

Hame Technology Co.,Limited

3G Router

Model: 434T

August 08 2010

Report No.: 1005008
(This report supersedes NONE)



Modifications made to the product : None

This Test Report is Issued Under the Authority of:

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Andy Hao Compliance Engineer	Jackson Chen Technical Manager

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RF Test Report

TO: FCC 47 CFR Part 2, FCC 47 CFR Part 22, FCC 47 CFR Part 24

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Country/Region	Accreditation Body	Scope
USA	FCC, A2LA	EMC , RF/Wireless , Telecom
Canada	IC, A2LA, NIST	EMC, RF/Wireless , Telecom
Taiwan	BSMI , NCC , NIST	EMC, RF, Telecom , Safety
Hong Kong	OFTA , NIST	RF/Wireless ,Telecom
Australia	NATA, NIST	EMC, RF, Telecom , Safety
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Japan	VCCI, JATE, TELEC, RFT	EMI, RF/Wireless, Telecom
Mexico	NOM, COFETEL, Caniety	Safety, EMC , RF/Wireless, Telecom
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Accreditations for Product Certifications

Country	Accreditation Body	Scope
USA	FCC TCB, NIST	EMC , RF , Telecom
Canada	IC FCB , NIST	EMC , RF , Telecom
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Executive Summary & EUT information

The purpose of this test programme was to demonstrate compliance of the Hame Technology Co.,Limited, 3G Router , and model: 434T against the current Stipulated Standards. The 3G Router has demonstrated compliance with the FCC 47 CFR Part 2, FCC 47 CFR Part 22,FCC 47 CFR Part 24

EUT Information

EUT Description	3G Router has GSM850 and PCS1900 function. The Router has the access to internet through dial-up with SIM card provided by ISP.
Model No	434T
Input Power	AC 120V / 60Hz

TECHNICAL DETAILS	
Purpose	Compliance testing of WIFI Module with stipulated standard
Applicant / Client	Hame Technology Co.,Limited 5F,No.18 Gaoxin C .Ave.1,Hi-Tech Industrial Park,Nanshan District, Shenzhen China 518057
Manufacturer	Hame Technology Co.,Limited 5F,No.18 Gaoxin C .Ave.1,Hi-Tech Industrial Park,Nanshan District, Shenzhen China 518057
Laboratory performing the tests	SIEMIC Nanjing (China) Laboratories NO.2-1,Longcang Dadao, Yuhua Economic Development Zone, Nanjing, China Tel:+86(25)86730128/86730129 Fax:+86(25)86730127 Email:info@siemic.com
Test report reference number	1005008
Date EUT received	July 21 2010
Standard applied	FCC 47 CFR Part 2, FCC 47 CFR Part 22,FCC 47 CFR Part 24
Dates of test (from – to)	July 22~28 2010
No of Units:	#2
Equipment Category:	DTS
Trade Name:	Hame
Model :	434T
RF Operating Frequency (ies)	824.2MHz ~ 848.8MHz & 1850.2MHz~1909.8MHz
Modulation :	GMSK / 8PSK / BPSK
FCC ID:	YQR-434T

MODIFICATION

NONE

TEST SUMMARY

The product was tested in accordance with the following specifications. All Testing has been performed according to below product classification:

PCB

Test Results Summary

Test Standard	Description	Pass / Fail
FCC 47 CFR Part 2, FCC 47 CFR Part 22, FCC 47 CFR Part 24		
2.1047 (d)	Modulation Characteristics	Pass
2.1046	Maximum Peak Output Power	Pass
22.913 (a)	Limit: max. 7 watts e.r.p peak power	
24.232(c)	E.I.R.P	Pass
2.1055	Frequency Stability AFC Freq. Error vs. Voltage	Pass
22.355	AFC Freq. Error vs. Temperature Limit: max. ± 2.5 ppm	
24.235		
2.1049 (h)	Occupied Bandwidth	Pass
24.238(b)		
22.917	Band Edge Measurements	Pass
24.238(b)		
2.1051	Conducted Spurious Emissions	Pass
22.917		
24.238		
2.1053	Radiated Spurious Emissions	Pass
22.917		
24.238		

FCC 47 CFR Part 2, FCC 47 CFR Part 22, FCC 47 CFR Part 24

PS: Preliminary AC line and radiated emissions testing has been performed on all models, only worst case test result is presented in this test report.

MEASUREMENTS, EXAMINATION AND DERIVED RESULTS

5.1 OUTPUT POWER MEASUREMENT

TEST RESULTS

1. EUT was working normal during the test
2. Environmental Conditions

Temperature	23°C
Relative Humidity	50%
Atmospheric Pressure	1019mbar
3. All required parameter have been checked and adjusted
4. Test date : July 22~28 2010
Tested By : Andy Hao

Standard Requirement(s): Part 2.1046

Procedures:

1. Connect the transmitter port to the base station
2. Set EUT at maximum power through base station
3. Select low, middle and high channels for each band and different modulation

Test result: Pass

GSM Band				
Modes	Channel	Frequency (MHz)	Peak Conducted power (dBm)	Peak Conducted power (Watts)
GSM850(GSM)	Low	824.2	32.00	1.58
	Mid	836.6	32.10	1.62
	High	848.8	32.20	1.65

GSM Band				
Modes	Channel	Frequency (MHz)	RMS Conducted power (dBm)	RMS Conducted power (Watts)
GSM850(GSM)	Low	824.2	31.7	1.48
	Mid	836.6	31.8	1.51
	High	848.8	31.7	1.48

GPRS				
Modes	Channel	Frequency (MHz)	Peak Conducted power (dBm)	Peak Conducted power (Watts)
GPRS (UP-LINK WITH 1 TIME SLOT)	Low	824.2	31.9	1.55
	Mid	836.6	32.0	1.58
	High	848.8	32.0	1.58

GPRS				
Modes	Channel	Frequency (MHz)	RMS Conducted power (dBm)	RMS Conducted power (Watts)
GPRS (UP-LINK WITH 1 TIME SLOT)	Low	824.2	31.6	1.45
	Mid	836.6	31.9	1.55
	High	848.8	31.9	1.55

E-GPRS				
Modes	Channel	Frequency (MHz)	Peak Conducted power (dBm)	Peak Conducted power (Watts)
E-GPRS (UP-LINK WITH 1 TIME SLOT)	Low	824.2	30.1	1.02
	Mid	836.6	30.2	1.05
	High	848.8	30.5	1.12

E-GPRS				
Modes	Channel	Frequency (MHz)	RMS Conducted power (dBm)	RMS Conducted power (Watts)
E-GPRS (UP-LINK WITH 1 TIME SLOT)	Low	824.2	29.8	0.96
	Mid	836.6	29.9	0.98
	High	848.8	30.2	1.05

GSM Band				
Modes	Channel	Frequency (MHz)	Peak Conducted power (dBm)	Peak Conducted power (Watts)
PCS 1900	Low	1850.2	29.70	0.93
	Mid	1880.0	29.80	0.96
	High	1909.8	29.90	0.98

GSM Band				
Modes	Channel	Frequency (MHz)	RMS Conducted power (dBm)	RMS Conducted power (Watts)
PCS 1900	Low	1850.2	29.50	0.89
	Mid	1880.0	29.50	0.89
	High	1909.8	29.70	0.93

GPRS				
Modes	Channel	Frequency (MHz)	Peak Conducted power (dBm)	Peak Conducted power (Watts)
GPRS (UP-LINK WITH 1 TIME SLOT)	Low	1850.2	29.6	0.91
	Mid	1880.0	29.7	0.93
	High	1909.8	29.8	0.96

GPRS				
Modes	Channel	Frequency (MHz)	RMS Conducted power (dBm)	RMS Conducted power (Watts)
GPRS (UP-LINK WITH 1 TIME SLOT)	Low	1850.2	29.4	0.87
	Mid	1880.0	29.5	0.89
	High	1909.8	29.6	0.91

E-GPRS				
Modes	Channel	Frequency (MHz)	Peak Conducted power (dBm)	Peak Conducted power (Watts)
E-GPRS (UP-LINK WITH 1 TIME SLOT)	Low	1850.2	29.2	0.86
	Mid	1880.0	29.2	0.83
	High	1909.8	29.4	0.87

E-GPRS				
Modes	Channel	Frequency (MHz)	RMS Conducted power (dBm)	RMS Conducted power (Watts)
E-GPRS (UP-LINK WITH 1 TIME SLOT)	Low	1850.2	25.6	0.36
	Mid	1880.0	25.7	0.37
	High	1909.8	25.8	0.38

EIRP Power Test Result: Pass

Standard Requirement(s): Part 22.913 (a) and 24.232(c)

- | | | |
|----|---|--|
| 1. | EUT was working normal during the test | |
| 2. | Environmental Conditions | Temperature 23°C
Relative Humidity 50%
Atmospheric Pressure 1019mbar |
| 3. | All required parameter have been checked and adjusted | |
| 4. | Test date : July 22~28 2010 | |
| | Tested By : Andy Wang | |

Procedures:

1. The EUT was placed on a turntable with 1.0 meter height in a fully anechoic chamber.
 2. The EUT was set at 1.2 meters from the receiving antenna, which was mounted on the antenna tower.
 3. The table was rotated 360 degrees to determine the position of the highest radiated power.
 4. The height of the receiving antenna is adjusted to look for the maximum ERP/EIRP.
 5. Taking the record of maximum ERP/EIRP.
 6. A dipole antenna was substituted in place of the EUT and was driven by a signal generator.
 7. The conducted power at the terminal of the dipole antenna is measured.
 8. Repeat step 3 to step 5 to get the maximum ERP/EIRP of the substitution antenna.
 9. $ERP/EIRP = P_s + E_t - E_s + G_s = P_s + R_t - R_s + G_s$
- P_s (dBm): Input power to substitution antenna.
 G_s (dBi or dBd): Substitution antenna Gain.
 $E_t = R_t + AF$
 $E_s = R_s + AF$
 AF (dB/m): Receive antenna factor
 R_t : The highest received signal in spectrum analyzer for EUT.
 R_s : The highest received signal in spectrum analyzer for substitution antenna

GSM Band ERP Power				
Modes	Channel	Frequency (MHz)	Peak Output power (dBm)	Peak Output power (Watts)
GSM850	Low	824.2	29.7	0.94
	Mid	836.6	30.2	1.04
	High	848.8	30.2	1.04

GPRS ERP Power				
Modes	Channel	Frequency (MHz)	Peak Output power (dBm)	Peak Output power (Watts)
GPRS (UP-LINK WITH 1 TIME SLOT)	Low	824.2	30.0	1.01
	Mid	836.6	30.1	1.03
	High	848.8	30.1	1.03

E-GPRS ERP Power				
Modes	Channel	Frequency (MHz)	Peak Output power (dBm)	Peak Output power (Watts)
E-GPRS (UP-LINK WITH 1 TIME SLOT)	Low	824.2	28.0	0.64
	Mid	836.6	27.9	0.62
	High	848.8	27.9	0.62

E.I.R.P Power				
Modes	Channel	Frequency (MHz)	Peak Output power (dBm)	Peak Output power (Watts)
PCS 1900	Low	1850.2	32.7	0.19
	Mid	1880.0	32.2	0.17
	High	1909.8	32.6	0.18

GPRS E.I.R.P Power				
Modes	Channel	Frequency (MHz)	Peak Output power (dBm)	Peak Output power (Watts)
GPRS (UP-LINK WITH 1 TIME SLOT)	Low	1850.2	32.6	0.18
	Mid	1880.0	32.2	0.17
	High	1909.8	32.5	0.18

E-GPRS E.I.R.P Power				
Modes	Channel	Frequency (MHz)	Peak Output power (dBm)	Peak Output power (Watts)
E-GPRS (UP-LINK WITH 1 TIME SLOT)	Low	1850.2	32.5	0.18
	Mid	1880.0	32.1	0.16
	High	1909.8	32.4	0.17

5.2 FREQUENCY STABILITY MEASUREMENT

1. EUT was working normal during the test
2. Environmental Conditions

Temperature	23°C
Relative Humidity	50%
Atmospheric Pressure	1019mbar
3. All required parameter have been checked and adjusted
4. Test date : July 22~28 2010
Tested By : Andy Wang

Requirement: Part2.1055, 22.355, 24.235

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.

Procedures:

1. The EUT was set up in the thermal chamber and connected with the base station.
2. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized for three hours. Power was applied and the maximum change in frequency was recorded within one minute.
3. With power OFF, the temperature was raised in 10°C step up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.
4. If the EUT 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
5. The EUT was placed in a temperature chamber at $25\pm 5^\circ\text{C}$ and connected with the base station.
6. The power supply voltage to the EUT was varied from BEP to 115% of the nominal value measured at the input to the EUT.
7. The variation in frequency was measured for the worst case.

Test Result: Pass

Mode: AFC FREQUENCY ERROR vs. VOLTAGE

GSM Band	GSM 850		Channel	190	
Temperature(°C)	Voltage	Freq.Dev(Hz)	Deviation(ppm)	Limit(ppm)	Result
Normal	138	13	0.02	2.5	PASS
	102	12	0.01	2.5	

GSM Band	PCS 1900		Channel	661	
Temperature(°C)	Voltage	Freq.Dev(Hz)	Deviation(ppm)	Limit(ppm)	Result
Normal	138	13	0.02	2.5	PASS
	102	12	0.01	2.5	

Mode: AFC FREQUENCY ERROR vs. TEMP.

Band	GSM 850		Channel	190	
Temperature (°C)	Voltage	Freq.Dev(Hz)	Deviation(ppm)	Limit(ppm)	Result
-10	120V	17	0.02	2.5	PASS
0	120V	16	0.02	2.5	
10	120V	18	0.02	2.5	
20	120V	17	0.02	2.5	
30	120V	15	0.02	2.5	
40	120V	14	0.02	2.5	
50	120V	15	0.02	2.5	

Band	PCS 1900		Channel	661	
Temperature (°C)	Voltage	Freq.Dev(Hz)	Deviation(ppm)	Limit(ppm)	Result
-10	120V	17	0.02	2.5	PASS
0	120V	16	0.02	2.5	
10	120V	18	0.02	2.5	
20	120V	17	0.02	2.5	
30	120V	15	0.02	2.5	
40	120V	14	0.02	2.5	
50	120V	15	0.02	2.5	

5.3 Occupied Bandwidth

1. EUT was working normal during the test
2. Environmental Conditions

Temperature	23°C
Relative Humidity	50%
Atmospheric Pressure	1019mbar
3. All required parameter have been checked and adjusted
4. Test date : July 22~28 2010
Tested By : Andy Wang

Requirement(s): Part 2.1049, 22.917(a), 24.238(a)

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.

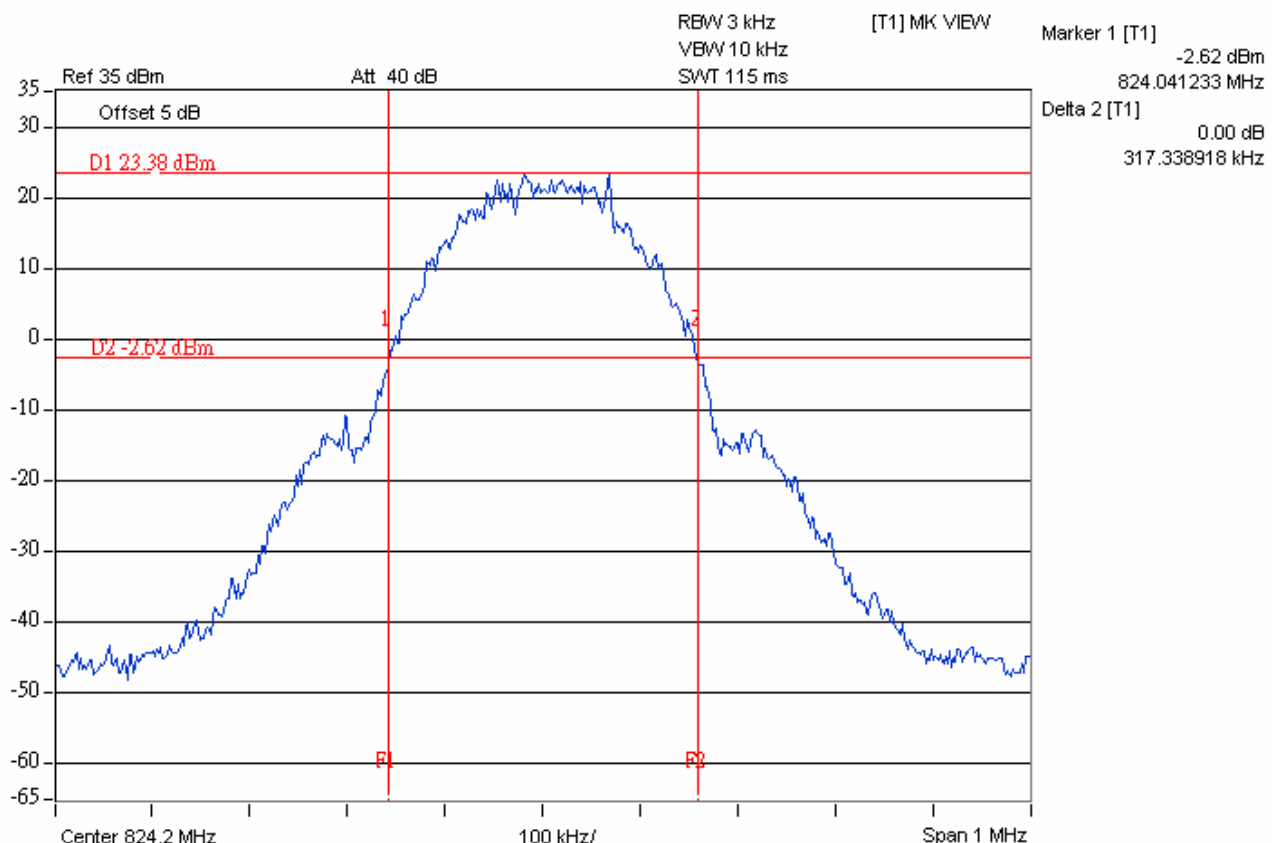
Procedures:

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The 99% and 26 dB occupied bandwidth (BW) of the low, middle, high channel (19000MHz: 512, 661 and 810 / 9262, 9400 and 9538: low, middle and high operational frequency range) (850MHz: 128, 190 and 251 / 4132, 4182 and 4233: low, middle and high operational frequency range) for the highest RF powers were measured.

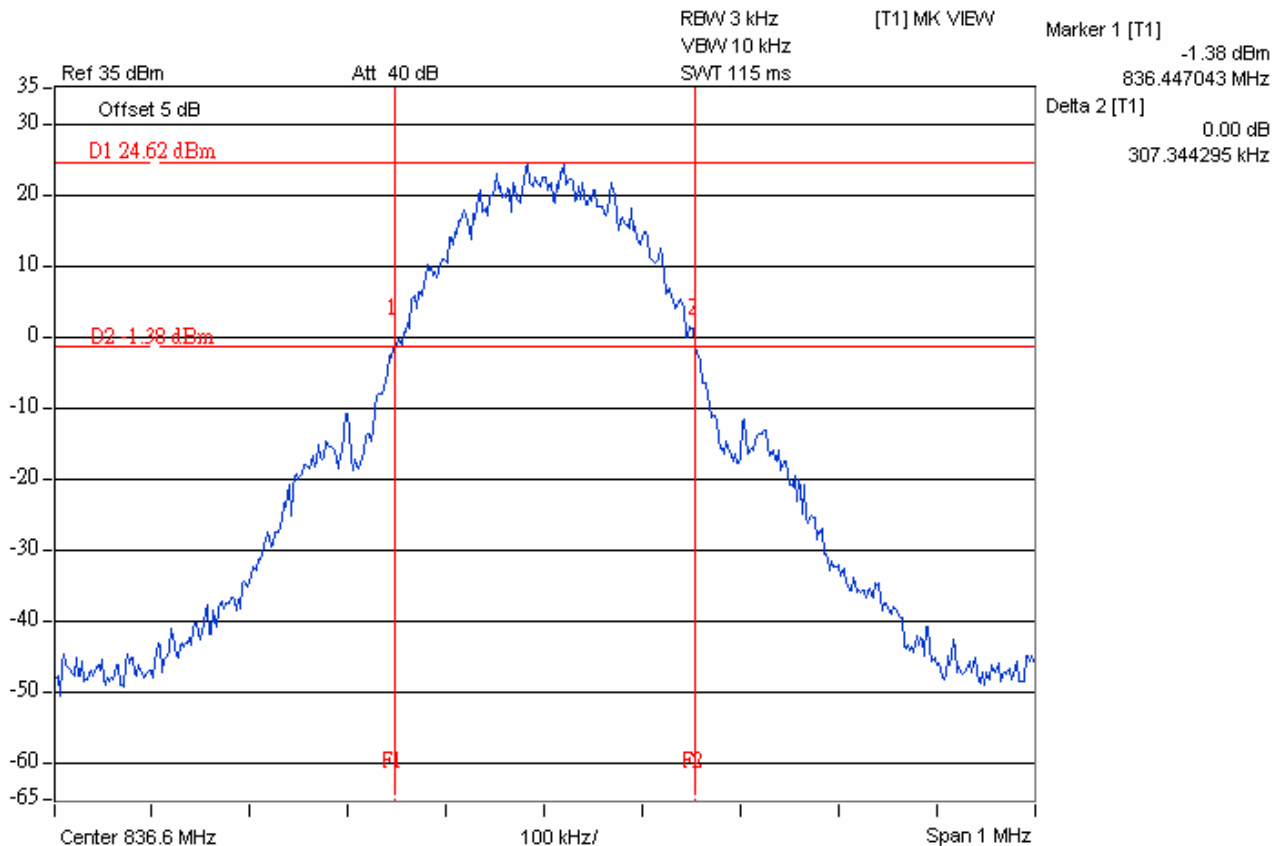
Test result: Pass

Mode: GSM850

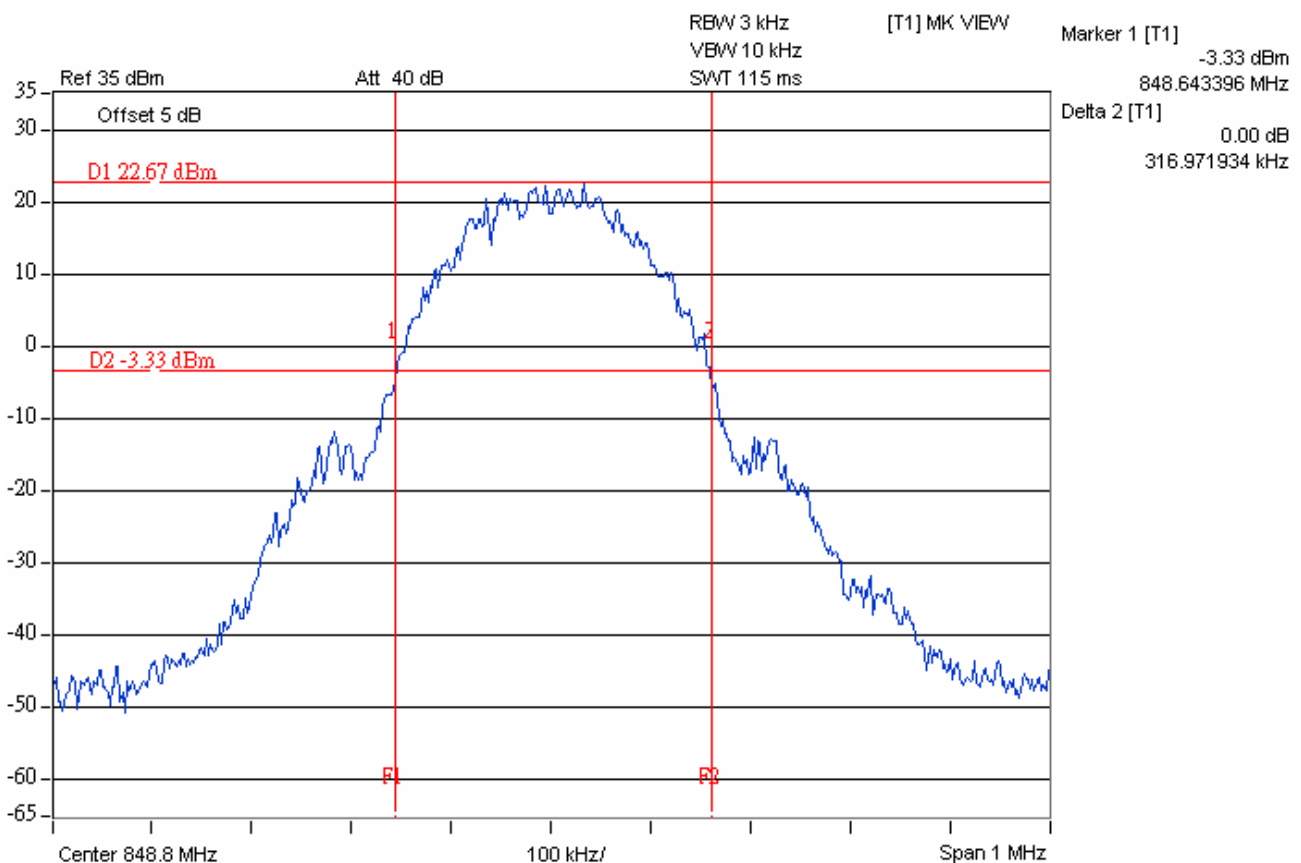
Low channel



Middle channel

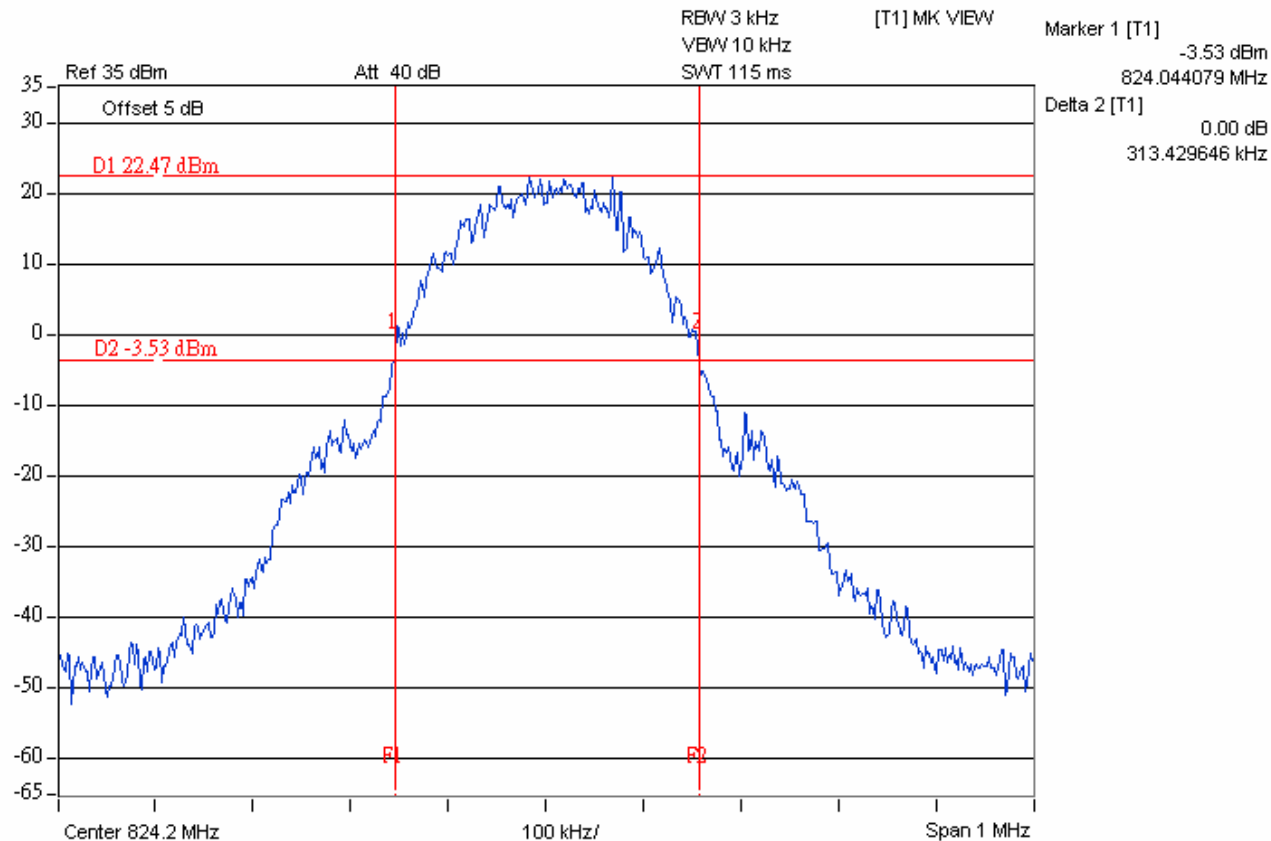


High channel

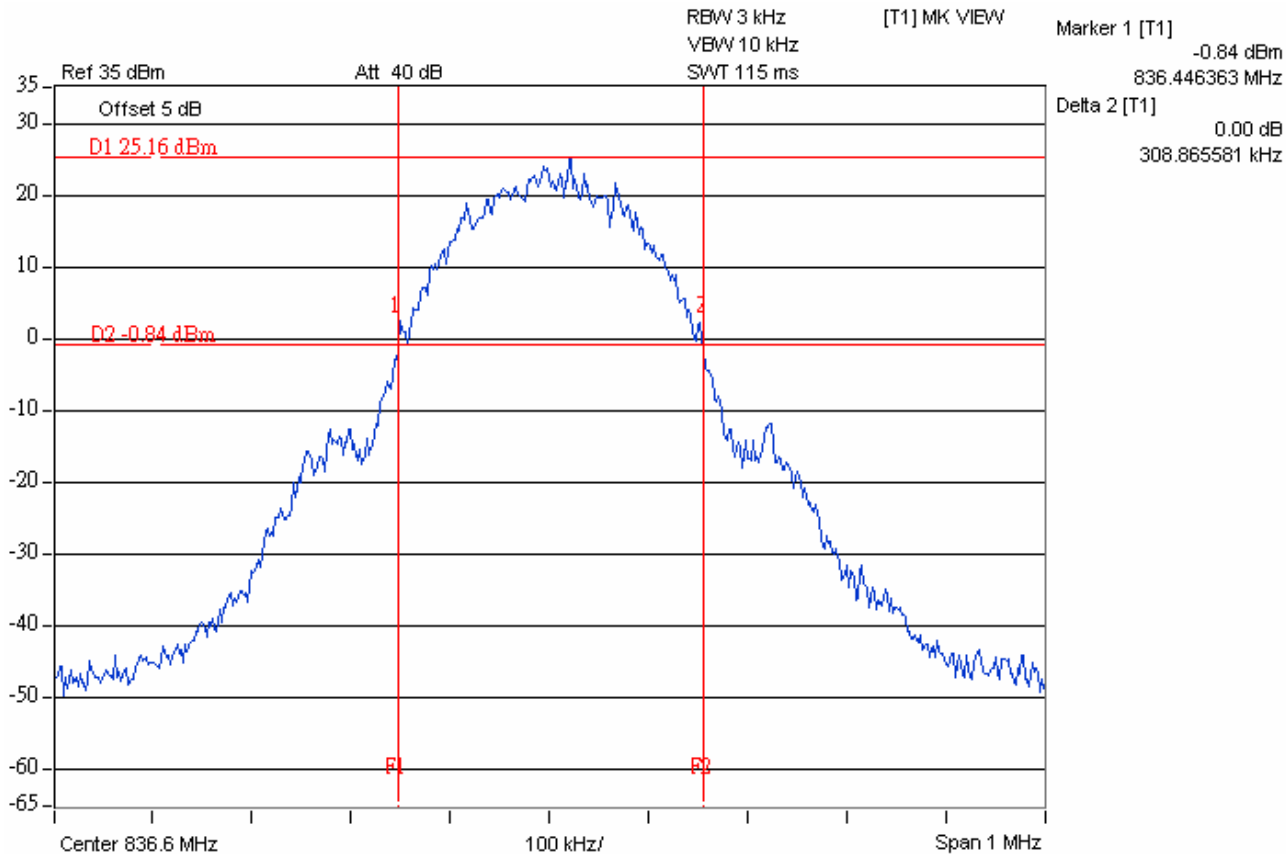


MODE GPRS850:

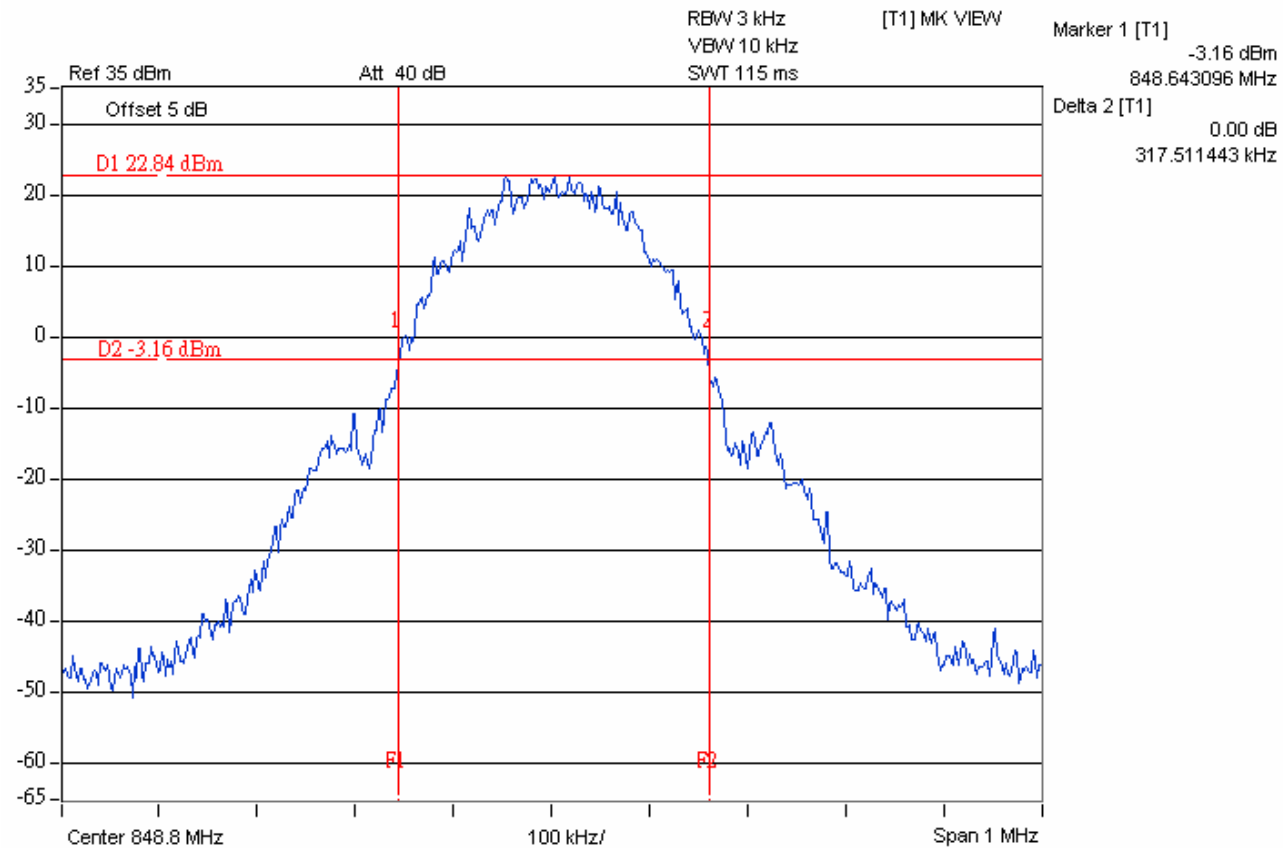
Low channel:



Middle channel:

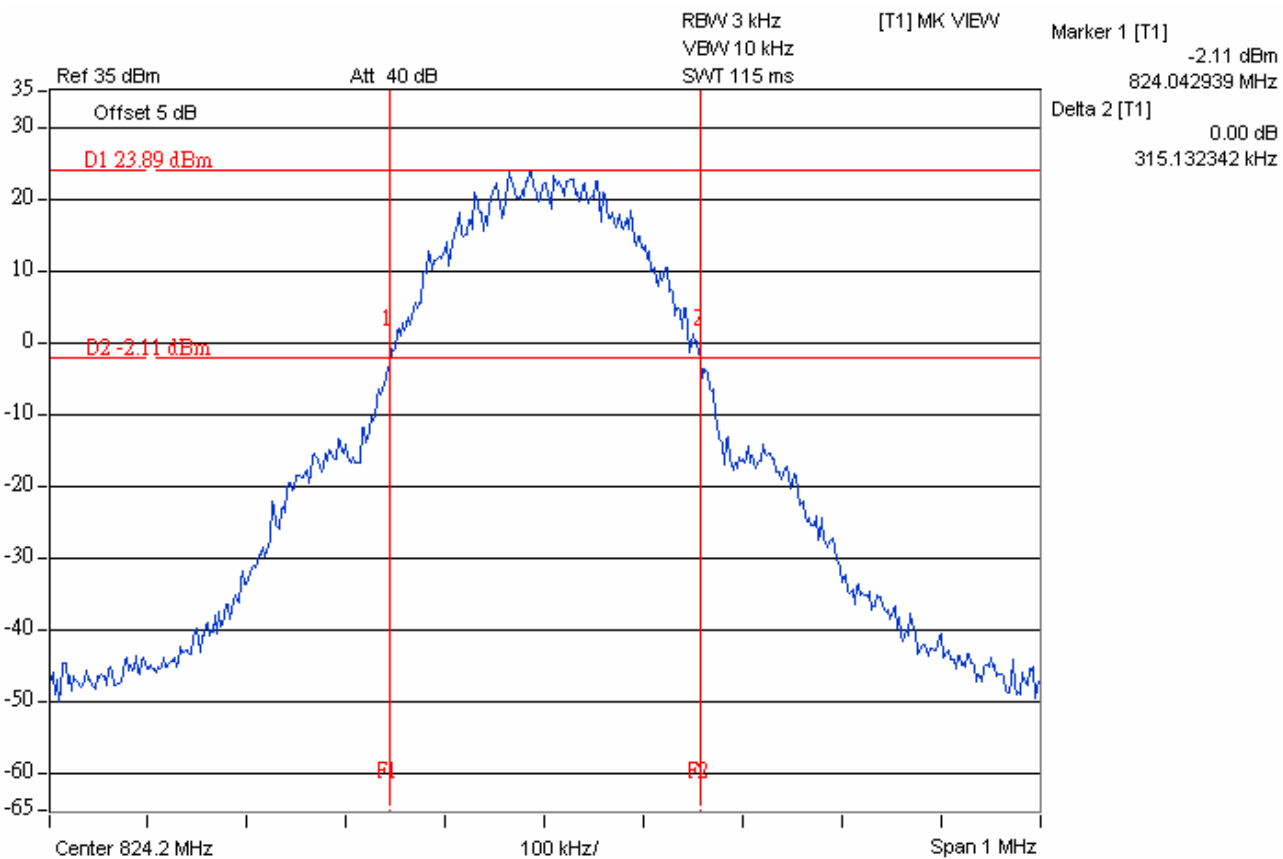


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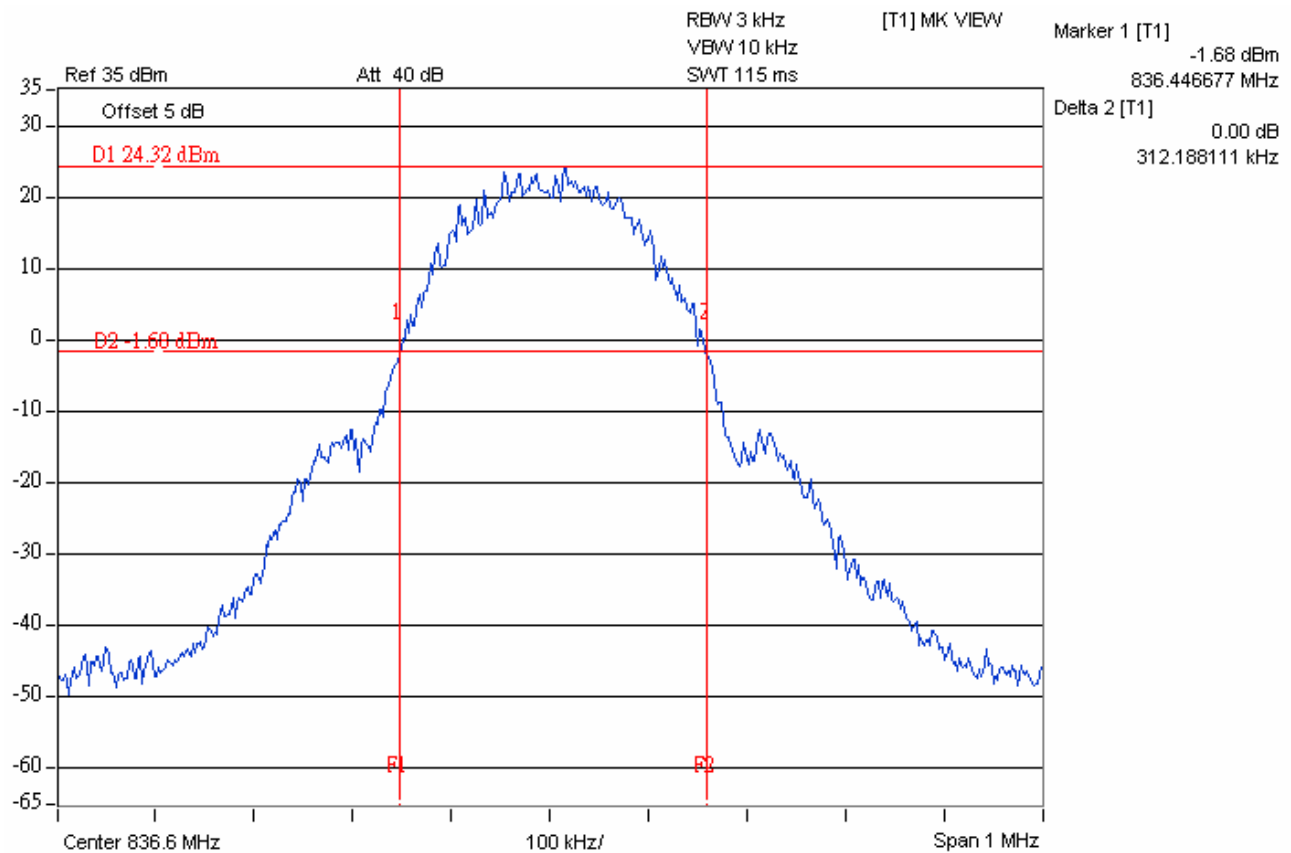


MODE E-GPRS850:

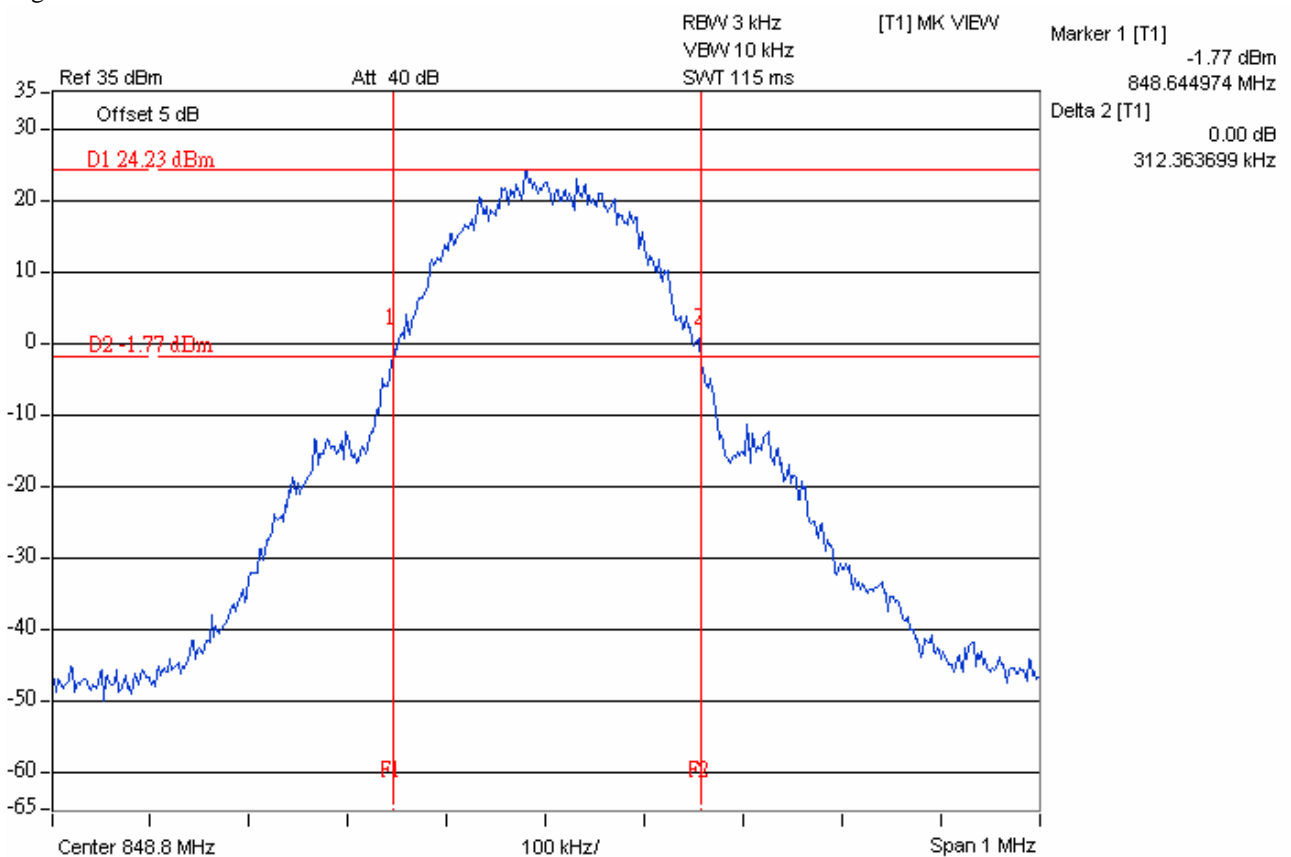
Low channel:



Middle channel:

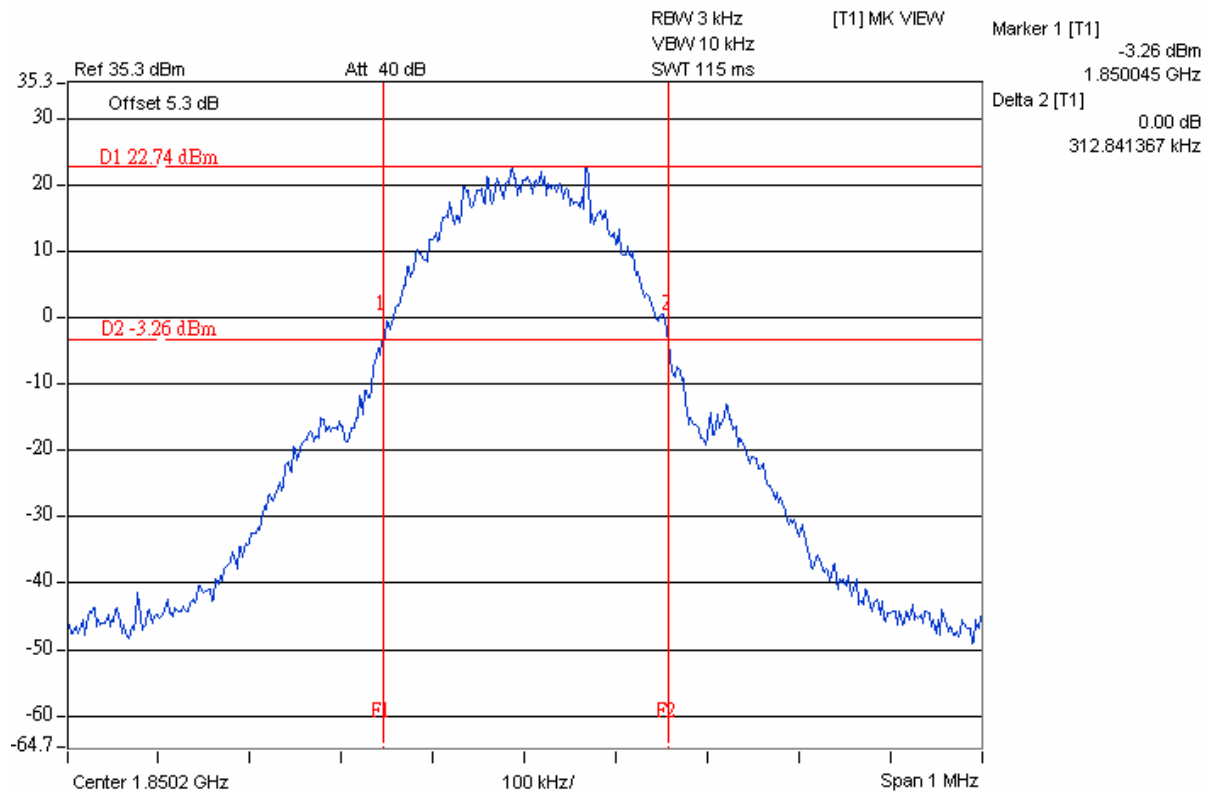


High channel:

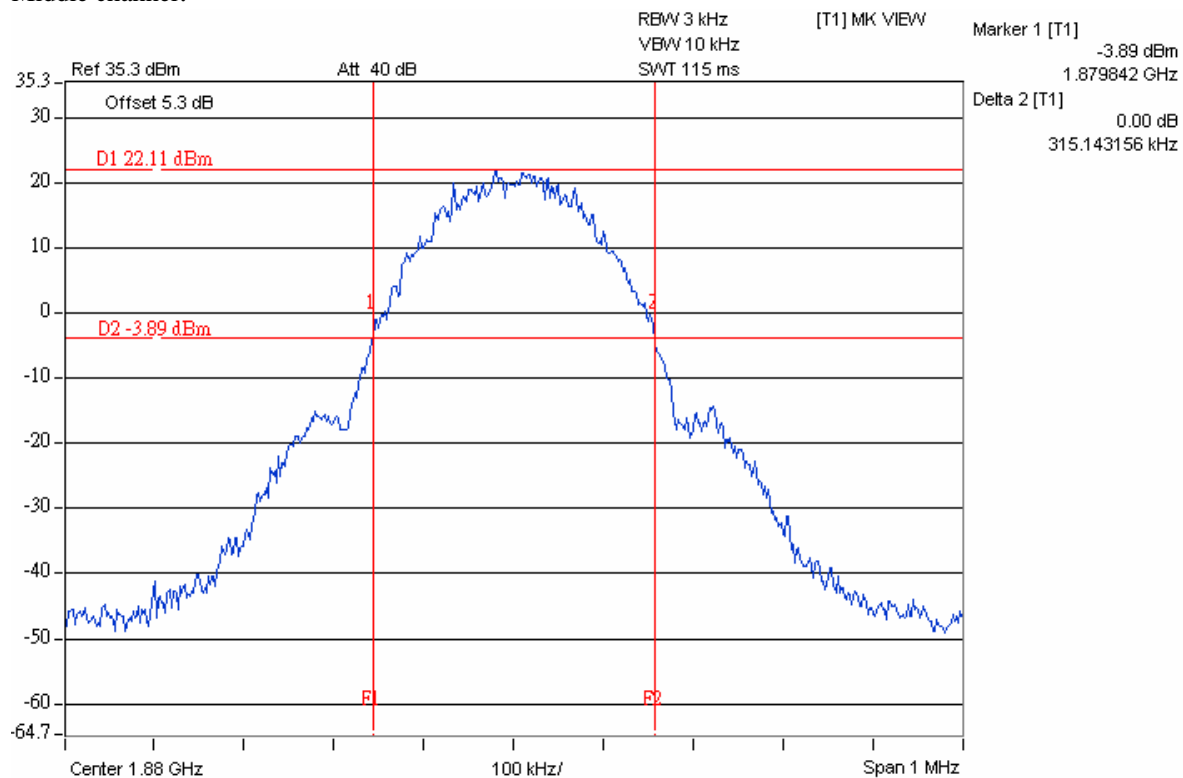


MODE PCS 1900:

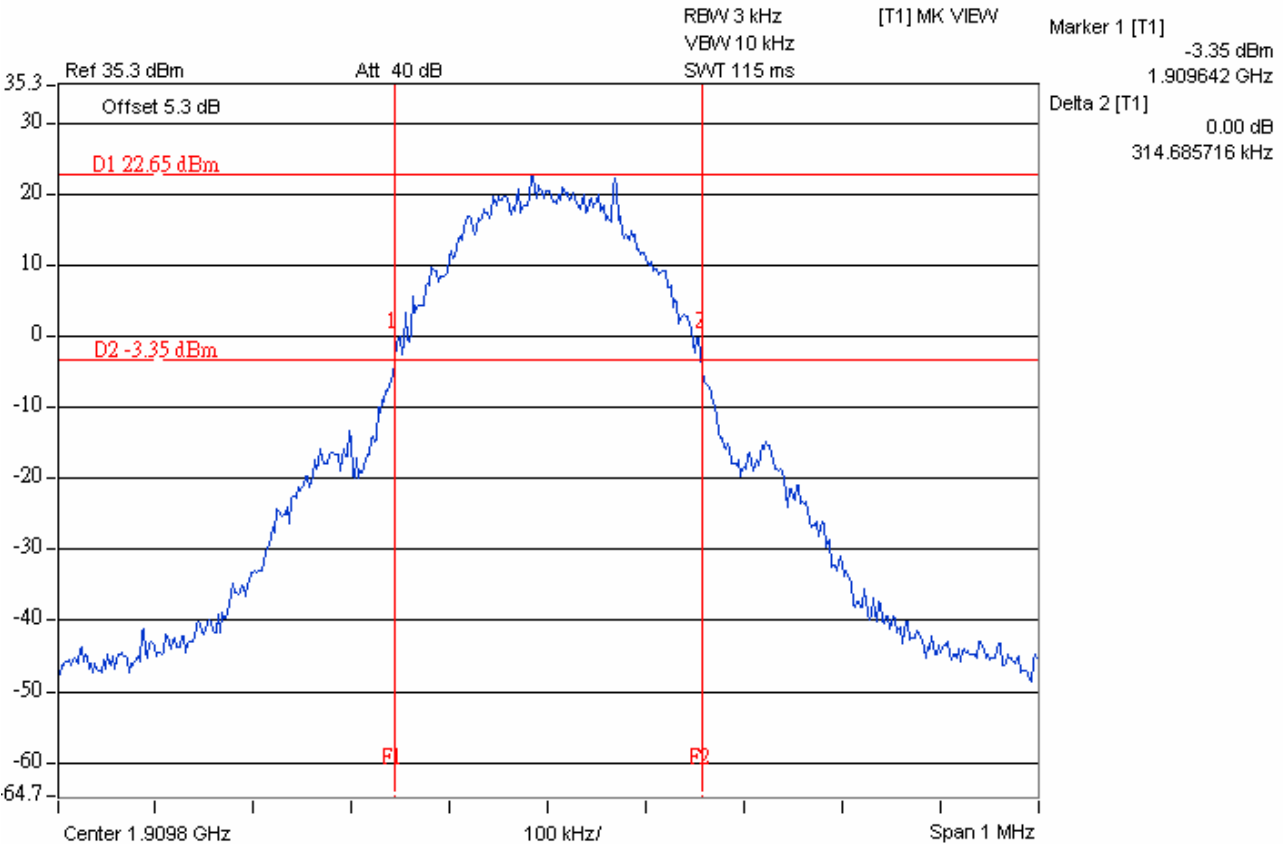
Low channel:



Middle channel:

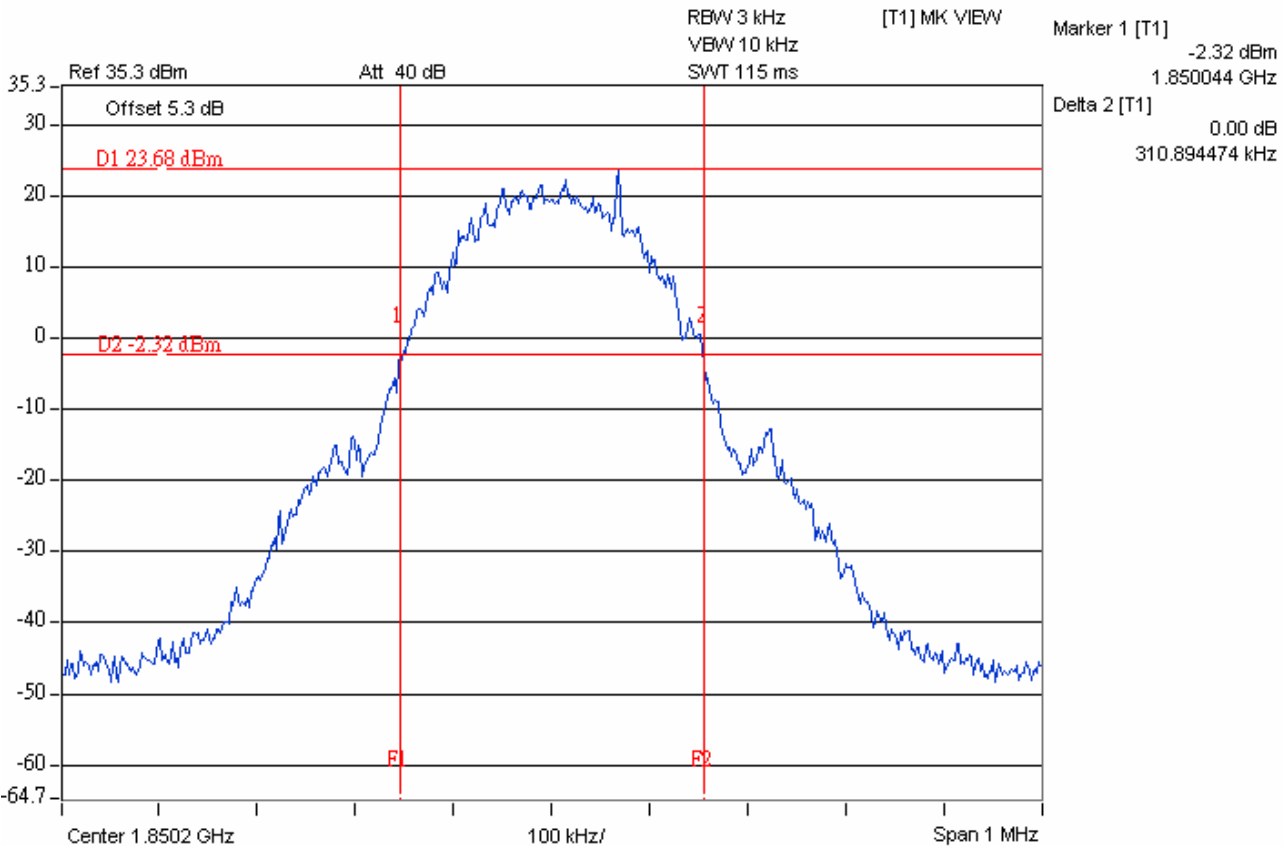


High channel:

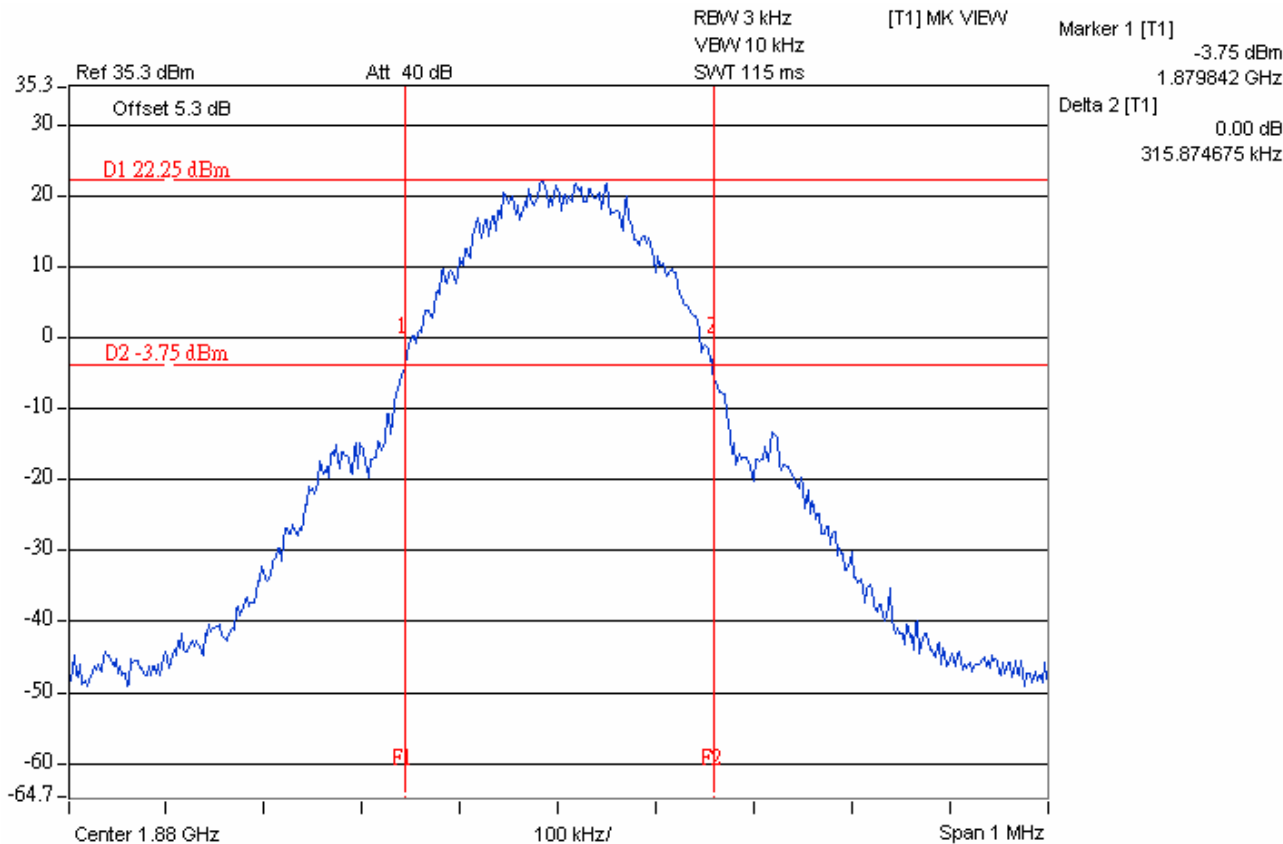


MODE GPRS1900:

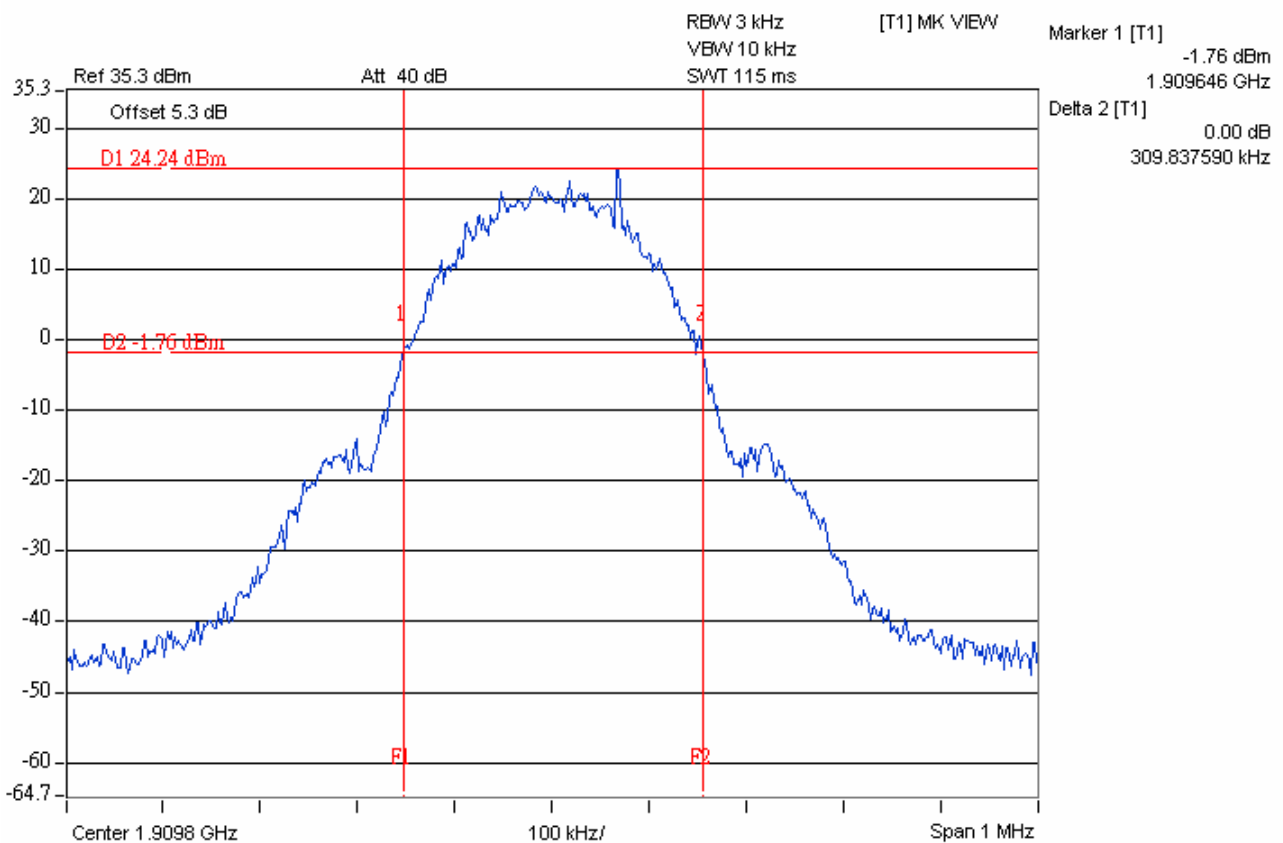
Low channel:



Middle channel:

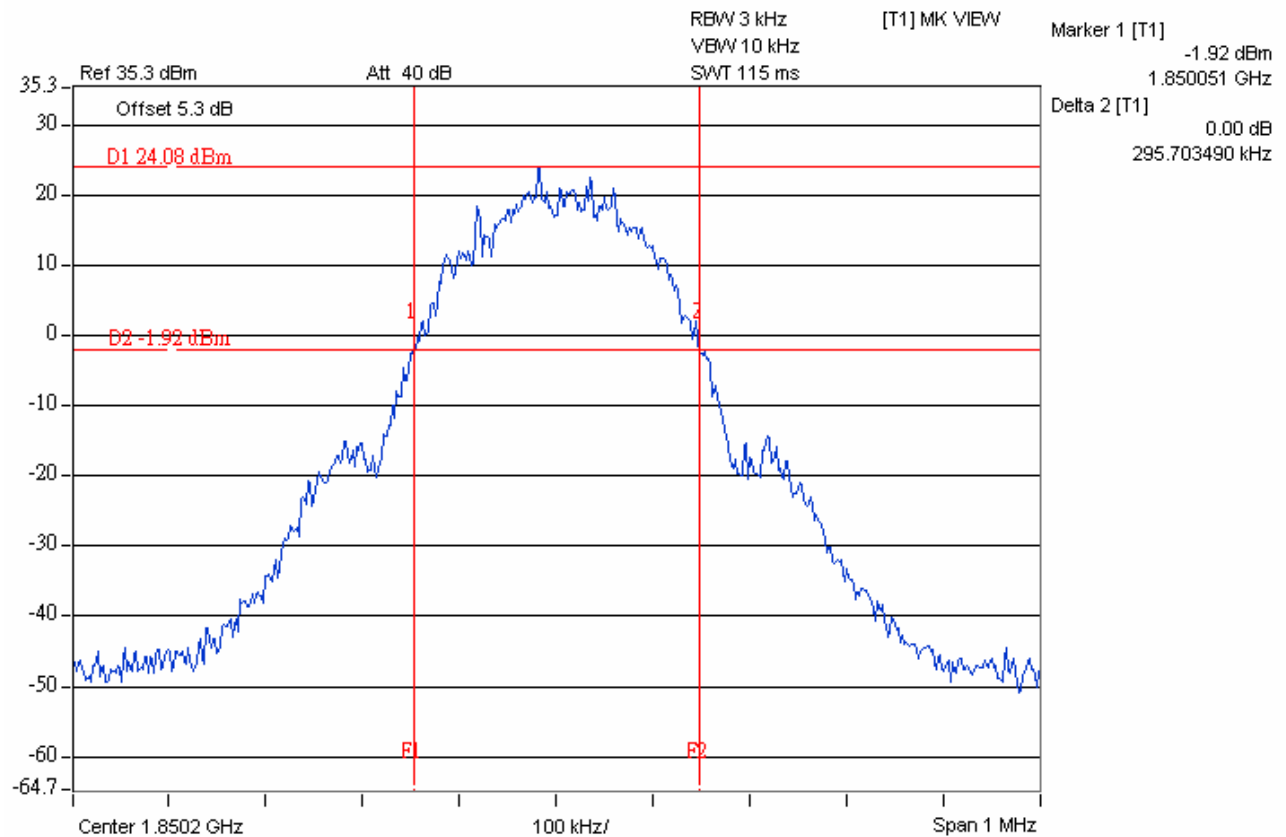


High channel:

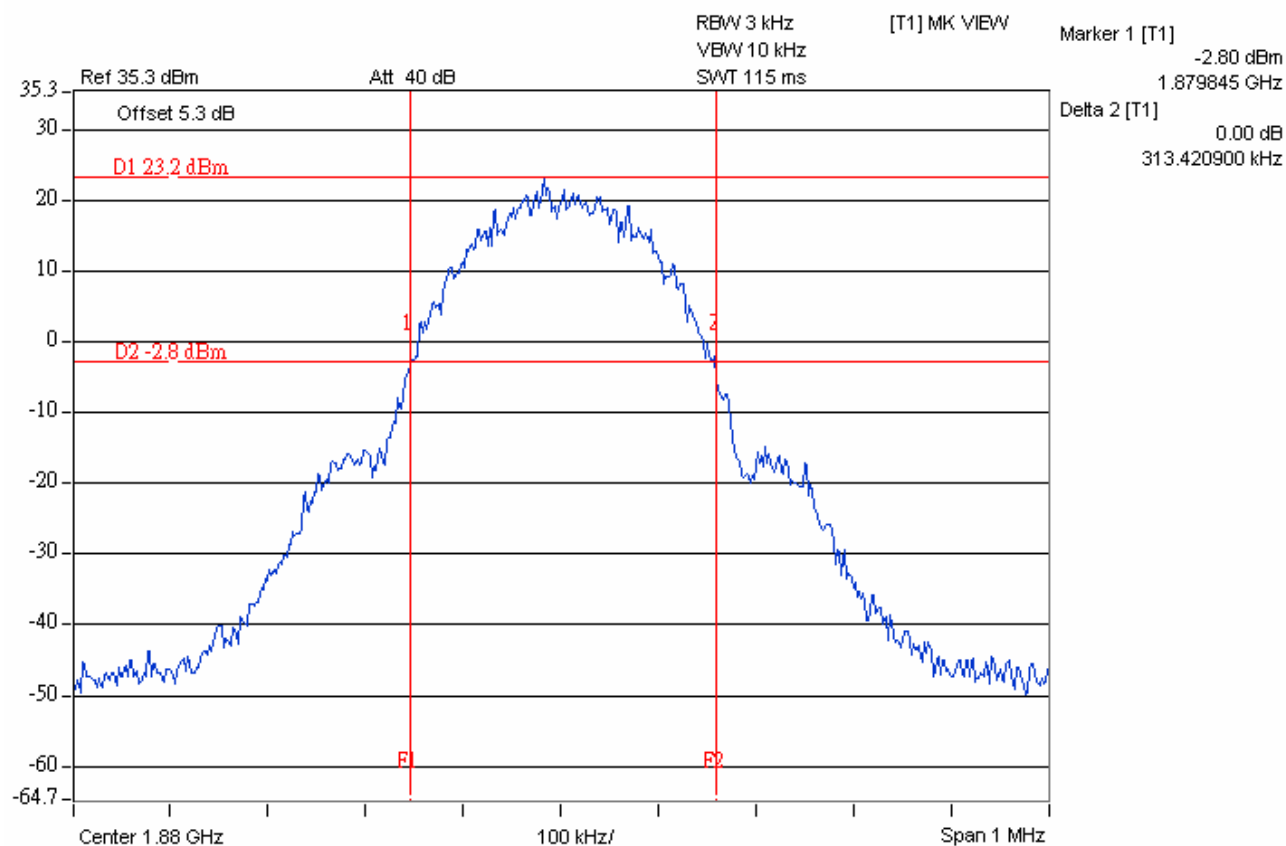


MODE E-GPRS1900:

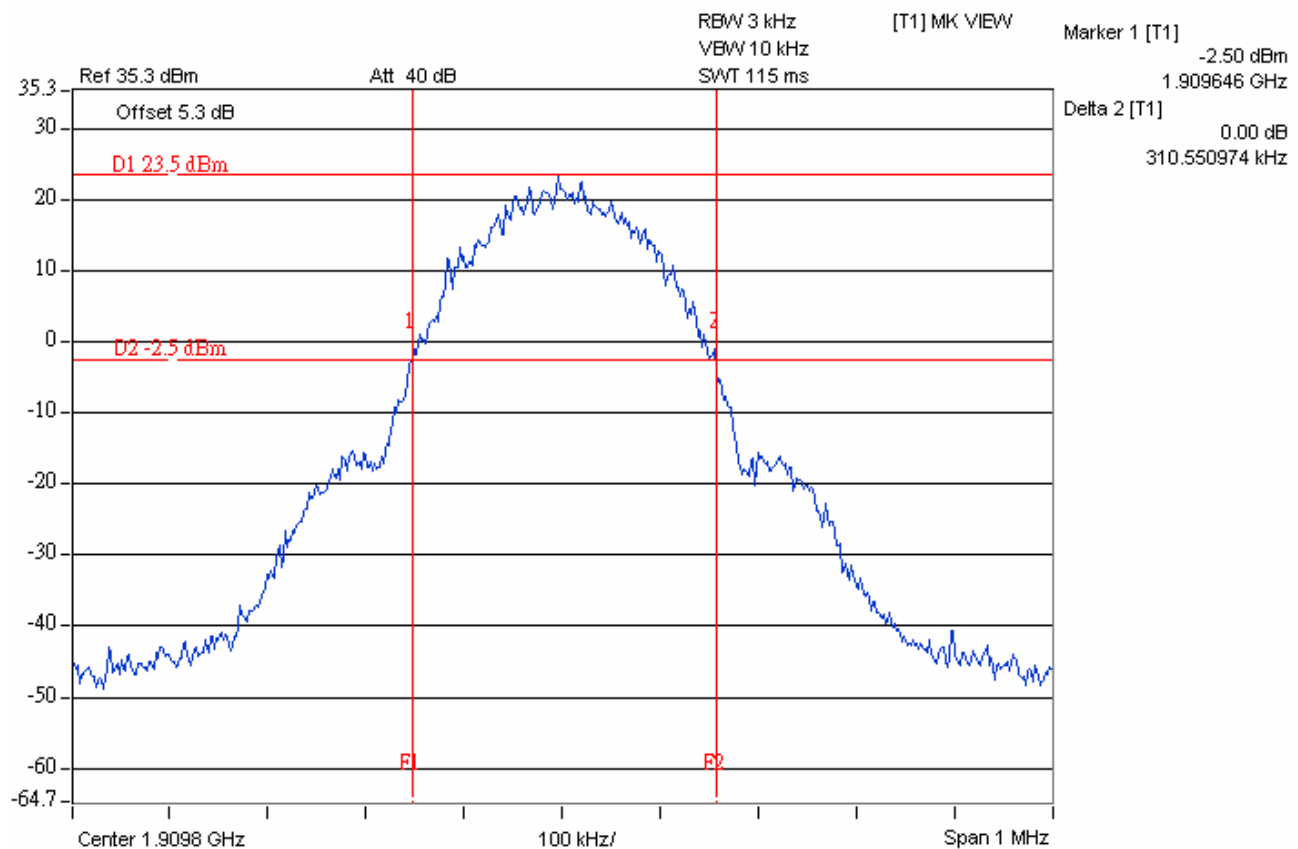
Low channel:



Middle channel:



High channel:



5.4 Band Edge

1. EUT was working normal during the test
2. Environmental Conditions

Temperature23°C

Relative Humidity50%

Atmospheric Pressure1019mbar
3. All required parameter have been checked and adjusted
4. Test date : July 22~28 2010
- Tested By : Andy Wang

Requirement(s):Part2.1051, 22.917(a), 24.238(a)

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.

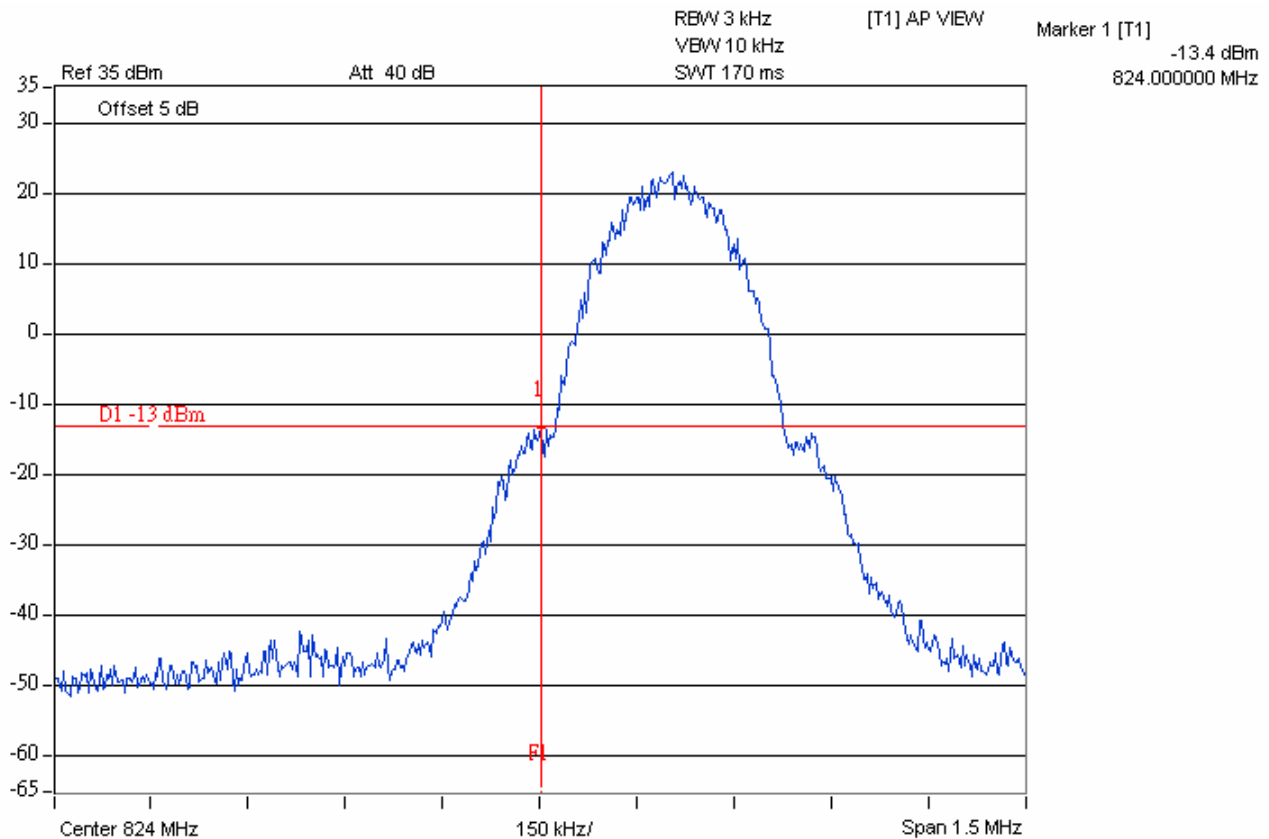
Procedures:

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.

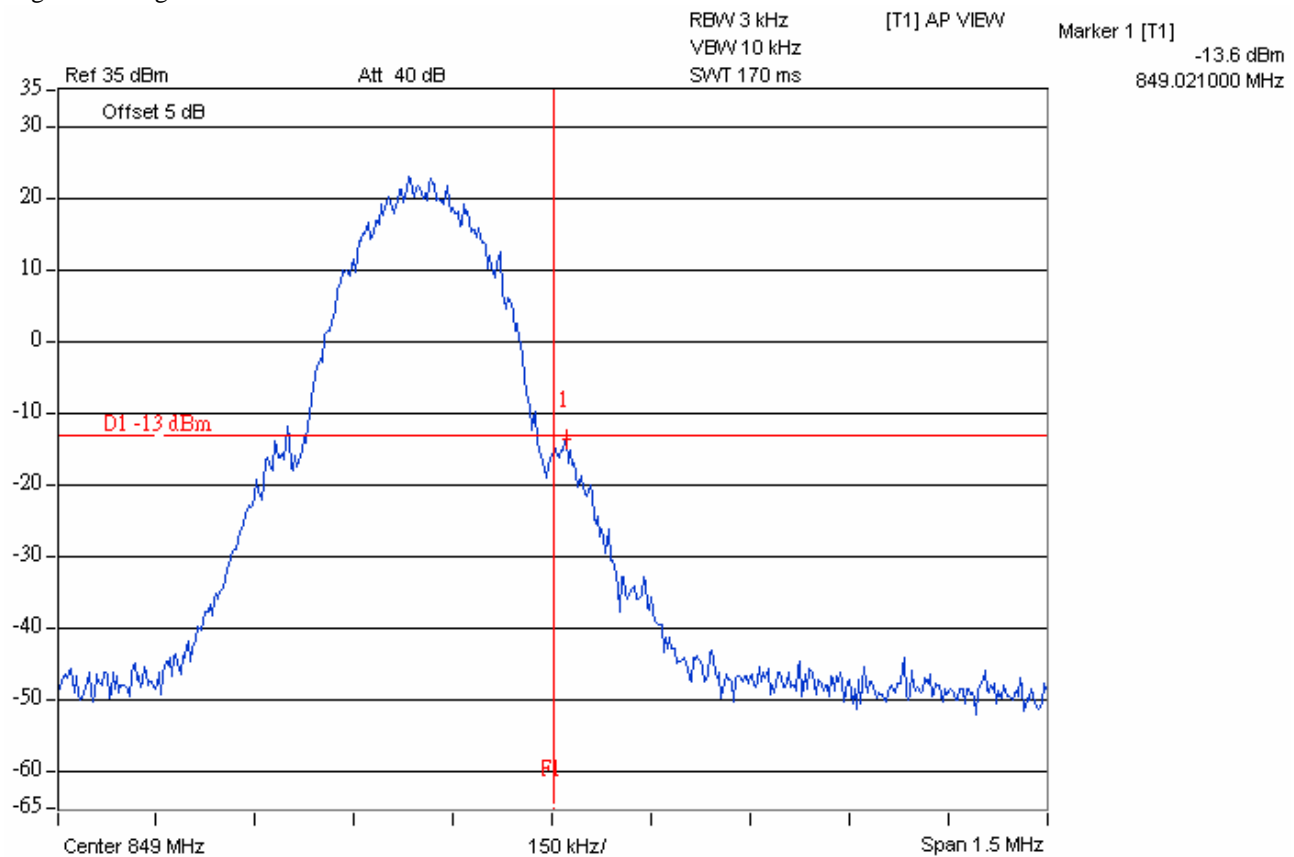
Test result: Pass

MODE GSM850:

Low band edge:

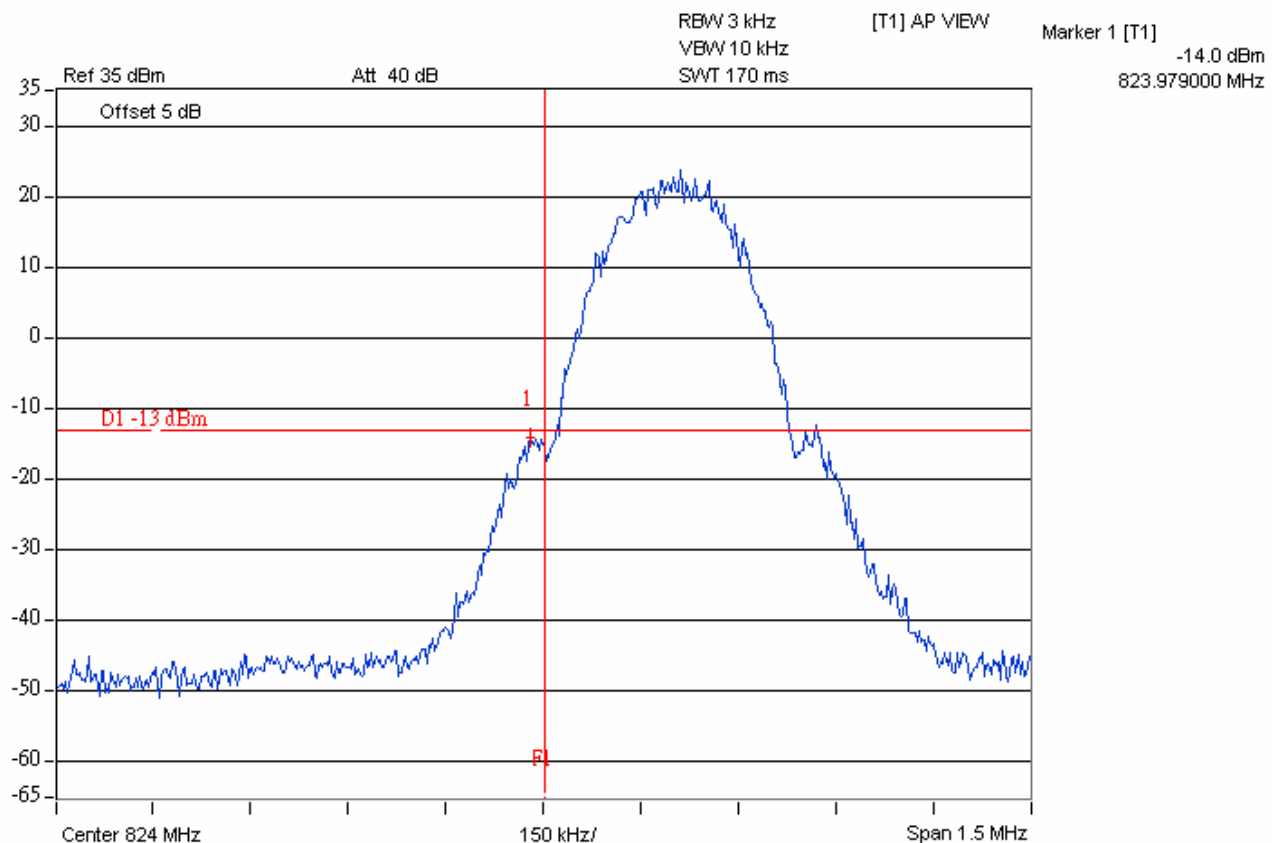


High band edge:

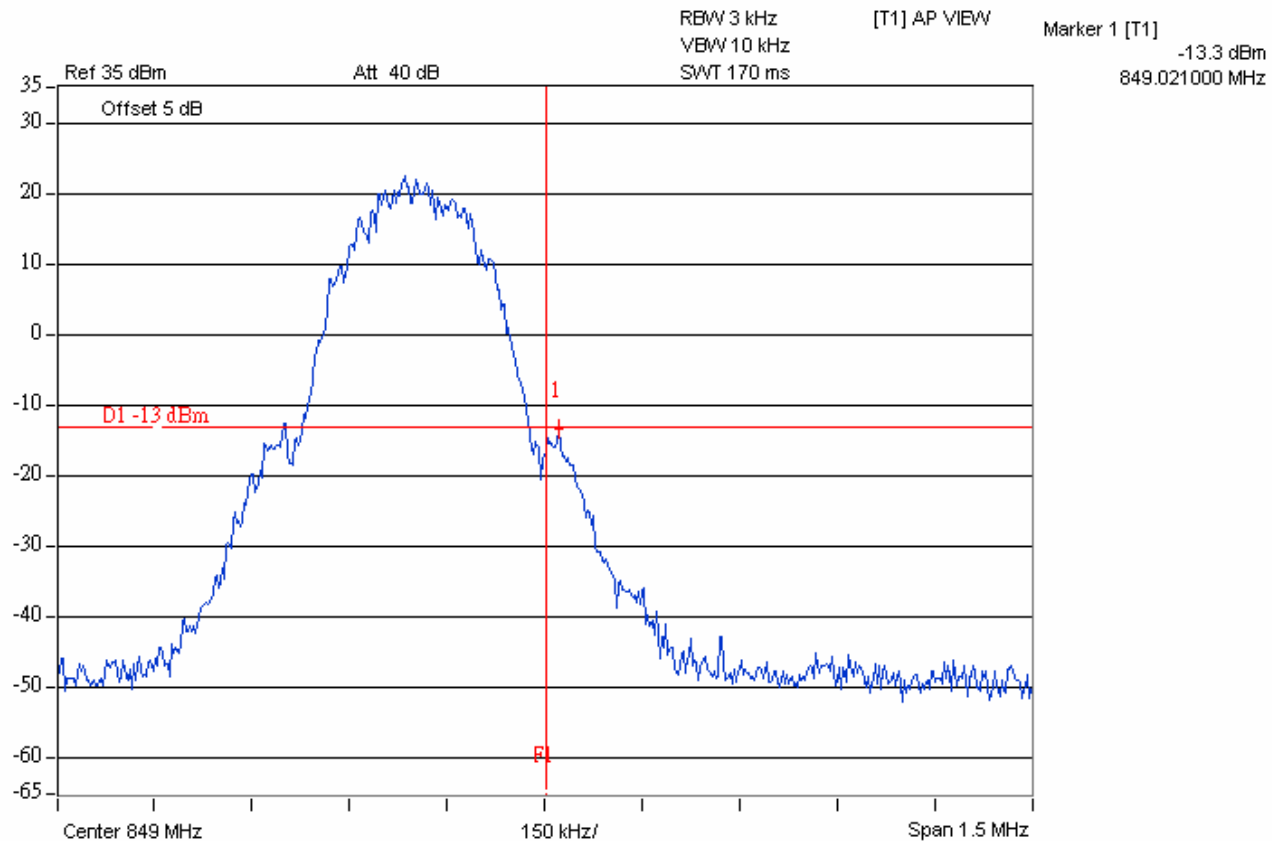


MODE GPRS850:

Low band edge:

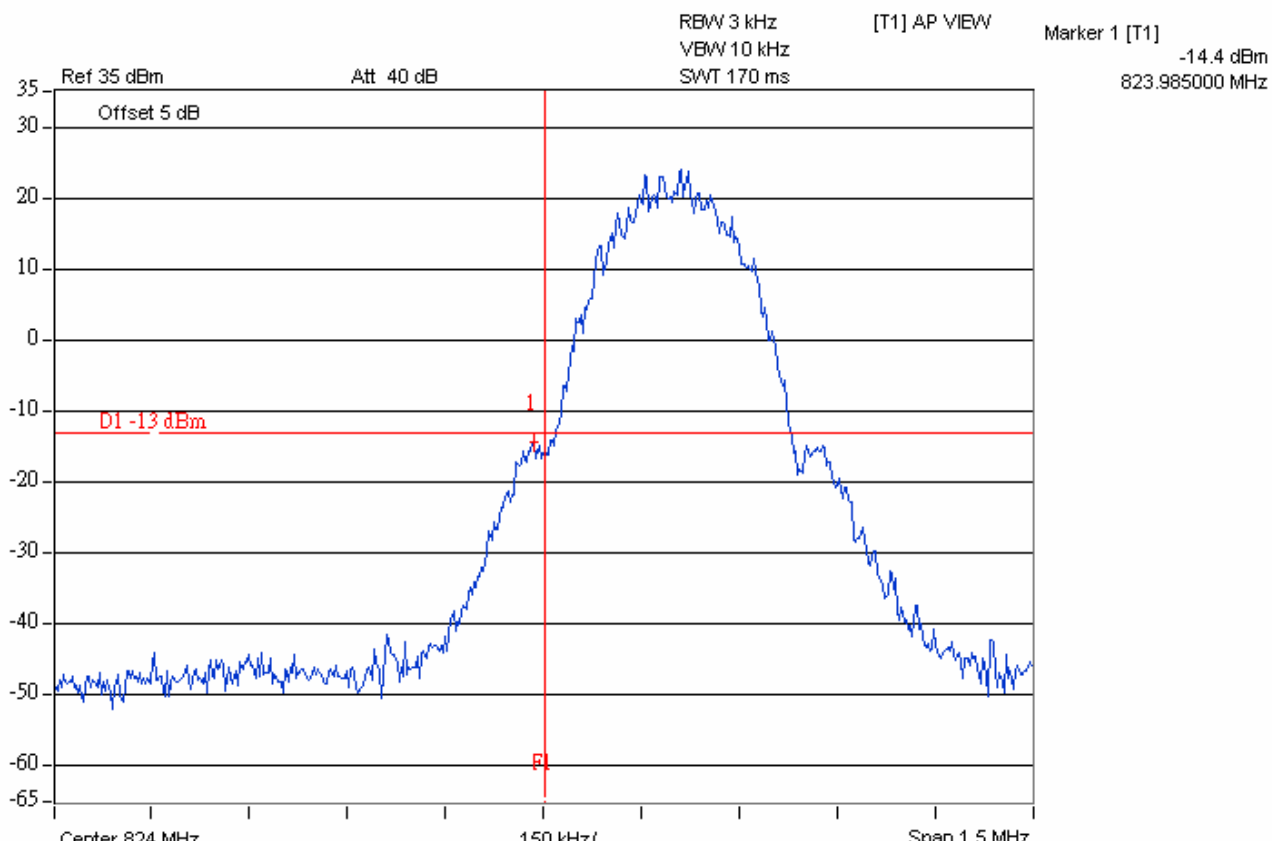


High band edge:

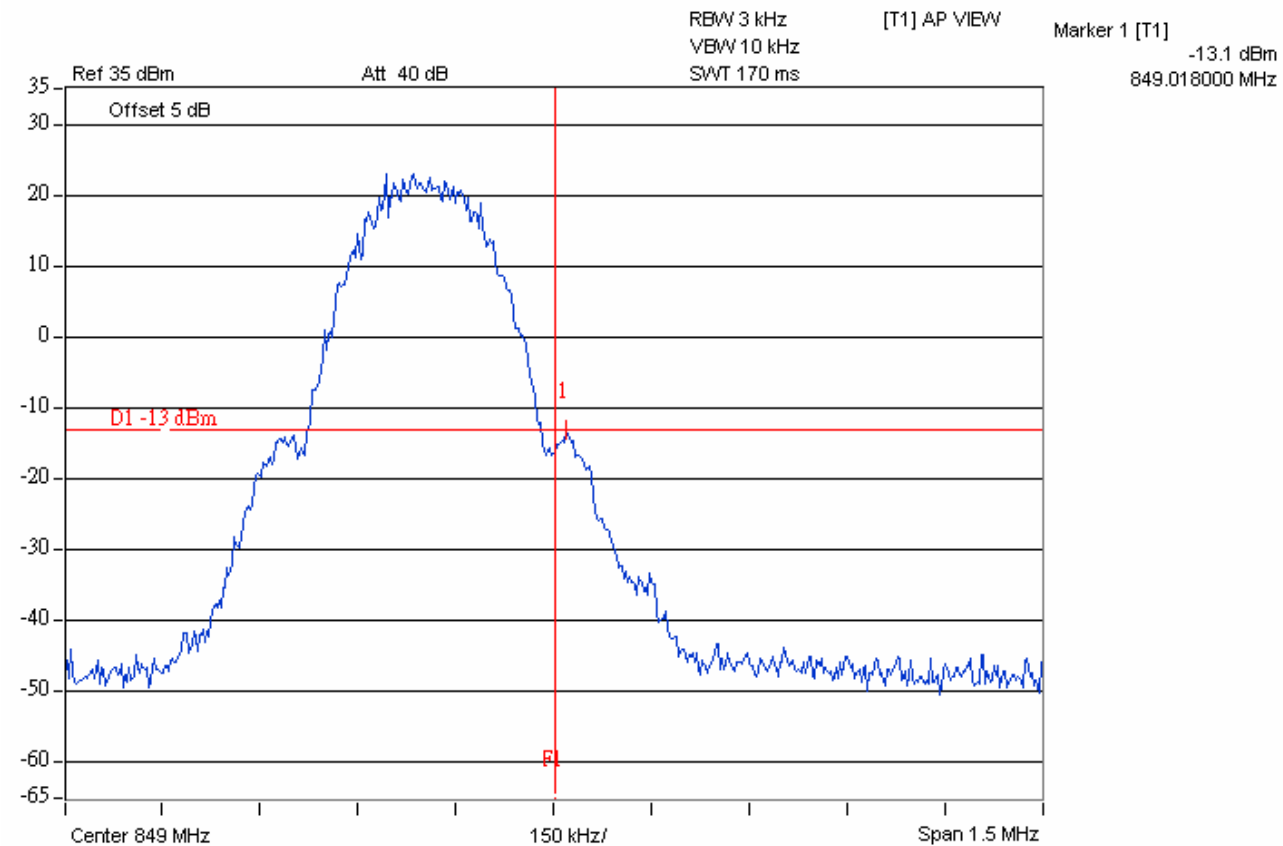


MODE E-GPRS850:

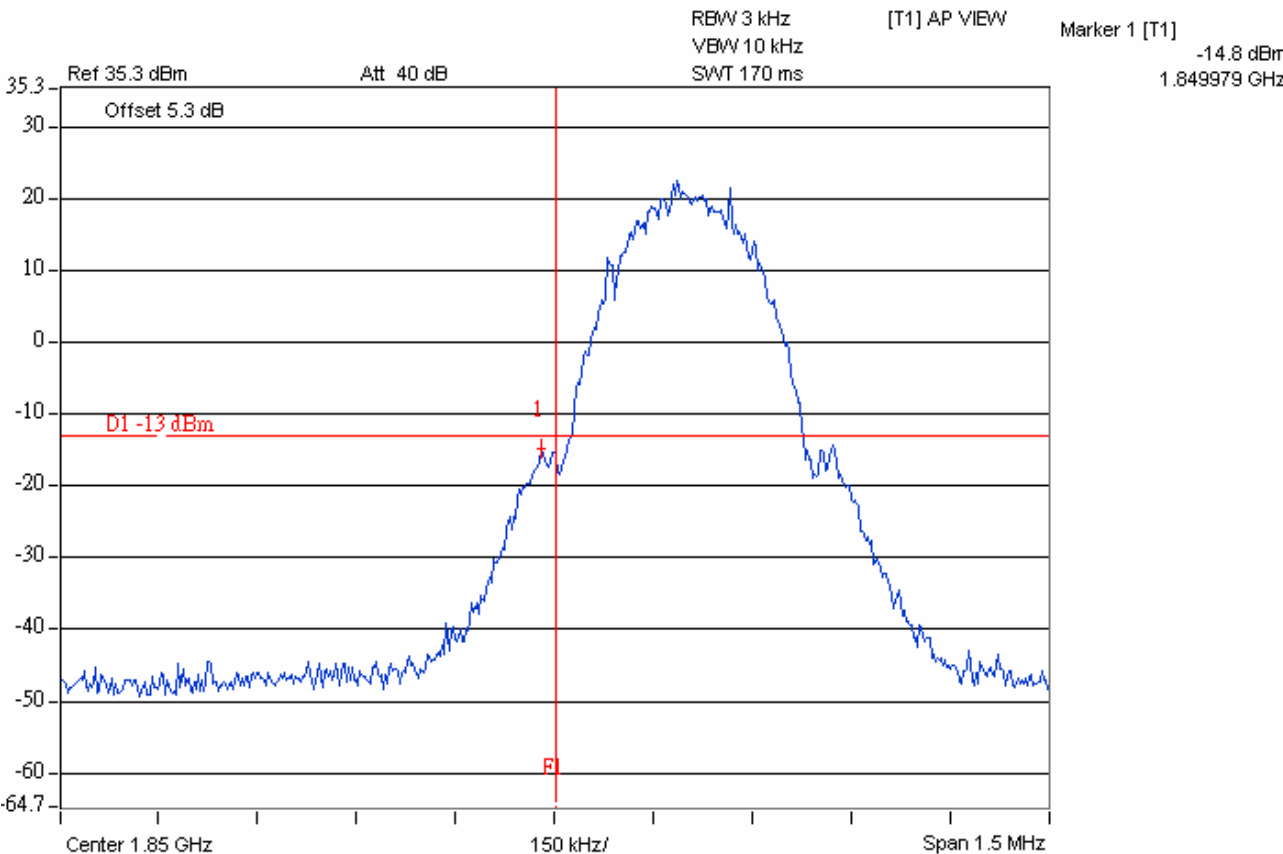
Low band edge:



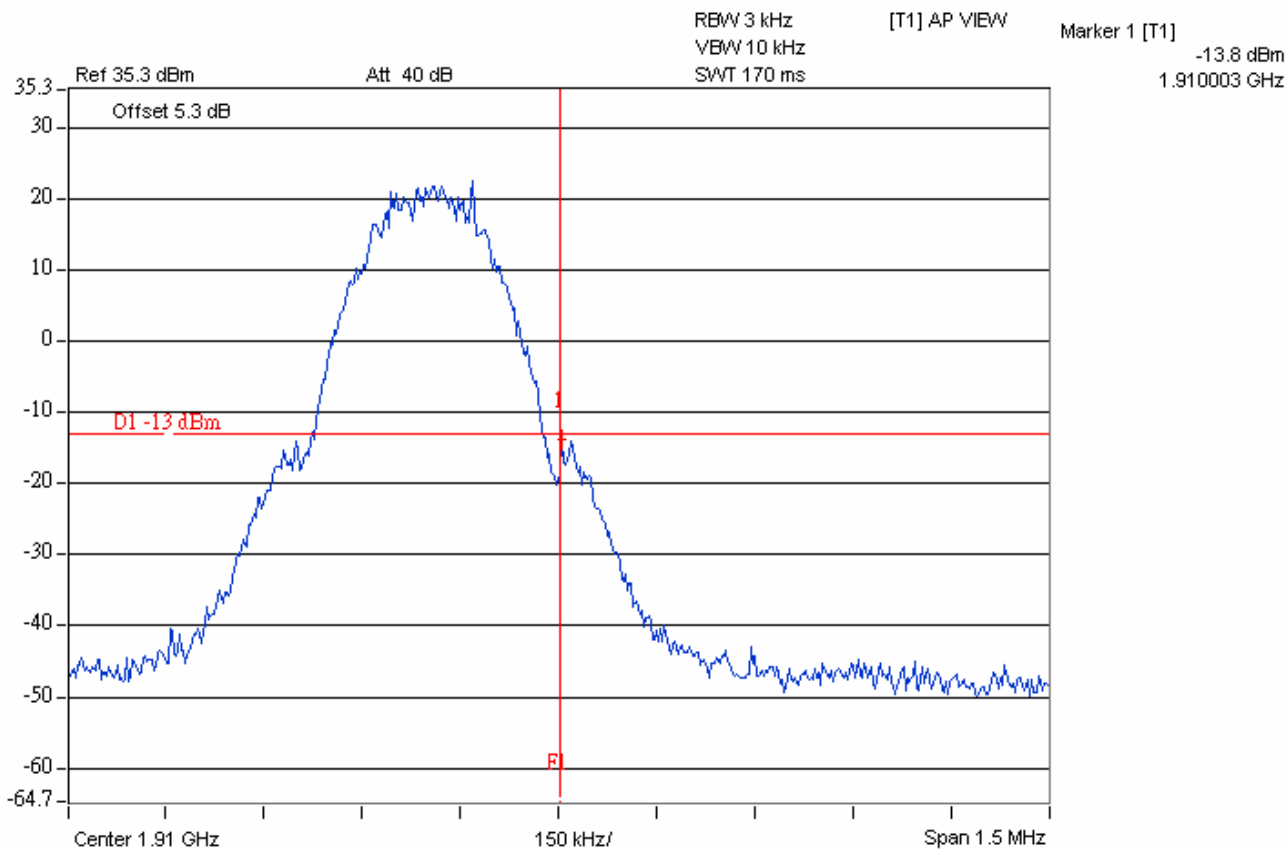
High band edge:



MODE PCS 1900:
Low band edge:

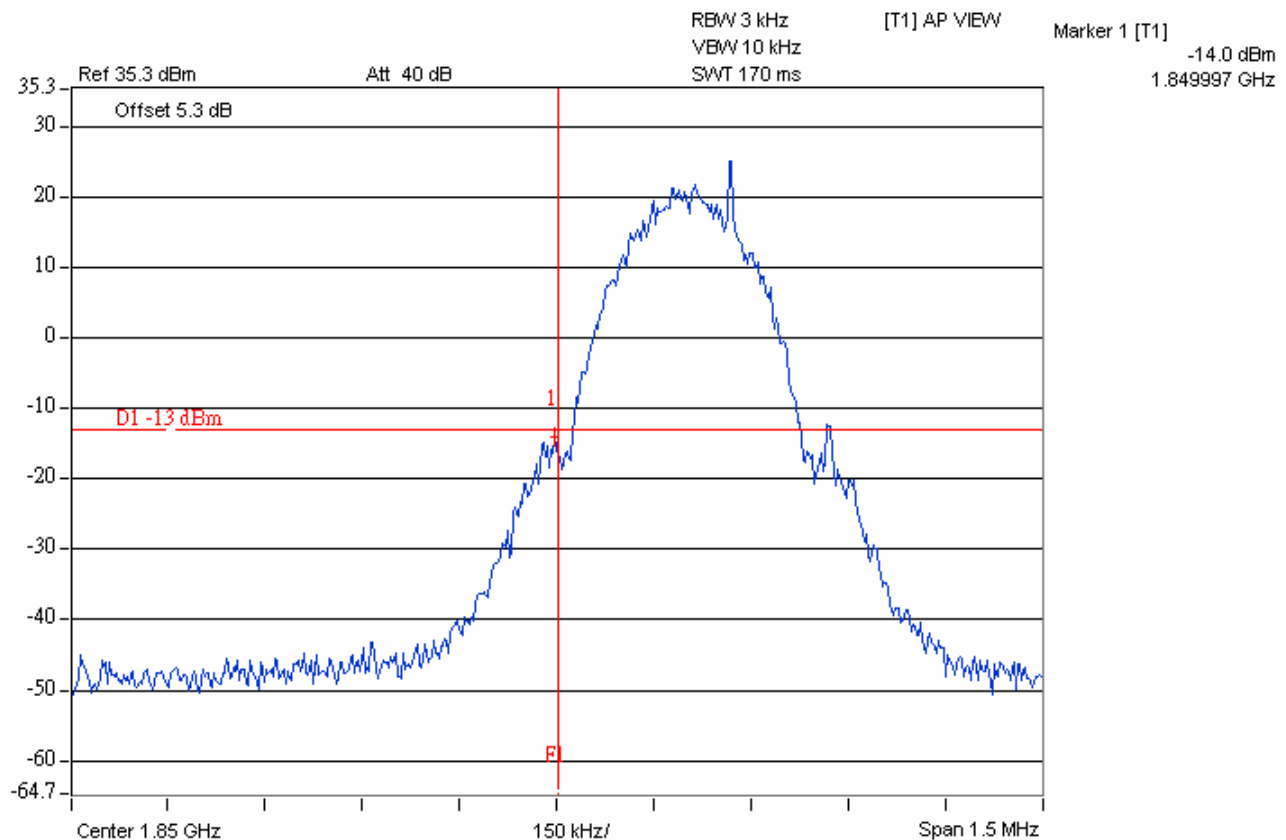


High band edge:

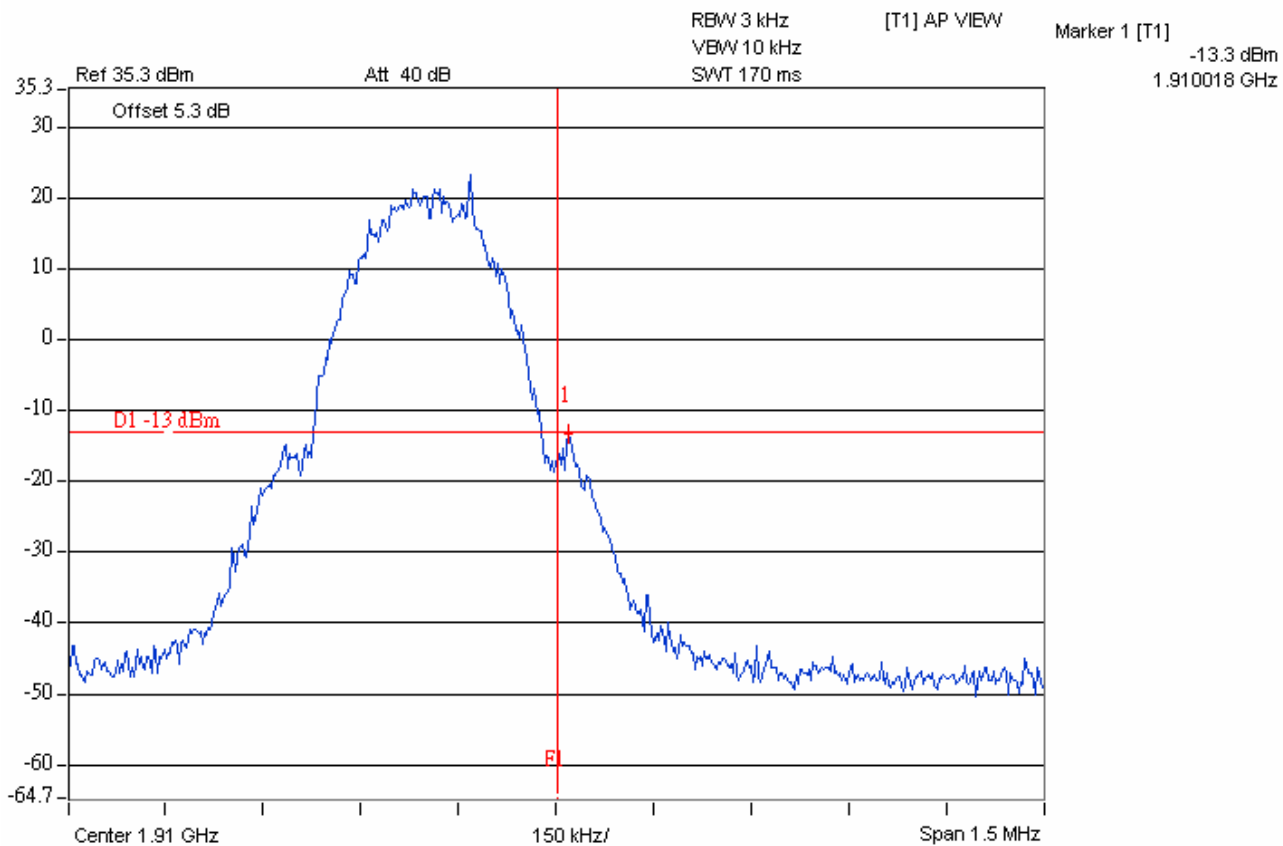


MODE GPRS1900:

Low band edge:

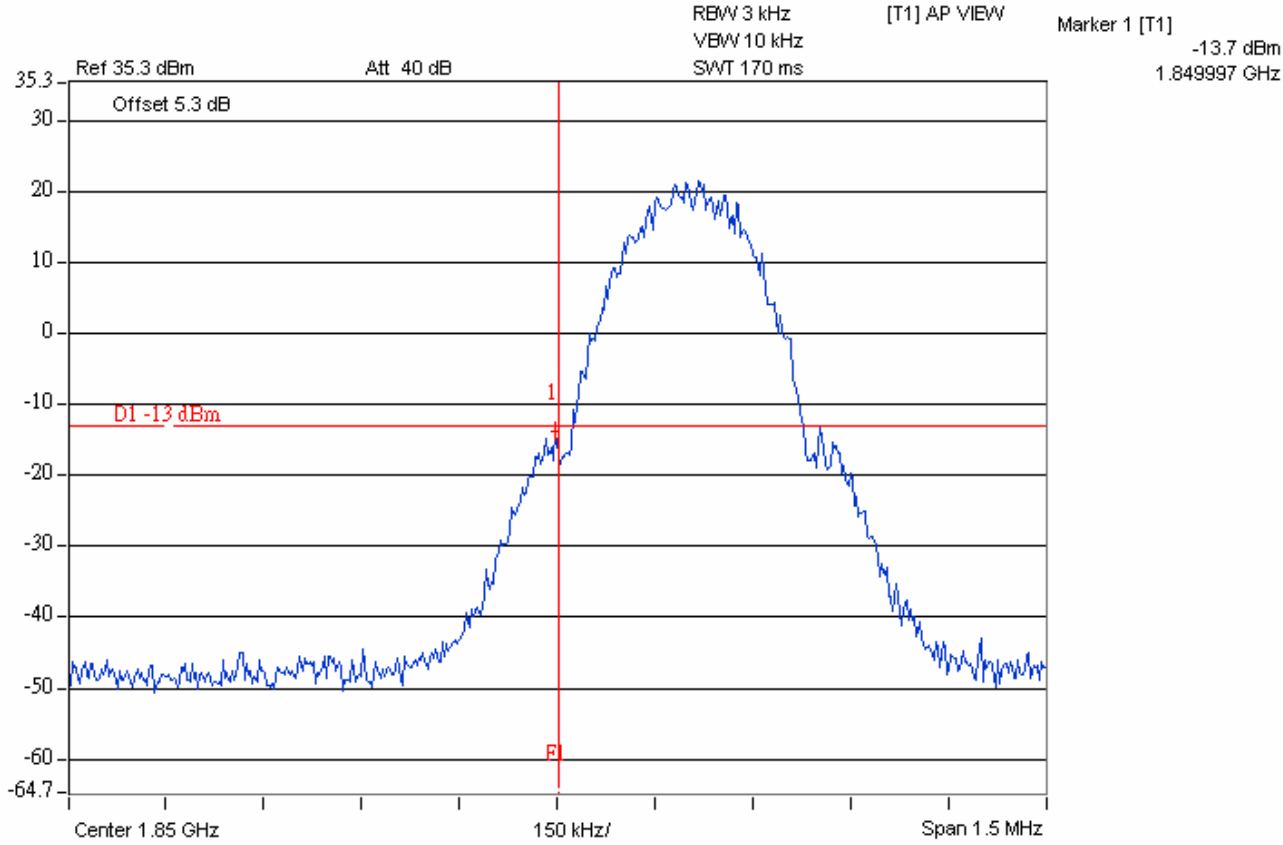


High band edge:

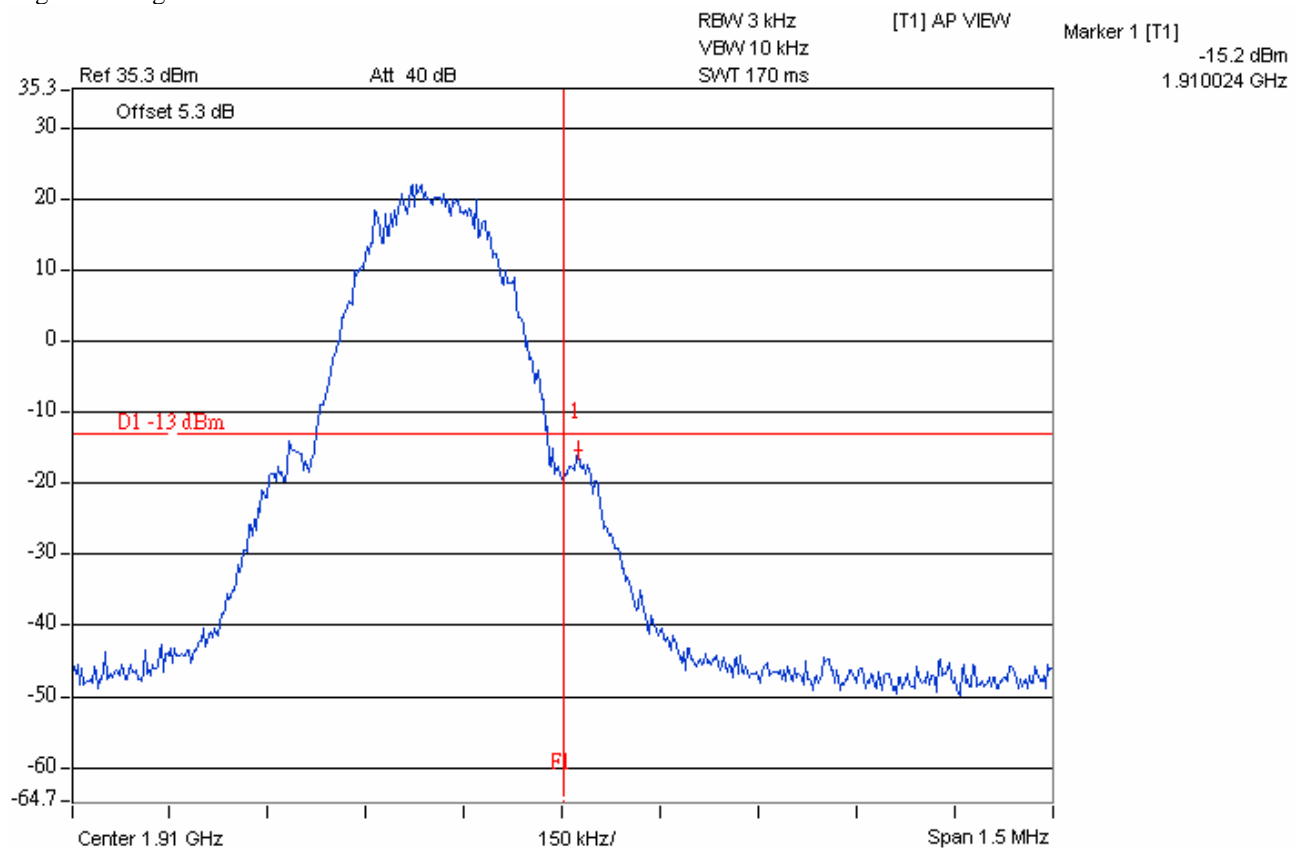


MODE E-GPRS1900

Low band edge:



High band edge:



5.5 Conducted Spurious Emissions

1. EUT was working normal during the test
2. Environmental Conditions

Temperature23°C

Relative Humidity50%

Atmospheric Pressure1019mbar
3. All required parameter have been checked and adjusted
4. Test date : July 22~28 2010
- Tested By : Andy Wang

Requirement: Part2.1051, 22.917(a), 24.238(a)
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.

Procedures:

1. The EUT was connected to spectrum analyzer and base station via power divider.

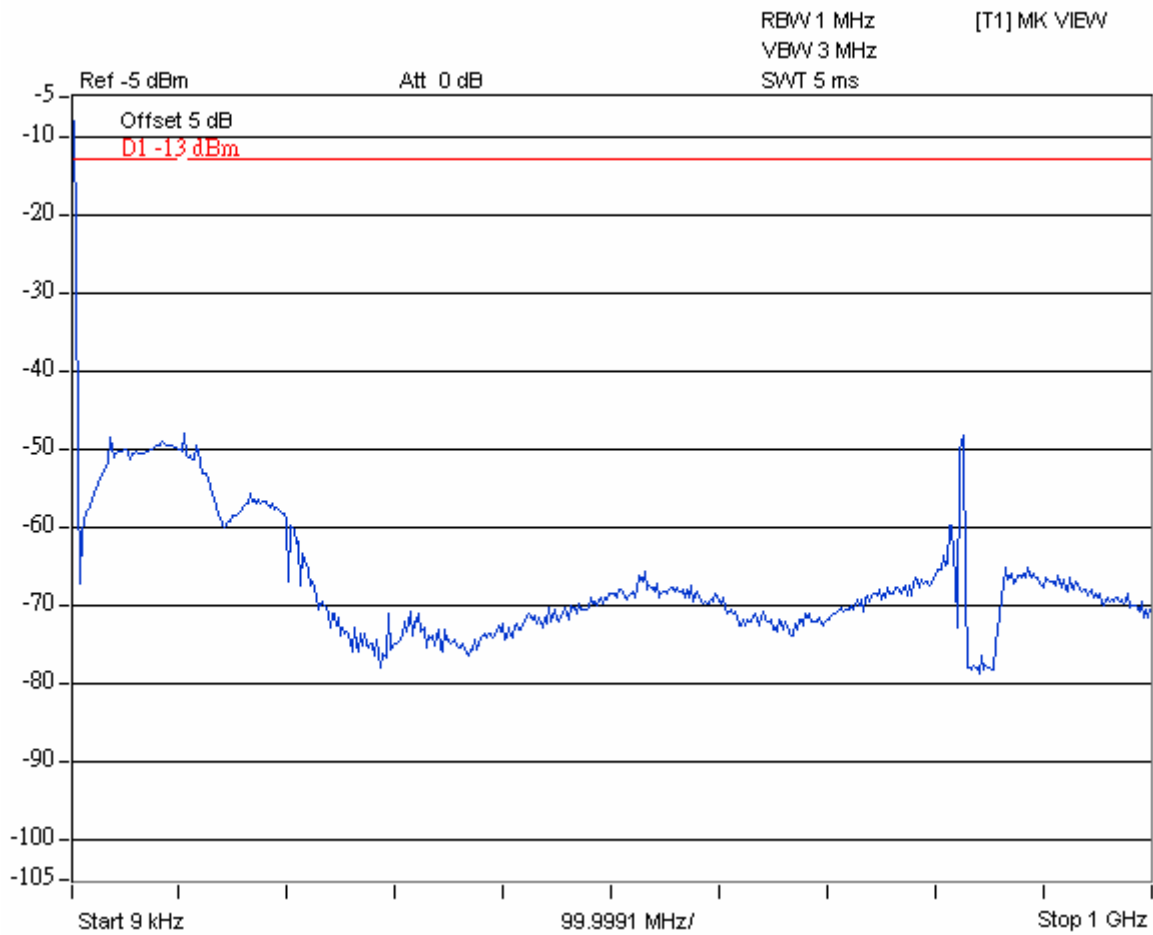
2. The middle channel for the highest RF power within the transmitting frequency was measured.

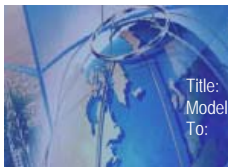
3. The conducted spurious emission for the whole frequency range was taken.

All measurements were done at 3 channels, GSM850:128, 190 and 251 / WCDMA850:4132, 4182 and 4233(low, middle and high operational frequency range.)

Test Result: Pass

Test Mode GSM850
CH128:9KHz~9GHz



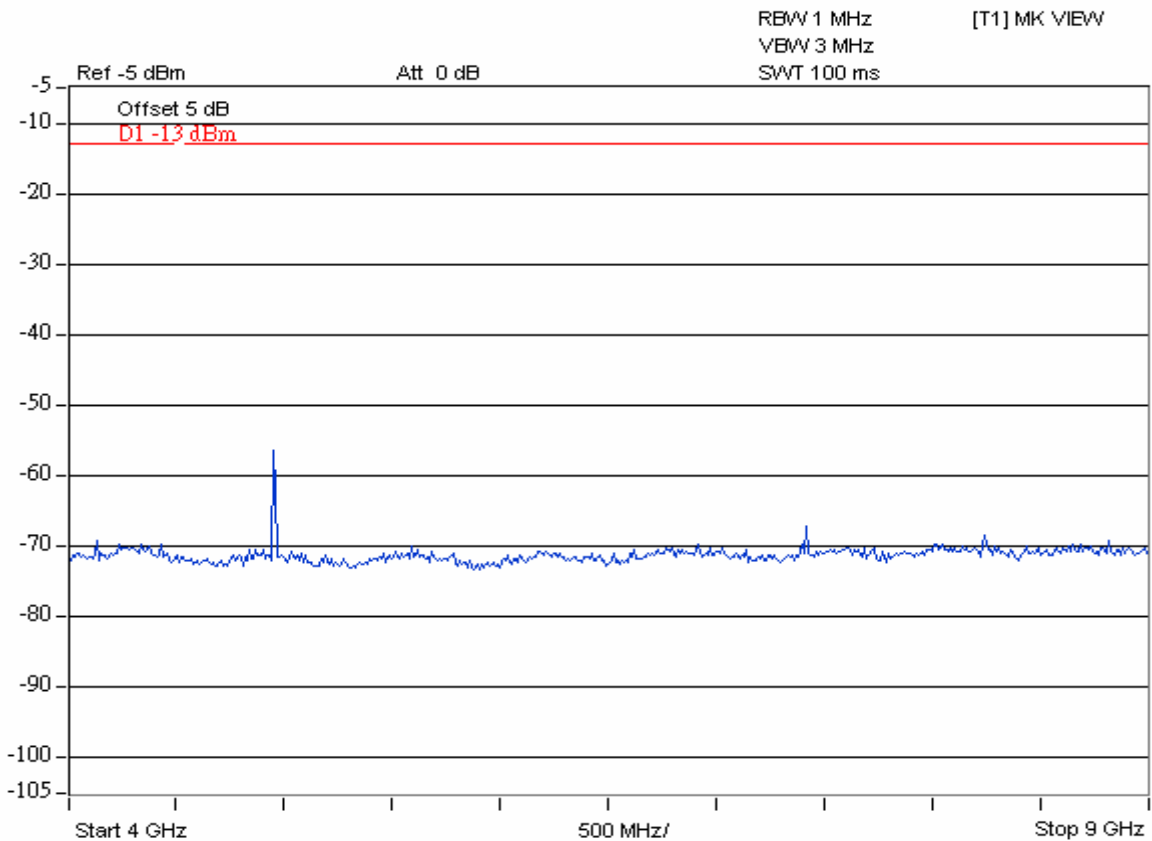
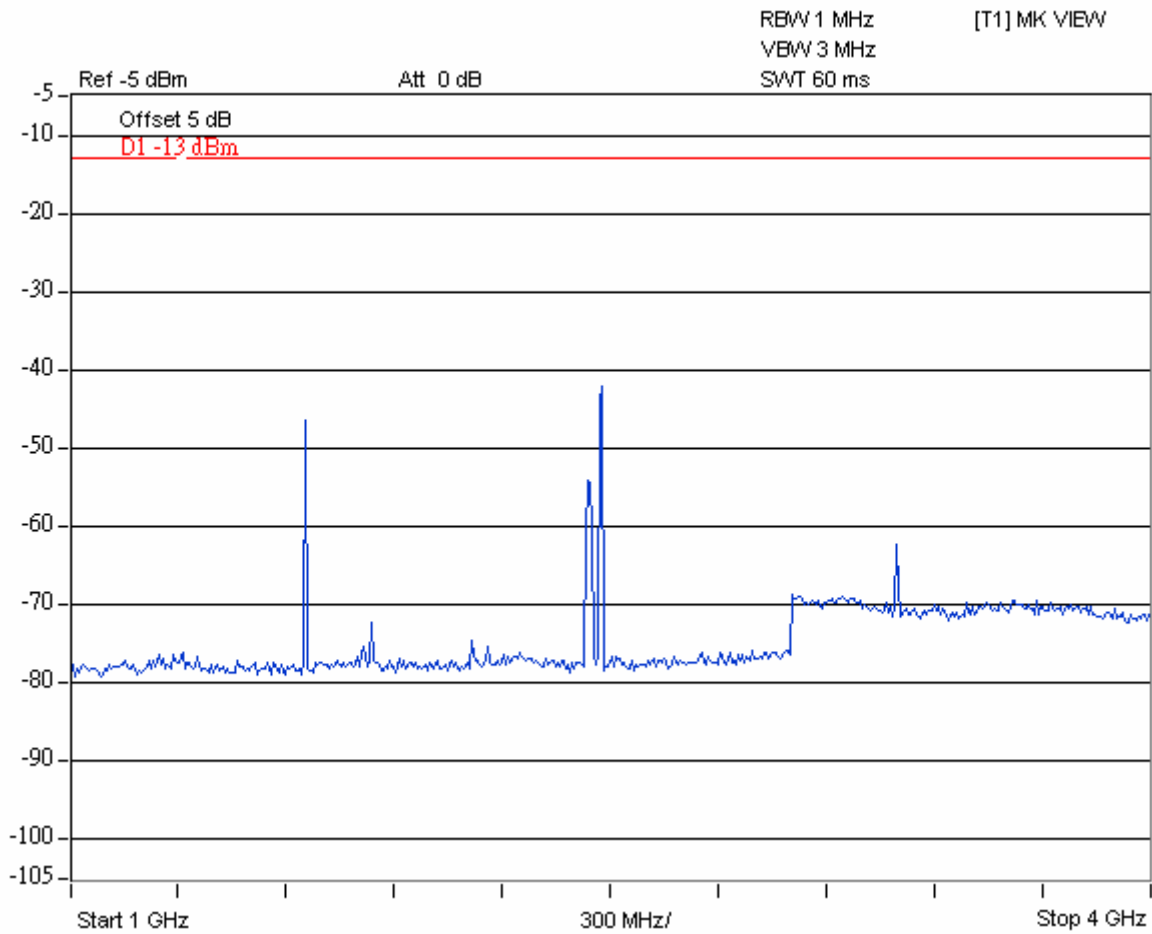


SIEMIC, INC.

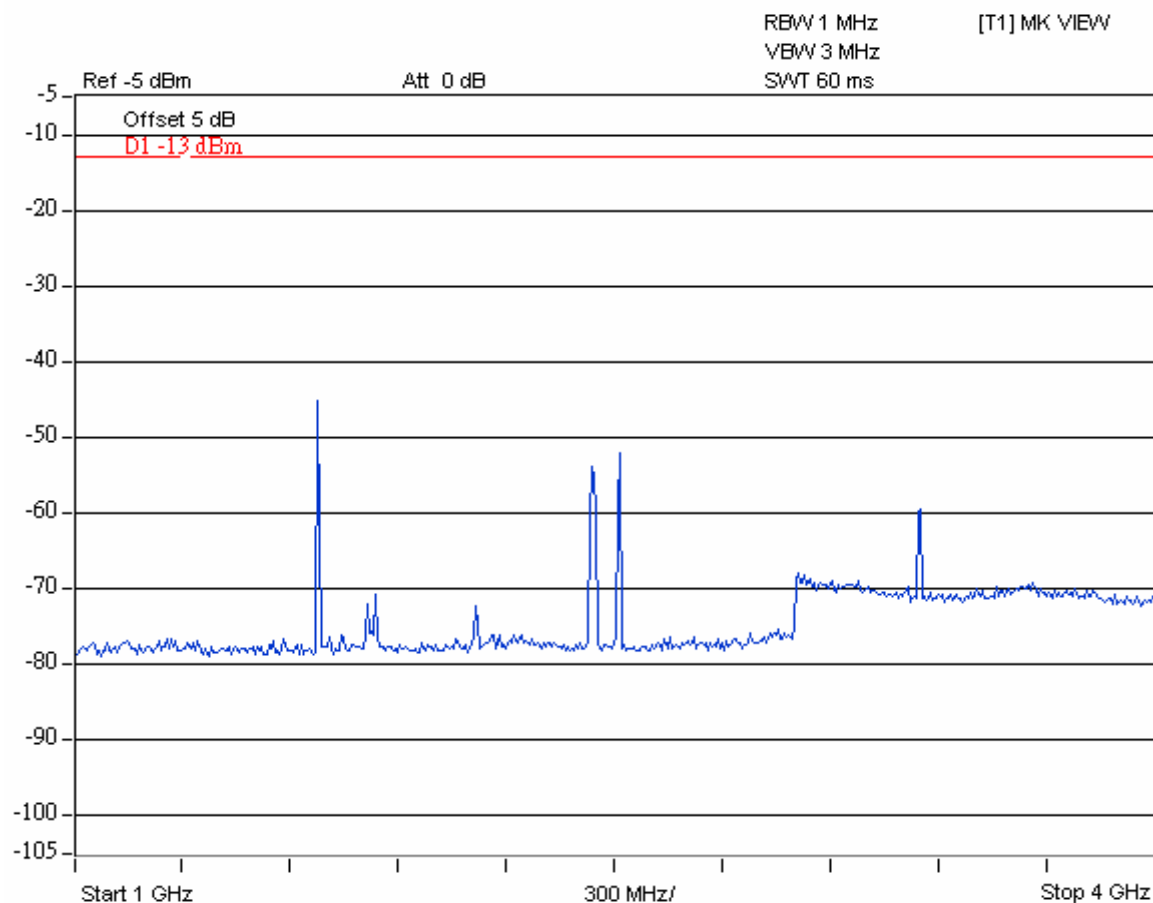
Accessing global markets

Title: RF Test Report for 3G Router
Model: 434T
To: FCC 47 CFR Part 2, FCC 47 CFR Part 22, FCC 47 CFR Part 24

Serial#: 1005008
Issue Date: August 08 2010
Page: 34 of 67
www.siemic.com.cn



CH 190:9KHz~9GHz





SIEMIC, Inc.

Accessing global markets

Title: RF Test Report for 3G Router

Model: 434T

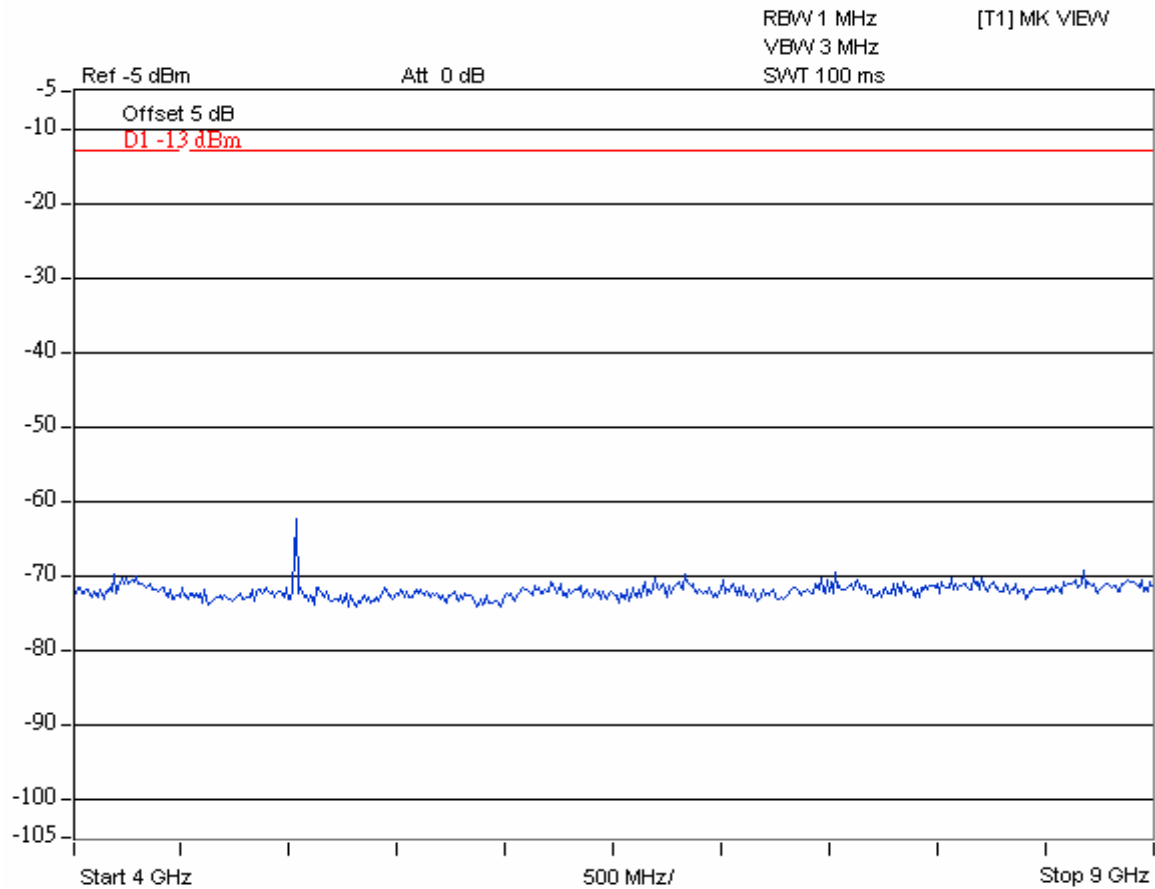
To: FCC 47 CFR Part 2, FCC 47 CFR Part 22, FCC 47 CFR Part 24

Serial#: 1005008

Issue Date: August 08 2010

Page 36 of 67

www.siemic.com.cn



CH 251:9KHz-9GHz



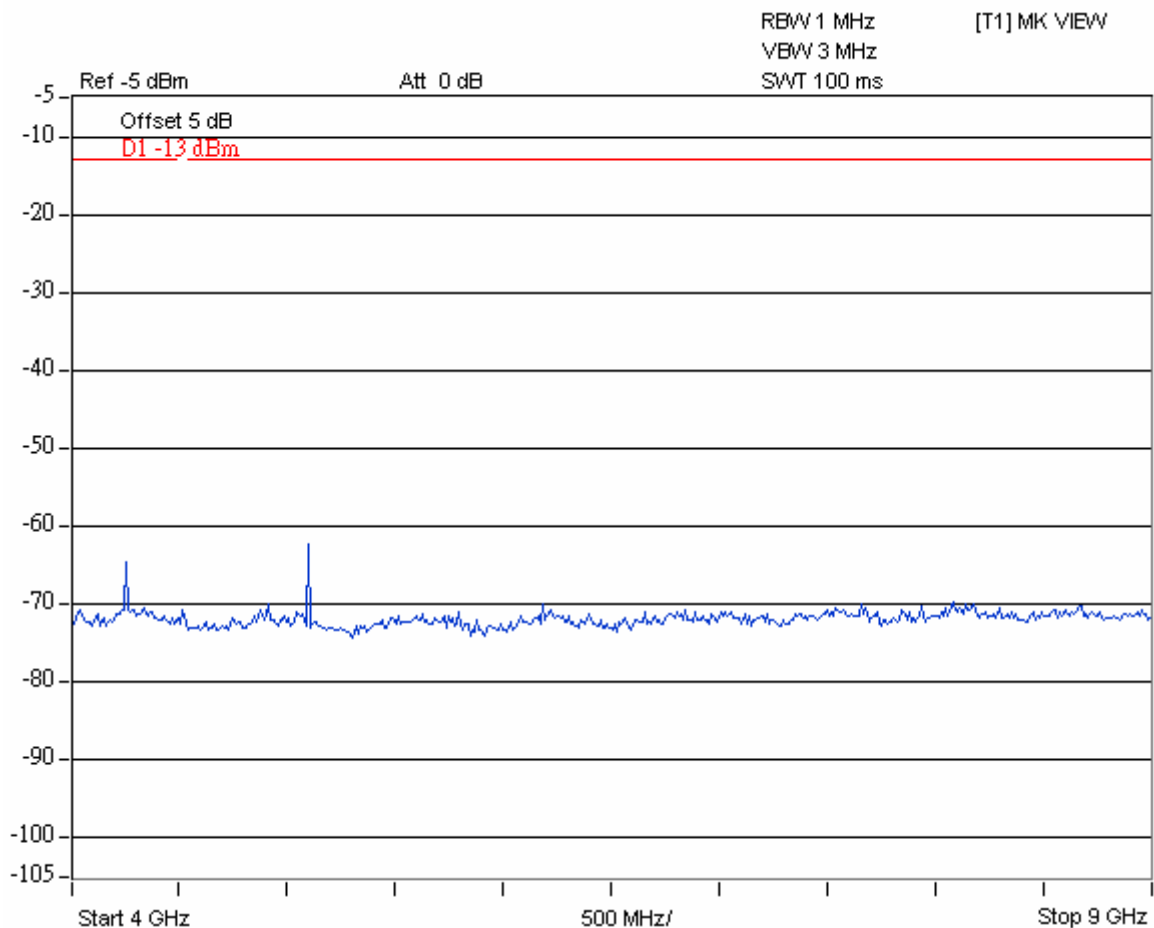
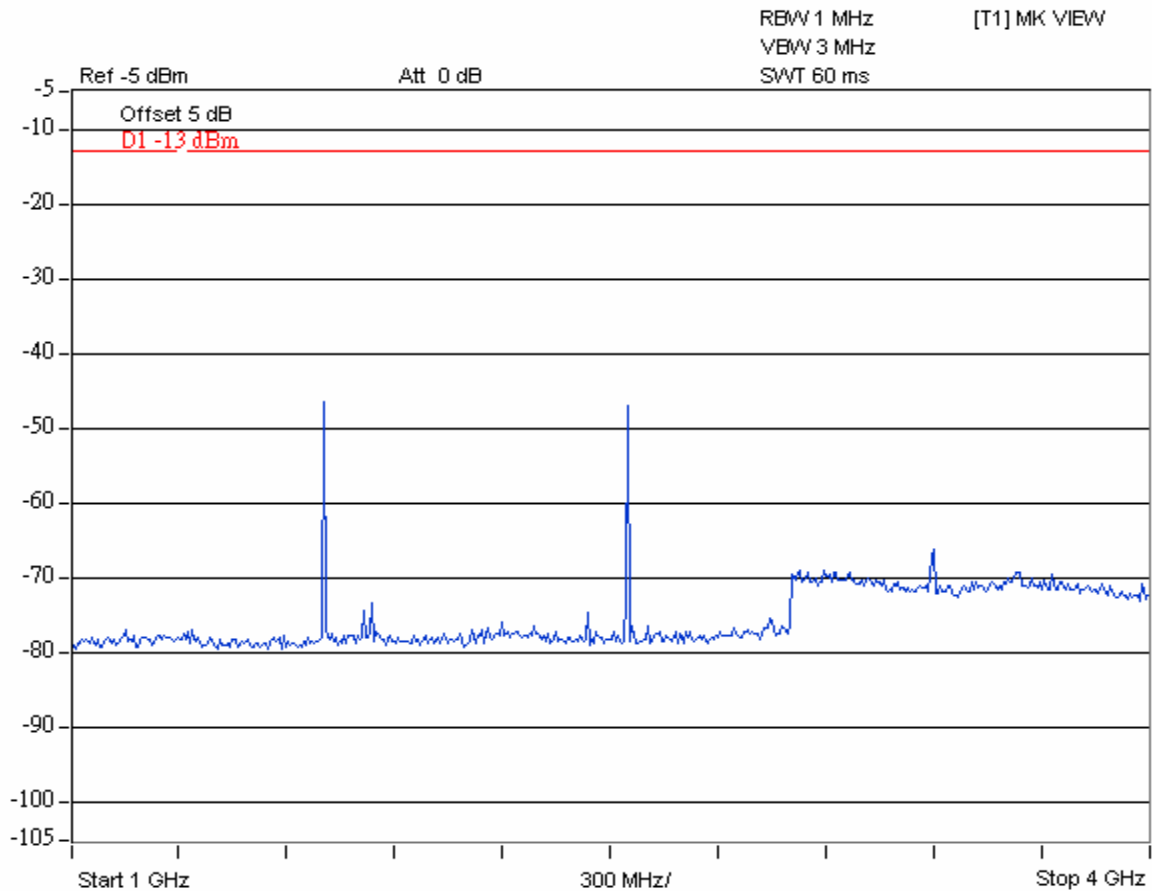


SIEMIC, INC.

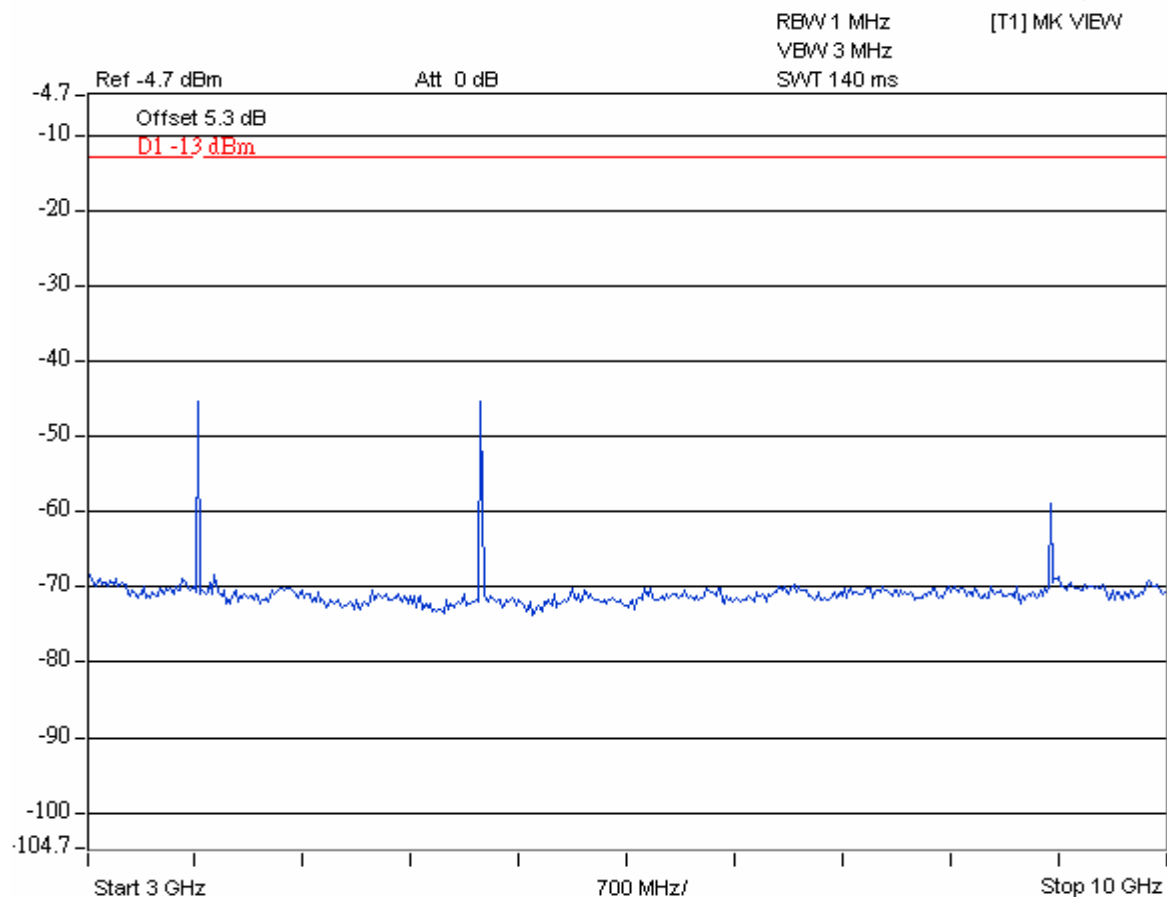
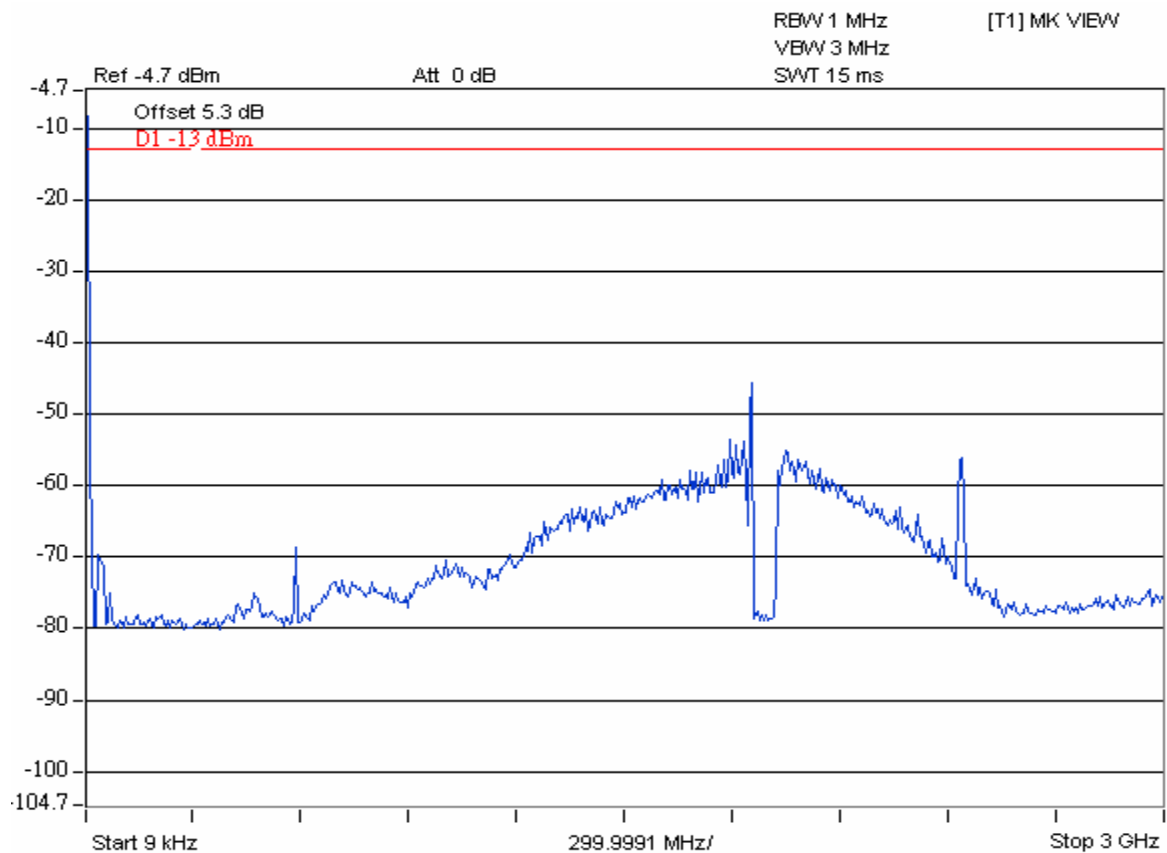
Accessing global markets

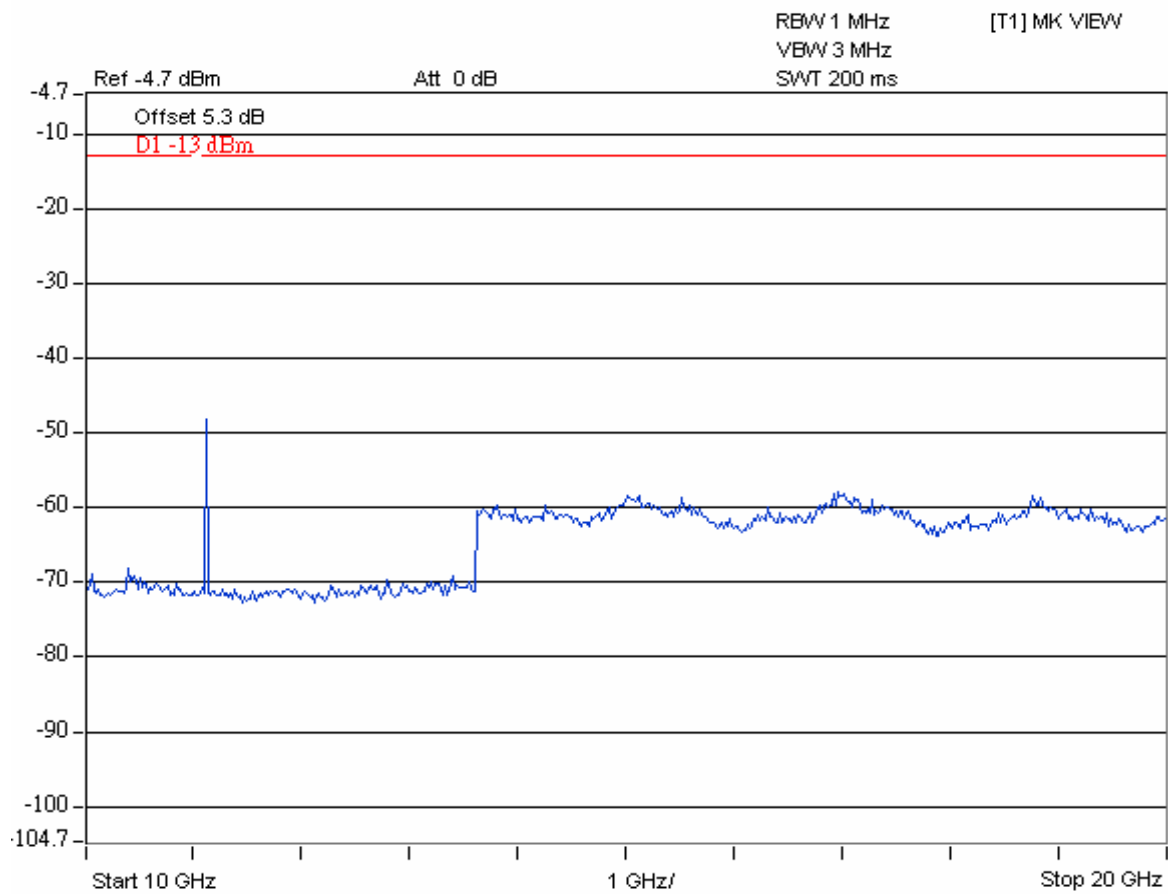
Title: RF Test Report for 3G Router
Model: 434T
To: FCC 47 CFR Part 2, FCC 47 CFR Part 22, FCC 47 CFR Part 24

Serial#: 1005008
Issue Date: August 08 2010
Page 37 of 67
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Test Mode:PCS1900
CH 512:9KHz~20GHz





CH 661:9KHz~20GHz



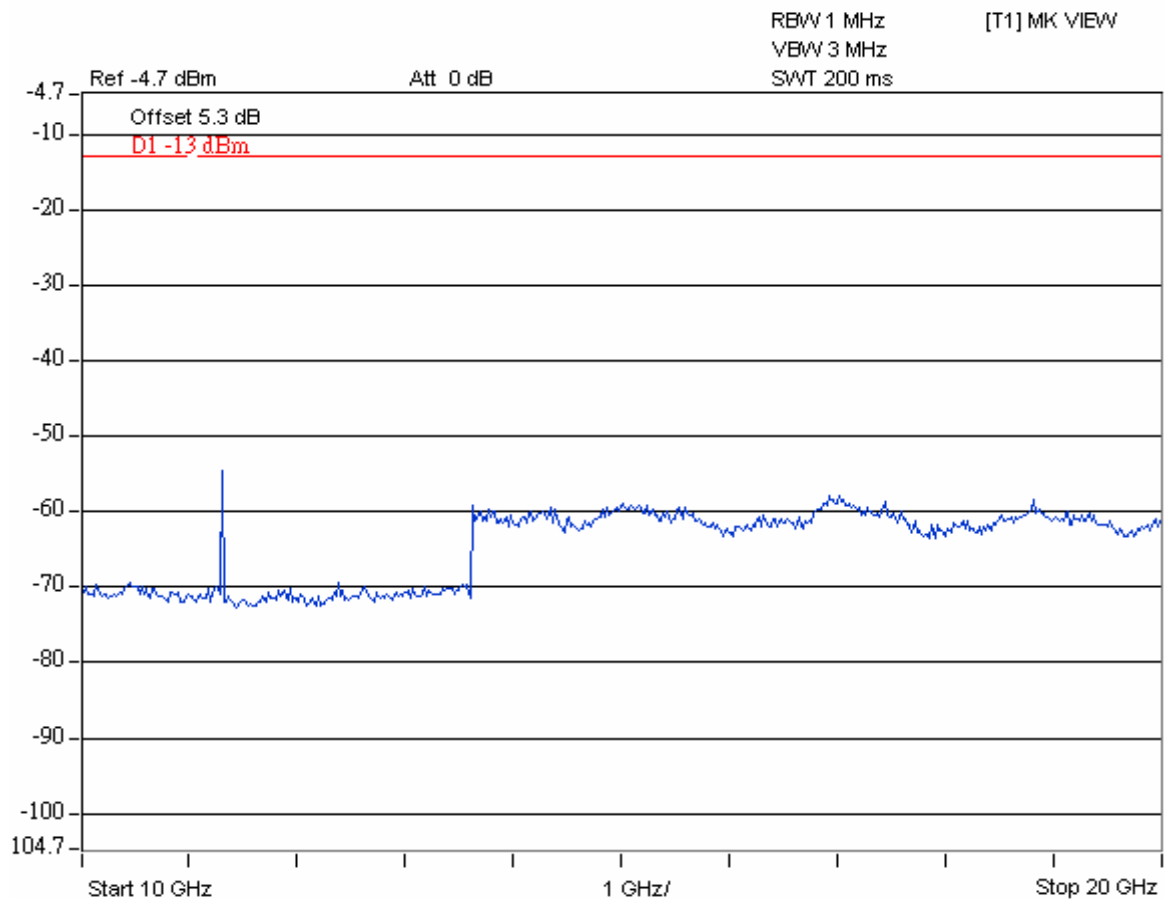
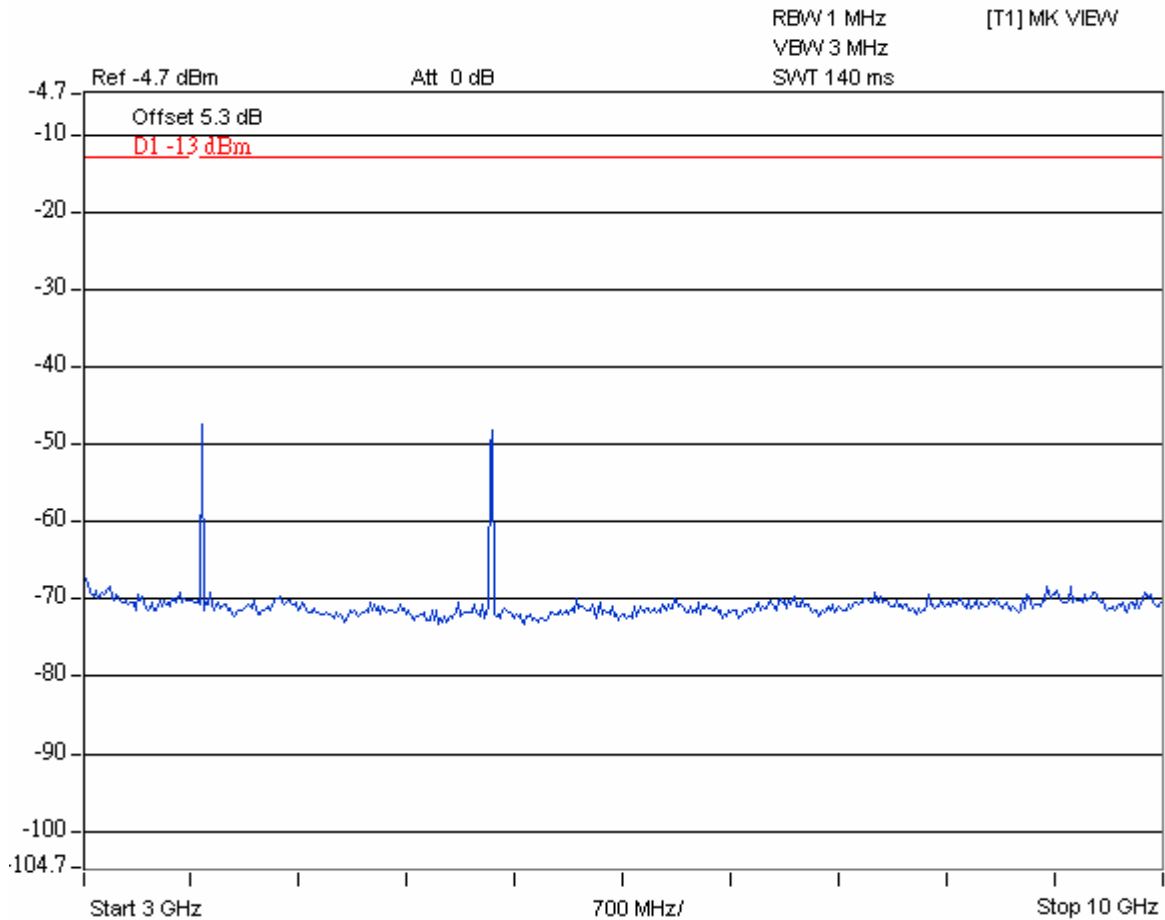


SIEMIC, INC.

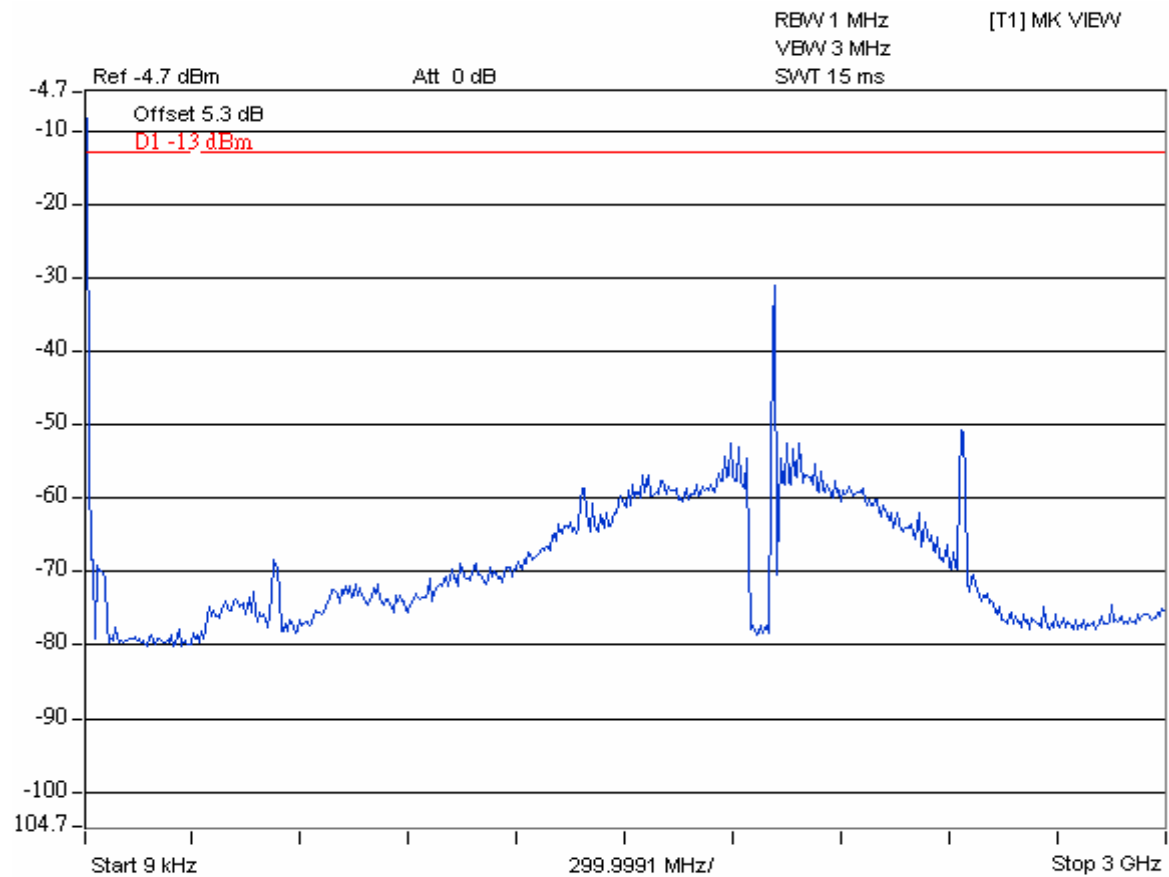
Accessing global markets

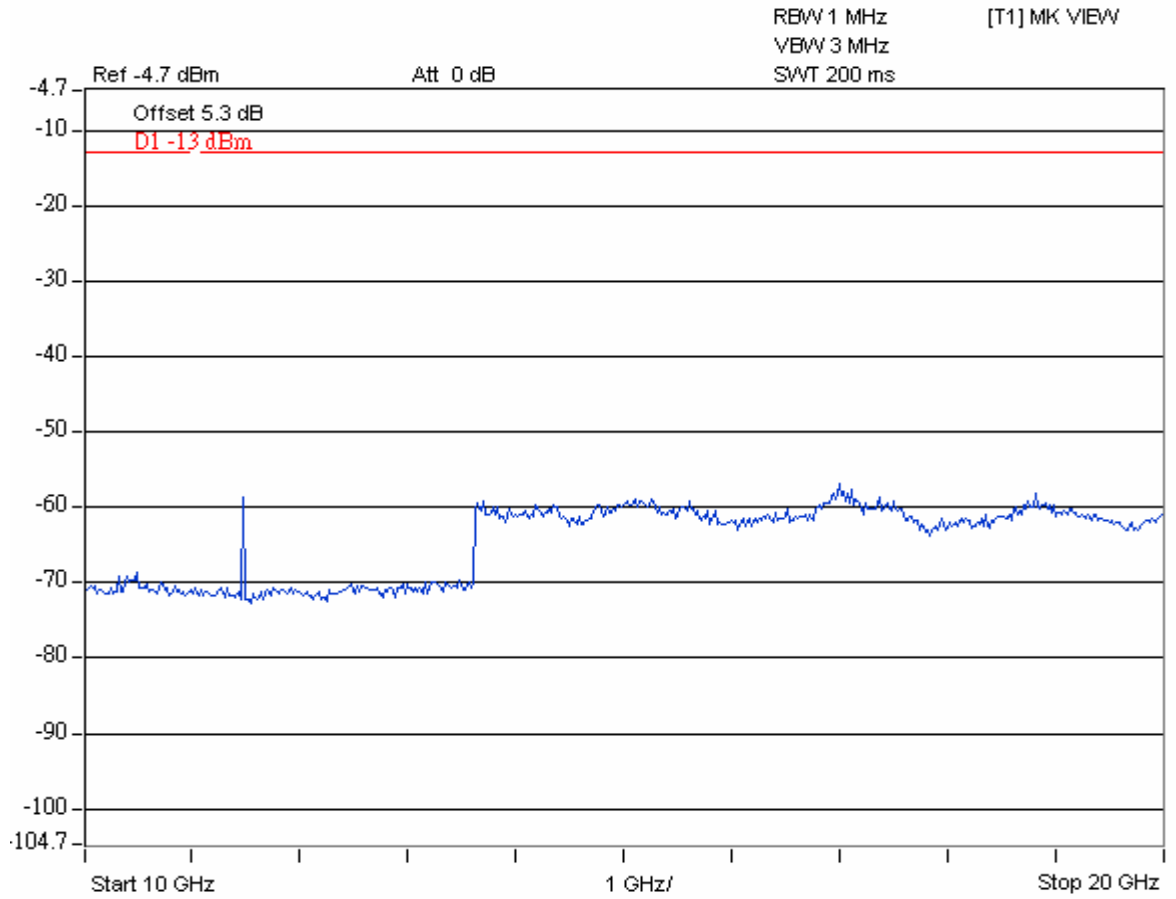
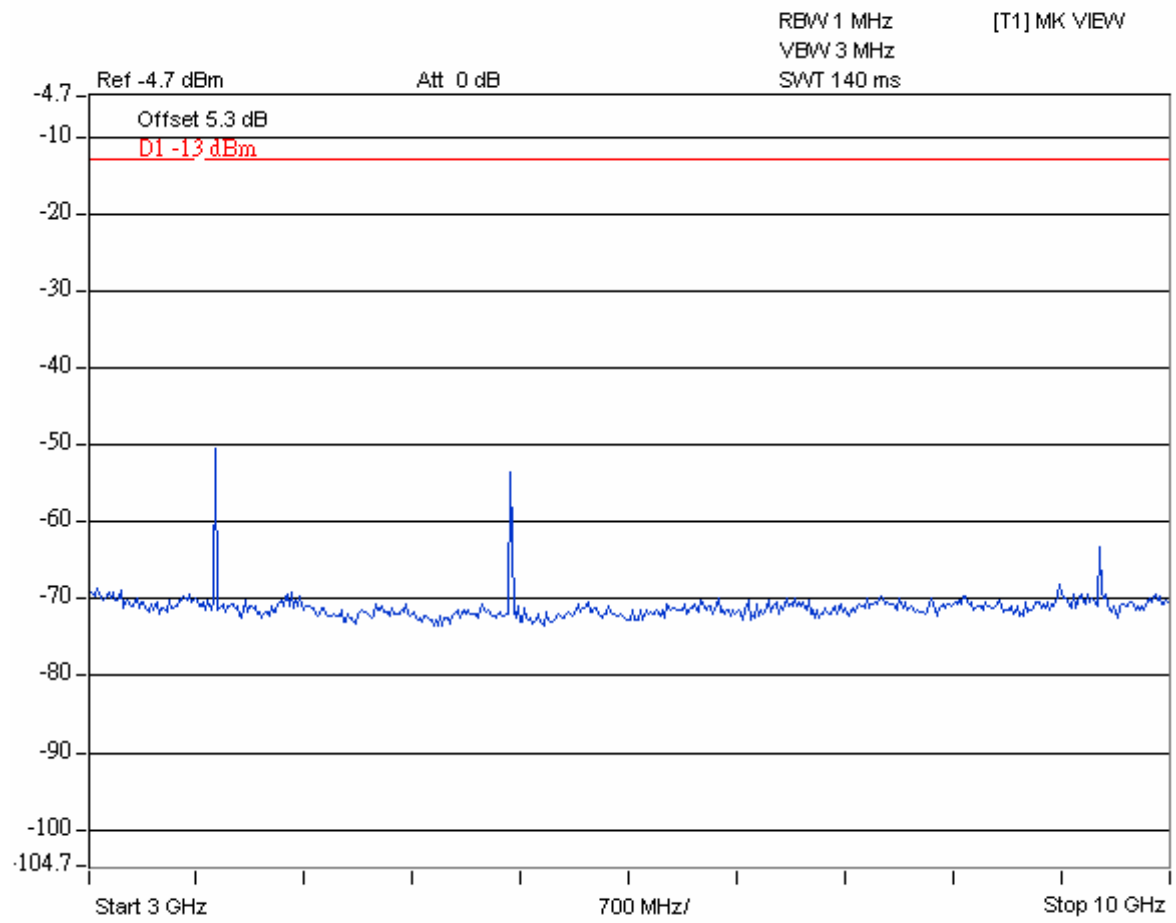
Title: RF Test Report for 3G Router
Model: 434T
To: FCC 47 CFR Part 2, FCC 47 CFR Part 22, FCC 47 CFR Part 24

Serial#: 1005008
Issue Date: August 08 2010
Page: 40 of 67
www.siemic.com.cn



CH 810: 9KHz~20GHz





5.6 Field Strength of Spurious Radiation Measurement

1. EUT was working normal during the test
2. Environmental Conditions

Temperature	23°C
Relative Humidity	50%
Atmospheric Pressure	1019mbar
3. All required parameter have been checked and adjusted
4. Test date : July 22~28 2010
Tested By : Andy Wang

Requirement: Part2.1051, 22.917(a), 24.238(a)

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.

Procedures:

1. The EUT was placed on a rotatable wooden table with 0.8 meter about ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, Sweep = 500ms, Taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. $EIRP \text{ (dBm)} = S.G. \text{ Power} - Tx \text{ Cable Loss} + Tx \text{ Antenna Gain}$
11. $ERP \text{ (dBm)} = EIRP - 2.15$

Test Result: Pass

Operating mode: transmitting

Test Data

GSM 850 Low Channel :824.2MHz

Frequency (MHz)	ERP/EIRP (dBm)	Azimuth	Polarity(H /V)	Height (cm)	Limit (dBm)	Margin (dB)	Result
1648.40	-50.38	187.80	H	100.00	-13	-37.38	Pass
1648.40	-49.52	328.10	V	100.00	-13	-36.52	Pass
2472.60	-50.91	8.30	H	100.00	-13	-37.91	Pass
2472.60	-50.33	119.80	V	100.00	-13	-37.33	Pass
3296.80	-32.45	229.20	H	200.00	-13	-19.45	Pass
3296.80	-34.23	141.40	V	100.00	-13	-21.23	Pass

Middle Channel :836.60MHz

Frequency (MHz)	ERP/EIRP (dBm)	Azimuth	Polarity(H /V)	Height (cm)	Limit (dBm)	Margin (dB)	Result
1673.20	-50.78	127.80	H	100.00	-13	-37.78	Pass
1673.20	-48.69	318.20	V	200.00	-13	-35.69	Pass
2509.80	-49.72	28.30	H	200.00	-13	-36.72	Pass
2509.80	-49.36	139.80	V	100.00	-13	-36.36	Pass
3346.40	-33.41	219.20	H	200.00	-13	-20.41	Pass
3346.40	-34.02	145.40	V	100.00	-13	-21.02	Pass

High Channel :848.80MHz

Frequency (MHz)	ERP/EIRP (dBm)	Azimuth	Polarity(H /V)	Height (cm)	Limit (dBm)	Margin (dB)	Result
1697.60	-49.78	144.80	H	200.00	-13	-36.78	Pass
1697.60	-49.66	221.10	V	200.00	-13	-36.66	Pass
2546.40	-50.32	118.30	H	200.00	-13	-37.32	Pass
2546.40	-49.34	159.80	V	100.00	-13	-36.34	Pass
3395.20	-35.21	239.20	H	200.00	-13	-22.21	Pass
3395.20	-33.48	111.40	V	100.00	-13	-20.48	Pass

PCS 1900

Low Channel :1850.2MHz

Frequency (MHz)	ERP/EIRP (dBm)	Azimuth	Polarity(H /V)	Height (cm)	Limit (dBm)	Margin (dB)	Result
3700.40	-46.14	152.80	H	100.00	-13	-33.14	Pass
3700.40	-36.64	234.10	V	100.00	-13	-23.64	Pass
5550.60	-47.54	111.30	H	200.00	-13	-34.54	Pass
5550.60	-45.36	234.80	V	100.00	-13	-32.36	Pass
7400.80	-52.01	222.20	H	200.00	-13	-37.21	Pass
7400.80	-51.33	119.40	V	100.00	-13	-38.33	Pass

Middle Channel :1880.0MHz

Frequency (MHz)	ERP/EIRP (dBm)	Azimuth	Polarity(H /V)	Height (cm)	Limit (dBm)	Margin (dB)	Result
3760.00	-45.13	117.80	H	100.00	-13	-32.31	Pass
3760.00	-38.29	308.10	V	100.00	-13	-25.29	Pass
5640.00	-47.54	328.30	H	100.00	-13	-34.54	Pass
5640.00	-47.06	179.80	V	100.00	-13	-34.06	Pass
7520.00	-52.46	259.20	H	100.00	-13	-39.46	Pass
7520.00	-51.13	151.40	V	100.00	-13	-38.13	Pass

High Channel :1909.8MHz

Frequency (MHz)	ERP/EIRP (dBm)	Azimuth	Polarity(H /V)	Height (cm)	Limit (dBm)	Margin (dB)	Result
3819.60	-46.72	117.20	H	100.00	-13	-33.72	Pass
3819.60	-37.61	218.90	V	200.00	-13	-24.61	Pass
5729.80	-43.68	218.50	H	200.00	-13	-30.68	Pass
5729.80	-46.34	159.20	V	200.00	-13	-33.34	Pass
7639.20	-50.73	221.40	H	200.00	-13	-37.73	Pass
7639.20	-51.36	15170	V	200.00	-13	-38.36	Pass

Annex A. TEST INSTRUMENT

Annex A.i. TEST INSTRUMENTATION & GENERAL PROCEDURES

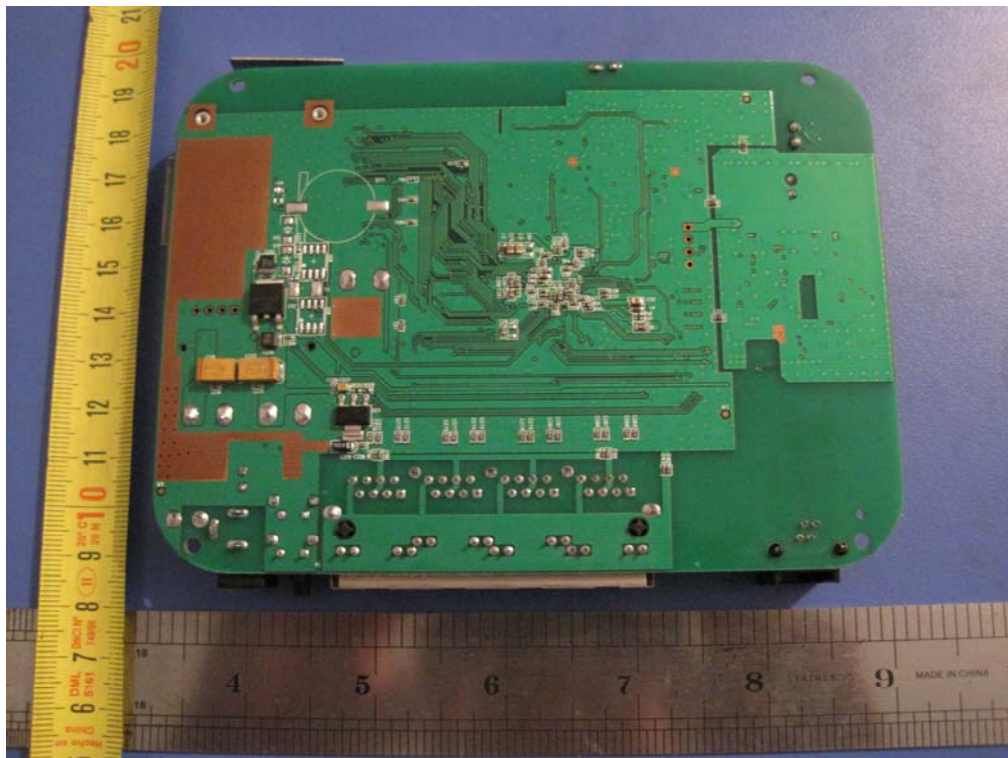
Instrument	Manufacturer	Model	CAL Due Date
Spectrum Analyzer	HP	8564 E	2011.04.26
EMI Receiver	Rohde & Schwarz	ES140	2011.02.19
Antenna (30MHz~2GHz)	Sunol Sciences	JB1	2010.10.04
Horn Antenna (1~18GHz)	A-INFOMW	JXTXLB-10180	2010.11.18
Horn Antenna (1~18GHz)	N/A	N/A	2010.10.04
Pre-Amplifier(0.01 ~ 1.3GHz)	HP	8447F	2011.04.24
Pre-Amplifier(0.1 ~ 18GHz)	MITEQ	AMF-7D-00101800-30- 10P	2011.03.05
Horn Antenna (18~40GHz)	Com Power	AH-840	2011.05.21
Microwave Pre-Amp (18~40GHz)	Com Power	PA-840	2011.05.21
Communication Tester	Agilent	E5515C	2011.6.28
Communication Tester	Rohde & Schwarz	CMU200	2011.6.28
Power Meter	Agilent	E44198B	2010.12.23
Power Sensor	Agilent	E9304A	2010.12.23
Fading simulator	Rohde & Schwarz	ABFS	2010.12.23

Annex B. EUT AND TEST SETUP PHOTOGRAPHS

Annex B.i. Photograph : EUT Photo







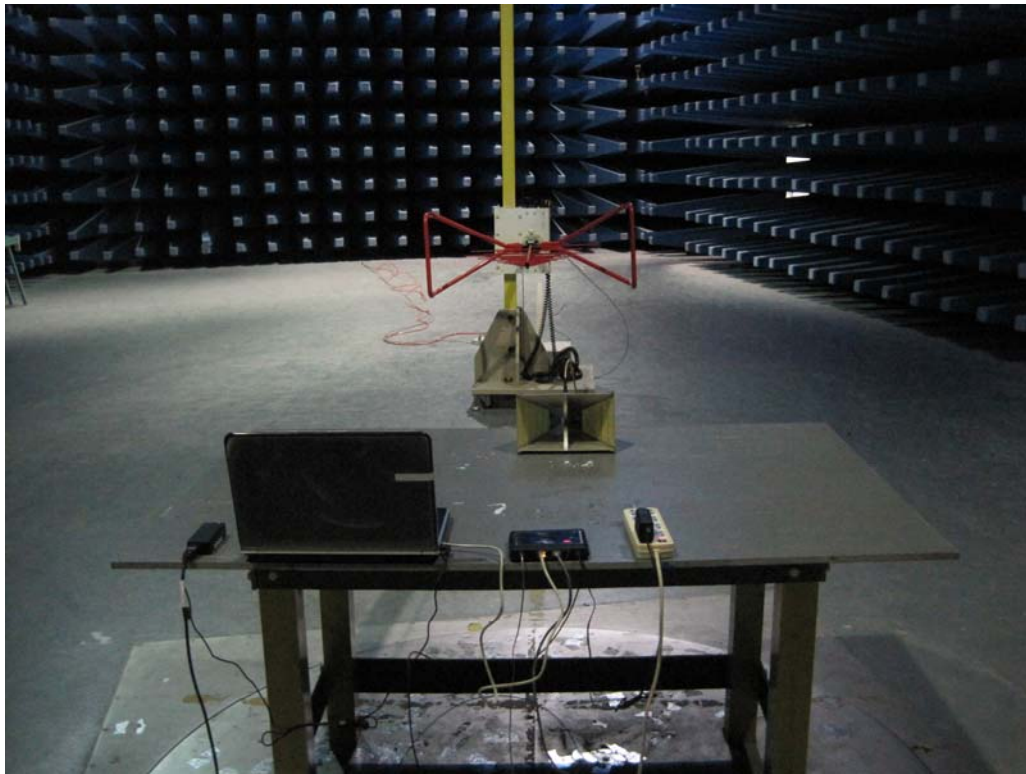
Annex B.ii Photograph 4: Test Setup Photo



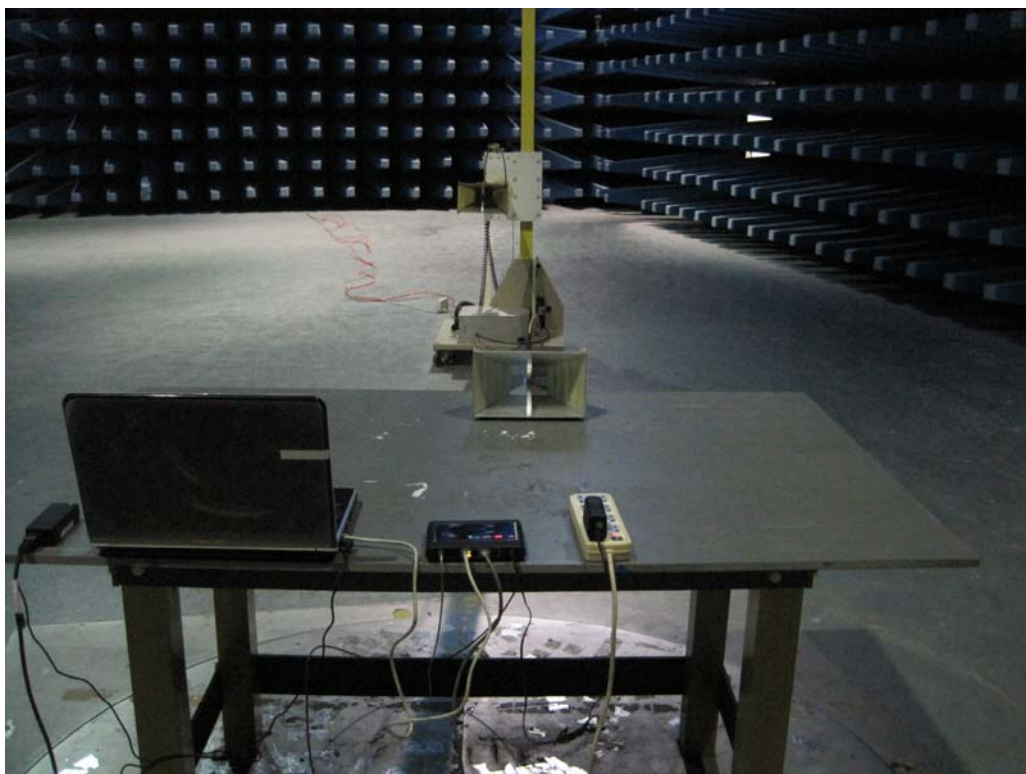
Conducted Emissions Test Setup Front View



Conducted Emissions Test Setup Side View



Radiated Spurious Emissions Test Setup (30MHz-1GHz)



Radiated Spurious Emissions Test Setup (Above 1GHz)

Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

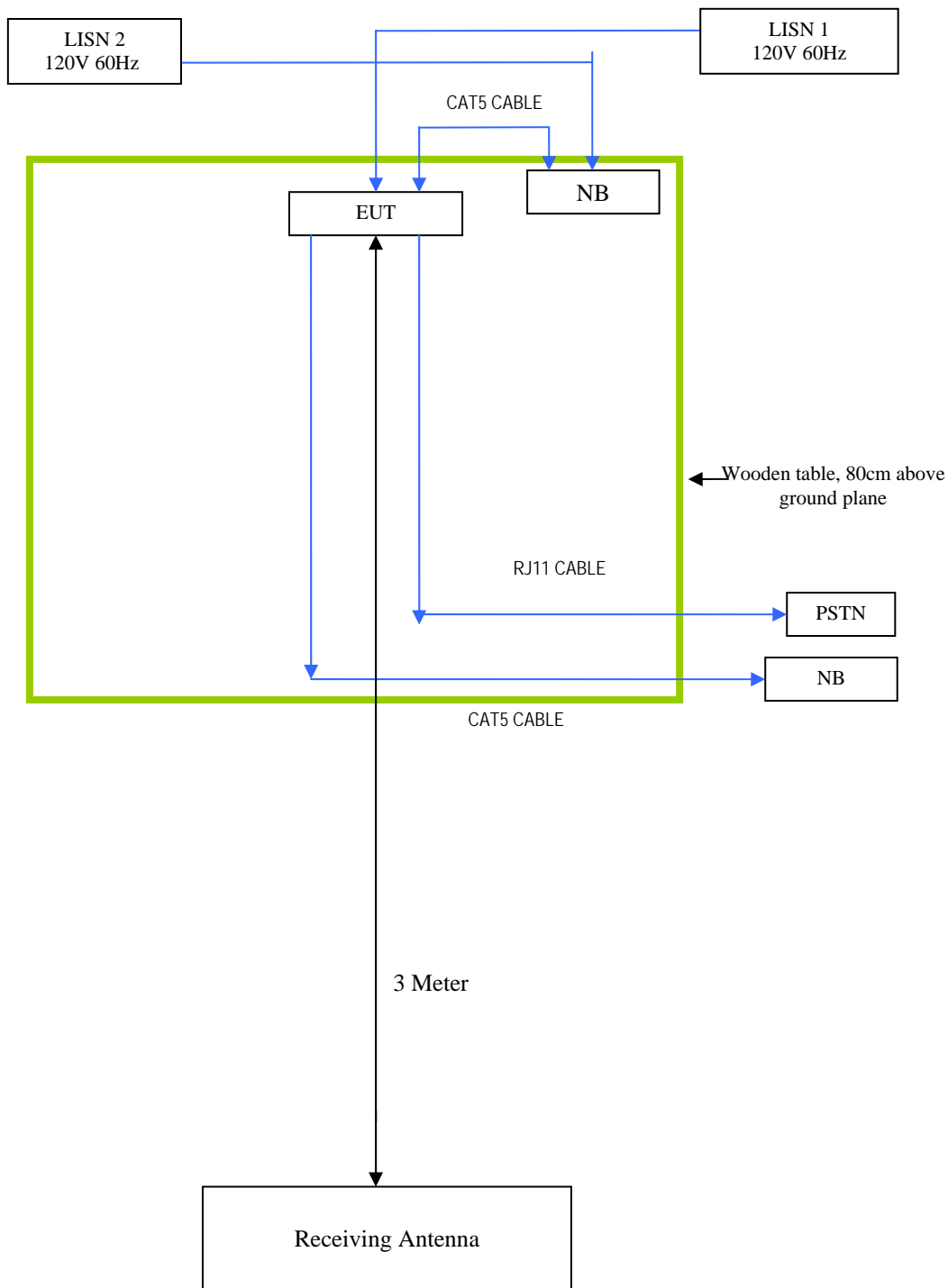
EUT TEST CONDITIONS

Annex C. i. SUPPORTING EQUIPMENT DESCRIPTION

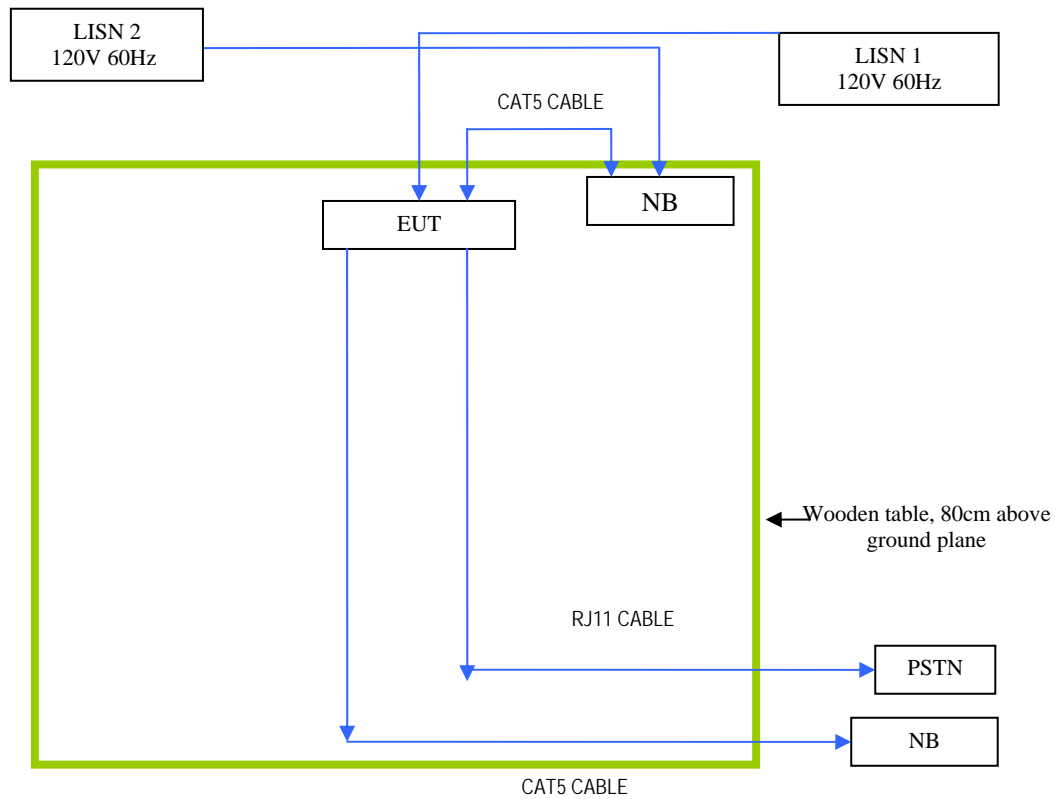
The following is a description of supporting equipment and details of cables used with the EUT.

Equipment Description (Including Brand Name)	Model & Serial Number	Cable Description (List Length, Type & Purpose)
Notebook	Gateway	CAT5 Cable 1m
Dell Notebook	DELL	CAT5 Cable 10m

Block Configuration Diagram for Radiated Emission



Block Configuration Diagram for Conducted Emission



Annex C.ii. EUT OPERATING CONDITIONS

The following is the description of how the EUT is exercised during testing.

Test	Description Of Operation
Emissions	EUT is working in full power.

Annex D. USER MANUAL / BLOCK DIAGRAM / SCHEMATICS / PART LIST

Please see attachment

Annex E. SIEMIC ACCREDITATION CERTIFICATES

SIEMIC ACREDITATION DETAILS: A2LA Certificate Number: 2742.01




THE AMERICAN ASSOCIATION FOR
LABORATORY ACCREDITATION

ACCREDITED LABORATORY

A2LA has accredited

SIEMIC LABORATORIES
San Jose, CA

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General Requirements for the Competence of Testing and Calibration Laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 18 June 2005).



Presented this 11th day of July 2008.



President
For the Accreditation Council
Certificate Number 2742.01
Valid to September 30, 2010

For the tests or types of tests to which this accreditation applies,
please refer to the laboratory's Electrical Scope of Accreditation.



THE AMERICAN ASSOCIATION FOR
LABORATORY ACCREDITATION

ACCREDITED PRODUCT CERTIFICATION BODY

A2LA has accredited

SIEMIC INC.
San Jose, CA

for technical competence as a

Product Certification Body

This product certification body is accredited in accordance with the recognized International Standard ISO/IEC Guide 65:1996 *General requirements for bodies operating product certification systems*. This accreditation demonstrates technical competence for a defined scope and the operation of a quality management system for a Telecommunications Certification Body (TCB) meeting FCC (U.S.), IDA (Singapore) and IC (Canada) requirements.



Presented this 9th day of January 2009.



President
For the Accreditation Council
Certificate Number: 2742.02
Valid to: September 30, 2010

For the product certification schemes to which this accreditation applies,
please refer to the certification body's Scope of Accreditation.

SIEMIC ACCREDITATION DETAILS: FCC Registration NO:986914



SIEMIC ACCREDITATION DETAILS: FCC Listing, Registration NO:986914

FEDERAL COMMUNICATIONS COMMISSION

Laboratory Division
7435 Oakland Mills Road
Columbia, MD 21046

April 25, 2008

Registration Number: 986914

SIEMIC Nanjing (China) Laboratories
2-1 Longcang Avenue,
Yuhua Economic and Technology Development Park,
Nanjing, 210039
China

Attention: Leslie Bai

Re: Measurement facility located at 2-1 Longcang Avenue, Nanjing, China
Anechoic chamber (3 meters) and 3&10 meter OATS
Date of Listing: April 25, 2008

Dear Sir or Madam:

Your request for registration of the subject measurement facility has been reviewed and found to be in compliance with the requirements of Section 2.948 of the FCC rules. The information has, therefore, been placed on file and the name of your organization added to the list of facilities whose measurement data will be accepted in conjunction with applications for Certification under Parts 15 or 18 of the Commission's Rules. Please note that the file must be updated for any changes made to the facility and the registration must be renewed at least every three years.

Measurement facilities that have indicated that they are available to the public to perform measurement services on a fee basis may be found on the FCC website www.fcc.gov under E-Filing, OET Equipment Authorization Electronic Filing, Test Firms.

Sincerely,

Katie Hawkins
Electronics Engineer

SIEMIC ACCREDITATION DETAILS: Industry of Canada Registration No. 4842



February 19, 2009

OUR FILE: 46405-4842
Submission No: 131645

SIEMIC NANJING (CHINA) LABORATORIES

2-1 Longcang Avenue
Yuhua Economic & Technology Dev. Park
Nanjing
China

Attention: Leslie Bai

Dear Sir/Madame:

The Bureau has received your application for the registration of a 3m/10m alternative test site. Be advised that the information received was satisfactory to Industry Canada. The following number(s) is now associated to the site(s) for which registration / renewal was sought (4842B-1). Please reference the appropriate site number in the body of test reports containing measurements performed on the site. In addition, please keep for your records the following information;

- Your primary code is: 4842

- The company number associated to the site(s) located at the above address is: 4842B

Furthermore, to obtain or renew a unique site number, the applicant shall demonstrate that the site has been accredited to ANSI C63.4-2003 or later. A scope of accreditation indicating the accreditation by a recognized accreditation body to ANSI C63.4-2003 shall be accepted. Please indicate in a letter the previous assigned site number if applicable and the type of site (example: 3 meter OATS or 3 meter chamber). If the test facility is not accredited to ANSI C63.4-2003 or later, the test facility shall submit test data demonstrating full compliance with the ANSI standard. The Bureau will evaluate the filing to determine if recognition shall be granted.

The frequency for re-validation of the test site and the information that is required to be filed or retained by the testing party shall comply with the requirements established by the accrediting organization. However, in all cases, test site re-validation shall occur on an interval not to exceed two years. There is no fee or form associated with an OATS filing. OATS submissions are encouraged to be submitted electronically to the Bureau using the following URL;

http://strategis.ic.gc.ca/epic/internet/inceb-bhst.nsf/en/h_tt00052e.html.

If you have any questions, you may contact the Bureau by e-mail at certification_bureau@ic.gc.ca Please reference our file and submission number above for all correspondence.

Yours sincerely,



Joshua Laviolette
For: Wireless Laboratory Manager
Certification and Engineering Bureau
3701 Carling Ave., Building 94
P.O. Box 11490, Station "H"
Ottawa, Ontario K2H 8S2
Email: joshua.laviolette@ic.gc.ca
Tel. No. (613) 990-2681
Fax. No. (613) 990-4752

SIEMIC ACCREDITATION DETAILS: Japan RFT Accreditation No. MRF050927

RFT

Certificate

This is to certify that the
Quality Management System
of
SIEMIC , Inc.
2206 Ringwood Avenue
San Jose, California 95131 U.S.A

has been authorized to carry out Japan Specified Radio Equipment test by
order and under supervision of RF Technologies Co., Ltd. according to
Notification No.88 of Radio Law.

An assessment of the laboratory was conducted according to the "Procedure and
Conditions for Appointments of 2.4GHz Band Low power data communications system
that Bluetooth and Wireless LAN test with reference to ISO/IEC 17025
by an RF Technologies Co., Ltd. auditor.

Audit Report No. MRF050927



Kazuyuki Sarashina
Auditor
RF Technologies Co., Ltd.



Toshihiro Ikegami
President
RF Technologies Co., Ltd.

Audit Date
September 27th, 2005




Issued Date
October 5th, 2005

This Certificate is valid until **September 26th 2006 or next schedule audit.**


No:006 Registered Certification Body
RF Technologies Co., Ltd.
472, Nippa-cho, Kohoku-ku, Yokohama, 223-0057, Japan



SIEMIC ACCREDITATION DETAILS: Korea CAB from NIST: US0160

	UNITED STATES DEPARTMENT OF COMMERCE National Institute of Standards and Technology Gaithersburg, Maryland 20899
October 1, 2008	
Mr. Leslie Bai SIEMIC, Inc. 2206 Ringwood Avenue San Jose, CA 95131	
Dear Mr. Bai:	
NIST is pleased to inform you that your laboratory has been recognized by the Radio Research Agency (RRA) Korea Communications Commission (KCC) under the Asia Pacific Economic Cooperation for Telecommunications Equipment Mutual Recognition Arrangement (APEC Tel MRA). Your laboratory is now designated to act as a Conformity Assessment Body (CAB) under Appendix B, Phase I Procedures, of the APEC Tel MRA. The pertinent information about your laboratory's designation is as follows:	
CAB Name:	SIEMIC, Inc.
Physical Location:	2206 Ringwood Avenue, San Jose, CA 95131
Identification No.:	US0160
Recognized Scope:	EMI: KCC Notice 2008-39, RRL Notice 2008-3: CA Procedures for EMI KN22: Test Method for EMI EMS: KCC Notice 2008-38, RRL Notice 2008-4: CA Procedures for EMS KN24, KN-61000-4-2, -4-3, -4-4, -4-5, -4-6, -4-8, -4-11: Test Method for EMS Wireless: RRL Notice 2008-26, RRL Notice 2008-2, RRL Notice 2008-10, RRL Notice 2007-49, RRL Notice 2007-20, RRL Notice 2007-21, RRL Notice 2007-80, RRL Notice 2004-68 Wired: President Notice 20664, RRL Notice 2007-30, RRL Notice 2008-7 with attachments 1, 3, 5, 6 President Notice 20664, RRL Notice 2008-7 with attachment 4
You may submit test data to RRA/KCC to verify that the equipment to be imported into Korea satisfies the applicable requirements. The designation of your organization will remain in force as long as its accreditation for the designated scope remains valid and comply with the designation requirements.	
Recognized CABs are listed on the NIST website at http://ts.nist.gov/mra . If you have any questions please contact Ramona Saar at (301) 975-5521 or ramona.saar@nist.gov .	
Sincerely,  David F. Alderman Group Leader, Standards Coordination and Conformity Group Standards Services Division	
Enclosure	
cc: Ramona Saar	
	

SIEMIC ACCREDITATION DETAILS: Taiwan BSMI CAB Accreditation No. SL2-IN-E-1130R



UNITED STATES DEPARTMENT OF COMMERCE
National Institute of Standards and Technology
Gaithersburg, Maryland 20899-

May 3, 2006

Mr. Leslie Bai
SIEMIC Laboratories
2206 Ringwood Avenue
San Jose, CA 95131

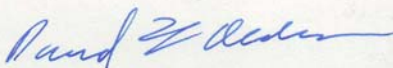
Dear Mr. Bai:

I am pleased to inform you that your laboratory has been recognized by the Chinese Taipei's Bureau of Standards, Metrology, and Inspection (BSMI) under the Asia Pacific Economic Cooperation (APEC) Mutual Recognition Arrangement (MRA). Your laboratory is now designated to act as a Conformity Assessment Body (CAB) under Appendix B, **Phase I** Procedures, of the APEC Tel MRA. You may submit test data to BSMI to verify that the equipment to be imported into Chinese Taipei satisfies the applicable requirements. The designation of your organization will remain in force as long as its accreditation for the designated scope remains valid and comply with the designation requirements. The pertinent designation information is as follows:

- BSMI number: **SL2-IN-E-1130R** (Must be applied to the test reports)
- U.S Identification No: **US0160**
- Scope of Designation: **CNS 13438**
- Authorized signatory: **Mr. Leslie Bai**


The names of all recognized CABs will be posted on the NIST website at <http://ts.nist.gov/mra>. If you have any questions, please contact Mr. Dhillon at 301-975-5521. We appreciate your continued interest in our international conformity assessment activities.

Sincerely,



David F. Alderman
Group Leader, Standards Coordination and Conformity Group

cc: Jogindar Dhillon



SIEMIC ACCREDITATION DETAILS: Taiwan NCC CAB ID: US0160



March 16, 2009

Mr. Leslie Bai
SIEMIC, Inc.
2206 Ringwood Avenue
San Jose, CA 95131

Dear Mr. Bai:

NIST is pleased to inform you that your laboratory has been recognized by the National Communications Commission (NCC) for the requested scope expansion under the Asia Pacific Economic Cooperation for Telecommunications Equipment Mutual Recognition Arrangement (APEC Tel MRA). Your laboratory is designated to act as a Conformity Assessment Body (CAB) under Appendix B, **Phase I** Procedures, of the APEC Tel MRA. The pertinent information about your laboratory's designation is as follows:

CAB Name: SIEMIC, Inc.
Physical Location: 2206 Ringwood Avenue, San Jose, CA 95131
Identification No.: US0160
Current Scope: LP0002, PSTN01, ADSL01, ID0002, IS6100 and CNS 14336
Additional Scope: PLMN07

You may submit test data to NCC to verify that the equipment to be imported into China satisfies the applicable requirements. The designation of your organization will remain in force as long as its accreditation for the designated scope remains valid and comply with the designation requirements.

Recognized CABs are listed on the NIST website at <http://ts.nist.gov/mra>. If you have any questions please contact Ramona Saar at (301) 975-5521 or ramona.saar@nist.gov.

Sincerely,



David F. Alderman
Group Leader, Standards Coordination and Conformity Group
Standards Services Division

Enclosure

cc: Ramona Saar

NIST

SIEMIC ACCREDITATION DETAILS: Mexico NOM Recognition



CAMARA NACIONAL
DE LA INDUSTRIA
ELECTRONICA, DE
TELECOMUNICACIONES
E INFORMÁTICA

Laboratorio Valentín V. Rivero

México D.F. a 16 de octubre de 2006.

LESLIE BAI
DIRECTOR OF CERTIFICATION
SIEMIC LABORATORIES, INC.
ACCESSING GLOBAL MARKETS.
P R E S E N T E

En contestación a su escrito de fecha 5 de septiembre del año en curso, le comento que estamos muy interesados en su intención de firmar un Acuerdo de Reconocimiento Mutuo, para lo cual adjunto a este escrito encontrara el Acuerdo en idioma inglés y español prellenado de los cuales le pido sea revisado y en su caso corregido, para que si esta de acuerdo poder firmarlo para mandarlo con las autoridades Mexicanas para su visto bueno y así poder ejercer dicho acuerdo.

Aprovecho este escrito para mencionarle que nuestro intermediario gestor será la empresa Isotel de México, S. A. de C. V., empresa que ha colaborado durante mucho tiempo con nosotros en lo relacionado a la evaluación de la conformidad y que cuenta con amplia experiencia en la gestión de la certificación de cumplimiento con Normas Oficiales Mexicanas de producto en México.

Me despido de usted enviándole un cordial saludo y esperando sus comentarios al Acuerdo que nos ocupa.

Atentamente:



Ing. Faustino Gómez González
Gerente Técnico del Laboratorio de
CANIETI.

Calle 14
Hacienda Condesa
06100 México, D.F.
Tel. 5264-0008 con 12 líneas
Fax 5264-0396
www.canieti.org

SIEMIC ACCREDITATION DETAILS: Hong Kong OFTA Recognition No. D23/16V



Your Ref 來函檔號 : D23/16 V
Our Ref 本局檔號 :

Telephone 電話 : (852) 2961 6320
Fax No 圖文傳真 : (852) 2838 5004
E-mail 電郵地址 : 20 July 2005

Mr. Leslie Bai
Director of Certification,
SIEMIC Laboratories
2206 Ringwood Avenue
San Jose, California 95131
USA

Dear Mr. Bai,

Application of Recognised Testing Agency (RTA)

Referring your submission of 28 June 2005 in relation to the application of RTA, I am pleased to inform you that OFTA has appointed SIEMIC Laboratories (SIEMIC) as a Recognised Testing Agency (RTA) :

Please note that, under the Hong Kong Telecommunications Equipment Evaluation and Certification (HKTEC) Scheme, SIEMIC is authorized to conduct evaluation tests on telecommunications equipment against the following HKTA specifications :

Scope of recognition (HKTA Specifications) :

1001, 1002, 1004, 1006, 1007, 1008
1010, 1015, 1016
1022, 1026, 1027, 1029
1030, 1031, 1032, 1033, 1034, 1035, 1039
1041, 1042, 1043, 1045, 1047, 1048
2001

You are requested to refer to and comply with the code of practice and guidelines for RTA as given in the Information Note OFTA I 411 "Recognised Testing Agency (RTA) for Conducting Evaluation Test of Telecommunications Equipment", which can be downloaded from OFTA's homepage at <http://www.ofta.gov.hk/tec/information-notes.html>.

If you have any queries, please do not hesitate to contact me.

Yours sincerely,



(K K Sin)
for Director-General
of Telecommunications

Office of the Telecommunications Authority
29/F Wu Chung House 213 Queen's Road East Wan Chai Hong Kong
電訊管理局
香港灣仔皇后大道東 213 號胡忠大廈 29 字樓

<http://www.ofta.gov.hk>

SIEMIC ACCREDITATION DETAILS: OFTA CAB from NIST: US0160



UNITED STATES DEPARTMENT OF COMMERCE
National Institute of Standards and Technology
Gaithersburg, Maryland 20899

December 8, 2008

Mr. Leslie Bai
SIEMIC, Inc.
2206 Ringwood Avenue
San Jose, CA 95131

Dear Mr. Bai:

NIST is pleased to inform you that your laboratory has been recognized by the Office of the Telecommunications Authority (OFTA) under the Asia Pacific Economic Cooperation for Telecommunications Equipment Mutual Recognition Arrangement (APEC Tel MRA). Your laboratory is now designated to act as a Conformity Assessment Body (CAB) under Appendix B, **Phase I** Procedures, of the APEC Tel MRA. The pertinent information about your laboratory's designation is as follows:

CAB Name: SIEMIC, Inc.
Physical Location: 2206 Ringwood Avenue, San Jose, California 95131 USA
Identification No.: US0160
Recognized Scope: **Radio:** HKTA 1002, 1007, 1008, 1010, 1015, 1016, 1020, 1022, 1026, 1027, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1037, 1039, 1041, 1042, 1043, 1044, 1046, 1047, 1048, 1049, 1051
Telecom: HKTA 2011, 2012, 2013, 2014, 2017, 2018, 2022, 2024, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033

You may submit test data to OFTA to verify that the equipment to be imported into Hong Kong satisfies the applicable requirements. The designation of your organization will remain in force as long as its accreditation for the designated scope remains valid and comply with the designation requirements.

Recognized CABs are listed on the NIST website at <http://ts.nist.gov/mra>. If you have any questions please contact Ramona Saar at (301) 975-5521 or ramona.saar@nist.gov.

Sincerely,



David F. Alderman
Group Leader, Standards Coordination and Conformity Group
Standards Services Division

Enclosure

cc: Ramona Saar

NIST

SIEMIC ACCREDITATION DETAILS: Australia NATA Recognition



Leslie Bai
SIEMIC, Inc.
2206 Ringwood Avenue
San Jose, CA 95131

November 4, 2008

Under Australian government legislation, the Australian Communications and Media Authority (ACMA) has determined the National Association of Testing Authorities, Australia (NATA) as an accreditation body as per Section 409(1) of the Telecommunications Act 1997 (Cth). Pursuant to Section 409(2) of the Telecommunications Act 1997 (Cth), I am pleased to advise that your laboratory has been determined as a Recognised Testing Authority (RTA).

This determination has been made on the basis of your accreditation by A2LA accreditation no. 2742.01 and the Mutual Recognition Agreement between NATA and A2LA. It is effective from 11 July 2008. RTA status applies only to the following standards and is contingent upon their continued inclusion in your laboratory's scope of accreditation.

AS/ACIF S002, AS/ACIF S003, AS/ACIF S004,
AS/ACIF S006, AS/ACIF S016, AS/ACIF S031,
AS/ACIF S038, AS/ACIF S041 and
AS/ACIF S043.2

As an RTA, your laboratory has the following obligations:

1. the laboratory shall continue to meet all of the accreditation criteria of A2LA;
2. the authorised representative of the laboratory shall notify NATA of changes to the staff or operations of the laboratory which would affect the performance of the tests for which the laboratory has been determined;
3. compliance of equipment shall be reported on test reports bearing the A2LA logo/endorsement.

Current information on the Australian Communications and Media Authority and regulatory requirements for telecommunications products within Australia can be obtained from the ACMA's web-site at "<http://www.acma.gov.au>". Further information about NATA may be gained by visiting "<http://www.nata.asn.au>".

Please note that AS/ACIF S040 and New Zealand standards do not form part of the RTA scheme.

Your RTA listing will appear on the NATA website shortly.

Kind Regards

Chris Norton,
Senior Scientific Officer
Measurement Science and Technology
National Association of Testing Authorities (NATA)
71-73 Flemington Road
North Melbourne Vic 3051
Australia
Ph: +61 3 9329 1633 Fx: +61 3 9326 5148
E-Mail: Christopher.Norton@nata.asn.au
Internet: www.nata.asn.au