



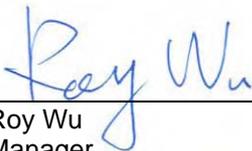
FCC Test Report

According to

47 CFR Part 15 Subpart C

Equipment : PDA Phone
Model No. : DIAM210
FCC ID : NM8DMM
Filing Type : Certification
Applicant : High Tech Computer Corp.
23 Xinghua Rd., Taoyuan 330, Taiwan

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- The data shown in this test report were carried out on May 15, 2008 at **Sporton International Inc. LAB.**
- Report No.: FR822609-05, Report Version: Rev.02



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Report Version: Rev.02

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1. General Description of Equipment under Test

1.1 Applicant

High Tech Computer Corp.
23 Xinghua Rd., Taoyuan 330, Taiwan

1.2 Manufacturer

High Tech Computer Corp.
23 Xinghua Rd., Taoyuan 330, Taiwan

1.3 Basic Combination under Test

PDA Phone A	Photo Camera 1 + Video Camera 1
PDA Phone B	Photo Camera 2 + Video Camera 2

1.4 Feature of Equipment under Test

Product Feature & Specification	
DUT Type :	PDA Phone
Model Name :	DIAM210
FCC ID :	NM8DMM
Tx Frequency :	2400 MHz ~ 2483.5 MHz
Rx Frequency :	2400 MHz ~ 2483.5 MHz
Number of Channels :	79
Carrier Frequency of Each Channel :	2402+n*1 MHz; n=0~78
Channel Spacing :	1 MHz
Maximum Output Power to Antenna :	Bluetooth: -0.60 dBm (1Mbps) Bluetooth EDR: 0.36dBm (2Mbps) / -0.02dBm (3Mbps)
Type of Antenna Connector :	N/A
Antenna Type :	PIFA Antenna
Antenna Gain :	-1 dBi
Type of Modulation :	Bluetooth (1Mbps) : GFSK Bluetooth EDR (2Mbps) : $\pi/4$ -DQPSK Bluetooth EDR (3Mbps) : 8-DPSK
DUT Stage :	Identical Prototype

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. The data rate, 2Mbps, was chosen to being tested, due to the highest RF output power.

Channel	Frequency	Data Rate / Modulation		
		GFSK	$\pi/4$ -DQPSK	8-DPSK
		1Mbps	2Mbps	3Mbps
Ch00	2400MHz	-1.03 dBm	-0.01 dBm	-0.44 dBm
Ch39	2441MHz	-1.58 dBm	-0.57 dBm	-1.00 dBm
Ch78	2480MHz	-0.60 dBm	0.36 dBm	-0.02 dBm

Bluetooth uses frequency hopping spread spectrum (FHSS) operation which also facilitates Bluetooth multiple access and coexistence among other types of wireless systems. The basic frequency-hopping pattern is a pseudo-random ordering of 79 channel frequencies in the ISM band and the hopping rate is nominally 1600 hops per second. The EDR modulation format uses one of two types of DPSK ($\pi/4$ -DQPSK or 8-DPSK) in the payload section of the packet. As shown in figure, the EDR packet begins using GFSK modulation during the access code and header portions of the packet but changes to DPSK modulation after the guard time. Changing to a DPSK format allows increased data rates of 2 Mb/s or 3 Mb/s.

- 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 25000 MHz.

2.2 Test Mode

Application	Test Mode
Radiated Emission / RF Conducted	BT Tx(EDR 2Mbps)
	Mode 1: CH00_2402 MHz
	Mode 2: CH39_2441 MHz
	Mode 3: CH78_2480 MHz
Conducted Emission	Mode 1: PDA Phone A + GSM1900 Idle + BT Link + WLAN Link + Battery 1 + Camera 1 + Adapter A + GPS Rx
	Mode 2: PDA Phone A + GSM1900 Idle + BT Link + WLAN Link + Battery 2 + Camera 1 + Adapter B + GPS Rx
	Mode 3: PDA Phone A + GSM1900 Idle + BT Link + WLAN Link + Battery 3 + Camera 2 + Adapter C + GPS Rx + USB Cable A
	Mode 4: PDA Phone A + GSM1900 Idle + BT Link + WLAN Link + Battery 4 + Camera 2 + Adapter C + GPS Rx + USB Cable B
	Mode 5: PDA Phone A + EDGE Idle + BT Link + WLAN Link + Battery 5 + MPEG 4 + GPS Rx + USB Cable A
	Mode 6: PDA Phone A + EDGE Idle + BT Link + WLAN Link + Battery 6 + MPEG 4 + GPS Rx + USB Cable B
	Mode 7: PDA Phone B + GSM1900 Idle + BT Link + WLAN Link + Battery 2 + Camera 1 + Adapter B + GPS Rx

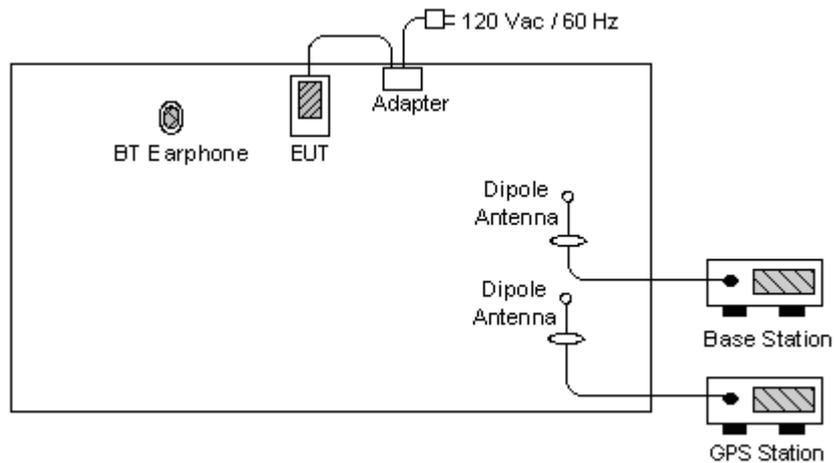
2.3 Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Base Station	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	GPS Station	T&E	GS-50	N/A	N/A	Unshielded, 1.8 m
3.	Notebook	DELL	D400	E2K24GBRL	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	Bluetooth Earphone	Engotech	ET-BH111	PQY471087	N/A	N/A
5.	RS-232 Mouse	State	MS-303	DoC	Unshielded, 1.2 m	N/A
6.	i-pod	Apple	A1199	N/A	Unshielded, 1.2 m	N/A
7.	BT Base Station	Anritus	8852A	N/A	N/A	Unshielded, 1.8 m

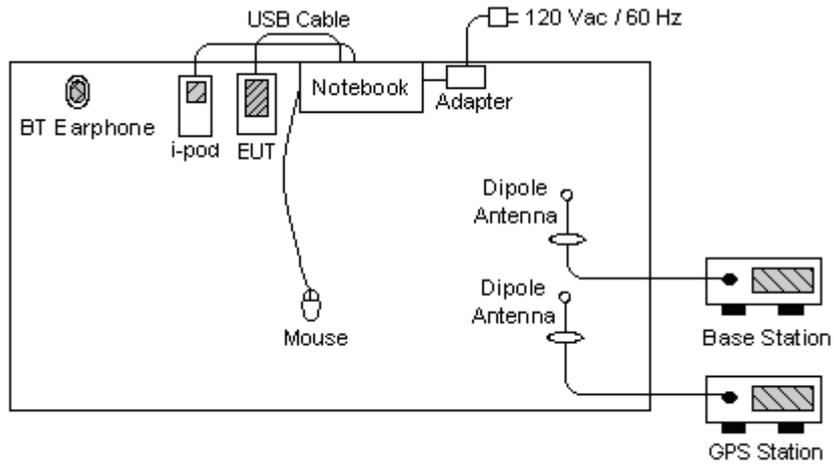
2.4 Connection Diagram of Test System

<Conducted Emission>

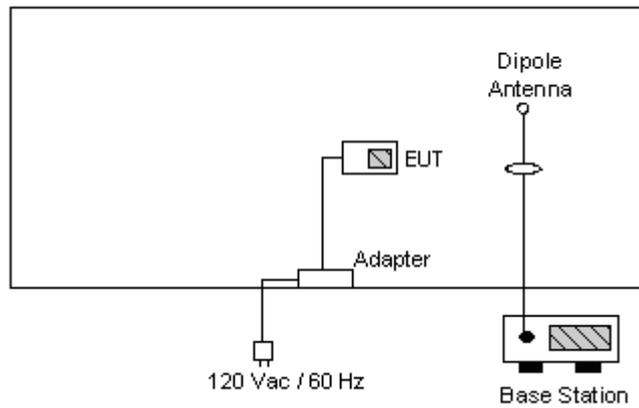
EUT with Adapter Mode



EUT with USB Link Mode



<Radiated Emission >



3. RF Utility

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

4. General Information of Test

Test Site Location : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park,
Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.
TEL : 886-3-327-3456
FAX : 886-3-328-4978

Test Site No : CO04-HY, 03CH06-HY

FCC Designation No : TW1022

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: Bluetooth

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

5.2 Band Edges 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 via a low lose cable.
2. Set both RBW and VBW of spectrum analyzer to 100 KHz with suitable frequency span including 100 KHz bandwidth from band edge.
3. The band edges was measured and recorded.

5.2.3 Test Result

- Application Type : Bluetooth
- Temperature : 31~32°C
- Relative Humidity : 30~31%
- Test Engineer : Sun

Test Result in BT lower band : **PASS**
 Test Result in BT higher band : **PASS**
 Test Result in BT EDR(2Mbps) lower band : **PASS**
 Test Result in BT EDR(2Mbps) higher band : **PASS**
 Test Result in BT EDR(3Mbps) lower band : **PASS**
 Test Result in BT EDR(3Mbps) higher band : **PASS**

5.2.4 Note on Band Edge Emission

➤ ➤ BT EDR(2Mbps)

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
2389.61	47.00	-27.00	74.00	46.90	31.86	3.92	35.68	100	0	Peak
2389.61	32.59	-21.41	54.00	32.49	31.86	3.92	35.68	101	3	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
2389.61	46.36	-27.64	74.00	46.26	31.86	3.92	35.68	100	0	Peak
2389.61	32.32	-21.68	54.00	32.22	31.86	3.92	35.68	122	64	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	62.53	-11.47	74.00	62.20	31.98	4.05	35.70	100	0	Peak
2483.50	49.77	-4.23	54.00	49.44	31.98	4.05	35.70	102	354	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	60.34	-13.66	74.00	60.01	31.98	4.05	35.70	100	0	Peak
2483.50	48.23	-5.77	54.00	47.90	31.98	4.05	35.70	162	122	Average

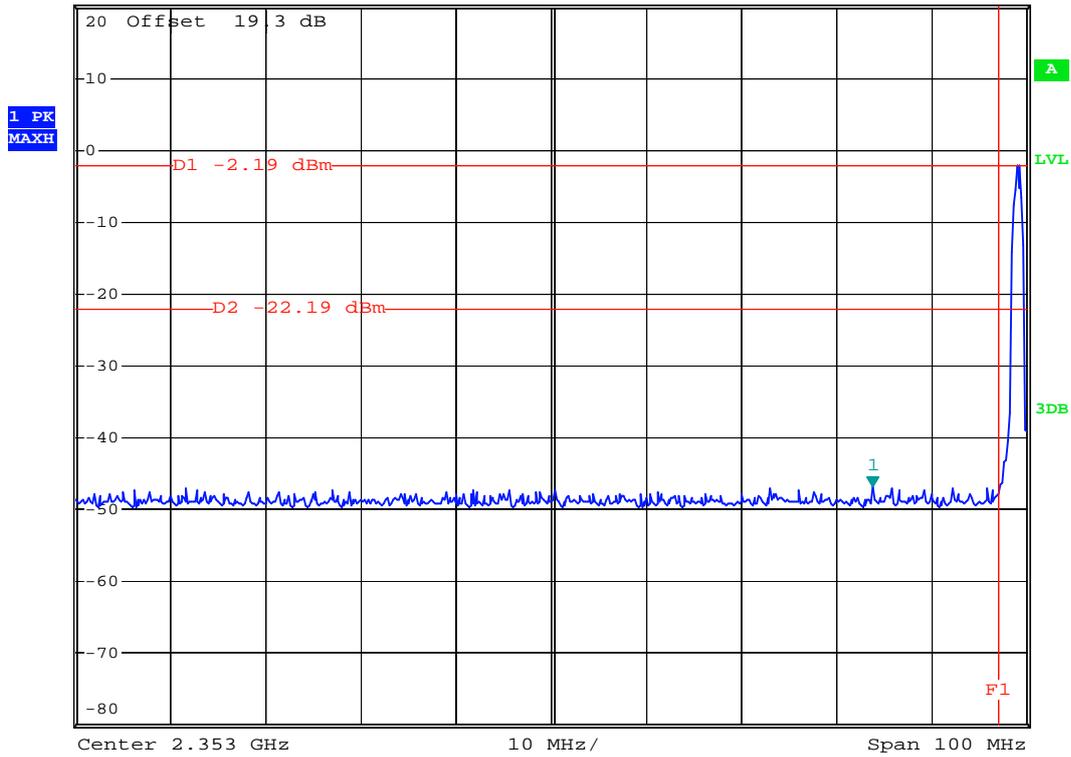
5.2.5 20dB Band Edge

BT EDR(2Mbps)

CH00

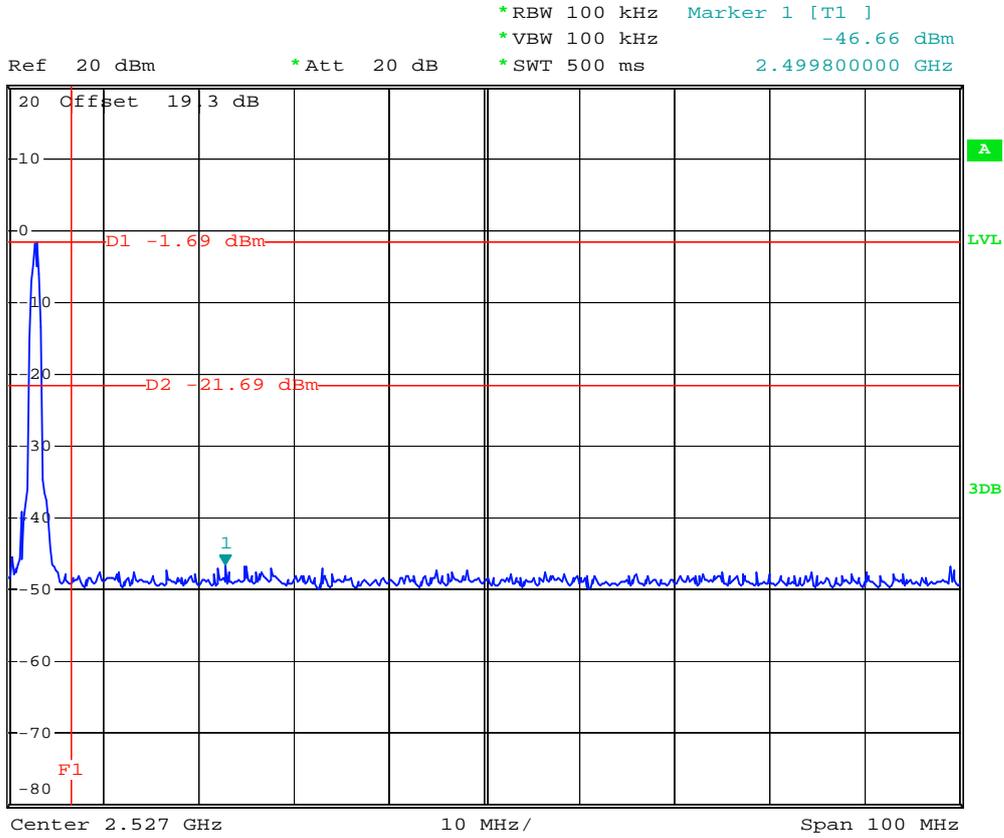


Ref 20 dBm *Att 20 dB *RBW 100 kHz Marker 1 [T1]
 *VBW 100 kHz -46.87 dBm
 *SWT 500 ms 2.386800000 GHz



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CH78



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5.3 Hopping Channel Separation

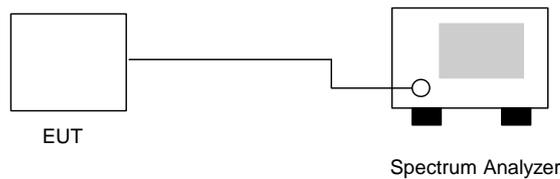
5.3.1 Measuring Instruments

As described in chapter 9 of this test report.

5.3.2 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 30 KHz and VBW to 100 KHz.
3. The Hopping Channel Separation is defined as the channel is separated with the next channel.

5.3.3 Test Setup Layout



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

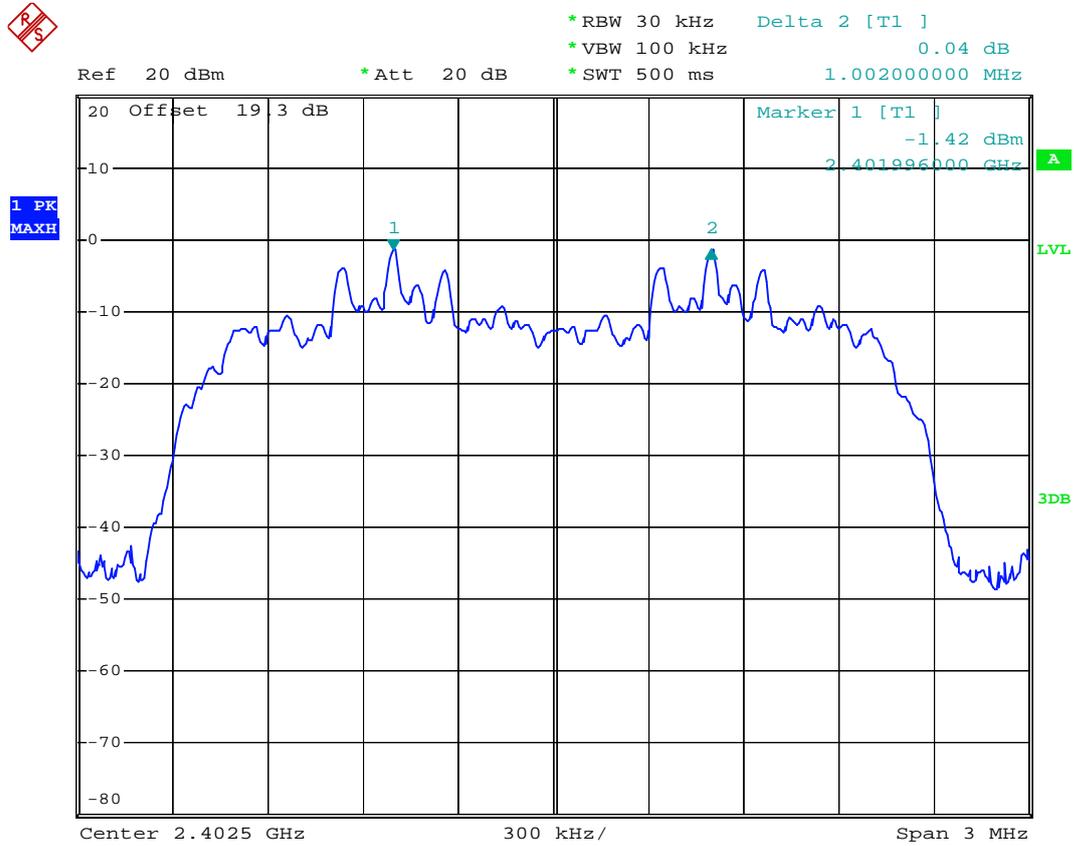
- Application Type : BT EDR(2Mbps)
- Temperature : 31~32°C
- Relative Humidity : 30~31%
- Test Engineer : Sun

Channel	Frequency (MHz)	Carrier Frequency Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.002	0.832	Plot 1
39	2441	1.002	0.830	Plot 2
78	2480	1.002	0.830	Plot 3

Remark: Hopping Channel Separation shall be greater 2/3 of 20dB bandwidth.

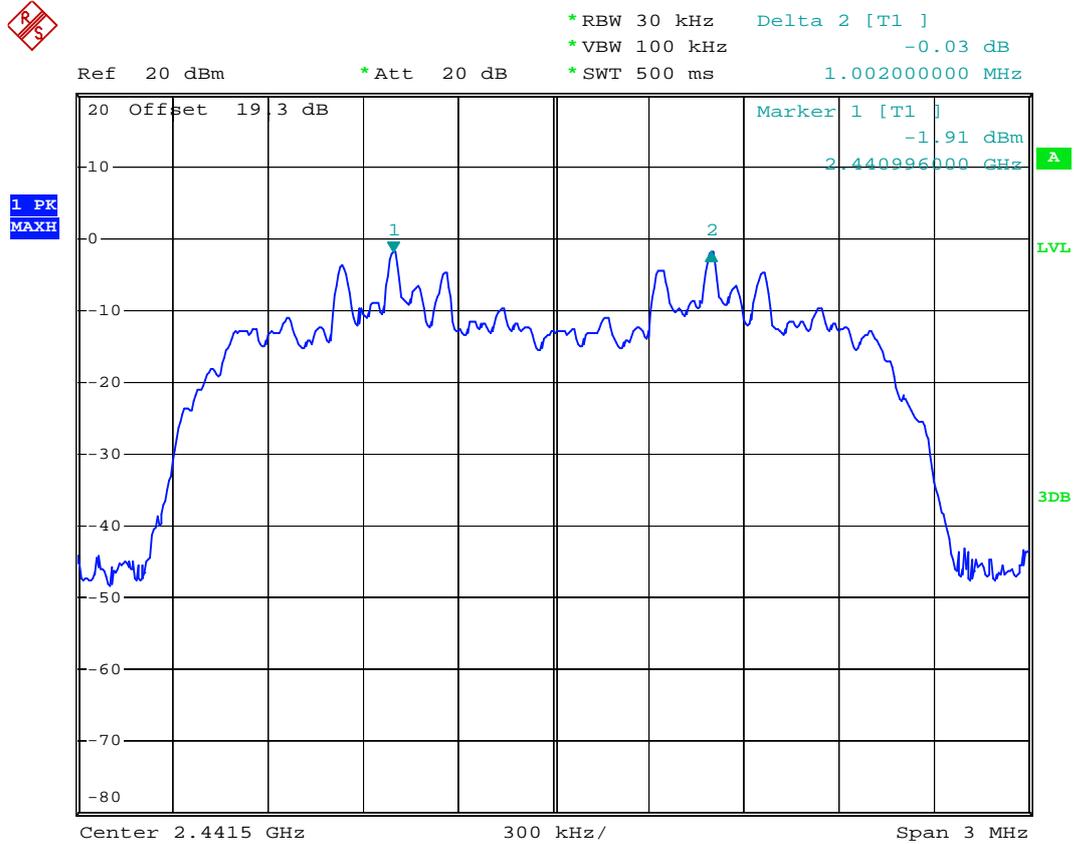
5.3.5 Hopping Channel Separation

Plot 1



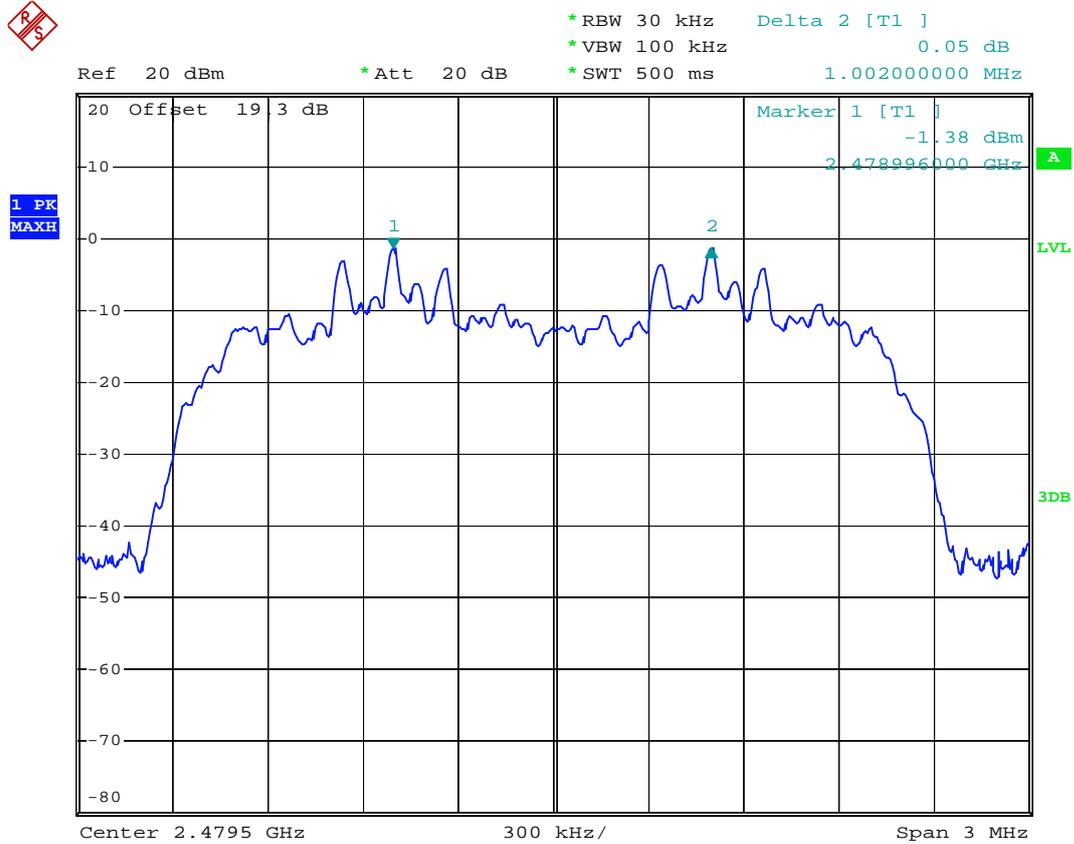
Date: 21.APR.2008 04:00:55

Plot 2



Date: 21.APR.2008 04:01:49

Plot 3



Date: 7.MAY.2008 23:25:51

5.4 Number of Hopping Frequency

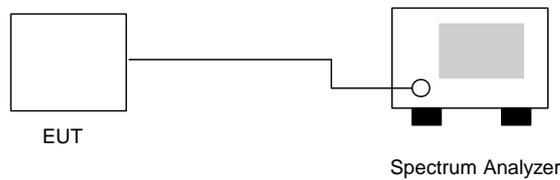
5.4.1 Measuring Instruments

As described in chapter 9 of this test report.

5.4.2 Test Procedure

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

5.4.3 Test Setup Layout



5.4.4 Test Result : See spectrum analyzer plots below

- Application Type : BT EDR(2Mbps)
- Temperature : 31~32°C
- Relative Humidity : 30~31%
- Test Engineer : Sun

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

5.5 Hopping Channel Bandwidth

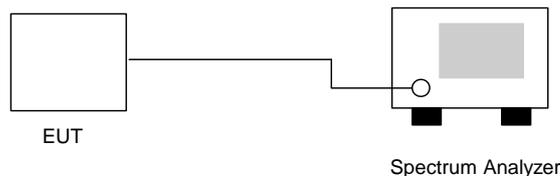
5.5.1 Measuring Instruments

As described in chapter 9 of this test report.

5.5.2 Test Procedure

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

5.5.3 Test Setup Layout



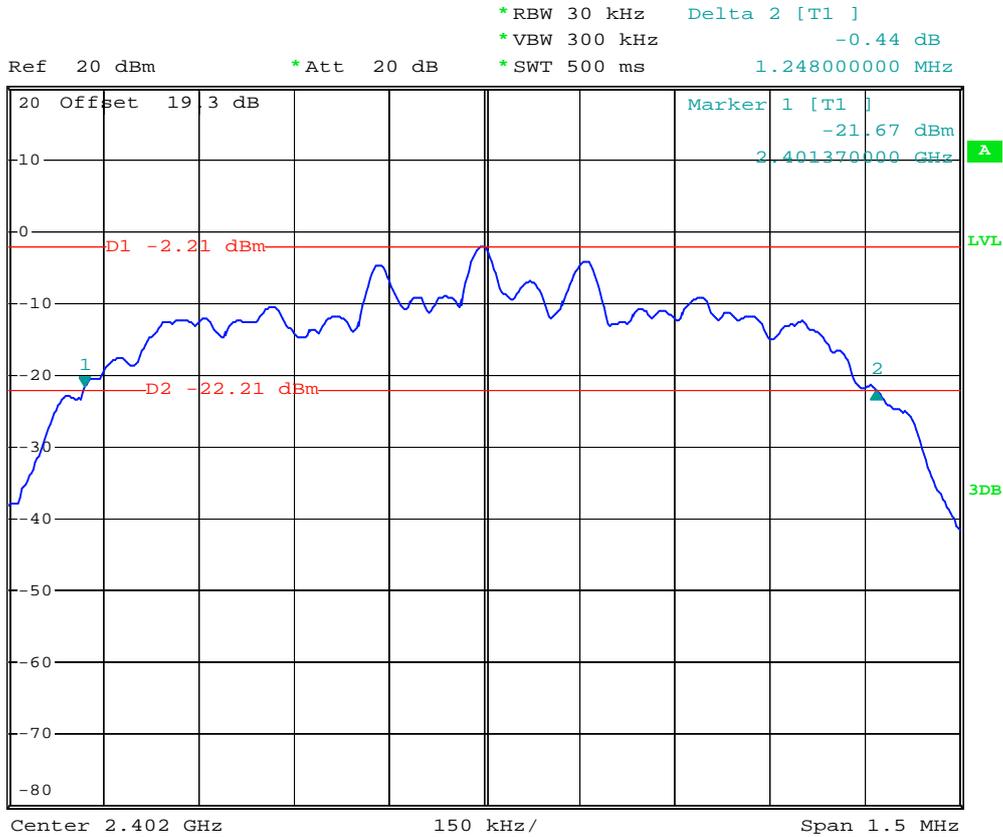
5.5.4 Test Result : See spectrum analyzer plots below

- Application Type : BT EDR(2Mbps)
- Temperature : 31~32°C
- Relative Humidity : 30~31%
- Test Engineer : Sun

Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Plot Ref. No.
00	2402	1.248	Plot 1
39	2441	1.245	Plot 2
78	2480	1.245	Plot 3

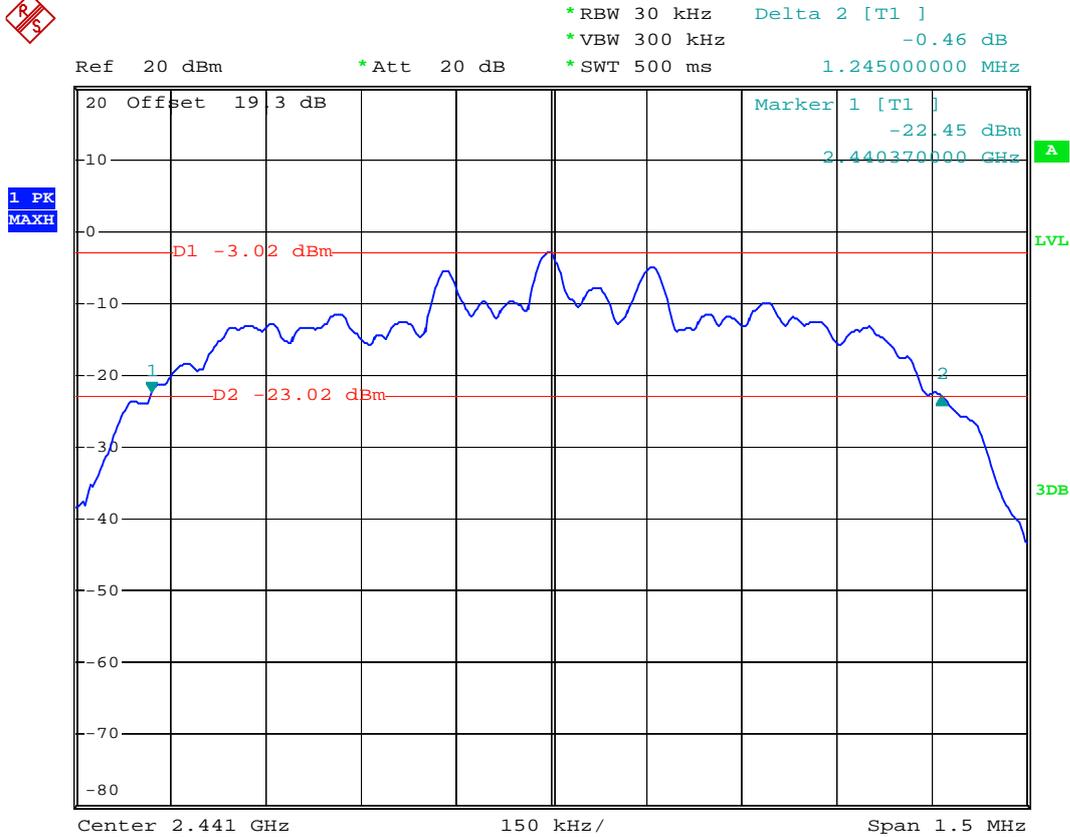
5.5.5 Hopping Channel Bandwidth

Plot 1



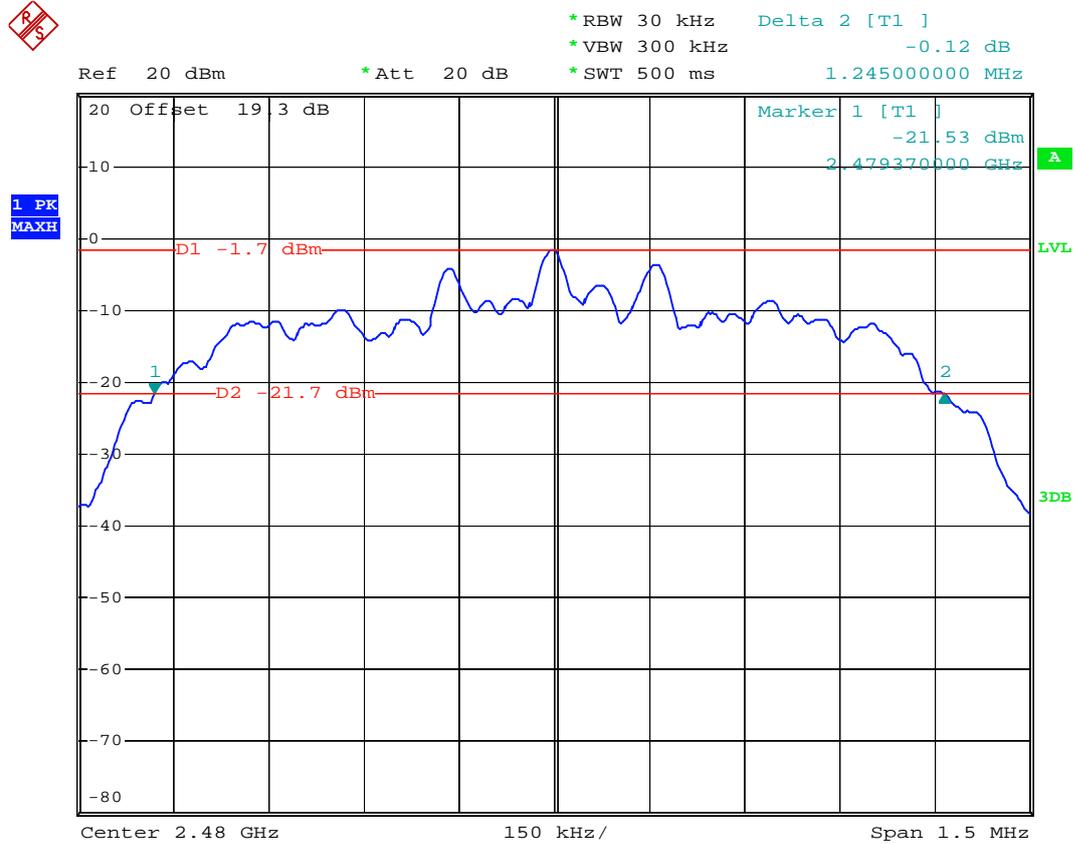
Date: 21.APR.2008 03:56:31

Plot 2



Date: 7.MAY.2008 23:27:33

Plot 3



Date: 21.APR.2008 03:57:58

5.6 Dwell Time of Each Frequency

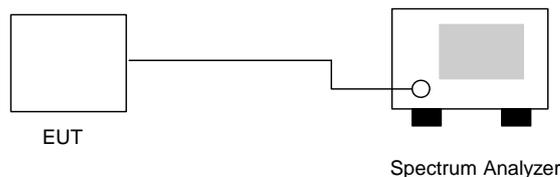
5.6.1 Measuring Instruments

As described in chapter 9 of this test report.

5.6.2 Test Procedure

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

5.6.3 Test Setup Layout



5.6.4 Test Result : See spectrum analyzer plots below

- Application Type : BT EDR(2Mbps)
- Temperature : 31~32°C
- Relative Humidity : 30~31%
- Test Engineer : Sun

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	8.8	448	0.125	0.4
DH3	4.4	1720	0.239	0.4
DH5	3.4	3020	0.324	0.4

※ Remark:

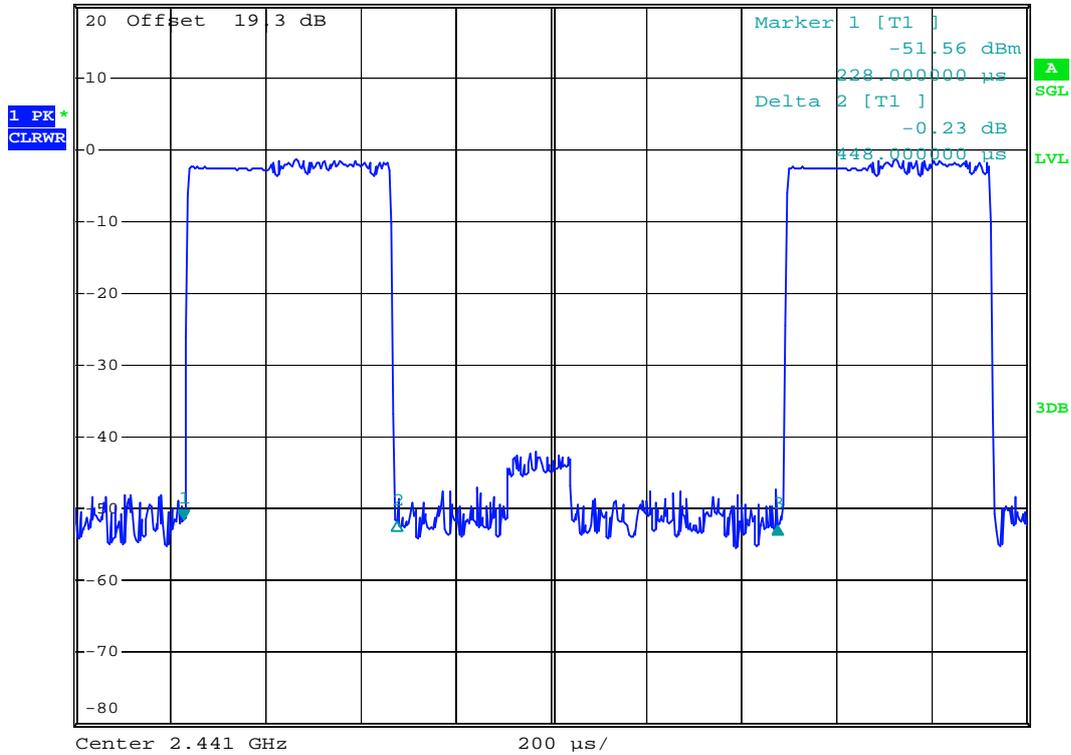
- Dwell Time=79(channels) x 0.4(s) x average hopping channel x package transfer time
- 79 channels come from the Hopping Channel number.
- Average Hopping Channel = hops/sweep time
- t: Package Transfer Time(us)

5.6.5 Dwell Time

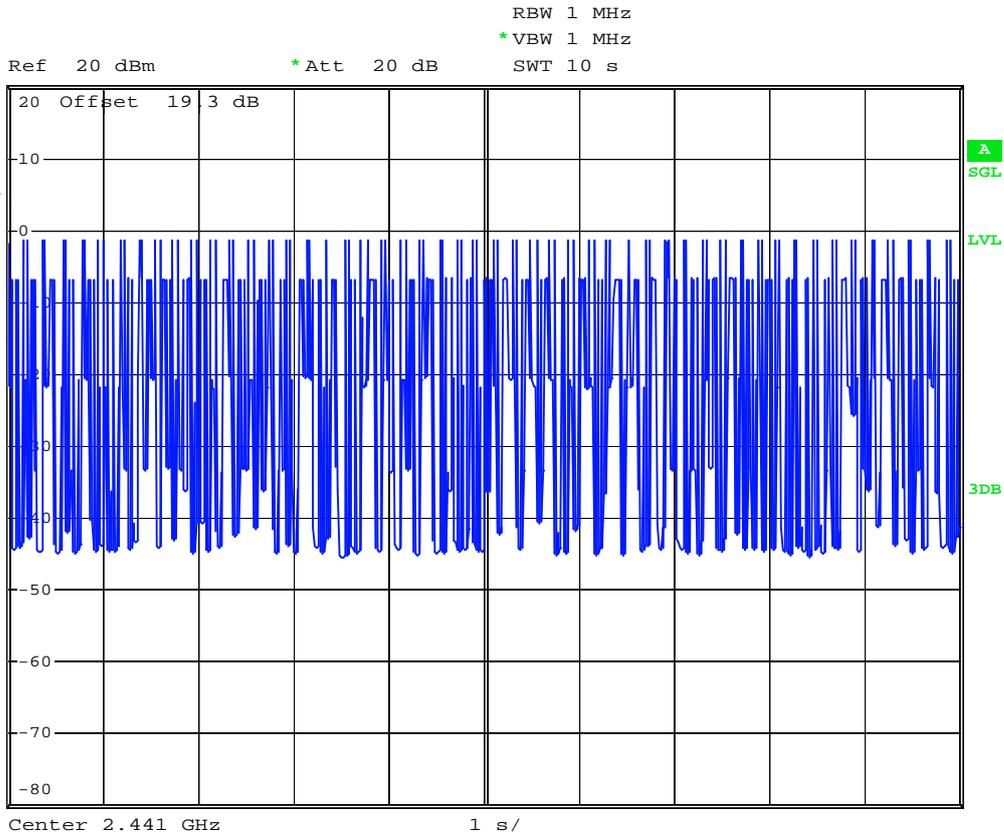
2DH1 (CH39)



Ref 20 dBm *Att 20 dB RBW 1 MHz Delta 3 [T1] -0.88 dB
 *VBW 1 MHz SWT 2 ms 1.248000 ms



Date: 21.APR.2008 04:03:31

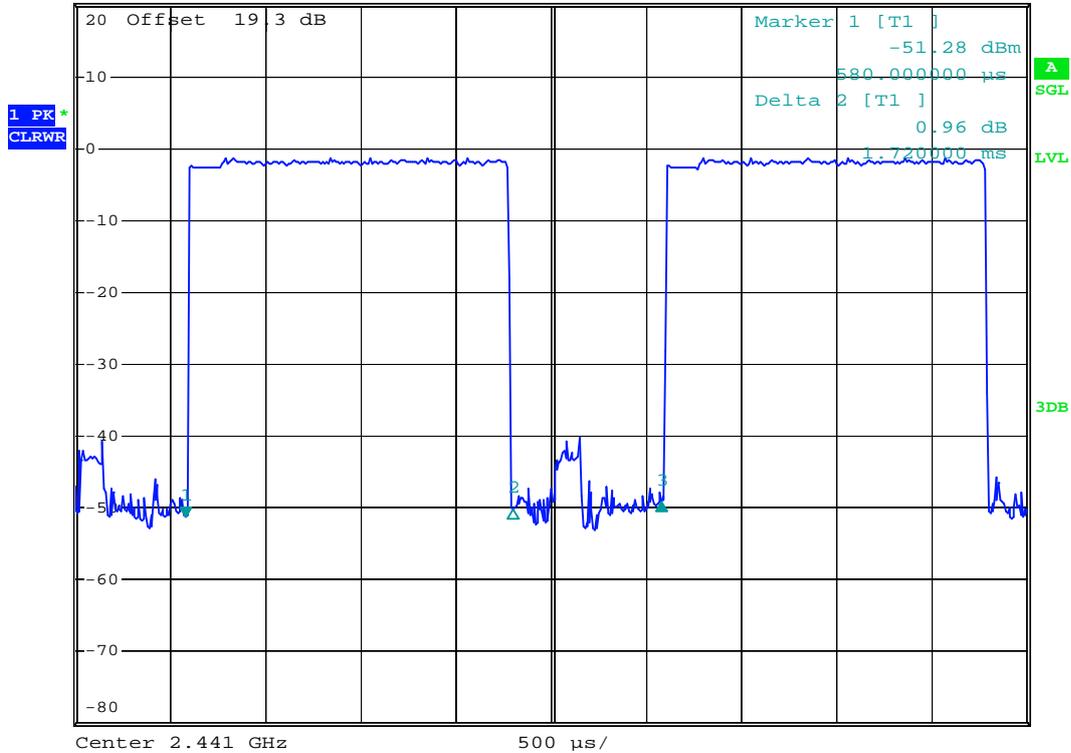


Date: 21.APR.2008 04:05:34

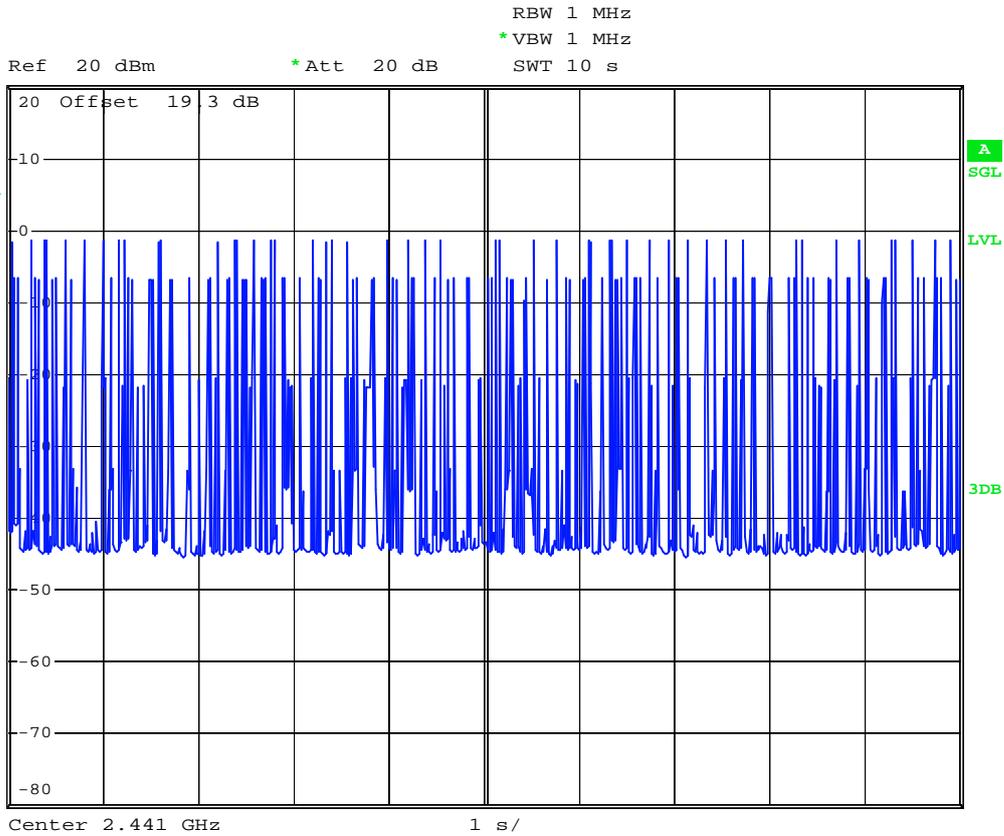
2DH3 (CH39)



Ref 20 dBm *Att 20 dB RBW 1 MHz Delta 3 [T1] 2.19 dB
 *VBW 1 MHz 2.500000 ms
 SWT 5 ms



Date: 21.APR.2008 04:04:10

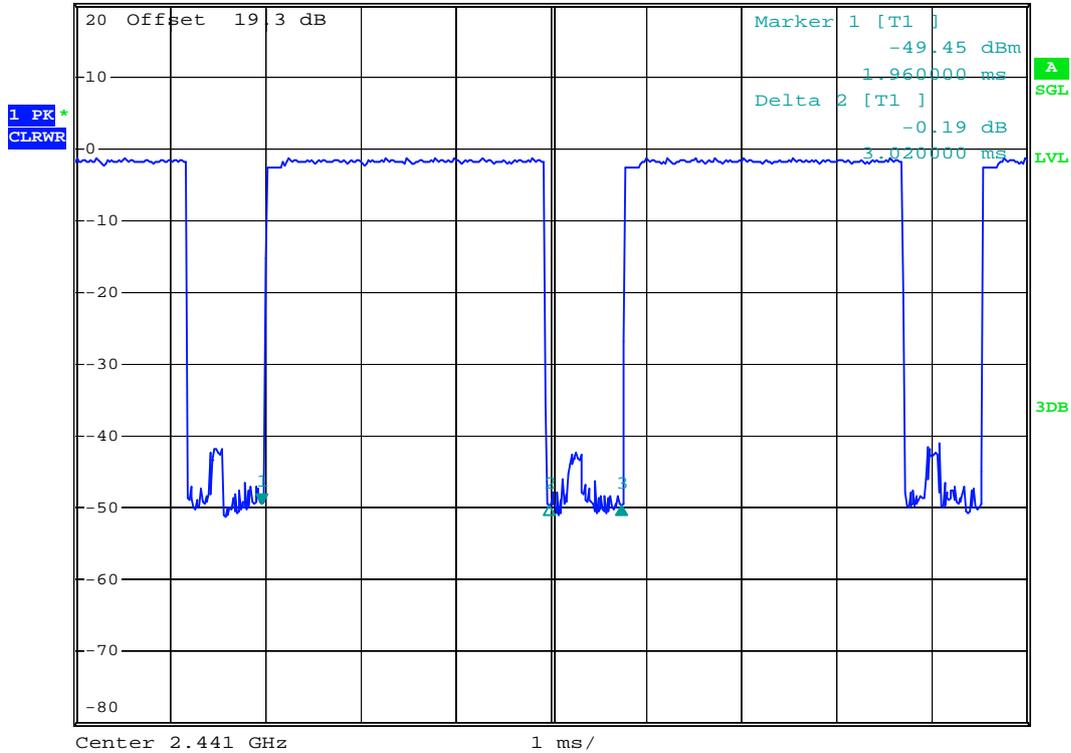


Date: 21.APR.2008 04:06:00

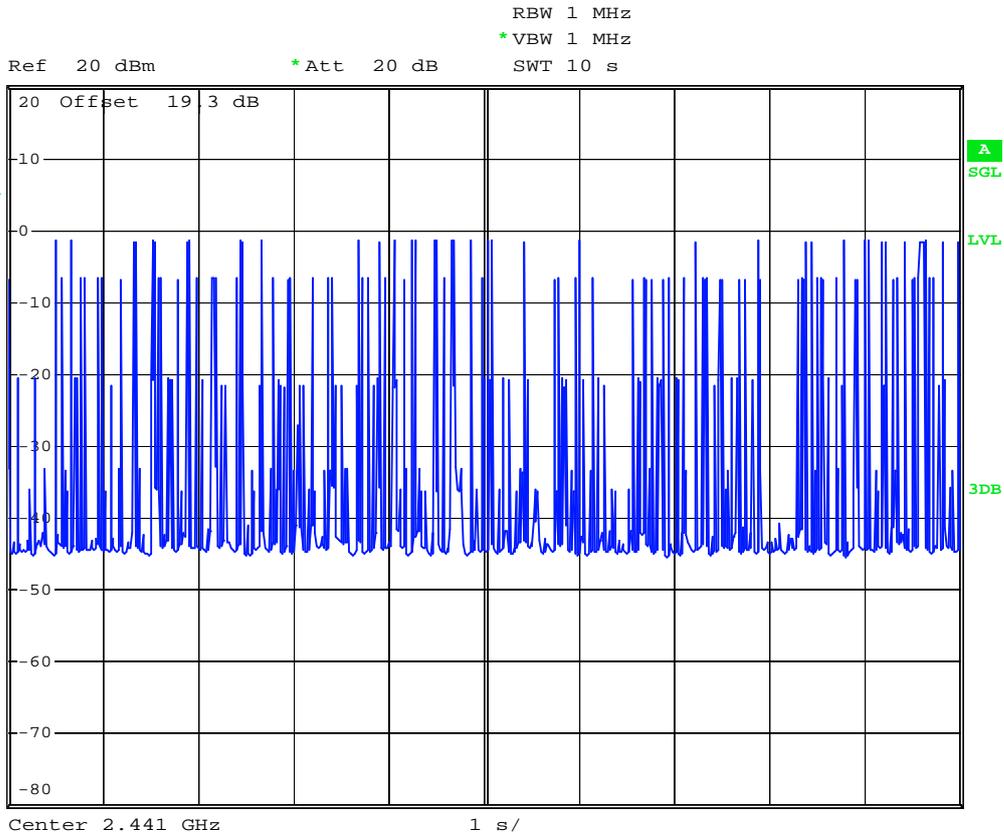
2DH5 (CH39)



Ref 20 dBm *Att 20 dB RBW 1 MHz Delta 3 [T1] -0.20 dB
 *VBW 1 MHz SWT 10 ms 3.780000 ms



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Date: 21.APR.2008 04:05:11

5.7 Peak Output Power Measurement

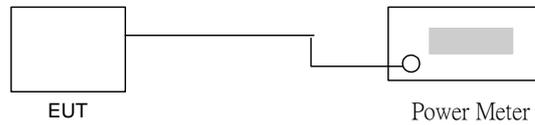
5.7.1 Measuring Instruments

As described in chapter 6 of this test report.

5.7.2 Test Procedure

The antenna port (RF output) of the EUT was connected to the input (RF input) of a spectrum analyzer for BT measurement. RBW and VBW are set to 3MHz. The cable loss has been offset before testing.

5.7.3 Test Setup Layout



5.7.4 Test Result

- Application Type : BT
- Temperature : 31~32°C
- Relative Humidity : 30~31%
- Test Engineer : Sun

▪ BT EDR(2Mbps)

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
00	2402	-0.01	1W/30dBm
39	2441	-0.57	1W/30dBm
78	2480	0.36	1W/30dBm

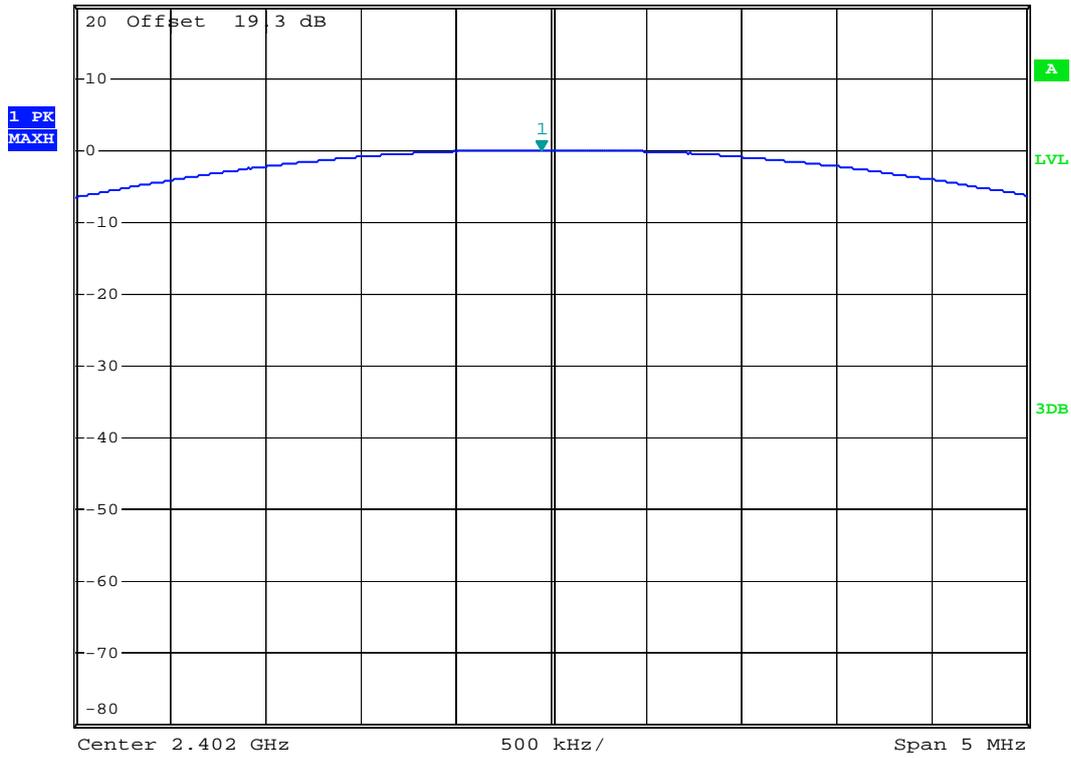
5.7.5 Output Power

Bluetooth(2Mbps)

Mode : CH00 (2402MHz)



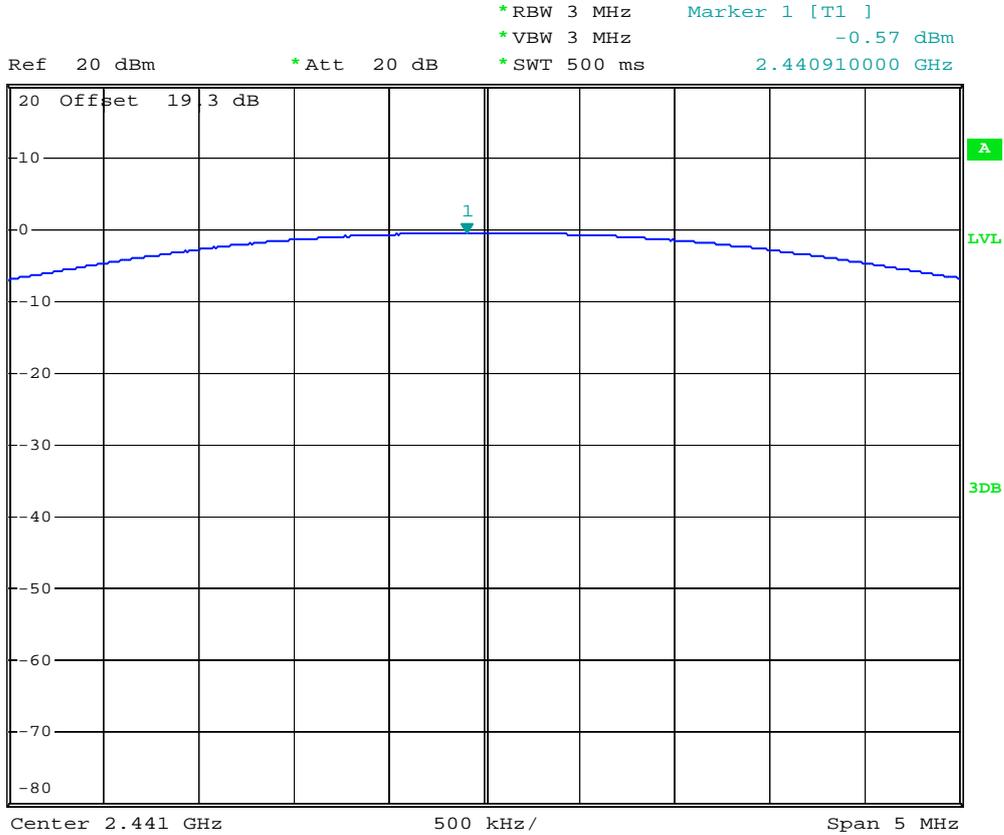
Ref 20 dBm *Att 20 dB *RBW 3 MHz Marker 1 [T1]
 *VBW 3 MHz -0.01 dBm
 *SWT 500 ms 2.401950000 GHz



Date: 21.APR.2008 03:28:01

Bluetooth(2Mbps)

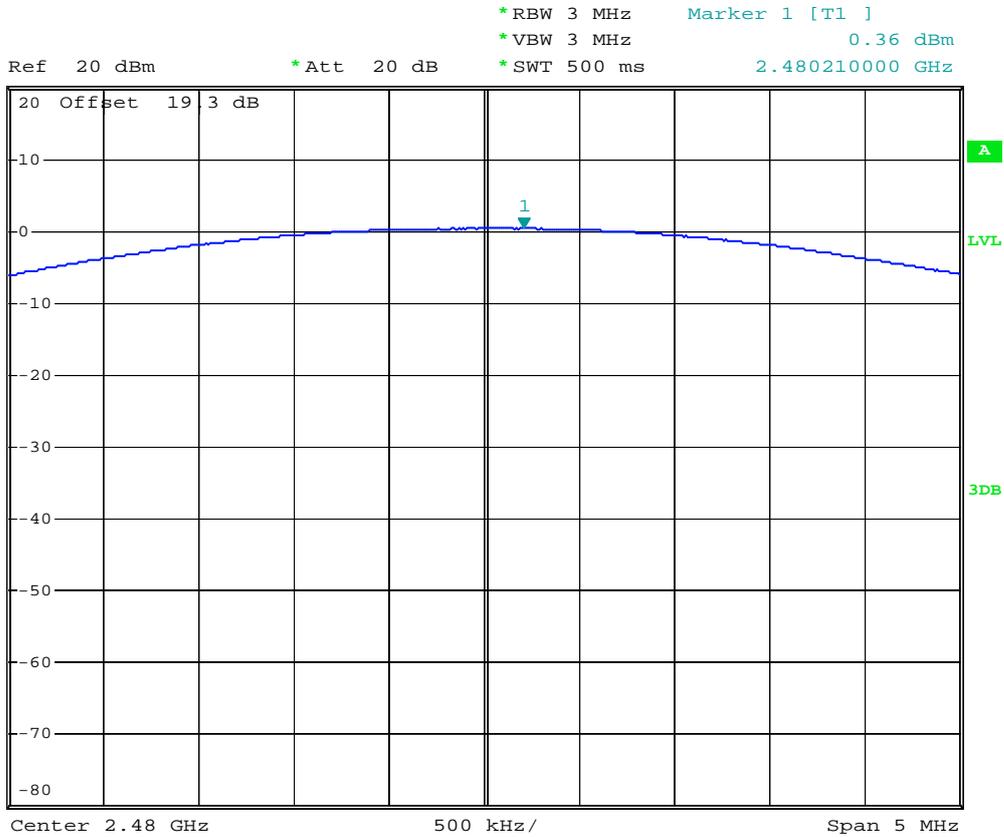
Mode : CH39 (2441MHz)



Date: 21.APR.2008 03:28:15

Bluetooth(2Mbps)

Mode : CH78 (2480MHz)



Date: 21.APR.2008 03:28:31

5.8 Conducted Emission

5.8.1 Measuring Instruments

As described in chapter 6 of this test Report.

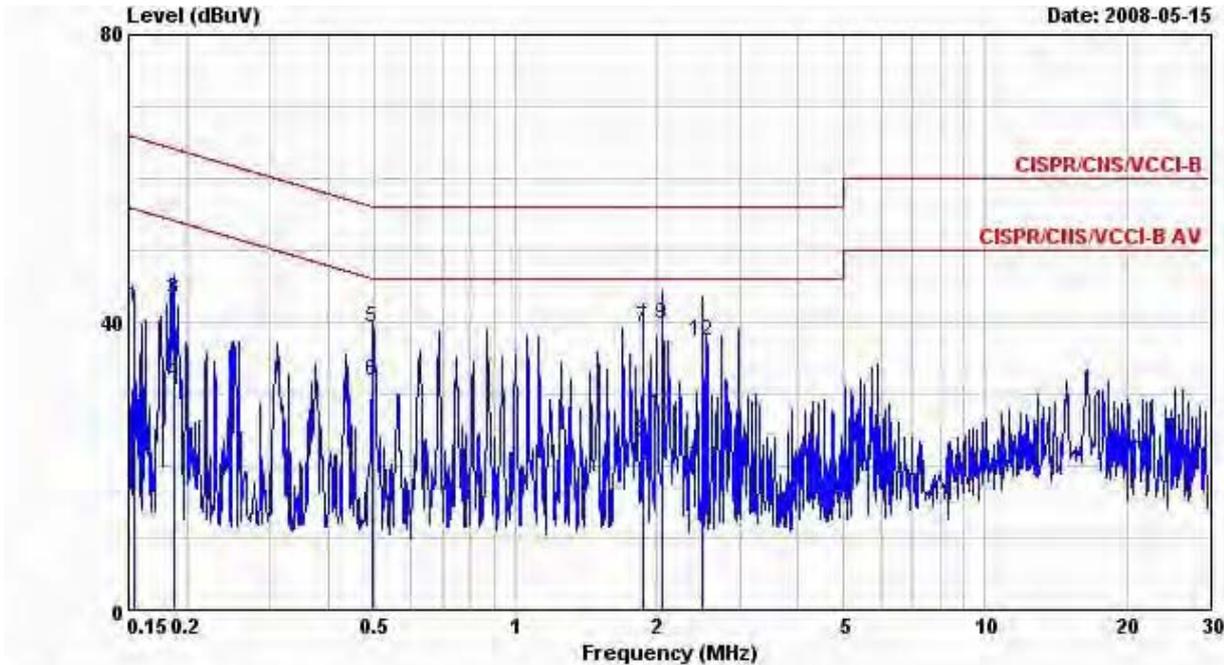
5.8.2 Test Procedures

1. 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.
2. Connect EUT to the power port of a line impedance stabilization network (LISN).
3. All the support units are connected to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 KHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

5.8.3 Test Data

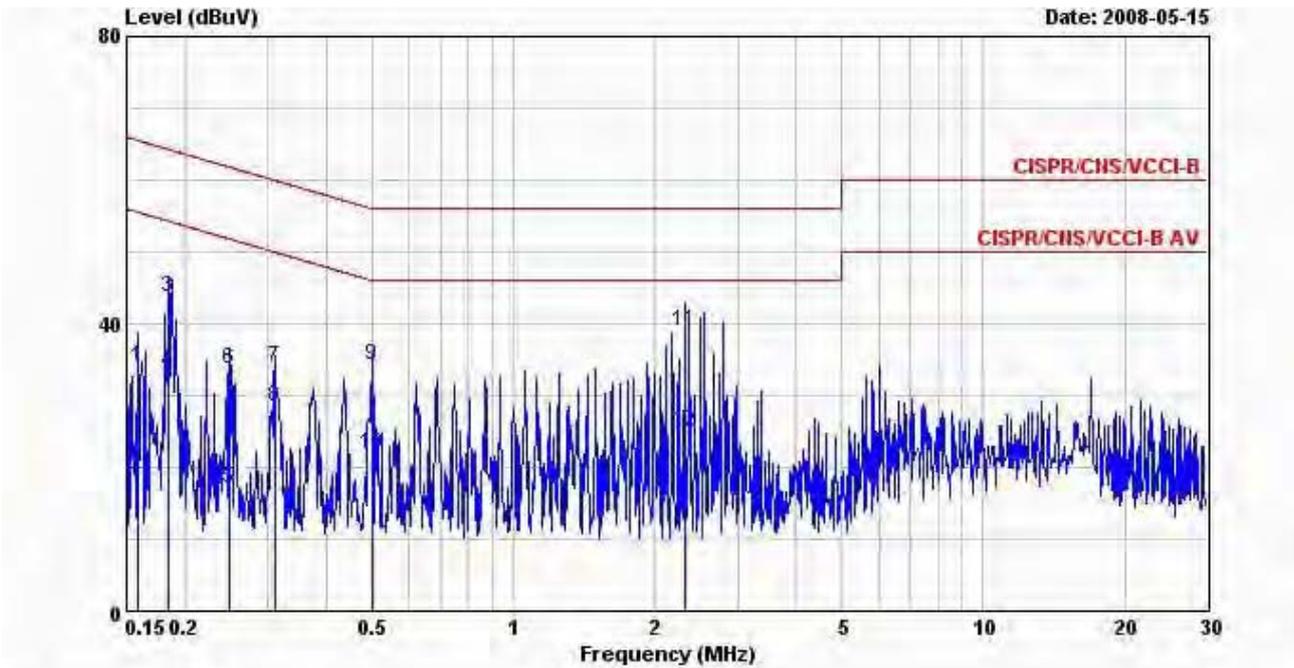
- Temperature : 31~32°C
- Relative Humidity : 30~31%
- Test Engineer : Darren
- Test Mode : Mode 1

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



Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 2008 0416 99041 LINE
 EUT : PDA Phone
 POWER: 120V/60Hz
 Model : FR822609-05
 Memo : PCS1900 Idle+BT Link+WLAN Link+Battery1
 : Camera 1+Adaptor A+GPS Rx
 IMEI : 353190020011112
 SAMPLE : A

	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1540270	42.14	-23.64	65.78	42.02	0.09	0.03	QP
2	0.1540270	24.22	-31.56	55.78	24.10	0.09	0.03	Average
3	0.1883800	43.22	-20.89	64.11	43.11	0.09	0.02	QP
4	0.1883800	31.48	-22.63	54.11	31.37	0.09	0.02	Average
5	0.4967340	39.17	-16.88	56.05	39.02	0.10	0.05	QP
6	0.4967340	31.88	-14.17	46.05	31.73	0.10	0.05	Average
7	1.870	39.25	-16.75	56.00	39.08	0.13	0.04	QP
8	1.870	23.49	-22.51	46.00	23.32	0.13	0.04	Average
9	2.050	39.83	-16.17	56.00	39.66	0.13	0.04	QP
10	2.050	27.08	-18.92	46.00	26.91	0.13	0.04	Average
11	2.500	20.13	-25.87	46.00	19.94	0.14	0.05	Average
12	2.500	37.29	-18.71	56.00	37.10	0.14	0.05	QP

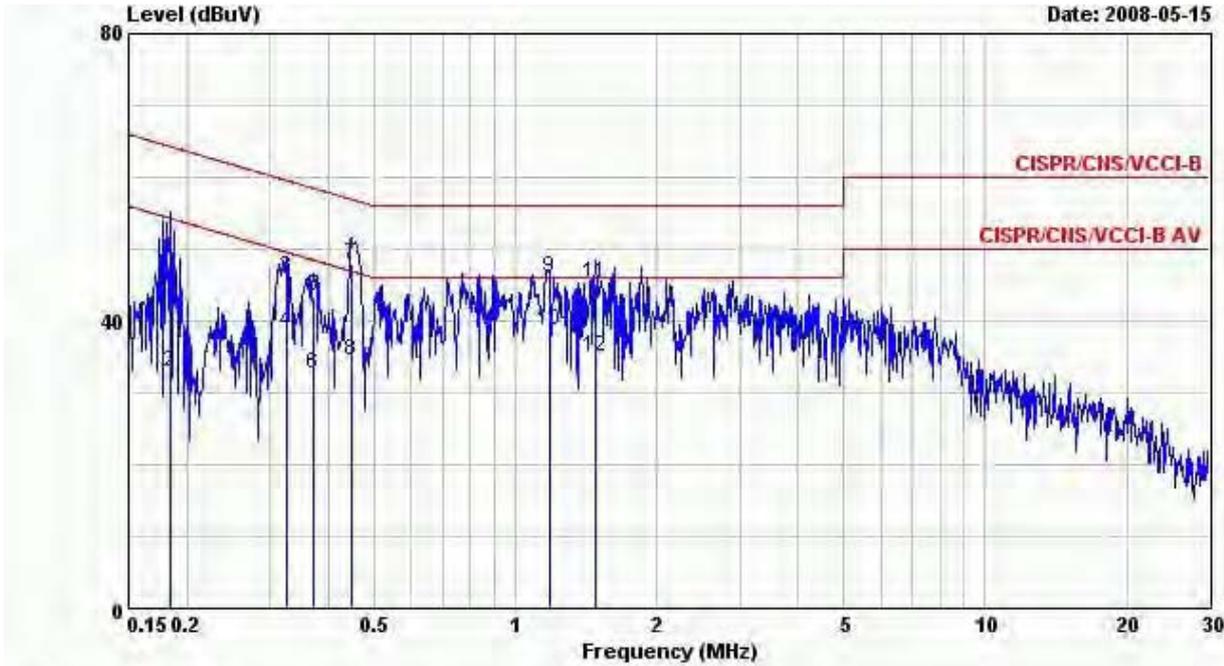


Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 2008 0416 99041 NEUTRAL
 EUT : PDA Phone
 POWER: 120V/60Hz
 Model : FR822609-05
 Memo : PCS1900 Idle+BT Link+WLAN Link+Battery1
 : Camera 1+Adaptor A+GPS Rx
 IMEI : 353190020011112
 SAMPLE : A

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1581620	34.07	-31.49	65.56	33.95	0.09	0.03	QP
2	0.1581620	18.94	-36.62	55.56	18.82	0.09	0.03	Average
3	0.1844300	43.60	-20.68	64.28	43.50	0.08	0.02	QP
4	0.1844300	33.03	-21.25	54.28	32.93	0.08	0.02	Average
5	0.2481360	17.09	-34.73	51.82	16.98	0.08	0.03	Average
6	0.2481360	33.58	-28.24	61.82	33.47	0.08	0.03	QP
7	0.3099790	33.93	-26.04	59.97	33.79	0.09	0.05	QP
8	0.3099790	28.54	-21.43	49.97	28.40	0.09	0.05	Average
9	0.4993730	34.14	-21.87	56.01	34.00	0.09	0.05	QP
10	0.4993730	21.93	-24.08	46.01	21.79	0.09	0.05	Average
11	2.310	39.06	-16.94	56.00	38.88	0.13	0.05	QP
12	2.310	25.07	-20.93	46.00	24.89	0.13	0.05	Average

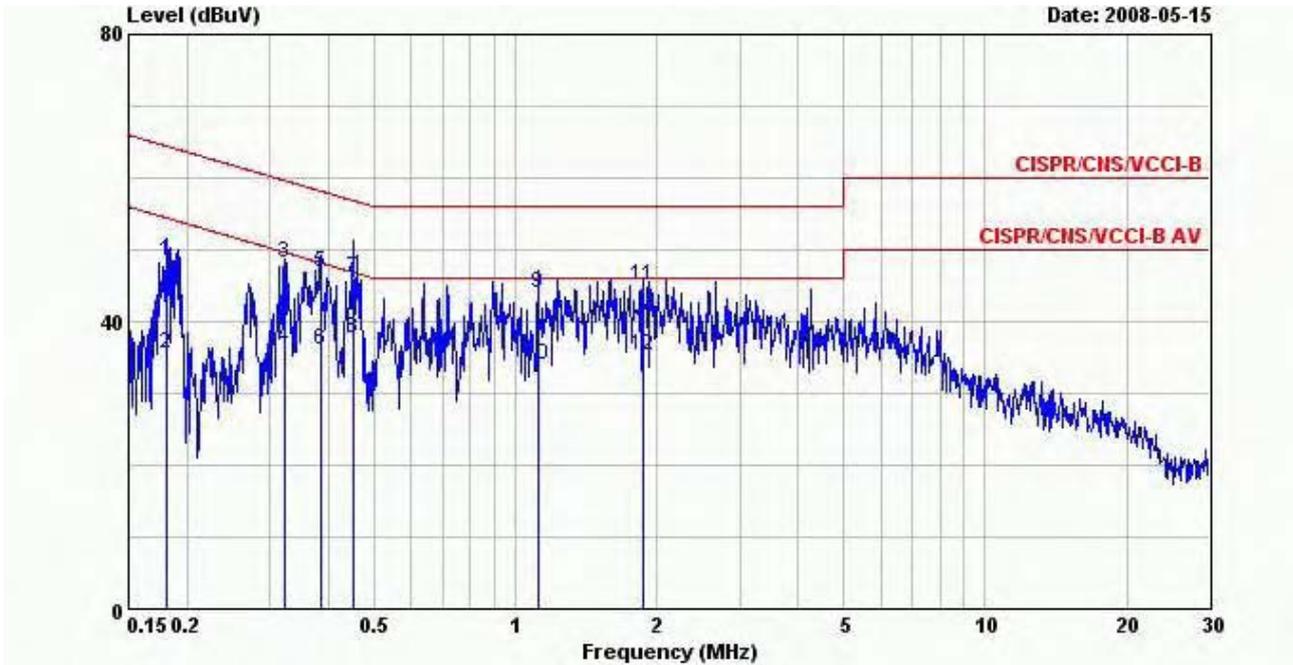
- Temperature : 31~32°C
- Relative Humidity : 30~31%
- Test Engineer : Darren
- Test Mode : Mode 2

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



Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 2008 0416 99041 LINE
 EUT : PDA Phone
 POWER: 120V/60Hz
 Model : FR822609-05
 Memo : PCS1900 Idle+BT Link+WLAN Link+Battery2
 : Camera I+Adaptor B+GPS Rx
 IMEI : 353190020011112
 SAMPLE : A

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1844300	48.75	-15.53	64.28	48.64	0.09	0.02	QP
2	0.1844300	32.84	-21.44	54.28	32.73	0.09	0.02	Average
3	0.3268460	46.03	-13.50	59.53	45.88	0.10	0.05	QP
4	@0.3268460	38.39	-11.14	49.53	38.24	0.10	0.05	Average
5	0.3711650	43.49	-14.98	58.47	43.33	0.10	0.06	QP
6	0.3711650	32.54	-15.93	48.47	32.38	0.10	0.06	Average
7	@0.4467900	47.94	-8.99	56.93	47.78	0.10	0.06	QP
8	0.4467900	34.38	-12.55	46.93	34.22	0.10	0.06	Average
9	@1.180	45.98	-10.02	56.00	45.85	0.11	0.02	QP
10	@1.180	38.60	-7.40	46.00	38.47	0.11	0.02	Average
11	@1.480	45.39	-10.61	56.00	45.24	0.12	0.03	QP
12	@1.480	35.08	-10.92	46.00	34.93	0.12	0.03	Average

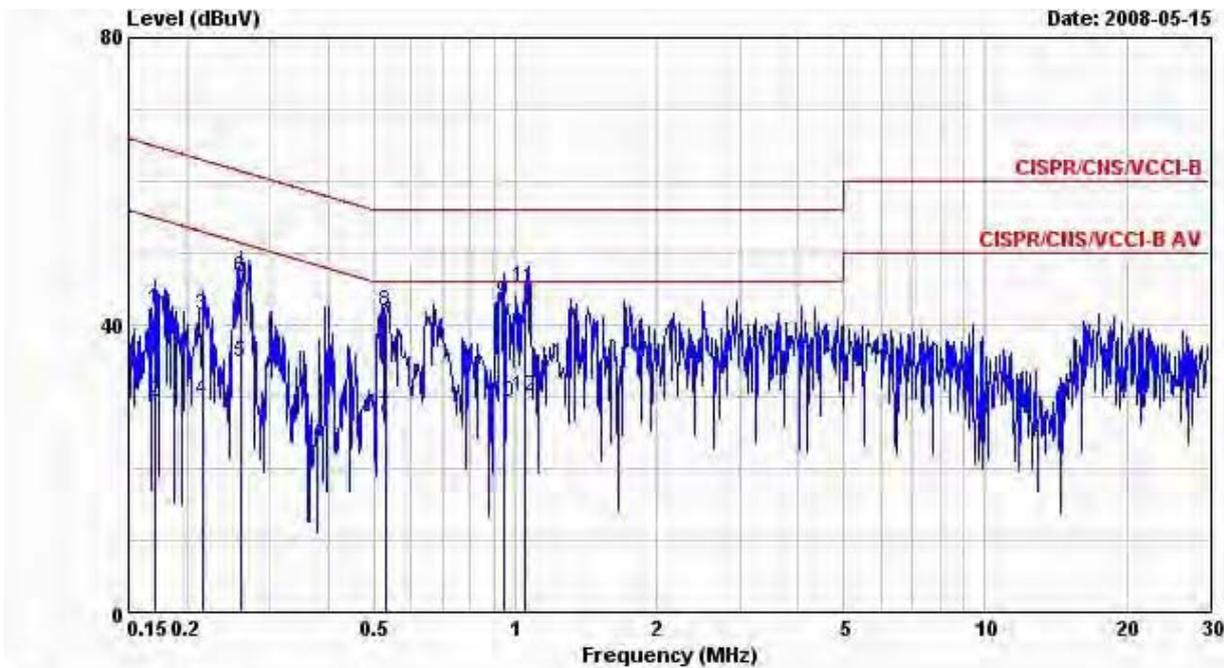


Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 2008 0416 99041 NEUTRAL
 EUT : PDA Phone
 POWER: 120V/60Hz
 Model : FR822609-05
 Memo : PCS1900 Idle+BT Link+WLAN Link+Battery2
 : Camera 1+Adaptor B+GPS Rx
 IMEI : 353190020011112
 SAMPLE : A

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1805620	48.43	-16.03	64.46	48.33	0.08	0.02	QP
2	0.1805620	35.46	-19.00	54.46	35.36	0.08	0.02	Average
3	@0.3216920	48.23	-11.43	59.66	48.09	0.09	0.05	QP
4	0.3216920	36.23	-13.43	49.66	36.09	0.09	0.05	Average
5	@0.3851900	46.74	-11.43	58.17	46.59	0.09	0.06	QP
6	0.3851900	36.03	-12.14	48.17	35.88	0.09	0.06	Average
7	@0.4515500	46.10	-10.75	56.85	45.96	0.09	0.05	QP
8	@0.4515500	37.58	-9.27	46.85	37.44	0.09	0.05	Average
9	1.120	44.05	-11.95	56.00	43.92	0.11	0.02	QP
10	1.120	34.07	-11.93	46.00	33.94	0.11	0.02	Average
11	@1.870	44.90	-11.10	56.00	44.74	0.12	0.04	QP
12	@1.870	35.17	-10.83	46.00	35.01	0.12	0.04	Average

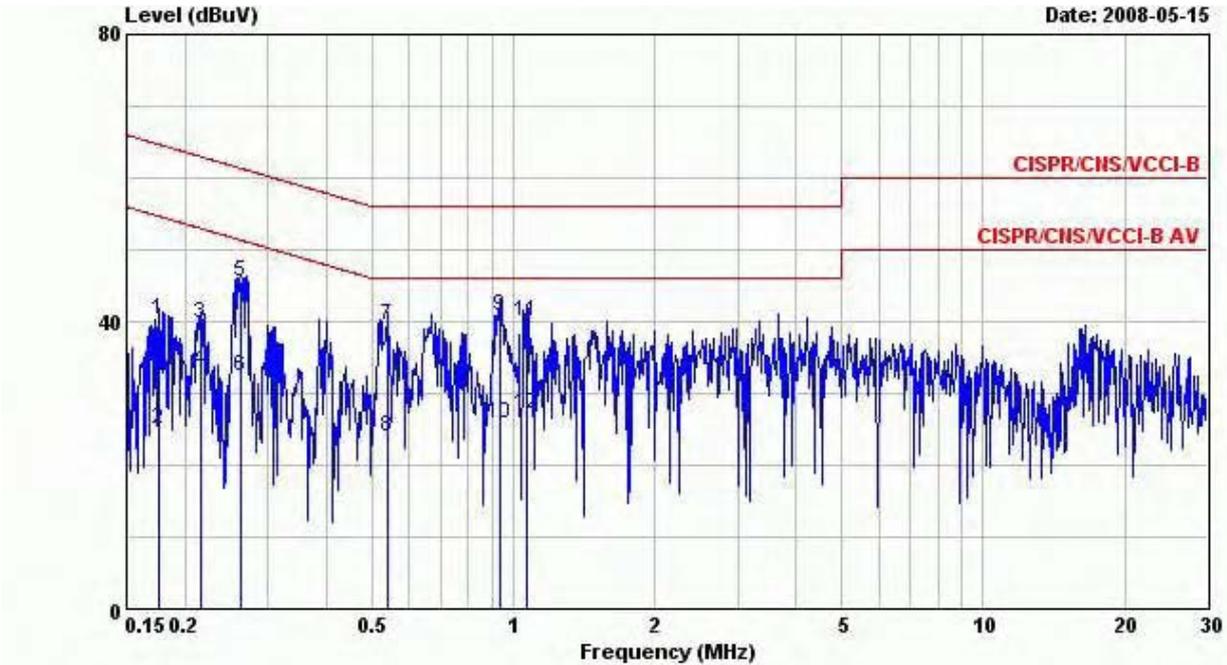
- Temperature : 31~32°C
- Relative Humidity : 30~31%
- Test Engineer : Darren
- Test Mode : Mode 3

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



Site : C004-HY
 Condition : CISPR/CNS/VCCI-B LISN 2008 0416 99041 LINE
 EUT : PDA Phone
 POWER: 120V/60Hz
 Model : FR822609-05
 Memo : PCS1900 Idle+BT Link+WLAN Link+Battery3
 : Camera 2+Adaptor C+GPS Rx+USB cable A
 IMEI : 353190020011112
 SAMPLE : A

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1712450	42.07	-22.83	64.90	41.96	0.09	0.02	QP
2	0.1712450	29.17	-25.73	54.90	29.06	0.09	0.02	Average
3	0.2162030	41.23	-21.73	62.96	41.12	0.09	0.02	QP
4	0.2162030	29.35	-23.61	52.96	29.24	0.09	0.02	Average
5	0.2602550	34.78	-16.64	51.42	34.65	0.09	0.04	Average
6	0.2602550	46.67	-14.75	61.42	46.54	0.09	0.04	QP
7	0.5293420	27.07	-18.93	46.00	26.92	0.10	0.05	Average
8	0.5293420	41.95	-14.05	56.00	41.80	0.10	0.05	QP
9	0.9430800	43.09	-12.91	56.00	42.96	0.11	0.02	QP
10	0.9430800	29.22	-16.78	46.00	29.09	0.11	0.02	Average
11	1.050	45.35	-10.65	56.00	45.22	0.11	0.02	QP
12	1.050	30.04	-15.96	46.00	29.91	0.11	0.02	Average

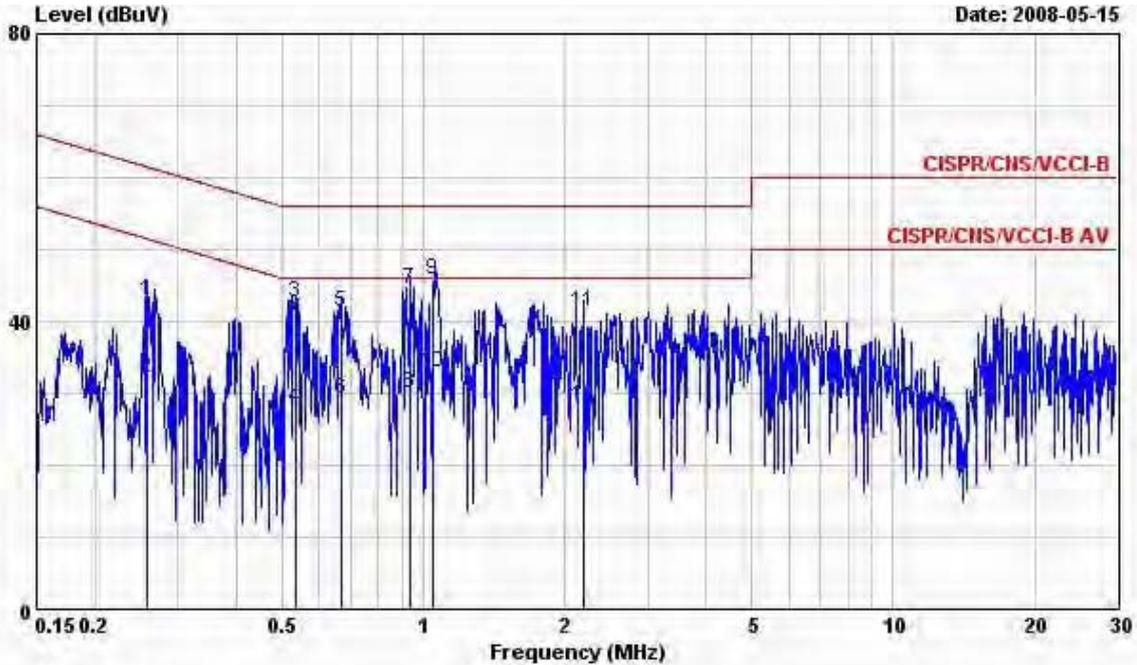


Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 2008 0416 99041 NEUTRAL
 EUT : PDA Phone
 POWER: 120V/60Hz
 Model : FR822609-05
 Memo : PCS1900 Idle+BT Link+WLAN Link+Battery3
 : Camera 2+Adaptor C+GPS Rx+USB cable A
 IMEI : 353190020011112
 SAMPLE : A

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1758420	40.23	-24.45	64.68	40.13	0.08	0.02	QP
2	0.1758420	24.95	-29.73	54.68	24.85	0.08	0.02	Average
3	0.2150610	39.83	-23.18	63.01	39.73	0.08	0.02	QP
4	0.2150610	33.13	-19.88	53.01	33.03	0.08	0.02	Average
5	0.2630270	45.57	-15.77	61.34	45.45	0.08	0.04	QP
6	0.2630270	32.47	-18.87	51.34	32.35	0.08	0.04	Average
7	0.5378230	39.54	-16.46	56.00	39.39	0.10	0.05	QP
8	0.5378230	24.05	-21.95	46.00	23.90	0.10	0.05	Average
9	0.9331400	40.81	-15.19	56.00	40.68	0.11	0.02	QP
10	0.9331400	25.67	-20.33	46.00	25.54	0.11	0.02	Average
11	1.070	39.92	-16.08	56.00	39.79	0.11	0.02	QP
12	1.070	27.23	-18.77	46.00	27.10	0.11	0.02	Average

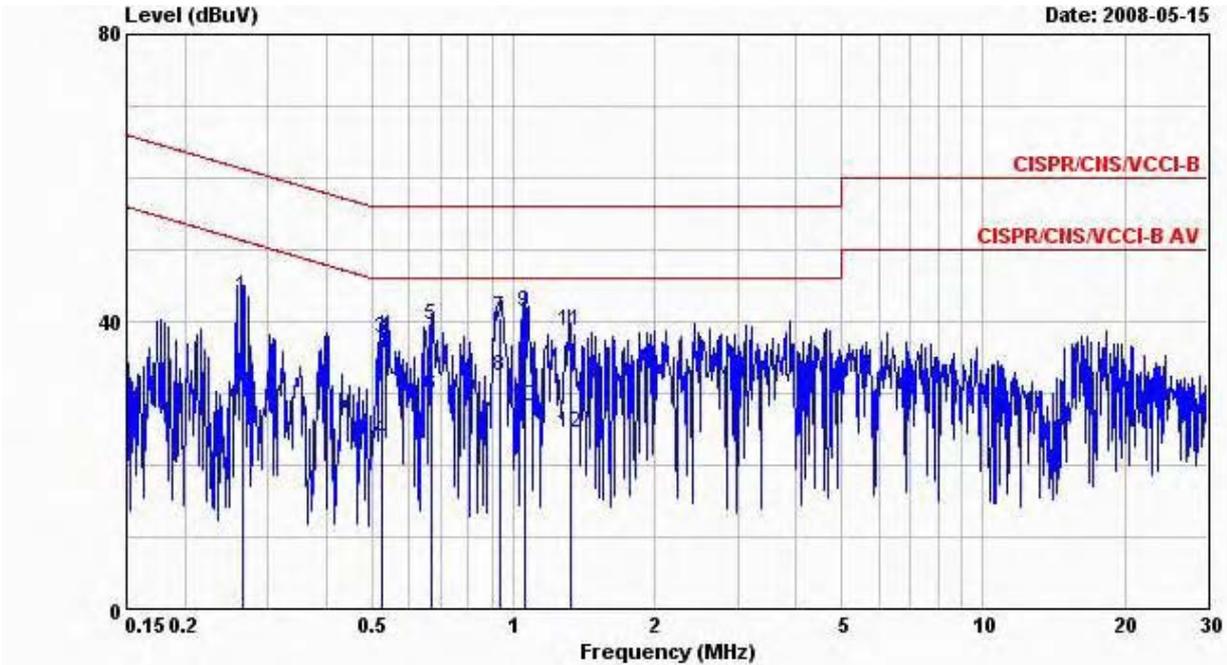
- Temperature : 31~32°C
- Relative Humidity : 30~31%
- Test Engineer : Darren
- Test Mode : Mode 4

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



Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 2008 0416 99041 LINE
 EUT : PDA Phone
 POWER: 120V/60Hz
 Model : FR822609-05
 Memo : PCS1900 Idle+BT Link+WLAN Link+Battery4
 : Camera 2+Adaptor C+GPS Rx+USB cable B
 IMEI : 353190020011112
 SAMPLE : A

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.2588790	42.86	-18.61	61.47	42.74	0.09	0.03	QP
2	0.2588790	32.20	-19.27	51.47	32.08	0.09	0.03	Average
3	0.5349810	42.64	-13.36	56.00	42.49	0.10	0.05	QP
4	0.5349810	27.83	-18.17	46.00	27.68	0.10	0.05	Average
5	0.6683160	41.44	-14.56	56.00	41.29	0.11	0.04	QP
6	0.6683160	29.27	-16.73	46.00	29.12	0.11	0.04	Average
7	0.9380970	44.47	-11.53	56.00	44.34	0.11	0.02	QP
8	0.9380970	29.94	-16.06	46.00	29.81	0.11	0.02	Average
9	1.050	45.81	-10.19	56.00	45.68	0.11	0.02	QP
10	1.050	32.95	-13.05	46.00	32.82	0.11	0.02	Average
11	2.200	41.23	-14.77	56.00	41.05	0.14	0.04	QP
12	2.200	28.17	-17.83	46.00	27.99	0.14	0.04	Average

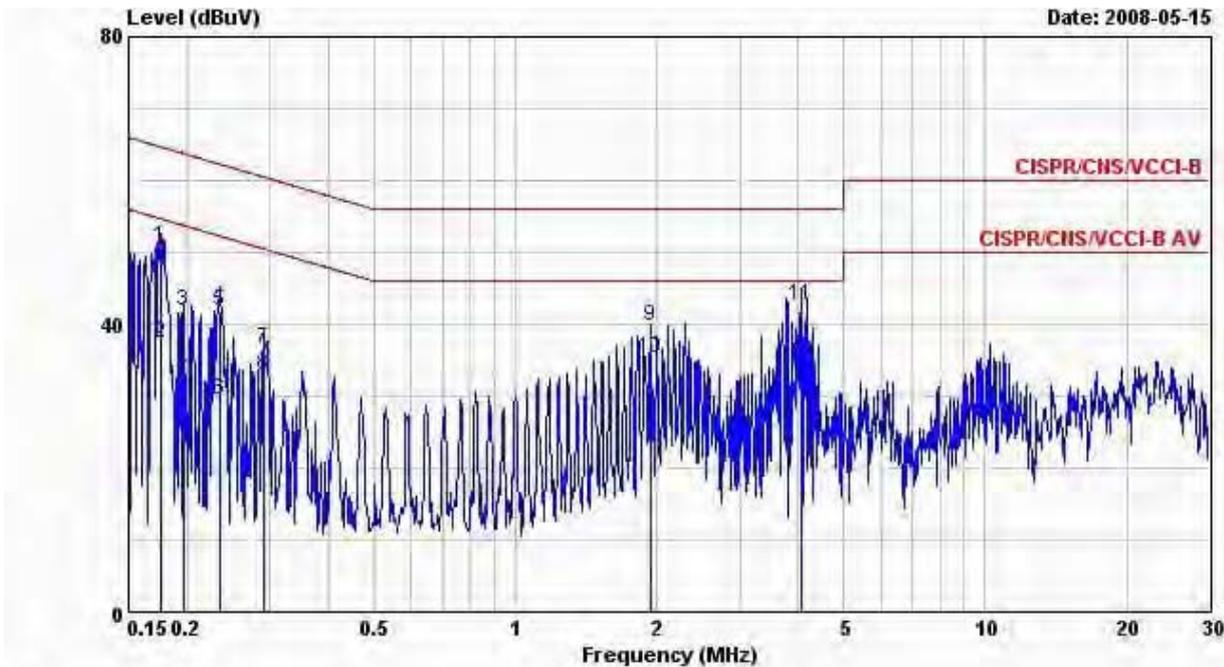


Site : C004-HY
 Condition : CISPR/CNS/VCCI-B LISN 2008 0416 99041 NEUTRAL
 EUT : PDA Phone
 POWER: 120V/60Hz
 Model : FR822609-05
 Memo : PCS1900 Idle+BT Link+WLAN Link+Battery4
 : Camera 2+Adaptor C+GPS Rx+USB cable B
 IMEI : 353190020011112
 SAMPLE : A

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.2658290	43.38	-17.87	61.25	43.26	0.08	0.04	QP
2	0.2658290	30.66	-20.59	51.25	30.54	0.08	0.04	Average
3	0.5237620	37.58	-18.42	56.00	37.43	0.10	0.05	QP
4	0.5237620	23.46	-22.54	46.00	23.31	0.10	0.05	Average
5	0.6718660	39.43	-16.57	56.00	39.29	0.10	0.04	QP
6	0.6718660	29.79	-16.21	46.00	29.65	0.10	0.04	Average
7	0.9380970	40.61	-15.39	56.00	40.48	0.11	0.02	QP
8	0.9380970	32.43	-13.57	46.00	32.30	0.11	0.02	Average
9	1.060	41.38	-14.62	56.00	41.25	0.11	0.02	QP
10	1.060	28.27	-17.73	46.00	28.14	0.11	0.02	Average
11	1.320	38.76	-17.24	56.00	38.62	0.11	0.03	QP
12	1.320	24.56	-21.44	46.00	24.42	0.11	0.03	Average

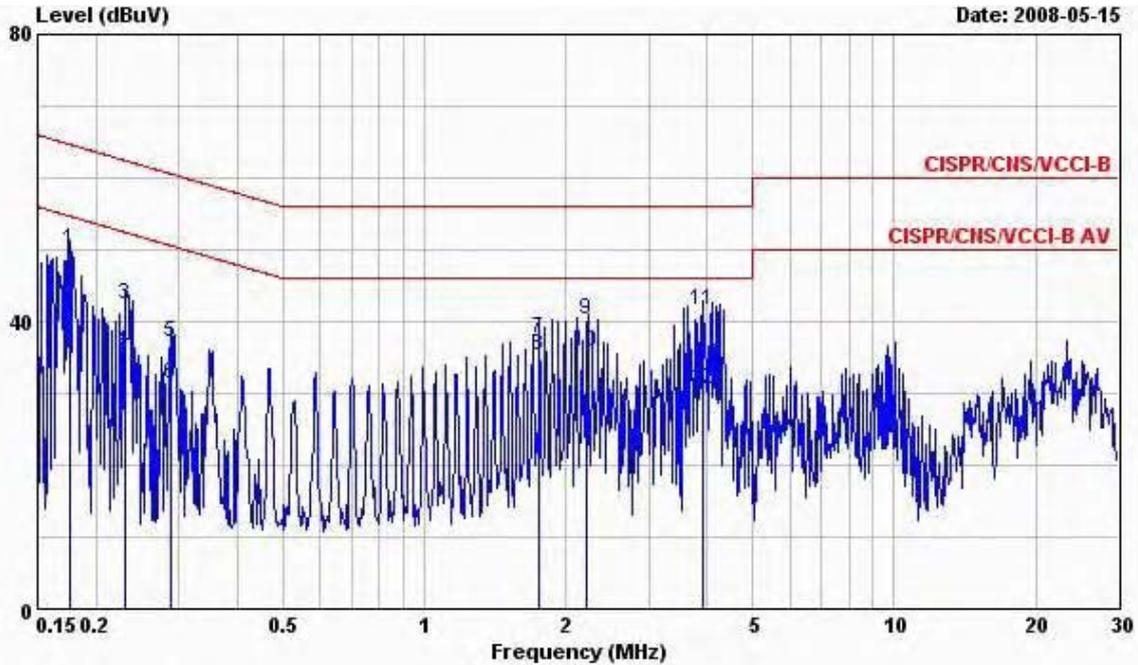
- Temperature : 31~32°C
- Relative Humidity : 30~31%
- Test Engineer : Darren
- Test Mode : Mode 5

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



Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 2008 0416 99041 LINE
 EUT : PDA Phone
 POWER: From Notebook
 Model : FR822609-05
 Memo : EDGE Idle+BT Link+WLAN Link+Battery5
 : MPEG 4+USB A Link+GPS Rx
 IMEI : 353190020011112
 SAMPLE : A

	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.1758420	50.90	-13.78	64.68	50.79	0.09	0.02	QP
2	0.1758420	37.38	-17.30	54.68	37.27	0.09	0.02	Average
3	0.1975810	41.76	-21.95	63.71	41.65	0.09	0.02	QP
4	0.1975810	33.33	-20.38	53.71	33.22	0.09	0.02	Average
5	0.2340870	41.72	-20.58	62.30	41.60	0.09	0.03	QP
6	0.2340870	29.53	-22.77	52.30	29.41	0.09	0.03	Average
7	0.2908840	36.57	-23.93	60.50	36.43	0.10	0.04	QP
8	0.2908840	32.87	-17.63	50.50	32.73	0.10	0.04	Average
9	1.940	39.75	-16.25	56.00	39.58	0.13	0.04	QP
10	1.940	35.31	-10.69	46.00	35.14	0.13	0.04	Average
11	4.070	42.52	-13.48	56.00	42.28	0.17	0.07	QP
12	4.070	28.99	-17.01	46.00	28.75	0.17	0.07	Average

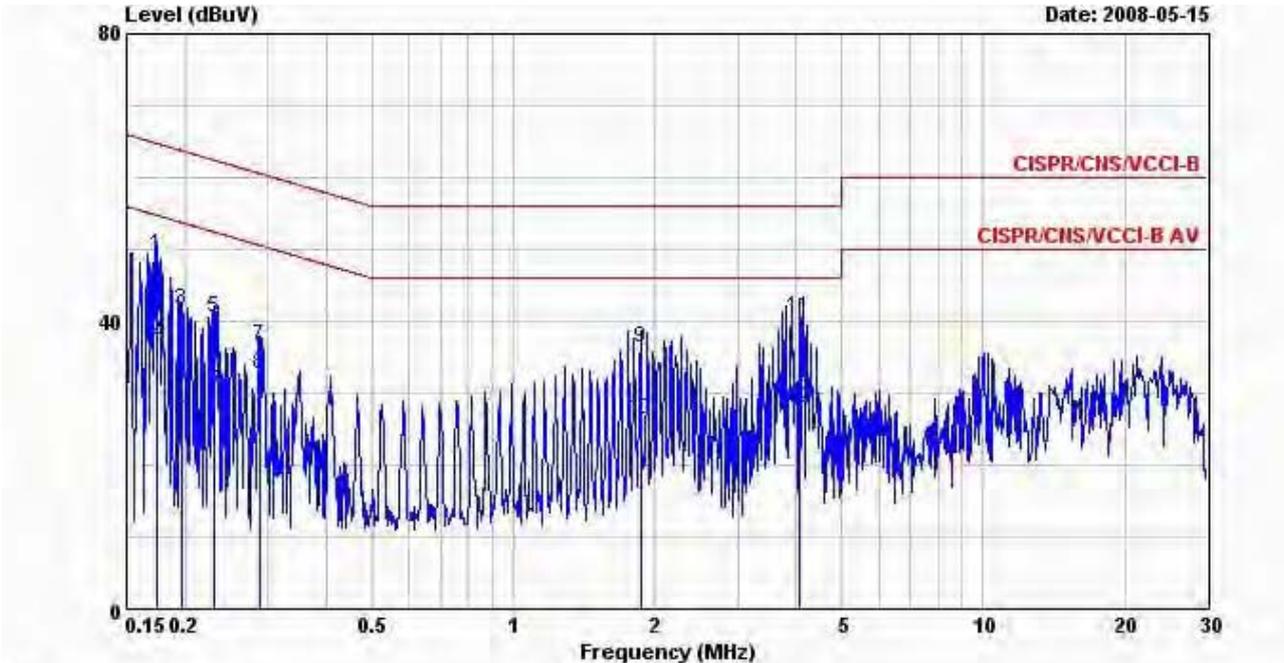


Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 2008 0416 99041 NEUTRAL
 EUT : PDA Phone
 POWER: From Notebook
 Model : FR822609-05
 Memo : EDGE Idle+BT Link+WLAN Link+Battery5
 : MPEG 4+USB A Link+GPS Rx
 IMEI : 353190020011112
 SAMPLE : A

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1758420	50.05	-14.63	64.68	49.95	0.08	0.02	QP
2	0.1758420	41.82	-12.86	54.68	41.72	0.08	0.02	Average
3	0.2316200	42.41	-19.98	62.39	42.30	0.08	0.03	QP
4	0.2316200	36.09	-16.30	52.39	35.98	0.08	0.03	Average
5	0.2893470	37.08	-23.46	60.54	36.95	0.09	0.04	QP
6	0.2893470	31.32	-19.22	50.54	31.19	0.09	0.04	Average
7	1.750	37.68	-18.32	56.00	37.52	0.12	0.04	QP
8	1.750	35.19	-10.81	46.00	35.03	0.12	0.04	Average
9	2.220	40.21	-15.79	56.00	40.05	0.12	0.04	QP
10	2.220	35.84	-10.16	46.00	35.68	0.12	0.04	Average
11	3.920	41.69	-14.31	56.00	41.47	0.15	0.07	QP
12	3.920	30.41	-15.59	46.00	30.19	0.15	0.07	Average

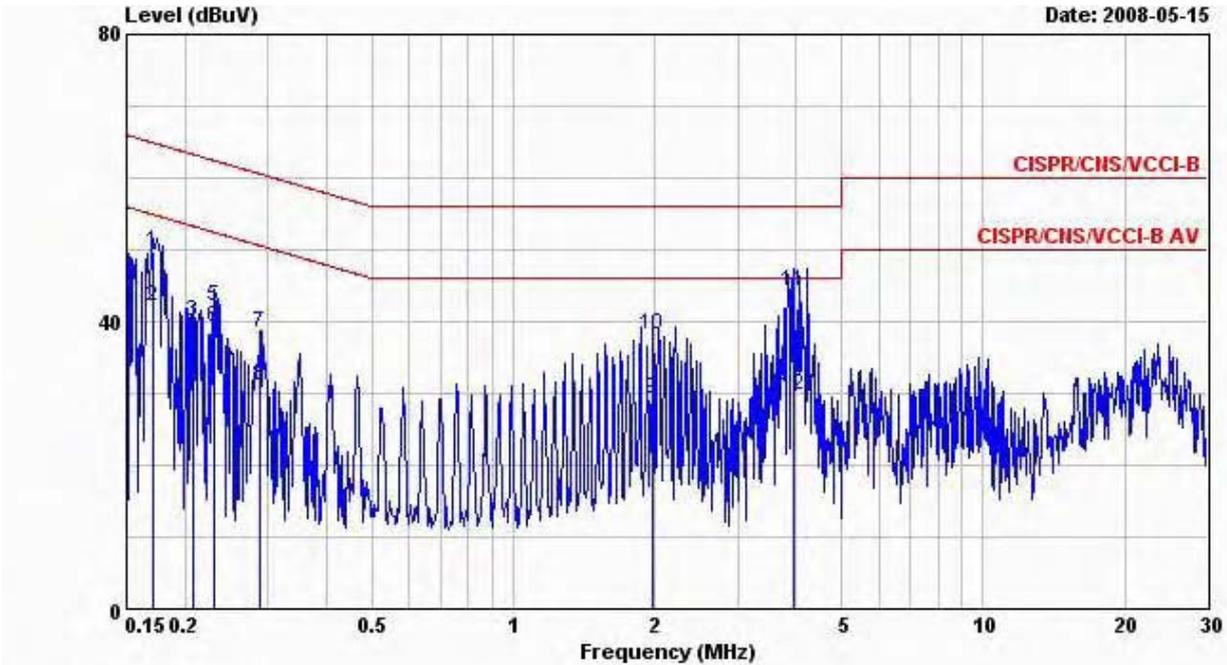
- Temperature : 31~32°C
- Relative Humidity : 30~31%
- Test Engineer : Darren
- Test Mode : Mode 6

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



Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 2008 0416 99041 LINE
 EUT : PDA Phone
 POWER: From Notebook
 Model : FR822609-05
 Memo : EDGE Idle+BT Link+WLAN Link+Battery6
 : MPEG 4+USB B Link+GPS Rx
 IMEI : 353190020011112
 SAMPLE : A

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1739880	49.19	-15.58	64.77	49.08	0.09	0.02	QP
2	0.1739880	37.32	-17.45	54.77	37.21	0.09	0.02	Average
3	0.1965370	41.70	-22.06	63.76	41.59	0.09	0.02	QP
4	0.1965370	27.38	-26.38	53.76	27.27	0.09	0.02	Average
5	0.2303960	40.49	-21.95	62.44	40.37	0.09	0.03	QP
6	0.2303960	30.58	-21.86	52.44	30.46	0.09	0.03	Average
7	0.2893470	36.48	-24.06	60.54	36.34	0.10	0.04	QP
8	0.2893470	32.66	-17.88	50.54	32.52	0.10	0.04	Average
9	1.870	36.28	-19.72	56.00	36.11	0.13	0.04	QP
10	1.870	26.37	-19.63	46.00	26.20	0.13	0.04	Average
11	4.070	40.63	-15.37	56.00	40.39	0.17	0.07	QP
12	4.070	27.83	-18.17	46.00	27.59	0.17	0.07	Average

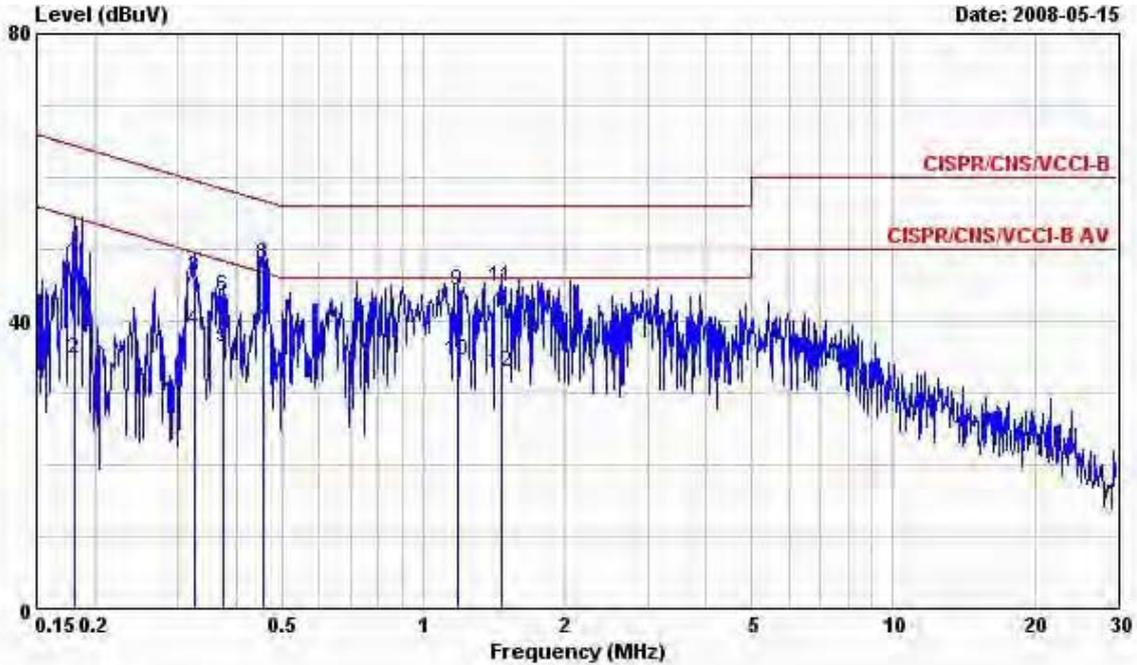


Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 2008 0416 99041 NEUTRAL
 EUT : PDA Phone
 POWER: From Notebook
 Model : FR822609-05
 Memo : EDGE Idle+BT Link+WLAN Link+Battery6
 : MPEG 4+USB B Link+GPS Rx
 IMEI : 353190020011112
 SAMPLE : A

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1703400	49.62	-15.32	64.94	49.52	0.08	0.02	QP
2	0.1703400	42.00	-12.94	54.94	41.90	0.08	0.02	Average
3	0.2072310	40.09	-23.23	63.32	39.99	0.08	0.02	QP
4	0.2072310	32.90	-20.42	53.32	32.80	0.08	0.02	Average
5	0.2303960	42.13	-20.31	62.44	42.02	0.08	0.03	QP
6	0.2303960	39.29	-13.15	52.44	39.18	0.08	0.03	Average
7	0.2893470	38.46	-22.08	60.54	38.33	0.09	0.04	QP
8	0.2893470	31.06	-19.48	50.54	30.93	0.09	0.04	Average
9	1.980	29.27	-16.73	46.00	29.11	0.12	0.04	Average
10	1.980	38.24	-17.76	56.00	38.08	0.12	0.04	QP
11	3.960	44.19	-11.81	56.00	43.97	0.15	0.07	QP
12	3.960	29.83	-16.17	46.00	29.61	0.15	0.07	Average

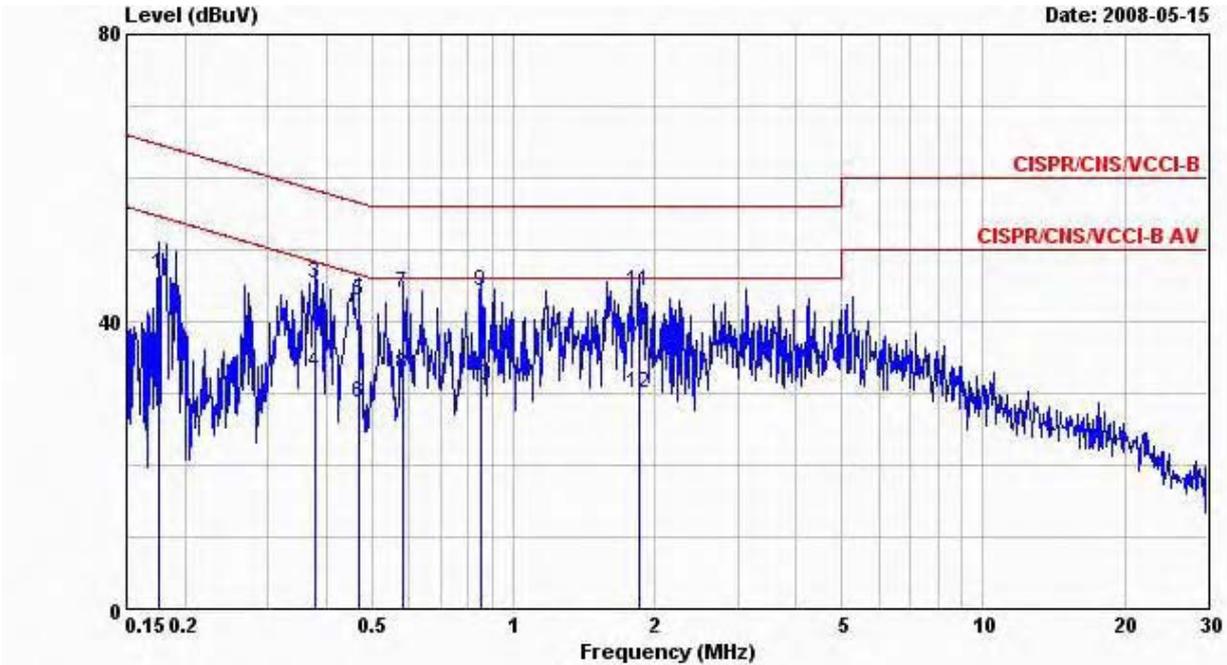
- Temperature : 31~32°C
- Relative Humidity : 30~31%
- Test Engineer : Darren
- Test Mode : Mode 7

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



Site : C004-HY
 Condition : CISPR/CNS/VCCI-B LISN 2008 0416 99041 LINE
 EUT : PDA Phone
 POWER: 120V/60Hz
 Model : FR822609-05
 Memo : PCS1900 Idle+BT Link+WLAN Link+Battery2
 : Cameral+Adaptor B +GPS Rx
 IMEI : 353190020011104
 SAMPLE : B

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1815220	48.08	-16.34	64.42	47.97	0.09	0.02	QP
2	0.1815220	34.62	-19.80	54.42	34.51	0.09	0.02	Average
3	0.3251190	46.12	-13.45	59.57	45.97	0.10	0.05	QP
4	@0.3251190	38.81	-10.76	49.57	38.66	0.10	0.05	Average
5	0.3751190	36.27	-12.12	48.39	36.11	0.10	0.06	Average
6	0.3751190	43.46	-14.93	58.39	43.30	0.10	0.06	QP
7	@0.4539490	39.46	-7.34	46.80	39.31	0.10	0.05	Average
8	@0.4539490	47.92	-8.88	56.80	47.77	0.10	0.05	QP
9	@1.180	44.25	-11.75	56.00	44.12	0.11	0.02	QP
10	@1.180	34.55	-11.45	46.00	34.42	0.11	0.02	Average
11	@1.470	44.76	-11.24	56.00	44.61	0.12	0.03	QP
12	1.470	33.01	-12.99	46.00	32.86	0.12	0.03	Average



Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 2008 0416 99041 NEUTRAL
 EUT : PDA Phone
 POWER: 120V/60Hz
 Model : FR822609-05
 Memo : PCS1900 Idle+BT Link+WLAN Link+Battery2
 : Cameral+Adaptor B +GPS Rx
 IMEI : 353190020011104
 SAMPLE : B

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1758420	46.58	-18.10	64.68	46.48	0.08	0.02	QP
2	0.1758420	34.38	-20.30	54.68	34.28	0.08	0.02	Average
3	0.3791160	45.27	-13.03	58.30	45.12	0.09	0.06	QP
4	0.3791160	32.91	-15.39	48.30	32.76	0.09	0.06	Average
5	0.4711010	42.79	-13.70	56.49	42.65	0.09	0.05	QP
6	0.4711010	28.79	-17.70	46.49	28.65	0.09	0.05	Average
7	0.5823110	43.86	-12.14	56.00	43.72	0.10	0.04	QP
8	0.5823110	32.68	-13.32	46.00	32.54	0.10	0.04	Average
9	0.8527650	44.09	-11.91	56.00	43.95	0.11	0.03	QP
10	0.8527650	30.95	-15.05	46.00	30.81	0.11	0.03	Average
11 @	1.850	44.21	-11.79	56.00	44.05	0.12	0.04	QP
12	1.850	30.13	-15.87	46.00	29.97	0.12	0.04	Average

5.9 Radiated Emission Measurement

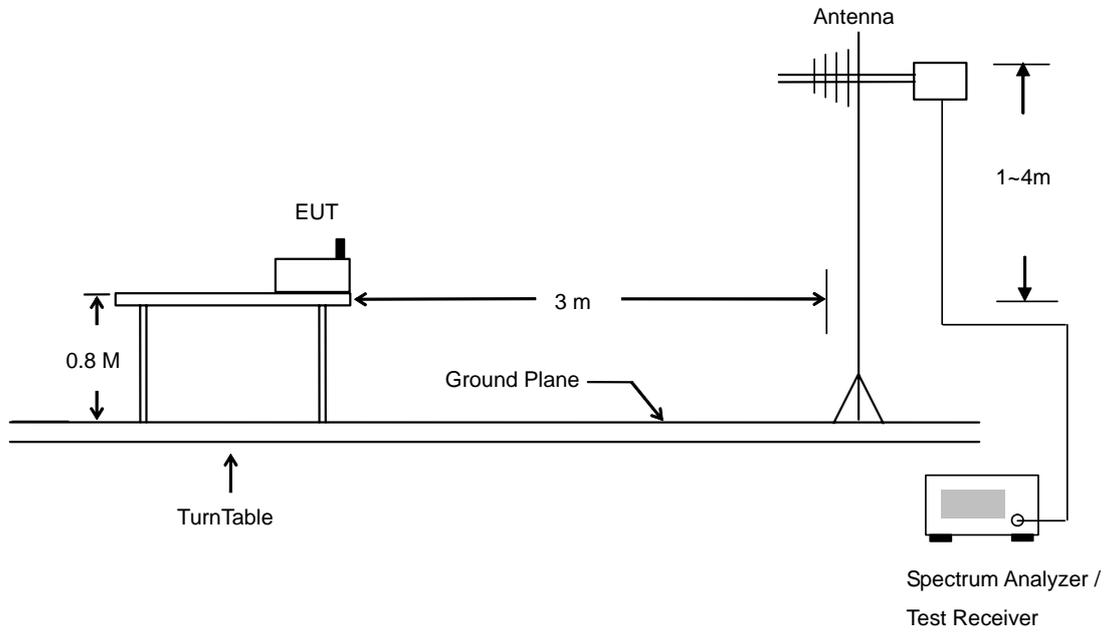
5.9.1 Measuring Instruments

As described in chapter 6 of this Report.

5.9.2 Test Procedures

1. The EUT was placed on a rotatable table top 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. 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.
5. 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.
6. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
7. 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.
8. 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.

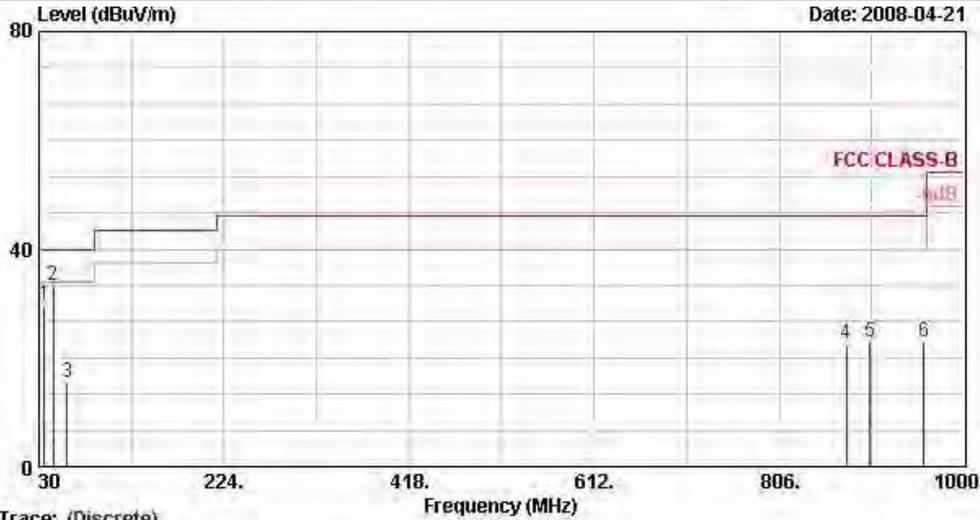
5.9.3 Typical Test Setup Layout of Radiated Emission



5.9.4 Test Data

- Temperature : 26~28°C
- Relating Humidity : 55~57%
- Test Engineer : Sun
- Test Mode : Mode 1
- Polarization : Horizontal (30MHz-1GHz)

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

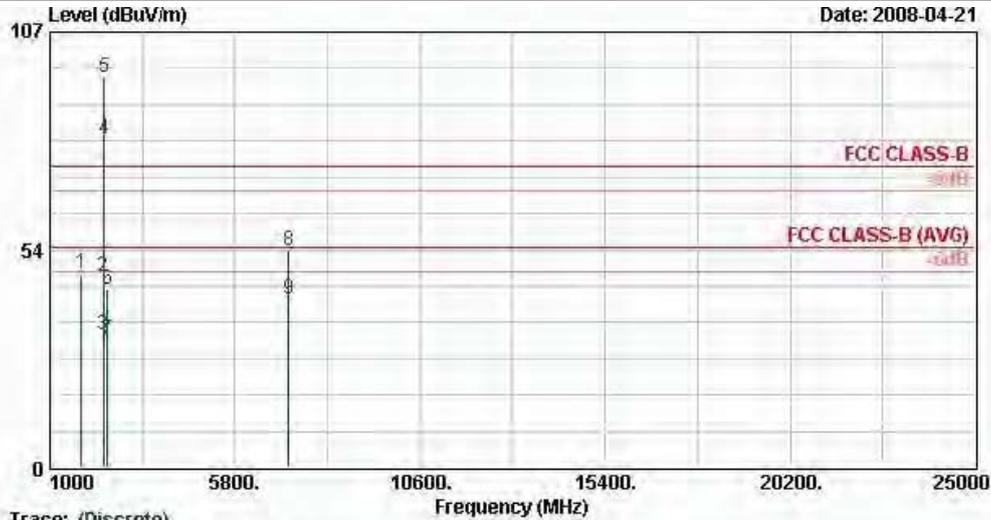


Trace: (Discrete)
 Site : D3CH08-HY
 Condition : FCC CLASS-B 3m LF-ANT(951121) HORIZONTAL
 EUT : PDA phone w/ sliding keyboard WCDMA
 (band 1X) + GSM/GPRS/EDGE
 (850/900/1800/1900)
 Power : 120Vac/60Hz
 Model : FR 822609-05
 Memo : BT Tx CH00 ; 2402MHz + Adaptor
 TMEI : 353180020011181
 Data Rate : 2DH5
 Plane : H

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	35.94	29.85	-10.15	40.00	47.22	15.61	0.30	33.28	---	---	Peak
2 @	45.39	33.32	-6.68	40.00	55.61	10.53	0.30	33.12	100	138	Peak
3	59.43	15.49	-24.51	40.00	41.71	6.77	0.40	33.39	---	---	Peak
4	876.80	22.56	-23.44	46.00	33.64	20.36	1.30	32.74	---	---	Peak
5	901.30	22.94	-23.06	46.00	33.89	20.54	1.30	32.79	---	---	Peak
6	957.30	22.97	-23.03	46.00	33.14	20.94	1.27	32.38	---	---	Peak

- Polarization : Horizontal (1GHz-25GHz)

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



Trace: (Discrete)

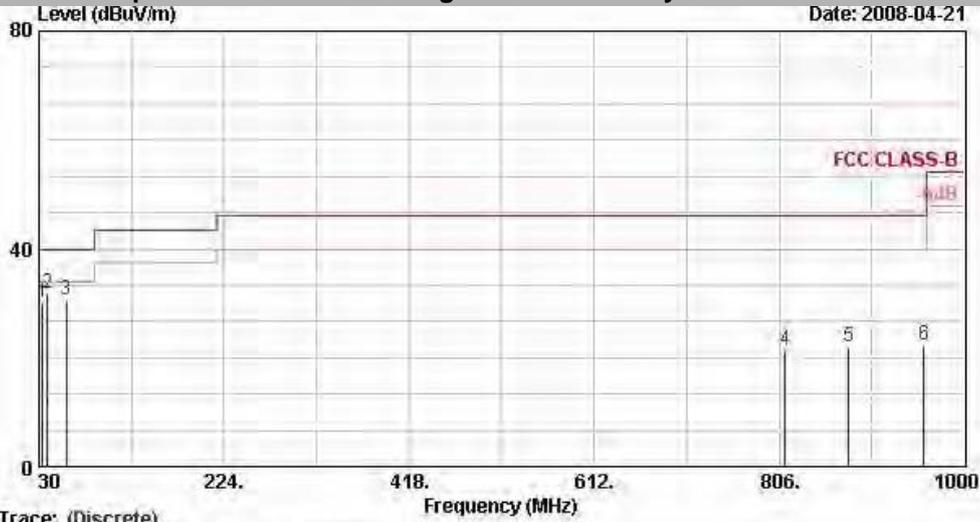
Site : 03CH06-HY
 Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
 EUT : PDA phone w/ sliding keyboard WCDMA
 (band 1X) + GSM/GPRS/EDGE
 (850/900/1800/1900)
 Power : 120Vac/60Hz
 Model : FR 822609-05
 Memo : BT Tx CH00 : 2402MHz + Adaptor
 TIME : 353180020011161
 Data Rate : 2DH5
 Plane : H

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	1822.00	47.59	-26.41	74.00	50.18	29.91	3.18	35.67	100	0	Peak
2	2389.61	47.00	-27.00	74.00	46.90	31.86	3.92	35.68	100	0	Peak
3	2389.61	32.59	-21.41	54.00	32.49	31.86	3.92	35.68	101	3	Average
4 @	2402.00	80.84			80.74	31.86	3.92	35.68	101	3	Average
5 @	2402.00	95.97			95.87	31.86	3.92	35.68	100	0	Peak
6	2484.00	43.73	-30.27	74.00	43.40	31.98	4.05	35.70	100	0	Peak
7	2484.00	31.30	-22.70	54.00	30.97	31.98	4.05	35.70	101	3	Average
8	7197.00	53.46	-20.54	74.00	46.66	35.72	7.16	36.08	100	0	Peak
9	7197.00	41.28	-12.72	54.00	34.48	35.72	7.16	36.08	100	234	Average

Remark: #4 and #5 are Fundamental Signals

• Polarization : Vertical (30MHz-1GHz)

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

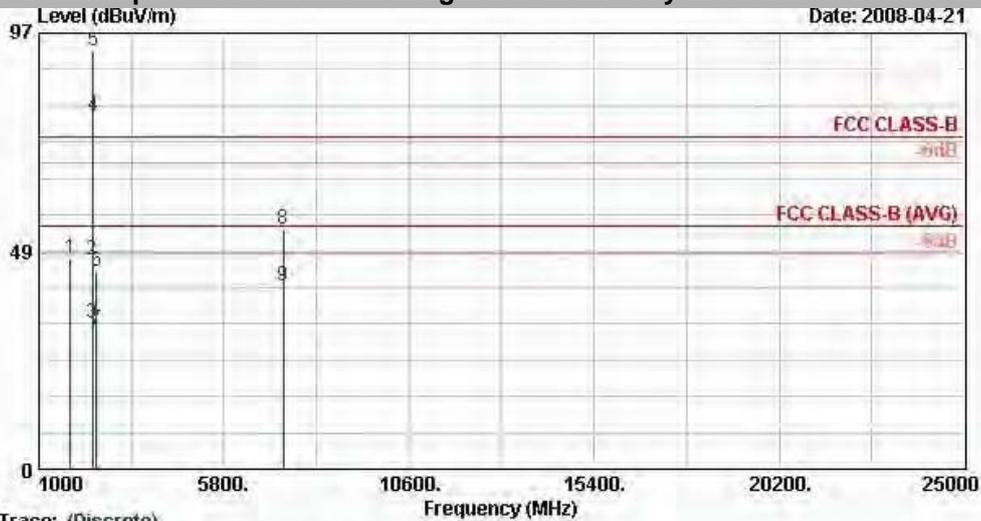


Trace: (Discrete)
 Site : D3CH06-HY
 Condition : FCC CLASS-B 3m LF-ANT(951121) VERTICAL
 EUT : PDA phone w/ sliding keyboard/WCDMA
 (band 1X) + GSM/GPRS/EDGE
 (850/900/1800/1900)
 Power : 120Vac/60Hz
 Model : FR 822609-05
 Memo : BT Tx CH00 ; 2402MHz + Adaptor
 TWEI : 353190020011161
 Data Rate : 2DH5
 Plane : H

	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	33.78	30.14	-9.86	40.00	46.34	16.84	0.30	33.34	---	Peak
2	39.18	31.91	-8.09	40.00	50.80	14.03	0.30	33.22	100	313 Peak
3	58.89	30.69	-9.31	40.00	56.91	6.77	0.40	33.39	---	Peak
4	812.40	21.37	-24.63	46.00	32.85	19.91	1.20	32.59	---	Peak
5	878.90	21.88	-24.12	46.00	32.95	20.38	1.30	32.75	---	Peak
6	957.30	22.18	-23.82	46.00	32.35	20.94	1.27	32.38	---	Peak

• Polarization : Vertical (1GHz-25GHz)

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



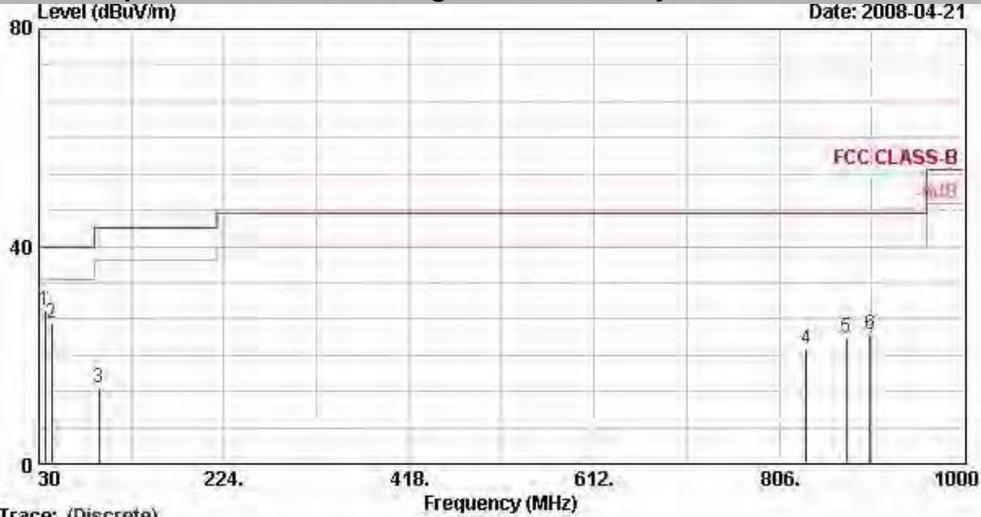
Trace: (Discrete)
 Site : D3CH08-RY
 Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
 EUT : PDA phone w/ sliding keyboard/WCDMA
 : (band 1X) + GSM/GPRS/EDGE
 : (850/900/1800/1900)
 Power : 120Vac/60Hz
 Model : FR 822609-05
 Memo : ET 1#_CH00 : 2402MHz + Adaptor
 T&E1 : 353180020011161
 Data Rate : 2DH5
 Plane : H

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	1820.00	46.75	-27.25	74.00	49.34	29.91	3.18	35.67	100	0	Peak
2	2389.61	46.36	-27.64	74.00	46.26	31.86	3.92	35.68	100	0	Peak
3	2389.61	32.32	-21.68	54.00	32.22	31.86	3.92	35.68	122	64	Average
4 @	2402.00	78.74			78.64	31.86	3.92	35.68	122	64	Average
5 @	2402.00	93.18			93.09	31.86	3.92	35.68	100	0	Peak
6	2492.00	43.92	-30.08	74.00	43.57	32.00	4.05	35.70	100	0	Peak
7	2492.00	30.96	-23.04	54.00	30.61	32.00	4.05	35.70	122	64	Average
8	7332.00	53.39	-20.61	74.00	46.65	35.67	7.21	36.13	100	0	Peak
9	7332.00	40.66	-13.34	54.00	33.91	35.67	7.21	36.13	100	261	Average

Remark: #4 and #5 are Fundamental Signals

- Test Mode : Mode 2
- Polarization : Horizontal (30MHz-1GHz)

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



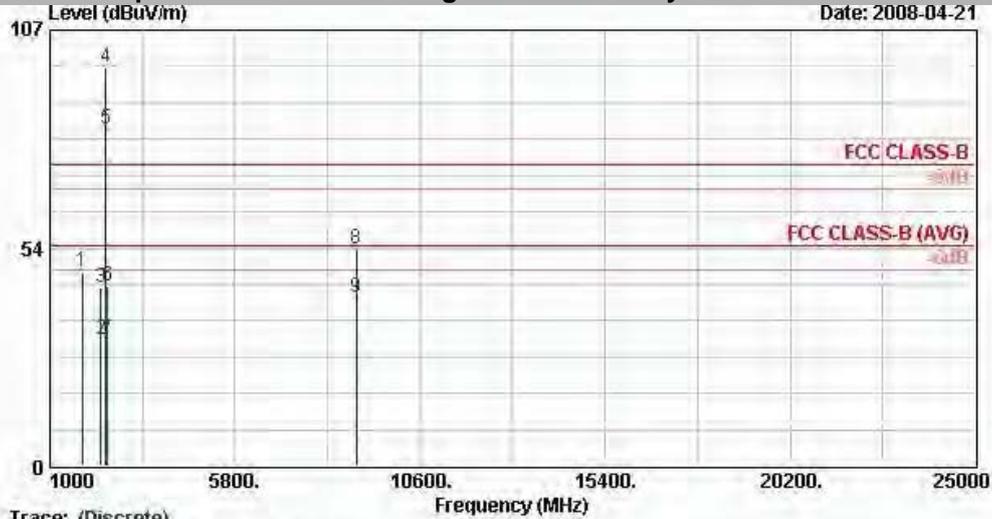
Trace: (Discrete)

Site : D3CH06-HY
 Condition : FCC CLASS-B 3m LP-ANT(951121) HORIZONTAL
 EUT : PDA phone w/ sliding keyboard#CDMA
 (band TX) + GSM/GPRS/EDGE
 (850/900/1800/1900)
 Power : 120Vac/60Hz
 Model : FR 822609-05
 Memo : BT Tx_CN39 : 2441MHz + Adaptor
 IMEI : 353190020011161
 Data Rate : 2DH5
 Plane : H

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	36.48	28.35	-11.65	40.00	46.23	15.08	0.30	33.26	100	246	Peak
2	43.23	25.88	-14.12	40.00	47.19	11.52	0.30	33.13	---	---	Peak
3	92.64	13.98	-29.52	43.50	37.19	9.62	0.50	33.33	---	---	Peak
4	834.80	21.23	-24.77	46.00	32.61	20.07	1.20	32.64	---	---	Peak
5	876.80	23.09	-22.91	46.00	34.17	20.36	1.30	32.74	---	---	Peak
6	901.30	23.67	-22.33	46.00	34.63	20.54	1.30	32.79	---	---	Peak

- Polarization : Horizontal (1GHz-25GHz)

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



Trace: (Discrete)

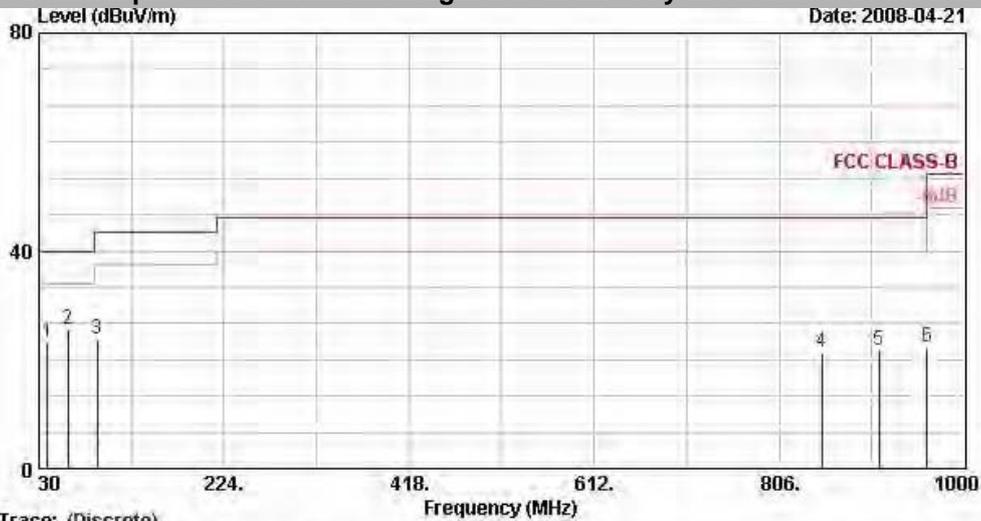
Site : DQCH06-HY
 Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
 EUT : PDA phone w/ sliding keyboard WCDMA
 (band 1X) + GSM/GPRS/EDGE
 (850/900/1800/1900)
 Power : 120Vac/60Hz
 Model : FR 822609-05
 Memo : BT Tx_CH39 : 2441MHz + Adaptor
 IMEI : 353180020011181
 Data Rate : 2DH5
 Plane : H

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	1828.00	47.65	-26.35	74.00	50.12	30.03	3.18	35.67	100	0	Peak
2	2326.00	30.87	-23.13	54.00	30.95	31.76	3.82	35.67	104	358	Average
3	2326.00	43.89	-30.11	74.00	43.97	31.76	3.82	35.67	100	0	Peak
4 X	2441.00	97.92			97.70	31.93	3.99	35.69	100	0	Peak
5 @	2441.00	82.89			82.67	31.93	3.99	35.69	104	358	Average
6	2494.00	43.99	-30.01	74.00	43.64	32.00	4.05	35.70	100	0	Peak
7	2494.00	31.14	-22.86	54.00	30.79	32.00	4.05	35.70	104	358	Average
8	8952.00	53.43	-20.57	74.00	45.82	36.43	7.74	36.57	100	0	Peak
9	8952.00	41.32	-12.68	54.00	33.72	36.43	7.74	36.57	100	126	Average

Remark: #4 and #5 are Fundamental Signals

• Polarization : Vertical (30MHz-1GHz)

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



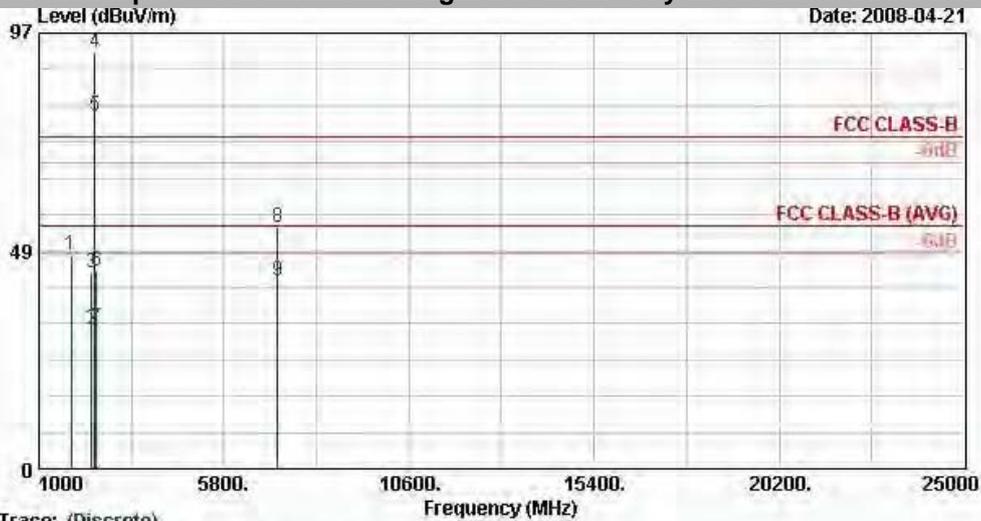
Trace: (Discrete)

Site : D3CH06-HY
 Condition : FCC CLASS-B 3m LP-ANT(951121) VERTICAL
 EUT : PDA phone w/ sliding keyboard/WCDMA
 (band 1X) + GSM/GPRS/EDGE
 (850/900/1800/1900)
 Power : 120Vac/60Hz
 Model : FR 822609-05
 Memo : BT Tx CH39 ; 2441MHz + Adaptor
 TWT : 353190020011161
 Data Rate : 2DH5
 Plane : H

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	39.18	23.09	-16.91	40.00	41.98	14.03	0.30	33.22	---	---	Peak
2	60.24	25.56	-14.44	40.00	51.93	6.62	0.40	33.39	100	168	Peak
3	91.29	23.92	-19.58	43.50	47.49	9.23	0.50	33.30	---	---	Peak
4	850.90	21.30	-24.70	46.00	32.60	20.18	1.20	32.68	---	---	Peak
5	910.40	21.85	-24.15	46.00	32.67	20.61	1.29	32.72	---	---	Peak
6	960.80	22.40	-31.60	54.00	32.48	20.96	1.30	32.35	---	---	Peak

• Polarization : Vertical (1GHz-25GHz)

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



Trace: (Discrete)

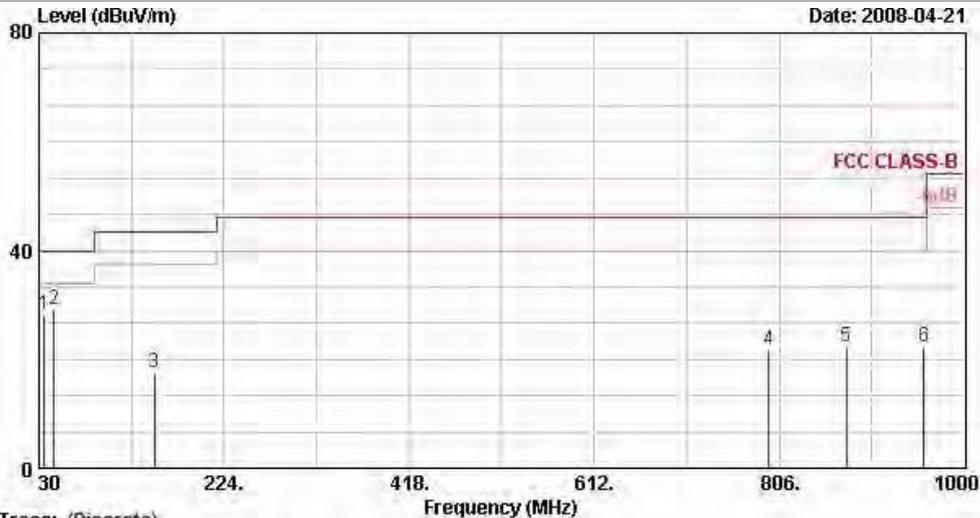
Site : D3CH06-RY
 Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
 EUT : PDA phone w/ sliding keyboard WCDMA
 : (band 1X) + GSM/GPRS/EDGE
 : (850/900/1800/1900)
 Power : 120Vac/60Hz
 Model : FR 822609-05
 Memo : ET T_W CH39 : 2441MHz + Adaptor
 TWT : 353180020011161
 Data Rate : 2DH5
 Plane : H

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	1828.00	47.73	-26.27	74.00	50.19	30.03	3.18	35.67	100	0	Peak
2	2372.00	31.17	-22.83	54.00	31.13	31.83	3.89	35.68	100	52	Average
3	2372.00	43.55	-30.45	74.00	43.51	31.83	3.89	35.68	100	0	Peak
4 X	2441.00	92.79			92.57	31.93	3.99	35.69	100	0	Peak
5 @	2441.00	78.57			78.35	31.93	3.99	35.69	100	52	Average
6	2500.00	43.90	-30.10	74.00	43.55	32.00	4.05	35.70	100	0	Peak
7	2500.00	31.20	-22.80	54.00	30.85	32.00	4.05	35.70	100	52	Average
8	7191.00	53.74	-20.26	74.00	46.94	35.72	7.16	36.08	100	0	Peak
9	7191.00	41.85	-12.15	54.00	35.05	35.72	7.16	36.08	100	189	Average

Remark: #4 and #5 are Fundamental Signals

- Test Mode : Mode 3
- Polarization : Horizontal (30MHz-1GHz)

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

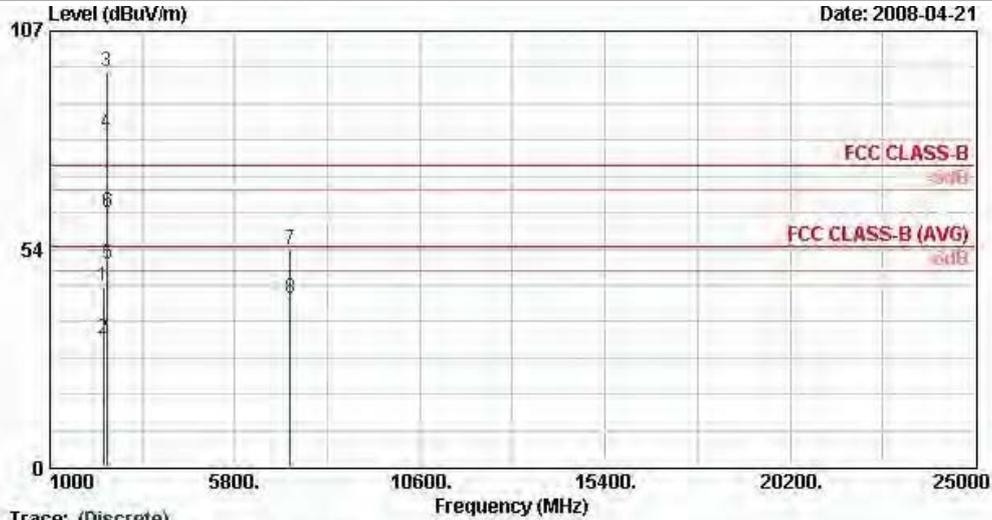


Trace: (Discrete)
 Site : D3CH08-RY
 Condition : FCC CLASS-B 3m LF-ANT(951121) HORIZONTAL
 EUT : PDA phone w/ sliding keyboard*CDMA
 (band 1X) + GSM/GPRS/EDGE
 (850/900/1800/1900)
 Power : 120Vac/60Hz
 Model : FR 822609-05
 Memo : BT TX_CH76 ; 2480MHz + Adaptor
 TIME : 353180020011161
 Data Rate : 2DH5
 Plane : H

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	35.94	28.21	-11.79	40.00	45.58	15.61	0.30	33.28	---	---	Peak
2	45.93	29.17	-10.83	40.00	51.46	10.53	0.30	33.12	100	177	Peak
3	150.69	17.47	-26.03	43.50	40.03	10.40	0.60	33.56	---	---	Peak
4	794.90	21.63	-24.37	46.00	33.24	19.77	1.20	32.59	---	---	Peak
5	876.80	22.16	-23.84	46.00	33.24	20.36	1.30	32.74	---	---	Peak
6	957.30	22.37	-23.63	46.00	32.54	20.94	1.27	32.38	---	---	Peak

- Polarization : Horizontal (1GHz-25GHz)

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



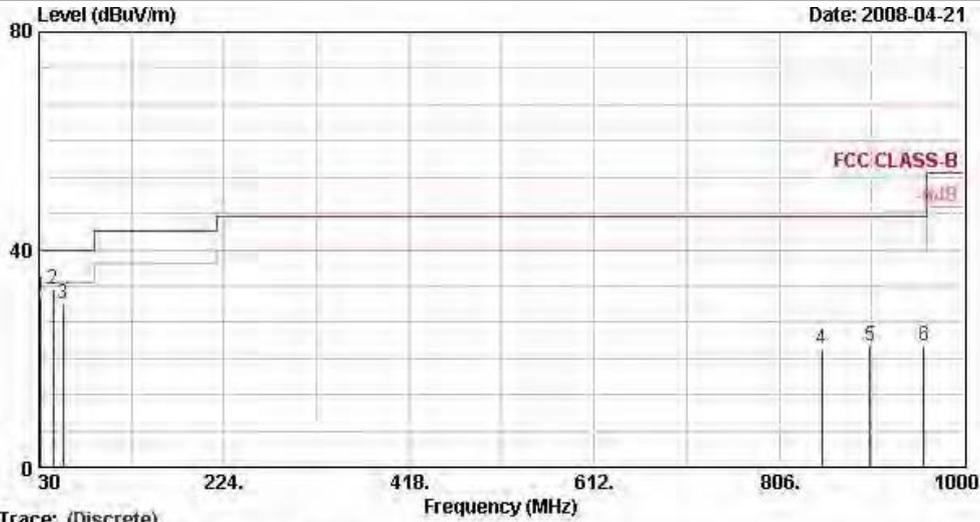
Trace: (Discrete)
 Site : 03CH06-HY
 Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
 EUT : PDA phone w/ sliding keyboard*CDMA
 (band TX) + GSM/GPRS/EDGE
 (850/900/1800/1900)
 Power : 120Vac/60Hz
 Model : FR 822609-05
 Memo : BT Tx CH78 : 2480MHz + Adaptor
 IMEI : 35310002001161
 Data Rate : 2DH5
 Plane : H

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	2388.00	44.29	-29.71	74.00	44.19	31.86	3.92	35.68	100	0 Peak
2	2388.00	31.39	-22.61	54.00	31.29	31.86	3.92	35.68	102	354 Average
3 X	2480.00	96.91			96.58	31.98	4.05	35.70	100	0 Peak
4 @	2480.00	81.87			81.54	31.98	4.05	35.70	102	354 Average
5 !	2483.50	49.77	-4.23	54.00	49.44	31.98	4.05	35.70	102	354 Average
6	2483.50	62.53	-11.47	74.00	62.20	31.98	4.05	35.70	100	0 Peak
7	7227.00	53.49	-20.51	74.00	46.70	35.71	7.17	36.09	100	0 Peak
8	7227.00	41.25	-12.75	54.00	34.46	35.71	7.17	36.09	100	135 Average

Remark: #3 and #4 are Fundar

- Polarization : Vertical (30MHz-1GHz)

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



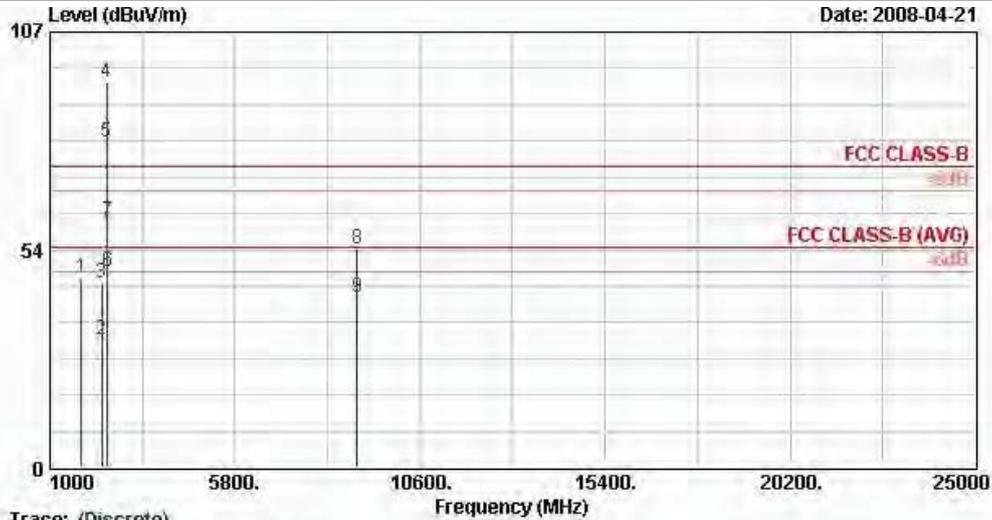
Trace: (Discrete)

Site : 03CH06-HY
 Condition : FCC CLASS-B 3m LP-ANT(051121) VERTICAL
 EUT : PDA phone w/ sliding keyboard#CDMA
 (band TX) + GSM/GPRS/EDGE
 (850/900/1800/1900)
 Power : 120Vac/60Hz
 Model : FR 822609-05
 Memo : BT Tx_CH78 : 2480MHz + Adaptor
 IMET : 35310002001161
 Data Rate : 2DH5
 Plane : H

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	Pos	deg
1	32.43	31.09	-8.91	40.00	46.63	17.54	0.30	33.38	---	---	Peak
2	44.58	32.67	-7.33	40.00	54.46	11.02	0.30	33.11	100	175	Peak
3	55.38	30.13	-9.87	40.00	55.75	7.35	0.40	33.37	---	---	Peak
4	850.90	21.57	-24.43	46.00	32.87	20.18	1.20	32.68	---	---	Peak
5	901.30	22.18	-23.82	46.00	33.14	20.54	1.30	32.79	---	---	Peak
6	957.30	22.41	-23.59	46.00	32.59	20.94	1.27	32.38	---	---	Peak

- Polarization : Vertical (1GHz-25GHz)

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



Trace: (Discrete)
 Site : 03CH06-HY
 Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
 EUT : PDA phone w/ sliding keyboard#CDMA
 (band TX) + GSM/GPRS/EDGE
 (850/900/1800/1900)
 Power : 120Vac/60Hz
 Model : FR 822609-05
 Memo : BT Tx_CH78 : 2480MHz + Adaptor
 TIME : 35310002001161
 Data Rate : 2DH5
 Plane : H

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	1822.00	46.40	-27.60	74.00	48.99	29.91	3.18	35.67	100	0	Peak
2	2350.00	31.26	-22.74	54.00	31.29	31.78	3.86	35.67	162	122	Average
3	2350.00	45.36	-28.64	74.00	45.39	31.78	3.86	35.67	100	0	Peak
4 X	2480.00	94.58			94.25	31.98	4.05	35.70	100	0	Peak
5 @	2480.00	80.13			79.80	31.98	4.05	35.70	162	122	Average
6 !	2483.50	48.23	-5.77	54.00	47.90	31.98	4.05	35.70	162	122	Average
7	2483.50	60.34	-13.66	74.00	60.01	31.98	4.05	35.70	100	0	Peak
8	8967.00	53.79	-20.21	74.00	46.14	36.45	7.77	36.57	100	0	Peak
9	8967.00	41.64	-12.36	54.00	33.99	36.45	7.77	36.57	100	231	Average

Remark: #4 and #5 are Fundamental Signals

5.10 Antenna Requirements

5.10.1 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.

5.10.2 Antenna Connected Construction

The antenna used in this product is PIFA Antenna for BT. It is considered to meet antenna requirement of FCC.

5.10.3 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

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
EMC Receiver	R&S	ESCS 30	100359	9kHz – 2.75GHz	Mar. 03, 2008	Mar. 02, 2009	Conduction (CO04-HY)
LISN	MessTec	NNB-2/16Z	99079	9kHz – 30MHz	Mar. 31, 2008	Mar. 29, 2009	Conduction (CO04-HY)
LISN (Support Unit)	EMCO	3810/2NM	9703-1839	9kHz – 30MHz	Mar. 22, 2008	Mar. 21, 2009	Conduction (CO04-HY)
RF Cable-CON	UTIFLEX	3102-26886-4	CB049	9kHz – 30MHz	Apr. 20, 2008	Apr. 19, 2009	Conduction (CO04-HY)
ISN	SCHAFFNER	ISN T400	21653	9kHz –30MHz	Mar. 27, 2008	Mar. 26, 2009	Conduction (CO04-HY)
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	N/A	N/A	Conduction (CO04-HY)
Spectrum Analyzer	Agilent	E4408B	MY44211028	9KHz-26.5GHz	Oct. 17, 2007	Oct. 16, 2008	Radiation (03CH06-HY)
EMI Test Receiver	R&S	ESCS30	100356	9KHz-2.75GHz	Jul. 26, 2007	Jul. 25, 2008	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2885	30MHz -2GHz	Dec. 01, 2007	Nov. 30, 2008	Radiation (03CH06-HY)
Double Ridge Horn Antenna	Com-Power	AH118	071025	1G~18G	Jun. 04, 2007	Jun. 03, 2008	Radiation (03CH06-HY)
SHF-EHF Horn	SCHWARZBECK	BBHA 9170	9170-251	14G - 40G	Oct. 17, 2007	Oct. 16, 2008	Radiation (03CH06-HY)
Pre Amplifier	Agilent	8449B	3008A01917	1G - 26.5G	Nov. 22, 2007	Nov. 21, 2008	Radiation (03CH06-HY)
Pre Amplifier	EMEC	PA303	PA303-SMA-059	100K~3GHz	Nov. 26, 2007	Nov. 25, 2008	Radiation (03CH06-HY)
Base Station Simulator	R & S	CMU200	103937	Third-Band	Oct. 19, 2007	Oct. 18, 2008	Radiation (03CH06-HY)

7. Uncertainty Evaluation

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

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 (30 MHz ~ 1000 MHz)

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		

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

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				

The measured result is : y dBuV \pm U dB
for a level of confidence of approximately 95% , ($k = 2$)