher Band Edge Plot on Channel 810 (1909.8 MHz)


Date: 17.SEP.2012 14:55:26

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

Band :	WCDMA Band V	Test Mode :	RMC 12.2Kbps Link
Correction Factor :	-3.30dB	Maximum 26dB Bandwidth :	4.68MHz
Band Edge :	-36.35dBm	Measurement Value :	-33.05dBm

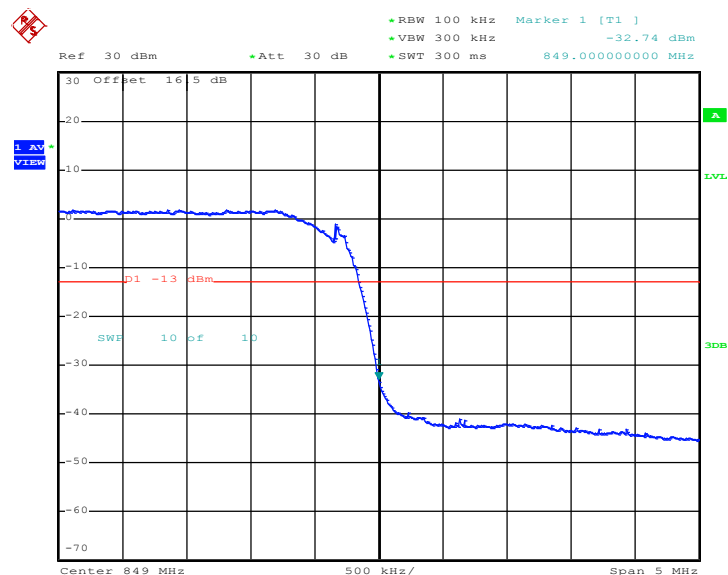
Lower Band Edge Plot on Channel 4132 (826.4 MHz)


Date: 17.SEP.2012 12:01:33

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

Band :	WCDMA Band V	Test Mode :	RMC 12.2Kbps Link
Correction Factor :	-3.30dB	Maximum 26dB Bandwidth :	4.68MHz
Band Edge :	-36.04dBm	Measurement Value :	-32.74dBm

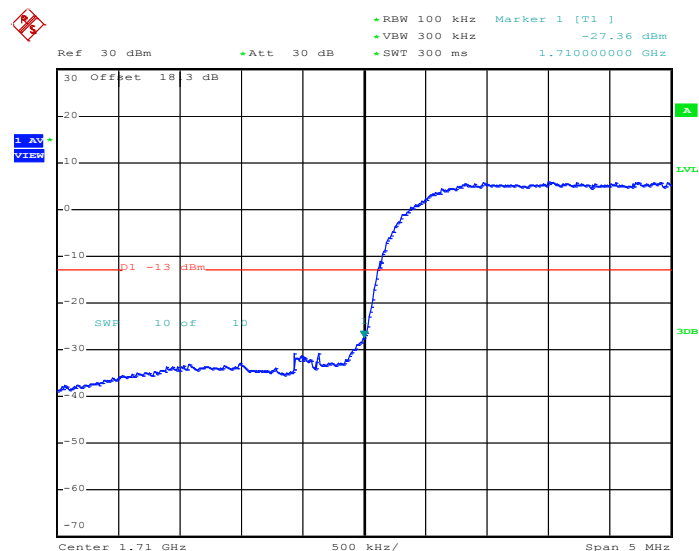
Higher Band Edge Plot on Channel 4233 (846.6 MHz)



Date: 17.SEP.2012 12:02:02

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

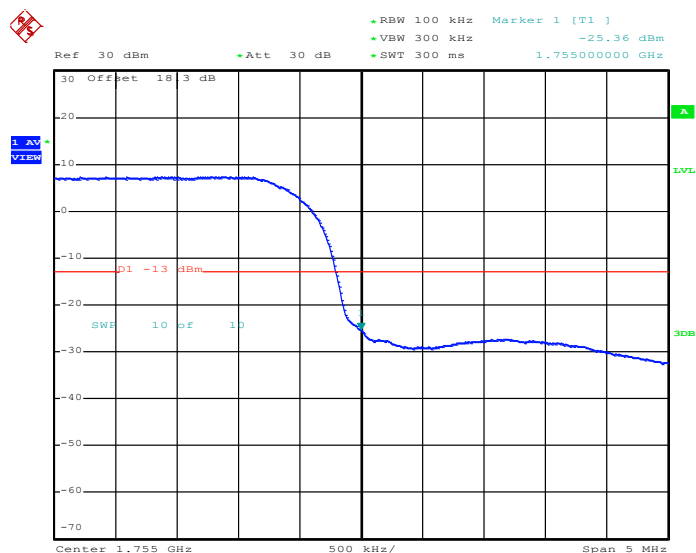
Band :	WCDMA Band IV	Test Mode :	RMC 12.2Kbps Link
Correction Factor :	-3.30dB	Maximum 26dB Bandwidth :	4.68MHz
Band Edge :	-30.66dBm	Measurement Value :	-27.36dBm

Lower Band Edge Plot on Channel 1312 (1712.4 MHz)


Date: 17.SEP.2012 14:17:11

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

Band :	WCDMA Band IV	Test Mode :	RMC 12.2Kbps Link
Correction Factor :	-3.30dB	Maximum 26dB Bandwidth :	4.68MHz
Band Edge :	-28.66dBm	Measurement Value :	-25.36dBm

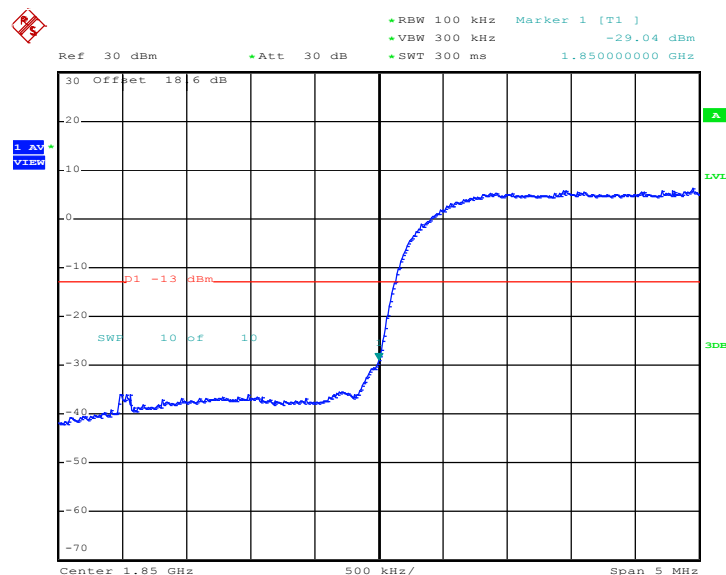
Higher Band Edge Plot on Channel 1862 (1752.5 MHz)


Date: 24.SEP.2012 16:31:54

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
Correction Factor :	-3.30dB	Maximum 26dB Bandwidth :	4.68MHz
Band Edge :	-32.34dBm	Measurement Value :	-29.04dBm

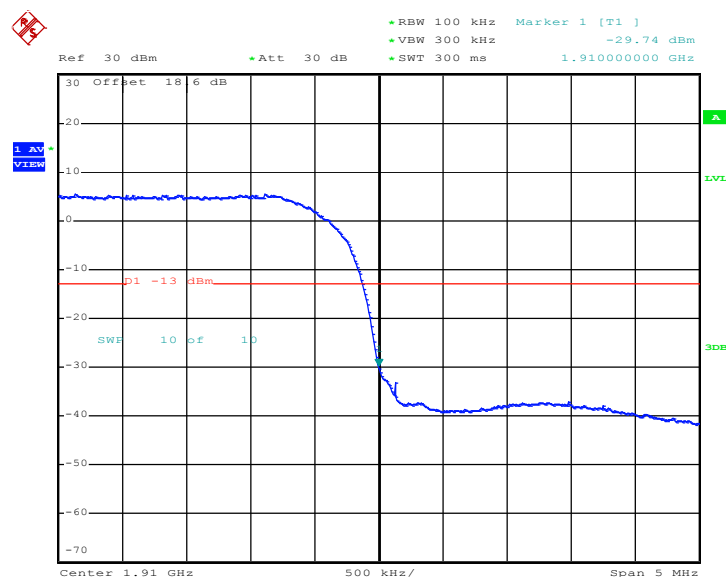
Lower Band Edge Plot on Channel 9262 (1852.4 MHz)



Date: 17.SEP.2012 13:58:53

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

Band :	WCDMA Band II	Test Mode :	RMC 12.2Kbps Link
Correction Factor :	-3.30dB	Maximum 26dB Bandwidth :	4.68MHz
Band Edge :	-33.04dBm	Measurement Value :	-29.74dBm

Higher Band Edge Plot on Channel 9538 (1907.6 MHz)


Date: 17.SEP.2012 13:59:22

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

3.6 Conducted Spurious Emission Measurement

3.6.1 Description of Conducted Spurious Emission Measurement

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

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

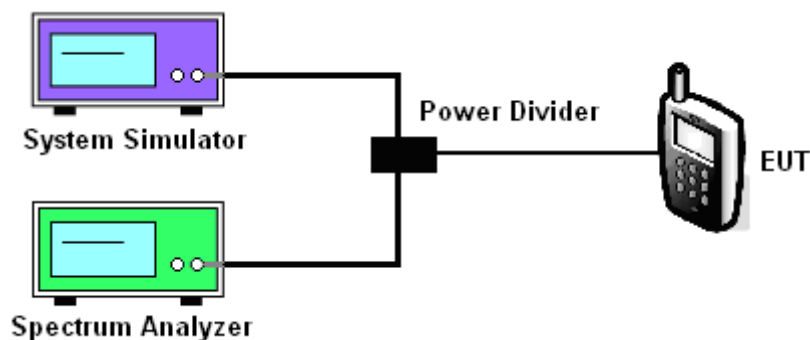
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

1. The EUT was connected to spectrum analyzer and base station via power divider.
2. The middle channel for the highest RF power within the transmitting frequency was measured.
3. The conducted spurious emission for the whole frequency range was taken.

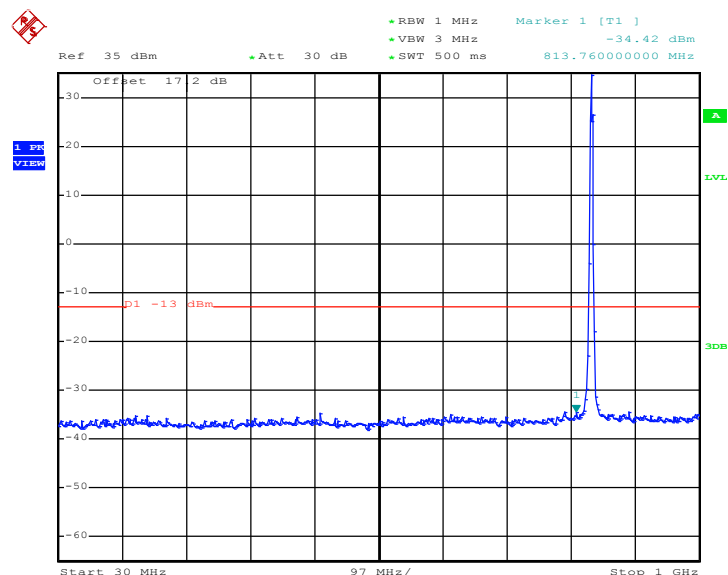
3.6.4 Test Setup



3.6.5 Test Result (Plots) of Conducted Emission

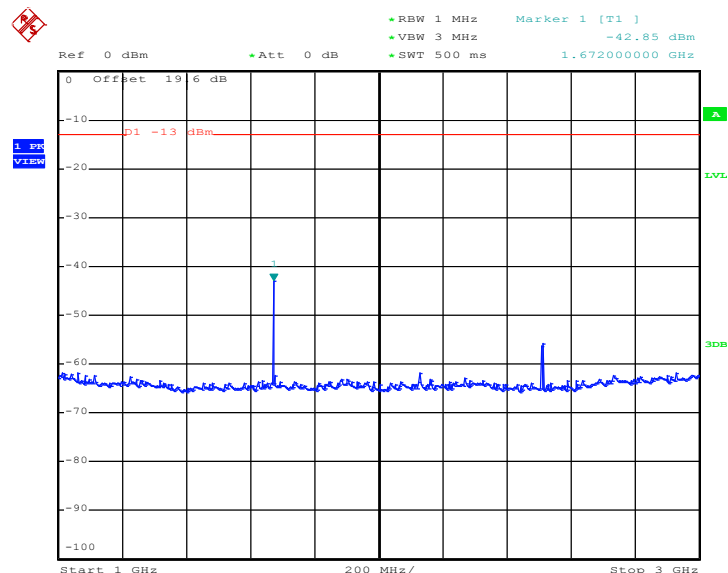
Band :	GSM850	Channel :	CH189
Test Mode :	GSM Link	Frequency :	836.4 MHz

Conducted Spurious Emission Plot between 30MHz ~ 1GHz



Date: 17.SEP.2012 10:36:18

Conducted Spurious Emission Plot between 1GHz ~ 3GHz



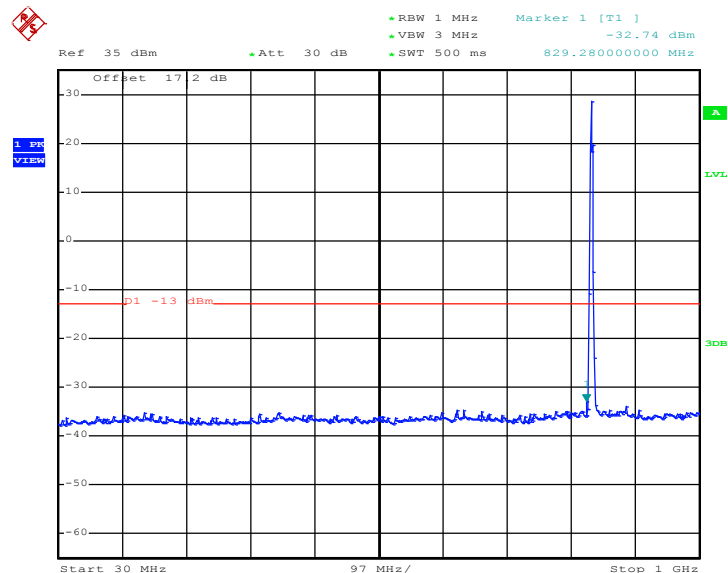
Date: 17.SEP.2012 10:37:24



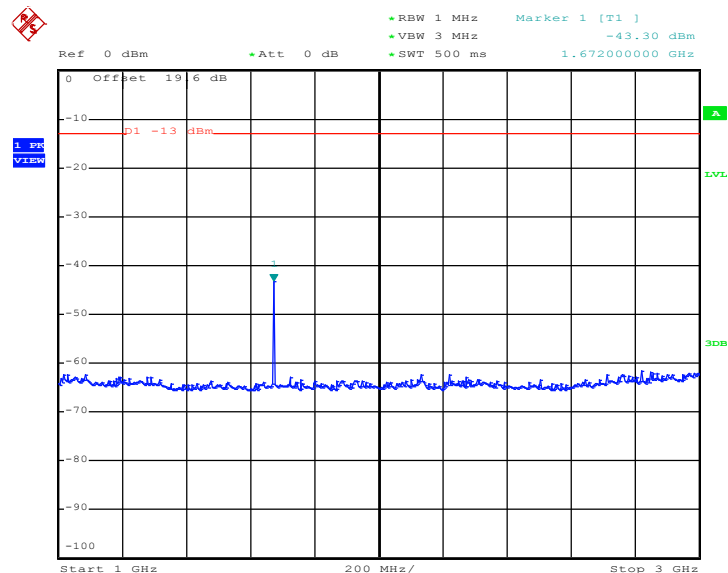
Conducted Spurious Emission Plot between 7GHz ~ 9GHz



Band :	GSM850	Channel :	CH189
Test Mode :	EDGE 8 Link	Frequency :	836.4 MHz

Conducted Spurious Emission Plot between 30MHz ~ 1GHz


Date: 17.SEP.2012 11:32:35

Conducted Spurious Emission Plot between 1GHz ~ 3GHz


Date: 17.SEP.2012 11:32:57



The screenshot displays a Spectrum Analyzer interface. At the top, a status bar shows the following parameters: RBW 1 MHz, VBW 3 MHz, and SWT 500 ms. The reference level is set to 0 dBm, and the attenuation is 0 dB. A marker is present at 3.120000000 GHz, indicating a level of -51.01 dBm. The main display area shows a horizontal red line at -13 dBm, labeled 'D1 -13 dBm'. The noise floor is represented by a blue line fluctuating around -51 dBm. The x-axis is labeled 'Start 3 GHz', '400 MHz/' (representing the span), and 'Stop 7 GHz'. The y-axis represents power in dBm, ranging from 0 to -100. On the left side, there are buttons for '1. IN' and 'VIEW'. On the right side, there are buttons for 'A' and '3DB'.

Date: 17.SEP.2012 11:33:09

The screenshot shows a Spectrum Analyzer interface. At the top, there is a status bar with the following information:

- RBW 1 MHz
- VBW 3 MHz
- SWT 500 ms
- Marker 1 [T1]
- 47.44 dBm
- 8.404000000 GHz

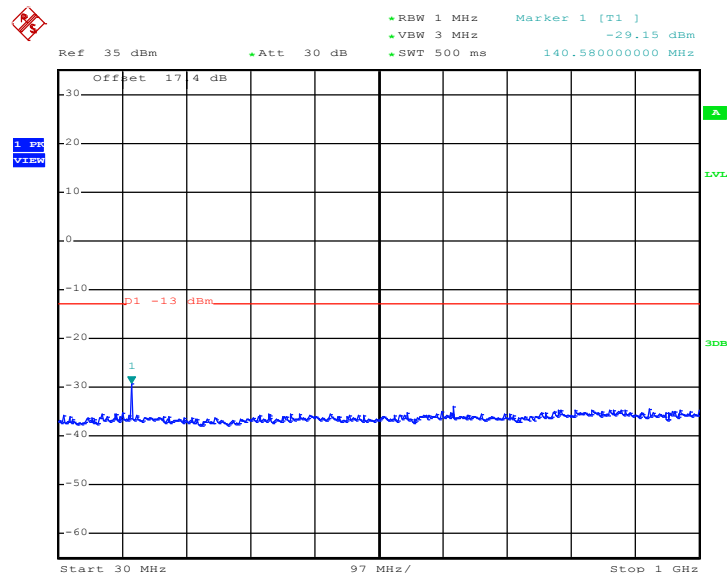
Below the status bar, there are two rows of controls:

- Ref 0 dBm
- Att 0 dB

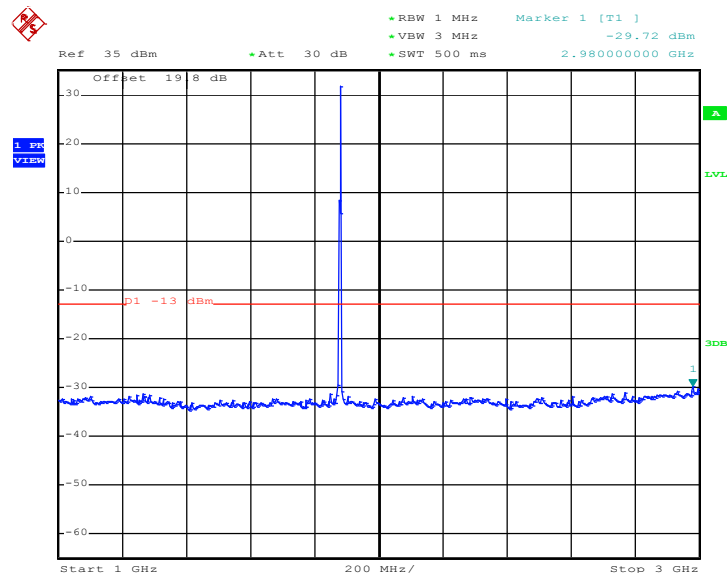
The main display area shows a spectrum plot with a frequency range from 7 GHz to 9 GHz. The vertical axis represents power in dBm, ranging from -100 to 0. A red horizontal line is drawn at -13 dBm, labeled "P1 -13 dBm". A blue trace shows the noise floor, which is relatively flat around -50 dBm. A green arrow points to a small peak in the noise floor at approximately 8.4 GHz, which is marked with a green vertical line and labeled "Marker 1 [T1]".

Date: 17.SEP.2012 11:33:22

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

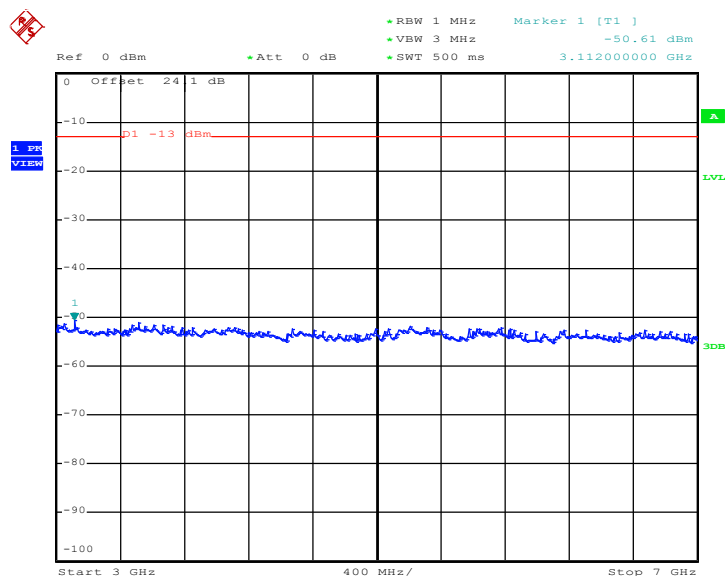
Conducted Spurious Emission Plot between 30MHz ~ 1GHz


Date: 17.SEP.2012 14:27:34

Conducted Spurious Emission Plot between 1GHz ~ 3GHz


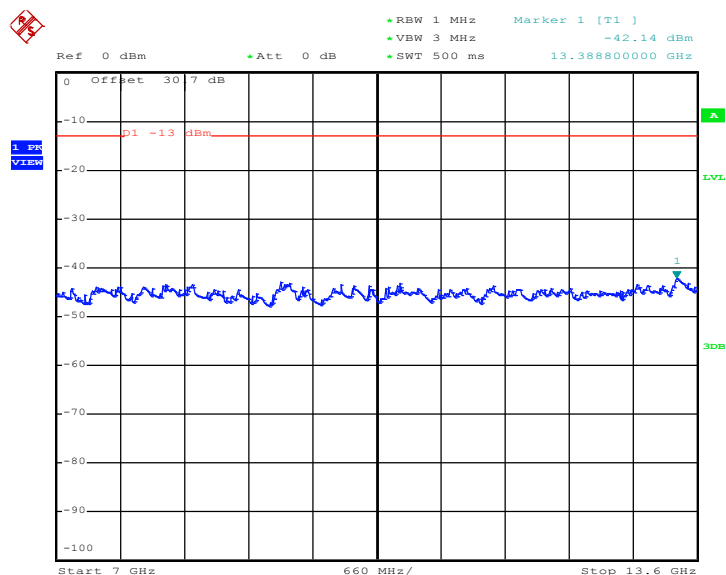
Date: 17.SEP.2012 14:27:47

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



Date: 17.SEP.2012 14:28:02

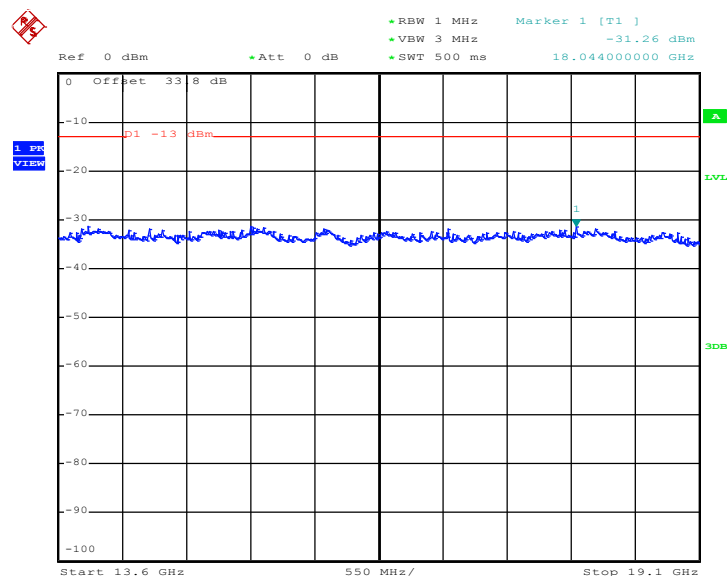
Conducted Spurious Emission Plot between 7GHz ~ 13.6G



Date: 17.SEP.2012 14:28:14

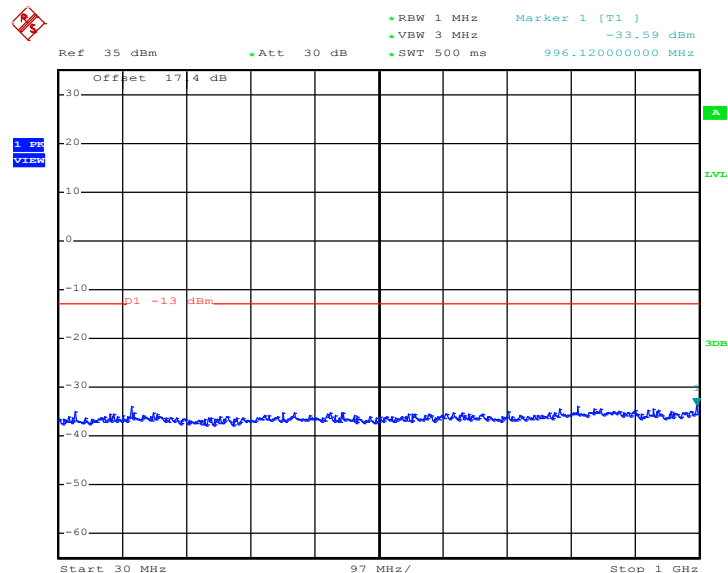


Conducted Spurious Emission Plot between 13.6GHz ~ 19.1GHz

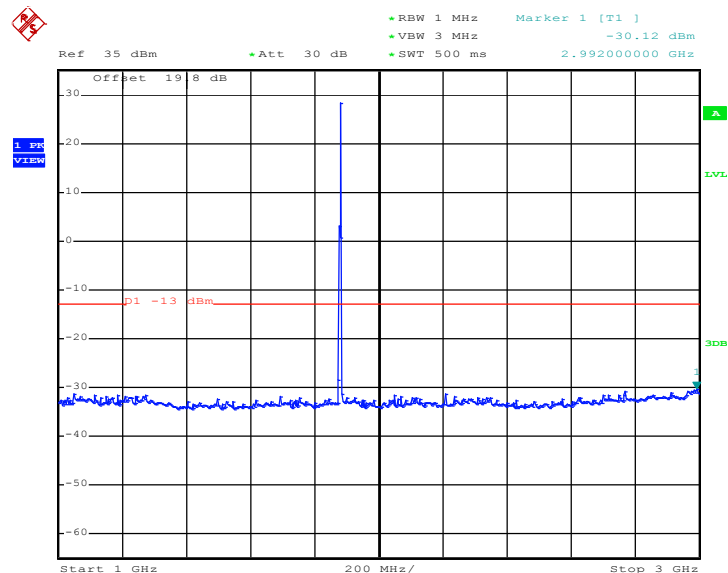


Date: 17.SEP.2012 14:28:26

Band :	GSM1900	Channel :	CH661
Test Mode :	EDGE 8 Link	Frequency :	1880.0 MHz

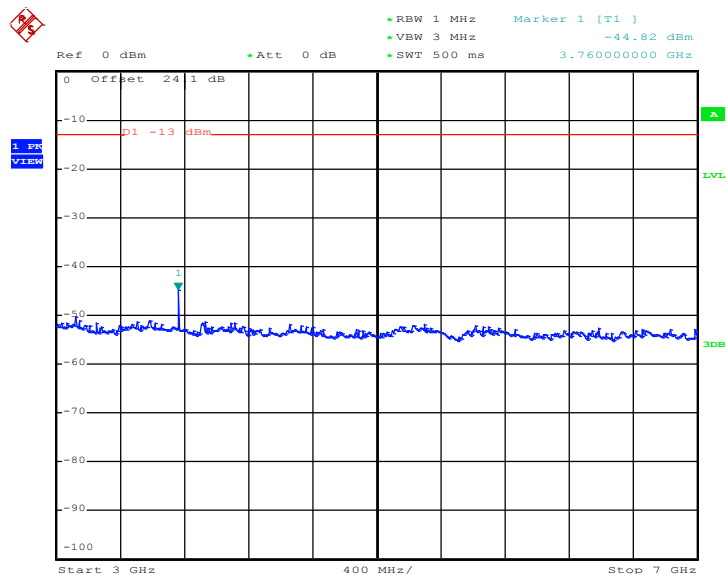
Conducted Spurious Emission Plot between 30MHz ~ 1GHz


Date: 17.SEP.2012 14:38:32

Conducted Spurious Emission Plot between 1GHz ~ 3GHz


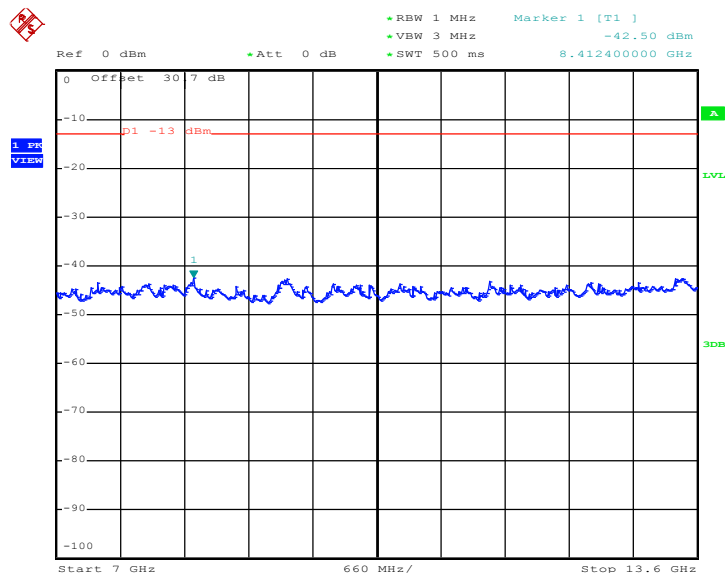
Date: 17.SEP.2012 14:38:44

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



Date: 17.SEP.2012 14:39:00

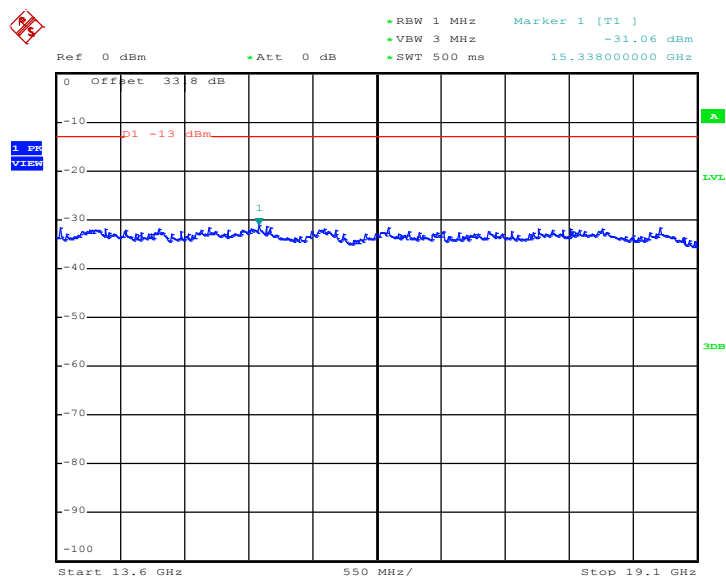
Conducted Spurious Emission Plot between 7GHz ~ 13.6GHz



Date: 17.SEP.2012 14:39:12

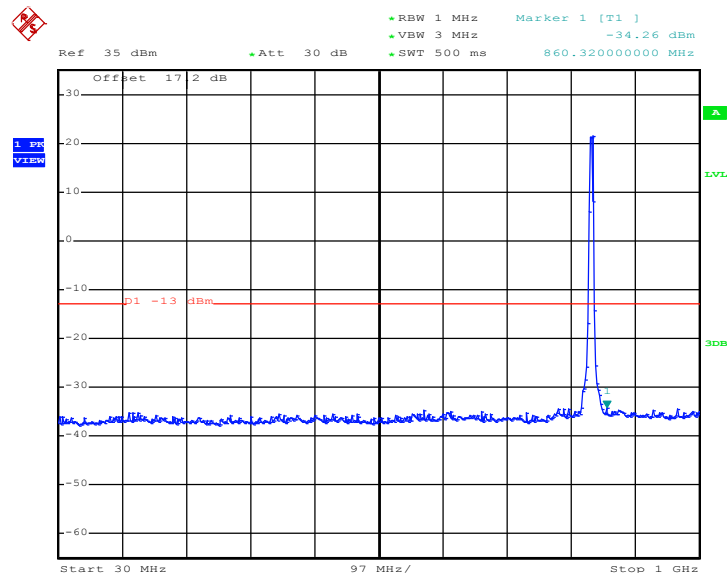


Conducted Spurious Emission Plot between 13.6GHz ~ 19.1GHz

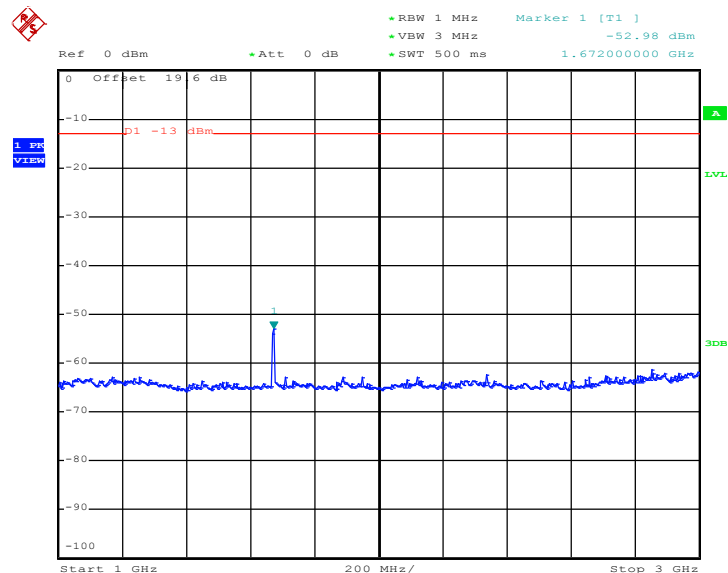


Date: 17.SEP.2012 14:39:25

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

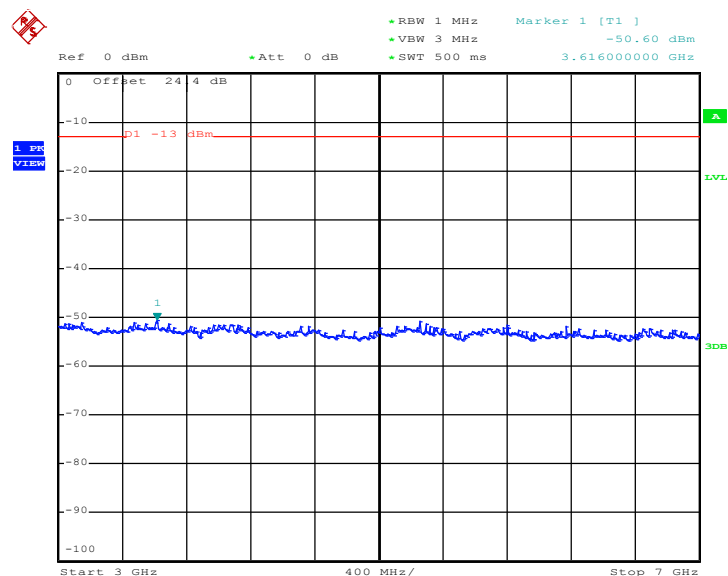
Conducted Spurious Emission Plot between 30MHz ~ 1GHz


Date: 17.SEP.2012 11:55:26

Conducted Spurious Emission Plot between 1GHz ~ 3GHz


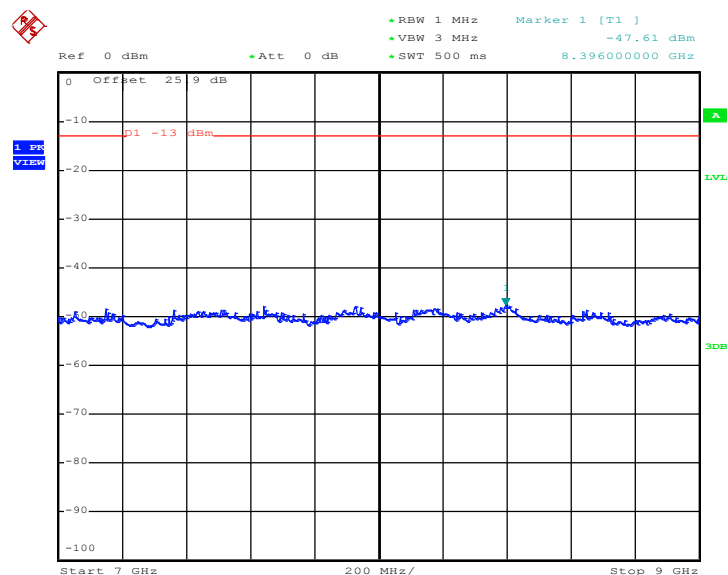
Date: 17.SEP.2012 11:55:45

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



Date: 17.SEP.2012 11:55:57

Conducted Spurious Emission Plot between 7GHz ~ 9GHz

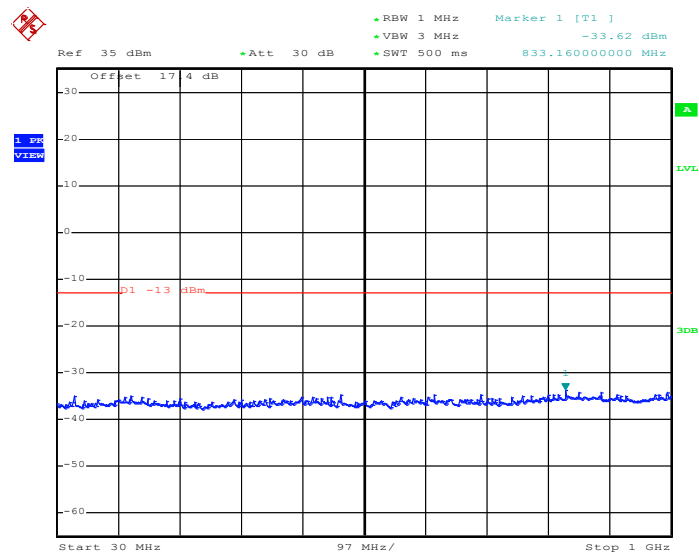


Date: 17.SEP.2012 11:56:09



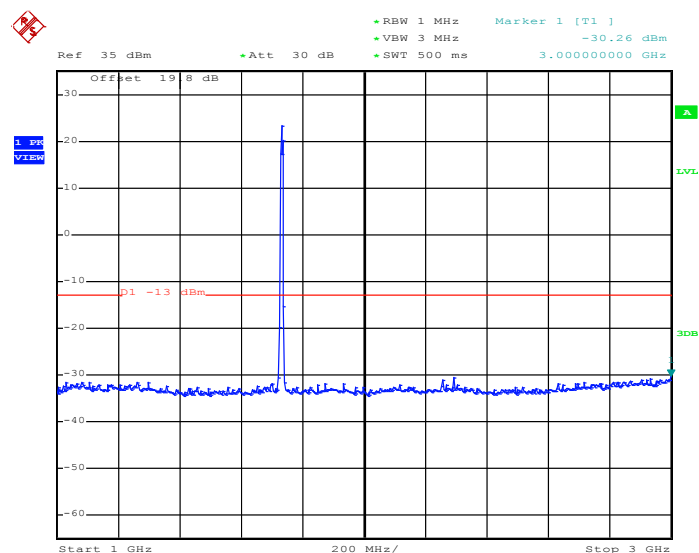
Band :	WCDMA Band IV	Channel :	CH1413
Test Mode :	RMC 12.2Kbps Link	Frequency :	1732.6 MHz

Conducted Spurious Emission Plot between 30MHz ~ 1GHz



Date: 17.SEP.2012 14:12:45

Conducted Spurious Emission Plot between 1GHz ~ 3GHz



Date: 17.SEP.2012 14:12:57



Ref 0 dBm Att 0 dB RBW 1 MHz VBW 3 MHz SWT 500 ms Marker 1 [T1] -50.83 dBm 3.464000000 GHz

0 Offset 241 dB

-10

-20

-30

-40

-50

-60

-70

-80

-90

-100

Start 3 GHz 400 MHz/ Stop 7 GHz

1. dB VIEW

01 -13 dBm

1

3dB

A

Ref 0 dBm + Att 0 dB + RBW 1 MHz Marker 1 [T1] -42.32 dBm
 + VBW 3 MHz + SWT 500 ms 13.40200000 GHz

0 Offset 30.7 dB

-10
 -20
 -30
 -40
 -50
 -60
 -70
 -80
 -90
 -100

1. Pk View

P1 -13 dBm

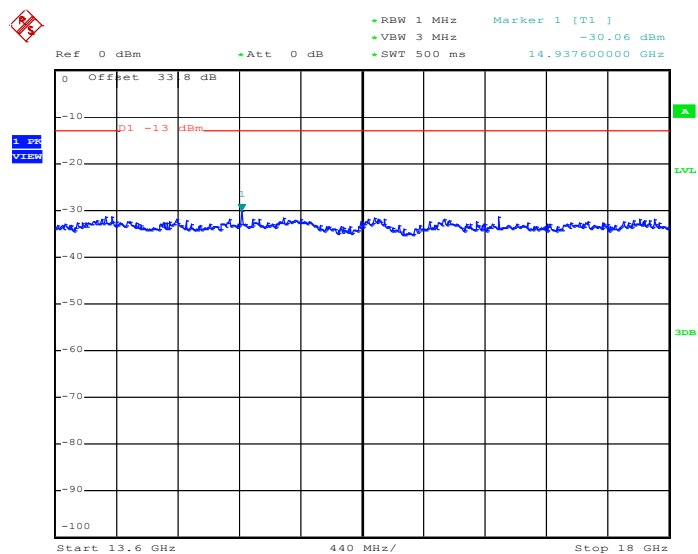
1

Start 7 GHz 660 MHz/ Stop 13.6 GHz

Date: 17.SEP.2012 14:13:26

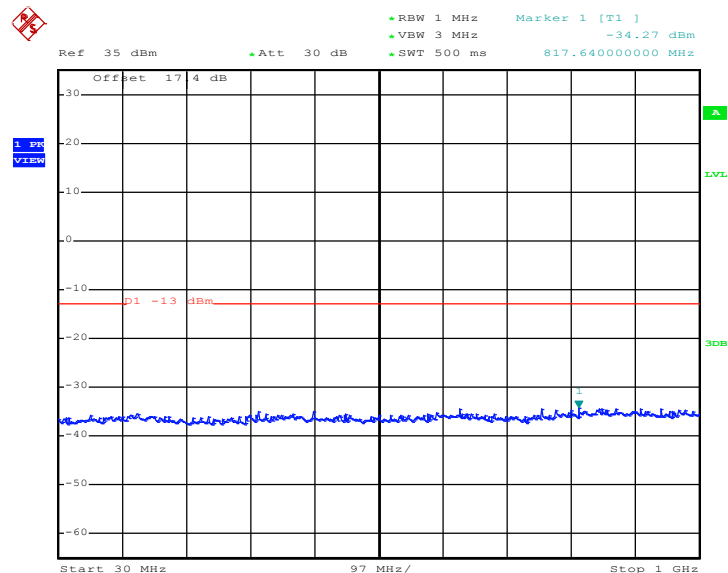


Conducted Spurious Emission Plot between 13.6GHz ~ 18GHz

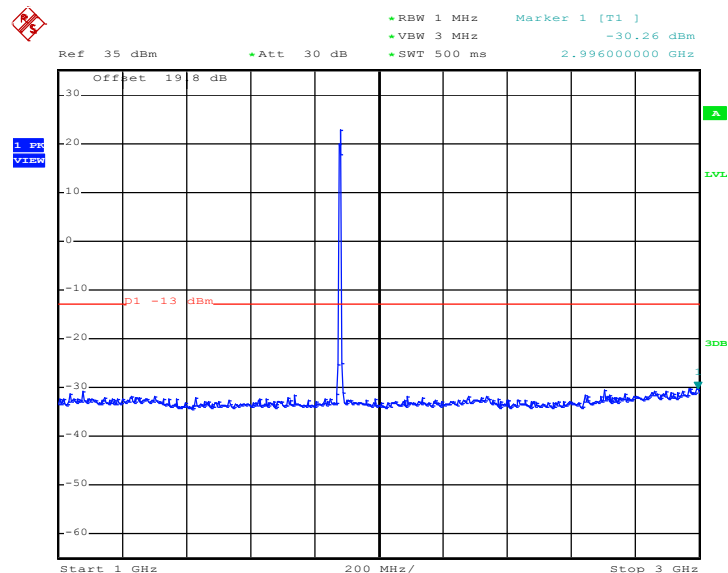


Date: 17.SEP.2012 14:13:38

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

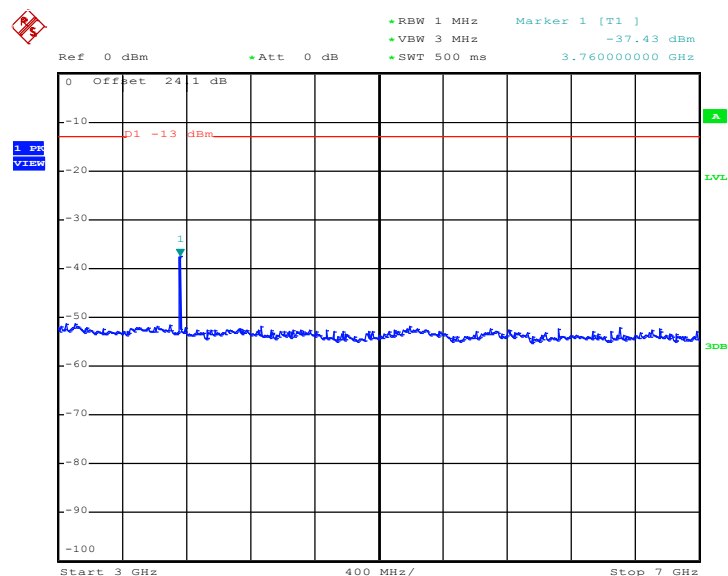
Conducted Spurious Emission Plot between 30MHz ~ 1GHz


Date: 17.SEP.2012 13:50:54

Conducted Spurious Emission Plot between 1GHz ~ 3GHz


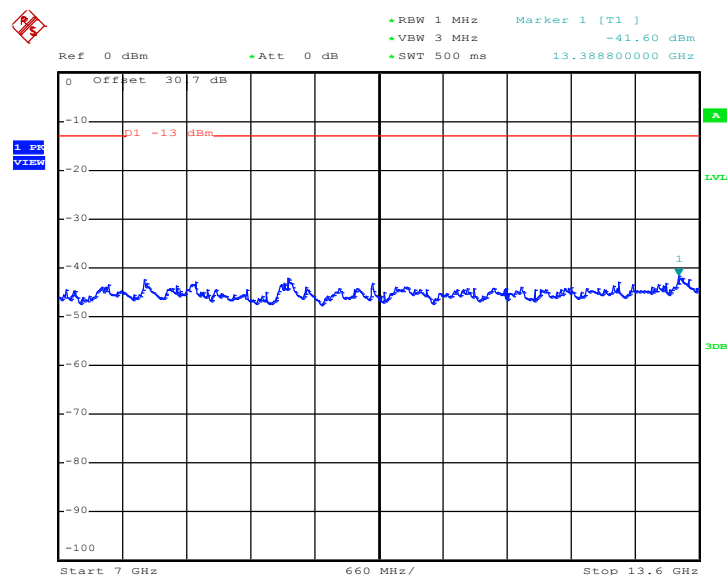
Date: 17.SEP.2012 13:51:07

Conducted Spurious Emission Plot between 3GHz ~ 7GHz



Date: 17.SEP.2012 13:51:31

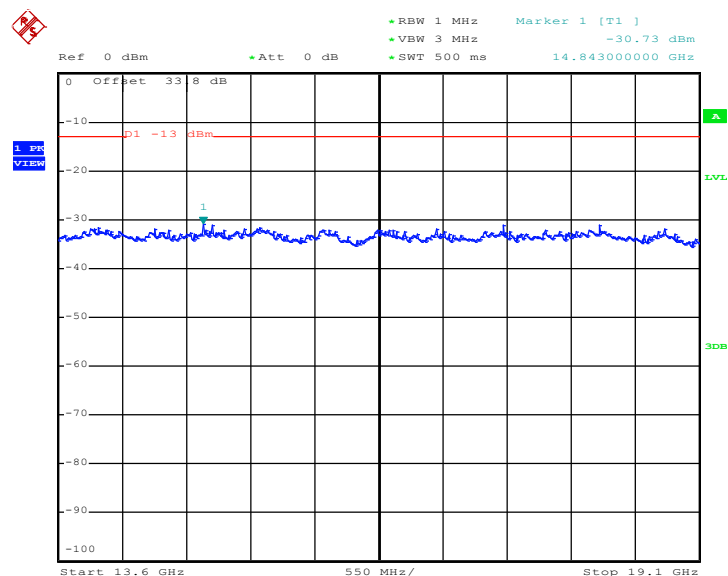
Conducted Spurious Emission Plot between 7GHz ~ 13.6GHz



Date: 17.SEP.2012 13:51:43



Conducted Spurious Emission Plot between 13.6GHz ~ 19.1GHz



Date: 17.SEP.2012 13:51:56

3.7 Field Strength of Spurious Radiation Measurement

3.7.1 Description of Field Strength of Spurious Radiated Measurement

The radiated spurious emission was measured by substitution method according to ANSI / TIA / EIA-603-C-2004. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

3.7.2 Measuring Instruments

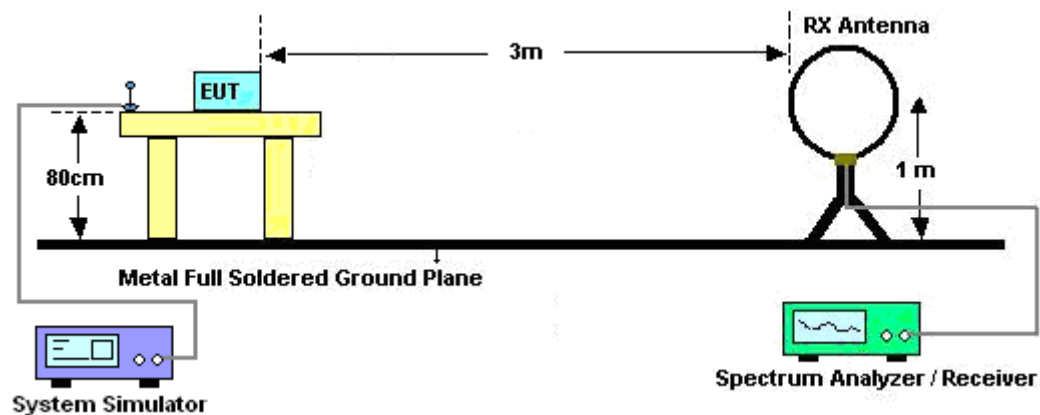
See list of measuring instruments of this test report.

3.7.3 Test Procedures

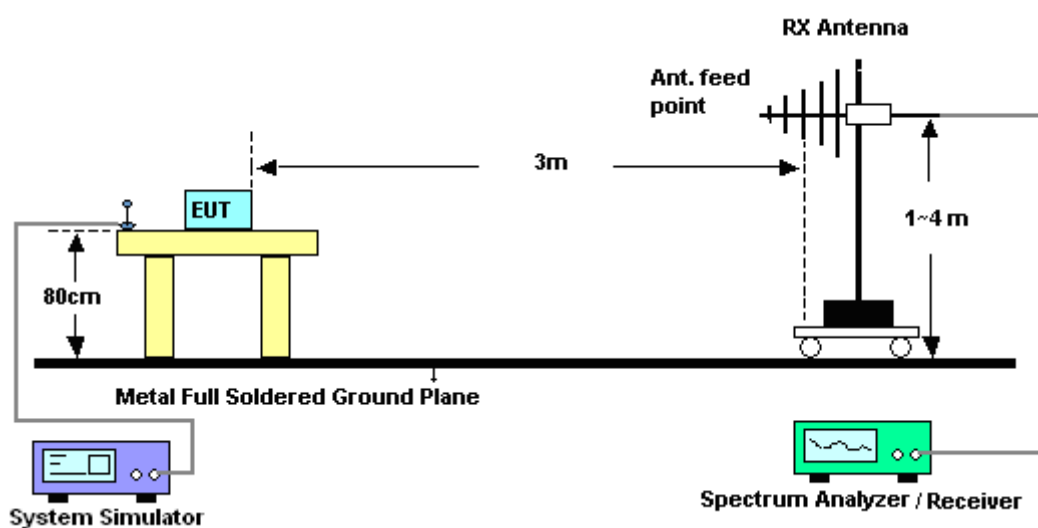
1. The EUT was placed on a rotatable wooden table with 0.8 meter above ground.
- c. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
- d. The table was rotated 360 degrees to determine the position of the highest spurious emission.
- e. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
- f. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
- g. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
- h. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
- i. Taking the record of output power at antenna port.
- j. Repeat step 7 to step 8 for another polarization.
- k. $EIRP \text{ (dBm)} = S.G. \text{ Power} - Tx \text{ Cable Loss} + Tx \text{ Antenna Gain}$
- l. $ERP \text{ (dBm)} = EIRP - 2.15$

3.7.4 Test Setup

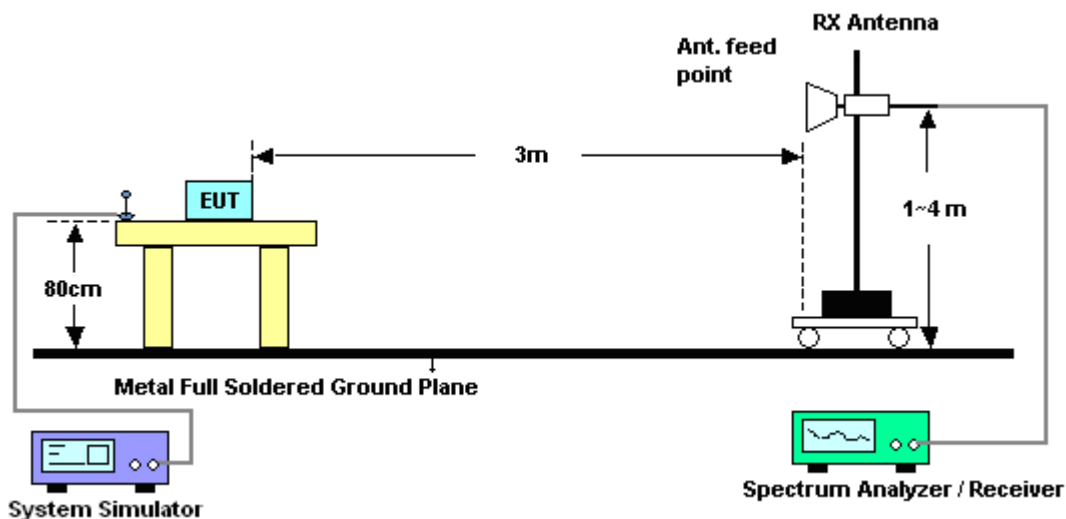
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz

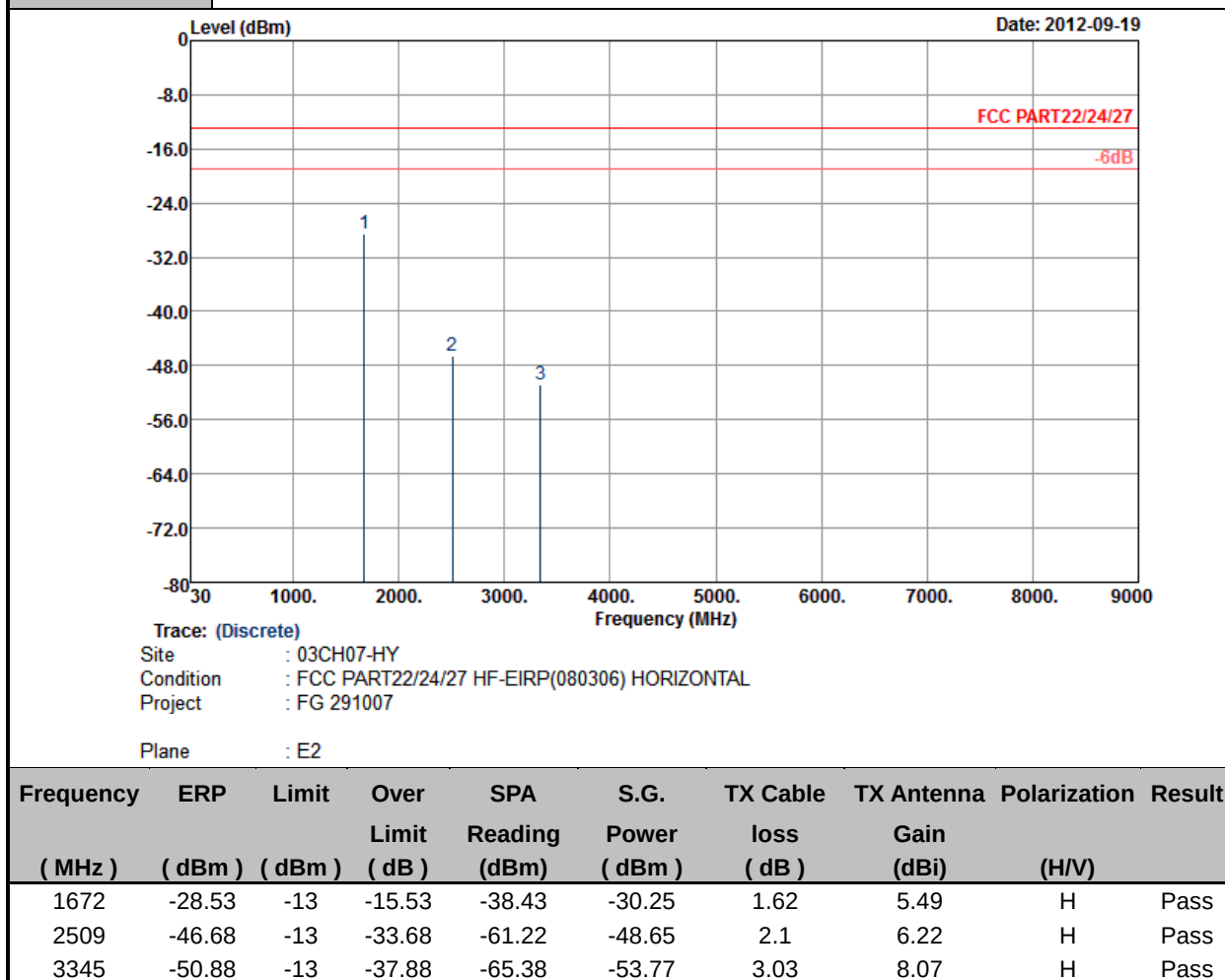


3.7.5 Test Results of Radiated Emissions (9 KHz ~ 30 MHz)

The low frequency, which started from 9 KHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

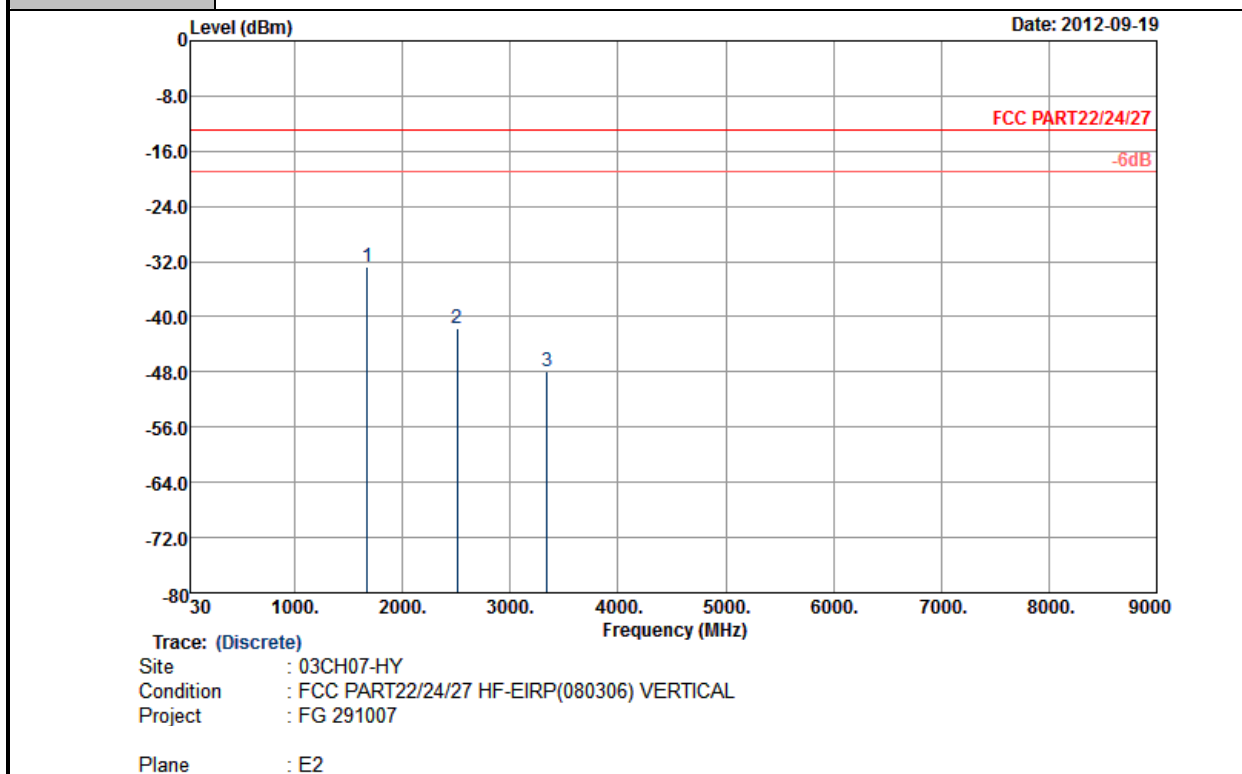
3.7.6 Test Result of Field Strength of Spurious Radiated

Band :	GSM850	Temperature :	22~24°C
Test Mode :	GSM Link + Wireless Charging Pad + Earphone	Relative Humidity :	50~52%
Test Engineer :	Gavin Wu and Kyle Jhuang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



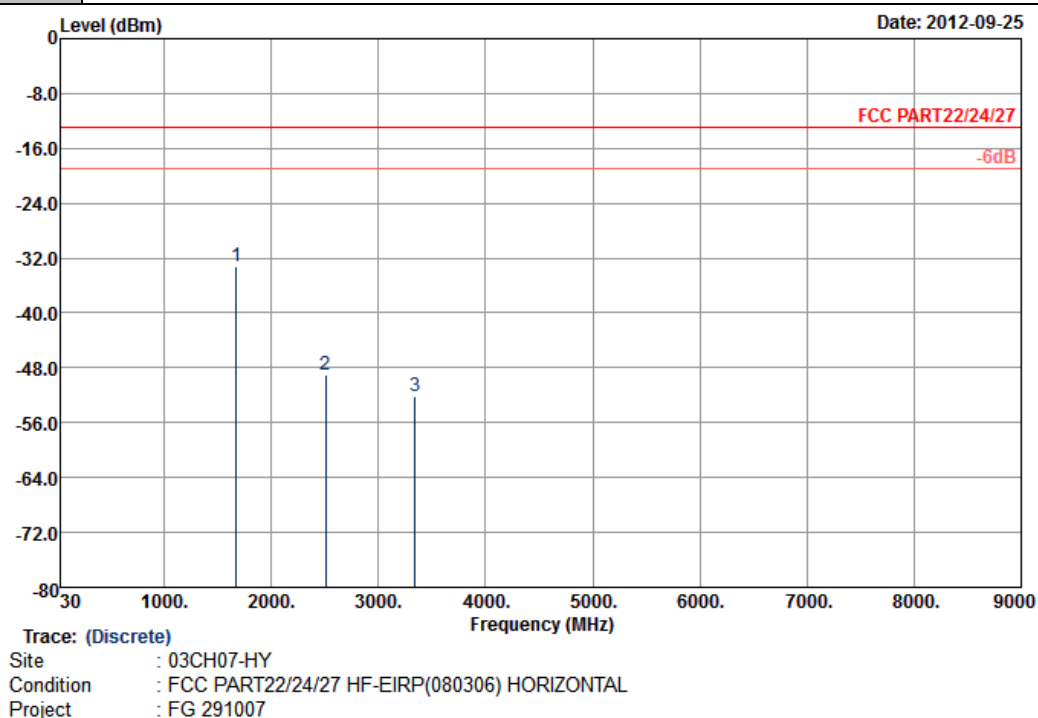


Band :	GSM850	Temperature :	22~24°C
Test Mode :	GSM Link + Wireless Charging Pad + Earphone	Relative Humidity :	50~52%
Test Engineer :	Gavin Wu and Kyle Jhuang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



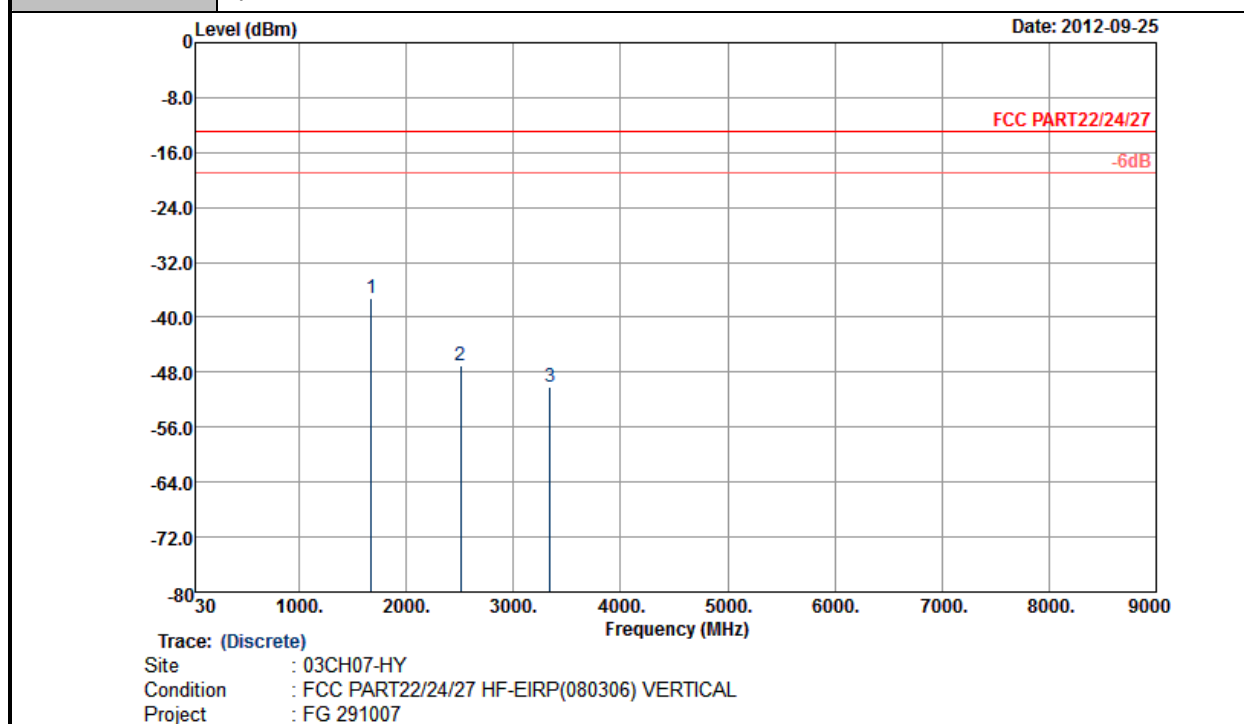
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1672	-32.73	-13	-19.73	-44.24	-34.45	1.62	5.49	V	Pass
2509	-41.68	-13	-28.68	-55.92	-43.65	2.1	6.22	V	Pass
3345	-47.99	-13	-34.99	-64.43	-50.88	3.03	8.07	V	Pass

Band :	GSM850	Temperature :	22~24°C
Test Mode :	EDGE 8 Link + Wireless Charging Pad + Earphone	Relative Humidity :	50~52%
Test Engineer :	Gavin Wu and Kyle Jhuang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



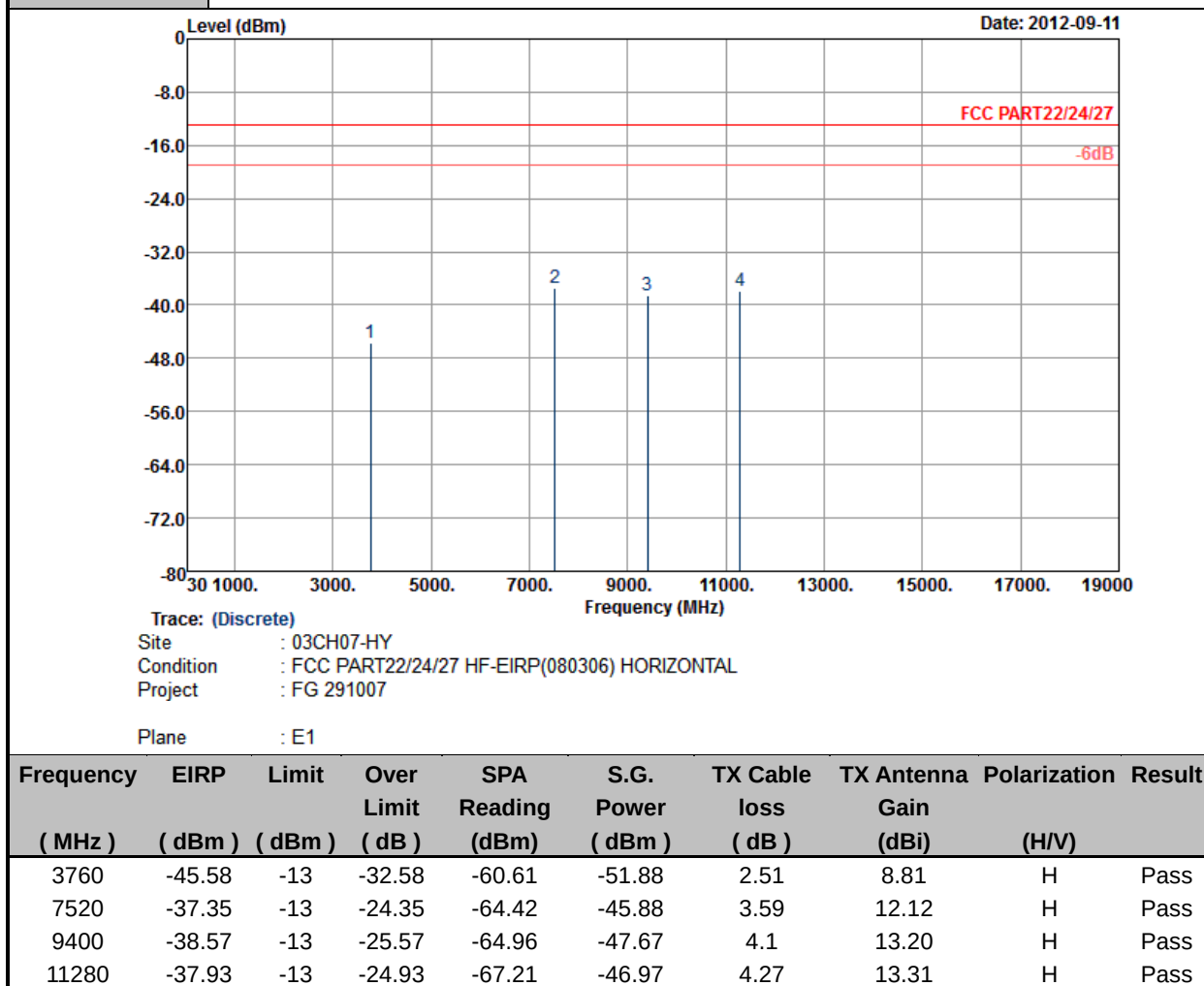
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1672	-33.28	-13	-20.28	-41.98	-35	1.62	5.49	H	Pass
2509	-49.03	-13	-36.03	-62.69	-51	2.1	6.22	H	Pass
3345	-52.11	-13	-39.11	-66.19	-55	3.03	8.07	H	Pass

Band :	GSM850	Temperature :	22~24°C
Test Mode :	EDGE 8 Link + Wireless Charging Pad + Earphone	Relative Humidity :	50~52%
Test Engineer :	Gavin Wu and Kyle Jhuang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

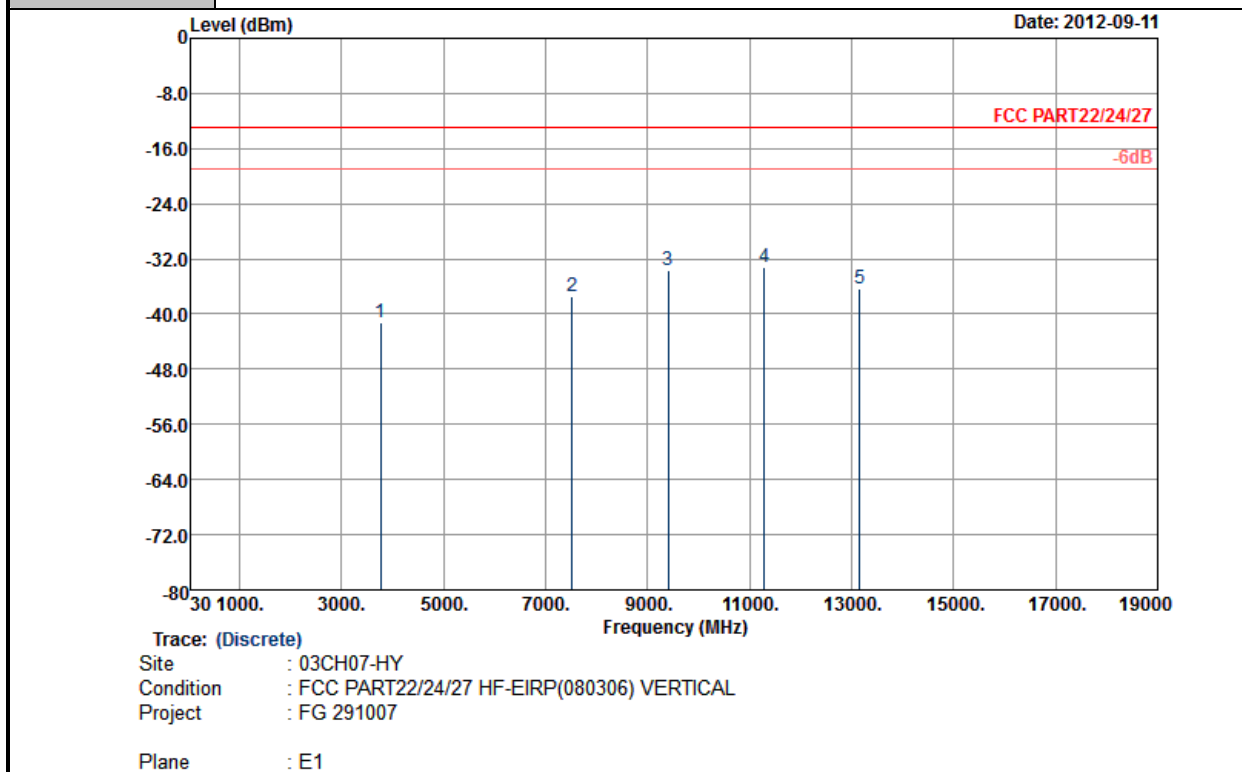


Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1672	-37.28	-13	-24.28	-48.72	-39	1.62	5.49	V	Pass
2509	-47.03	-13	-34.03	-61.37	-49	2.1	6.22	V	Pass
3345	-50.11	-13	-37.11	-66.51	-53	3.03	8.07	V	Pass

Band :	GSM1900	Temperature :	22~24°C
Test Mode :	GSM Link + Earphone + USB Cable 1 (Charging from Adapter 2)	Relative Humidity :	50~52%
Test Engineer :	Gavin Wu and Kyle Jhuang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

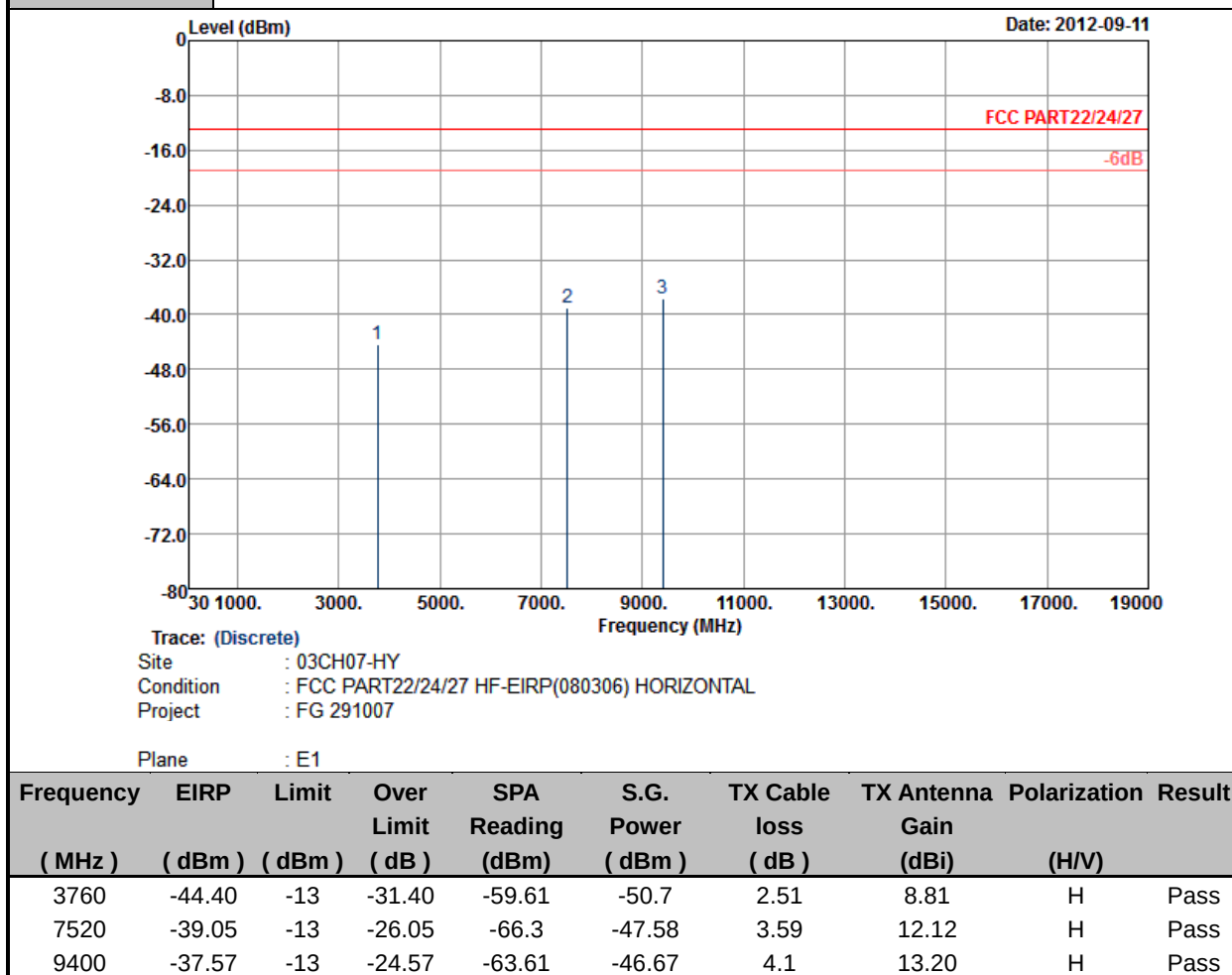


Band :	GSM1900	Temperature :	22~24°C
Test Mode :	GSM Link + Earphone + USB Cable 1 (Charging from Adapter 2)	Relative Humidity :	50~52%
Test Engineer :	Gavin Wu and Kyle Jhuang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

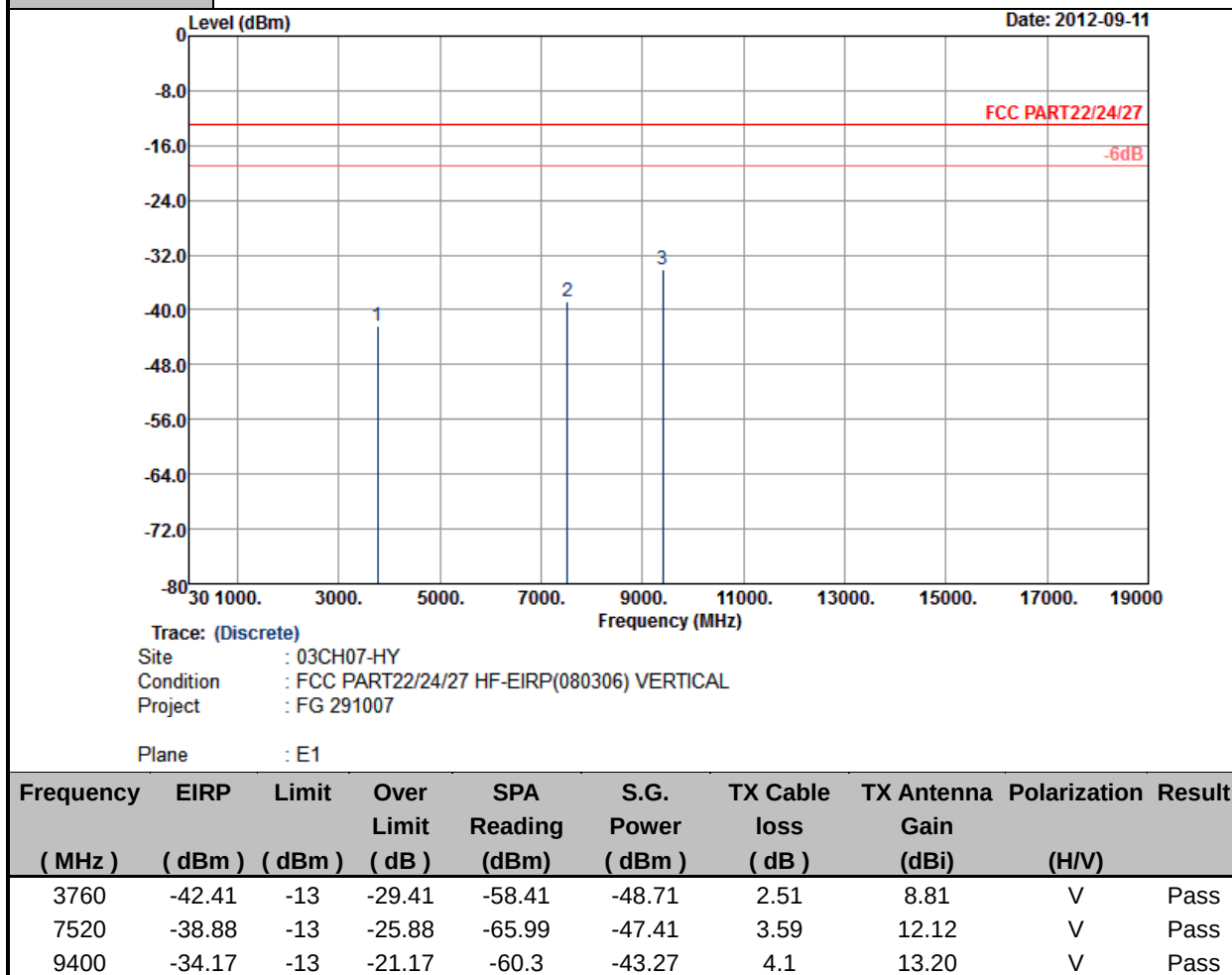


Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3760	-41.20	-13	-28.20	-57.3	-47.5	2.51	8.81	V	Pass
7520	-37.49	-13	-24.49	-64.58	-46.02	3.59	12.12	V	Pass
9400	-33.61	-13	-20.61	-59.88	-42.71	4.1	13.20	V	Pass
11280	-33.23	-13	-20.23	-61.96	-42.27	4.27	13.31	V	Pass
13160	-36.35	-13	-23.35	-67.67	-45.87	4.27	13.79	V	Pass

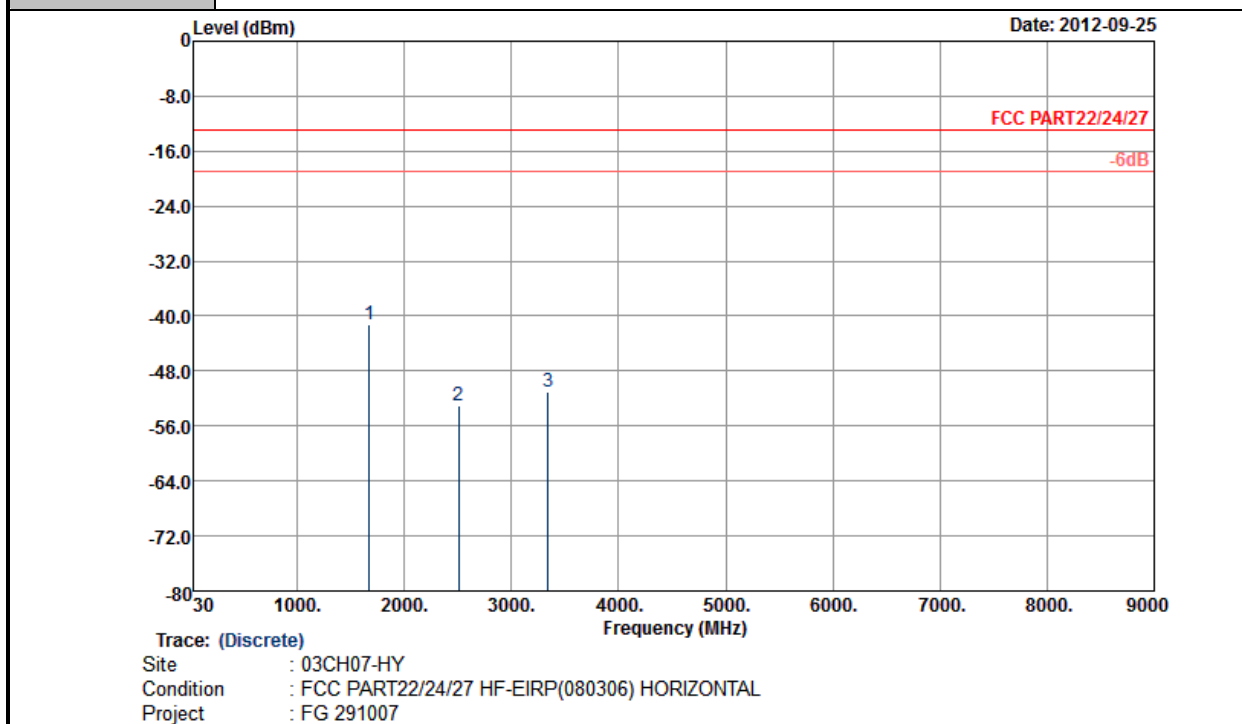
Band :	GSM1900	Temperature :	22~24°C
Test Mode :	EDGE 8 Link + Earphone + USB Cable 1 (Charging from Adapter 2)	Relative Humidity :	50~52%
Test Engineer :	Gavin Wu and Kyle Jhuang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Band :	GSM1900	Temperature :	22~24°C
Test Mode :	EDGE 8 Link + Earphone + USB Cable 1 (Charging from Adapter 2)	Relative Humidity :	50~52%
Test Engineer :	Gavin Wu and Kyle Jhuang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



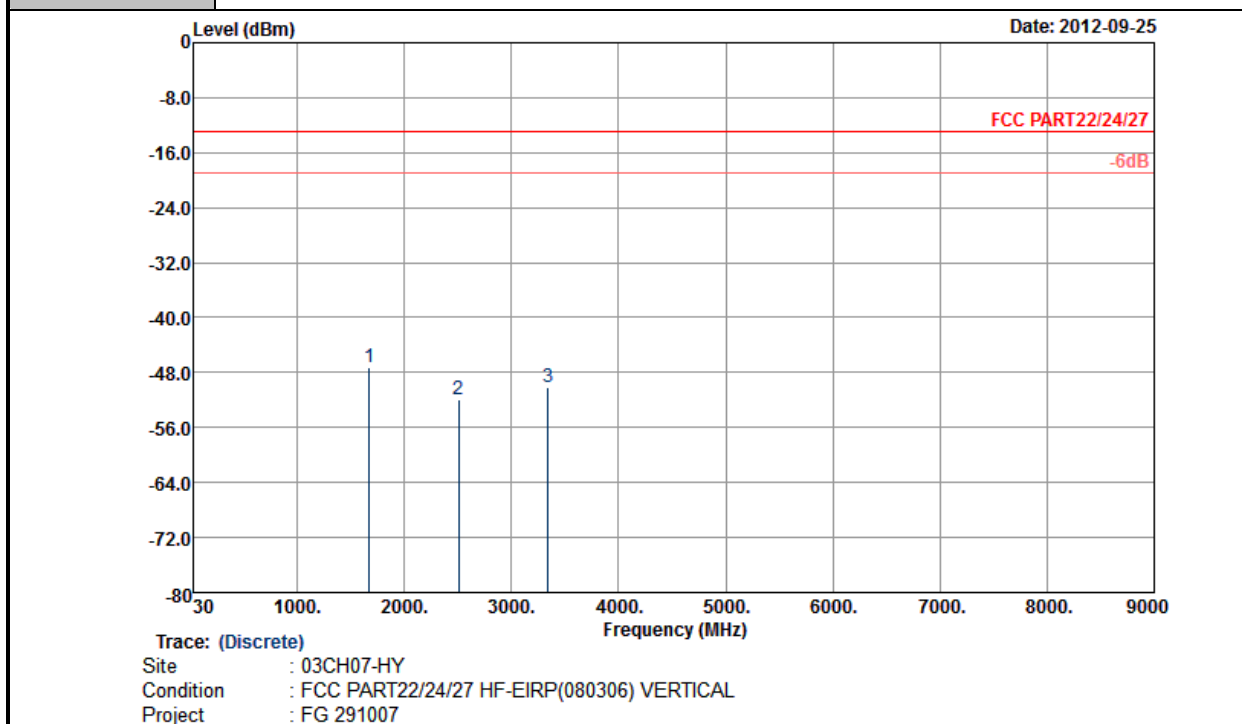
Band :	WCDMA Band V	Temperature :	22~24°C
Test Mode :	RMC 12.2Kbps Link + Wireless Charging Pad	Relative Humidity :	50~52%
Test Engineer :	Gavin Wu and Kyle Jhuang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



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	-41.28	-13	-28.28	-50.08	-43	1.62	5.49	H	Pass
2509	-53.03	-13	-40.03	-66.83	-55	2.1	6.22	H	Pass
3345	-51.11	-13	-38.11	-65.85	-54	3.03	8.07	H	Pass

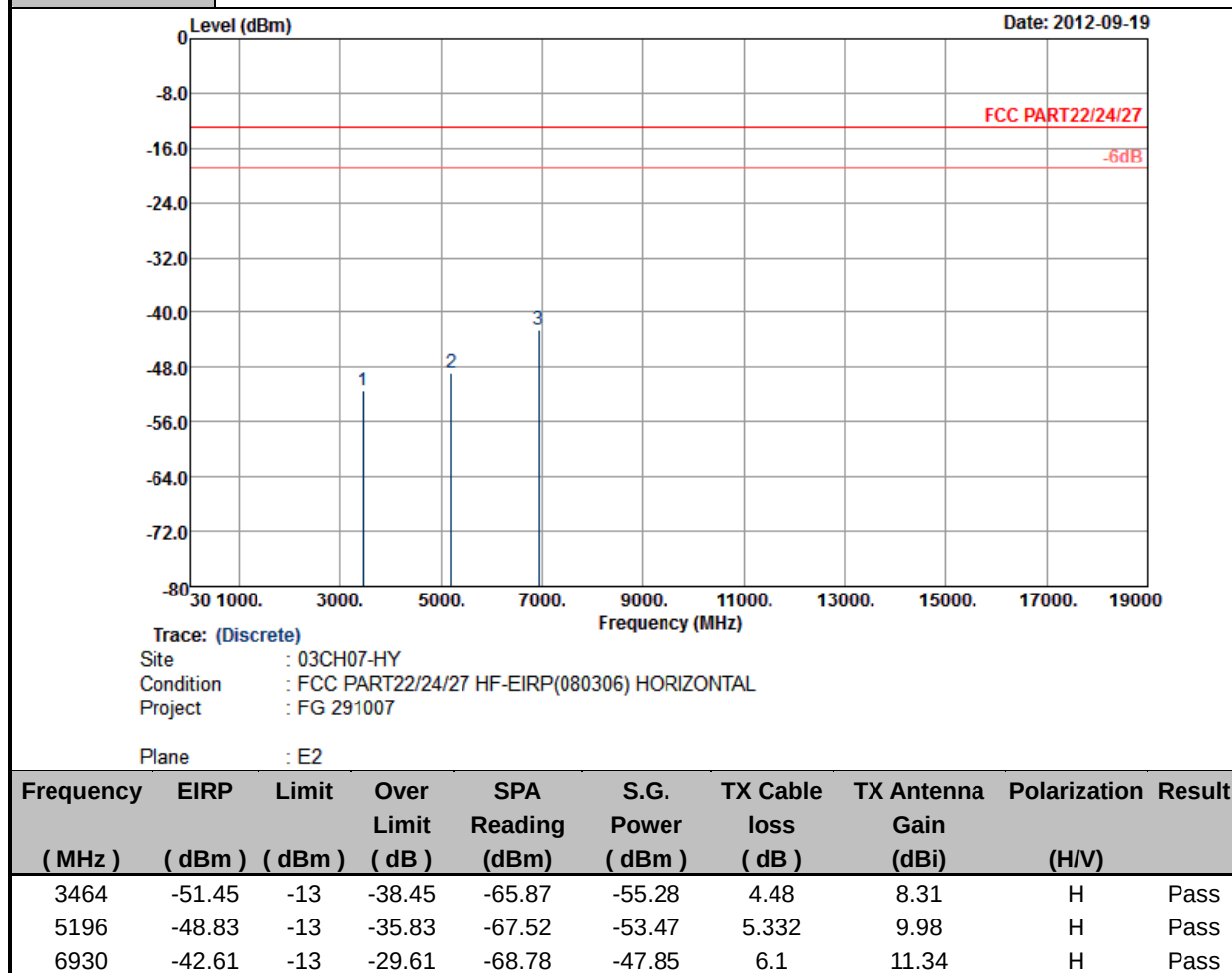


Band :	WCDMA Band V	Temperature :	22~24°C
Test Mode :	RMC 12.2Kbps Link + Wireless Charging Pad	Relative Humidity :	50~52%
Test Engineer :	Gavin Wu and Kyle Jhuang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

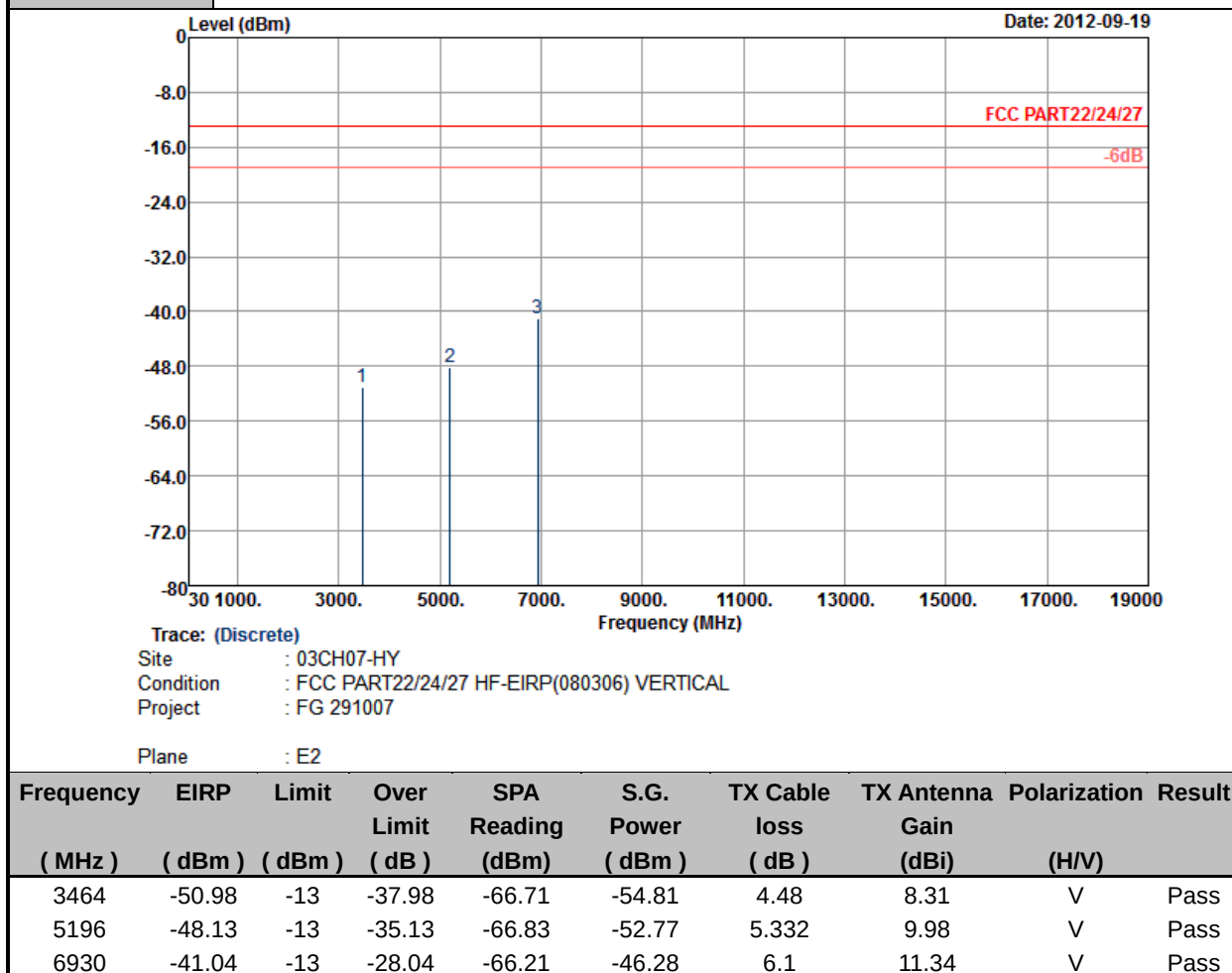


Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1672	-47.28	-13	-34.28	-58.71	-49	1.62	5.49	V	Pass
2509	-52.03	-13	-39.03	-66.68	-54	2.1	6.22	V	Pass
3345	-50.11	-13	-37.11	-66.17	-53	3.03	8.07	V	Pass

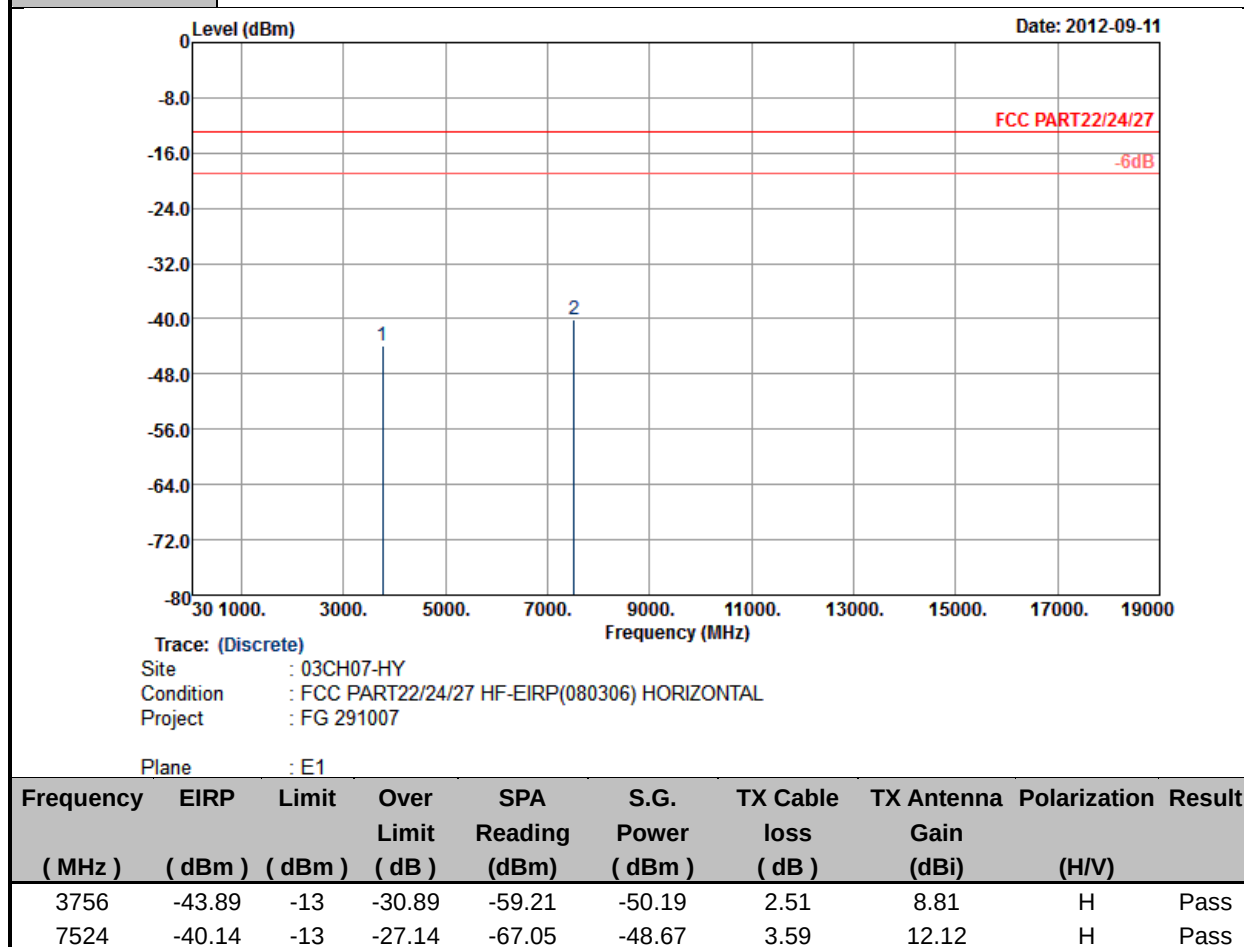
Band :	WCDMA Band IV	Temperature :	22~24°C
Test Mode :	RMC 12.2Kbps Link + Wireless Charging Pad + Earphone	Relative Humidity :	50~52%
Test Engineer :	Gavin Wu and Kyle Jhuang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



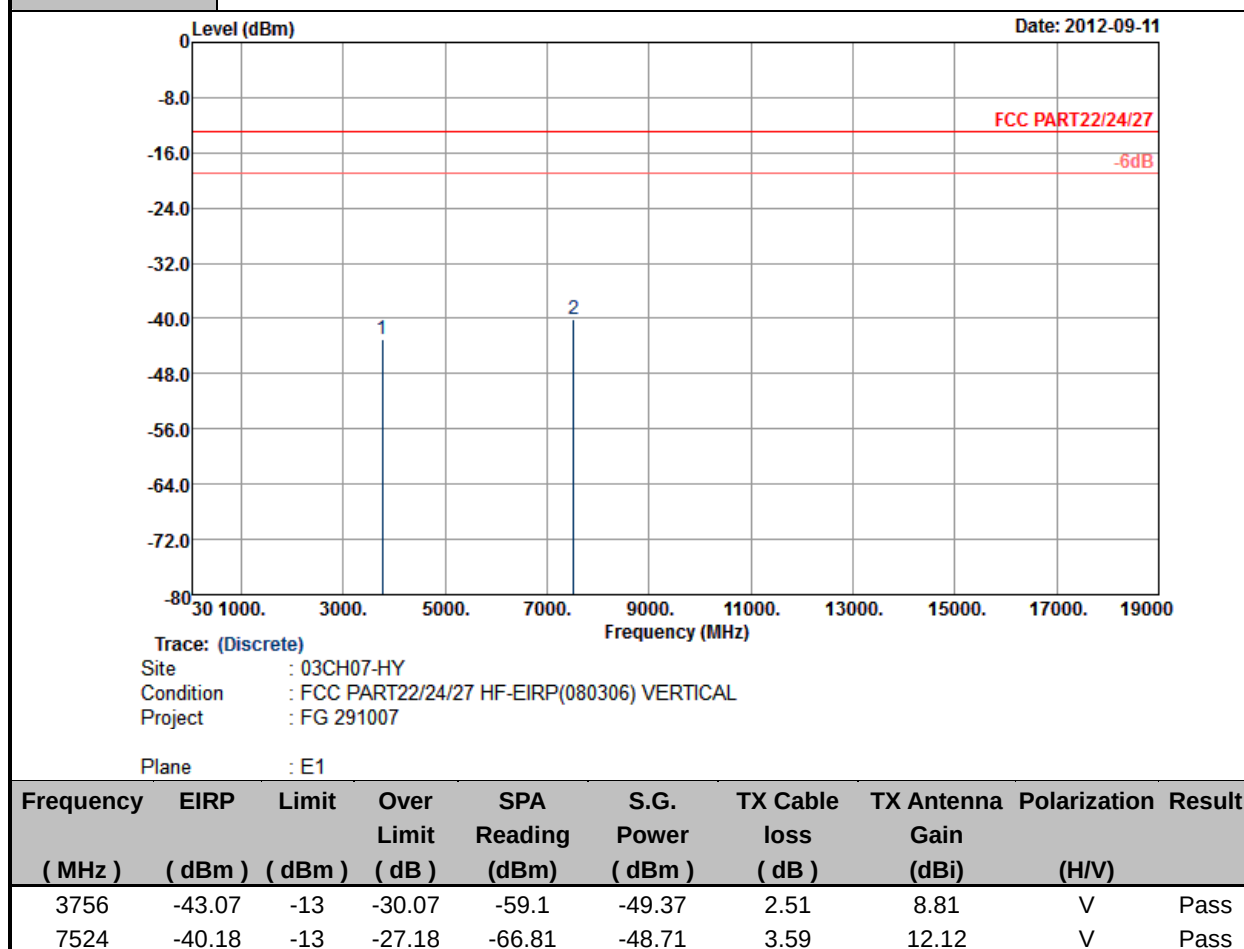
Band :	WCDMA Band IV	Temperature :	22~24°C
Test Mode :	RMC 12.2Kbps Link + Wireless Charging Pad + Earphone	Relative Humidity :	50~52%
Test Engineer :	Gavin Wu and Kyle Jhuang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Band :	WCDMA Band II	Temperature :	22~24°C
Test Mode :	RMC 12.2Kbps Link + Earphone + USB Cable 1 (Charging from Adapter 2)	Relative Humidity :	50~52%
Test Engineer :	Gavin Wu and Kyle Jhuang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Band :	WCDMA Band II	Temperature :	22~24°C
Test Mode :	RMC 12.2Kbps Link + Earphone + USB Cable 1 (Charging from Adapter 2)	Relative Humidity :	50~52%
Test Engineer :	Gavin Wu and Kyle Jhuang	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



3.8 Frequency Stability Measurement

3.8.1 Description of Frequency Stability Measurement

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

3.8.2 Measuring Instruments

See list of measuring instruments of this test report.

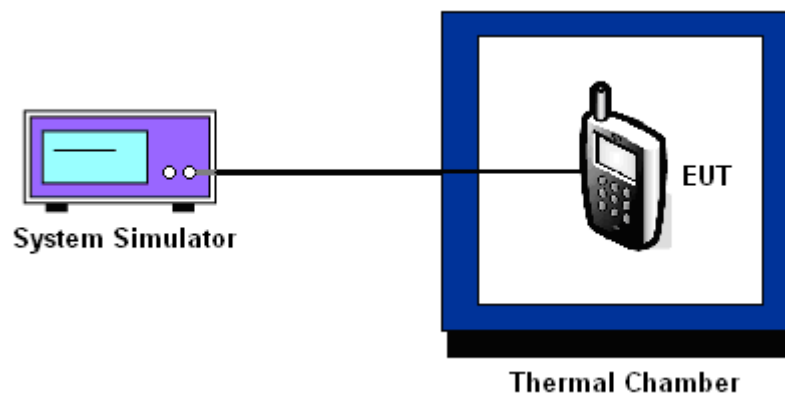
3.8.3 Test Procedures for Temperature Variation

1. The EUT was set up in the thermal chamber and connected with the base station.
- m. 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.
- n. 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.
- o. If the EUT cannot be turned on at -30°C , the testing lowest temperature will be raised in 10°C step until the EUT can be turned on.

3.8.4 Test Procedures for Voltage Variation

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

3.8.5 Test Setup



3.8.7 Test Result of Temperature Variation

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

Temperature (°C)	GSM		EDGE 8		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	25	0.03	35	0.04	PASS
-20	17	0.02	48	0.06	
-10	-22	-0.03	-23	-0.03	
0	-19	-0.02	-24	-0.03	
10	-33	-0.04	-28	-0.03	
20	-30	-0.04	-47	-0.06	
30	-23	-0.03	-51	-0.06	
40	-34	-0.04	-49	-0.06	
50	-21	-0.02	30	0.04	

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

Temperature (°C)	GSM		EDGE 8		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	-32	-0.02	-60	-0.03	PASS
-20	-27	-0.01	-56	-0.03	
-10	-30	-0.02	51	0.03	
0	-30	-0.02	-29	-0.02	
10	-45	-0.02	-31	-0.02	
20	-49	-0.03	-61	-0.03	
30	-32	-0.02	-38	-0.02	
40	-24	-0.01	-46	-0.02	
50	-25	-0.01	-31	-0.02	

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

Temperature (°C)	RMC 12.2Kbps		Result
	Freq. Dev. (Hz)	Deviation (ppm)	
-30	7	0.01	PASS
-20	-7	-0.01	
-10	6	0.01	
0	-6	-0.01	
10	7	0.01	
20	5	0.01	
30	6	0.01	
40	6	0.01	
50	8	0.01	

Band :	WCDMA Band IV	Channel :	1413
Limit (ppm) :	2.5	Frequency :	1732.6 MHz

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

Band :	WCDMA Band II	Channel :	9400
Limit (ppm) :	2.5	Frequency :	836.4 MHz

Temperature (°C)	RMC 12.2Kbps		Result
	Freq. Dev. (Hz)	Deviation (ppm)	
-30	-13	-0.01	PASS
-20	-12	-0.01	
-10	-13	-0.01	
0	-12	-0.01	
10	-11	-0.01	
20	-12	-0.01	
30	-14	-0.01	
40	-16	-0.01	
50	-12	-0.01	

3.8.8 Test Result of Voltage Variation

Band & Channel	Mode	Voltage (Volt)	Freq. Dev. (Hz)	Deviation (ppm)	Limit (ppm)	Result
GSM 850 CH189	GSM	3.7	-30	-0.04	2.5	PASS
		BEP	-26	-0.03		
		4.26	-22	-0.03		
	EDGE 8	3.7	-46	-0.05		
		BEP	-41	-0.05		
		4.26	-49	-0.06		
GSM 1900 CH661	GSM	3.7	-38	-0.02		
		BEP	-42	-0.02		
		4.26	-39	-0.02		
	EDGE 8	3.7	-55	-0.03		
		BEP	-48	-0.03		
		4.26	-44	-0.02		
WCDMA Band V CH4182	RMC 12.2Kbps	3.7	-7	-0.01		
		BEP	6	0.01		
		4.26	7	0.01		
WCDMA Band IV CH1413	RMC 12.2Kbps	3.7	11	0.01		
		BEP	12	0.01		
		4.26	11	0.01		
WCDMA Band II CH9400	RMC 12.2Kbps	3.7	-12	-0.01		
		BEP	-13	-0.01		
		4.26	-12	-0.01		

Note:

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

4 List of Measuring Equipments

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
System Simulator	R&S	CMU200	117995	N/A	Jul. 30, 2012	Sep. 17, 2012 ~ Sep. 24, 2012	Jul. 29, 2013	Conducted (TH02-HY)
Spectrum Analyzer	R&S	FSP40	100055	9kHz~40GHz	Jun. 06, 2012	Sep. 17, 2012 ~ Sep. 24, 2012	Jun. 05, 2013	Conducted (TH02-HY)
Thermal Chamber	Ten Billion	TTH-D3SP	TBN-930701	N/A	Jul. 23, 2012	Sep. 17, 2012 ~ Sep. 24, 2012	Jul. 22, 2013	Conducted (TH02-HY)
Bilog Antenna	SCHAFFNER	CBL6111C	2726	30MHz ~ 1GHz	Oct. 22, 2011	Sep. 10, 2012 ~ Sep. 25, 2012	Oct. 21, 2012	Radiation (03CH07-HY)
Spectrum Analyzer	R&S	FSP30	101067	9KHz ~ 30GHz	Dec. 06, 2011	Sep. 10, 2012 ~ Sep. 25, 2012	Dec. 05, 2012	Radiation (03CH07-HY)
Double Ridge Horn Antenna	EMCO	3117	00066583	1GHz ~ 18GHz	Aug. 01, 2012	Sep. 10, 2012 ~ Sep. 25, 2012	Jul. 31, 2013	Radiation (03CH07-HY)
Pre Amplifier	Agilent	8449B	3008A02362	1GHz ~ 26.5GHz	Dec. 05, 2011	Sep. 10, 2012 ~ Sep. 25, 2012	Dec. 04, 2012	Radiation (03CH07-HY)
Pre Amplifier	COM-POWER	PA-103A	161241	10-1000MHz.32dB. GAIN	Feb. 27, 2012	Sep. 10, 2012 ~ Sep. 25, 2012	Feb. 26, 2013	Radiation (03CH07-HY)
Signal Analyzer	Rohde & Schwarz	FSQ	200578/026	20Hz~26.5GHz	Feb. 06, 2012	Sep. 10, 2012 ~ Sep. 25, 2012	Feb. 05, 2013	Radiation (03CH07-HY)
Pre Amplifier	MITEQ	AMF-7D-00 101800-30-1	159088	1GHz ~ 18GHz	Mar. 10, 2012	Sep. 10, 2012 ~ Sep. 25, 2012	Mar. 09, 2013	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA917025 1	15GHz ~ 40GHz	Oct. 21, 2011	Sep. 10, 2012 ~ Sep. 25, 2012	Oct. 20, 2012	Radiation (03CH07-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9KHz ~ 30MHz	Jul. 03, 2012	Sep. 10, 2012 ~ Sep. 25, 2012	Jul. 02, 2014	Radiation (03CH07-HY)
System Simulator	R&S	CMU200	117591	N/A	Oct. 21, 2011	Sep. 10, 2012 ~ Sep. 25, 2012	Oct. 20, 2013	Radiation (03CH07-HY)

5 Uncertainty of Evaluation

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

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.72
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