



FCC Test Report

for

47 CFR Part 15 Subpart C

Equipment : 3G GPS PDA Phone

Trade Name : 1. ASUS
2. Vodafone

Model No. : 1. P550
2. 1520

FCC ID : MSQ-1520

Filing Type : Certification

Applicant : ASUSTek COMPUTER INC.
4F., No. 150, Li-Te Rd., Peitou, Taipei, Taiwan

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- **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 Aug. 16, 2007 at **Sporton International Inc. LAB.**
- Report No.: FR780803, Report Version: Rev. 01.

Jones Tsai
Manager

SPORTON International Inc.

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



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History of this test report

Report Issue Date: Sep. 07, 2007

Report No.	Description



1. General Description of Equipment under Test

1.1 Applicant

ASUSTek COMPUTER INC.

4F., No. 150, Li-Te Rd., Peitou, Taipei, Taiwan

1.2 Manufacturer

1. ASUSTek COMPUTER INC.

4F., No. 150, Li-Te Rd., Peitou, Taipei, Taiwan

2. ASUS SHANGHAI PARK Protek (ShangHai) Limited

NO. 3668 Xiu Yan Rd., Kang Qiao Town, Nan Hui Dist, Shang Hai P.C.: 201319

**1.3 Basic Description of Equipment under Test**

Equipment		3G GPS PDA Phone
Trade Name		1. ASUS 2. Vodafone
Model Name		1. P550 2. 1520
AC Adapter 1	Brand Name	TPT
	Model Name	JSP050090UU
	Power Rating	I/P:100-240Vac, 50-60Hz, 0.3A; O/P: 5Vdc, 0.9mA, 4.5W
	AC Power Cord Type	1.6 meter non-shielded cable without ferrite core
AC Adapter 2	Brand Name	PI
	Model Name	P005WA05OW
	Power Rating	I/P:100-240Vac, 50-60Hz, 0.15A; O/P: 5Vdc, 0.9mA, 4.5W
	AC Power Cord Type	1.6 meter non-shielded cable without ferrite core
Car Charger	Brand Name	ASUS
	P/N	04G267011910
	Power Rating	I/P: 12V/24V; O/P: 5V, 900mA
	Power Cord Type	1.7 meter non-shielded cable without ferrite core
Battery	Brand Name	ASUS
	Model Name	SBP-14
	Rating	3.7Vdc, 1530mA
	Type	Li-ion
Earphone	Brand Name	COTRON
	P/N	04G170022100
	Signal line Type	1.7 meter non-shielded cable without ferrite core
USB Cable	Brand Name	FOXCONN
	P/N	14G000506200
	Signal line Type	1 meter shielded cable without ferrite core
Holster	Brand Name	ASUS
	P/N	15G180904600

Remark: Above EUT's information was declared by manufacturer. Please refer to the specifications of manufacturer or User's Manual for more detailed features description.

**1.4 Feature of Equipment under Test**

Product Feature & Specification				
1. Type of Modulation	WLAN: DSSS / OFDM Bluetooth: GFSK			
2. Number of Channels	WLAN: 11 Channels Bluetooth : 79 Channels			
3. Frequency Band	WLAN: 2400MHz~2483.5MHz Bluetooth: 2400MHz~2483.5MHz			
4. Carrier Frequency of each channel	WLAN: $2412 + (n - 1) * 5\text{MHz}$; $n=1-11$ Bluetooth: $2402 + n * 1\text{ MHz}$, $n= 0\sim78$			
5. Channel Spacing	WLAN: 5MHz Bluetooth: 1MHz			
6. Maximum Output Power to Antenna (Normal Condition)	WLAN: 802.11b : 13.66 dBm / 802.11g: 17.69 dBm Bluetooth: 2.08dBm			
7. HW Version :	1.1			
8. SW Version :	V3.0.0			
9. Type of Antenna Connector	N/A			
10. Antenna Type	WLAN: PIFA Antenna Bluetooth: PIFA Antenna			
11. Antenna Gain	WLAN: -5 dBi Bluetooth: -5 dBi			
12. Function Type	Transmitter		Transceiver	V



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.
- 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.
- For radiated measurements, the results were the maximum of those obtained in 3 orthogonal axes and only showed the worst data in this report.

2.2 Test Mode

Application			
Radiated Emission / RF Conducted	802.11b	802.11g	BT
	Mode1:CH01_2412MHz	Mode4:CH01_2412MHz	Mode7:CH00_2402MHz
	Mode2:CH06_2437MHz	Mode5:CH06_2437MHz	Mode8:CH39_2441MHz
	Mode3:CH11_2462MHz	Mode6:CH11_2462MHz	Mode9:CH78_2480MHz
Conducted Emission	Mode 1: PCS1900 Idle Mode + WLAN Link + BT Link + Earphone + Camera + MPEG4 + GPRS Rx + Adapter 1		
	Mode 2: PCS1900 Idle Mode + WLAN Link + BT Link + Earphone + Camera + MPEG4 + GPRS Rx + Adapter 2		
	Mode 3: PCS1900 Idle Mode + WLAN Link + BT Link + Earphone + Camera + MPEG4 + GPRS Rx + USB Link		

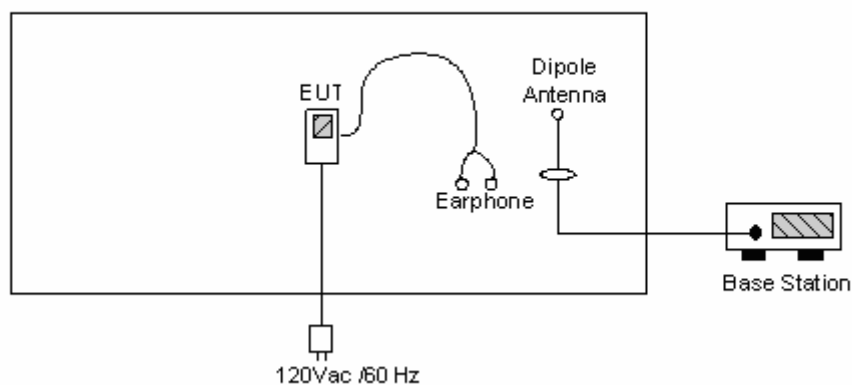
2.3 Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	FCC ID	Power Cord / Cable
1.	Notebook	DELL	D400	R33002	N/A
2.	WLAN AP	SMC	SMC-100	HEDWG4005ACC	1.8 m
3.	BT Base Station	Anritus	MT-8852B	N/A	N/A
4.	Bluetooth Earphone	Engotech	ET-BH111	PQY471087	N/A

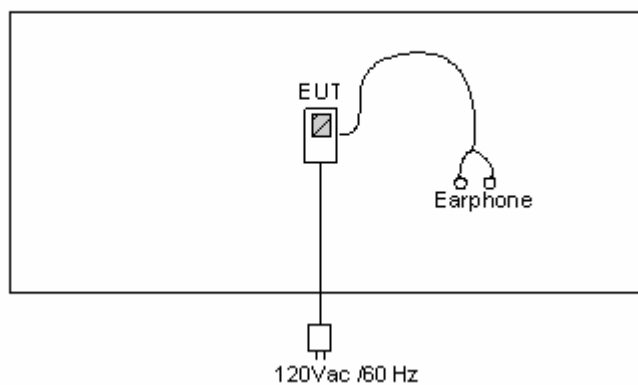
2.4 Connection Diagram of Test System

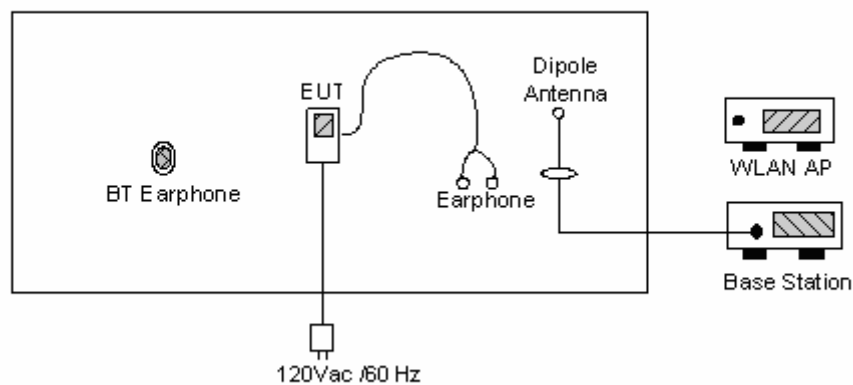
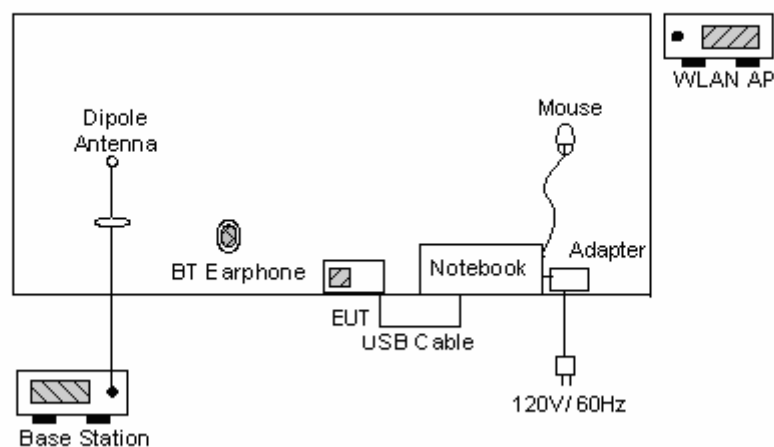
<Radiated Emission >

Bluetooth Tx Mode



WLAN Tx Mode



<Conducted Emission>
EUT with Adapter Mode

EUT with USB Link Mode




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 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, 03CH04-HY

4.1 Test Voltage

AC 120V / 60Hz

4.2 Standard for Methods of Measurement

ANSI C63.4-2003

4.3 Test Compliance

47 CFR Part 15 Subpart C

4.4 Frequency Range

- a. Conduction: from 150 kHz to 30 MHz
- b. 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
15.247(a) (1)	Hopping Channel Bandwidth	Pass
15.247(a)(1)	Hopping Channel Separation	Pass
15.247(a)(1)(iii)	Number of Hopping Frequency Used	Pass
15.247(a)(1)(iii)	Dwell Time of Each Frequency	Pass
15.247(b)	Output Power	Pass
15.247(c)	100kHz Bandwidth of Frequency Band Edges	Pass
15.209(a)	Radiated Emission	Pass
15.203 15.247(b)(4)	Antenna Requirement	Pass

5.2 6dB Bandwidth Measurement

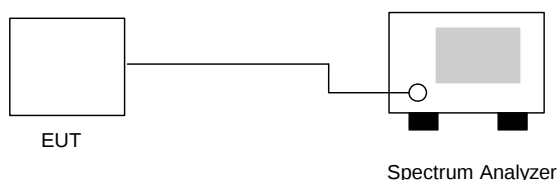
5.2.1 Measuring Instruments :

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 : 28~29°C

Relative Humidity : 51~52%

Test Enginner : Sun

802.11b

Channel	Frequency (MHz)	6dB Emission bandwidth (MHz)	Limits (MHz)	Plot Ref. No.
01	2412	10.08	> 0.5MHz	Mode 1
06	2437	9.52	> 0.5MHz	Mode 2
11	2462	10.08	> 0.5MHz	Mode 3

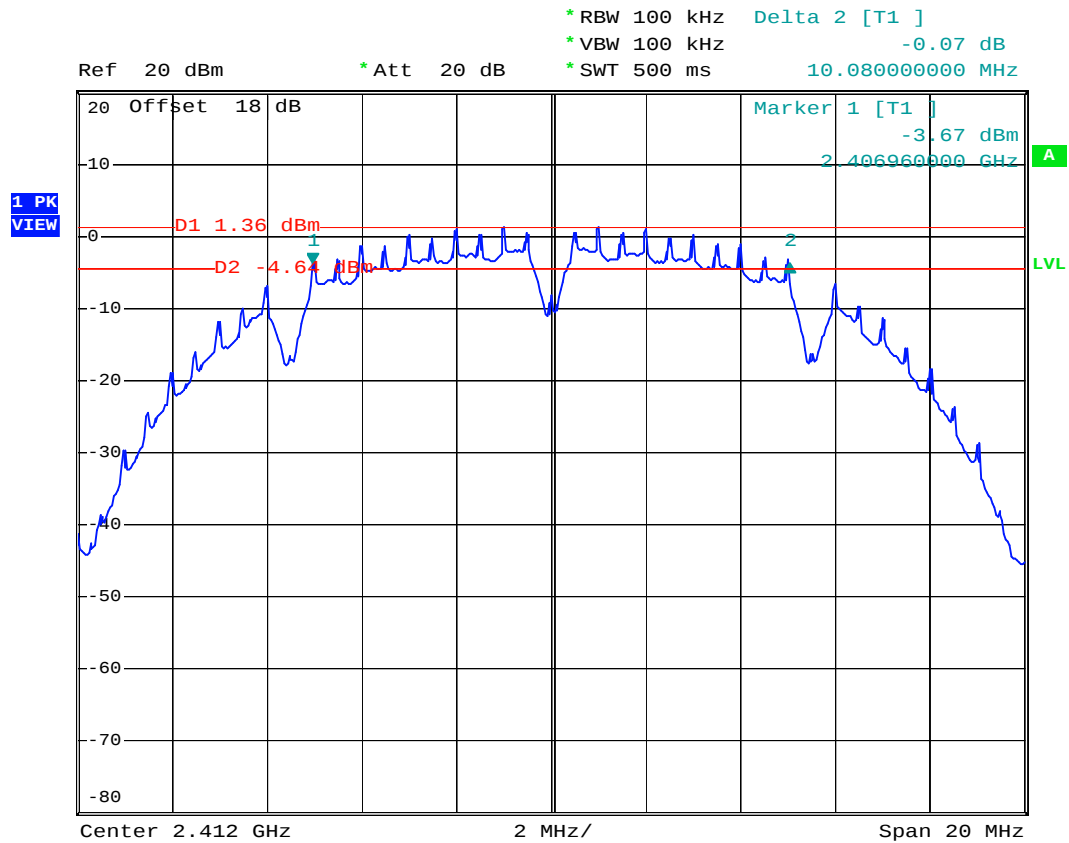
802.11g

Channel	Frequency (MHz)	6dB Emission bandwidth (MHz)	Limits (MHz)	Plot Ref. No.
01	2412	16.56	> 0.5MHz	Mode 4
06	2437	16.60	> 0.5MHz	Mode 5
11	2462	16.60	> 0.5MHz	Mode 6



5.2.5 6dB Bandwidth

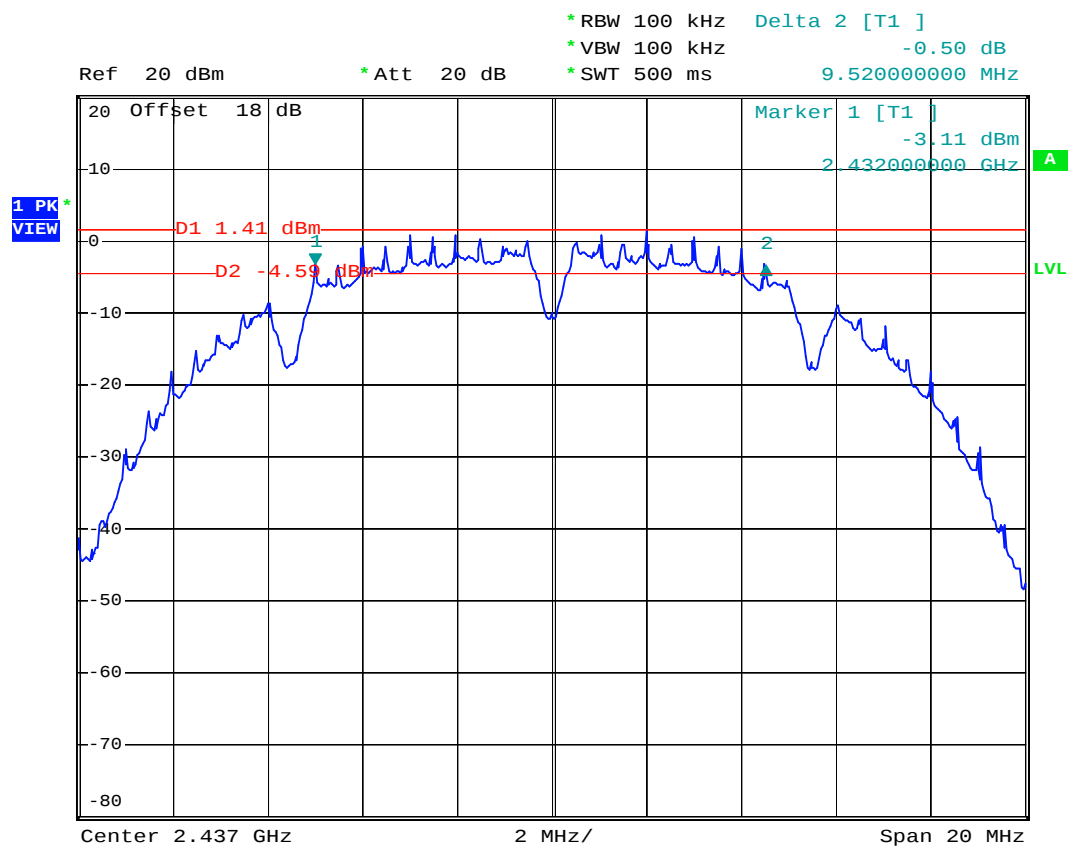
Mode 1



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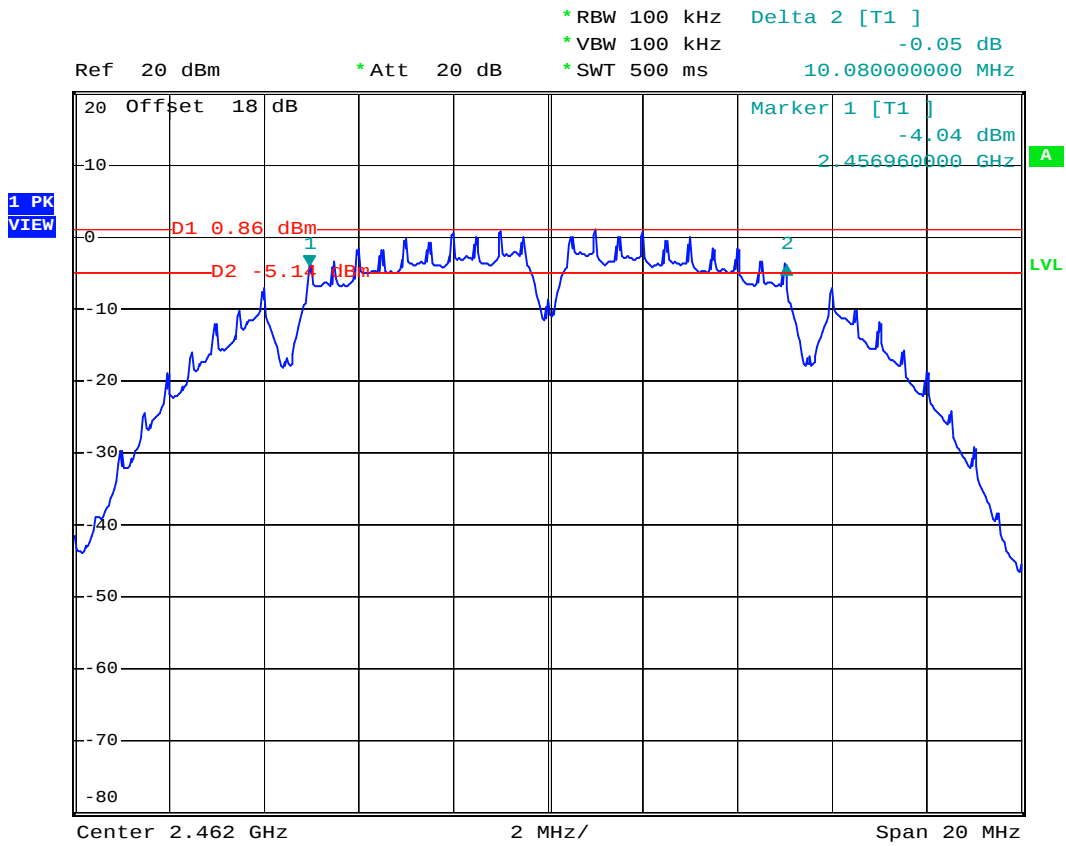
Mode 2



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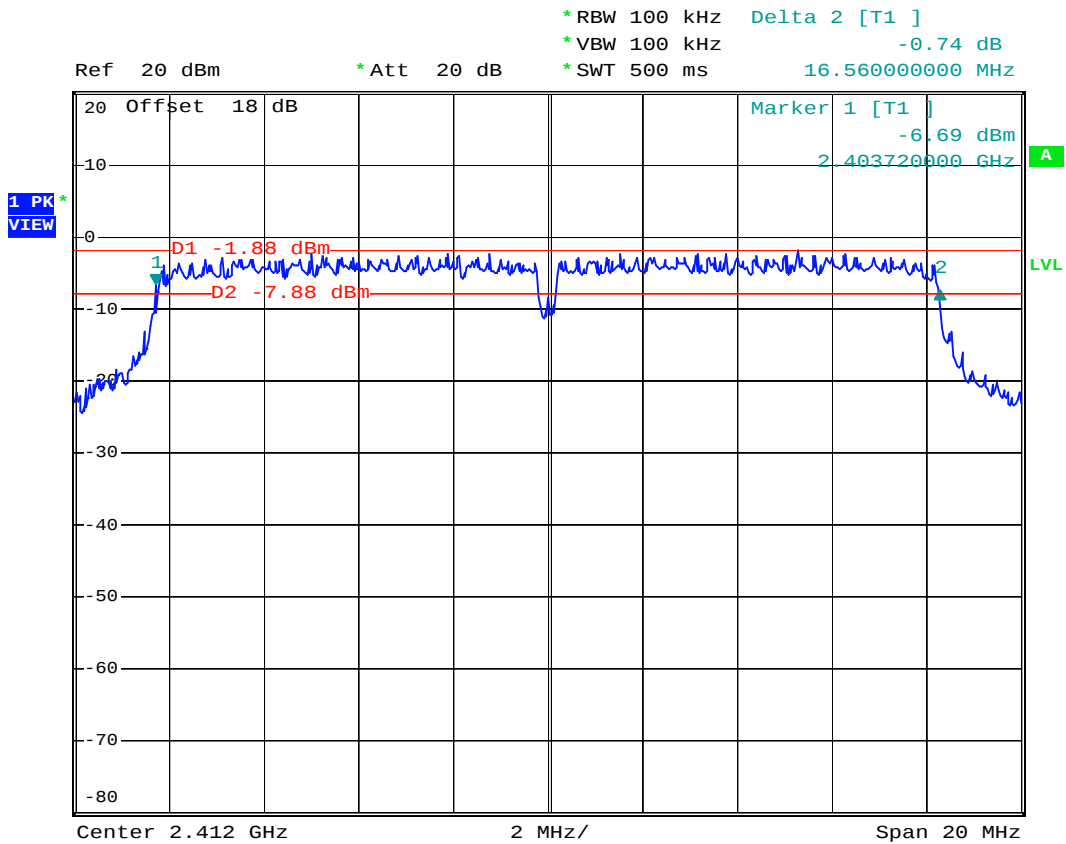
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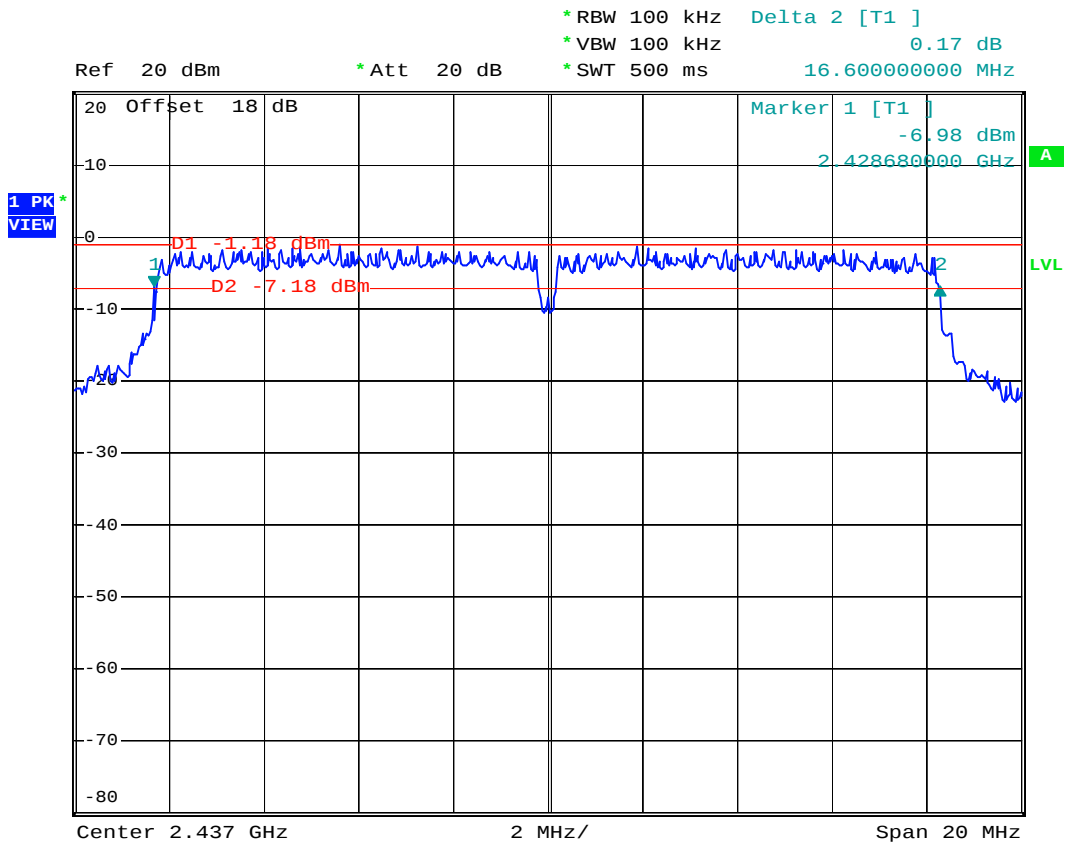
Mode 4



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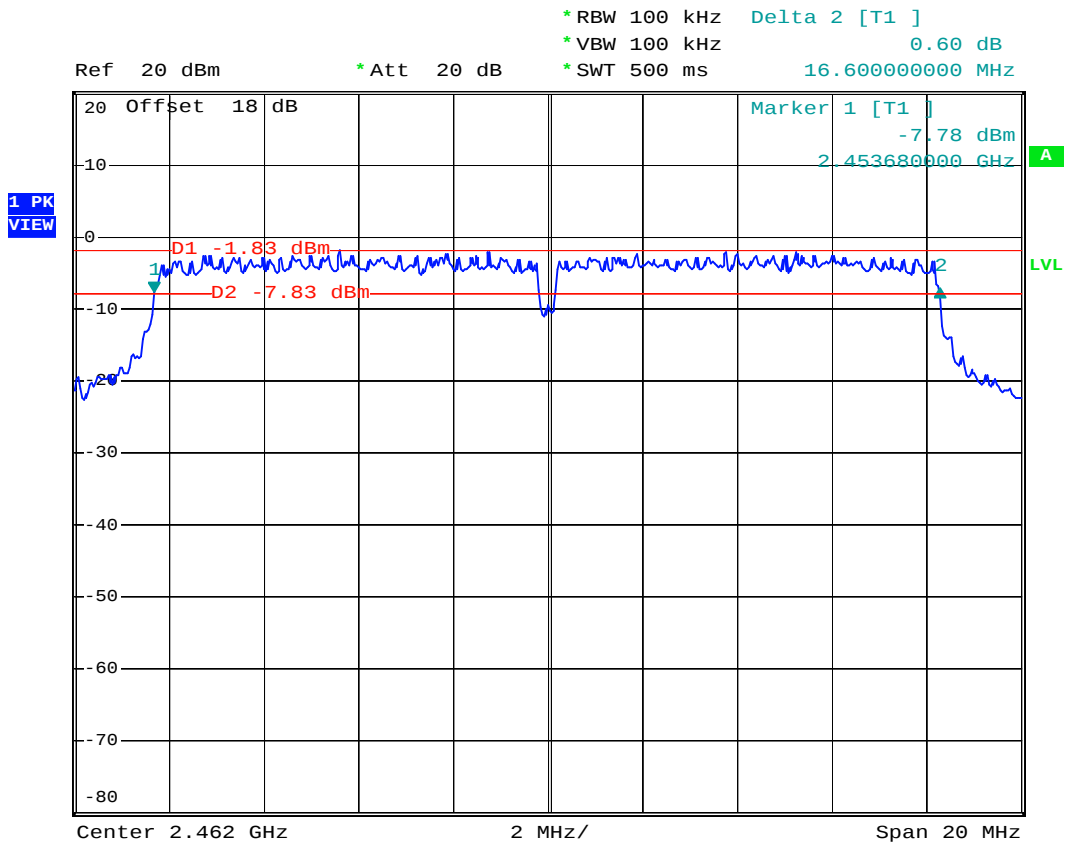
Mode 5



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Mode 6



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5.3 Power Spectral Density Measurement

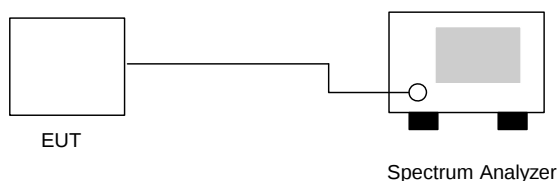
5.3.1 Measuring Instruments :

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 : 28~29°C

Relative Humidity : 51~52%

Test Enginner : Sun**802.11b**

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Plot Ref. No.
01	2412	-12.35	8	Mode 1
06	2437	-12.23	8	Mode 2
11	2462	-13.02	8	Mode 3

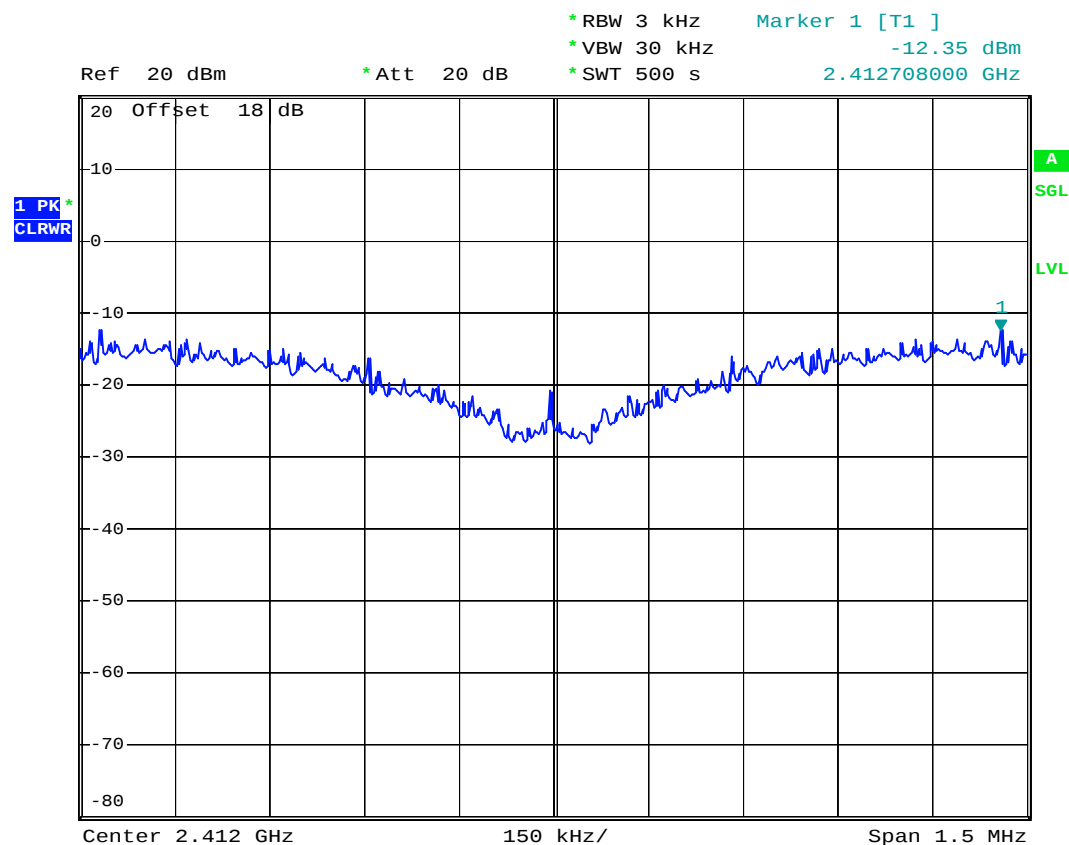
802.11g

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Plot Ref. No.
01	2412	-15.43	8	Mode 4
06	2437	-14.39	8	Mode 5
11	2462	-15.39	8	Mode 6



5.3.5 Power Spectral Density

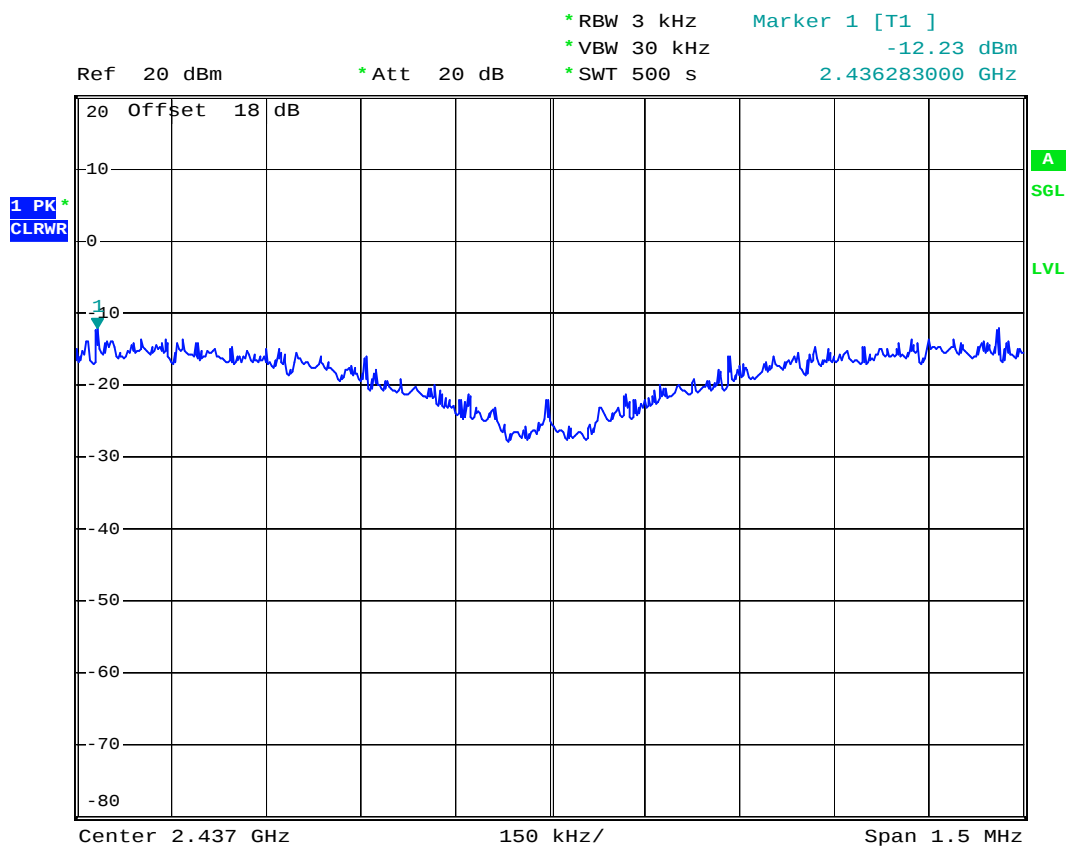
Mode 1



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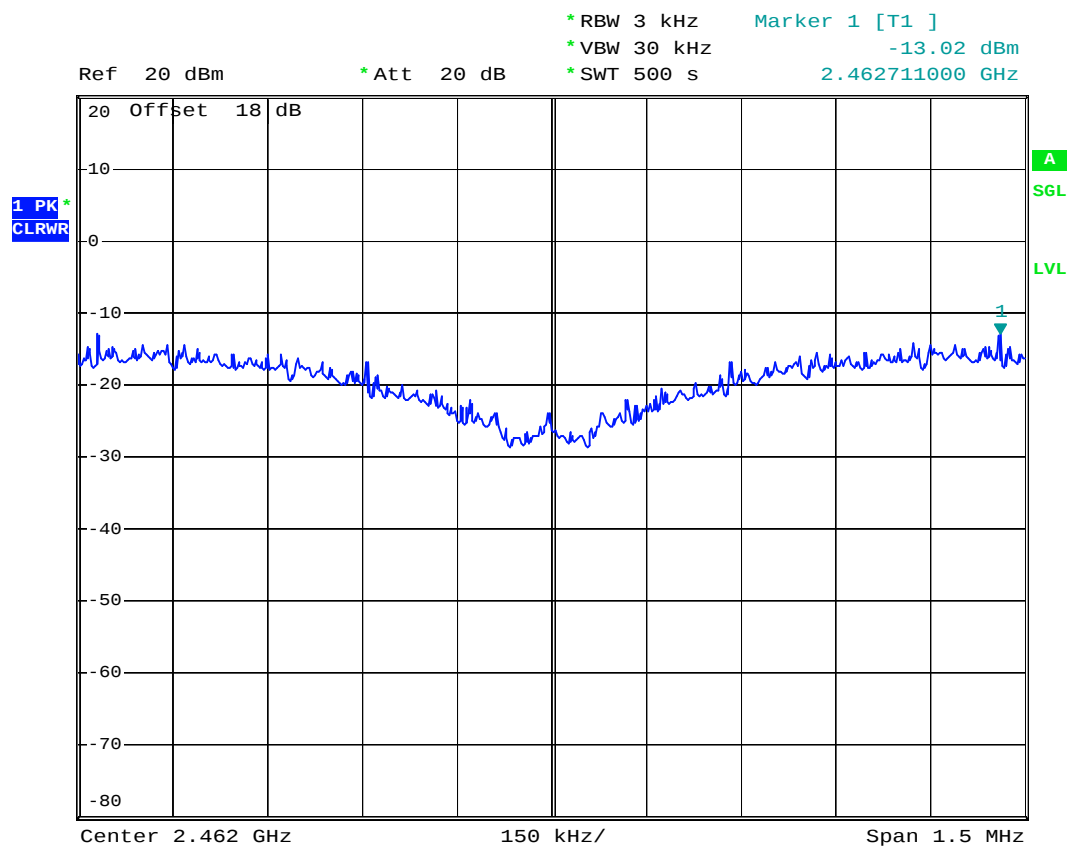
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Mode 3



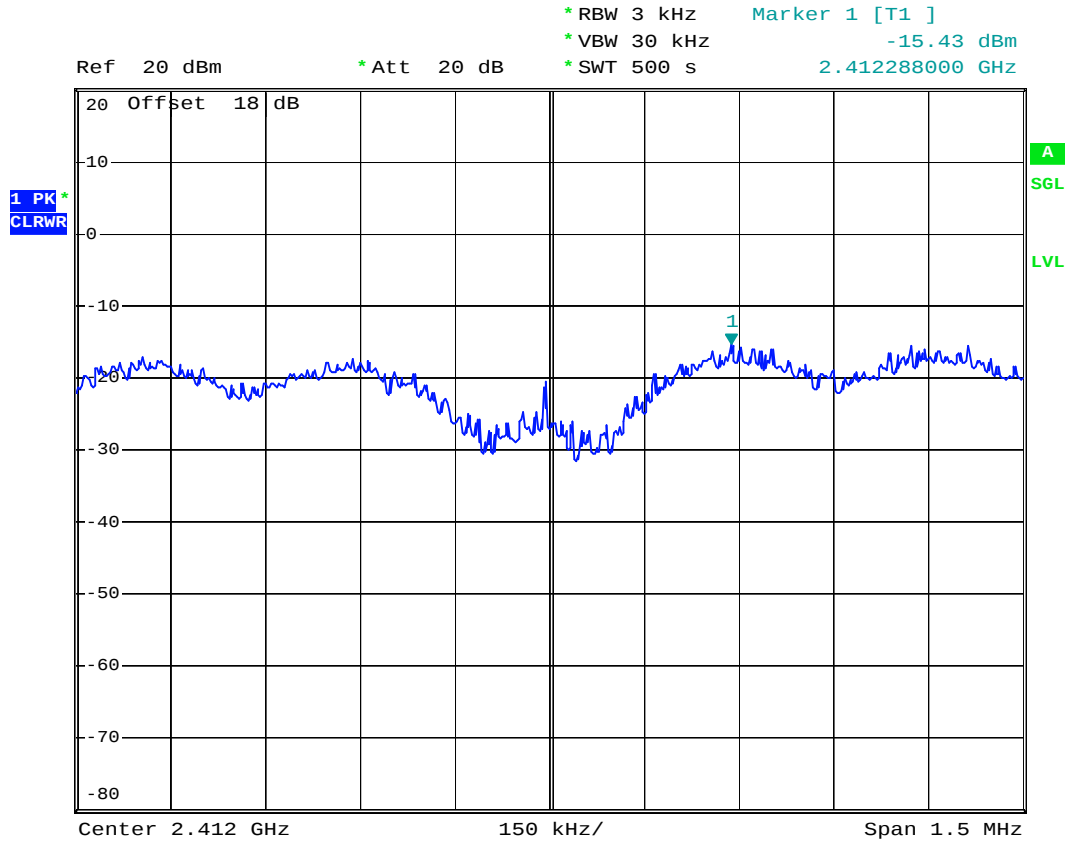
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FCC TEST REPORT

Report No. : FR780803

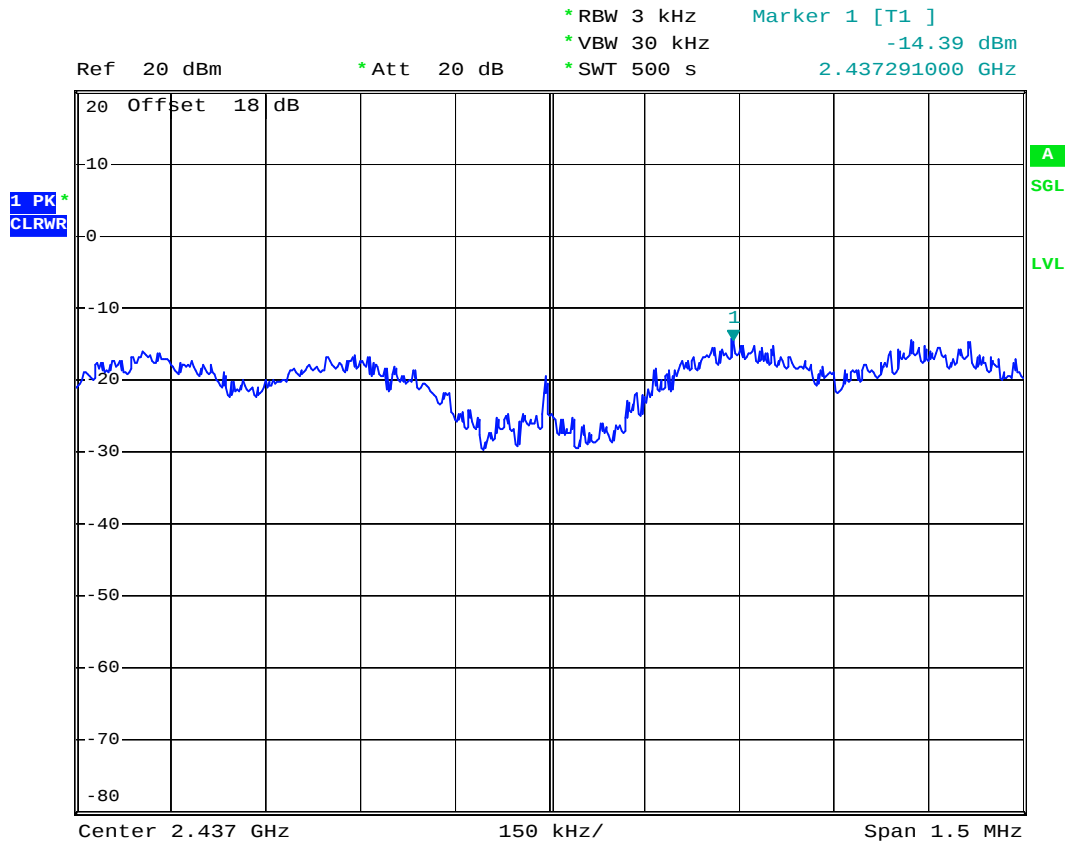
Mode 4



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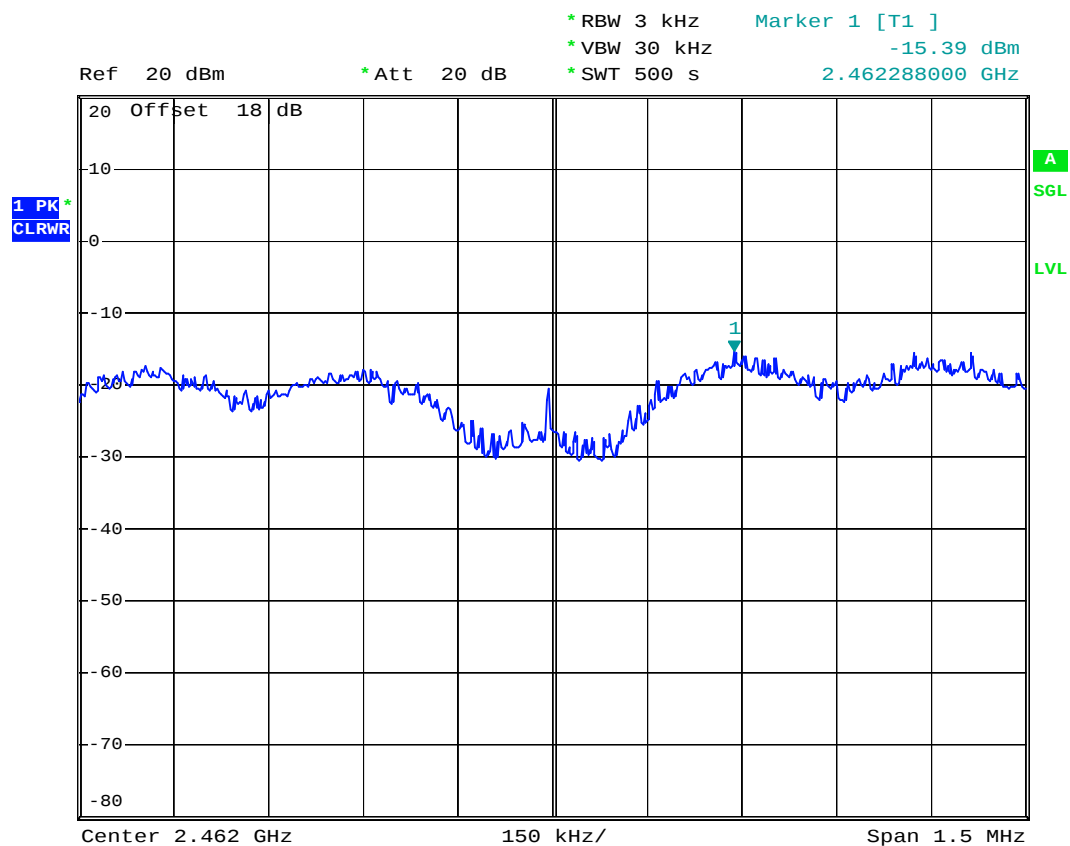
Mode 5



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Mode 6



Date: 13.AUG.2007 23:04:56



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 : 28~29°C

Relative Humidity : 51~52%

Test Enginner : Sun

Test Result in WLAN lower band (802.11b/g) : PASS

Test Result in WLAN higher band (802.11b/g) : PASS

Test Result in BT lower band : PASS

Test Result in BT higher band : 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)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2387.14	47.82	-26.18	74.00	49.79	28.07	3.74	33.78	100	0	Peak
2387.14	36.19	-17.81	54.00	38.15	28.07	3.74	33.78	124	277	Average

CH01 (Vertical)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2385.05	47.62	-26.38	74.00	49.59	28.07	3.74	33.78	100	0	Peak
2385.05	36.51	-17.49	54.00	38.51	28.03	3.74	33.78	100	323	Average

CH11 (Horizontal)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2487.46	45.63	-28.37	74.00	47.33	28.26	3.84	33.80	100	0	Peak
2487.46	32.12	-21.88	54.00	33.82	28.26	3.84	33.80	121	276	Average

CH11 (Vertical)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2491.45	44.35	-29.65	74.00	46.05	28.26	3.84	33.80	100	0	Peak
2491.45	31.60	-22.40	54.00	33.26	28.30	3.84	33.80	100	45	Average

**➤WLAN 802.11g****CH01 (Horizontal)**

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390.00	70.52	-3.48	74.00	72.49	28.07	3.74	33.78	100	0	Peak
2390.00	51.88	-2.12	54.00	53.85	28.07	3.74	33.78	122	277	Average

CH01 (Vertical)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390.00	70.20	-3.80	74.00	72.17	28.07	3.74	33.78	100	0	Peak
2390.00	51.54	-2.46	54.00	53.51	28.07	3.74	33.78	100	325	Average

CH11 (Horizontal)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.50	62.89	-11.11	74.00	64.59	28.26	3.84	33.80	100	0	Peak
2483.50	40.09	-13.91	54.00	41.79	28.26	3.84	33.80	101	89	Average

CH11 (Vertical)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.50	64.03	-9.97	74.00	65.73	28.26	3.84	33.80	100	0	Peak
2483.50	41.04	-12.96	54.00	42.74	28.26	3.84	33.80	100	229	Average

**➤ BT(1Mbps)**

CH00 (Horizontal)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2375.93	41.87	-32.13	74.00	43.84	28.07	3.74	33.78	100	0	Peak
2375.93	31.50	-22.50	54.00	33.53	28.03	3.71	33.78	100	331	Average

CH00 (Vertical)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2342.49	41.24	-32.76	74.00	43.36	27.96	3.69	33.77	100	0	Peak
2342.49	29.18	-24.82	54.00	31.30	27.96	3.69	33.77	100	195	Average

CH78 (Horizontal)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.50	51.46	-22.54	74.00	53.16	28.26	3.84	33.80	100	0	Peak
2483.50	42.32	-11.68	54.00	44.02	28.26	3.84	33.80	115	3	Average

CH78 (Vertical)

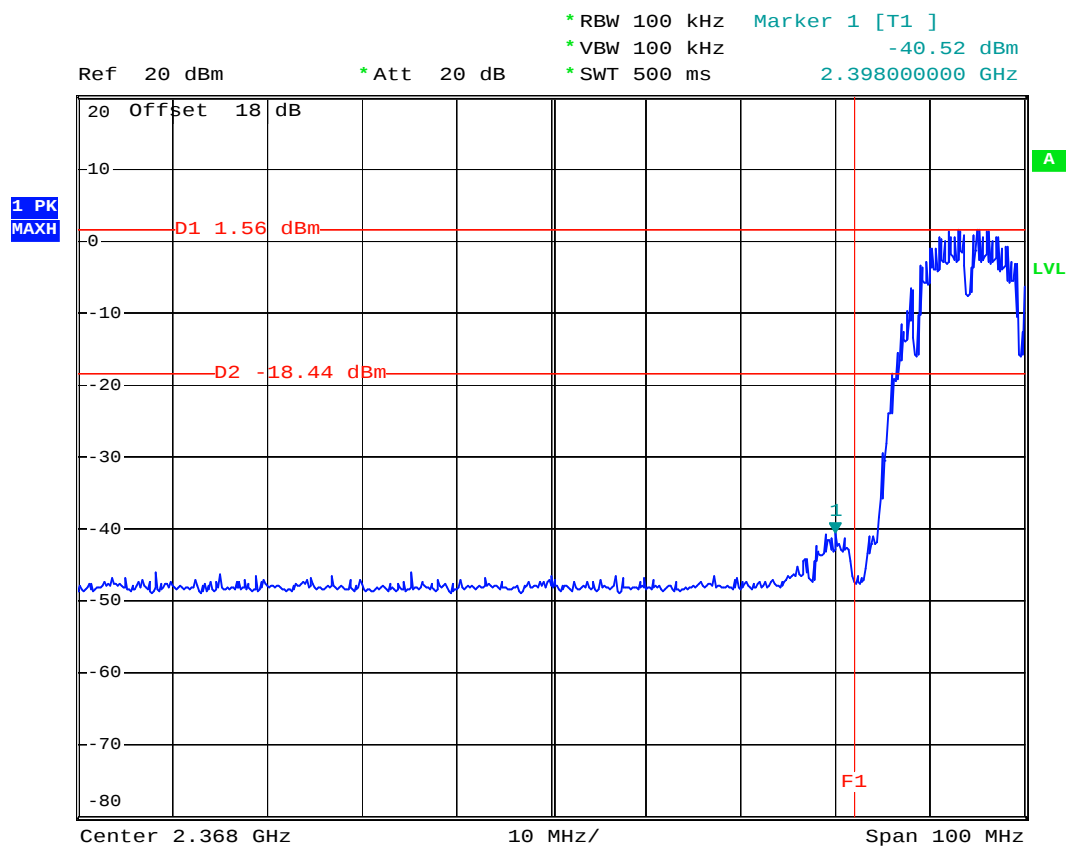
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.50	50.78	-23.22	74.00	52.48	28.26	3.84	33.80	100	0	Peak
2483.50	41.69	-12.31	54.00	43.39	28.26	3.84	33.80	100	190	Average



5.4.5 Band Edge

WLAN 802.11b

CH01

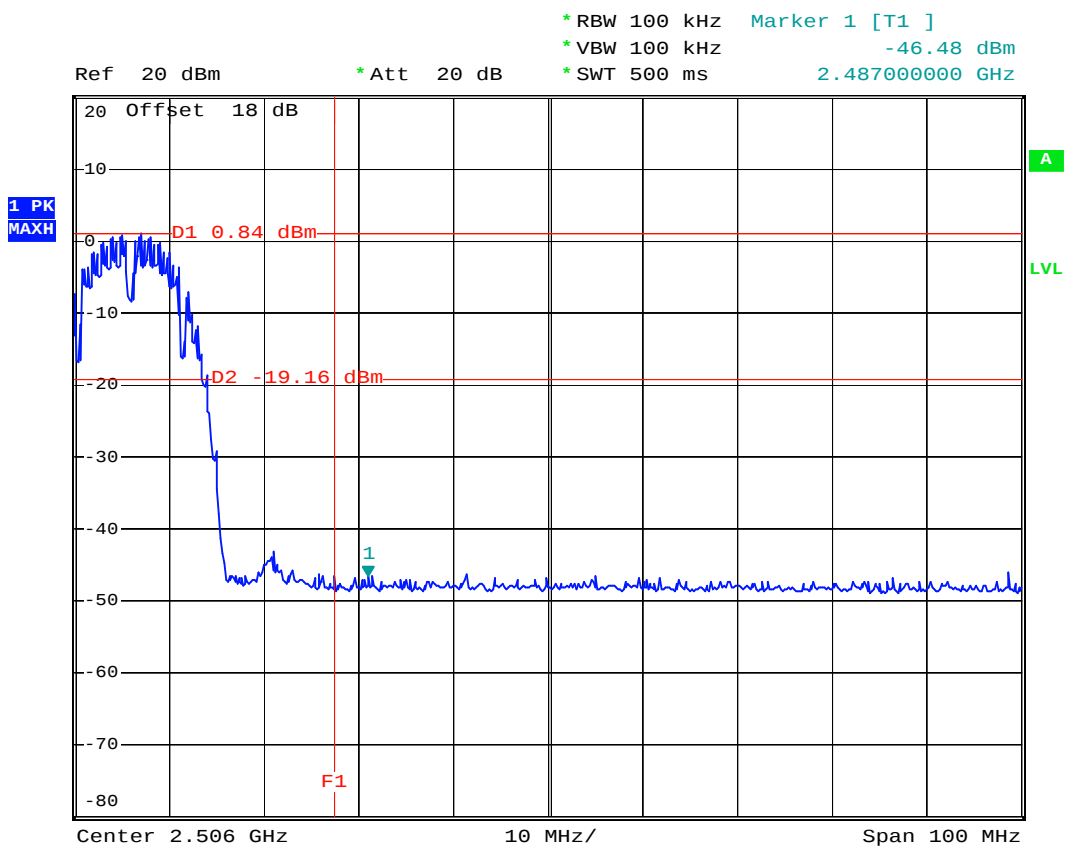


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WLAN 802.11b

CH11

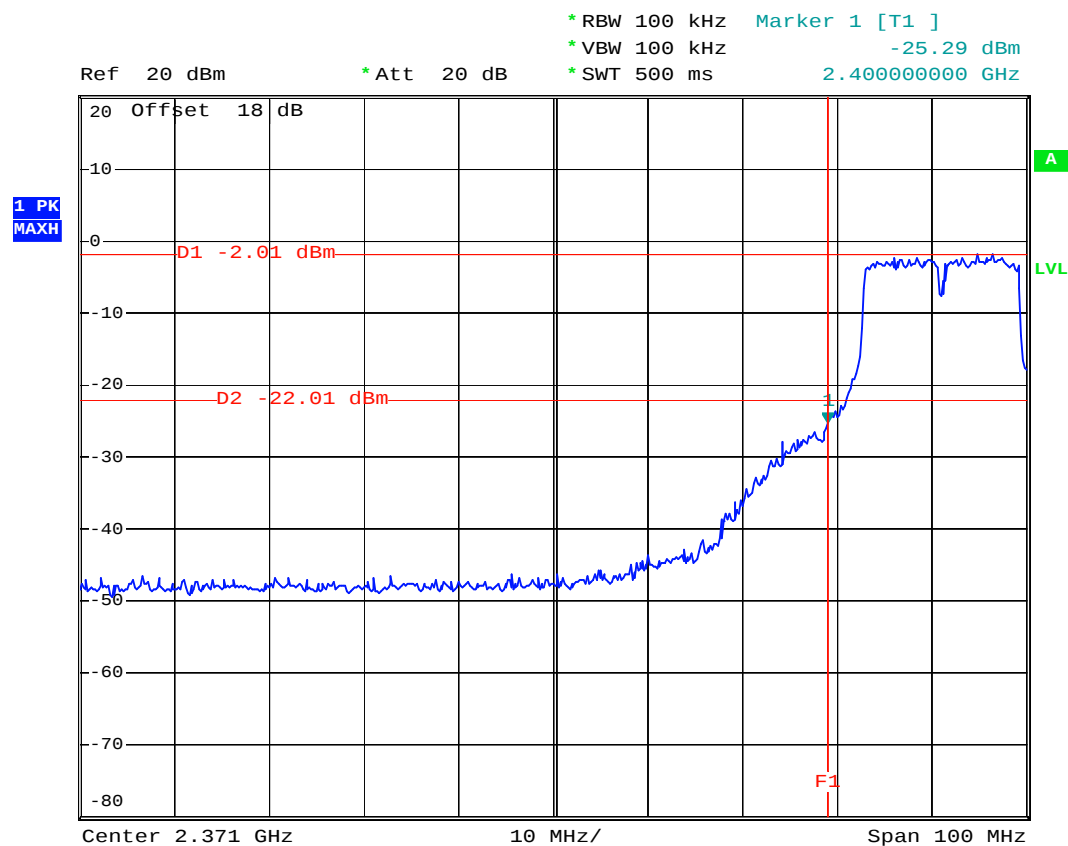


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WLAN 802.11g

CH01

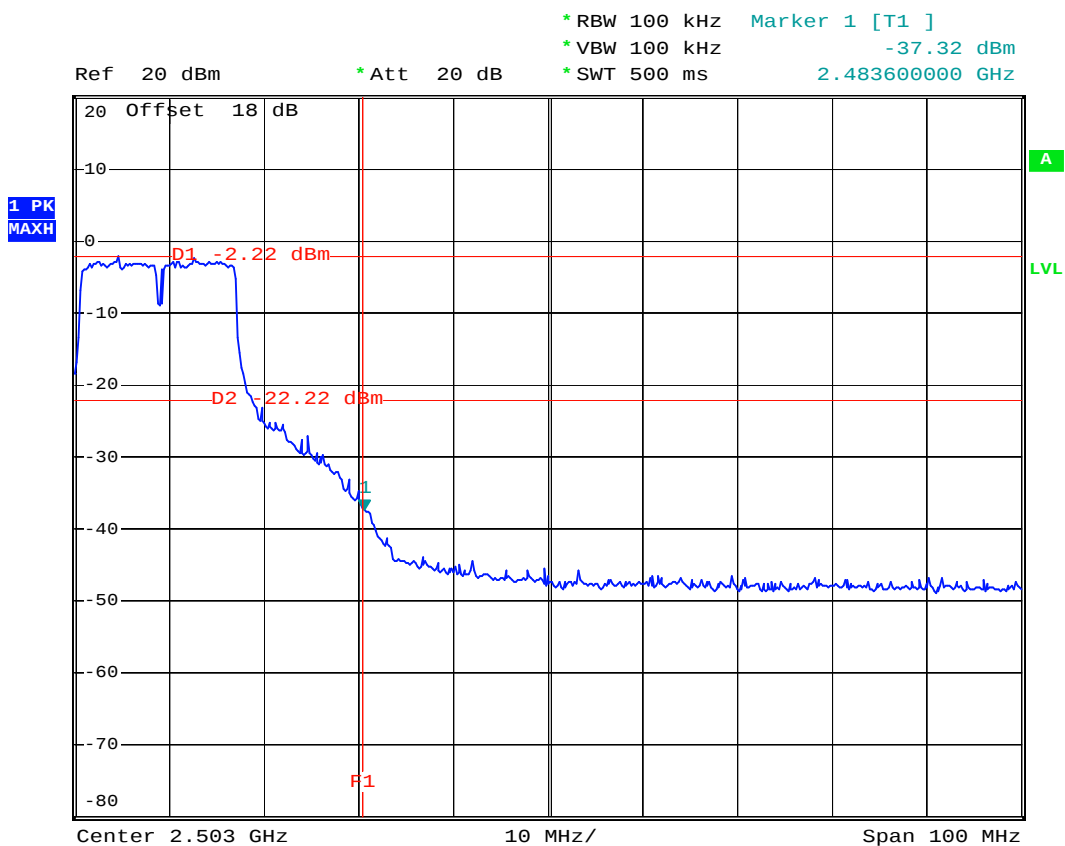


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WLAN 802.11g

CH11

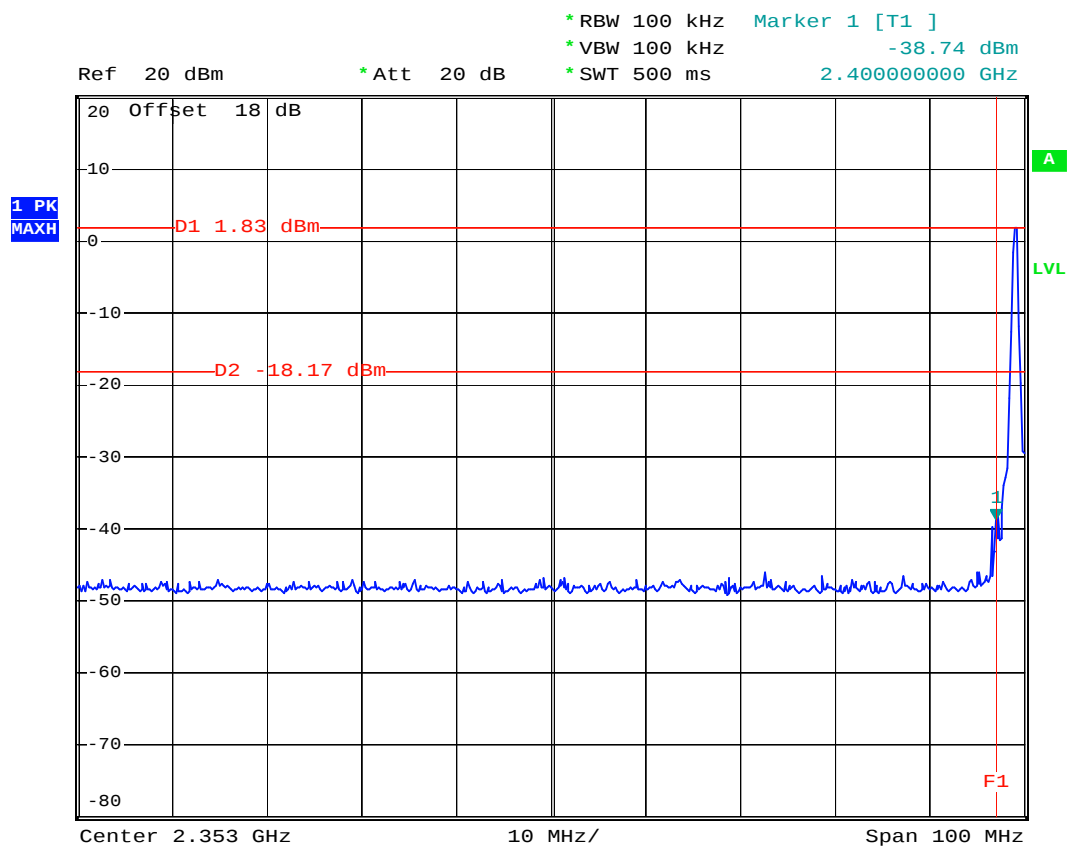


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BT

CH00

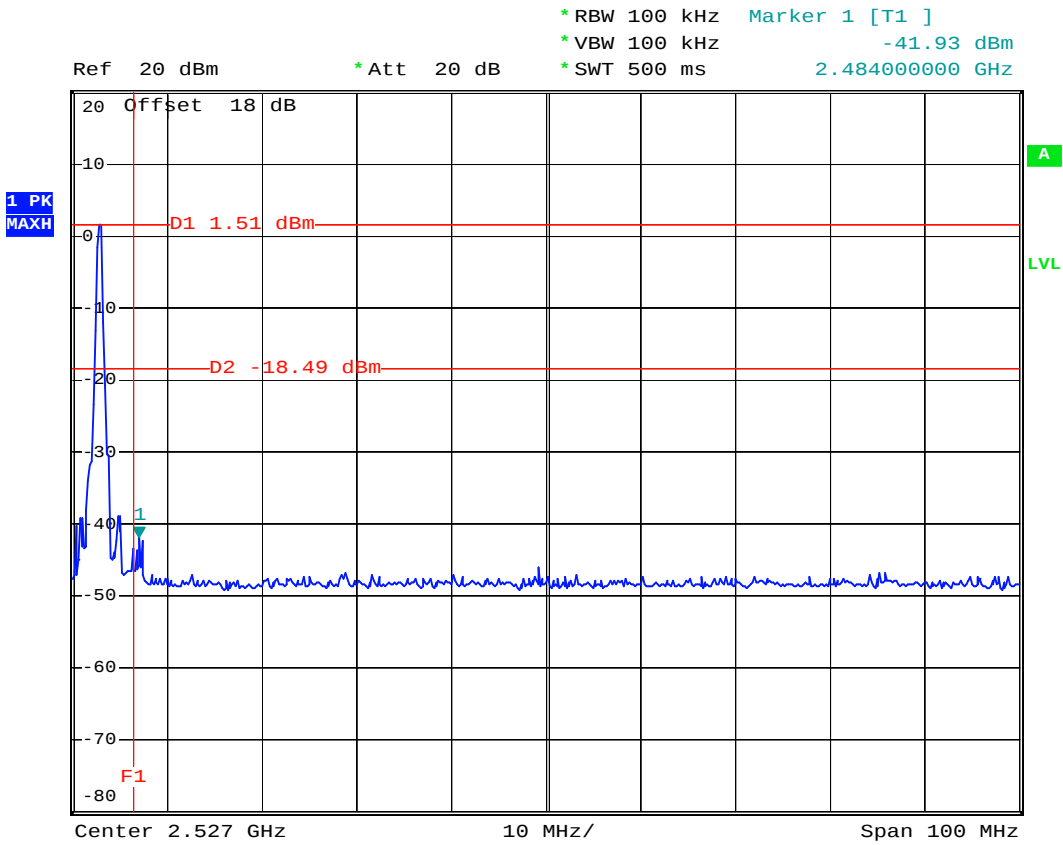


Date: 10.AUG.2007 14:50:54



BT

CH78



Date: 10.AUG.2007 14:47:20

5.5 Hopping Channel Separation

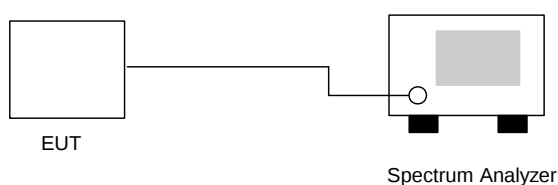
5.5.1 Measuring Instruments :

As described in chapter 6 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 $\geq 1\%$ of the span and VBW $\geq$ RBW.
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 : 28~29°C

Relative Humidity : 51~52%

Test Enginner : Sun

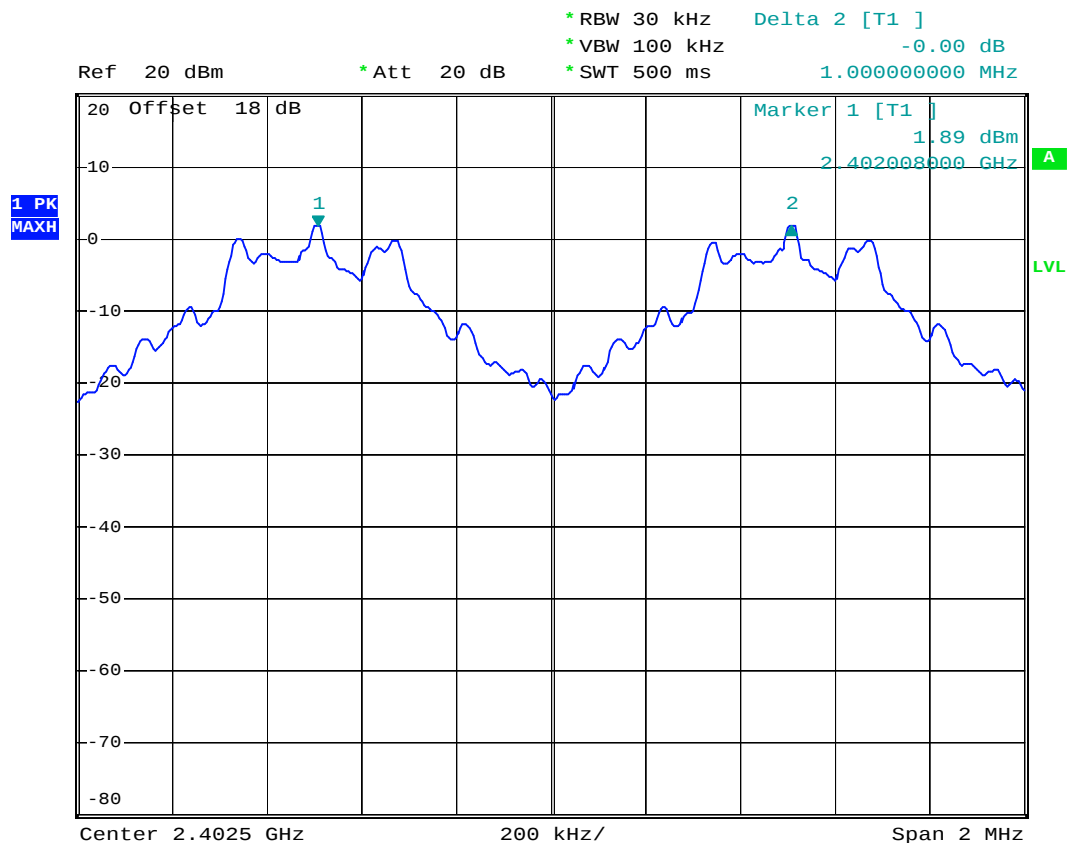
Channel	Frequency (MHz)	Carrier Frequency Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.000	0.550	Mode 7
39	2441	1.004	0.552	Mode 8
78	2480	1.000	0.550	Mode 9

Note: Hopping Channel Separation shall be greater 2/3 of 20dB bandwidth. Refer the result of 20dB bandwidth to section 5.7.



5.5.5 Hopping Channel Separation

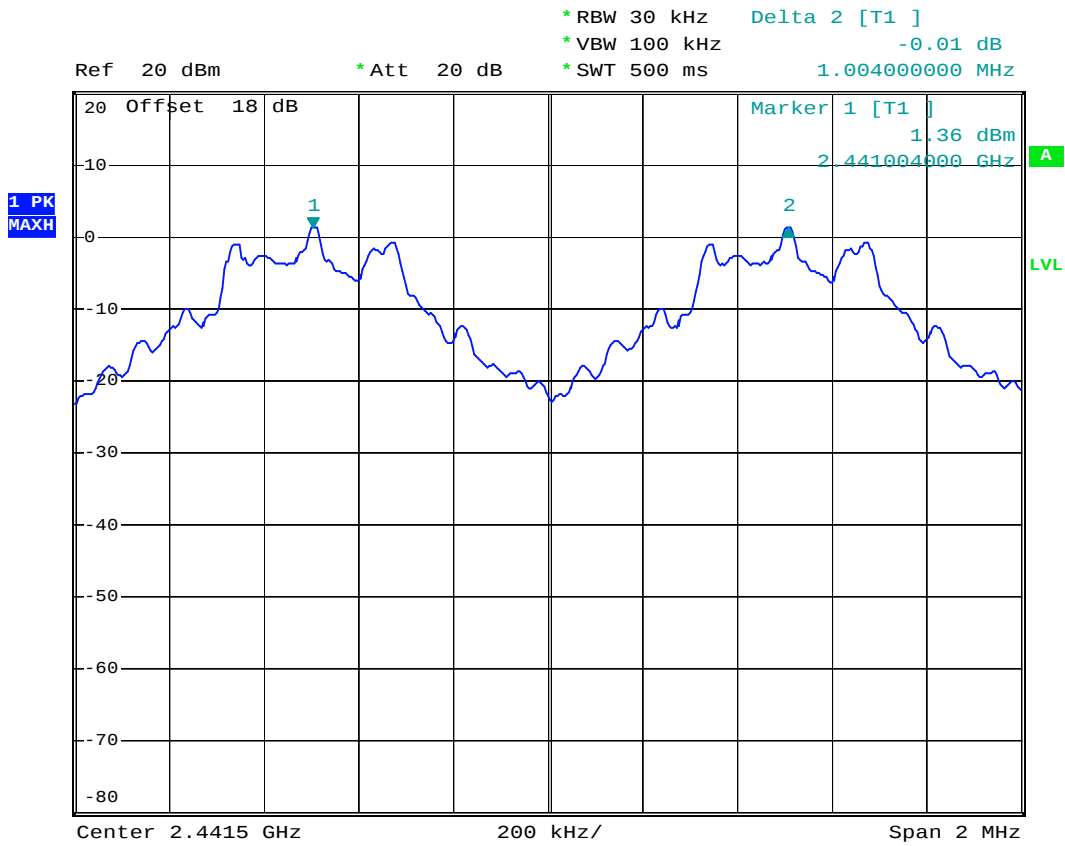
Mode 7



Date: 10.AUG.2007 14:53:42



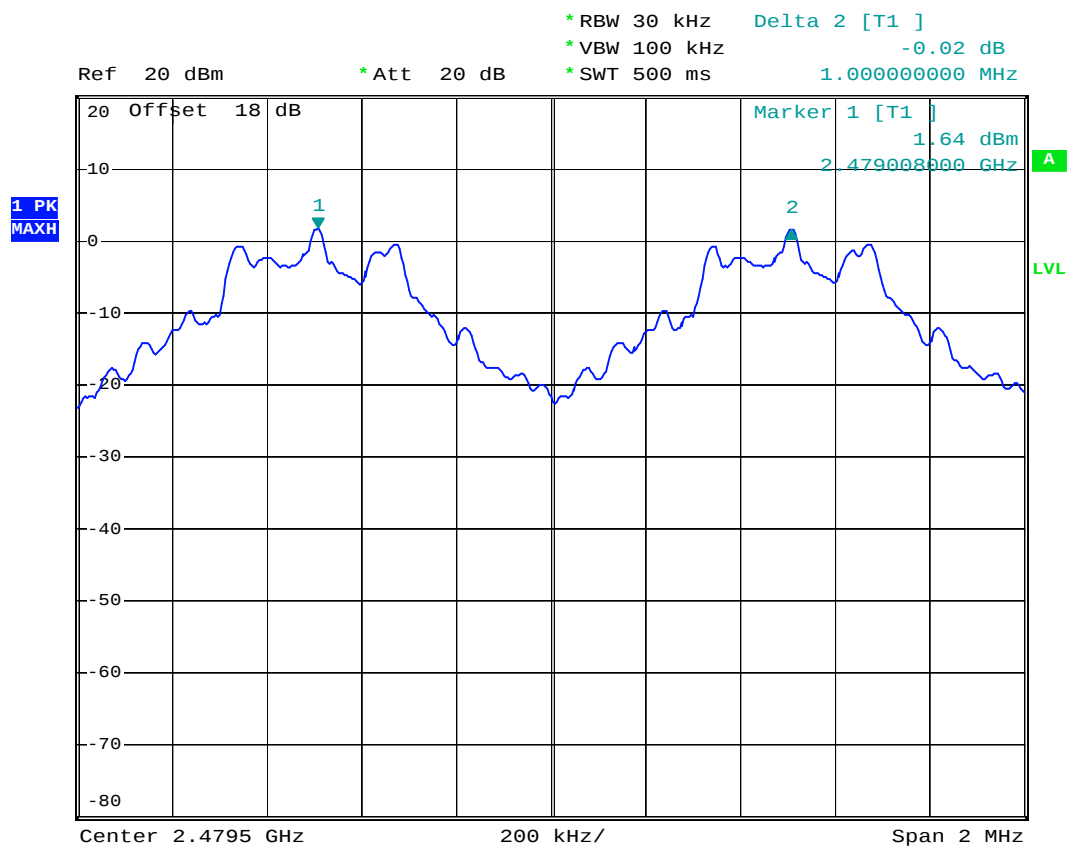
Mode 8



Date: 10.AUG.2007 14:55:31



Mode 9



Date: 10.AUG.2007 14:57:49

5.6 Number of Hopping Frequency

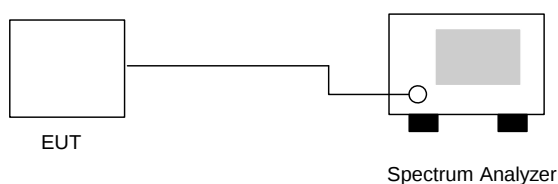
5.6.1 Measuring Instruments :

As described in chapter 6 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 : 28~29°C

Relative Humidity : 51~52%

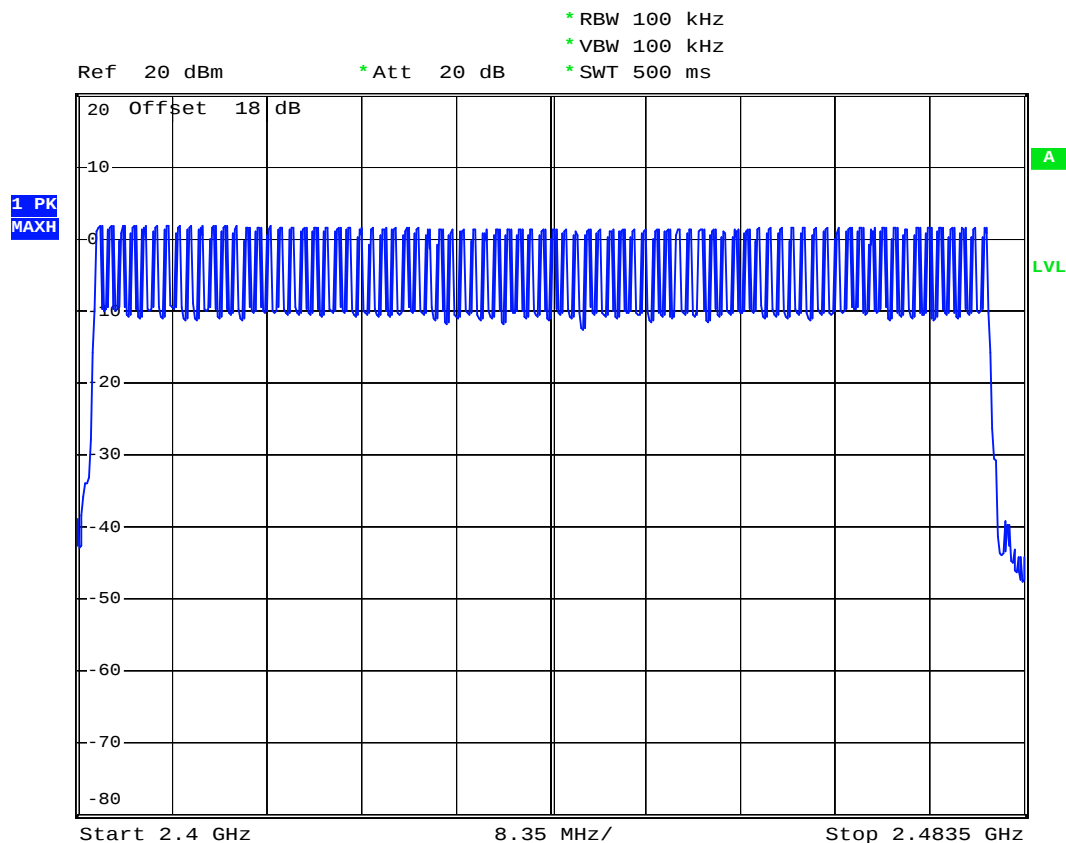
Test Enginner : Sun

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



5.6.5 Number of Hopping Frequency

BT



Date: 10.AUG.2007 15:26:03

5.7 Hopping Channel Bandwidth

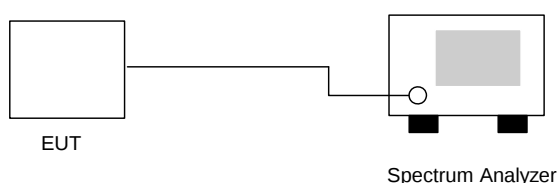
5.7.1 Measuring Instruments :

As described in chapter 6 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

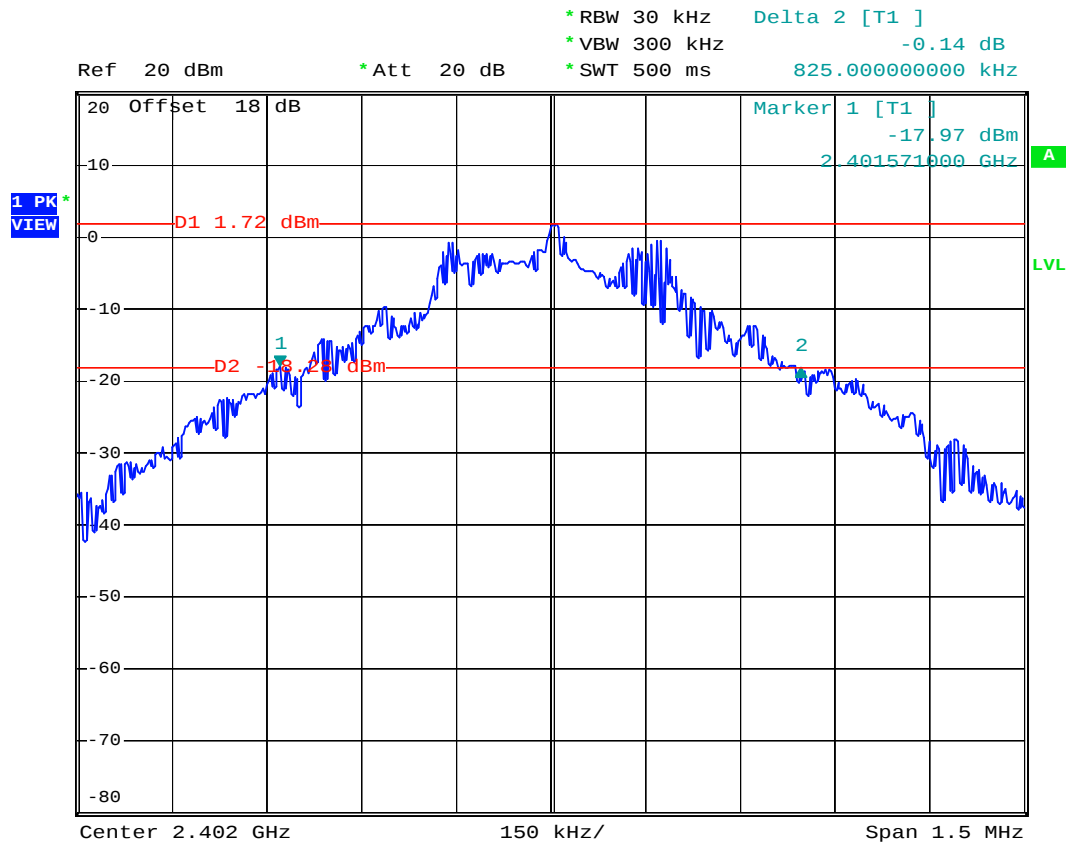
Application Type : BT
 Temperature : 28~29°C
 Relative Humidity : 51~52%
 Test Enginner : Sun

Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Plot Ref. No.
00	2402	0.825	Mode 7
39	2441	0.828	Mode 8
78	2480	0.825	Mode 9



5.7.5 Hopping Channel Bandwidth

Mode 7



Date: 10.AUG.2007 15:33:30



Mode 8



Date: 10.AUG.2007 14:33:41



Mode 9



Date: 10.AUG.2007 14:35:46

5.8 Dwell Time of Each Frequency

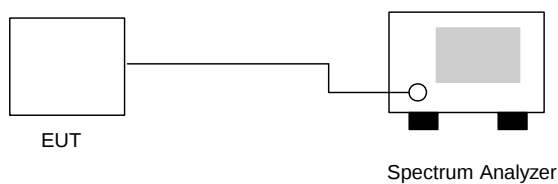
5.8.1 Measuring Instruments :

As described in chapter 6 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 equals $79 * 0.4 * (1600/79) * t$ (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 : 28~29°C

Relative Humidity : 51~52%

Test Enginner : Sun**CH39**

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	8.3	460	0.121	0.4
DH3	4.1	1740	0.225	0.4
DH5	3	3040	0.288	0.4

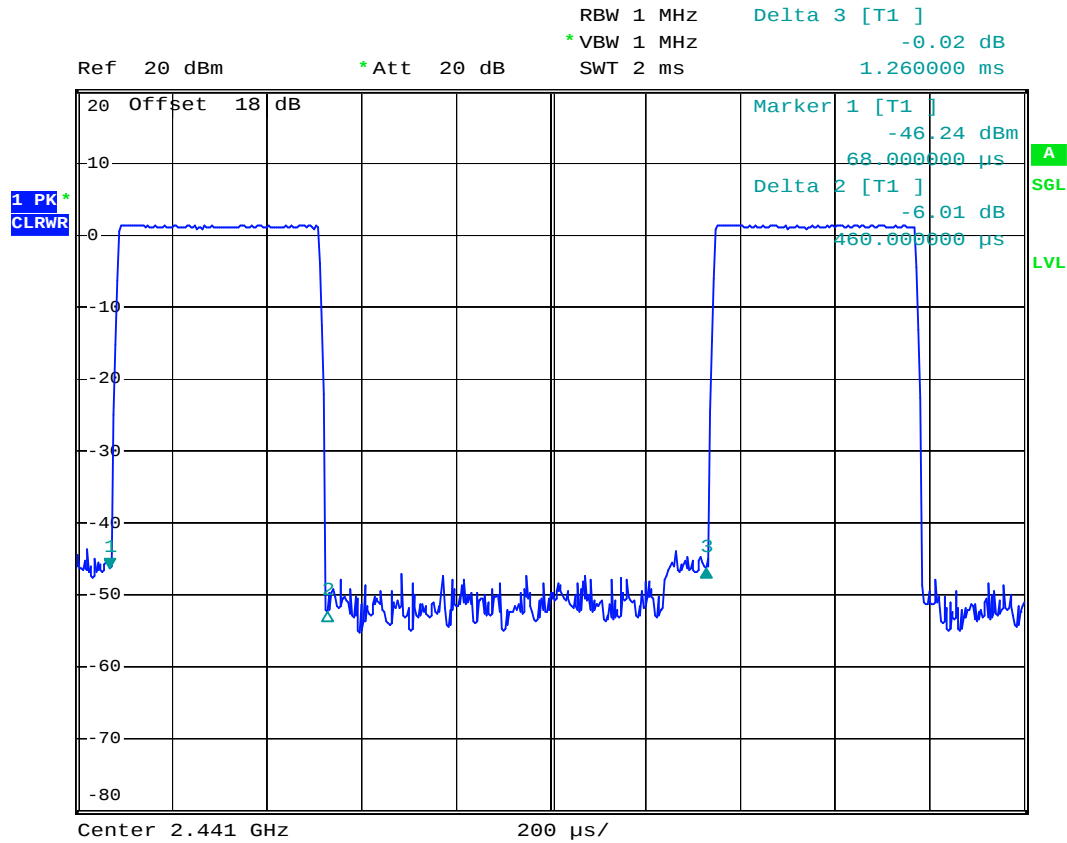
※ Remark:

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

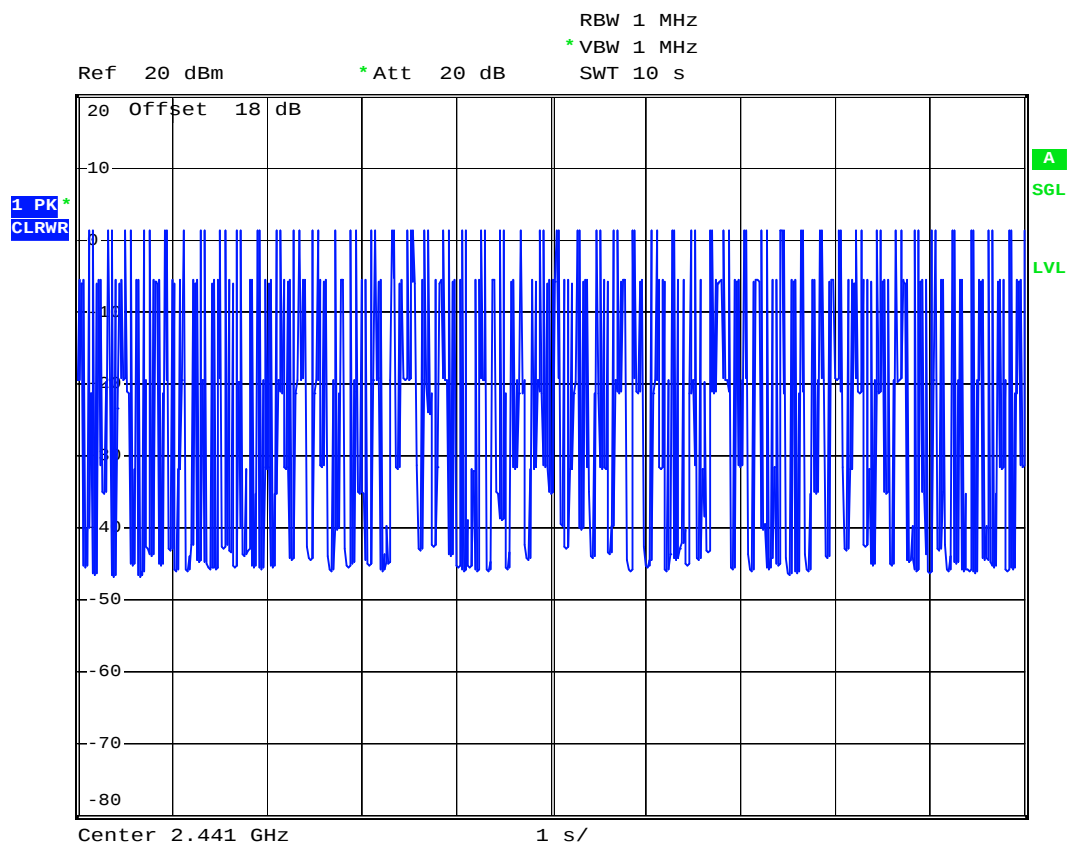


5.8.5 Dwell Time

BT_DH1 (CH39)



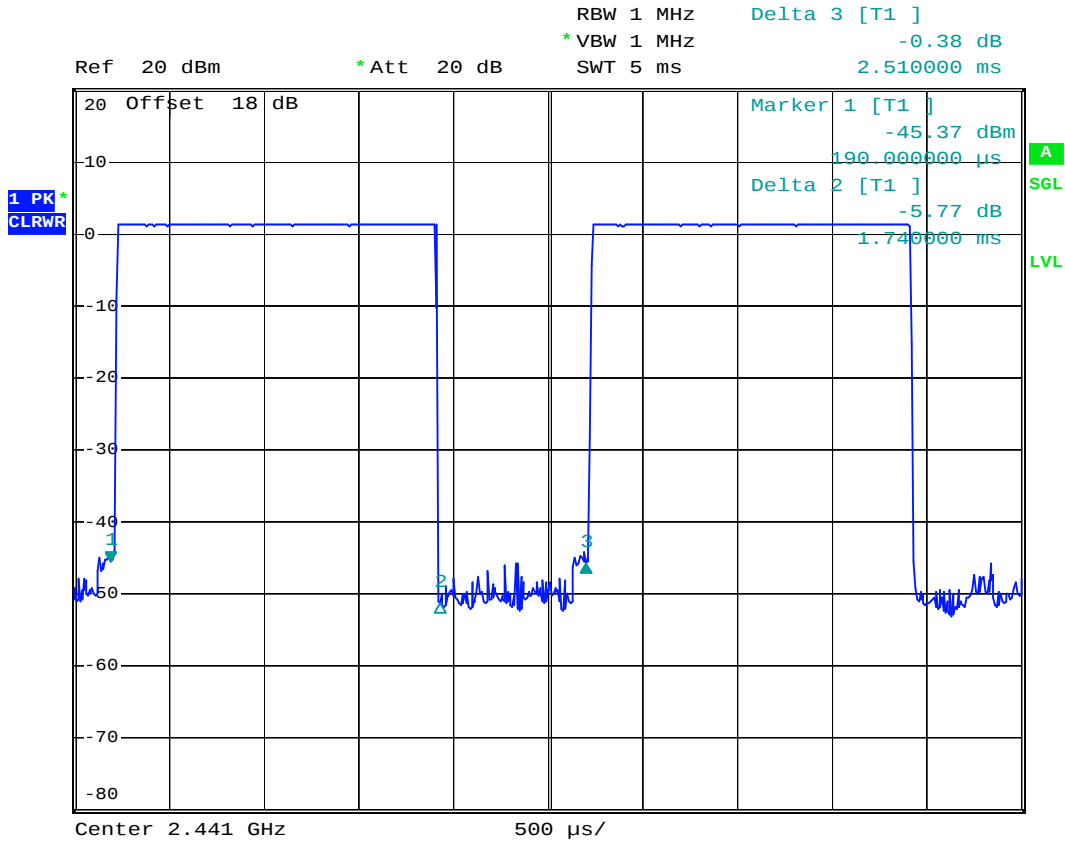
Date: 10.AUG.2007 15:04:47



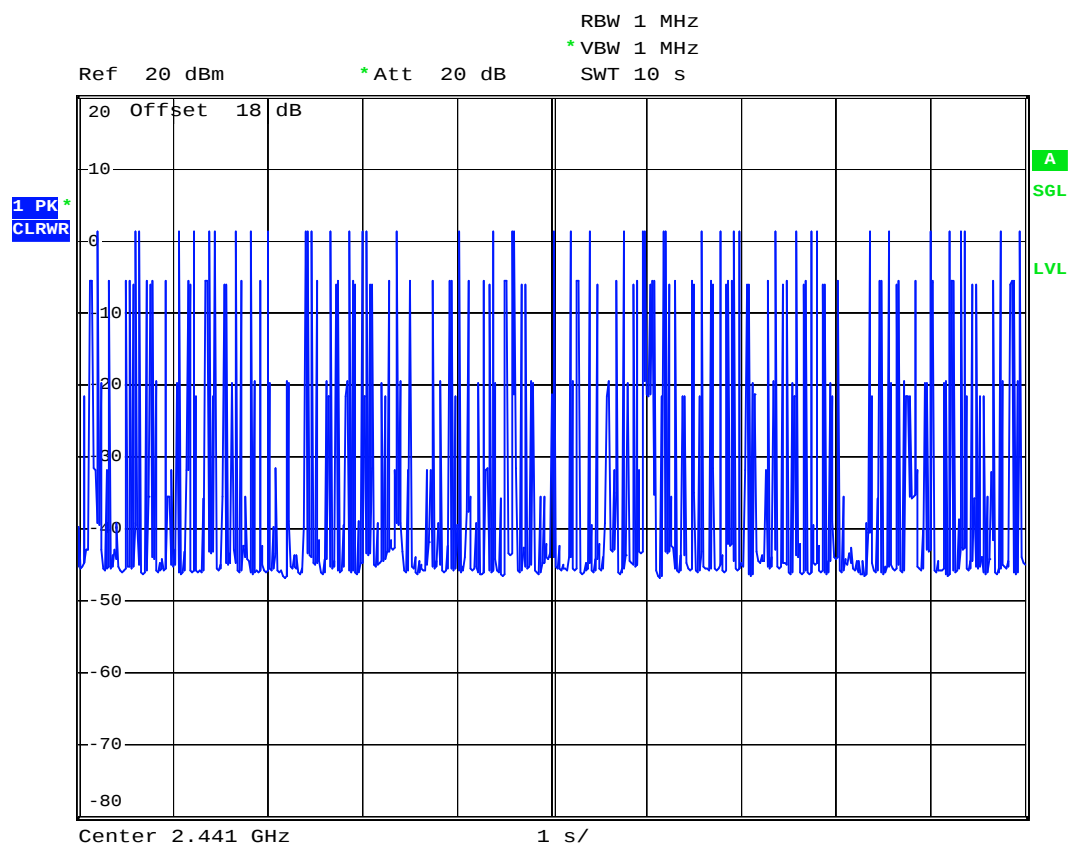
Date: 10.AUG.2007 15:12:29



BT_DH3 (CH39)



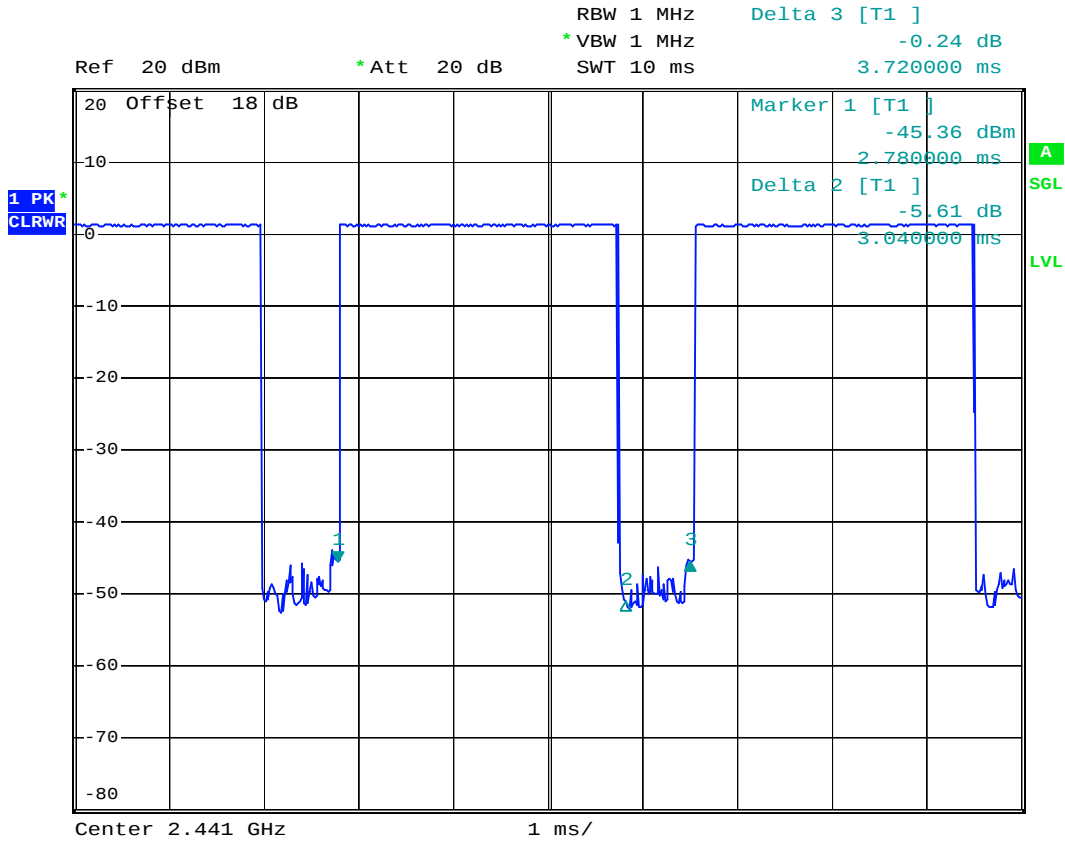
Date: 10.AUG.2007 15:07:22



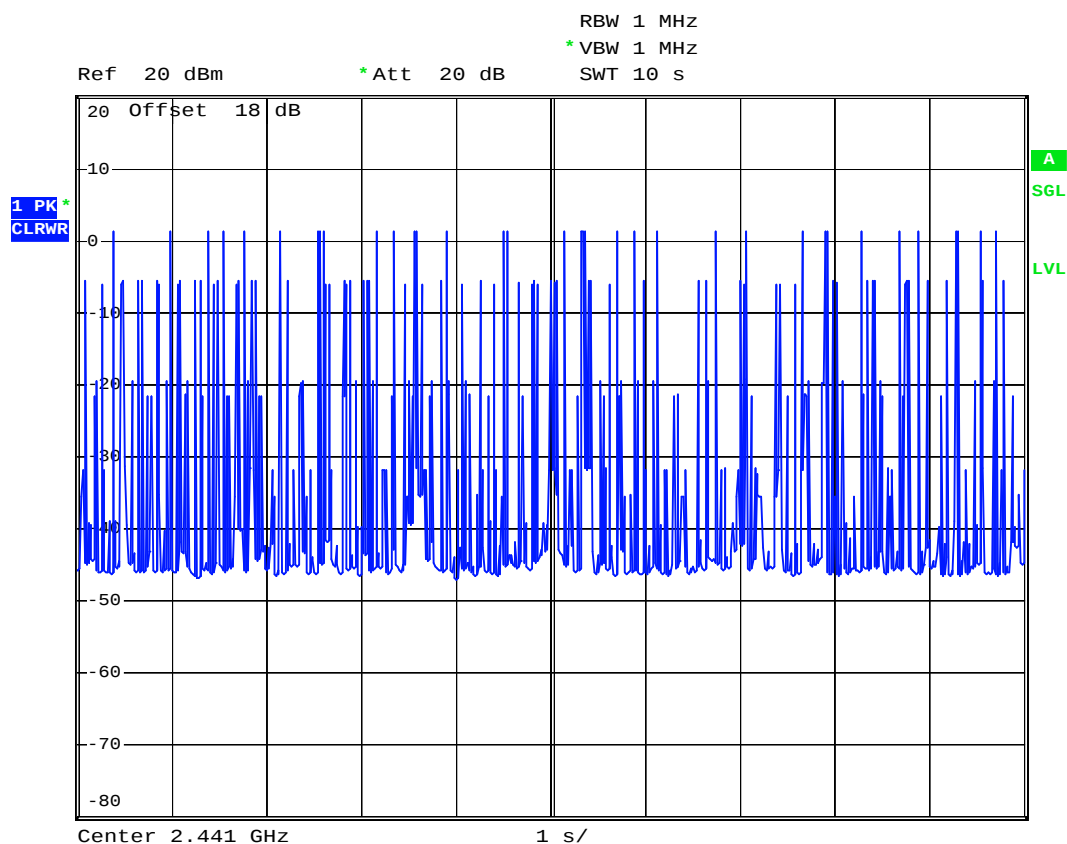
Date: 10.AUG.2007 15:13:21



BT_DH5 (CH39)



Date: 10.AUG.2007 15:09:51



Date: 10.AUG.2007 15:14:07

5.9 Peak Output Power Measurement

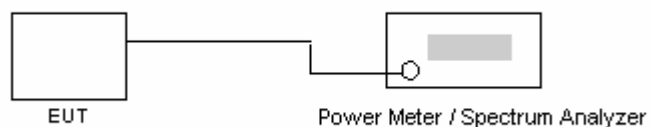
5.9.1 Measuring Instruments :

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 : 28~29℃
Relative Humidity : 51~52%
Test Enginner : Sun

WLAN 802.11b

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
01	2412	13.66	1W/30 dBm
06	2437	13.10	1W/30 dBm
11	2462	13.64	1W/30 dBm

WLAN 802.11g

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
01	2412	17.69	1W/30 dBm
06	2437	17.58	1W/30 dBm
11	2462	17.57	1W/30 dBm

BT

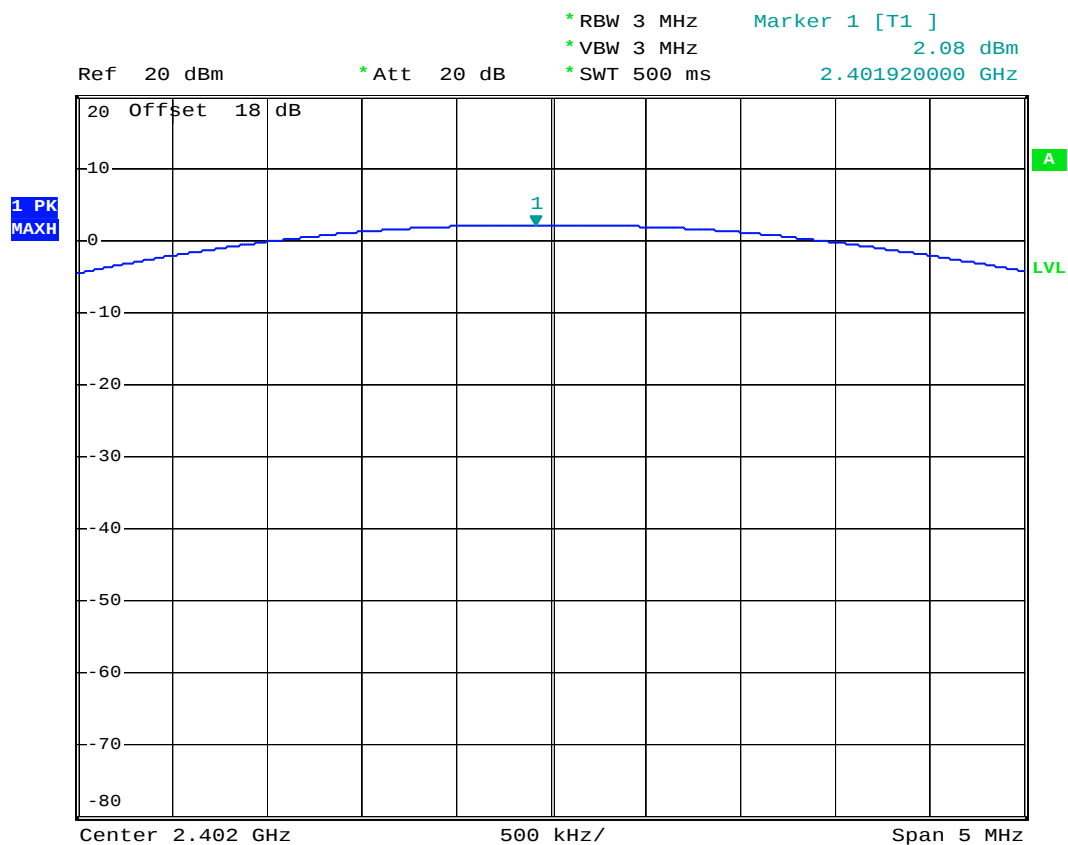
Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
00	2402	2.08	1W/30 dBm
39	2441	1.53	1W/30 dBm
78	2480	1.77	1W/30 dBm



5.9.5 Output Power

BT

Mode : CH00 (2402MHz)



Date: 10.AUG.2007 14:22:50

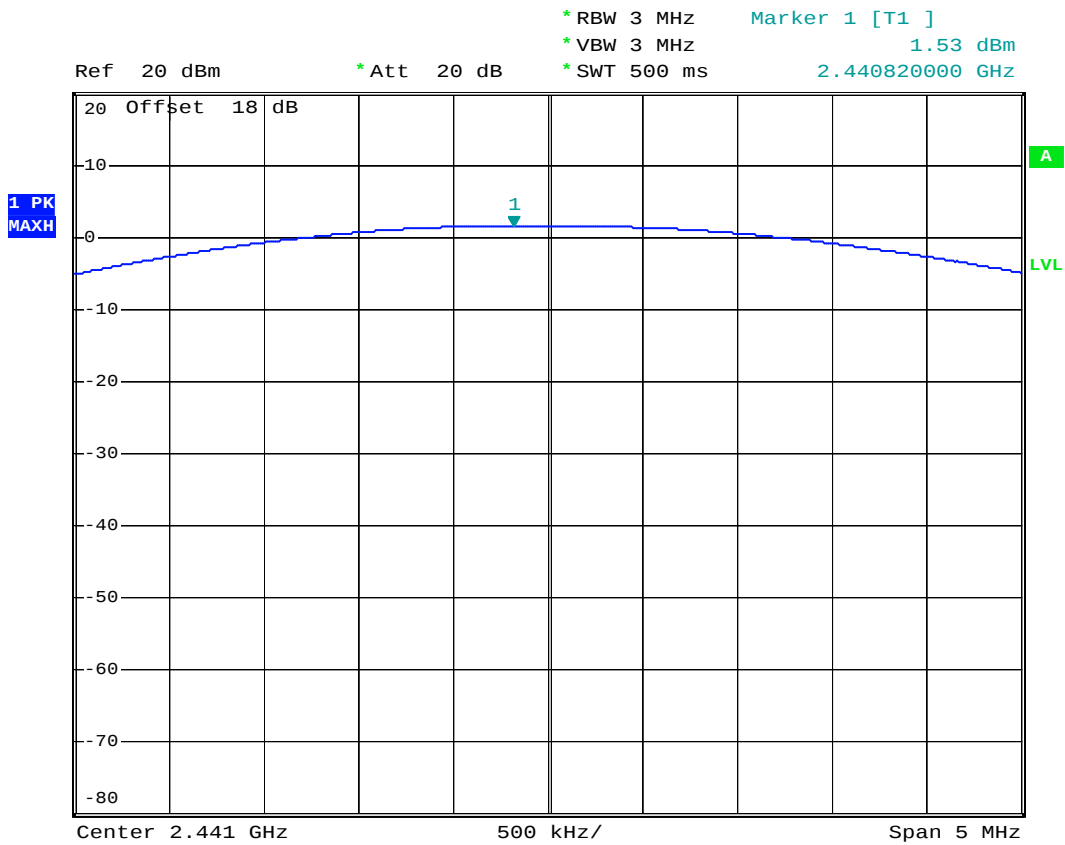


FCC TEST REPORT

Report No. : FR780803

BT

Mode : CH39 (2441MHz)

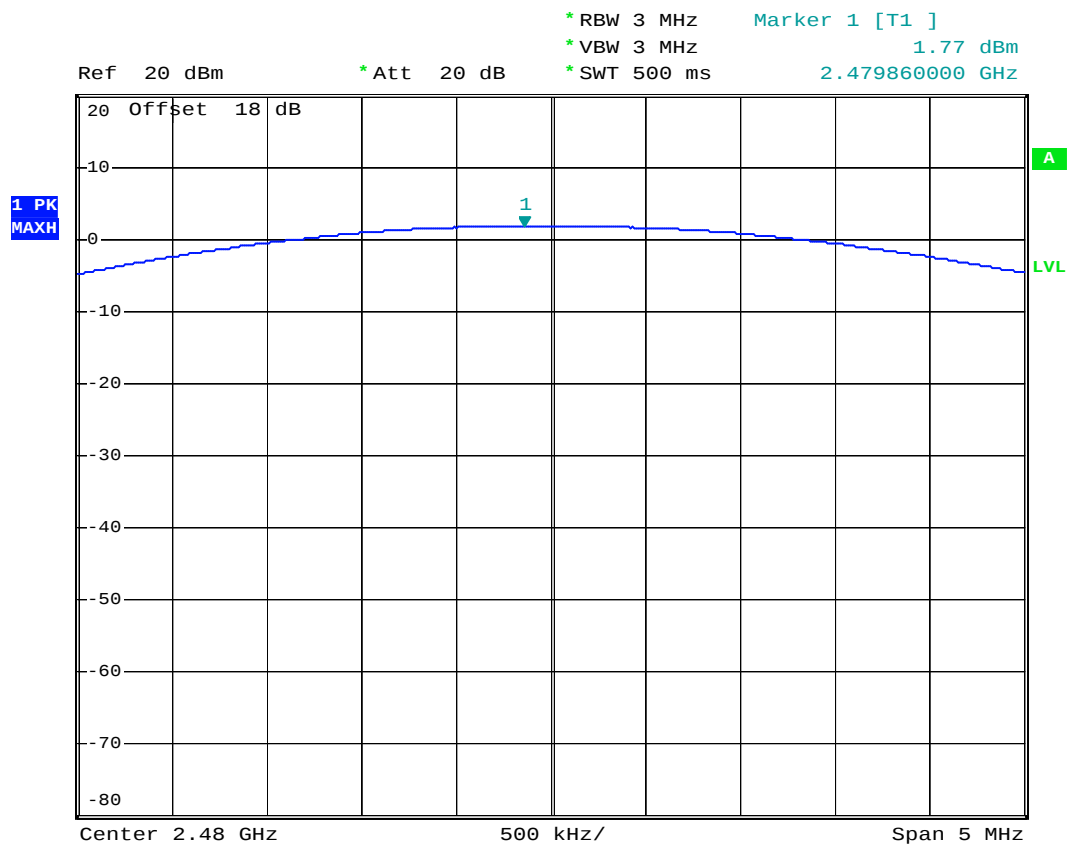


Date: 10.AUG.2007 14:24:20



BT

Mode : CH78 (2480MHz)



Date: 10.AUG.2007 14:24:49



5.10 Conducted Emission

5.10.1 Measuring Instruments

As described in chapter 6 of this test Report.

The receiver setting :

150 KHz ~ 30 MHz	Detector : Quasi – Peak and Average Bandwidth : 9 KHz
------------------	--

5.10.2 Test Procedures :

- 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.
- Connect EUT to the power port of a line impedance stabilization network (LISN).
- All the support units are connected to the other LISN.
- The LISN provides 50 ohm coupling impedance for the measuring instrument.
- The FCC states that a 50 ohm, 50 microhenry LISN should be used.
- Both sides of AC line were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched.
- Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.



5.10.3 Test Data

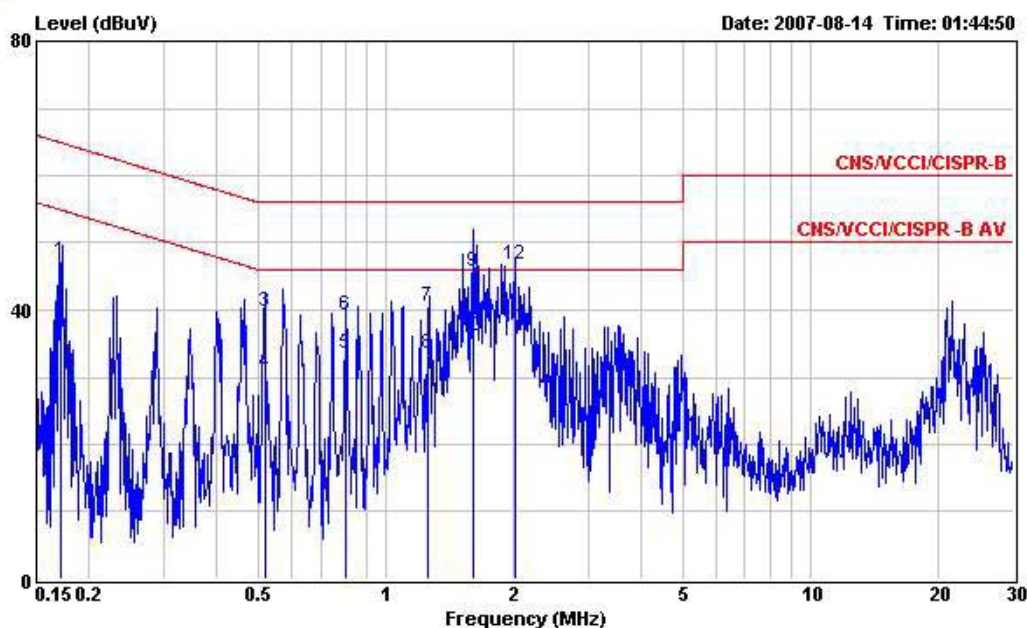
Temperature : 28~29°C

Relative Humidity : 51~52%

Test Engineer : Sun

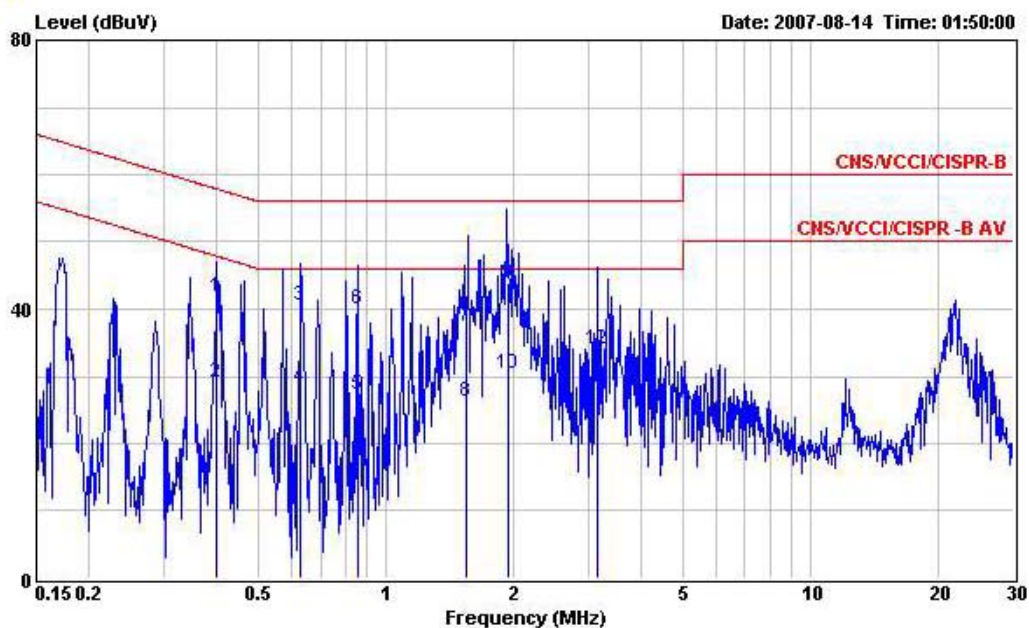
Test Mode : Mode 1

■ 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 : GSM/GPRS 850/900/1800/1900
 : WCDMA 2100 smartphone
 Power : 120Vac/60Hz
 Model : FR 780803
 Memo : PCS 1900 Idle+BT Link+WLAN Link+Earphone
 :+Camera+MPEG4+GPS Rx+Adaptor1

Freq	Level	Over	Limit	Read	Cable	Probe	Remark
MHz	dBuV	Limit	Line	Level	Loss	Factor	
		dB	dBuV	dBuV	dB	dB	
1	0.172	47.31	-17.55	64.86	47.12	0.09	0.10 QP
2	0.172	36.87	-17.99	54.86	36.68	0.09	0.10 Average
3	0.518	39.67	-16.33	56.00	39.49	0.08	0.10 QP
4	0.518	30.61	-15.39	46.00	30.43	0.08	0.10 Average
5	0.804	33.46	-12.54	46.00	33.22	0.14	0.10 Average
6	0.804	39.34	-16.66	56.00	39.10	0.14	0.10 QP
7	1.257	40.42	-15.58	56.00	40.13	0.19	0.10 QP
8	1.257	33.59	-12.41	46.00	33.30	0.19	0.10 Average
9	1.600	45.82	-10.18	56.00	45.50	0.22	0.10 QP
10	1.600	36.03	-9.97	46.00	35.71	0.22	0.10 Average
11	2.010	37.33	-8.67	46.00	36.99	0.24	0.10 Average
12	2.010	46.81	-9.19	56.00	46.47	0.24	0.10 QP



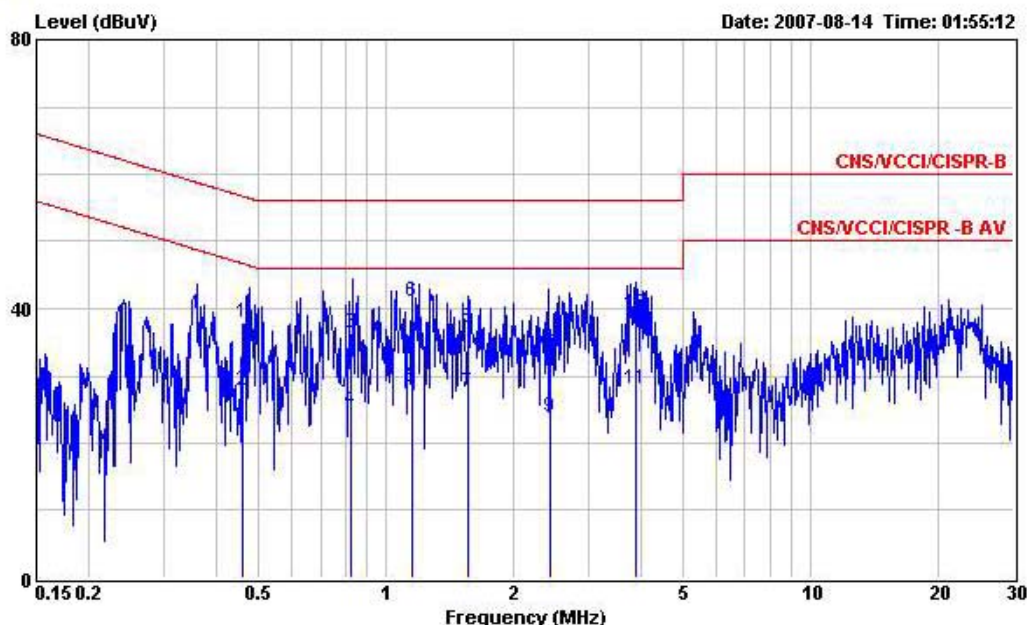
Site : CO01-HY
Condition : CNS/VCCI/CISPR-B 2001/004 200604 NEUTRAL
EUT : GSM/GPRS 850/900/1800/1900
: WCDMA 2100 smartphone
Power : 120Vac/60Hz
Model : FR 780803
Memo : PCS 1900 Idle+BT Link+WLAN Link+Earphone
: +Camera+MPEG4+GPS Rx+Adaptor1

	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	Probe Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.400	41.84	-16.01	57.85	41.70	0.04	0.10	QP
2	0.400	29.21	-18.64	47.85	29.07	0.04	0.10	Average
3	0.630	40.62	-15.38	56.00	40.42	0.10	0.10	QP
4	0.630	28.37	-17.63	46.00	28.17	0.10	0.10	Average
5	0.857	27.34	-18.66	46.00	27.09	0.15	0.10	Average
6	0.857	39.88	-16.12	56.00	39.63	0.15	0.10	QP
7	1.550	37.34	-18.66	56.00	37.03	0.21	0.10	QP
8	1.550	26.30	-19.70	46.00	25.99	0.21	0.10	Average
9	1.930	43.80	-12.20	56.00	43.46	0.24	0.10	QP
10	1.930	30.49	-15.51	46.00	30.15	0.24	0.10	Average
11	3.146	25.06	-20.94	46.00	24.77	0.19	0.10	Average
12	3.146	33.98	-22.02	56.00	33.69	0.19	0.10	QP



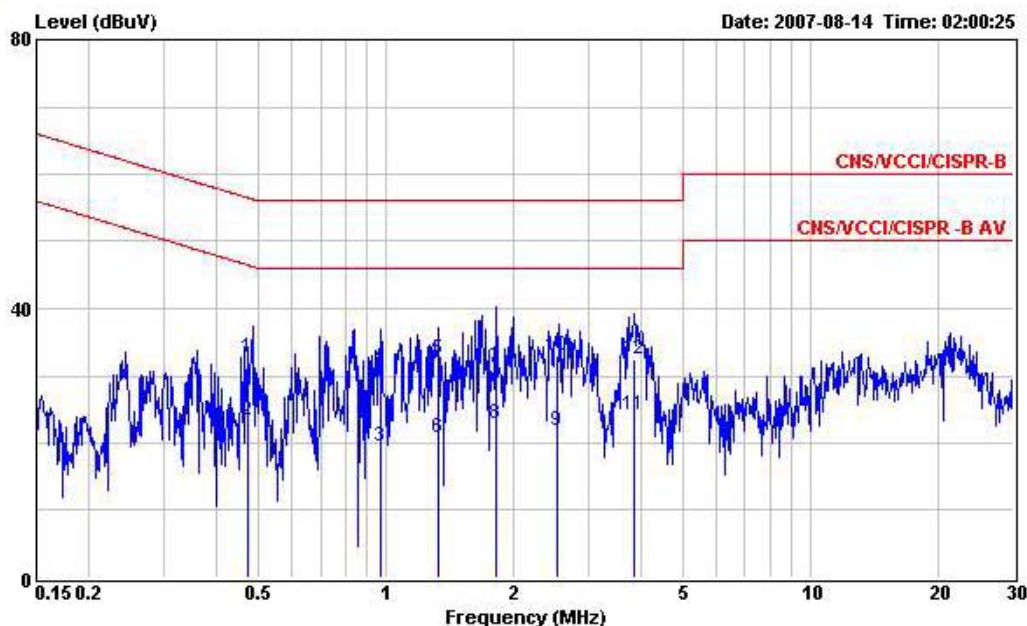
Temperature : 28~29°C
 Relative Humidity : 51~52%
 Test Enginner : Sun
 Test Mode : Mode 2

■ 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 : GSM/GPRS 850/900/1800/1900
 : WCDMA 2100 smartphone
 Power : 120Vac/60Hz
 Model : FR 780803
 Memo : PCS 1900 Idle+BT Link+WLAN Link+Earphone
 : +Camera+MPEG4+GPS Rx+Adaptor2

	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	Probe Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.461	38.03	-18.65	56.68	37.87	0.06	0.10	QP
2	0.461	27.70	-18.98	46.68	27.54	0.06	0.10	Average
3	0.830	36.38	-19.62	56.00	36.14	0.14	0.10	QP
4	0.830	24.91	-21.09	46.00	24.67	0.14	0.10	Average
5	1.150	28.21	-17.79	46.00	27.93	0.18	0.10	Average
6	1.150	40.91	-15.09	56.00	40.63	0.18	0.10	QP
7	1.560	27.62	-18.38	46.00	27.30	0.22	0.10	Average
8	1.560	37.18	-18.82	56.00	36.86	0.22	0.10	QP
9	2.432	23.85	-22.15	46.00	23.50	0.22	0.13	Average
10	2.432	33.33	-22.67	56.00	32.98	0.22	0.13	QP
11	3.868	28.16	-17.84	46.00	27.81	0.16	0.19	Average
12	3.868	39.19	-16.81	56.00	38.84	0.16	0.19	QP



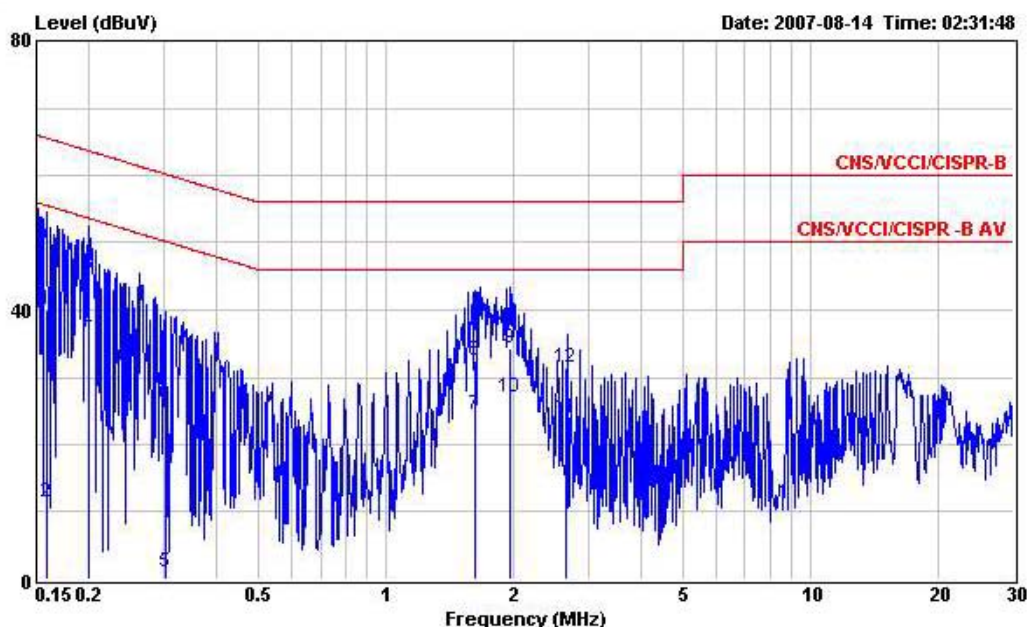
Site : CO01-HY
Condition : CNS/VCCI/CISPR-B 2001/004 200604 NEUTRAL
EUT : GSM/GPRS 850/900/1800/1900
: WCDMA 2100 smartphone
Power : 120Vac/60Hz
Model : FR 780803
Memo : PCS 1900 Idle+BT Link+WLAN Link+Earphone
: +Camera+MPEG4+GPS Rx+Adaptor2

	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	Probe Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.474	32.72	-23.73	56.45	32.56	0.06	0.10	QP
2	0.474	23.40	-23.05	46.45	23.24	0.06	0.10	Average
3	0.968	19.44	-26.56	46.00	19.17	0.17	0.10	Average
4	0.968	31.23	-24.77	56.00	30.96	0.17	0.10	QP
5	1.325	32.40	-23.60	56.00	32.10	0.20	0.10	QP
6	1.325	20.91	-25.09	46.00	20.61	0.20	0.10	Average
7	1.820	31.15	-24.85	56.00	30.82	0.23	0.10	QP
8	1.820	22.96	-23.04	46.00	22.63	0.23	0.10	Average
9	2.536	21.91	-24.09	46.00	21.60	0.21	0.10	Average
10	2.536	32.89	-23.11	56.00	32.58	0.21	0.10	QP
11	3.820	24.27	-21.73	46.00	24.00	0.17	0.10	Average
12	3.820	32.46	-23.54	56.00	32.19	0.17	0.10	QP



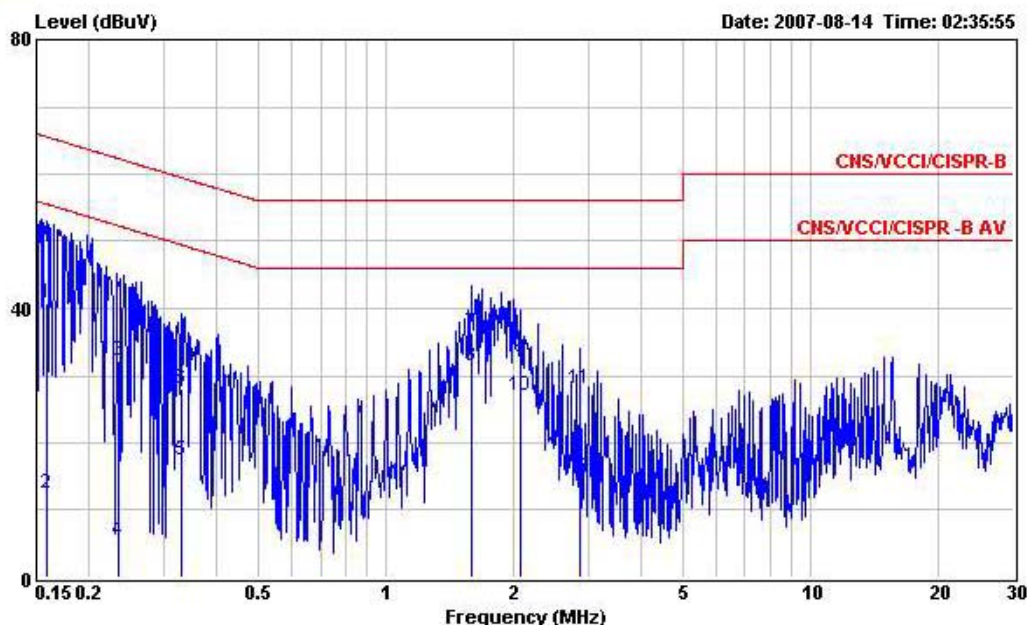
Temperature : 28~29°C
 Relative Humidity : 51~52%
 Test Enginner : Sun
 Test Mode : Mode 3

■ 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 : GSM/GPRS 850/900/1800/1900
 : WCDMA 2100 smartphone
 Power : From Notebook
 Model : FR 780803
 Memo : PCS 1900 Idle+BT Link+WLAN Link+Earphone
 : +Camera+MPEG4+GPS Rx+USB Link

	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	Probe Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.159	39.90	-25.62	65.52	39.72	0.08	0.10	QP
2	0.159	11.55	-43.97	55.52	11.37	0.08	0.10	Average
3	0.199	45.19	-18.45	63.64	44.99	0.10	0.10	QP
4	0.199	36.85	-16.79	53.64	36.65	0.10	0.10	Average
5	0.303	0.92	-49.24	50.16	0.76	0.06	0.10	Average
6	0.303	25.93	-34.23	60.16	25.77	0.06	0.10	QP
7	1.620	24.46	-21.54	46.00	24.14	0.22	0.10	Average
8	1.620	32.54	-23.46	56.00	32.22	0.22	0.10	QP
9	1.950	34.40	-21.60	56.00	34.06	0.24	0.10	QP
10	1.950	27.11	-18.89	46.00	26.77	0.24	0.10	Average
11	2.660	23.86	-22.14	46.00	23.51	0.21	0.14	Average
12	2.660	31.34	-24.66	56.00	30.99	0.21	0.14	QP



Site : CO01-HY
Condition : CNS/VCCI/CISPR-B 2001/004 200604 NEUTRAL
EUT : GSM/GPRS 850/900/1800/1900
: WCDMA 2100 smartphone
Power : From Notebook
Model : FR 780803
Memo : PCS 1900 Idle+BT Link+WLAN Link+Earphone
: +Camera+MPEG4+GPS Rx+USB Link

	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	Probe Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.159	40.65	-24.87	65.52	40.47	0.08	0.10	QP
2	0.159	12.41	-43.11	55.52	12.23	0.08	0.10	Average
3	0.233	32.10	-30.22	62.32	31.91	0.09	0.10	QP
4	0.233	5.49	-46.83	52.32	5.30	0.09	0.10	Average
5	0.328	17.44	-32.05	49.49	17.28	0.06	0.10	Average
6	0.328	28.14	-31.35	59.49	27.98	0.06	0.10	QP
7	1.596	36.43	-19.57	56.00	36.11	0.22	0.10	QP
8	1.596	31.34	-14.66	46.00	31.02	0.22	0.10	Average
9	2.070	32.68	-23.32	56.00	32.34	0.24	0.10	QP
10	2.070	27.07	-18.93	46.00	26.73	0.24	0.10	Average
11	2.865	28.02	-27.98	56.00	27.72	0.20	0.10	QP
12	2.865	14.82	-31.18	46.00	14.52	0.20	0.10	Average

5.11 Radiated Emission Measurement

5.11.1 Measuring Instruments

As described in chapter 6 of this Report.

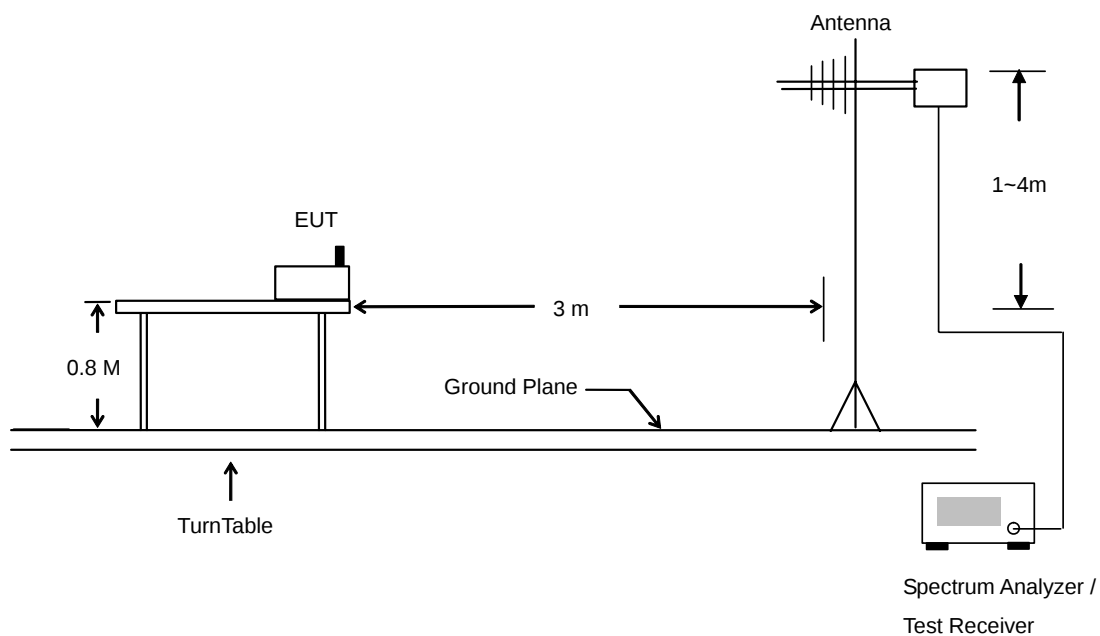
The spectrum analyzer setting :

30 ~ 1000 MHz	Detector : Quasi – Peak Bandwidth : 120 KHz
1 ~ 25 GHz	Detector : Peak and Average Bandwidth : 1 MHz

5.11.2 Test Procedures

- The EUT was placed on a turntable top 0.8 meter above ground.
- The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- The table was rotated 360 degrees to determine the position of the highest radiation.
- 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.
- 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.
- Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
- 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.
- 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 : 26~27°C

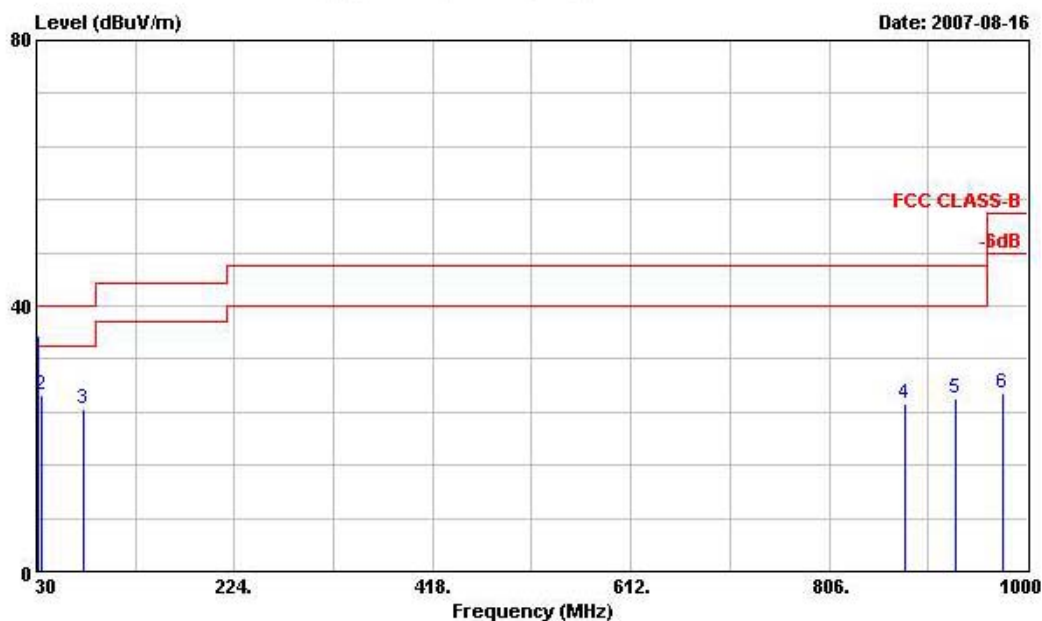
Relating Humidity : 53~54%

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 : 03CH04-HY

Condition: FCC CLASS-B 3m ANT2724 HORIZONTAL

EUT : GSM/GPRS 850/900/1800/1900/

: WCDMA 2100 Smart Phone

POWER : 120Vac/60Hz

MODEL : FR 780803

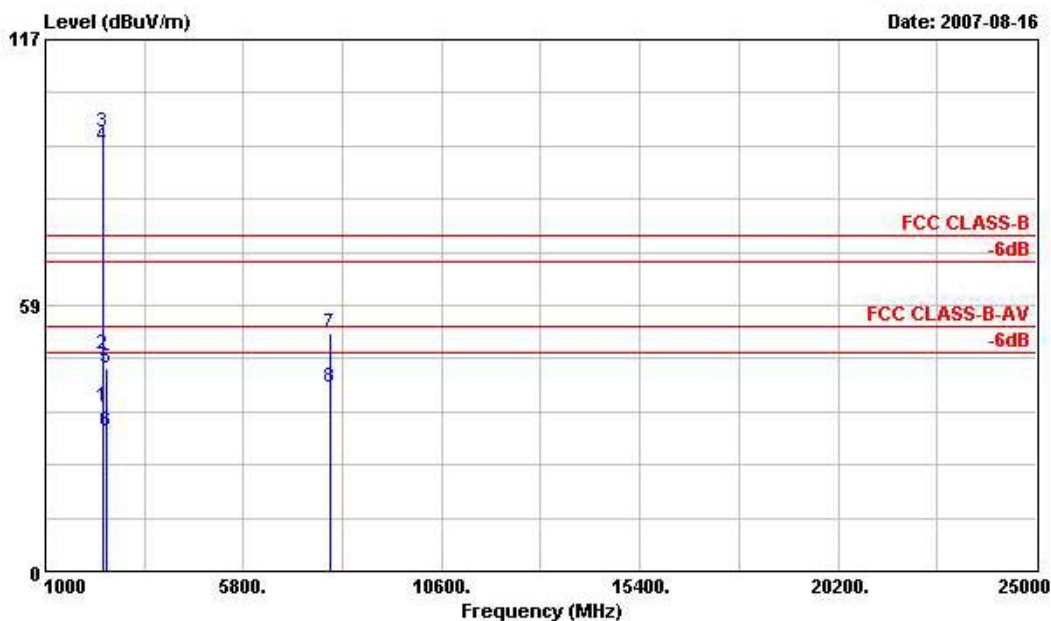
MOME : 11b Tx_Ch01;2412MHz

DATA RATE: 1

PLANE : E2

ADAPTOR : 2

	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	31.080	35.56	-4.44	40.00	51.26	16.36	0.88	32.93	100	258	Peak
2	35.940	26.56	-13.44	40.00	43.31	15.40	0.93	33.07	---	---	Peak
3	76.170	24.60	-15.40	40.00	49.63	6.54	1.24	32.81	---	---	Peak
4	881.000	25.14	-20.86	46.00	30.02	22.80	3.92	31.60	---	---	Peak
5	929.300	25.97	-20.03	46.00	29.17	24.25	3.97	31.42	---	---	Peak
6	976.200	26.83	-27.17	54.00	28.59	25.43	3.99	31.18	---	---	Peak



Site : 03CH04-HY
Condition: FCC CLASS-B 3m HF-ANT-6903 HORIZONTAL
EUT : GSM/GPRS 850/900/1800/1900/
: WCDMA 2100 Smart Phone
POWER : 120Vac/60Hz
MODEL : FR 780803
MOME : 11b Tx_Ch01;2412MHz
DATA RATE: 1
PLANE : E2
ADAPTOR : 2

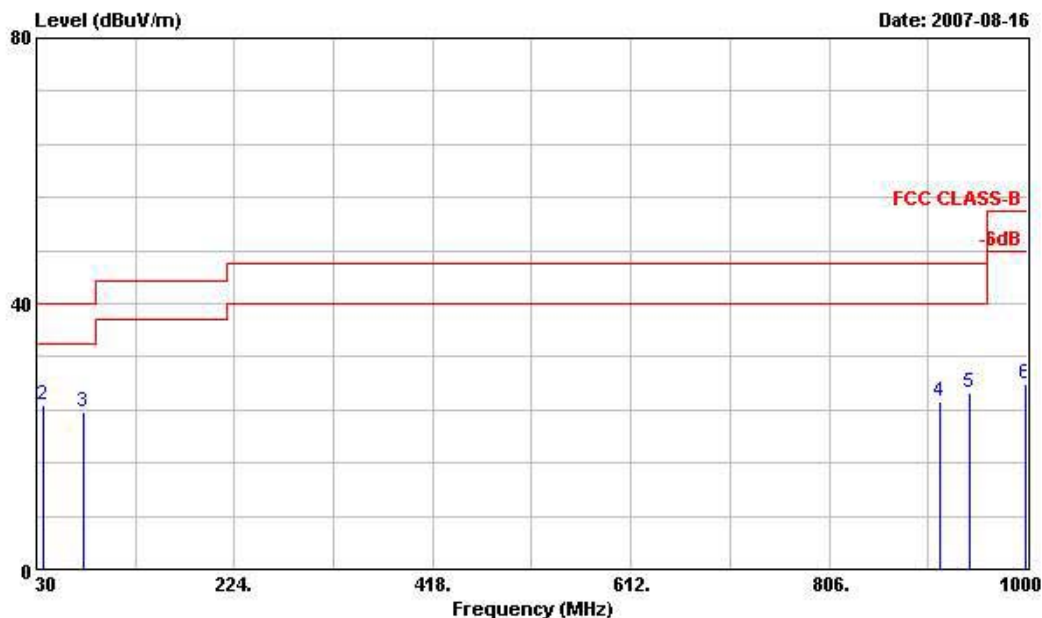
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	cm	deg	
1	2387.140	36.19	-17.81	54.00	38.15	28.07	3.74	124	277	Average
2	2387.140	47.82	-26.18	74.00	49.79	28.07	3.74	100	0	Peak
3 @	2412.000	96.53			98.44	28.11	3.76	100	0	Peak
4 @	2412.000	93.66			95.57	28.11	3.76	124	277	Average
5	2492.000	44.53	-29.47	74.00	46.19	28.30	3.84	100	0	Peak
6	2492.000	30.69	-23.31	54.00	32.35	28.30	3.84	124	277	Average
7	7917.000	52.48	-21.52	74.00	42.66	36.73	6.72	100	0	Peak
8	7917.000	40.42	-13.58	54.00	30.60	36.73	6.72	100	295	Average

Remark: #3 and #4 Fundamental Signals



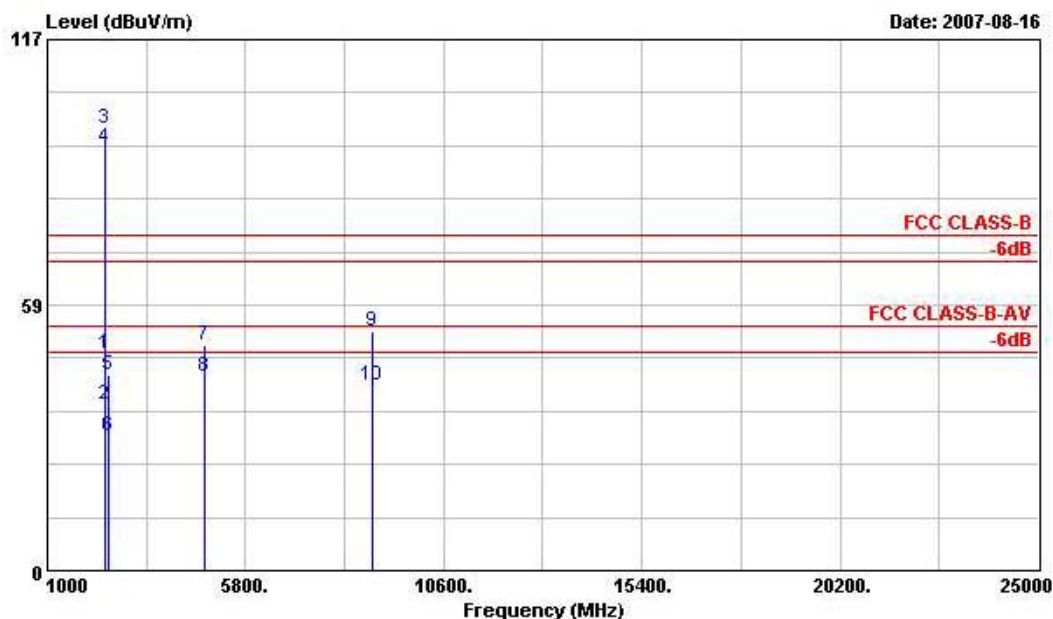
Polarization : Vertical

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



Site : 03CH04-HY
 Condition: FCC CLASS-B 3m ANT2724 VERTICAL
 EUT : GSM/GPRS 850/900/1800/1900/
 : WCDMA 2100 Smart Phone
 POWER : 120Vac/60Hz
 MODEL : FR 780803
 MOME : 11b Tx_Ch01;2412MHz
 DATA RATE: 1
 PLANE : E2
 ADAPTOR : 2

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.540	31.98	-8.02	40.00	47.69	16.36	0.87	32.93	100	354	Peak
2	37.020	24.85	-15.15	40.00	42.44	14.50	0.94	33.03	---	---	Peak
3	75.900	23.63	-16.37	40.00	48.79	6.41	1.24	32.81	---	---	Peak
4	915.300	25.30	-20.70	46.00	28.86	23.90	3.96	31.43	---	---	Peak
5	943.300	26.46	-19.54	46.00	29.28	24.62	3.98	31.42	---	---	Peak
6	998.600	27.78	-26.22	54.00	28.73	26.03	4.00	30.97	---	---	Peak



Site : 03CH04-HY
Condition: FCC CLASS-B 3m HF-ANT-6903 VERTICAL
EUT : GSM/GPRS 850/900/1800/1900/
: WCDMA 2100 Smart Phone
POWER : 120Vac/60Hz
MODEL : FR 780803
MOME : 11b Tx_Ch01;2412MHz
DATA RATE: 1
PLANE : E2
ADAPTOR : 2

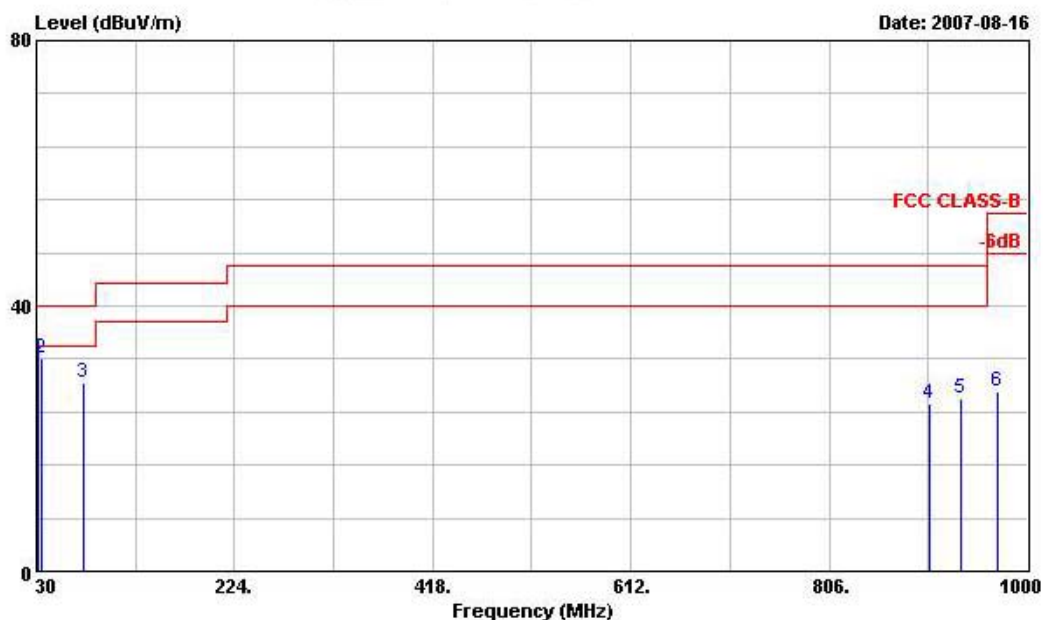
	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2385.050	47.62	-26.38	74.00	49.59	28.07	3.74	33.78	100	0	Peak
2	2385.050	36.51	-17.49	54.00	38.51	28.03	3.74	33.78	100	323	Average
3 @	2412.000	97.34			99.25	28.11	3.76	33.78	100	0	Peak
4 @	2412.000	93.19			95.10	28.11	3.76	33.78	100	323	Average
5	2484.000	42.93	-31.07	74.00	44.63	28.26	3.84	33.80	100	0	Peak
6	2484.000	29.82	-24.18	54.00	31.52	28.26	3.84	33.80	100	323	Average
7	4824.000	49.64	-24.36	74.00	45.17	32.89	5.88	34.30	100	0	Peak
8	4824.000	42.55	-11.45	54.00	38.08	32.89	5.88	34.30	100	241	Average
9	8853.000	52.74	-21.26	74.00	42.30	37.92	7.20	34.68	100	0	Peak
10	8853.000	40.80	-13.20	54.00	30.36	37.92	7.20	34.68	100	356	Average

Remark: #3 and #4 Fundamental Signals



Test Mode : Mode 2

Polarization : Horizontal

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

Site : 03CH04-HY

Condition: FCC CLASS-B 3m ANT2724 HORIZONTAL

EUT : GSM/GPRS 850/900/1800/1900/

: WCDMA 2100 Smart Phone

POWER : 120Vac/60Hz

MODEL : FR 780803

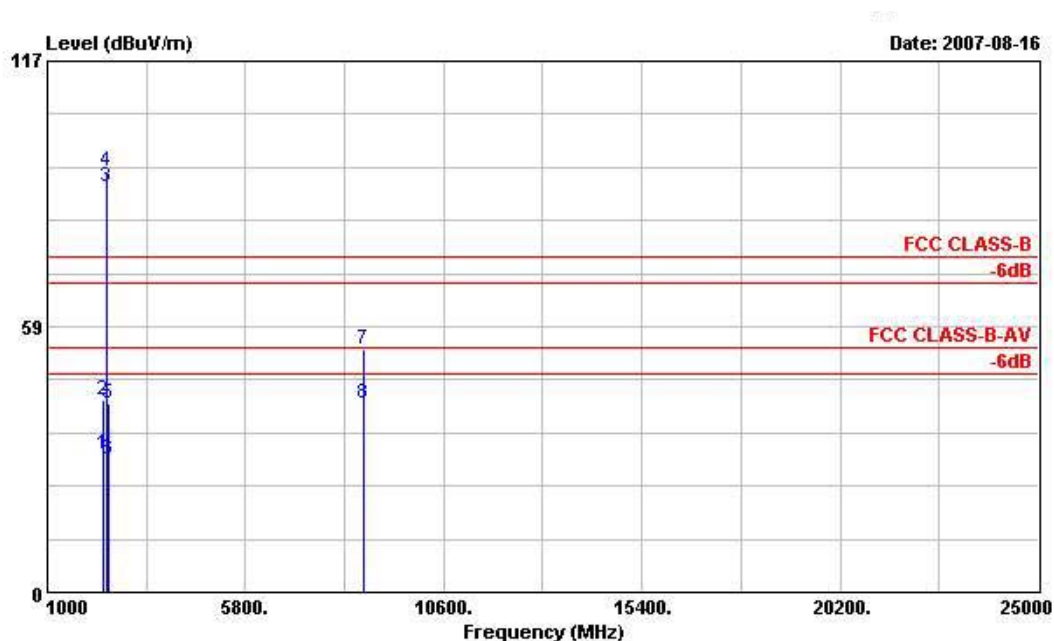
MOME : 11b Tx_Ch06;2437MHz

DATA RATE: 1

PLANE : E2

ADAPTOR : 2

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level Factor	Cable Loss Factor	Preamp Gain Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	31.080	35.11	-4.89	40.00	50.81	16.36	0.88	32.93	100	200 Peak
2	35.940	32.07	-7.93	40.00	48.82	15.40	0.93	33.07	---	---
3	76.170	28.33	-11.67	40.00	53.36	6.54	1.24	32.81	---	---
4	903.400	25.20	-20.80	46.00	29.09	23.58	3.96	31.43	---	---
5	934.900	25.96	-20.04	46.00	29.01	24.40	3.97	31.42	---	---
6	970.600	27.13	-26.87	54.00	29.06	25.31	3.99	31.23	---	---



Site : 03CH04-HY
Condition: FCC CLASS-B 3m HF-ANT-6903 HORIZONTAL
EUT : GSM/GPRS 850/900/1800/1900/
: WCDMA 2100 Smart Phone
POWER : 120Vac/60Hz
MODEL : FR 780803
MOME : 11b Tx_Ch06;2437MHz
DATA RATE: 1
PLANE : E2
ADAPTOR : 2

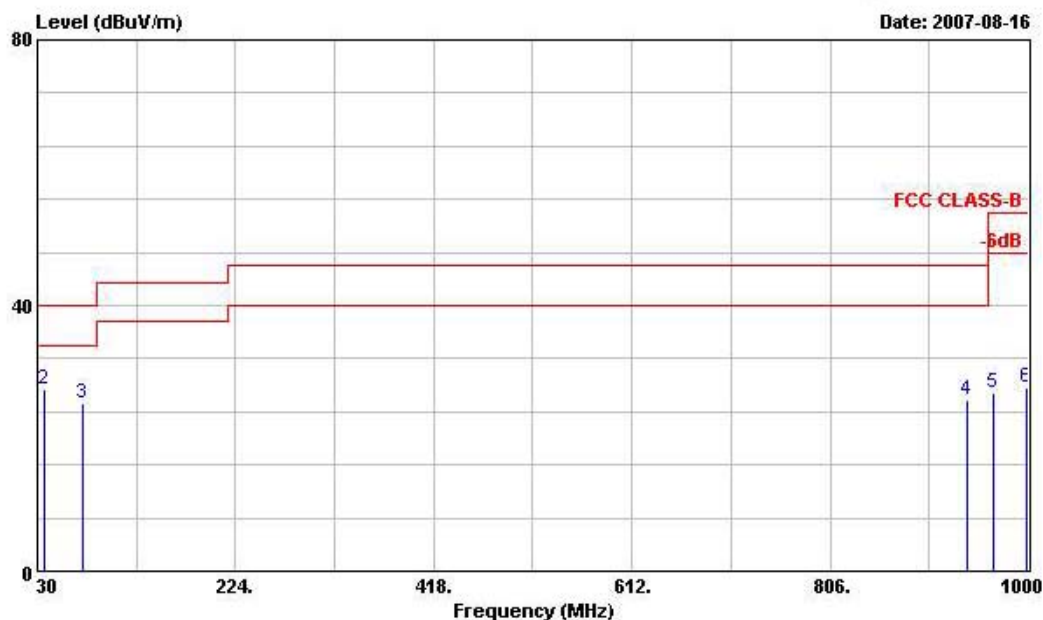
	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2358.000	30.27	-23.73	54.00	32.33	28.00	3.71	33.77	100	344	Average
2	2358.000	42.25	-31.75	74.00	44.31	28.00	3.71	33.77	100	0	Peak
3 @	2437.000	89.44			91.25	28.19	3.79	33.79	100	344	Average
4 @	2437.000	92.76			94.57	28.19	3.79	33.79	100	0	Peak
5	2492.000	41.70	-32.30	74.00	43.36	28.30	3.84	33.80	100	0	Peak
6	2492.000	29.39	-24.61	54.00	31.05	28.30	3.84	33.80	100	344	Average
7	8661.000	53.31	-20.69	74.00	43.03	37.70	7.10	34.52	100	0	Peak
8	8661.000	41.48	-12.52	54.00	31.20	37.70	7.10	34.52	100	266	Average

Remark: #3 and #4 Fundamental Signals



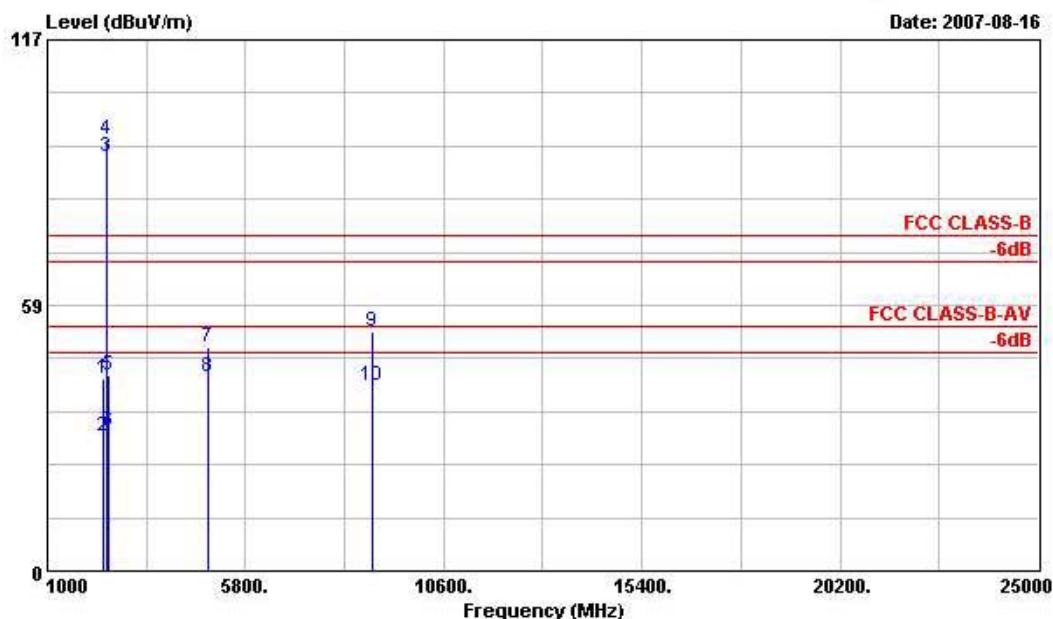
Polarization : Vertical

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



Site : 03CH04-HY
Condition: FCC CLASS-B 3m ANT2724 VERTICAL
EUT : GSM/GPRS 850/900/1800/1900/
: WCDMA 2100 Smart Phone
POWER : 120Vac/60Hz
MODEL : FR 780803
MOME : 11b Tx_Ch06;2437MHz
DATA RATE: 1
PLANE : E2
ADAPTOR : 2

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	30.000	32.03	-7.97	40.00	47.67	16.38	0.87	32.89	100	360 Peak
2	36.210	27.39	-12.61	40.00	44.14	15.40	0.93	33.07	---	---
3	75.090	25.16	-14.84	40.00	50.46	6.27	1.23	32.81	---	---
4	940.500	25.90	-20.10	46.00	28.80	24.55	3.98	31.42	---	---
5	965.700	26.97	-27.03	54.00	29.07	25.19	3.99	31.27	---	---
6	998.600	27.68	-26.32	54.00	28.63	26.03	4.00	30.97	---	---



Site : 03CH04-HY
Condition: FCC CLASS-B 3m HF-ANT-6903 VERTICAL
EUT : GSM/GPRS 850/900/1800/1900/
: WCDMA 2100 Smart Phone
POWER : 120Vac/60Hz
MODEL : FR 780803
MOME : 11b Tx_Ch06;2437MHz
DATA RATE: 1
PLANE : E2
ADAPTOR : 2

	Freq	Level	Over	Limit	ReadAntenna	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	2364.000	42.46	-31.54	74.00	44.52	28.00	3.71	33.77	100	0 Peak
2	2364.000	29.61	-24.39	54.00	31.67	28.00	3.71	33.77	100	329 Average
3 @	2437.000	91.20			93.01	28.19	3.79	33.79	100	329 Average
4 @	2437.000	95.19			97.00	28.19	3.79	33.79	100	0 Peak
5	2486.000	43.02	-30.98	74.00	44.72	28.26	3.84	33.80	100	0 Peak
6	2486.000	30.78	-23.22	54.00	32.48	28.26	3.84	33.80	100	329 Average
7	4874.000	49.29	-24.71	74.00	44.70	32.98	5.91	34.30	100	0 Peak
8	4874.000	42.76	-11.24	54.00	38.17	32.98	5.91	34.30	100	49 Average
9	8874.000	52.65	-21.35	74.00	42.20	37.94	7.21	34.70	100	0 Peak
10	8874.000	40.95	-13.05	54.00	30.50	37.94	7.21	34.70	100	258 Average

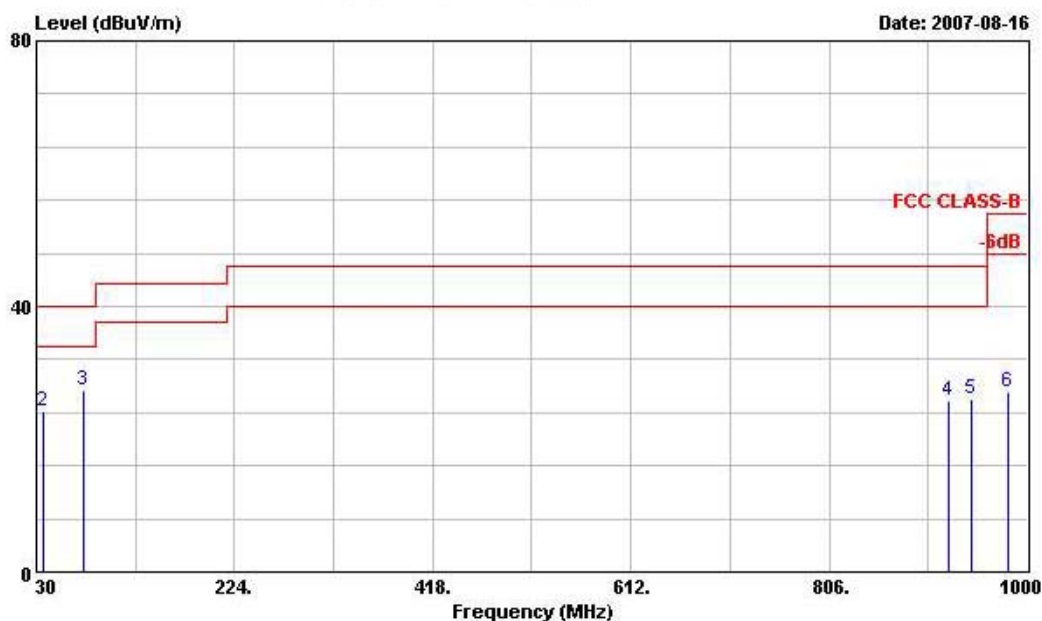
Remark: #3 and #4 Fundamental Signals



Test Mode : Mode 3

Polarization : Horizontal

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



Site : 03CH04-HY

Condition: FCC CLASS-B 3m ANT2724 HORIZONTAL

EUT : GSM/GPRS 850/900/1800/1900/

: WCDMA 2100 Smart Phone

POWER : 120Vac/60Hz

MODEL : FR 780803

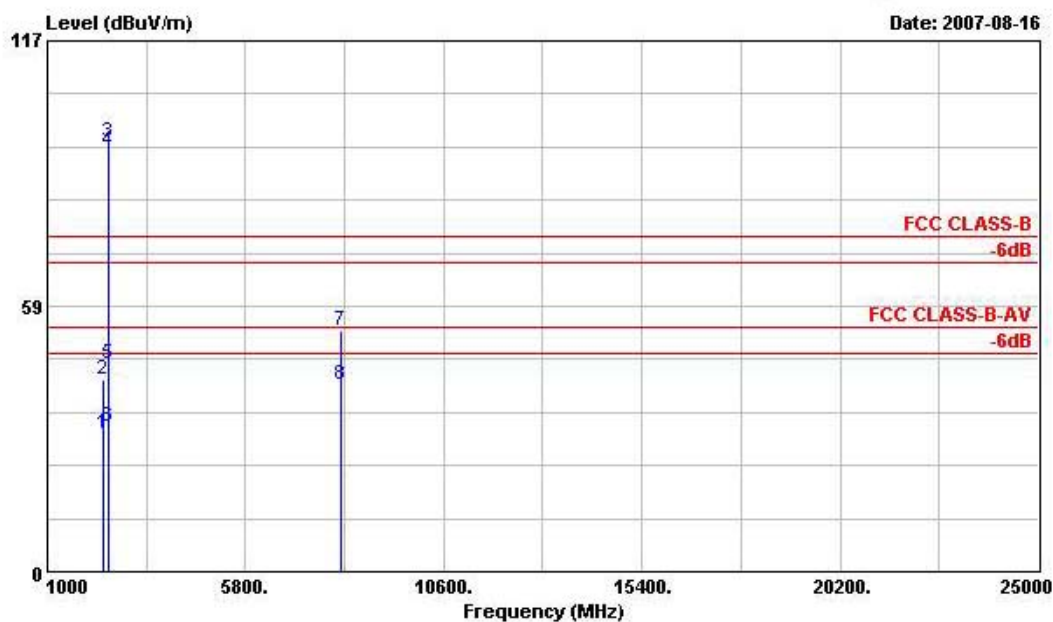
MOME : 11b Tx_Ch11;2462MHz

DATA RATE: 1

PLANE : E2

ADAPTOR : 2

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	cm	deg	
1 @	30.000	35.00	-5.00	40.00	50.64	16.38	0.87	32.89	100	206 Peak
2	36.750	24.09	-15.91	40.00	41.69	14.50	0.93	33.03	---	Peak
3	76.170	27.28	-12.72	40.00	52.31	6.54	1.24	32.81	---	Peak
4	923.000	25.68	-20.32	46.00	29.04	24.10	3.97	31.43	---	Peak
5	946.100	26.08	-19.92	46.00	28.85	24.67	3.98	31.42	---	Peak
6	981.800	27.22	-26.78	54.00	28.77	25.58	3.99	31.13	---	Peak



Site : 03CH04-HY
Condition: FCC CLASS-B 3m HF-ANT-6903 HORIZONTAL
EUT : GSM/GPRS 850/900/1800/1900/
: WCDMA 2100 Smart Phone
POWER : 120Vac/60Hz
MODEL : FR 780803
MOME : 11b Tx_Ch11;2462MHz
DATA RATE: 1
PLANE : E2
ADAPTOR : 2

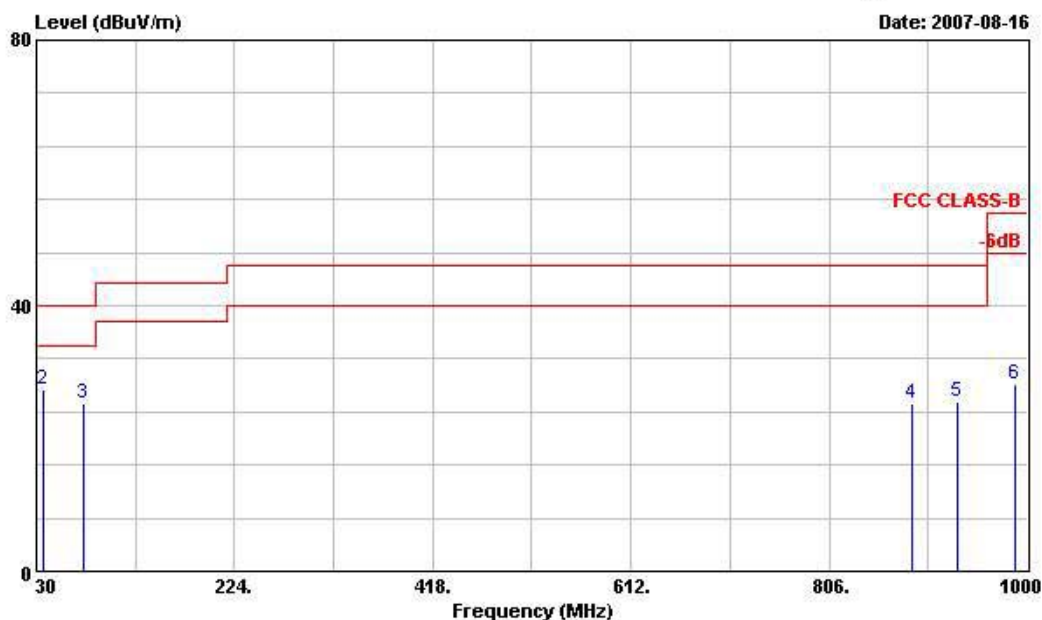
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	cm	deg	
1	2356.000	30.36	-23.64	54.00	32.45	28.00	3.69	121	276	Average
2	2356.000	42.37	-31.63	74.00	44.46	28.00	3.69	100	0	Peak
3 @	2462.000	94.57			96.32	28.22	3.81	100	0	Peak
4 @	2462.000	92.81			94.56	28.22	3.81	121	276	Average
5	2487.460	45.63	-28.37	74.00	47.33	28.26	3.84	100	0	Peak
6	2487.460	32.12	-21.88	54.00	33.82	28.26	3.84	121	276	Average
7	8118.000	53.04	-20.96	74.00	43.02	36.97	6.82	100	0	Peak
8	8118.000	41.22	-12.78	54.00	31.20	36.97	6.82	100	203	Average

Remark: #3 and #4 Fundamental Signals



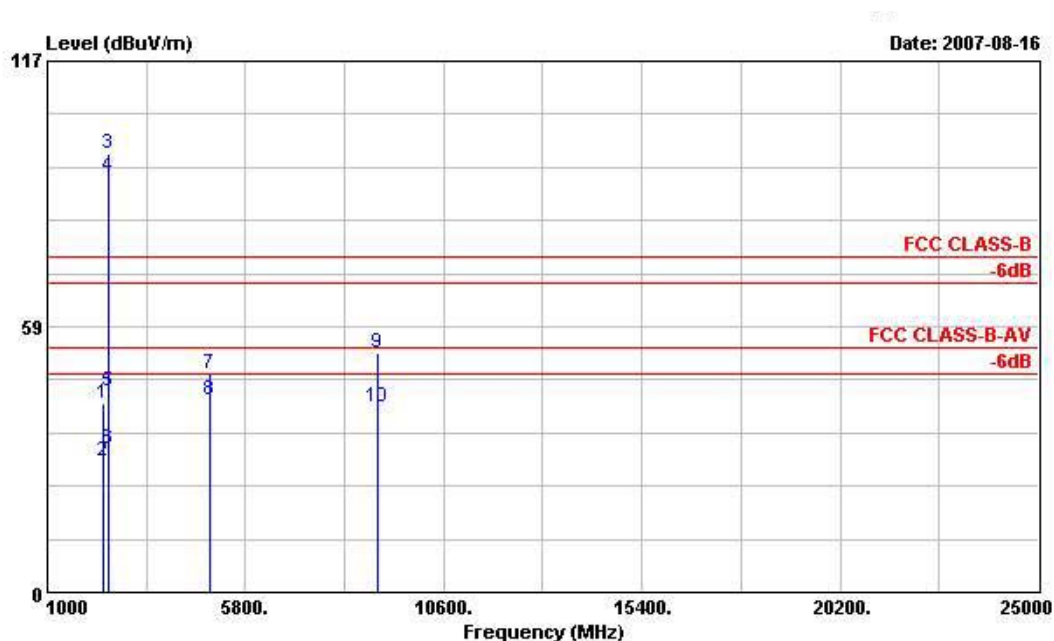
Polarization : Vertical

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



Site : 03CH04-HY
Condition: FCC CLASS-B 3m ANT2724 VERTICAL
EUT : GSM/GPRS 850/900/1800/1900/
: WCDMA 2100 Smart Phone
POWER : 120Vac/60Hz
MODEL : FR 780803
MOME : 11b Tx_Ch11;2462MHz
DATA RATE: 1
PLANE : E2
ADAPTOR : 2

	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	30.000	32.46	-7.54	40.00	48.10	16.38	0.87	32.89	100	356	Peak
2	36.480	27.30	-12.70	40.00	44.90	14.50	0.93	33.03	---	---	Peak
3	76.170	25.34	-14.66	40.00	50.37	6.54	1.24	32.81	---	---	Peak
4	887.300	25.30	-20.70	46.00	29.86	23.05	3.93	31.54	---	---	Peak
5	932.100	25.47	-20.53	46.00	28.60	24.32	3.97	31.42	---	---	Peak
6	988.100	28.27	-25.73	54.00	29.59	25.75	3.99	31.07	---	---	Peak



Site : 03CH04-HY
Condition: FCC CLASS-B 3m HF-ANT-6903 VERTICAL
EUT : GSM/GPRS 850/900/1800/1900/
: WCDMA 2100 Smart Phone
POWER : 120Vac/60Hz
MODEL : FR 780803
MOME : 11b Tx_Ch11; 2462MHz
DATA RATE: 1
PLANE : E2
ADAPTOR : 2

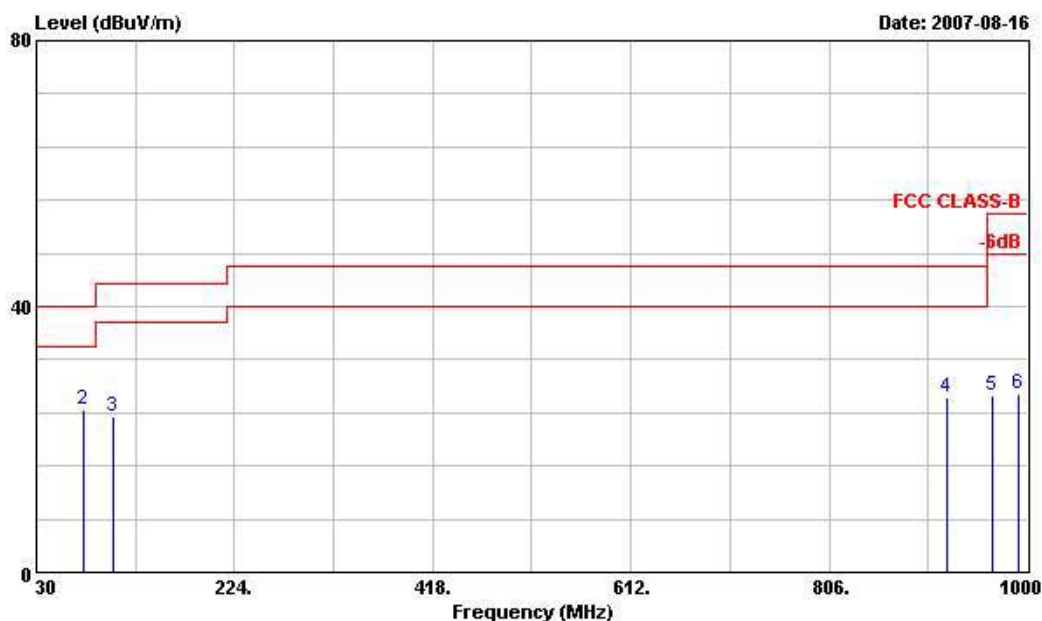
	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2366.000	41.74	-32.26	74.00	43.81	28.00	3.71	33.78	100	0	Peak
2	2366.000	28.98	-25.02	54.00	31.05	28.00	3.71	33.78	100	45	Average
3 @	2462.000	96.55			98.30	28.22	3.81	33.79	100	0	Peak
4 @	2462.000	91.73			93.48	28.22	3.81	33.79	100	45	Average
5	2491.450	44.35	-29.65	74.00	46.05	28.26	3.84	33.80	100	0	Peak
6	2491.450	31.60	-22.40	54.00	33.26	28.30	3.84	33.80	100	45	Average
7	4924.000	48.14	-25.86	74.00	43.42	33.08	5.95	34.30	100	0	Peak
8	4924.000	42.32	-11.68	54.00	37.60	33.08	5.95	34.30	100	266	Average
9	8985.000	52.79	-21.21	74.00	42.22	38.08	7.27	34.78	100	0	Peak
10	8985.000	40.77	-13.23	54.00	30.20	38.08	7.27	34.78	100	310	Average

Remark: #3 and #4 Fundamental Signals



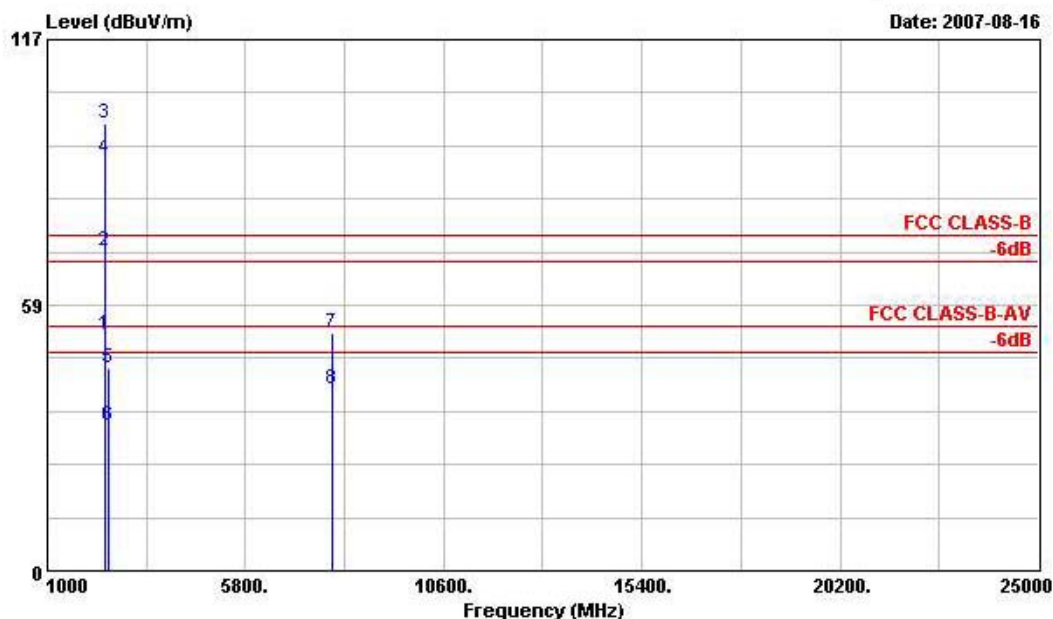
Test Mode : Mode 4

Polarization : Horizontal

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

Site : 03CH04-HY
Condition: FCC CLASS-B 3m ANT2724 HORIZONTAL
EUT : GSM/GPRS 850/900/1800/1900/
: WCDMA 2100 Smart Phone
POWER : 120Vac/60Hz
MODEL : FR 780803
MOME : 11g Tx_Ch01;2412MHz
DATA RATE: 6
PLANE : E2
ADAPTOR : 2

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	30.540	35.94	-4.06	40.00	51.65	16.36	0.87	32.93	100	226 Peak
2	76.170	24.55	-15.45	40.00	49.58	6.54	1.24	32.81	---	---
3	105.330	23.37	-20.13	43.50	46.07	8.75	1.40	32.85	---	---
4	920.900	26.34	-19.66	46.00	29.77	24.03	3.97	31.43	---	---
5	965.700	26.66	-27.34	54.00	28.76	25.19	3.99	31.27	---	---
6	990.900	26.95	-27.05	54.00	28.17	25.83	3.99	31.04	---	---



Site : 03CH04-HY
Condition: FCC CLASS-B 3m HF-ANT-6903 HORIZONTAL
EUT : GSM/GPRS 850/900/1800/1900/
: WCDMA 2100 Smart Phone
POWER : 120Vac/60Hz
MODEL : FR 780803
MOME : 11g Tx_Ch01;2412MHz
DATA RATE: 6
PLANE : E2
ADAPTOR : 2

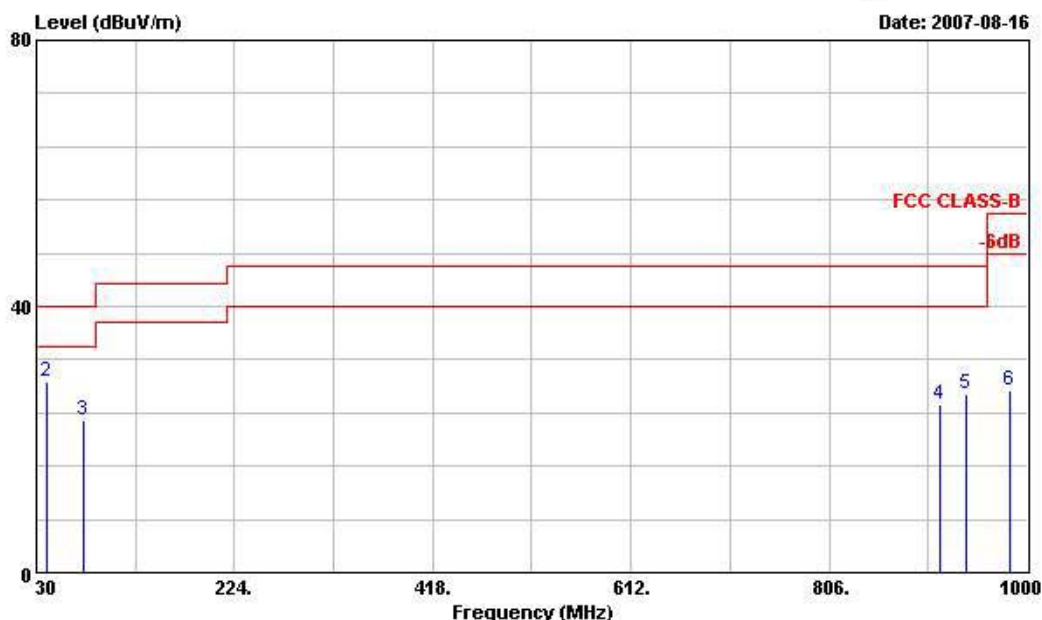
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	cm	deg	
1 @	2390.000	51.88	-2.12	54.00	53.85	28.07	3.74	33.78	122	277 Average
2 @	2390.000	70.52	-3.48	74.00	72.49	28.07	3.74	33.78	100	0 Peak
3 @	2412.000	98.61			100.52	28.11	3.76	33.78	100	0 Peak
4 @	2412.000	90.97			92.88	28.11	3.76	33.78	122	277 Average
5	2484.000	44.77	-29.23	74.00	46.47	28.26	3.84	33.80	100	0 Peak
6	2484.000	31.84	-22.16	54.00	33.54	28.26	3.84	33.80	122	277 Average
7	7881.000	52.46	-21.54	74.00	42.69	36.71	6.71	33.65	100	0 Peak
8	7881.000	40.17	-13.83	54.00	30.40	36.71	6.71	33.65	100	320 Average

Remark: #3 and #4 Fundamental Signals



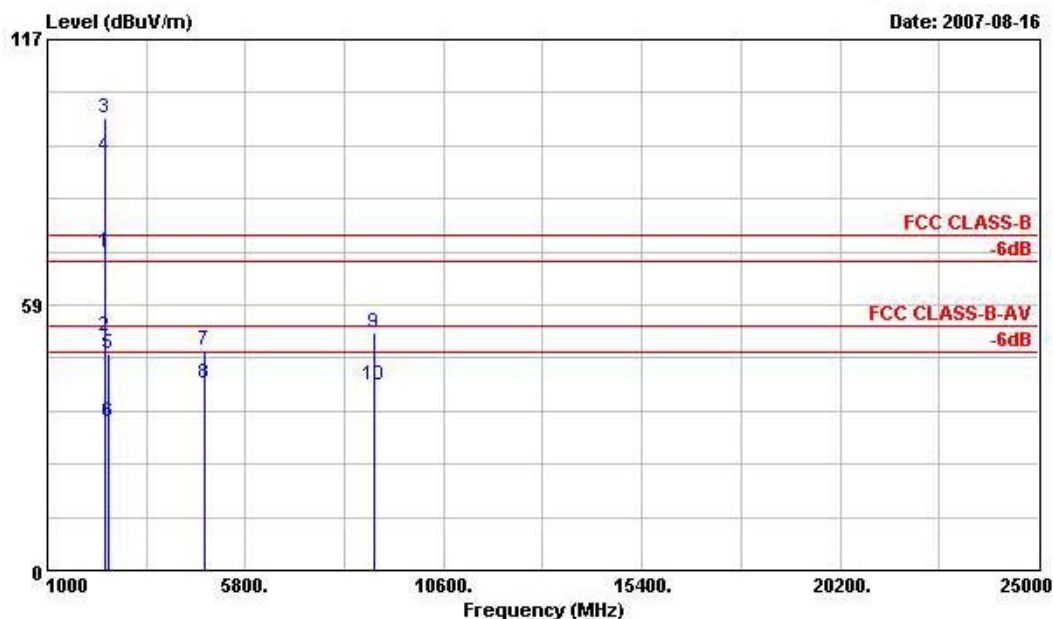
Polarization : Vertical

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



Site : 03CH04-HY
Condition: FCC CLASS-B 3m ANT2724 VERTICAL
EUT : GSM/GPRS 850/900/1800/1900/
: WCDMA 2100 Smart Phone
POWER : 120Vac/60Hz
MODEL : FR 780803
MOME : 11g Tx_Ch01;2412MHz
DATA RATE: 6
PLANE : E2
ADAPTOR : 2

	Freq	Level	Over	Limit	ReadAntenna	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	30.000	32.24	-7.76	40.00	47.88	16.38	0.87	32.89	100	360 Peak
2	40.530	28.56	-11.44	40.00	49.03	11.46	0.97	32.91	---	--- Peak
3	75.900	22.90	-17.10	40.00	48.06	6.41	1.24	32.81	---	--- Peak
4	915.300	25.16	-20.84	46.00	28.72	23.90	3.96	31.43	---	--- Peak
5	940.500	26.76	-19.24	46.00	29.66	24.55	3.98	31.42	---	--- Peak
6	982.500	27.28	-26.72	54.00	28.80	25.61	3.99	31.12	---	--- Peak



Site : 03CH04-HY
Condition: FCC CLASS-B 3m HF-ANT-6903 VERTICAL
EUT : GSM/GPRS 850/900/1800/1900/
: WCDMA 2100 Smart Phone
POWER : 120Vac/60Hz
MODEL : FR 780803
MOME : 11g Tx_Ch01;2412MHz
DATA RATE: 6
PLANE : E2
ADAPTOR : 2

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	cm	deg	
1 @	2390.000	70.20	-3.80	74.00	72.17	28.07	3.74	33.78	100	0 Peak
2 @	2390.000	51.54	-2.46	54.00	53.51	28.07	3.74	33.78	100	325 Average
3 @	2412.000	99.85			101.76	28.11	3.76	33.78	100	0 Peak
4 @	2412.000	91.05			92.96	28.11	3.76	33.78	100	325 Average
5	2492.000	47.61	-26.39	74.00	49.27	28.30	3.84	33.80	100	0 Peak
6	2492.000	32.70	-21.30	54.00	34.36	28.30	3.84	33.80	100	325 Average
7	4824.000	48.55	-25.45	74.00	44.08	32.89	5.88	34.30	100	0 Peak
8	4824.000	41.33	-12.67	54.00	36.86	32.89	5.88	34.30	100	255 Average
9	8934.000	52.34	-21.66	74.00	41.81	38.02	7.25	34.74	100	0 Peak
10	8934.000	40.63	-13.37	54.00	30.10	38.02	7.25	34.74	100	311 Average

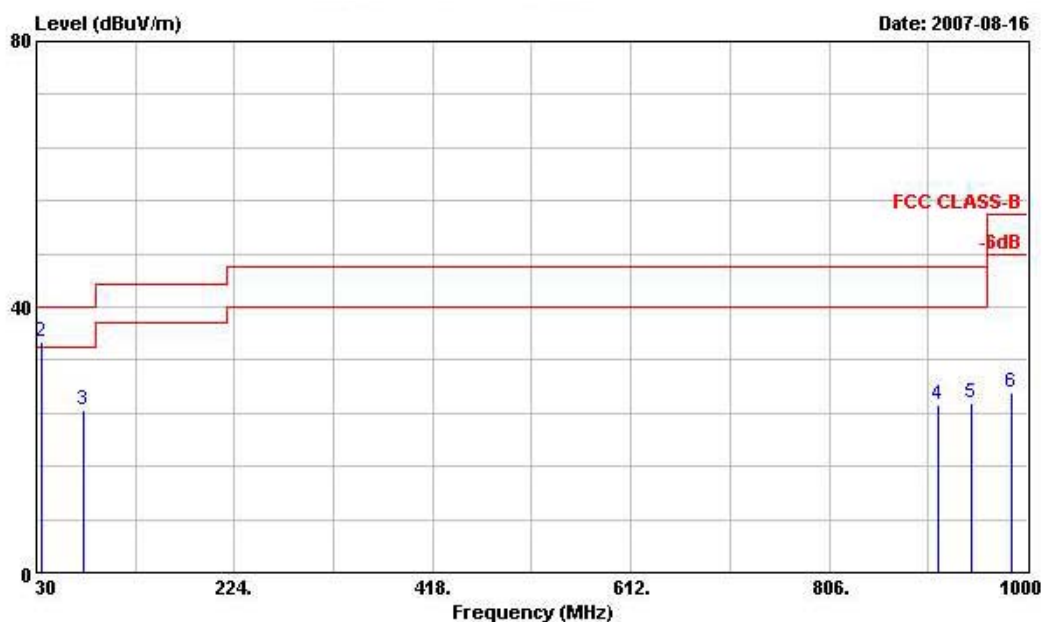
Remark: #3 and #4 Fundamental Signals



Test Mode : Mode 5

Polarization : Horizontal

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



Site : 03CH04-HY

Condition: FCC CLASS-B 3m ANT2724 HORIZONTAL

EUT : GSM/GPRS 850/900/1800/1900/

: WCDMA 2100 Smart Phone

POWER : 120Vac/60Hz

MODEL : FR 780803

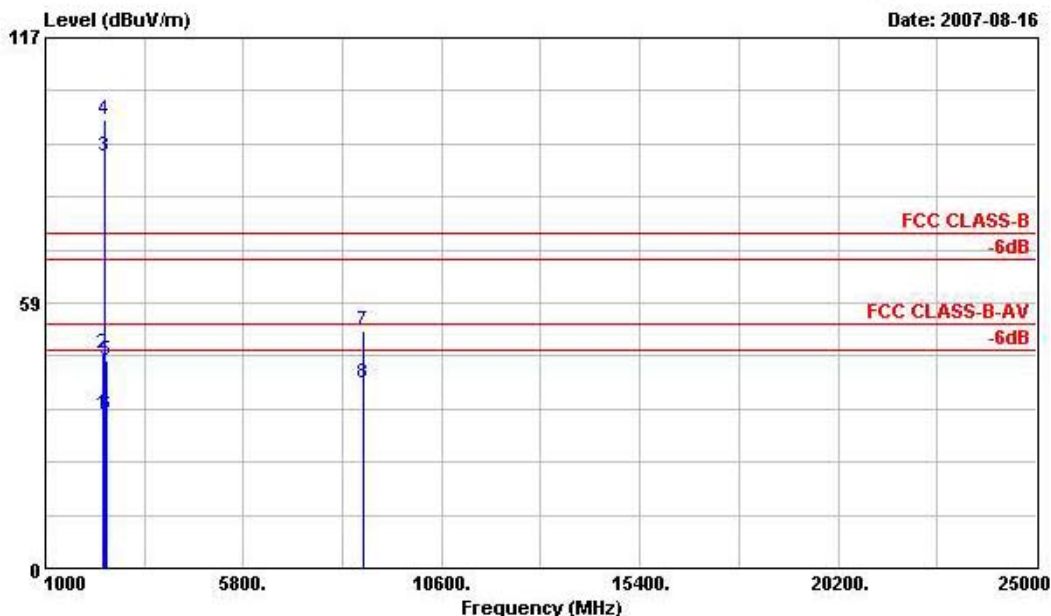
MOME : 11g Tx_Ch06;2437MHz

DATA RATE: 6

PLANE : E2

ADAPTOR : 2

	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	30.000	33.65	-6.35	40.00	49.29	16.38	0.87	32.89	---	---	Peak
2	76.170	24.39	-15.61	40.00	49.42	6.54	1.24	32.81	---	---	Peak
3	912.500	25.37	-20.63	46.00	29.01	23.83	3.96	31.43	---	---	Peak
4	945.400	25.52	-20.48	46.00	28.29	24.67	3.98	31.42	---	---	Peak
5	984.600	26.98	-27.02	54.00	28.43	25.66	3.99	31.10	---	---	Peak



Site : 03CH04-HY
Condition: FCC CLASS-B 3m HF-ANT-6903 HORIZONTAL
EUT : GSM/GPRS 850/900/1800/1900/
: WCDMA 2100 Smart Phone
POWER : 120Vac/60Hz
MODEL : FR 780803
MOME : 11g Tx_Ch06;2437MHz
DATA RATE: 6
PLANE : E2
ADAPTOR : 2

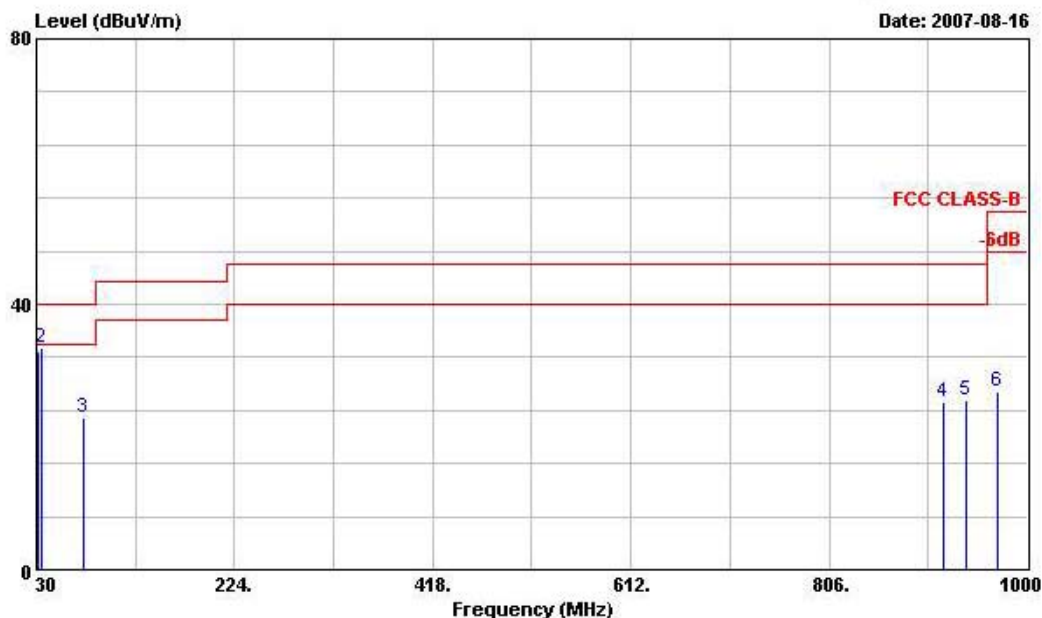
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	cm	deg	
1	2390.000	33.75	-20.25	54.00	35.72	28.07	3.74	120	277	Average
2	2390.000	47.25	-26.75	74.00	49.22	28.07	3.74	100	0	Peak
3 @	2437.000	90.95			92.76	28.19	3.79	120	277	Average
4 @	2437.000	98.76			100.58	28.19	3.79	100	0	Peak
5	2484.000	45.64	-28.36	74.00	47.34	28.26	3.84	100	0	Peak
6	2484.000	33.79	-20.21	54.00	35.49	28.26	3.84	120	277	Average
7	8685.000	52.53	-21.47	74.00	42.24	37.72	7.11	100	0	Peak
8	8685.000	40.89	-13.11	54.00	30.60	37.72	7.11	100	199	Average

Remark: #3 and #4 Fundamental Signals



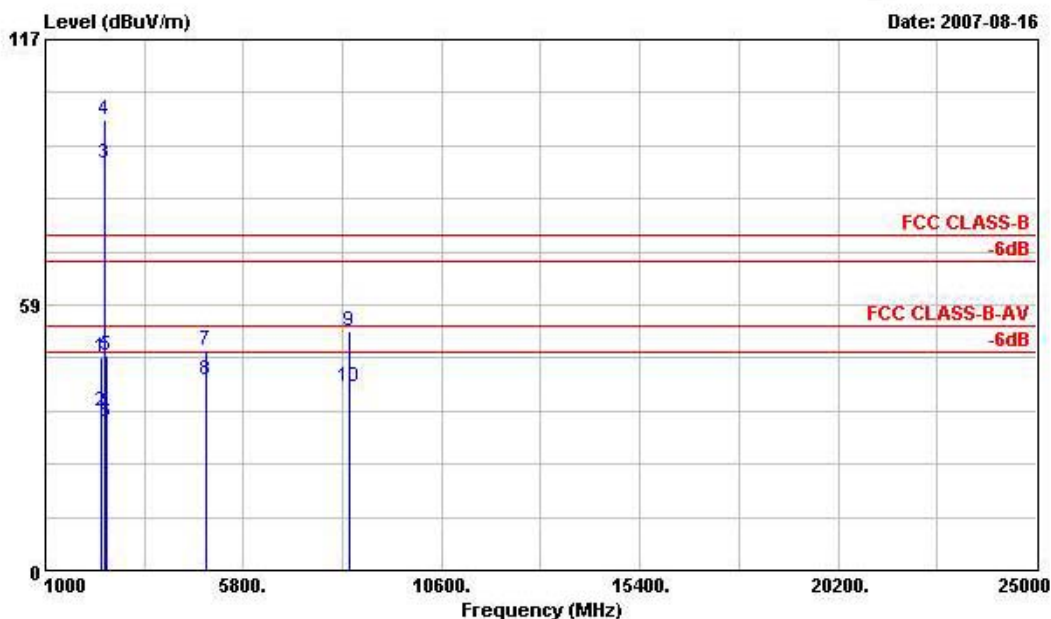
Polarization : Vertical

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



Site : 03CH04-HY
Condition: FCC CLASS-B 3m ANT2724 VERTICAL
EUT : GSM/GPRS 850/900/1800/1900/
: WCDMA 2100 Smart Phone
POWER : 120Vac/60Hz
MODEL : FR 780803
MOME : 11g Tx_Ch06;2437MHz
DATA RATE: 6
PLANE : E2
ADAPTOR : 2

	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	31.620	32.85	-7.15	40.00	48.61	16.34	0.88	32.98	---	---	Peak
2	35.400	33.46	-6.54	40.00	50.22	15.40	0.91	33.07	100	260	Peak
3	75.900	22.79	-17.21	40.00	47.95	6.41	1.24	32.81	---	---	Peak
4	918.100	25.39	-20.61	46.00	28.87	23.98	3.96	31.43	---	---	Peak
5	940.500	25.51	-20.49	46.00	28.41	24.55	3.98	31.42	---	---	Peak
6	970.600	26.74	-27.26	54.00	28.67	25.31	3.99	31.23	---	---	Peak



Site : 03CH04-HY
Condition: FCC CLASS-B 3m HF-ANT-6903 VERTICAL
EUT : GSM/GPRS 850/900/1800/1900/
: WCDMA 2100 Smart Phone
POWER : 120Vac/60Hz
MODEL : FR 780803
MOME : 11g Tx_Ch06;2437MHz
DATA RATE: 6
PLANE : E2
ADAPTOR : 2

	Freq	Level	Over	Limit	ReadAntenna	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	2350.000	46.86	-27.14	74.00	48.98	27.96	3.69	33.77	100	0 Peak
2	2350.000	34.87	-19.13	54.00	36.99	27.96	3.69	33.77	100	326 Average
3 @	2437.000	89.76			91.57	28.19	3.79	33.79	100	326 Average
4 @	2437.000	99.44			101.25	28.19	3.79	33.79	100	0 Peak
5	2484.000	47.52	-26.48	74.00	49.22	28.26	3.84	33.80	100	0 Peak
6	2484.000	32.71	-21.29	54.00	34.41	28.26	3.84	33.80	100	326 Average
7	4874.000	48.45	-25.55	74.00	43.85	32.98	5.92	34.30	100	0 Peak
8	4874.000	42.01	-11.99	54.00	37.42	32.98	5.91	34.30	100	69 Average
9	8385.000	52.86	-21.14	74.00	42.80	37.33	6.96	34.23	100	0 Peak
10	8385.000	40.28	-13.72	54.00	30.22	37.33	6.96	34.23	100	258 Average

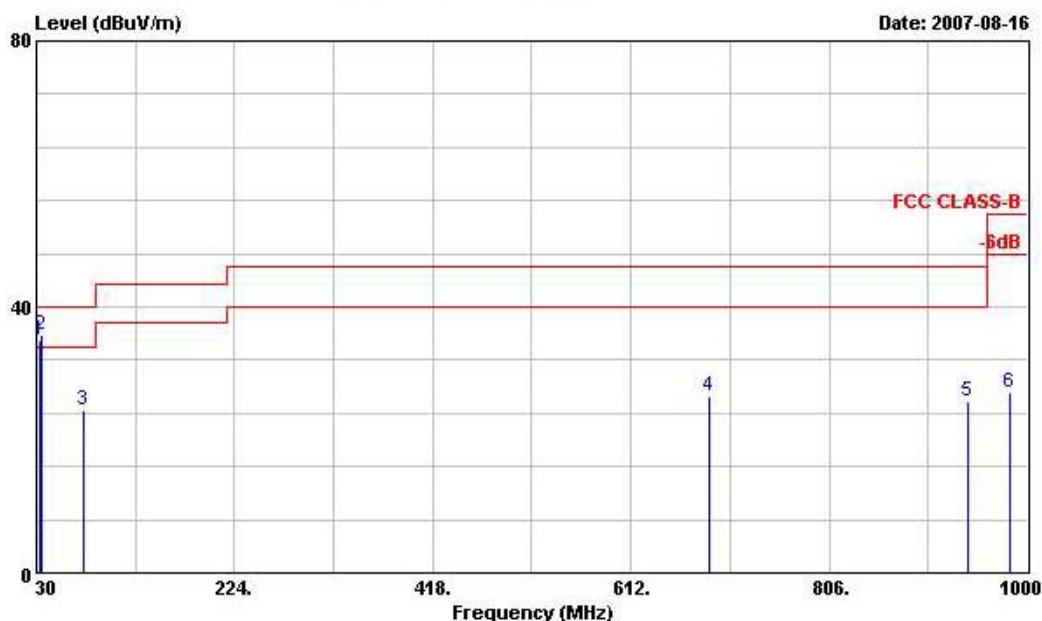
Remark: #3 and #4 Fundamental Signals



Test Mode : Mode 6

Polarization : Horizontal

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



Site : 03CH04-HY

Condition: FCC CLASS-B 3m ANT2724 HORIZONTAL

EUT : GSM/GPRS 850/900/1800/1900/

: WCDMA 2100 Smart Phone

POWER : 120Vac/60Hz

MODEL : FR 780803

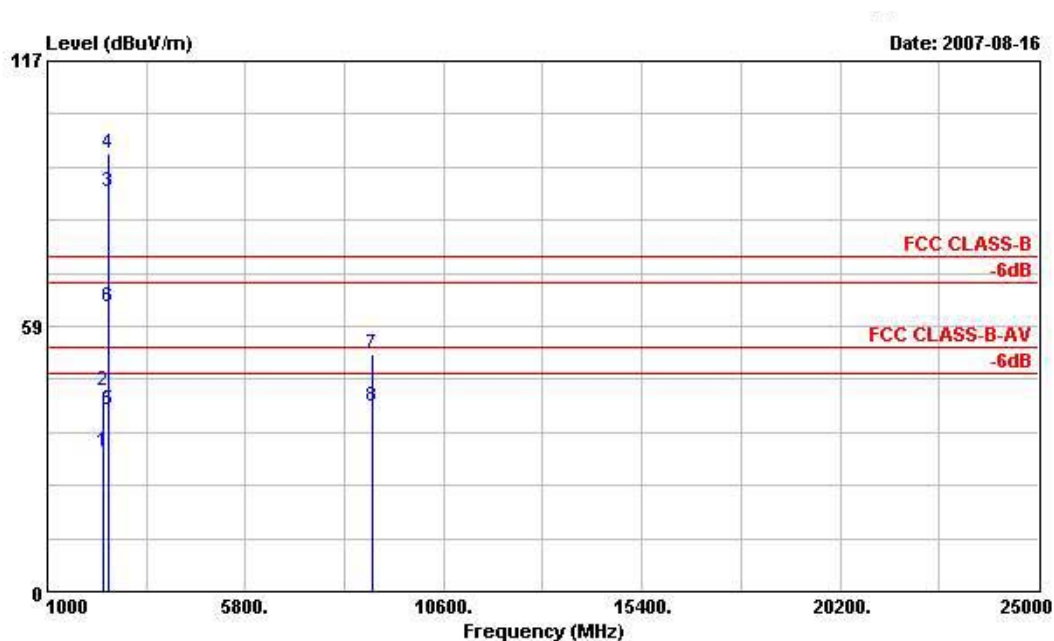
MOME : 11g Tx_Ch11;2462MHz

DATA RATE: 6

PLANE : E2

ADAPTOR : 2

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamplifier	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	32.700	34.87	-5.13	40.00	50.67	16.33	0.90	33.02	---	---	Peak
2	35.940	35.76	-4.24	40.00	52.51	15.40	0.93	33.07	100	266	Peak
3	75.900	24.46	-15.54	40.00	49.62	6.41	1.24	32.81	---	---	Peak
4	688.500	26.50	-19.50	46.00	34.97	20.11	3.48	32.06	---	---	Peak
5	942.600	25.74	-20.26	46.00	28.59	24.60	3.98	31.42	---	---	Peak
6	982.500	27.10	-26.90	54.00	28.62	25.61	3.99	31.12	---	---	Peak



Site : 03CH04-HY
Condition: FCC CLASS-B 3m HF-ANT-6903 HORIZONTAL
EUT : GSM/GPRS 850/900/1800/1900/
: WCDMA 2100 Smart Phone
POWER : 120Vac/60Hz
MODEL : FR 780803
MOME : 11g Tx_Ch11; 2462MHz
DATA RATE: 6
PLANE : E2
ADAPTOR : 2

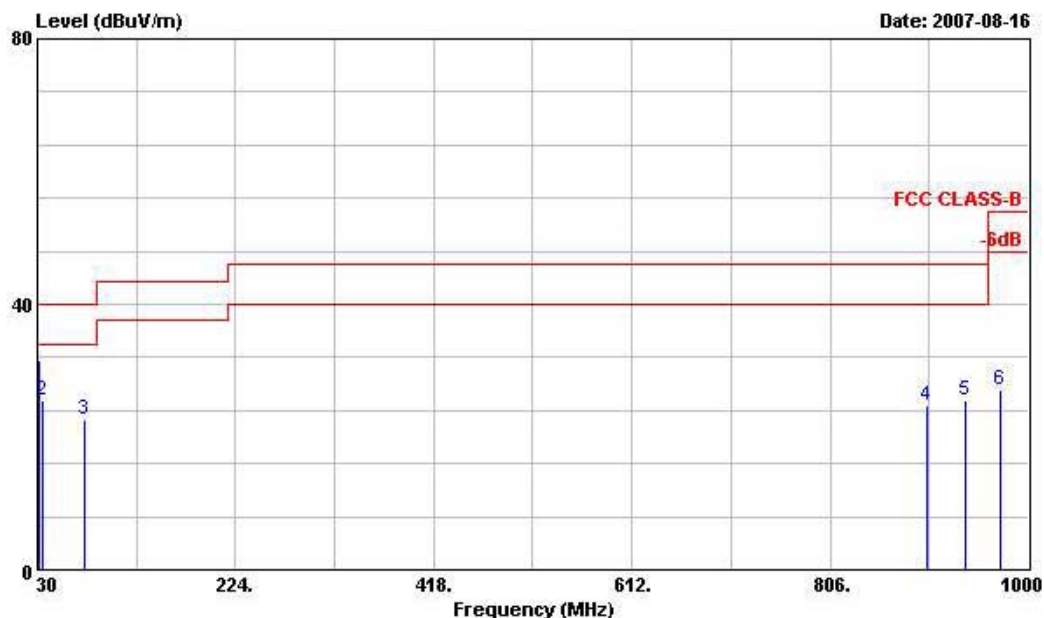
	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2340.000	30.64	-23.36	54.00	32.76	27.96	3.69	33.77	101	89	Average
2	2340.000	44.21	-29.79	74.00	46.33	27.96	3.69	33.77	100	0	Peak
3 @	2462.000	88.07			89.82	28.22	3.81	33.79	101	89	Average
4 @	2462.000	96.63			98.39	28.22	3.81	33.80	100	0	Peak
5	2483.500	40.09	-13.91	54.00	41.79	28.26	3.84	33.80	101	89	Average
6	2483.500	62.89	-11.11	74.00	64.59	28.26	3.84	33.80	100	0	Peak
7	8889.000	52.52	-21.48	74.00	42.04	37.96	7.22	34.70	100	0	Peak
8	8889.000	40.88	-13.12	54.00	30.40	37.96	7.22	34.70	100	266	Average

Remark: #3 and #4 Fundamental Signals



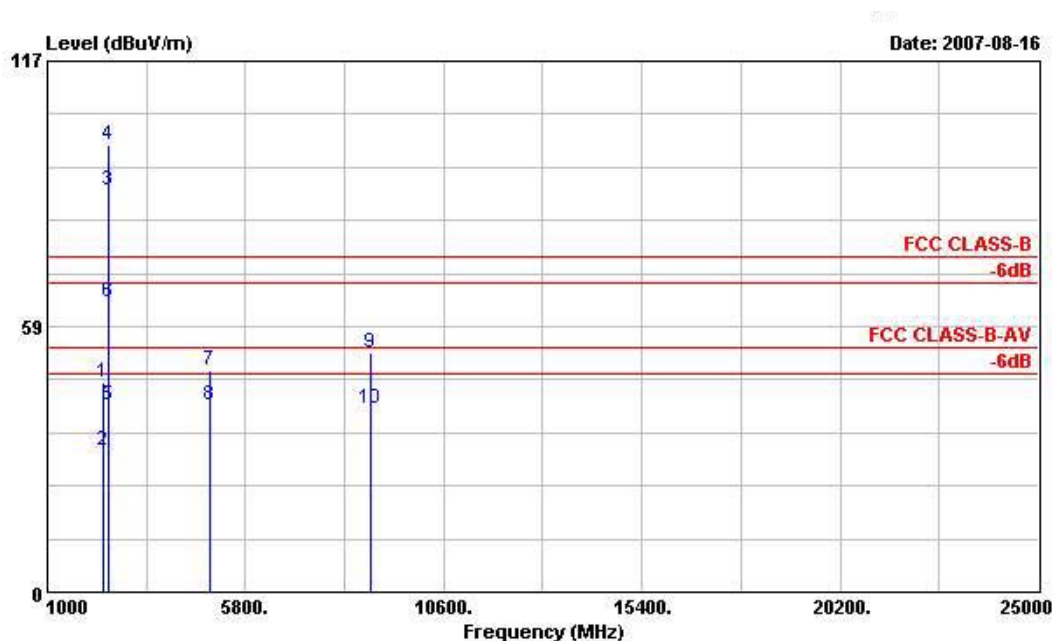
Polarization : Vertical

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



Site : 03CH04-HY
Condition: FCC CLASS-B 3m ANT2724 VERTICAL
EUT : GSM/GPRS 850/900/1800/1900/
: WCDMA 2100 Smart Phone
POWER : 120Vac/60Hz
MODEL : FR 780803
MOME : 11g Tx_Ch11;2462MHz
DATA RATE: 6
PLANE : E2
ADAPTOR : 2

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	31.620	31.62	-8.38	40.00	47.38	16.34	0.88	32.98	100	262 Peak
2	35.130	25.50	-14.50	40.00	41.41	16.29	0.91	33.11	---	---
3	75.900	22.63	-17.37	40.00	47.79	6.41	1.24	32.81	---	---
4	901.300	24.70	-21.30	46.00	28.64	23.53	3.96	31.43	---	---
5	937.700	25.43	-20.57	46.00	28.41	24.47	3.98	31.42	---	---
6	973.400	27.14	-26.86	54.00	28.97	25.38	3.99	31.20	---	---



Site : 03CH04-HY
Condition: FCC CLASS-B 3m HF-ANT-6903 VERTICAL
EUT : GSM/GPRS 850/900/1800/1900/
: WCDMA 2100 Smart Phone
POWER : 120Vac/60Hz
MODEL : FR 780803
MOME : 11g Tx_Ch11;2462MHz
DATA RATE: 6
PLANE : E2
ADAPTOR : 2

	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	2356.000	46.29	-27.71	74.00	48.38	28.00	3.69	33.77	100	0	Peak
2	2356.000	31.34	-22.66	54.00	33.43	28.00	3.69	33.77	100	229	Average
3	2462.000	88.63			90.38	28.22	3.81	33.79	100	229	Average
4	2462.000	98.43			100.18	28.22	3.81	33.79	100	0	Peak
5	2483.500	41.04	-12.96	54.00	42.74	28.26	3.84	33.80	100	229	Average
6	2483.500	64.03	-9.97	74.00	65.73	28.26	3.84	33.80	100	0	Peak
7	4924.000	48.74	-25.26	74.00	44.02	33.08	5.95	34.30	100	0	Peak
8	4924.000	41.30	-12.70	54.00	36.58	33.08	5.95	34.30	100	320	Average
9	8817.000	52.87	-21.13	74.00	42.47	37.88	7.18	34.66	100	0	Peak
10	8817.000	40.60	-13.40	54.00	30.20	37.88	7.18	34.66	100	220	Average

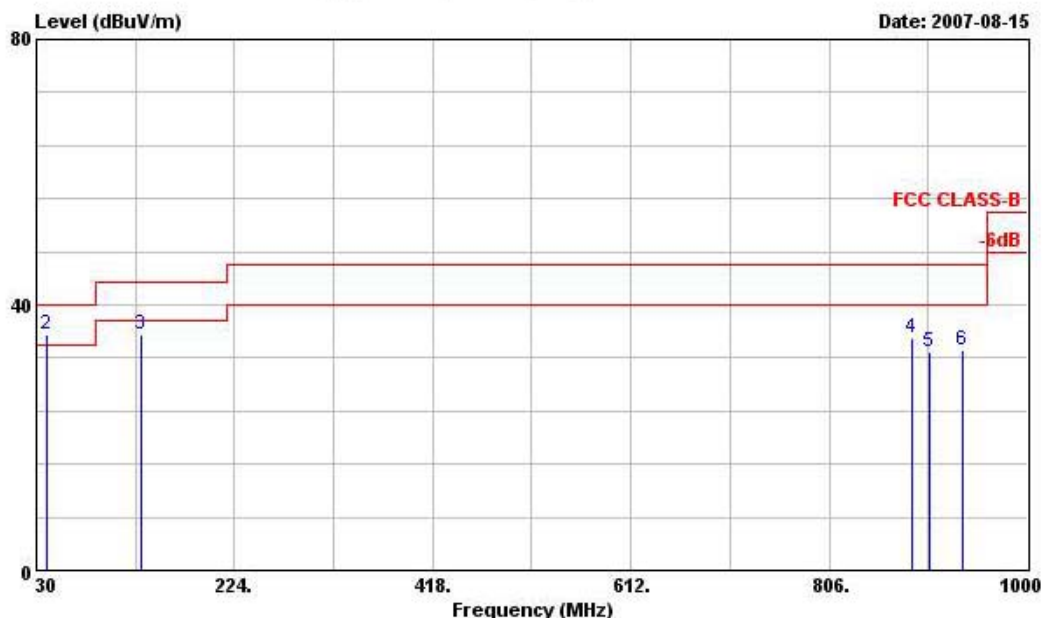
Remark: #3 and #4 Fundamental Signals



Test Mode : Mode 7

Polarization : Horizontal

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



Site : 03CH04-HY

Condition: FCC CLASS-B 3m ANT2724 HORIZONTAL

EUT : GSM/GPRS 850/900/1800/1900/

: WCDMA 2100 Smart Phone

POWER : 120Vac/60Hz

MODEL : FR 780803

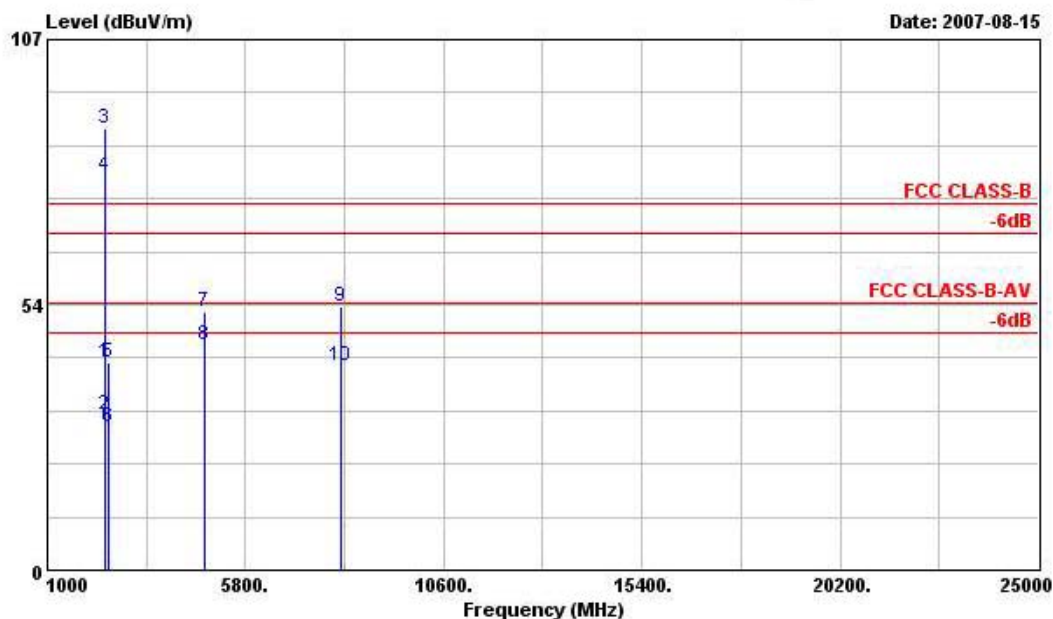
MOME : Bluetooth Tx_Ch00;2402MHz

DATA RATE: DH5

PLANE : E2

ADAPTOR : 2

	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 !	30.000	34.33	-5.67	40.00	49.97	16.38	0.87	32.89	---	---	Peak
2 @	39.450	35.55	-4.45	40.00	55.67	11.82	0.96	32.90	100	266	Peak
3	133.140	35.62	-7.88	43.50	55.72	11.20	1.58	32.87	---	---	Peak
4	887.300	34.96	-11.04	46.00	39.52	23.05	3.93	31.54	---	---	Peak
5	904.100	32.95	-13.05	46.00	36.81	23.61	3.96	31.43	---	---	Peak
6	937.000	33.24	-12.76	46.00	36.24	24.45	3.98	31.42	---	---	Peak



Site : 03CH04-HY
Condition: FCC CLASS-B 3m HF-ANT-6903 HORIZONTAL
EUT : GSM/GPRS 850/900/1800/1900/
: WCDMA 2100 Smart Phone
POWER : 120Vac/60Hz
MODEL : FR 780803
MOME : Bluetooth Tx_Ch00;2402MHz
DATA RATE: DH5
PLANE : E2
ADAPTOR : 2

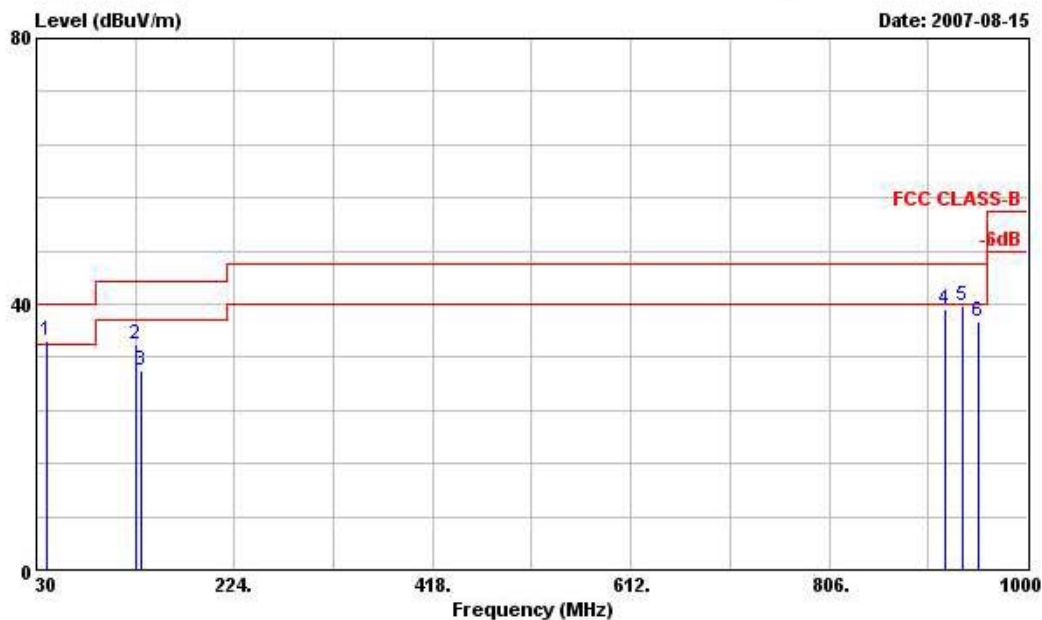
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	2375.930	41.87	-32.13	74.00	43.84	28.07	3.74	33.78	100	0 Peak
2	2375.930	31.50	-22.50	54.00	33.53	28.03	3.71	33.78	100	331 Average
3 @	2402.000	89.16			91.09	28.11	3.74	33.78	100	0 Peak
4 @	2402.000	79.44			81.41	28.07	3.74	33.78	100	331 Average
5	2492.000	41.93	-32.07	74.00	43.59	28.30	3.84	33.80	100	0 Peak
6	2492.000	28.74	-25.26	54.00	30.40	28.30	3.84	33.80	100	331 Average
7	4804.000	52.15	-21.85	74.00	47.71	32.86	5.88	34.30	100	0 Peak
8	4804.000	45.55	-8.45	54.00	41.13	32.86	5.86	34.30	102	333 Average
9	8130.000	53.21	-20.79	74.00	43.23	36.97	6.82	33.81	100	0 Peak
10	8130.000	41.18	-12.82	54.00	31.20	36.97	6.82	33.81	100	258 Average

Remark: #3 and #4 Fundamental Signals



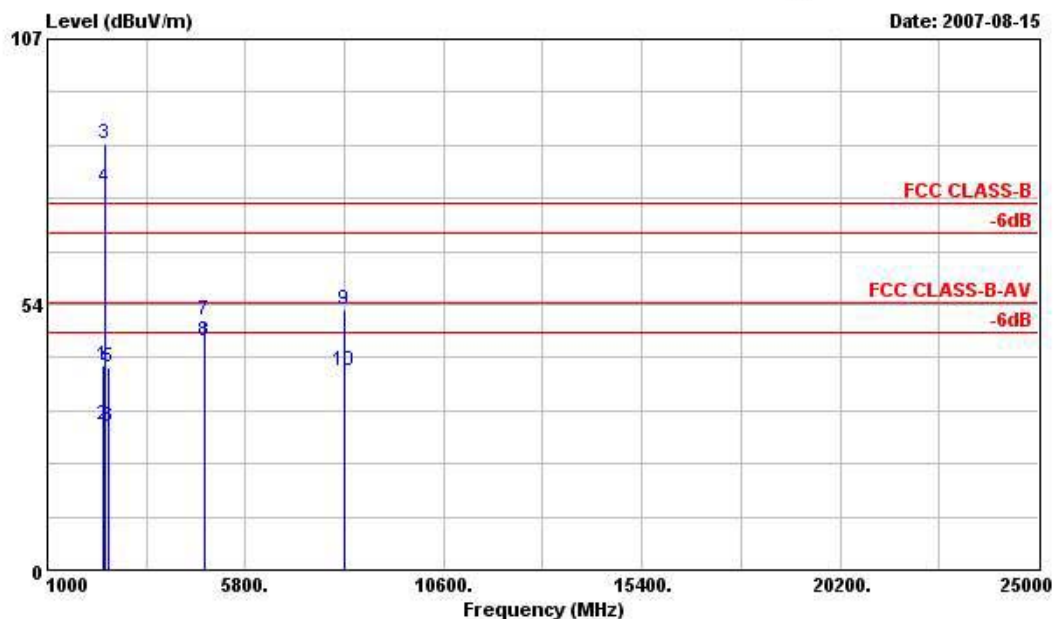
Polarization : Vertical

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



Site : 03CH04-HY
 Condition: FCC CLASS-B 3m ANT2724 VERTICAL
 EUT : GSM/GPRS 850/900/1800/1900/
 : WCDMA 2100 Smart Phone
 POWER : 120Vac/60Hz
 MODEL : FR 780803
 MOME : Bluetooth Tx_Ch00;2402MHz
 DATA RATE: DHS
 PLANE : E2
 ADAPTOR : 2

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level Factor	Cable Preamp Loss Factor	Ant Pos	Table Pos	Remark		
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	39.450	34.54	-5.46	40.00	54.66	11.82	0.96	32.90	100	300	Peak
2	126.660	33.88	-9.62	43.50	53.49	11.72	1.52	32.86	---	---	Peak
3	133.140	29.91	-13.59	43.50	50.01	11.20	1.58	32.87	---	---	Peak
4	920.200	39.22	-6.78	46.00	42.65	24.03	3.97	31.43	---	---	Peak
5	937.000	39.70	-6.30	46.00	42.70	24.45	3.98	31.42	---	---	Peak
6	951.700	37.35	-8.65	46.00	39.95	24.82	3.98	31.40	---	---	Peak



Site : 03CH04-HY
Condition: FCC CLASS-B 3m HF-ANT-6903 VERTICAL
EUT : GSM/GPRS 850/900/1800/1900/
: WCDMA 2100 Smart Phone
POWER : 120Vac/60Hz
MODEL : FR 780803
MOME : Bluetooth Tx_Ch00;2402MHz
DATA RATE: DH5
PLANE : E2
ADAPTOR : 2

	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	2342.490	41.24	-32.76	74.00	43.36	27.96	3.69	33.77	100	0	Peak
2	2342.490	29.18	-24.82	54.00	31.30	27.96	3.69	33.77	100	195	Average
3 @	2402.000	86.00			87.93	28.11	3.74	33.78	100	0	Peak
4 @	2402.000	77.12			79.09	28.07	3.74	33.78	100	195	Average
5	2492.000	40.87	-33.13	74.00	42.53	28.30	3.84	33.80	100	0	Peak
6	2492.000	28.76	-25.24	54.00	30.42	28.30	3.84	33.80	100	195	Average
7	4804.000	50.34	-23.66	74.00	45.90	32.86	5.88	34.30	100	0	Peak
8	4804.000	46.05	-7.95	54.00	41.63	32.86	5.86	34.30	107	181	Average
9	8193.000	52.41	-21.59	74.00	42.38	37.07	6.86	33.89	100	0	Peak
10	8193.000	40.23	-13.77	54.00	30.20	37.07	6.86	33.89	100	288	Average

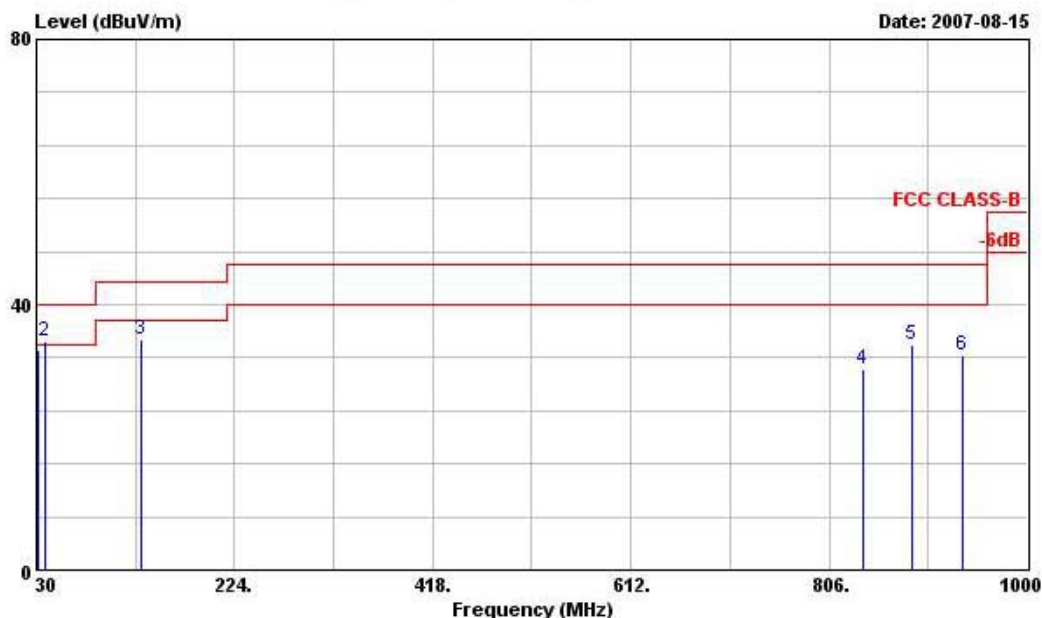
Remark: #3 and #4 Fundamental Signals



Test Mode : Mode 8

Polarization : Horizontal

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



Site : 03CH04-HY

Condition: FCC CLASS-B 3m ANT2724 HORIZONTAL

EUT : GSM/GPRS 850/900/1800/1900/

: WCDMA 2100 Smart Phone

POWER : 120Vac/60Hz

MODEL : FR 780803

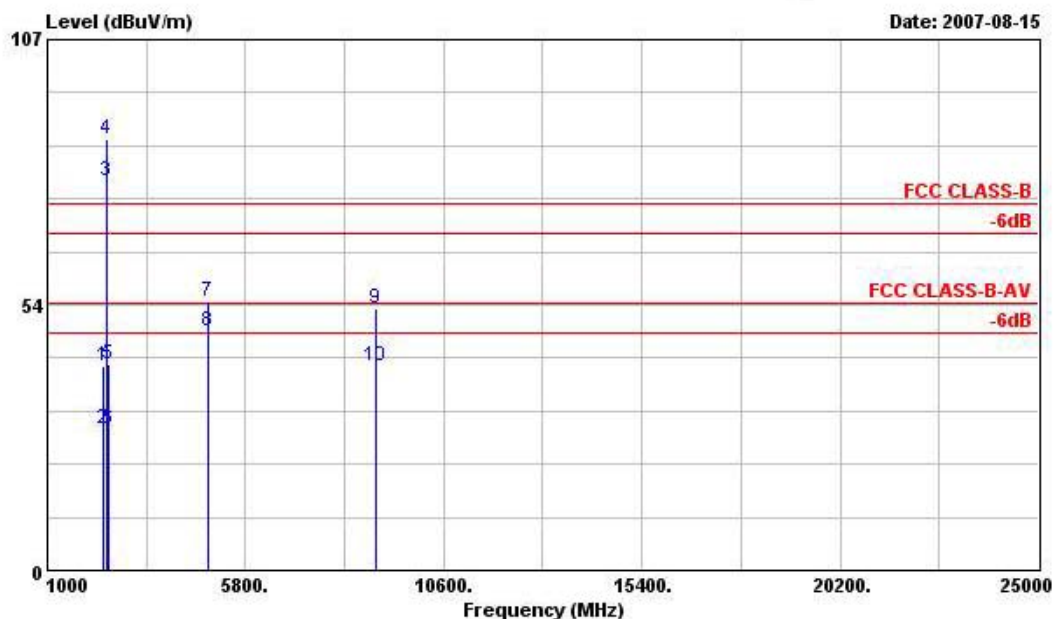
MOME : Bluetooth Tx_Ch39;2441MHz

DATA RATE: DH5

PLANE : E2

ADAPTOR : 2

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	cm	deg	
1	31.620	33.19	-6.81	40.00	48.95	16.34	0.88	32.98	---	Peak
2	39.180	34.56	-5.44	40.00	53.83	12.71	0.96	32.94	100	Peak
3	133.140	34.69	-8.81	43.50	54.79	11.20	1.58	32.87	---	Peak
4	839.700	30.27	-15.73	46.00	37.00	21.31	3.81	31.85	---	Peak
5	887.300	33.96	-12.04	46.00	38.52	23.05	3.93	31.54	---	Peak
6	937.000	32.24	-13.76	46.00	35.24	24.45	3.98	31.42	---	Peak



Site : 03CH04-HY
Condition: FCC CLASS-B 3m HF-ANT-6903 HORIZONTAL
EUT : GSM/GPRS 850/900/1800/1900/
: WCDMA 2100 Smart Phone
POWER : 120Vac/60Hz
MODEL : FR 780803
MOME : Bluetooth Tx_Ch39;2441MHz
DATA RATE: DHS
PLANE : E2
ADAPTOR : 2

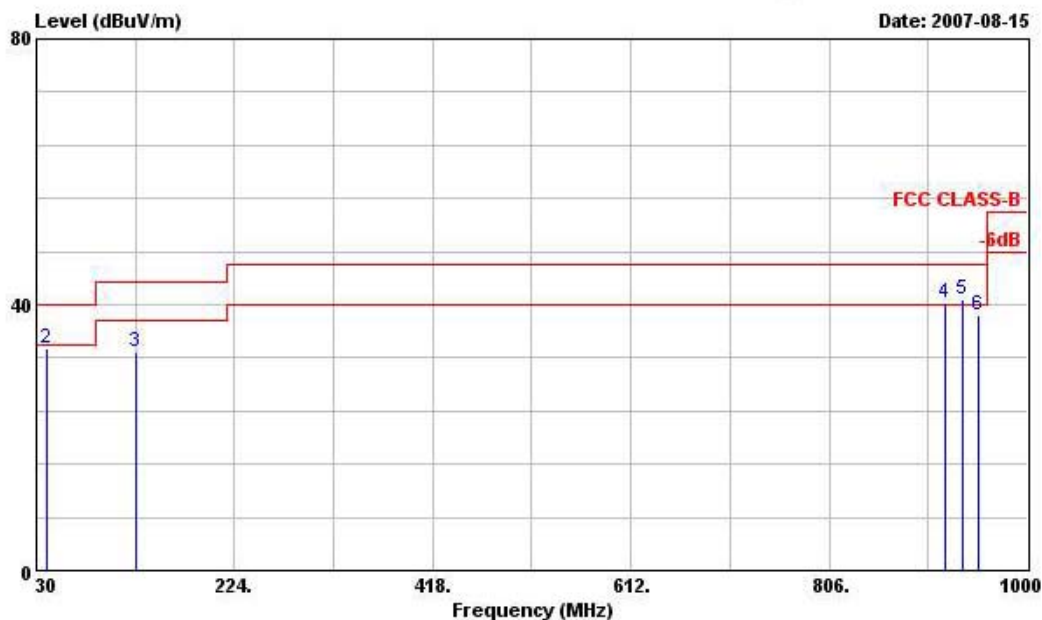
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	2334.000	41.31	-32.69	74.00	43.47	27.92	3.69	33.77	100	0 Peak
2	2334.000	28.43	-25.57	54.00	30.59	27.92	3.69	33.77	100	329 Average
3 @	2441.000	78.60			80.42	28.19	3.79	33.79	100	329 Average
4 @	2441.000	87.08			88.89	28.19	3.79	33.79	100	0 Peak
5	2486.000	41.65	-32.35	74.00	43.35	28.26	3.84	33.80	100	0 Peak
6	2486.000	28.66	-25.34	54.00	30.36	28.26	3.84	33.80	100	329 Average
7	4882.000	54.28	-19.72	74.00	49.68	32.98	5.92	34.30	100	0 Peak
8 !	4882.000	48.34	-5.66	54.00	43.74	32.98	5.92	34.30	100	332 Average
9	8937.000	52.82	-21.18	74.00	42.29	38.02	7.25	34.74	100	0 Peak
10	8937.000	41.03	-12.97	54.00	30.50	38.02	7.25	34.74	100	236 Average

Remark: #3 and #4 Fundamental Signals



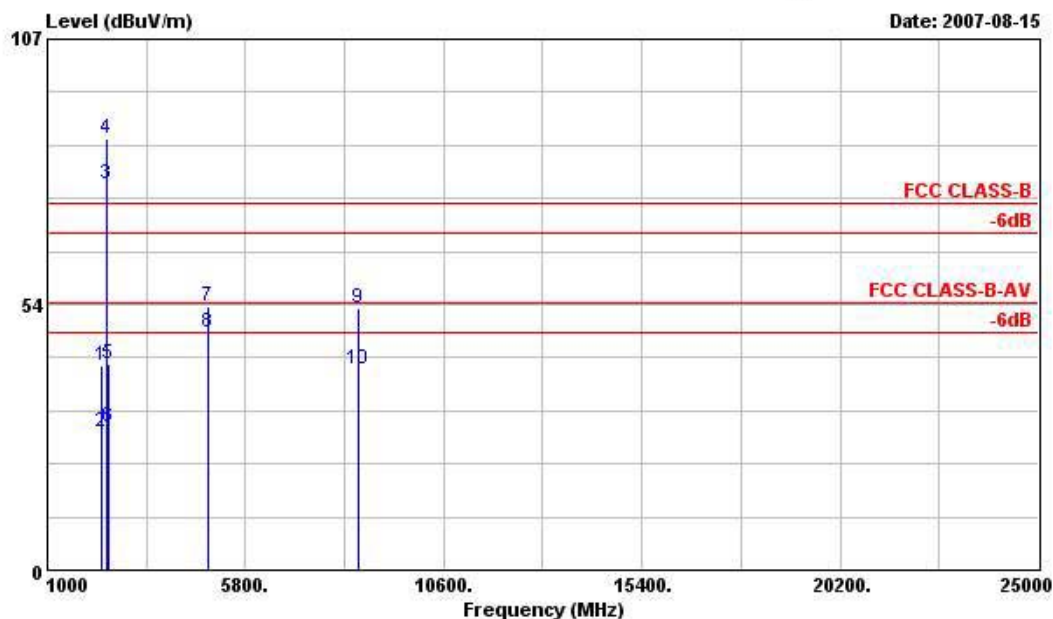
Polarization : Vertical

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



Site : 03CH04-HY
 Condition: FCC CLASS-B 3m ANT2724 VERTICAL
 EUT : GSM/GPRS 850/900/1800/1900/
 : WCDMA 2100 Smart Phone
 POWER : 120Vac/60Hz
 MODEL : FR 780803
 MOME : Bluetooth Tx_Ch39;2441MHz
 DATA RATE: DH5
 PLANE : E2
 ADAPTOR : 2

	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	30.000	26.96	-13.04	40.00	42.60	16.38	0.87	32.89	---	---	Peak
2	39.450	33.54	-6.46	40.00	53.66	11.82	0.96	32.90	---	---	Peak
3	126.660	32.88	-10.62	43.50	52.49	11.72	1.52	32.86	---	---	Peak
4	920.200	40.22	-5.78	46.00	43.65	24.03	3.97	31.43	---	---	Peak
5	937.000	40.70	-5.30	46.00	43.70	24.45	3.98	31.42	100	255	Peak
6	951.700	38.35	-7.65	46.00	40.95	24.82	3.98	31.40	---	---	Peak



Site : 03CH04-HY
Condition: FCC CLASS-B 3m HF-ANT-6903 VERTICAL
EUT : GSM/GPRS 850/900/1800/1900/
: WCDMA 2100 Smart Phone
POWER : 120Vac/60Hz
MODEL : FR 780803
MOME : Bluetooth Tx_Ch39;2441MHz
DATA RATE: DH5
PLANE : E2
ADAPTOR : 2

	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	2324.000	41.09	-32.91	74.00	43.27	27.92	3.66	33.77	100	0	Peak
2	2324.000	27.94	-26.06	54.00	30.12	27.92	3.66	33.77	100	149	Average
3 @	2441.000	77.85			79.67	28.19	3.79	33.79	100	149	Average
4 @	2441.000	86.83			88.65	28.19	3.79	33.79	100	0	Peak
5	2486.000	41.69	-32.31	74.00	43.39	28.26	3.84	33.80	100	0	Peak
6	2486.000	28.72	-25.28	54.00	30.42	28.26	3.84	33.80	100	149	Average
7	4882.000	53.02	-20.98	74.00	48.42	32.98	5.92	34.30	100	0	Peak
8	4882.000	47.89	-6.11	54.00	43.29	32.98	5.92	34.30	103	338	Average
9	8550.000	52.95	-21.05	74.00	42.78	37.56	7.05	34.44	100	0	Peak
10	8550.000	40.37	-13.63	54.00	30.20	37.56	7.05	34.44	100	306	Average

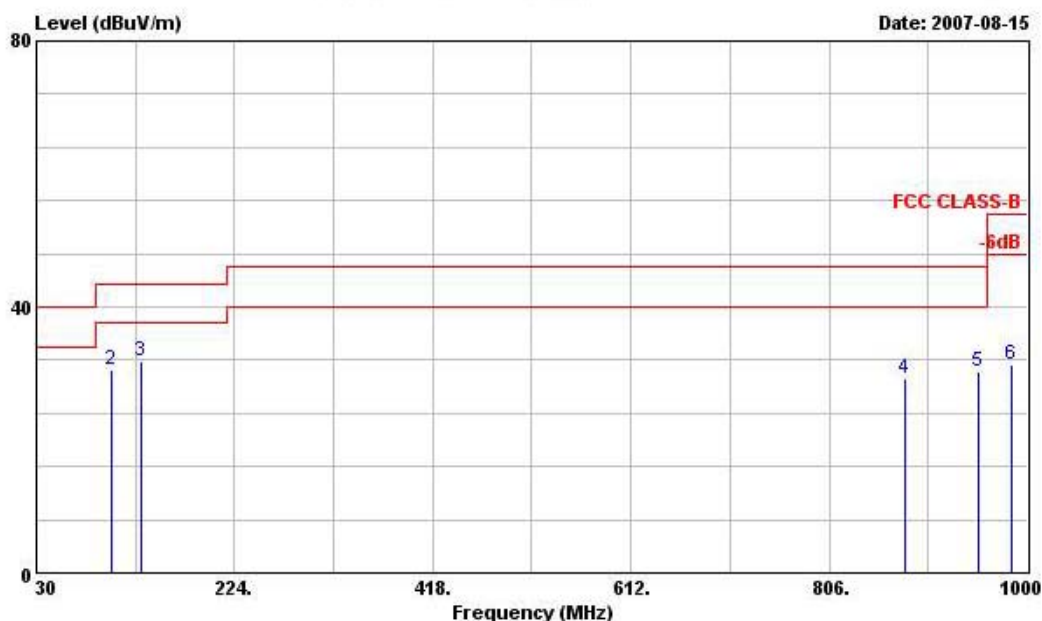
Remark: #3 and #4 Fundamental Signals



Test Mode : Mode 9

Polarization : Horizontal

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



Site : 03CH04-HY

Condition: FCC CLASS-B 3m ANT2724 HORIZONTAL

EUT : GSM/GPRS 850/900/1800/1900/

: WCDMA 2100 Smart Phone

POWER : 120Vac/60Hz

MODEL : FR 780803

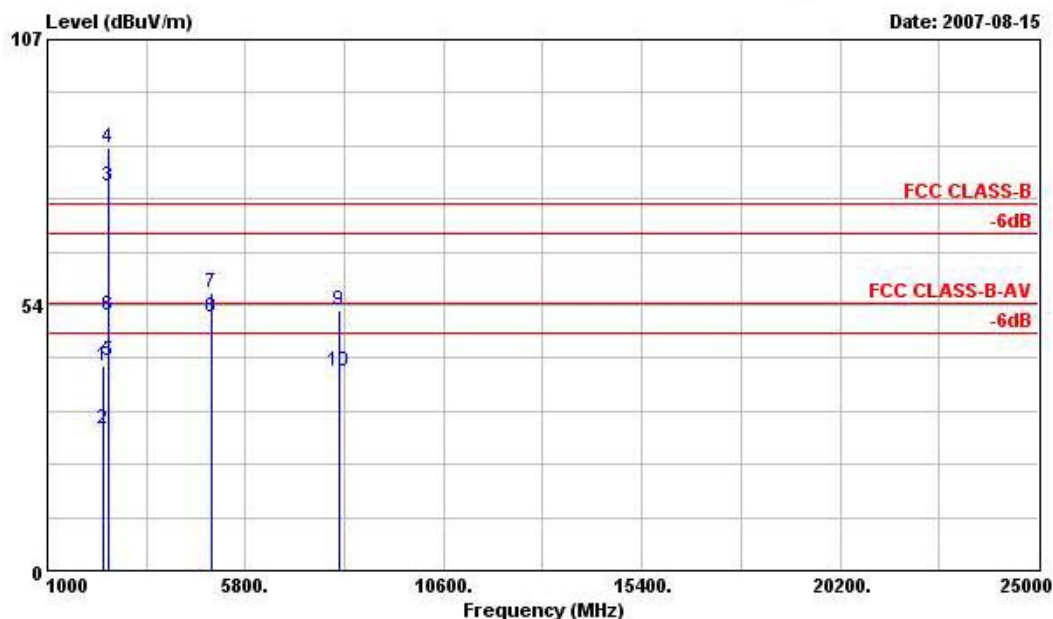
MOME : Bluetooth Tx_Ch78;2480MHz

DATA RATE: DH5

PLANE : E2

ADAPTOR : 2

	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 @	30.000	35.36	-4.64	40.00	51.00	16.38	0.87	32.89	100	306	Peak
2	103.980	30.63	-12.87	43.50	53.60	8.48	1.40	32.85	---	---	Peak
3	133.140	31.84	-11.66	43.50	51.94	11.20	1.58	32.87	---	---	Peak
4	881.000	29.29	-16.71	46.00	34.17	22.80	3.92	31.60	---	---	Peak
5	951.700	30.15	-15.85	46.00	32.75	24.82	3.98	31.40	---	---	Peak
6	984.600	31.20	-22.80	54.00	32.65	25.66	3.99	31.10	---	---	Peak



Site : 03CH04-HY
Condition: FCC CLASS-B 3m HF-ANT-6903 HORIZONTAL
EUT : GSM/GPRS 850/900/1800/1900/
: WCDMA 2100 Smart Phone
POWER : 120Vac/60Hz
MODEL : FR 780803
MOME : Bluetooth Tx_Ch78;2480MHz
DATA RATE: DHS
PLANE : E2
ADAPTOR : 2

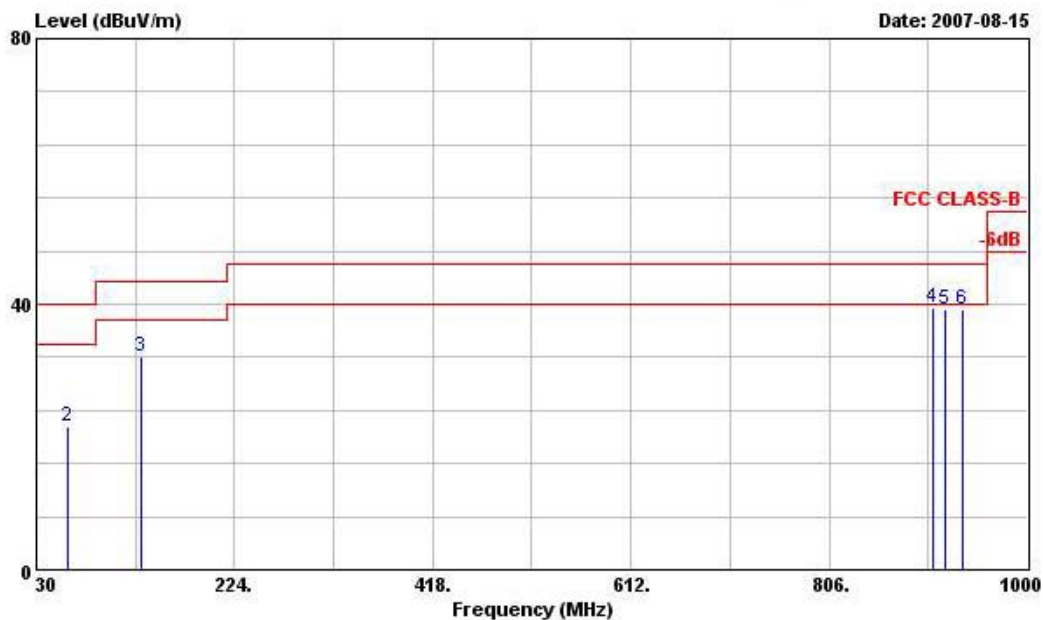
	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Cable Factor	Preamp Loss	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	cm	deg	
1	2342.000	41.03	-32.97	74.00	43.15	27.96	3.69	33.77	100	0 Peak
2	2342.000	28.44	-25.56	54.00	30.56	27.96	3.69	33.77	118	3 Average
3 @	2480.000	77.26			78.96	28.26	3.84	33.80	118	3 Average
4 @	2480.000	85.17			86.87	28.26	3.84	33.80	100	0 Peak
5	2483.500	42.32	-11.68	54.00	44.02	28.26	3.84	33.80	118	3 Average
6	2483.500	51.46	-22.54	74.00	53.16	28.26	3.84	33.80	100	0 Peak
7	4960.000	55.95	-18.05	74.00	51.15	33.14	5.96	34.30	100	0 Peak
8 @	4960.000	50.88	-3.12	54.00	46.08	33.14	5.96	34.30	100	332 Average
9	8058.000	52.60	-21.40	74.00	42.63	36.87	6.78	33.68	100	0 Peak
10	8058.000	40.17	-13.83	54.00	30.20	36.87	6.78	33.68	100	300 Average

Remark: #3 and #4 Fundamental Signals



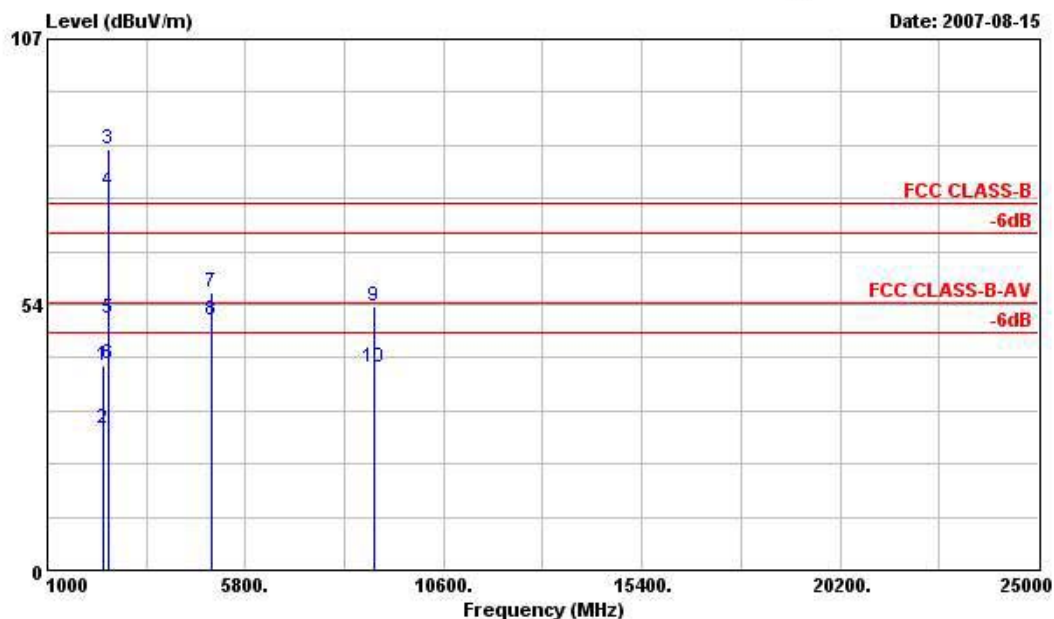
Polarization : Vertical

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



Site : 03CH04-HY
Condition: FCC CLASS-B 3m ANT2724 VERTICAL
EUT : GSM/GPRS 850/900/1800/1900/
: WCDMA 2100 Smart Phone
POWER : 120Vac/60Hz
MODEL : FR 780803
MOME : Bluetooth Tx_Ch78;2480MHz
DATA RATE: DH5
PLANE : E2
ADAPTOR : 2

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level Factor	Cable Preamp Loss Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	deg	
1	30.540	33.58	-6.42	40.00	49.29	16.36	0.87	32.93	100 360 Peak
2	60.780	21.67	-18.33	40.00	49.75	3.62	1.11	32.81	--- --- Peak
3	133.140	32.08	-11.42	43.50	52.18	11.20	1.58	32.87	--- --- Peak
4	908.300	39.46	-6.54	46.00	43.22	23.71	3.96	31.43	--- --- Peak
5	920.200	39.10	-6.90	46.00	42.53	24.03	3.97	31.43	--- --- Peak
6	937.000	39.24	-6.76	46.00	42.24	24.45	3.98	31.42	--- --- Peak



Site : 03CH04-HY
Condition: FCC CLASS-B 3m HF-ANT-6903 VERTICAL
EUT : GSM/GPRS 850/900/1800/1900/
: WCDMA 2100 Smart Phone
POWER : 120Vac/60Hz
MODEL : FR 780803
MOME : Bluetooth Tx_Ch78;2480MHz
DATA RATE: DH5
PLANE : E2
ADAPTOR : 2

	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	2340.000	41.06	-32.94	74.00	43.18	27.96	3.69	33.77	100	0	Peak
2	2340.000	28.42	-25.58	54.00	30.54	27.96	3.69	33.77	100	190	Average
3 @	2480.000	84.82			86.52	28.26	3.84	33.80	100	0	Peak
4 @	2480.000	76.28			77.98	28.26	3.84	33.80	100	190	Average
5	2483.500	50.78	-23.22	74.00	52.48	28.26	3.84	33.80	100	0	Peak
6	2483.500	41.69	-12.31	54.00	43.39	28.26	3.84	33.80	100	190	Average
7	4960.000	55.82	-18.18	74.00	51.02	33.14	5.96	34.30	100	0	Peak
8 @	4960.000	50.44	-3.56	54.00	45.64	33.14	5.96	34.30	100	181	Average
9	8898.000	53.27	-20.73	74.00	42.79	37.98	7.22	34.72	100	0	Peak
10	8898.000	40.78	-13.22	54.00	30.30	37.98	7.22	34.72	100	265	Average

Remark: #3 and #4 Fundamental Signals



5.12 Antenna Requirements

5.12.1 Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no other antenna except assembled by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.247 (b), if directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi.

5.12.2 Antenna Connected Construction

The antennas used in this product are PIFA antenna for WLAN and BT without connector and it is considered to meet antenna requirement of FCC.

5.12.3 Antenna Gain

The antenna gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

**6. List of Measuring Equipments Used**

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
EMC Receiver	R&S	ESCS 30	100132	9kHz – 2.75GHz	Jul. 14, 2007	Jul. 13, 2008	Conduction (CO01-HY)
LISN	MessTec	NNB-2/16Z	2001/004	9kHz – 30MHz	Mar. 30, 2007	Mar. 29, 2008	Conduction (CO01-HY)
LISN (Support Unit)	MessTec	NNB-2/16Z	2001/009	9kHz – 30MHz	Mar. 30, 2007	Mar. 29, 2008	Conduction (CO01-HY)
EMI Filter	LINDGREN	LRE-2060	1004	< 450Hz	N/A	N/A	Conduction (CO01-HY)
EMI Filter	LINDGREN	N6006	201052	0 – 60Hz	N/A	N/A	Conduction (CO01-HY)
RF Cable-CON	Suhner Switzerland	RG223/U	CB029	9kHz – 30MHz	Dec. 04, 2006	Dec. 03, 2007	Conduction (CO01-HY)
Isolation Transformer	Erika Fiedler OHG	D-65396 Walluf	58	45MHz-2.15GHz	N/A	N/A	Conduction (CO01-HY)
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH04-HY	30 MHz - 1 GHz 3m	Oct. 30, 2006	Oct. 29, 2007	Radiation (03CH04-HY)
Amplifier	Schaffner	CPA9231A	3564	9 kHz - 2 GHz	Aug.31, 2006	Aug.30, 2007	Radiation (03CH04-HY)
Spectrum Analyzer	R&S	FSP7	100641	9 kHz – 7GHz	Sep. 08, 2006	Sep. 07, 2007	Radiation (03CH04-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2724	30 MHz - 1 GHz	Aug. 13, 2007	Aug. 12, 2008	Radiation (03CH04-HY)
Turn Table	HD	Deis HD 2000	420/610	0 - 360 degree	N/A	N/A	Radiation (03CH04-HY)
Antenna Mast	Chaintek	3000		1 m - 4 m	N/A	N/A	Radiation (03CH04-HY)
RF Cable-R03m	Suhner Switzerland + RFIDEN	RG223/U +RG8/U	CB024	30 MHz - 1 GHz	Sep. 21, 2006	Sep. 20, 2007	Radiation (03CH04-HY)



7. Uncertainty Evaluation

Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

Contribution	Uncertainty of x_i		$u(x_i)$
	dB	Probability Distribution	
Receiver reading	0.10	Normal(k=2)	0.05
Cable loss	0.10	Normal(k=2)	0.05
AMN insertion loss	2.50	Rectangular	0.63
Receiver Spec	1.50	Rectangular	0.43
Site imperfection	1.39	Rectangular	0.80
Mismatch	+0.34/-0.35	U-shape	0.24
Combined standard uncertainty Uc(y)	1.13		
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)	2.26		

Uncertainty of Radiated Emission Measurement (30MHz ~ 1000MHz)

Contribution	Uncertainty of x_i		$u(x_i)$
	dB	Probability Distribution	
Receiver reading	0.11	Normal(k=2)	0.06
Antenna factor calibration	0.91	Normal(k=2)	0.46
Cable loss calibration	0.12	Normal(k=2)	0.06
Pre Amplifier Gain calibration	0.15	Normal(k=2)	0.08
RCV/SPA specification	2.50	Rectangular	0.72
Antenna Factor Interpolation for Frequency	1.00	Rectangular	0.29
Site imperfection	1.52	Rectangular	0.88
Mismatch	+0.45/-0.48	U-shaped	0.33
Combined standard uncertainty Uc(y)	1.30		
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)	2.60		



The measured result is : $y \text{ dBuV} \pm U \text{ dB}$

for a level of confidence of approximately 95% , ($k=2$)

Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)

Contribution	Uncertainty of x_i		$u(x_i)$	C_i	$C_i * u(x_i)$
	dB	Probability Distribution			
Receiver reading	± 0.10	Normal($k=1$)	0.10	1	0.10
Antenna factor calibration	± 1.70	Normal($k=2$)	0.85	1	0.85
Cable loss calibration	± 0.50	Normal($k=2$)	0.25	1	0.25
Receiver Correction	± 2.00	Rectangular	1.15	1	1.15
Antenna Factor Directional	± 1.50	Rectangular	0.87	1	0.87
Site imperfection	± 2.80	Triangular	1.14	1	1.14
Mismatch Receiver VSWR $\Gamma_1 = 0.197$ Antenna VSWR $\Gamma_2 = 0.194$ Uncertainty = $20 \log(1 - \Gamma_1 * \Gamma_2 * \Gamma_3)$	$+0.34/-0.35$	U-shaped	0.244	1	0.244
Combined standard uncertainty $U_c(y)$	2.36				
Measuring uncertainty for a level of confidence of 95% $U=2U_c(y)$	4.72				