



FCC TEST REPORT

for

47 CFR Part 15 Subpart C

Equipment : O2 Xda Graphite Windows Mobiles Smartphone
(GSM900/DCS1800/PCS1900/UMTS 2100/Bluetooth/WLAN)
Trade Name : O2
Model No. : O2G1, O2 XDA Graphite
FCC ID : MSQO2G1
Filing Type : Certification
Applicant : ASUSTeK Computer Inc.
No. 150, Li-Te Rd., Peitou, Taipei, Taiwan, R.O.C.

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- The data shown in this test report were carried out on Aug. 13, 2006 at **Sporton International Inc. LAB.**
- Report No.: FR681007, Report Version: Rev. 04

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1. General Description of Equipment under Test

1.1 Applicant

ASUSTeK Computer Inc.

No. 150, Li-Te Rd., Peitou, Taipei, Taiwan, R.O.C.

1.2 Manufacturer

ASUSTeK Computer Inc.

No. 150, Li-Te Rd., Peitou, Taipei, Taiwan, R.O.C.

ASUSTeK Computer Inc.

No.5, Shing Yeh Street, 333 Kwei Shan Hsiang, Taoyuan Hsien, Taiwan

ASUSTek Computer Inc.

No.76, Ligung St., Peitou, 112 Taipei, Taiwan

North Tec Asia (Shanghai) Limited

Factory 2, 3678 Xiu Yan Rd., 201319 Nanhui District, Shanghai, People's Republic of China

1.3 Basic Description of Equipment under Test

Equipment	: O2 Xda Graphite Windows Mobiles Smartphone (GSM900/DCS1800/PCS1900/UMTS 2100/Bluetooth/WLAN)
Trade Name	: O2
Model No.	: O2G1, O2 XDA Graphite
FCC ID	: MSQO2G1
Power Supply Type	: Switching, From battery 3.7V
AC Power Cord	: AC 120V, Wall-mount, 1.4 meter, 2 pin
Adapter 1	: PI, P005WA05OW
Adapter 2	: PHIHONG, PSC05R-050CP PH
Battery	: ASUS, SBP-02
Earphone 1	: O2, CHM-201STV1017(TPE)
Earphone 2	: ASUS, CHM-201STV1017(TPE)
Earphone 3	: COTRON, CHM-71STS01005(TPE)
USB Cable	: FOXCONN, CUHD004B-S17-E

Remark:

1. Earphone 1 & Earphone 2 have the same circuit design, only earphone 1 used for testing.

**1.4 Feature of Equipment under Test**

Product Feature & Specification	
1. DUT Type	O2 Xda Graphite Windows Mobiles Smartphone (GSM900/DCS1800/PCS1900/UMTS 2100/Bluetooth/WLAN)
2. Trade Name	O2
3. Model Name	O2G1, O2 XDA Graphite
4. FCC ID	MSQO2G1
5. Tx Frequency	PCS1900 : 1850 ~1910 MHz Bluetooth : 2400~2483.5 MHz 802.11b / 802.11g : 2400 ~ 2483.5 MHz
6. Rx Frequency	PCS1900 : 1930 ~ 1990 MHz Bluetooth : 2400~2483.5 MHz 802.11b / 802.11g : 2400 ~ 2483.5 MHz
7. Number of Channels	Bluetooth : 79 WLAN : 11
8. Carrier Frequency of Each Channel	Bluetooth : 2402+n*1 MHz; n=0~78 WLAN : 2412+(n-1)*5 MHz; n=1~11
9. Antenna Connector	N/A
10. Antenna Type	PCS1900 : PIFA Antenna Bluetooth : Chip Antenna 802.11b / 802.11g : Chip Antenna
11. Antenna Gain	PCS1900 : -3.5 dBi Bluetooth : -7 dBi 802.11b / 802.11g : -7 dBi
12. HW Version	R1.4.1a
13. SW Version	V2.2.0g
14. Maximum Output Power	PCS1900 : 28.48 dBm Bluetooth : 1.64 dBm 802.11b : 12.13 dBm / 802.11g : 14.06 dBm
15. Type of Modulation	PCS1900 : GMSK Bluetooth : GFSK 802.11b / 802.11g : DSSS / OFDM
16. DUT Stage	Identical Prototype
17. Application Type	Certification

2 Test Configuration of Equipment under Test

2.1 Test Manner

- a. 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.
- b. For spurious emission below 1GHz, only one channel of each application was tested because it is not related to channel selection.
- c. The EUT is programmed to transmit signal continuously for all testings.
- d. Frequency range investigated: conduction 150 kHz to 30 MHz, radiation 30 MHz to 25000MHz.

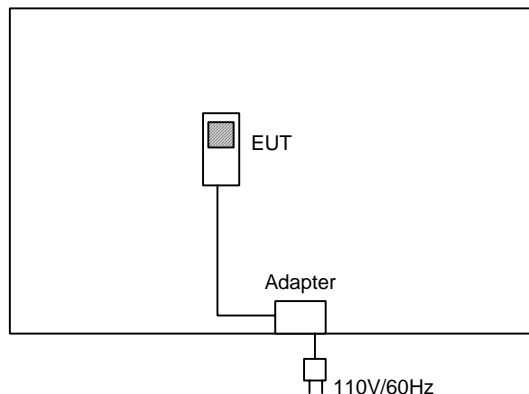
2.2 Test Mode

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: PCS Idle Mode + BT Link + WLAN Link + Earphone 1 + Adapter 1 + Camera		
	Mode 2: PCS Idle Mode + BT Link + WLAN Link + Earphone 1 + Adapter 1 + MPEG 4		
	Mode 3: PCS Idle Mode + BT Link + WLAN Link + Earphone 1 + USB Link + MPEG 4		
	Mode 4: PCS Idle Mode + BT Link + WLAN Link + Earphone 3 + Adapter 1 + Camera		
	Mode 5: PCS Idle Mode + BT Link + WLAN Link + Earphone 1 + Adapter 2 + Camera		

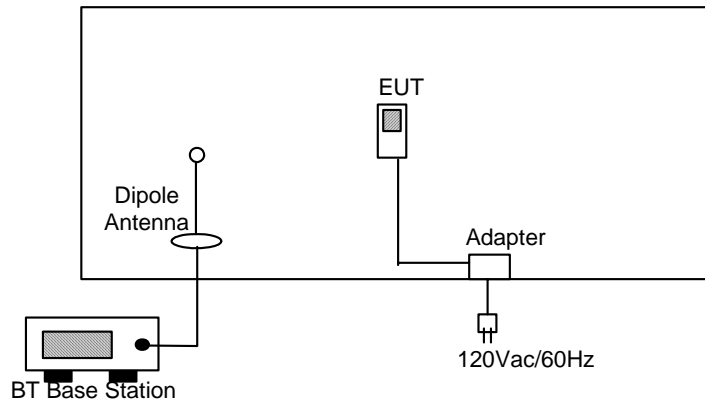
2.3 Connection Diagram of Test System

<Radiated Emission>

Mode 1-6

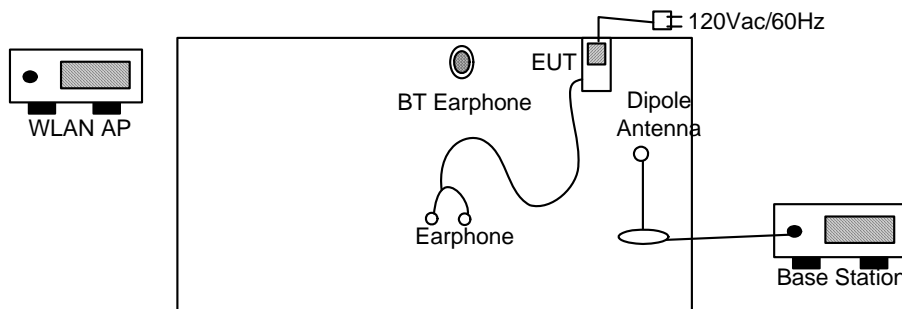


Mode 7-9

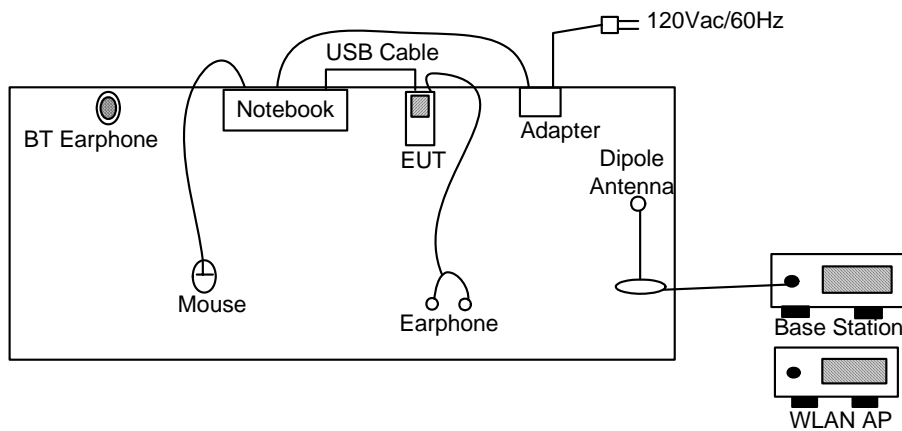


<Conducted Emission>

Mode 1-2, and 4-5



Mode 3





2.4 Ancillary Equipment List

Item	Asset	Model Name	Power Cord
1.	Base Station (R&S)	CMU 200	N/A
2.	Notebook (DELL)	D400	N/A
3.	USB Mouse (Microsoft)	B75-00093	Non-shielded, 1.8 m
4.	BT Earphone (Free Style)	JD-100	N/A
5.	WLAN AP (SMC)	SMC-100	N/A
6.	BT Base Station (Anritus)	8852A	N/A



3. RF Utility

The EUT is linked with BT earphone and WLAN AP for conducted emission or in BT continuous Tx mode controlled by RF utility and base station simulator or in WLAN continuous Tx mode controlled by RF utility for radiation emission and other conducted tests.



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. Conducted Emission : from 150 KHz to 30 MHz
- b. Radiated Emission : 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 & 20dB 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

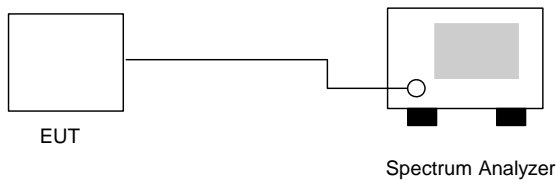
5.2.1 Measuring Instruments :

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 : 25°C
- Relative Humidity : 51%
- Test Enginner : Andy

802.11b

Channel	Frequency (MHz)	6dB Emission bandwidth (MHz)	Limits (MHz)	Plot Ref. No.
01	2412	9.84	> 0.5MHz	Mode 1
06	2437	10.12	> 0.5MHz	Mode 2
11	2462	9.92	> 0.5MHz	Mode 3

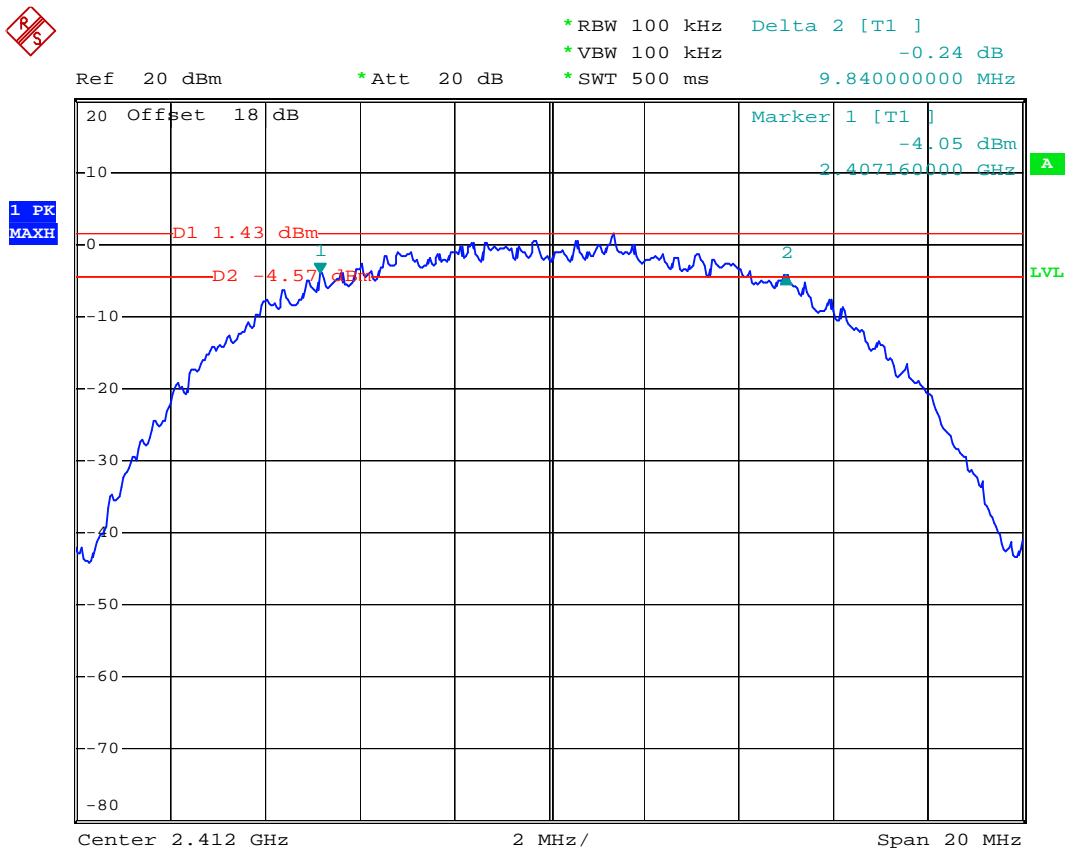
802.11g

Channel	Frequency (MHz)	6dB Emission bandwidth (MHz)	Limits (MHz)	Plot Ref. No.
01	2412	16.52	> 0.5MHz	Mode 4
06	2437	16.52	> 0.5MHz	Mode 5
11	2462	16.56	> 0.5MHz	Mode 6



5.2.5 6dB Bandwidth

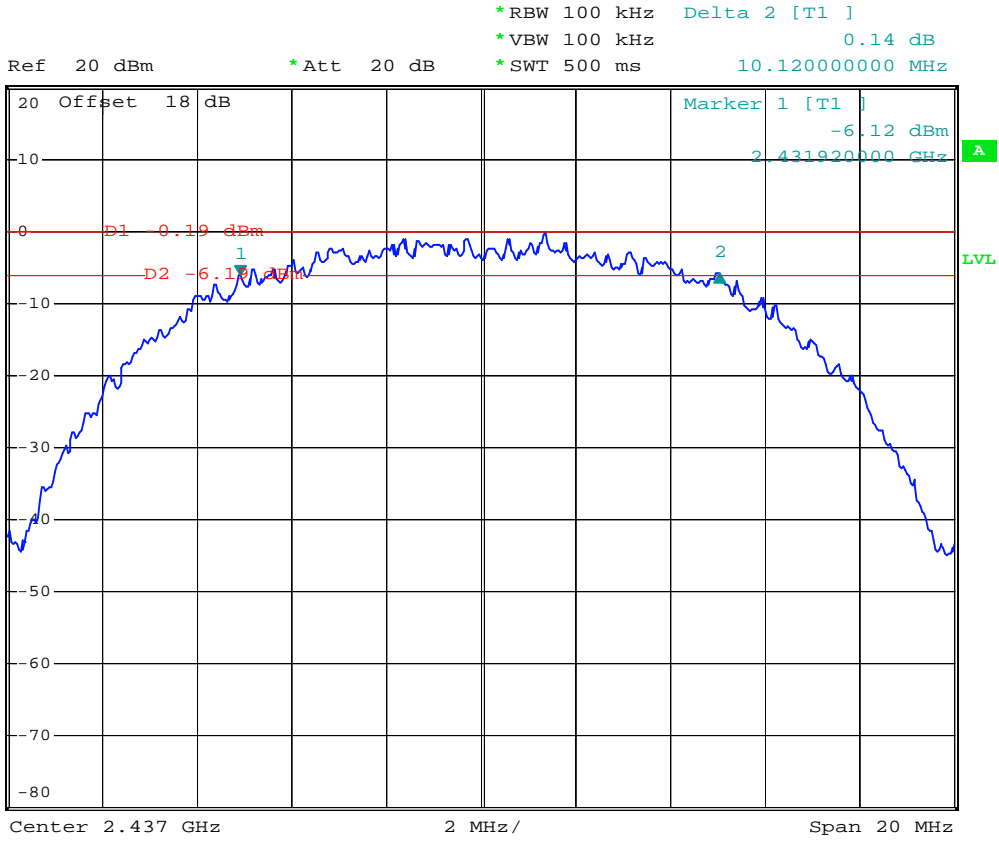
Mode 1



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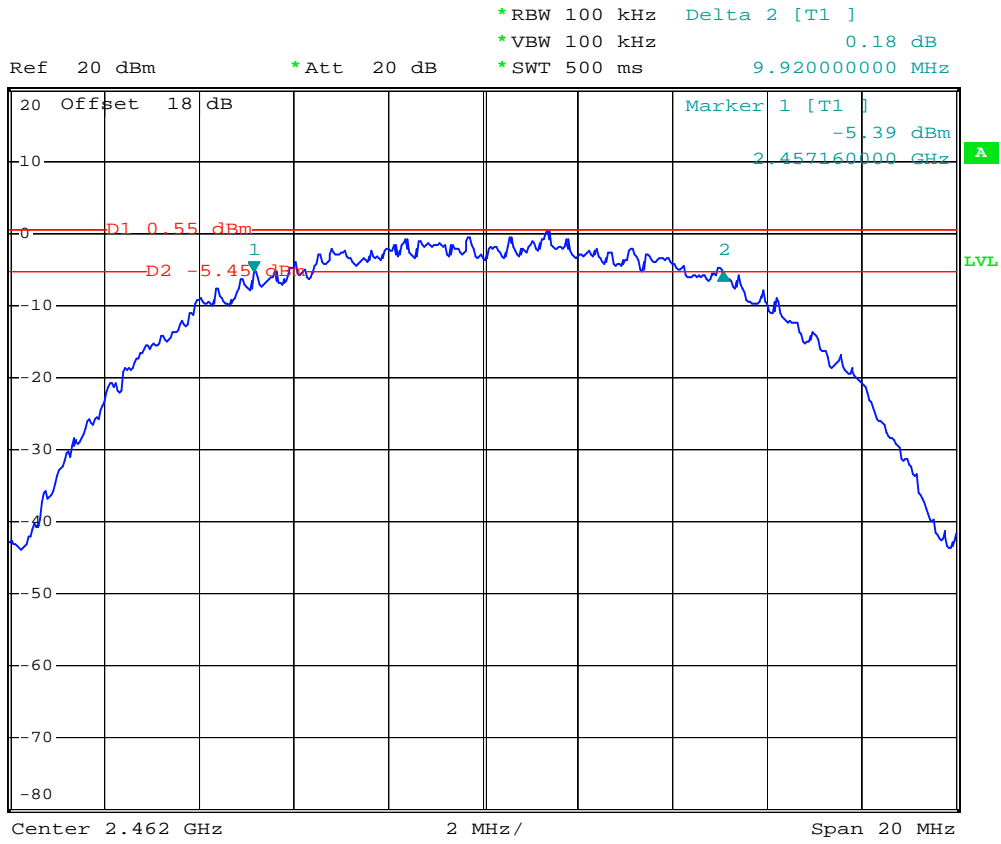
Mode 2



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Mode 3



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Mode 4

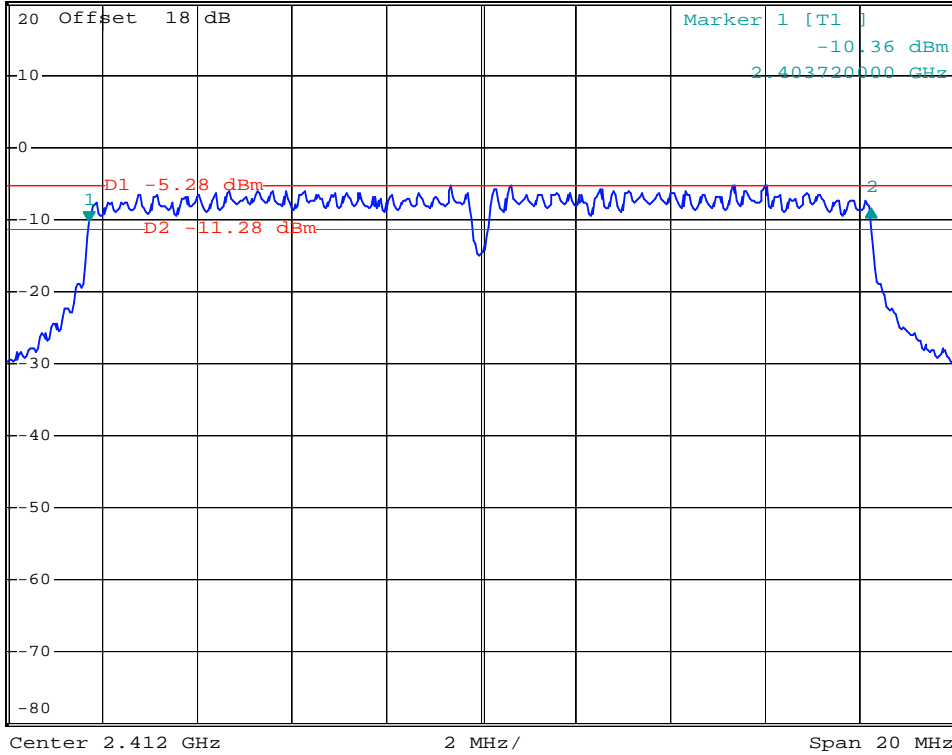


*RBW 100 kHz Delta 2 [T1]
*VBW 100 kHz 1.91 dB
*SWT 500 ms 16.52000000 MHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



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Mode 5

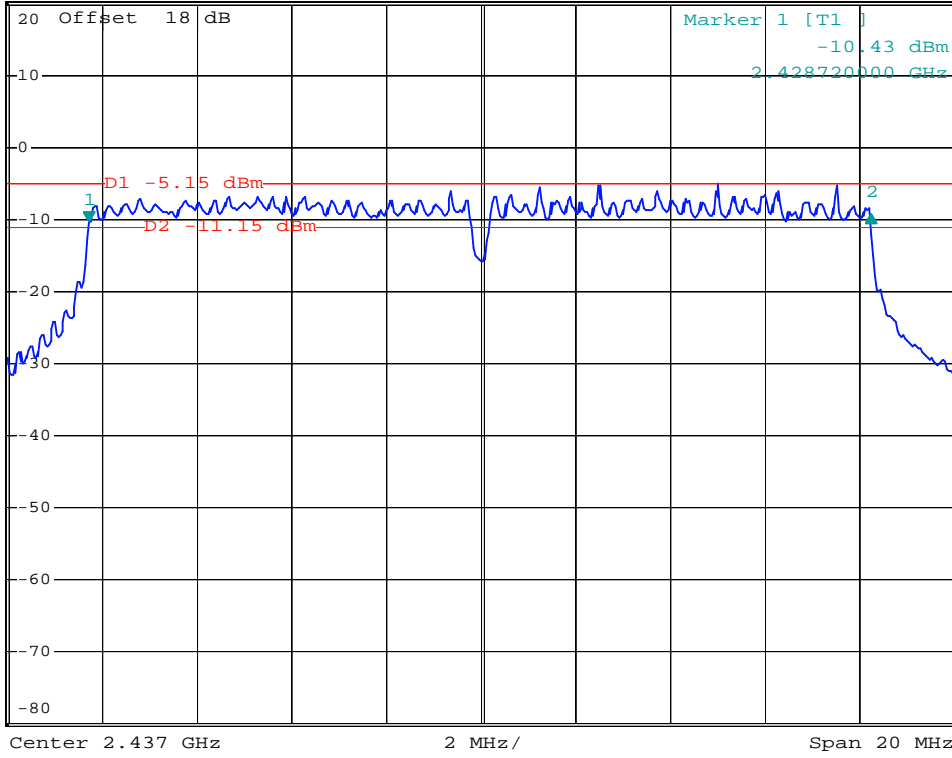


*RBW 100 kHz Delta 2 [T1]
*VBW 100 kHz 1.26 dB
*SWT 500 ms 16.52000000 MHz

Ref 20 dBm

*Att 20 dB

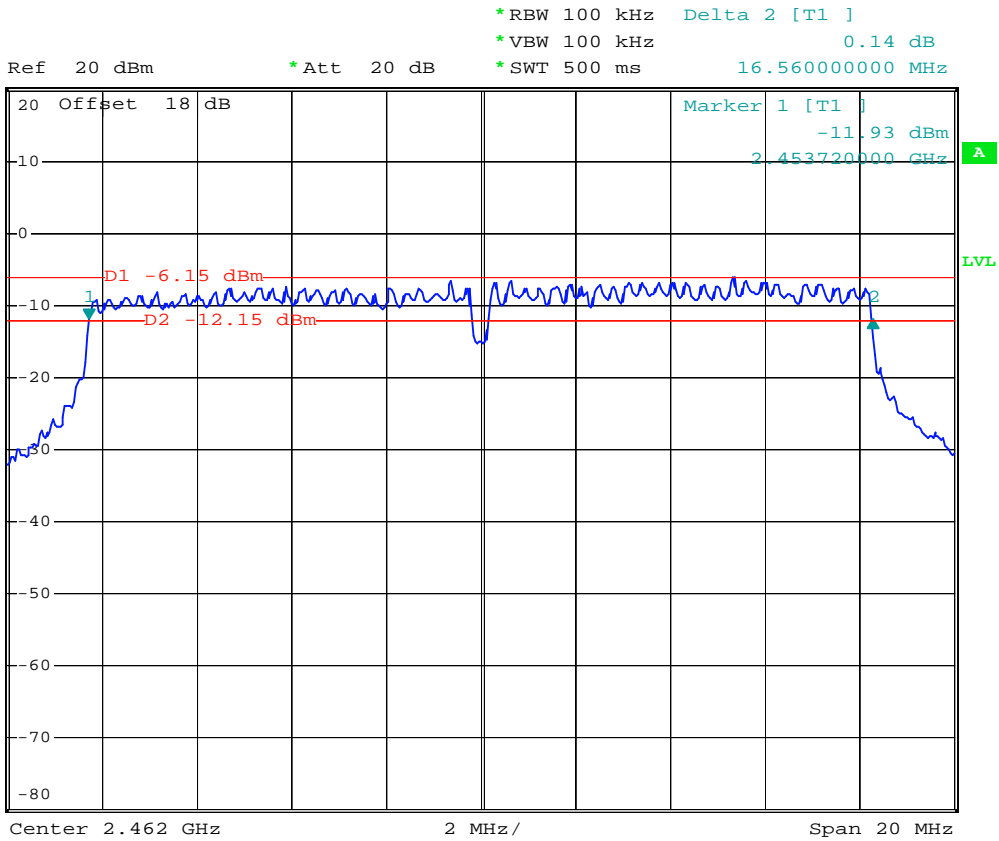
1 PK
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Mode 6



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5.3 Power Spectral Density Measurement

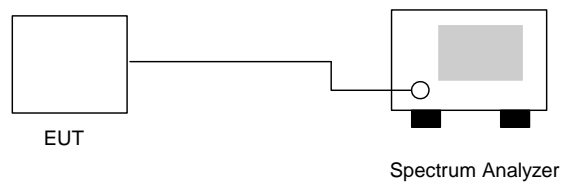
5.3.1 Measuring Instruments :

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 : 25°C
- Relative Humidity : 51%
- Test Enginner : Andy

802.11b

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Plot Ref. No.
01	2412	-13.14	8	Mode 1
06	2437	-14.09	8	Mode 2
11	2462	-14.15	8	Mode 3

802.11g

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Plot Ref. No.
01	2412	-19.45	8	Mode 4
06	2437	-20.71	8	Mode 5
11	2462	-20.98	8	Mode 6



Mode 2

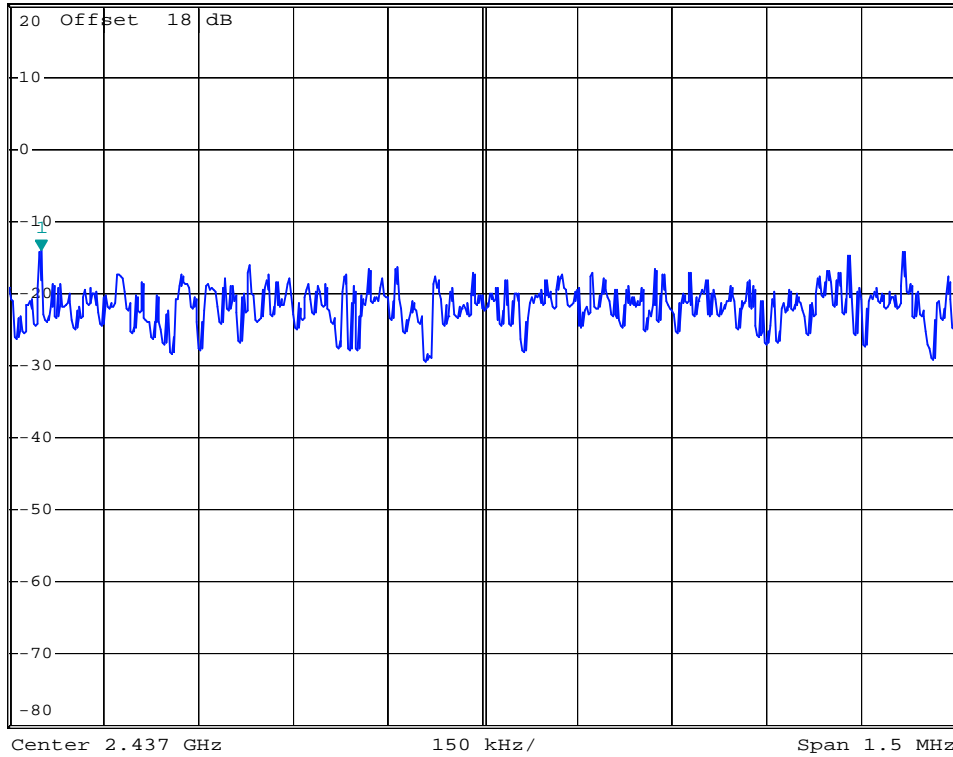


*RBW 3 kHz Marker 1 [T1]
*VBW 30 kHz -14.09 dBm
*SWT 500 s 2.436301000 GHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



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Mode 3

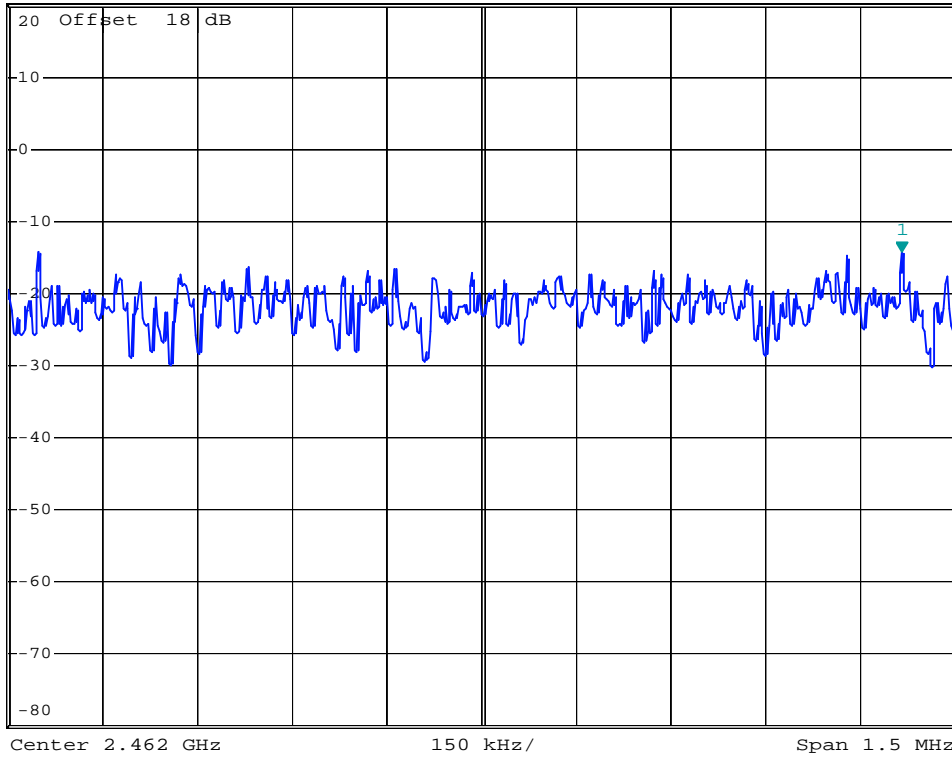


*RBW 3 kHz Marker 1 [T1]
*VBW 30 kHz -14.15 dBm
*SWT 500 s 2.462666000 GHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



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Mode 4

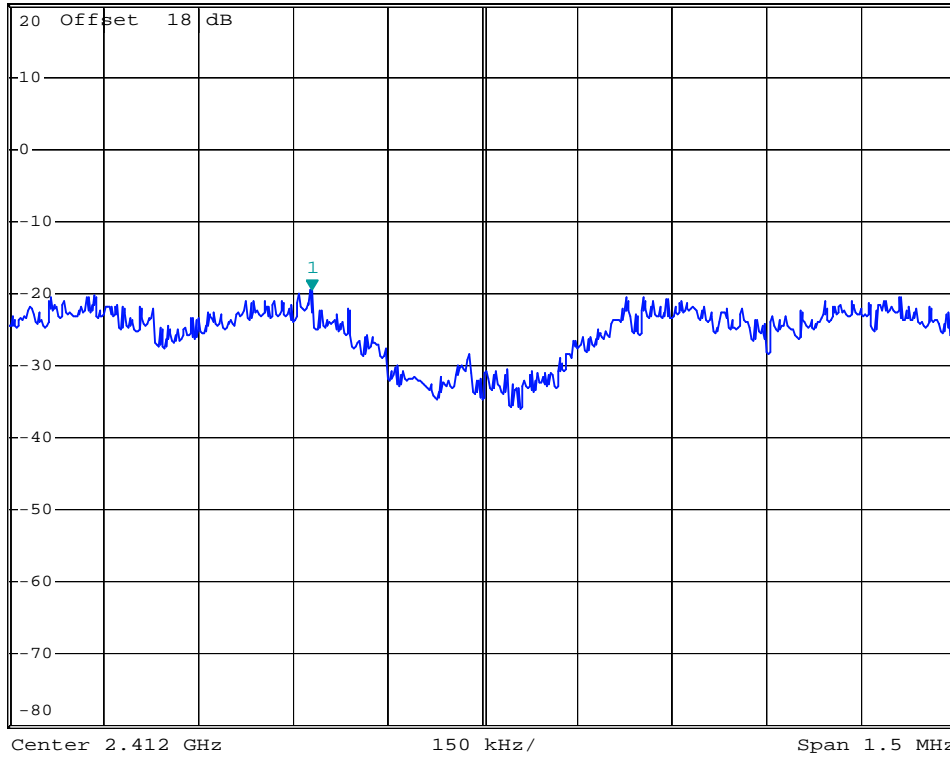


*RBW 3 kHz Marker 1 [T1]
*VBW 30 kHz -19.45 dBm
*SWT 500 s 2.411730000 GHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



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Mode 5

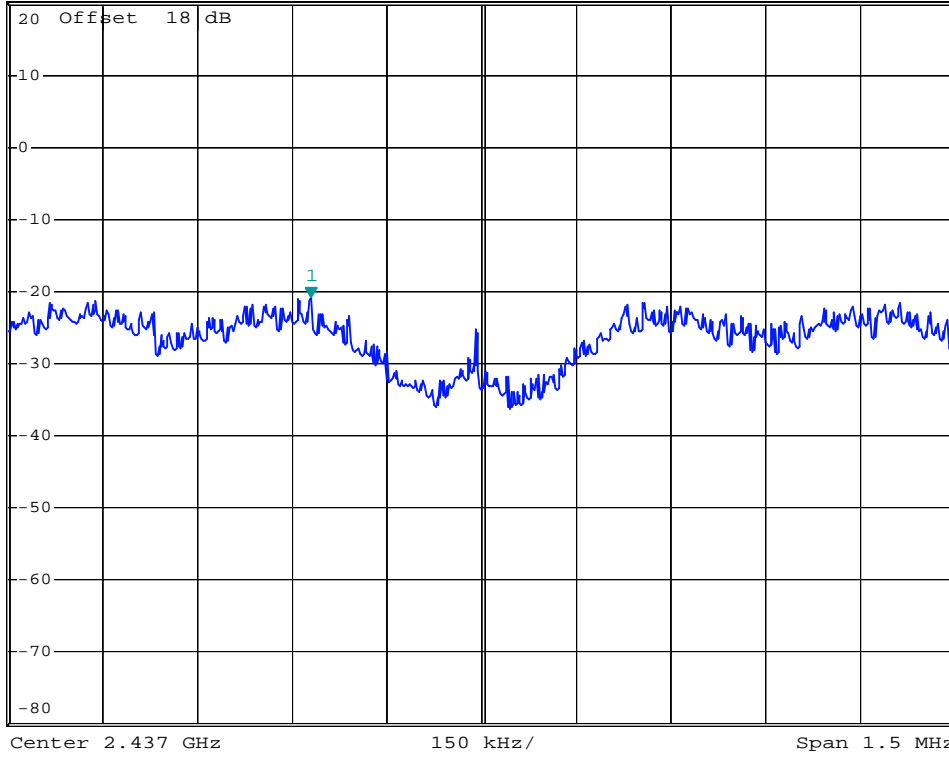


*RBW 3 kHz Marker 1 [T1]
*VBW 30 kHz -20.71 dBm
*SWT 500 s 2.436730000 GHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



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Mode 6

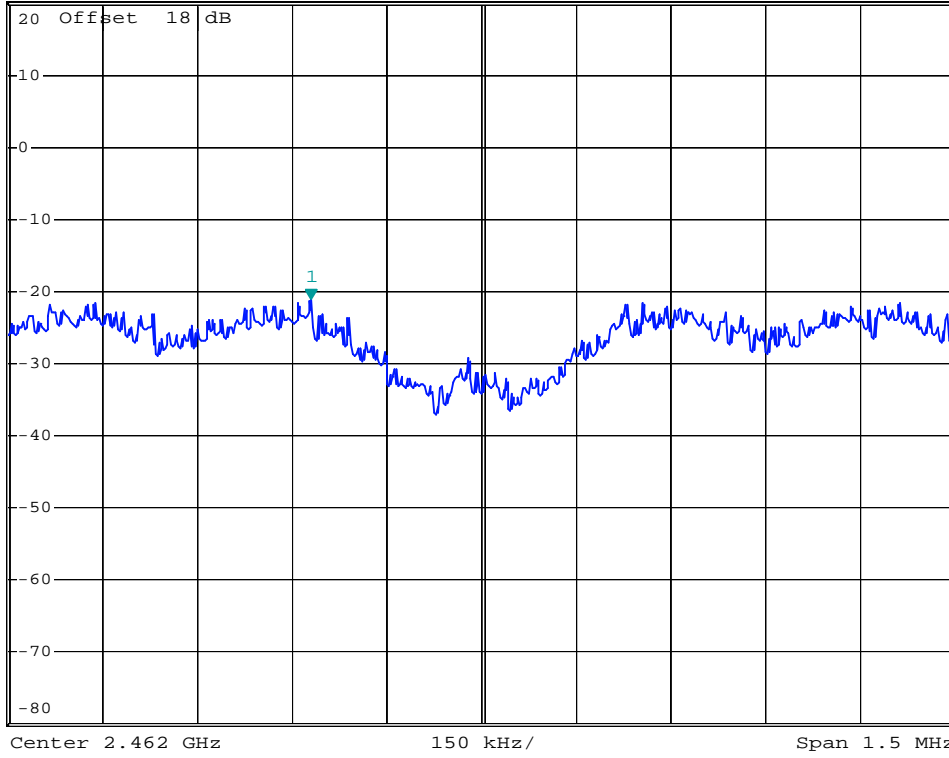


*RBW 3 kHz Marker 1 [T1]
*VBW 30 kHz -20.98 dBm
*SWT 500 s 2.461730000 GHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



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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 : 25°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 (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Abtebba Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390.00	49.38	-24.62	74.00	50.32	30.26	4.26	35.46	100	360	Peak
2390.00	39.75	-14.25	54.00	40.69	30.26	4.26	35.46	100	352	Average

CH01 (Vertical)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Abtebba Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390.00	49.36	-24.64	74.00	50.30	30.26	4.26	35.46	100	0	Peak
2390.00	38.56	-15.44	54.00	39.50	30.26	4.26	35.46	100	274	Average



CH11 (Horizontal)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Abtebba Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.50	52.76	-21.24	74.00	53.62	30.29	4.36	35.51	100	0	Peak
2483.50	41.97	-12.03	54.00	42.83	30.29	4.36	35.51	100	351	Average

CH11 (Vertical)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Abtebba Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.50	50.42	-23.58	74.00	51.28	30.29	4.36	35.51	100	360	Peak
2483.50	39.60	-14.40	54.00	40.46	30.29	4.36	35.51	106	95	Average

➤WLAN 802.11g

CH01 (Horizontal)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Abtebba Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390.00	53.84	-20.16	74.00	54.78	30.26	4.26	35.46	100	0	Peak
2390.00	41.03	-12.97	54.00	41.97	30.26	4.26	35.46	100	329	Average

CH01 (Vertical)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Abtebba Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390.00	50.95	-23.05	74.00	51.89	30.26	4.26	35.46	100	360	Peak
2390.00	39.62	-14.38	54.00	40.56	30.26	4.26	35.46	111	105	Average

CH11 (Horizontal)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Abtebba Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.50	60.73	-13.27	74.00	61.59	30.29	4.36	35.51	100	360	Peak
2483.50	43.26	-10.74	54.00	44.12	30.29	4.36	35.51	100	330	Average



CH11 (Vertical)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Abtebba Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.50	59.59	-14.41	74.00	60.45	30.29	4.36	35.51	100	0	Peak
2483.50	42.91	-11.09	54.00	43.77	30.29	4.36	35.51	106	109	Average

➤BT

CH00 (Horizontal)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Abtebba Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2376.00	49.85	-24.15	74.00	50.18	30.25	4.23	35.44	100	0	Peak
2376.00	38.94	-15.06	54.00	29.90	30.25	4.23	35.44	100	187	Average

CH00 (Vertical)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Abtebba Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2348.00	49.63	-24.37	74.00	50.61	30.24	4.20	35.42	100	360	Peak
2348.00	38.26	-15.74	54.00	39.24	30.24	4.20	35.42	108	131	Average

CH78 (Horizontal)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Abtebba Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.50	58.23	-15.77	74.00	59.09	30.29	4.36	35.51	100	0	Peak
2483.50	51.69	-2.31	54.00	52.55	30.29	4.36	35.51	100	170	Average

CH78 (Vertical)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Abtebba Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.50	55.39	-18.61	74.00	56.25	30.29	4.36	35.51	100	360	Peak
2483.50	49.00	-5.00	54.00	49.86	30.29	4.36	35.51	105	113	Average



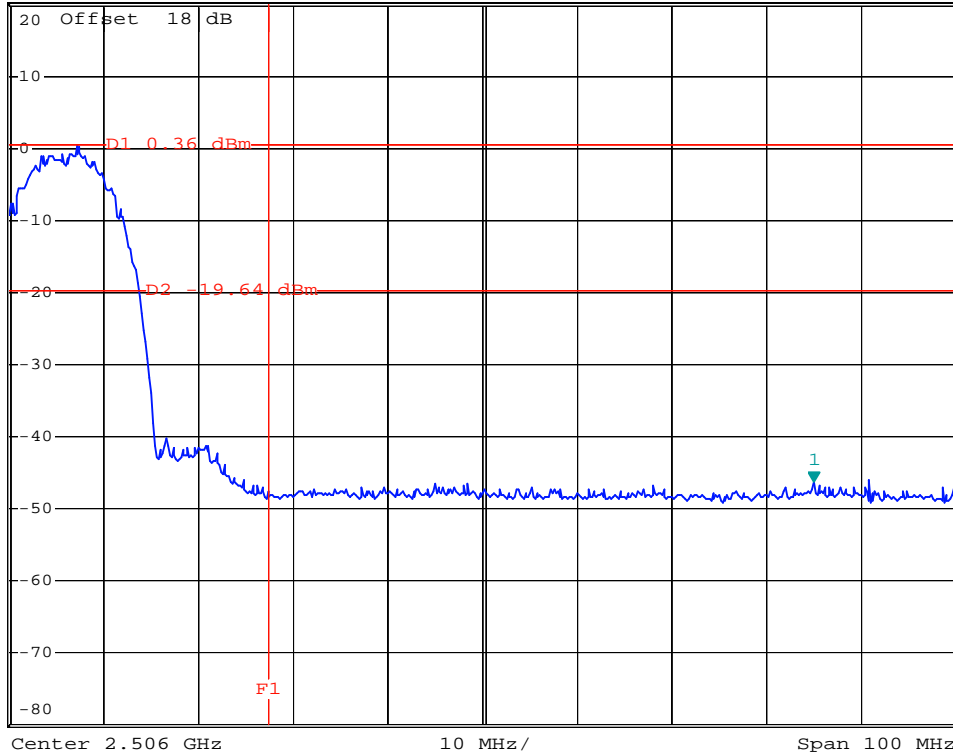
CH11



*RBW 100 kHz Marker 1 [T1]
*VBW 100 kHz -46.32 dBm
*SWT 500 ms 2.541000000 GHz

Ref 20 dBm

*Att 20 dB



Date: 18.AUG.2006 05:39:24



CH11

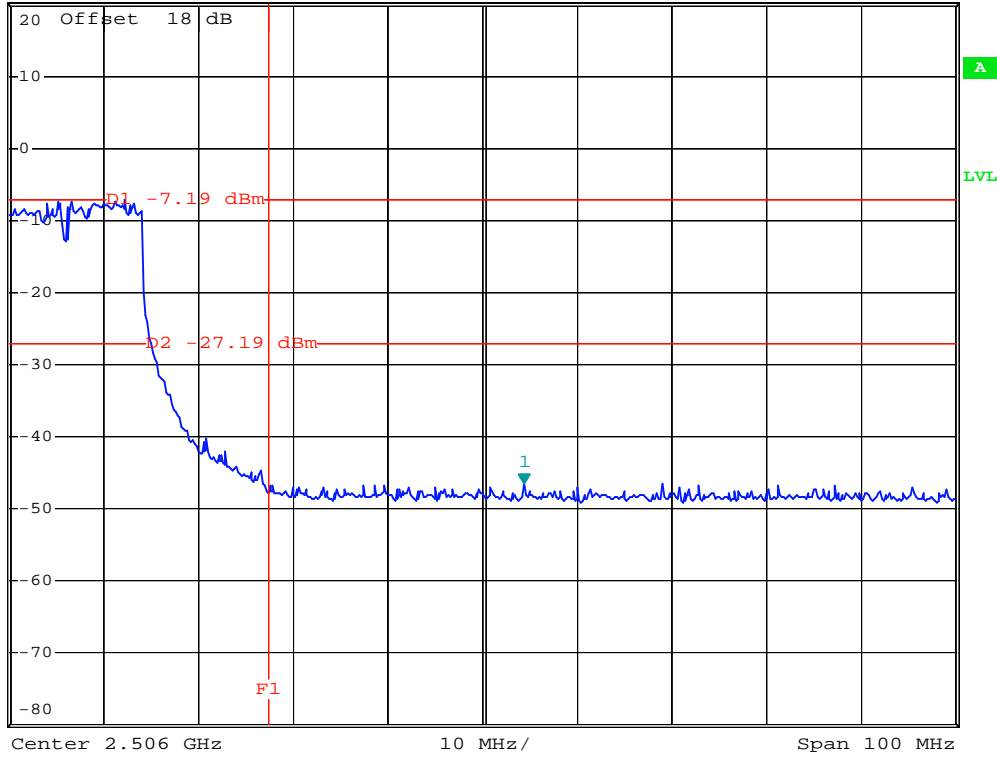


*RBW 100 kHz Marker 1 [T1]
*VBW 100 kHz -46.52 dBm
*SWT 500 ms 2.510400000 GHz

Ref 20 dBm

*Att 20 dB

1 PR
MAXH



Date: 18.AUG.2006 05:41:04

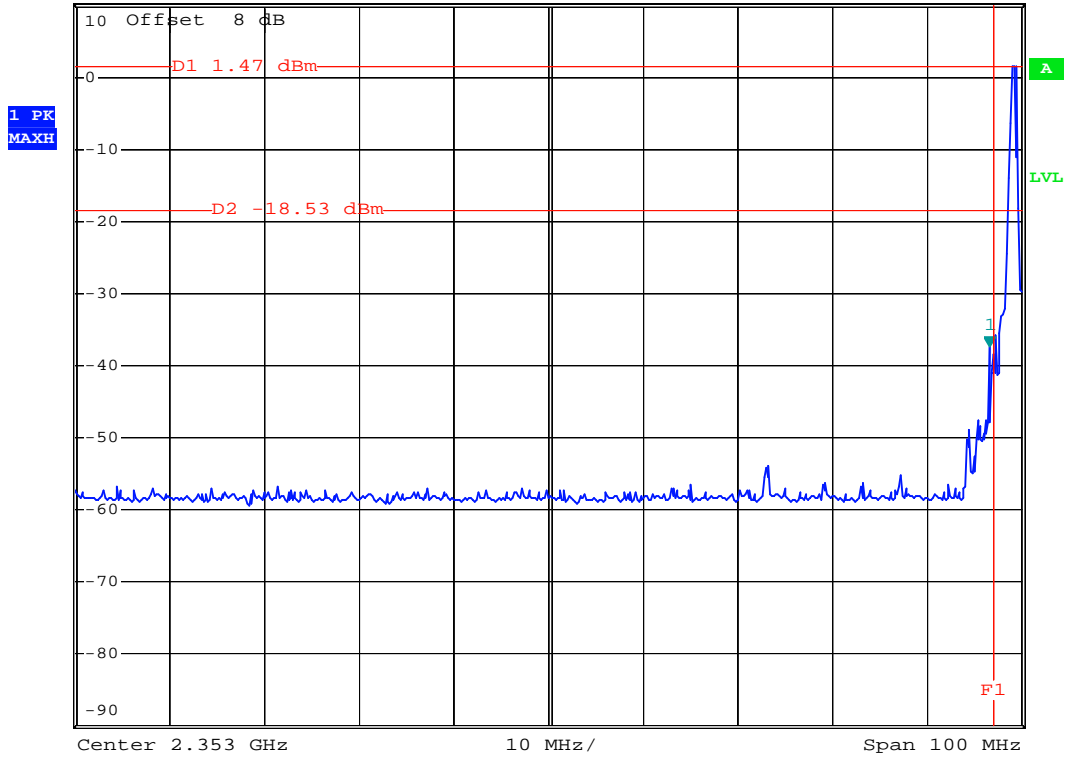


Bluetooth

CH00



Ref 10 dBm *Att 20 dB *RBW 100 kHz Marker 1 [T1] -37.33 dBm
*VBW 100 kHz *SWT 500 ms 2.399600000 GHz



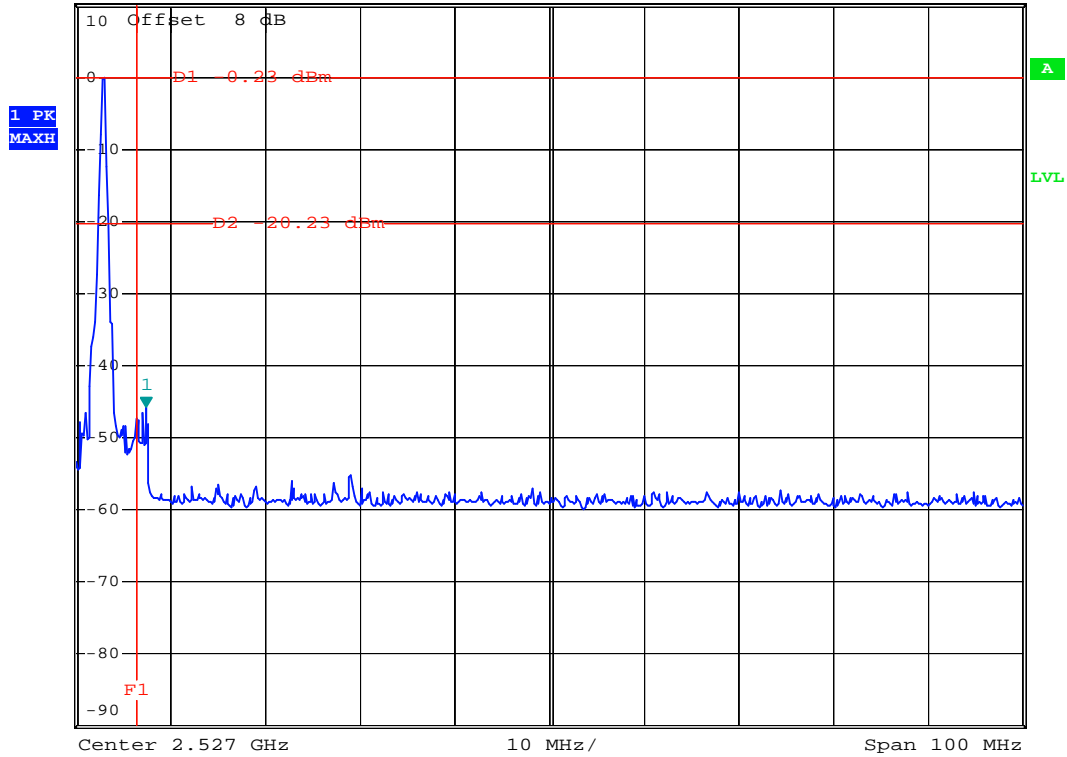
Date: 12.AUG.2006 11:32:01



CH78



Ref 10 dBm *Att 20 dB *RBW 100 kHz Marker 1 [T1]
*VBW 100 kHz -45.79 dBm
*SWT 500 ms 2.484400000 GHz



Date: 12.AUG.2006 11:29:49

5.5 Hopping Channel Separation

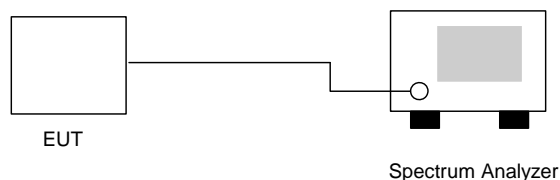
5.5.1 Measuring Instruments :

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 : 25°C
- Relative Humidity : 51%
- Test Enginner : Andy

Channel	Carrier Frequency		Limits (MHz)	Plot Ref. No.
	Frequency (MHz)	Separation (MHz)		
00	2402	1.000	0.822	Mode 7
39	2441	1.000	0.824	Mode 8
78	2480	1.000	0.828	Mode 9

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



5.5.5 Hopping Channel Separation

Mode 7

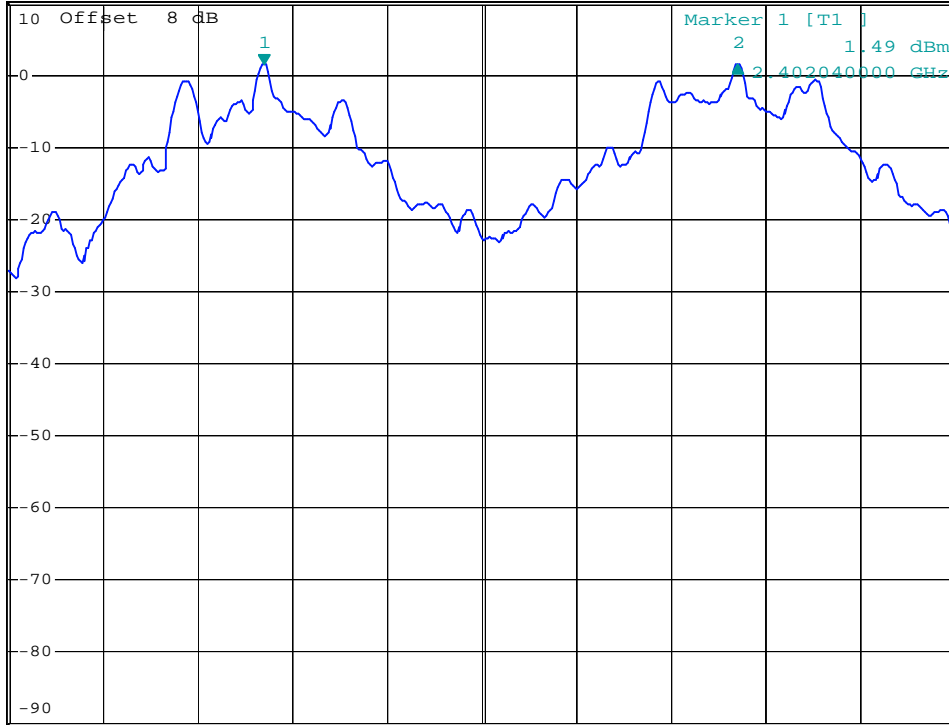


*RBW 30 kHz Delta 2 [T1]
 *VBW 100 kHz -0.03 dB
 *SWT 500 ms 1.000000000 MHz

Ref 10 dBm

*Att 20 dB

1. PK
MAXH



Center 2.4025 GHz

200 kHz/

Span 2 MHz

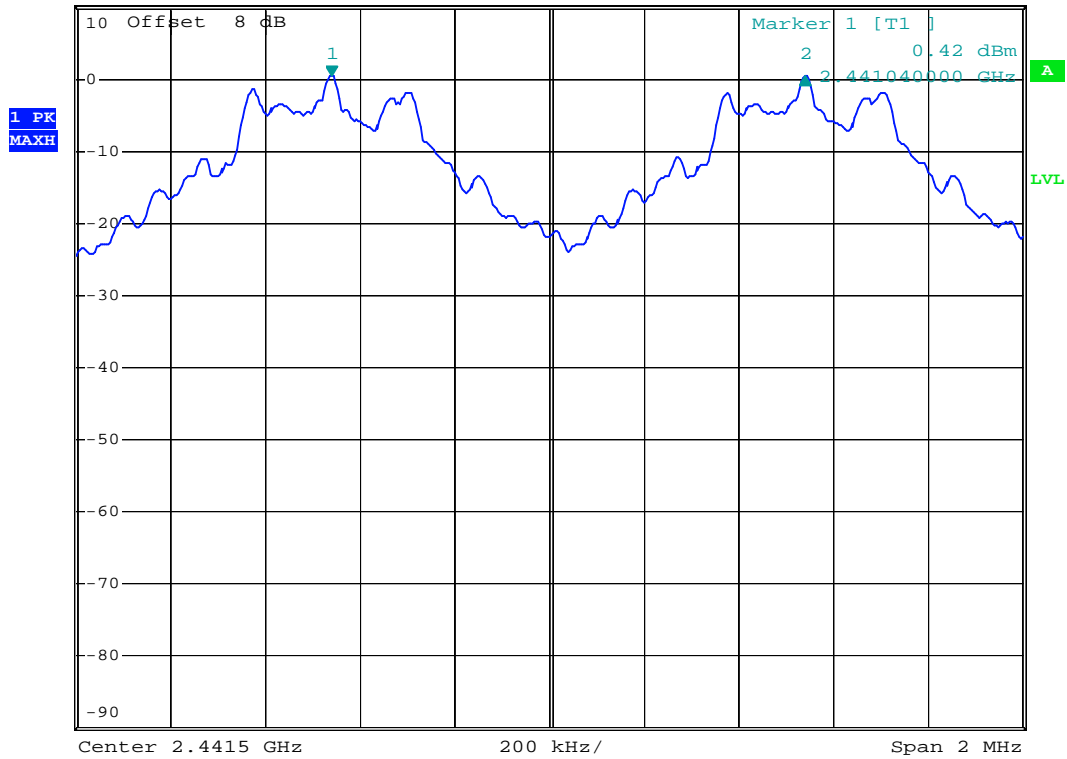
Date: 12.AUG.2006 11:33:05



Mode 8



Ref 10 dBm *Att 20 dB *RBW 30 kHz Delta 2 [T1]
*VBW 100 kHz -0.04 dB
*SWT 500 ms 1.000000000 MHz



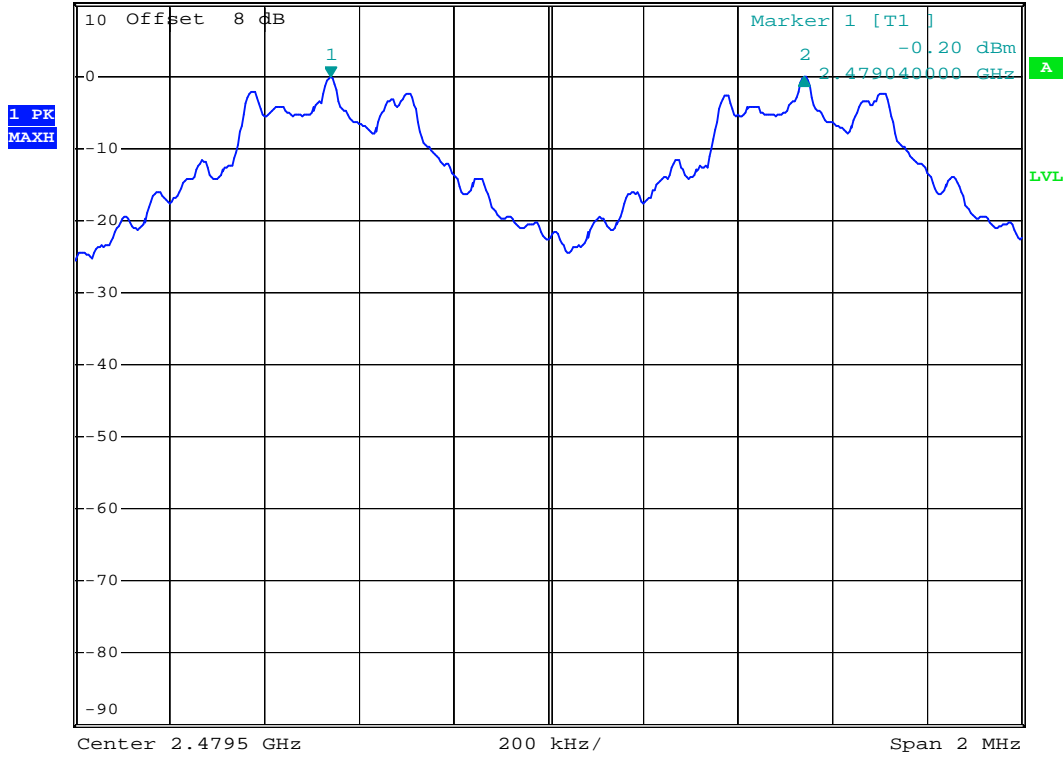
Date: 12.AUG.2006 11:34:04



Mode 9



*RBW 30 kHz Delta 2 [T1]
 *VBW 100 kHz 0.00 dB
 *SWT 500 ms 1.000000000 MHz
 Ref 10 dBm *Att 20 dB



Date: 12.AUG.2006 11:34:51

5.6 Number of Hopping Frequency

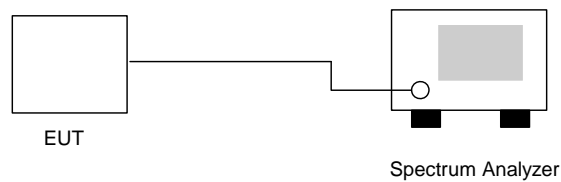
5.6.1 Measuring Instruments :

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 :



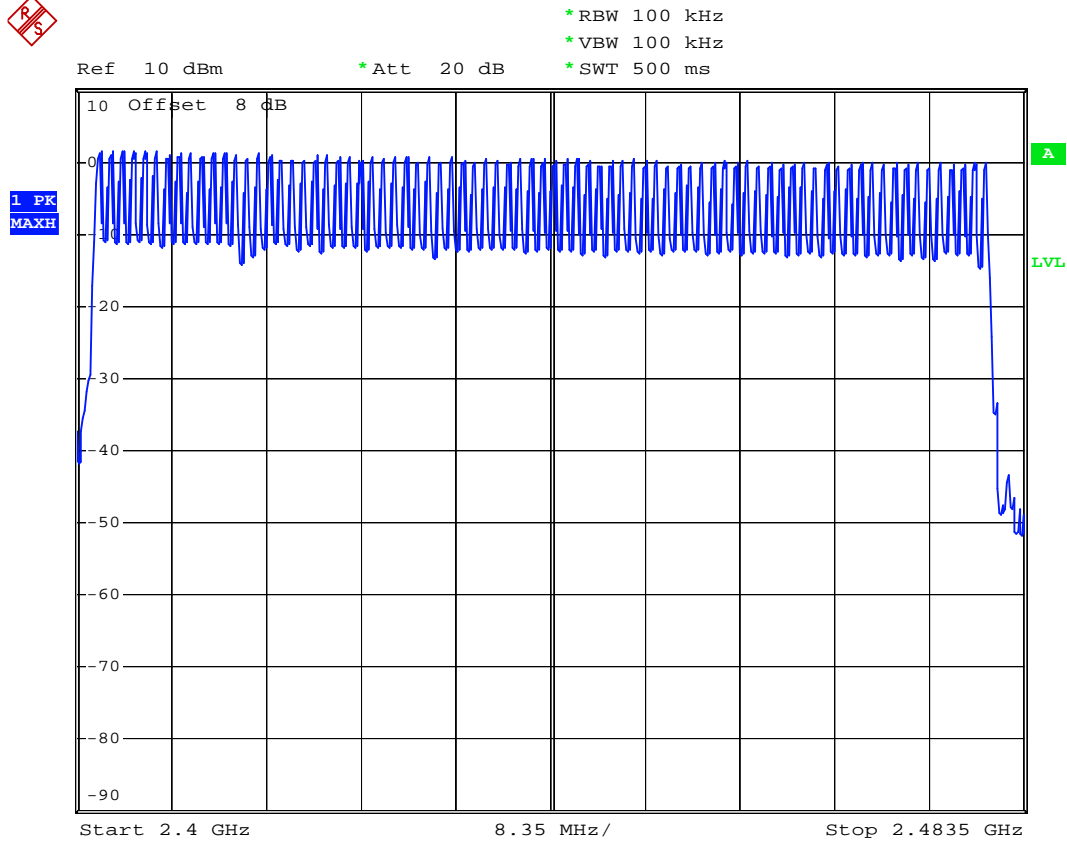
5.6.4 Test Result : See spectrum analyzer plots below

- Application Type : BT
- Temperature : 25°C
- Relative Humidity : 51%
- Test Enginner : Andy

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



5.6.5 Number of Hopping Frequency



Date: 12.AUG.2006 12:08:35

5.7 Hopping Channel Bandwidth

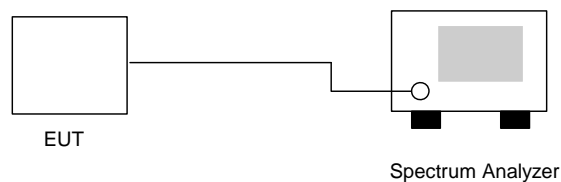
5.7.1 Measuring Instruments :

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 : 25°C
- Relative Humidity : 51%
- Test Enginner : Andy

Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	0.822	1.000	Mode 7
39	2441	0.824	1.000	Mode 8
78	2480	0.828	1.000	Mode 9

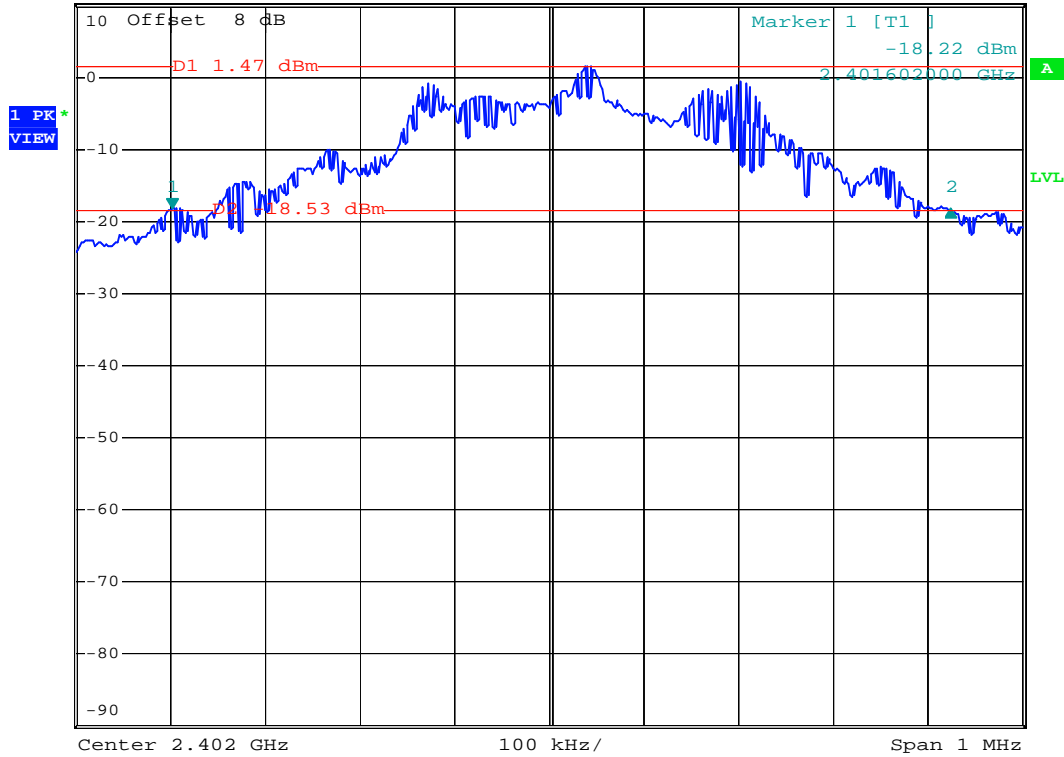


5.7.5 Hopping Channel Bandwidth

Mode 7



*RBW 30 kHz Delta 2 [T1]
 *VBW 300 kHz -0.06 dB
 *SWT 500 ms 822.00000000 kHz
 Ref 10 dBm *Att 20 dB



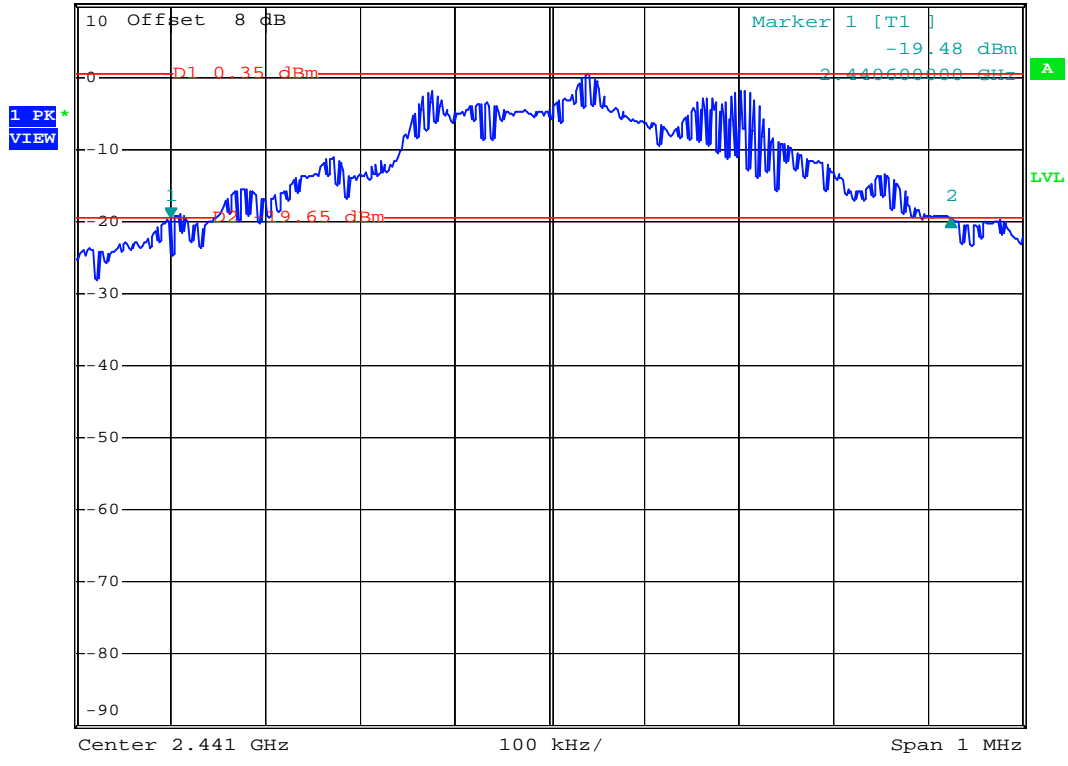
Date: 12.AUG.2006 11:25:14



Mode 8



Ref 10 dBm *Att 20 dB *RBW 30 kHz Delta 2 [T1]
*VBW 300 kHz -0.11 dB
*SWT 500 ms 824.00000000 kHz



Date: 12.AUG.2006 11:26:36



Mode 9

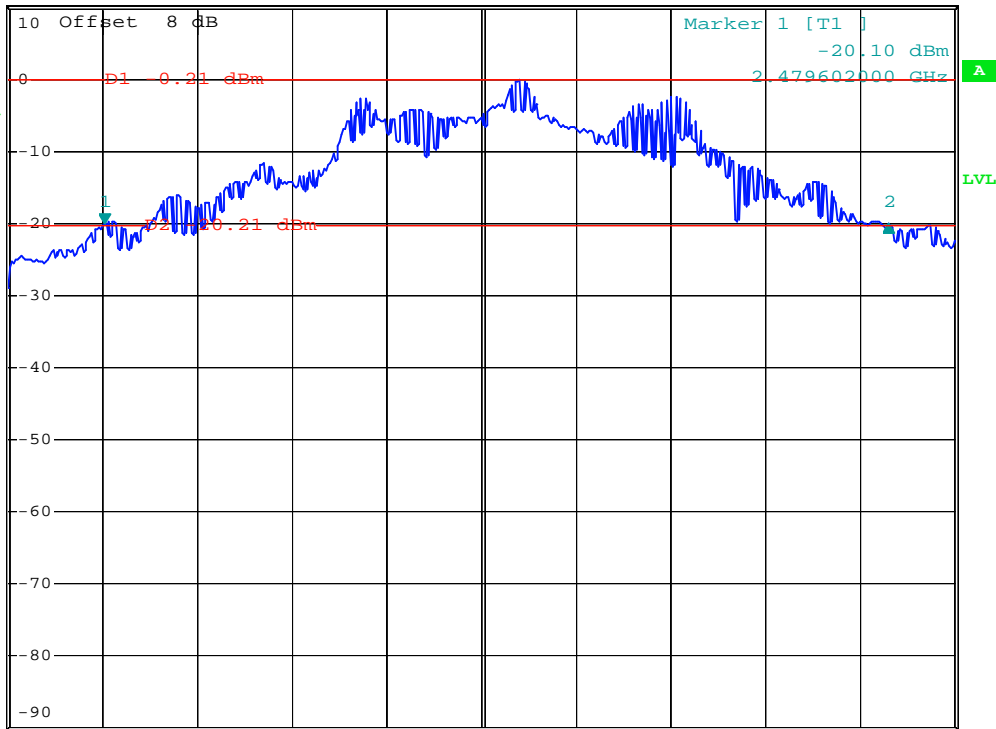


*RBW 30 kHz Delta 2 [T1]
 *VBW 300 kHz -0.06 dB
 *SWT 500 ms 828.00000000 kHz

Ref 10 dBm

*Att 20 dB

1 PR
VIEW



Center 2.48 GHz

100 kHz/

Span 1 MHz

Date: 12.AUG.2006 11:28:57

5.8 Dwell Time of Each Frequency

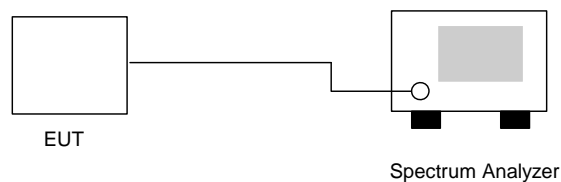
5.8.1 Measuring Instruments :

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 : 25°C
- Relative Humidity : 51%
- Test Enginner : Andy

Ch00

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	7.6	556	0.134	0.4
DH3	4.6	1836	0.267	0.4
DH5	3.3	3066	0.320	0.4



CH39

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	8.4	556	0.1476	0.4
DH3	4.3	1826	0.248	0.4
DH5	3.5	3086	0.341	0.4

CH78

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	8.2	556	0.144	0.4
DH3	4.4	1826	0.254	0.4
DH5	3.2	3086	0.312	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)

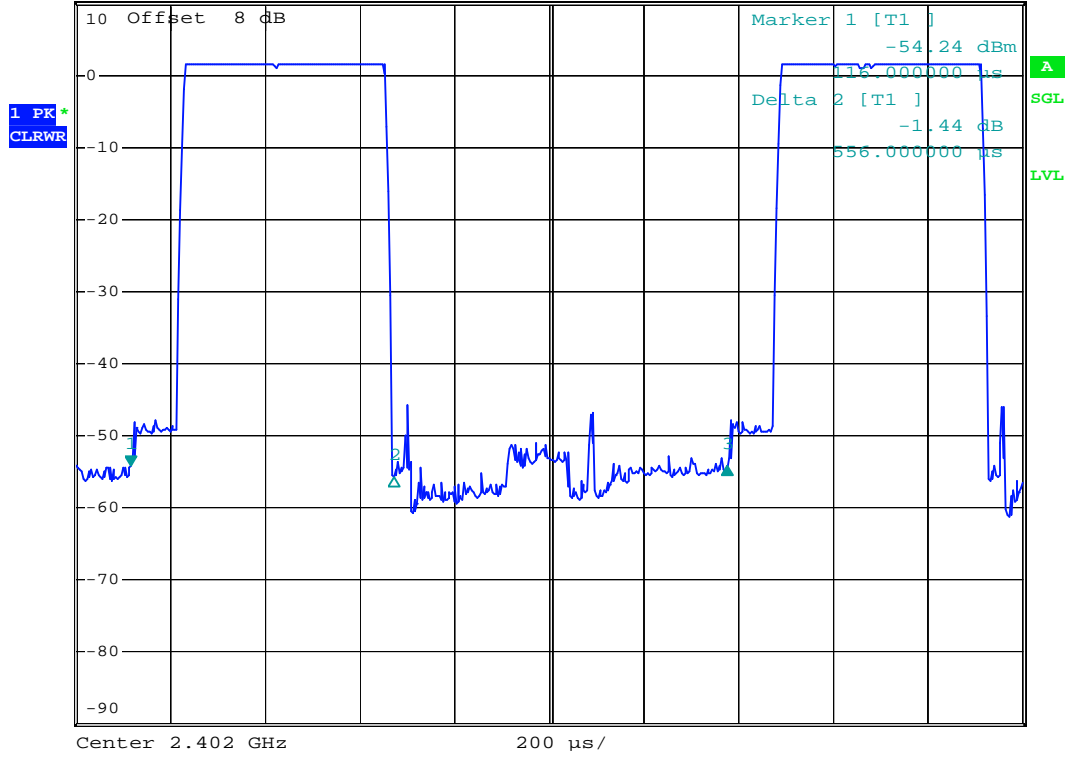


5.8.5 Dwell Time

DH1 (CH00)



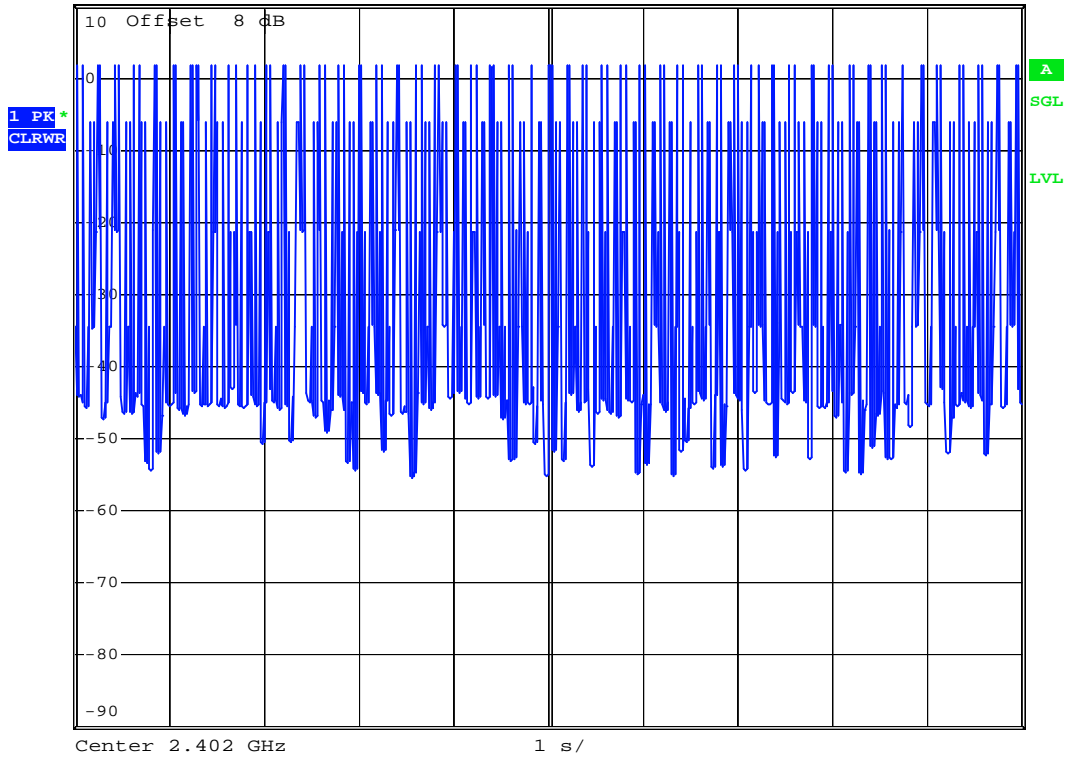
RBW 1 MHz Delta 3 [T1]
 *VBW 1 MHz 0.16 dB
 Ref 10 dBm *Att 20 dB SWT 2 ms 1.260000 ms



Date: 12.AUG.2006 11:36:38



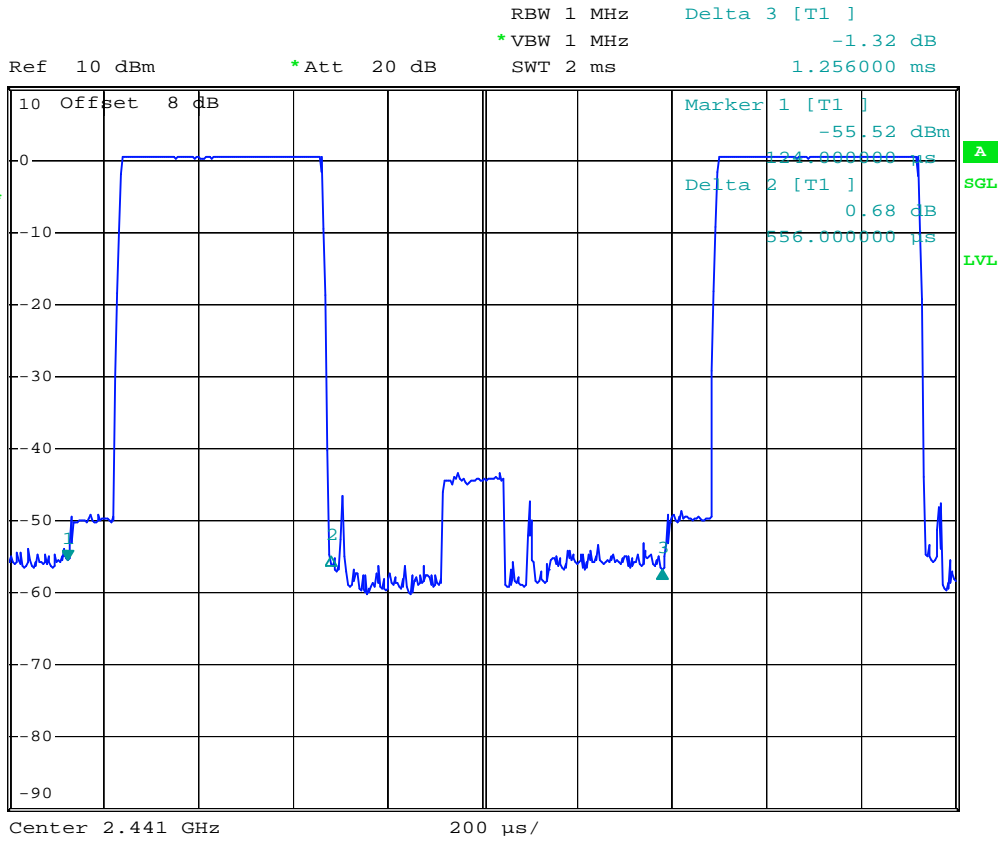
Ref 10 dBm *Att 20 dB RBW 1 MHz
*VBW 1 MHz SWT 10 s



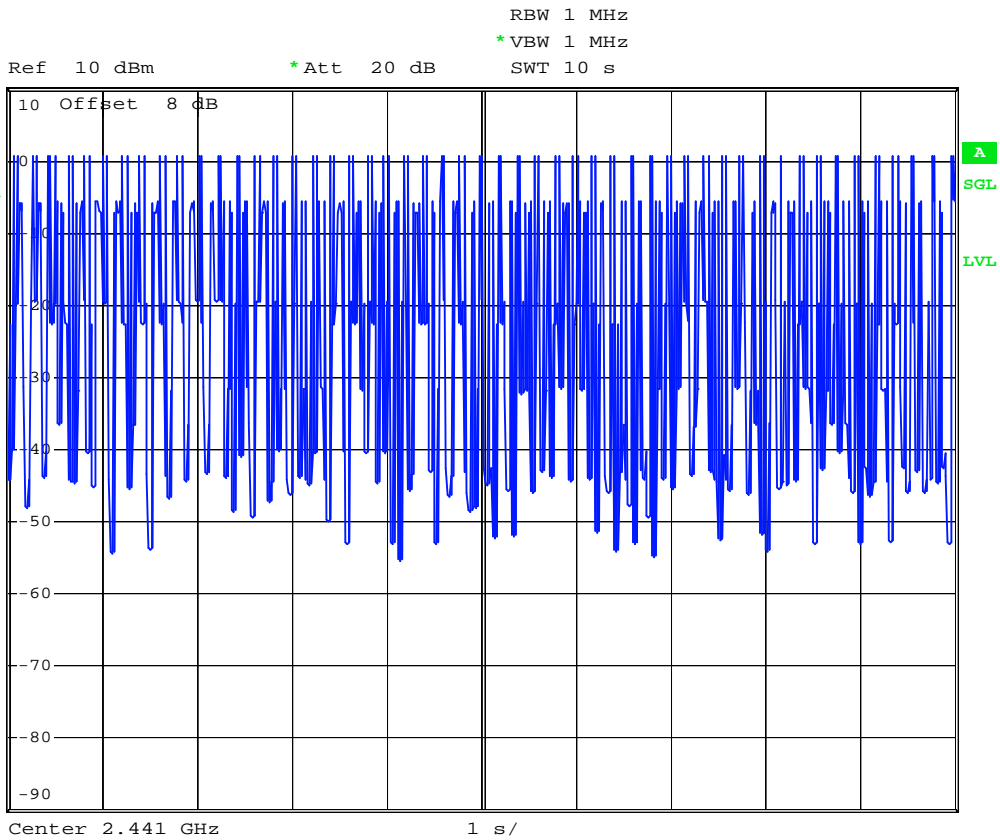
Date: 12.AUG.2006 11:42:31



DH1 (CH39)



Date: 12.AUG.2006 11:37:00



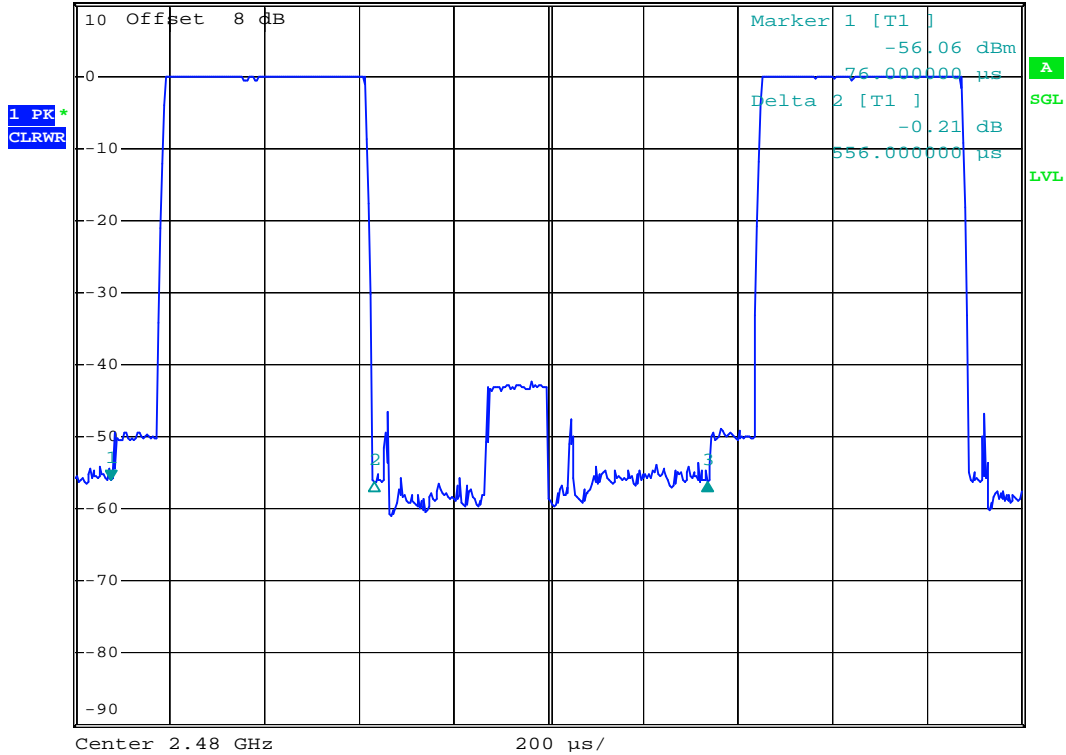
Date: 12.AUG.2006 11:42:48



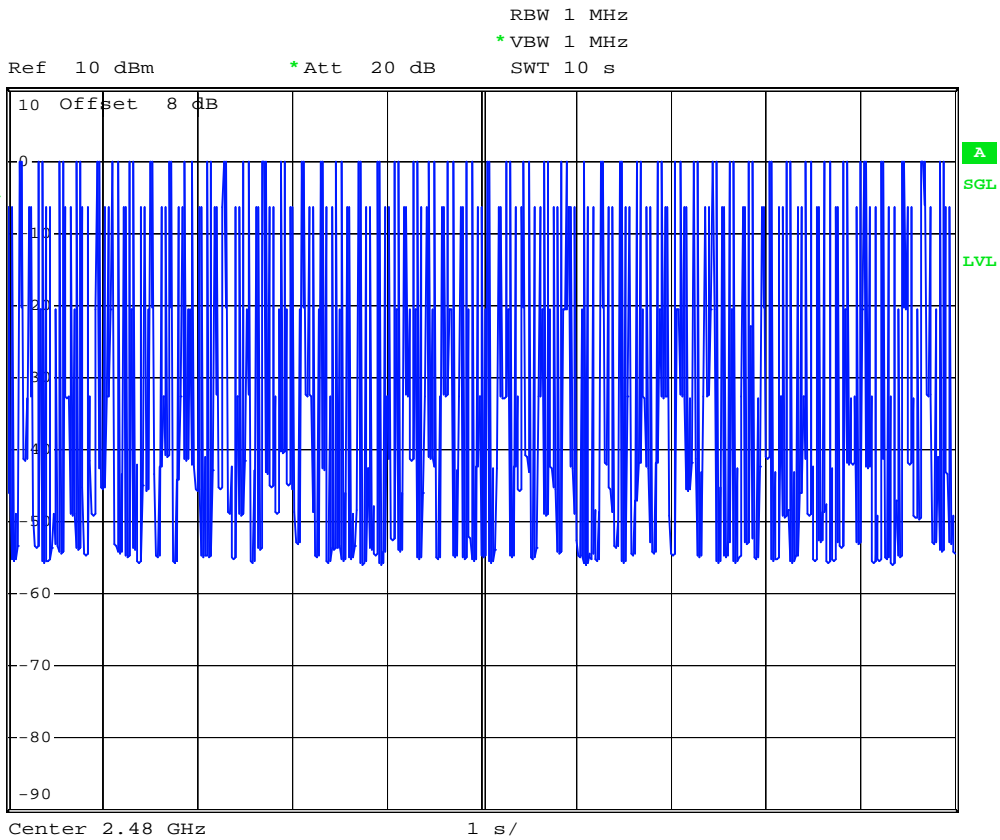
DH1 (CH78)



RBW 1 MHz Delta 3 [T1]
 *VBW 1 MHz -0.31 dB
 Ref 10 dBm *Att 20 dB SWT 2 ms 1.260000 ms



Date: 12.AUG.2006 11:37:26



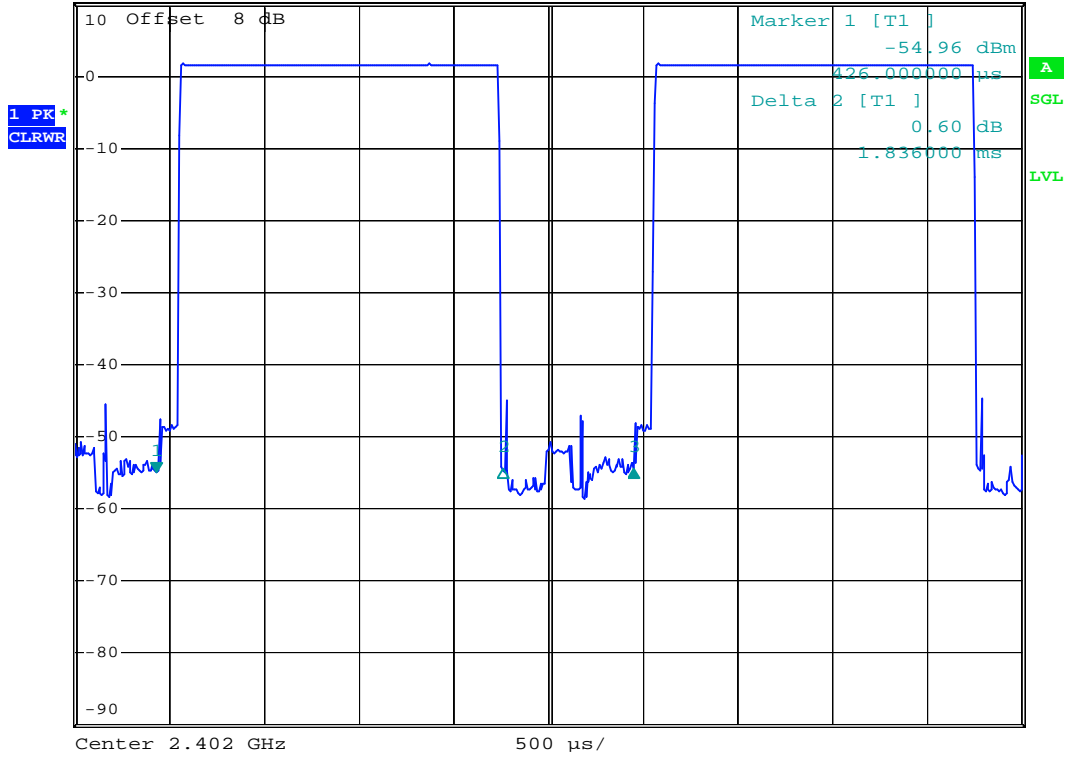
Date: 12.AUG.2006 11:43:09



DH3 (CH00)



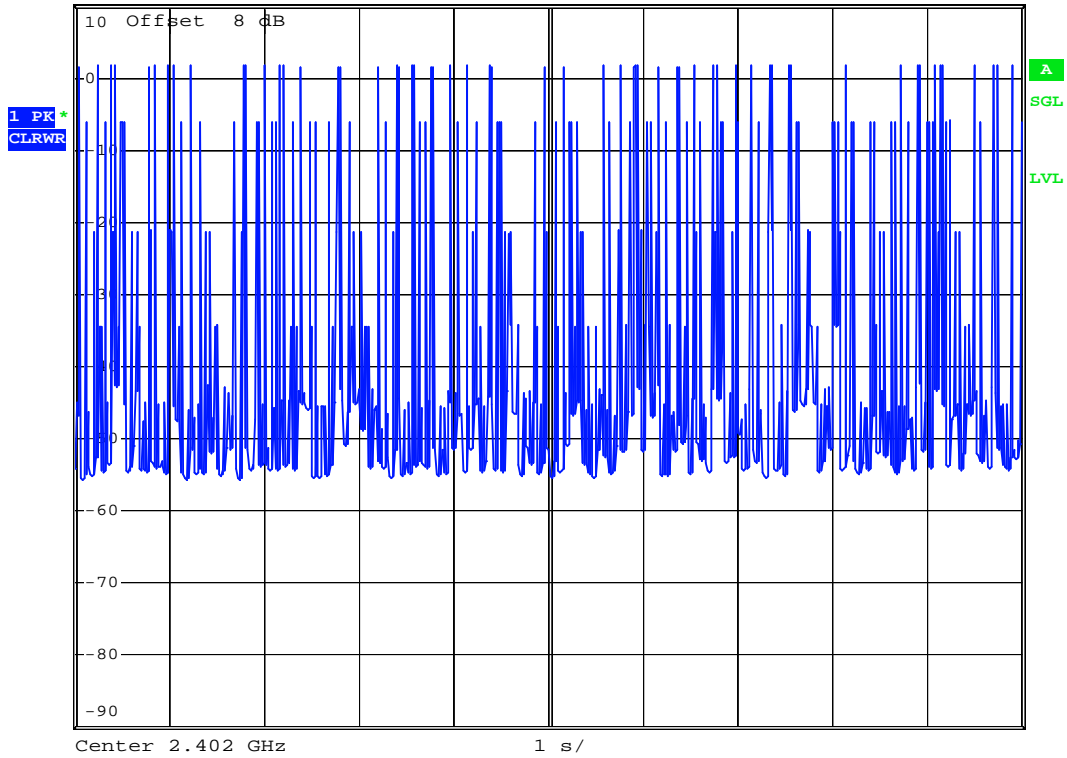
RBW 1 MHz Delta 3 [T1]
*VBW 1 MHz 0.43 dB
Ref 10 dBm *Att 20 dB SWT 5 ms 2.520000 ms



Date: 12.AUG.2006 11:37:59



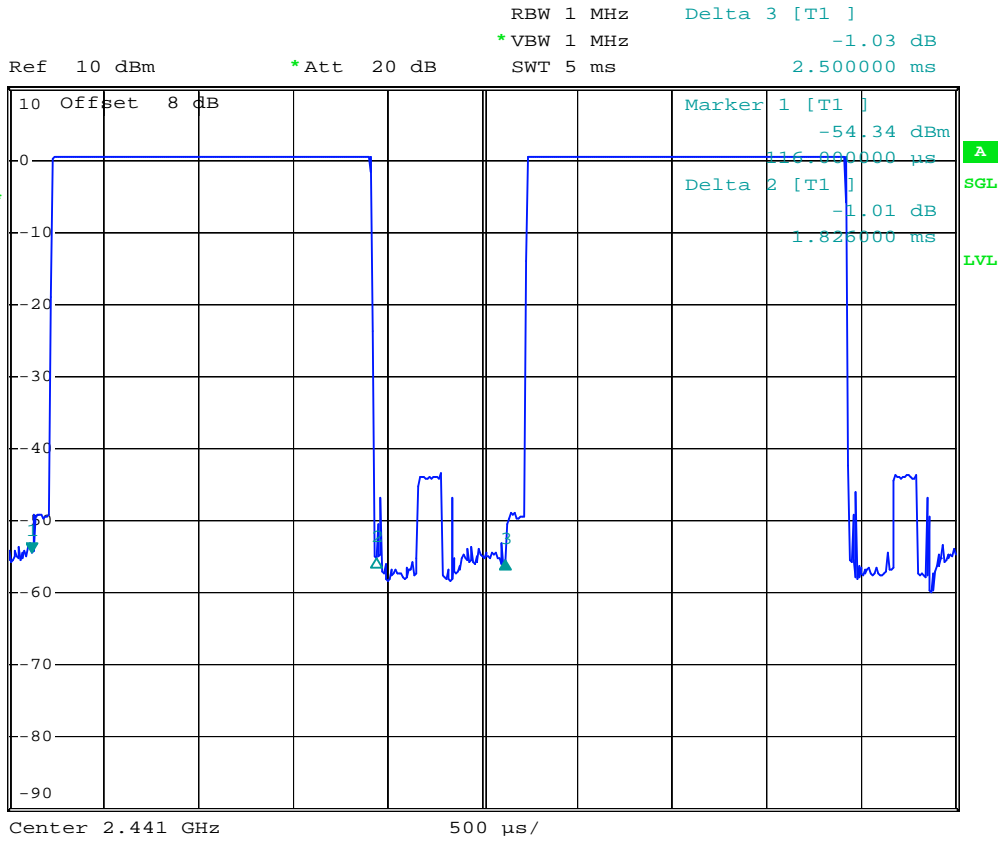
Ref 10 dBm *Att 20 dB RBW 1 MHz
*VBW 1 MHz SWT 10 s



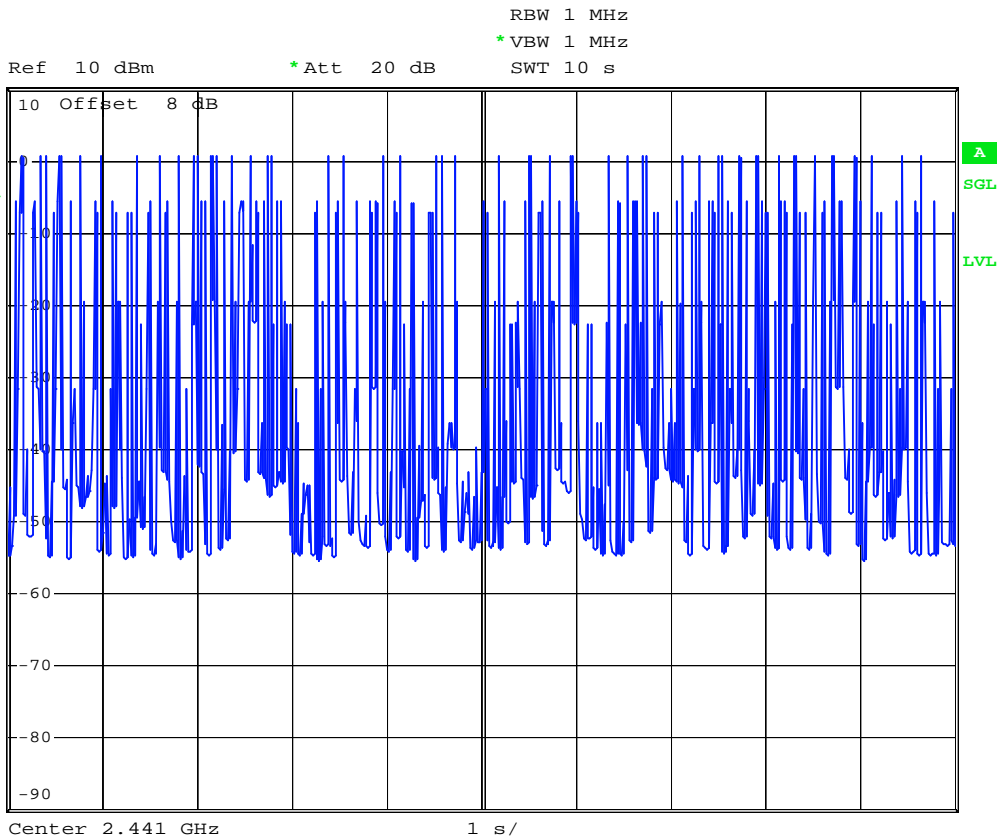
Date: 12.AUG.2006 11:43:36



DH3 (CH39)



Date: 12.AUG.2006 11:38:40



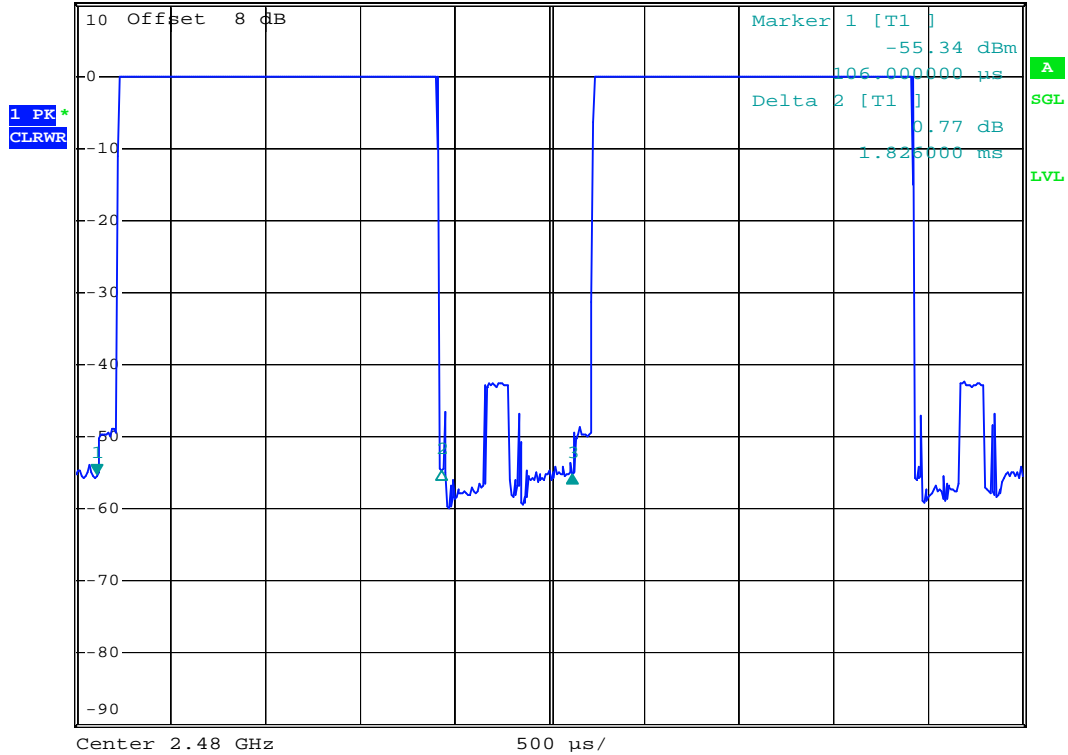
Date: 12.AUG.2006 11:43:54



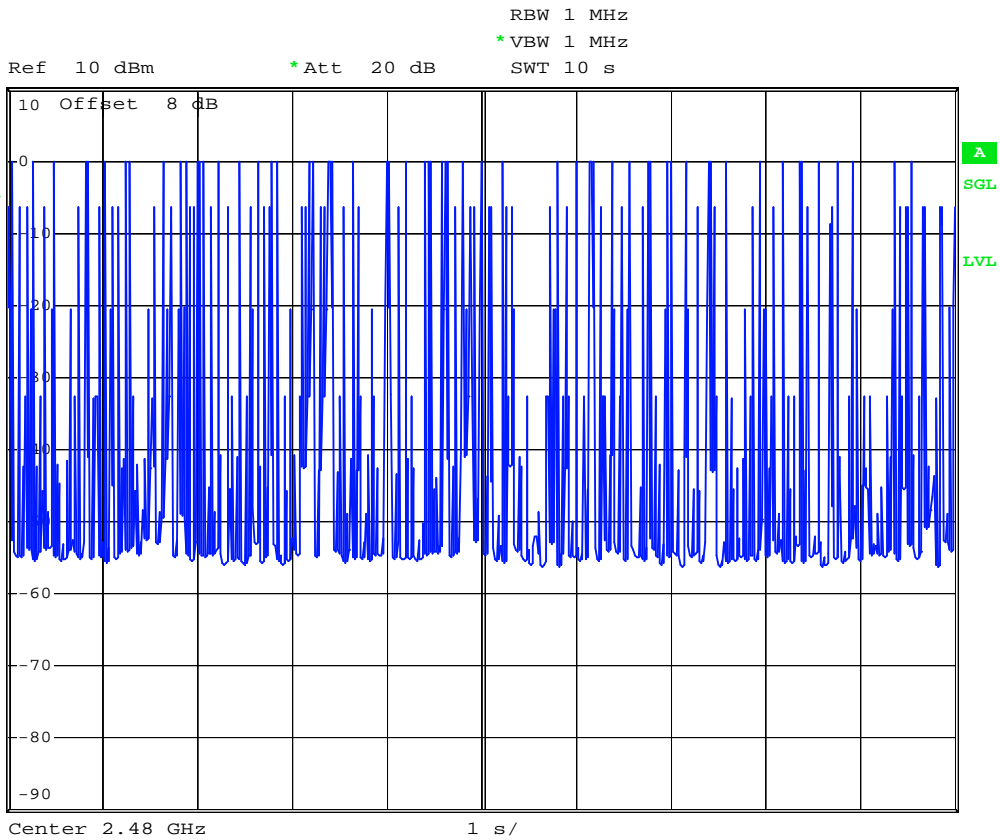
DH3 (CH78)



RBW 1 MHz Delta 3 [T1]
*VBW 1 MHz 0.15 dB
Ref 10 dBm *Att 20 dB SWT 5 ms 2.510000 ms



Date: 12.AUG.2006 11:39:10



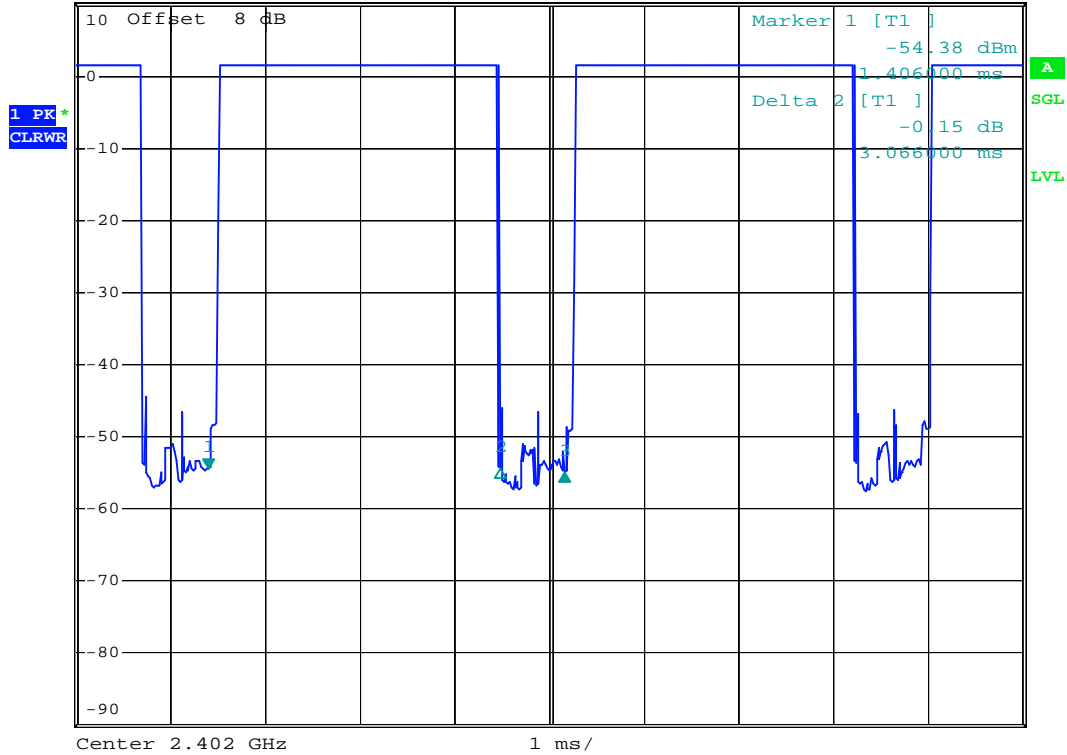
Date: 12.AUG.2006 11:44:12



DH5 (CH00)



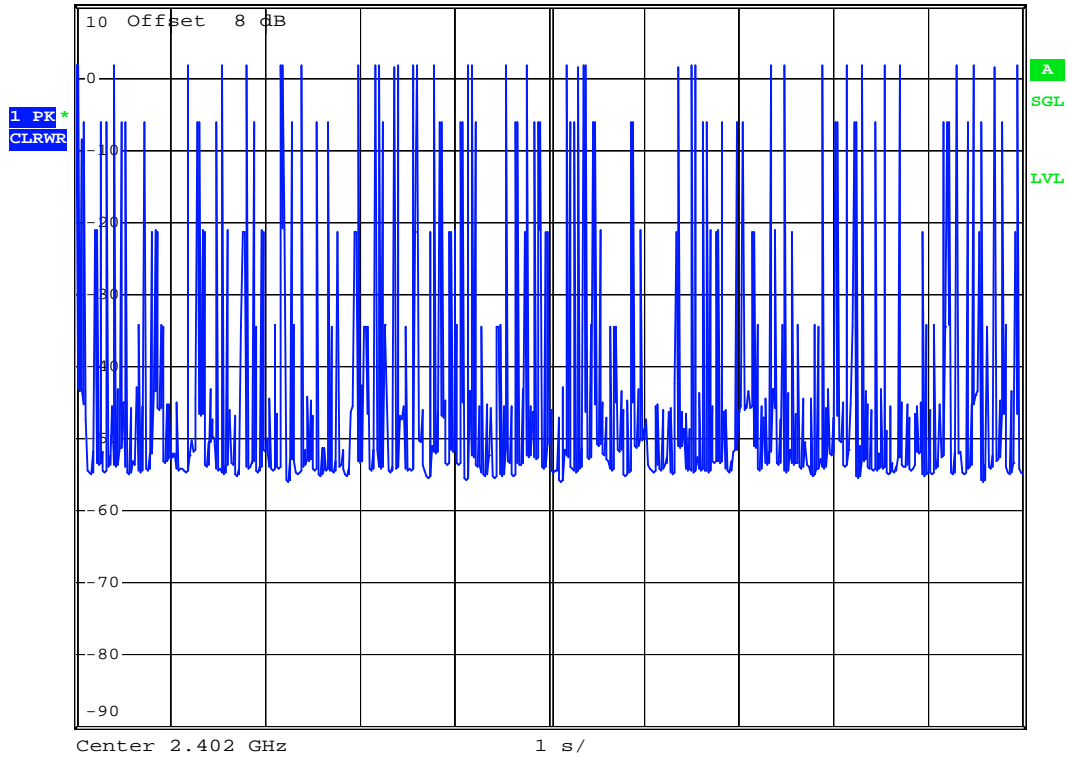
RBW 1 MHz Delta 3 [T1]
*VBW 1 MHz -0.49 dB
Ref 10 dBm *Att 20 dB SWT 10 ms 3.750000 ms



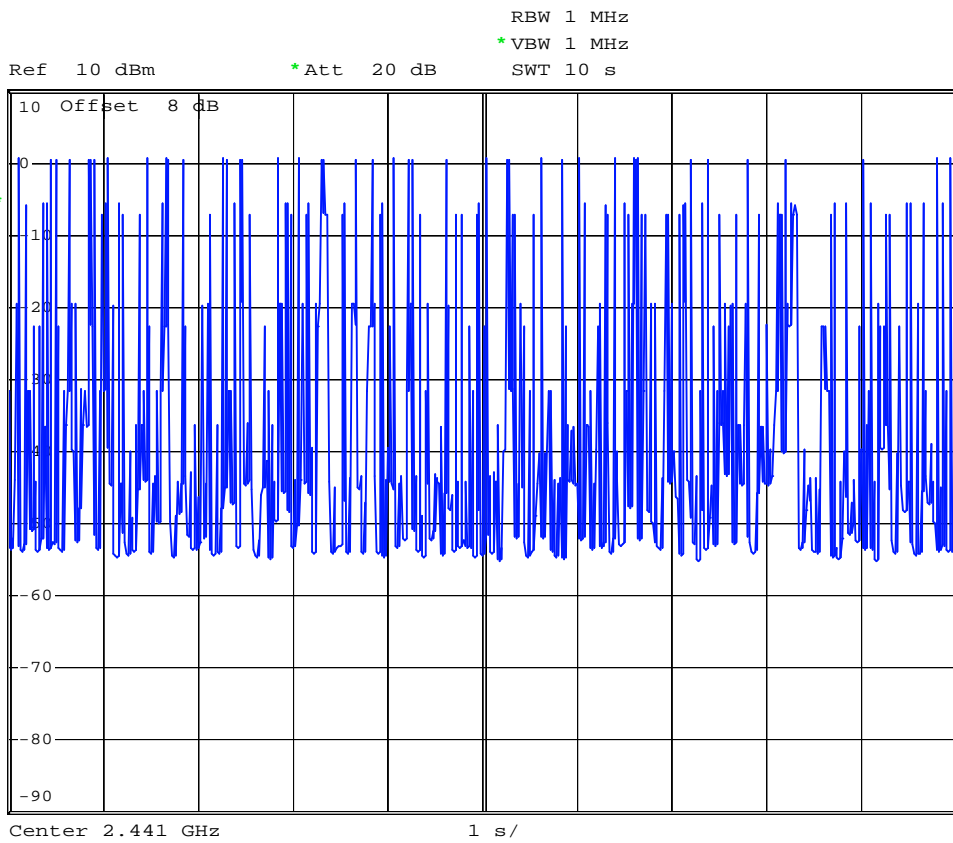
Date: 12.AUG.2006 11:39:50



Ref 10 dBm *Att 20 dB RBW 1 MHz
*VBW 1 MHz SWT 10 s



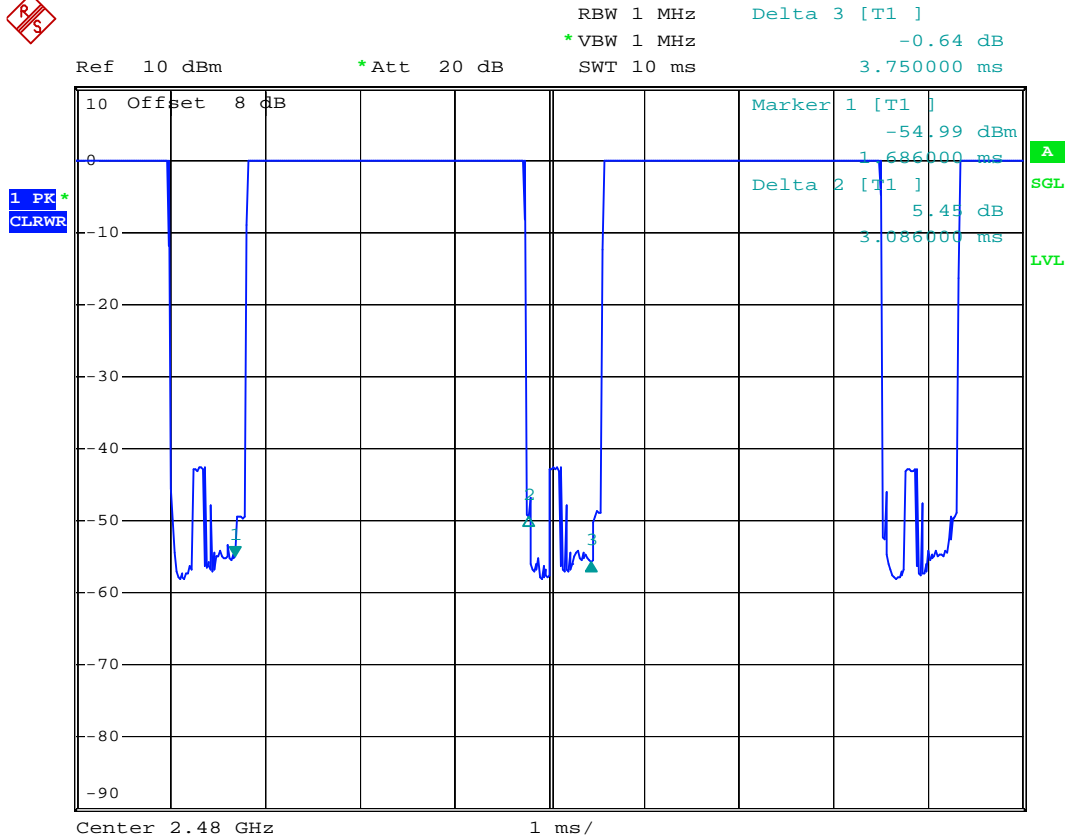
Date: 12.AUG.2006 11:44:56



Date: 12.AUG.2006 11:45:27



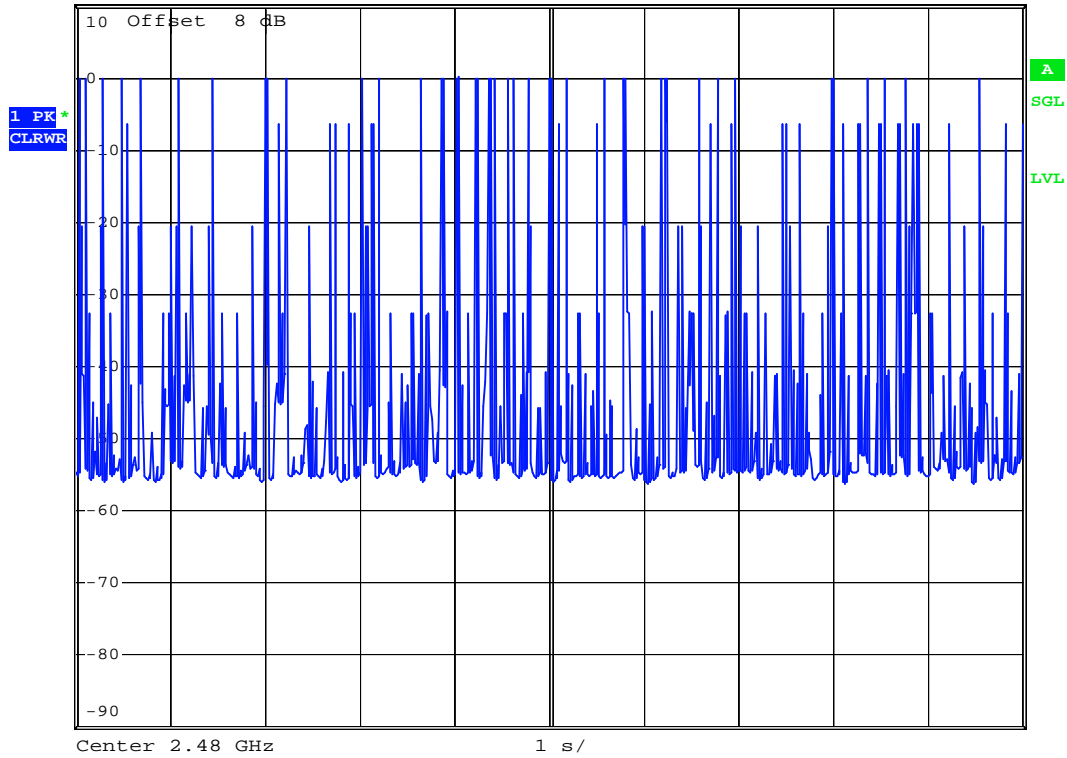
DH5 (CH78)



Date: 12.AUG.2006 11:41:41



Ref 10 dBm *Att 20 dB RBW 1 MHz
*VBW 1 MHz SWT 10 s



Date: 12.AUG.2006 11:45:49

5.9 Peak Output Power Measurement

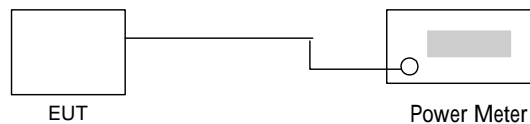
5.9.1 Measuring Instruments :

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 : 25°C
- Relative Humidity : 51%
- Test Enginner : Andy

WLAN 802.11b

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
01	2412	12.13	1W/30 dBm
06	2437	11.45	1W/30 dBm
11	2462	11.54	1W/30 dBm



WLAN 802.11g

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
01	2412	14.06	1W/30 dBm
06	2437	12.61	1W/30 dBm
11	2462	11.67	1W/30 dBm

Bluetooth

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
00	2402	1.64	1W/30 dBm
39	2441	0.62	1W/30 dBm
78	2480	-0.03	1W/30 dBm

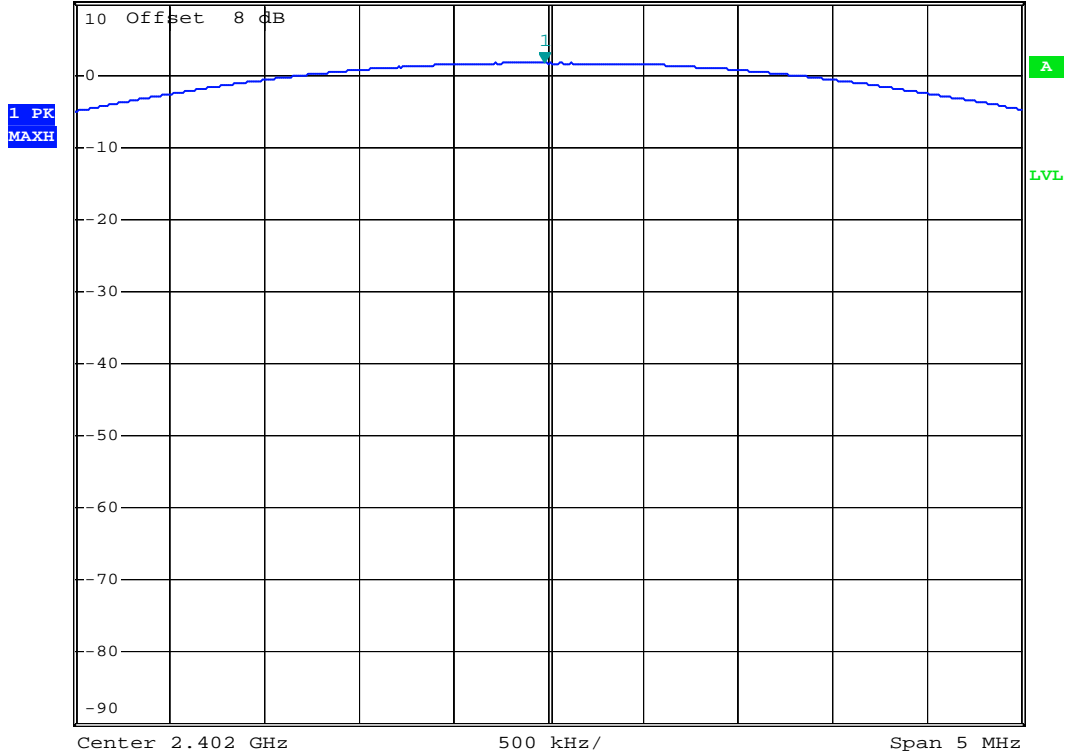


5.9.5 Output Power

BT Mode : CH00 (2402MHz)



Ref 10 dBm *Att 20 dB *RBW 3 MHz Marker 1 [T1] *VBW 3 MHz 1.64 dBm
*SWT 500 ms 2.401980000 GHz



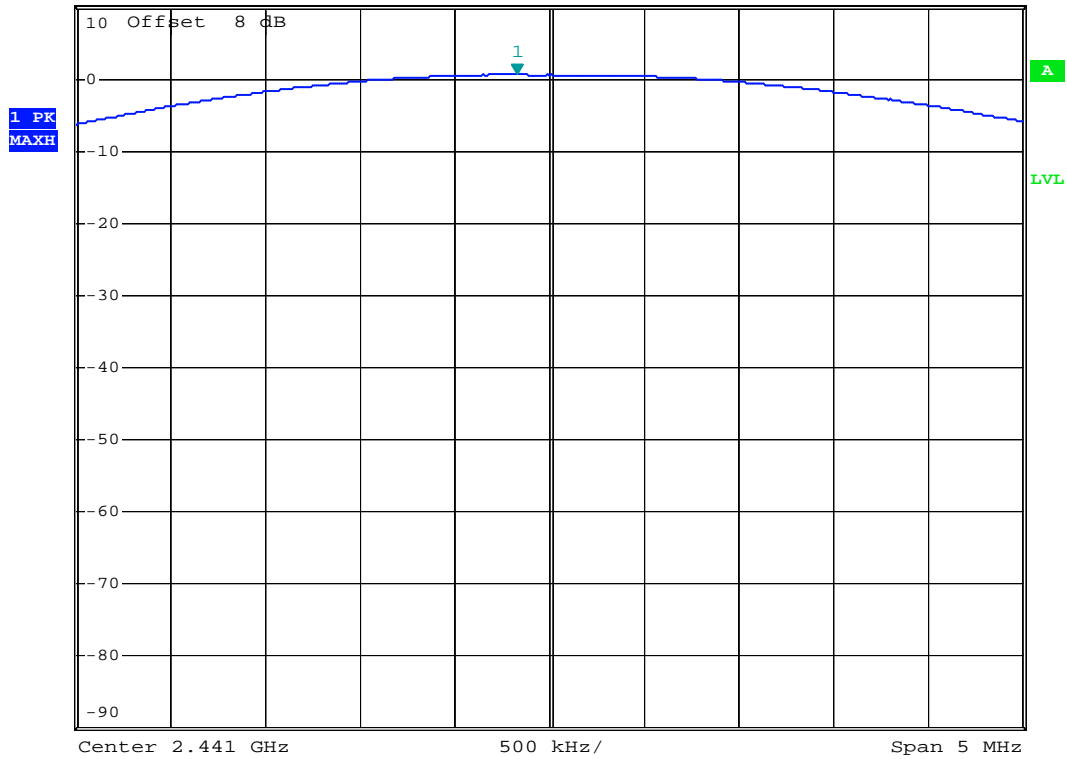
Date: 12.AUG.2006 11:22:10



BT Mode : CH39 (2441MHz)



Ref 10 dBm *Att 20 dB *RBW 3 MHz Marker 1 [T1] 0.62 dBm
*VBW 3 MHz *SWT 500 ms 2.440830000 GHz



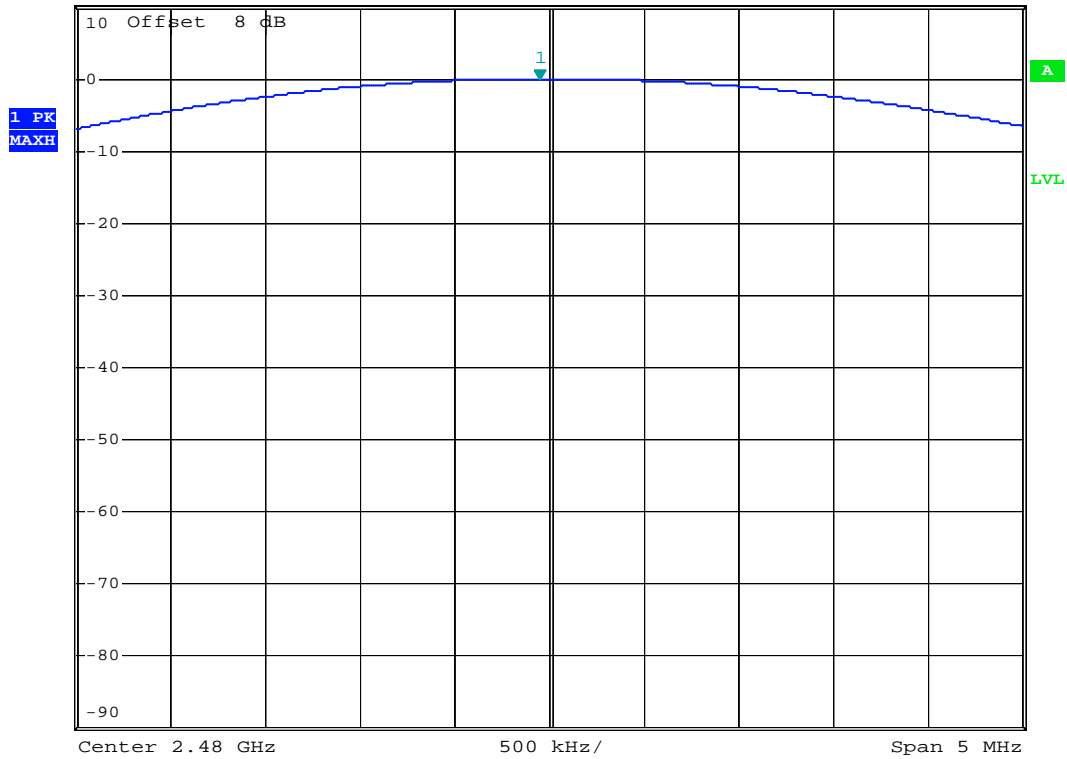
Date: 12.AUG.2006 11:22:29



BT Mode : CH78 (2480MHz)



Ref 10 dBm *Att 20 dB *RBW 3 MHz Marker 1 [T1] -0.03 dBm
*VBW 3 MHz *SWT 500 ms 2.479950000 GHz



Date: 12.AUG.2006 11:22:54



5.10 Conducted Emission

5.10.1 Measuring Instruments

As described in chapter 6 of this test Report.

5.10.2 Test Procedures :

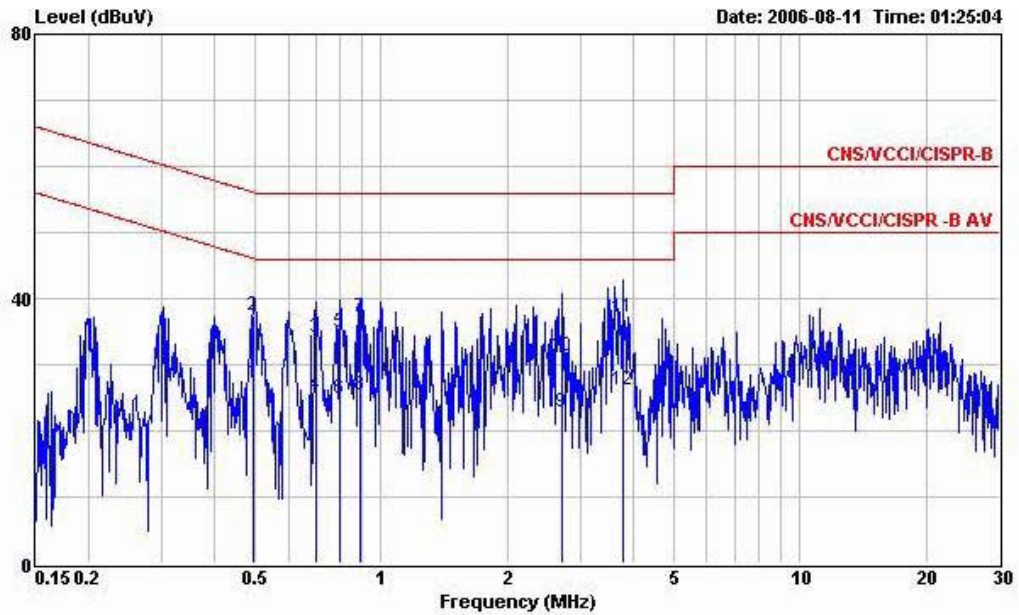
- a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- b. Connect EUT to the power port of a line impedance stabilization network (LISN).
- c. All the support units are connected to the other LISN.
- 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

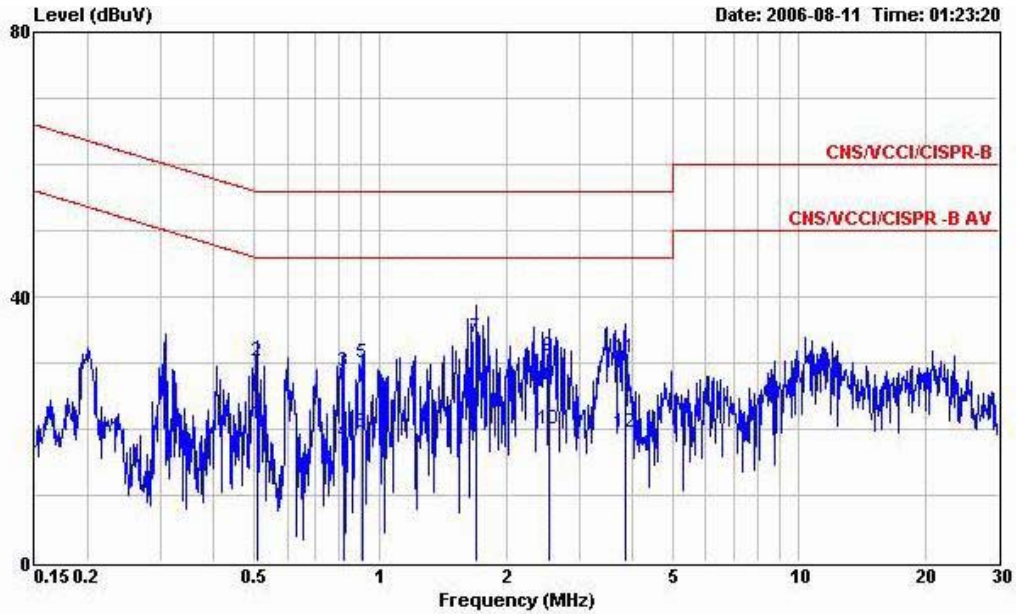
- Temperature : 25°C
- Relative Humidity : 51%
- Test Enginner : Andy
- Test Mode : Mode 1

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 200604 LINE
 EUT : Mobile Phone
 Power : 120V/50Hz
 Model : FR 681007
 Memo : PCS1900 Idle+BT Link+WLAN Link
 Memo : +Earphone1+Adapter+Camera
 Memo :

	Freq	Level	Over	Limit	Read	Probe	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.497	27.13	-18.92	46.05	26.79	0.10	0.24	Average
2	0.497	37.51	-18.54	56.05	37.17	0.10	0.24	QP
3	0.701	34.18	-21.82	56.00	33.93	0.10	0.15	QP
4	0.701	25.33	-20.67	46.00	25.08	0.10	0.15	Average
5	0.800	34.91	-21.09	56.00	34.69	0.10	0.12	QP
6	0.800	24.84	-21.16	46.00	24.62	0.10	0.12	Average
7	0.892	37.20	-18.80	56.00	37.01	0.10	0.09	QP
8	0.892	25.51	-20.49	46.00	25.32	0.10	0.09	Average
9	2.710	22.74	-23.26	46.00	22.34	0.14	0.26	Average
10	2.710	31.21	-24.79	56.00	30.81	0.14	0.26	QP
11	3.780	37.22	-18.78	56.00	36.78	0.19	0.25	QP
12	3.780	26.07	-19.93	46.00	25.63	0.19	0.25	Average



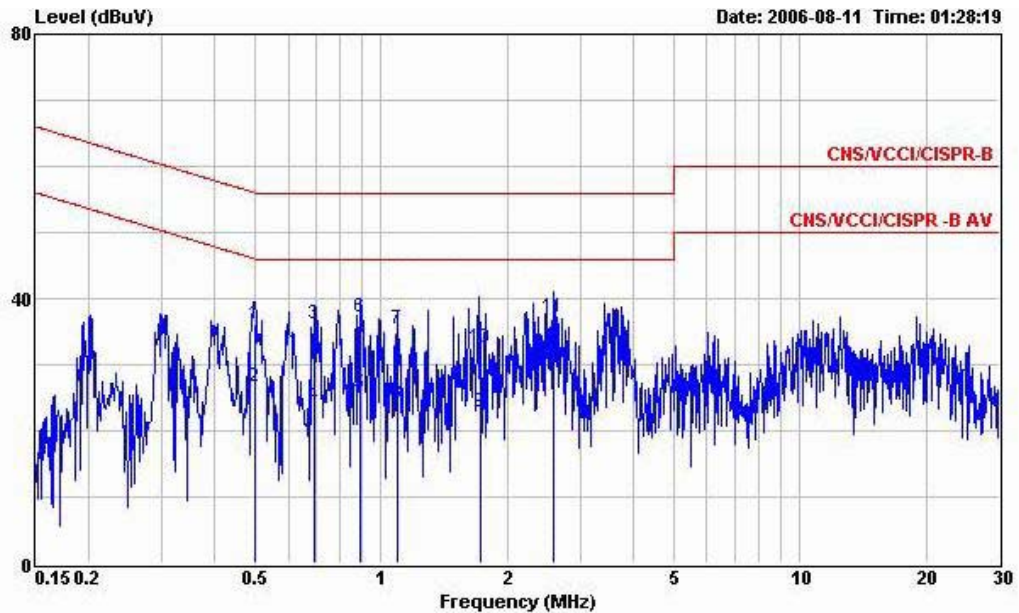
Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 NEUTRAL
 EUT : Mobile Phone
 Power : 120V/60Hz
 Model : FR 681007
 Memo : PCS1900 Idle+BT Link+WLAN Link
 Memo : +Earphone1+Adapter+Camera
 Memo :

	Freq	Level	Over	Limit	Read	Probe	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.507	20.87	-25.13	46.00	20.54	0.10	0.23	Average
2	0.507	30.27	-25.73	56.00	29.94	0.10	0.23	QP
3	0.817	28.83	-27.17	56.00	28.62	0.10	0.11	QP
4	0.817	18.04	-27.96	46.00	17.83	0.10	0.11	Average
5	0.904	29.98	-26.02	56.00	29.79	0.10	0.09	QP
6	0.904	19.53	-26.47	46.00	19.34	0.10	0.09	Average
7	1.700	33.72	-22.28	56.00	33.41	0.10	0.21	QP
8	1.700	23.23	-22.77	46.00	22.92	0.10	0.21	Average
9	2.540	31.14	-24.86	56.00	30.78	0.10	0.26	QP
10	2.540	20.08	-25.92	46.00	19.72	0.10	0.26	Average
11	3.860	30.75	-25.25	56.00	30.40	0.10	0.25	QP
12	3.860	19.47	-26.53	46.00	19.12	0.10	0.25	Average



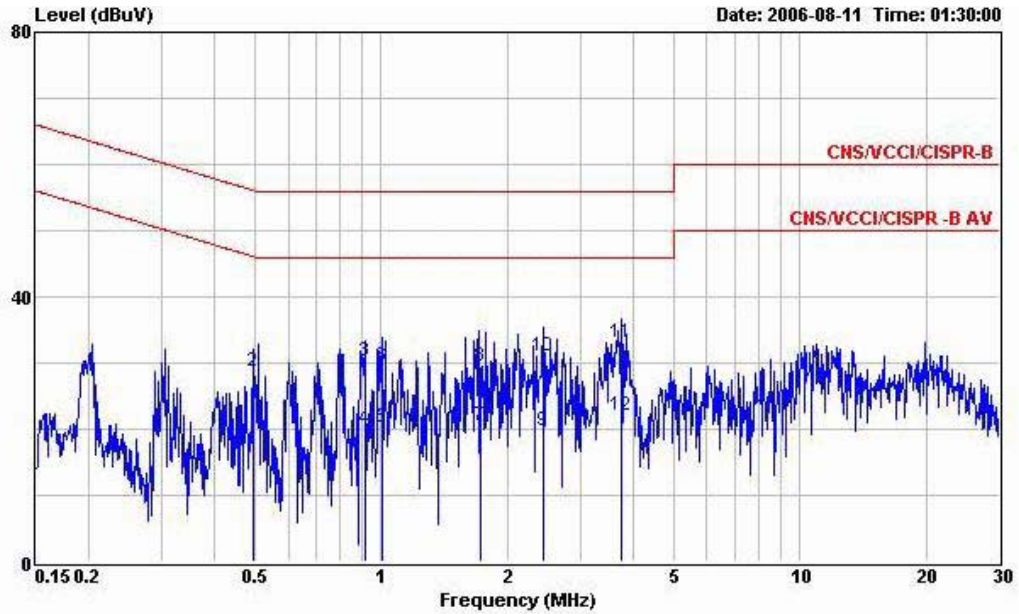
- Temperature : 25°C
- Relative Humidity : 51%
- Test Enginner : Andy
- Test Mode : Mode 2

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 200604 LINE
 EUT : Mobile Phone
 Power : 120V/50Hz
 Model : FR 681007
 Memo : PCS1900 Idle+BT Link+WLAN Link
 Memo : +Earphone1+Adapter+MPEG4
 Memo :

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.499	36.25	-19.77	56.02	35.91	0.10	0.24	QP
2	0.499	26.67	-19.35	46.02	26.33	0.10	0.24	Average
3	0.690	36.27	-19.73	56.00	36.02	0.10	0.15	QP
4	0.690	23.92	-22.08	46.00	23.67	0.10	0.15	Average
5	0.890	25.59	-20.41	46.00	25.40	0.10	0.09	Average
6	0.890	37.09	-18.91	56.00	36.90	0.10	0.09	QP
7	1.094	35.40	-20.60	56.00	35.21	0.10	0.09	QP
8	1.094	24.22	-21.78	46.00	24.03	0.10	0.09	Average
9	1.720	22.78	-23.22	46.00	22.46	0.10	0.22	Average
10	1.720	32.67	-23.33	56.00	32.35	0.10	0.22	QP
11	2.580	37.29	-18.71	56.00	36.89	0.14	0.26	QP
12	2.580	29.98	-16.02	46.00	29.58	0.14	0.26	Average



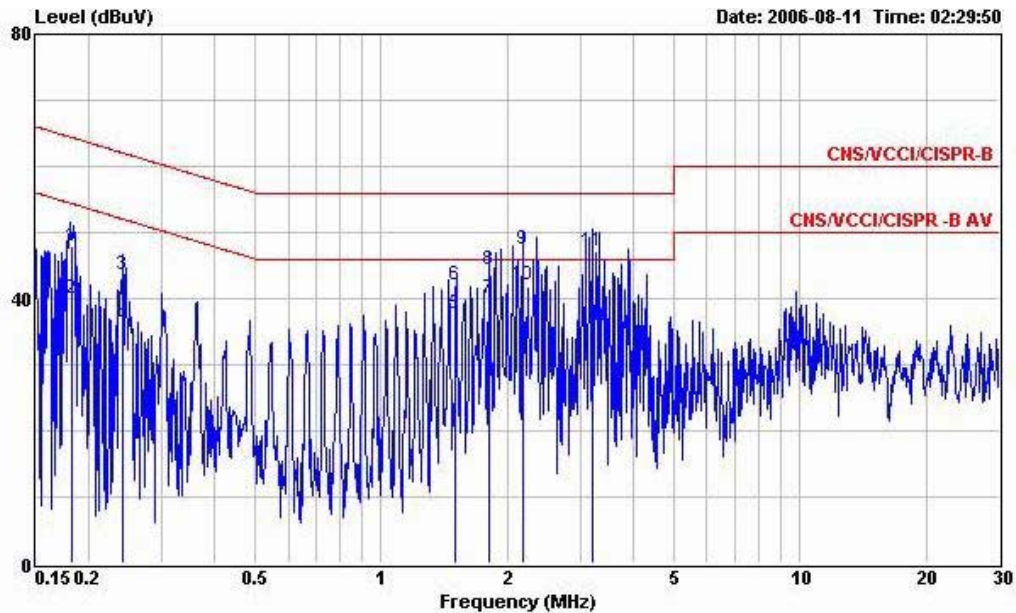
Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 NEUTRAL
 EUT : Mobile Phone
 Power : 120V/60Hz
 Model : FR 681007
 Memo : PCS1900 Idle+BT Link+WLAN Link
 Memo : +Earphone1+Adapter+MPEG4
 Memo :

	Freq	Level	Over	Limit	Read	Probe	Cable	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.494	16.95	-29.15	46.10	16.61	0.10	0.24	Average
2	0.494	28.62	-27.48	56.10	28.28	0.10	0.24	QP
3	0.914	30.32	-25.68	56.00	30.14	0.10	0.08	QP
4	0.914	19.98	-26.02	46.00	19.80	0.10	0.08	Average
5	1.010	20.23	-25.77	46.00	20.07	0.10	0.06	Average
6	1.010	29.47	-26.53	56.00	29.31	0.10	0.06	QP
7	1.720	20.46	-25.54	46.00	20.14	0.10	0.22	Average
8	1.720	29.57	-26.43	56.00	29.25	0.10	0.22	QP
9	2.450	19.86	-26.14	46.00	19.50	0.10	0.26	Average
10	2.450	30.92	-25.08	56.00	30.56	0.10	0.26	QP
11	3.760	33.00	-23.00	56.00	32.65	0.10	0.25	QP
12	3.760	22.10	-23.90	46.00	21.75	0.10	0.25	Average



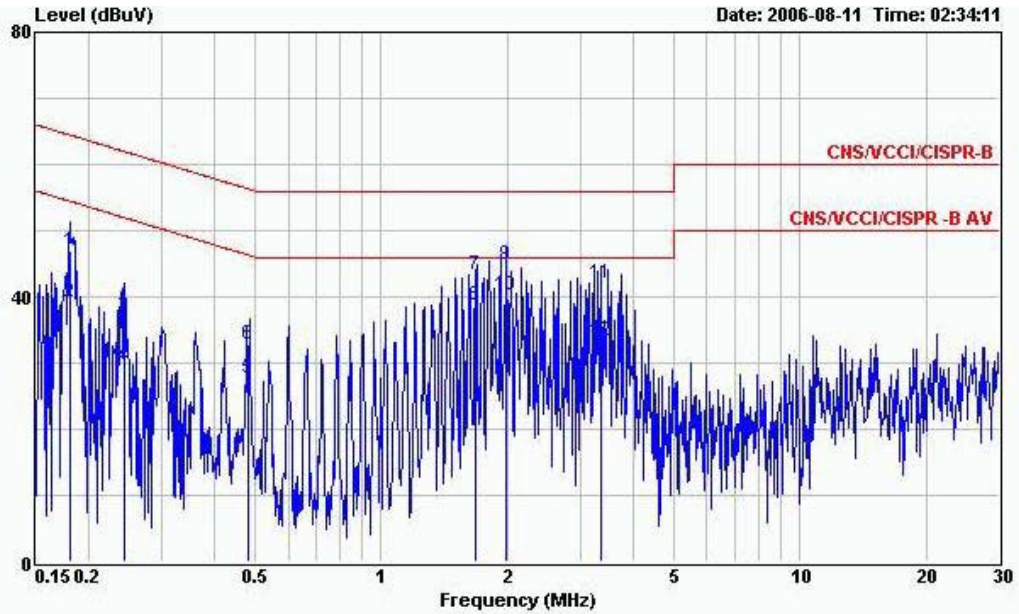
- Temperature : 25°C
- Relative Humidity : 51%
- Test Enginner : Andy
- Test Mode : Mode 3

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 200604 LINE
 EUT : Mobile Phone
 Power : 120V/50Hz
 Model : FR 681007
 Memo : PCS1900 Idle+BT Link+WLAN Link
 Memo : +Earphone1+MPEG4+USB Link
 Memo :

	Freq	Level	Over	Limit	Read	Probe	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.182	48.07	-16.32	64.39	47.95	0.10	0.02	QP
2	0.182	39.87	-14.52	54.39	39.75	0.10	0.02	Average
3	0.241	43.50	-18.57	62.07	43.31	0.10	0.09	QP
4	0.241	35.97	-16.10	52.07	35.78	0.10	0.09	Average
5	1.502	37.77	-8.23	46.00	37.49	0.10	0.18	Average
6	1.502	42.15	-13.85	56.00	41.87	0.10	0.18	QP
7	1.807	40.08	-5.92	46.00	39.75	0.10	0.23	Average
8	1.807	44.32	-11.68	56.00	43.99	0.10	0.23	QP
9	2.172	47.41	-8.59	56.00	47.04	0.11	0.26	QP
10	2.172	42.16	-3.84	46.00	41.79	0.11	0.26	Average
11	3.195	47.14	-8.86	56.00	46.72	0.17	0.25	QP
12	3.195	36.12	-9.88	46.00	35.70	0.17	0.25	Average



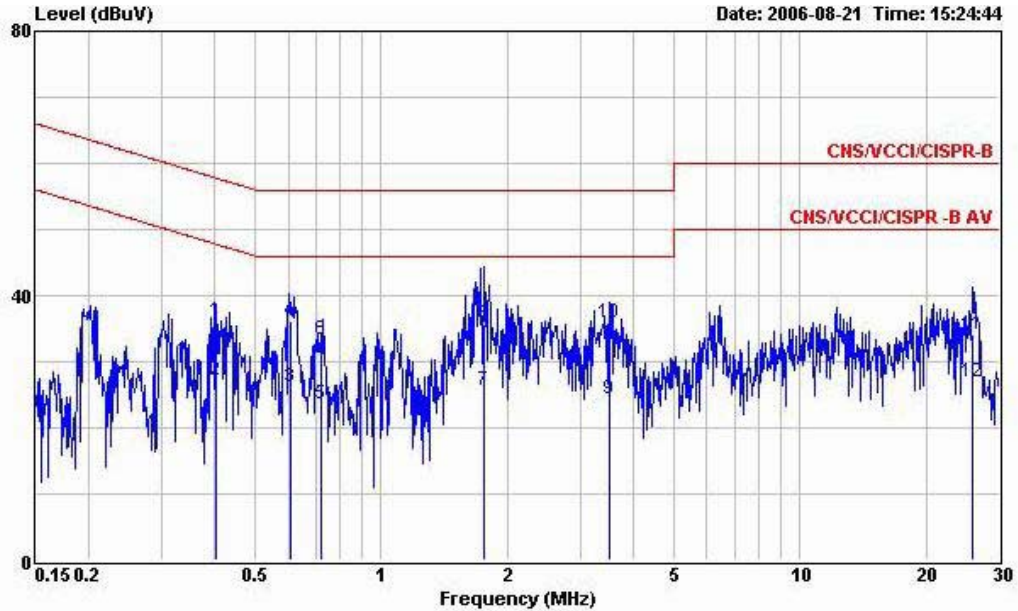
Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 NEUTRAL
 EUT : Mobile Phone
 Power : 120V/60Hz
 Model : FR 681007
 Memo : PCS1900 Idle+BT Link+WLAN Link
 Memo : +Earphone1+MPEG4+USB Link
 Memo :

	Freq	Level	Over	Limit	Read	Probe	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.181	47.00	-17.44	64.44	46.88	0.10	0.02	QP
2	0.181	39.18	-15.26	54.44	39.06	0.10	0.02	Average
3	0.244	37.19	-24.77	61.96	36.99	0.10	0.10	QP
4	0.244	29.44	-22.52	51.96	29.24	0.10	0.10	Average
5	0.481	27.58	-18.73	46.31	27.24	0.10	0.24	Average
6	0.481	32.81	-23.50	56.31	32.47	0.10	0.24	QP
7	1.681	43.23	-12.77	56.00	42.92	0.10	0.21	QP
8	1.681	38.74	-7.26	46.00	38.43	0.10	0.21	Average
9	1.982	44.88	-11.12	56.00	44.52	0.10	0.26	QP
10	1.982	40.36	-5.64	46.00	40.00	0.10	0.26	Average
11	3.360	42.02	-13.98	56.00	41.67	0.10	0.25	QP
12	3.360	33.38	-12.62	46.00	33.03	0.10	0.25	Average



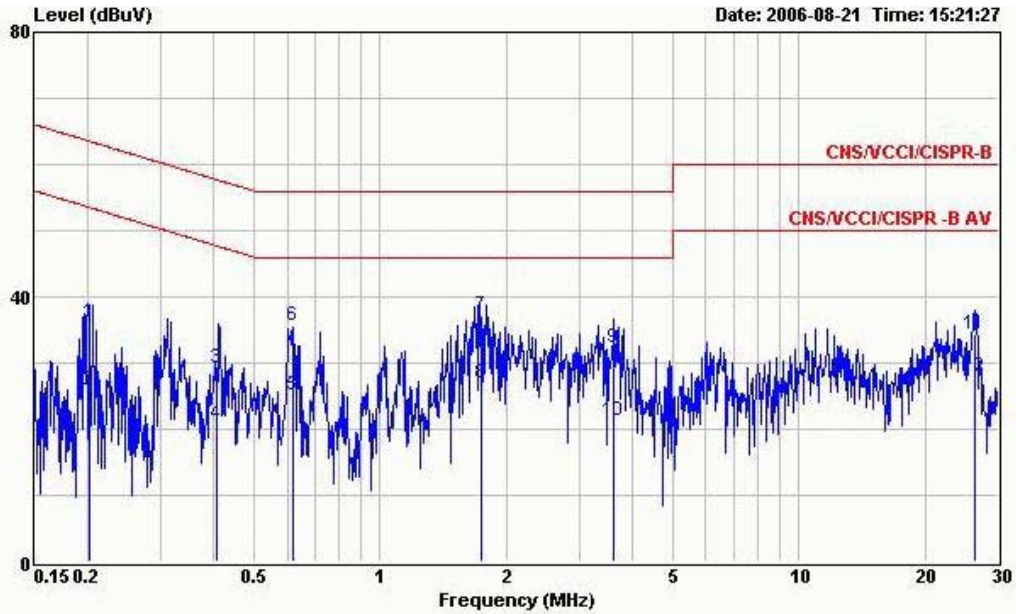
- Temperature : 25°C
- Relative Humidity : 51%
- Test Enginner : Andy
- Test Mode : Mode 4

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 200604 LINE
 EUT : Mobile Phone
 Power : 120V/60Hz
 Model : FR681007
 Memo : PCS1900 IDLE+BT link+WLAN link
 Memo : +Earphone2+CAMERA+Adapter
 Memo :

	Freq	Level	Over	Limit	Read	Probe	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.402	36.08	-21.73	57.81	35.69	0.10	0.29	QP
2	0.402	27.10	-20.71	47.81	26.71	0.10	0.29	Average
3	0.609	26.08	-19.92	46.00	25.79	0.10	0.19	Average
4	0.609	36.22	-19.78	56.00	35.93	0.10	0.19	QP
5	0.721	23.62	-22.38	46.00	23.38	0.10	0.14	Average
6	0.721	33.38	-22.62	56.00	33.14	0.10	0.14	QP
7	1.763	25.74	-20.26	46.00	25.42	0.10	0.22	Average
8	1.763	35.74	-20.26	56.00	35.42	0.10	0.22	QP
9	3.509	24.28	-21.72	46.00	23.85	0.18	0.25	Average
10	3.509	36.02	-19.98	56.00	35.59	0.18	0.25	QP
11	25.727	34.14	-25.86	60.00	33.37	0.51	0.26	QP
12	25.727	26.98	-23.02	50.00	26.21	0.51	0.26	Average



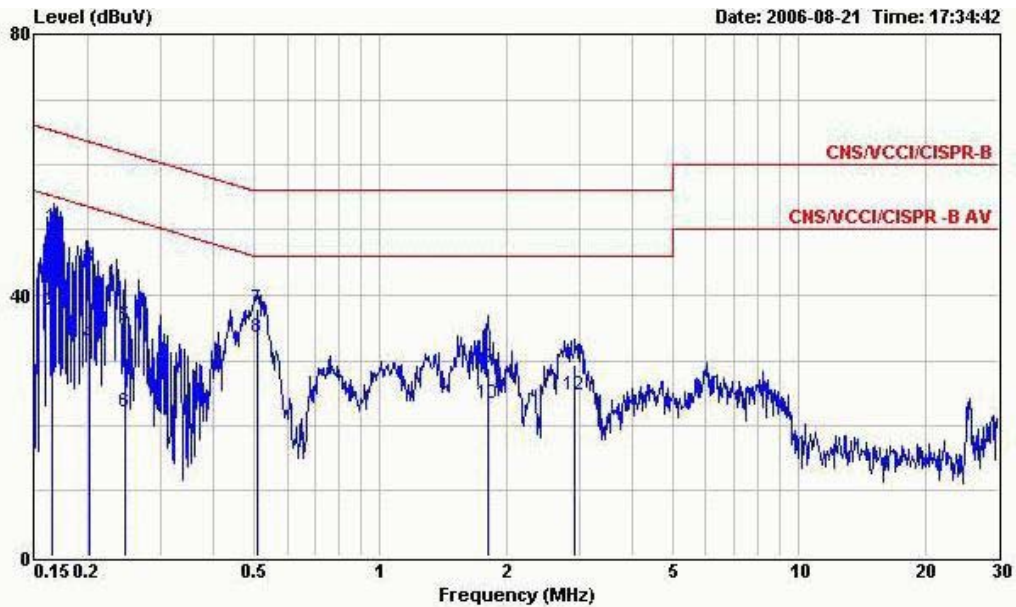
Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 NEUTRAL
 EUT : Mobile Phone
 Power : 120V/60Hz
 Model : FR681007
 Memo : PCS1900 IDLE+BT link+WLAN link
 Memo : +Earphone2+CAMERA+Adapter
 Memo :

	Freq	Level	Over	Limit	Read	Probe	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.202	36.04	-27.50	63.54	35.92	0.10	0.02	QP
2	0.202	25.87	-27.67	53.54	25.75	0.10	0.02	Average
3	0.408	29.11	-28.58	57.69	28.73	0.10	0.28	QP
4	0.408	20.68	-27.01	47.69	20.30	0.10	0.28	Average
5	0.618	25.18	-20.82	46.00	24.90	0.10	0.18	Average
6	0.618	35.72	-20.28	56.00	35.44	0.10	0.18	QP
7	1.741	37.07	-18.93	56.00	36.75	0.10	0.22	QP
8	1.741	26.80	-19.20	46.00	26.48	0.10	0.22	Average
9	3.607	32.23	-23.77	56.00	31.88	0.10	0.25	QP
10	3.607	21.39	-24.61	46.00	21.04	0.10	0.25	Average
11	26.409	34.33	-25.67	60.00	33.44	0.59	0.30	QP
12	26.409	27.82	-22.18	50.00	26.93	0.59	0.30	Average



- Temperature : 24°C
- Relative Humidity : 58%
- Test Enginner : James
- Test Mode : Mode 5

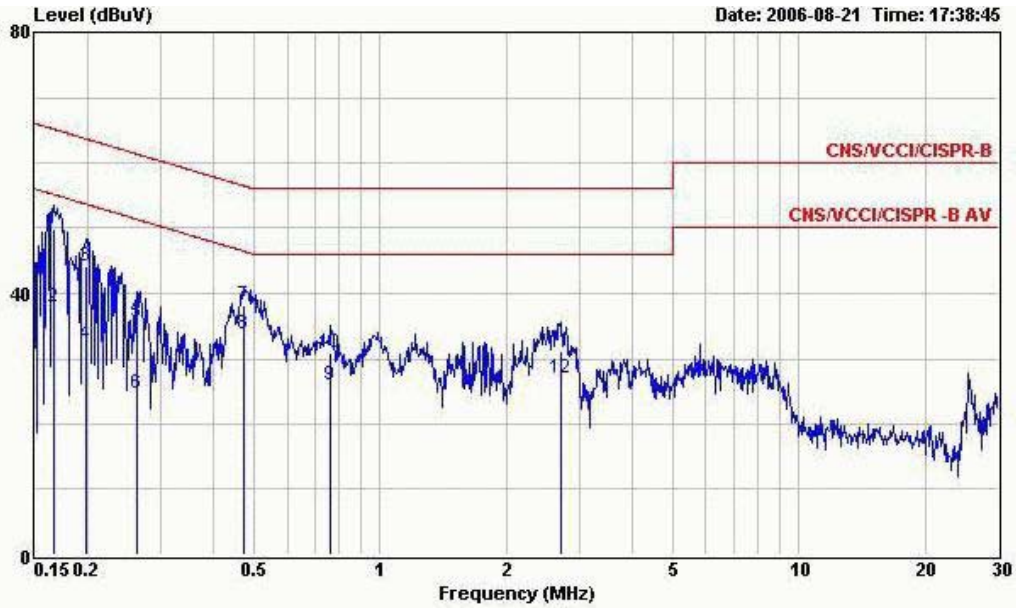
The test that passed at minimum margin was marked by the frame in the following table.



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 LINE
 EUT

Power : 120V/60Hz
 Model : PCS1900 Idle + BT Link + WLAN Link
 Memo : + Camera + Earphone 1 + Adapter 3

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.165	50.45	-14.76	65.21	50.32	0.10	0.03	QP
2	0.165	37.66	-17.55	55.21	37.53	0.10	0.03	Average
3	0.203	44.21	-19.30	63.51	44.08	0.10	0.03	QP
4	0.203	32.40	-21.11	53.51	32.27	0.10	0.03	Average
5	0.246	35.30	-26.59	61.89	35.10	0.10	0.10	QP
6	0.246	22.10	-29.79	51.89	21.90	0.10	0.10	Average
7	0.509	37.96	-18.04	56.00	37.63	0.10	0.23	QP
8	0.509	33.39	-12.61	46.00	33.06	0.10	0.23	Average
9	1.809	28.84	-27.16	56.00	28.51	0.10	0.23	QP
10	1.809	23.48	-22.52	46.00	23.15	0.10	0.23	Average
11	2.920	29.24	-26.76	56.00	28.84	0.15	0.25	QP
12	2.920	24.56	-21.44	46.00	24.16	0.15	0.25	Average



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 NEUTRAL
 EUT

Power : 120V/60Hz
 Model :
 Memo : PCS1900 Idle + BT Link + WLAN Link
 Memo : + Camera + Earphone 1 + Adapter 3

	Over	Limit	Read	Probe	Cable		
Freq	Level	Limit	Line	Level	Factor	Loss Remark	
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.166	49.92	-15.24	65.16	49.79	0.10	0.03 QP
2	0.166	37.81	-17.35	55.16	37.68	0.10	0.03 Average
3	0.199	44.07	-19.58	63.65	43.95	0.10	0.02 QP
4	0.199	32.11	-21.54	53.65	31.99	0.10	0.02 Average
5	0.262	35.68	-25.70	61.38	35.45	0.10	0.13 QP
6	0.262	24.81	-26.57	51.38	24.58	0.10	0.13 Average
7	0.473	38.20	-18.27	56.47	37.85	0.10	0.25 QP
8	0.473	33.78	-12.69	46.47	33.43	0.10	0.25 Average
9	0.759	25.97	-20.03	46.00	25.74	0.10	0.13 Average
10	0.759	31.01	-24.99	56.00	30.78	0.10	0.13 QP
11	2.706	31.29	-24.71	56.00	30.93	0.10	0.26 QP
12	2.706	27.14	-18.86	46.00	26.78	0.10	0.26 Average



5.11 Radiated Emission Measurement

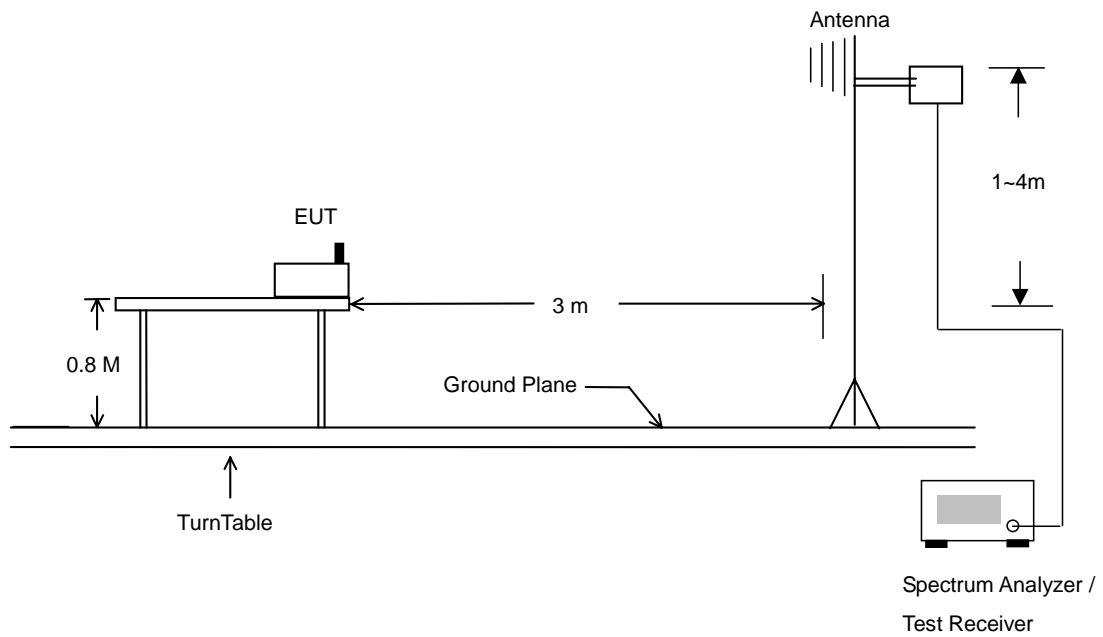
5.11.1 Measuring Instruments

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

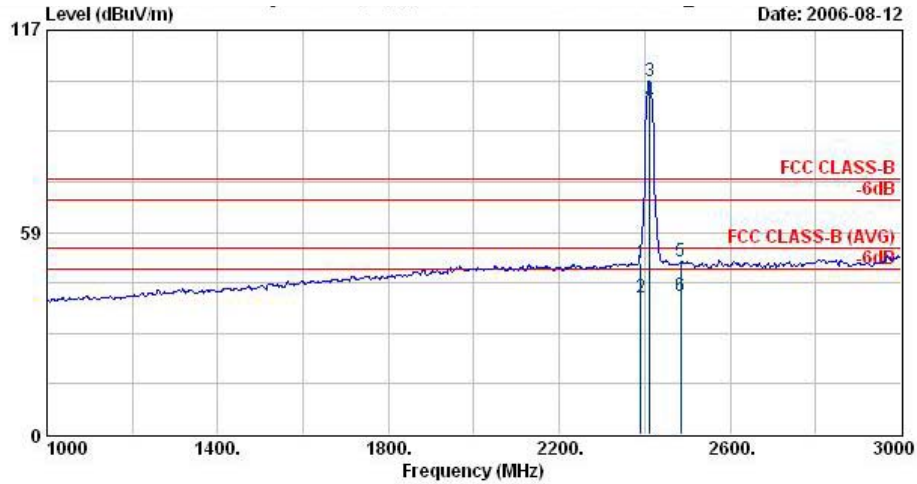




5.11.4 Test Data

- Temperature : 26°C
- Relative Humidity : 52%
- Test Enginner : Andrew
- Test Mode : Mode 1
- Polarization : Horizontal

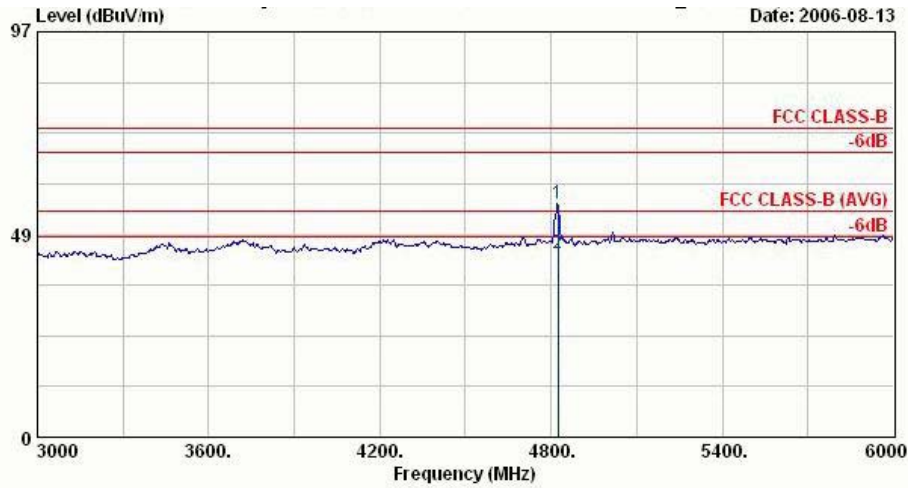
The test that passed at minimum margin was marked by the frame in the following table.



Site : 03CH06-HY
 Condition : HF-ANT-060410 HORIZONTAL
 EUT : 3G 手機(WLAN+BT)
 Power : 120Vac/60Hz
 Model : FR 681007
 Memo : 11b Tx_CH01_2412MHz
 Plane : E2
 Data Rate : 11

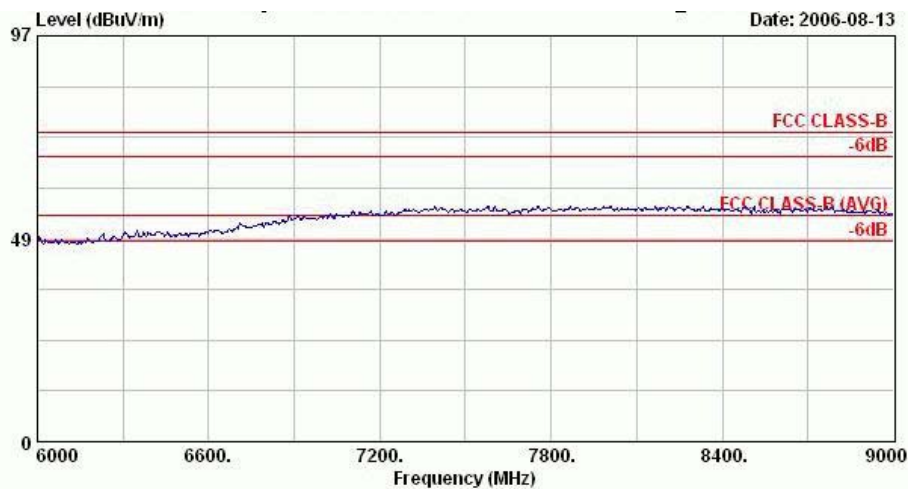
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	cm	deg	
1	2390.00	49.38	-24.62	74.00	50.32	30.26	4.26	35.46	100	360 Peak
2	2390.00	39.75	-14.25	54.00	40.69	30.26	4.26	35.46	100	352 Average
3 @	2412.00	102.34			103.27	30.27	4.26	35.46	100	360 Peak
4 @	2412.00	96.21			97.14	30.27	4.26	35.46	100	352 Average
5	2484.00	50.01	-23.99	74.00	50.87	30.29	4.36	35.51	100	360 Peak
6	2484.00	39.81	-14.19	54.00	40.67	30.29	4.36	35.51	100	352 Average

Remark: #3 and #4 Fundamental Signal

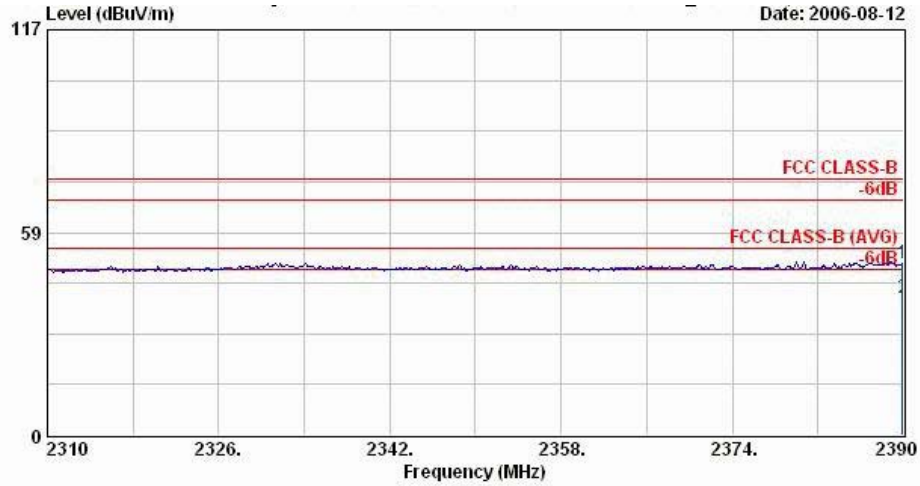


Site : 03CH06-HY
 Condition : HF-ANT-060410 HORIZONTAL
 EUT : 3G 手機(WLAN+BT)
 Power : 120Vac/60Hz
 Model : FR 681007
 Memo : 11b Tx_CH01,2412MHz
 Plane : E2
 Data Rate : 11

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	4824.00	55.93	-18.07	74.00	52.86	32.94	6.24	36.12	200	0	Peak
2 @	4824.00	43.84	-10.16	54.00	40.77	32.94	6.24	36.12	100	335	Average



Site : 03CH06-HY
 Condition : HF-ANT-060410 HORIZONTAL
 EUT : 3G 手機(WLAN+BT)
 Power : 120Vac/60Hz
 Model : FR 681007
 Memo : 11b Tx_CH01,2412MHz
 Plane : E2
 Data Rate : 11



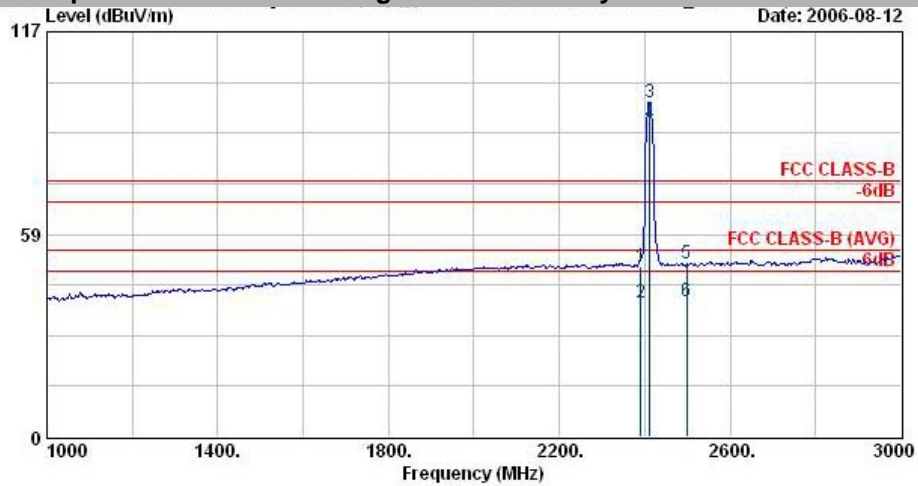
Site : 03CH06-HY
 Condition : HF-ANT-060410 HORIZONTAL
 EUT : 3G 手機(WLAN+BT)
 Power : 120Vac/60Hz
 Model : FR 681007
 Memo : 11b Tx_CH01,2412MHz
 Plane : E2
 Data Rate : 11

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2389.92	49.38	-24.62	74.00	50.32	30.26	4.26	35.46	100	0	Peak
2	2389.92	39.75	-14.25	54.00	40.69	30.26	4.26	35.46	100	352	Average



- Polarization : Vertical

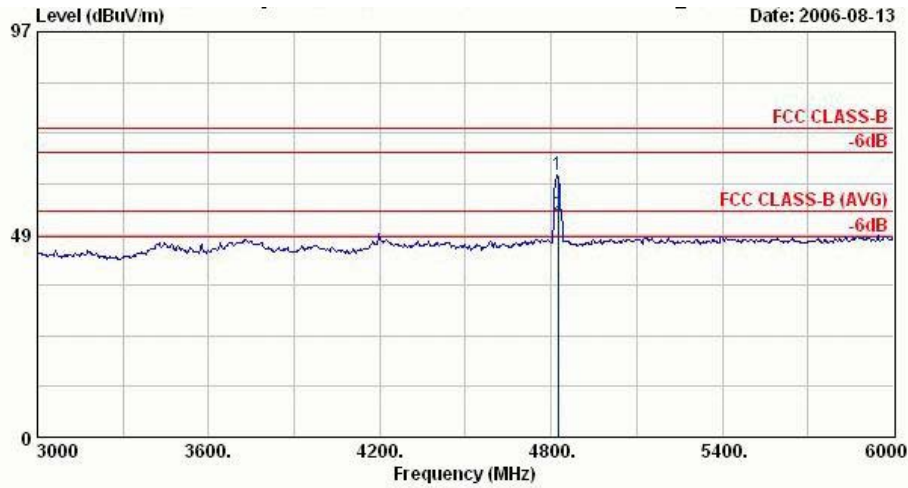
The test that passed at minimum margin was marked by the frame in the following table.



Site : 03CH06-HY
 Condition : HF-ANT-060410 VERTICAL
 EUT : 3G 手機(WLAN+BT)
 Power : 120Vac/60Hz
 Model : FR 681007
 Memo : 11b Tx_CH01_2412MHz
 Plane : E2
 Data Rate : 11

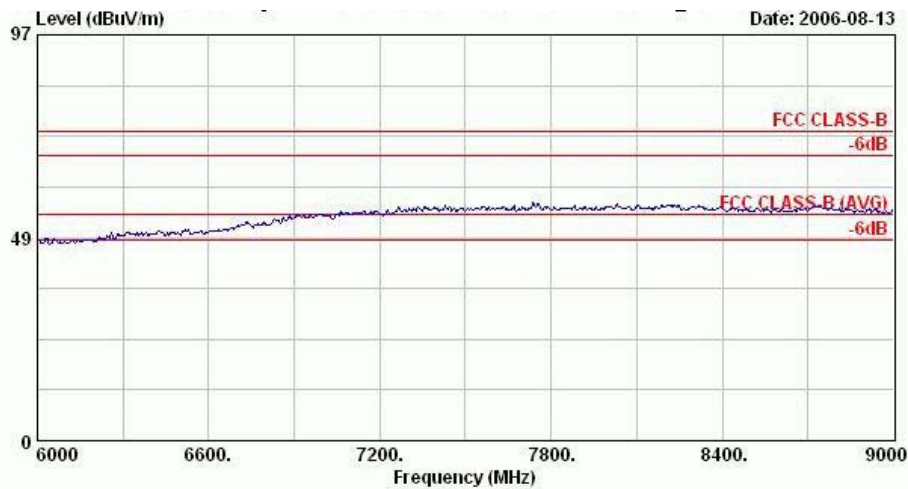
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2390.00	49.36	-24.64	74.00	50.30	30.26	4.26	35.46	100	0	Peak
2	2390.00	38.56	-15.44	54.00	39.50	30.26	4.26	35.46	100	274	Average
3 @	2412.00	96.48			97.41	30.27	4.26	35.46	100	0	Peak
4 @	2412.00	90.38			91.31	30.27	4.26	35.46	100	274	Average
5	2498.00	49.86	-24.14	74.00	50.70	30.30	4.39	35.53	100	0	Peak
6	2498.00	39.24	-14.76	54.00	40.08	30.30	4.39	35.53	100	274	Average

Remark: #3 and #4 Fundamental Signal

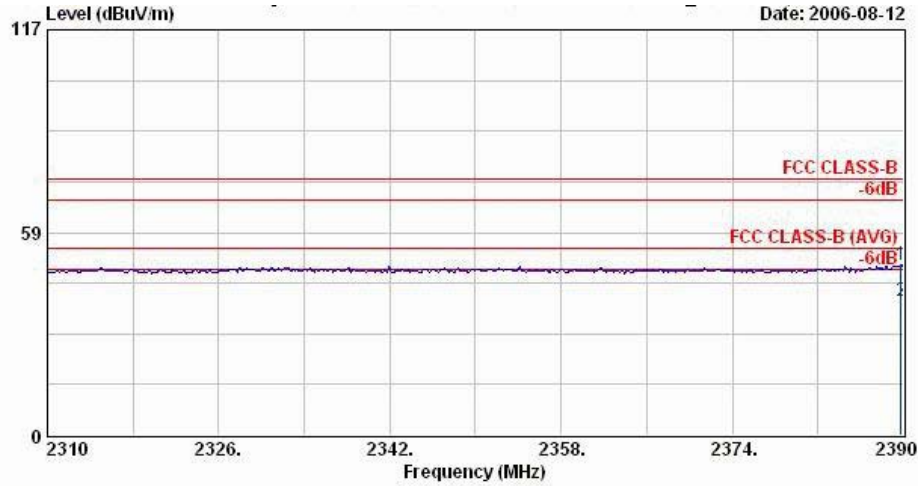


Site : 03CH06-HY
 Condition : HF-ANT-060410 VERTICAL
 EUT : 3G 手機(WLAN+BT)
 Power : 120Vac/60Hz
 Model : FR 681007
 Memo : 11b Tx_CH01,2412MHz
 Plane : E2
 Data Rate : 11

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	4824.00	62.63	-11.37	74.00	59.56	32.94	6.24	36.12	200	360	Peak
2 @	4824.00	53.14	-0.86	54.00	50.07	32.94	6.24	36.12	100	183	Average



Site : 03CH06-HY
 Condition : HF-ANT-060410 VERTICAL
 EUT : 3G 手機(WLAN+BT)
 Power : 120Vac/60Hz
 Model : FR 681007
 Memo : 11b Tx_CH01,2412MHz
 Plane : E2
 Data Rate : 11



Site : 03CH06-HY
 Condition : HF-ANT-060410 VERTICAL
 EUT : 3G 手機(WLAN+BT)
 Power : 120Vac/60Hz
 Model : FR 681007
 Memo : 11b Tx_CH01,2412MHz
 Plane : E2
 Data Rate : 11

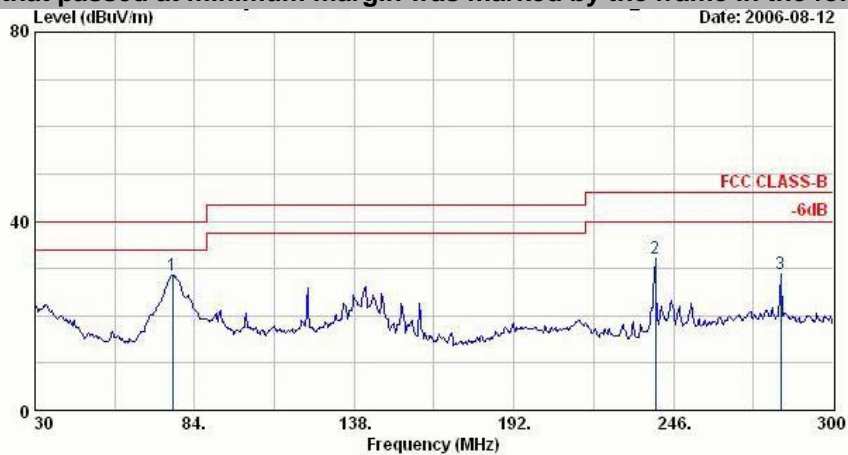
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2389.76	49.36	-24.64	74.00	50.30	30.26	4.26	35.46	100	0	Peak
2	2389.76	38.56	-15.44	54.00	39.50	30.26	4.26	35.46	100	274	Average

Remark: There is no more obvious spurious emission except the listings above.



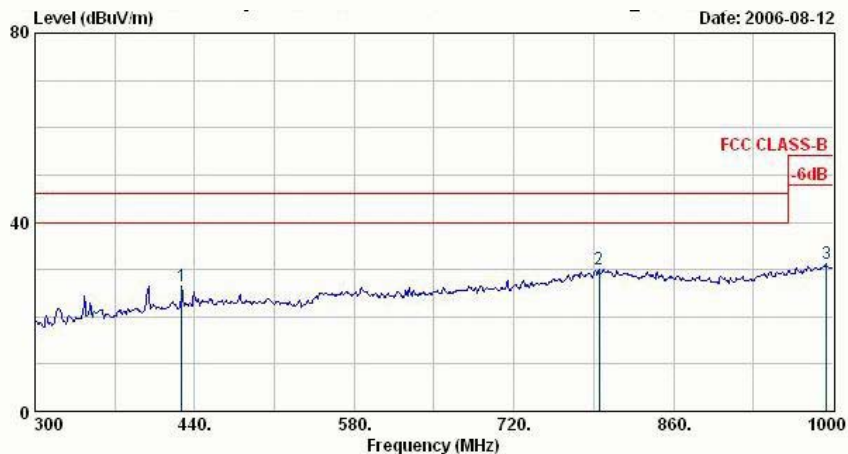
- Test Mode : Mode 2
- Polarization : Horizontal

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



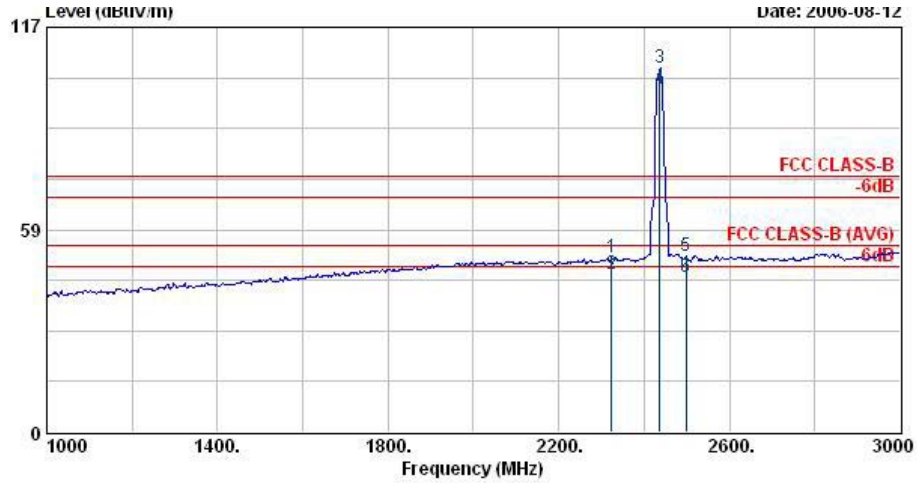
Site : 03CH06-HY
 Condition : BI-LOG-2004-1122 HORIZONTAL
 EUT : 3G 手機(WLAN+BT)
 Power : 120Vac/60Hz
 Model : FR 681007
 Memo : 11b Tx_CH06,2437MHz
 Plane : E2
 Data Rate : 11

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	76.44	28.70	-11.30	40.00	49.14	6.78	1.49	28.71	125	220	Peak
2	239.79	32.05	-13.95	46.00	47.24	10.94	2.80	28.93	400	0	Peak
3	282.18	28.79	-17.21	46.00	41.67	12.92	3.12	28.93	400	0	Peak



Site : 03CH06-HY
 Condition : BI-LOG-2004-1122 HORIZONTAL
 EUT : 3G 手機(WLAN+BT)
 Power : 120Vac/60Hz
 Model : FR 681007
 Memo : 11b Tx_CH06,2437MHz
 Plane : E2
 Data Rate : 11

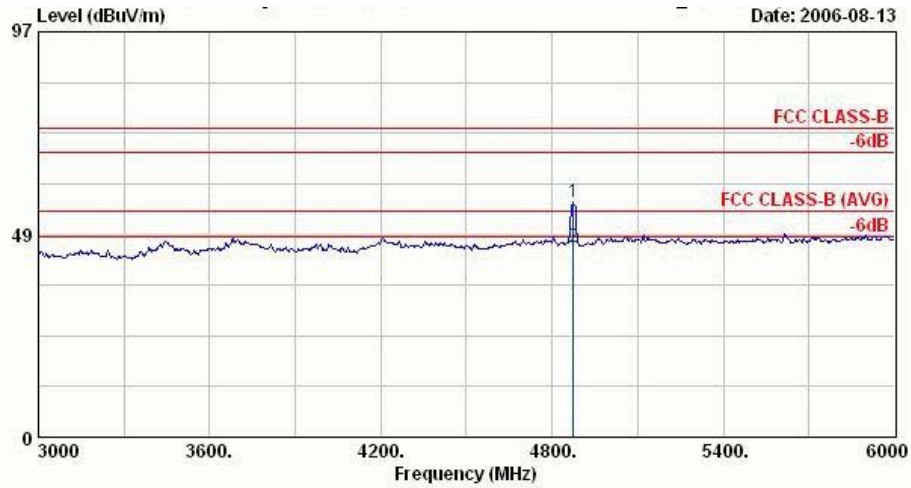
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	428.80	26.59	-19.41	46.00	35.20	16.42	3.91	28.94	100	0	Peak
2	794.90	29.99	-16.01	46.00	31.55	21.76	5.56	28.87	100	0	Peak
3	994.40	31.08	-22.92	54.00	30.90	22.79	6.19	28.80	100	0	Peak



Site : 03CH06-HY
 Condition : HF-ANT-060410 HORIZONTAL
 EUT : 3G 手機(WLAN+BT)
 Power : 120Vac/60Hz
 Model : FR 681007
 Memo : 11b Tx_CH06,2437MHz
 Plane : E2
 Data Rate : 11

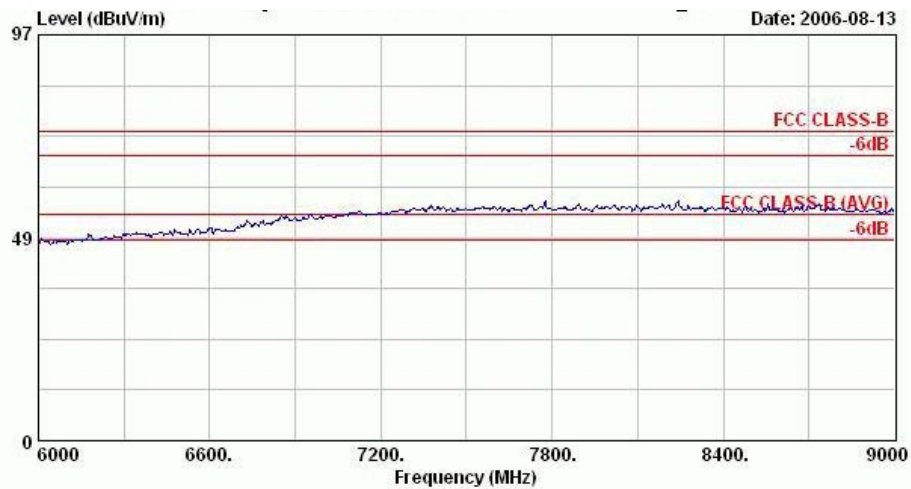
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	cm	deg	
1	2324.00	50.31	-23.69	74.00	51.32	30.23	4.17	35.40	100	0 Peak
2 @	2324.00	45.51	-8.49	54.00	46.51	30.23	4.17	35.40	100	351 Average
3 @	2437.00	105.22			106.12	30.28	4.29	35.47	100	0 Peak
4 @	2437.00	99.30			100.20	30.28	4.29	35.47	100	351 Average
5	2498.00	50.91	-23.09	74.00	51.75	30.30	4.39	35.53	100	0 Peak
6 @	2498.00	44.78	-9.22	54.00	45.62	30.30	4.39	35.53	100	351 Average

Remark: #3 and #4 Fundamental Signal



Site : 03CH06-HY
 Condition : HF-ANT-060410 HORIZONTAL
 EUT : 3G 手機(WLAN+BT)
 Power : 120Vac/60Hz
 Model : FR 681007
 Memo : 11b Tx_CH06,2437MHz
 Plane : E2
 Data Rate : 11

	Freq	Level	Over Limit	Limit Line	Read Antenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	cm	deg	
1	4874.00	56.39	-17.61	74.00	53.11	33.14	6.30	36.16	200	0 Peak
2 @	4874.00	45.42	-8.58	54.00	42.14	33.14	6.30	36.16	100	39 Average

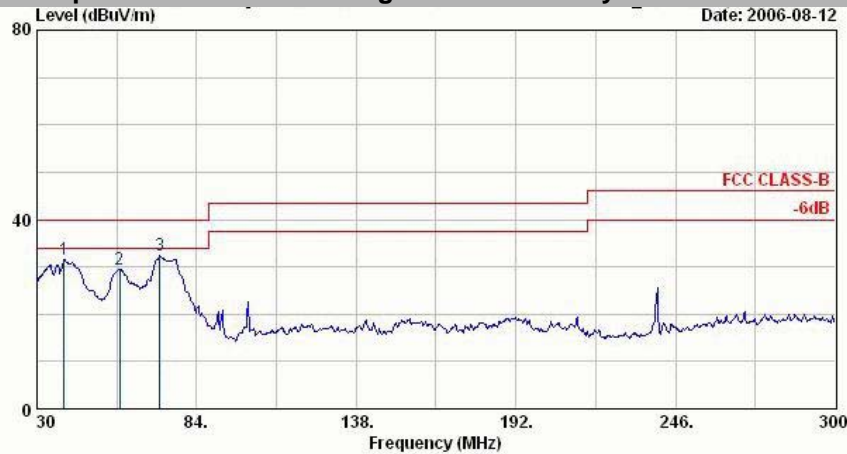


Site : 03CH06-HY
 Condition : HF-ANT-060410 HORIZONTAL
 EUT : 3G 手機(WLAN+BT)
 Power : 120Vac/60Hz
 Model : FR 681007
 Memo : 11b Tx_CH06,2437MHz
 Plane : E2
 Data Rate : 11



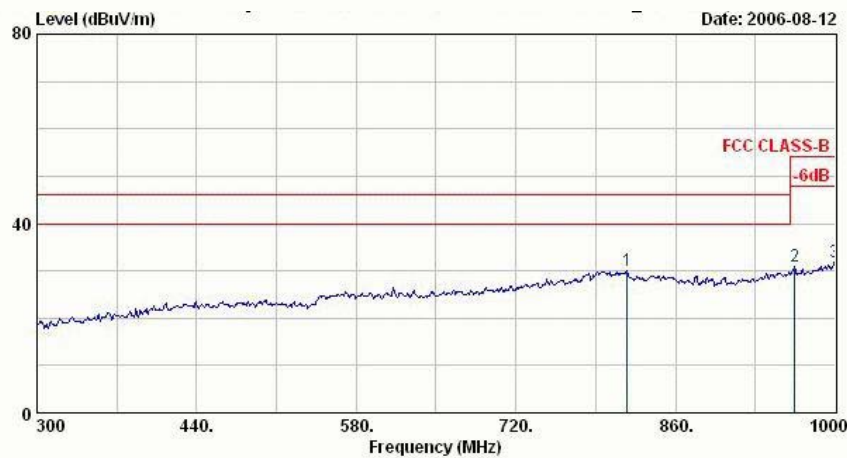
- Polarization : Vertical

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



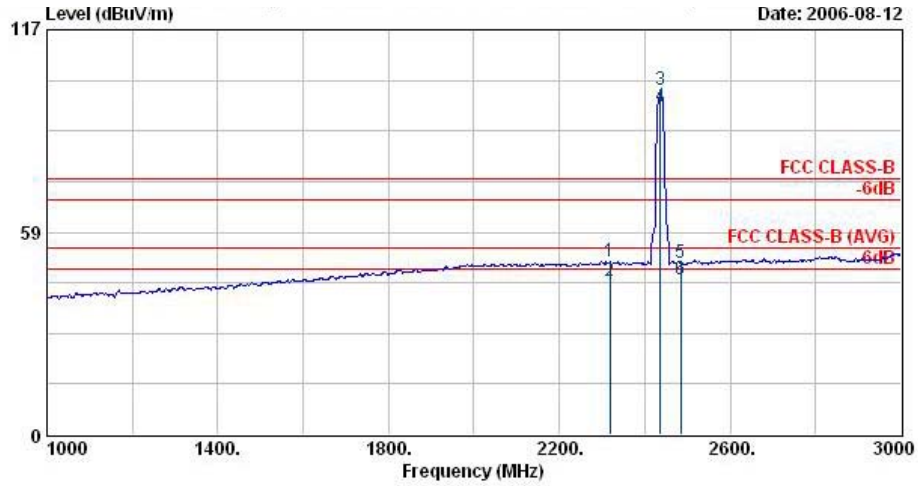
Site : 03CH06-HY
 Condition : BI-LOG-2004-1122 VERTICAL
 EUT : 3G 手機(WLAN+BT)
 Power : 120Vac/60Hz
 Model : FR 681007
 Memo : 11b Tx_CH06,2437MHz
 Plane : E2
 Data Rate : 11

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBUV/m	dB	dBUV/m	dBUV	dB/m	dB	dB	cm	deg
1 @	39.18	31.57	-8.43	40.00	43.73	15.28	1.23	28.66	400	0 Peak
2 @	58.08	29.55	-10.45	40.00	49.79	7.21	1.20	28.64	400	0 Peak
3 @	71.58	32.43	-7.57	40.00	53.33	6.41	1.39	28.69	145	330 Peak



Site : 03CH06-HY
 Condition : BI-LOG-2004-1122 VERTICAL
 EUT : 3G 手機(WLAN+BT)
 Power : 120Vac/60Hz
 Model : FR 681007
 Memo : 11b Tx_CH06,2437MHz
 Plane : E2
 Data Rate : 11

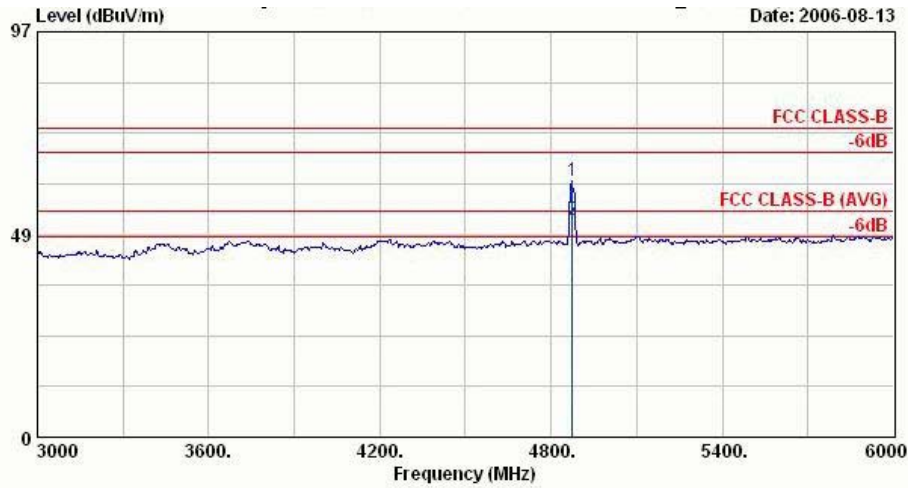
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBUV/m	dB	dBUV/m	dBUV	dB/m	dB	dB	cm	deg
1	817.30	30.02	-15.98	46.00	31.88	21.56	5.55	28.96	100	0 Peak
2	964.30	30.92	-23.08	54.00	31.90	21.88	5.99	28.86	100	0 Peak
3	1000.00	31.80	-22.20	54.00	31.38	22.97	6.24	28.79	100	0 Peak



Site : 03CH06-HY
 Condition : HF-ANT-060410 VERTICAL
 EUT : 3G 手機(WLAN+BT)
 Power : 120Vac/60Hz
 Model : FR 681007
 Memo : 11b Tx_CH06,2437MHz
 Plane : E2
 Data Rate : 11

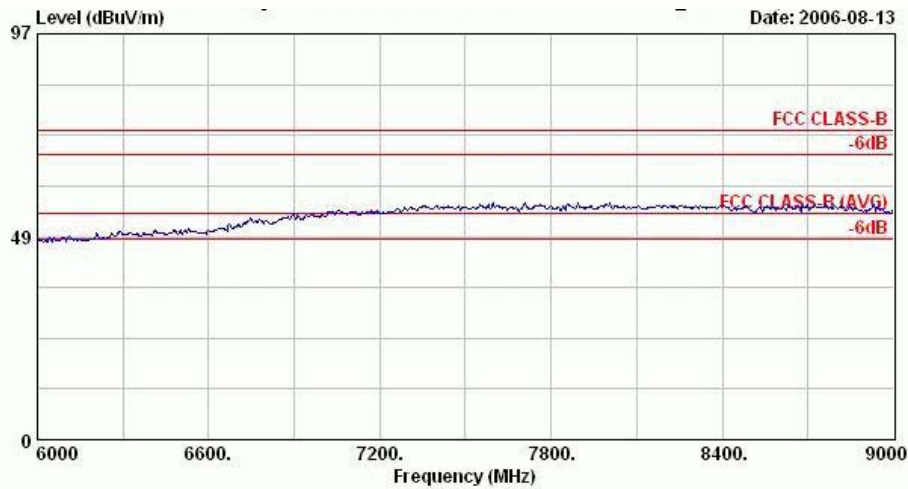
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	
			dB	dBuV/m	dBuV	dB	dB	cm	deg	
1	2318.00	49.96	-24.04	74.00	50.96	30.23	4.17	35.40	100	360 Peak
2 @	2318.00	44.42	-9.58	54.00	45.42	30.23	4.17	35.40	109	96 Average
3 @	2437.00	99.47			100.38	30.28	4.29	35.47	100	360 Peak
4 @	2437.00	94.64			95.54	30.28	4.29	35.47	109	96 Average
5	2484.00	49.74	-24.26	74.00	50.60	30.29	4.36	35.51	100	360 Peak
6 @	2484.00	44.60	-9.40	54.00	45.46	30.29	4.36	35.51	109	96 Average

Remark: #3 and #4 Fundamental Signal



Site : 03CH06-HY
 Condition : HF-ANT-060410 VERTICAL
 EUT : 3G 手機(WLAN+BT)
 Power : 120Vac/60Hz
 Model : FR 681007
 Memo : 11b Tx_CH06,2437MHz
 Plane : E2
 Data Rate : 11

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	4874.00	61.14	-12.86	74.00	57.86	33.14	6.30	36.16	200	360	Peak
2 @	4874.00	51.89	-2.11	54.00	48.61	33.14	6.30	36.16	100	167	Average



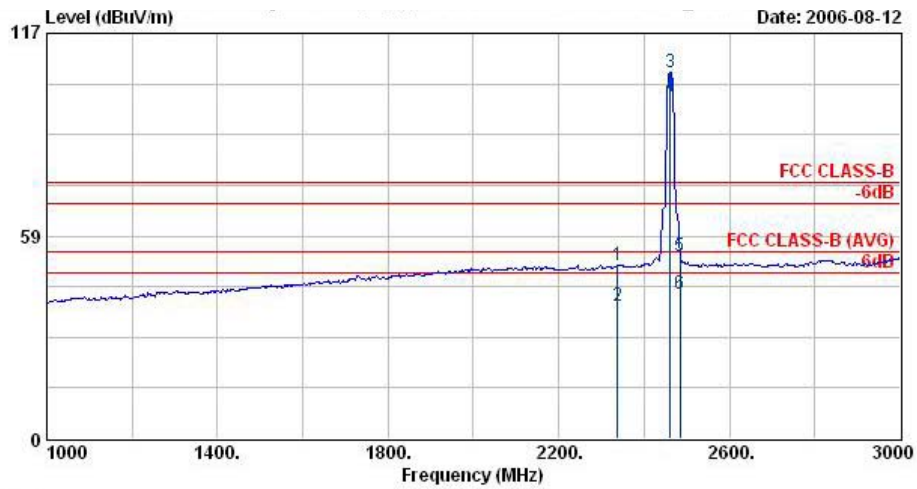
Site : 03CH06-HY
 Condition : HF-ANT-060410 VERTICAL
 EUT : 3G 手機(WLAN+BT)
 Power : 120Vac/60Hz
 Model : FR 681007
 Memo : 11b Tx_CH06,2437MHz
 Plane : E2
 Data Rate : 11

Remark: There is no more obvious spurious emission except the listings above.



- Test Mode : Mode 3
- Polarization : Horizontal

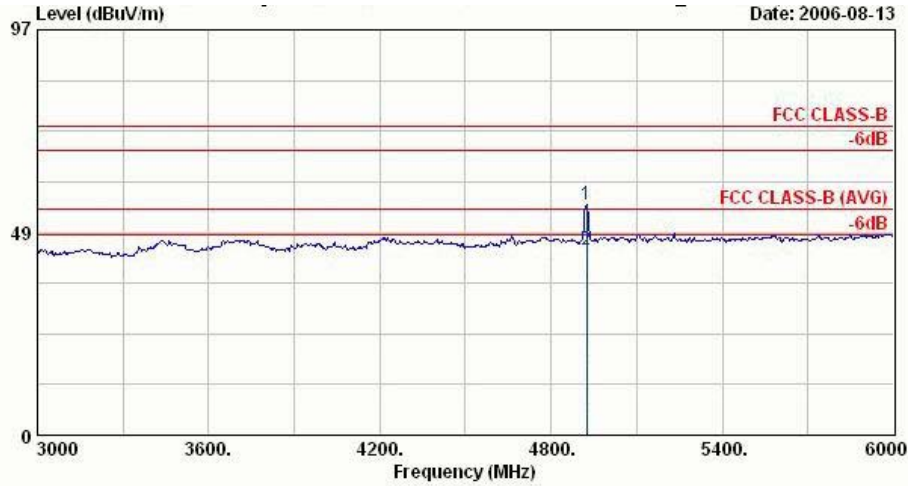
The test that passed at minimum margin was marked by the frame in the following table.



Site : 09CH06-HY
 Condition : HF-ANT-060410 HORIZONTAL
 EUT : 3G 手機(WLAN+BT)
 Power : 120Vac/60Hz
 Model : FR 681007
 Memo : 11b Tx_CH11,2462MHz
 Plane : E2
 Data Rate : 11

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	cm	deg	
1	2338.00	50.09	-23.91	74.00	51.09	30.24	4.17	35.40	100	0 Peak
2	2338.00	38.22	-15.78	54.00	39.22	30.24	4.17	35.40	100	351 Average
3 @	2462.00	105.59			106.47	30.29	4.33	35.49	100	0 Peak
4 @	2462.00	98.62			99.50	30.29	4.33	35.49	100	351 Average
5	2483.50	52.76	-21.24	74.00	53.62	30.29	4.36	35.51	100	0 Peak
6	2483.50	41.97	-12.03	54.00	42.83	30.29	4.36	35.51	100	351 Average

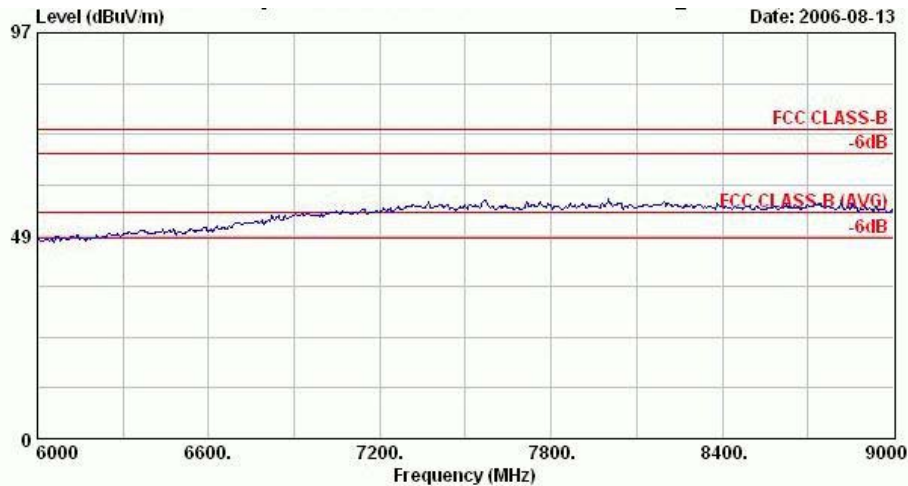
Remark: #3 and #4 Fundamental Signal



Date: 2006-08-13

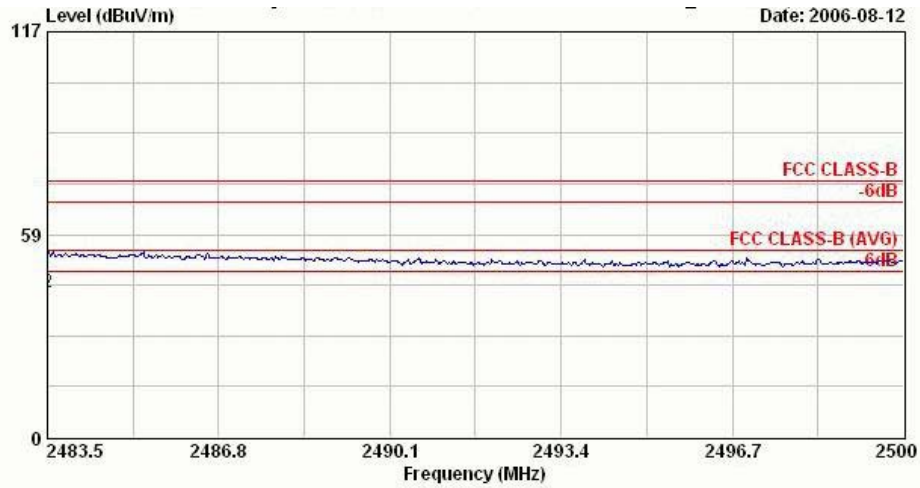
Site : 03CH06-HY
 Condition : HF-ANT-060410 HORIZONTAL
 EUT : 3G 手機(WLAN+BT)
 Power : 120Vac/60Hz
 Model : FR 681007
 Memo : 11b Tx_CH11,2462MHz
 Plane : E2
 Data Rate : 11

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	4924.00	55.14	-18.86	74.00	51.65	33.34	6.36	36.21	200	0	Peak
2 @	4924.00	44.38	-9.62	54.00	40.89	33.34	6.36	36.21	100	13	Average



Date: 2006-08-13

Site : 03CH06-HY
 Condition : HF-ANT-060410 HORIZONTAL
 EUT : 3G 手機(WLAN+BT)
 Power : 120Vac/60Hz
 Model : FR 681007
 Memo : 11b Tx_CH11,2462MHz
 Plane : E2
 Data Rate : 11



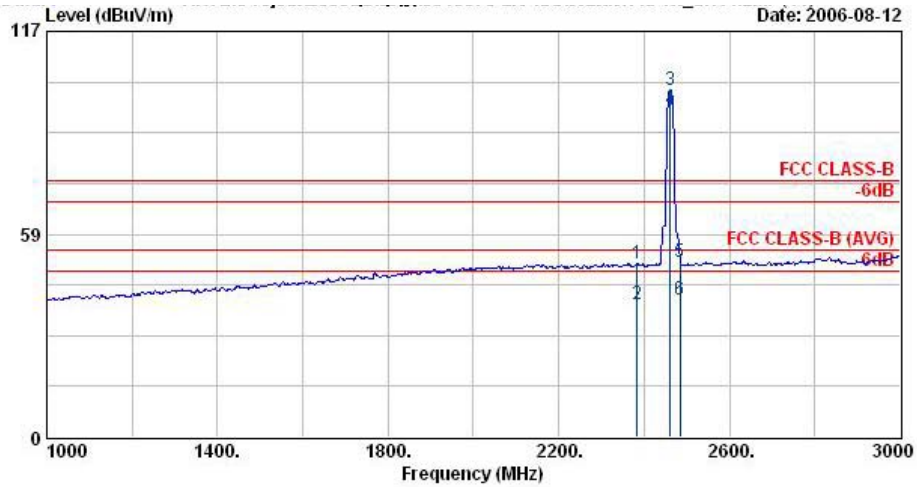
Site : 03CH06-HY
 Condition : HF-ANT-060410 HORIZONTAL
 EUT : 3G 手機(WLAN+BT)
 Power : 120Vac/60Hz
 Model : FR 681007
 Memo : 11b Tx_CH11;2462MHz
 Plane : E2
 Data Rate : 11

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2483.50	52.76	-21.24	74.00	53.62	30.29	4.36	35.51	100	0	Peak
2	2483.50	41.97	-12.03	54.00	42.83	30.29	4.36	35.51	100	351	Average



- Polarization : Vertical

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



Site : 03CH06-HY
 Condition : HF-ANT-060410 VERTICAL
 EUT : 3G 手機(WLAN+BT)
 Power : 120Vac/60Hz
 Model : FR 681007
 Memo : 11b Tx_CH11_2462MHz
 Plane : E2
 Data Rate : 11

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	cm	deg	
1	2384.00	50.08	-23.92	74.00	51.03	30.25	4.23	35.44	100	360 Peak
2	2384.00	38.30	-15.70	54.00	39.26	30.25	4.23	35.44	106	95 Average
3 @	2462.00	100.15			101.03	30.29	4.33	35.49	100	360 Peak
4 @	2462.00	94.31			95.19	30.29	4.33	35.49	106	95 Average
5	2483.50	50.42	-23.58	74.00	51.28	30.29	4.36	35.51	100	360 Peak
6	2483.50	39.60	-14.40	54.00	40.46	30.29	4.36	35.51	106	95 Average

Remark: #3 and #4 Fundamental Signal