



FCC TEST REPORT

for

47 CFR Part 15 Subpart C

Equipment : GSM/GPRS/EDGE Smart phone
Trade Name : DBS
Model No. : Debussy
FCC ID : QDJ-0602DBS01
Filing Type : Certification
Applicant : Chi Mei Communication Systems, Inc.
11F, No. 39, Chung Hua Road Sec. 1, Taipei 100, Taiwan,
R.O.C.

- The test result refers exclusively to the test presented test model / sample.
- Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.
- **Certificate or Test Report must not be used by the applicant to claim the product in this test report endorsement by NVLAP or any agency of U.S. government.**
- The data shown in this test report were carried out on Feb. 14, 2006 at **Sporton International Inc. LAB.**
- Report No.: FR611809, Report Version: Rev. 01

Dr. Daniel Lee
EMC/SAR Director

SPORTON International Inc.

6F, No.106, Sec. 1, Hsin Tai Wu Rd., Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

SPORTON International Inc.

TEL : 886-2-2696-2468

FAX : 886-2-2696-2255

Report Version: Rev. 01



Table of Contents

History of this test report.....	ii
1. General Description of Equipment under Test.....	1
1.1 Applicant	1
1.2 Manufacturer	1
1.3 Basic Description of Equipment under Test	1
1.4 Feature of Equipment under Test	2
2 Test Configuration of Equipment under Test	3
2.1 Test Manner	3
2.2 Test Mode	3
2.3 Connection Diagram of Test System	3
2.4 Ancillary Equipment List.....	3
3. RF Utility	4
4. General Information of Test.....	5
4.1 Test Voltage	5
4.2 Standard for Methods of Measurement.....	5
4.3 Test in Compliance with	5
4.4 Frequency Range Investigated	5
4.5 Test Distance	5
5. Test Data and Test Result.....	6
5.1 List of Measurements and Examinations	6
5.2 6dB Bandwidth Measurement	8
5.3 Power Spectral Density Measurement.....	15
5.4 Band Edges Measurement.....	23
5.5 Hopping Channel Separation	32
5.6 Number of Hopping Frequency	36
5.7 Hopping Channel Bandwidth.....	38
5.8 Dwell Time of Each Frequency	42
5.9 Peak Output Power Measurement	62
5.10 Conducted Emission	67
5.11 Radiated Emission Measurement	74
5.12 Antenna Requirements	118
6. List of Measuring Equipments Used	119
7. Uncertainty Evaluation.....	120
Appendix A. Photographs of EUT External	
Appendix B. Photographs of EUT Internal	
Appendix C. Photographs of Setup	



History of this test report

Report Issue Date: Mar. 10, 2006

Report No.	Description



1. General Description of Equipment under Test

1.1 Applicant

Chi Mei Communication Systems, Inc.

11F, No. 39, Chung Hua Road Sec. 1, Taipei 100, Taiwan, R.O.C.

1.2 Manufacturer

Chi Mei Communication Systems, Inc.

11F, No. 39, Chung Hua Road Sec. 1, Taipei 100, Taiwan, R.O.C.

1.3 Basic Description of Equipment under Test

Equipment	: GSM/GPRS/EDGE Smart phone
Trade Name	: DBS
Model No.	: Debussy
FCC ID	: QDJ-0602DBS01
Power Supply Type	: Switching, From battery 3.7V
AC Power Cord	: AC 120V, Weave-shielded, Wall-mount, 2 meter, 2pin
Battery	: Foxlink, 825-006380D
Adapter	: SAC, SC103B-05

1.4 Feature of Equipment under Test

Product Feature & Specification				
1. Type of Modulation	GSM 850/PCS 1900: GMSK WLAN: DSSS / OFDM BT: GFSK			
2. Number of Channels	WLAN: 11 Channels BT: 79 Channels			
3. Frequency Band	GSM 850: 824-849 MHz(Tx), 869 ~ 894 MHz(Rx) PCS 1900: 1850.2-1909.8 MHz(Tx), 1930.2-1989.8 MHz(Rx) WLAN/BT: 2.4GHz~2.4835GHz			
4. Carrier Frequency of each channel	WLAN: 2412MHz+(n-1)*5MHz, n=1~11 BT: 2402MHz+n*1MHz, n=0~78			
5. Channel Spacing	WLAN: 5MHz BT: 1MHz			
6. Maximum Output Power to Antenna (Normal Condition)	GSM 850: 32.83 dBm PCS 1900: 29.70 dBm 802.11b: 14.12 dBm / 802.11g: 13.49 dBm BT: 0.92 dBm			
7. Type of Antenna Connector	N/A			
8. Antenna Type	PIFA			
9. Antenna Gain	WLAN: 0 dBi Bluetooth: 0 dBi			
10. HW Version	Ver. 3			
11. SW Version	Ver. 0.14			
12. Function Type	Transmitter		Transceiver	V
13. Power Rating (DC/AC Voltage) :	5V / 2A			

2 Test Configuration of Equipment under Test

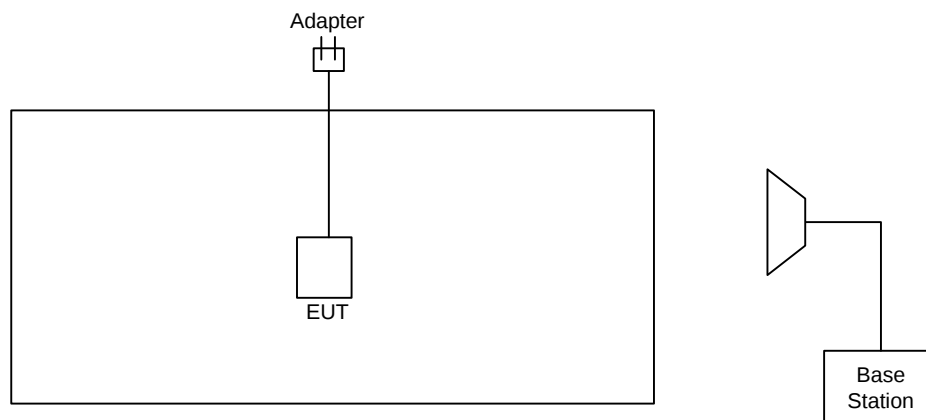
2.1 Test Manner

- The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.
- For spurious emission below 1GHz, only one channel of each application was tested because it is not related to channel selection.
- The EUT is programmed to transmit signal continuously for all testings.
- Frequency range investigated: conduction 150 kHz to 30 MHz, radiation 30 MHz to 25000MHz.

2.2 Test Mode

Application			
	802.11b	802.11g	BT
Radiated Emission	Mode 1: Tx_CH01_2412 MHz	Mode 4: Tx_CH01_2412 MHz	Mode 7: Tx_CH00_2402 MHz
	Mode 2: Tx_CH06_2437 MHz	Mode 5: Tx_CH06_2437 MHz	Mode 8: Tx_CH39_2441 MHz
	Mode 3: Tx_CH11_2462 MHz	Mode 6: Tx_CH11_2462 MHz	Mode 9: Tx_CH78_2480 MHz
Conducted Emission	Mode 1: PCS1900 Idle Mode + MPEG4 + Adapter + BT Link + WLAN Link		
	Mode 2: PCS1900 Idle Mode + Camera + Adapter + BT Link + WLAN Link		
	Mode 3: PCS1900 Idle Mode + USB Link + BT Link + WLAN Link		

2.3 Connection Diagram of Test System



2.4 Ancillary Equipment List

Item	Asset	Model Name	Power Cord
1.	Base Station (R&S)	CMU 200	N/A



3. RF Utility

The programmed RF Utility is installed in EUT to provide channel selection, power level, data rate and the application type. RF Utility can send transmitting signal for all testings.



4. General Information of Test

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 : 886-3-318-0055
Test Site No : CO01-HY, 03CH06-HY

4.1 Test Voltage

120V/ 60Hz

4.2 Standard for Methods of Measurement

ANSI C63.4-2003

4.3 Test in Compliance with

47 CFR Part 15 Subpart C

4.4 Frequency Range Investigated

a. Radiation: from 30 MHz to 25000 MHz

4.5 Test Distance

The test distance of radiated emission from antenna to EUT is 3 m.



5. Test Data and Test Result

5.1 List of Measurements and Examinations

The Emission Mode: Wireless LAN

FCC Rule	Description of Test	Result
15.207	Conducted Emission	Pass
15.247(a)(2)	6dB Bandwidth	Pass
15.247(b)	Maximum Peak Output Power	Pass
15.209(a)	Radiated Emission	Pass
15.247 (c)	100kHz Bandwidth of Frequency Band Edges	Pass
15.247(d)	Power Spectral Density	Pass
15.203 15.247(b)(4)	Antenna Requirement	Pass

**The Emission Mode: Bluetooth**

FCC Rule	Description of Test	Result
15.207	Conducted Emission	Pass
<u>15.247(a) (1)</u>	Hopping Channel Bandwidth	Pass
<u>15.247(a)(1)</u>	Hopping Channel Separation	Pass
<u>15.247(a)(1)(iii)</u>	Number of Hopping Frequency Used	Pass
<u>15.247(a)(1)(iii)</u>	Dwell Time of Each Frequency	Pass
<u>15.247(b)</u>	Output Power	Pass
15.247(c)	100kHz Bandwidth of Frequency Band Edges	Pass
15.209(a)	Radiated Emission	Pass
<u>15.203</u> 15.247(b)(4)	Antenna Requirement	Pass

5.2 6dB Bandwidth Measurement

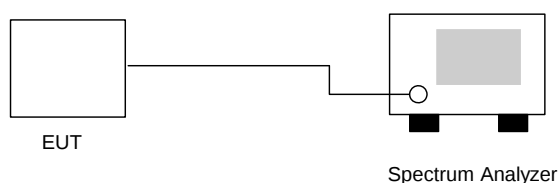
5.2.1 Measuring Instruments :

As described in chapter 6 of this test report.

5.2.2 Test Procedure :

1. The transmitter output was connected to the spectrum analyzer directly.
2. Set RBW of spectrum analyzer to 100kHz and VBW to 100kHz.
3. The 6 dB bandwidth is defined as the frequency range where the power is higher than the peak power minus 6dB.

5.2.3 Test Setup Layout :



5.2.4 Test Result :

- Application Type : WLAN 802.11b/g
- Temperature : 23°C
- Relative Humidity : 51%
- Test Enginner : Andy

802.11b

Channel	Frequency (MHz)	6dB Emission bandwidth (MHz)	Limits (MHz)	Plot Ref. No.
01	2412	8.91	> 0.5MHz	Mode 1
06	2437	8.94	> 0.5MHz	Mode 2
11	2462	8.94	> 0.5MHz	Mode 3

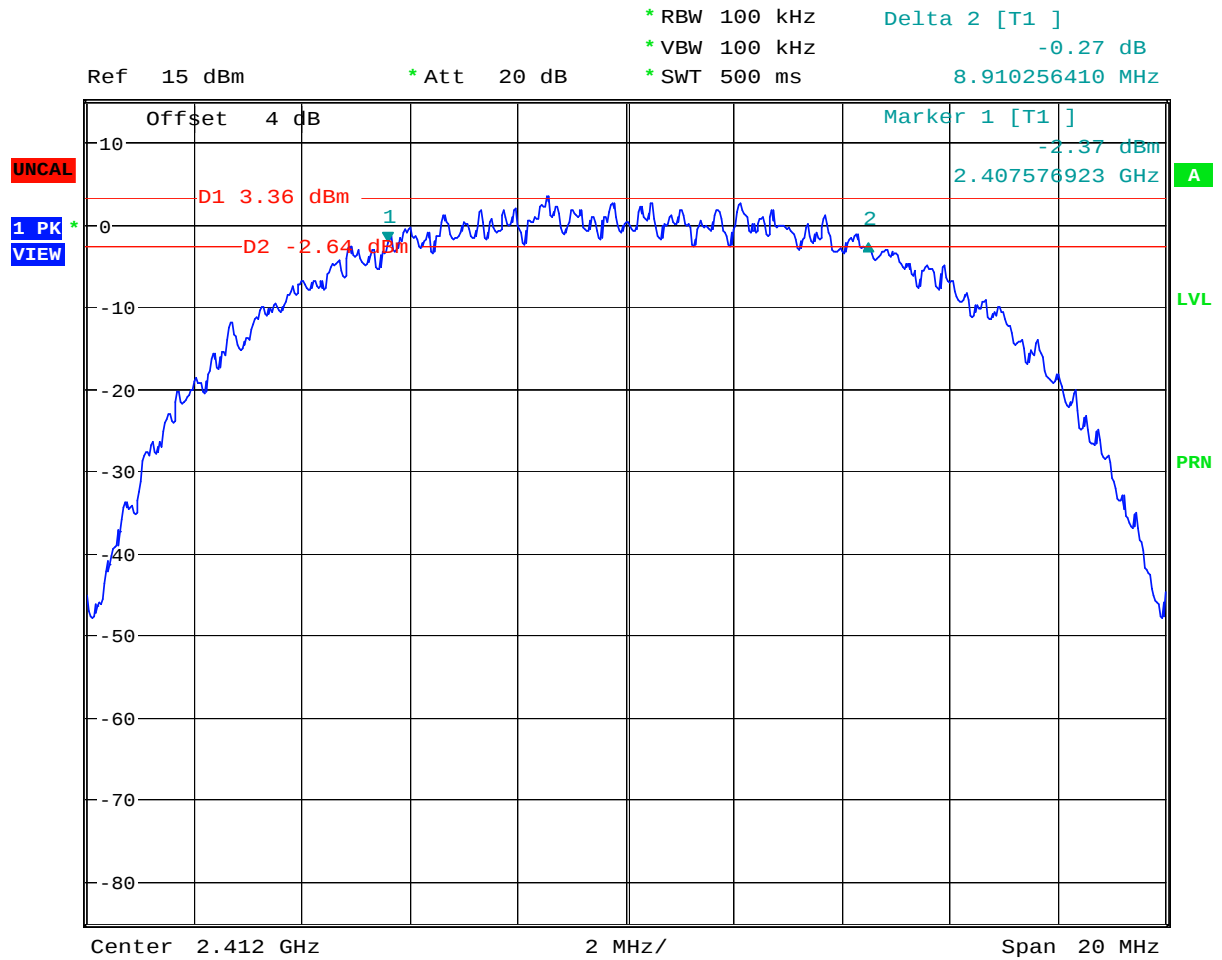
802.11g

Channel	Frequency (MHz)	6dB Emission bandwidth (MHz)	Limits (MHz)	Plot Ref. No.
01	2412	16.53	> 0.5MHz	Mode 4
06	2437	16.50	> 0.5MHz	Mode 5
11	2462	16.53	> 0.5MHz	Mode 6



5.2.5 6dB Bandwidth

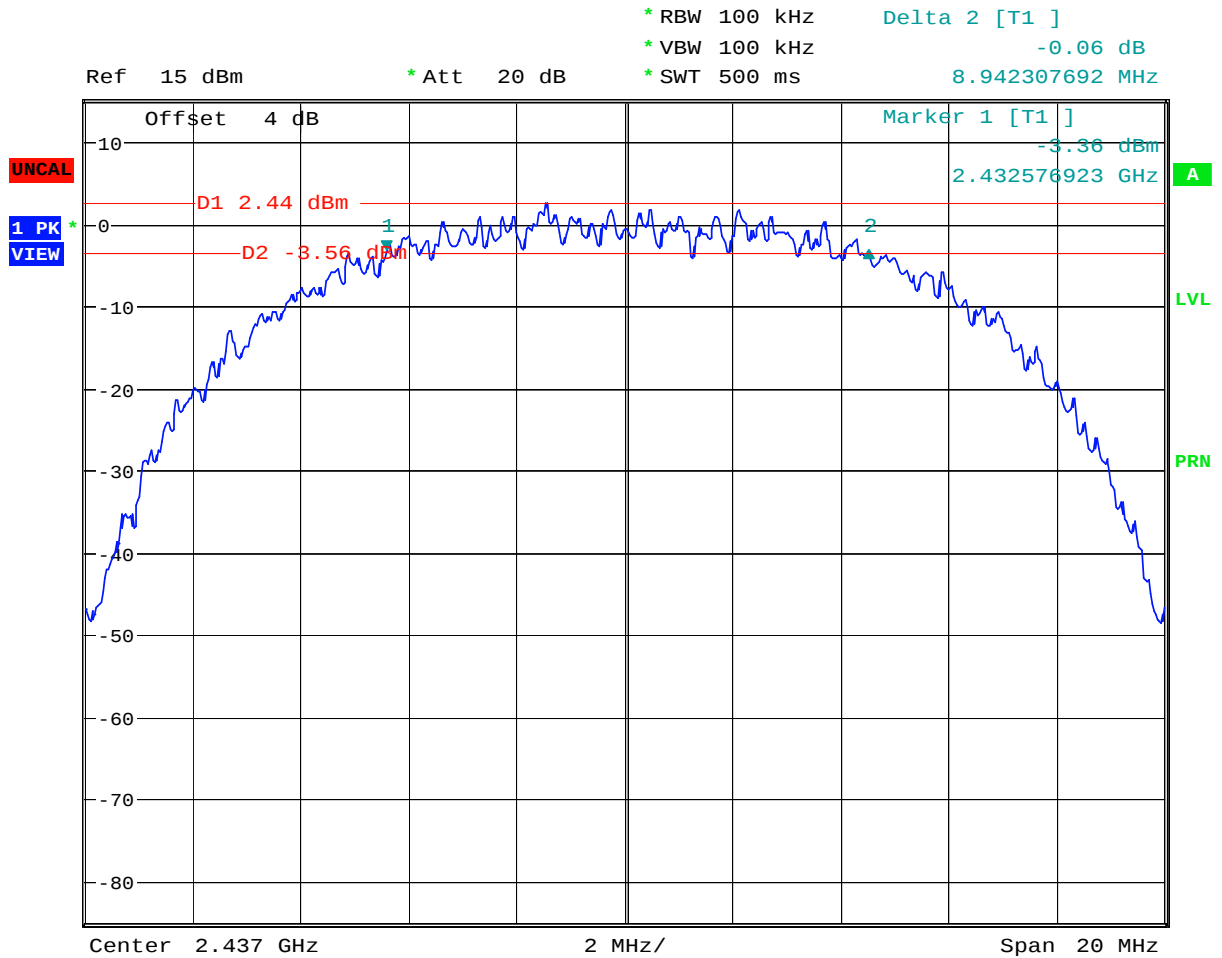
Mode 1



Date: 9.FEB.2006 17:03:49



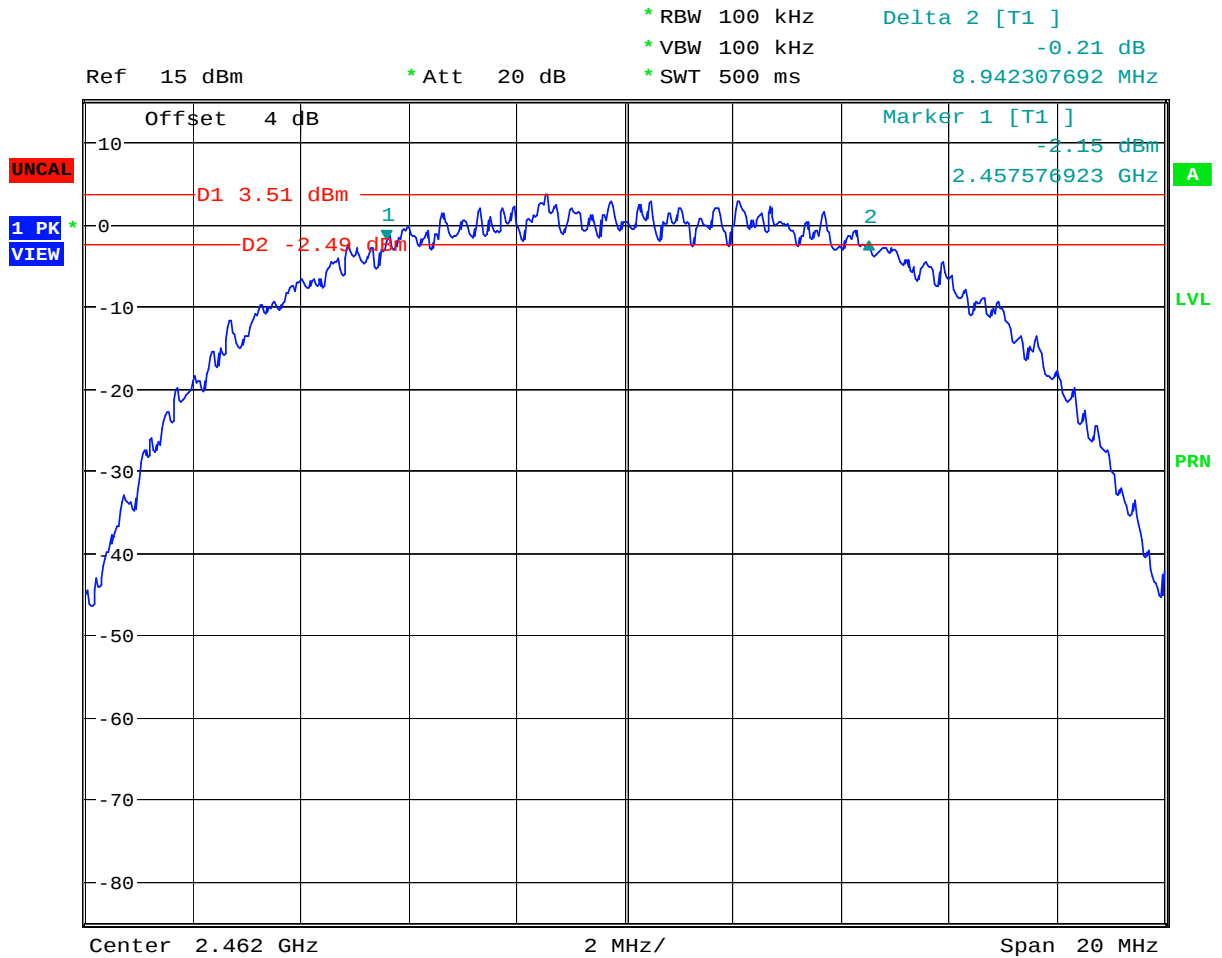
Mode 2



Date: 9.FEB.2006 17:13:35



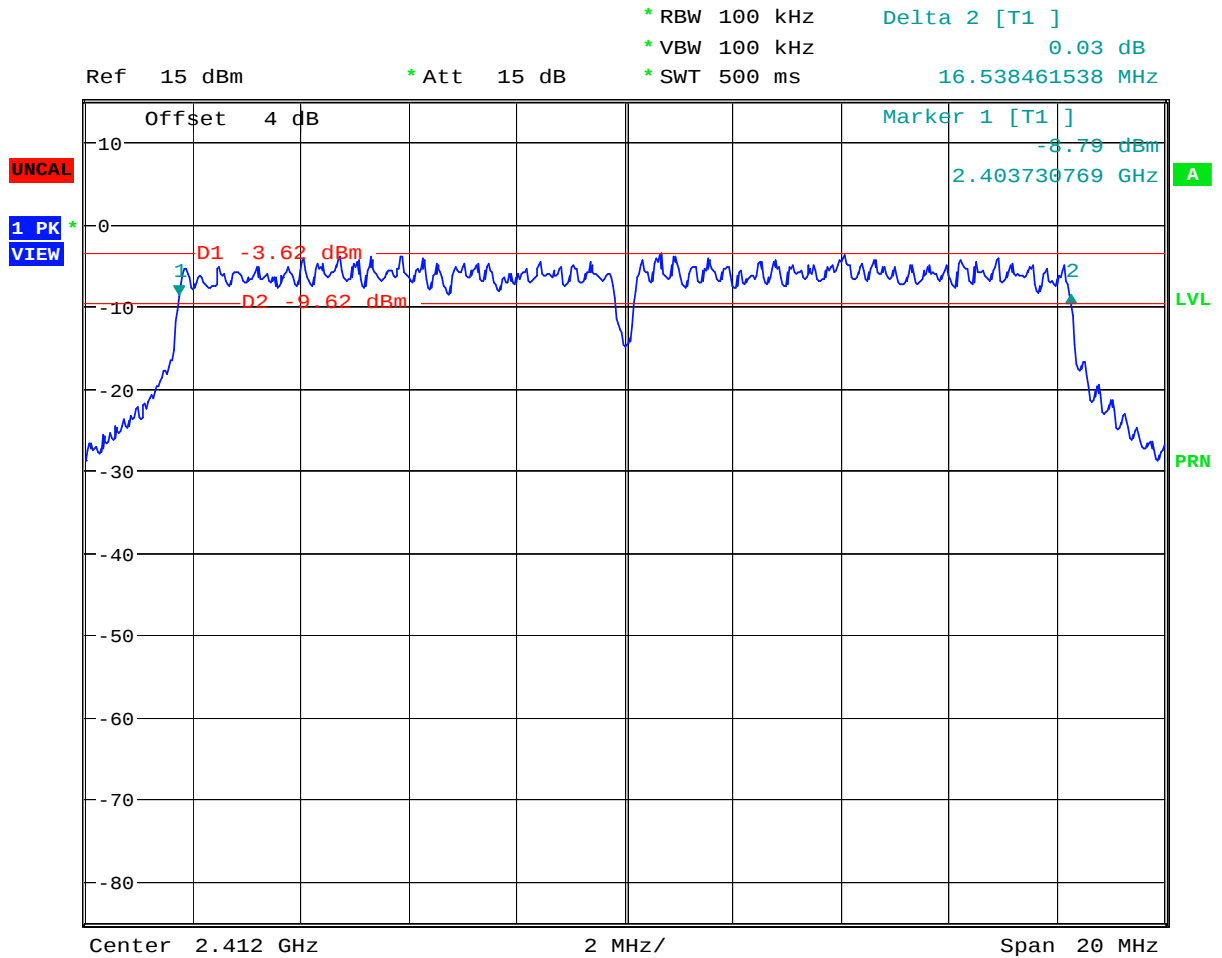
Mode 3



Date: 9.FEB.2006 17:10:00



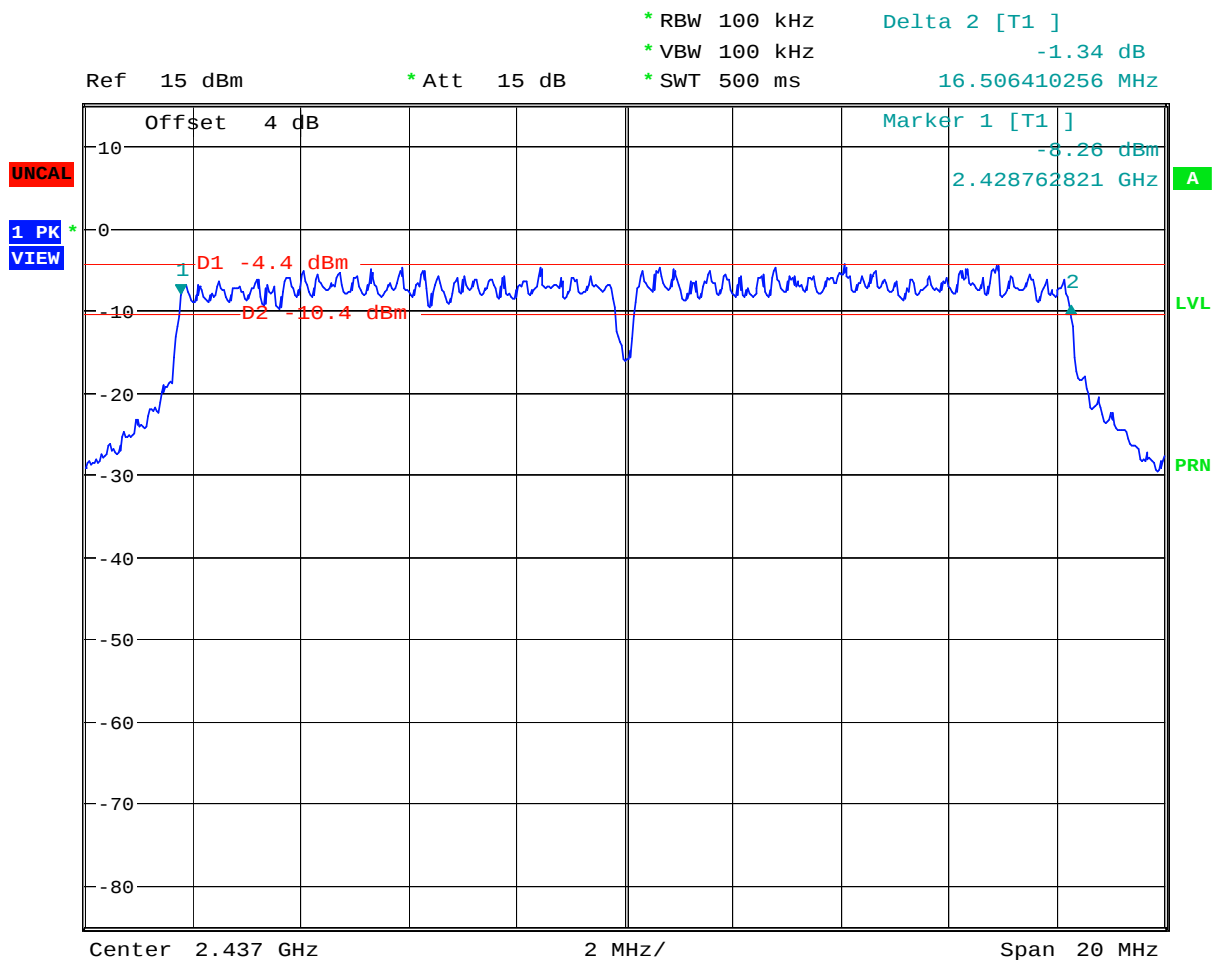
Mode 4



Date: 9.FEB.2006 17:40:27



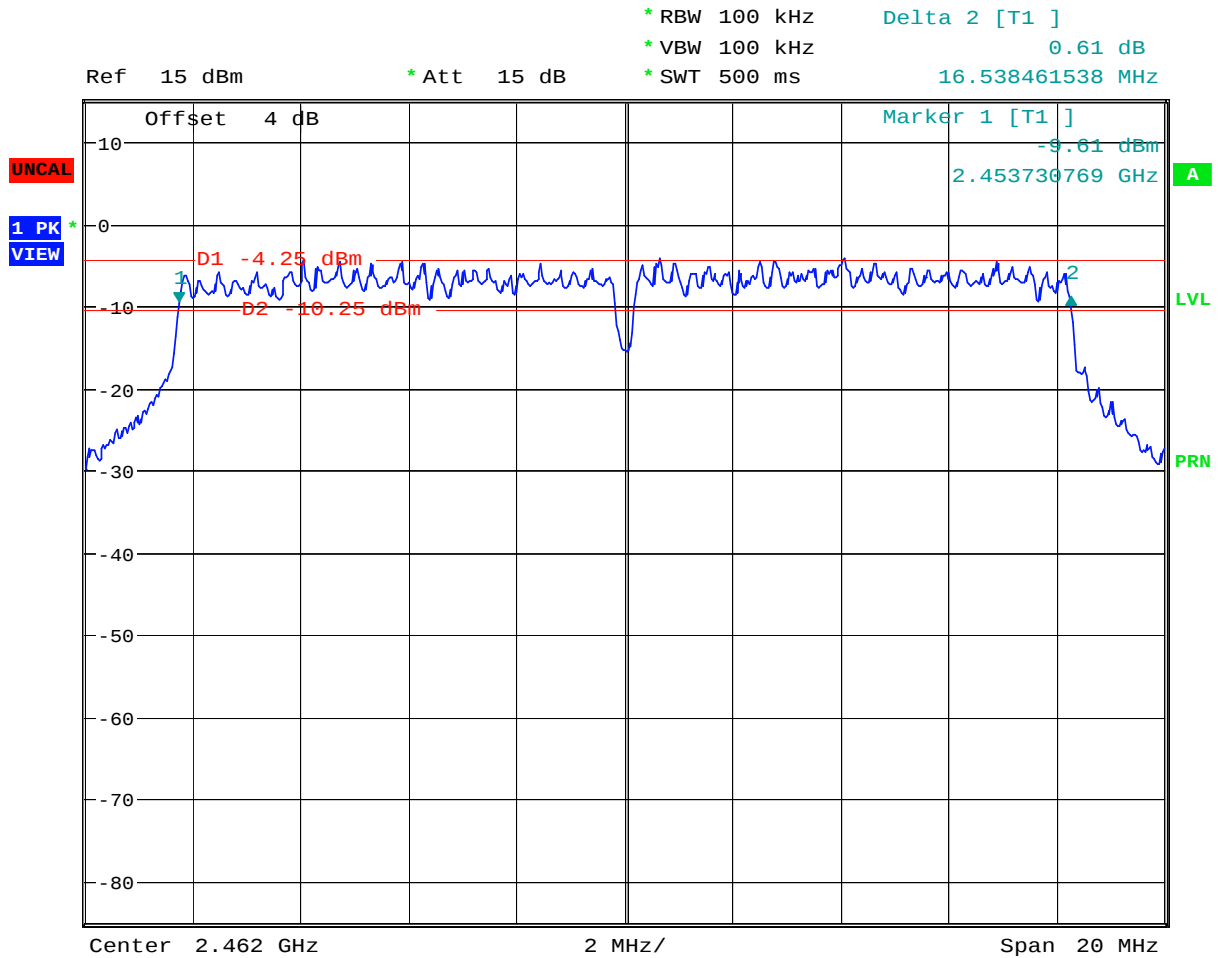
Mode 5



Date: 9.FEB.2006 17:43:16



Mode 6



Date: 9.FEB.2006 17:44:27

5.3 Power Spectral Density Measurement

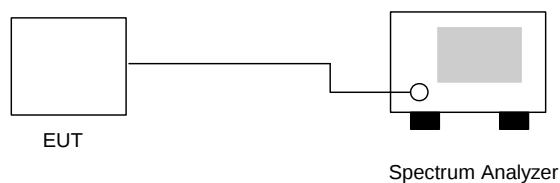
5.3.1 Measuring Instruments :

As described in chapter 6 of this test report.

5.3.2 Test Procedure :

1. The transmitter output was connected to spectrum analyzer directly.
2. The spectrum analyzer's resolution bandwidth was set at 3kHz RBW and 30kHz VBW as that of the fundamental frequency. Set the sweep time=span/3kHz.
3. The power spectral density was measured and recorded.
4. The sweep time is allowed to be longer than span/3kHz for a full response of the mixer in the spectrum analyzer.

5.3.3 Test Setup Layout :



**5.3.4 Test Result :**

- Application Type : 802.11b/g
- Temperature : 23°C
- Relative Humidity : 51%
- Test Enginner : Andy

802.11b

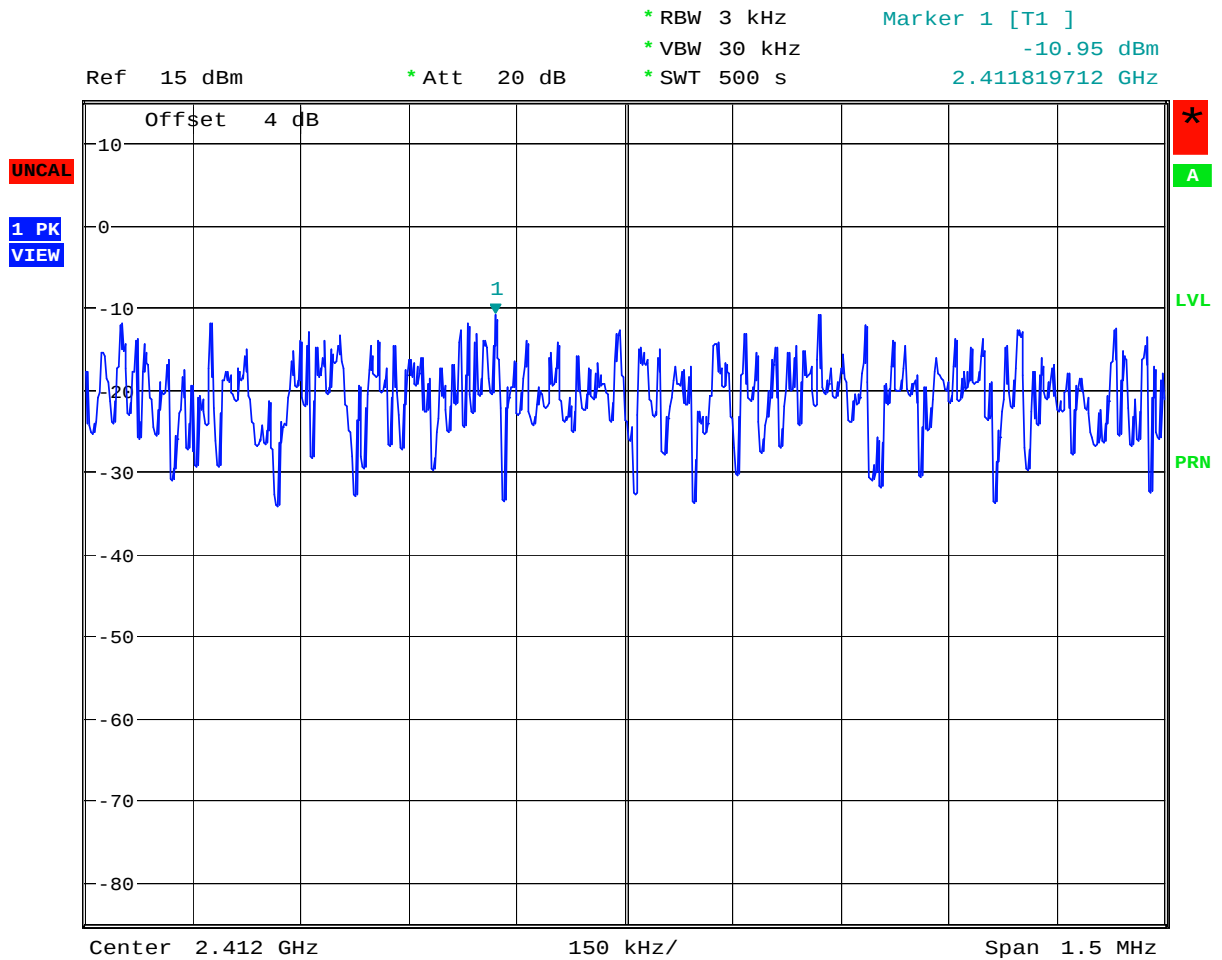
Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Plot Ref. No.
01	2412	-10.95	8	Mode 1
06	2437	-12.56	8	Mode 2
11	2462	-10.10	8	Mode 3

802.11g

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Plot Ref. No.
01	2412	-20.68	8	Mode 4
06	2437	-19.70	8	Mode 5
11	2462	-17.90	8	Mode 6

**5.3.5 Power Spectral Density**

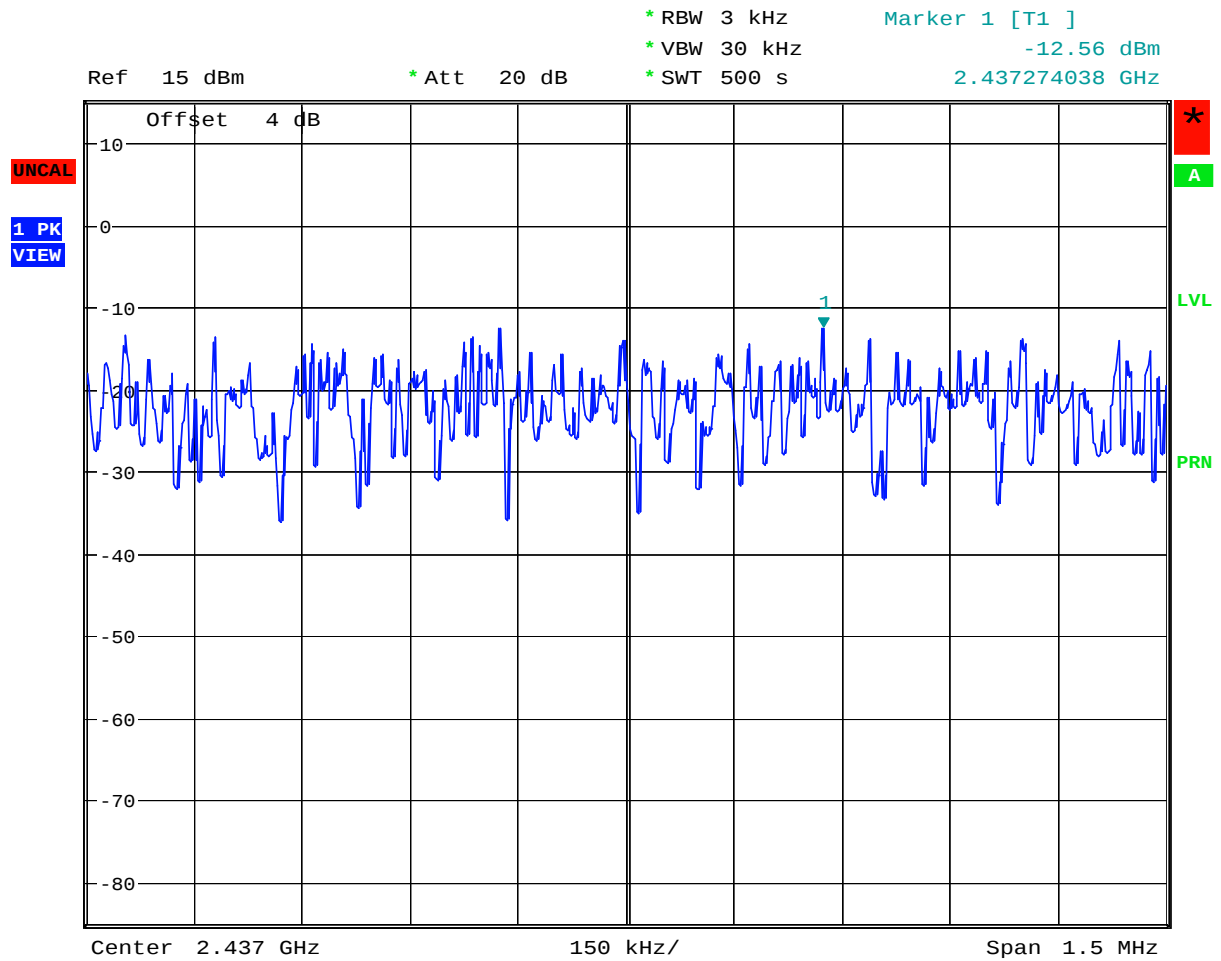
Mode 1



Date: 9.FEB.2006 17:27:10



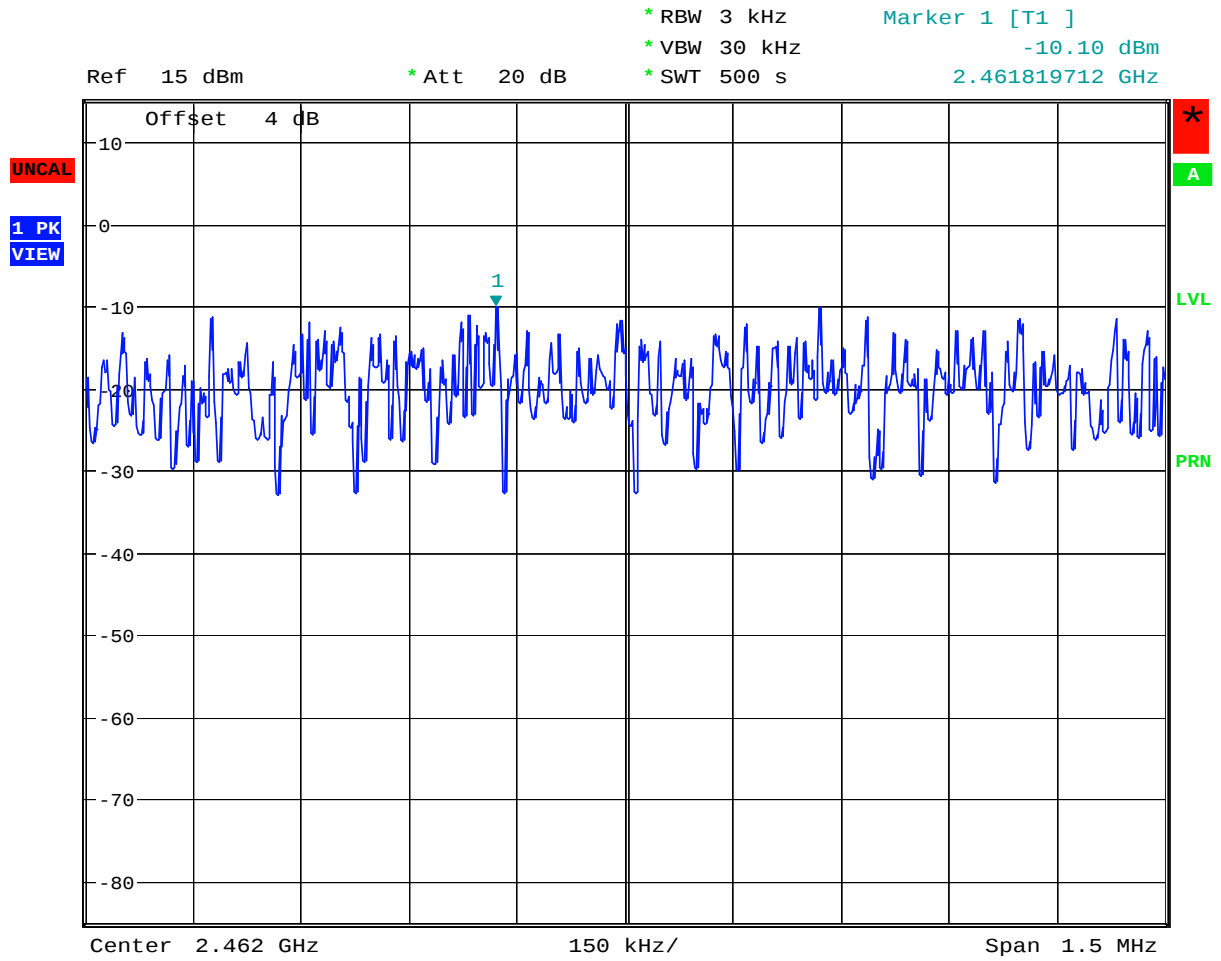
Mode 2



Date: 9.FEB.2006 17:25:39



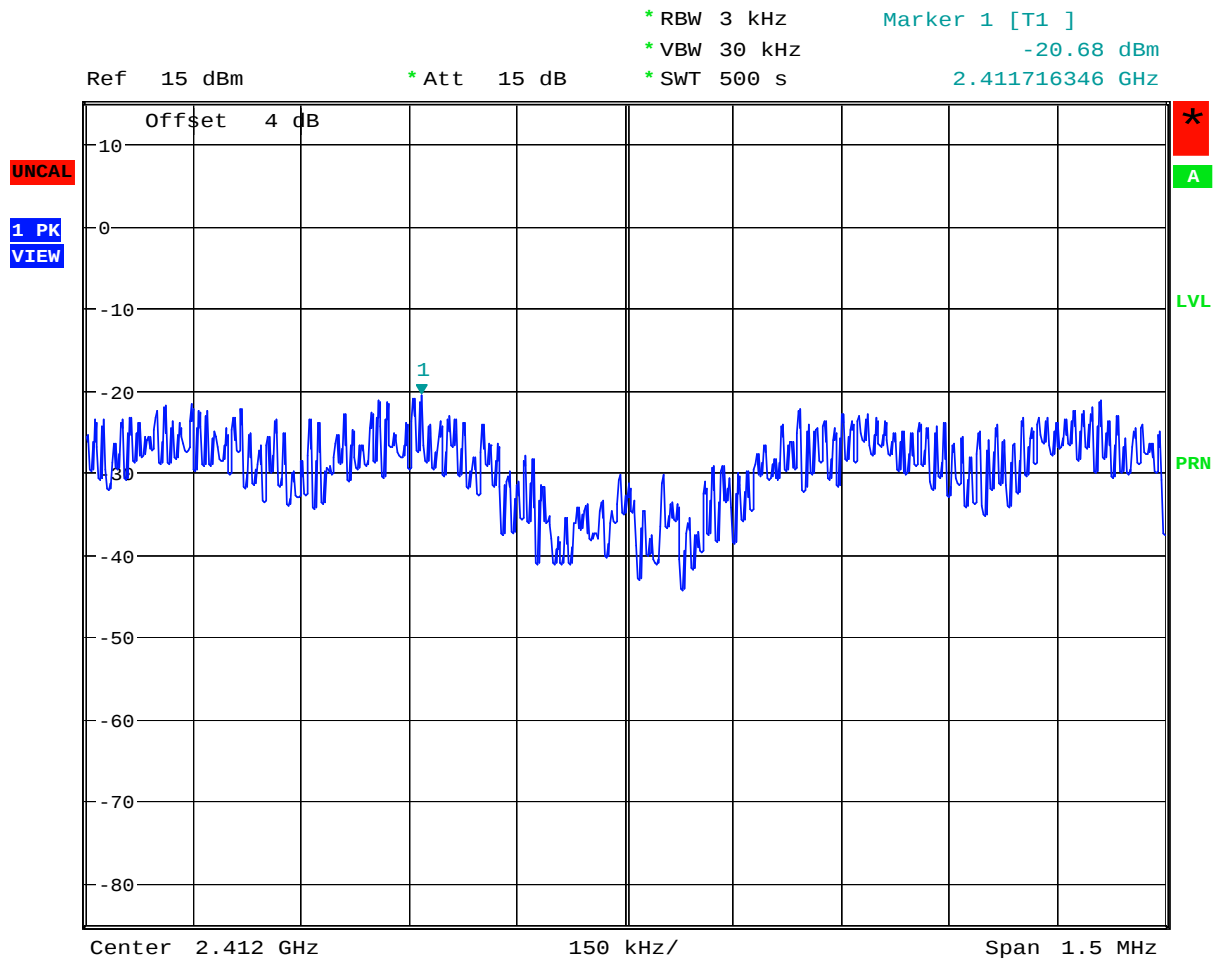
Mode 3



Date: 9.FEB.2006 17:29:00



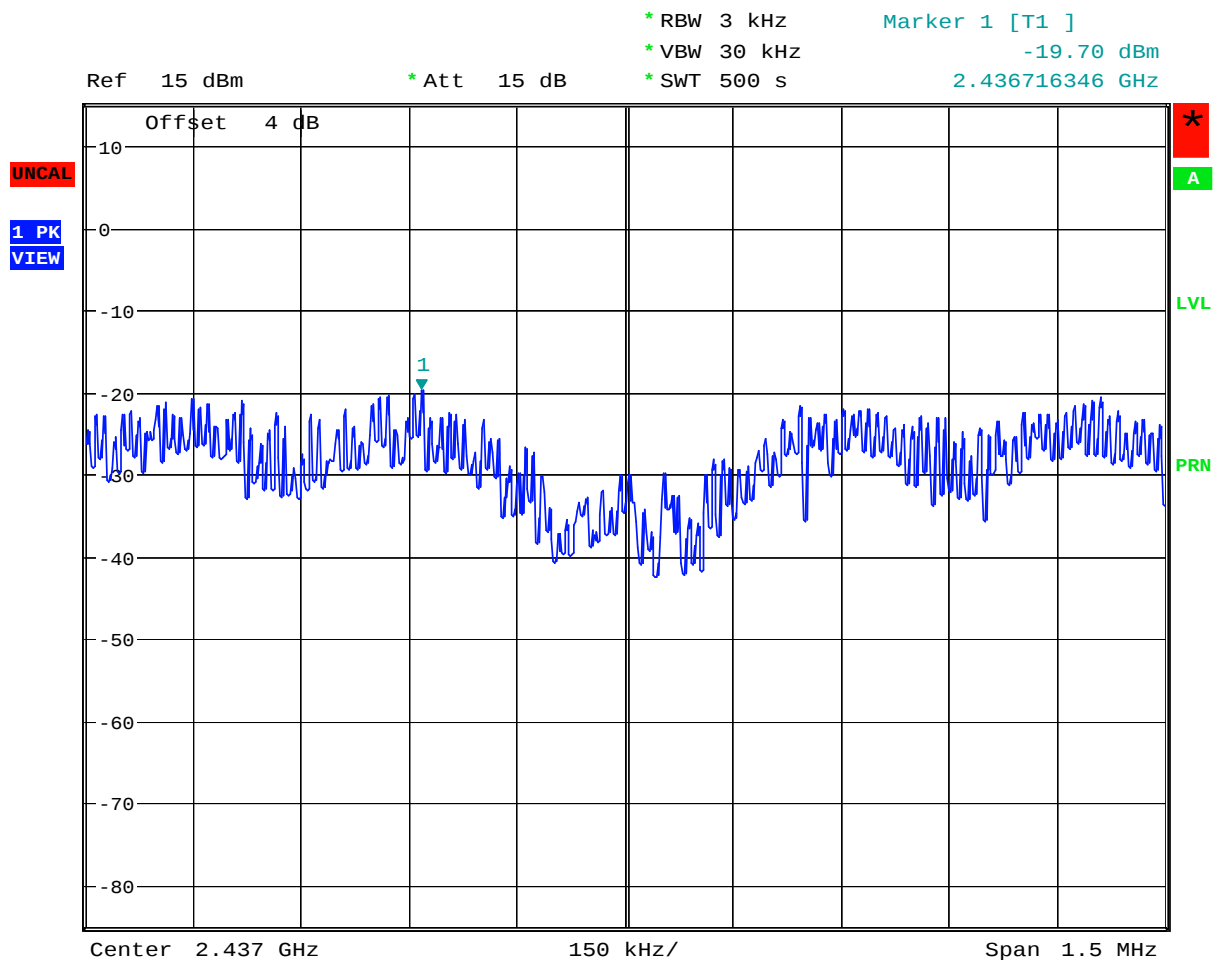
Mode 4



Date: 10.FEB.2006 02:29:56



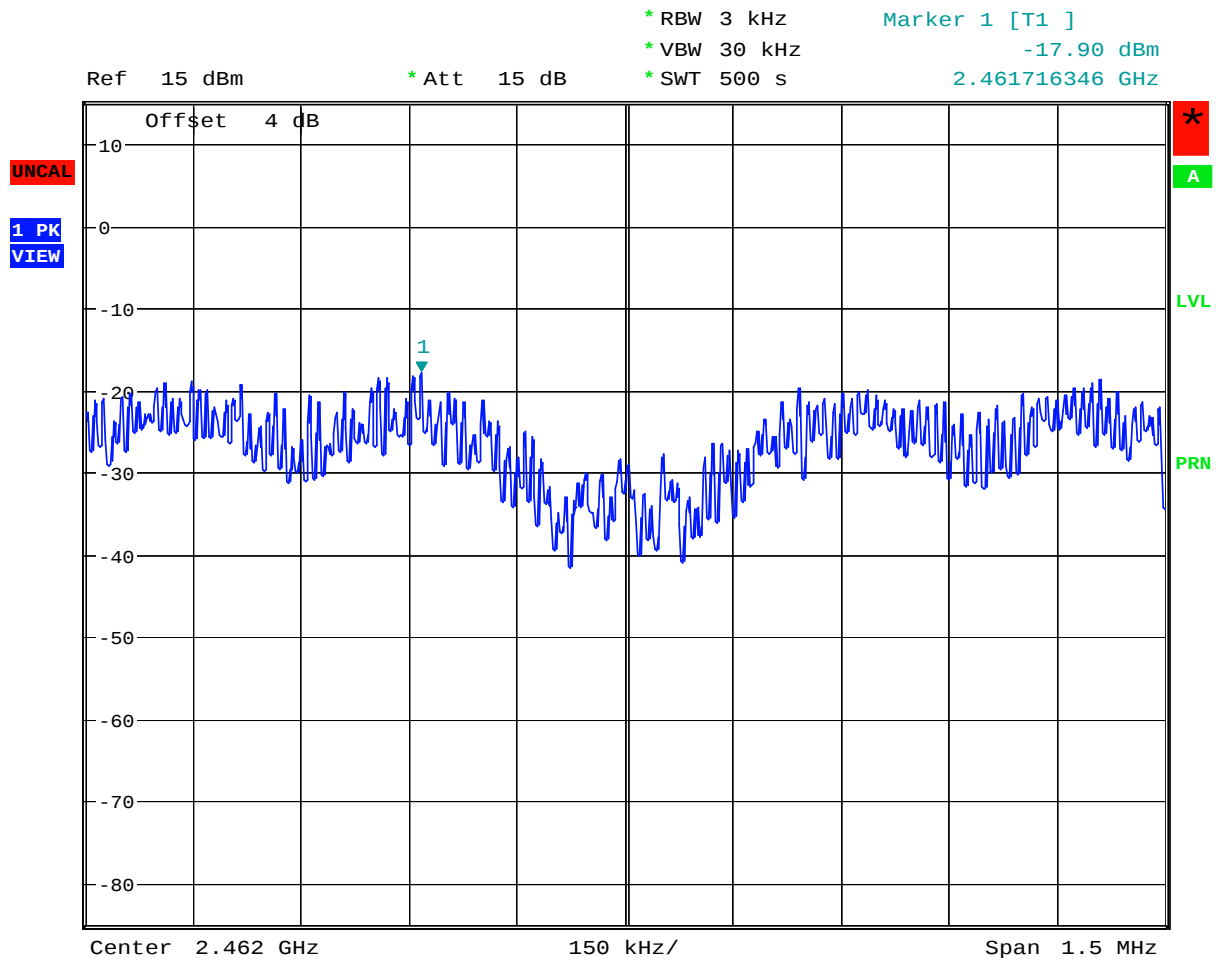
Mode 5



Date: 10.FEB.2006 02:18:28



Mode 6



Date: 10.FEB.2006 01:59:17



5.4 Band Edges Measurement

5.4.1 Measuring Instruments :

As described in chapter 6 of this test report.

5.4.2 Test Procedure :

1. The transmitter output was connected to the spectrum analyzer via a low lose cable.
2. Set both RBW and VBW of spectrum analyzer to 100kHz with suitable frequency span including 100 kHz bandwidth from band edge.
3. The band edges was measured and recorded.

5.4.3 Test Result :

- Application Type : WLAN 802.11b/g and BT
- Temperature : 23°C
- Relative Humidity : 51%
- Test Enginner : Andy
- Test Result in WLAN lower band (Channel 1) : PASS
- Test Result in WLAN higher band (Channel 11) : PASS
- Test Result in BT lower band (Channel 00) : PASS
- Test Result in BT higher band (Channel 78) : PASS

5.4.4 Note on Band Edge Emission :

➤WLAN 802.11b

CH01 (Horizontal)

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2390.00	69.16	-4.84	74.00	69.87	30.48	4.26	35.46	100	0	Peak
2390.00	49.60	-4.40	54.00	50.31	30.48	4.26	35.46	100	208	Average

CH01 (Vertical)

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2390.00	59.69	-14.31	74.00	60.40	30.48	4.26	35.46	200	0	Peak
2390.00	43.27	-10.73	54.00	43.98	30.48	4.26	35.46	100	256	Average

**CH11 (Horizontal)**

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2483.50	59.74	-14.26	74.00	60.48	30.41	4.36	35.51	100	0	Peak
2483.50	46.27	-7.73	54.00	47.01	30.41	4.36	35.51	100	202	Average

CH11 (Vertical)

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2483.50	52.23	-21.77	74.00	52.97	30.41	4.36	35.51	200	0	Peak
2483.50	41.87	-12.31	54.00	42.61	30.41	4.36	35.51	100	255	Average

➤WLAN 802.11g**CH01 (Horizontal)**

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2390.00	71.68	-2.32	74.00	72.39	30.48	4.26	35.46	100	0	Peak
2390.00	52.83	-1.17	54.00	53.54	30.48	4.26	35.46	100	187	Average

CH01 (Vertical)

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2390.00	68.97	-5.03	74.00	69.68	30.48	4.26	35.46	100	0	Peak
2390.00	46.61	-7.39	54.00	47.32	30.48	4.26	35.46	100	253	Average

CH11 (Horizontal)

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2483.50	70.25	-3.75	74.00	70.99	30.41	4.36	35.51	199	360	Peak
2483.50	53.60	-0.40	54.00	54.34	30.41	4.36	35.51	100	197	Average

**CH11 (Vertical)**

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2483.50	72.14	-1.86	74.00	72.87	30.41	4.36	35.51	100	0	Peak
2483.50	53.14	-0.86	54.00	53.88	30.41	4.36	35.51	100	204	Average

➤BT**CH00 (Horizontal)**

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2390.00	51.48	-22.52	74.00	52.19	30.48	4.26	35.46	200	0	Peak
2390.00	39.39	-14.61	54.00	40.10	30.48	4.26	35.46	205	269	Average

CH00 (Vertical)

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2390.00	53.93	-20.07	74.00	54.65	30.48	4.26	35.46	100	0	Peak
2390.00	39.46	-14.54	54.00	40.17	30.48	4.26	35.46	100	101	Average

CH78 (Horizontal)

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2483.50	73.00	-1.00	74.00	73.74	30.41	4.36	35.51	100	0	Peak
2483.50	46.27	-7.73	54.00	47.01	30.41	4.36	35.51	105	269	Average

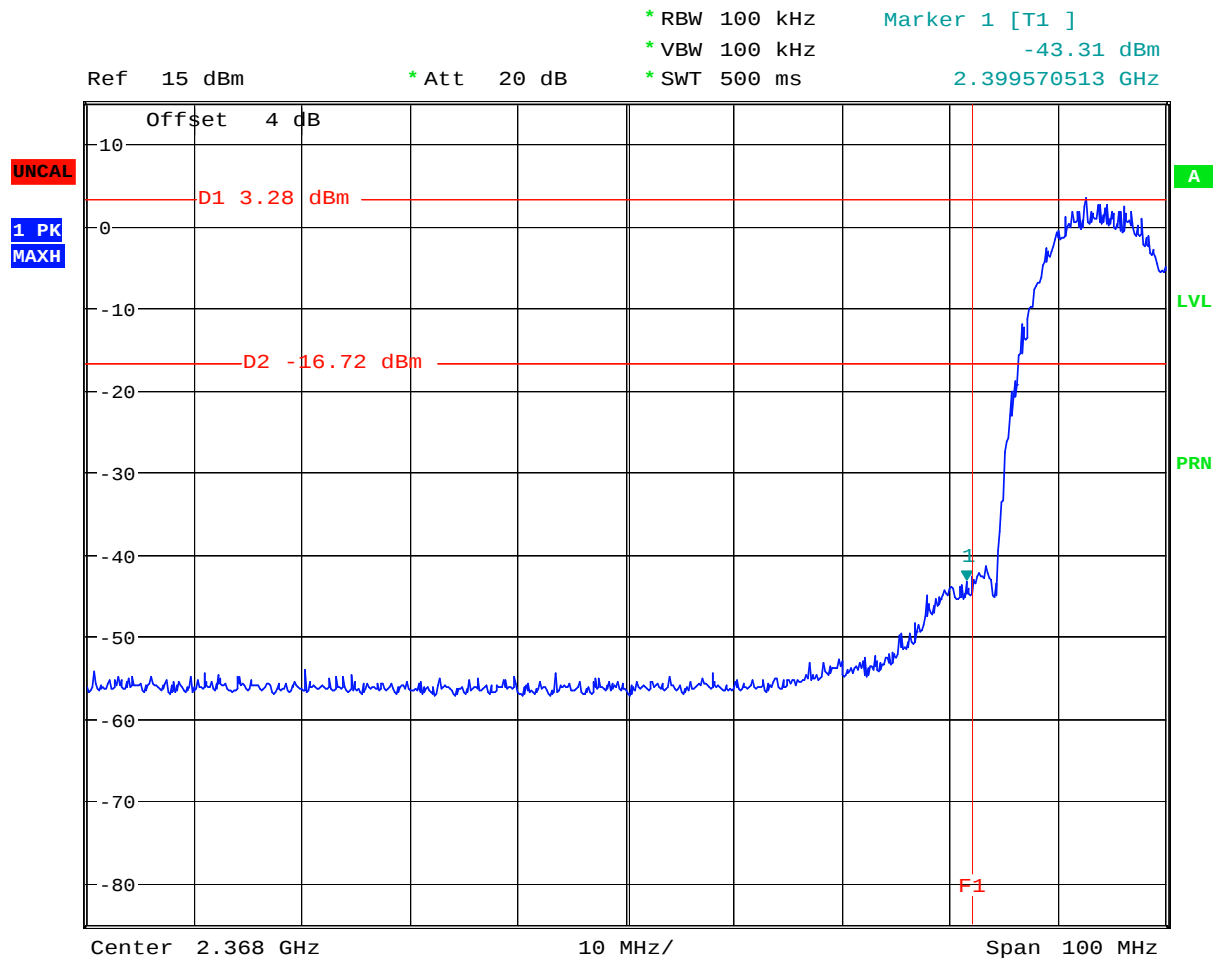
CH78 (Vertical)

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2483.50	61.19	-12.81	74.00	61.93	30.41	4.36	35.51	200	0	Peak
2483.50	47.52	-6.48	54.00	48.26	30.41	4.36	35.51	100	272	Average

**5.4.5 20dB Band Edge**

WLAN 802.11b

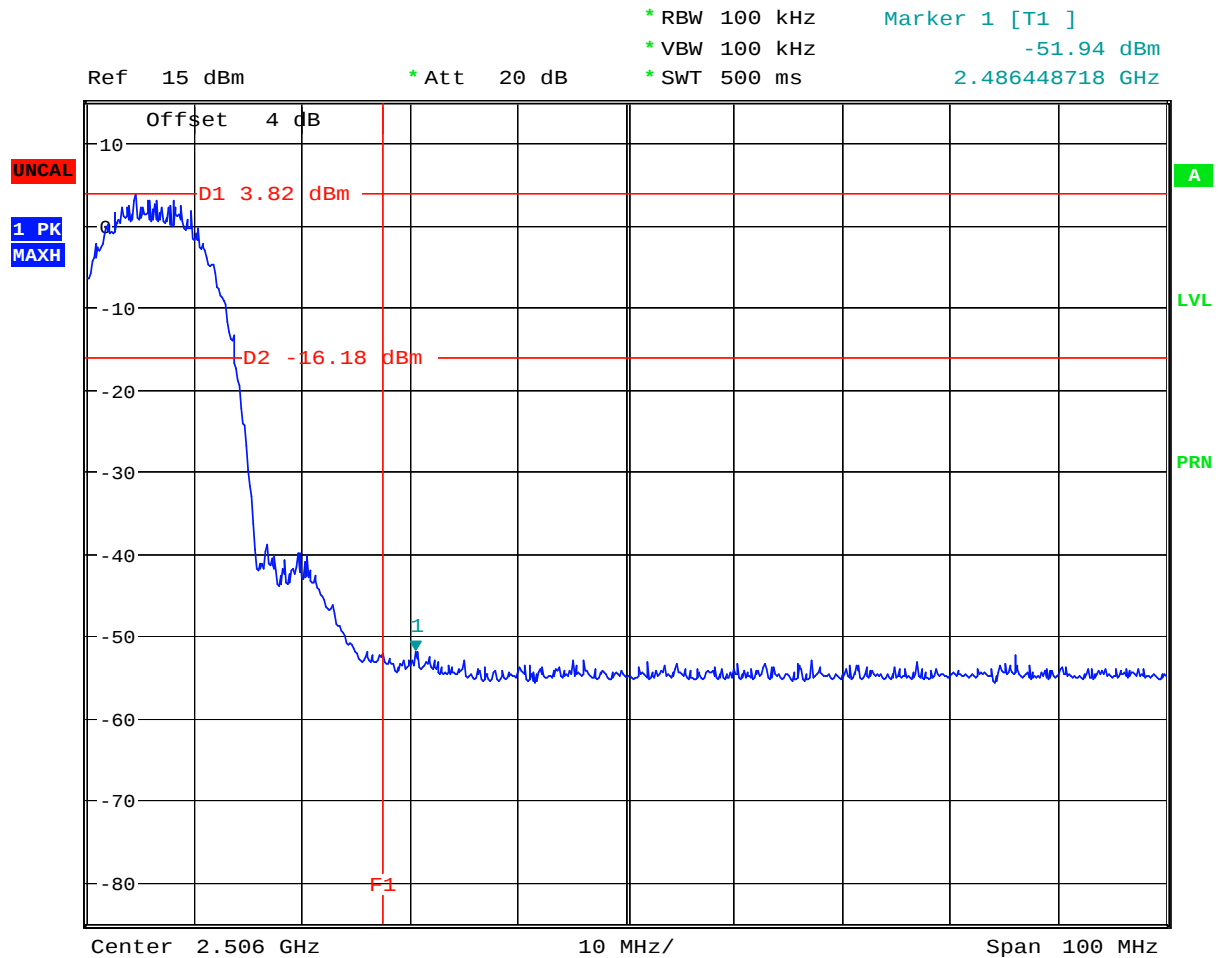
CH01



Date: 9.FEB.2006 17:05:33



CH11

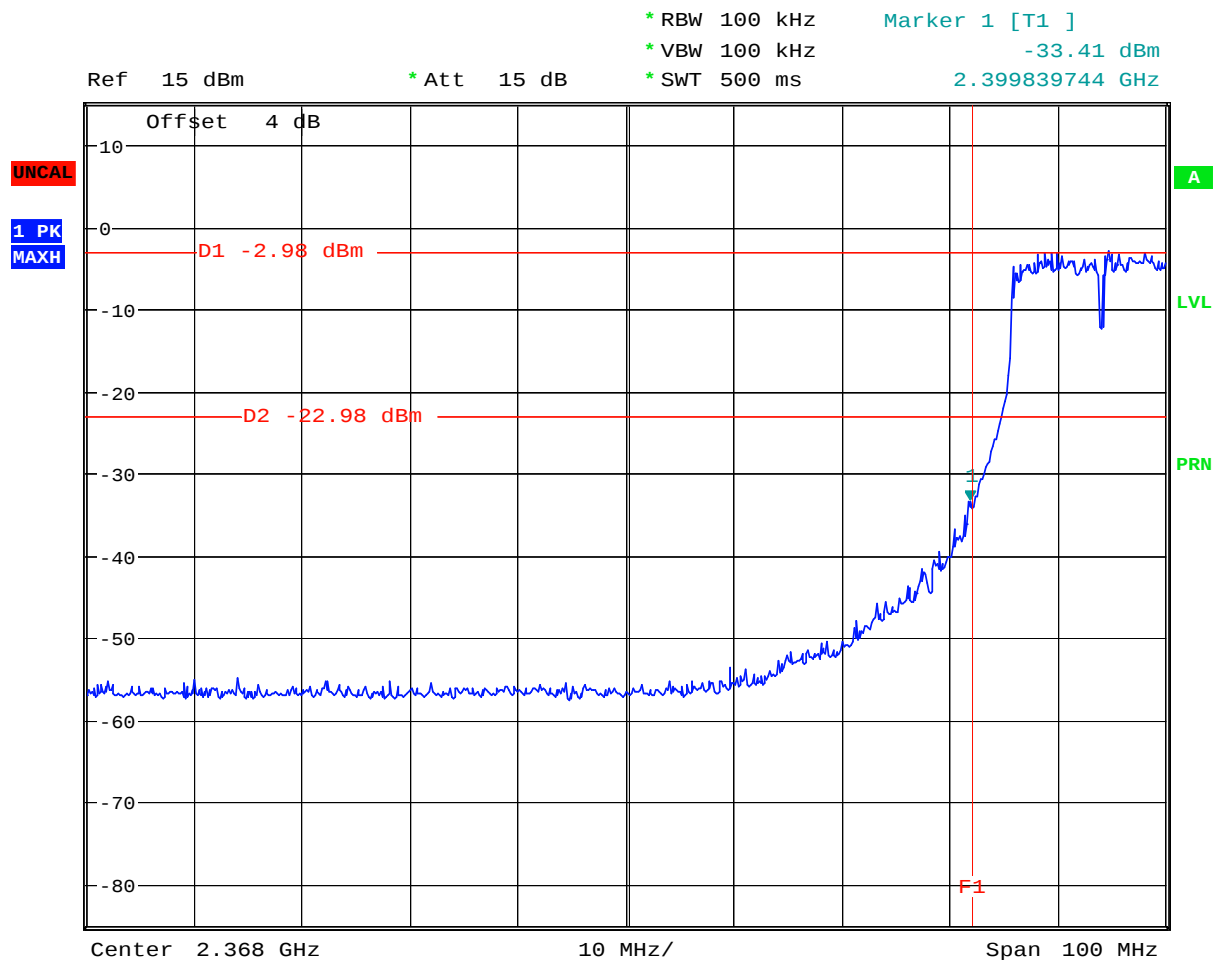


Date: 9.FEB.2006 17:07:27



WLAN 802.11g

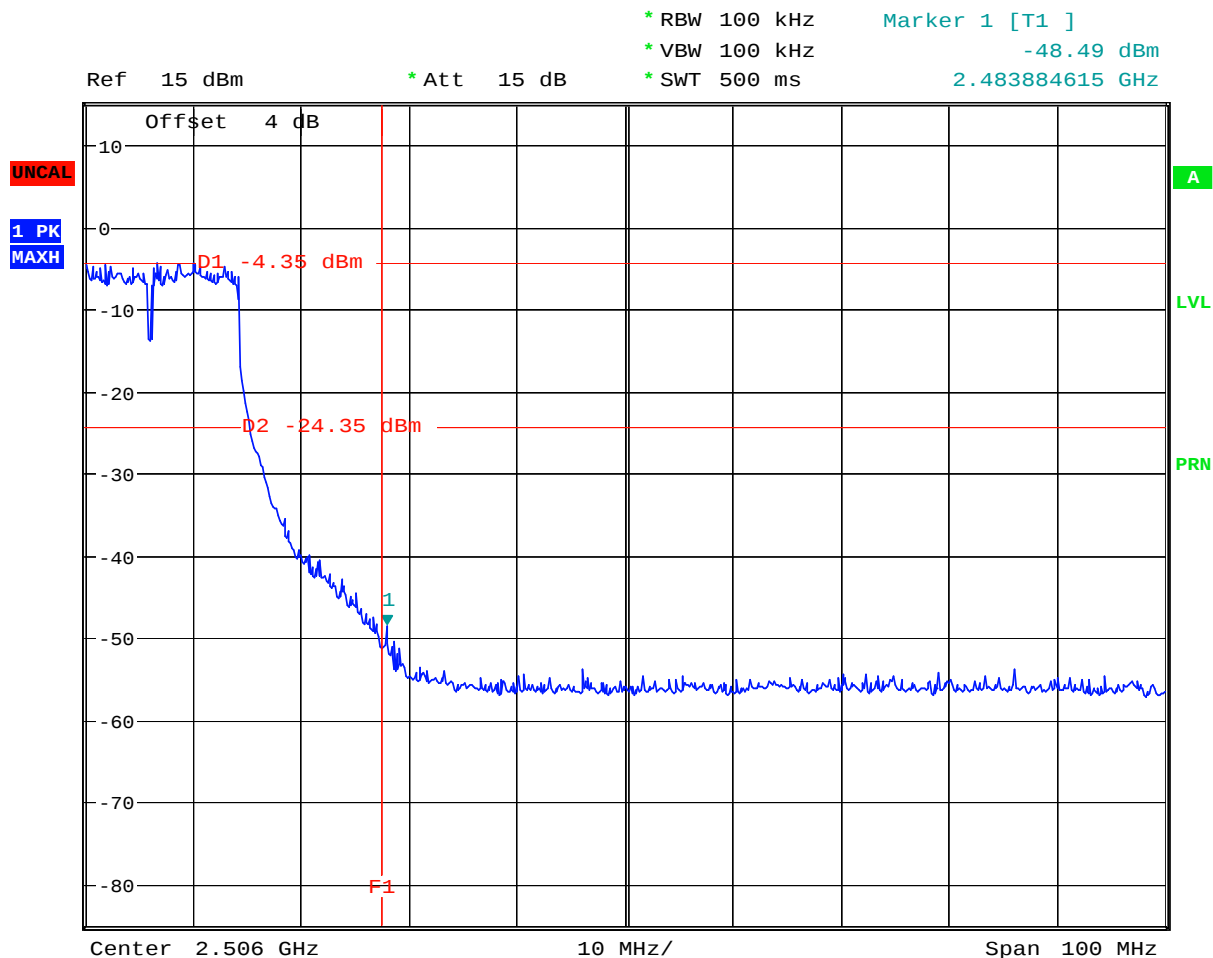
CH01



Date: 10.FEB.2006 01:23:11



CH11

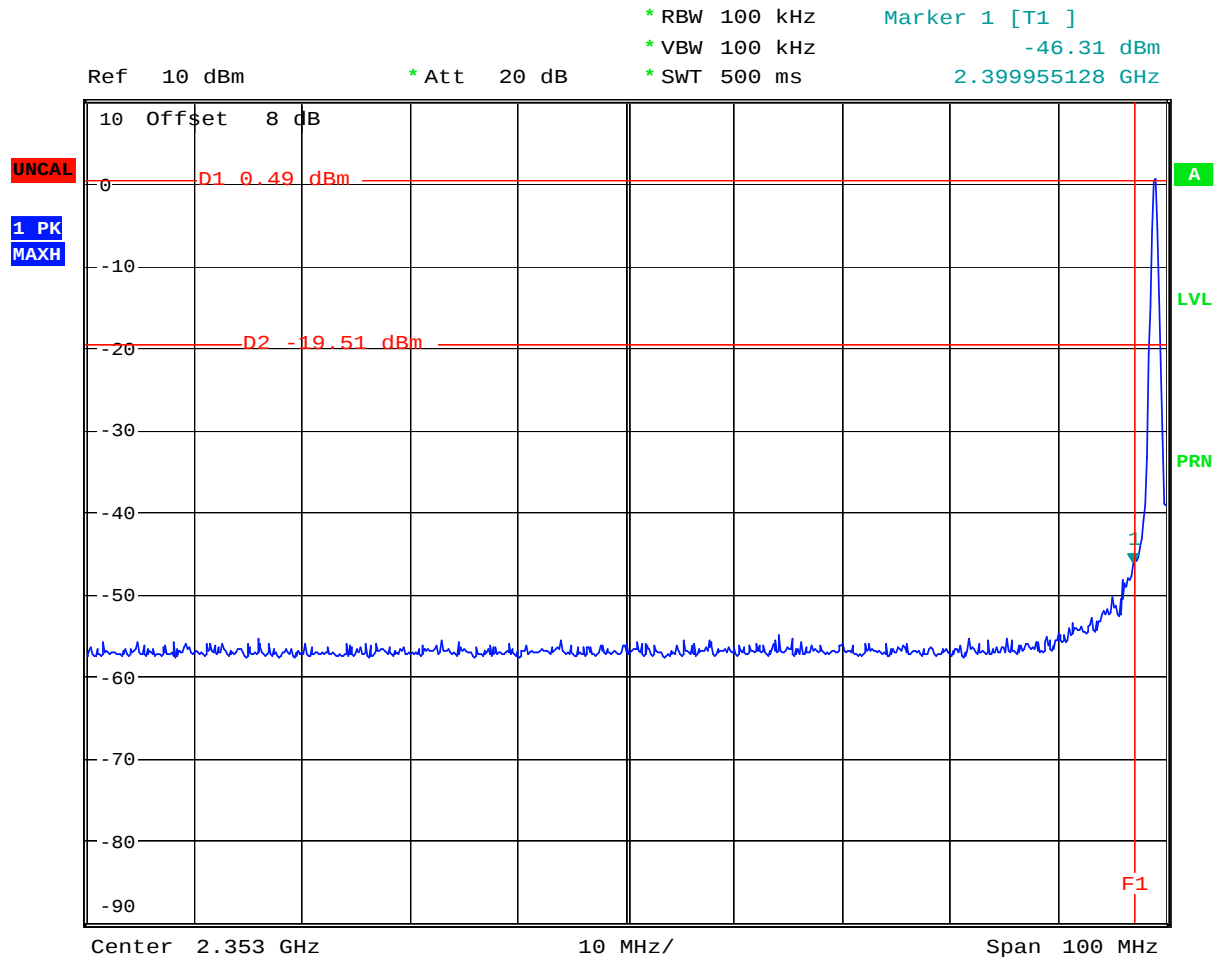


Date: 9.FEB.2006 17:47:43



Bluetooth

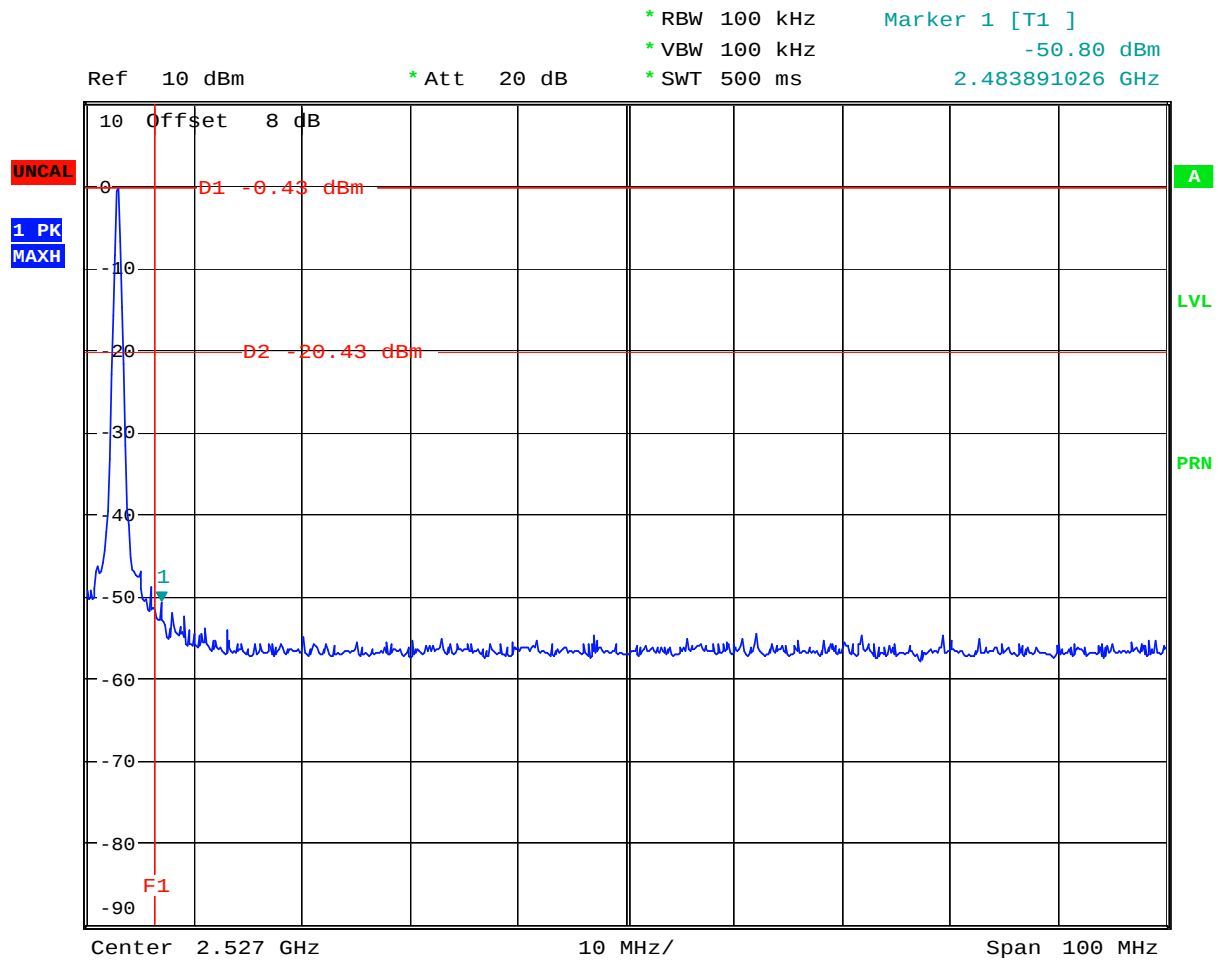
CH00



Date: 13.FEB.2006 19:46:05



CH78



Date: 13.FEB.2006 19:49:30

5.5 Hopping Channel Separation

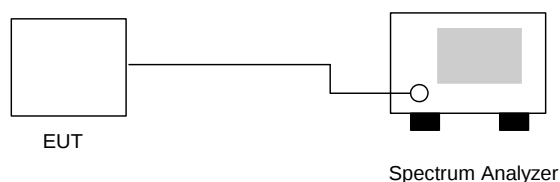
5.5.1 Measuring Instruments :

As described in chapter 9 of this test report.

5.5.2 Test Procedure :

1. The output of EUT was connected to the spectrum analyzer by a low loss cable..
2. Set RBW of spectrum analyzer to 100kHz and VBW to 100kHz.
3. The Hopping Channel Separation is defined as the channel is separated with the next channel.

5.5.3 Test Setup Layout :



5.5.4 Test Result : The spectrum analyzer plots are attached as below

- Application Type : BT
- Temperature : 23°C
- Relative Humidity : 51%
- Test Enginner : Andy

		Carrier Frequency		
Channel	Frequency	Separation	Limits	Plot
	(MHz)	(MHz)	(MHz)	Ref. No.
00	2402	1.003	0.878	Mode 1
39	2441	1.000	0.878	Mode 2
78	2480	0.997	0.883	Mode 3

Note: Limits =25kHz or the 20dB bandwidth of the hopping channel, which ever is greater



5.5.5 Hopping Channel Separation

10 Offset 8 dB

UNCAL

1 PK
MAXH

Ref 10 dBm

* Att 20 dB

* RBW 30 kHz

* VBW 100 kHz

* SWT 500 ms

Delta 2 [T1]

0.14 dB

1.003205128 MHz

Marker 1 [T1]

-0.55 dBm

2.401929487 GHz

LVL

PRN

Center 2.4025 GHz

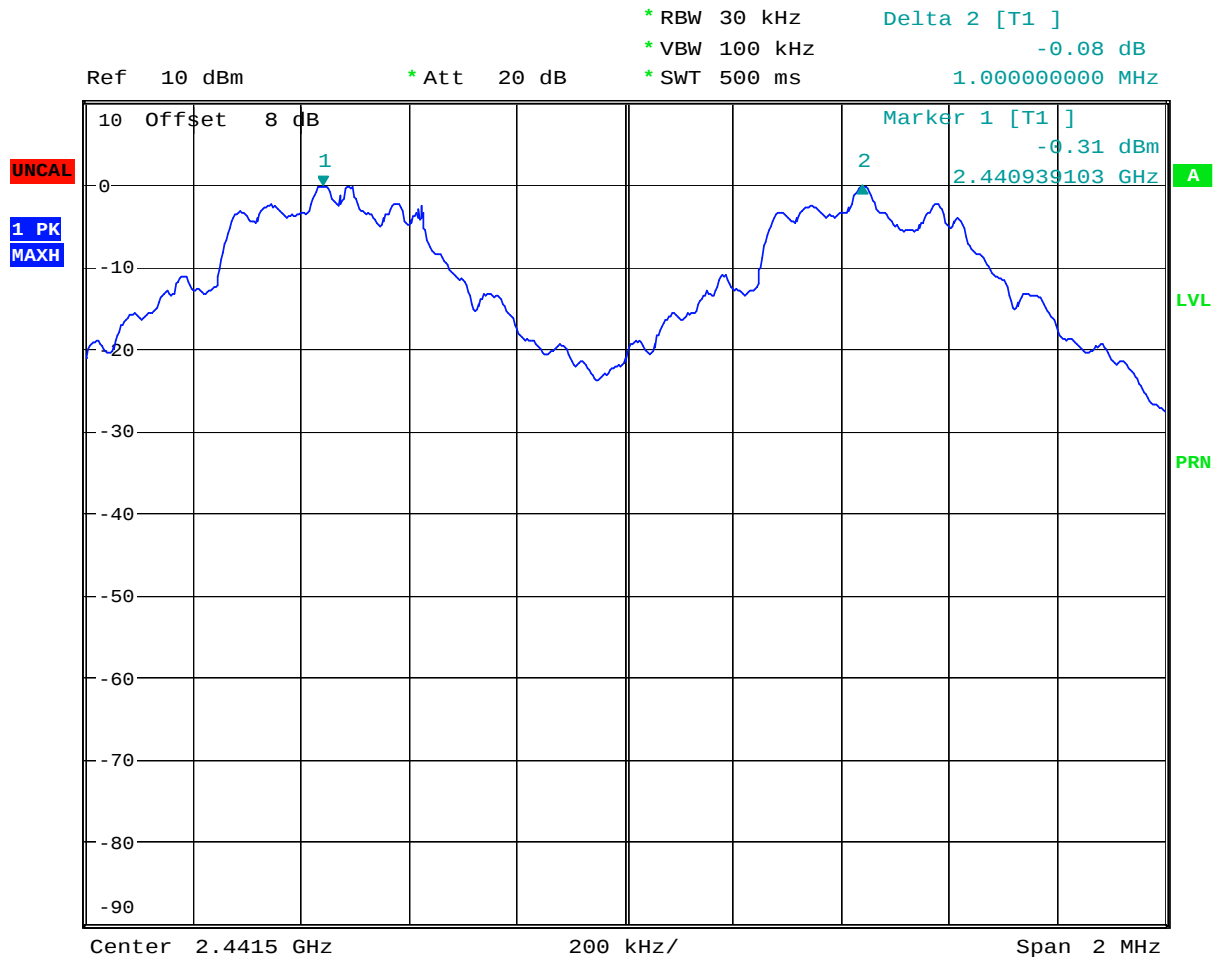
200 kHz/

Span 2 MHz

Date: 13.FEB.2006 20:04:43



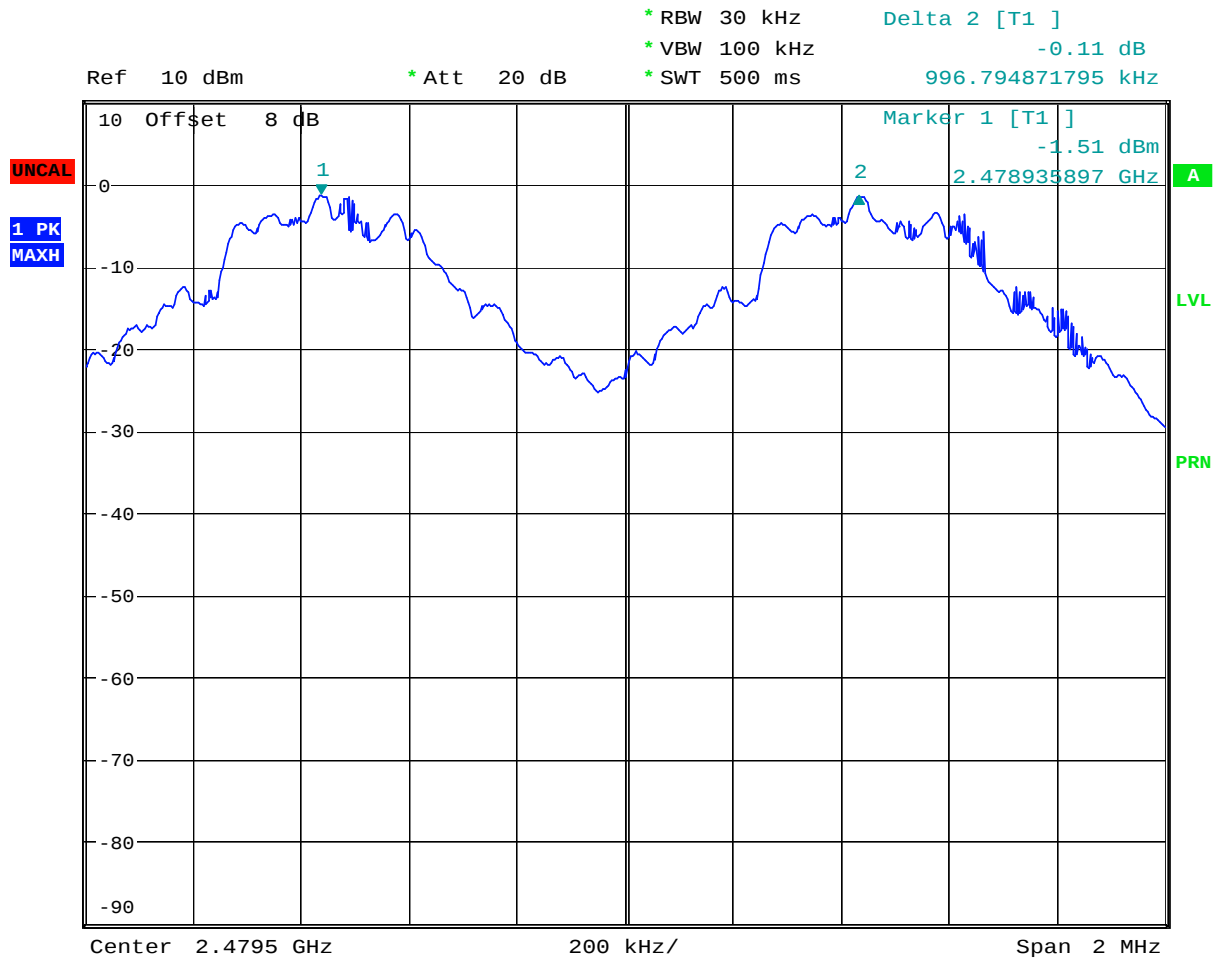
Mode 2



Date: 13.FEB.2006 20:05:34



Mode 3



Date: 13.FEB.2006 20:07:09

5.6 Number of Hopping Frequency

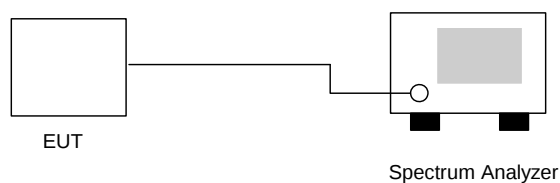
5.6.1 Measuring Instruments :

As described in chapter 9 of this test report.

5.6.2 Test Procedure :

1. The output of EUT was connected to the spectrum analyzer by a low loss cable.
2. Set RBW of spectrum analyzer to 100kHz and VBW to 100kHz.
3. The number of hopping frequency used is defined as the device has the numbers of total channel.

5.6.3 Test Setup Layout :



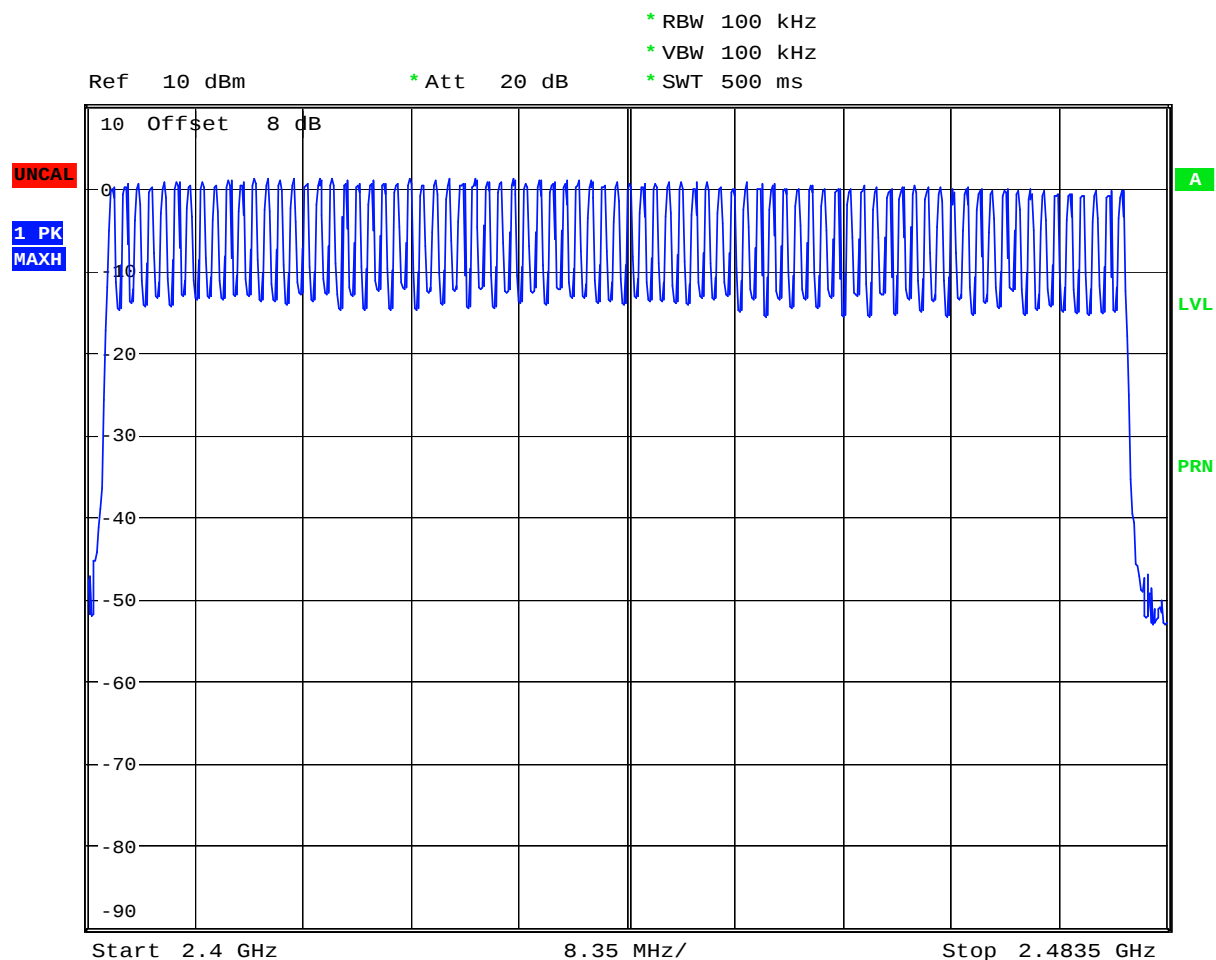
5.6.4 Test Result : See spectrum analyzer plots below

- Application Type : BT
- Temperature : 23°C,
- Relative Humidity : 51%
- Test Enginner : Andy

Number of Hopping Frequency (Channel)	Limits (Channel)
79	15



5.6.5 Number of Hopping Frequency



Date: 13.FEB.2006 20:59:46

5.7 Hopping Channel Bandwidth

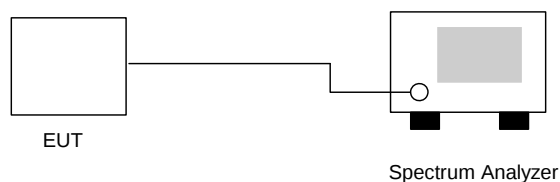
5.7.1 Measuring Instruments :

As described in chapter 9 of this test report.

5.7.2 Test Procedure :

1. The transmitter output was connected to the spectrum analyzer by a low loss cable.
2. Set RBW of spectrum analyzer to 30kHz and VBW to 300kHz.
3. The Hopping Channel bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20 dB.

5.7.3 Test Setup Layout :



5.7.4 Test Result : See spectrum analyzer plots below

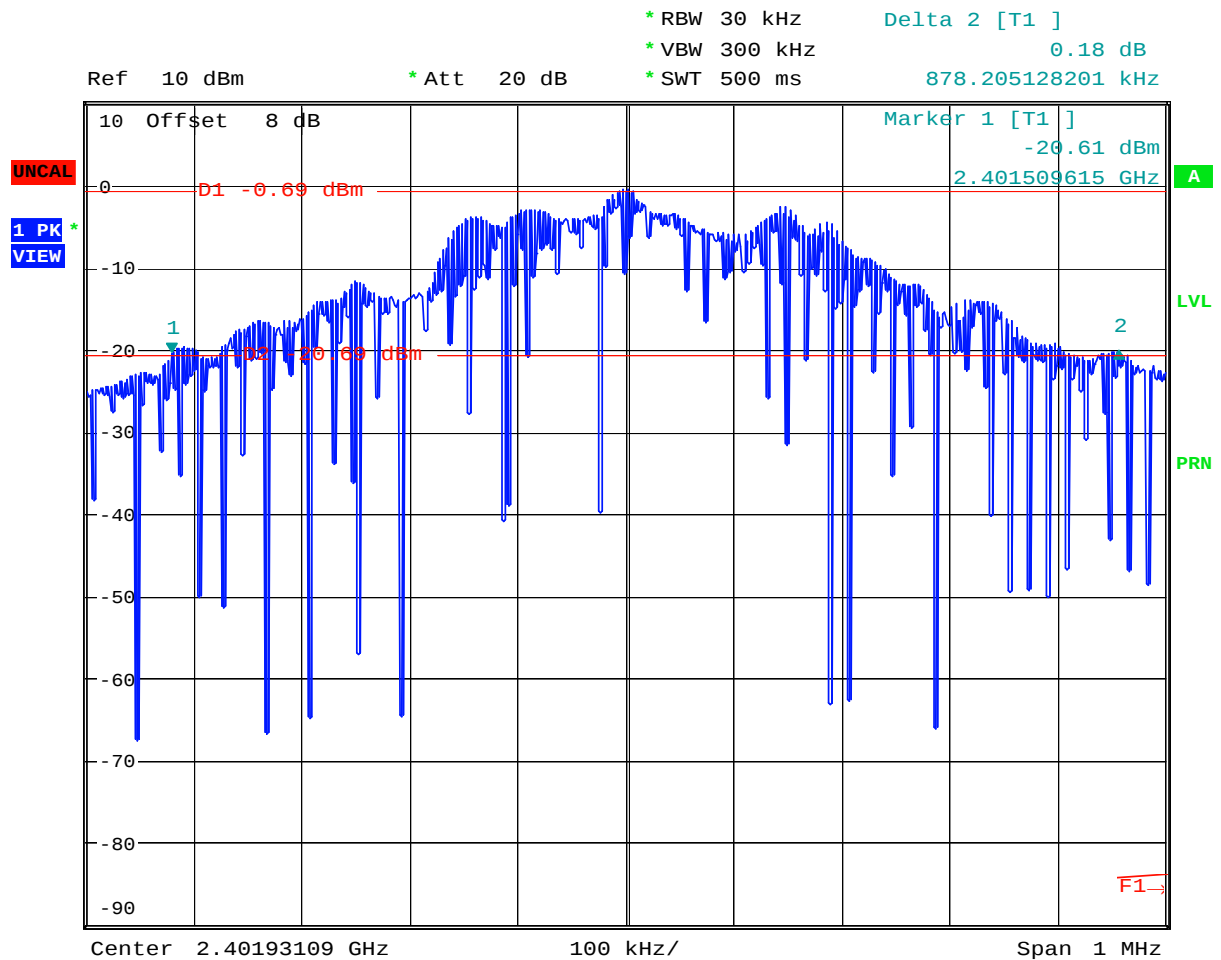
- Application Type : BT
- Temperature : 23°C,
- Relative Humidity : 51%
- Test Enginner : Andy

Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	0.878	1.000	Mode 1
39	2441	0.878	1.000	Mode 2
78	2480	0.883	1.000	Mode 3



5.7.5 Hopping Channel Bandwidth

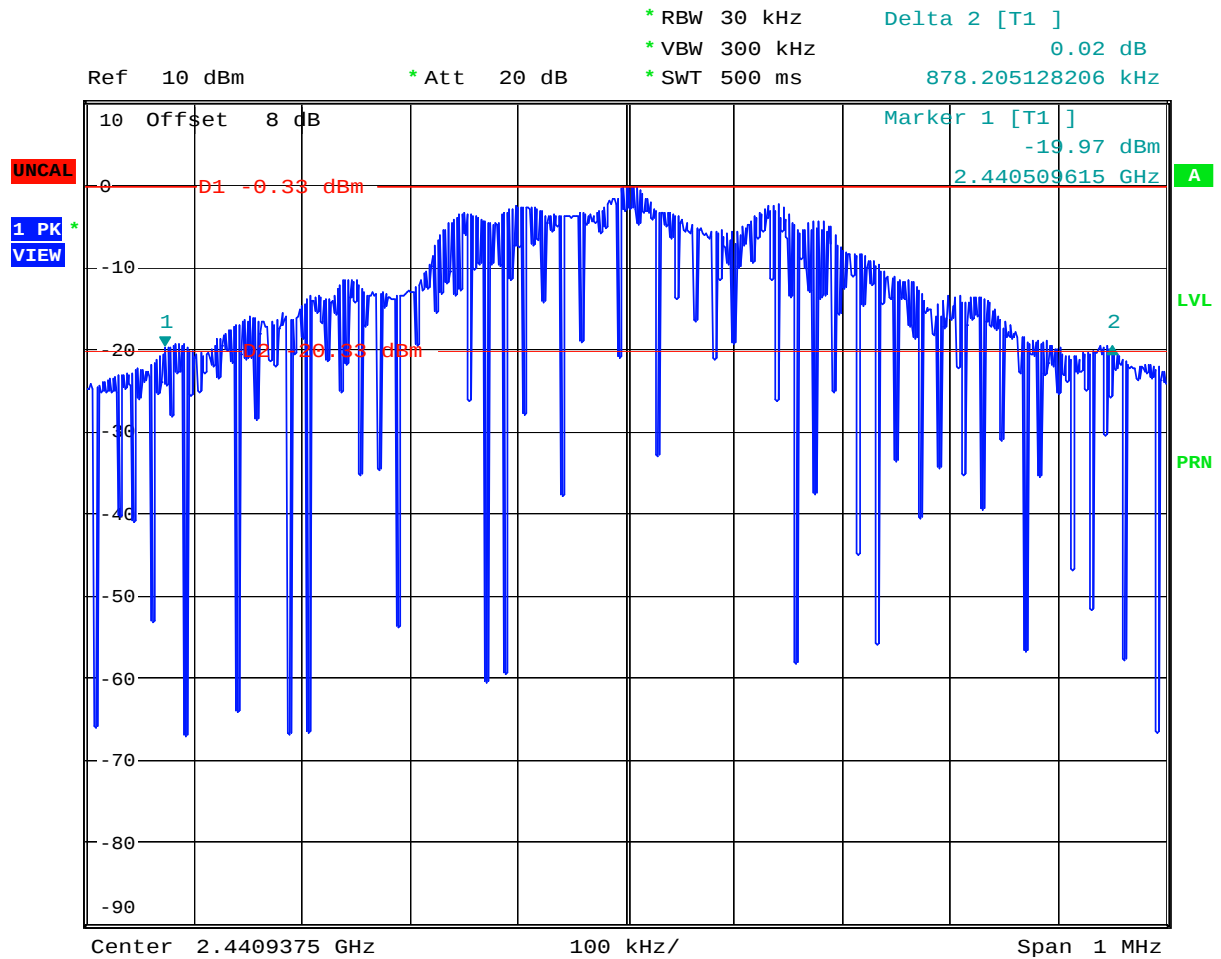
Mode 1



Date: 13.FEB.2006 19:57:09



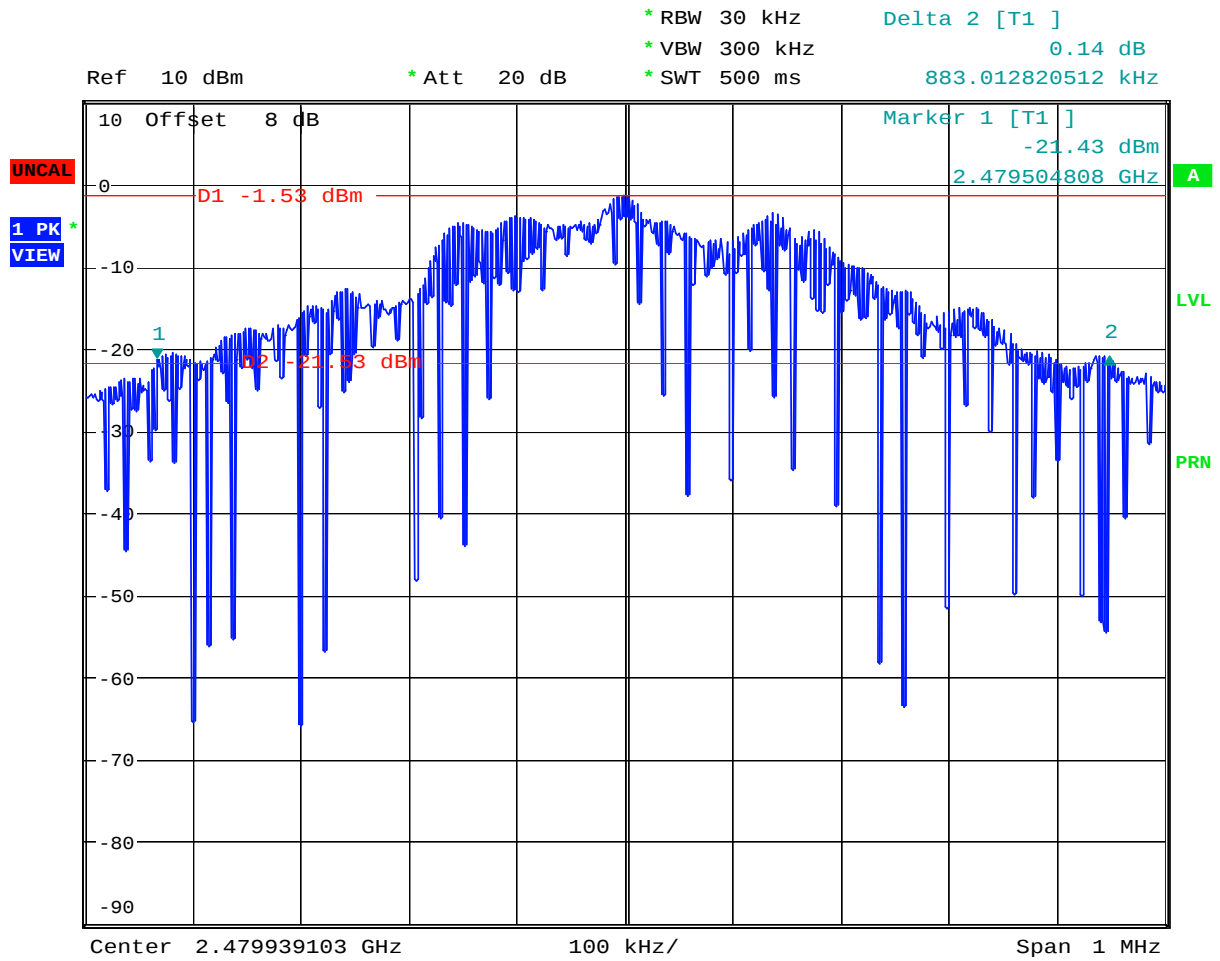
Mode 2



Date: 13.FEB.2006 19:37:41



Mode 3



Date: 13.FEB.2006 19:41:47

5.8 Dwell Time of Each Frequency

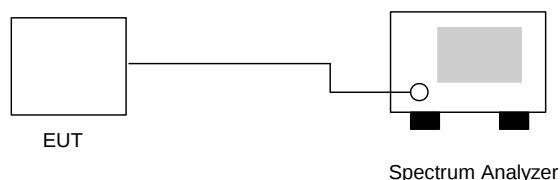
5.8.1 Measuring Instruments :

As described in chapter 9 of this test report.

5.8.2 Test Procedure :

1. The transmitter output was connected to the spectrum analyzer by a low loss cable.
2. Set RBW of spectrum analyzer to 1MHz and VBW to 1MHz.
3. Set the center frequency on any frequency would be measure and set the frequency span to zero span.
4. The calculate $= 79 * 0.4 * (1600/79) * t$ (t = the time duration of one single pulse)

5.8.3 Test Setup Layout :



5.8.4 Test Result : See spectrum analyzer plots below

- Application Type : BT
- Temperature : 23°C
- Relative Humidity : 51%
- Test Enginner : Andy

Ch00

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	9.1	439.1	0.126	0.4
DH3	5.5	1706.73	0.297	0.4
DH5	3.2	2964.74	0.300	0.4

**CH39**

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	9.2	442.3	0.129	0.4
DH3	4.9	1706.73	0.264	0.4
DH5	3.2	2964.74	0.300	0.4

CH78

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	9	442.3	0.126	0.4
DH3	5	1706.73	0.270	0.4
DH5	2.9	2980.76	0.273	0.4

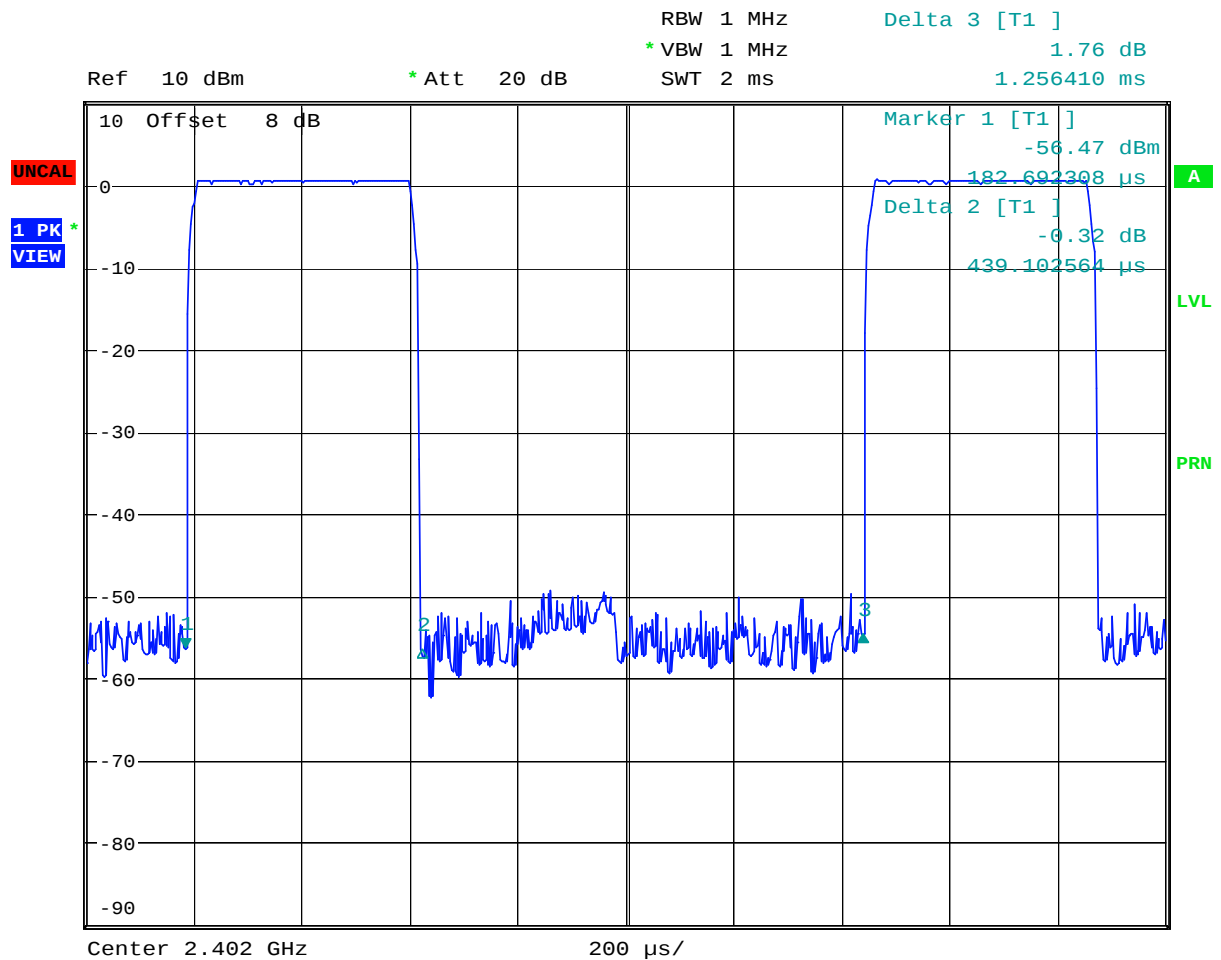
Remark:

1. Dwell Time=79(channels) x 0.4(s) x average hopping channel x package transfer time
2. 79channels come from the Hopping Channel number.
3. Average Hopping Channel = hops/sweep time
4. t: Package Transfer Time(us)

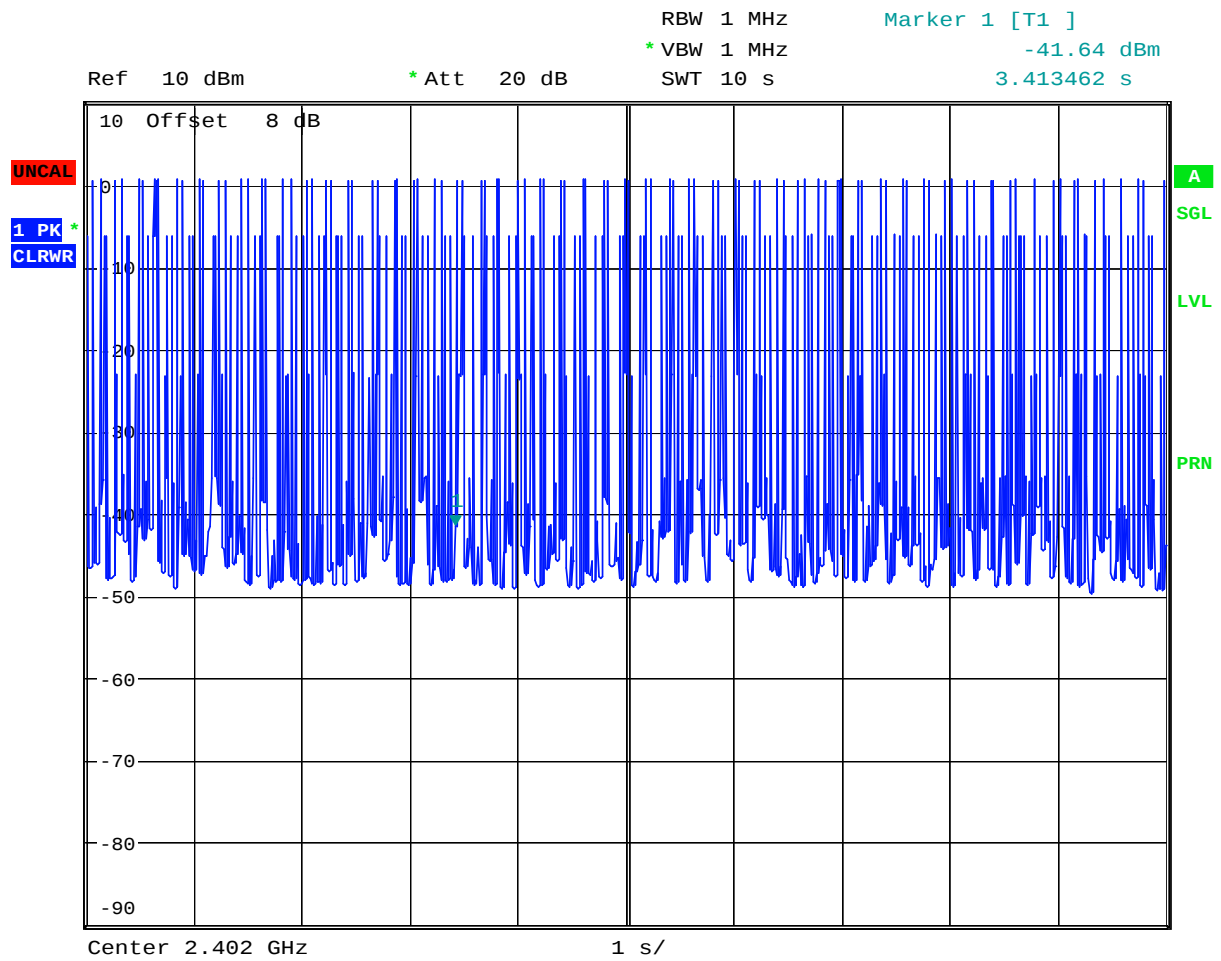


5.8.5 Dwell Time

DH1 (CH00)



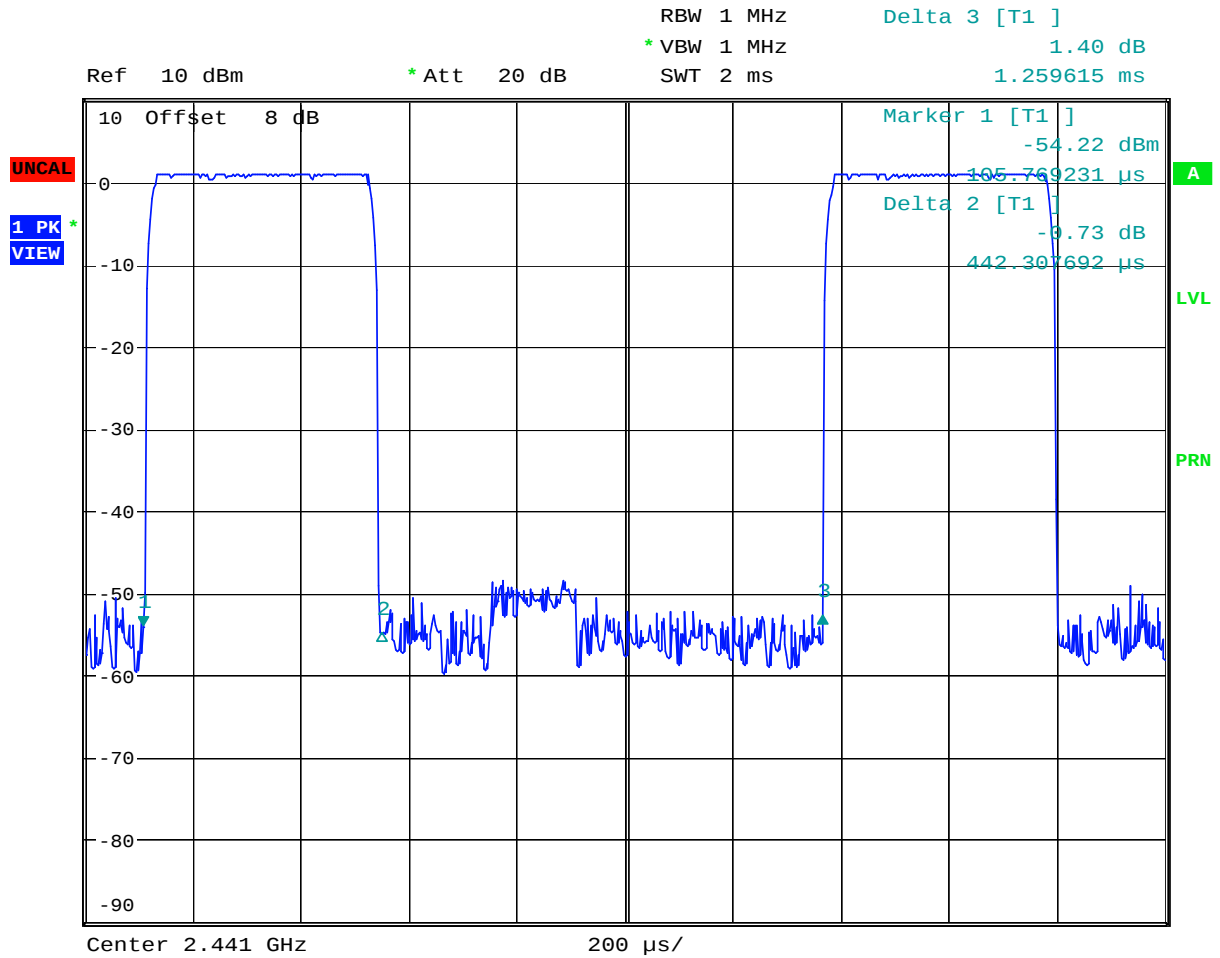
Date: 13.FEB.2006 20:11:32



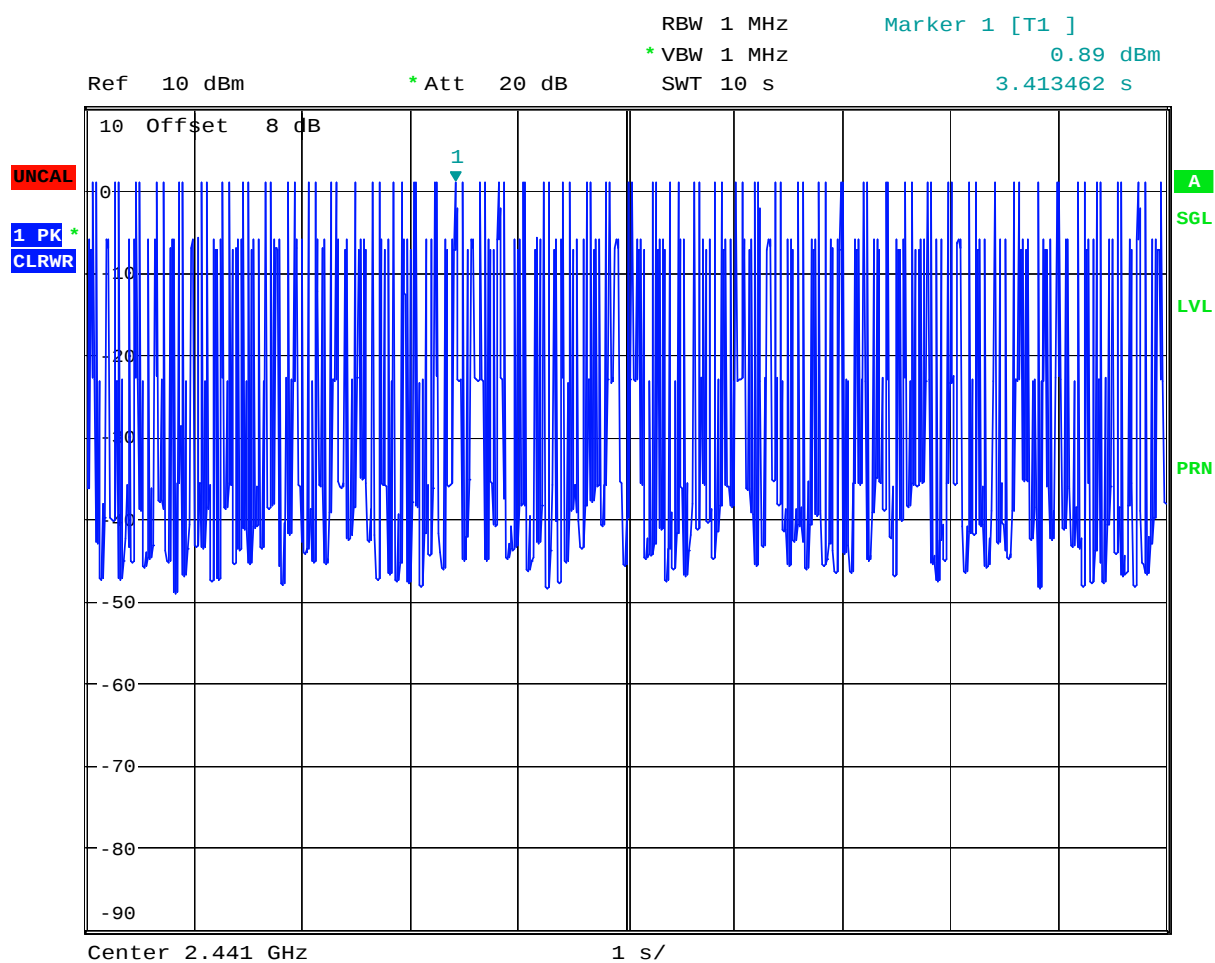
Date: 13.FEB.2006 20:23:04



DH1 (CH39)



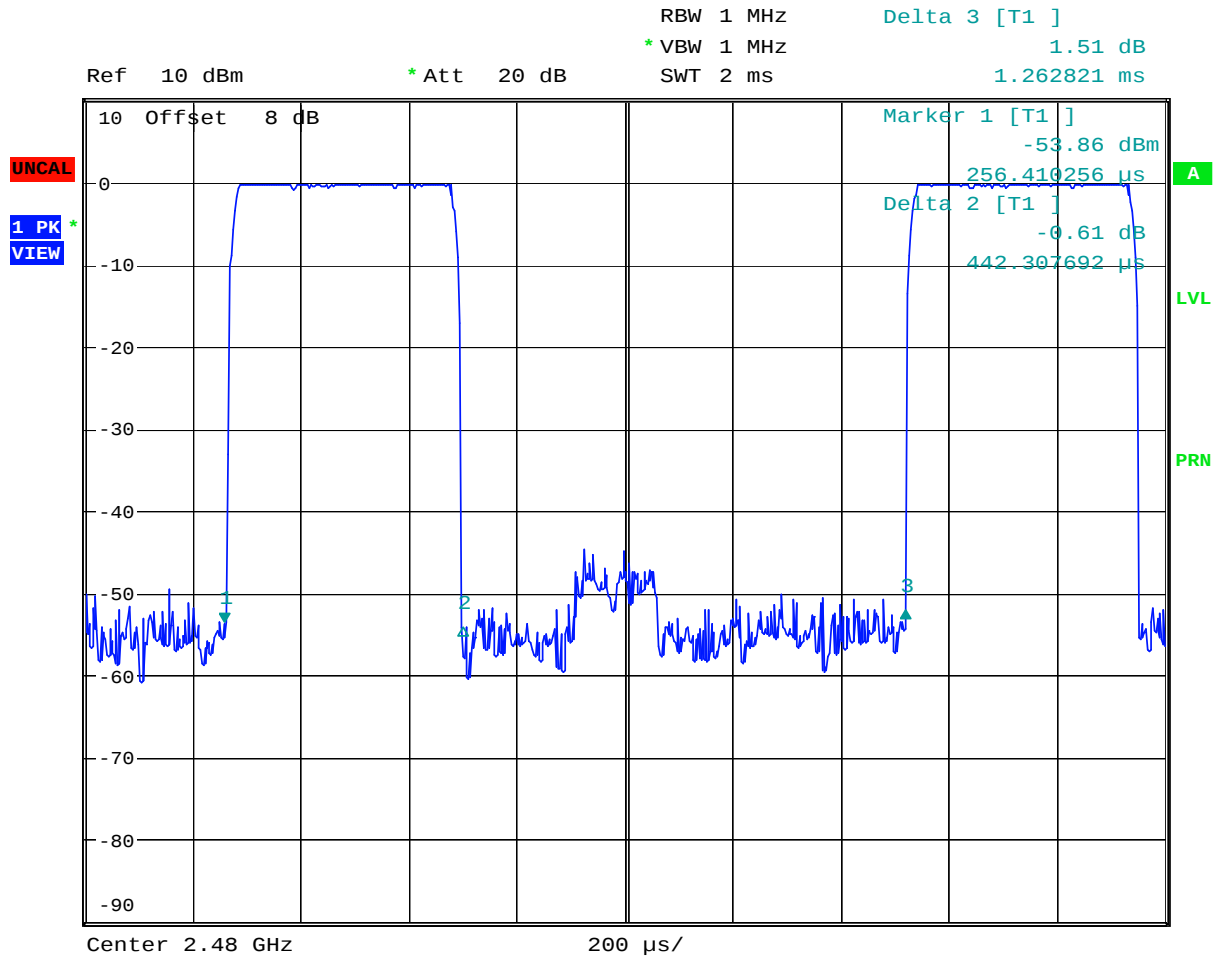
Date: 13.FEB.2006 20:17:30



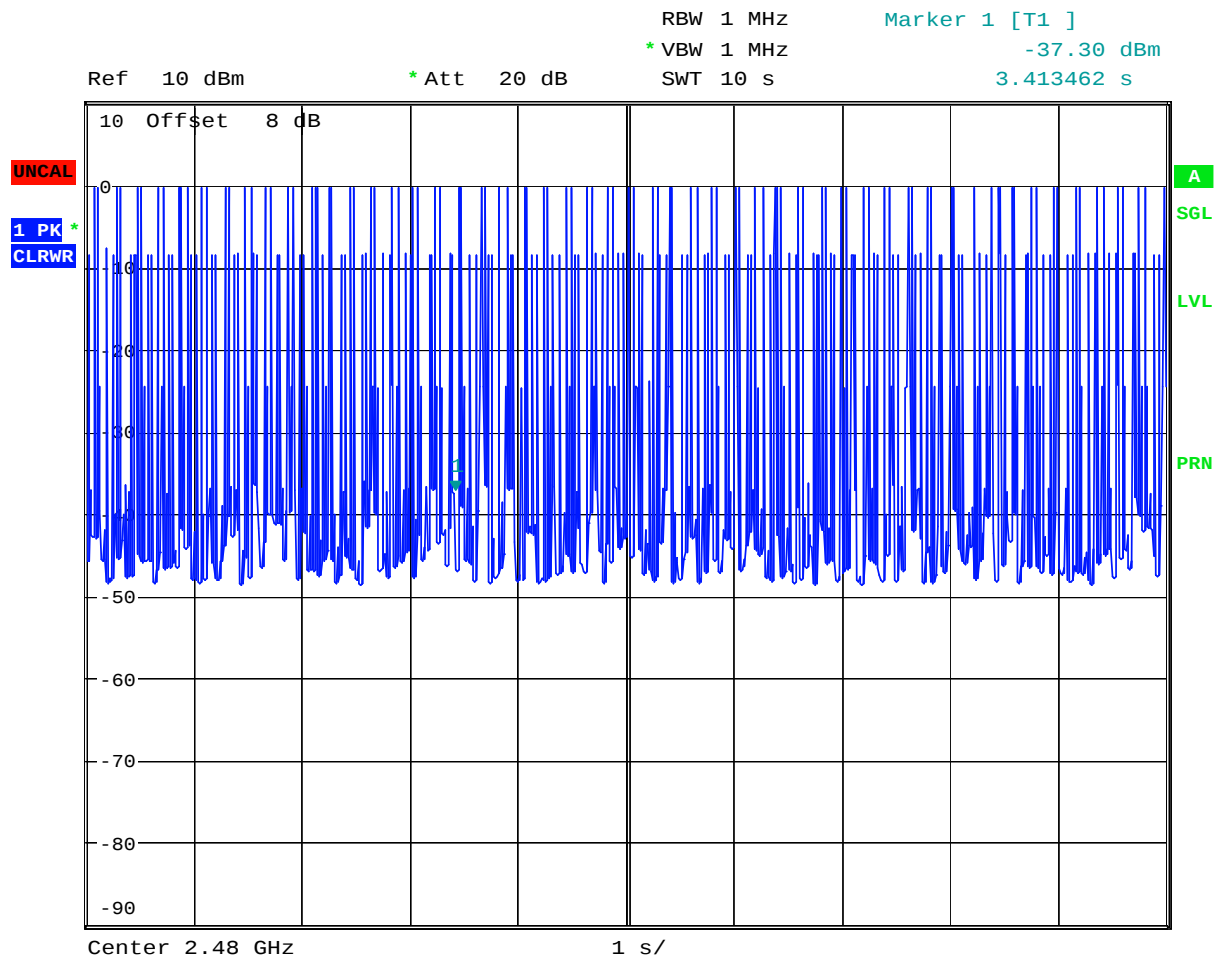
Date: 13.FEB.2006 20:23:46



DH1 (CH78)



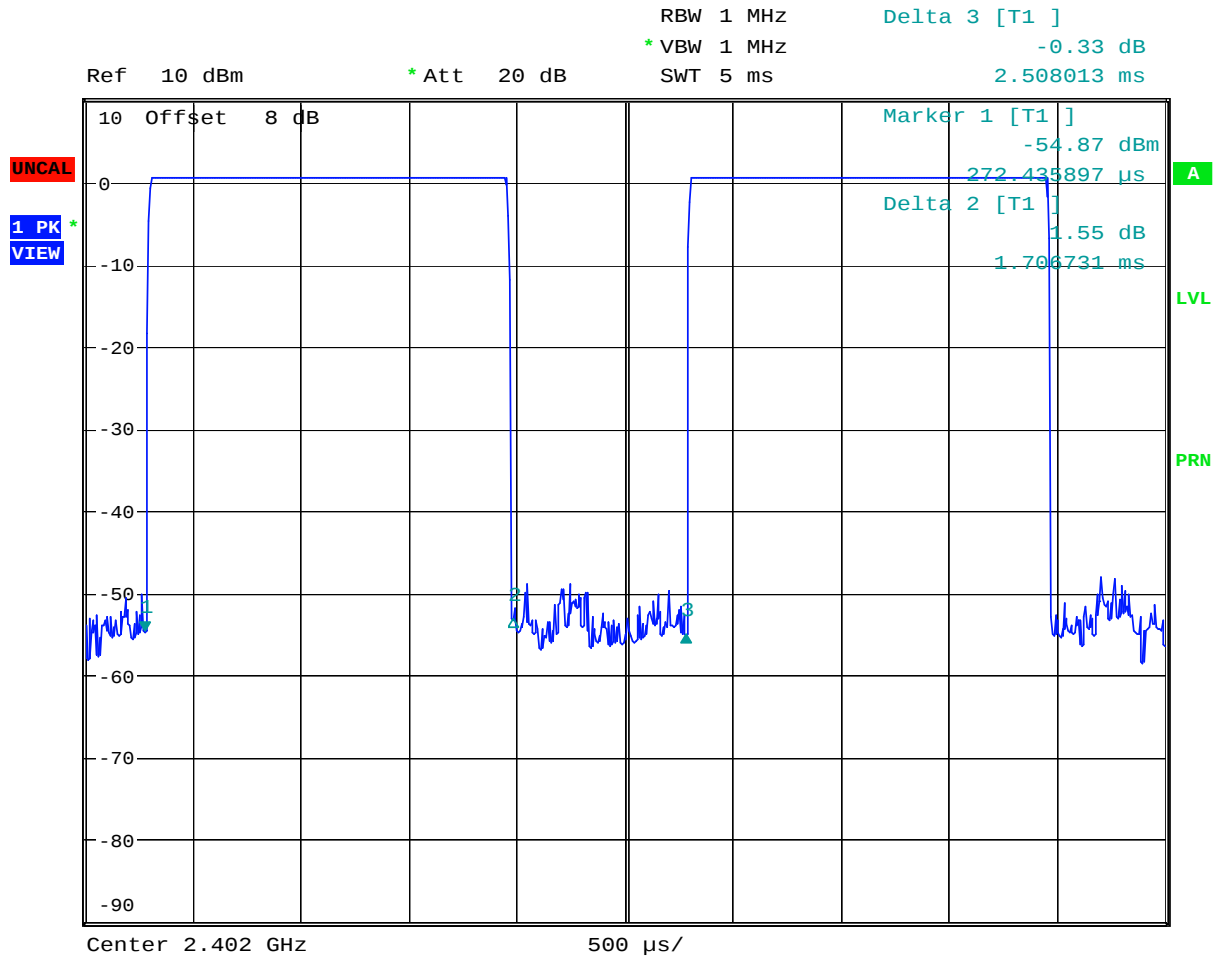
Date: 13.FEB.2006 20:18:41



Date: 13.FEB.2006 20:24:23



DH3 (CH00)

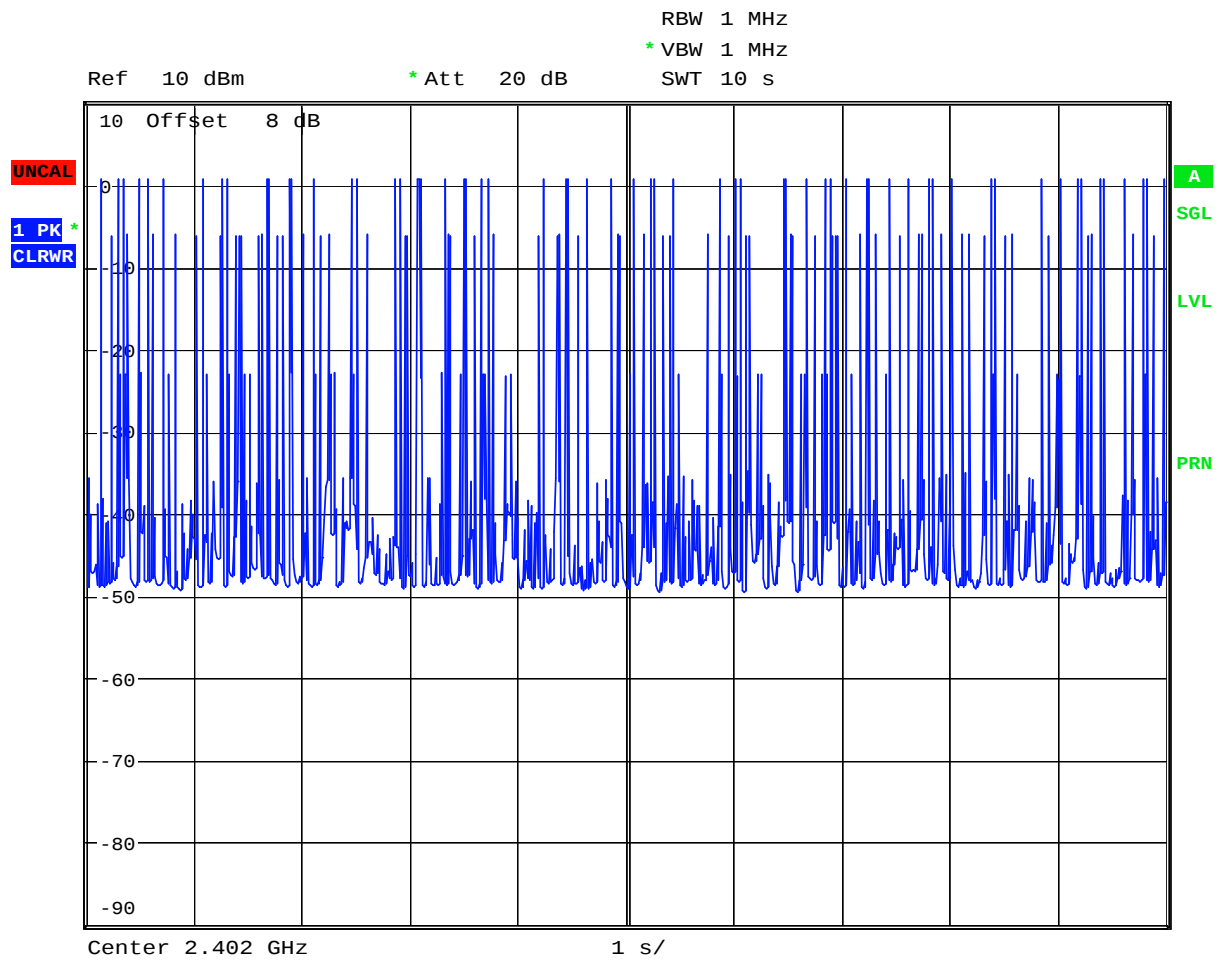


Date: 13.FEB.2006 20:33:24



FCC TEST REPORT

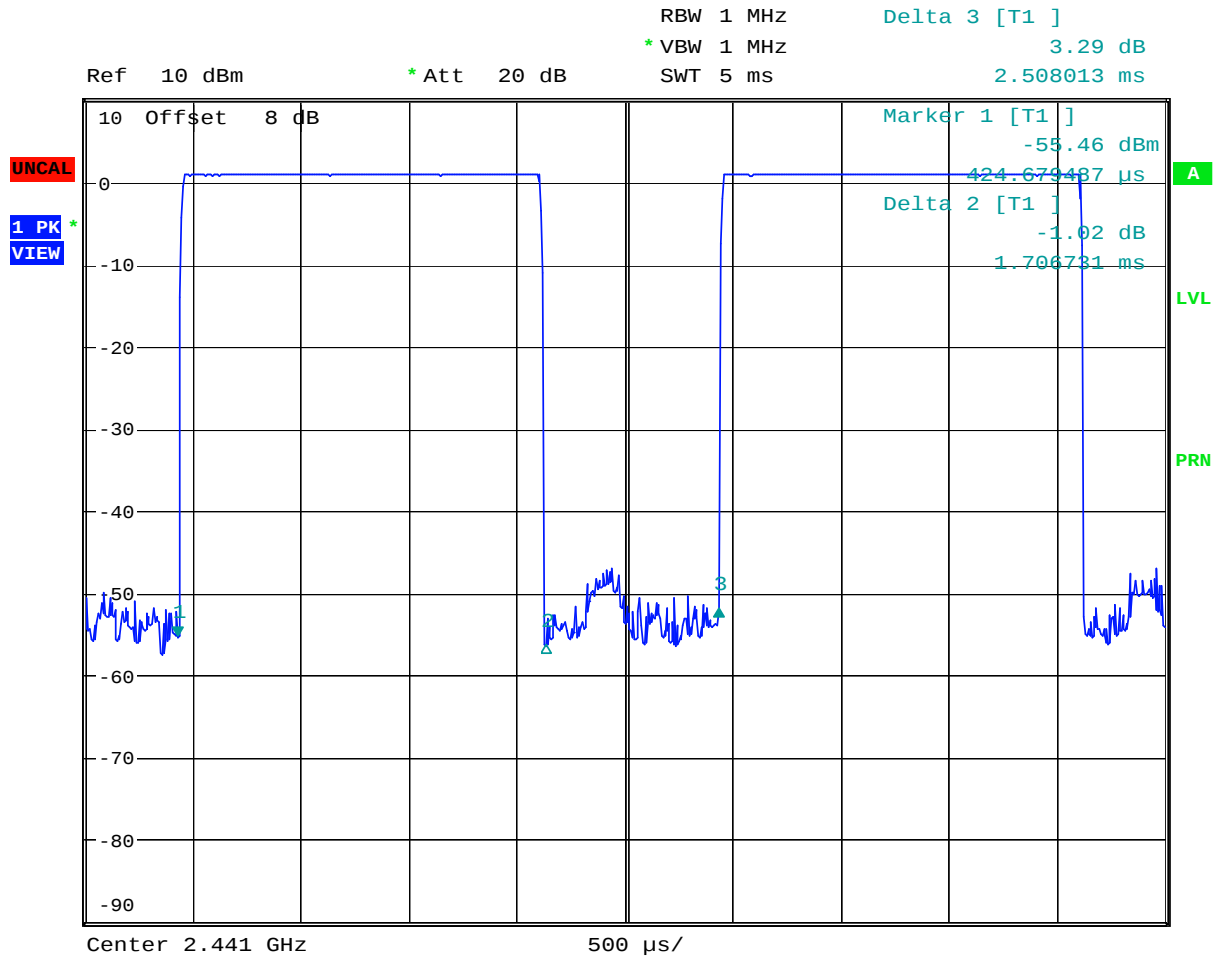
Report No. : FR611809



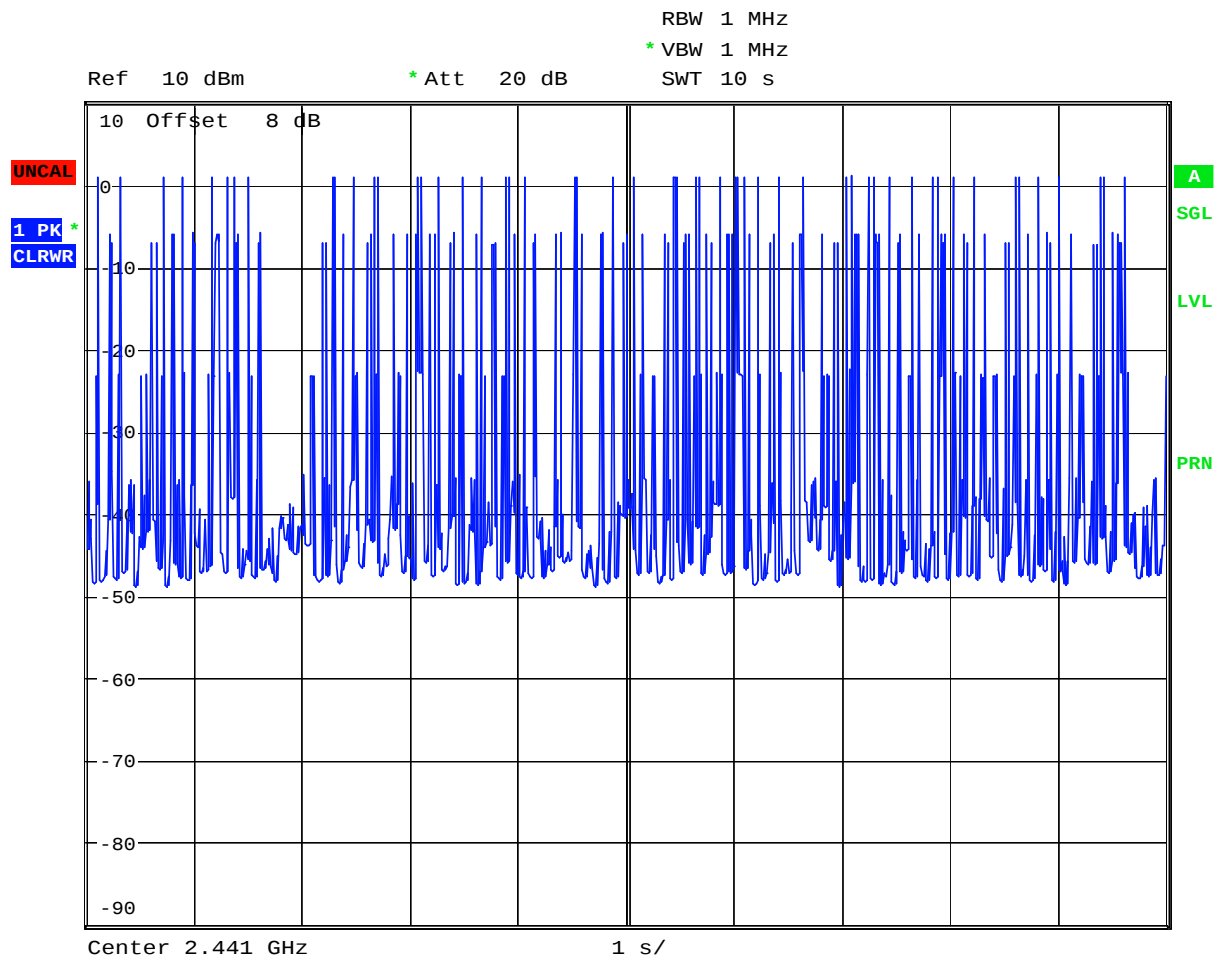
Date: 13.FEB.2006 20:40:57



DH3 (CH39)



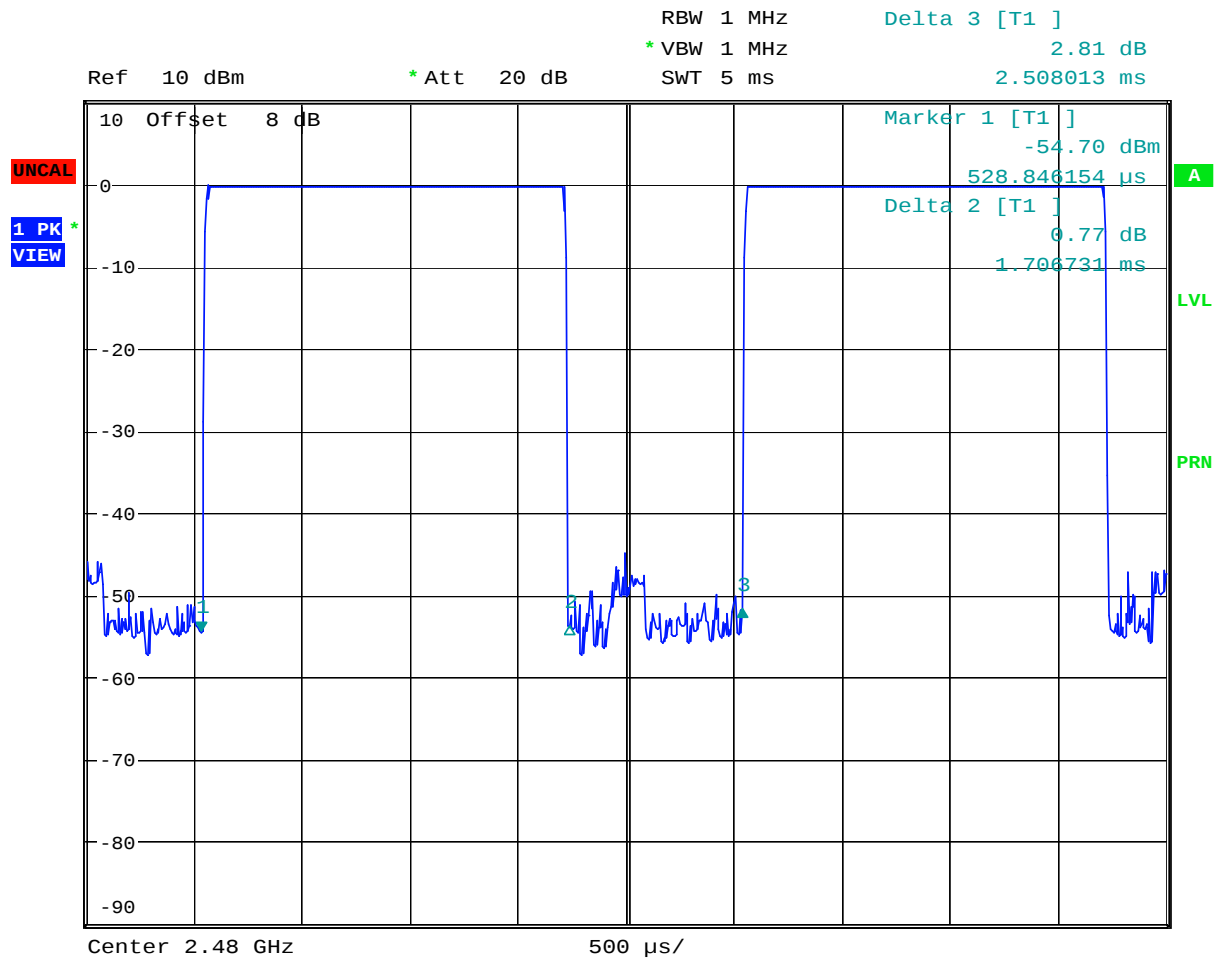
Date: 13.FEB.2006 20:35:09



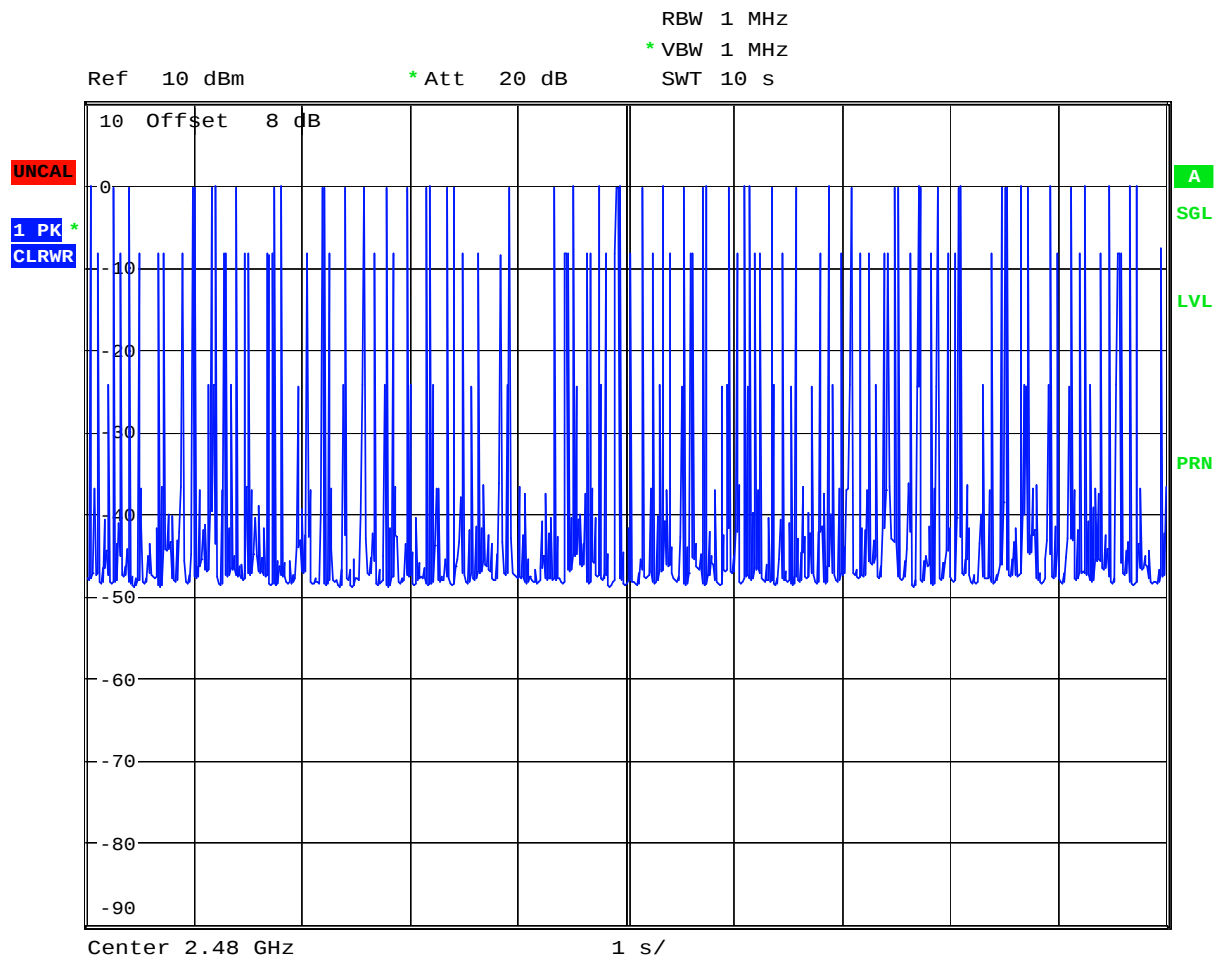
Date: 13.FEB.2006 20:41:40



DH3 (CH78)



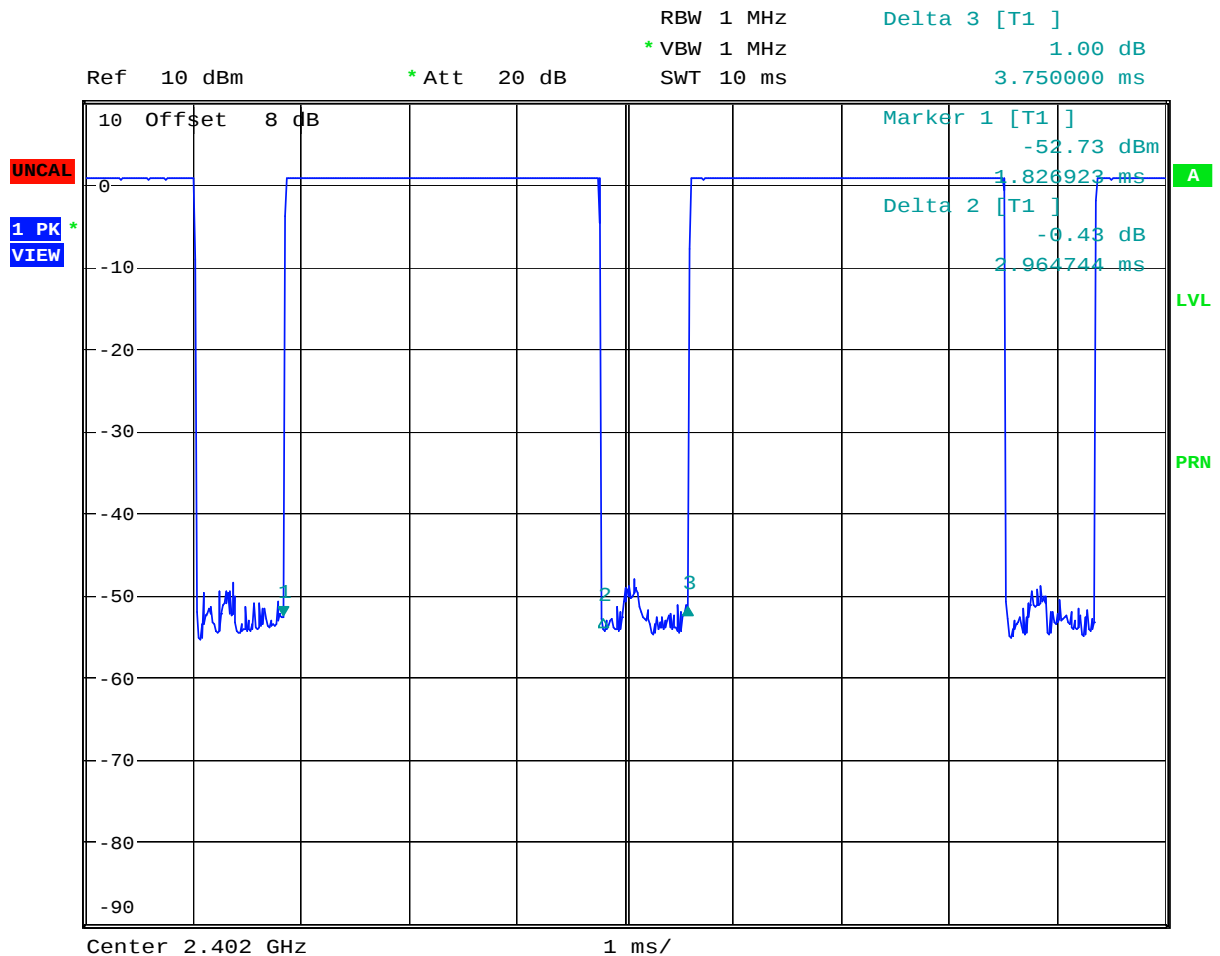
Date: 13.FEB.2006 20:39:33



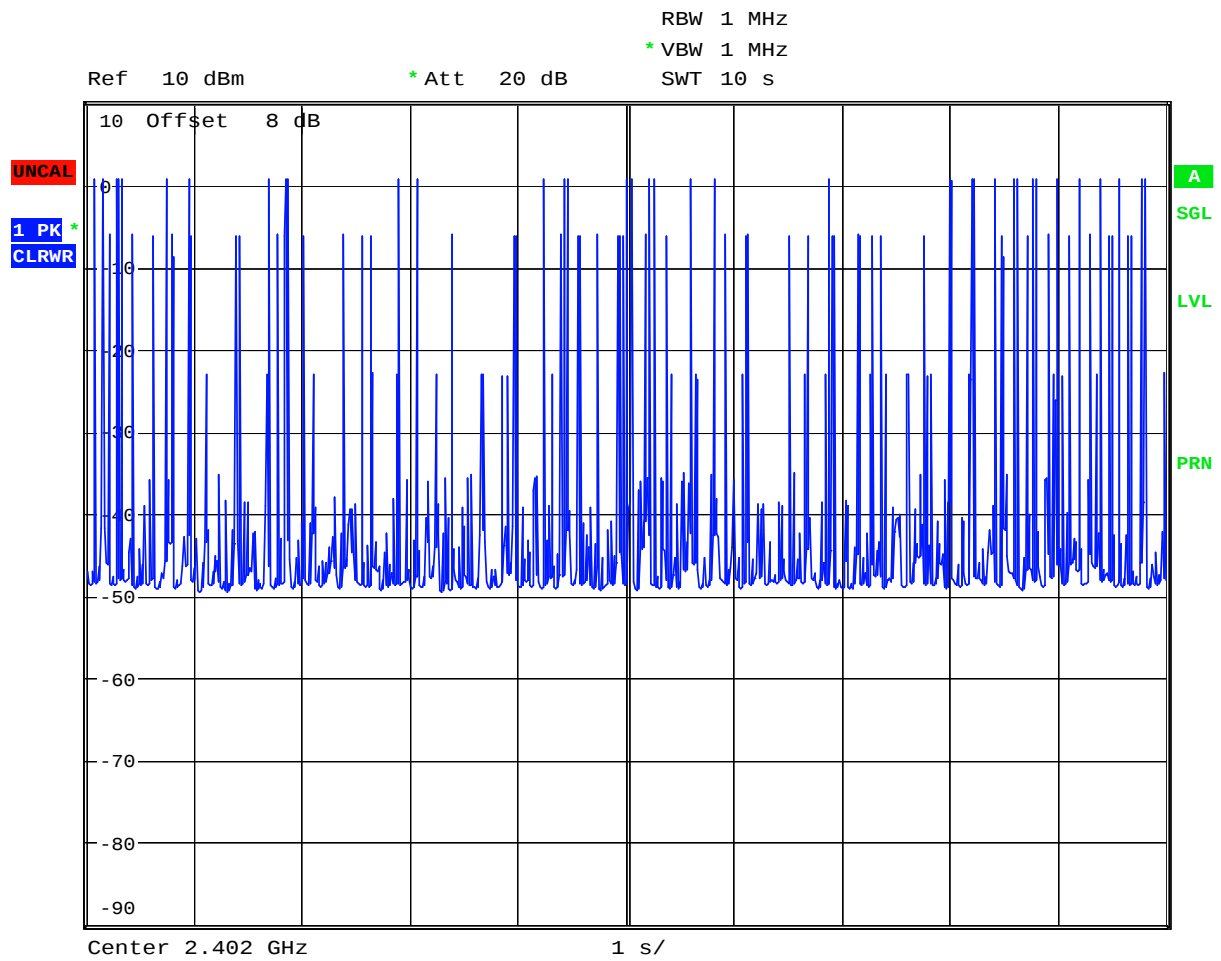
Date: 13.FEB.2006 20:42:22



DH5 (CH00)



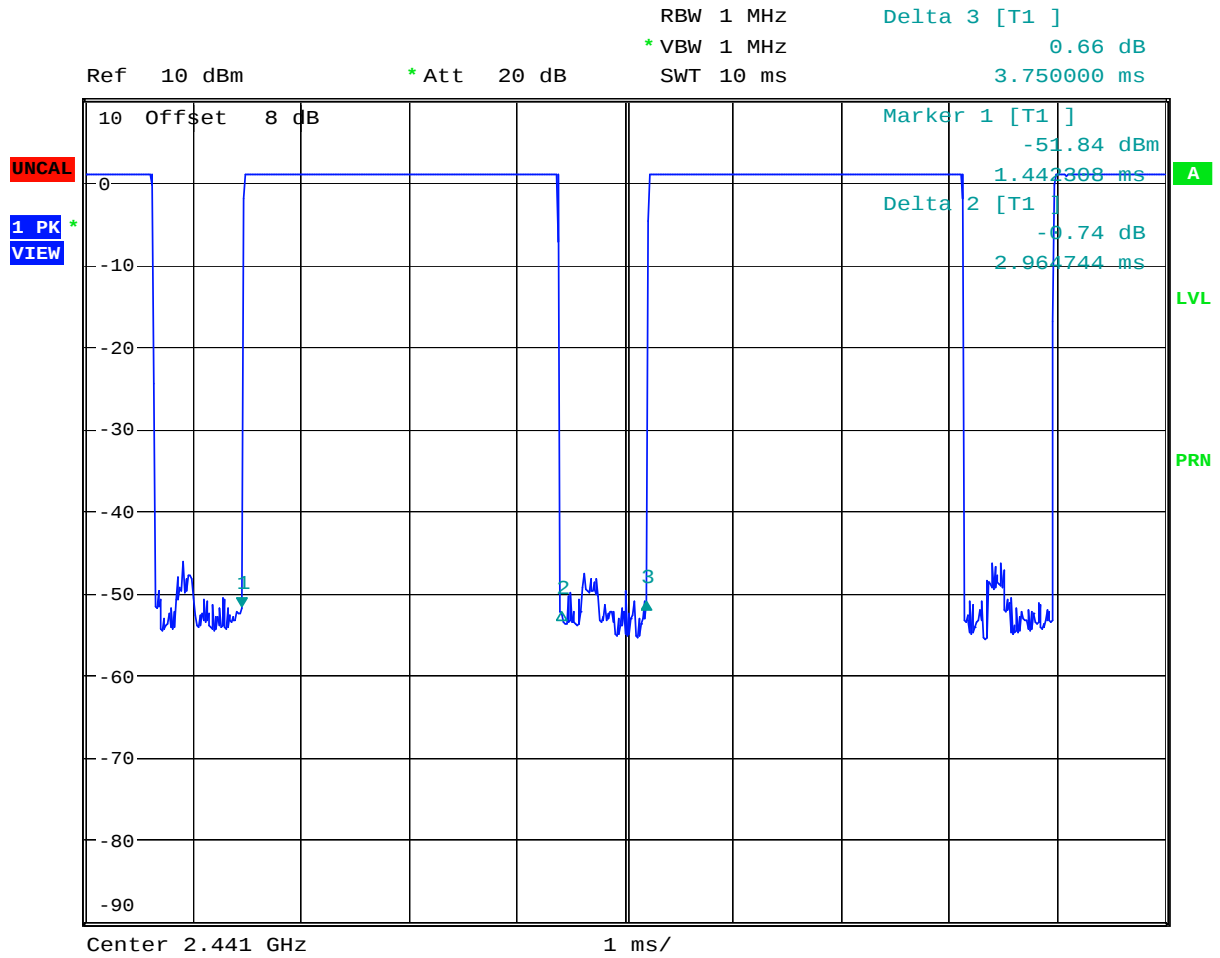
Date: 13.FEB.2006 20:47:14



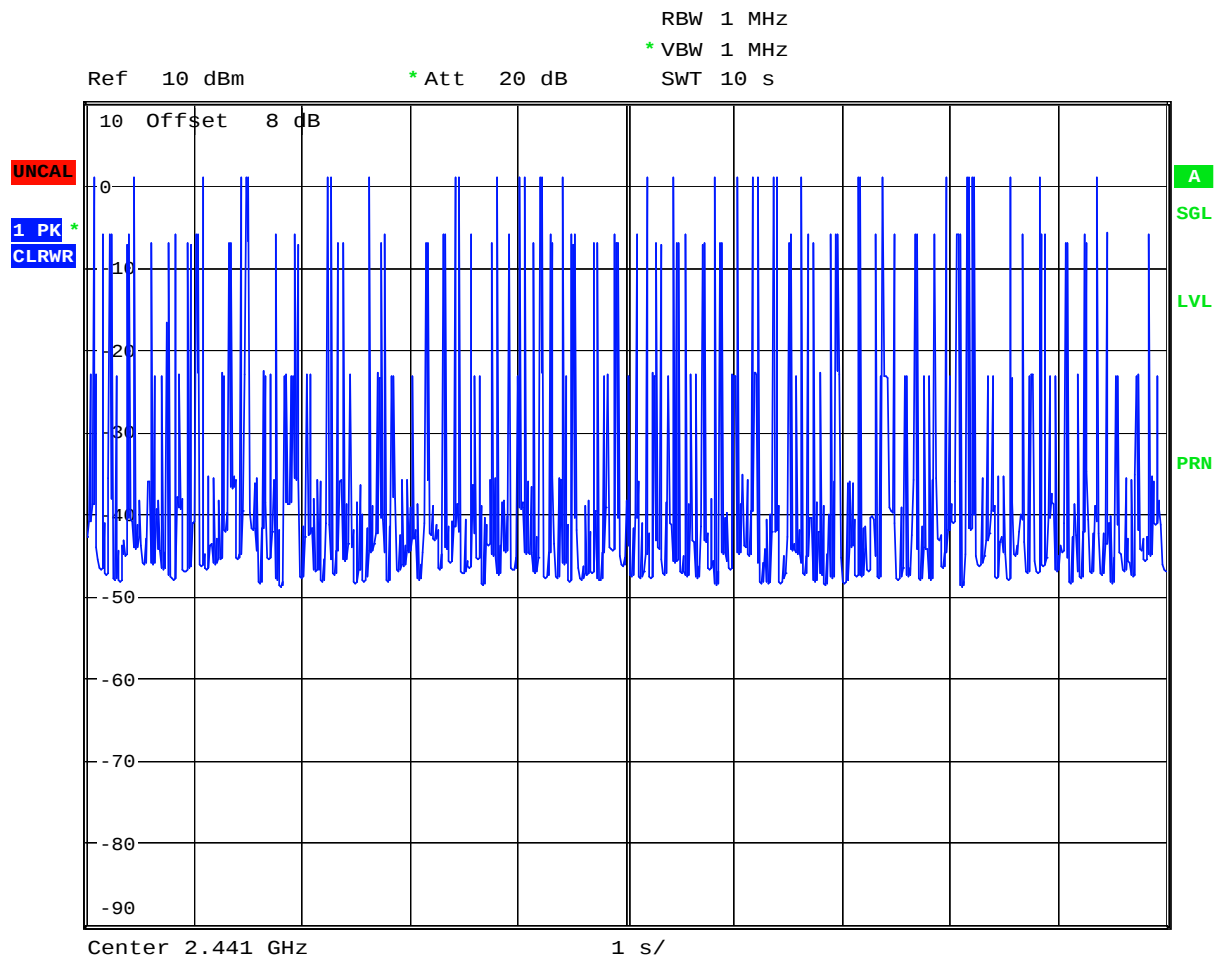
Date: 13.FEB.2006 20:45:09



DH5 (CH39)



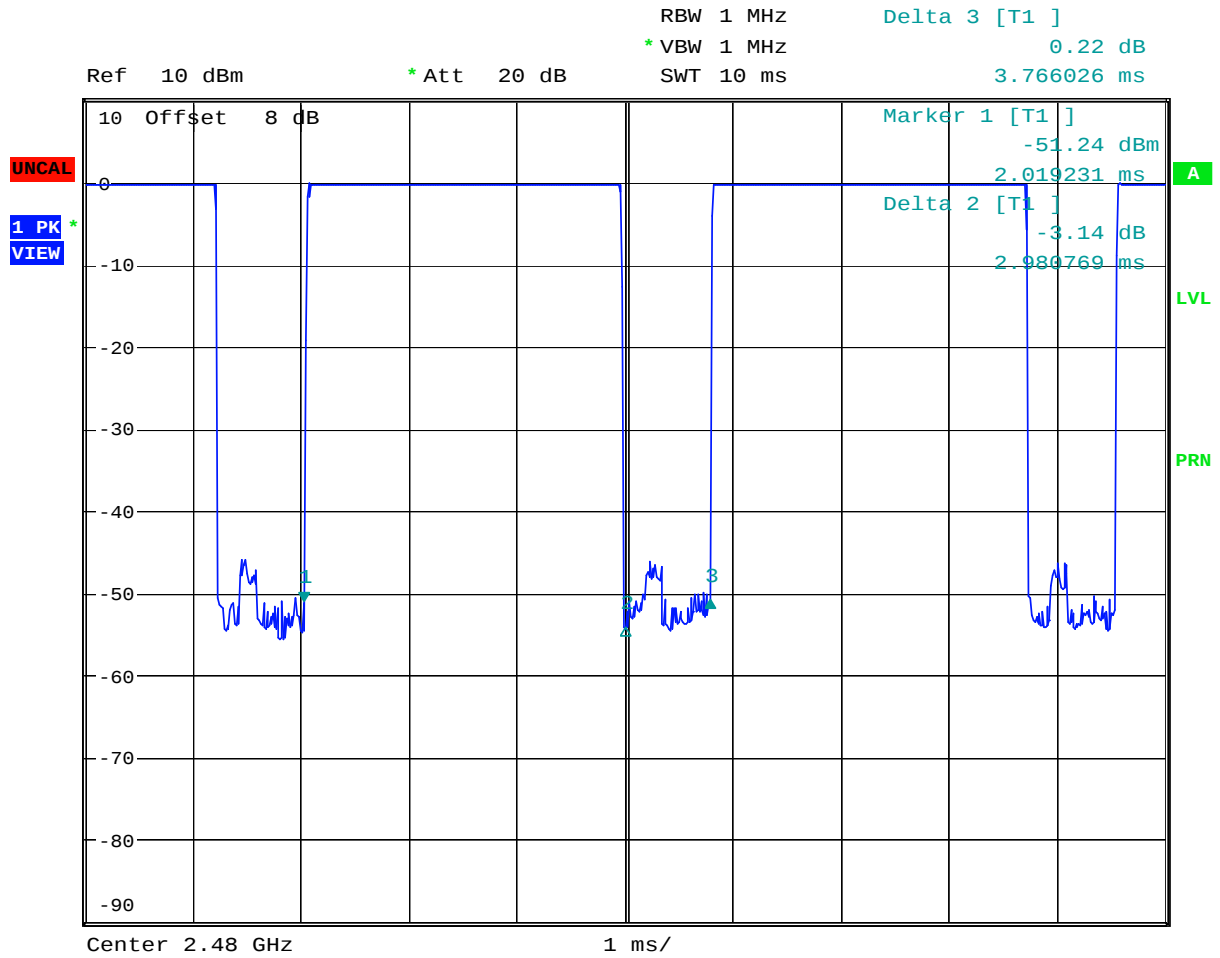
Date: 13.FEB.2006 20:48:17



Date: 13.FEB.2006 20:45:44



DH5 (CH78)

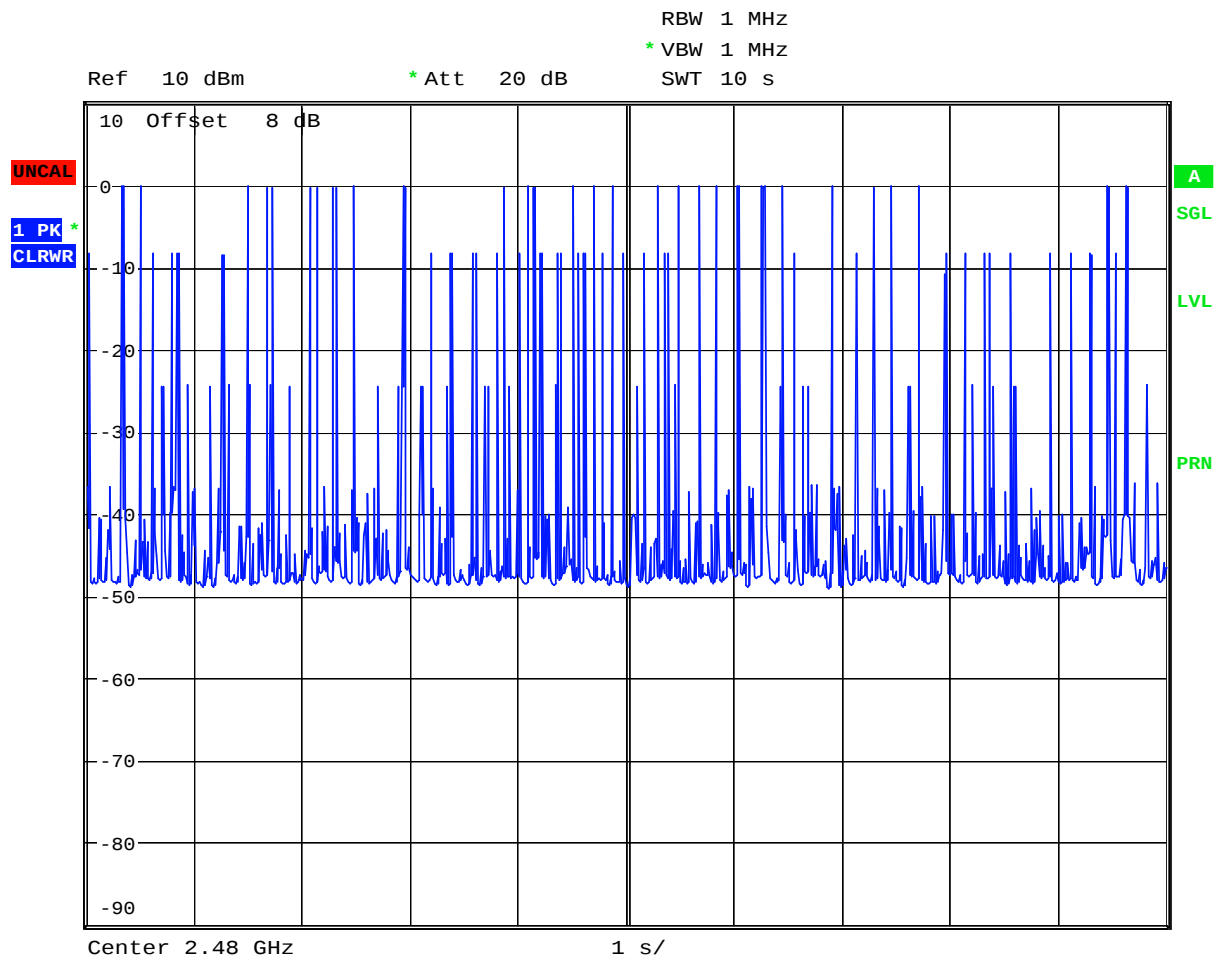


Date: 13.FEB.2006 20:49:14



FCC TEST REPORT

Report No. : FR611809



Date: 13.FEB.2006 20:44:28

5.9 Peak Output Power Measurement

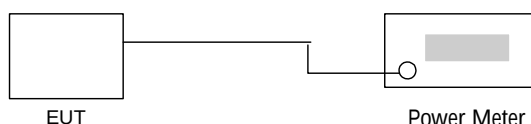
5.9.1 Measuring Instruments :

As described in chapter 6 of this test report.

5.9.2 Test Procedure :

1. The antenna port (RF output) of the EUT was connected to the input (RF input) of a power meter for WLAN measurement. The power is equal to the reading level on power meter plus cable loss at the EUT antenna terminal.
2. The antenna port(RF output) of the EUT was connected to the input (RF input) of a spectrum analyzer for BT measurement. The cable loss has been offset before testing.

5.9.3 Test Setup Layout :



5.9.4 Test Result :

- Application Type : WLAN 802.11b/g and BT
- Temperature : 23°C
- Relative Humidity : 51 %
- Test Enginner : Andy

WLAN 802.11b

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
01	2412	14.06	1W/30 dBm
06	2437	14.06	1W/30 dBm
11	2462	14.12	1W/30 dBm

WLAN 802.11b

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
01	2412	12.31	1W/30 dBm
06	2437	12.37	1W/30 dBm
11	2462	13.49	1W/30 dBm

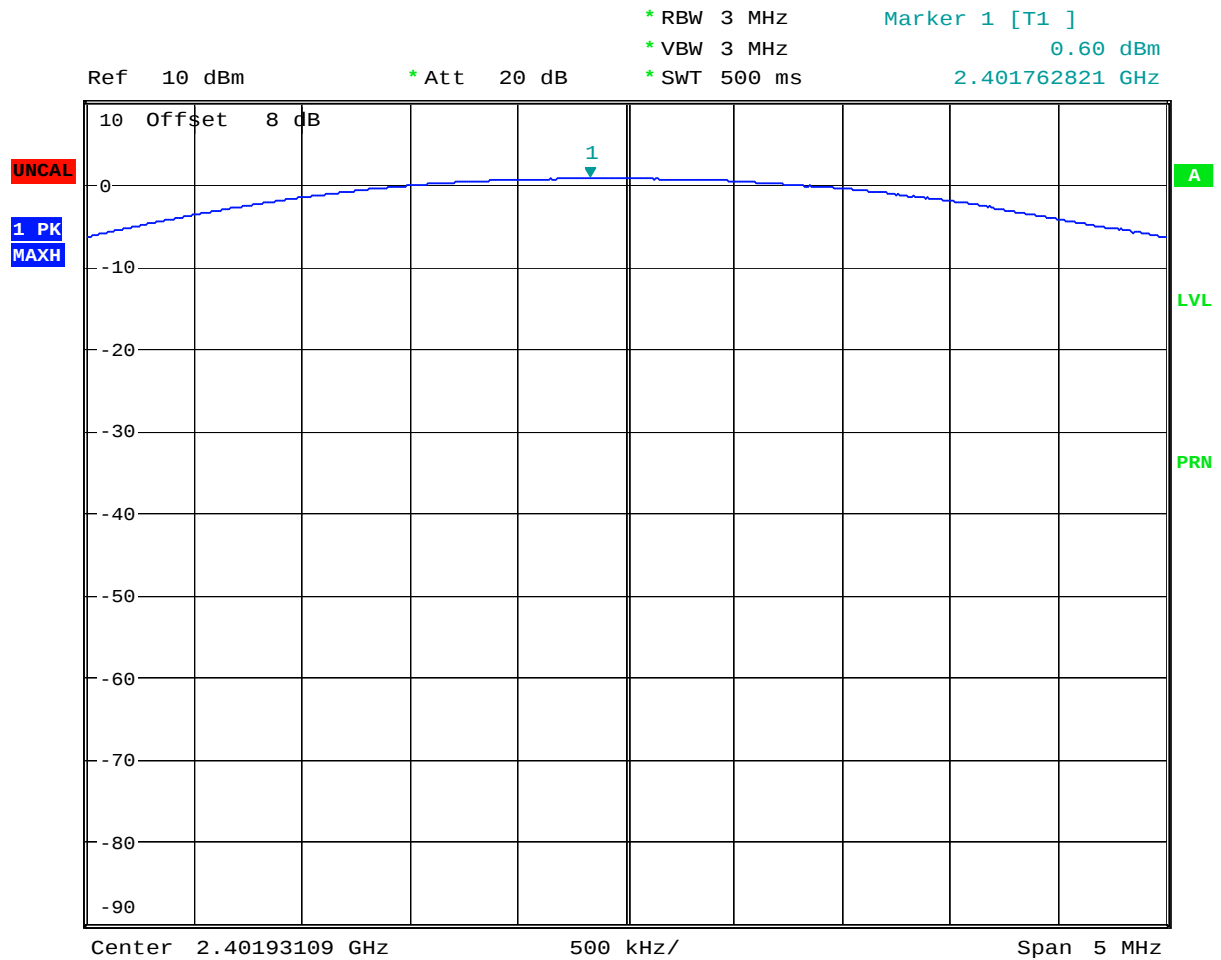
**BT**

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
00	2402	0.6	1W/30 dBm
39	2441	0.92	1W/30 dBm
78	2480	-0.32	1W/30 dBm



5.9.5 Output Power

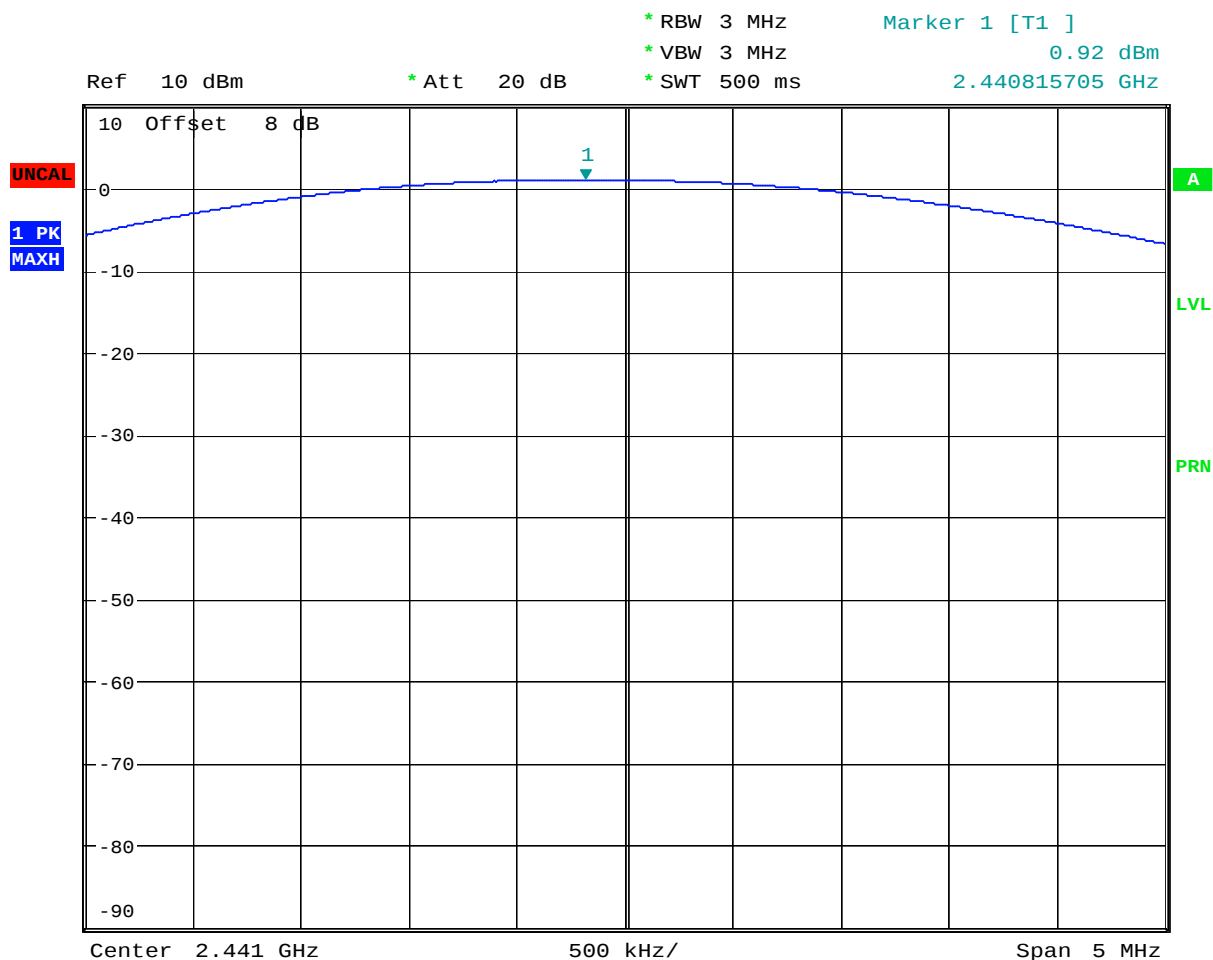
Mode 1: CH00 (2402MHz)



Date: 13.FEB.2006 19:59:06



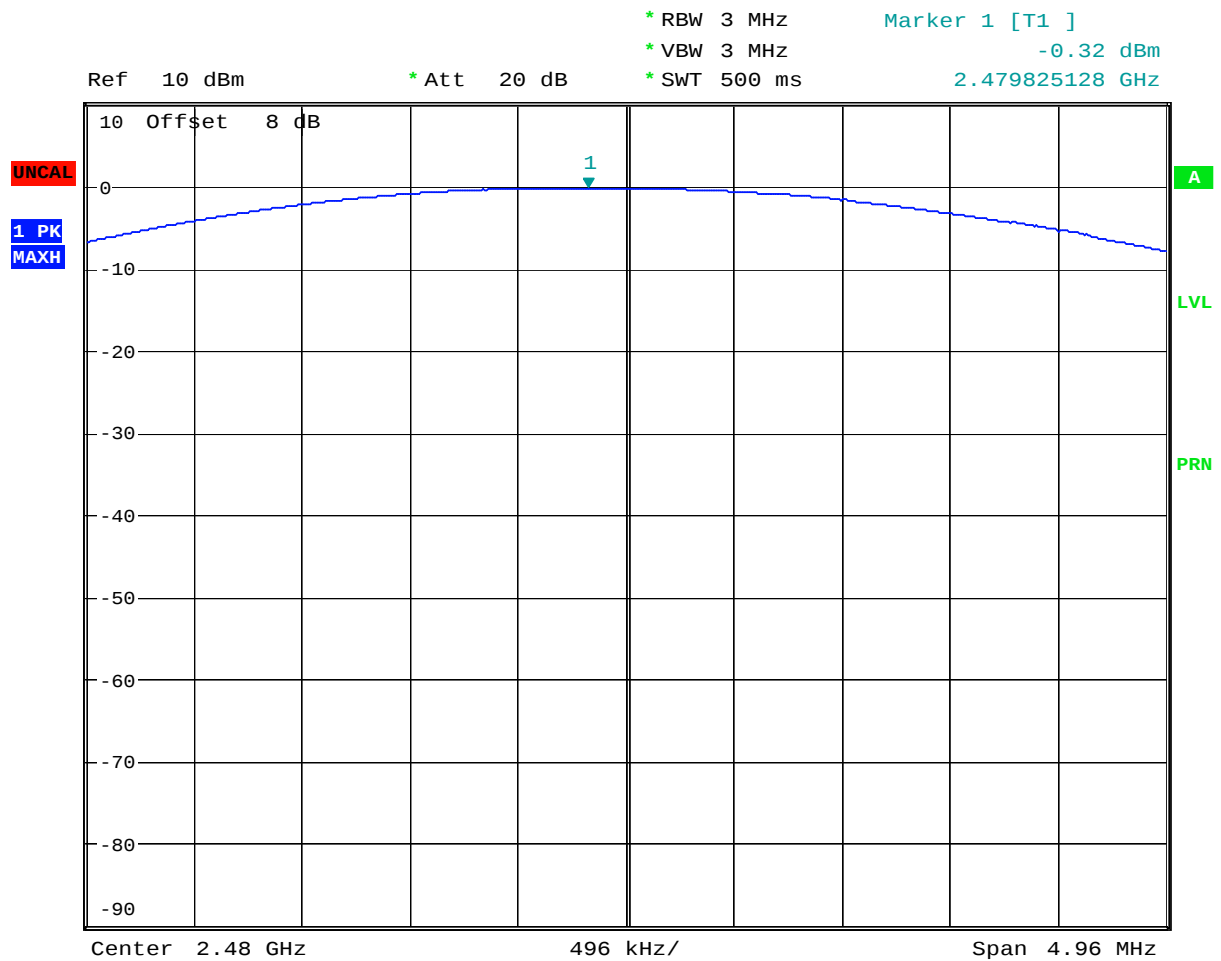
Mode 2: CH39 (2441MHz)



Date: 13.FEB.2006 19:59:40



Mode 3: CH78 (2480MHz)



Date: 13.FEB.2006 20:00:36



5.10 Conducted Emission

5.10.1 Measuring Instruments

As described in chapter 6 of this test Report.

5.10.2 Test Procedures :

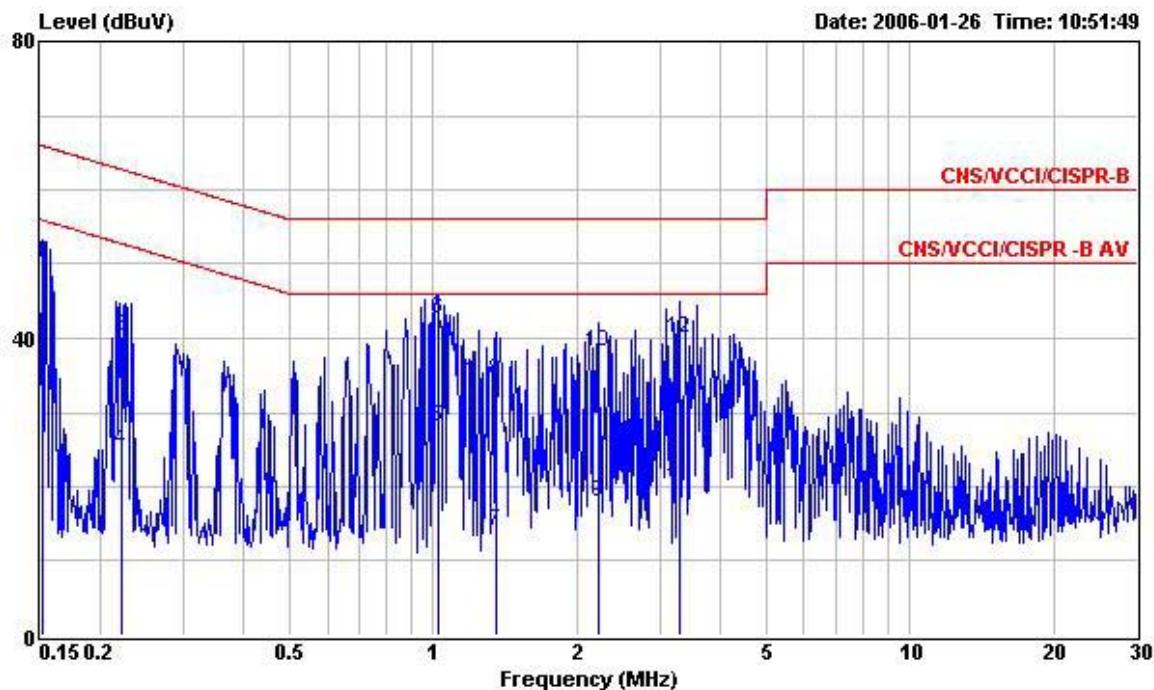
- a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- b. Connect EUT to the power port of a line impedance stabilization network (LISN).
- c. All the support units are connected to the other LISN.
- d. The LISN provides 50 ohm coupling impedance for the measuring instrument.
- e. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
- f. Both sides of AC line were checked for maximum conducted interference.
- g. The frequency range from 150 kHz to 30 MHz was searched.
- h. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.



5.10.3 Test Data

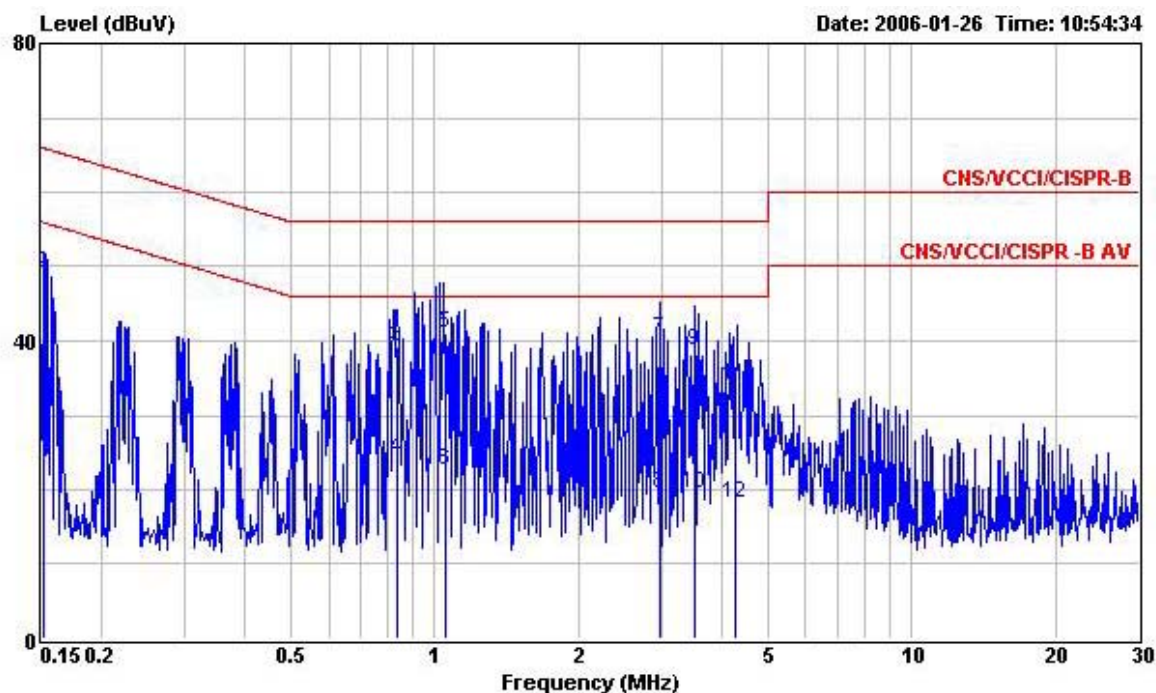
- Temperature : 23 °C
- Relative Humidity : 51 %
- Test Engineer : Andy
- Test Mode : Mode 1

■ The test that passed at minimum margin was marked by the frame in the following table.



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200505 LINE
 EUT : GSM/GPRS/EPRS MOBILE PHONE
 : WITH BLUETOOTH
 Power : 120V/60Hz
 Model : FD611809
 Memo : PCS 1900 IDLE MODE+MPEG4+CHARGER
 Memo : +BT Link+WLAN Link

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.151	50.26	-15.68	65.94	50.08	0.06	0.12	QP
2	0.151	37.42	-18.52	55.94	37.24	0.06	0.12	Average
3	0.221	40.21	-22.57	62.78	40.05	0.06	0.10	QP
4	0.221	24.89	-27.89	52.78	24.73	0.06	0.10	Average
5	1.020	28.09	-17.91	46.00	27.90	0.11	0.08	Average
6	1.020	42.71	-13.29	56.00	42.52	0.11	0.08	QP
7	1.361	14.10	-31.90	46.00	13.90	0.11	0.09	Average
8	1.361	34.25	-21.75	56.00	34.05	0.11	0.09	QP
9	2.219	17.82	-28.18	46.00	17.58	0.13	0.11	Average
10	2.219	38.15	-17.85	56.00	37.91	0.13	0.11	QP
11	3.290	19.98	-26.02	46.00	19.66	0.18	0.14	Average
12	3.290	40.09	-15.91	56.00	39.77	0.18	0.14	QP



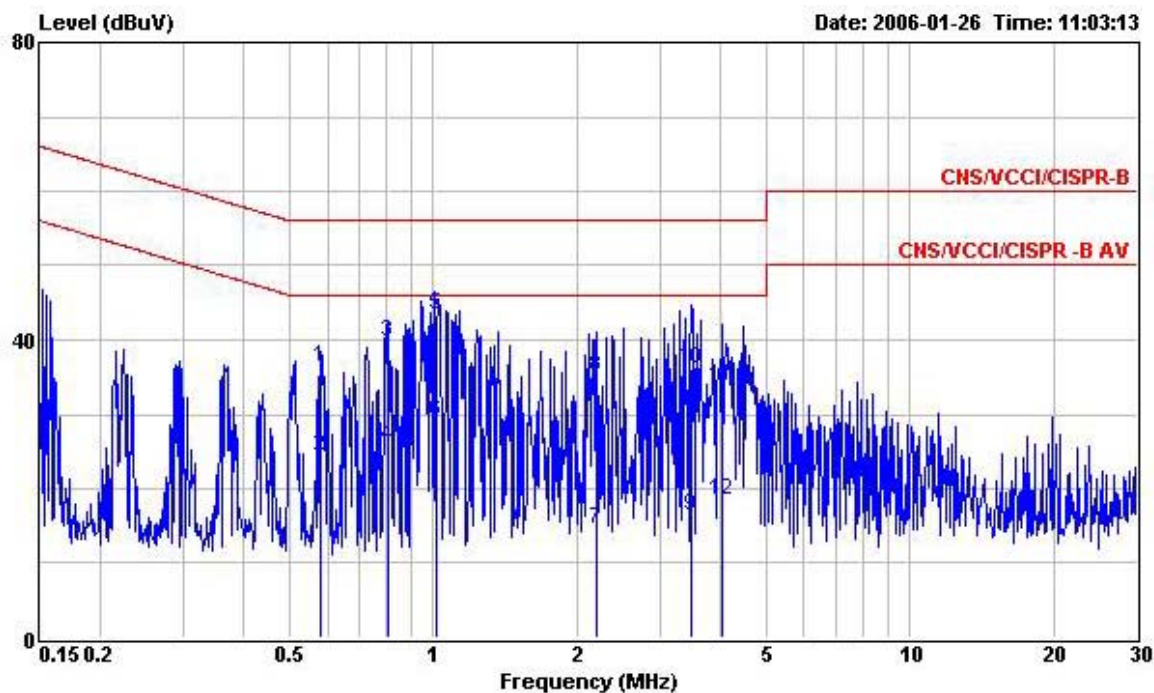
Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200505 NEUTRAL
 EUT : GSM/GPRS/EPRS MOBILE PHONE
 : WITH BLUETOOTH
 Power : 120V/60Hz
 Model : FD611809
 Memo : PCS 1900 IDLE MODE+MPEG4+CHARGER
 Memo : +BT Link+WLAN Link

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.151	36.57	-19.37	55.94	36.34	0.11	0.12	Average
2	0.151	49.14	-16.80	65.94	48.91	0.11	0.12	QP
3	0.834	39.09	-16.91	56.00	38.80	0.21	0.08	QP
4	0.834	24.14	-21.86	46.00	23.85	0.21	0.08	Average
5	1.051	41.06	-14.94	56.00	40.75	0.23	0.08	QP
6	1.051	22.71	-23.29	46.00	22.40	0.23	0.08	Average
7	2.980	40.19	-15.81	56.00	39.83	0.23	0.13	QP
8	2.980	19.60	-26.40	46.00	19.24	0.23	0.13	Average
9	3.507	38.79	-17.21	56.00	38.41	0.23	0.15	QP
10	3.507	19.44	-26.56	46.00	19.06	0.23	0.15	Average
11	4.290	34.07	-21.93	56.00	33.66	0.24	0.17	QP
12	4.290	18.15	-27.85	46.00	17.74	0.24	0.17	Average



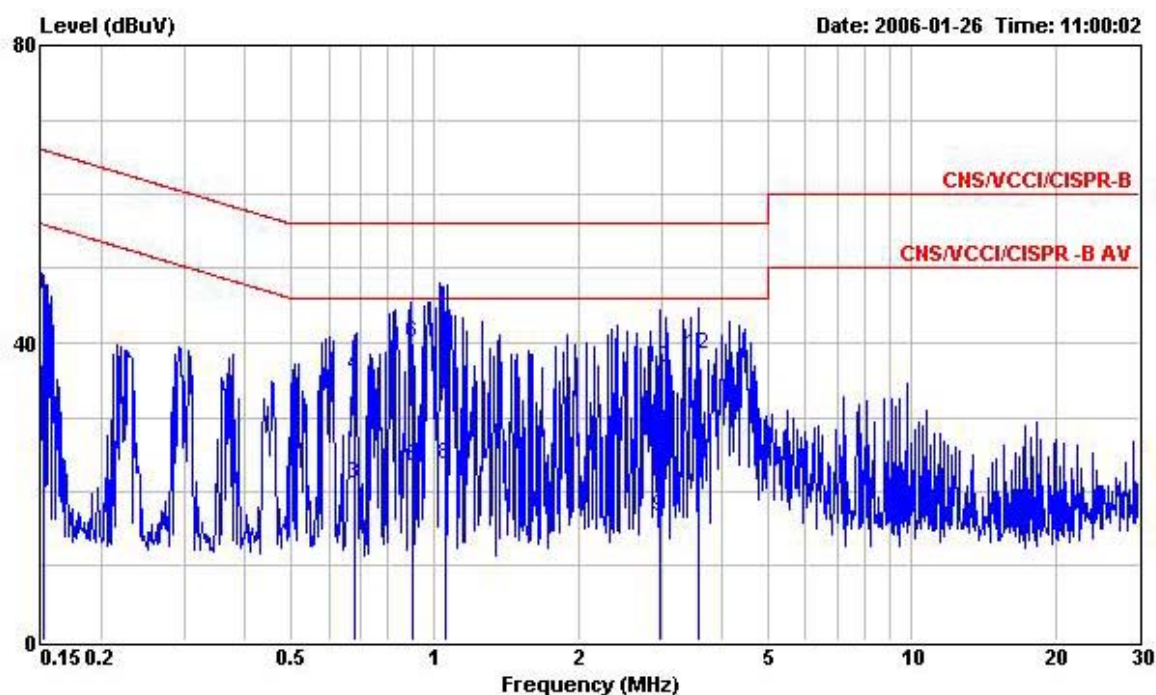
- Temperature : 23 °C
- Relating Humidity : 51 %
- Test Enginner : Andy
- Test Mode : Mode 2

■ The test that passed at minimum margin was marked by the frame in the following table.



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200505 LINE
 EUT : GSM/GPRS/EPRS MOBILE PHONE
 : WITH BLUETOOTH
 Power : 120V/60Hz
 Model : FD611809
 Memo : PCS 1900 IDLE MODE+CAMERA+CHARGER
 Memo : +BT Link+WLAN Link

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.582	36.28	-19.72	56.00	36.13	0.08	0.07	QP
2	0.582	24.41	-21.59	46.00	24.26	0.08	0.07	Average
3	0.803	39.63	-16.37	56.00	39.45	0.10	0.08	QP
4	0.803	25.72	-20.28	46.00	25.54	0.10	0.08	Average
5	1.014	43.37	-12.63	56.00	43.18	0.11	0.08	QP
6	1.014	29.14	-16.86	46.00	28.95	0.11	0.08	Average
7	2.200	14.61	-31.39	46.00	14.38	0.12	0.11	Average
8	2.200	35.04	-20.96	56.00	34.81	0.12	0.11	QP
9	3.487	16.48	-29.52	46.00	16.14	0.19	0.15	Average
10	3.487	36.18	-19.82	56.00	35.84	0.19	0.15	QP
11	4.047	33.68	-22.32	56.00	33.31	0.21	0.16	QP
12	4.047	18.34	-27.66	46.00	17.97	0.21	0.16	Average



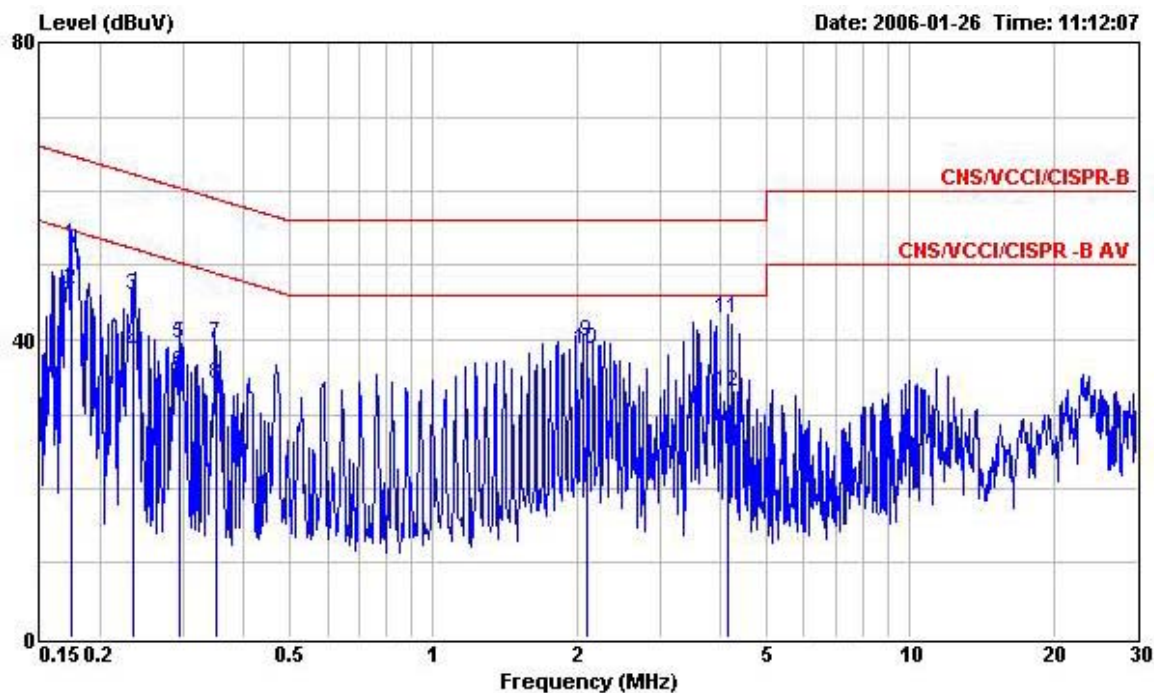
Site : CO01-HY
Condition : CNS/VCCI/CISPR-B 2001/004 200505 NEUTRAL
EUT : GSM/GPRS/EPRS MOBILE PHONE
WITH BLUETOOTH
Power : 120V/60Hz
Model : FD611809
Memo : PCS 1900 IDLE MODE+CAMERA+CHARGER
Memo : +BT Link+WLAN Link

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.151	46.55	-19.37	65.92	46.32	0.11	0.12	QP
2	0.151	33.83	-22.09	55.92	33.60	0.11	0.12	Average
3	0.677	21.12	-24.88	46.00	20.87	0.18	0.07	Average
4	0.677	35.69	-20.31	56.00	35.44	0.18	0.07	QP
5	0.902	23.42	-22.58	46.00	23.12	0.22	0.08	Average
6	0.902	40.08	-15.92	56.00	39.78	0.22	0.08	QP
7	1.054	41.42	-14.58	56.00	41.11	0.23	0.08	QP
8	1.054	23.73	-22.27	46.00	23.42	0.23	0.08	Average
9	2.959	16.49	-29.51	46.00	16.13	0.23	0.13	Average
10	2.959	36.53	-19.47	56.00	36.17	0.23	0.13	QP
11	3.580	19.39	-26.61	46.00	19.01	0.23	0.15	Average
12	3.580	38.36	-17.64	56.00	37.98	0.23	0.15	QP



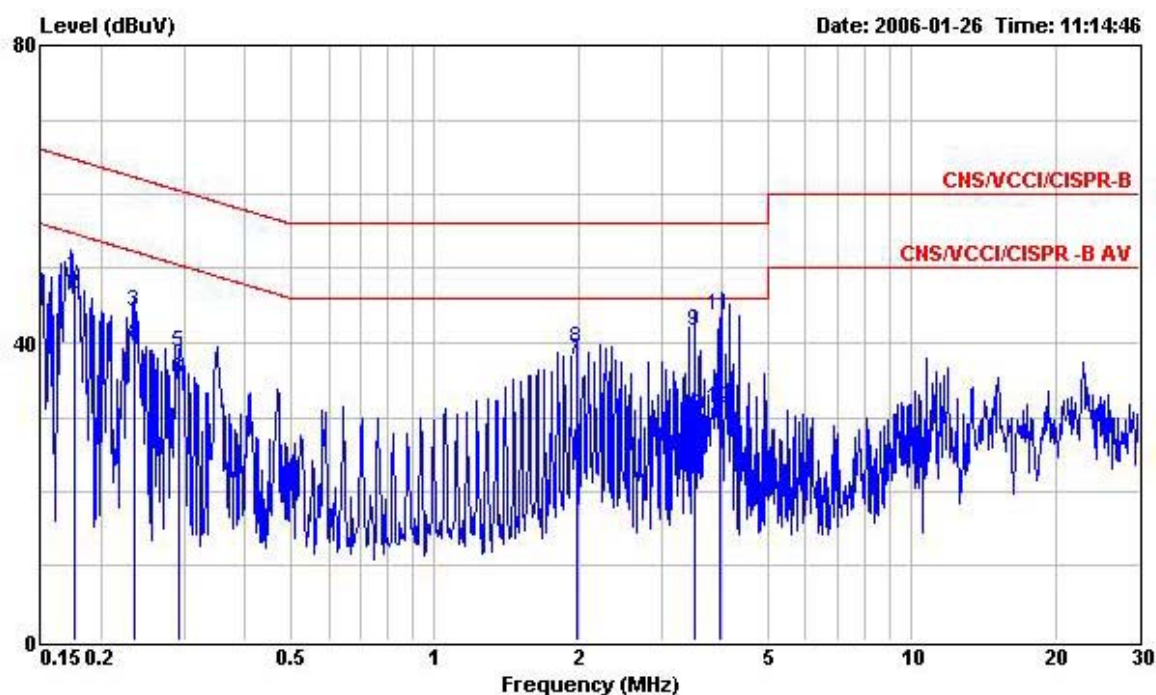
- Temperature : 23 °C
- Relative Humidity : 51 %
- Test Engineer : Andy
- Test Mode : Mode 3

■ The test that passed at minimum margin was marked by the frame in the following table.



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200505 LINE
 EUT : GSM/GPRS/EPRS MOBILE PHONE
 : WITH BLUETOOTH
 Power : 120V/60Hz
 Model : FD611809
 Memo : PCS 1900 IDLE MODE+USB LINK
 Memo : +BT Link+WLAN Link

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.174	52.85	-11.90	64.75	52.68	0.06	0.11	QP
2	0.174	46.66	-8.09	54.75	46.49	0.06	0.11	Average
3	0.236	45.88	-16.37	62.25	45.72	0.06	0.10	QP
4	0.236	38.21	-14.04	52.25	38.05	0.06	0.10	Average
5	0.294	39.42	-20.99	60.41	39.28	0.06	0.08	QP
6	0.294	35.47	-14.94	50.41	35.33	0.06	0.08	Average
7	0.351	39.45	-19.50	58.95	39.32	0.06	0.07	QP
8	0.351	33.98	-14.97	48.95	33.85	0.06	0.07	Average
9	2.105	39.77	-16.23	56.00	39.55	0.12	0.10	QP
10	2.105	38.65	-7.35	46.00	38.43	0.12	0.10	Average
11	4.152	42.76	-13.24	56.00	42.39	0.21	0.16	QP
12	4.152	32.98	-13.02	46.00	32.61	0.21	0.16	Average



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200505 NEUTRAL
 EUT : GSM/GPRS/EPRS MOBILE PHONE
 : WITH BLUETOOTH
 Power : 120V/60Hz
 Model : FD611809
 Memo : PCS 1900 IDLE MODE+USB LINK
 Memo : +BT Link+WLAN Link

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.176	49.07	-15.62	64.69	48.85	0.11	0.11	QP
2	0.176	46.40	-8.29	54.69	46.18	0.11	0.11	Average
3	0.234	44.16	-18.15	62.31	43.95	0.11	0.10	QP
4	0.234	40.01	-12.30	52.31	39.80	0.11	0.10	Average
5	0.292	38.74	-21.73	60.47	38.55	0.11	0.08	QP
6	0.292	35.06	-15.41	50.47	34.87	0.11	0.08	Average
7	1.985	37.75	-8.25	46.00	37.42	0.23	0.10	Average
8	1.985	39.25	-16.75	56.00	38.92	0.23	0.10	QP
9	3.505	41.59	-14.41	56.00	41.21	0.23	0.15	QP
10	3.505	30.26	-15.74	46.00	29.88	0.23	0.15	Average
11	3.975	43.72	-12.28	56.00	43.33	0.23	0.16	QP
12	3.975	31.18	-14.82	46.00	30.79	0.23	0.16	Average



5.11 Radiated Emission Measurement

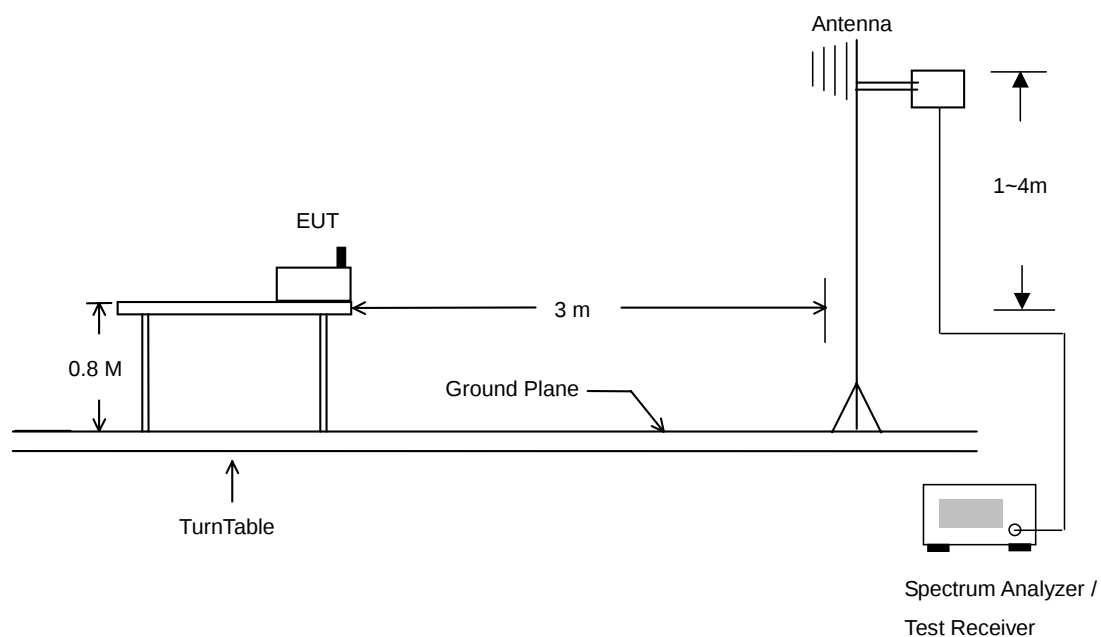
5.11.1 Measuring Instruments

As described in chapter 6 of this Report.

5.11.2 Test Procedures

- a. The EUT was placed on a rotatable table top 0.8 meter above ground.
- b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- c. The table was rotated 360 degrees to determine the position of the highest radiation.
- d. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
- e. For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
- f. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
- g. For testing below 1GHz, If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the quasi-peak method and reported.
- h. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

5.11.3 Typical Test Setup Layout of Radiated Emission

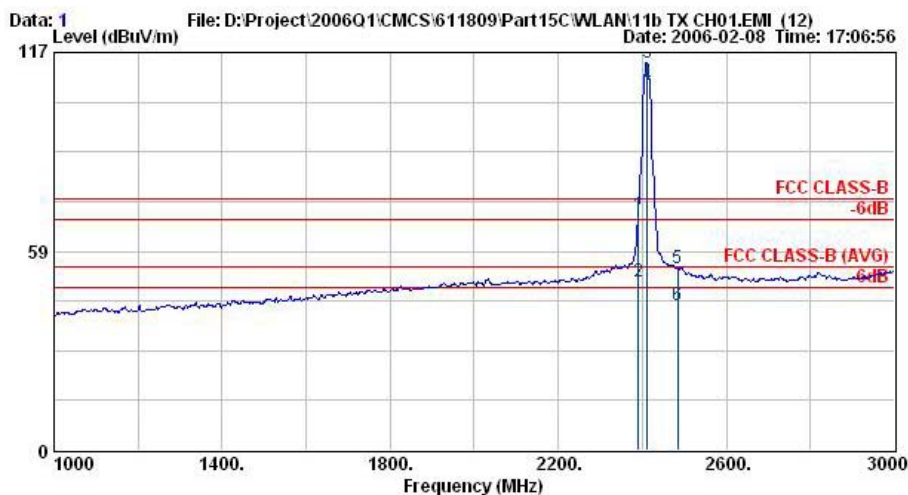




5.11.4 Test Data

- Temperature : 23°C
- Relative Humidity : 51%
- Test Engineer : Andy
- Test Mode : Mode 1
- Polarization : Horizontal

■ The test that passed at minimum margin was marked by the frame in the following table.



Site : 03CH06-HY
Condition : HF-ANT-071025-940201 HORIZONTAL
EUT : GSM/GPRS/EGPRS Mobile Phone with Bluetooth
Power : 120Vac/60Hz
Model : FR611809
Memo : 802.11b TX CH01 2412MHz
Plane : E2

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	2390.00	69.16	-4.84	74.00	69.87	30.48	4.26	35.46	100	0	Peak
2 @	2390.00	49.60	-4.40	54.00	50.31	30.48	4.26	35.46	100	208	Average
3 @	2412.00	113.99			114.72	30.47	4.26	35.46	100	0	Peak
4 @	2412.00	107.58			108.30	30.47	4.26	35.46	100	208	Average
5 @	2483.50	53.50	-20.50	74.00	54.24	30.41	4.36	35.51	100	0	Peak
6 @	2483.50	42.78	-11.22	54.00	43.52	30.41	4.36	35.51	100	208	Average

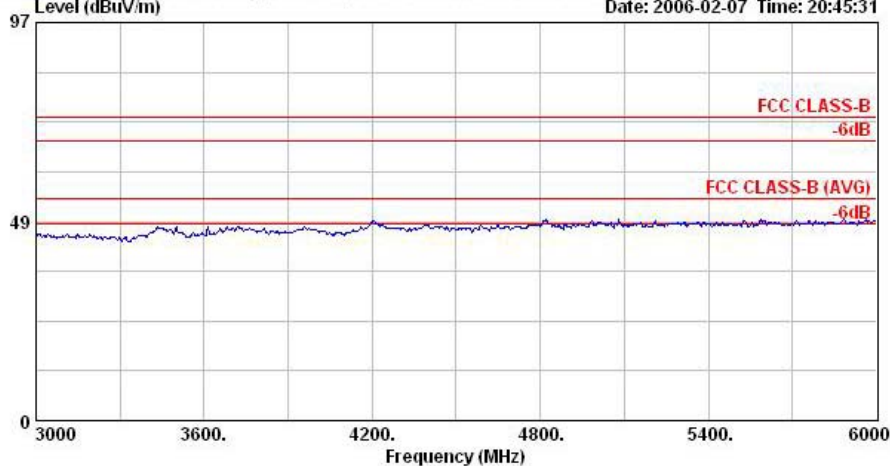
Remark: #3 and #4 Fundamental Signal



FCC TEST REPORT

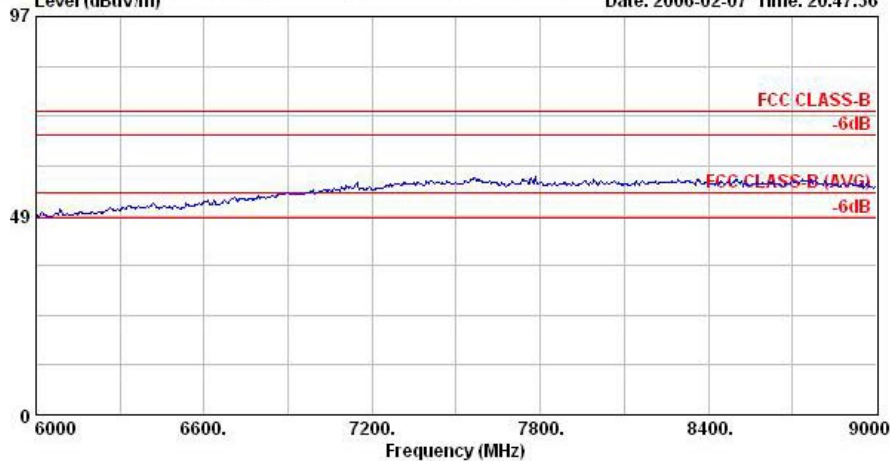
Report No. : FR611809

Data: 2 File: D:\Project\2006Q1\CMCS\611809\Part15C\WLAN\11b TX CH01.EMI (12)
Level (dBuV/m) Date: 2006-02-07 Time: 20:45:31



Site : 03CH06-HY
Condition : HF-ANT-071025-940201 HORIZONTAL
EUT : GSM/GPRS/EGPRS Mobile Phone with
Bluetooth
Power : 120Vac/60Hz
Model : FR611809
Memo : 802.11b TX CH01, 2412MHz
Plane : E2

Data: 3 File: D:\Project\2006Q1\CMCS\611809\Part15C\WLAN\11b TX CH01.EMI (12)
Level (dBuV/m) Date: 2006-02-07 Time: 20:47:36

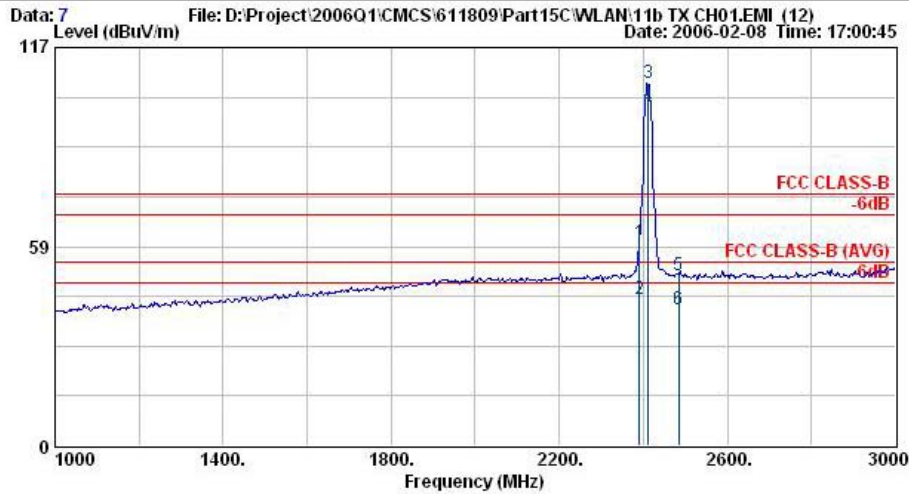


Site : 03CH06-HY
Condition : HF-ANT-071025-940201 HORIZONTAL
EUT : GSM/GPRS/EGPRS Mobile Phone with
Bluetooth
Power : 120Vac/60Hz
Model : FR611809
Memo : 802.11b TX CH01, 2412MHz
Plane : E2



- Polarization : Vertical

■ The test that passed at minimum margin was marked by the frame in the following table.



Site : 03CH06-HY
Condition : HF-ANT-071025-940201 VERTICAL
EUT : GSM/GPRS/EGPRS Mobile Phone with
Bluetooth
Power : 120Vac/60Hz
Model : FR611809
Memo : 802.11b TX CH01,2412MHz
Plane : E2

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	Remark
			dB	dBuV/m	dBuV		dB	dB	cm	deg
1 @	2390.00	59.69	-14.31	74.00	60.40	30.48	4.26	35.46	200	0 Peak
2 @	2390.00	43.27	-10.73	54.00	43.98	30.48	4.26	35.46	100	256 Average
3 @	2412.00	106.48			107.21	30.47	4.26	35.46	200	0 Peak
4 @	2412.00	99.48			100.20	30.47	4.26	35.46	100	256 Average
5 @	2483.50	50.21	-23.79	74.00	50.95	30.41	4.36	35.51	200	0 Peak
6 @	2483.50	40.18	-13.82	54.00	40.92	30.41	4.36	35.51	100	256 Average

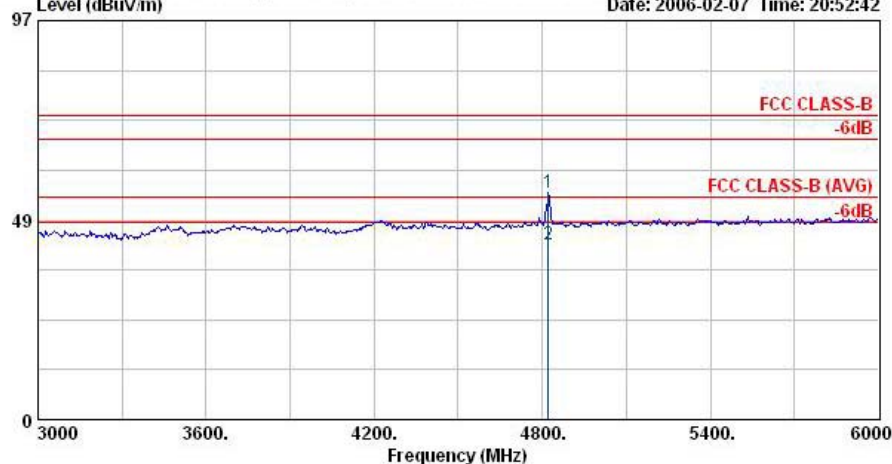
Remark: #3 and #4 Fundamental Signal



FCC TEST REPORT

Report No. : FR611809

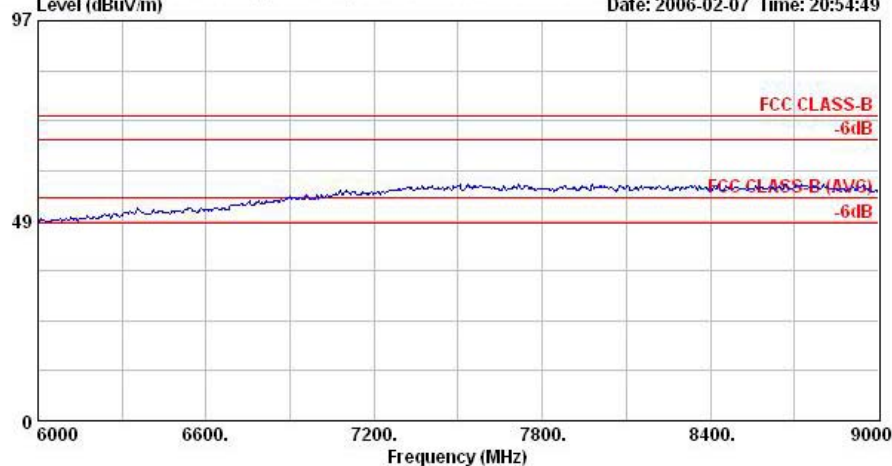
Data: 8 File: D:\Project\2006Q1\CMCS\611809\Part15C\WLAN\11b TX CH01.EMI (12)
Level (dBuV/m) Date: 2006-02-07 Time: 20:52:42



Site : 03CH06-HY
Condition : HF-ANT-071025-940201 VERTICAL
EUT : GSM/GPRS/EGPRS Mobile Phone with
Bluetooth
Power : 120Vac/60Hz
Model : FR611809
Memo : 802.11b TX CH01, 2412MHz
Plane : E2

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	4821.00	55.24	-18.76	74.00	51.90	33.21	6.24	36.12	200	360	Peak
2 @	4821.00	42.60	-11.40	54.00	39.26	33.21	6.24	36.12	100	196	Average

Data: 9 File: D:\Project\2006Q1\CMCS\611809\Part15C\WLAN\11b TX CH01.EMI (12)
Level (dBuV/m) Date: 2006-02-07 Time: 20:54:49

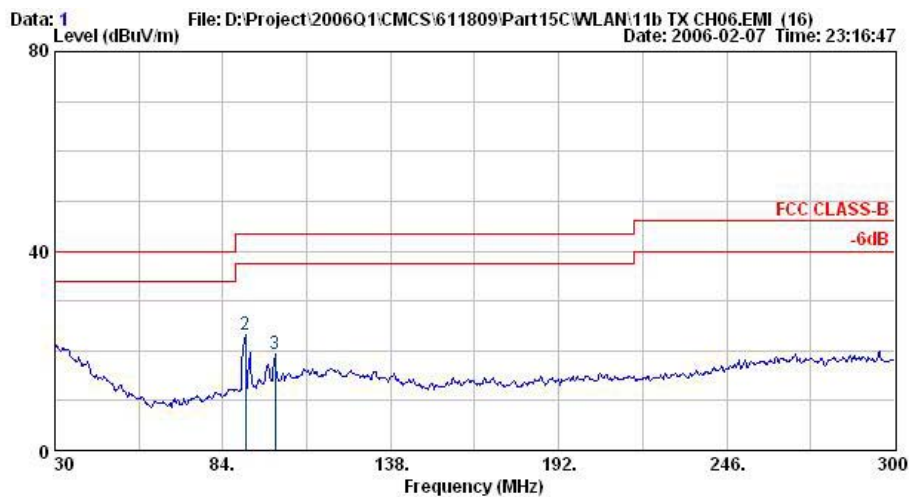


Site : 03CH06-HY
Condition : HF-ANT-071025-940201 VERTICAL
EUT : GSM/GPRS/EGPRS Mobile Phone with
Bluetooth
Power : 120Vac/60Hz
Model : FR611809
Memo : 802.11b TX CH01, 2412MHz
Plane : E2



- Test Mode : Mode 2
- Polarization : Horizontal

■ The test that passed at minimum margin was marked by the frame in the following table.



Site : 03CH06-HY
Condition : BI-LOG-2004-1122 HORIZONTAL
EUT : GSM/GPRS/EGPRS Mobile Phone with
Bluetooth
Power : 120Vac/60Hz
Model : FR611809
Memo : 802.11b TX CH06,2437MHz
Plane : E2

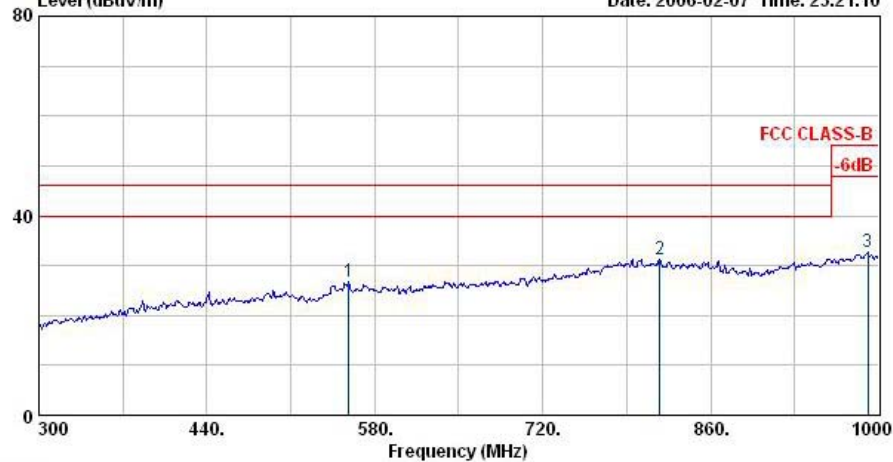
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 @	30.00	21.44	-18.56	40.00	32.85	18.73	1.35	31.49	400	0 Peak
2 @	91.29	23.11	-20.39	43.50	43.12	9.18	2.33	31.52	400	0 Peak
3 @	100.74	19.33	-24.17	43.50	37.60	10.57	2.45	31.29	400	0 Peak



FCC TEST REPORT

Report No. : FR611809

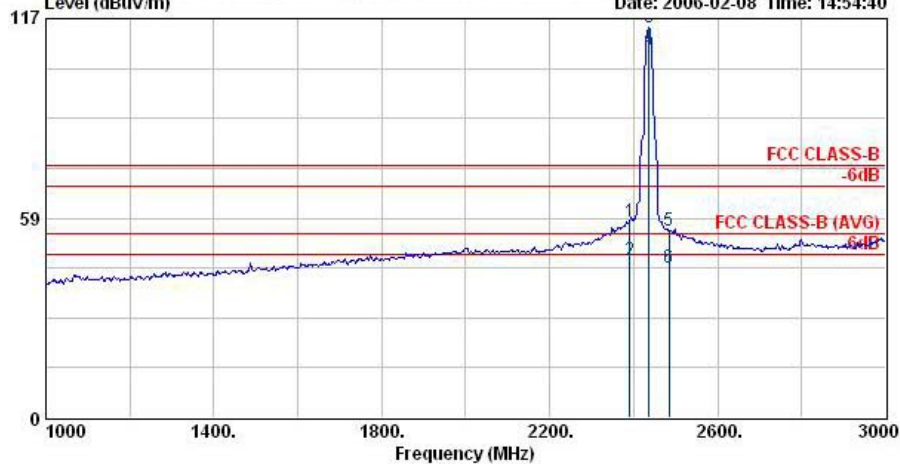
Data: 2 File: D:\Project\2006Q1\CMCS\611809\Part15C\WLAN\11b TX CH06.EMI (16) Date: 2006-02-07 Time: 23:21:10



Site : 03CH06-HY
Condition : BI-LOG-2004-1122 HORIZONTAL
EUT : GSM/GPRS/EGPRS Mobile Phone with
Bluetooth
Power : 120Vac/60Hz
Model : FR611809
Memo : 802.11b TX CH06,2437MHz
Plane : E2

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 @	558.30	26.78	-19.22	46.00	32.75	18.56	6.12	30.64	100	0 Peak
2 @	817.30	31.22	-14.78	46.00	32.47	21.56	7.54	30.35	127	201 Peak
3 @	990.90	32.57	-21.43	54.00	31.84	22.71	8.39	30.37	100	0 Peak

Data: 3 File: D:\Project\2006Q1\CMCS\611809\Part15C\WLAN\11b TX CH06.EMI (16) Date: 2006-02-08 Time: 14:54:40



Site : 03CH06-HY
Condition : HF-ANT-071025-940201 HORIZONTAL
EUT : GSM/GPRS/EGPRS Mobile Phone with
Bluetooth
Power : 120Vac/60Hz
Model : FR611809
Memo : 802.11b TX CH06,2437MHz
Plane : E2

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 @	2390.00	57.56	-16.44	74.00	58.27	30.48	4.26	35.46	200	0 Peak
2 @	2390.00	45.93	-8.07	54.00	46.64	30.48	4.26	35.46	100	205 Average
3 @	2437.00	114.22			114.95	30.46	4.29	35.47	200	0 Peak
4 @	2437.00	107.66			108.40	30.44	4.29	35.47	100	205 Average
5 @	2483.50	54.76	-19.24	74.00	55.50	30.41	4.36	35.51	200	0 Peak
6 @	2483.50	44.07	-9.93	54.00	44.81	30.41	4.36	35.51	100	205 Average

Remark: #3 and #4 Fundamental Signal

SPORTON International Inc.

TEL : 886-2-2696-2468

FAX : 886-2-2696-2255

Page No. : 81 of 121

Report Issued Date : Mar. 10, 2006

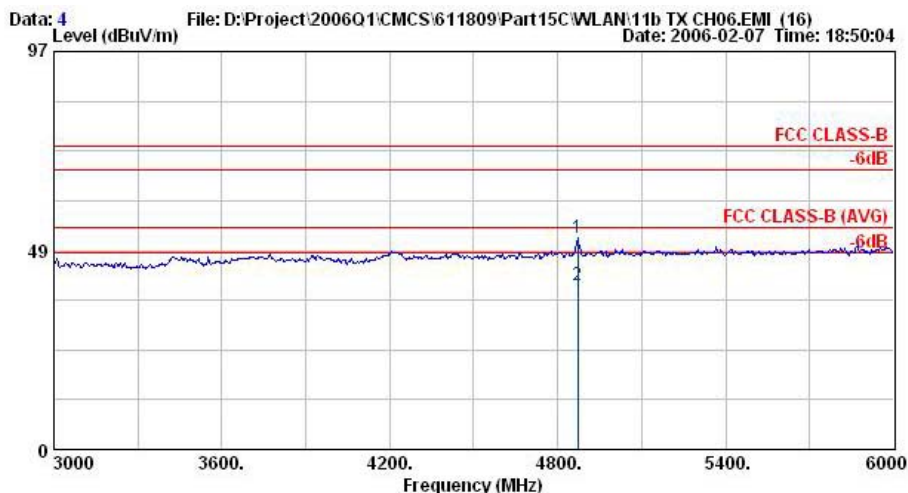
Report Version : Rev. 01

FCC ID : QDJ-0602DBS01



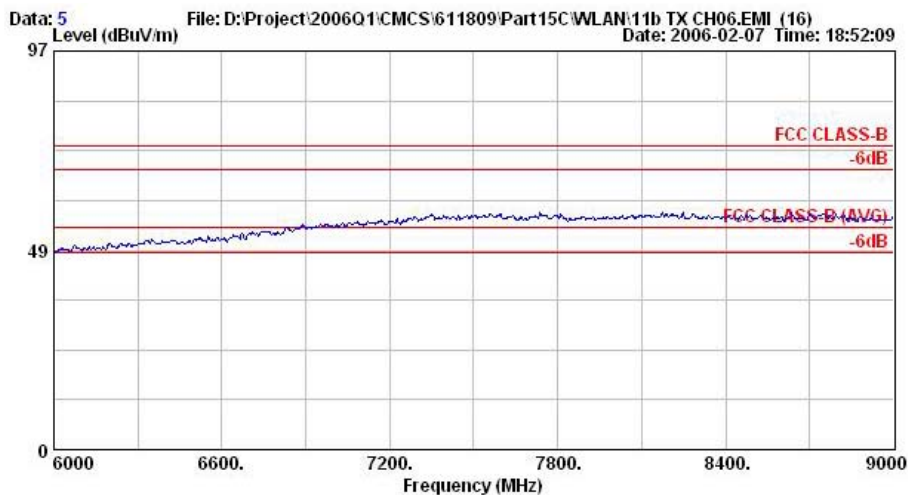
FCC TEST REPORT

Report No. : FR611809



Site : 03CH06-HY
Condition : HF-ANT-071025-940201 HORIZONTAL
EUT : GSM/GPRS/EGPRS Mobile Phone with
Bluetooth
Power : 120Vac/60Hz
Model : FR611809
Memo : 802.11b TX CH06,2437MHz
Plane : E2

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 @	4872.00	51.45	-22.55	74.00	47.92	33.39	6.30	36.16	200	0 Peak
2 @	4872.00	39.99	-14.01	54.00	36.46	33.39	6.30	36.16	197	60 Average

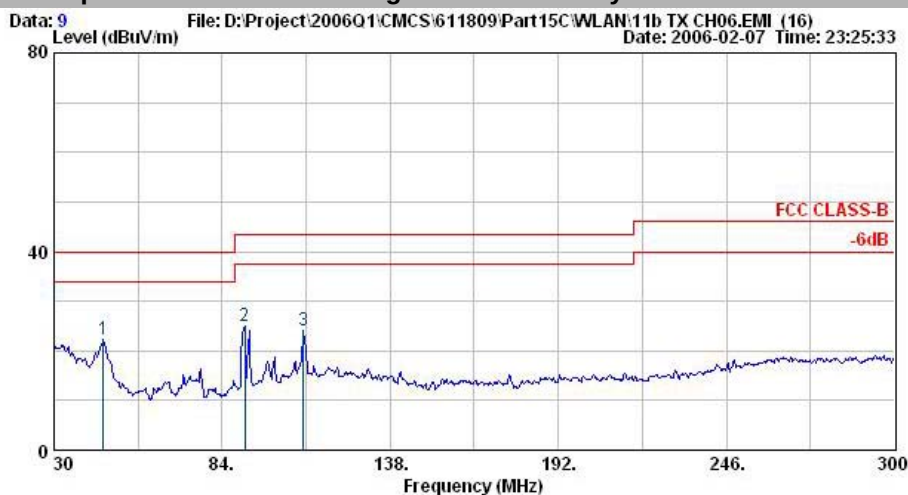


Site : 03CH06-HY
Condition : HF-ANT-071025-940201 HORIZONTAL
EUT : GSM/GPRS/EGPRS Mobile Phone with
Bluetooth
Power : 120Vac/60Hz
Model : FR611809
Memo : 802.11b TX CH06,2437MHz
Plane : E2



- Polarization : Vertical

■ The test that passed at minimum margin was marked by the frame in the following table.



Site : 03CH06-HY
Condition : BI-LOG-2004-1122 VERTICAL
EUT : GSM/GPRS/EGPRS Mobile Phone with
Bluetooth
Power : 120Vac/60Hz
Model : FR611809
Memo : 802.11b TX CH06,2437MHz
Plane : E2

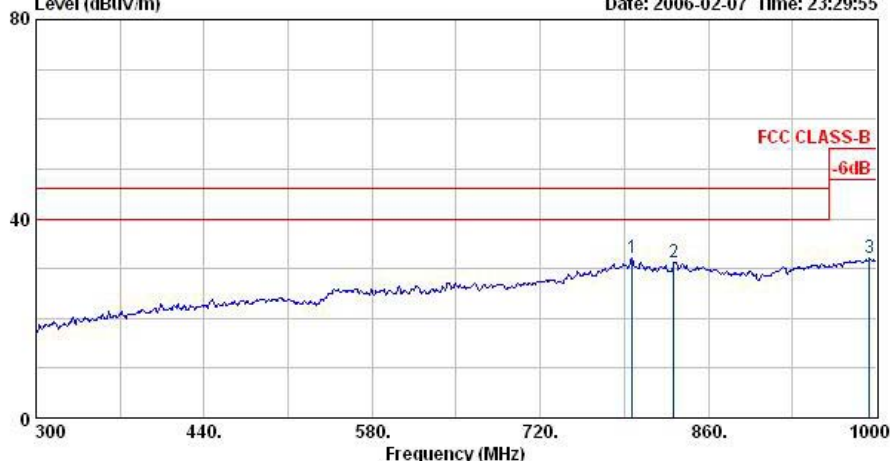
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 @	45.93	22.25	-17.75	40.00	40.45	11.74	1.65	31.59	400	0 Peak
2 @	91.29	24.97	-18.53	43.50	44.98	9.18	2.33	31.52	400	0 Peak
3 @	110.19	24.16	-19.34	43.50	40.88	11.70	2.53	30.96	400	0 Peak



FCC TEST REPORT

Report No. : FR611809

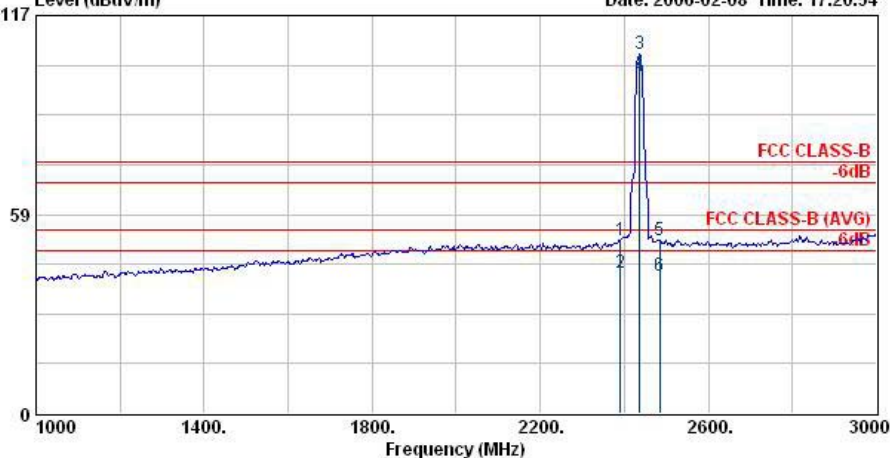
Data: 10 File: D:\Project\2006Q1\CMCS\611809\Part15C\WLAN\11b TX CH06.EMI (16)
Level (dBuV/m) Date: 2006-02-07 Time: 23:29:55



Site : 03CH06-HY
Condition : BI-LOG-2004-1122 VERTICAL
EUT : GSM/GPRS/EGPRS Mobile Phone with
Bluetooth
Power : 120Vac/60Hz
Model : FR611809
Memo : 802.11b TX CH06,2437MHz
Plane : E2

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	796.30	31.99	-14.01	46.00	32.91	21.79	7.44	30.14	132	107	Peak
2 @	831.30	31.19	-14.81	46.00	32.71	21.29	7.62	30.43	100	0	Peak
3 @	994.40	32.08	-21.92	54.00	31.34	22.79	8.40	30.45	100	0	Peak

Data: 11 File: D:\Project\2006Q1\CMCS\611809\Part15C\WLAN\11b TX CH06.EMI (16)
Level (dBuV/m) Date: 2006-02-08 Time: 17:20:54



Site : 03CH06-HY
Condition : HF-ANT-071025-940201 VERTICAL
EUT : GSM/GPRS/EGPRS Mobile Phone with
Bluetooth
Power : 120Vac/60Hz
Model : FR611809
Memo : 802.11b TX CH06,2437MHz
Plane : E2

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	2390.00	51.05	-22.95	74.00	51.76	30.48	4.26	35.46	100	0	Peak
2 @	2390.00	41.15	-12.85	54.00	41.86	30.48	4.26	35.46	100	254	Average
3 @	2437.00	105.88			106.61	30.46	4.29	35.47	100	0	Peak
4 @	2437.00	98.98			99.72	30.44	4.29	35.47	100	254	Average
5 @	2483.50	50.74	-23.26	74.00	51.48	30.41	4.36	35.51	100	0	Peak
6 @	2483.50	40.50	-13.50	54.00	41.24	30.41	4.36	35.51	100	254	Average

Remark: #3 and #4 Fundamental Signal

SPORTON International Inc.

TEL : 886-2-2696-2468

FAX : 886-2-2696-2255

Page No. : 84 of 121

Report Issued Date : Mar. 10, 2006

Report Version : Rev. 01

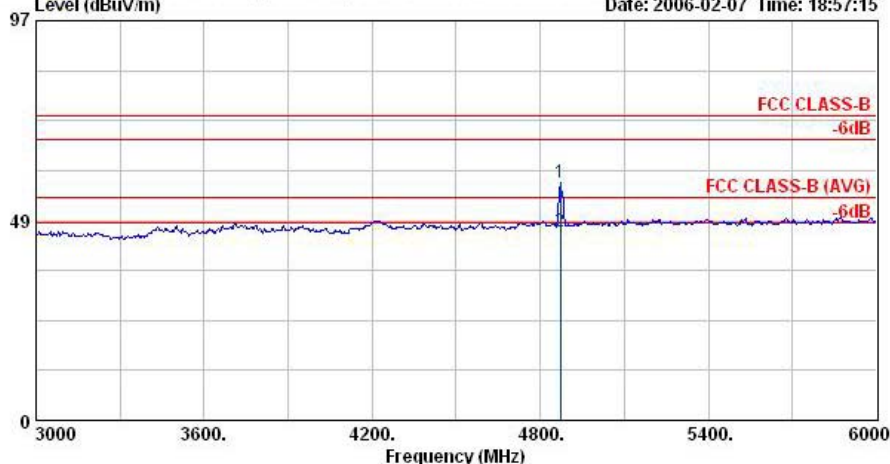
FCC ID : QDJ-0602DBS01



FCC TEST REPORT

Report No. : FR611809

Data: 12 File: D:\Project\2006Q1\CMCS\611809\Part15C\WLAN\11b TX CH06.EMI (16)
Level (dBuV/m) Date: 2006-02-07 Time: 18:57:15



Site : 03CH06-HY
Condition : HF-ANT-071025-940201 VERTICAL
EUT : GSM/GPRS/EGPRS Mobile Phone with
Bluetooth
Power : 120Vac/60Hz
Model : FR611809
Memo : 802.11b TX CH06,2437MHz
Plane : E2

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	4872.00	57.68	-16.32	74.00	54.15	33.39	6.30	36.16	200	360	Peak
2 @	4872.00	45.75	-8.25	54.00	42.22	33.39	6.30	36.16	100	348	Average

Data: 13 File: D:\Project\2006Q1\CMCS\611809\Part15C\WLAN\11b TX CH06.EMI (16)
Level (dBuV/m) Date: 2006-02-07 Time: 18:59:21

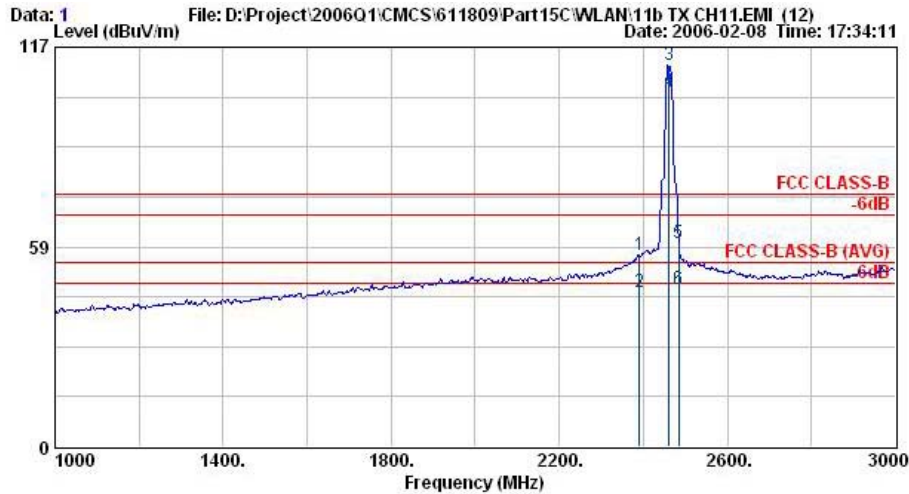


Site : 03CH06-HY
Condition : HF-ANT-071025-940201 VERTICAL
EUT : GSM/GPRS/EGPRS Mobile Phone with
Bluetooth
Power : 120Vac/60Hz
Model : FR611809
Memo : 802.11b TX CH06,2437MHz
Plane : E2



- Test Mode : Mode 3
- Polarization : Horizontal

■ The test that passed at minimum margin was marked by the frame in the following table.



Site : 03CH06-HY
Condition : HF-ANT-071025-940201 HORIZONTAL
EUT : GSM/GPRS/EGPRS Mobile Phone with
Bluetooth
Power : 120Vac/60Hz
Model : FR611809
Memo : 802.11b TX CH11, 2462MHz
Plane : E2

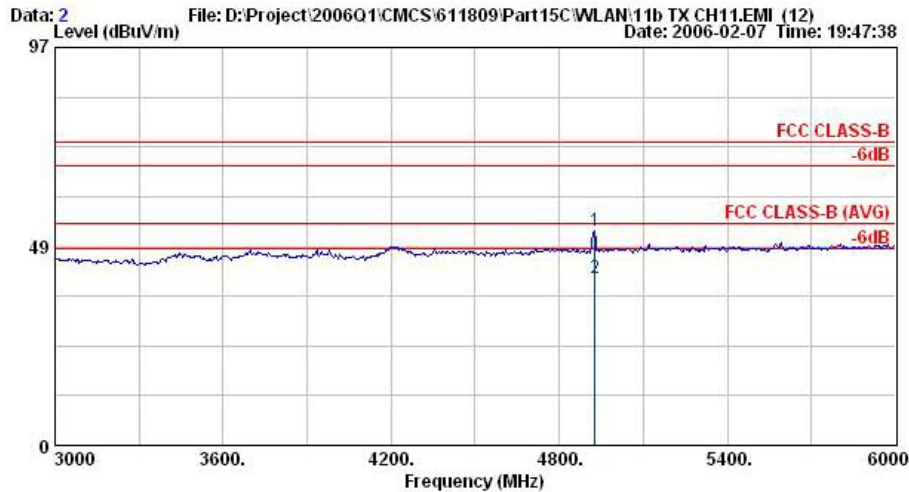
	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	2390.00	56.09	-17.91	74.00	56.80	30.48	4.26	35.46	100	0	Peak
2 @	2390.00	45.11	-8.89	54.00	45.82	30.48	4.26	35.46	100	202	Average
3 @	2462.00	111.65			112.39	30.43	4.33	35.49	100	0	Peak
4 @	2462.00	103.86			104.60	30.43	4.33	35.49	100	202	Average
5 @	2483.50	59.74	-14.26	74.00	60.48	30.41	4.36	35.51	100	0	Peak
6 @	2483.50	46.27	-7.73	54.00	47.01	30.41	4.36	35.51	100	202	Average

Remark: #3 and #4 Fundamental Signal



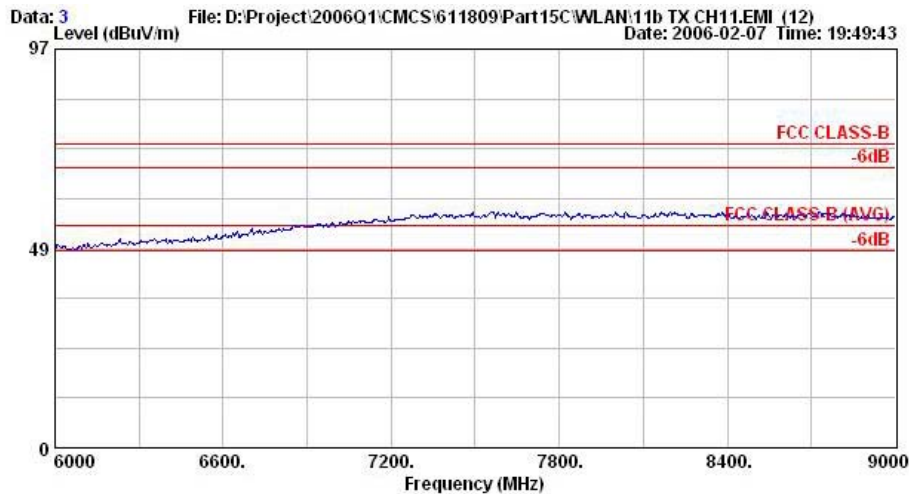
FCC TEST REPORT

Report No. : FR611809



Site : 03CH06-HY
Condition : HF-ANT-071025-940201 HORIZONTAL
EUT : GSM/GPRS/EGPRS Mobile Phone with Bluetooth
Power : 120Vac/60Hz
Model : FR611809
Memo : 802.11b TX CH11, 2462MHz
Plane : E2

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	4926.00	52.11	-21.89	74.00	48.39	33.57	6.36	36.21	200	0	Peak
2 @	4926.00	40.78	-13.22	54.00	37.06	33.57	6.36	36.21	100	108	Average



Site : 03CH06-HY
Condition : HF-ANT-071025-940201 HORIZONTAL
EUT : GSM/GPRS/EGPRS Mobile Phone with Bluetooth
Power : 120Vac/60Hz
Model : FR611809
Memo : 802.11b TX CH11, 2462MHz
Plane : E2