



FCC Test Report

According to

47 CFR Part 15 Subpart C

Equipment : PDA Phone

Model Name : RAPH100

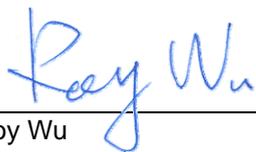
FCC ID : NM8RPLV

Filing Type : Certification

Applicant : HTC Corporation

23 Xinghua Rd., Taoyuan 330, Taiwan

- The test result refers exclusively to the test presented test model / sample.
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- The data shown in this test report were carried out during Jun. 16, 2008 at **Sporton International Inc. LAB.**
- Report No.: FR830418-01B, Report Version: Rev.01



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Report Version: Rev.01

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1. General Description of Equipment under Test

1.1 Applicant

HTC Corporation
23 Xinghua Rd., Taoyuan 330, Taiwan

1.2 Manufacturer

HTC Corporation
23 Xinghua Rd., Taoyuan 330, Taiwan

1.3 Basic Description of Equipment under Test

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

1.4 Feature of Equipment under Test

Product Feature & Specification			
DUT Type :	PDA Phone		
Model Name :	RAPH100		
FCC ID :	NM8RPLV		
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 (1Mbps) : 0.85 dBm Bluetooth EDR (2Mbps) : 1.67 dBm Bluetooth EDR (3Mbps) : 1.23 dBm		
Antenna Type :	PIFA Antenna		
Antenna Gain :	0 dBi		
Type of Modulation :	Bluetooth (1Mbps) : GFSK Bluetooth EDR (2Mbps) : $\pi/4$ -DQPSK Bluetooth EDR (3Mbps) : 8-DPSK		
Function Type :	Transmitter		Transceiver V
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	-0.14 dBm	0.96 dBm	0.45 dBm
Ch39	2441MHz	0.16 dBm	1.27 dBm	0.72 dBm
Ch78	2480MHz	0.85 dBm	1.67 dBm	1.23 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	Bluetooth Tx (EDR 2Mbps)
	Mode 1: CH00_2402 MHz
	Mode 2: CH39_2441 MHz
	Mode 3: CH78_2480 MHz
Conducted Emission	Mode 1 : BT Link + WLAN Link + Battery 1 + Adapter 1 for Sample A
	Mode 2 : BT Link + WLAN Link + Battery 1 + Adapter 2 for Sample A
	Mode 3 : BT Link + WLAN Link + Battery 1 + Adapter 3 + USB Cable 1 for Sample A
	Mode 4 : BT Link + WLAN Link + Battery 1 + Adapter 3 + USB Cable 2 for Sample A
	Mode 5 : BT Link + WLAN Link + Battery 2 + USB Cable 1 Link with NB for Sample A
	Mode 6 : BT Link + WLAN Link + Battery 2 + USB Cable 2 Link with NB for Sample A
	Mode 7 : BT Link + WLAN Link + Battery 2 + USB Cable 1 Link with NB for Sample B

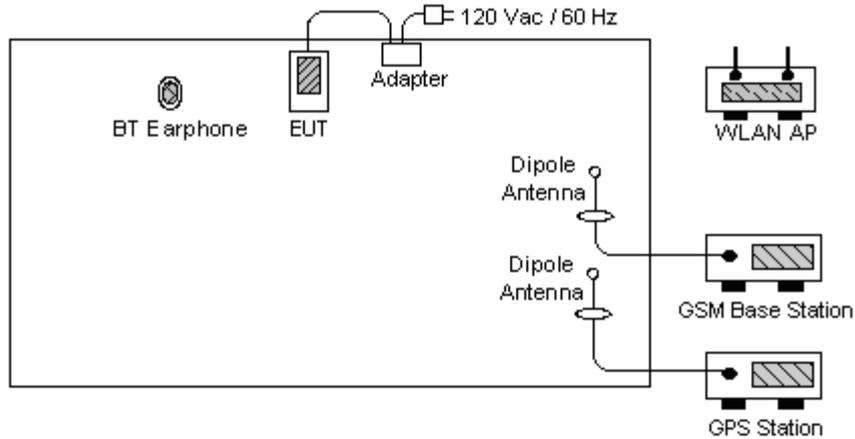
2.3 Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	GSM 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.	WLAN AP	SMC	SMC-100	HEDWG4005ACC	N/A	Unshielded, 1.8 m
4.	Notebook	DELL	D400	E2K24GBRL	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
5.	Bluetooth Earphone	Engotech	ET-BH111	PQY471087	N/A	N/A
6.	RS-232 Mouse	State	MS-303	DoC	Unshielded, 1.2 m	N/A
7.	i-pod	Apple	A1199	N/A	Shielded, 1.2 m	N/A

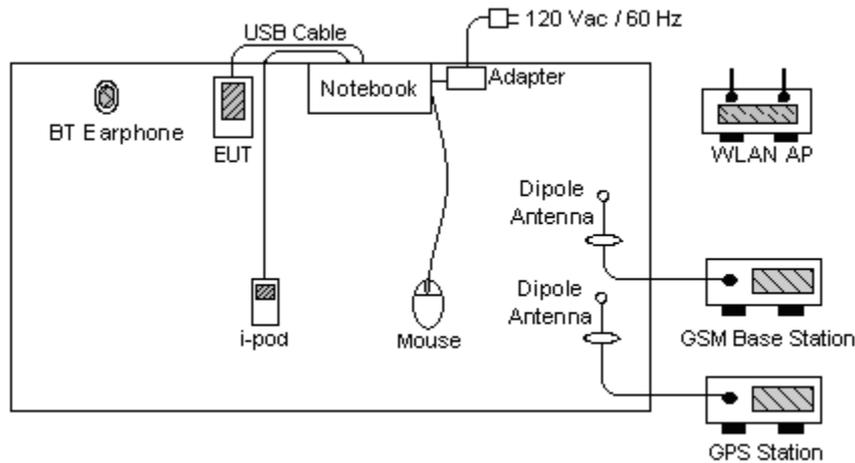
2.4 Connection Diagram of Test System

<Conducted Emission>

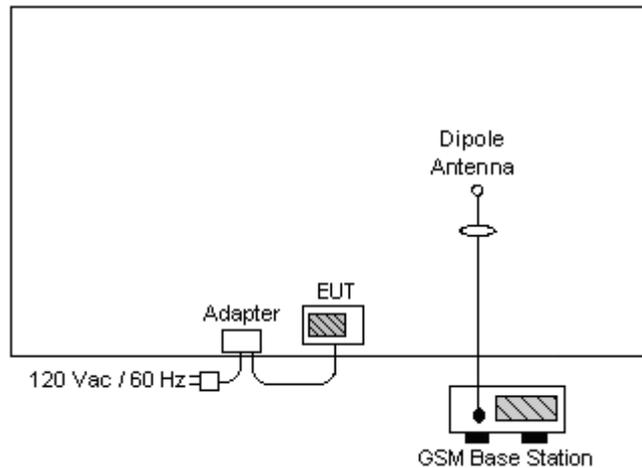
EUT with Adapter Mode



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)	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 : 29~30°C
- Relative Humidity : 50~51%
- Test Engineer : CKC

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

5.2.4 Note on Band Edge Emission

➤ Bluetooth(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
2389.23	52.14	-21.86	74.00	52.04	31.86	3.92	35.68	100	0	Peak
2389.23	39.65	-14.35	54.00	39.55	31.86	3.92	35.68	104	15	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
2322.16	50.38	-23.62	74.00	50.39	31.81	3.89	35.67	100	0	Peak
2322.16	39.35	-14.65	54.00	39.43	31.76	3.82	35.67	110	250	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
2483.47	73.80	-0.20	74.00	73.47	31.98	4.05	35.70	100	0	Peak
2483.47	49.41	-4.59	54.00	49.08	31.98	4.05	35.70	100	14	Average

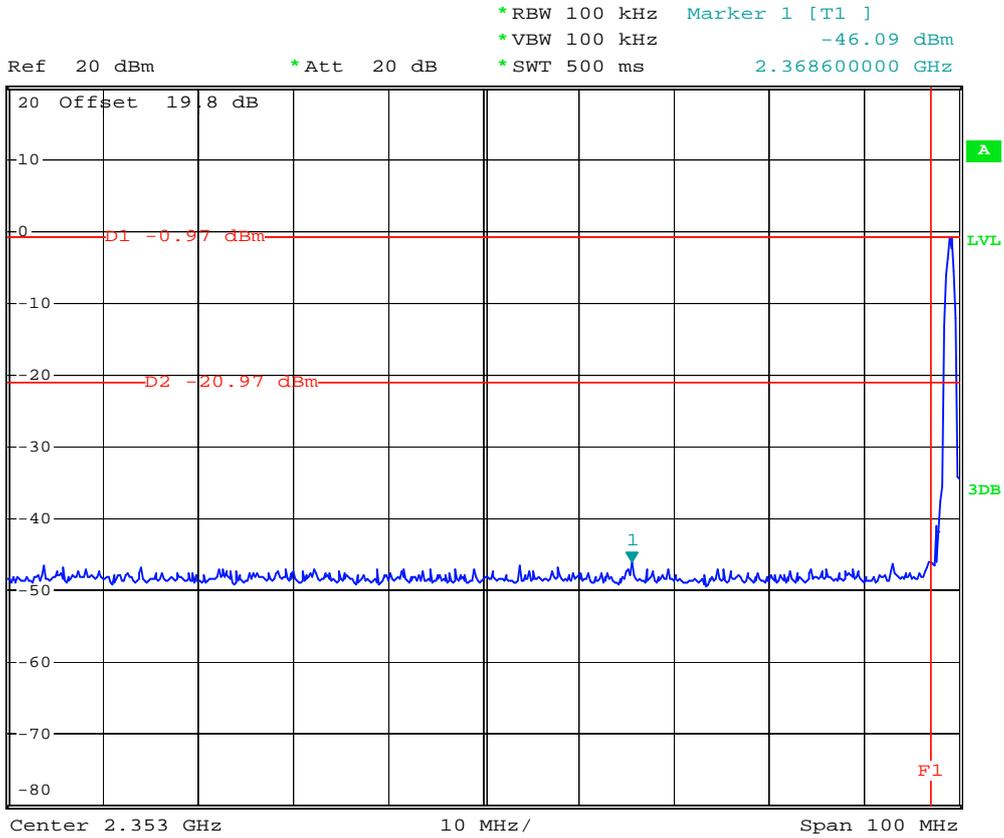
CH78 (Vertical)

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
2483.47	62.89	-11.11	74.00	62.56	31.98	4.05	35.70	100	0	Peak
2483.47	44.70	-9.30	54.00	44.37	31.98	4.05	35.70	102	95	Average

5.2.5 20dB Band Edge

Bluetooth EDR(2Mbps)

CH00

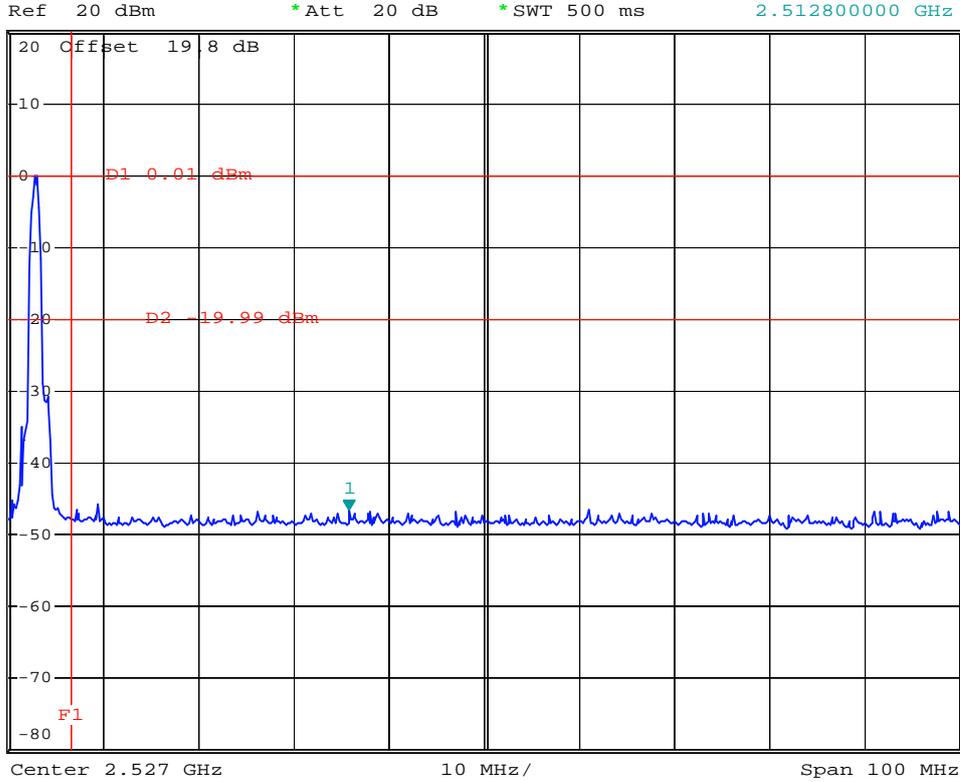


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CH78



*RBW 100 kHz Marker 1 [T1]
 *VBW 100 kHz -46.59 dBm
 *SWT 500 ms 2.512800000 GHz



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5.3 Hopping Channel Separation

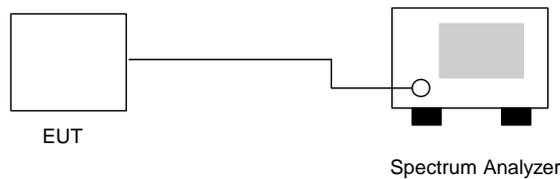
5.3.1 Measuring Instruments

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 : Bluetooth
- Temperature : 29~30°C
- Relative Humidity : 50~51%
- Test Engineer : CKC

Channel	Frequency (MHz)	Carrier Frequency Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.004	0.543	Mode 1
39	2441	1.000	0.547	Mode 2
78	2480	1.000	0.548	Mode 3

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

- Application Type : Bluetooth EDR(2Mbps)
- Temperature : 29~30°C
- Relative Humidity : 50~51%
- Test Engineer : CKC

Channel	Frequency (MHz)	Carrier Frequency Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.002	0.832	Mode 4
39	2441	1.008	0.832	Mode 5
78	2480	1.002	0.830	Mode 6

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

- Application Type : Bluetooth EDR(3Mbps)
- Temperature : 29~30°C
- Relative Humidity : 50~51%
- Test Engineer : CKC

Channel	Frequency (MHz)	Carrier Frequency Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.002	0.808	Mode 7
39	2441	1.002	0.806	Mode 8
78	2480	1.002	0.810	Mode 9

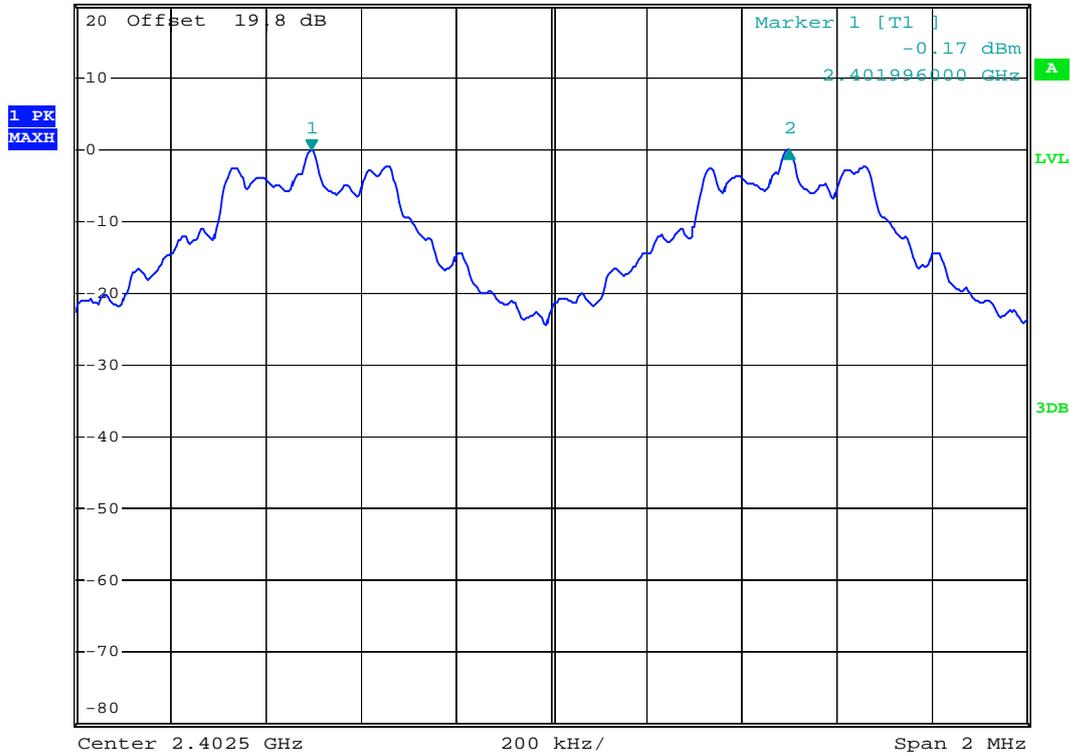
Remark: Hopping Channel Separation shall be greater 2/3 of 20dB bandwidth.

5.3.5 Hopping Channel Separation

Mode 1



Ref 20 dBm *Att 20 dB *RBW 30 kHz Delta 2 [T1]
 *VBW 100 kHz 0.01 dB
 *SWT 500 ms 1.004000000 MHz



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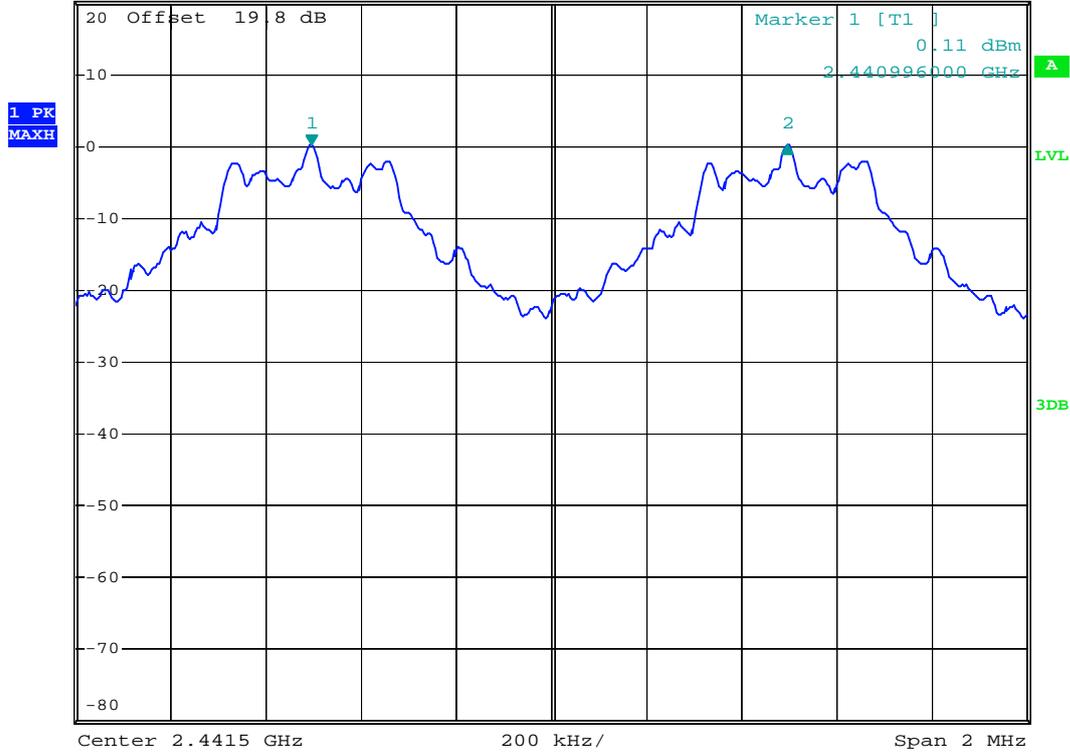
Mode 2



*RBW 30 kHz Delta 2 [T1]
 *VBW 100 kHz -0.01 dB
 *SWT 500 ms 1.000000000 MHz

Ref 20 dBm

*Att 20 dB



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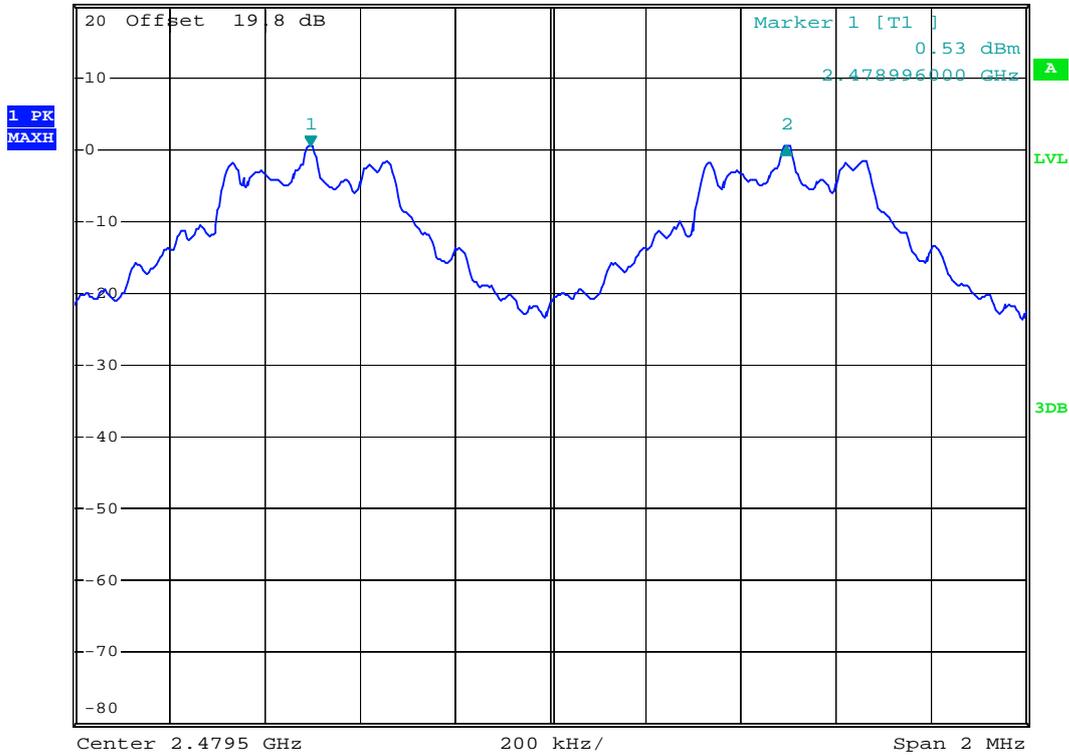
Mode 3



*RBW 30 kHz Delta 2 [T1]
 *VBW 100 kHz 0.00 dB
 *SWT 500 ms 1.000000000 MHz

Ref 20 dBm

*Att 20 dB



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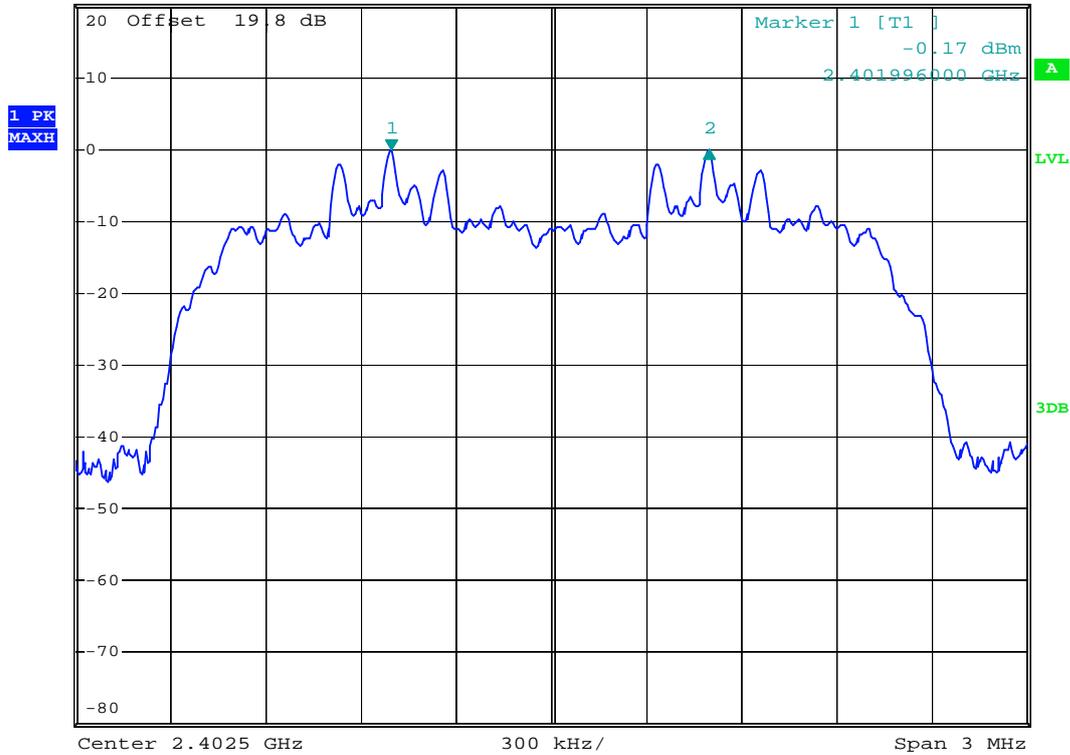
Mode 4



*RBW 30 kHz Delta 2 [T1]
 *VBW 100 kHz 0.04 dB
 *SWT 500 ms 1.002000000 MHz

Ref 20 dBm

*Att 20 dB



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Mode 5

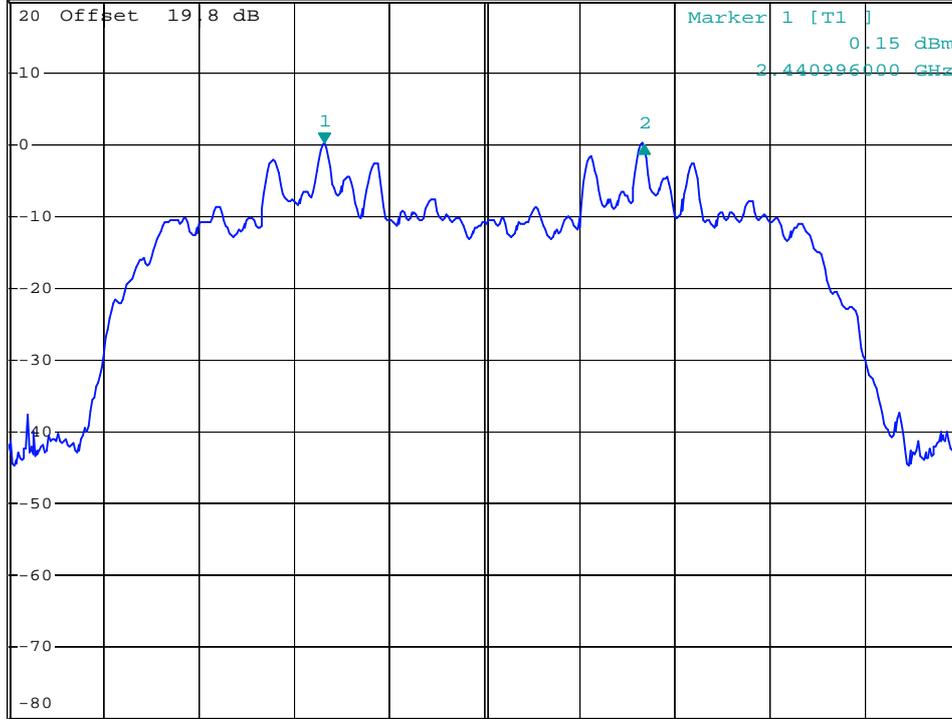


*RBW 30 kHz Delta 2 [T1]
 *VBW 100 kHz -0.10 dB
 *SWT 500 ms 1.008000000 MHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



Center 2.4415 GHz 300 kHz/ Span 3 MHz

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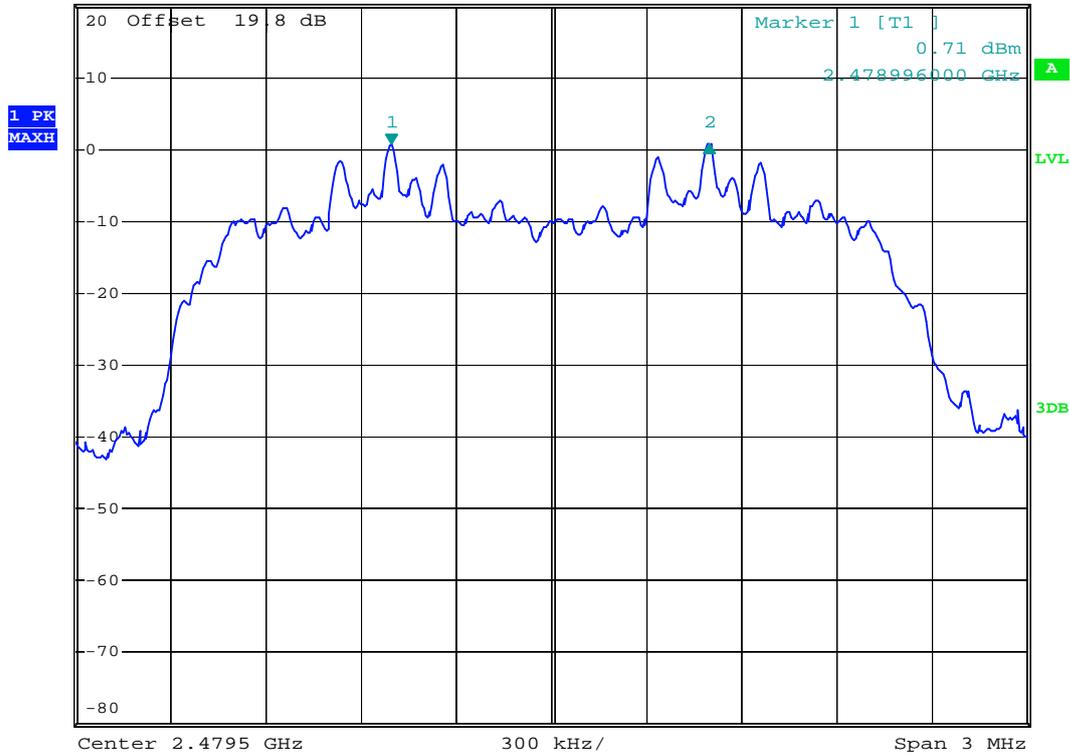
Mode 6



*RBW 30 kHz Delta 2 [T1]
 *VBW 100 kHz 0.03 dB
 *SWT 500 ms 1.002000000 MHz

Ref 20 dBm

*Att 20 dB



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Mode 7

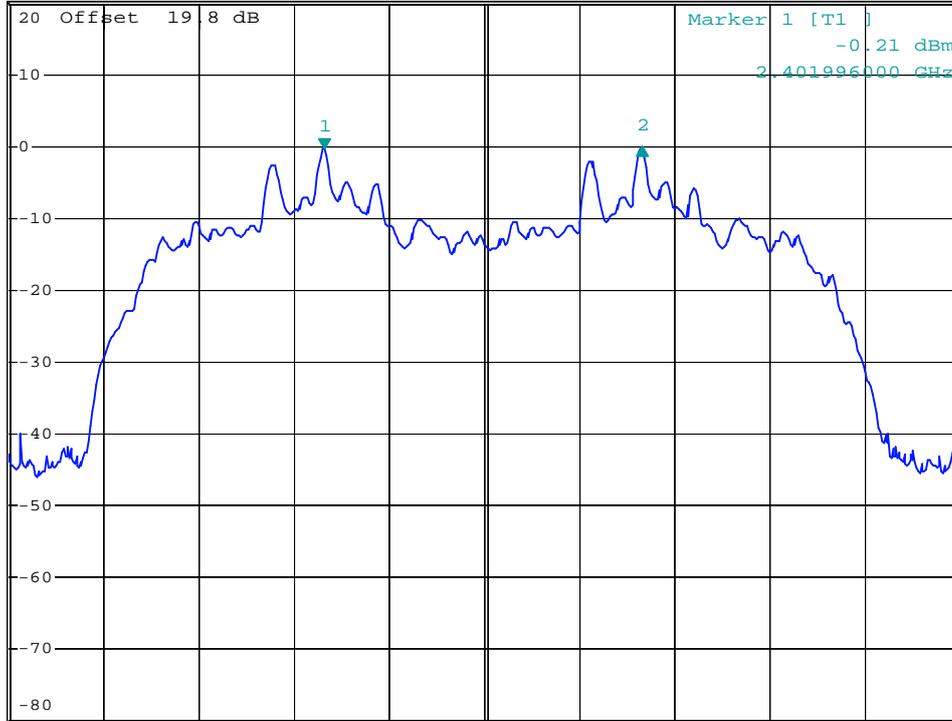


*RBW 30 kHz Delta 2 [T1]
 *VBW 100 kHz 0.01 dB
 *SWT 500 ms 1.002000000 MHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



Center 2.4025 GHz

300 kHz/

Span 3 MHz

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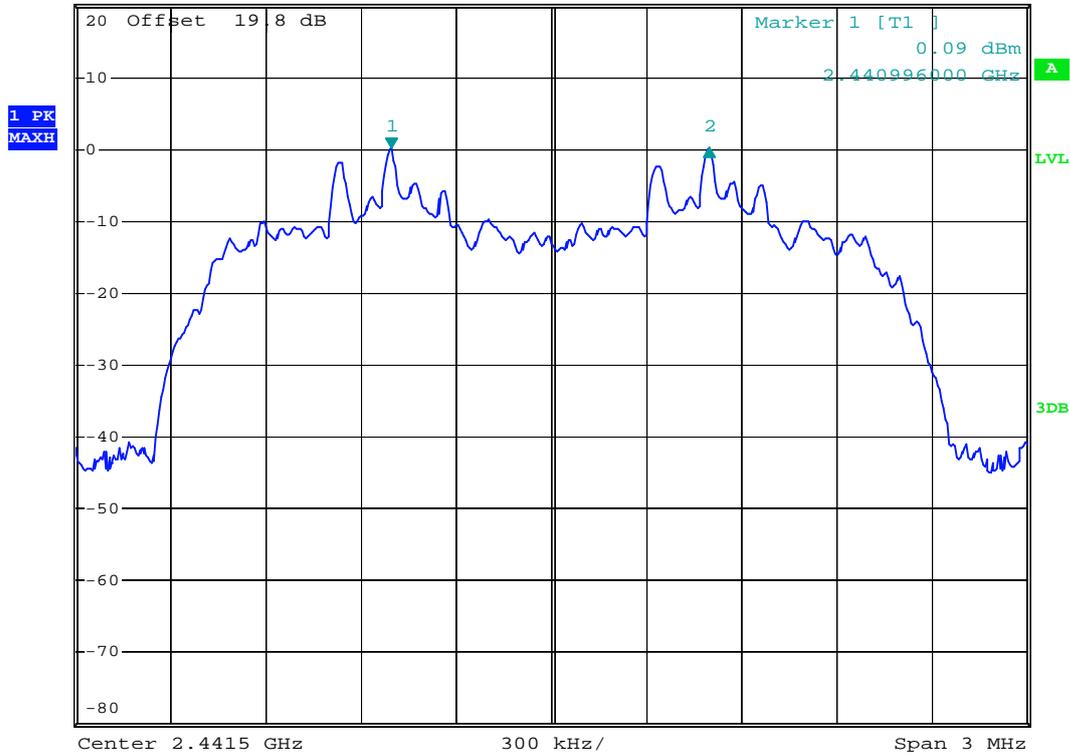
Mode 8



*RBW 30 kHz Delta 2 [T1]
 *VBW 100 kHz -0.00 dB
 *SWT 500 ms 1.002000000 MHz

Ref 20 dBm

*Att 20 dB



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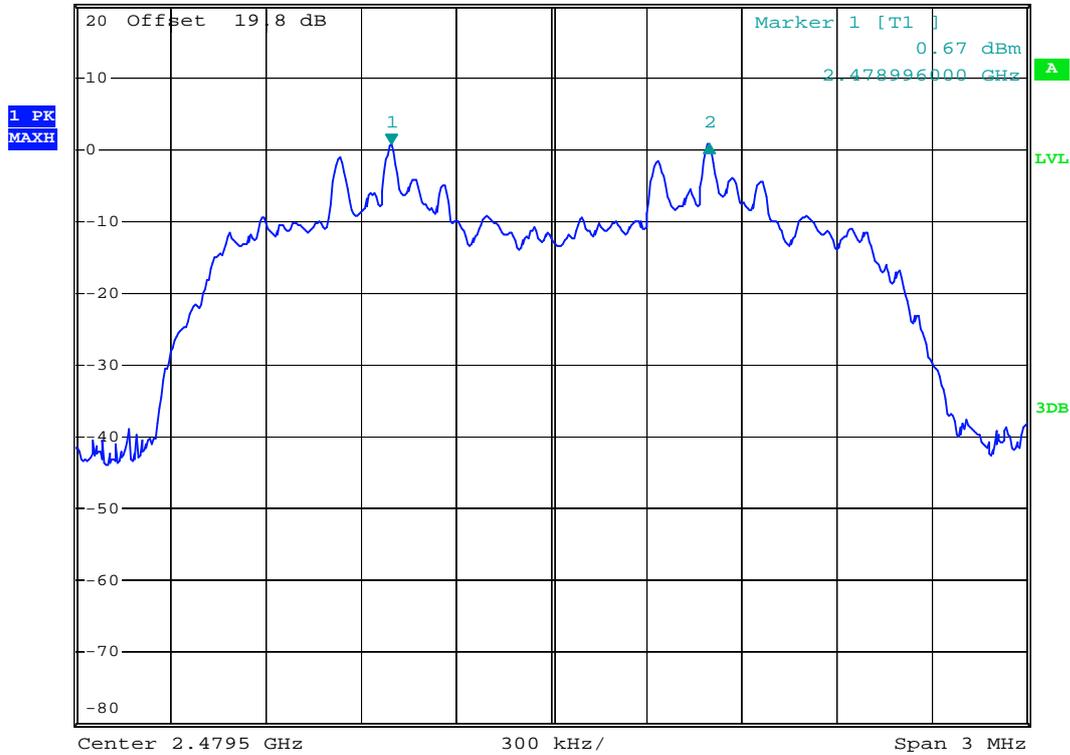
Mode 9



*RBW 30 kHz Delta 2 [T1]
 *VBW 100 kHz 0.03 dB
 *SWT 500 ms 1.002000000 MHz

Ref 20 dBm

*Att 20 dB



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5.4 Number of Hopping Frequency

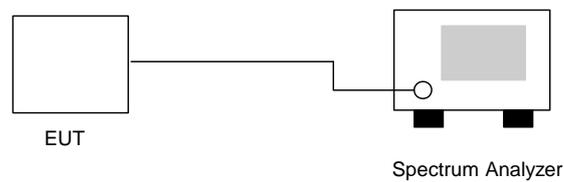
5.4.1 Measuring Instruments

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 : Bluetooth
- Temperature : 29~30°C
- Relative Humidity : 50~51%
- Test Engineer : CKC

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

- Application Type : Bluetooth EDR(2Mbps)
- Temperature : 29~30°C
- Relative Humidity : 50~51%
- Test Engineer : CKC

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

- Application Type : Bluetooth EDR(3Mbps)
- Temperature : 29~30°C
- Relative Humidity : 50~51%
- Test Engineer : CKC

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

Bluetooth EDR(2Mbps)

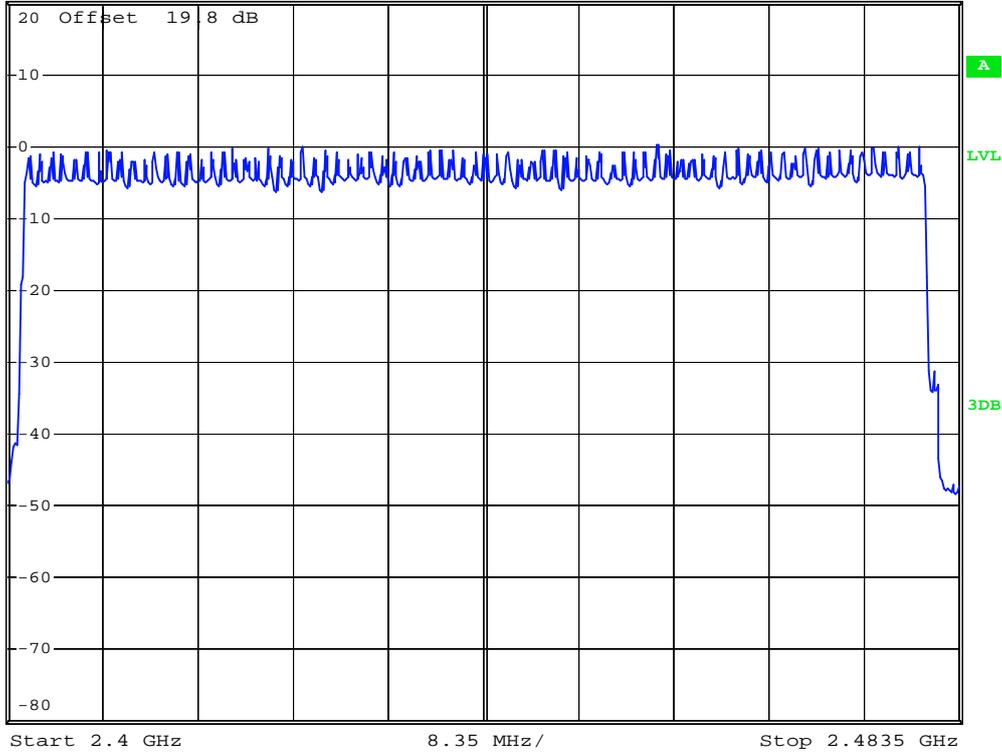


*RBW 100 kHz
 *VBW 100 kHz
 *SWT 500 ms

Ref 20 dBm

*Att 20 dB

1 PK
 MAXH



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Bluetooth EDR(3Mbps)

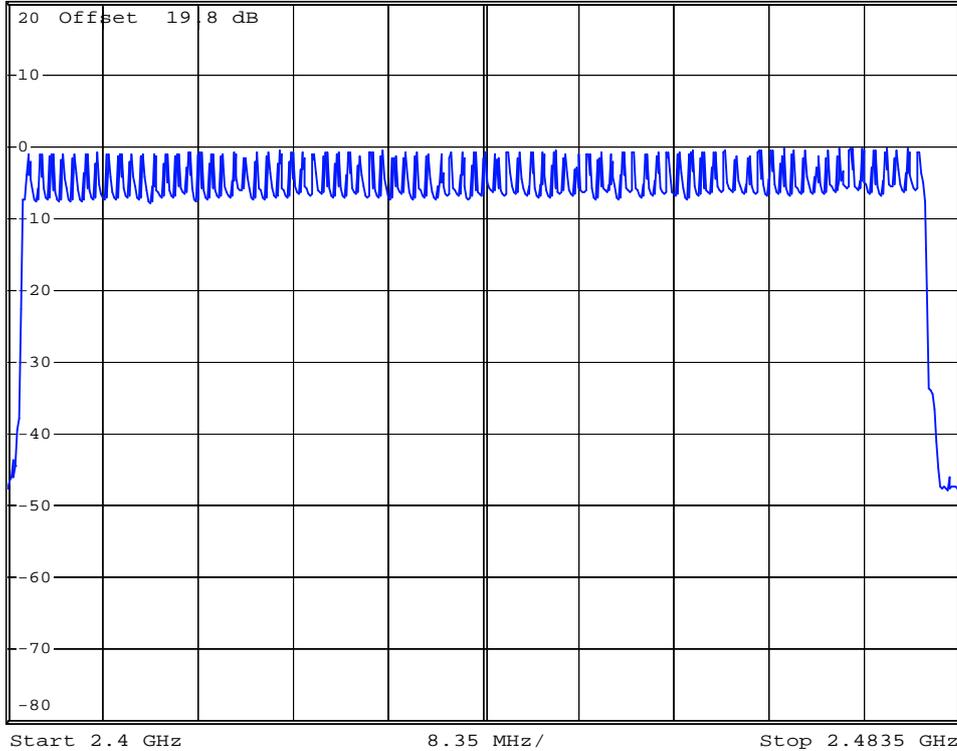


*RBW 100 kHz
 *VBW 100 kHz
 *SWT 500 ms

Ref 20 dBm

*Att 20 dB

1 PK
 MAXH



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5.5 Hopping Channel Bandwidth

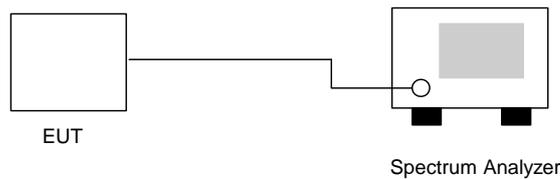
5.5.1 Measuring Instruments

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 : Bluetooth
- Temperature : 29~30°C
- Relative Humidity : 50~51%
- Test Engineer : CKC

Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Plot Ref. No.
00	2402	0.814	Mode 1
39	2441	0.820	Mode 2
78	2480	0.822	Mode 3

- Application Type : Bluetooth EDR(2Mbps)
- Temperature : 29~30°C
- Relative Humidity : 50~51%
- Test Engineer : CKC

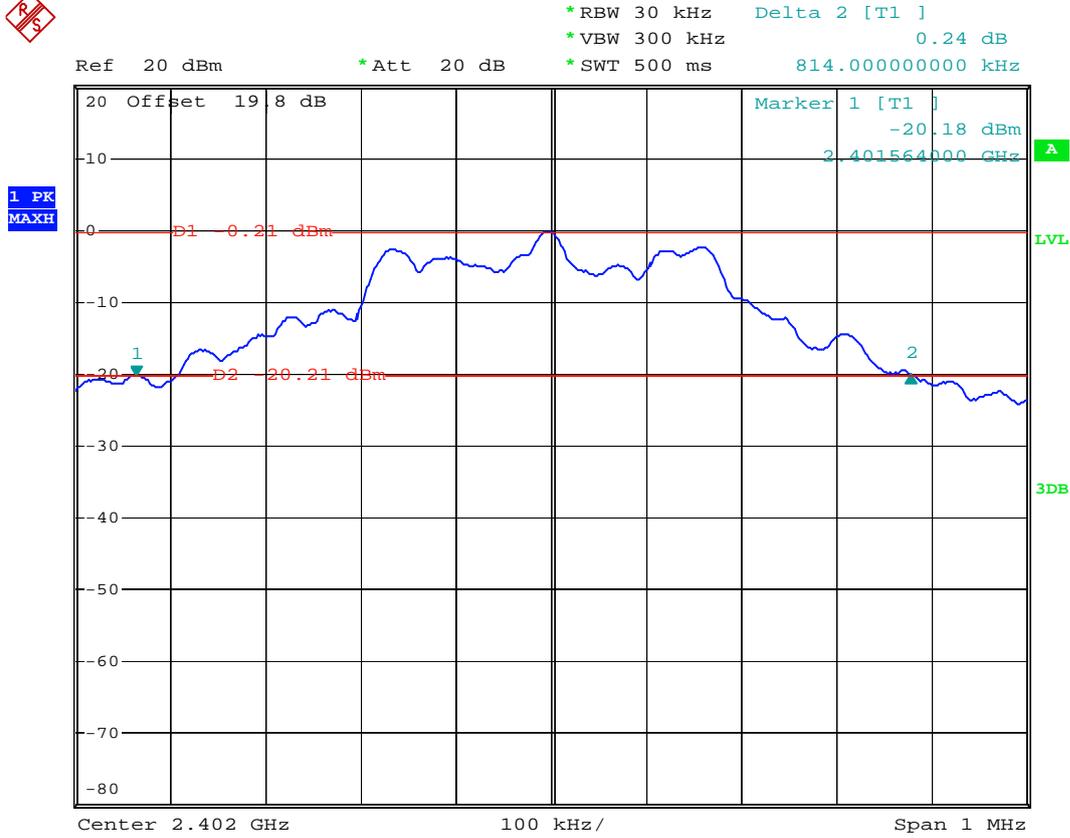
Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Plot Ref. No.
00	2402	1.248	Mode 4
39	2441	1.248	Mode 5
78	2480	1.245	Mode 6

- Application Type : Bluetooth EDR(3Mbps)
- Temperature : 29~30°C
- Relative Humidity : 50~51%
- Test Engineer : CKC

Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Plot Ref. No.
00	2402	1.212	Mode 7
39	2441	1.209	Mode 8
78	2480	1.215	Mode 9

5.5.5 Hopping Channel Bandwidth

Mode 1



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Mode 2

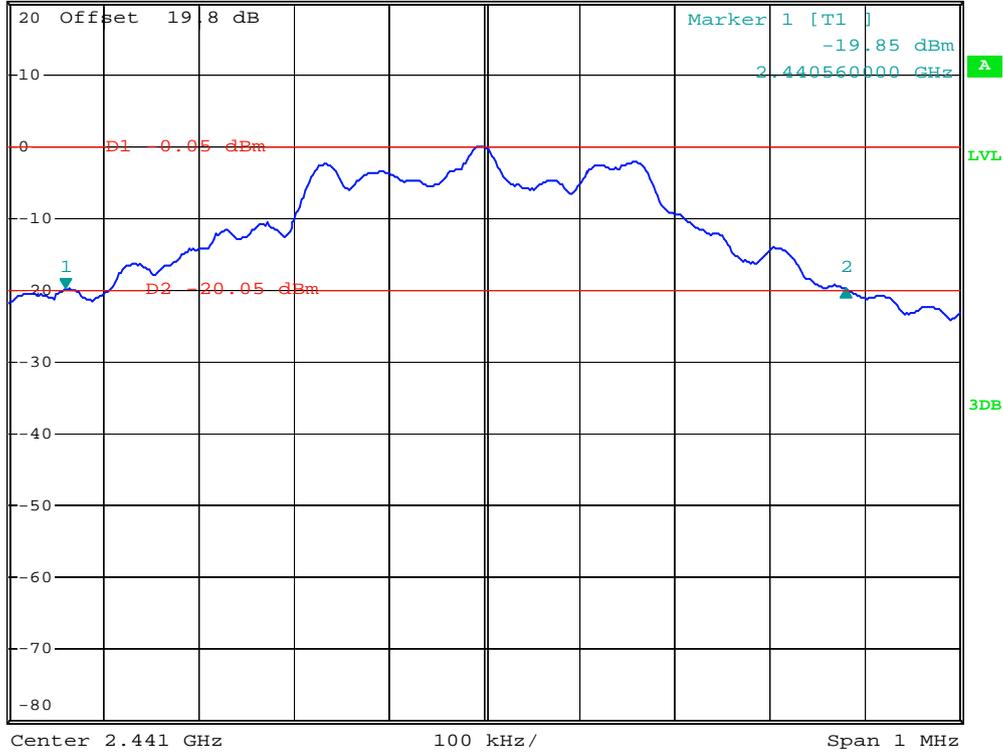


*RBW 30 kHz Delta 2 [T1]
 *VBW 300 kHz 0.05 dB
 *SWT 500 ms 820.00000000 kHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



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Mode 3

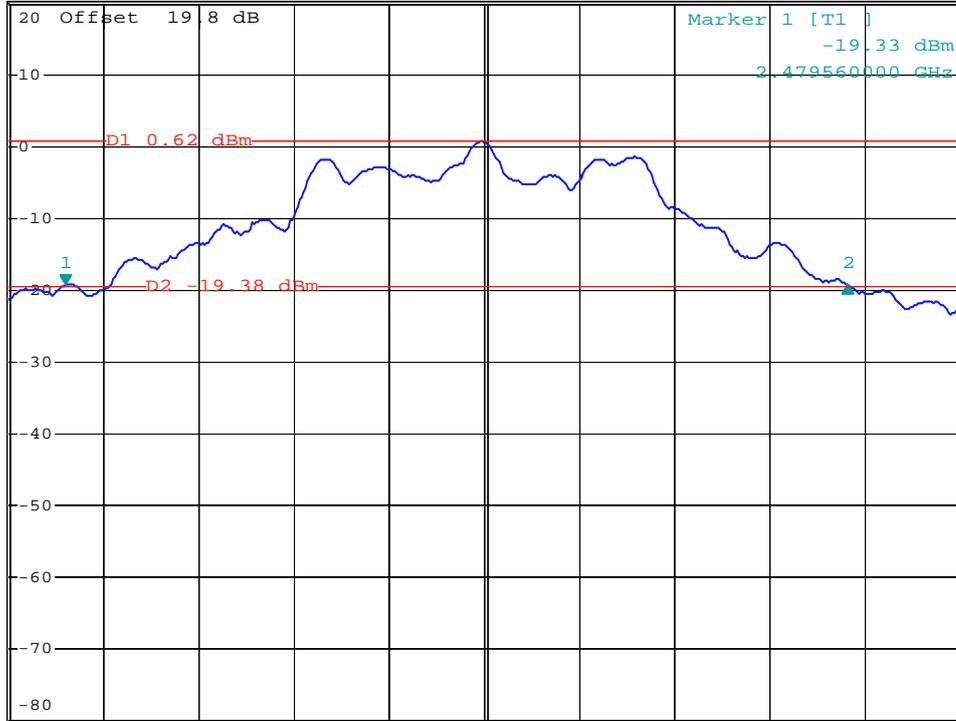


*RBW 30 kHz Delta 2 [T1]
 *VBW 300 kHz 0.02 dB
 *SWT 500 ms 822.00000000 kHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



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Mode 4

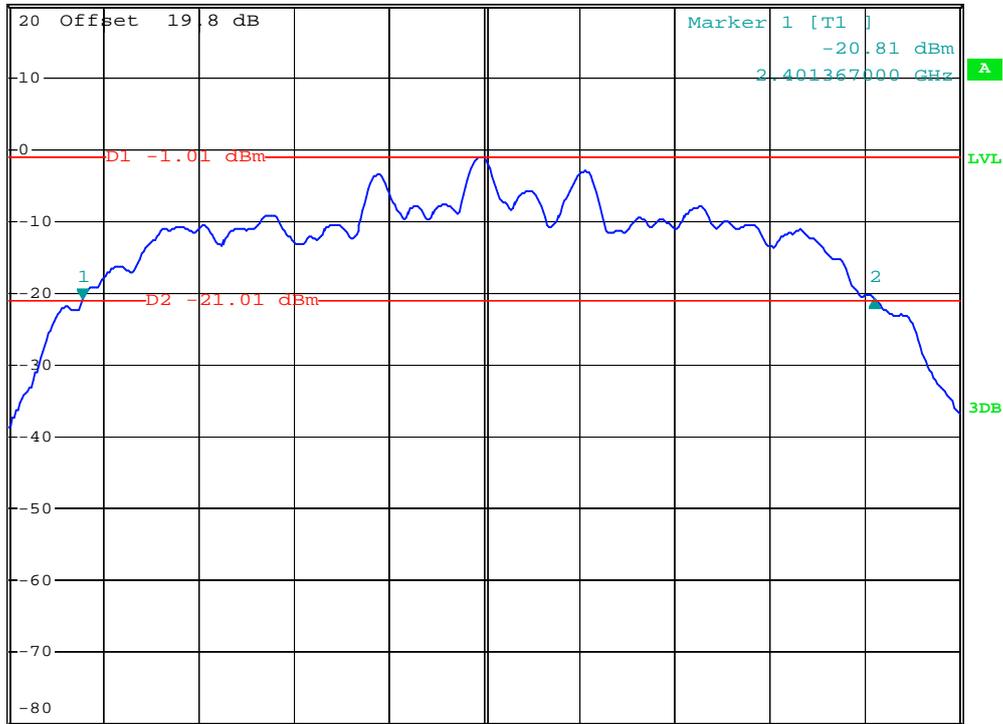


*RBW 30 kHz Delta 2 [T1]
 *VBW 300 kHz 0.07 dB
 *SWT 500 ms 1.248000000 MHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



Center 2.402 GHz

150 kHz/

Span 1.5 MHz

Date: 1.APR.2008 11:08:50

Mode 5

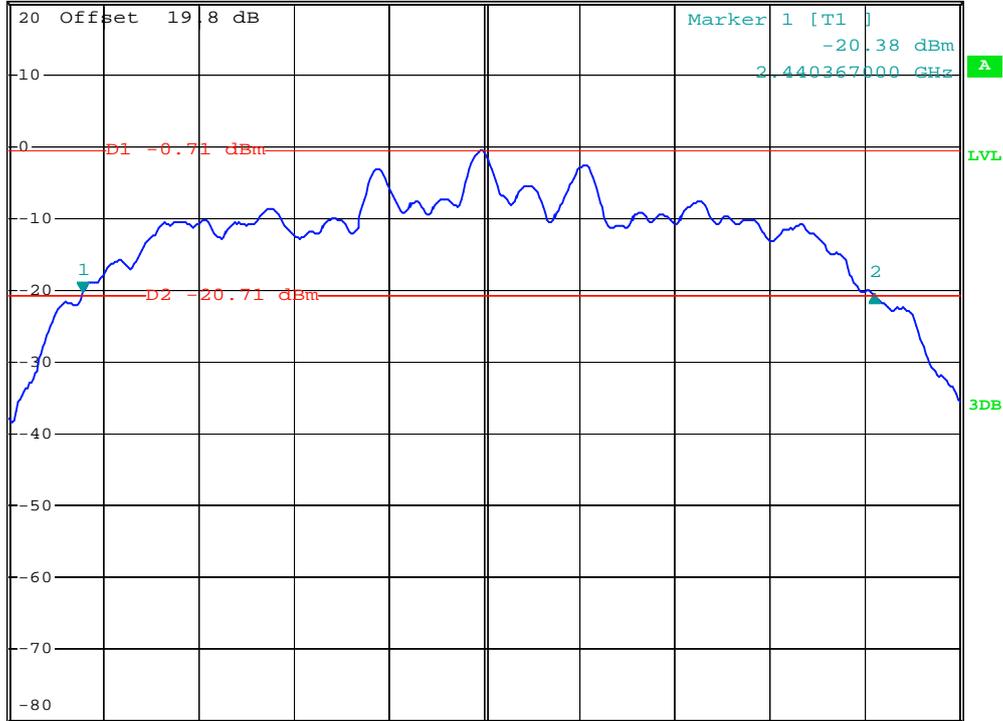


*RBW 30 kHz Delta 2 [T1]
 *VBW 300 kHz -0.28 dB
 *SWT 500 ms 1.248000000 MHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



Center 2.441 GHz

150 kHz/

Span 1.5 MHz

Date: 1.APR.2008 11:09:43

Mode 6

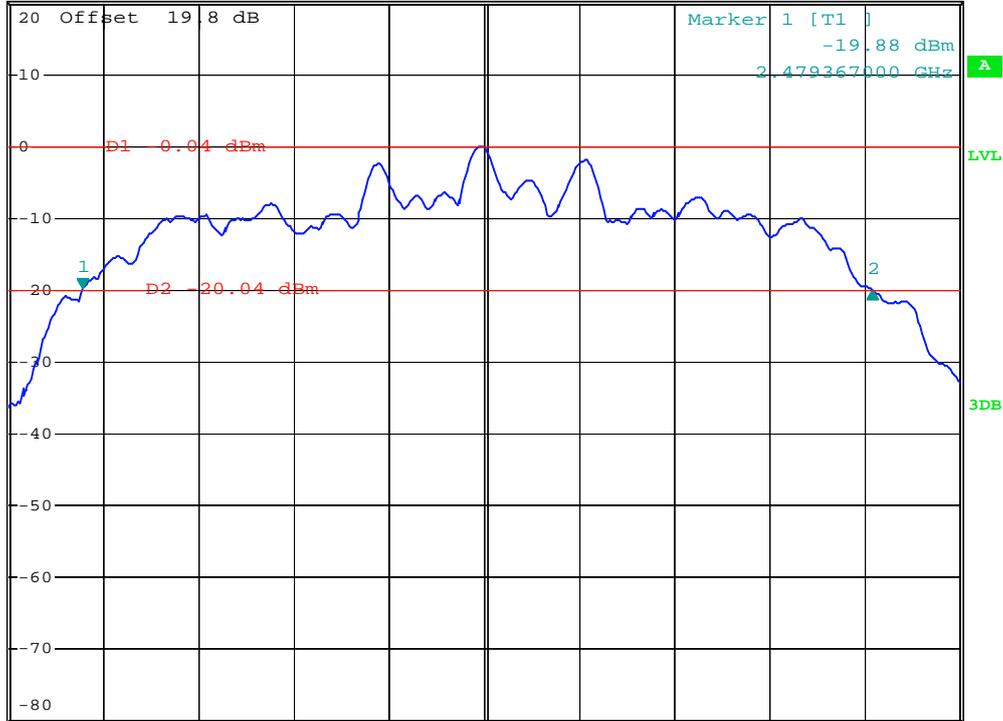


*RBW 30 kHz Delta 2 [T1]
 *VBW 300 kHz -0.02 dB
 *SWT 500 ms 1.245000000 MHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



Center 2.48 GHz

150 kHz/

Span 1.5 MHz

Date: 1.APR.2008 11:10:39

Mode 7

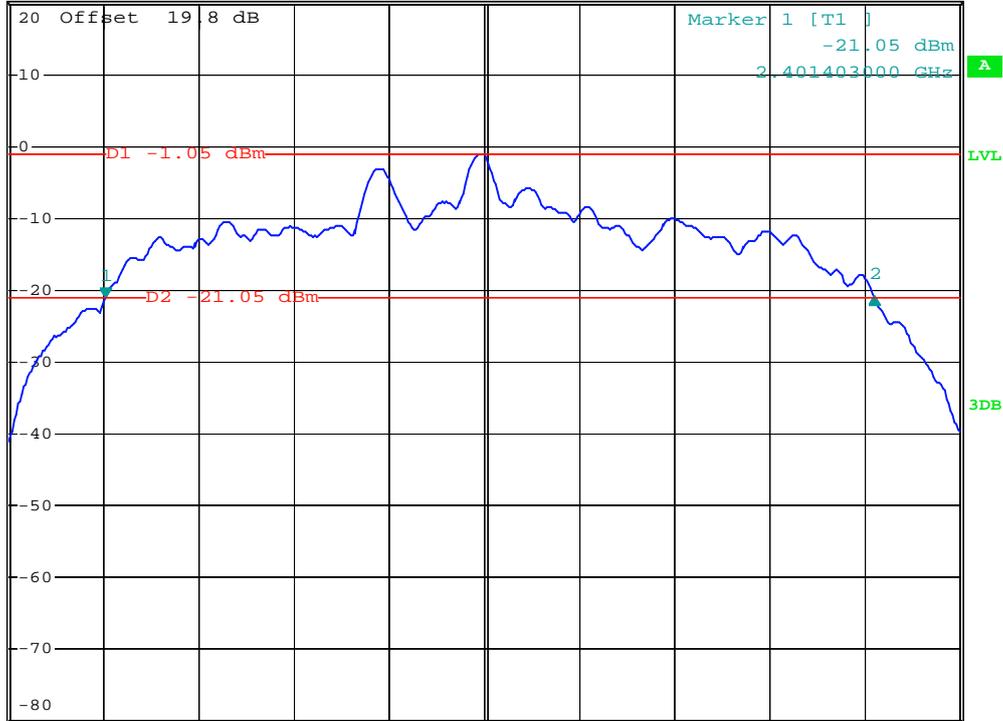


*RBW 30 kHz Delta 2 [T1]
 *VBW 300 kHz 0.32 dB
 *SWT 500 ms 1.212000000 MHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



Center 2.402 GHz

150 kHz/

Span 1.5 MHz

Date: 1.APR.2008 11:44:16

Mode 8

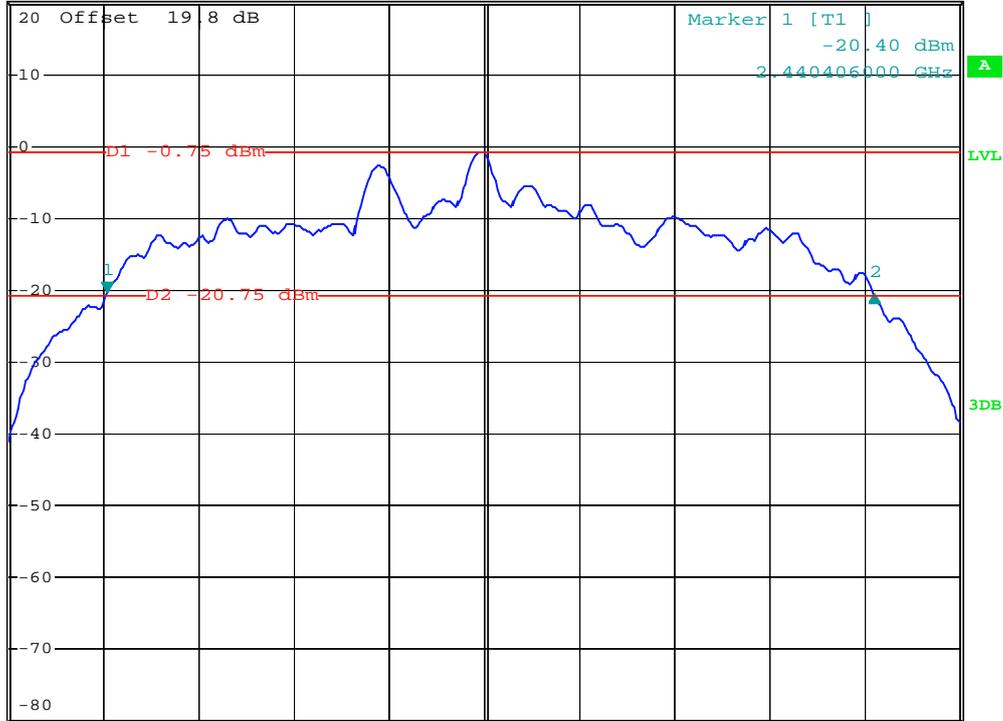


*RBW 30 kHz Delta 2 [T1]
 *VBW 300 kHz -0.21 dB
 *SWT 500 ms 1.209000000 MHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



Center 2.441 GHz

150 kHz/

Span 1.5 MHz

Date: 1.APR.2008 11:45:05

Mode 9

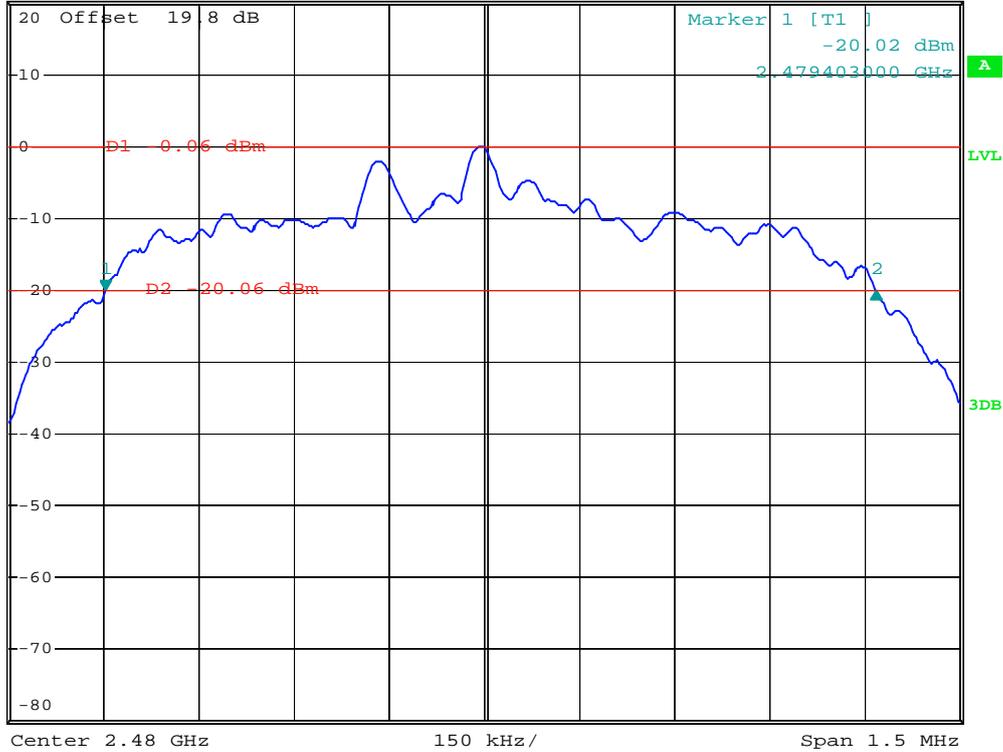


*RBW 30 kHz Delta 2 [T1]
 *VBW 300 kHz 0.03 dB
 *SWT 500 ms 1.215000000 MHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



Date: 1.APR.2008 11:47:00

5.6 Dwell Time of Each Frequency

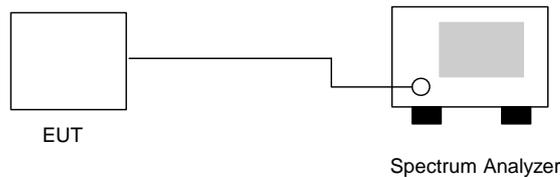
5.6.1 Measuring Instruments

As described in chapter 9 of this test report.

5.6.2 Test Procedure

- a. The transmitter output was connected to the spectrum analyzer by a low loss cable.
- b. Set RBW of spectrum analyzer to 1MHz and VBW to 1MHz.
- c. Set the center frequency on any frequency would be measure and set the frequency span to zero span.
- d. 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 : Bluetooth
- Temperature : 29~30°C
- Relative Humidity : 50~51%
- Test Engineer : CKC

CH39

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	8.7	456	0.125	0.4
DH3	4.9	1706	0.264	0.4
DH5	2.9	3000	0.275	0.4

- Application Type : Bluetooth EDR(2Mbps)
- Temperature : 29~30°C
- Relative Humidity : 50~51%
- Test Engineer : CKC

CH39

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	9.9	448	0.140	0.4
DH3	5.6	1738	0.308	0.4
DH5	3.5	3020	0.334	0.4

- Application Type : Bluetooth EDR(3Mbps)
- Temperature : 29~30°C
- Relative Humidity : 50~51%
- Test Engineer : CKC

CH39

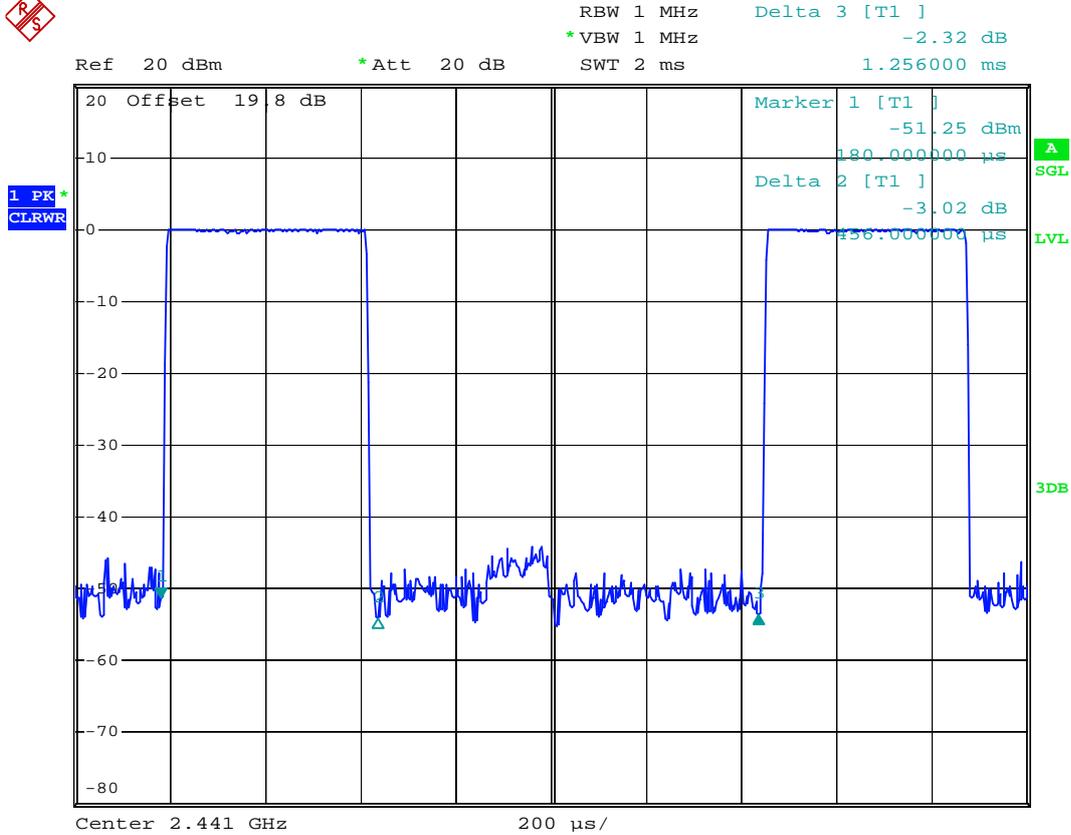
Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	9.1	452	0.130	0.4
DH3	5.0	1732	0.274	0.4
DH5	3.8	3000	0.360	0.4

※ Remark:

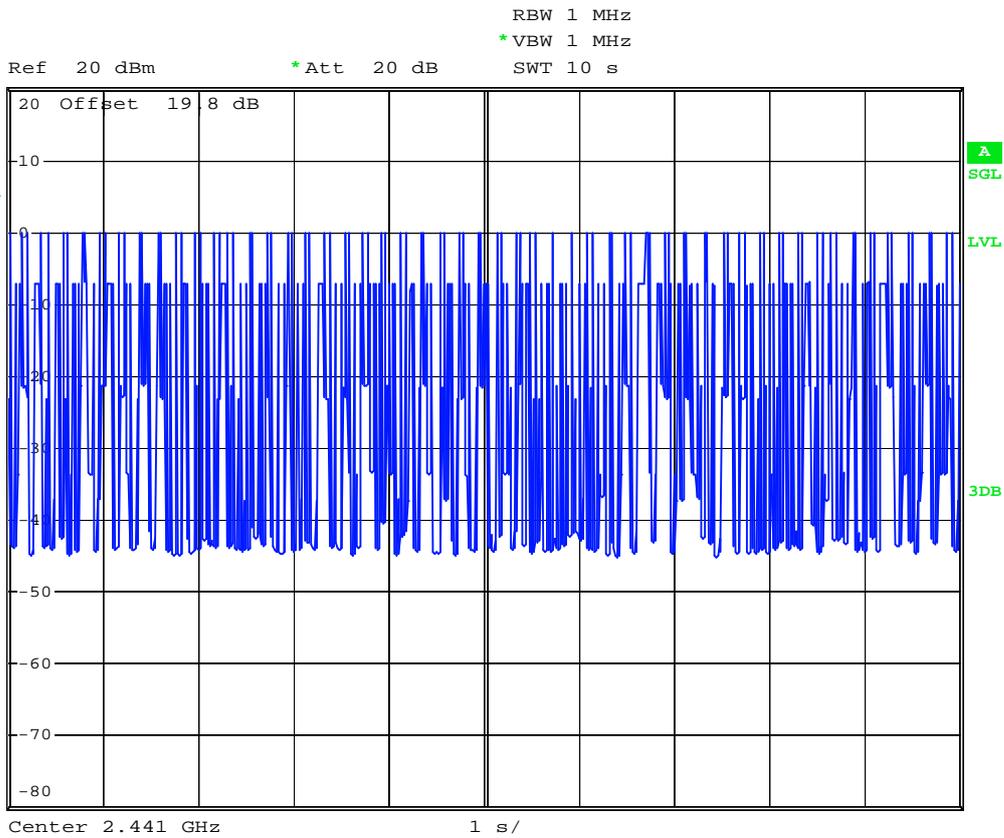
1. Dwell Time=79(channels) x 0.4(s) x average hopping channel x package transfer time
2. 79 channels come from the Hopping Channel number.
3. Average Hopping Channel = hops/sweep time
4. t: Package Transfer Time(us)

5.6.5 Dwell Time

DH1 (CH39)



Date: 1.APR.2008 11:00:06

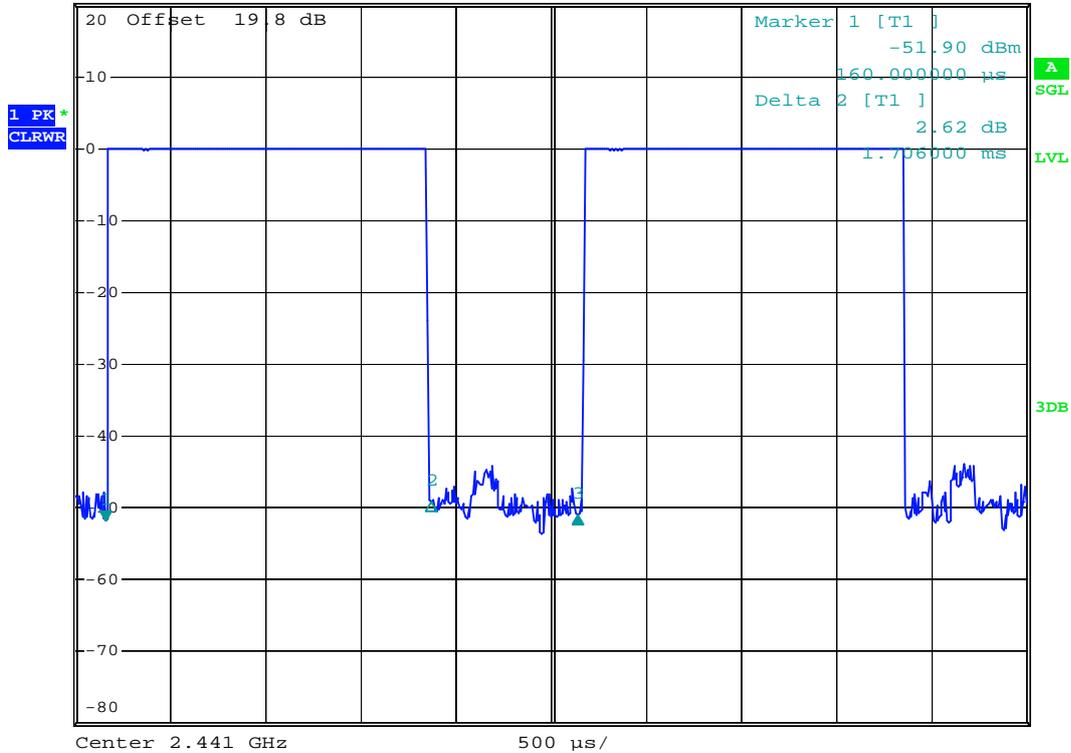


Date: 1.APR.2008 11:02:34

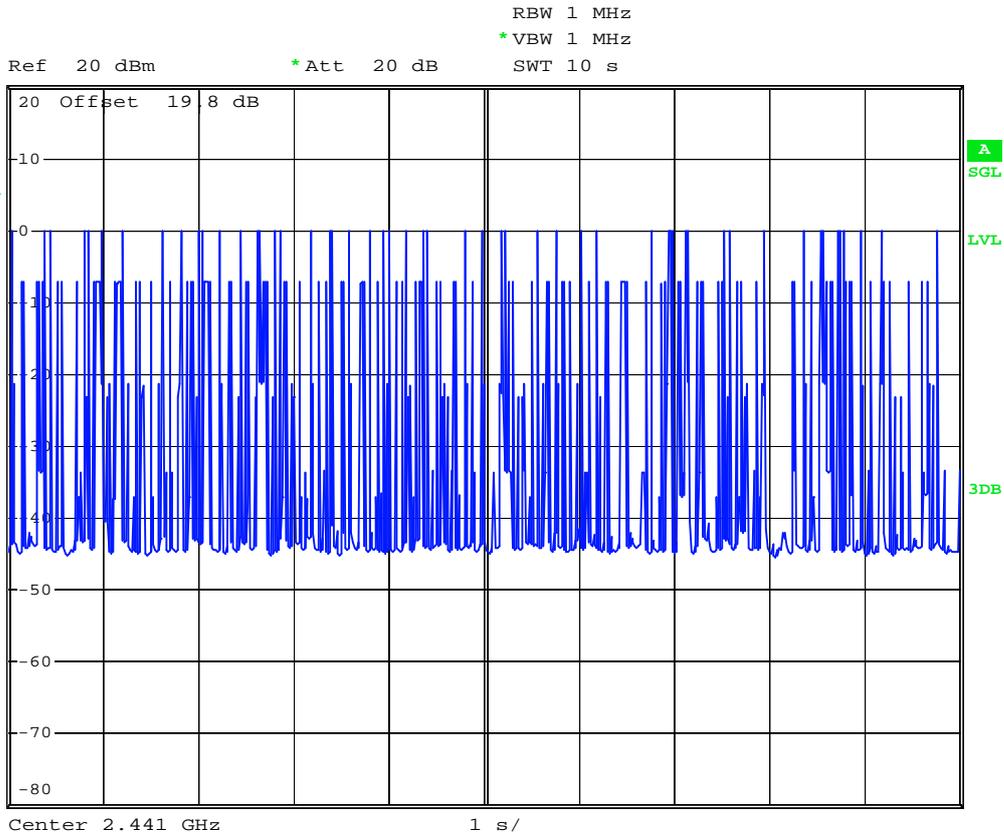
DH3 (CH39)



Ref 20 dBm *Att 20 dB RBW 1 MHz Delta 3 [T1] 0.96 dB
 *VBW 1 MHz 2.476000 ms
 SWT 5 ms



Date: 1.APR.2008 11:00:45

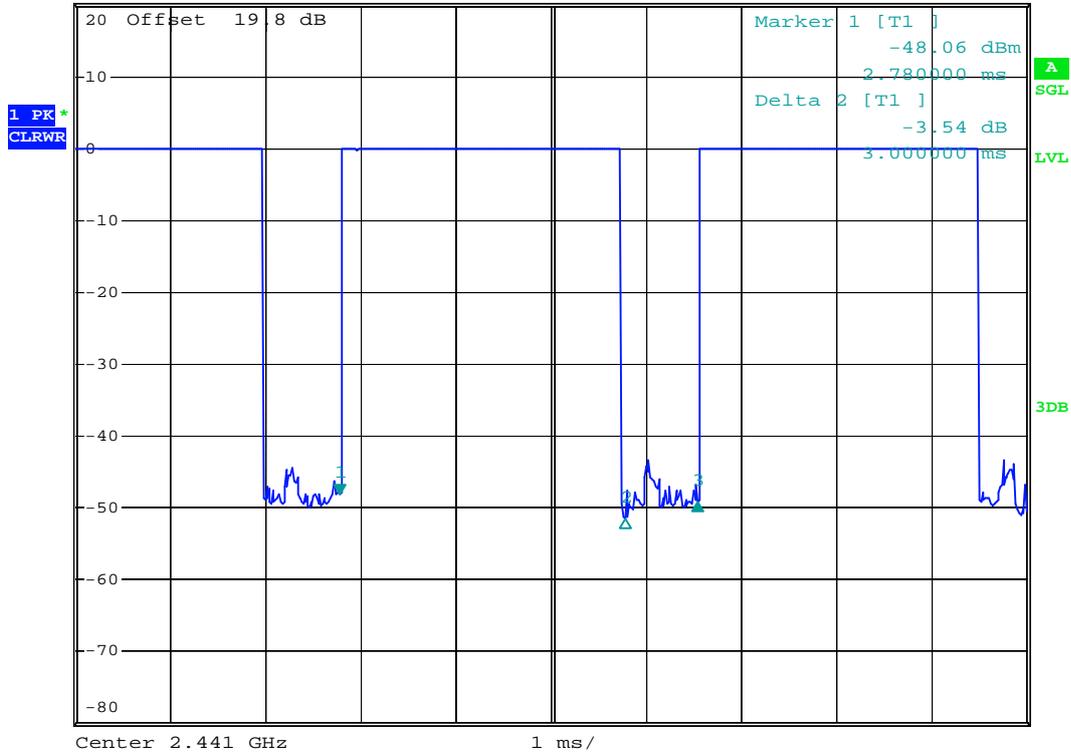


Date: 1.APR.2008 11:02:55

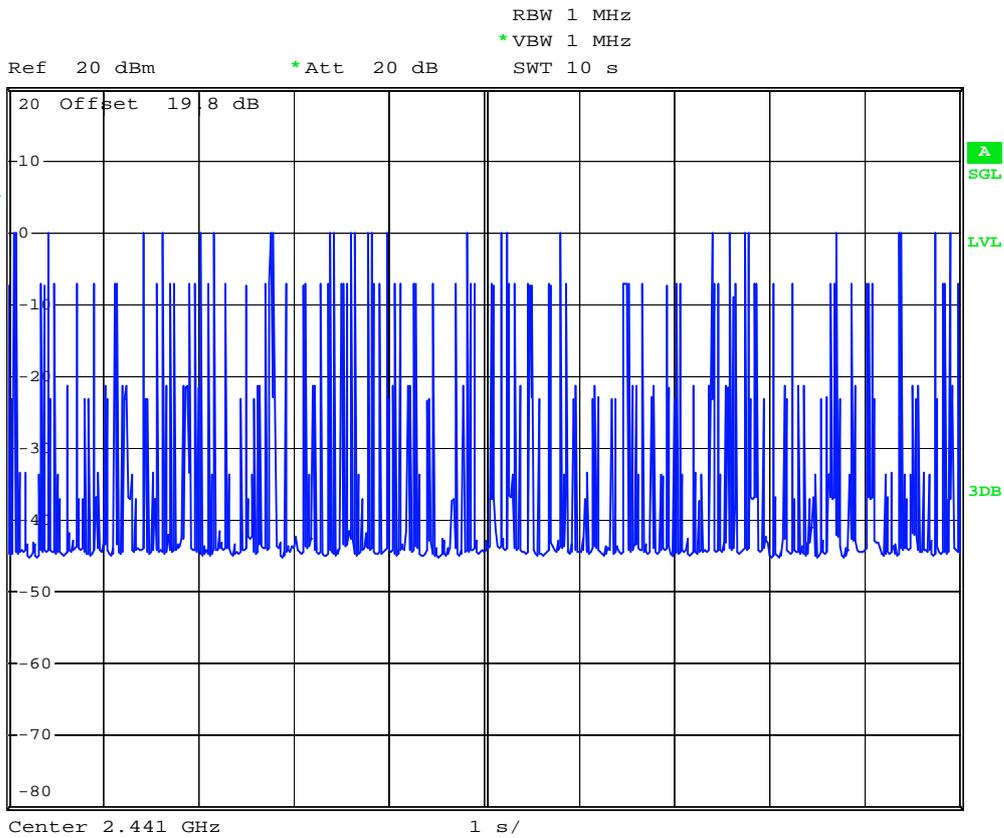
DH5 (CH39)



Ref 20 dBm *Att 20 dB RBW 1 MHz Delta 3 [T1] -1.14 dB
 *VBW 1 MHz SWT 10 ms 3.760000 ms



Date: 1.APR.2008 11:01:35

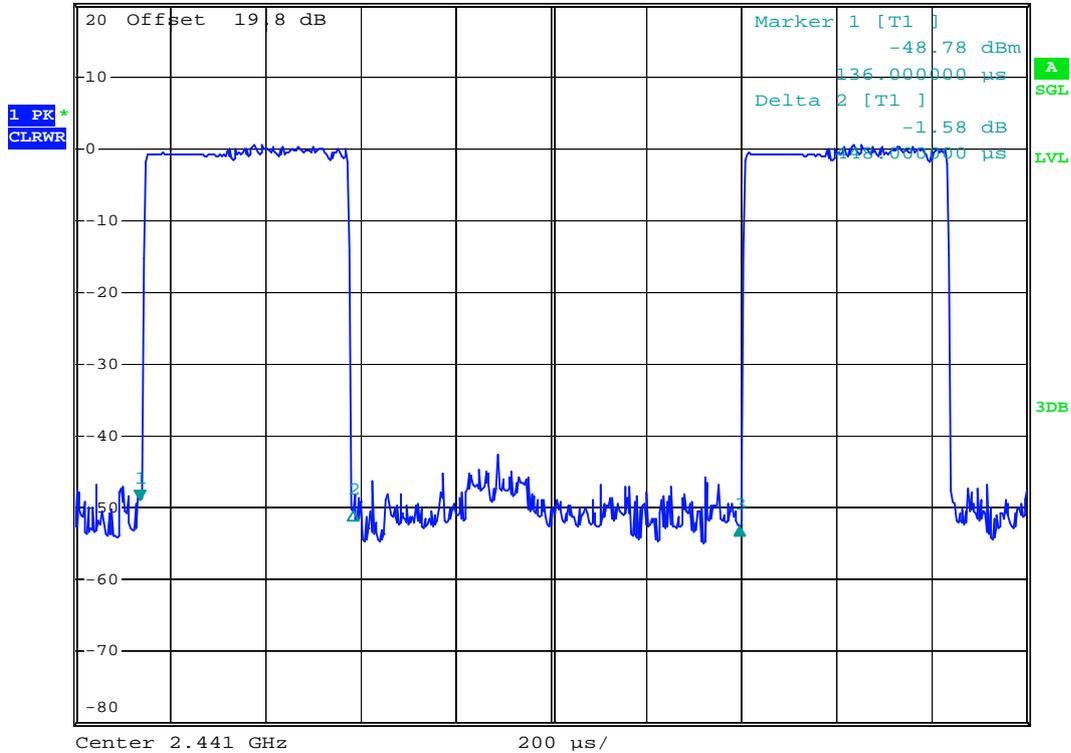


Date: 1.APR.2008 11:02:13

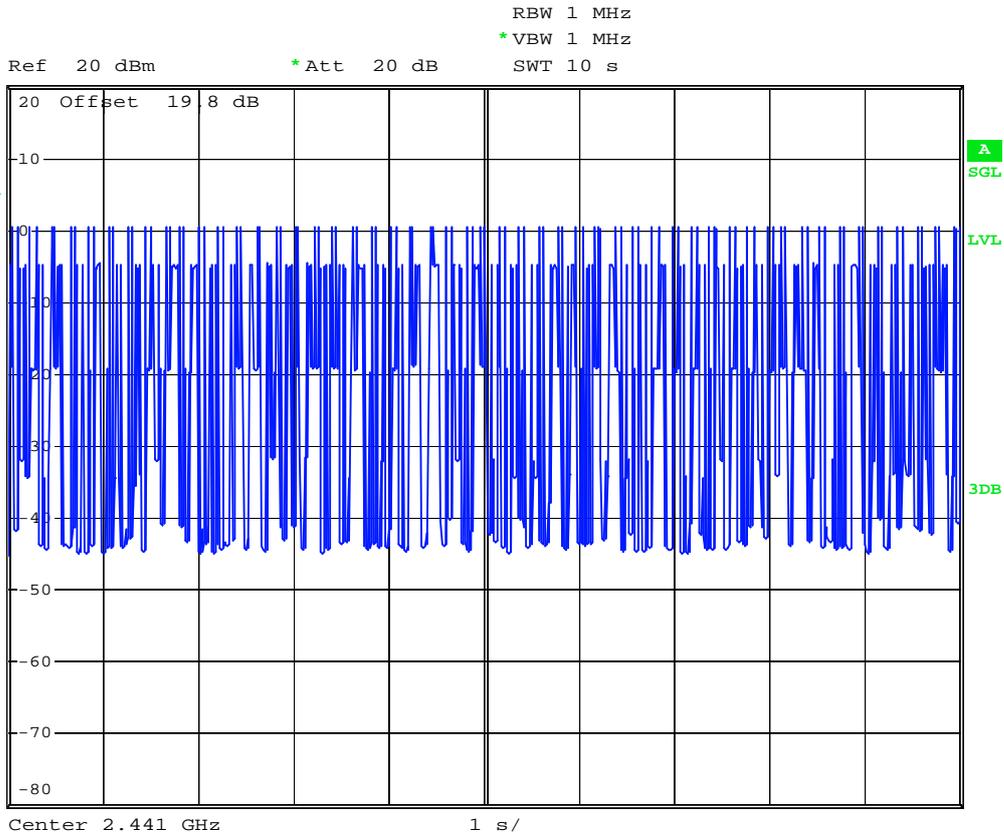
2DH1 (CH39)



Ref 20 dBm *Att 20 dB RBW 1 MHz Delta 3 [T1] -3.75 dB
 *VBW 1 MHz SWT 2 ms 1.260000 ms



Date: 1.APR.2008 11:19:19

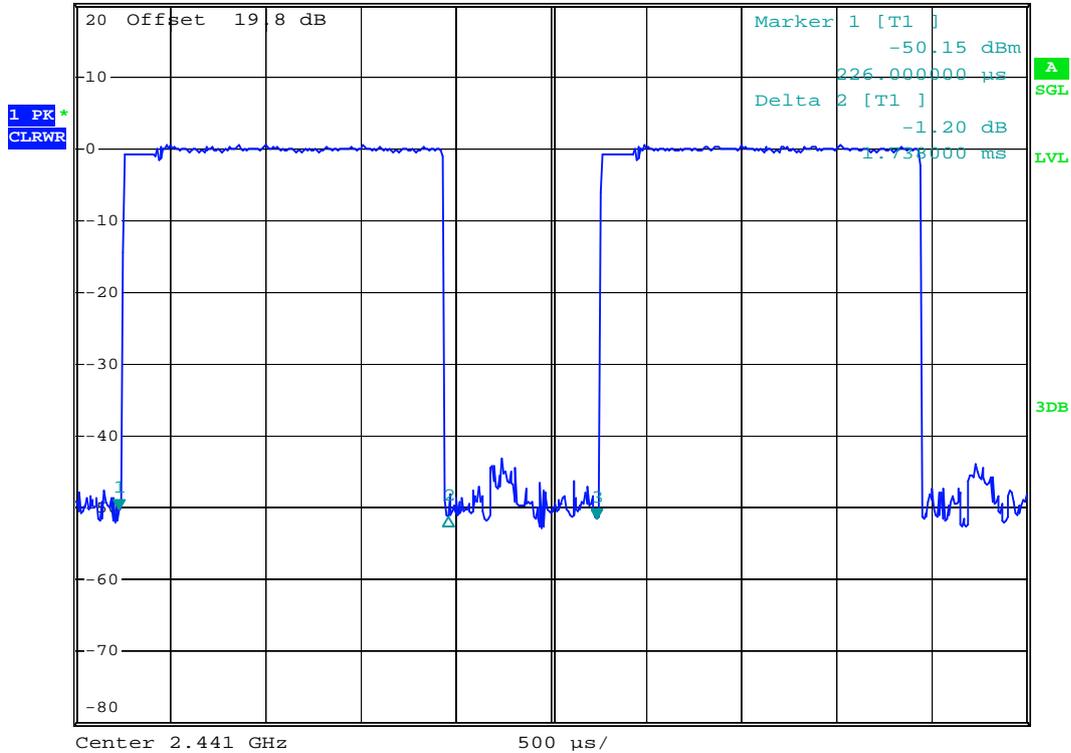


Date: 1.APR.2008 11:22:09

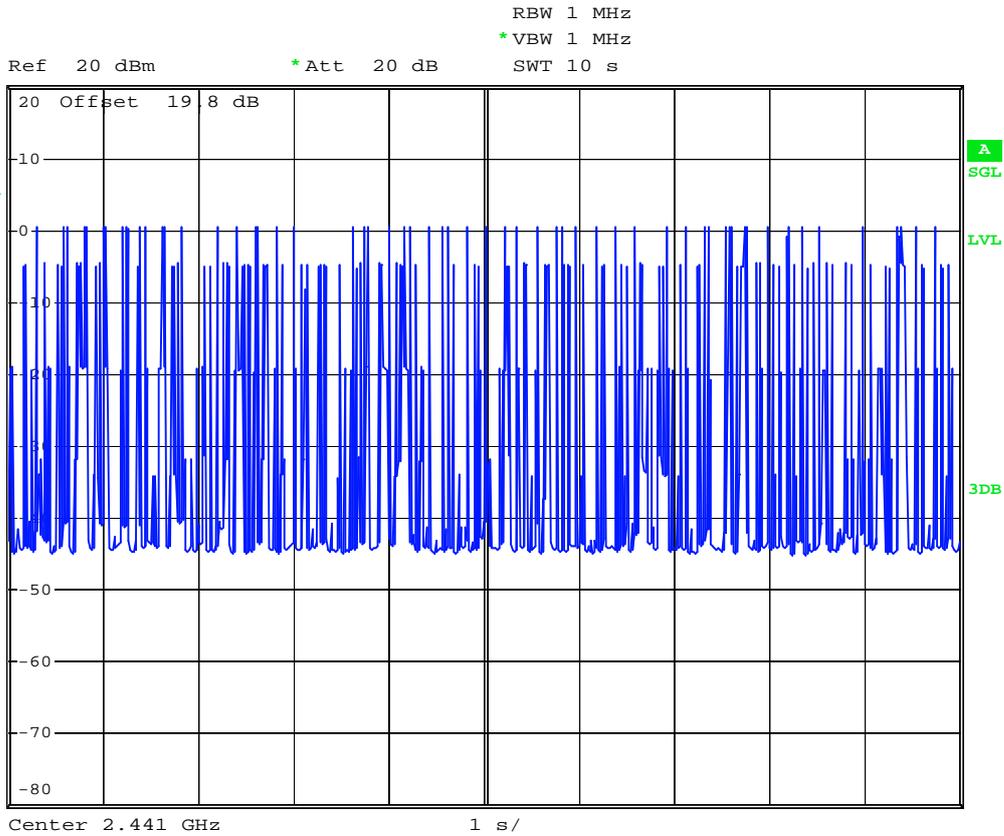
2 DH3 (CH39)



Ref 20 dBm *Att 20 dB RBW 1 MHz Marker 3 [T1]
 *VBW 1 MHz -51.63 dBm
 SWT 5 ms 2.736000 ms



Date: 1.APR.2008 11:20:24

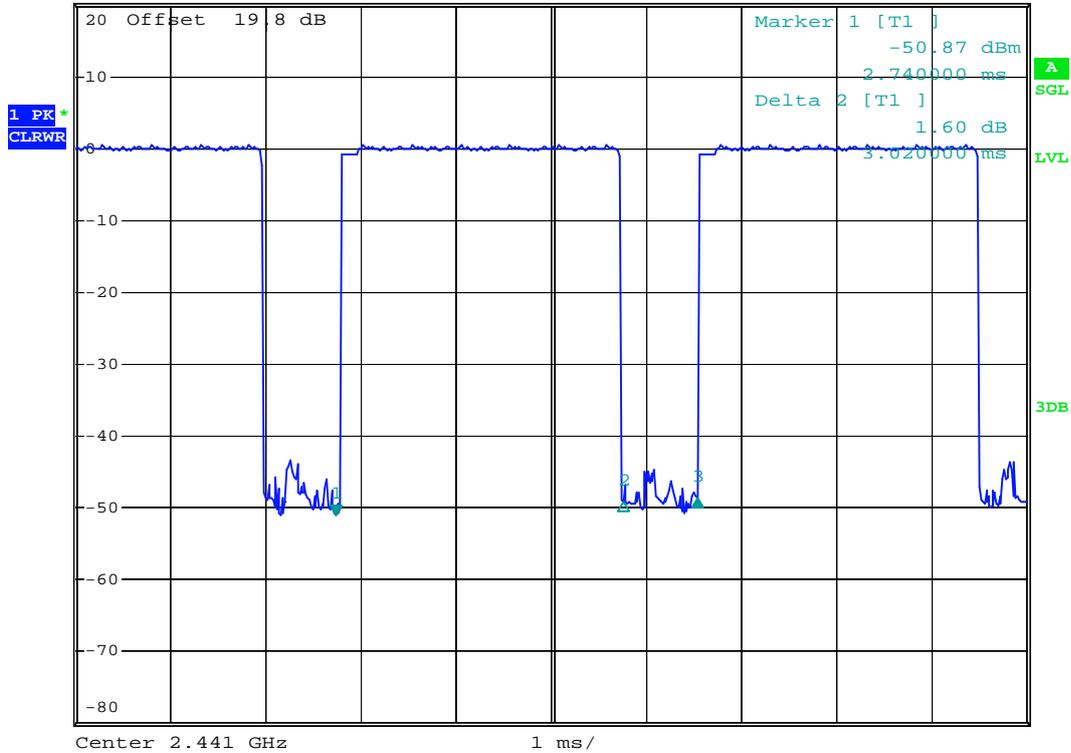


Date: 1.APR.2008 11:22:35

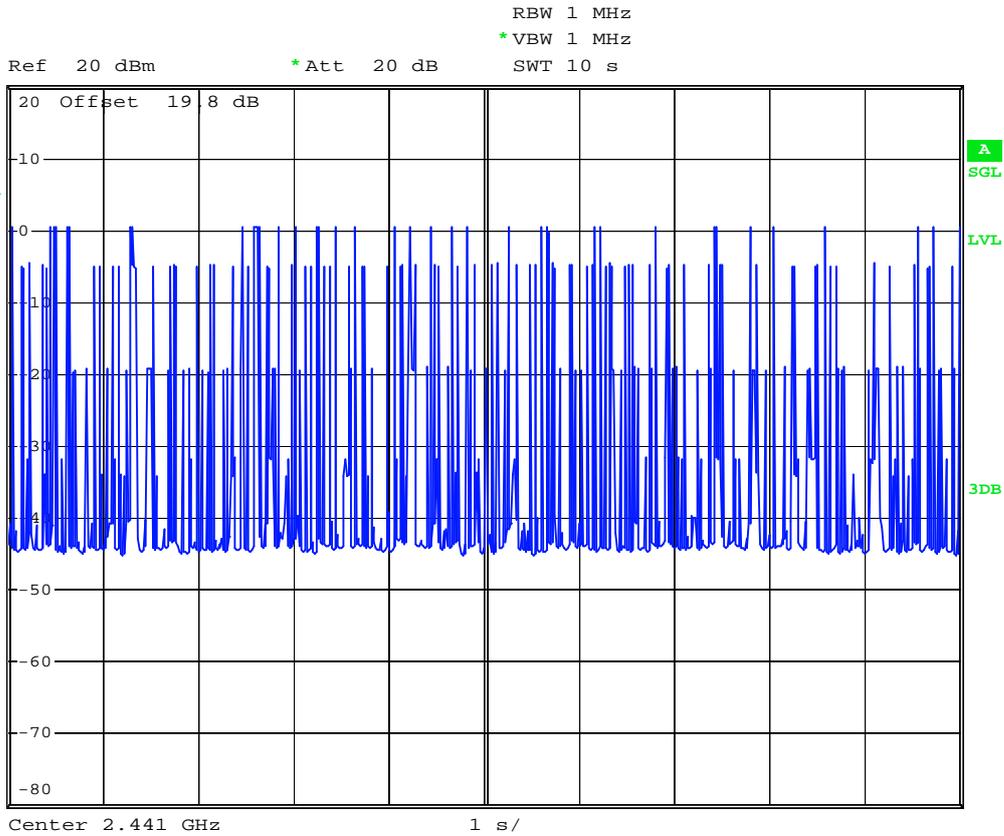
2 DH5 (CH39)



Ref 20 dBm *Att 20 dB RBW 1 MHz Delta 3 [T1] 3.800000 ms
 *VBW 1 MHz 2.17 dB
 SWT 10 ms



Date: 1.APR.2008 11:21:03

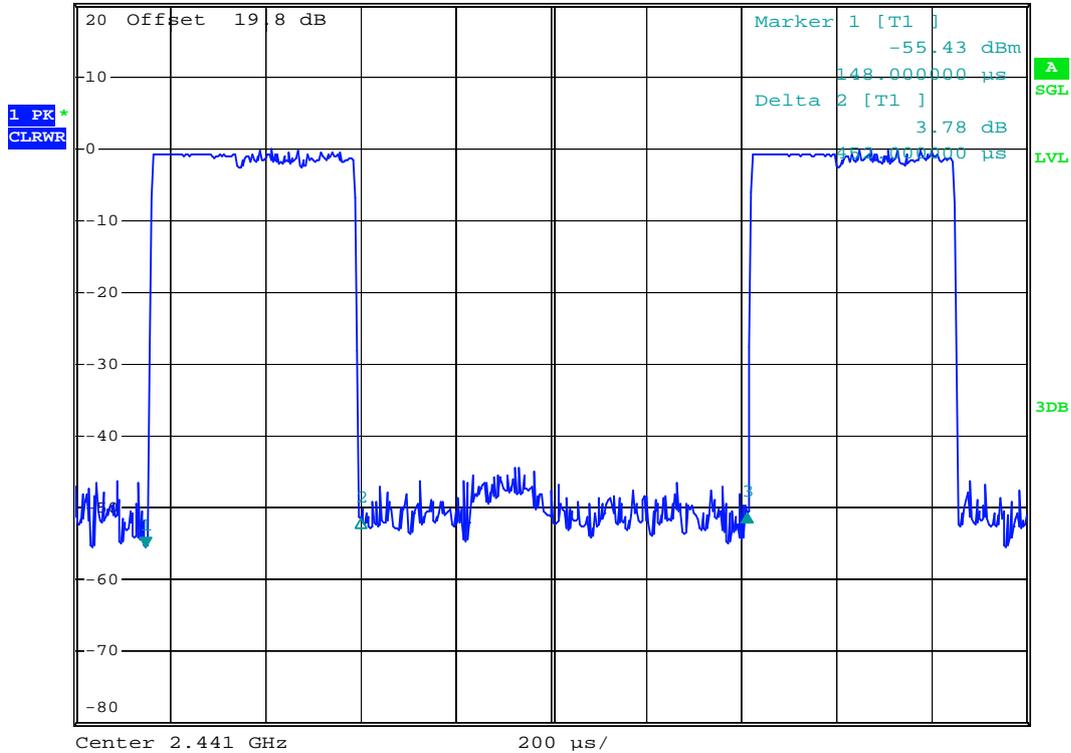


Date: 1.APR.2008 11:21:39

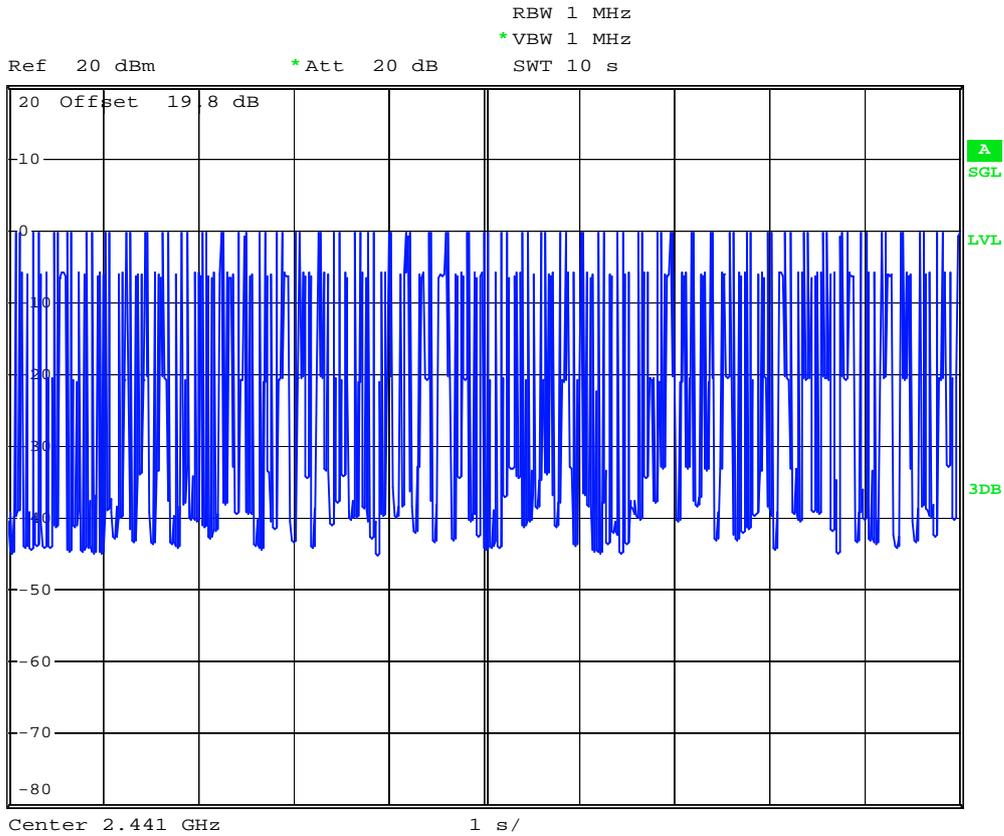
3DH1 (CH39)



Ref 20 dBm *Att 20 dB RBW 1 MHz Delta 3 [T1] 4.70 dB
 *VBW 1 MHz 1.264000 ms
 SWT 2 ms



Date: 1.APR.2008 11:40:44

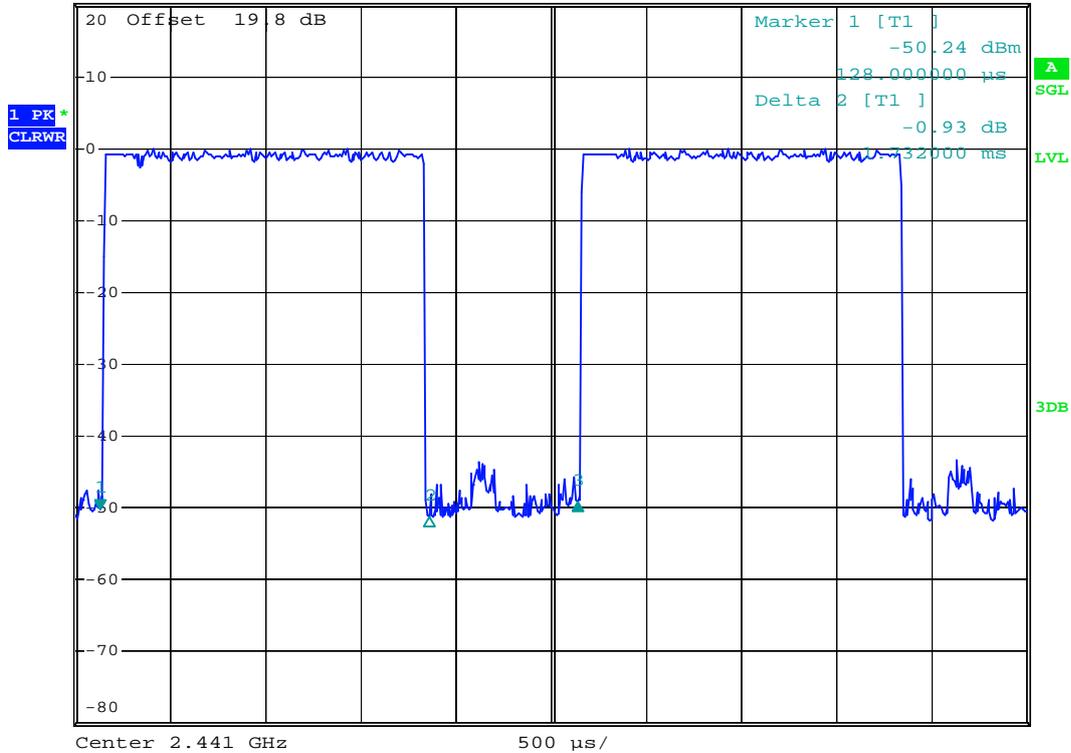


Date: 1.APR.2008 11:34:16

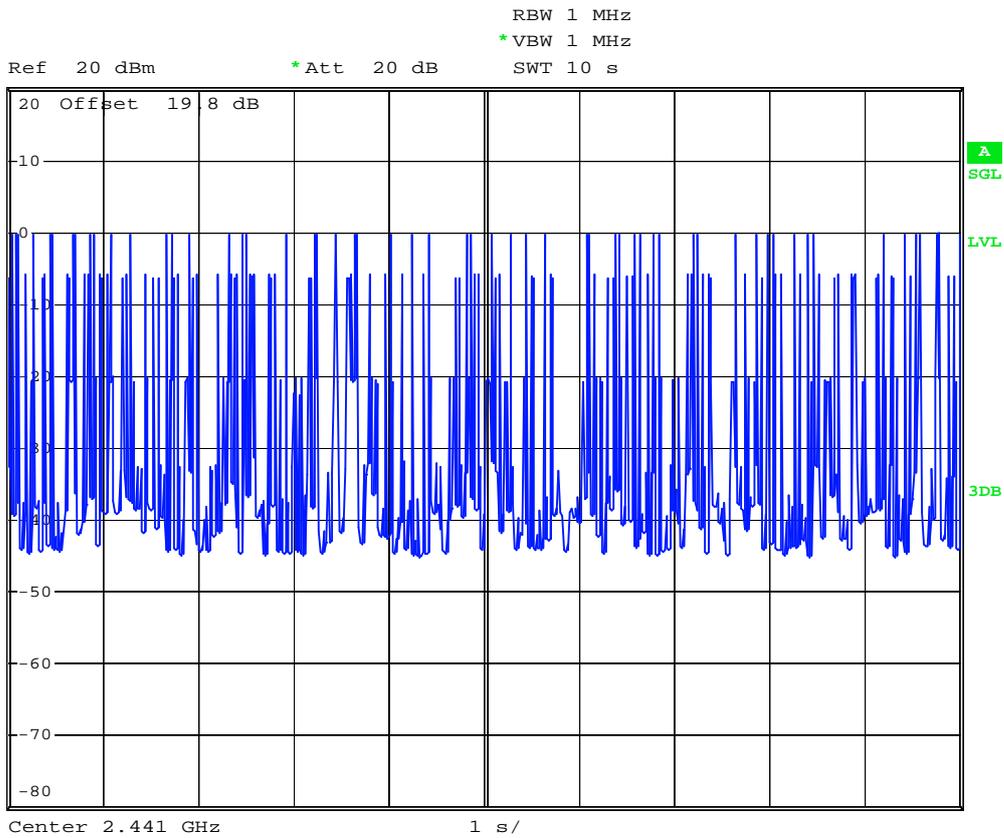
3DH3 (CH39)



Ref 20 dBm *Att 20 dB RBW 1 MHz Delta 3 [T1] 1.06 dB
 *VBW 1 MHz 2.514000 ms
 SWT 5 ms



Date: 1.APR.2008 11:41:18

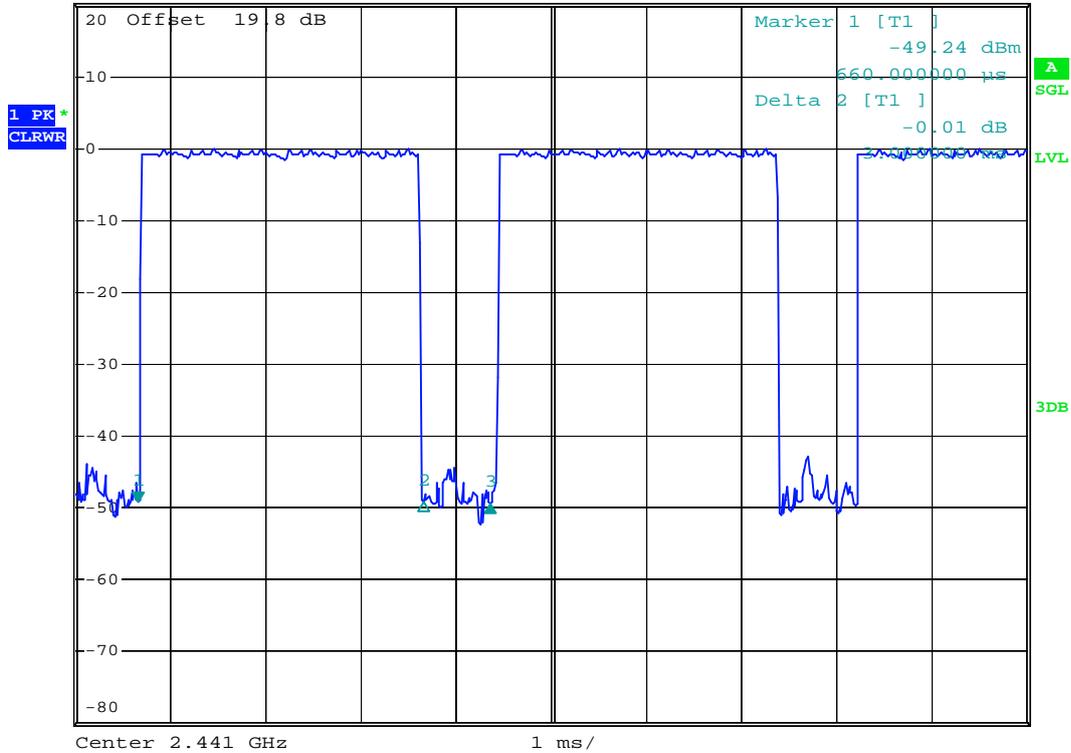


Date: 1.APR.2008 11:34:41

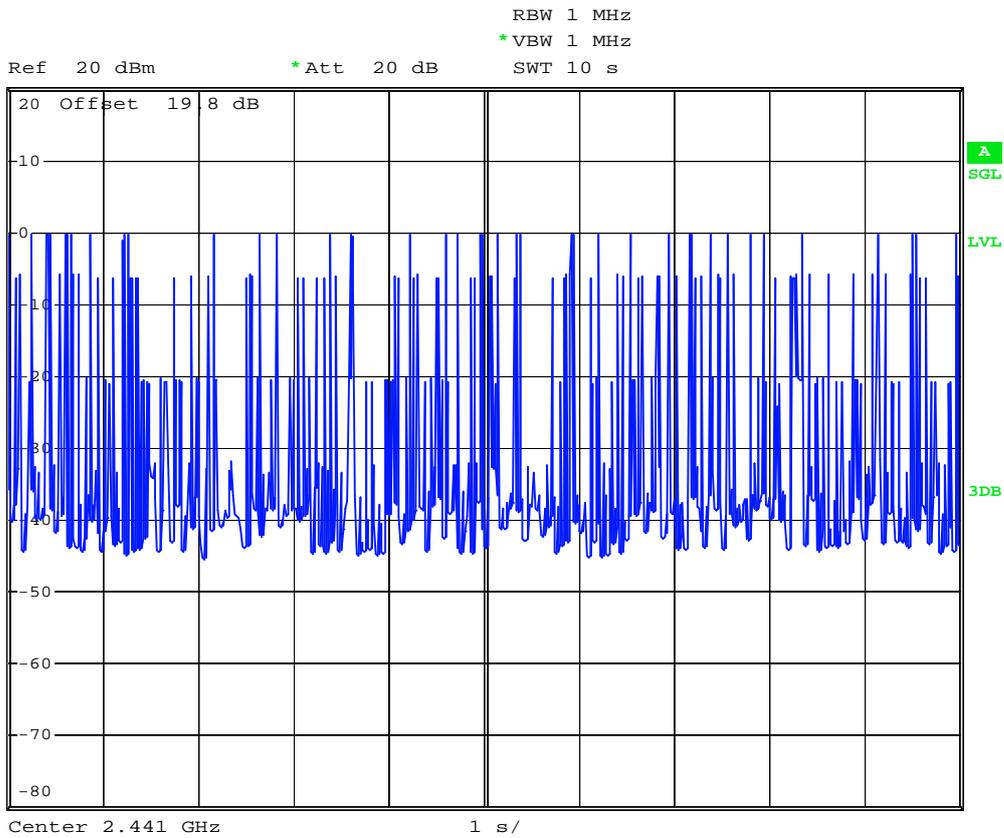
3DH5 (CH39)



Ref 20 dBm *Att 20 dB RBW 1 MHz Delta 3 [T1] -0.16 dB
 *VBW 1 MHz SWT 10 ms 3.700000 ms



Date: 1.APR.2008 11:38:28



Date: 1.APR.2008 11:36:14

5.7 Peak Output Power Measurement

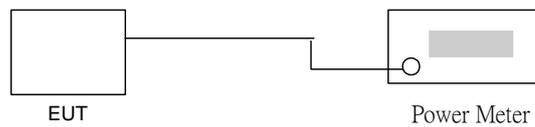
5.7.1 Measuring Instruments

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 Bluetooth 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 : Bluetooth
- Temperature : 29~30°C
- Relative Humidity : 50~51%
- Test Engineer : CKC

▪ Bluetooth(1Mbps)

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
00	2402	-0.14	1W/30 dBm
39	2441	0.16	1W/30 dBm
78	2480	0.85	1W/30 dBm

▪ Bluetooth EDR(2Mbps)

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
00	2402	0.96	1W/30 dBm
39	2441	1.27	1W/30 dBm
78	2480	1.67	1W/30 dBm

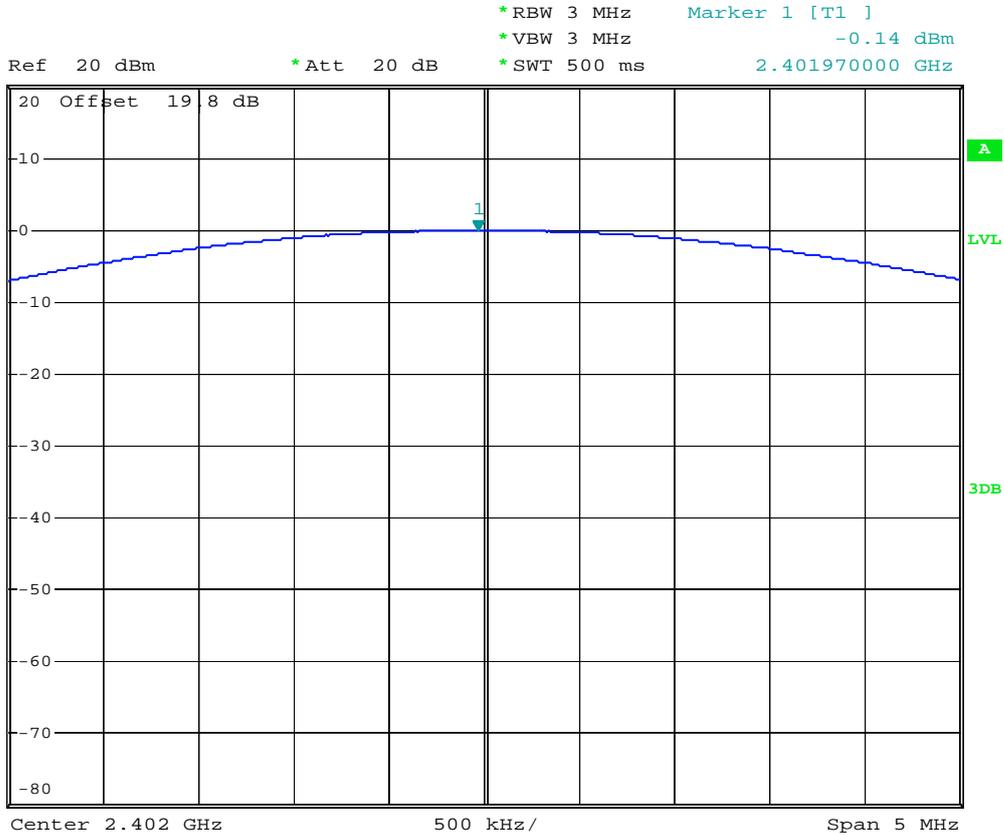
▪ Bluetooth EDR(3Mbps)

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
00	2402	0.45	1W/30 dBm
39	2441	0.72	1W/30 dBm
78	2480	1.23	1W/30 dBm

5.7.5 Output Power

Bluetooth(1Mbps)

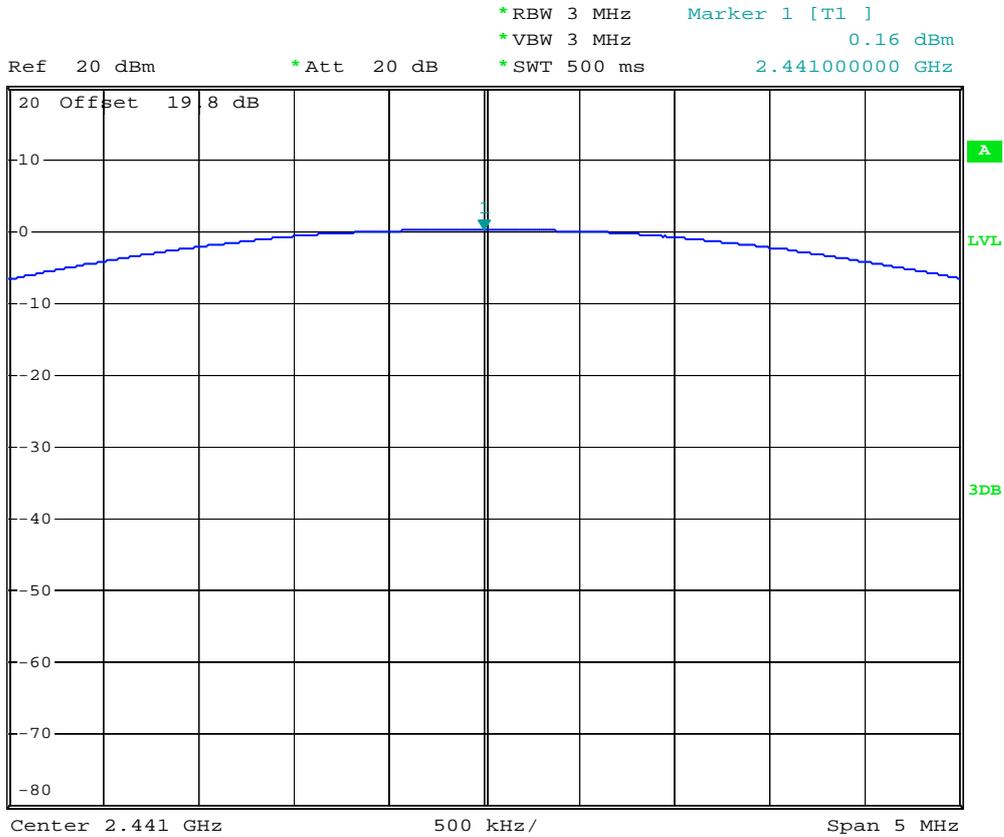
Mode : CH00 (2402MHz)



Date: 1.APR.2008 08:29:41

Bluetooth(1Mbps)

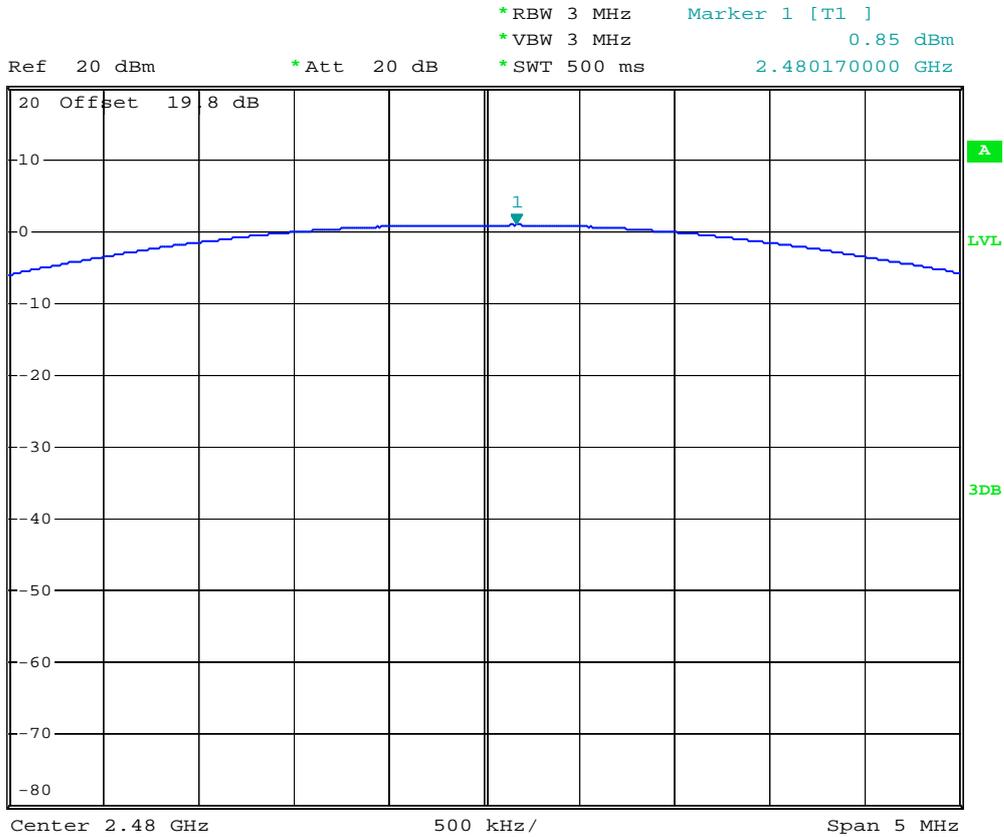
Mode : CH39 (2441MHz)



Date: 1.APR.2008 08:30:38

Bluetooth(1Mbps)

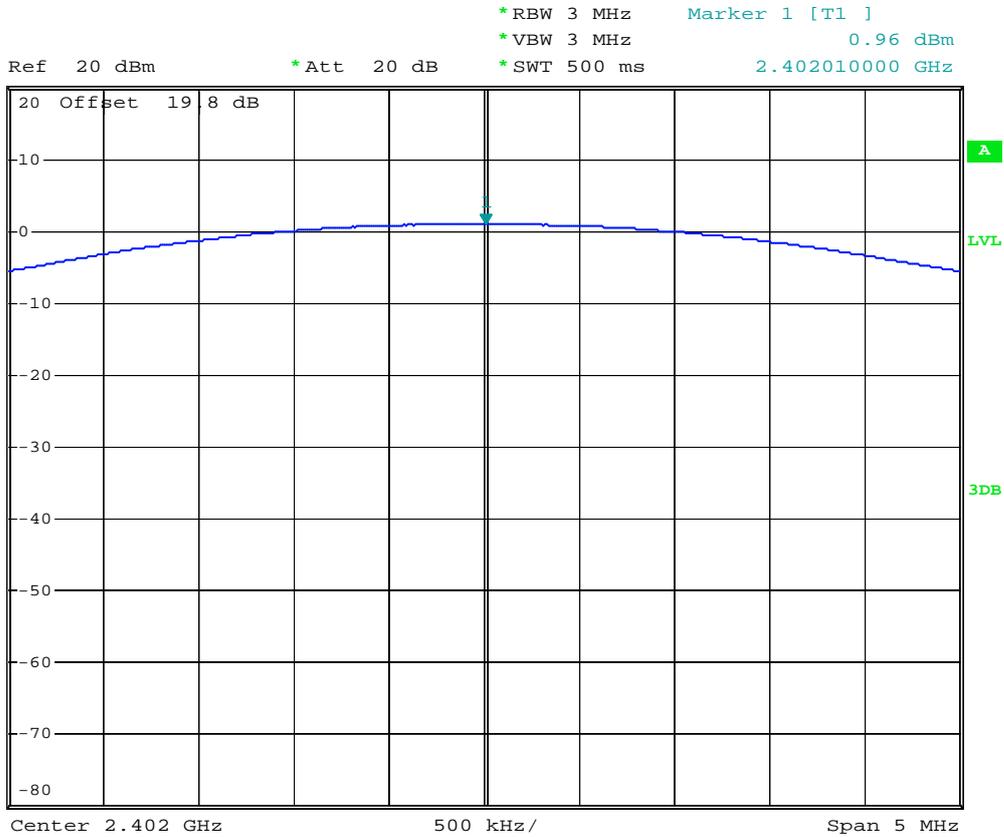
Mode : CH78 (2480MHz)



Date: 1.APR.2008 08:31:44

Bluetooth(2Mbps)

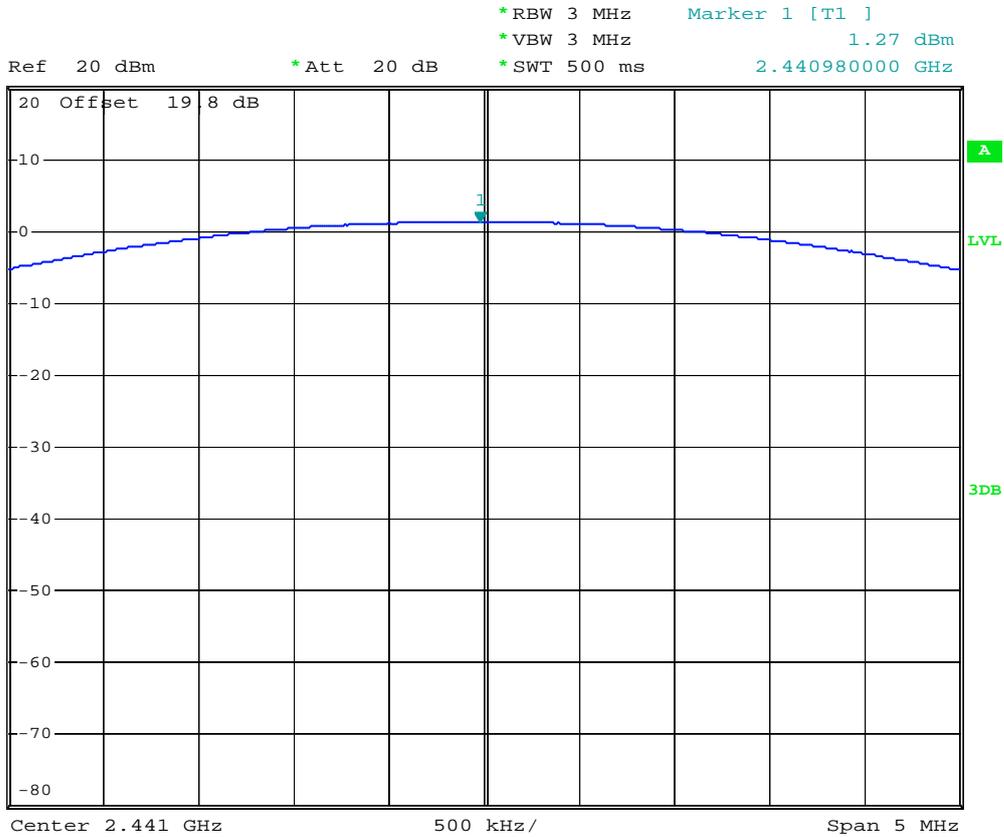
Mode : CH00 (2402MHz)



Date: 1.APR.2008 08:41:36

Bluetooth(2Mbps)

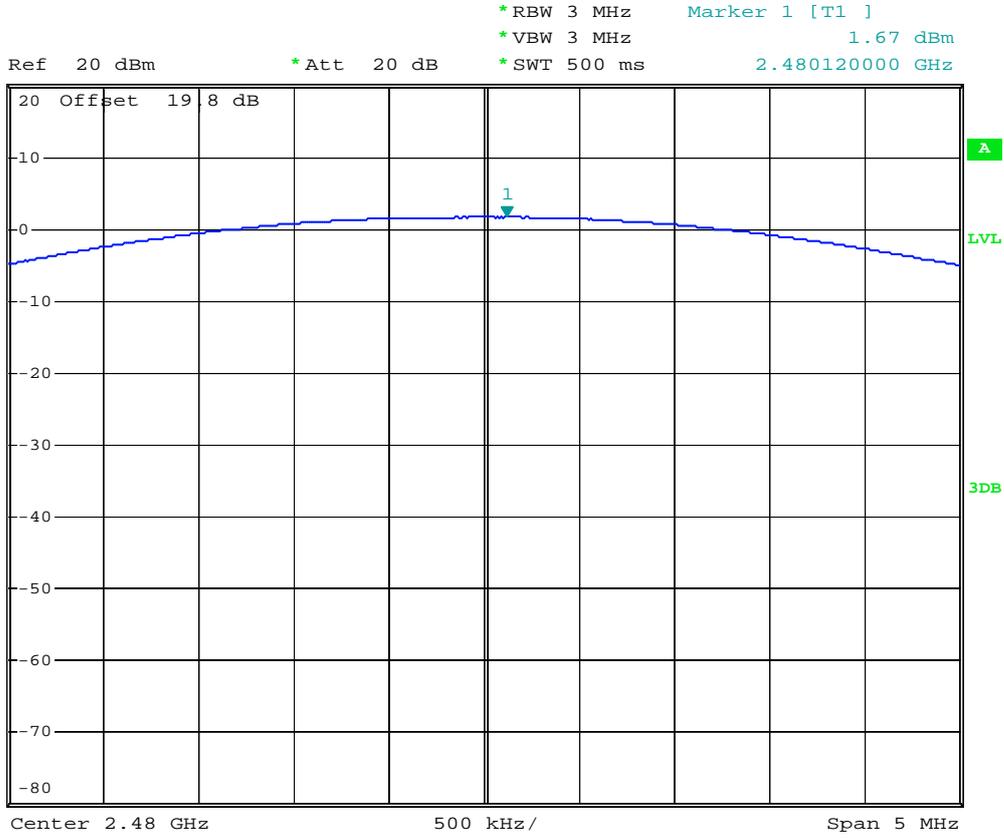
Mode : CH39 (2441MHz)



Date: 1.APR.2008 08:48:04

Bluetooth(2Mbps)

Mode : CH78 (2480MHz)



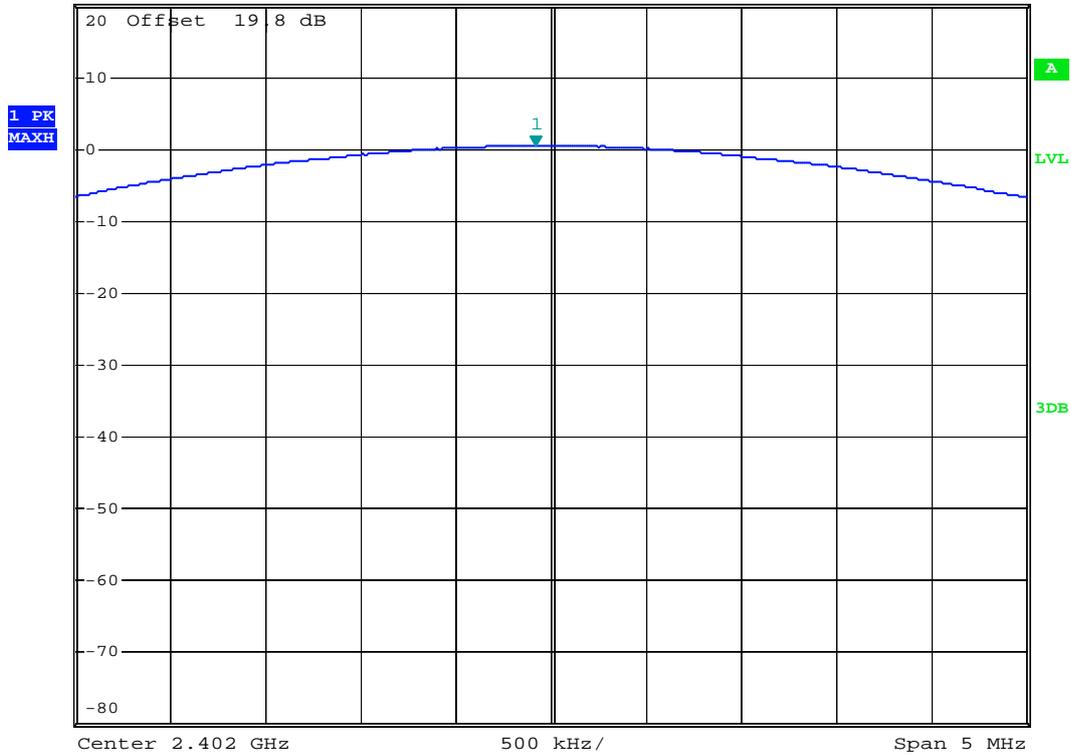
Date: 1.APR.2008 08:49:43

Bluetooth(3Mbps)

Mode : CH00 (2402MHz)



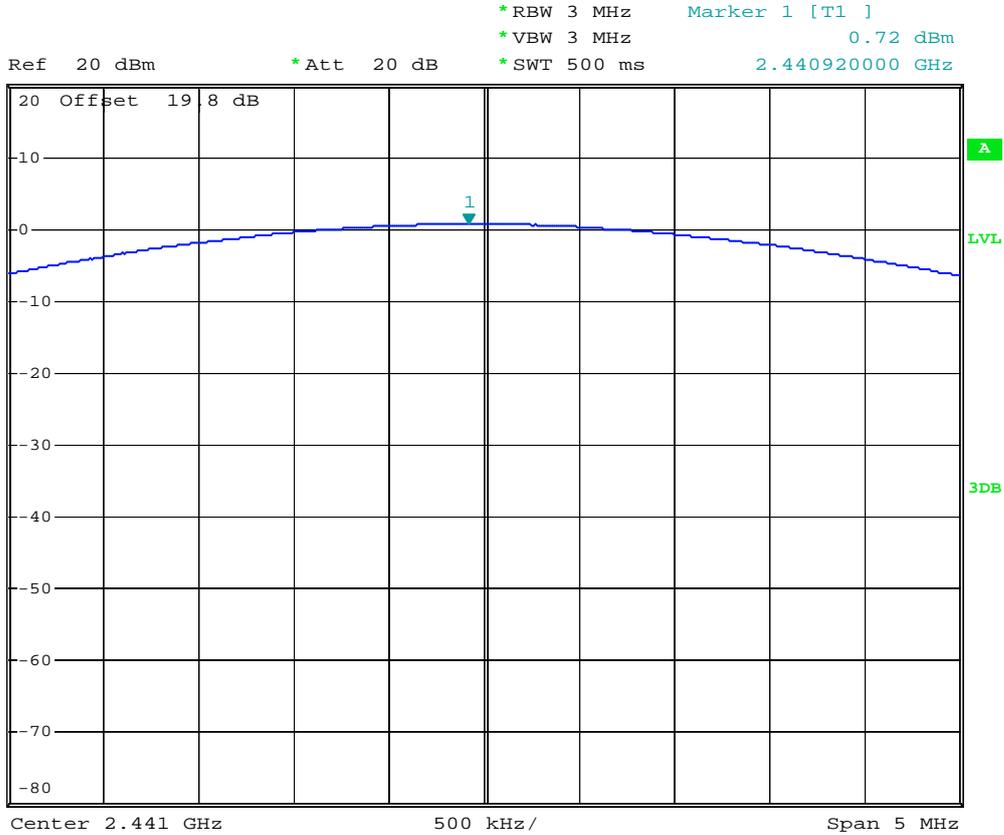
Ref 20 dBm *Att 20 dB *RBW 3 MHz Marker 1 [T1] 0.45 dBm
 *VBW 3 MHz 2.401920000 GHz
 *SWT 500 ms



Date: 1.APR.2008 08:44:30

Bluetooth(3Mbps)

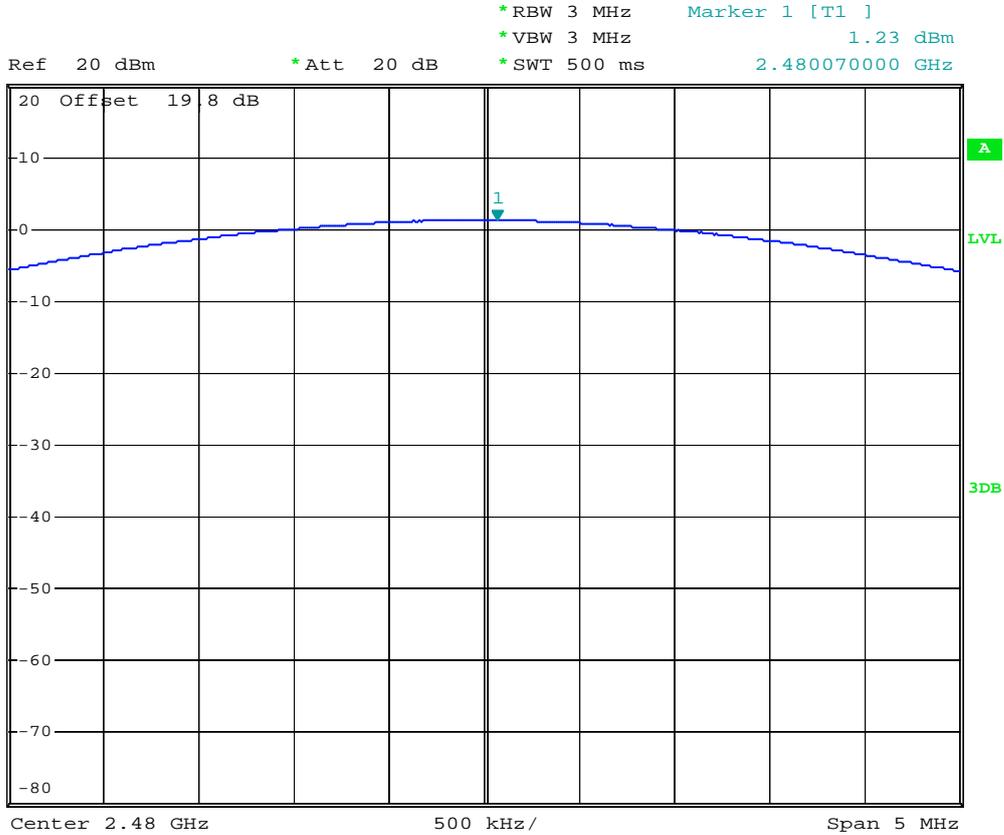
Mode : CH39 (2441MHz)



Date: 1.APR.2008 08:48:46

Bluetooth(3Mbps)

Mode : CH78 (2480MHz)



Date: 1.APR.2008 08:50:19

5.8 Conducted Emission

5.8.1 Measuring Instruments

As described in chapter 6 of this test Report.

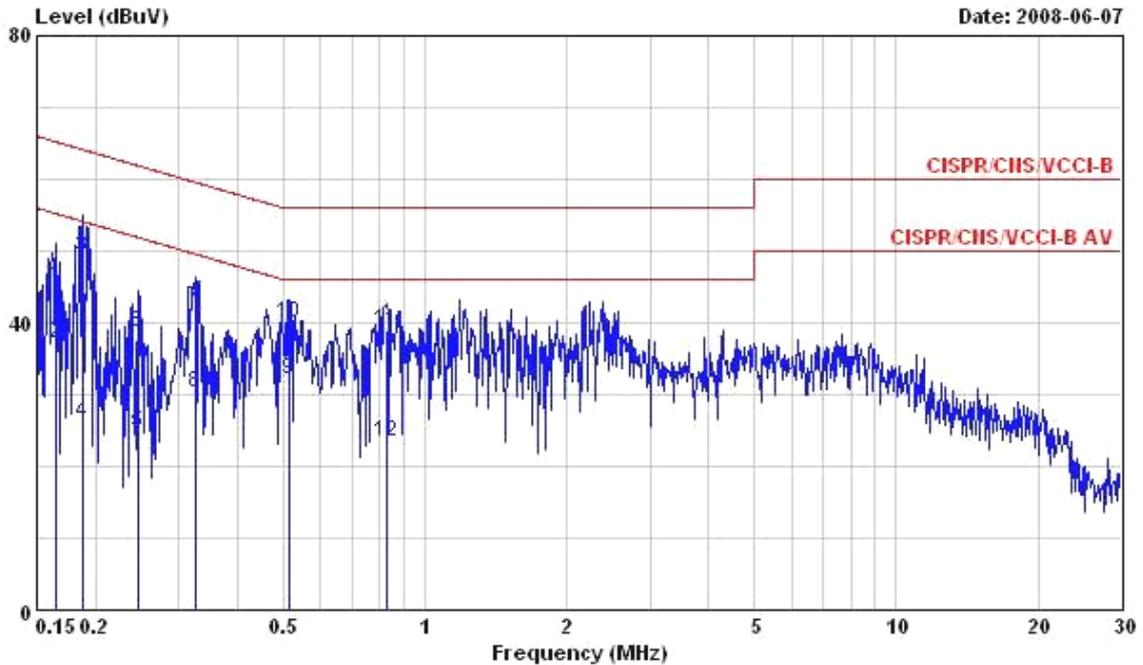
5.8.2 Test Procedures

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

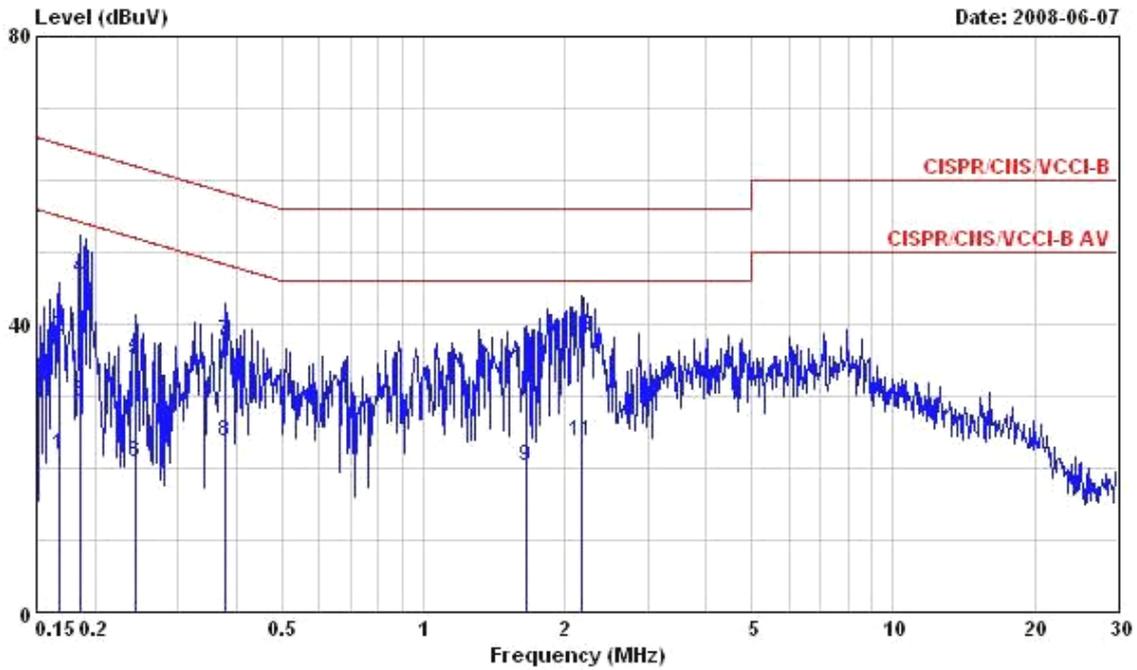
- Temperature : 29~30°C
- Relative Humidity : 50~51%
- Test Engineer : Darren
- Test Mode : Mode 1

■ 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 : Samrt Phone
 POWER: 120V/60Hz
 Model : (FR) 830418-01
 Memo : Model
 IMEI : 35835301006684401
 SAMPLE : A

	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.1641380	45.10	-20.15	65.25	44.98	0.09	0.03	QP
2	0.1641380	37.09	-18.16	55.25	36.97	0.09	0.03	Average
3	0.1873850	49.15	-15.00	64.15	49.04	0.09	0.02	QP
4	0.1873850	25.94	-28.21	54.15	25.83	0.09	0.02	Average
5	0.2455200	24.77	-27.14	51.91	24.65	0.09	0.03	Average
6	0.2455200	38.61	-23.30	61.91	38.49	0.09	0.03	QP
7	0.3268460	42.04	-17.49	59.53	41.89	0.10	0.05	QP
8	0.3268460	30.29	-19.24	49.53	30.14	0.10	0.05	Average
9	0.5155030	32.12	-13.88	46.00	31.97	0.10	0.05	Average
10	0.5155030	40.03	-15.97	56.00	39.88	0.10	0.05	QP
11	0.8304700	38.92	-17.08	56.00	38.78	0.11	0.03	QP
12	0.8304700	23.55	-22.45	46.00	23.41	0.11	0.03	Average

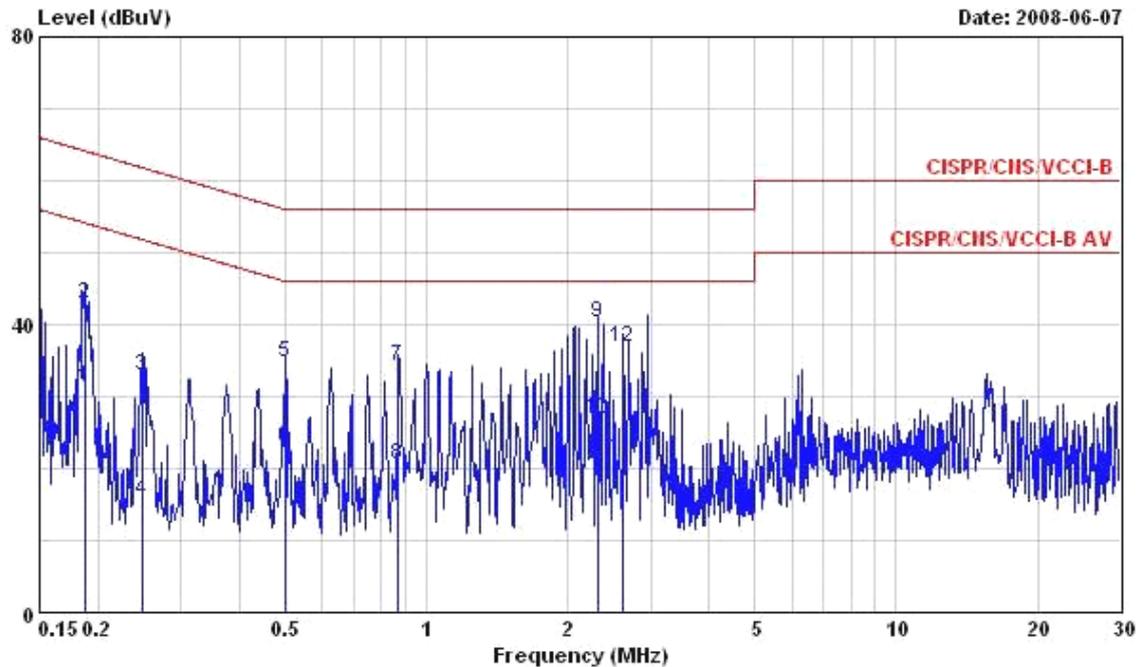


Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 2008 0416 99041 NEUTRAL
 EUT : Samrt Phone
 POWER: 120V/60Hz
 Model : (FR) 830418-01
 Memo : Model
 IMEI : 35835301006684401
 SAMPLE : A

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1685440	21.96	-33.07	55.03	21.86	0.08	0.02	Average
2	0.1685440	38.25	-26.78	65.03	38.15	0.08	0.02	QP
3	0.1863950	29.08	-25.12	54.20	28.98	0.08	0.02	Average
4	0.1863950	46.22	-17.98	64.20	46.12	0.08	0.02	QP
5	0.2429320	35.09	-26.91	62.00	34.98	0.08	0.03	QP
6	0.2429320	20.79	-31.21	52.00	20.68	0.08	0.03	Average
7	0.3791160	37.70	-20.60	58.30	37.55	0.09	0.06	QP
8	0.3791160	23.79	-24.51	48.30	23.64	0.09	0.06	Average
9	1.660	20.20	-25.80	46.00	20.05	0.12	0.03	Average
10	1.660	33.95	-22.05	56.00	33.80	0.12	0.03	QP
11	2.170	23.56	-22.44	46.00	23.40	0.12	0.04	Average
12	2.170	38.37	-17.63	56.00	38.21	0.12	0.04	QP

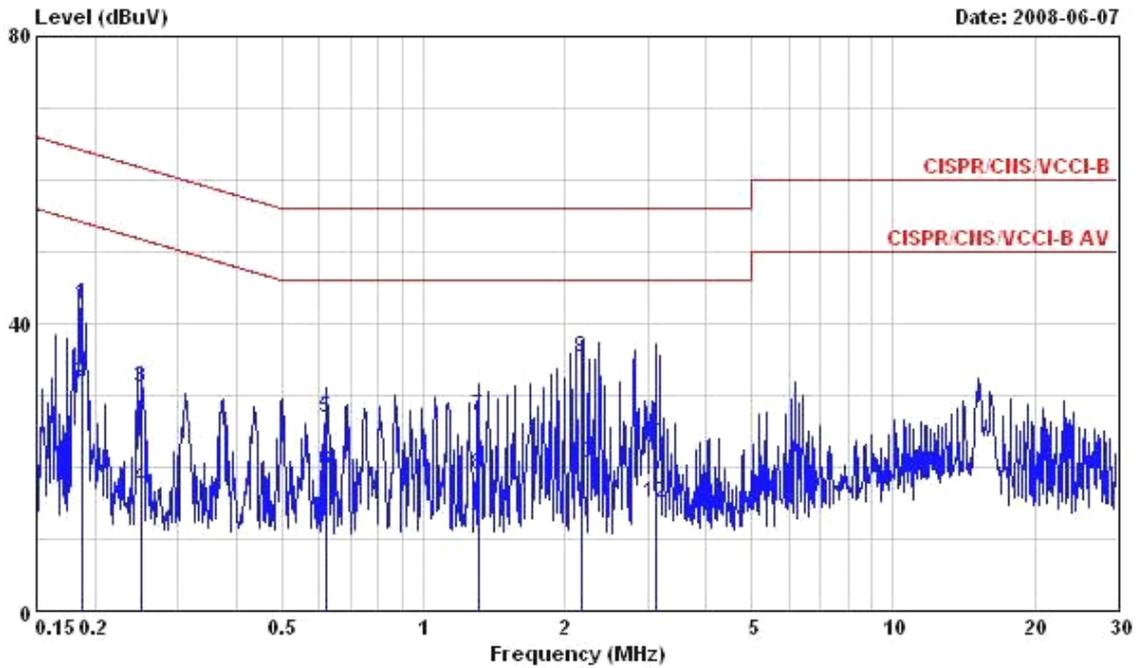
- Temperature : 29~30°C
- Relative Humidity : 50~51%
- Test Engineer : Darren
- Test Mode : Mode 2

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



Site : CO04-HY
 Condition : CISPR/CNS/VCCL-B LISN 2008 0416 99041 LINE
 EUT : Samrt Phone
 POWER: 120V/60Hz
 Model : (FR) 830418-01
 Memo : Mode2
 IMEI : 35835301006684401
 SAMPLE : A

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1873850	31.34	-22.81	54.15	31.23	0.09	0.02	Average
2	0.1873850	42.86	-21.29	64.15	42.75	0.09	0.02	QP
3	0.2481360	33.03	-28.79	61.82	32.91	0.09	0.03	QP
4	0.2481360	15.41	-36.41	51.82	15.29	0.09	0.03	Average
5	0.4993730	34.75	-21.26	56.01	34.60	0.10	0.05	QP
6	0.4993730	22.95	-23.06	46.01	22.80	0.10	0.05	Average
7	0.8710300	34.15	-21.85	56.00	34.01	0.11	0.03	QP
8	0.8710300	20.48	-25.52	46.00	20.34	0.11	0.03	Average
9	2.310	40.20	-15.80	56.00	40.01	0.14	0.05	QP
10	2.310	26.75	-19.25	46.00	26.56	0.14	0.05	Average
11	2.620	21.57	-24.43	46.00	21.37	0.15	0.05	Average
12	2.620	36.96	-19.04	56.00	36.76	0.15	0.05	QP

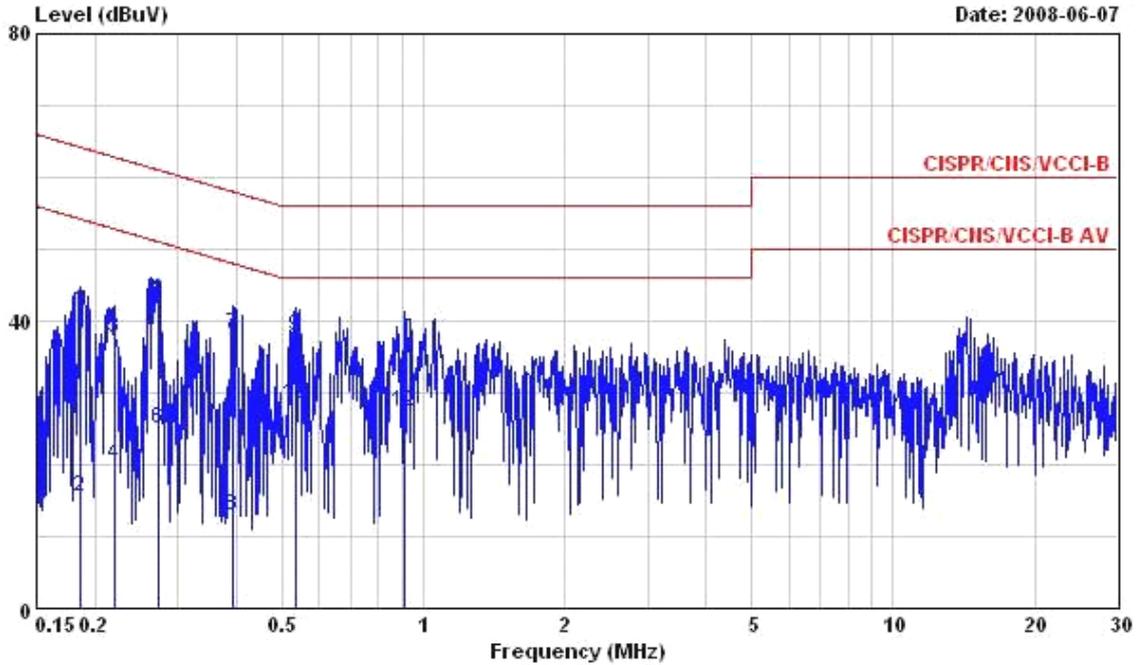


Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 2008 0416 99041 NEUTRAL
 EUT : Samrt Phone
 POWER: 120V/60Hz
 Model : (FR) 830418-01
 Memo : Mode2
 IMEI : 35835301006684401
 SAMPLE : A

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1873850	42.59	-21.56	64.15	42.49	0.08	0.02	QP
2	0.1873850	31.93	-22.22	54.15	31.83	0.08	0.02	Average
3	0.2507790	30.97	-30.76	61.73	30.86	0.08	0.03	QP
4	0.2507790	17.05	-34.68	51.73	16.94	0.08	0.03	Average
5	0.6205370	26.93	-29.07	56.00	26.79	0.10	0.04	QP
6	0.6205370	19.47	-26.53	46.00	19.33	0.10	0.04	Average
7	1.310	27.16	-28.84	56.00	27.02	0.11	0.03	QP
8	1.310	18.94	-27.06	46.00	18.80	0.11	0.03	Average
9	2.180	35.18	-20.82	56.00	35.02	0.12	0.04	QP
10	2.180	20.61	-25.39	46.00	20.45	0.12	0.04	Average
11	3.120	23.33	-32.67	56.00	23.13	0.14	0.06	QP
12	3.120	14.91	-31.09	46.00	14.71	0.14	0.06	Average

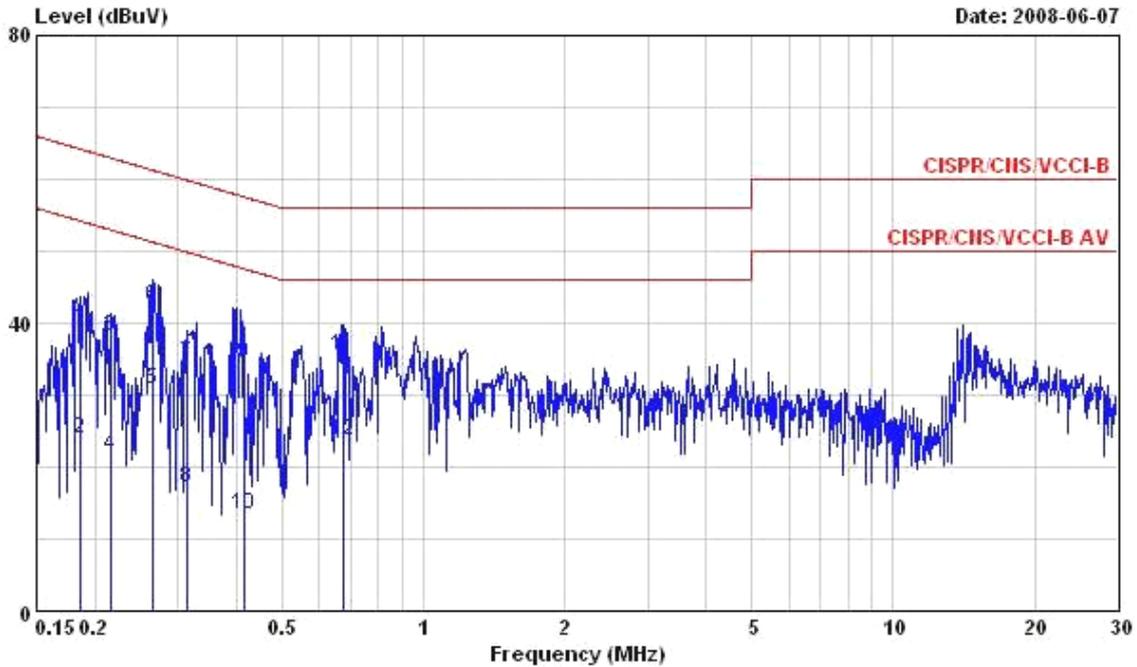
- Temperature : 29~30°C
- Relative Humidity : 50~51%
- Test Engineer : Darren
- Test Mode : Mode 3

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



Site : CO04-HY
 Condition : CISPR/CNS/VCCL-B LISN 2008 0416 99041 LINE
 EUT : Samrt Phone
 POWER: 120V/60Hz
 Model : (FR) 830418-01
 Memo : Mode3
 IMEI : 35835301006684401
 SAMPLE : A

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1854100	41.23	-23.01	64.24	41.12	0.09	0.02	QP
2	0.1854100	15.60	-38.64	54.24	15.49	0.09	0.02	Average
3	0.2196670	37.54	-25.29	62.83	37.42	0.09	0.03	QP
4	0.2196670	20.03	-32.80	52.83	19.91	0.09	0.03	Average
5	0.2729650	42.59	-18.44	61.03	42.46	0.09	0.04	QP
6	0.2729650	25.06	-25.97	51.03	24.93	0.09	0.04	Average
7	0.3934400	38.27	-19.72	57.99	38.11	0.10	0.06	QP
8	0.3934400	12.80	-35.19	47.99	12.64	0.10	0.06	Average
9	0.5349810	37.98	-18.02	56.00	37.83	0.10	0.05	QP
10	0.5349810	28.38	-17.62	46.00	28.23	0.10	0.05	Average
11	0.9135710	34.65	-21.35	56.00	34.52	0.11	0.02	QP
12	0.9135710	27.32	-18.68	46.00	27.19	0.11	0.02	Average

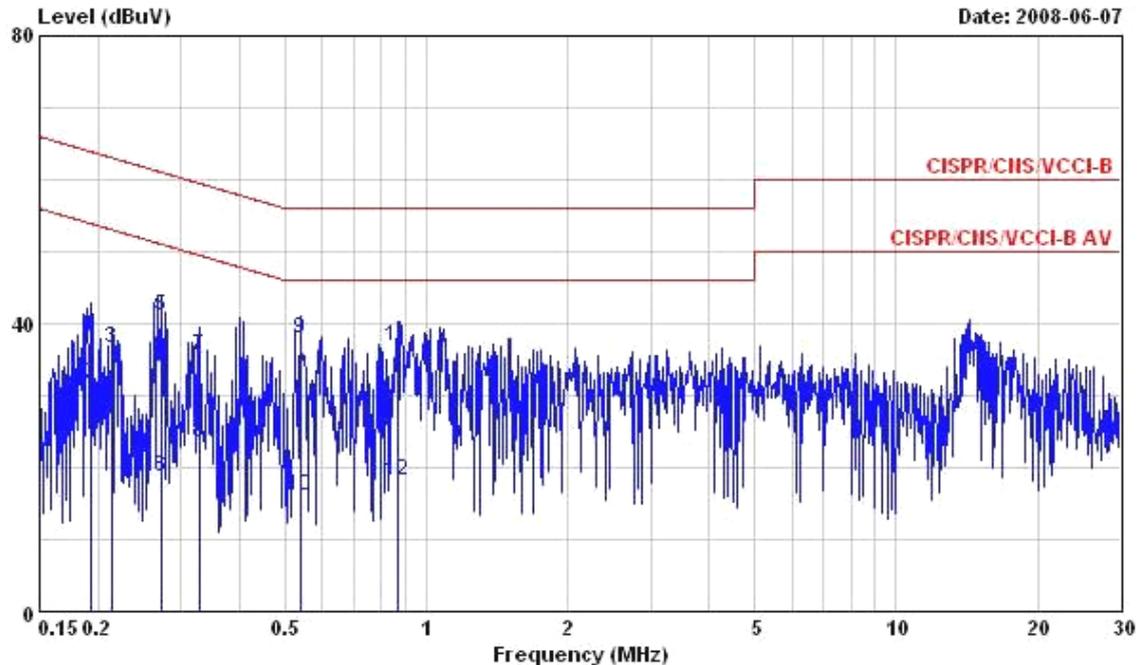


Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 2008 0416 99041 NEUTRAL
 EUT : Samrt Phone
 POWER: 120V/60Hz
 Model : (FR) 830418-01
 Memo : Mode3
 IMEI : 35835301006684401
 SAMPLE : A

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1	0.1854100	39.28	-24.96	64.24	39.18	0.08	0.02	QP
2	0.1854100	23.93	-30.31	54.24	23.83	0.08	0.02	Average
3	0.2162030	38.26	-24.70	62.96	38.16	0.08	0.02	QP
4	0.2162030	21.58	-31.38	52.96	21.48	0.08	0.02	Average
5	0.2658290	30.87	-20.38	51.25	30.75	0.08	0.04	Average
6	0.2658290	42.47	-18.78	61.25	42.35	0.08	0.04	QP
7	0.3149460	34.40	-25.44	59.84	34.26	0.09	0.05	QP
8	0.3149460	17.04	-32.80	49.84	16.90	0.09	0.05	Average
9	0.4148480	34.37	-23.18	57.55	34.22	0.09	0.06	QP
10	0.4148480	13.43	-34.12	47.55	13.28	0.09	0.06	Average
11	0.6754350	35.53	-20.47	56.00	35.39	0.10	0.04	QP
12	0.6754350	23.56	-22.44	46.00	23.42	0.10	0.04	Average

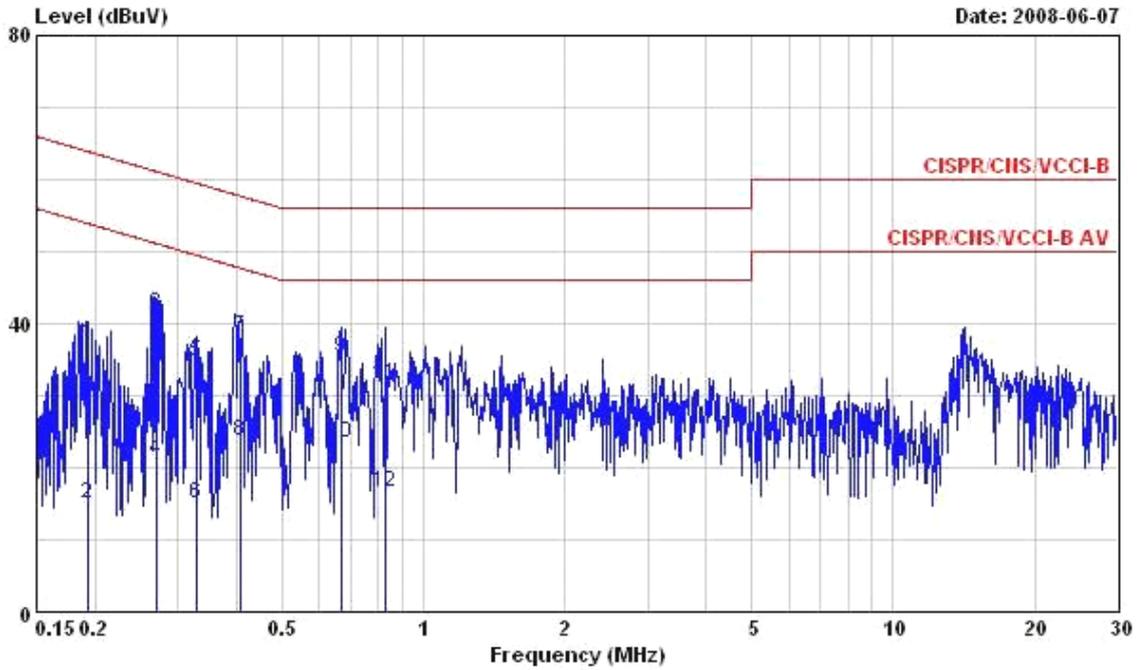
- Temperature : 29~30°C
- Relative Humidity : 50~51%
- Test Engineer : Darren
- Test Mode : Mode 4

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



Site : C004-HY
 Condition : CISPR/CNS/VCCL-B LISN 2008 0416 99041 LINE
 EUT : Samrt Phone
 POWER: 120V/60Hz
 Model : (FR) 830418-01
 Memo : Mode4
 IMEI : 35835301006684401
 SAMPLE : A

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1924150	38.17	-25.76	63.93	38.06	0.09	0.02	QP
2	0.1924150	31.69	-22.24	53.93	31.58	0.09	0.02	Average
3	0.2139240	36.61	-26.44	63.05	36.50	0.09	0.02	QP
4	0.2139240	29.58	-23.47	53.05	29.47	0.09	0.02	Average
5	0.2715230	41.06	-20.01	61.07	40.93	0.09	0.04	QP
6	0.2715230	18.72	-32.35	51.07	18.59	0.09	0.04	Average
7	0.3285820	35.49	-24.00	59.49	35.34	0.10	0.05	QP
8	0.3285820	23.50	-25.99	49.49	23.35	0.10	0.05	Average
9	0.5378230	38.00	-18.00	56.00	37.85	0.10	0.05	QP
10	0.5378230	15.95	-30.05	46.00	15.80	0.10	0.05	Average
11	0.8710300	36.75	-19.25	56.00	36.61	0.11	0.03	QP
12	0.8710300	18.17	-27.83	46.00	18.03	0.11	0.03	Average

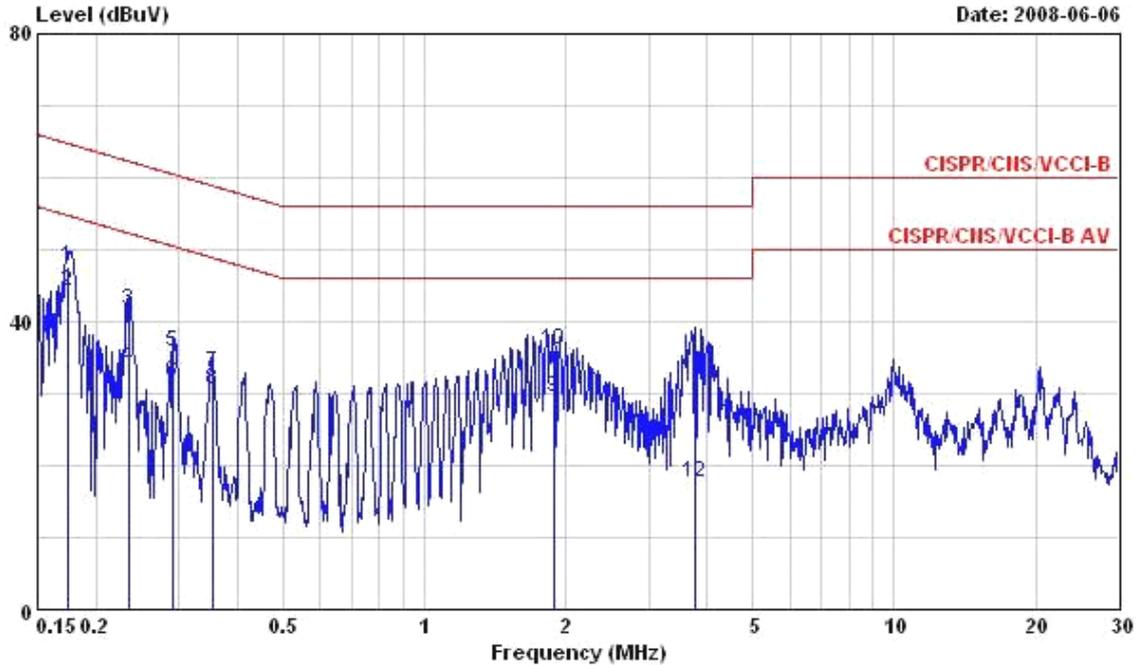


Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 2008 0416 99041 NEUTRAL
 EUT : Samrt Phone
 POWER: 120V/60Hz
 Model : (FR) 830418-01
 Memo : Mode4
 IMEI : 35835301006684401
 SAMPLE : A

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1	0.1934380	37.02	-26.87	63.89	36.92	0.08	0.02	QP
2	0.1934380	14.97	-38.92	53.89	14.87	0.08	0.02	Average
3	0.2700880	41.33	-19.79	61.12	41.21	0.08	0.04	QP
4	0.2700880	21.08	-30.04	51.12	20.96	0.08	0.04	Average
5	0.3285820	34.80	-24.69	59.49	34.66	0.09	0.05	QP
6	0.3285820	15.01	-34.48	49.49	14.87	0.09	0.05	Average
7	0.4061490	38.15	-19.58	57.73	38.00	0.09	0.06	QP
8	0.4061490	23.61	-24.12	47.73	23.46	0.09	0.06	Average
9	0.6683160	35.25	-20.75	56.00	35.11	0.10	0.04	QP
10	0.6683160	23.32	-22.68	46.00	23.18	0.10	0.04	Average
11	0.8304700	31.49	-24.51	56.00	31.35	0.11	0.03	QP
12	0.8304700	16.51	-29.49	46.00	16.37	0.11	0.03	Average

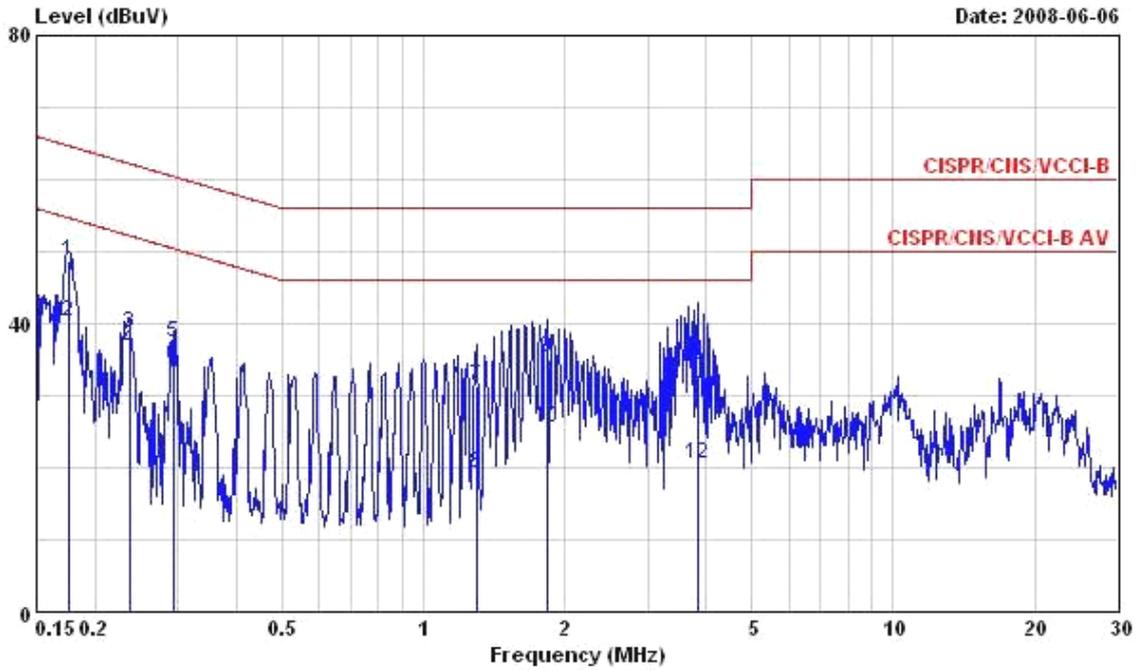
- Temperature : 29~30°C
- Relative Humidity : 50~51%
- Test Engineer : Darren
- Test Mode : Mode 5

■ 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 : Samrt Phone
 POWER: From Notebook
 Model : (FR) 830418-01
 Memo : Mode5
 IMEI : 35835301006684401
 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	47.75	-17.02	64.77	47.64	0.09	0.02	QP
2	0.1739880	44.20	-10.57	54.77	44.09	0.09	0.02	Average
3	0.2353310	41.46	-20.80	62.26	41.34	0.09	0.03	QP
4	0.2353310	33.67	-18.59	52.26	33.55	0.09	0.03	Average
5	0.2908840	35.68	-24.82	60.50	35.54	0.10	0.04	QP
6	0.2908840	31.60	-18.90	50.50	31.46	0.10	0.04	Average
7	0.3538820	32.78	-26.09	58.87	32.63	0.10	0.05	QP
8	0.3538820	30.40	-18.47	48.87	30.25	0.10	0.05	Average
9	1.880	29.38	-16.62	46.00	29.21	0.13	0.04	Average
10	1.880	36.00	-20.00	56.00	35.83	0.13	0.04	QP
11	3.760	31.79	-24.21	56.00	31.55	0.17	0.07	QP
12	3.760	17.75	-28.25	46.00	17.51	0.17	0.07	Average

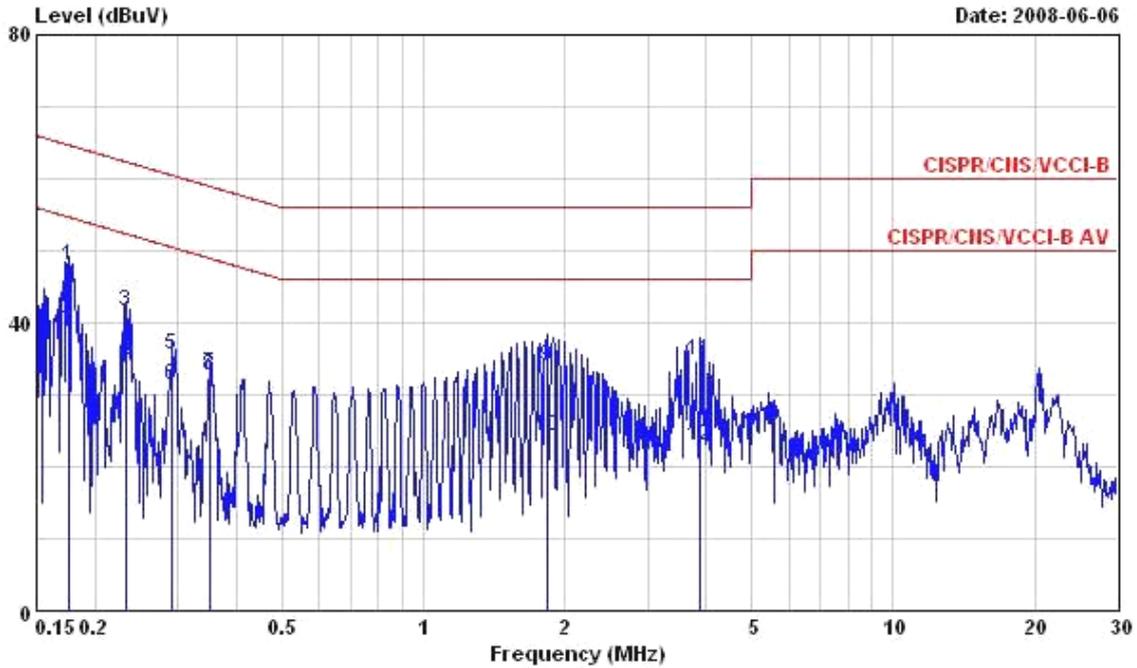


Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 2008 0416 99041 NEUTRAL
 EUT : Samrt Phone
 POWER: From Notebook
 Model : (FR) 830418-01
 Memo : Mode5
 IMEI : 35835301006684401
 SAMPLE : A

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1758420	48.72	-15.96	64.68	48.62	0.08	0.02	QP
2	0.1758420	40.18	-14.50	54.68	40.08	0.08	0.02	Average
3	0.2365810	38.67	-23.55	62.22	38.56	0.08	0.03	QP
4	0.2365810	36.25	-15.97	52.22	36.14	0.08	0.03	Average
5	0.2939830	37.32	-23.09	60.41	37.19	0.09	0.04	QP
6	0.2939830	34.12	-16.29	50.41	33.99	0.09	0.04	Average
7	1.300	31.34	-24.66	56.00	31.20	0.11	0.03	QP
8	1.300	19.27	-26.73	46.00	19.13	0.11	0.03	Average
9	1.830	35.29	-20.71	56.00	35.13	0.12	0.04	QP
10	1.830	25.42	-20.58	46.00	25.26	0.12	0.04	Average
11	3.840	32.79	-23.21	56.00	32.57	0.15	0.07	QP
12	3.840	20.66	-25.34	46.00	20.44	0.15	0.07	Average

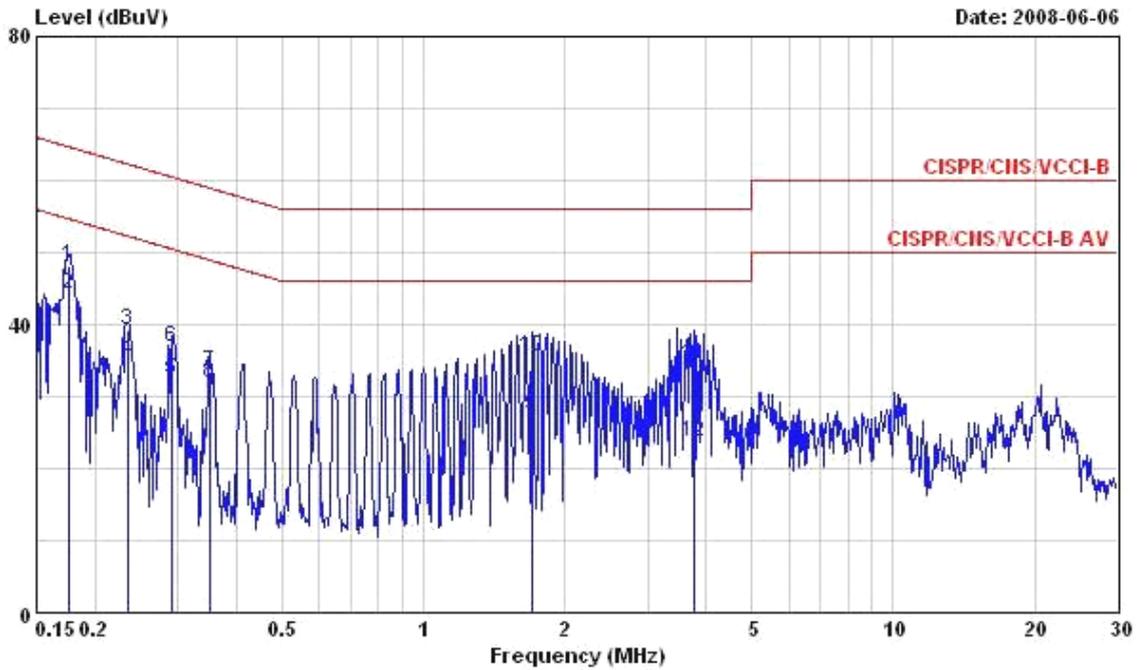
- Temperature : 29~30°C
- Relative Humidity : 50~51%
- Test Engineer : Darren
- Test Mode : Mode 6

■ 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 : Samrt Phone
 POWER: From Notebook
 Model : (FR) 830418-01
 Memo : Mode6
 IMEI : 35835301006684401
 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	48.00	-16.68	64.68	47.89	0.09	0.02	QP
2	0.1758420	40.50	-14.18	54.68	40.39	0.09	0.02	Average
3	0.2328500	41.45	-20.90	62.35	41.33	0.09	0.03	QP
4	0.2328500	34.18	-18.17	52.35	34.06	0.09	0.03	Average
5	0.2924290	35.65	-24.81	60.46	35.51	0.10	0.04	QP
6	0.2924290	31.40	-19.06	50.46	31.26	0.10	0.04	Average
7	0.3520120	33.00	-25.91	58.91	32.85	0.10	0.05	QP
8	0.3520120	32.60	-16.31	48.91	32.45	0.10	0.05	Average
9	1.830	34.05	-21.95	56.00	33.88	0.13	0.04	QP
10	1.830	24.09	-21.91	46.00	23.92	0.13	0.04	Average
11	3.880	34.80	-21.20	56.00	34.56	0.17	0.07	QP
12	3.880	22.85	-23.15	46.00	22.61	0.17	0.07	Average

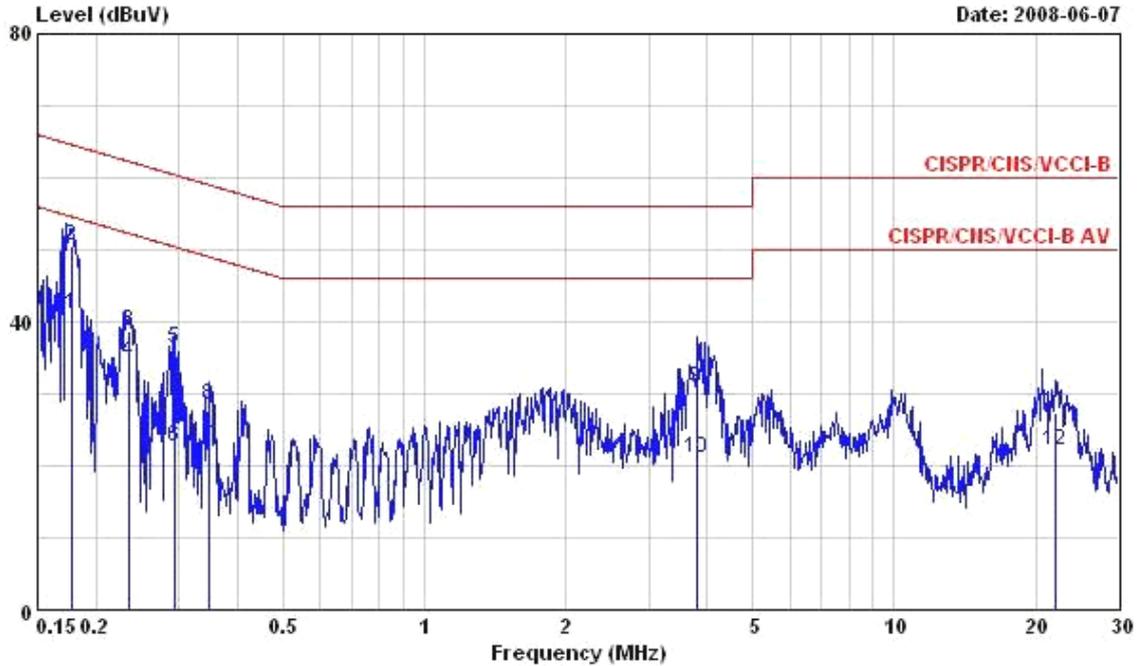


Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 2008 0416 99041 NEUTRAL
 EUT : Samrt Phone
 POWER: From Notebook
 Model : (FR) 830418-01
 Memo : Mode6
 IMEI : 35835301006684401
 SAMPLE : A

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1758420	48.28	-16.40	64.68	48.18	0.08	0.02	QP
2	@0.1758420	44.30	-10.38	54.68	44.20	0.08	0.02	Average
3	0.2340870	39.17	-23.13	62.30	39.06	0.08	0.03	QP
4	0.2340870	34.97	-17.33	52.30	34.86	0.08	0.03	Average
5	0.2924290	32.49	-17.97	50.46	32.36	0.09	0.04	Average
6	0.2924290	36.94	-23.52	60.46	36.81	0.09	0.04	QP
7	0.3501520	33.33	-25.63	58.96	33.19	0.09	0.05	QP
8	0.3501520	31.92	-17.04	48.96	31.78	0.09	0.05	Average
9	1.710	27.32	-18.68	46.00	27.16	0.12	0.04	Average
10	1.710	35.45	-20.55	56.00	35.29	0.12	0.04	QP
11	3.758	34.43	-21.57	56.00	34.21	0.15	0.07	QP
12	3.758	23.56	-22.44	46.00	23.34	0.15	0.07	Average

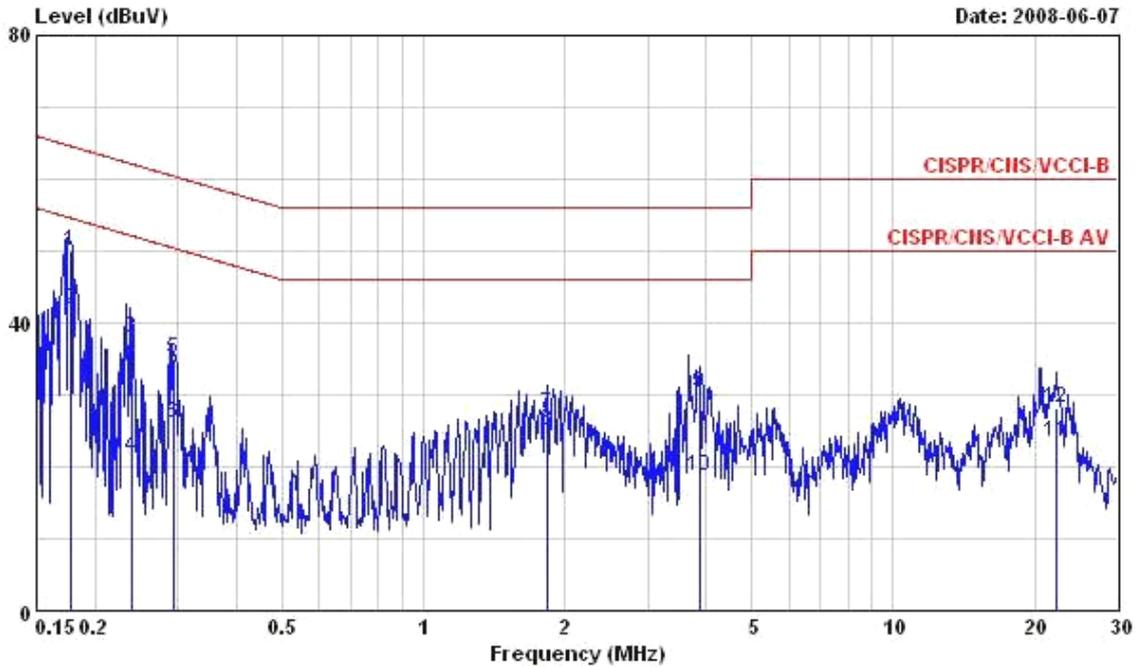
- Temperature : 29~30°C
- Relative Humidity : 50~51%
- Test Engineer : Darren
- Test Mode : Mode 7

■ 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 : Samrt Phone
 POWER: From Notebook
 Model : (FR) 830418-01
 Memo : Mode7
 IMEI : 358353010066893
 SAMPLE : B

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1777150	41.00	-13.59	54.59	40.89	0.09	0.02	Average
2	0.1777150	50.41	-14.18	64.59	50.30	0.09	0.02	QP
3	0.2353310	38.78	-23.48	62.26	38.66	0.09	0.03	QP
4	0.2353310	34.56	-17.70	52.26	34.44	0.09	0.03	Average
5	0.2939830	36.21	-24.20	60.41	36.07	0.10	0.04	QP
6	0.2939830	22.51	-27.90	50.41	22.37	0.10	0.04	Average
7	0.3464610	22.51	-26.54	49.05	22.36	0.10	0.05	Average
8	0.3464610	28.33	-30.72	59.05	28.18	0.10	0.05	QP
9	3.820	30.73	-25.27	56.00	30.49	0.17	0.07	QP
10	3.820	21.10	-24.90	46.00	20.86	0.17	0.07	Average
11	21.950	27.26	-32.74	60.00	26.77	0.45	0.04	QP
12	21.950	22.06	-27.94	50.00	21.57	0.45	0.04	Average



Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 2008 0416 99041 LINE
 EUT : Samrt Phone
 POWER: From Notebook
 Model : (FR) 830418-01
 Memo : Mode7
 IMEI : 358353010066893
 SAMPLE : A

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1777150	49.97	-14.62	64.59	49.86	0.09	0.02	QP
2	@0.1777150	41.79	-12.80	54.59	41.68	0.09	0.02	Average
3	0.2391010	37.84	-24.29	62.13	37.72	0.09	0.03	QP
4	0.2391010	21.36	-30.77	52.13	21.24	0.09	0.03	Average
5	0.2939830	34.95	-25.46	60.41	34.81	0.10	0.04	QP
6	0.2939830	26.13	-24.28	50.41	25.99	0.10	0.04	Average
7	1.830	27.49	-28.51	56.00	27.32	0.13	0.04	QP
8	1.830	24.92	-21.08	46.00	24.75	0.13	0.04	Average
9	3.860	30.36	-25.64	56.00	30.12	0.17	0.07	QP
10	3.860	18.64	-27.36	46.00	18.40	0.17	0.07	Average
11	22.180	23.43	-26.57	50.00	22.92	0.46	0.05	Average
12	22.180	28.26	-31.74	60.00	27.75	0.46	0.05	QP

5.9 Radiated Emission Measurement

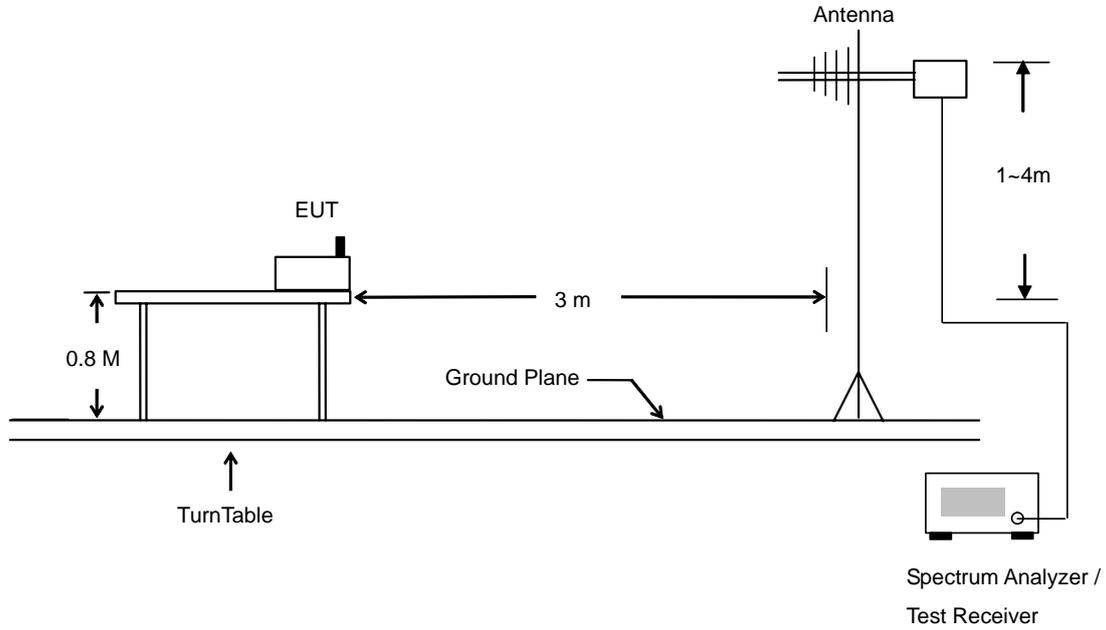
5.9.1 Measuring Instruments

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.

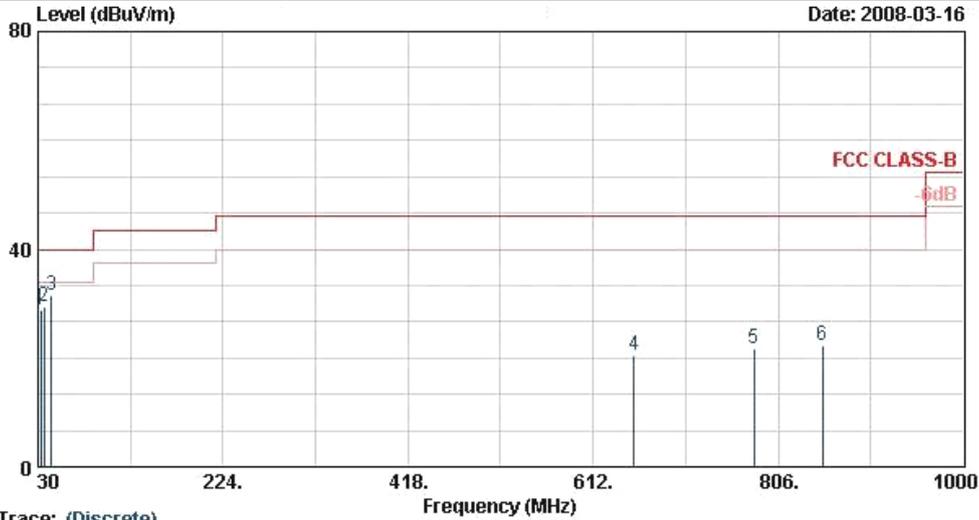
5.9.3 Typical Test Setup Layout of Radiated Emission



5.9.4 Test Data

- Temperature : 21~26°C
- Relating Humidity : 49~57%
- 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.



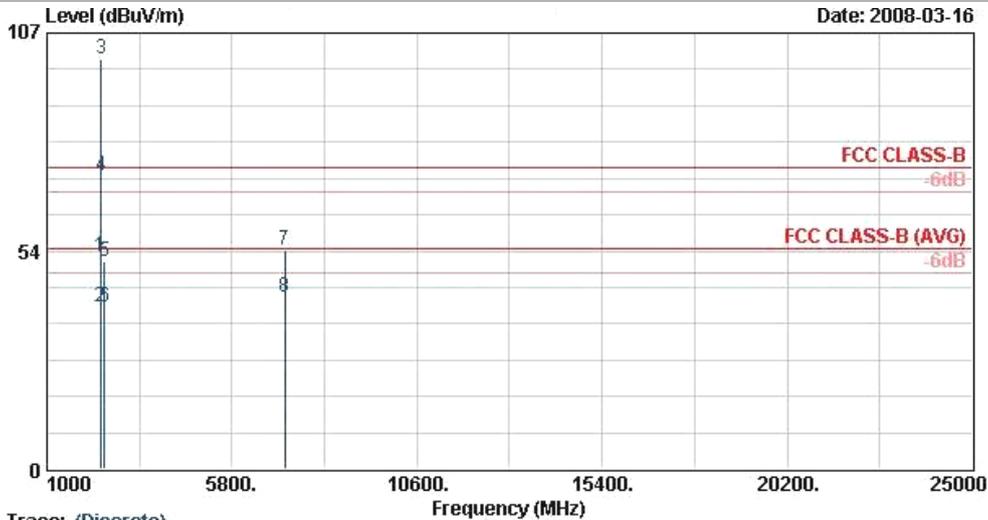
Trace: (Discrete)

Site : 03CH06-HY
 Condition : FCC CLASS-B 3m LF-ANT(951121) HORIZONTAL
 EUT : Smart Phone WCDMA(band 1/YT11)+GSM/GPRS
 /EDGE(850/900/1800/1900)
 Power : 120Vac/60Hz
 Model : FR 830418-01
 Memo : Mode 1
 Data Rate : 2DH1
 Plane : E1
 TMET : 35835301005857501

	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	33.24	28.98	-11.02	40.00	44.52	17.54	0.30	33.38	---	---	Peak
2	36.48	29.52	-10.48	40.00	47.40	15.08	0.30	33.26	---	---	Peak
3	44.04	31.61	-8.39	40.00	52.92	11.52	0.30	33.13	100	107	Peak
4	654.90	20.56	-25.44	46.00	33.79	18.70	1.10	33.03	---	---	Peak
5	780.90	21.80	-24.20	46.00	33.64	19.64	1.20	32.68	---	---	Peak
6	852.30	22.45	-23.55	46.00	33.74	20.19	1.20	32.69	---	---	Peak

• Polarization : Horizontal (1GHz-25GHz)

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



Trace: (Discrete)

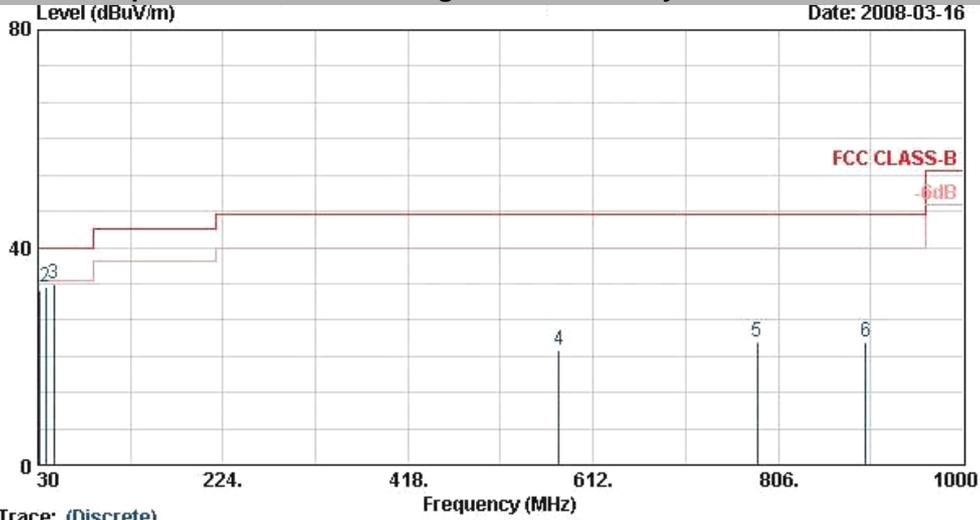
Site : 03CH06-HY
 Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
 EUT : Smart Phone WCDMA(band 1/YT11)+GSM/GPRS
 /EDGE(850/900/1800/1900)
 Power : 120Vac/60Hz
 Model : FR 830418-01
 Memo : Mode 1
 Data Rate : 2DH1
 Plane : E1
 TNET : 35835301005957501

	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	2389.23	52.14	-21.86	74.00	52.04	31.86	3.92	35.68	100	0	Peak
2	2389.23	39.65	-14.35	54.00	39.55	31.86	3.92	35.68	104	15	Average
3 @	2402.00	100.79			100.70	31.86	3.92	35.68	100	0	Peak
4 X	2402.00	71.88			71.78	31.86	3.92	35.68	104	15	Average
5	2484.00	50.78	-23.22	74.00	50.45	31.98	4.05	35.70	100	0	Peak
6	2484.00	39.81	-14.19	54.00	39.48	31.98	4.05	35.70	104	15	Average
7	7176.00	53.66	-20.34	74.00	46.85	35.73	7.15	36.07	100	0	Peak
8	7176.00	42.10	-11.90	54.00	35.29	35.73	7.15	36.07	100	283	Average

Remark: #3 and #4 are Fundamental Signals.

• Polarization : Vertical (30MHz-1GHz)

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



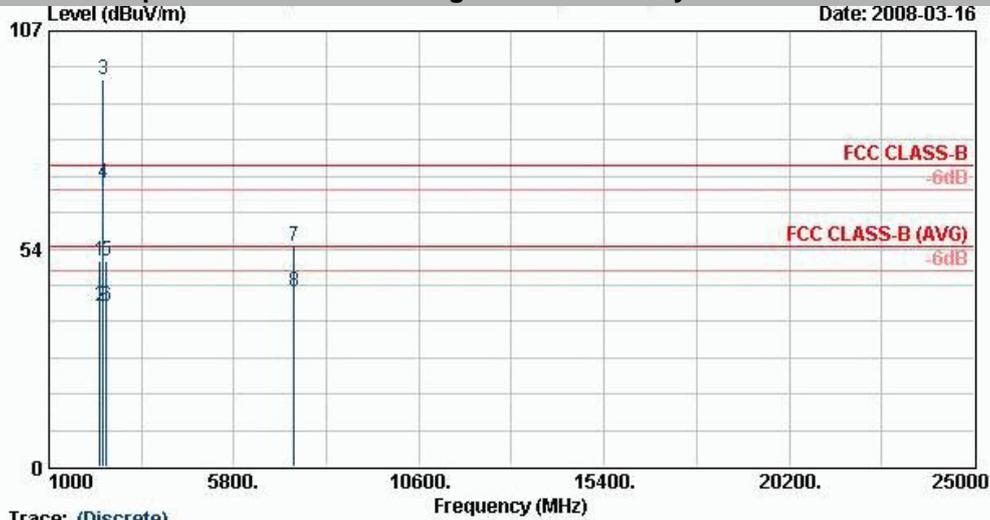
Trace: (Discrete)

Site : 03CH06-HY
 Condition : FCC CLASS-B 3m LF-ANT(951121) VERTICAL
 EUT : Smart Phone WCDMA(band 1/YTIT)+GSM/GPRS
 : /EDGE(850/900/1800/1900)
 Power : 120Vac/60Hz
 Model : FR 830418-01
 Memo : Mode 1
 Data Rate : 2DH1
 Plane : E1
 T&ET : 35835301005957501

	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	31.08	32.02	-7.98	40.00	46.23	18.95	0.30	33.46	---	---	Peak
2	38.10	32.83	-7.17	40.00	51.21	14.56	0.30	33.24	---	---	Peak
3	46.47	33.44	-6.56	40.00	56.22	10.04	0.30	33.12	100	204	Peak
4	575.80	21.12	-24.88	46.00	34.88	18.22	1.00	32.98	---	---	Peak
5	784.40	22.52	-23.48	46.00	34.30	19.68	1.20	32.65	---	---	Peak
6	897.80	22.46	-23.54	46.00	33.44	20.52	1.30	32.80	---	---	Peak

• Polarization : Vertical (1GHz-25GHz)

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



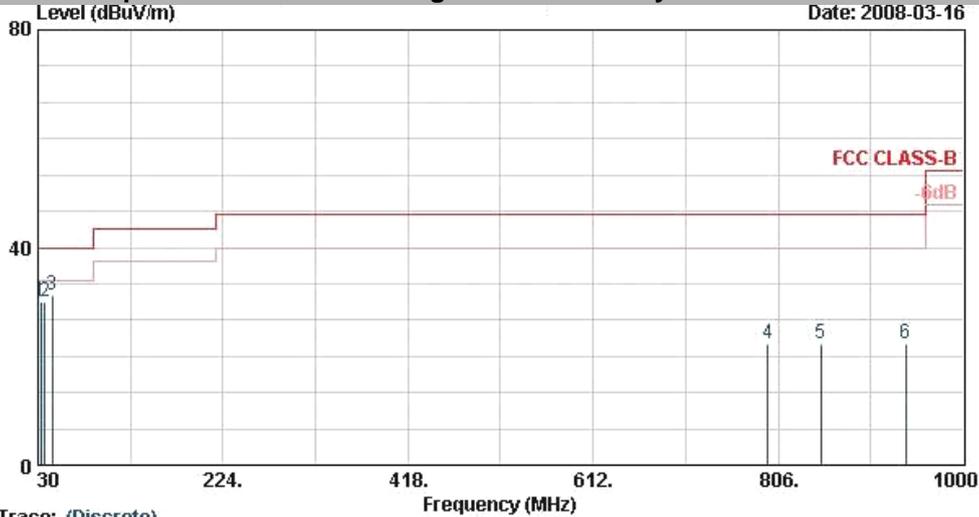
Trace: (Discrete)
 Site : D3CH06-HY
 Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
 EUT : Smart Phone WCDMA(band 1/YTIT)+GSM/GPRS
 /EDGE(850/900/1800/1900)
 Power : 120Vac/60Hz
 Model : FR 830418-01
 Memo : Mode 1
 Data Rate : 2DH1
 Plane : E1
 T&ET : 35835301005957501

	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	2322.16	50.38	-23.62	74.00	50.36	31.81	3.89	35.67	100	0	Peak
2	2322.16	39.35	-14.65	54.00	39.43	31.76	3.82	35.67	110	250	Average
3 @	2402.00	94.91			94.82	31.86	3.92	35.68	100	0	Peak
4 X	2402.00	69.76			69.66	31.86	3.92	35.68	110	250	Average
5	2484.00	50.69	-23.31	74.00	50.36	31.98	4.05	35.70	100	0	Peak
6	2484.00	39.50	-14.50	54.00	39.17	31.98	4.05	35.70	110	250	Average
7	7356.00	53.98	-20.02	74.00	47.25	35.66	7.22	36.14	100	0	Peak
8	7356.00	42.88	-31.12	74.00	36.15	35.66	7.22	36.14	100	241	Peak

Remark: #3 and #4 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.



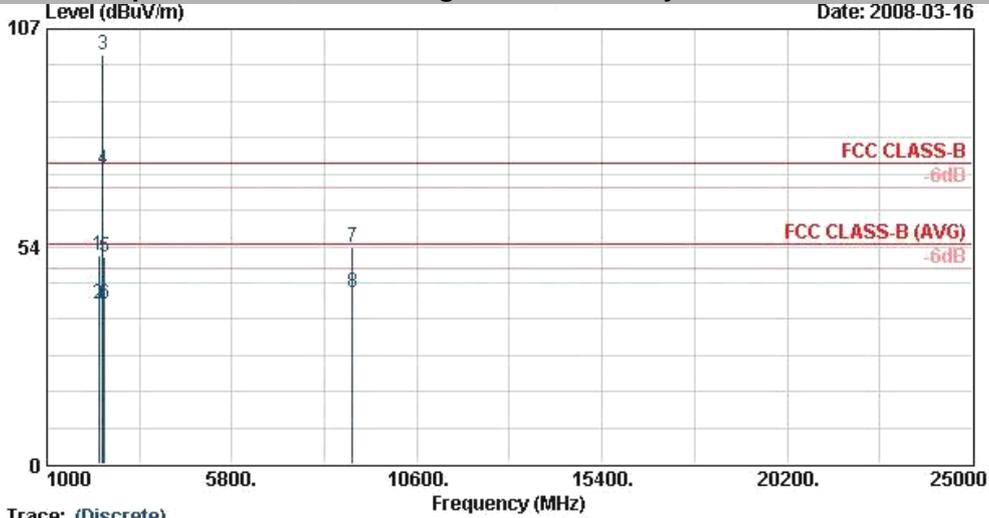
Trace: (Discrete)

Site : 03CH06-HY
 Condition : FCC CLASS-B 3m LF-ANT(051121) HORIZONTAL
 EUT : Smart Phone WCDMA(band 1/YTIT)+GSM/GPRS
 /EDGE(850/900/1800/1900)
 Power : 120Vac/60Hz
 Model : FR 830418-01
 Memo : Mode 2
 Data Rate : 2DH1
 Plane : E1
 TMET : 35835301005957501

	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	33.24	29.99	-10.01	40.00	45.52	17.54	0.30	33.38	---	---	Peak
2	37.29	30.16	-9.84	40.00	48.55	14.56	0.30	33.24	---	---	Peak
3	44.58	31.10	-8.90	40.00	52.89	11.02	0.30	33.11	100	121	Peak
4	794.90	22.20	-23.80	46.00	33.81	19.77	1.20	32.59	---	---	Peak
5	850.90	22.37	-23.63	46.00	33.67	20.18	1.20	32.68	---	---	Peak
6	939.80	22.34	-23.66	46.00	32.83	20.81	1.20	32.51	---	---	Peak

• Polarization : Horizontal (1GHz-25GHz)

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



Trace: (Discrete)

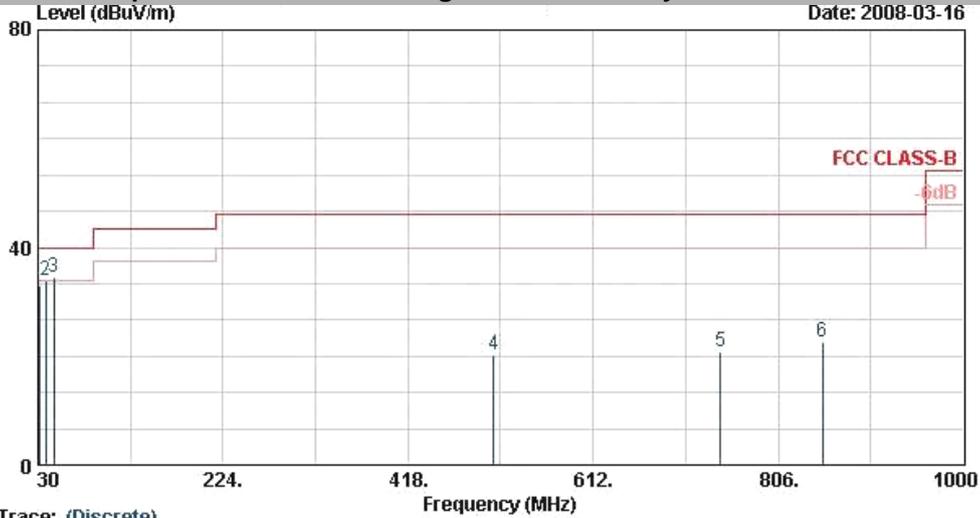
Site : D3CH06-HY
 Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
 EUT : Smart Phone WCDMA(band 1/VIIT)+GSM/GPRS
 /EDGE(850/900/1800/1900)
 Power : 120Vac/60Hz
 Model : FR 830418-01
 Memo : Mode 2
 Data Rate : 2DH1
 Plane : E1
 IMEI : 35835301005957501

	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	2354.00	51.46	-22.54	74.00	51.47	31.81	3.86	35.67	100	0	Peak
2	2354.00	39.41	-14.59	54.00	39.42	31.81	3.86	35.67	127	15	Average
3 @	2441.00	100.82			100.59	31.93	3.99	35.69	100	0	Peak
4 X	2441.00	72.41			72.19	31.93	3.99	35.69	127	15	Average
5	2498.00	50.94	-23.06	74.00	50.59	32.00	4.05	35.70	100	0	Peak
6	2498.00	39.52	-14.48	54.00	39.17	32.00	4.05	35.70	127	15	Average
7	8931.00	53.11	-20.89	74.00	45.55	36.41	7.71	36.56	100	0	Peak
8	8931.00	42.18	-11.82	54.00	34.62	36.41	7.71	36.56	100	153	Average

Remark: #3 and #4 are Fundamental Signals.

• Polarization : Vertical (30MHz-1GHz)

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



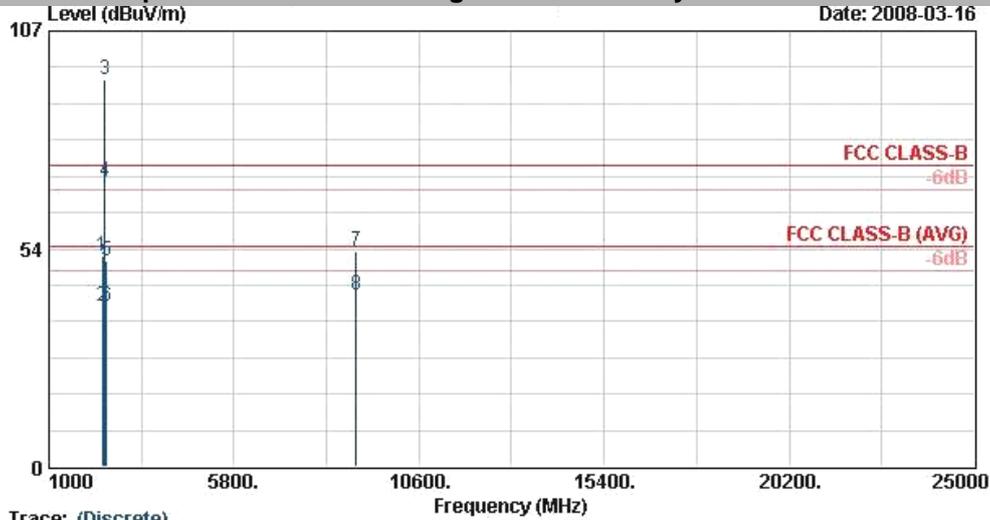
Trace: (Discrete)

Site : 03CH06-HY
 Condition : FCC CLASS-B 3m LF-ANT(951121) VERTICAL
 EUT : Smart Phone WCDMA(band 1/YTIT)+GSM/GPRS
 : /EDGE(850/900/1800/1900)
 Power : 120Vac/60Hz
 Model : FR 830418-01
 Memo : Mode 2
 Data Rate : 2DH1
 Plane : E1
 T&ET : 35835301005957501

	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	31.08	33.02	-6.98	40.00	47.23	18.95	0.30	33.46	---	---	Peak
2	37.83	33.87	-6.13	40.00	52.25	14.56	0.30	33.24	---	---	Peak
3 !	46.74	34.55	-5.45	40.00	57.34	10.04	0.30	33.12	100	203	Peak
4	507.90	20.25	-25.75	46.00	35.06	17.51	1.00	33.31	---	---	Peak
5	745.90	20.87	-25.13	46.00	33.35	19.31	1.10	32.89	---	---	Peak
6	852.30	22.61	-23.39	46.00	33.91	20.19	1.20	32.69	---	---	Peak

• Polarization : Vertical (1GHz-25GHz)

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



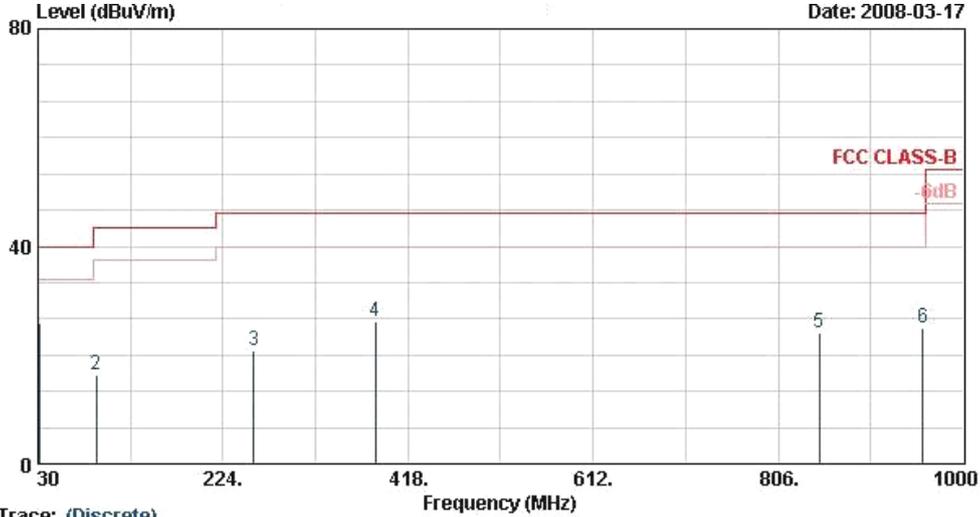
Trace: (Discrete)
 Site : D3CH06-HY
 Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
 EUT : Smart Phone WCDMA(band 1/YTIT)+GSM/GPRS
 : /EDGE(850/900/1800/1900)
 Power : 120Vac/60Hz
 Model : FR 830418-01
 Memo : Mode 2
 Data Rate : 2DH1
 Plane : E1
 T&ET : 35835301005957501

	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	2384.00	51.75	-22.25	74.00	51.68	31.83	3.92	35.68	100	0	Peak
2	2384.00	39.48	-14.52	54.00	39.40	31.83	3.92	35.68	102	252	Average
3 @	2441.00	94.98			94.75	31.93	3.99	35.69	100	0	Peak
4 X	2441.00	69.82			69.60	31.93	3.99	35.69	102	252	Average
5	2500.00	50.64	-23.36	74.00	50.29	32.00	4.05	35.70	100	0	Peak
6	2500.00	39.51	-14.49	54.00	39.16	32.00	4.05	35.70	102	252	Average
7	8967.00	52.81	-21.19	74.00	45.15	36.45	7.77	36.57	100	0	Peak
8	8967.00	42.27	-11.73	54.00	34.62	36.45	7.77	36.57	100	189	Average

Remark: #3 and #4 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.

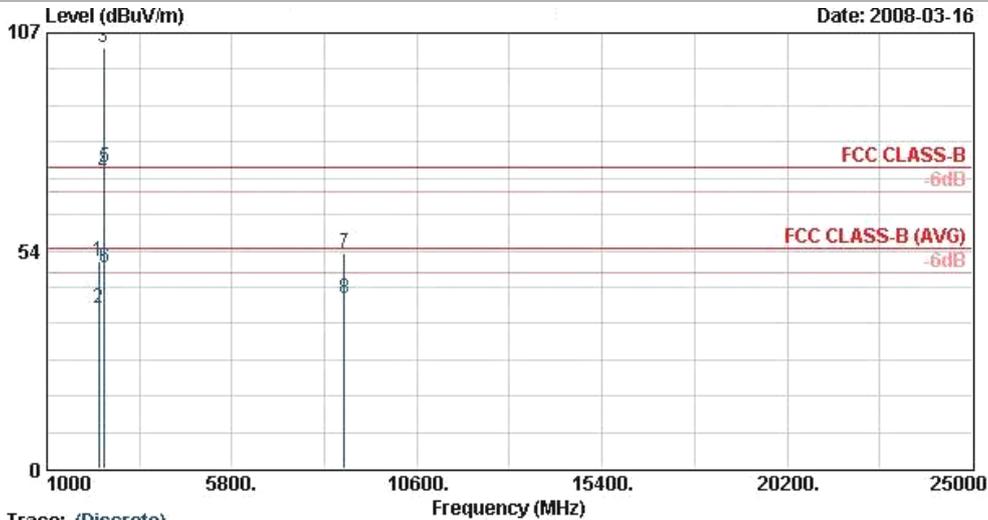


Trace: (Discrete)
 Site : 03CH06-HY
 Condition : FCC CLASS-B 3m LF-ANT(951121) HORIZONTAL
 EUT : Smart Phone WCDMA(band 1/YT11)+GSM/GPRS
 : /EDGE(850/900/1800/1900)
 Power : 120Vac/60Hz
 Model : FR 830418-01
 Memo : Mode 3
 Data Rate : 2DH1
 Plane : E1
 TMET : 35835301005957501

	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	31.08	25.86	-14.14	40.00	40.07	18.95	0.30	33.46	100	209	Peak
2	91.29	16.38	-27.12	43.50	39.95	9.23	0.50	33.30	---	---	Peak
3	255.99	20.76	-25.24	46.00	41.10	12.38	0.70	33.42	---	---	Peak
4	383.30	26.12	-19.88	46.00	43.01	15.34	0.87	33.10	---	---	Peak
5	848.80	24.09	-21.91	46.00	35.40	20.16	1.20	32.68	---	---	Peak
6	957.30	25.00	-21.00	46.00	35.17	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)

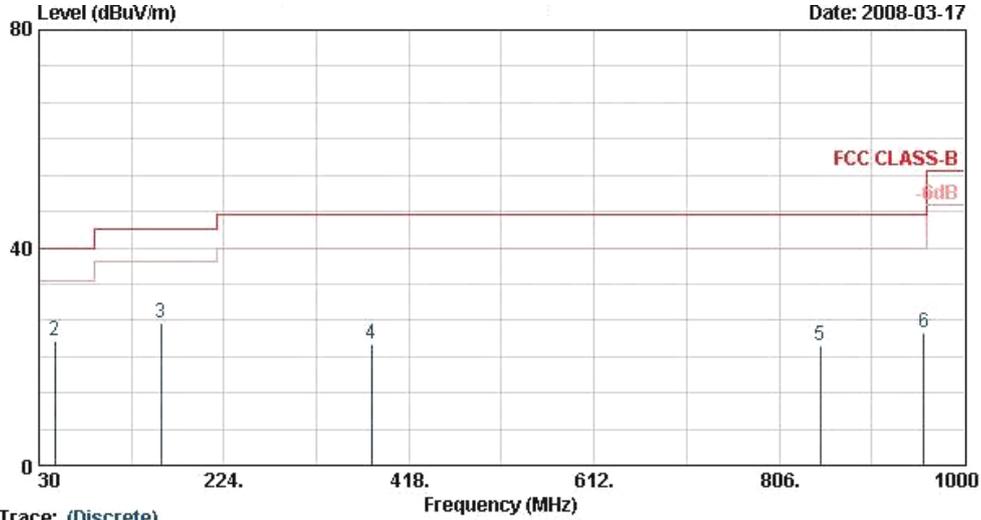
Site : 03CH06-HY
 Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
 EUT : Smart Phone WCDMA(band 1/YT1T)+GSM/GPRS
 /EDGE(850/900/1800/1900)
 Power : 120Vac/60Hz
 Model : FR 830418-01
 Memo : Mode 3
 Data Rate : 2DHI
 Plane : E1
 TMET : 35835301005957501

	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	2354.00	51.08	-22.92	74.00	51.09	31.81	3.86	35.67	100	0 Peak
2	2354.00	39.42	-14.58	54.00	39.43	31.81	3.86	35.67	100	14 Average
3 @	2480.00	103.30			102.97	31.98	4.05	35.70	100	0 Peak
4 X	2480.00	72.33			72.00	31.98	4.05	35.70	100	14 Average
5 !	2483.47	73.80	-0.20	74.00	73.47	31.98	4.05	35.70	100	0 Peak
6 !	2483.47	49.41	-4.59	54.00	49.08	31.98	4.05	35.70	100	14 Average
7	8706.00	52.99	-21.01	74.00	45.88	36.08	7.45	36.42	100	0 Peak
8	8706.00	41.95	-12.05	54.00	34.84	36.08	7.45	36.42	100	211 Average

Remark: #3 and #4 are Fundamental Signals.

- Polarization : Vertical (30MHz-1GHz)

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



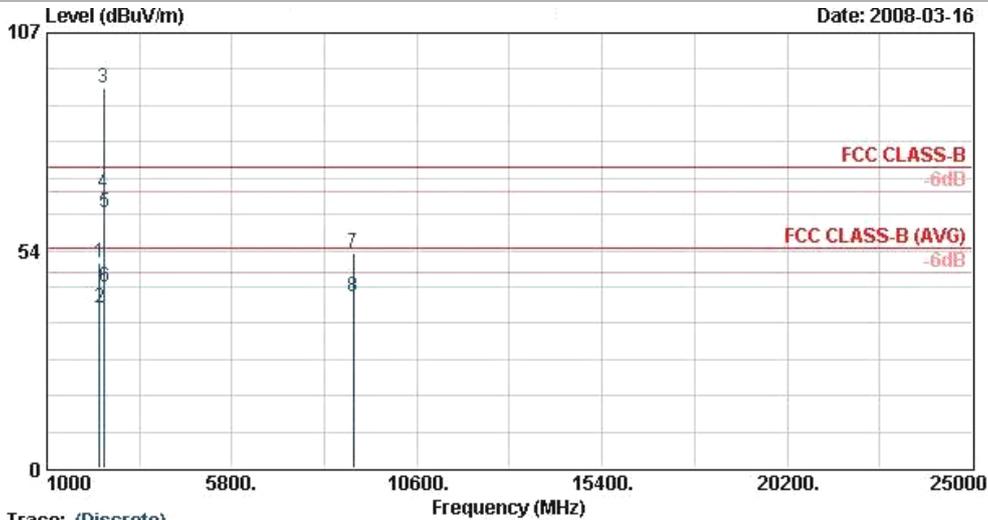
Trace: (Discrete)

Site : 03CH06-HY
 Condition : FCC CLASS-B 3m LF-ANT(951121) VERTICAL
 EUT : Smart Phone WCDMA(band 1/VTTT)+GSM/GPRS
 : /EDGE(850/900/1800/1900)
 Power : 120Vac/60Hz
 Model : FR 830418-01
 Memo : Mode 3
 Data Rate : 2DH1
 Plane : E1
 T&ET : 35835301005957501

	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	30.54	29.77	-10.23	40.00	43.98	18.95	0.30	33.46	100	102	Peak
2	46.74	22.86	-17.14	40.00	45.64	10.04	0.30	33.12	---	---	Peak
3	157.98	26.30	-17.20	43.50	49.02	10.18	0.60	33.50	---	---	Peak
4	378.40	22.42	-23.58	46.00	39.44	15.22	0.88	33.11	---	---	Peak
5	848.80	22.08	-23.92	46.00	33.39	20.16	1.20	32.68	---	---	Peak
6	957.30	24.50	-21.50	46.00	34.67	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 : D3CH06-HY
 Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
 EUT : Smart Phone WCDMA(band 1/YT11)+GSM/GPRS
 /EDGE(850/900/1800/1900)
 Power : 120Vac/60Hz
 Model : FR 830418-01
 Memo : Mode 3
 Data Rate : 2DHI
 Plane : E1
 TWT : 35835301005957501

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	Remark
			dB	dBuV/m	dBuV	dB	dB	cm	deg	
1	2368.00	50.69	-23.31	74.00	50.67	31.81	3.89 35.68	100	0	Peak
2	2368.00	39.42	-14.58	54.00	39.40	31.81	3.89 35.68	102	95	Average
3 @	2480.00	93.56			93.23	31.98	4.05 35.70	100	0	Peak
4 X	2480.00	67.55			67.22	31.98	4.05 35.70	102	95	Average
5	2483.47	62.89	-11.11	74.00	62.56	31.98	4.05 35.70	100	0	Peak
6	2483.47	44.70	-9.30	54.00	44.37	31.98	4.05 35.70	102	95	Average
7	8952.00	53.00	-21.00	74.00	45.40	36.43	7.74 36.57	100	0	Peak
8	8952.00	42.22	-11.78	54.00	34.62	36.43	7.74 36.57	100	182	Average

Remark: #3 and #4 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 Antennas for Bluetooth and 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)
Double Ridge Horn Antenna	EMCO	3117	66583	1G~18G	Aug. 29, 2007	Aug. 28, 2008	Radiation (03CH06-HY)
Spectrum Analyzer	Agilent	E4408B	MY44211028	9KHz~26.5GHz	Oct. 17, 2007	Oct. 16, 2008	Radiation (03CH06-HY)
SHF-EHF Horn	SCHWARZBECK	BBHA 9170	9170-251	15G~40GHz	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)
Bilog Antenna	SCHAFFNER	CBL6112B	2885	30MHz~2GHz	Dec. 01, 2007	Nov. 31, 2008	Radiation (03CH06-HY)
Pre Amplifier	Agilent	310N	186713	9KHz~1GHz	Apr. 21, 2008	Apr. 20, 2009	Radiation (03CH06-HY)
EMI Test Receiver	R&S	ESVS10	834468/003	20~1000MHz	Apr. 24, 2008	Apr. 23, 2009	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% , ($k = 2$)



Appendix A. Photographs of EUT

Please refer to Sporton report number EP830418-01 as below.