

TEST REPORT

REPORT NUMBER: I12GWD761-RF-3G

ON

**Type of Equipment: GSM QUAD Band and UMTS 850/1900
mobile phone**

Model of Equipment: C8660

Marketing Name: C8660, C8660CA, C8660EN, C8660CP,

C8660TL, C8660NZ, C8660AR, C8660AF

**Applicant: Cellon Communications Technology(ShenZhen)Co.,
Ltd.**

China Telecommunication Technology Labs

Month date, year

Nov 15th, 2012

Signature



Ma Xin

Vice Director

FCC ID: T38C8660
Report Date: 2012-11-15

Test Firm Name: China Telecommunication Technology Labs
Registration Number: 840587

Statement

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Parts 2, 22, and 24. The sample tested was found to comply with the requirements defined in the applied rules.

CONTENTS

1 GENERAL INFORMATION	4
1.1 NOTES	4
1.2 TESTERS.....	5
1.3 TESTING LABORATORY INFORMATION	6
1.4 DETAILS OF APPLICANT OR MANUFACTURER	7
2 TEST ITEM	8
2.1 GENERAL INFORMATION	8
2.2 OUTLINE OF EUT.....	8
2.3 MODIFICATIONS INCORPORATED IN EUT	8
2.4 EQUIPMENT CONFIGURATION	8
2.5 OTHER INFORMATION	9
3 SUMMARY OF TEST RESULTS	10
4 TEST RESULTS OF MODE.....	11
4.1 RADIATED SPURIOUS EMISSION.....	11
4.2 OUTPUT POWER	15
4.3 CONDUCTED EMISSION	19
4.4 OCCUPIED BANDWIDTH	22
4.5 EMISSION BANDWIDTH	26
4.6 FREQUENCY STABILITY.....	30
4.7 CONDUCTED SPURIOUS EMISSION	33
4.8 BAND EDGE COMPLIANCE	39
5 TEST EQUIPMENTS AND ANCILLARIES USED FOR TESTS	43
5.1 TEST EQUIPMENTS FOR RF TEST	43
5.2 TEST EQUIPMENTS FOR RSE TEST	44
ANNEX A EXTERNAL PHOTOS	45
ANNEX B DEVIATIONS FROM PRESCRIBED TEST METHODS.....	47

1 General Information

1.1 Notes

All reported tests were carried out on a sample equipment to demonstrate limited compliance with the following specifications.

FCC PART 2	FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS	10-1-10 Edition
FCC Part 24	PERSONAL COMMUNICATIONS SERVICES	10-1-10 Edition
FCC Part 22	PUBLIC MOBILE SERVICES	10-1-10 Edition
ANSI/TIA-603-C	Land Mobile FM or PM Communications Equipment Measurement and Performance standards	2004
ANSI C63.4	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9kHz to 40 GHz	2003

The test results of this test report relate exclusively to the item(s) tested as specified in section 2.

The following deviation from, additions to, or exclusions from the test specifications have been made. See Annex C.

China Telecommunication Technology Labs.(CTTL) authorizes the applicant or manufacturer (see section 1.4) to reproduce this report provided, and the test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of CTTL Mr. He Guili.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. CTTL accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

1.2 Testers

Name: Li Peng

Position: Engineer

Signature:



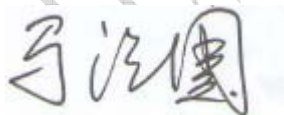
Technical responsibility for area of testing:

Name: Ma Zhiguo

Position: Manager

Date: 2012-11-15

Signature:



1.3 Testing Laboratory information

1.3.1 Location

Name: China Telecommunication Technology Labs.

Address: No. 11, Yue Tan Nan Jie, Xi Cheng District

BEIJING

P. R. CHINA, 100083

Tel: +86 10 68094053

Fax: +86 10 68011404

Email: emc@chinattl.com

1.3.2 Details of accreditation status

Accredited by: China National Accreditation Service for Conformity
Assessment (CNAS)

Registration number: CNAS Registration No. CNAS L0570

Standard: ISO/IEC 17025

1.3.3 Test location, where different from section 1.3.1

Name: -----

Street: -----

City: -----

Country: -----

Telephone: -----

Fax: -----

Postcode: -----

1.4 Details of applicant or manufacturer

1.4.1 Applicant

Name: Cellon Communications Technology (ShenZhen) Co.,
Ltd
Address: 13/F, Skyworth Building C Gaoxin S. Ave. 1st,
High-Tech industrial Park Nanshan, Shenzhen
Country: China
Telephone: 0755-86365704
Fax: 0755-86365686
Contact: maggie.xu
Email: Maggie.xu@cellon.com

1.4.2 Manufacturer (if different from applicant in section 1.4.1)

Name: --
Address: --

1.4.3 Manufactory (if different from applicant in section 1.4.1)

Name: --
Address: --

2 Test Item

2.1 General Information

Manufacturer: Cellon Communications Technology (ShenZhen) Co., Ltd
 Name: GSM QUAD Band and UMTS 850/1900 mobile phone
 Model Number: C8660
 Serial Number: --
 Production Status: Product
 Receipt date of test item: 2012-5-21
 Transmitter Frequency range: Band II: 1852.4-1909.8MHz,
 Band V: 826.4-846.6MHz
 Receiver Frequency Range: Band II: 1932.4-1987.6MHz,
 Band V: 871.4-891.6MHz
 ISM Frequency Band 2400-2480MHz
 High Voltage Level: 4.2 V
 Nominal Voltage Level: 3.7 V
 Low Voltage Level: 3.5 V

2.2 Outline of EUT

E.U.T. is a GSM QUAD Band and UMTS 850/1900 mobile phone.

2.3 Modifications Incorporated in EUT

The EUT has not been modified from what is described by the brand name and unique type identification stated above.

2.4 Equipment Configuration

Equipment configuration list:

Item	Generic Description	Manufacturer	Type	Serial No.	Remarks
A	handset	Cellon Communications Technology (ShenZhen) Co., Ltd	C8660	--	None
B	adapter	DVE	SPS-015757	--	None
C	battery	BAK	Li-ion	--	None

2.5 Other Information

(a) Version of hardware and software

HW Version: A8660 MainPCB P2C

SW Version: ADR21_Claro_CA_2.7

(c) Battery information:

Nominal Voltage: 3.7 V

Capacity: 1200 mAh

China Test Report

3 Summary of Test Results

A brief summary of the tests carried out is shown as following.

WCDMA BAND V mode:		
FCC Specification Clause	Name of Test	Result
2.1051, 24.238, 22.917	Radiated Spurious Emission	Pass
22.913, 24.232	Output Power	Pass
15.107, 15.207	Conducted Emission	Pass
2.1049, 22.917(b), 24.238(b)	Occupied Bandwidth	Pass
22.917(b), 24.238(b)	Emission Bandwidth	Pass
2.1055, 22.355, 24.235	Frequency Stability	Pass
2.1057, 22.917, 24.238	Conducted spurious emissions	Pass
22.917(b), 24.238(b)	Band Edge Compliance	Pass

A brief summary of the tests carried out is shown as following.

WCDMA BAND II mode:		
FCC Specification Clause	Name of Test	Result
2.1051, 24.238, 22.917	Radiated Spurious Emission	Pass
22.913, 24.232	Output Power	Pass
15.107, 15.207	Conducted Emission	Pass
2.1049, 22.917(b), 24.238(b)	Occupied Bandwidth	Pass
22.917(b), 24.238(b)	Emission Bandwidth	Pass
2.1055, 22.355, 24.235	Frequency Stability	Pass
2.1057, 22.917, 24.238	Conducted spurious emissions	Pass
22.917(b), 24.238(b)	Band Edge Compliance	Pass

HSDPA BAND V mode:		
FCC Specification Clause	Name of Test	Result
22.913, 24.232	Output Power	Pass

HSUPA BAND V mode:		
FCC Specification Clause	Name of Test	Result
22.913, 24.232	Output Power	Pass

HSDPA BAND II mode:		
FCC Specification Clause	Name of Test	Result
22.913, 24.232	Output Power	Pass

HSUPA BAND II mode:		
FCC Specification Clause	Name of Test	Result
22.913, 24.232	Output Power	Pass

4 Test Results of mode

4.1 Radiated Spurious Emission

Specifications:	2.1051, 24.238, 22.917
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Operation Mode	TX on, channel 4183 and 9400
Test Results:	Pass

Limit Level Construction:

According to Part 24.238 (a), i.e., Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB, so the limit level is:
 $P(\text{dBm}) - (43 + 10 \log(P)) \text{ dB} = -13\text{dBm}$

Limits for Radiated spurious emissions(UE)	
Frequency range	Limit Level / Resolution Bandwidth
30 MHz to 20000 MHz	-13dBm/1MHz

Test Setup:

The EUT was placed in an anechoic chamber, see figure SP. The Wireless Communications Test Set was used to set the TX channel and power level and modulate the TX signal with different bit patterns. The test was done using an automated test system, where all test equipments were controlled by a computer.

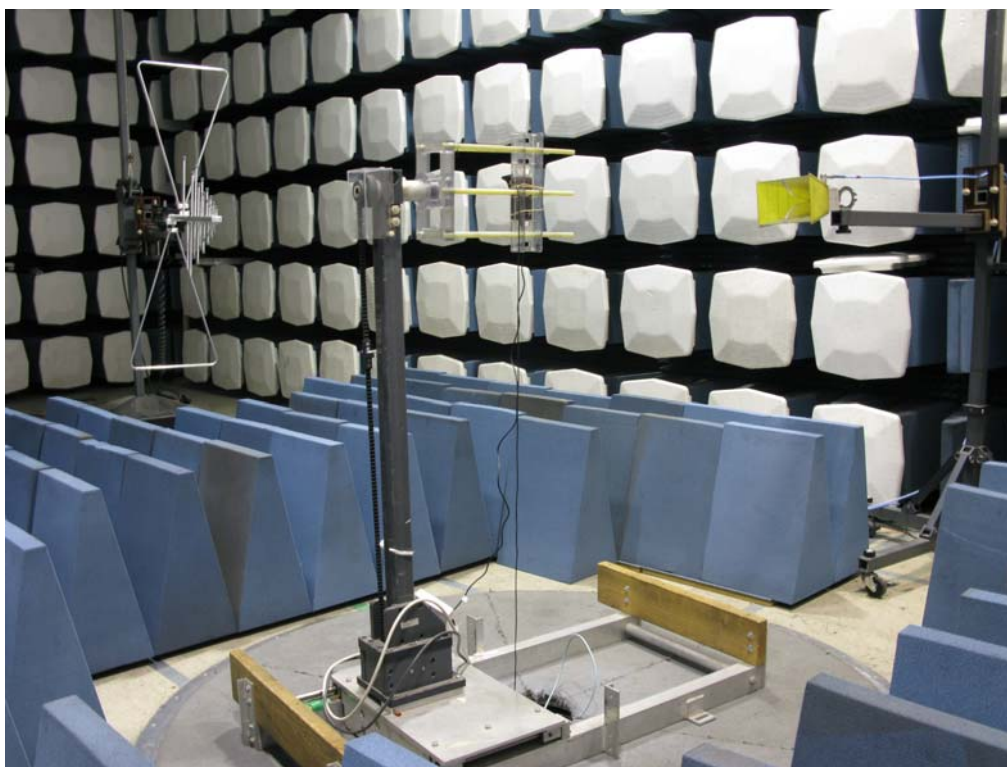


Figure SP

Test Method:

The measurement was performed accordance with section 2.2.12 of ANSI/TIA-603-C-2004: *Land Mobile FM or PM Communications Equipment Measurement and Performance Standards*.

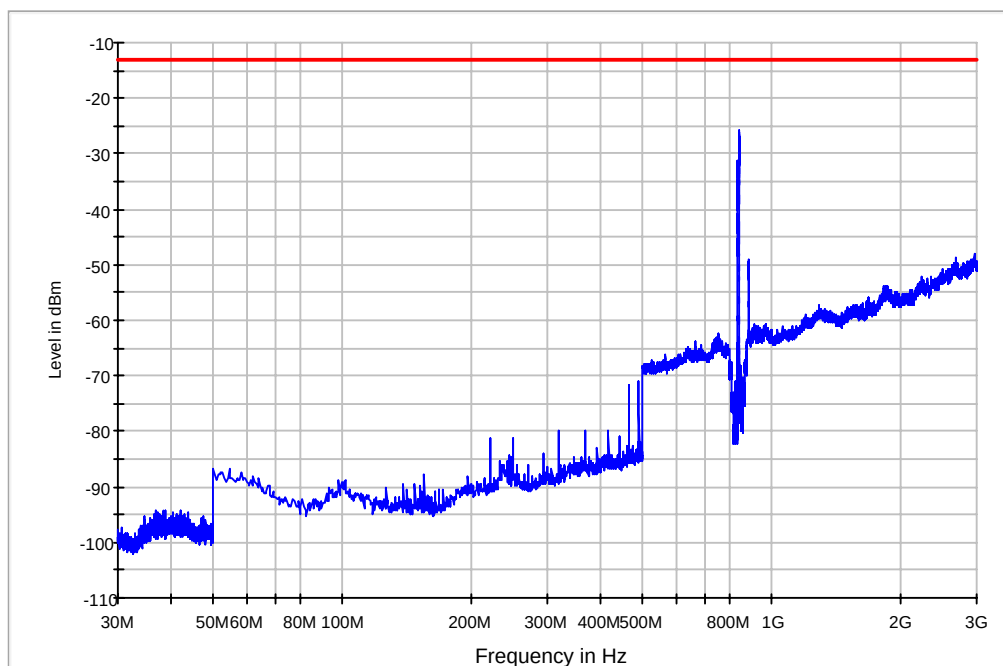
- 1 The maximum spurious emissions were searched by turning the azimuth of the turntable, shifting the polarization of the measuring antenna and changing the pose of the EUT.
- 2 Levels of EUT's transmitter harmonics and suspicious signals were recorded.
- 3 The recorded levels were corrected in the automated test system with the correction factors given by a substitution calibration made before the measurement.
- 4 The corrected values of radiated spurious emissions indicated as EIRP are reported.

Note:

- 1 The investigated ARFCNs are 4183 (836.6 MHz) and 9400 (1880.0 MHz).
- 2 The investigated frequency range is 30 MHz to the 10th harmonic of the highest Frequency generated within the equipment.

Graphical test Results:

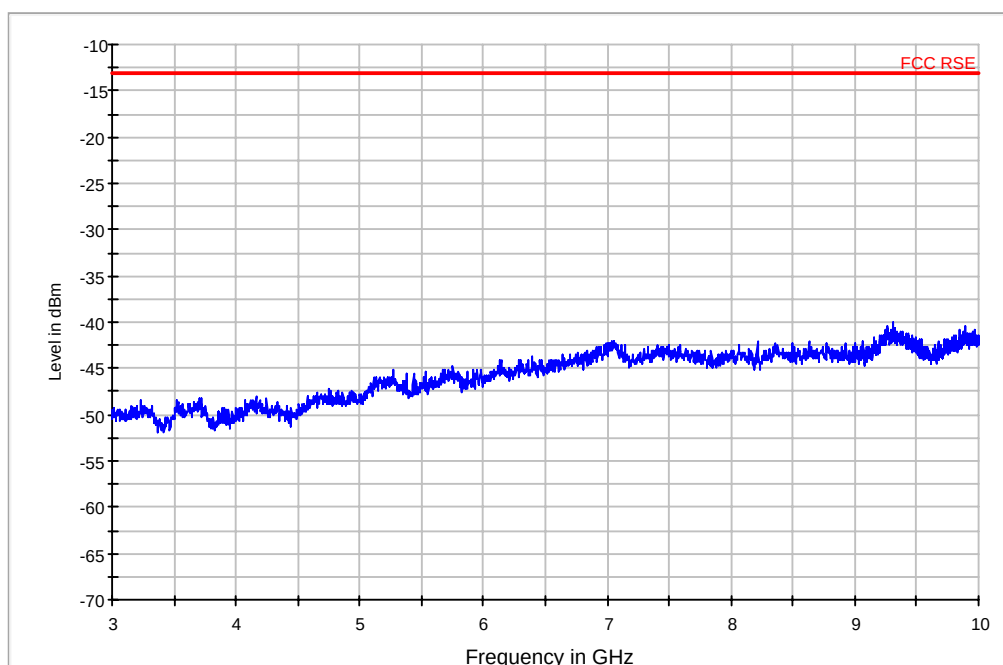
GSM850 Tx 30-3GHz-FCC Test



— FCC RSE — Preview Result 1 * Data Reduction 1 [1]

Channel 4183 for 850MHz – 30MHz to 3GHz

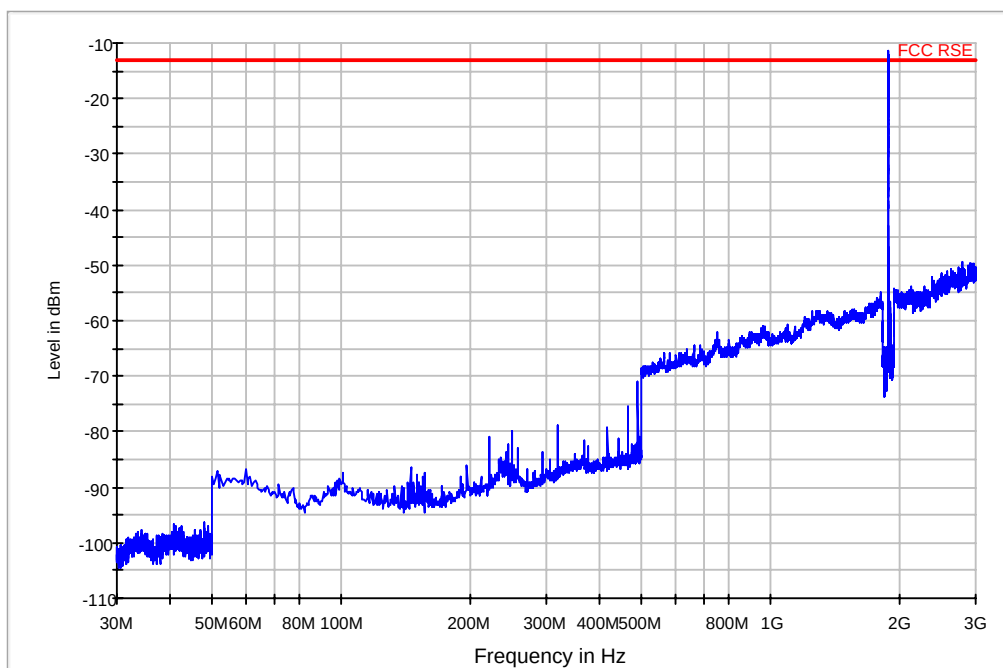
GSM850 Tx 3-12.75GHz-FCC Test



— FCC RSE.LimitLine — Preview Result 1

Channel 4183 for 850MHz – 3GHz to 10GHz

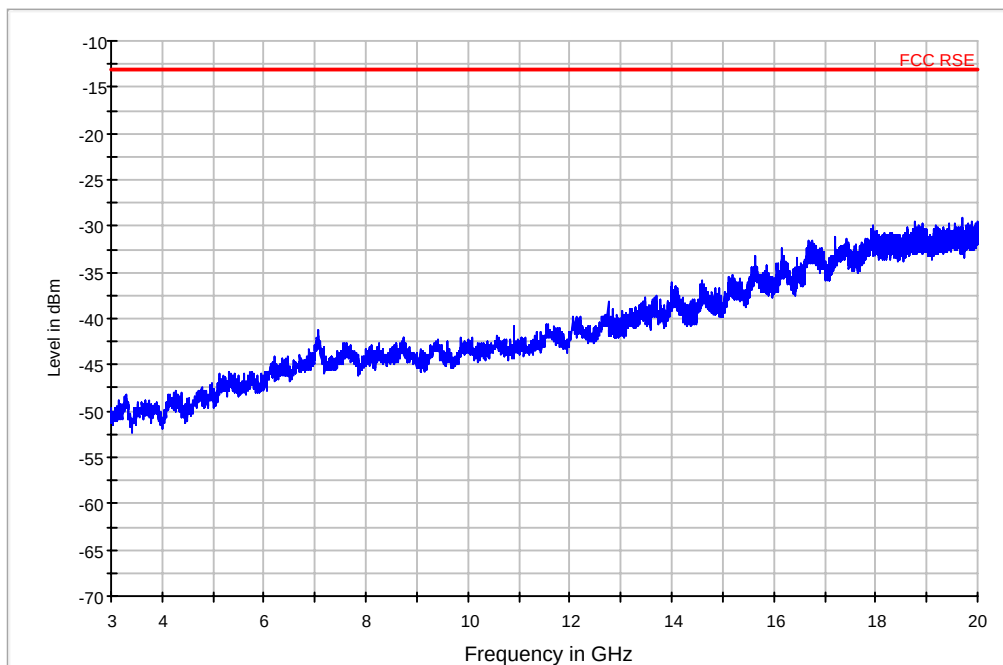
GSM1900 Tx 30-3GHz-FCC Test



— FCC RSE.LimitLine — Preview Result 1

Channel 9400 for 1900MHz– 30MHz to 3GHz

GSM1900 Tx 3-20GHz-FCC Test



— FCC RSE.LimitLine — Preview Result 1

Channel 9400 for 1900MHz– 3GHz to 20GHz

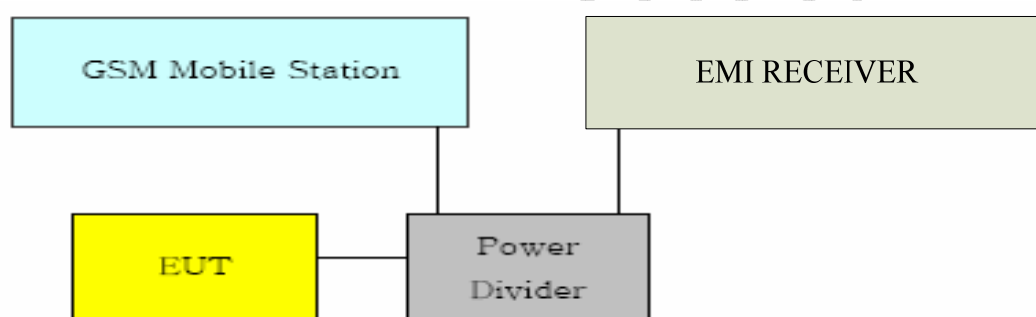
4.2 Output Power

4.2.1. Conducted Output Power

Specifications:	22.913, 24.232
Test conditions:	Ambient Temperature: 15°C - 35°C Relative Humidity: 30% - 60% Air pressure: 86 - 106 kPa
Operation Mode	TX on, channel 9262, 9400, 9538, 4132, 4183 and 4233
Test Results:	Pass

Test Setup:

During the process of testing, the EUT was controlled via the Wireless Communications Test Set to ensure max power transmission and proper modulation and measured by Rhode & Schwarz EMI test receiver (ES126).



Test Method

- 1) The EUT was coupled to the EMI test receiver analyzer mode and the base station simulator through a power divider. The radio frequency load attached to the EUT antenna terminal was 50 Ohm. The loss of the cables the test system is calibrated to correct the readings.
- 2) The spectrum analyzer was set to Max-peak Detector function and Maximum hold mode.
- 3) The resolution bandwidth of the spectrum analyzer was comparable to the emission bandwidth.

Note: --

Test Result:**WCDMA Band II**

ARFCN	Output Power [dBm]
9262	21.85
9400	22.00
9538	21.93

WCDMA Band V

ARFCN	Output Power [dBm]
4132	21.58
4183	21.83
4233	21.58

HSDPA Band II

ARFCN	Output Power [dBm]
9262	21.97
9400	22.00
9538	21.96

HSUPA Band II

ARFCN	Output Power [dBm]
9262	20.67
9400	20.76
9538	20.46

HSDPA Band V

ARFCN	Output Power [dBm]
9262	21.66
9400	21.83
9538	21.64

HSUPA Band V

ARFCN	Output Power [dBm]
9262	20.36
9400	20.44
9538	20.24

4.2.2. Radiated Output Power

Test Setup:

The EUT was set in an anechoic chamber, which is connected to the Wireless Communications Test Set located outside the chamber over the air. The test was done using an automated test system, where all test equipments were controlled by a computer.

Test Method

The measurement was performed accordance with section 2.2.17 of ANSI/TIA-603-C-2004: *Land Mobile FM or PM Communications Equipment Measurement and Performance Standards*.

1 The maximum power was searched by turning the azimuth of the turntable, shifting the polarization of the measuring antenna and changing the pose of the EUT.

2 The measured levels are EIRP values corrected in the automated test system with the correction factors given by a substitution calibration made before the measurement. The calibration is made separately for vertical and horizontal polarization and the system uses different correction factors depending on the measuring antenna polarization.

3 The corrected maximum levels were reported for EIRP values, and ERP values can be calculated from EIRP values.

Note:

$ERP\text{ dBm} = EIRP\text{ dBm} - 2.15\text{dB}$.

EIRP Value for WCDMA Band V:**Limits**

	Burst Peak ERP (dBm)
WCDMA Band V	≤ 38.45 (7W)

ARFCN	Frequency [MHz]	ERP [dBm]
4132	826.40	19.84
4183	836.60	19.96
4233	846.60	19.96

EIRP Value for WCDMA Band II:**Limits**

	Burst Peak EIRP (dBm)
WCDMA Band II	≤ 33 (2W)

ARFCN	Frequency [MHz]	EIRP [dBm]
9262	1852.40	22.17
9400	1880.00	20.29
9538	1907.60	20.06

4.3 Conducted Emission

Specifications:	15.107, 15.207
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Operation Mode	TX on, channel 4183 and 9400
Test Results:	Pass

Test Method

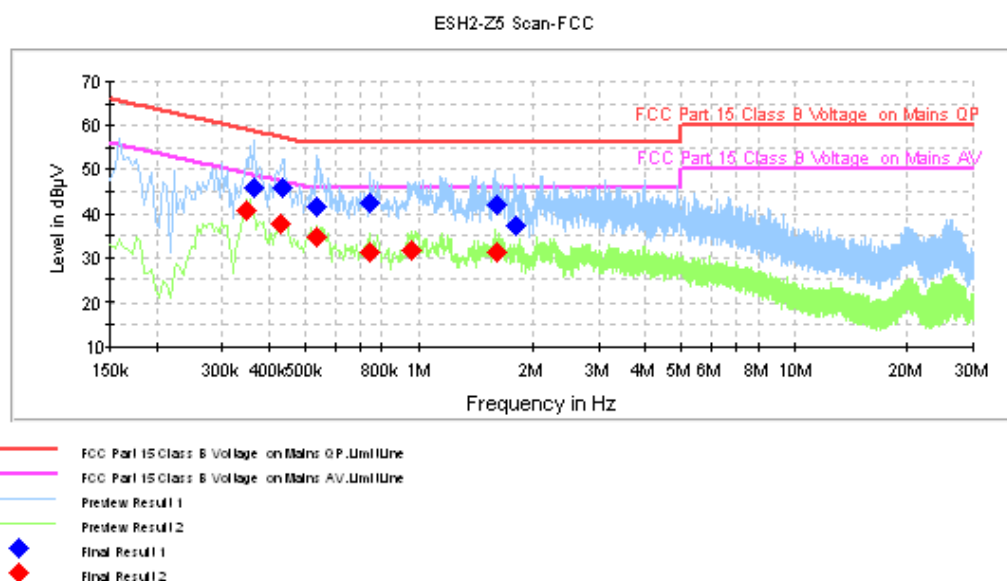
The Measure procedure is ANSI C63.4-2003 is used. Conducted Emission is measured with travel charger.

Limit

Frequency of Emission (MHz)	Conducted Limit (dB μ V)	
	Quasi-Peak	Average
0.15 – 0.5	66 to 56 *	56 to 46 *
0.5 – 5	56	46
5 - 30	60	50
Note: * Decreases with logarithm of the frequency		

Test Result

WCDMA Band V:

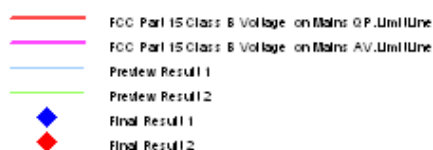
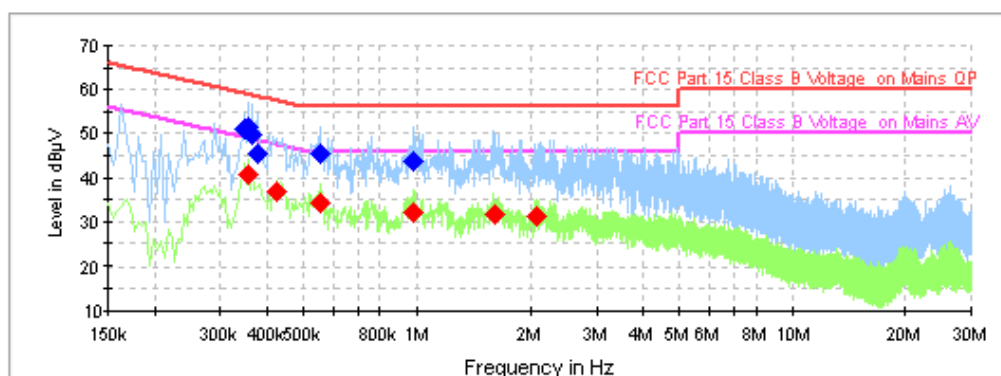


Frequency (MHz)	QuasiPeak (dB μV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB μV)
0.366000	45.9	FLO	N	10.1	12.7	58.6
0.433500	45.9	FLO	L1	10.0	11.3	57.2
0.532500	41.4	FLO	N	10.1	14.6	56.0
0.739500	42.4	FLO	L1	10.0	13.6	56.0
1.603500	42.1	FLO	L1	10.1	13.9	56.0
1.810500	37.0	FLO	N	10.1	19.0	56.0

Frequency (MHz)	CAverage (dB μV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB μV)
0.348000	40.8	FLO	L1	10.0	8.2	49.0
0.429000	37.6	FLO	L1	10.0	9.7	47.3
0.532500	34.6	FLO	L1	10.1	11.4	46.0
0.739500	31.4	FLO	L1	10.0	14.6	46.0
0.955500	31.7	FLO	N	10.1	14.3	46.0
1.603500	31.2	FLO	N	10.1	14.8	46.0

WCDMA Band II:

ESH2-Z5 Scan-FCC



Frequency (MHz)	QuasiPeak (dB μ V)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.348000	51.2	FLO	L1	10.0	7.8	59.0
0.357000	51.5	FLO	L1	10.0	7.3	58.8
0.366000	49.5	FLO	L1	10.0	9.1	58.6
0.375000	45.3	FLO	N	10.0	13.1	58.4
0.555000	45.4	FLO	L1	10.1	10.6	56.0
0.978000	43.8	FLO	L1	10.1	12.2	56.0

Frequency (MHz)	CAverage (dB μ V)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.357000	40.7	FLO	L1	10.0	8.1	48.8
0.424500	36.7	FLO	N	10.1	10.7	47.4
0.555000	34.0	FLO	L1	10.1	12.0	46.0
0.978000	32.2	FLO	N	10.1	13.8	46.0
1.603500	31.5	FLO	N	10.1	14.5	46.0
2.080500	31.2	FLO	L1	10.1	14.8	46.0

4.4 Occupied bandwidth

Specifications:	2.1049,22.917(b),24.238(b)
Operation Mode	TX on, channel 9262, 9400, 9538, 4132, 4183 and 4233
Test Results:	Pass

Test Setup

The situation under which maximum EIRP values were found in the measurement of the radiated RF power output was used to determine the 99% occupied bandwidth. The Wireless Communications Test Set was used to set the TX channel, power level and modulation.

Test Method

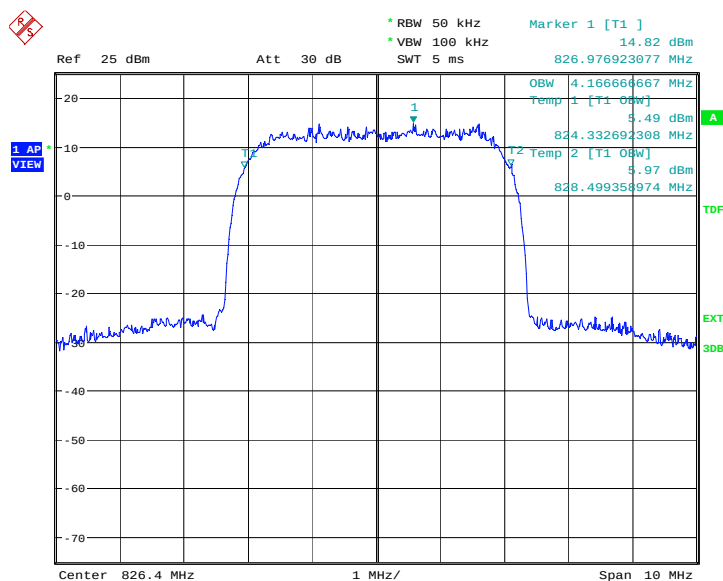
The 99% occupied bandwidth was calculated from the spectrum analyzer. Markers in the spectrum analyzer were then placed between the calculated frequencies to show the calculated 99% power band.

Note: --

Results data:

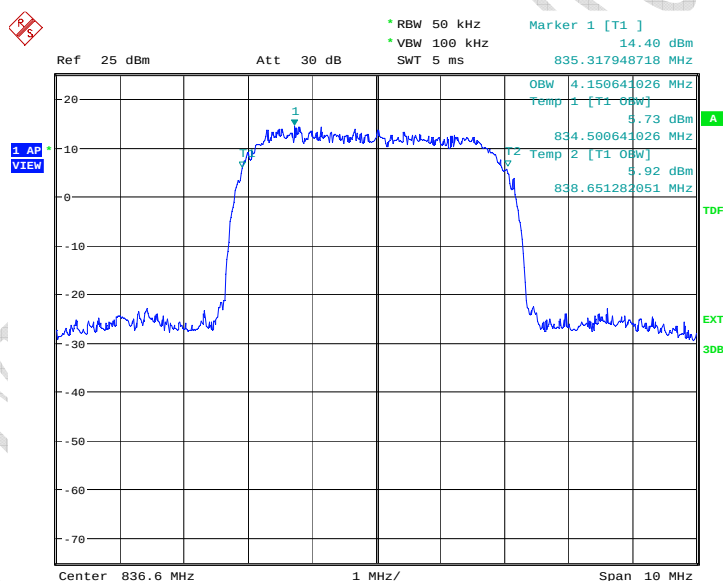
EUT channel	99% occupied bandwidth [MHz]
4132	4.17
4183	4.15
4233	4.17
9262	4.18
9400	4.17
9538	4.18

Graphical results:



Date: 28.MAY.2012 14:35:29

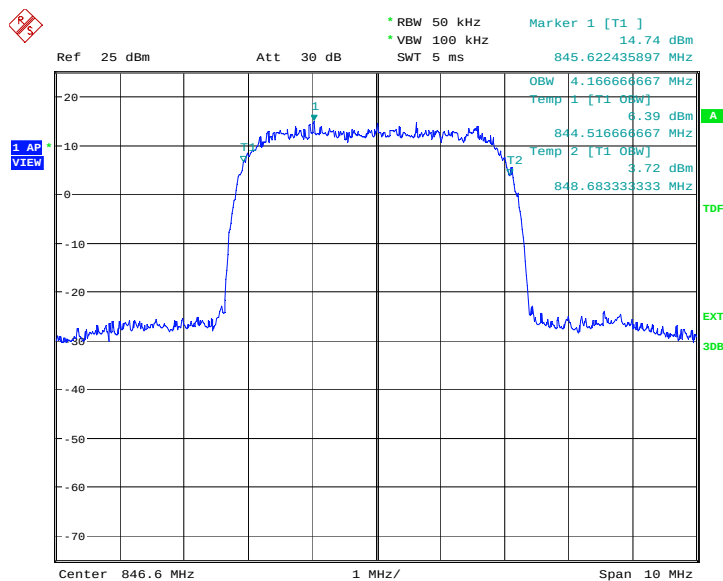
Channel 4132



Date: 28.MAY.2012 14:36:03

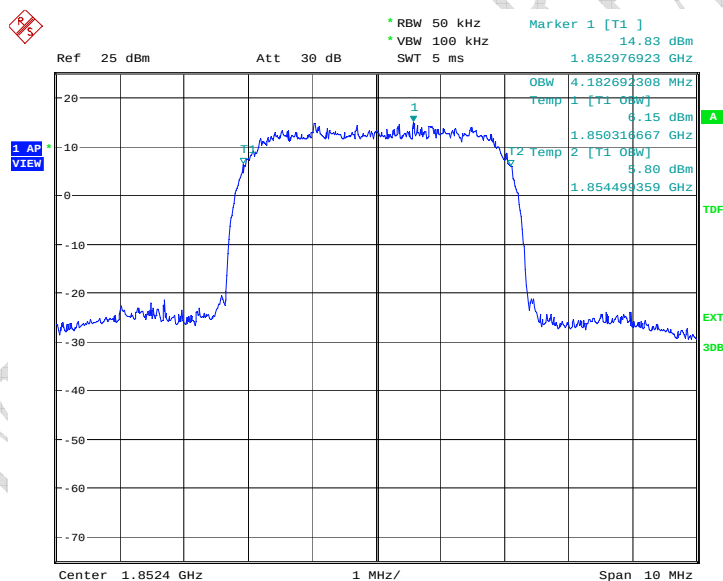
Channel 4183

No. I12GWD761-RF-3G



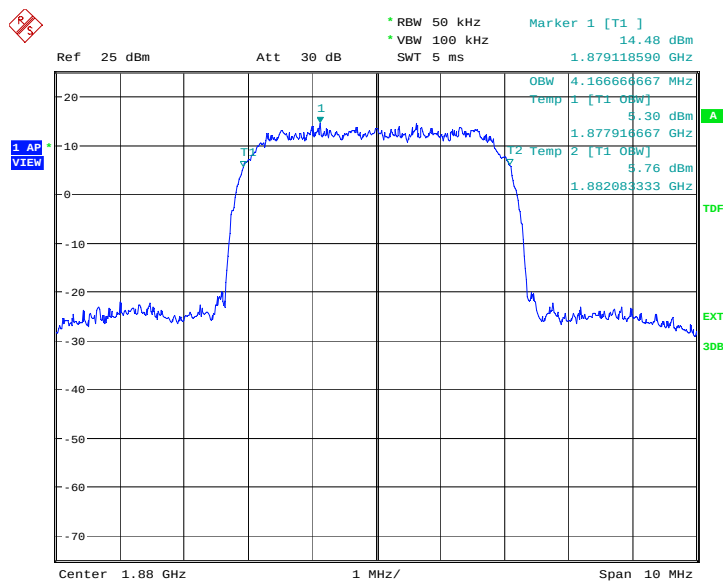
Date: 28.MAY.2012 14:36:38

Channel 4233



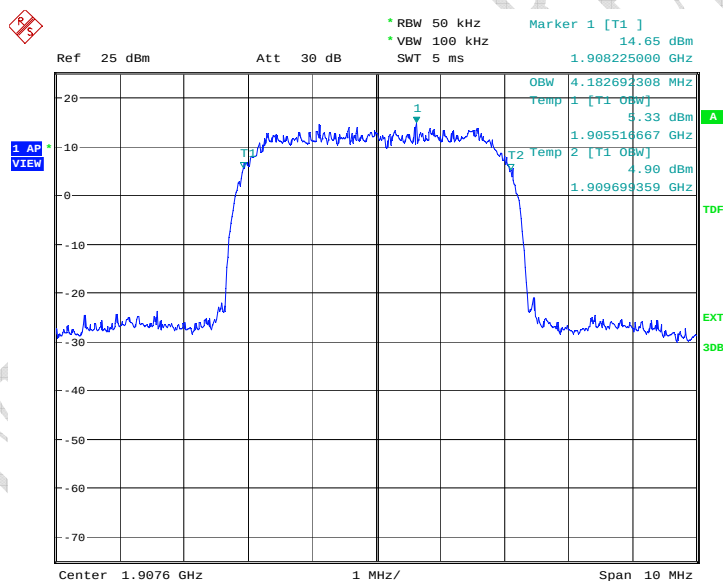
Date: 28.MAY.2012 14:18:56

Channel 9262



Date: 28.MAY.2012 14:19:31

Channel 9400



Date: 28.MAY.2012 14:20:05

Channel 9538

4.5 Emission bandwidth

Specifications:	22.917(b), 24.238(b)
Operation Mode	TX on, channel 9262, 9400, 9538, 4132, 4183 and 4233
Test Results:	Pass

Test Setup

The setup of emission bandwidth is similar to conducted emissions.

Test Method

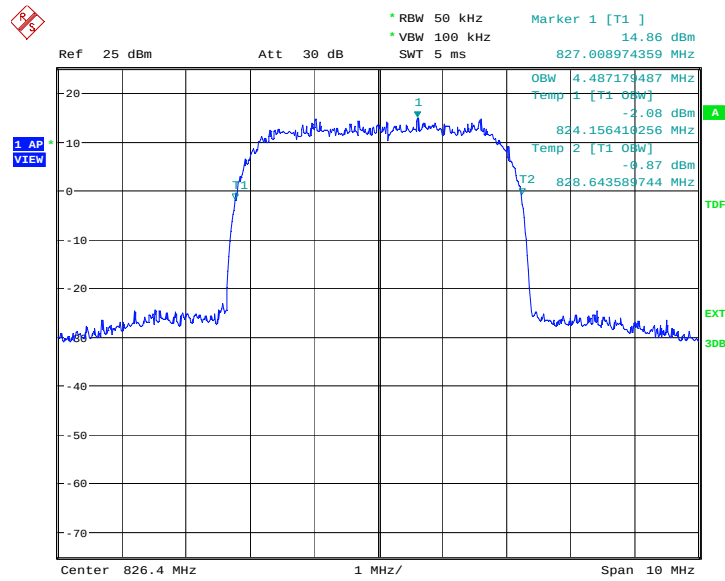
The emission bandwidth measures -26dBc Spectrum analyzer plots from frequencies of WCDMA Band II and WCDMA Band V.

Note: --

Results data:

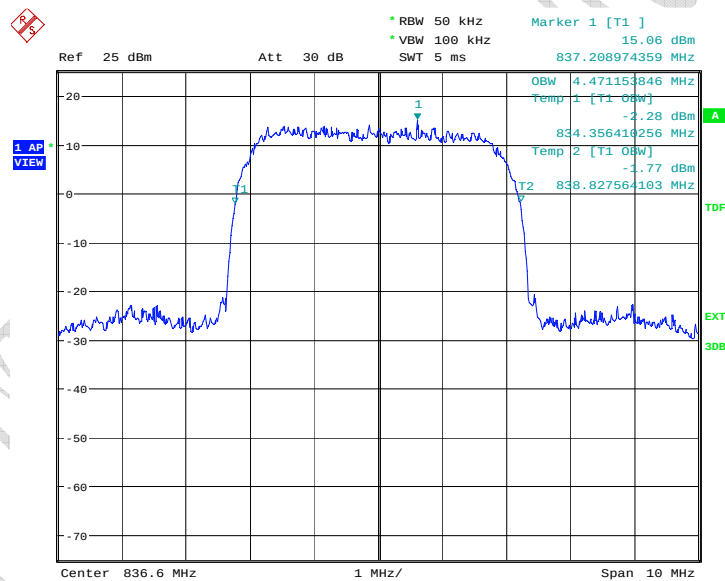
EUT channel	-26dBc Emission bandwidth [MHz]
4132	4.49
4183	4.47
4233	4.49
9262	4.49
9400	4.47
9538	4.49

Graphical results:



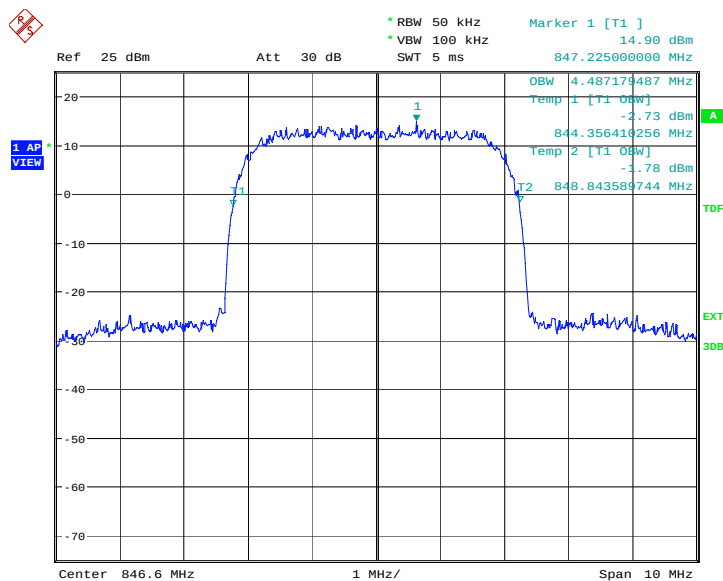
Date: 28.MAY.2012 14:37:14

Channel 4132



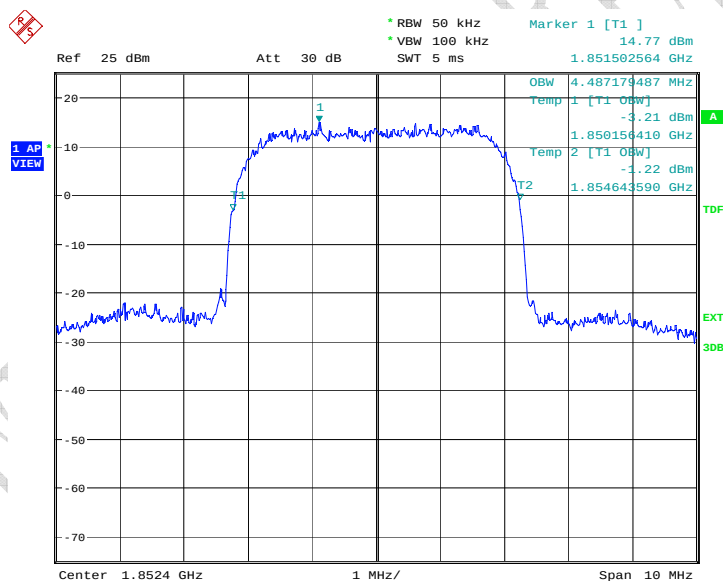
Date: 28.MAY.2012 14:37:49

Channel 4183



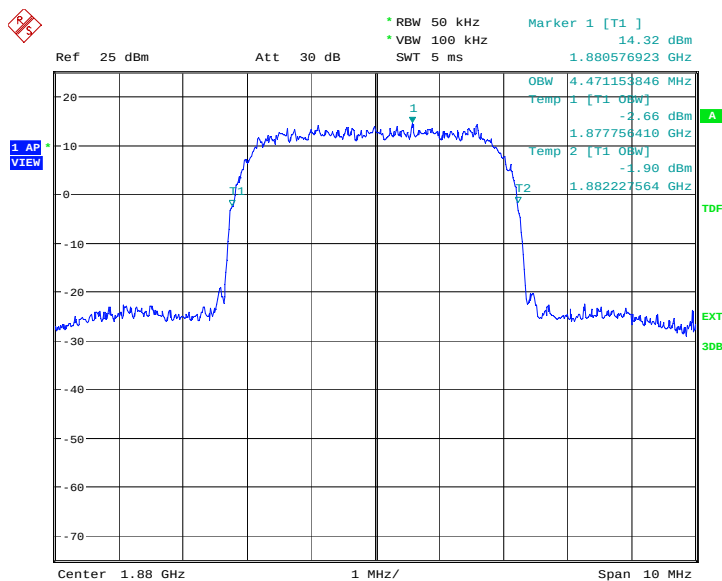
Date: 28.MAY.2012 14:38:23

Channel 4233



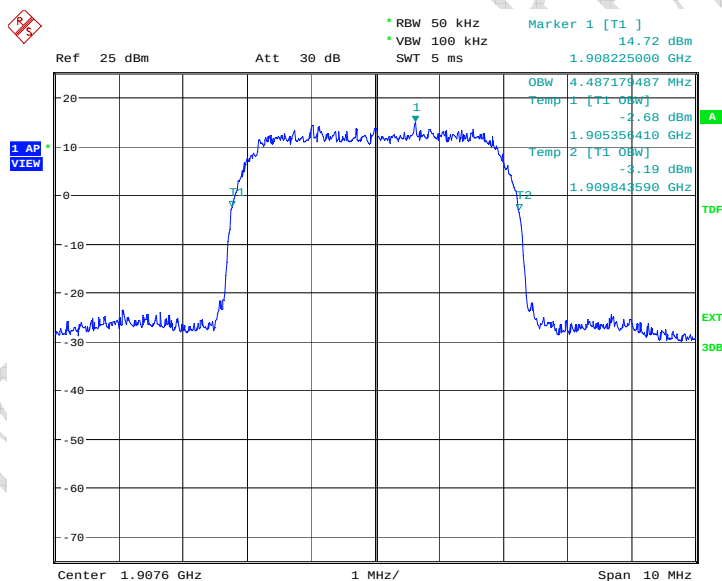
Date: 28.MAY.2012 14:20:41

Channel 9262



Date: 28.MAY.2012 14:21:16

Channel 9400



Date: 28.MAY.2012 14:21:51

Channel 9538

4.6 Frequency Stability

Specifications:	2.1055,22.355, 24.235
Test conditions:	Ambient Temperature:-30℃-50℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Operation Mode	TX on, channel 4183 and 9400
Test Results:	Pass
Limit	
Frequency deviation [ppm]	±2.5

4.6.1 Frequency stability over temperature variation

Test Setup

The EUT was placed in a temperature chamber, demonstrated as figure T. The wireless communications test set (test simulator) was used to set the TX channel and power levels, modulate the TX signal with different bit patterns and measure the frequency of TX.

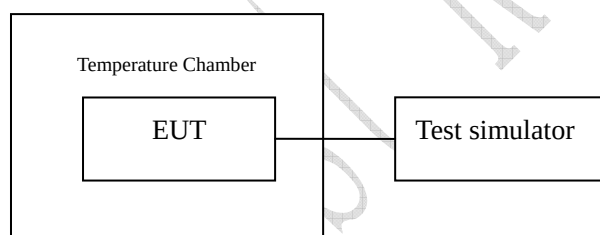


Figure T: setup for measurement of frequency stability over temperature variation

Test Method

1. The EUT was turned off and placed in the temperature chamber.
2. The temperature of the chamber was set to -30℃ and allowed to stabilize.
3. The EUT temperature was allowed to stabilize for 45 minutes.
4. The EUT was turned on and set to transmit with CMU200.
5. The maximum transmit frequency deviation during one minute period was measured by Wireless Communications Test Set.
6. The steps 3-5 were repeated for -20℃, -10℃, 0℃, 10℃, 20℃, 30℃, 40℃ and 50℃.

Test results data:

Channel 4183:

Temperature[℃]	Deviation[Hz]	Remarks
-30	-15	Pass
-20	-15	Pass
-10	-15	Pass
0	-14	Pass
10	-14	Pass
20	-14	Pass
30	-14	Pass
40	-15	Pass
50	-15	Pass

Channel 9400:

Temperature[℃]	Deviation[Hz]	Remarks
-30	-19	Pass
-20	-19	Pass
-10	-18	Pass
0	-18	Pass
10	-17	Pass
20	-17	Pass
30	-17	Pass
40	-17	Pass
50	-18	Pass

4.6.2 Frequency Stability over Voltage Variation

Specifications:	2.1055,22.355,24.235
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Operation Mode	TX on, channel 4183 and 9400
Test Results:	Pass
Limit	
Frequency deviation [ppm]	±2.5

Test Setup

The EUT was placed in a shielding chamber and powered by the dummy battery which is connected to a DC power source, demonstrated as figure V. The wireless communications test set was used to set the TX channel and power level, modulate the TX signal with different bit patterns and measure the frequency of TX.

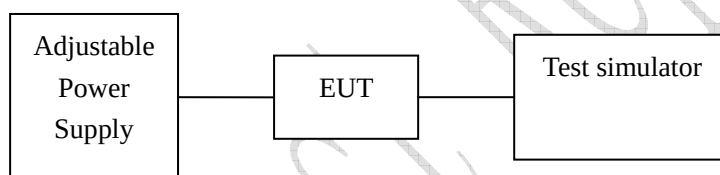


Figure V: test setup for measurement of frequency stability over voltage variation

Test Results data:

Channel 4183:

Level	Voltage[V]	Deviation[Hz]	Remarks
Maximum	4.2	-15	Pass
Nominal	3.7	-14	Pass
Minimum	3.5	-14	Pass

Channel 9400:

Level	Voltage[V]	Deviation[Hz]	Remarks
Maximum	4.2	-19	Pass
Nominal	3.7	-17	Pass
Minimum	3.5	-18	Pass

4.7 Conducted Spurious Emission

Specifications:	2.1051,22.917,24.238
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Operation Mode	TX on, channel 4183 and 9400
Test Results:	Pass

Limit Level Construction:

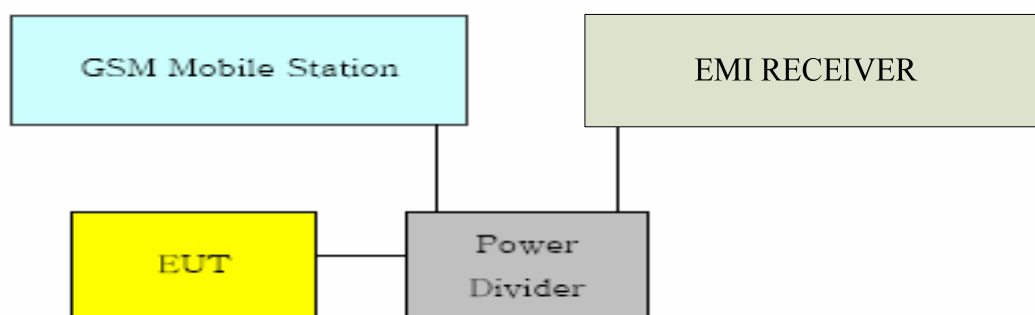
According to Part 24.238 (a), i.e., Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB, so the limit level is:
 $P(\text{dBm}) - (43 + 10 \log(P)) \text{ dB} = -13\text{dBm}$

Limits for Radiated spurious emissions(UE)

Frequency range	Limit Level /Resolution Bandwidth
30 MHz to 20000 MHz	-13dBm/1MHz

Test Setup:

During the process of testing, the EUT was controlled via Wireless Communications Test Set to ensure max power transmission and proper modulation and measured by Rhode & Schwarz EMI test receiver (ES126)



Test Method

The measurement was performed accordance with section 2.2.13 of ANSI/TIA-603-C-2004: *Land Mobile FM or PM Communications Equipment Measurement and Performance Standards*.

The following steps outline the procedure used to measure the conducted emissions from the EUT.

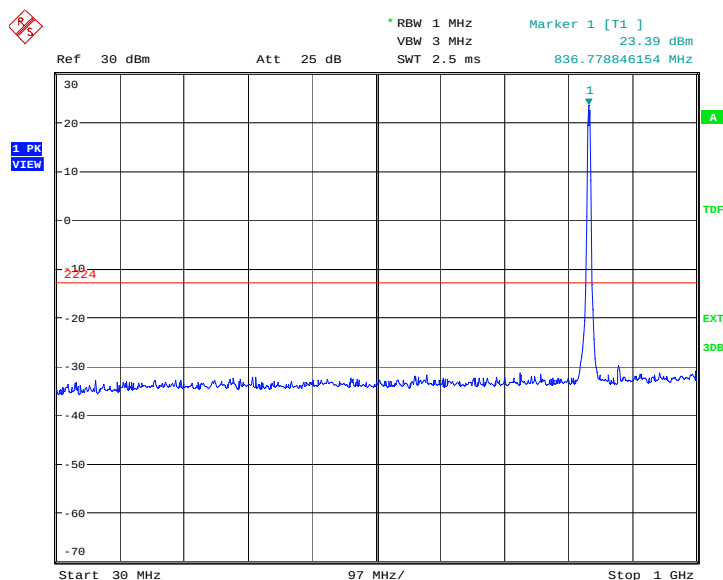
1. Determine frequency range for measurements: From CFR 2.1057 the spectrum should be investigated from the lowest radio frequency generated in the equipment up to at least the 10th harmonic of the carrier frequency. For the equipment under test, this equates to a frequency range of 30 MHz to 19.1 GHz,

data taken from 30 MHz to 20 GHz.

2. Determine EUT transmit frequencies: below outlines the band edge frequencies pertinent to conducted emissions testing.

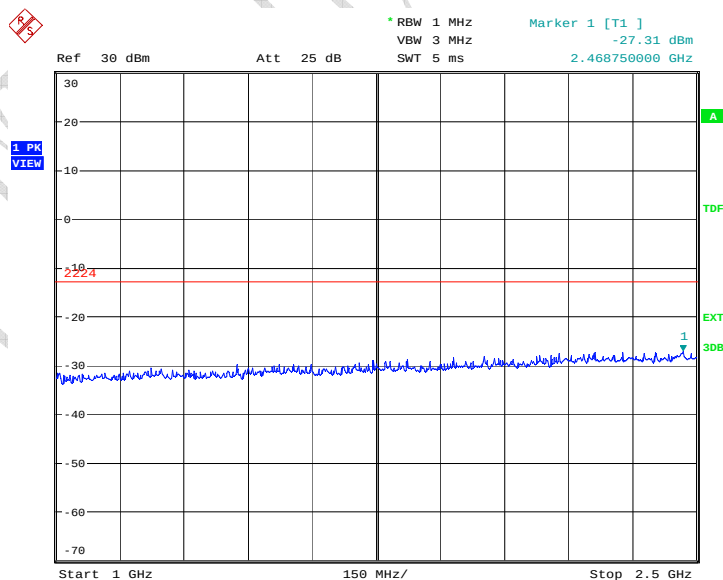
Note: --

Graphical results:



Date: 28.MAY.2012 14:41:13

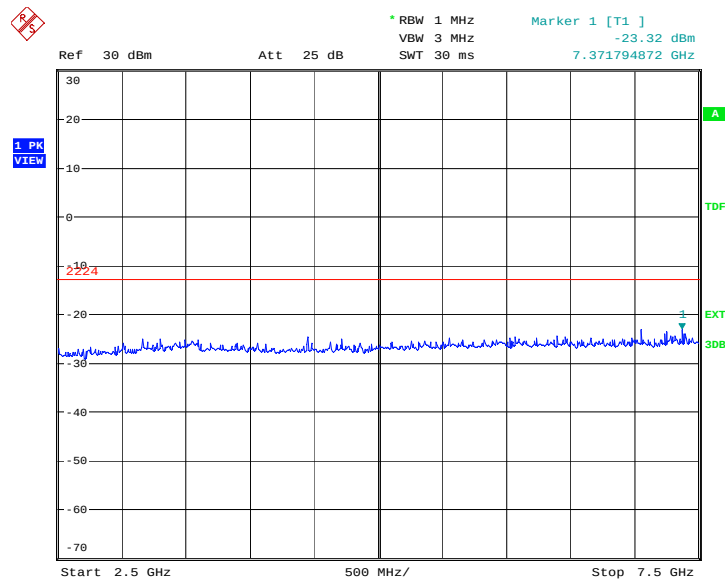
Channel 4183-30MHz to 1GHz



Date: 28.MAY.2012 14:41:40

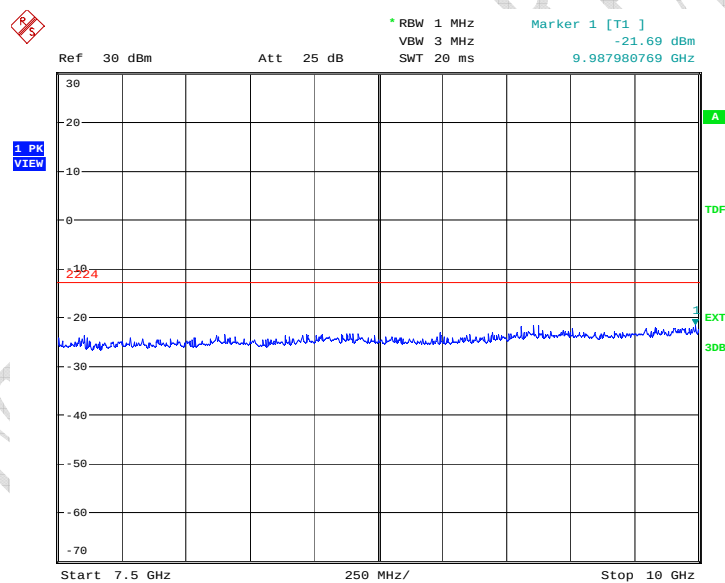
Channel 4183-1GHz to 2.5GHz

No. I12GWD761-RF-3G



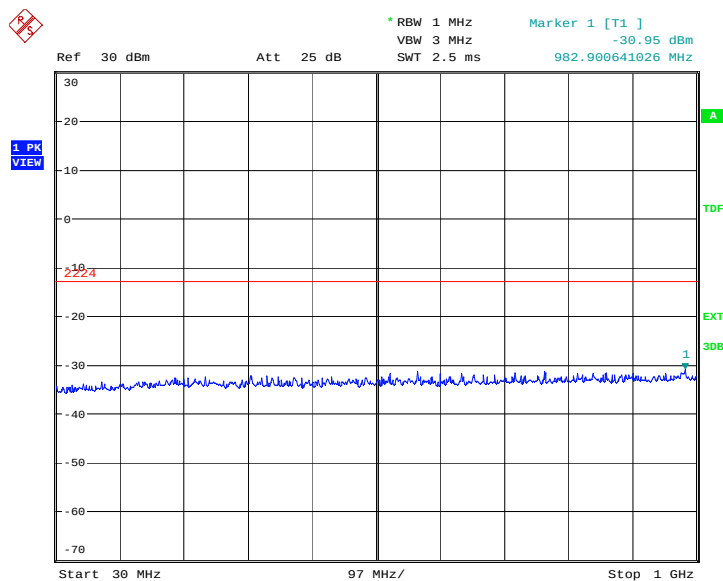
Date: 28.MAY.2012 14:42:08

Channel 4183-2.5GHz to 7.5GHz



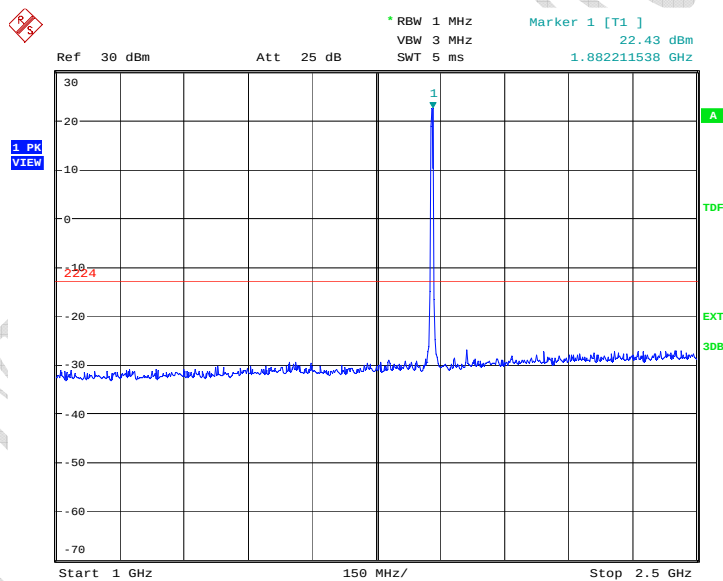
Date: 28.MAY.2012 14:42:37

Channel 4183-7.5GHz to 10GHz



Date: 28.MAY.2012 14:25:37

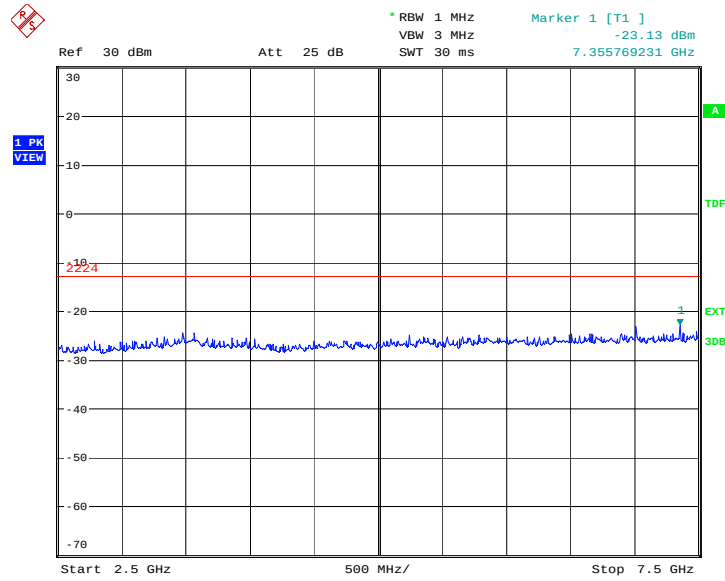
Channel 9400-30MHz to 1GHz



Date: 28.MAY.2012 14:26:05

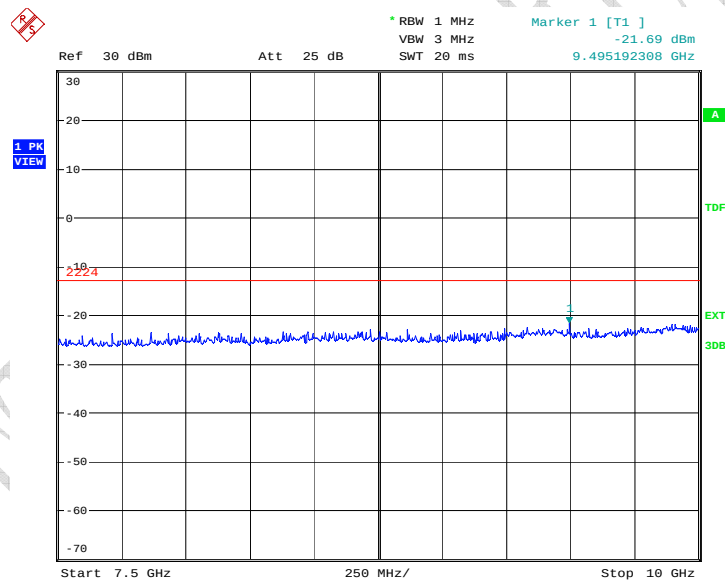
Channel 9400- 1GHz to 2.5GHz

No. I12GWD761-RF-3G



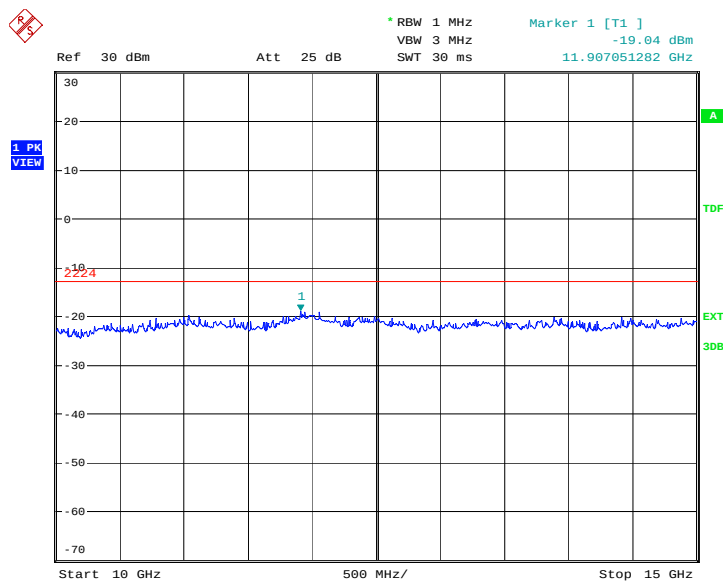
Date: 28.MAY.2012 14:26:33

Channel 9400- 2.5GHz to 7.5GHz



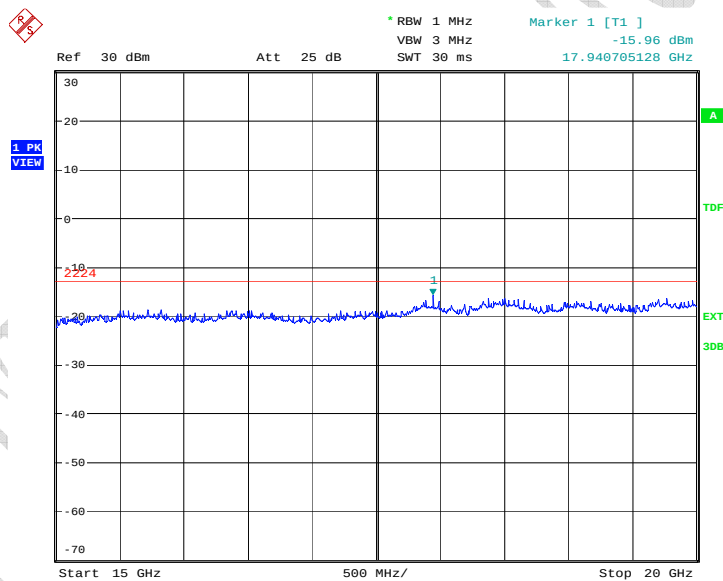
Date: 28.MAY.2012 14:27:01

Channel 9400- 7.5GHz to 10GHz



Date: 28.MAY.2012 14:27:30

Channel 9400- 10GHz to 15GHz



Date: 28.MAY.2012 14:27:58

Channel 9400- 15GHz to 20GHz

4.8 Band Edge Compliance

Specifications:	22.917(b), 24.238(b)
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Operation Mode	TX on, channel 4132, 4233, 9262 and 9538
Test Results:	Pass

Limit Level Construction:

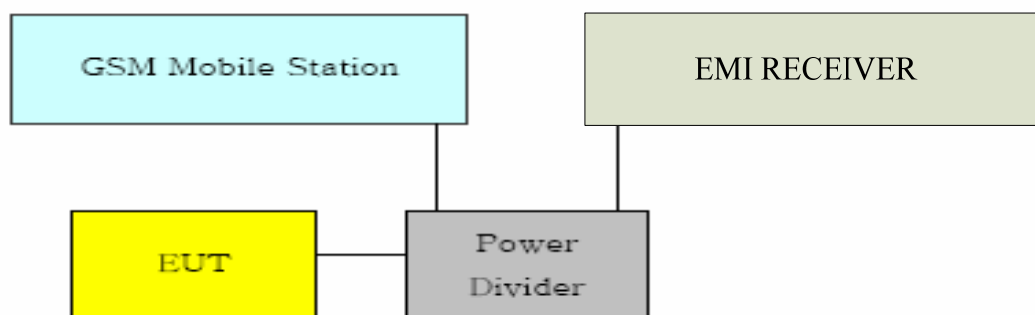
According to Part 24.238 (a), i.e., Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB, so the limit level is:
 $P(\text{dBm}) - (43 + 10 \log(P)) \text{ dB} = -13\text{dBm}$

Limits for Radiated spurious emissions(UE)

Frequency range	Limit Level /Resolution Bandwidth
30 MHz to 20000 MHz	-13dBm/1MHz

Test Setup:

During the process of testing, the EUT was controlled via the Wireless Communications Test Set to ensure max power transmission and proper modulation and measured by Rhode & Schwarz EMI test receiver (ES126).



Test Method

- 1) The EUT was coupled to the EMI test receiver analyzer mode and the base station simulator through a power divider. The radio frequency load attached to the EUT antenna terminal was 50 Ohm. The attenuation of every cables of the test system is being taken into account by calibration to ensure measurement accuracy
- 2) The spectrum analyzer was set to Maxpeak Detector function and Maximum hold mode.
- 3) The resolution bandwidth of the spectrum analyzer was comparable to the

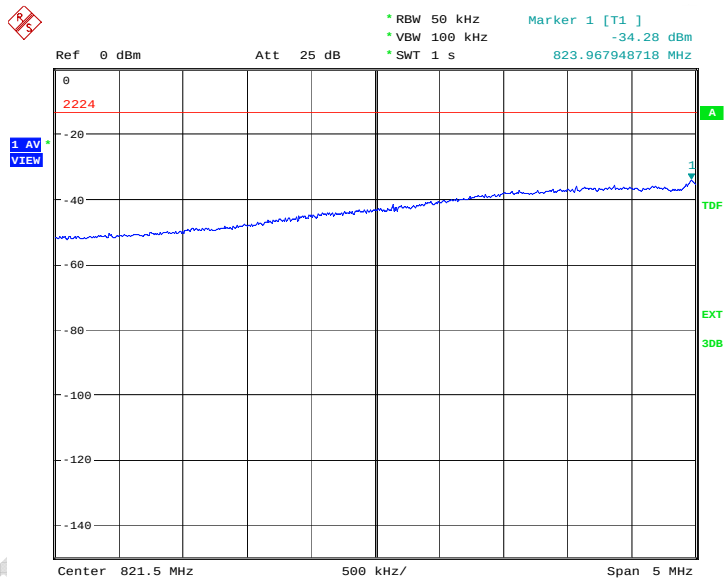
emission bandwidth.

Note: --

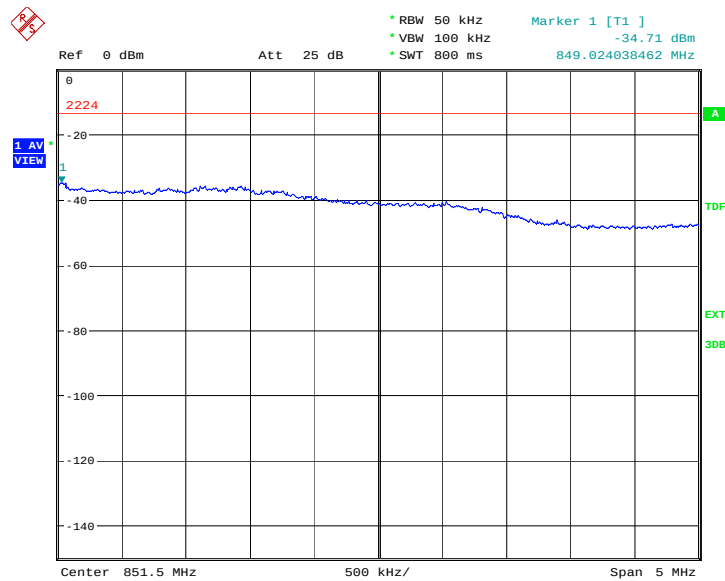
Test Results:

Band-edge emission		
EUT Channel	Frequency [MHz]	Level [dBm]
4132 Left band edge	824.000	-34.28
4233 Right band edge	849.000	-34.71
9262 Left band edge	1850.000	-30.66
9538 Right band edge	1910.000	-32.18

Graphical results:

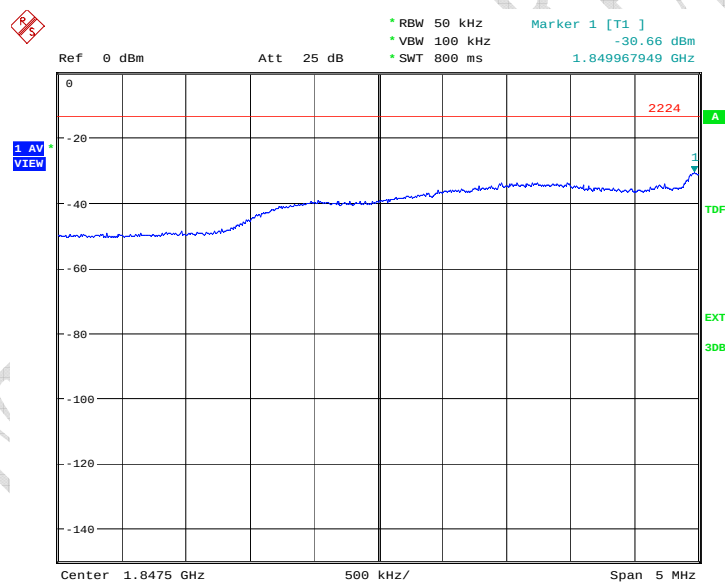


Channel 4132 Left band edge



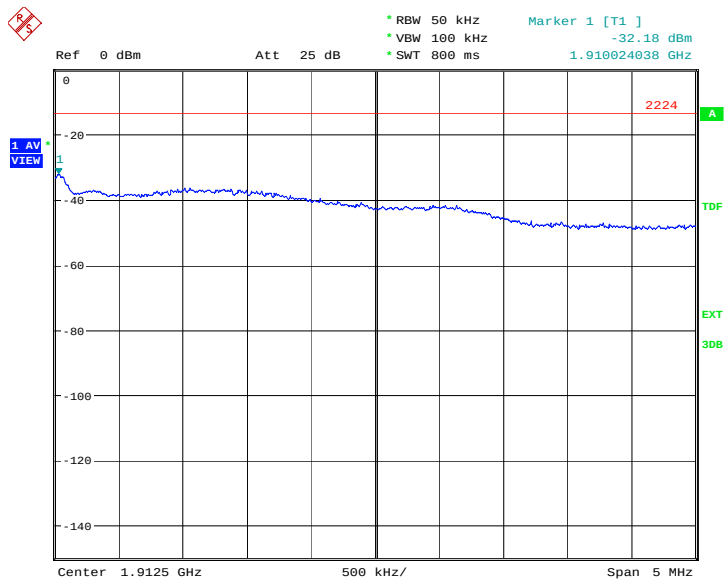
Date: 28.MAY.2012 14:38:46

Channel 4233 Right band edge



Date: 28.MAY.2012 14:22:02

Channel 9262 Left band edge



Date: 28.MAY.2012 14:22:13

Channel 9538 Right band edge

5 Test Equipments and Ancillaries Used For Tests

The test equipments and ancillaries used are as follows.

5.1 Test Equipments for RF Test

Ref No.	Instrument / Ancillary	Type	Manufacturer	Serial No.	Cal Due Date
1	Universal Radio Communication Tester	CMU200	Rohde&Schwarz	114828	2013.01.19
2	Spectrum Analyzer	FSU	Rohde&Schwarz	200679	2013.01.18
3	Temperature Chamber	SH-241	ESPEC	92007516	2013.02.24
4	DC Power Supply	U3606A	Agilent Technologies	MY50450012	2013.11.15
5	RF Switch Matrix	OSP130	Rohde&Schwarz	100086	2013.03.28
6	Vector Signal Generator	SMU200A	Rohde&Schwarz	104072	2013.03.28
7	MXG Analog Signal Generator	N5183A	Agilent Technologies	MY50140012	2013.11.15
8	Wireless Communications Test Set	Agilent	8960(E5515C)	GB41450323	2012.06.13

5.2 Test Equipments for RSE Test

Ref No.	Instrument / Ancillary	Type	Manufacturer	Serial No.	Cal Due Date
1	Universal Radio Communication	CMU200	Rohde&Schwarz	114545	2013.03.23
2	Test Receiver	ESCI	Rohde&Schwarz	100701	2013.12.30
3	BiLog Antenna	9163	Schwarzbeck	9163-330	2014.03.02
4	Double-Ridged Waveguide Horn Antenna	3164-05	ETS-Lindgren	00085724	2014.02.18
5	Spectrum Analyzer	FSP40	Rohde&Schwarz	100378	2013.12.23
6	Fully Anechoic Chamber	n/a	ETS-Lindgren	n/a	2013.04.17

Annex A External Photos



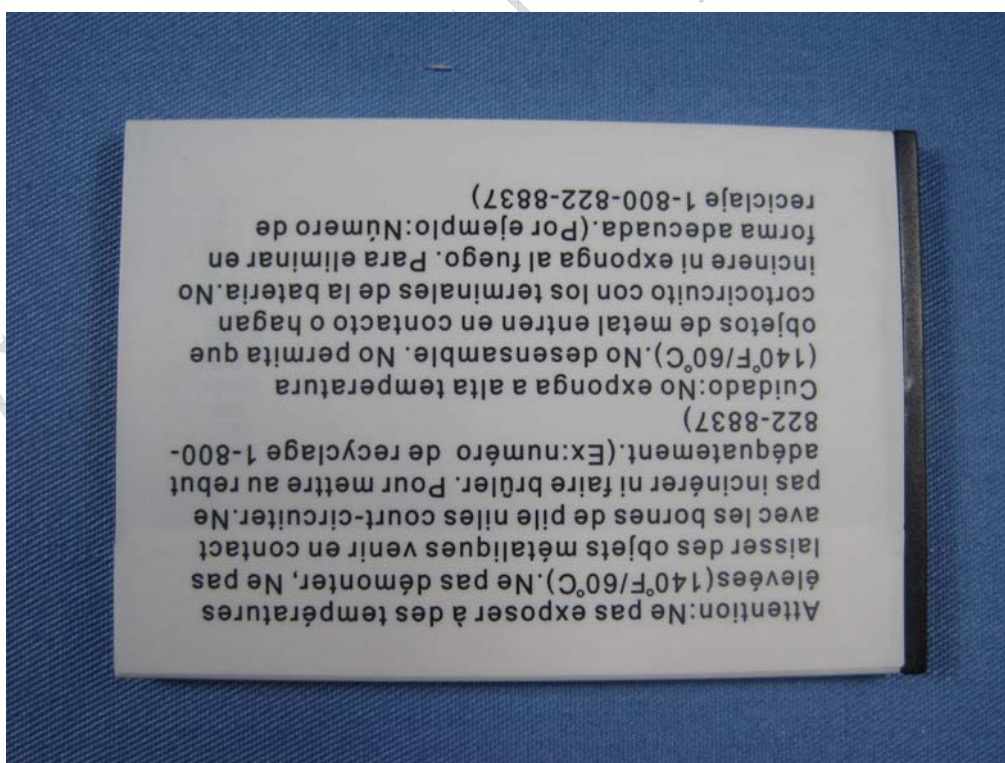
Front view



Back view



Adaptor and cable



battery

ANNEX B Deviations from Prescribed Test Methods

No deviation from Prescribed Test Methods.

———— The End of this Report ————

CTL Test Report