Partial FCC RF Test Report

APPLICANT	:	Nokia Corporation
EQUIPMENT	:	Internet Stick
BRAND NAME	:	Nokia
MODEL NAME	:	CS-12
TYPE DESIGNATION	:	RD-12
MARKETING NAME	:	Nokia Internet Stick CS-12
FCC ID	:	PYARD-12
IC	:	661V-RD12
STANDARD	:	FCC 47 CFR Part 2, 22(H), 24(E) RSS-132 Issued 2, RSS-133 Issued 5
CLASSIFICATION	:	PCS Licensed Transmitter (PCB)
Tx/Rx FREQUENCY RANGE	:	GSM850 : 824.2 ~ 848.8 MHz / 869.2 ~ 893.8 MHz GSM1900 : 1850.2 ~ 1909.8 MHz / 1930.2 ~ 1989.8 MHz WCDMA Band V : 826.4 ~ 846.6 MHz / 871.4 ~ 891.6 MHz WCDMA Band II : 1852.4 ~ 1907.6 MHz / 1932.4 ~ 1987.6 MHz
EMISSION DESIGNATOR	:	GMSK : 248KGXW 8PSK : 248KG7W QPSK : 4M18F9W

This is a partial report which only contains conducted test and radiated band edge test results. The product was received on Oct. 07, 2009 and completely tested on Oct. 23, 2009. 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:

Roy Wu / Manager

Testing Laboratory 1190

SPORTON INTERNATIONAL INC.

No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG9O0717A	Rev. 01	Initial issue of report	Feb. 08, 2010
FG9O0717A	Rev. 02	Add Radiated Band Edge test data	Feb. 10, 2010
FG9O0717A	Rev. 03	Revise Model Name/Marketing Name and add Type Designation. Remove ERP/EIRP test data.	Feb. 12, 2010
FG9O0717A	Rev. 04	Remove Conducted Power and Radiation test data. Add Occupied Bandwidth and Frequency Stability.	Feb. 22, 2010

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	§2.1051 §22.917(a) §24.238(a)	RSS-132 (4.5.1) RSS-133 (6.5.1)	Band Edge Measurement	< 43+10log$_{10}$(P[Watts])	PASS	-
3.2	§2.1049 §22.917(a) §24.238(a)	N/A	Occupied Bandwidth	N/A	PASS	-
3.3	§2.1055 §22.355 §24.235	RSS-132(4.3) RSS-133(6.3)	Frequency Stability for Temperature & Voltage	< 2.5 ppm	PASS	-

1 General Description

1.1 Applicant

Nokia Corporation
Joensuunkatu 7 E FIN-24100 SALO FINLAND

1.2 Manufacturer

Nokia Corporation
Joensuunkatu 7 E FIN-24100 SALO FINLAND

1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	Internet Stick
Brand Name	Nokia
Model Name	CS-12
Type Designation	RD-12
Marketing Name	Nokia Internet Stick CS-12
FCC ID	PYARD-12
IC	661V-RD12
Tx Frequency	GSM850 : 824 MHz ~ 849 MHz GSM1900 : 1850 MHz ~ 1910 MHz WCDMA Band V : 824 MHz ~ 849 MHz WCDMA Band II : 1850 MHz ~ 1910 MHz
Rx Frequency	GSM850 : 869 MHz ~ 894 MHz GSM1900 : 1930 MHz ~ 1990 MHz WCDMA Band V : 869 MHz ~ 894 MHz WCDMA Band II : 1930 MHz ~ 1990 MHz
Antenna Type	Fixed Internal Antenna
HW Version	1.5B
SW Version	2.4
Mechanical Version	2.0
Type of Modulation	GSM / GPRS : GMSK EDGE : 8PSK WCDMA : QPSK HSDPA : QPSK / 16QAM HSUPA : BPSK
Type of Emission	GMSK : 248KGXW 8PSK : 248KG7W QPSK : 4M18F9W
EUT Stage	Production Unit

Remark: This test report recorded only product characteristics and test results of PCS Licensed Transmitter (PCB).

List of Accessory:

USB Cable	**Brand Name**	Nokia
	Model Name	CA-150D
	Signal Line Type	0.24 meter shielded cable with ferrite core
Micro SD card	**Brand Name**	Nokia
	Model Name	1. MU-43 (8 GB) 2. MU-41 (4 GB)
Micro SD card	**Brand Name**	Transcend
	Model Name	MM4GR5 12UACU-PA

Remark:

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

2. For accessories equipped with this EUT, please refer to the appendix of the external photo.

1.4 Testing Site

Test Site	SPORTON INTERNATIONAL INC.		
Test Site Location	No. 52, Hwa Ya 1st 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	TW1022/4086B-1

1.5 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.
- FCC 47 CFR Part 2, 22(H), 24(E)
- ANSI / TIA / EIA-603-C-2004
- IC RSS-132 Issue 2
- IC RSS-133 Issue 5

Remark:

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

2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B (DoC), recorded in a separate test report.

1.6 Ancillary Equipment List

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU200	N/A	N/A	Unshielded, 1.8 m
2.	Notebook	DELL	Vostro 1510	FCC DoC	N/A	N/A

2 Test Configuration of Equipment Under Test

2.1 Test Mode

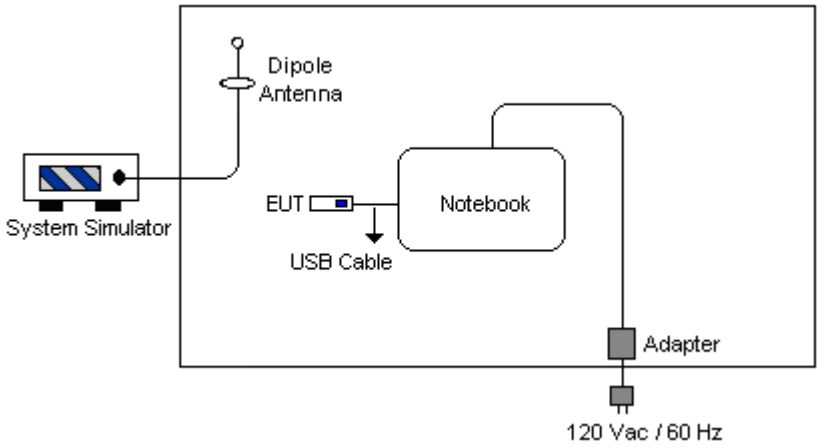
During all testing, EUT is in link mode with base station emulator at maximum power level.

Test Modes	
Band	**Conducted TCs**
GSM 850	■ GPRS 8 ■ EDGE 8
GSM 1900	■ GPRS 8 ■ EDGE 8
WCDMA Band V	■ HSDPA
WCDMA Band II	■ HSDPA

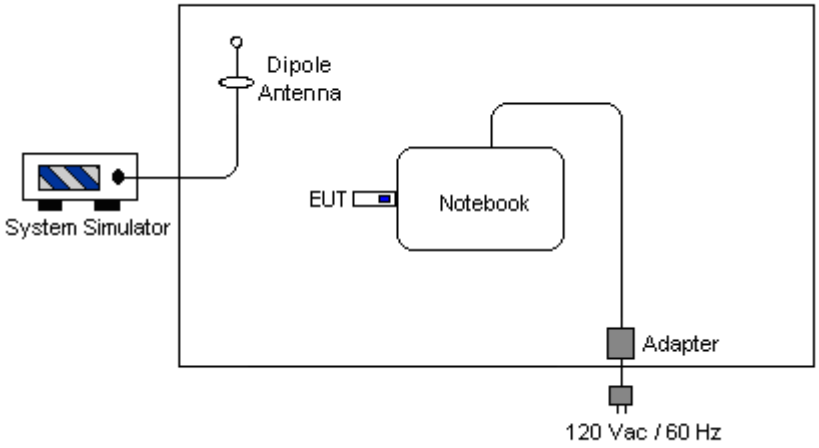
Note: The maximum power levels are GPRS multi-slot class 8 mode for GMSK link, EDGE multi-slot class 8 mode for 8PSK link, HSDPA mode for WCDMA band V, and HSDPA mode for WCDMA band II, only these modes were used for all tests.

2.2 Connection Diagram of Test System

<EUT Link with USB Cable>



<EUT Link without USB Cable>



3 Test Result

3.1 Band Edge Measurement

3.1.1 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.

3.1.2 Measuring Instruments

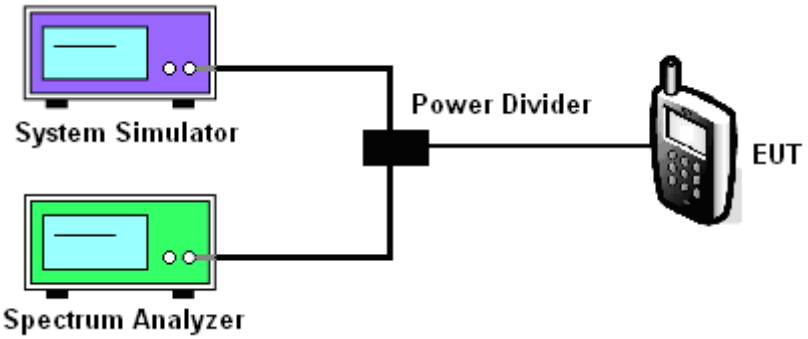
See list of measuring instruments of this test report.

3.1.3 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.

3.1.4 Test Setup

<Conducted Band Edge >



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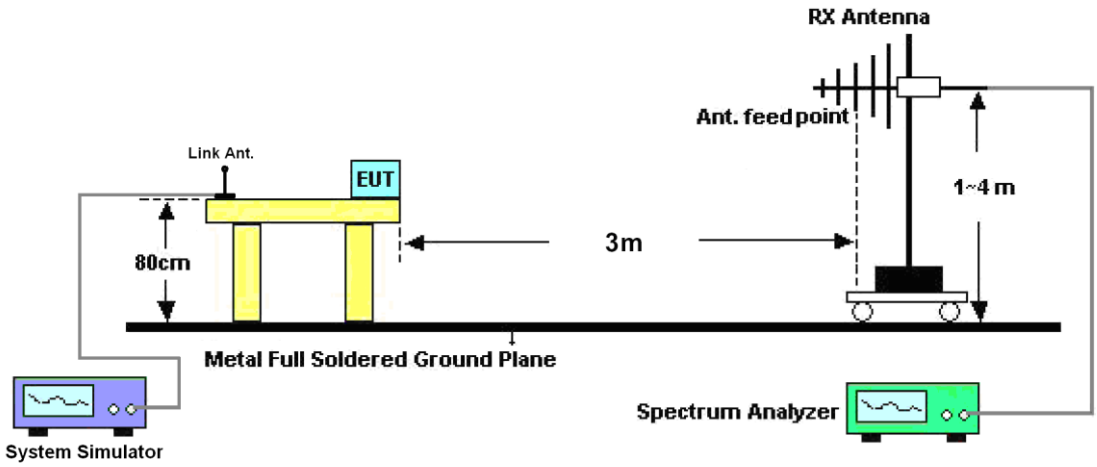
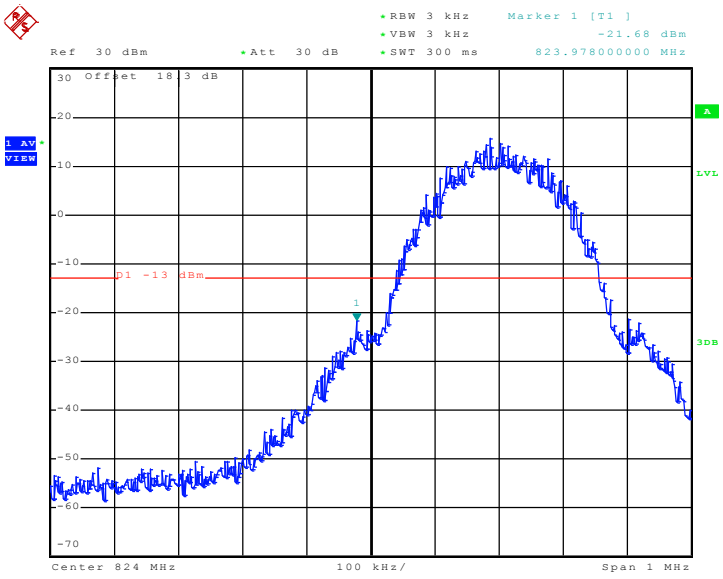


3.1.5 Test Result (Plots) of Conducted Band Edge

Band :	GSM850	Power Stage :	High
Test Mode :	GPRS 8 Link		

Lower Band Edge Plot on Channel 128



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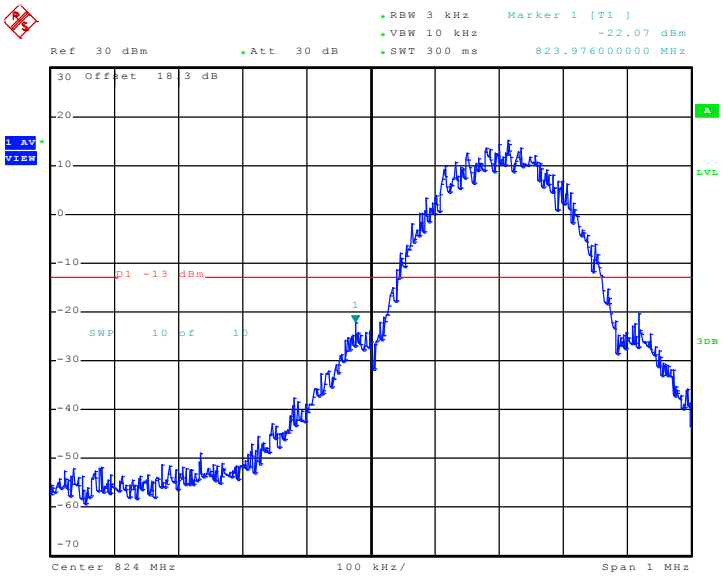

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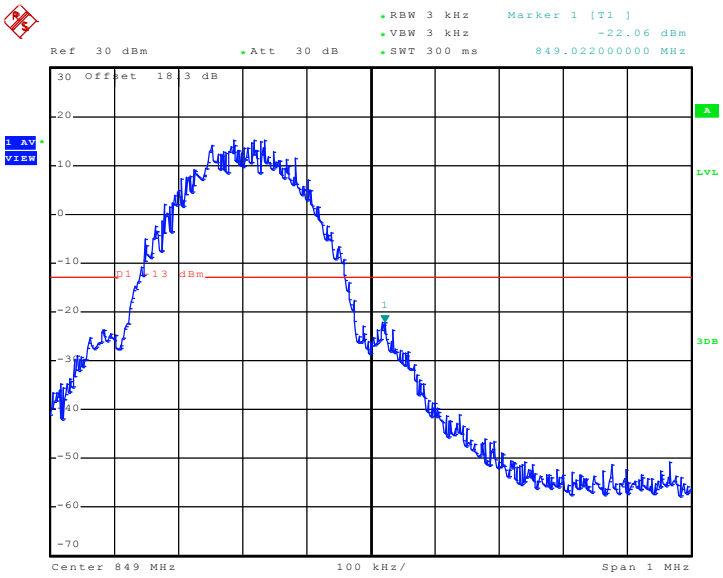
Higher Band Edge Plot on Channel 251



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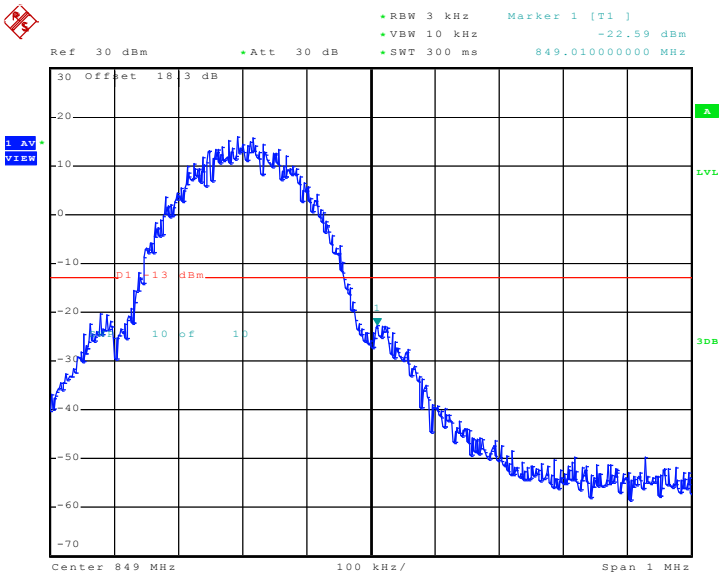

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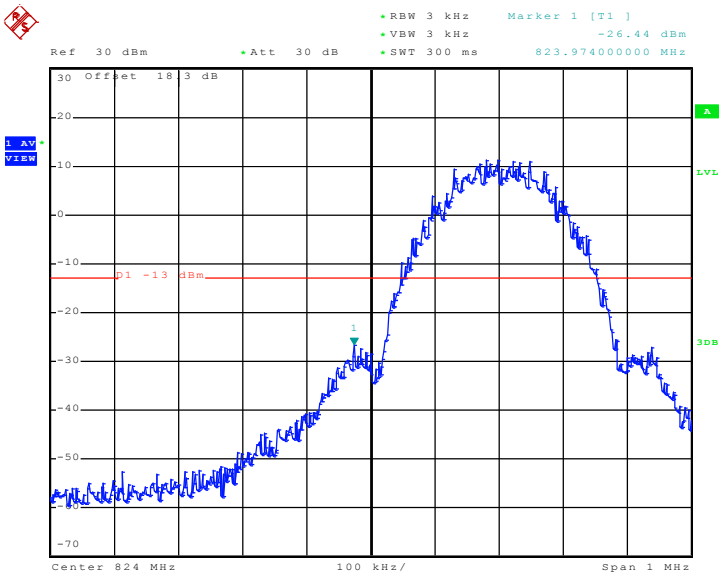
Band :	GSM850	Power Stage :	High
Test Mode :	EDGE 8 Link		

Lower Band Edge Plot on Channel 128



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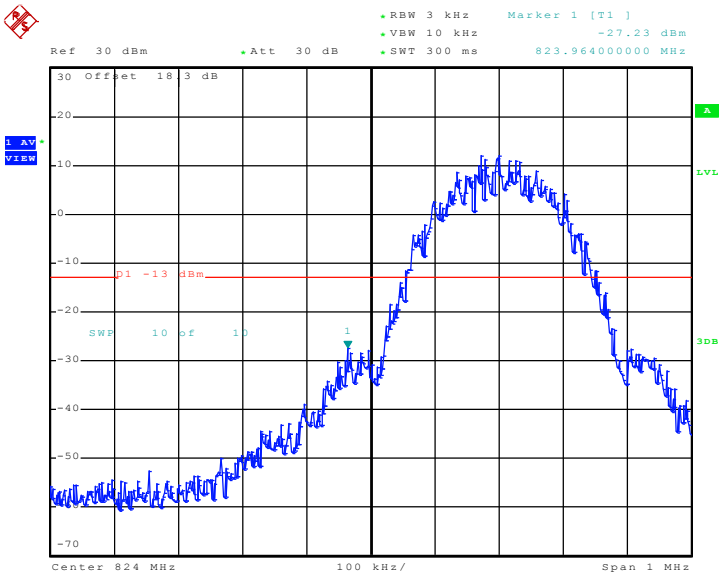

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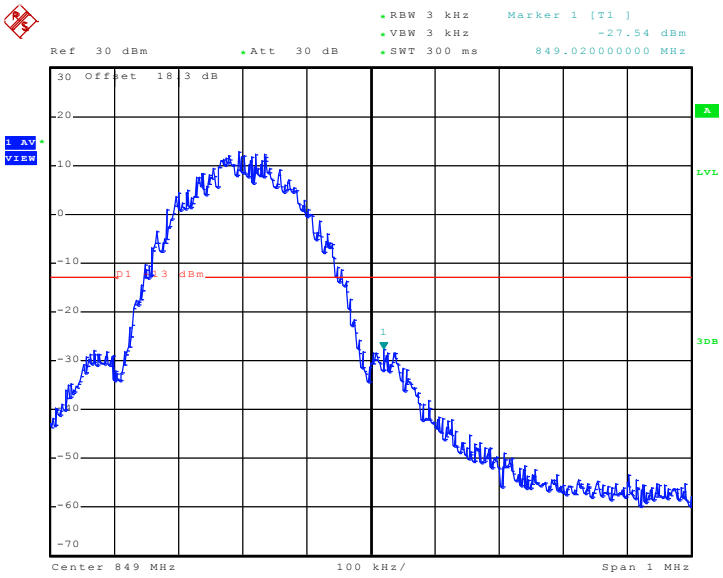

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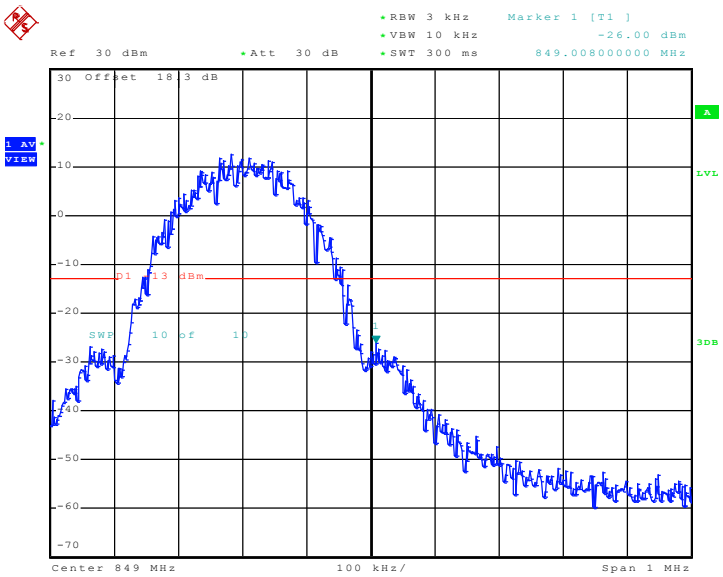

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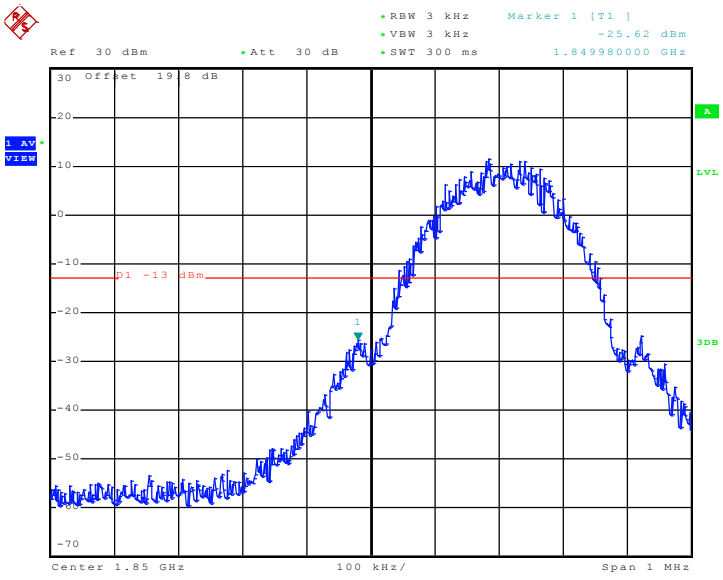
Band :	GSM1900	Power Stage :	High
Test Mode :	GPRS 8 Link		

Lower Band Edge Plot on Channel 512



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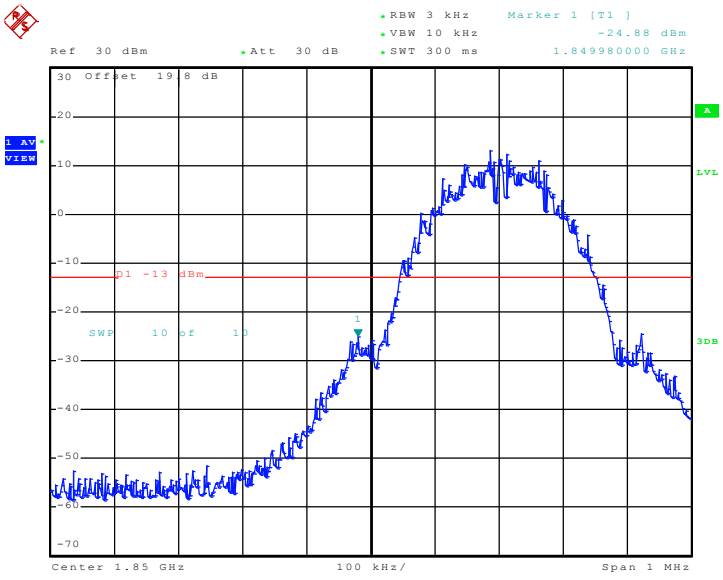

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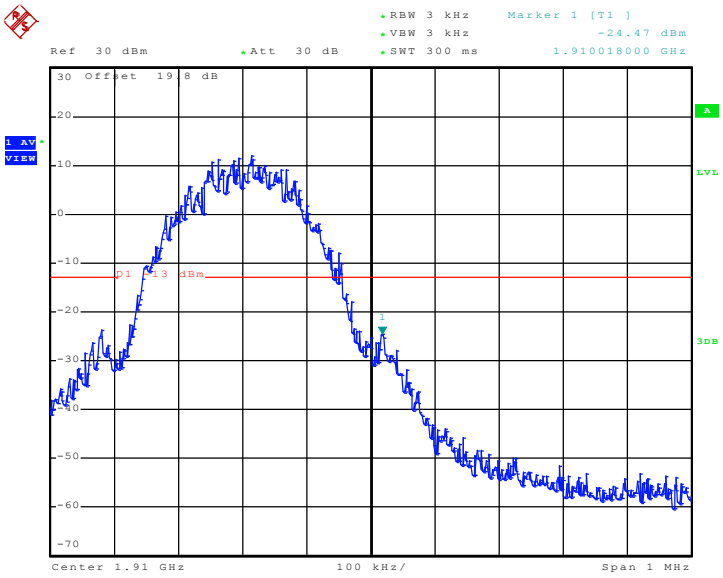
Higher Band Edge Plot on Channel 810



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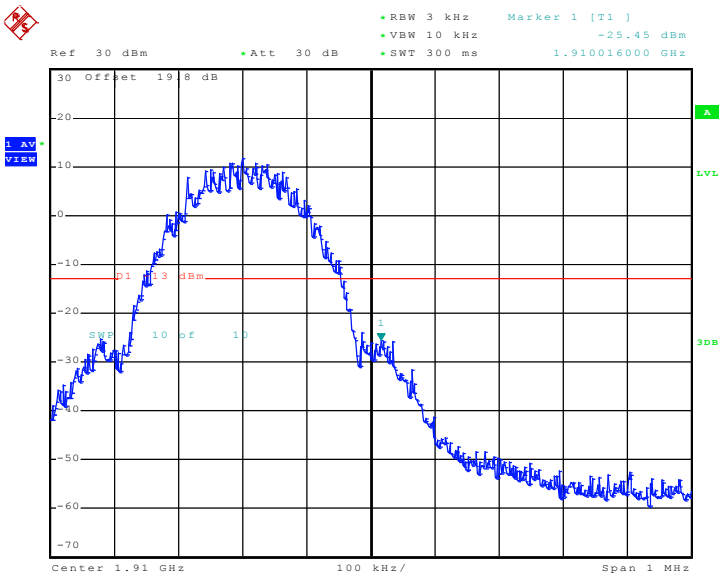

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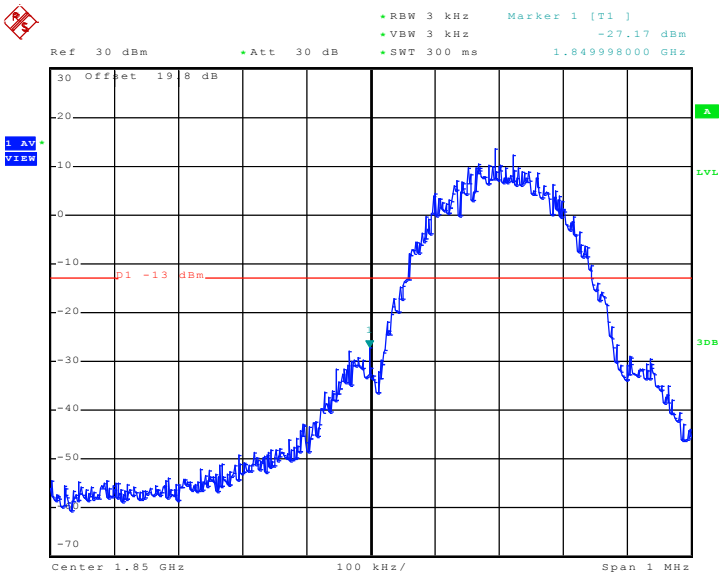
Band :	GSM1900	Power Stage :	High
Test Mode :	EDGE 8 Link		

Lower Band Edge Plot on Channel 512



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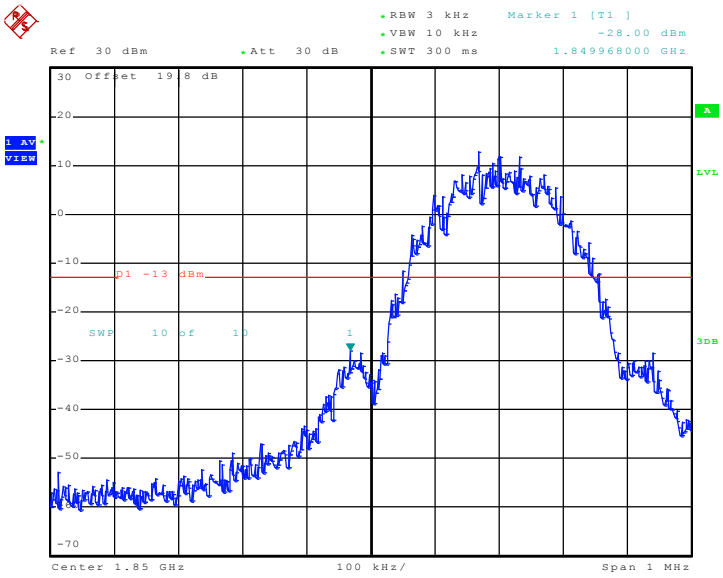

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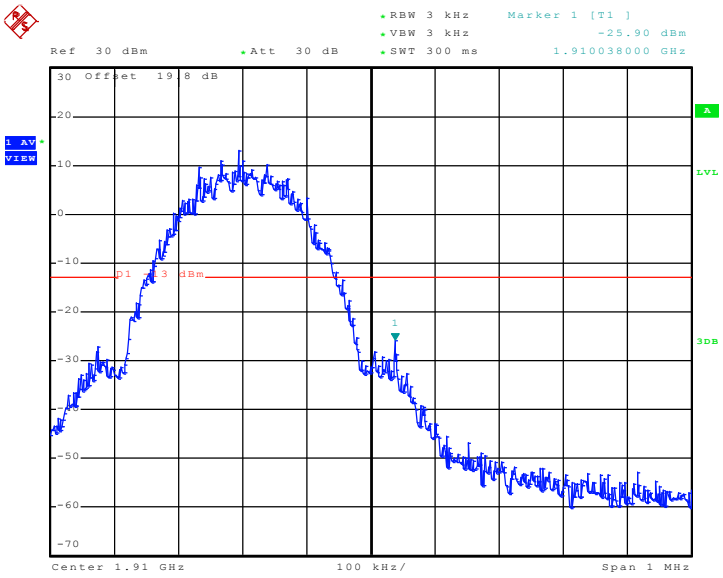
Higher Band Edge Plot on Channel 810



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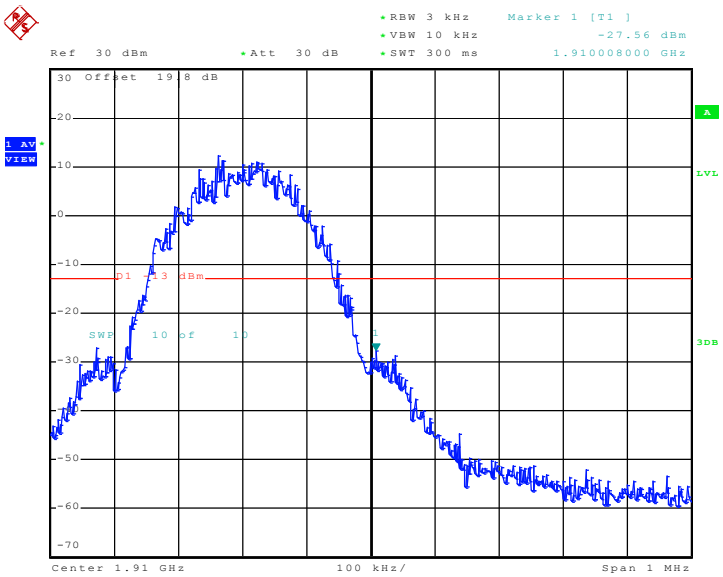

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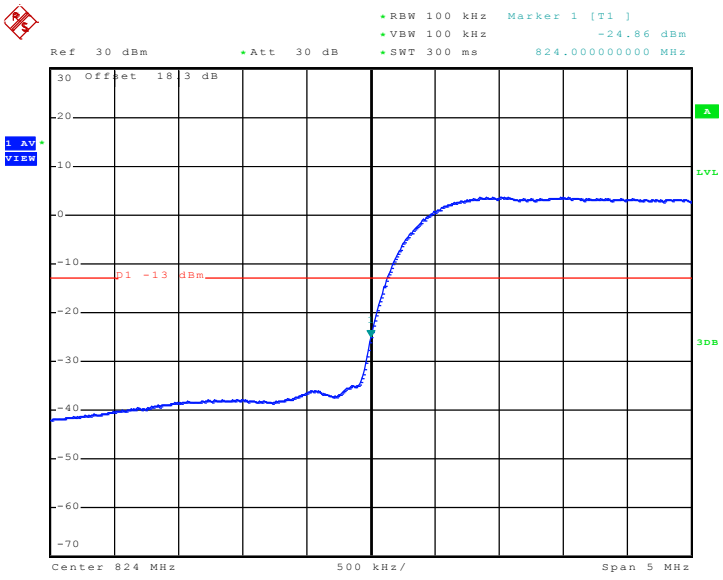
Band :	WCDMA Band V	Power Stage :	High
Test Mode :	HSDPA Link		

Lower Band Edge Plot on Channel 4132



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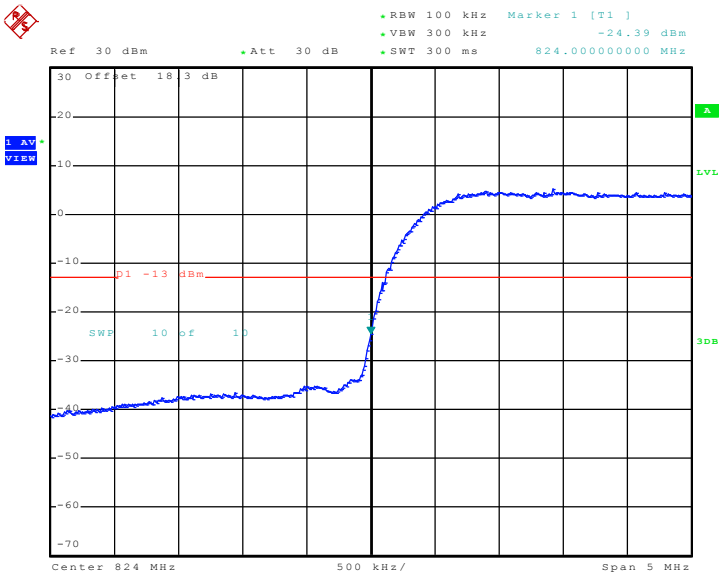

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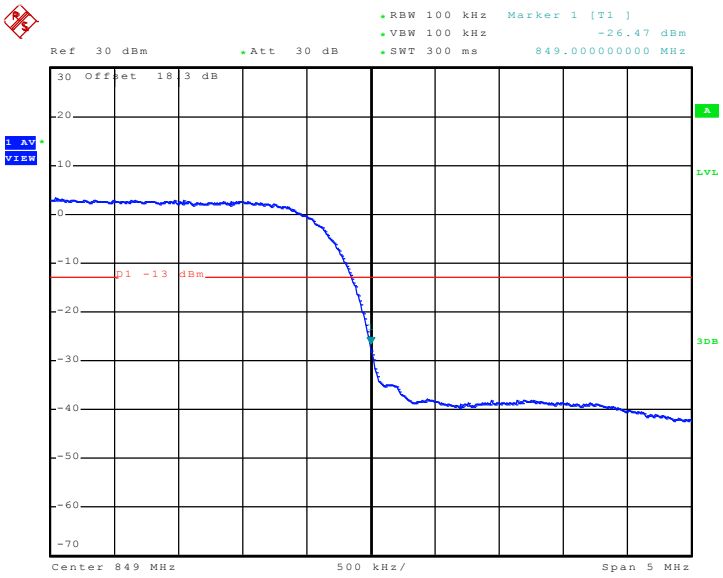
Higher Band Edge Plot on Channel 4233



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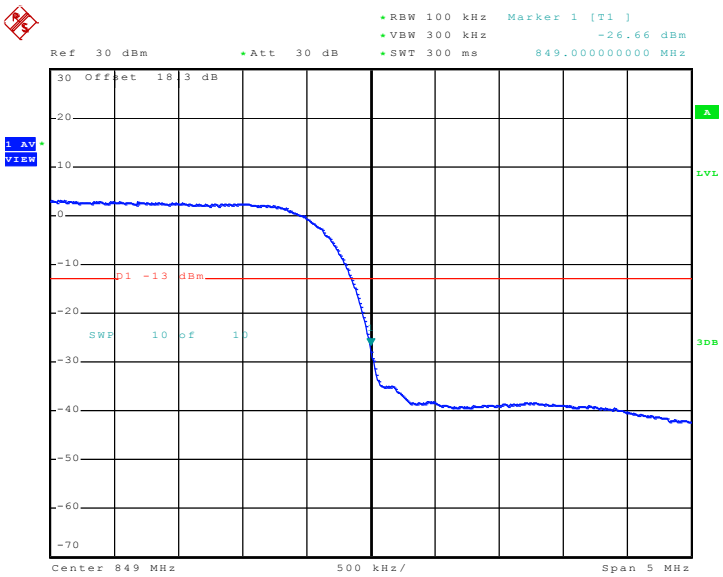

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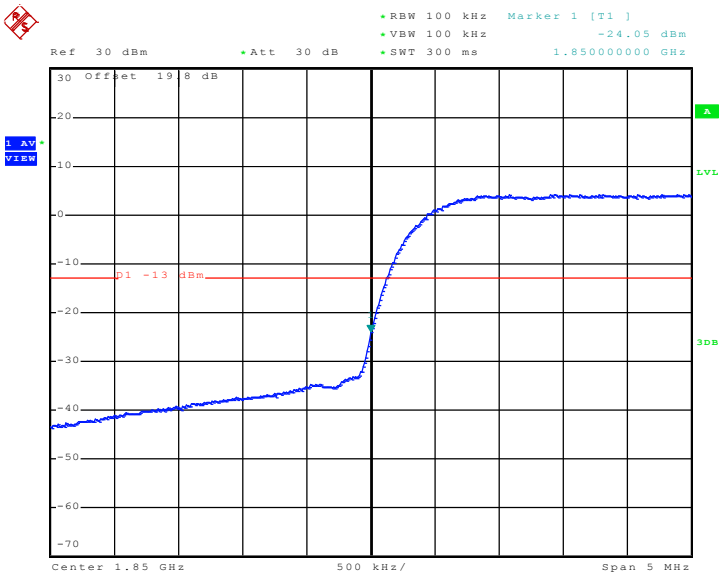
Band :	WCDMA Band II	Power Stage :	High
Test Mode :	HSDPA Link		

Lower Band Edge Plot on Channel 9262



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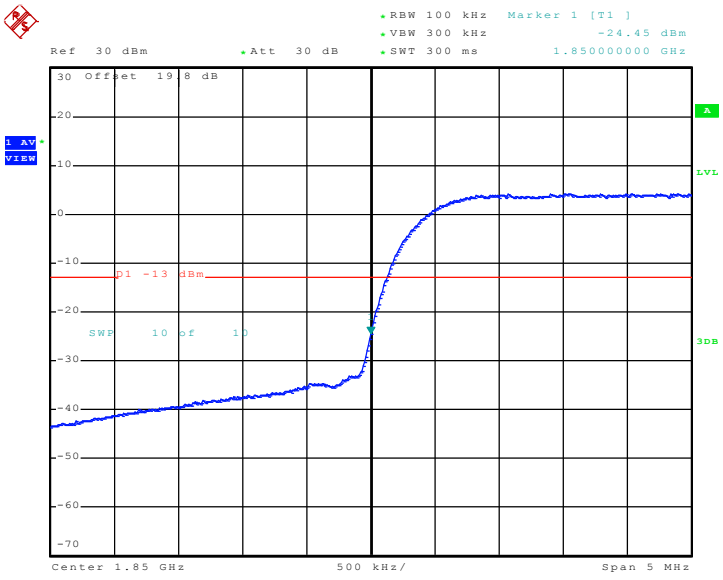

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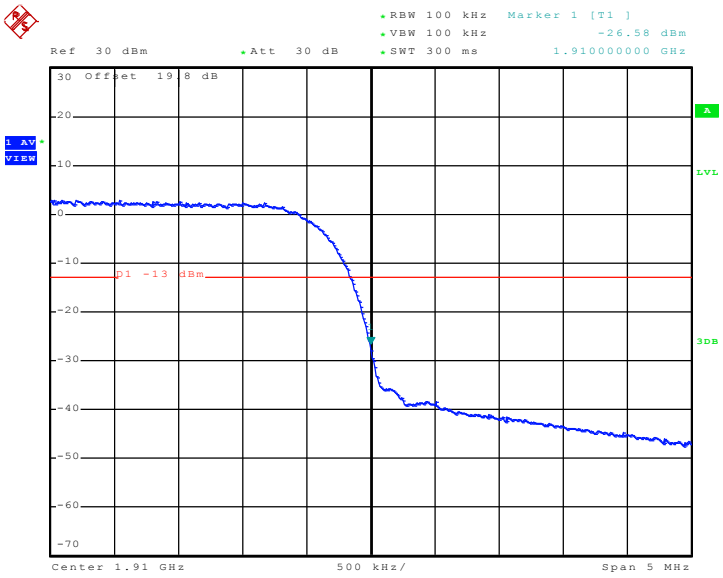
Higher Band Edge Plot on Channel 9538



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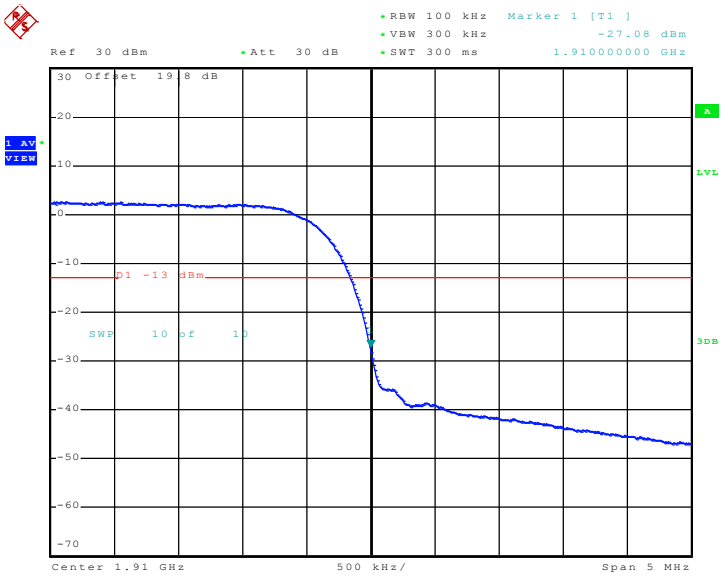

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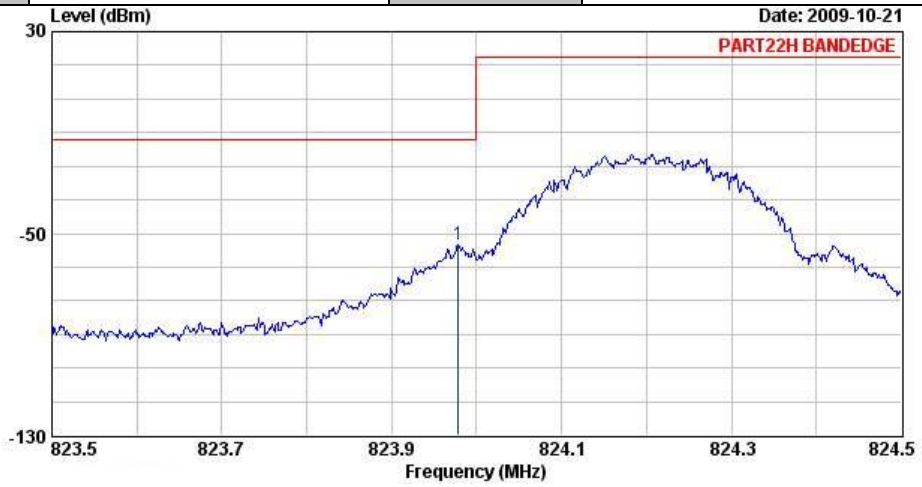
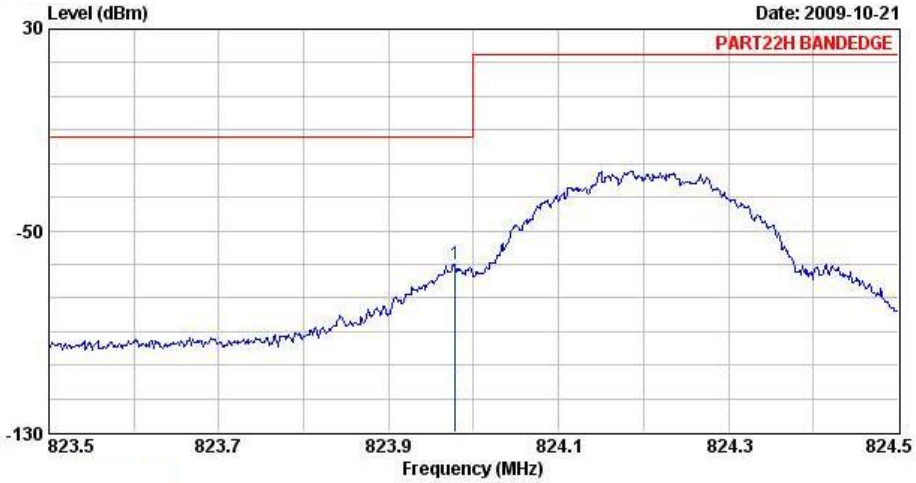
3.1.6 Test Result of Radiated Band Edge

Band :	GSM850	Test Channel :	Lower Band Edge on Channel 128
Test Mode :	GPRS 8 Link	Polarization :	Horizontal



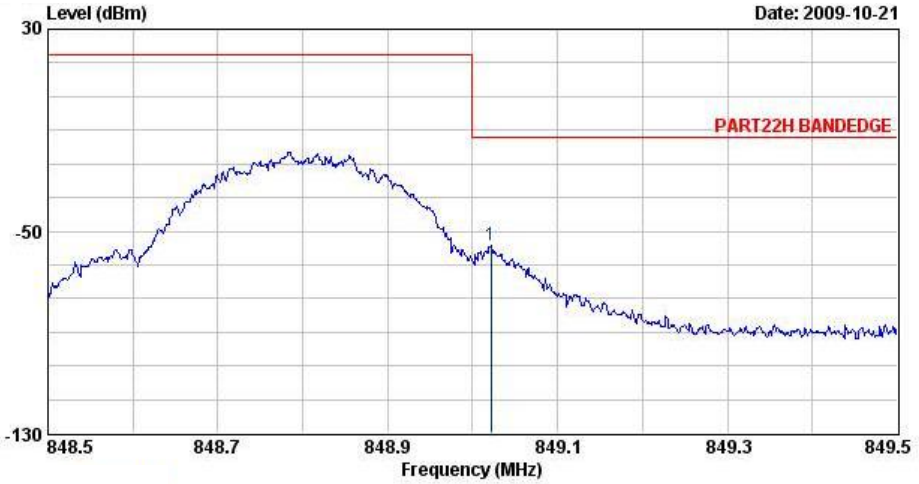
Channel	Frequency	LVL	Correction Factor	ERP
	(MHz)	(dBm)	(dB)	(dBm)
128	824.0	-54.75	31.6	-25.3

Band :	GSM850	Test Channel :	Lower Band Edge on Channel 128
Test Mode :	GPRS 8 Link	Polarization :	Vertical



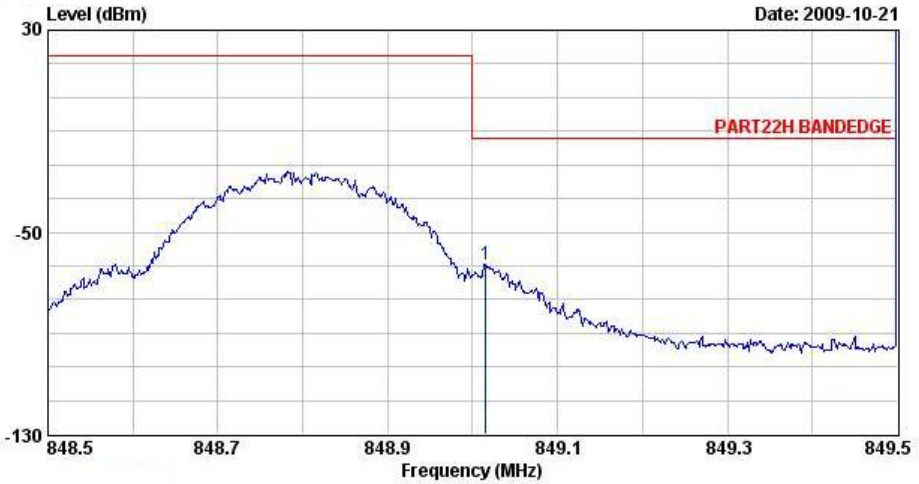
Channel	Frequency	LVL	Correction Factor	ERP
	(MHz)	(dBm)	(dB)	(dBm)
128	824.0	-63.33	34.41	-31.07

Band :	GSM850	Test Channel :	Higher Band Edge on Channel 251
Test Mode :	GPRS 8 Link	Polarization :	Horizontal



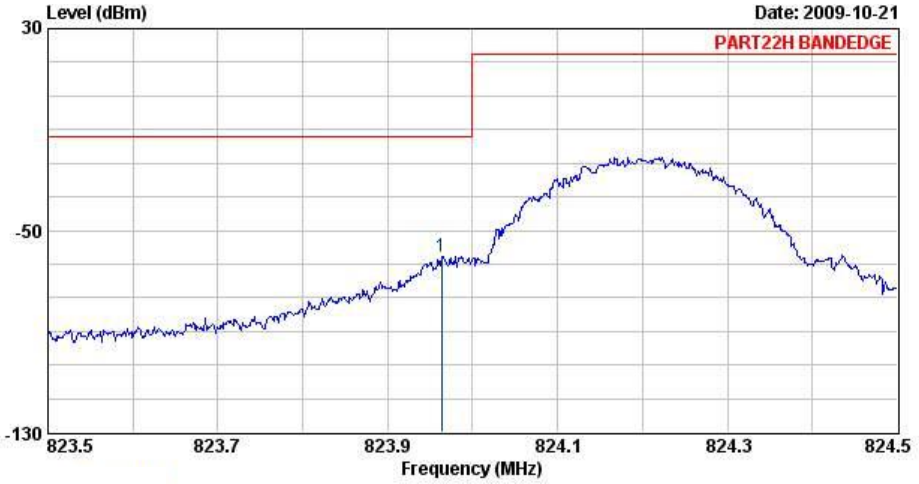
Channel	Frequency	LVL	Correction Factor	ERP
	(MHz)	(dBm)	(dB)	(dBm)
251	849.0	-55.75	35.17	-22.73

Band :	GSM850	Test Channel :	Higher Band Edge on Channel 251
Test Mode :	GPRS 8 Link	Polarization :	Vertical



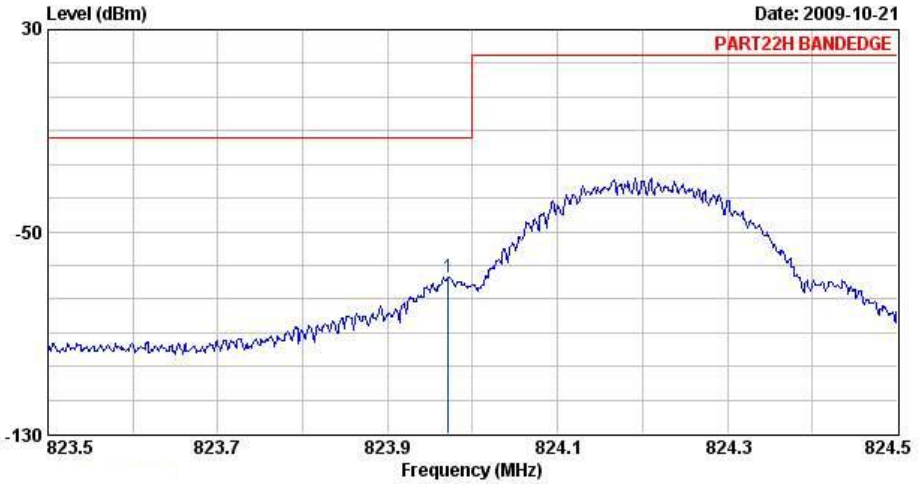
Channel	Frequency	LVL	Correction Factor	ERP
	(MHz)	(dBm)	(dB)	(dBm)
251	849.0	-62.82	34.37	-30.6

Band :	GSM850	Test Channel :	Lower Band Edge on Channel 128
Test Mode :	EDGE 8 Link	Polarization :	Horizontal



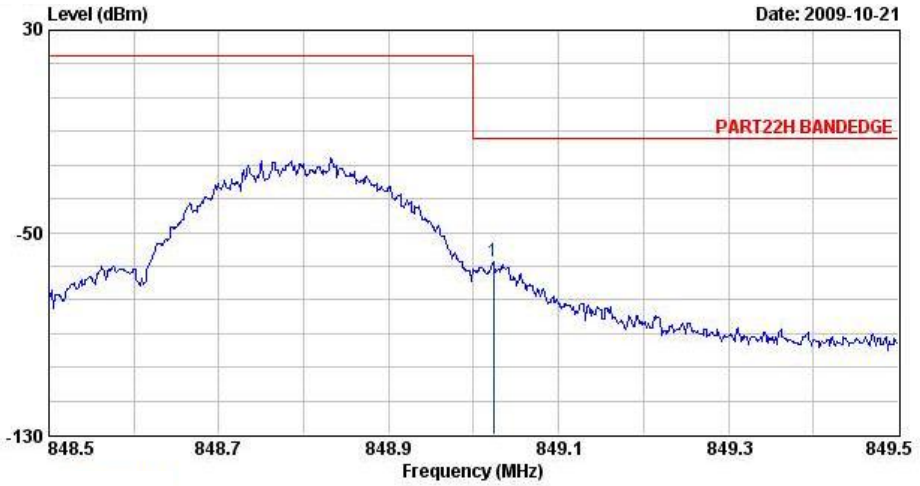
Channel	Frequency	LVL	Correction Factor	ERP
	(MHz)	(dBm)	(dB)	(dBm)
128	824.0	-60.48	31.6	-31.03

Band :	GSM850	Test Channel :	Lower Band Edge on Channel 128
Test Mode :	EDGE 8 Link	Polarization :	Vertical



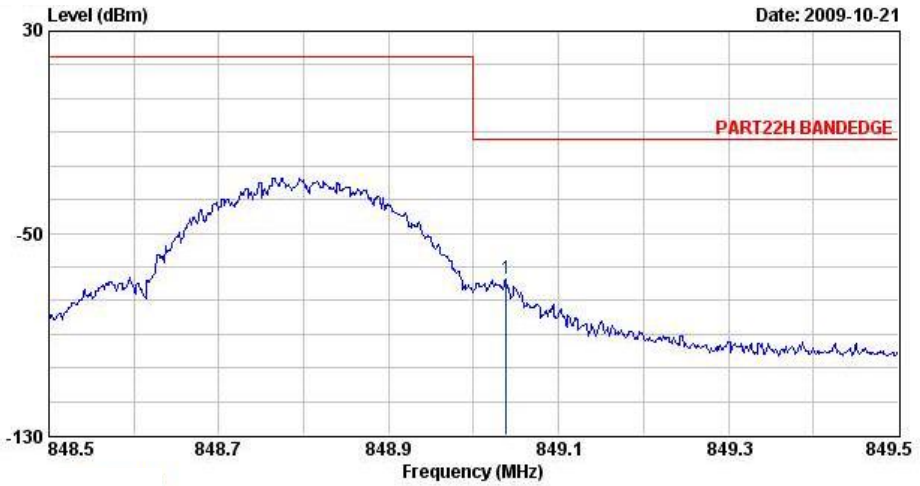
Channel	Frequency	LVL	Correction Factor	ERP
	(MHz)	(dBm)	(dB)	(dBm)
128	824.0	-67.99	34.41	-35.73

Band :	GSM850	Test Channel :	Higher Band Edge on Channel 251
Test Mode :	EDGE 8 Link	Polarization :	Horizontal



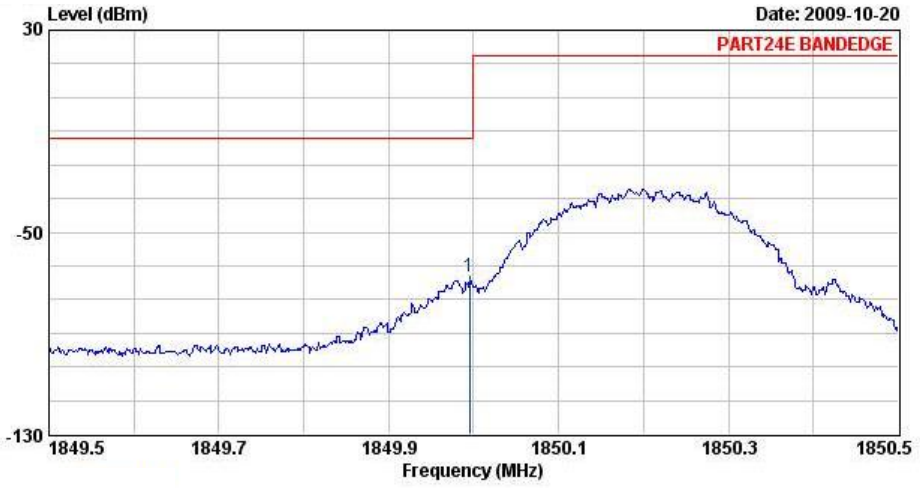
Channel	Frequency	LVL	Correction Factor	ERP
	(MHz)	(dBm)	(dB)	(dBm)
251	849.0	-61.87	35.17	-28.85

Band :	GSM850	Test Channel :	Higher Band Edge on Channel 251
Test Mode :	EDGE 8 Link	Polarization :	Vertical



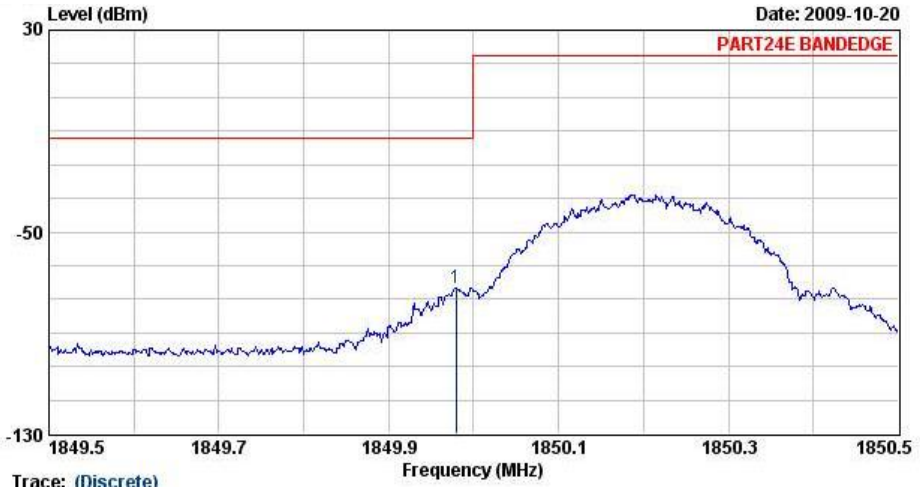
Channel	Frequency	LVL	Correction Factor	ERP
	(MHz)	(dBm)	(dB)	(dBm)
251	849.0	-68.37	34.37	-36.15

Band :	GSM1900	Test Channel :	Lower Band Edge on Channel 512
Test Mode :	GPRS 8 Link	Polarization :	Horizontal



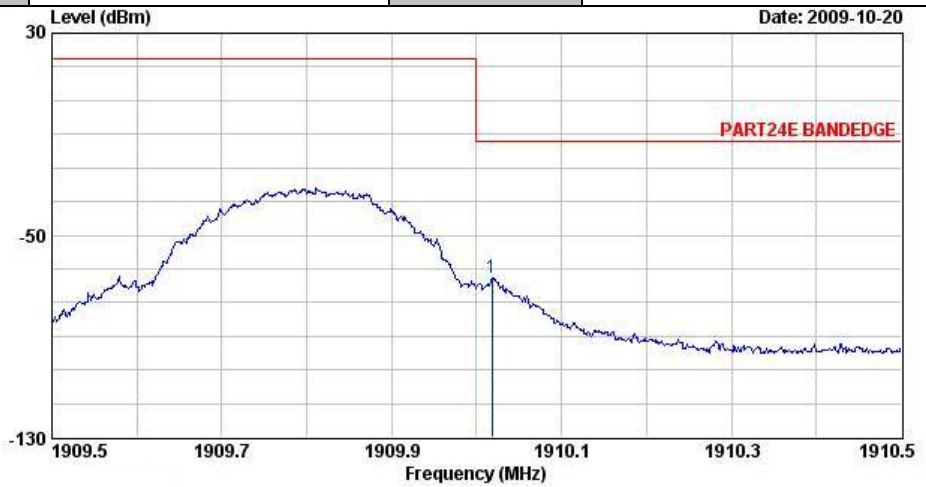
Channel	Frequency	LVL	Correction Factor	ERP
	(MHz)	(dBm)	(dB)	(dBm)
512	1850.0	-67.84	42.03	-25.81

Band :	GSM1900	Test Channel :	Lower Band Edge on Channel 512
Test Mode :	GPRS 8 Link	Polarization :	Vertical



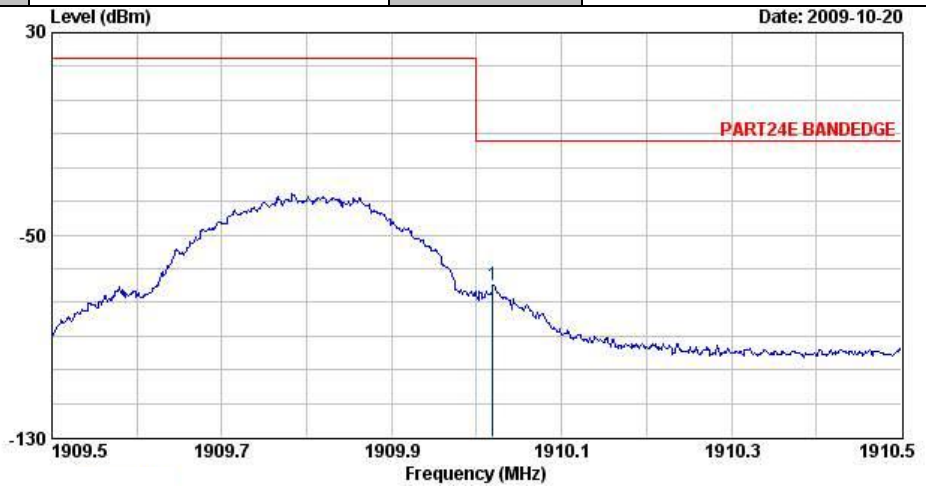
Channel	Frequency	LVL	Correction Factor	ERP
	(MHz)	(dBm)	(dB)	(dBm)
512	1850.0	-72.15	45.32	-26.83

Band :	GSM1900	Test Channel :	Higher Band Edge on Channel 810
Test Mode :	GPRS 8 Link	Polarization :	Horizontal



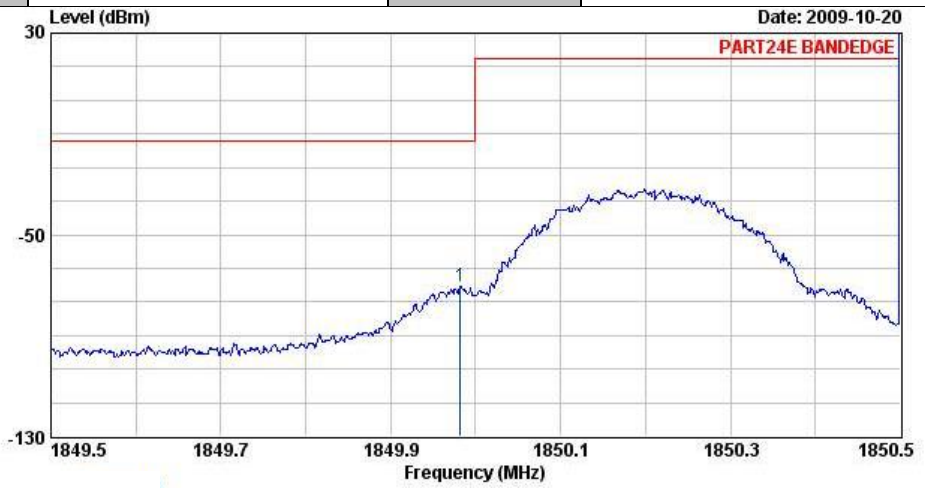
Channel	Frequency	LVL	Correction Factor	ERP
	(MHz)	(dBm)	(dB)	(dBm)
810	1910.0	-66.72	41.19	-25.53

Band :	GSM1900	Test Channel :	Higher Band Edge on Channel 810
Test Mode :	GPRS 8 Link	Polarization :	Vertical



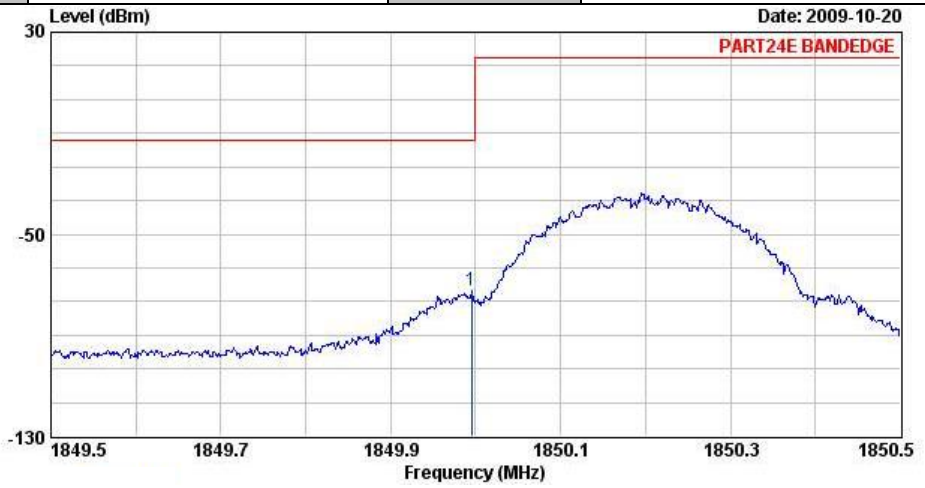
Channel	Frequency	LVL	Correction Factor	ERP
	(MHz)	(dBm)	(dB)	(dBm)
810	1910.0	-70.15	44.45	-25.70

Band :	GSM1900	Test Channel :	Lower Band Edge on Channel 512
Test Mode :	EDGE 8 Link	Polarization :	Horizontal



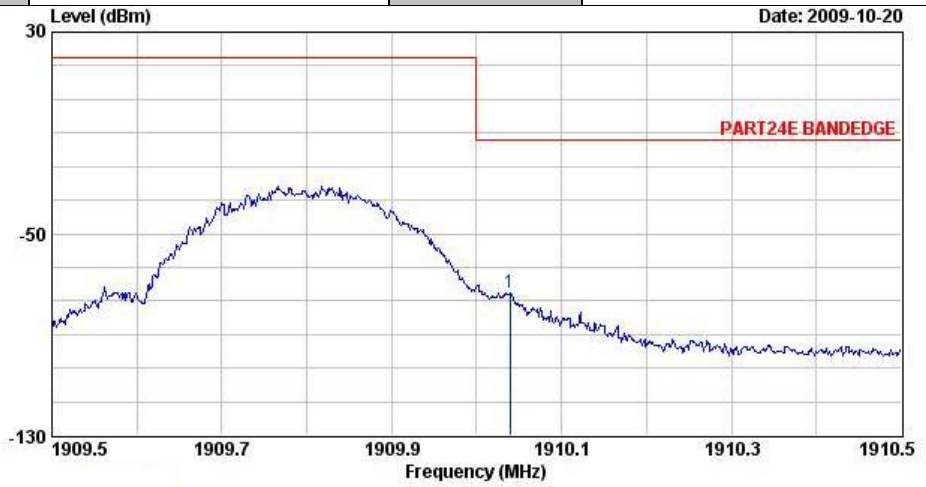
Channel	Frequency	LVL	Correction Factor	ERP
	(MHz)	(dBm)	(dB)	(dBm)
512	1850.0	-70.45	42.03	-28.42

Band :	GSM1900	Test Channel :	Lower Band Edge on Channel 512
Test Mode :	EDGE 8 Link	Polarization :	Vertical



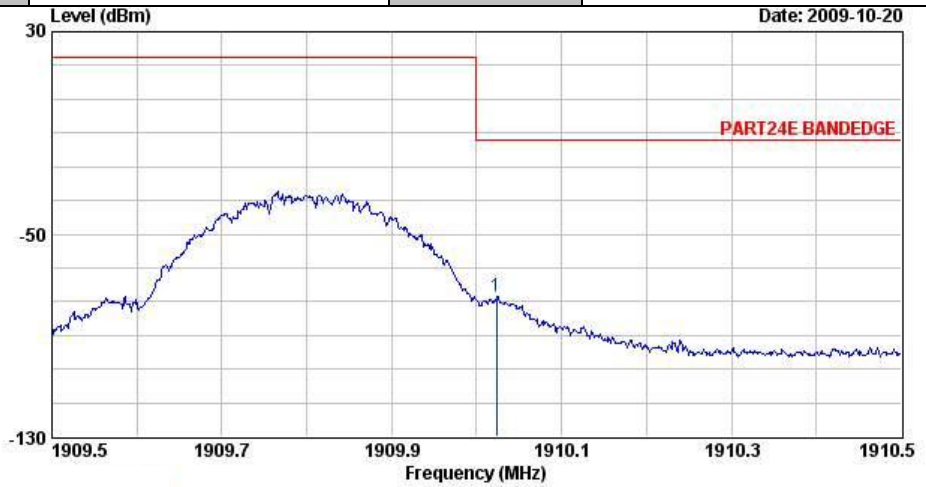
Channel	Frequency	LVL	Correction Factor	ERP
	(MHz)	(dBm)	(dB)	(dBm)
512	1850.0	-72.01	45.32	-26.69

Band :	GSM1900	Test Channel :	Higher Band Edge on Channel 810
Test Mode :	EDGE 8 Link	Polarization :	Horizontal



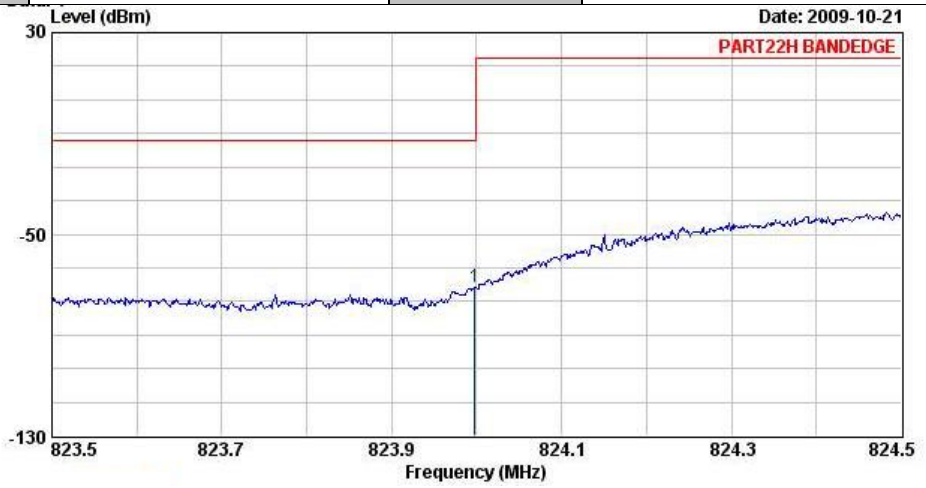
Channel	Frequency	LVL	Correction Factor	ERP
	(MHz)	(dBm)	(dB)	(dBm)
810	1910.0	-73.36	41.19	-32.17

Band :	GSM1900	Test Channel :	Higher Band Edge on Channel 810
Test Mode :	EDGE 8 Link	Polarization :	Vertical



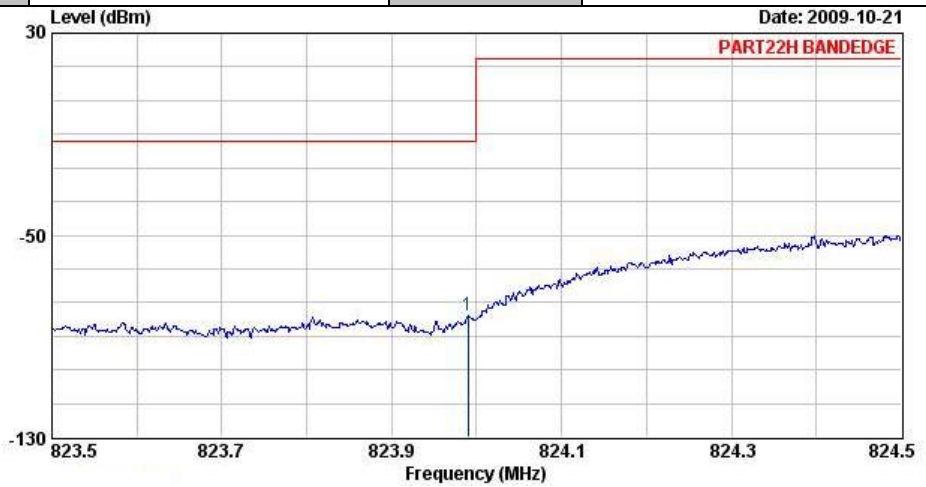
Channel	Frequency	LVL	Correction Factor	ERP
	(MHz)	(dBm)	(dB)	(dBm)
810	1910.0	-74.70	44.45	-30.25

Band :	WCDMA Band V	Test Channel :	Lower Band Edge on Channel 4132
Test Mode :	HSDPA Link	Polarization :	Horizontal



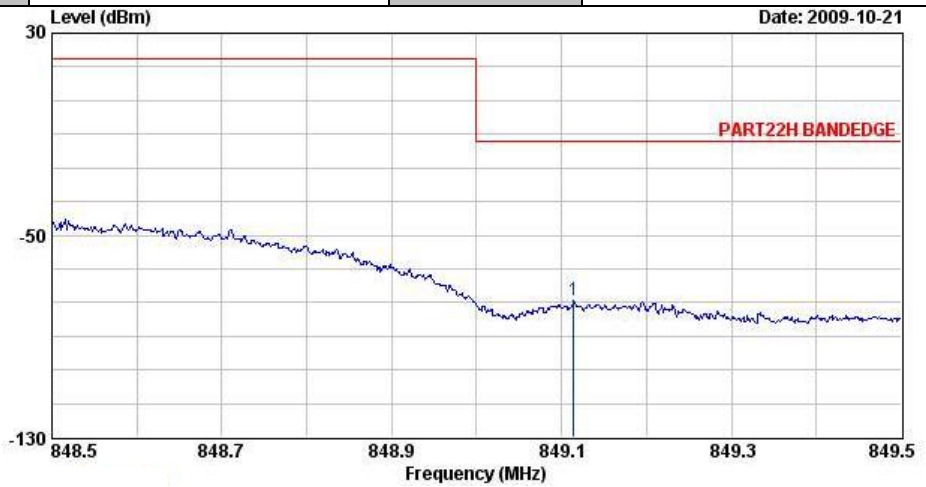
Channel	Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)
4132	824.0	-70.91	31.6	-41.46

Band :	WCDMA Band V	Test Channel :	Lower Band Edge on Channel 4132
Test Mode :	HSDPA Link	Polarization :	Vertical



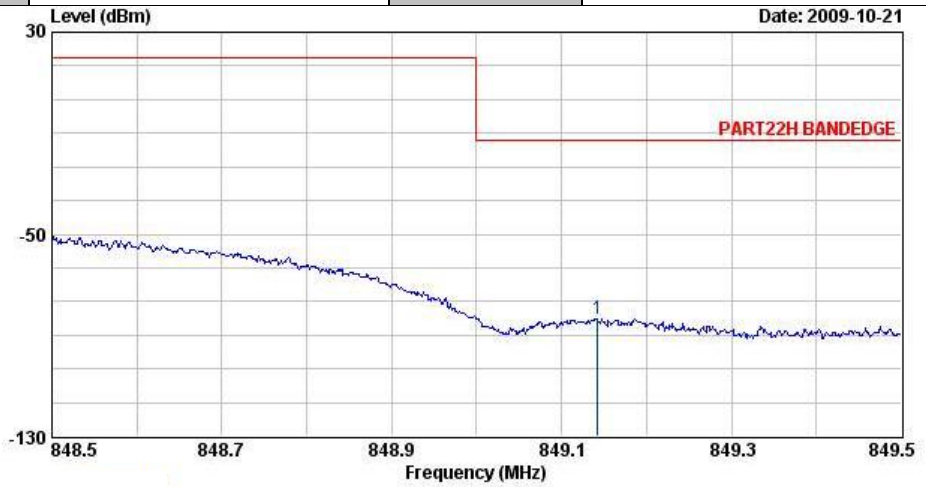
Channel	Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	ERP (dBm)
4132	824.0	-82.02	34.41	-49.76

Band :	WCDMA Band V	Test Channel :	Higher Band Edge on Channel 4233
Test Mode :	HSDPA Link	Polarization :	Horizontal



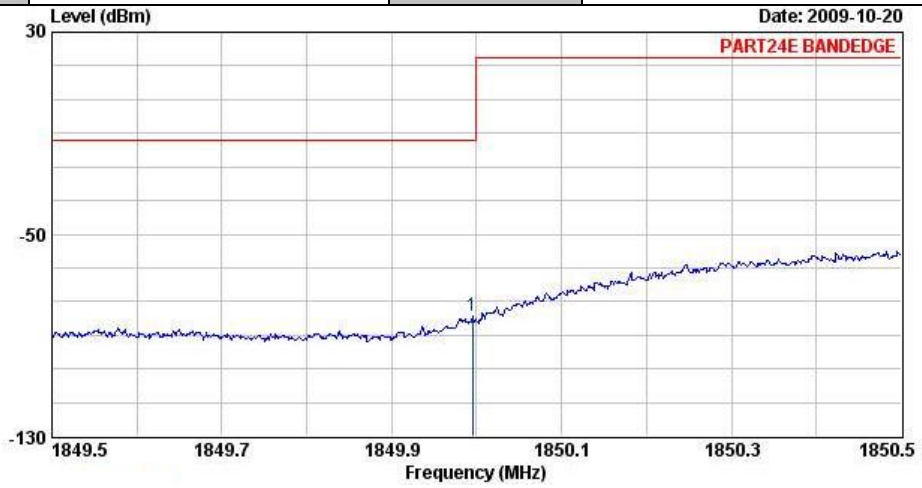
Channel	Frequency	LVL	Correction Factor	ERP
	(MHz)	(dBm)	(dB)	(dBm)
4233	849.0	-76.12	35.17	-43.1

Band :	WCDMA Band V	Test Channel :	Higher Band Edge on Channel 4233
Test Mode :	HSDPA Link	Polarization :	Vertical



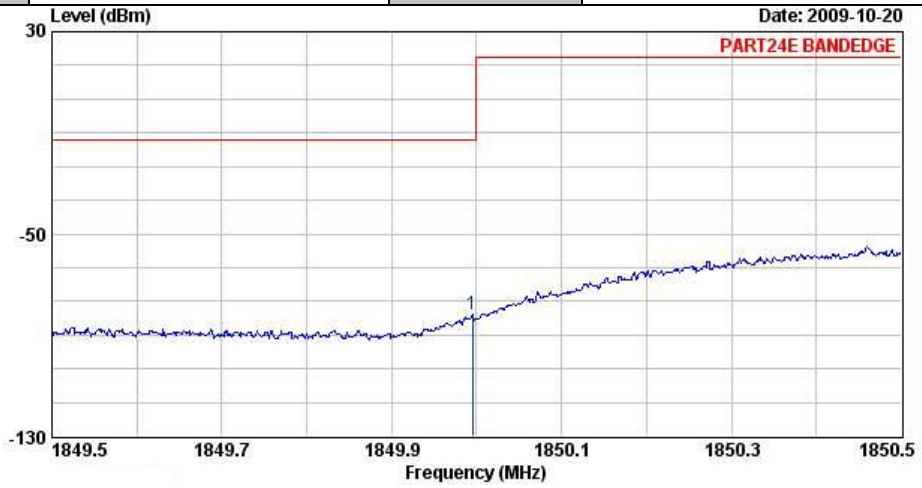
Channel	Frequency	LVL	Correction Factor	ERP
	(MHz)	(dBm)	(dB)	(dBm)
4233	849.0	-83.52	34.37	-51.3

Band :	WCDMA Band II	Test Channel :	Lower Band Edge on Channel 9262
Test Mode :	HSDPA Link	Polarization :	Horizontal



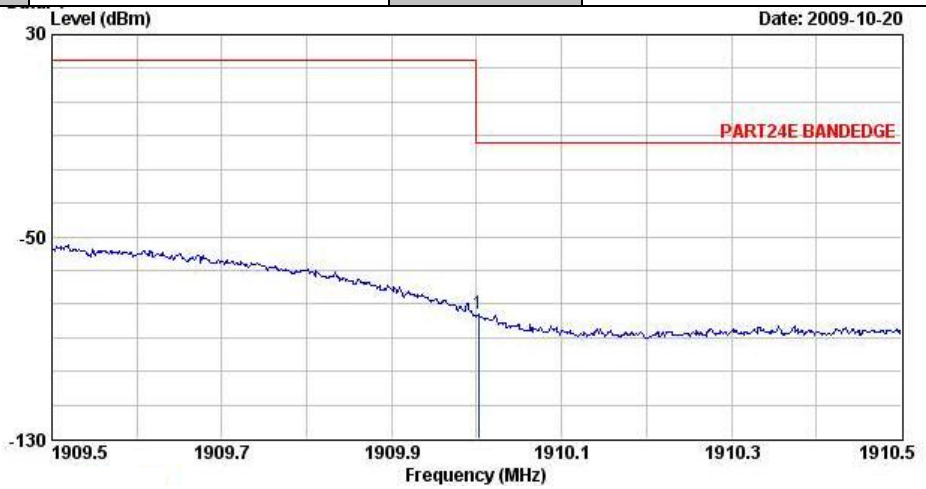
Channel	Frequency	LVL	Correction Factor	ERP
	(MHz)	(dBm)	(dB)	(dBm)
9262	1850.0	-82.43	42.03	-40.40

Band :	WCDMA Band II	Test Channel :	Lower Band Edge on Channel 9262
Test Mode :	HSDPA Link	Polarization :	Vertical



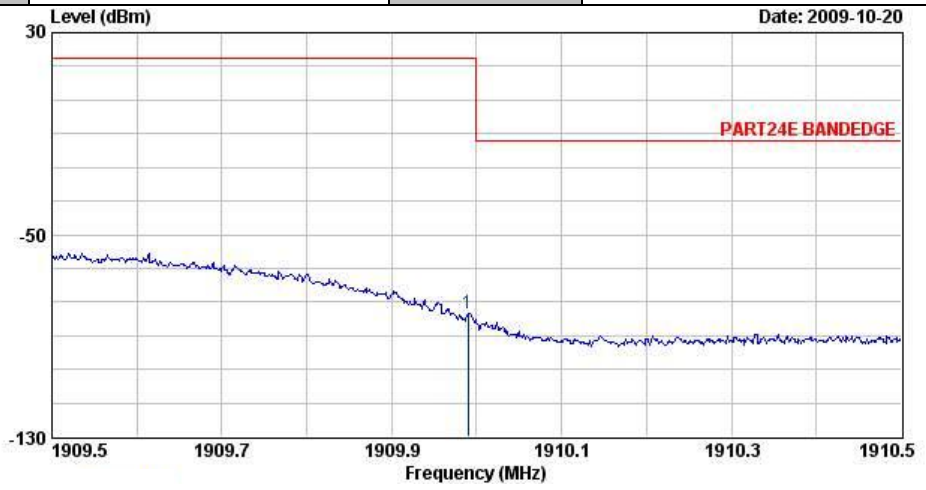
Channel	Frequency	LVL	Correction Factor	ERP
	(MHz)	(dBm)	(dB)	(dBm)
9262	1850.0	-81.85	45.32	-36.53

Band :	WCDMA Band II	Test Channel :	Higher Band Edge on Channel 9538
Test Mode :	HSDPA Link	Polarization :	Horizontal



Channel	Frequency	LVL	Correction Factor	ERP
	(MHz)	(dBm)	(dB)	(dBm)
9538	1910.0	-80.65	41.19	-39.46

Band :	WCDMA Band II	Test Channel :	Higher Band Edge on Channel 9538
Test Mode :	HSDPA Link	Polarization :	Vertical



Channel	Frequency	LVL	Correction Factor	ERP
	(MHz)	(dBm)	(dB)	(dBm)
9538	1910.0	-80.94	44.45	-36.49

3.2 Occupied Bandwidth Measurement

3.2.1 Description of Occupied Bandwidth Measurement

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.

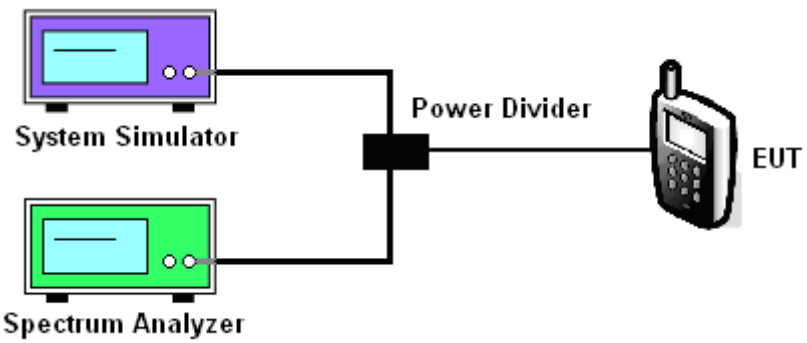
3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

3. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
4. The 99% occupied bandwidth (BW) of the middle channel for the highest RF powers were measured.

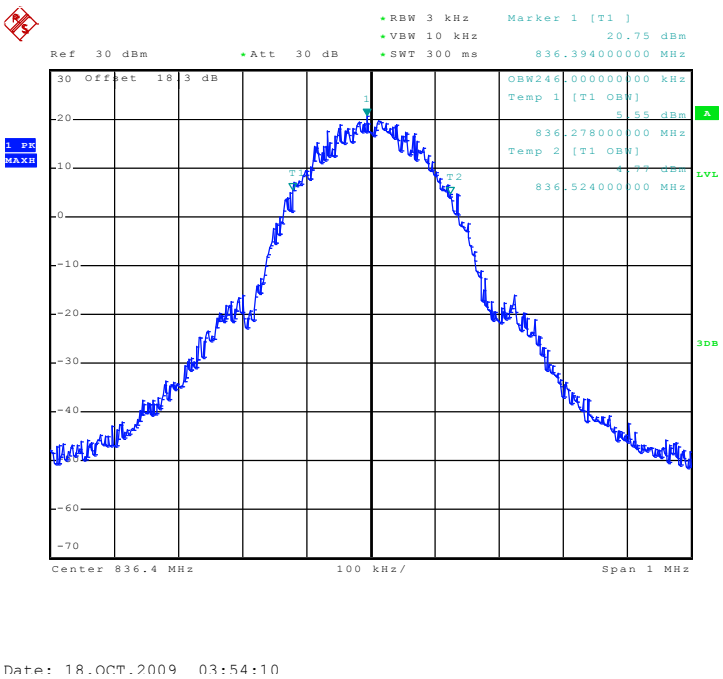
3.2.4 Test Setup



3.2.5 Test Result (Plots) of Occupied Bandwidth

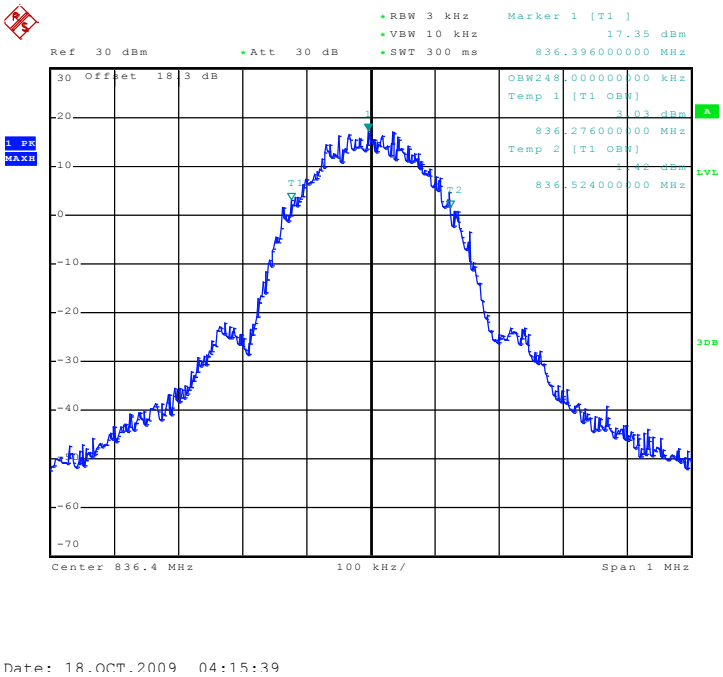
Band :	GSM 850	Power Stage :	High
Test Mode :	GPRS 8 Link	Channel :	CH 189

99% Occupied Bandwidth Plot on Channel 189



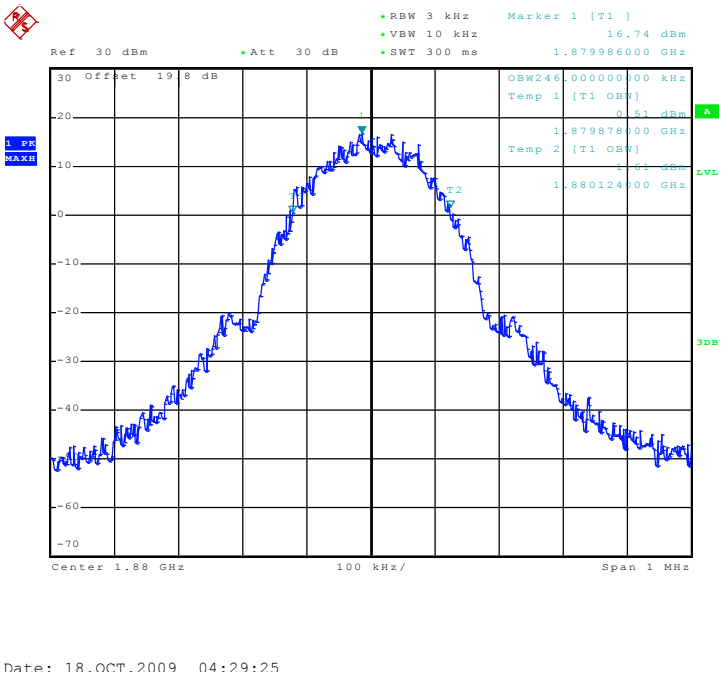
Band :	GSM 850	Power Stage :	High
Test Mode :	EDGE 8 Link	Channel :	CH 189

99% Occupied Bandwidth Plot on



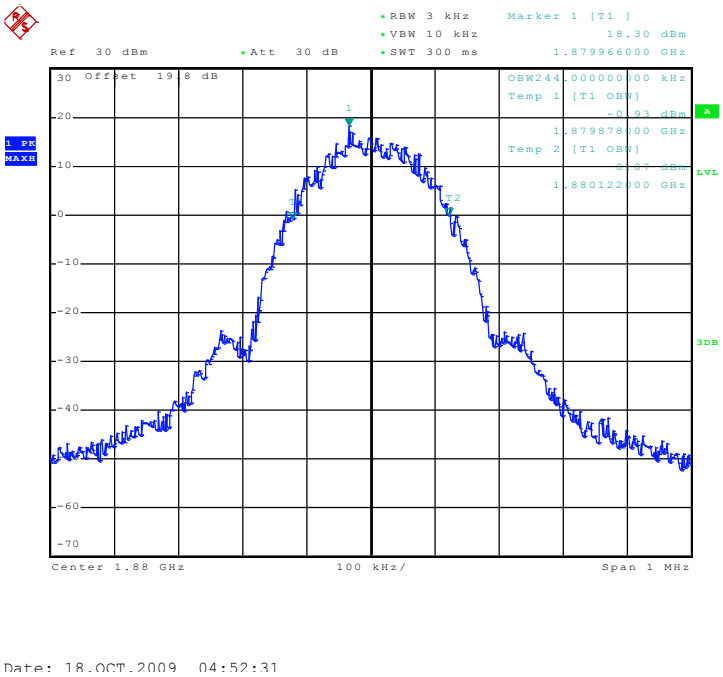
Band :	GSM 1900	Power Stage :	High
Test Mode :	GPRS 8 Link	Channel :	CH 661

99% Occupied Bandwidth Plot



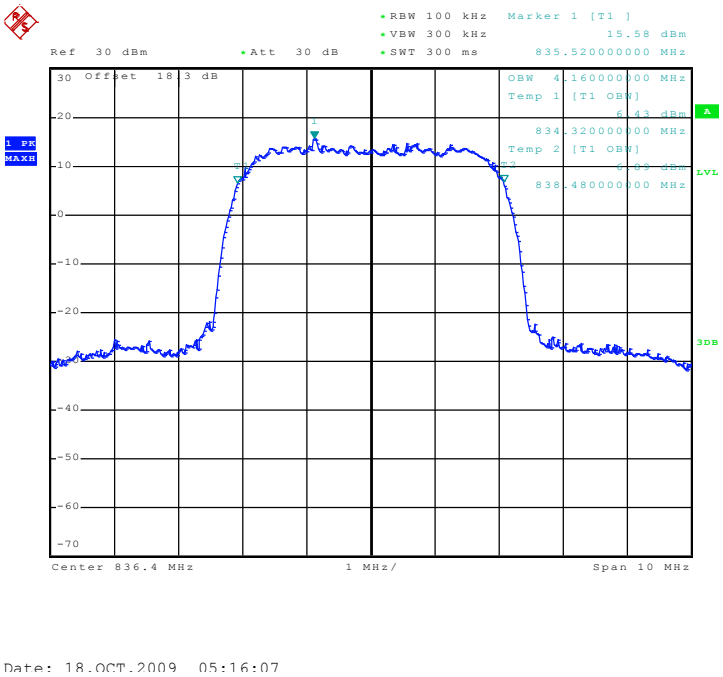
Band :	GSM 1900	Power Stage :	High
Test Mode :	EDGE 8 Link	Channel :	CH 661

99% Occupied Bandwidth Plot



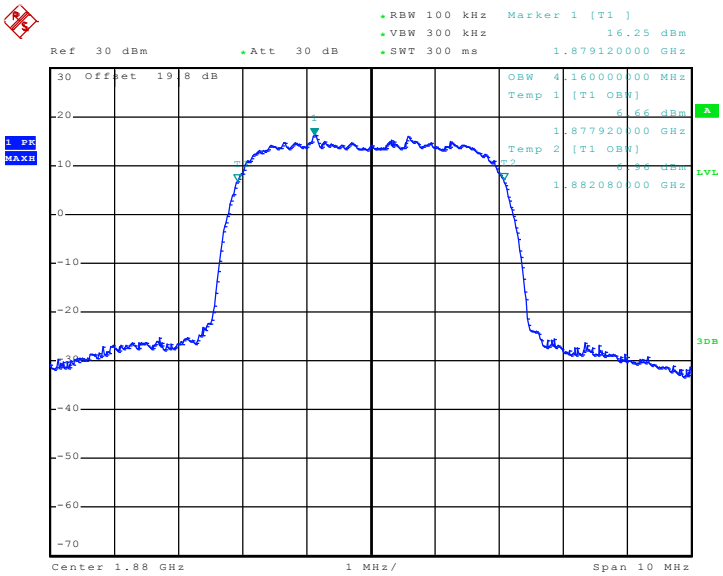
Band :	WCDMA Band V	Power Stage :	High
Test Mode :	HSDPA Link	Channel :	CH 4182

99% Occupied Bandwidth Plot



Band :	WCDMA Band II	Power Stage :	High
Test Mode :	HSDPA Link	Channel :	CH 9400

99% Occupied Bandwidth Plot



3.3 Frequency Stability Measurement

3.3.1 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 ±0.00025% (±2.5ppm) of the center frequency.

3.3.2 Measuring Instruments

See list of measuring instruments of this test report.

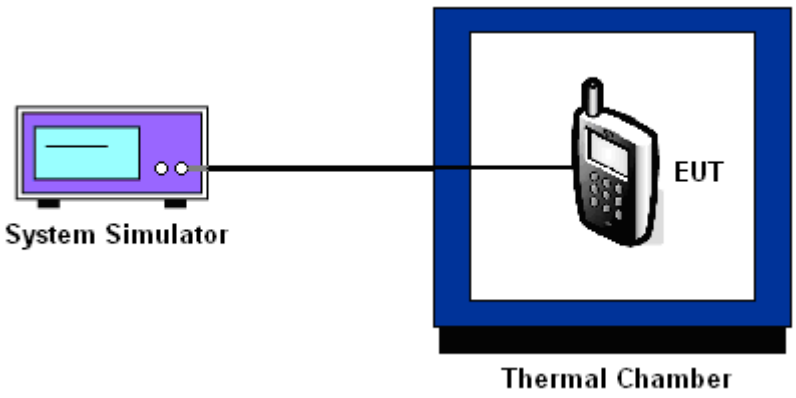
3.3.3 Test Procedures for Temperature Variation

5. The EUT was set up in the thermal chamber and connected with the base station.
6. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized for three hours. Power was applied and the maximum change in frequency was recorded within one minute.
7. 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.
8. If the EUT can not be turned on at -30°C, the testing lowest temperature will be raised in 10°C step until the EUT can be turned on.

3.3.4 Test Procedures for Voltage Variation

9. The EUT was placed in a temperature chamber at 25±5° C and connected with the base station.
10. The power supply voltage to the EUT was varied from BEP to 115% of the nominal value measured at the input to the EUT.
11. The variation in frequency was measured for the worst case.

3.3.5 Test Setup



3.3.6 Test Result of Temperature Variation

Band :	GSM 850	Channel :	189
Limit (ppm) :	2.5		

Temperature (°C)	GPRS 8		EDGE 8		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	N/A	N/A	N/A	N/A	PASS
-20	N/A	N/A	N/A	N/A	
-15	9	0.01	-15	-0.02	
-10	8	0.01	-13	-0.02	
0	8	0.01	-16	-0.02	
10	8	0.01	-16	-0.02	
20	6	0.01	-11	-0.01	
30	7	0.01	-14	-0.02	
40	5	0.01	-17	-0.02	
50	7	0.01	-13	-0.02	

Note: The manufacturer declared that the EUT could work properly between temperatures -15°C~55°C.

Band :	GSM 1900	Channel :	661
Limit (ppm) :	2.5		

Temperature (°C)	GPRS 8		EDGE 8		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	N/A	N/A	N/A	N/A	PASS
-20	N/A	N/A	N/A	N/A	
-15	18	0.01	20	0.01	
-10	13	0.01	31	0.02	
0	20	0.01	29	0.02	
10	19	0.01	23	0.01	
20	27	0.01	26	0.01	
30	18	0.01	28	0.01	
40	21	0.01	24	0.01	
55	23	0.01	26	0.01	

Note: The manufacturer declared that the EUT could work properly between temperatures -15°C~55°C.

Band :	WCDMA Band V	Channel :	4182
Limit (ppm) :	2.5		

Temperature (°C)	HSDPA		Result
	Freq. Dev. (Hz)	Deviation (ppm)	
-30	N/A	N/A	PASS
-20	N/A	N/A	
-15	9	0.01	
-10	8	0.01	
0	-8	-0.01	
10	-9	-0.01	
20	-19	-0.02	
30	-11	-0.01	
40	-7	-0.01	
50	-8	-0.01	

Note: The manufacturer declared that the EUT could work properly between temperatures -15°C~55°C.

Band :	WCDMA Band II	Channel :	9400
Limit (ppm) :	2.5		

Temperature (°C)	HSDPA		Result
	Freq. Dev. (Hz)	Deviation (ppm)	
-30	N/A	N/A	PASS
-20	N/A	N/A	
-15	-14	-0.01	
-10	-12	-0.01	
0	-11	-0.01	
10	-13	-0.01	
20	-15	-0.01	
30	13	0.01	
40	-10	-0.01	
50	-12	-0.01	

Note: The manufacturer declared that the EUT could work properly between temperatures -15°C~55°C.

3.3.7 Test Result of Voltage Variation

Band & Channel	Mode	Voltage (Volt)	Freq. Dev. (Hz)	Deviation (ppm)	Limit (ppm)	Result
GSM 850 CH189	GPRS 8	5.0	7	0.01	2.5	PASS
	EDGE 8	5.0	-14	-0.02		
GSM 1900 CH661	GPRS 8	5.0	18	0.01		
	EDGE 8	5.0	28	0.01		
WCDMA Band V CH4182	HSDPA	5.0	-11	-0.01		
WCDMA Band II CH9400	HSDPA	5.0	13	0.01		

Note: Normal Voltage = 5.0V.

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
System Simulator	R&S	CMU200	116456	N/A	Jun. 05, 2008	Jun. 04, 2010	Conducted (TH02-HY)
Spectrum Analyzer	R&S	FSP40	100055	9kHz~40GHz	Jun. 23, 2009	Jun. 22, 2010	Conducted (TH02-HY)
Thermal Chamber	TEN BILLION	TTH-D35P	TBN-930701	N/A	Jul. 29, 2009	Jul. 28, 2010	Conducted (TH02-HY)
Bilog Antenna	SCHAFFNER	CBL6111C	2726	30MHz ~ 1GHz	Oct. 31, 2009	Oct. 30, 2010	Radiation (03CH07-HY)
Spectrum Analyzer	R&S	FSP	101067	9KHz ~ 30GHz	Dec. 02, 2008	Dec. 01, 2009	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Aug. 20, 2009	Aug. 19, 2010	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz- 40GHz	Oct. 14, 2009	Oct. 13, 2010	Radiation (03CH07-HY)
Pre Amplifier	Agilent	8449B	3008A02362	1GHz~ 26.5GHz	Dec. 17, 2008	Dec. 16, 2009	Radiation (03CH07-HY)
Pre Amplifier	COM-POWER	PA-103A	161241	10-1000MHz.32dB. GAIN	Mar. 27, 2009	Mar. 26, 2010	Radiation (03CH07-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 KHz~30 MHz	May 22, 2008	May 21, 2010	Radiation (03CH07-HY)
System Simulator	R&S	CMU200	117997	N/A	May 14, 2009	May 13, 2011	-

5 Certification of TAF Accreditation

TAF

Certificate No. : L1190-100107

財團法人全國認證基金會
Taiwan Accreditation Foundation

Certificate of Accreditation

This is to certify that

Sporton International Inc.
EMC & Wireless Communications Laboratory
No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

is accredited in respect of laboratory

Accreditation Criteria	:	ISO/IEC 17025:2005
Accreditation Number	:	1190
Originally Accredited	:	December 15, 2003
Effective Period	:	January 10, 2010 to January 09, 2013
Accredited Scope	:	Testing Field, see described in the Appendix
Specific Accreditation Program	:	Accreditation Program for Designated Testing Laboratory for Commodities Inspection Accreditation Program for Telecommunication Equipment Testing Laboratory Accreditation Program for BSMI Mutual Recognition Arrangment with Foreign Authorities

Jay-San Chen
President, Taiwan Accreditation Foundation
Date : January 07, 2010

P1, total 21 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix

Appendix A. Photographs of EUT

Please refer to Sporton report number EP9O0717 as below.