



FCC Test Report

for

47 CFR Part 15 Subpart C

Equipment : Pocket PC Phone

Model No. : NEON100(HT1100)

FCC ID : NM8NEON100

Filing Type : Certification

Applicant : High Tech Computer Corp.

1F, No.6-3, Baoqiang Rd, Xindian City, Taipei, Taiwan

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- **Certificate or Test Report must not be used by the applicant to claim the product in this test report endorsement by NVLAP or any agency of U.S. government.**
- The data shown in this test report were carried out on Oct. 10, 2007 at **Sporton International Inc. LAB.**
- Report No.: FR792103, Report Version: Rev.01

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1. General Description of Equipment under Test

1.1 Applicant

High Tech Computer Corp.

1F, No.6-3, Baoqiang Rd, Xindian City, Taipei, Taiwan

1.2 Manufacturer

High Tech Computer Corp.

1F, No.6-3, Baoqiang Rd, Xindian City, Taipei, Taiwan



1.3 Basic Description of Equipment under Test

Equipment		Pocket PC Phone
Model Name		NEON100(HT1100)
FCC ID		NM8NEON100
AC Adapter A	Brand Name	PhiHong
	Model Name	PSA105R-050Q
	Power Rating	I/P:100-240Vac, 50-60Hz, 0.3A; O/P: 5Vdc, 1A
	AC Power Cord Type	1.8 meter shielded cable without ferrite non-core
AC Adapter B	Brand Name	PhiHong
	Model Name	PSAA05X-050
	Power Rating	I/P:100-240Vac, 50-60Hz, 200mA; O/P: 5Vdc, 1A
	AC Power Cord Type	1.8 meter shielded cable without ferrite non-core
Battery	Manufacturer	Simplo
	Brand Name	hTC
	Model Name	NEON160
	Power Rating	3.7Vdc, 1000mAh
	Type	Li-ion
Earphone A	Brand Name	HTC
	Model Name	HS S168
	Signal Line Type	1.5 meter non-shielded cable without ferrite non-core
Earphone B	Brand Name	HTC
	Model Name	HS S200
	Signal Line Type	1.7 meter non-shielded cable without ferrite non-core
USB Cable	Brand Name	MEC
	Model Name	60-4251-100
	Signal Line Type	1.2 meter shielded cable with ferrite non-core
Holster	Brand Name	NewTech
	Model Name	HTC494-31

Remark:

1. Above EUT's information was declared by manufacturer. Please refer to the specifications of manufacturer or User's Manual for more detailed features description.
2. PSAA05X-050(X=A,C,E,K or S), have the same circuit design, the difference between these models are plug, only PSAA05E-050 used for testing.



1.4 Feature of Equipment under Test

Product Feature & Specification			
1. Type of Modulation	1Mbps : GFSK 2Mbps : /4-DQPSK 3Mbps : 8-DPSK		
2. Number of Channels	2400 MHz ~ 2483.5 MHz		
3. Frequency Band	79		
4. Carrier Frequency of each channel	2402+n x 1 MHz; n = 0~78		
5. Channel Spacing	1 MHz		
6. HW Version	XC01		
7. SW Version	25.50.30.01		
8. Maximum Output Power to Antenna	1.18 dBm (BT_1Mbps) ; 2.23 dBm (BT_EDR_2Mbps) ; 2.47 dBm (BT_EDR_3Mbps)		
9. Type of Antenna Connector	N/A		
10. Antenna Type	PIFA Antenna		
11. Antenna Gain	1 dBi		
12. Function Type	Transmitter		Transceiver V



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, 3Mbps, was chosen to being tested, due to the highest RF output power.

Channel	Frequency	Data Rate/ Modulation		
		GFSK	/4-DQPSK	8-DPSK
		1Mbps	2Mbps	3Mbps
Ch00	2400MHz	1.18 dBm	2.23 dBm	2.47 dBm
Ch39	2441MHz	0.71 dBm	1.63 dBm	1.85 dBm
Ch78	2480MHz	0.32 dBm	1.19 dBm	1.46 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 25000MHz.

2.2 Test Mode

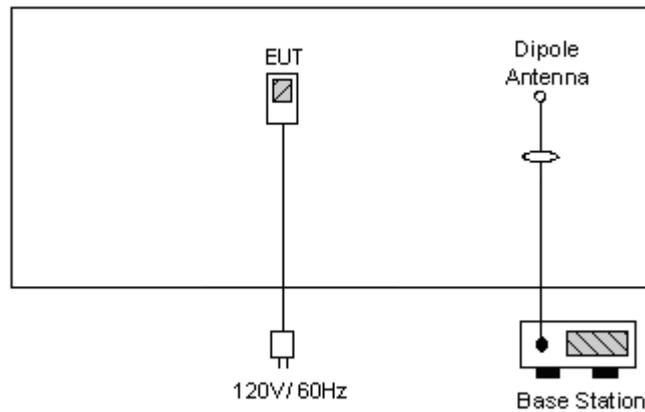
Application			
Radiated Emission	BT Tx	BT Tx(EDR 2Mbps)	BT Tx(EDR 3Mbps)
	Mode 1: CH78_2480 MHz	Mode 2: CH78_2480 MHz	Mode 3: CH00_2402 MHz Mode 4: CH39_2441 MHz Mode 5: CH78_2480 MHz
Conducted Emission	Mode 1: GSM850 Idle Mode + BT Link + Camera A + Adapter A Mode 2: GSM850 Idle Mode + BT Link + Camera B + Adapter A Mode 3: GSM850 Idle Mode + BT Link + Camera A + Adapter B Mode 4: GSM850 Idle Mode + BT Link + Camera A + USB Link Mode 5: EDGE Idle Mode + BT Link + Camera A + Adapter B Mode 6: WCDMA Idle Mode + BT Link + Camera A + Adapter B Mode 7: HSDPA Idle Mode + BT Link + Camera A + Adapter B Mode 8: PCS1900 Idle Mode + BT Link + Camera A + Adapter B		

2.3 Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable / Power Cord
1.	NOTEBOOK	DELL	D400	E2K24GBRL	1.2m
2.	Base Station	Anritus	8852A	N/A	1.8m
3.	Bluetooth Earphone	Engotech	ET-BH111	PQY471087	N/A
4.	(RS-232)Mouse	State	MS-303	DoC	Weave-shielded, 1.2 m
5.	iPod	Apple	A1199	DoC	1.2m

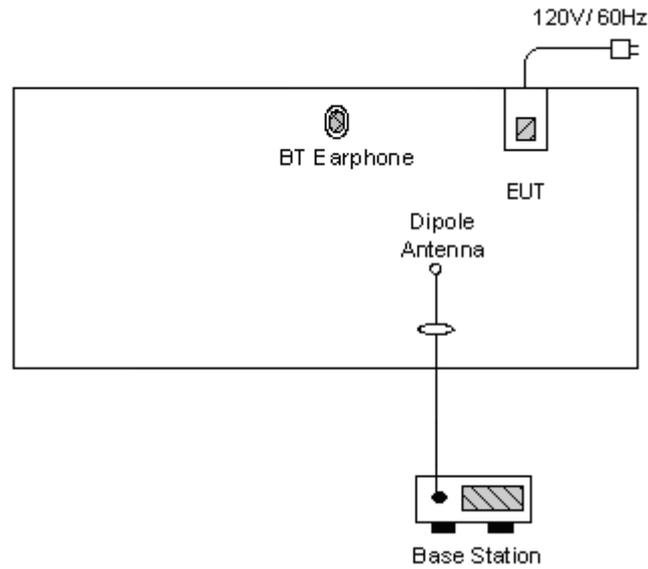
2.4 Connection Diagram of Test System

<Radiated Emission>

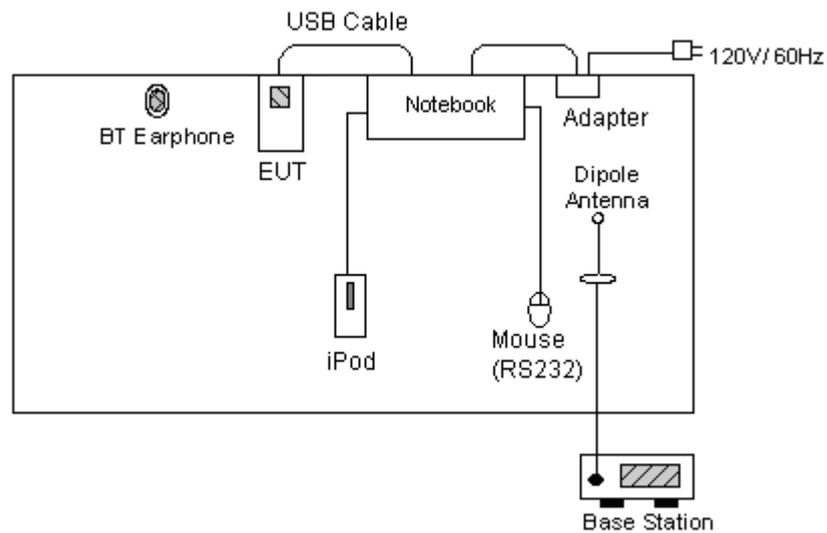


<Conducted Emission>

Phone with Adapter Mode



Phone with USB Link Mode





3. RF Utility

The programmed RF Utility is installed in EUT to provide channel selection, power level, data rate and the application type. RF Utility can send transmitting signal for all 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 : CO01-HY, 03CH04-HY

4.1 Test Voltage

AC 120V / 60Hz

4.2 Standard for Methods of Measurement

ANSI C63.4-2003

4.3 Test Compliance

47 CFR Part 15 Subpart C

4.4 Frequency Range

- a. Conduction: from 150 kHz to 30 MHz
- b. Radiation: from 30 MHz to 25000 MHz

4.5 Test Distance

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



5. Test Data and Test Result

5.1 List of Measurements and Examinations

The Emission Mode: Bluetooth

FCC Rule	Description of Test	Result
15.207	Conducted Emission	Pass
15.247(a)(2)	6dB Bandwidth	Pass
15.247(b)	Maximum Peak Output Power	Pass
15.209(a)	Radiated Emission	Pass
15.247 (c)	100kHz Bandwidth of Frequency	Pass
15.247(d)	Power Spectral Density	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 100kHz 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 : 26~27
- Relative Humidity : 49~51%
- Test Enginner : Ken

- 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

CH78 (Horizontal)

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2483.500	62.90	-11.10	74.00	64.60	28.26	3.84	33.80	100	0	Peak
2483.500	39.74	-14.26	54.00	41.44	28.26	3.84	33.80	100	358	Average

CH78 (Vertical)

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2483.500	59.73	-14.27	74.00	61.43	28.26	3.84	33.80	100	0	Peak
2483.500	38.86	-15.14	54.00	40.56	28.26	3.84	33.80	100	153	Average

>BT EDR(2Mbps)

CH78 (Horizontal)

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2483.500	70.72	-3.28	74.00	72.42	28.26	3.84	33.80	100	0	Peak
2483.500	40.50	-13.50	54.00	42.20	28.26	3.84	33.80	100	359	Average

CH78 (Vertical)

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2483.500	67.87	-6.13	74.00	69.57	28.26	3.84	33.80	100	0	Peak
2483.500	39.56	-14.44	54.00	41.26	28.26	3.84	33.80	100	154	Average



>BT EDR(3Mbps)

CH00 (Horizontal)

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2390.000	57.16	-16.84	74.00	59.13	28.07	3.74	33.78	100	0	Peak
2390.000	30.26	-23.74	54.00	32.33	28.07	3.74	33.78	100	354	Average

CH00 (Vertical)

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2390.000	52.86	-21.14	74.00	54.83	28.07	3.74	33.78	100	0	Peak
2390.000	29.42	-24.58	54.00	31.39	28.07	3.74	33.78	100	150	Average

CH78 (Horizontal)

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2483.500	70.52	-3.48	74.00	72.22	28.26	3.84	33.80	100	0	Peak
2483.500	40.68	-13.32	54.00	42.38	28.26	3.84	33.80	100	359	Average

CH78 (Vertical)

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Remark
		Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2483.500	67.47	-6.53	74.00	69.17	28.26	3.84	33.80	100	0	Peak
2483.500	39.64	-14.36	54.00	41.34	28.26	3.84	33.80	100	154	Average



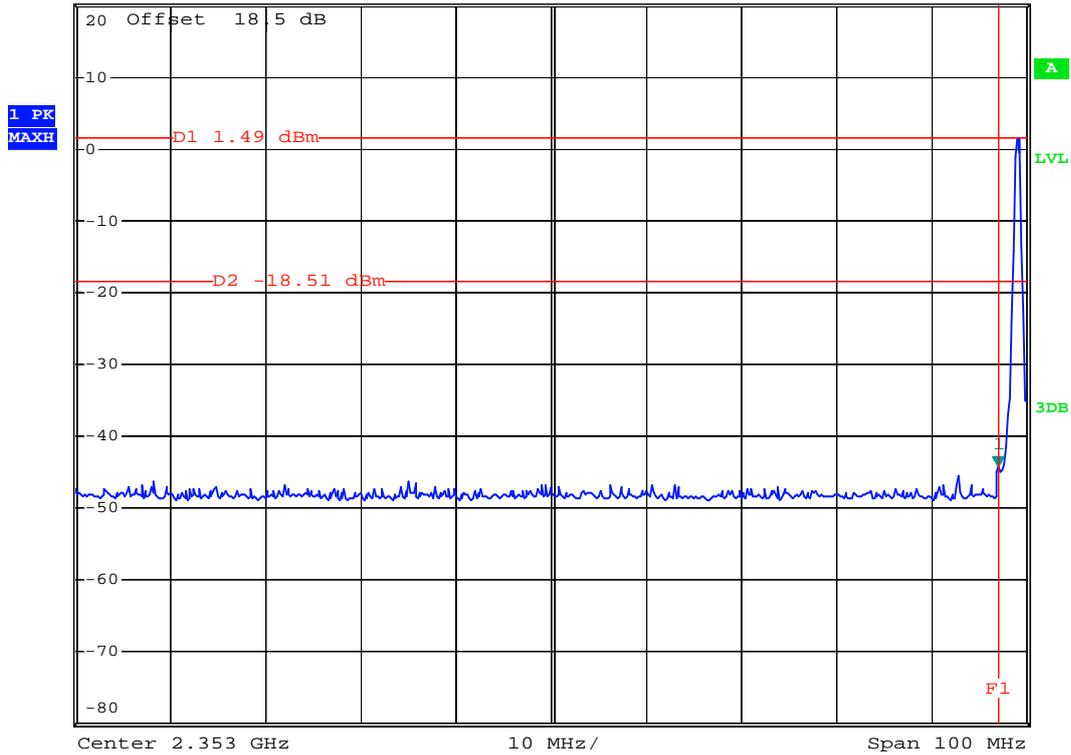
5.2.5 20dB Band Edge

BT

CH00



Ref 20 dBm *Att 20 dB *RBW 100 kHz Marker 1 [T1]
 *VBW 100 kHz -44.24 dBm
 *SWT 500 ms 2.400000000 GHz



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CH78

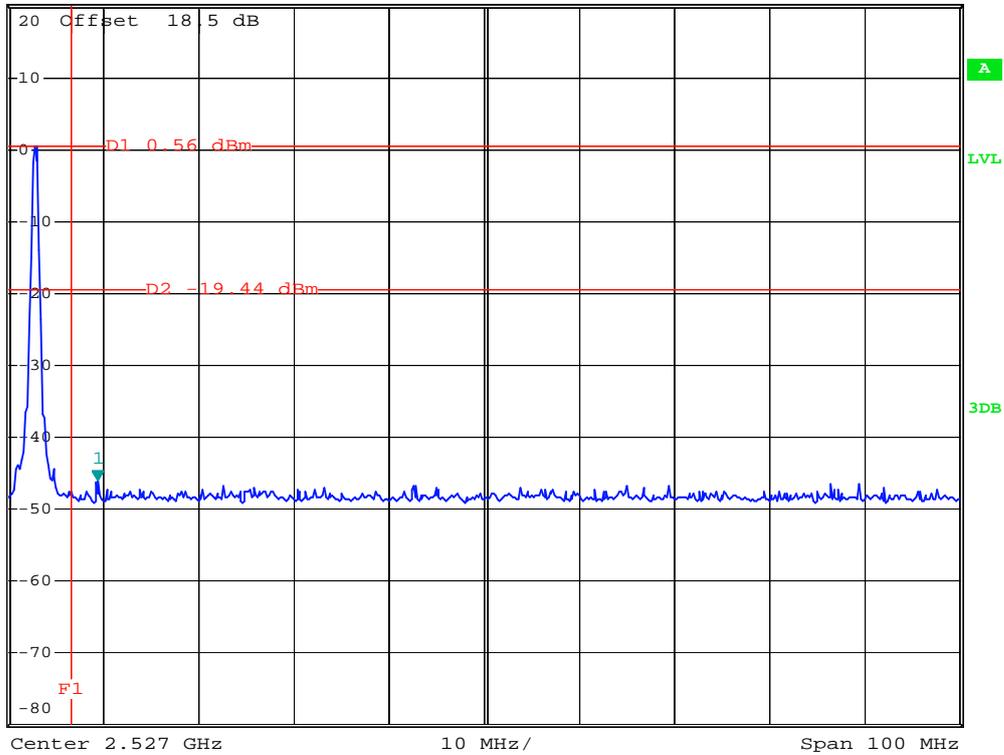


*RBW 100 kHz Marker 1 [T1]
*VBW 100 kHz -46.02 dBm
*SWT 500 ms 2.486400000 GHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



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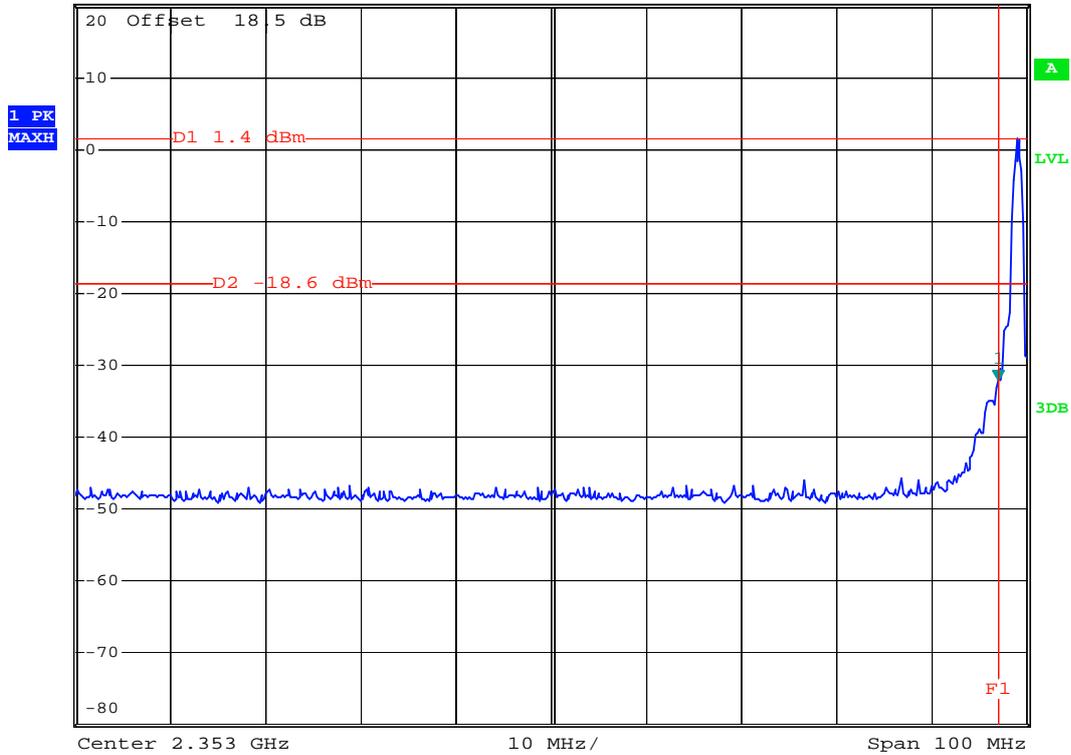


BT EDR(2Mbps)

CH00



Ref 20 dBm *Att 20 dB *RBW 100 kHz Marker 1 [T1]
*VBW 100 kHz -32.11 dBm
*SWT 500 ms 2.400000000 GHz



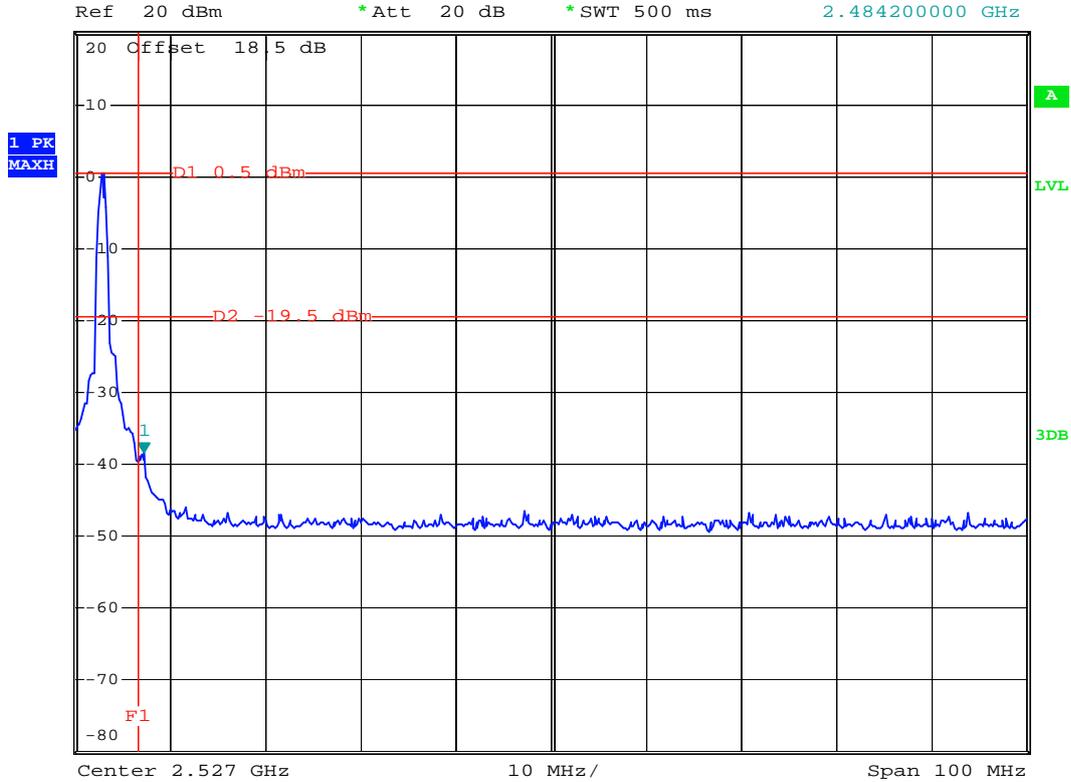
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CH78



*RBW 100 kHz Marker 1 [T1]
 *VBW 100 kHz -38.40 dBm
 *Att 20 dB
 *SWT 500 ms 2.48420000 GHz



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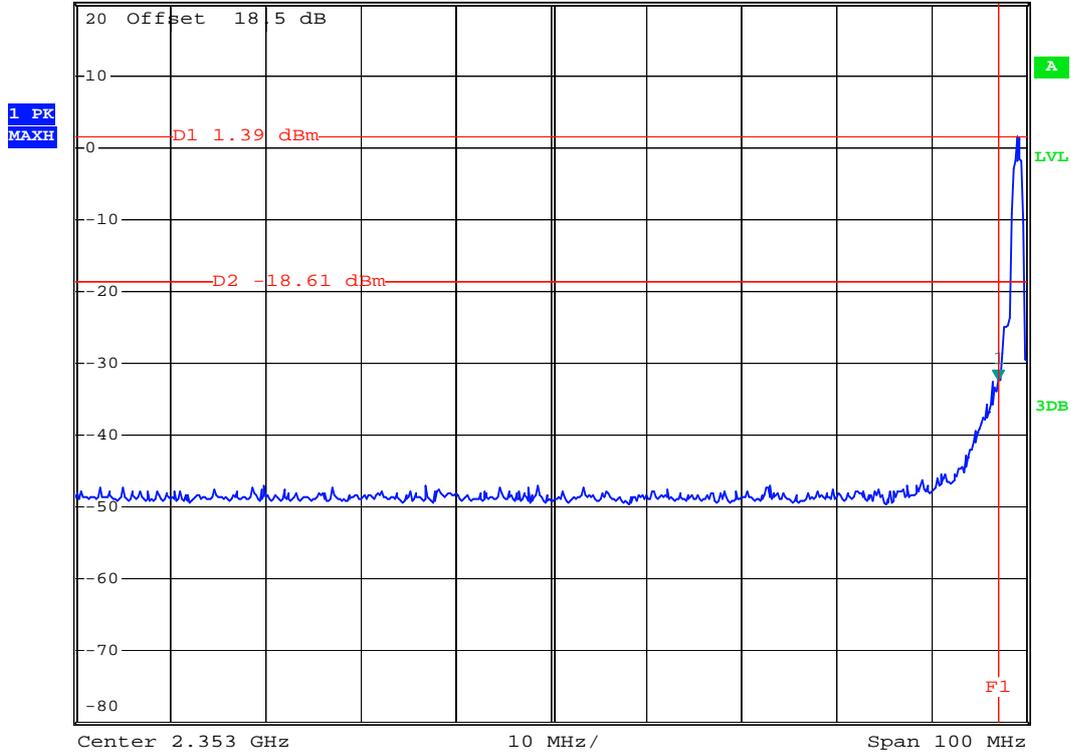


BT EDR(3Mbps)

CH00



Ref 20 dBm *Att 20 dB *RBW 100 kHz Marker 1 [T1]
 *VBW 100 kHz -32.35 dBm
 *SWT 500 ms 2.400000000 GHz



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CH78

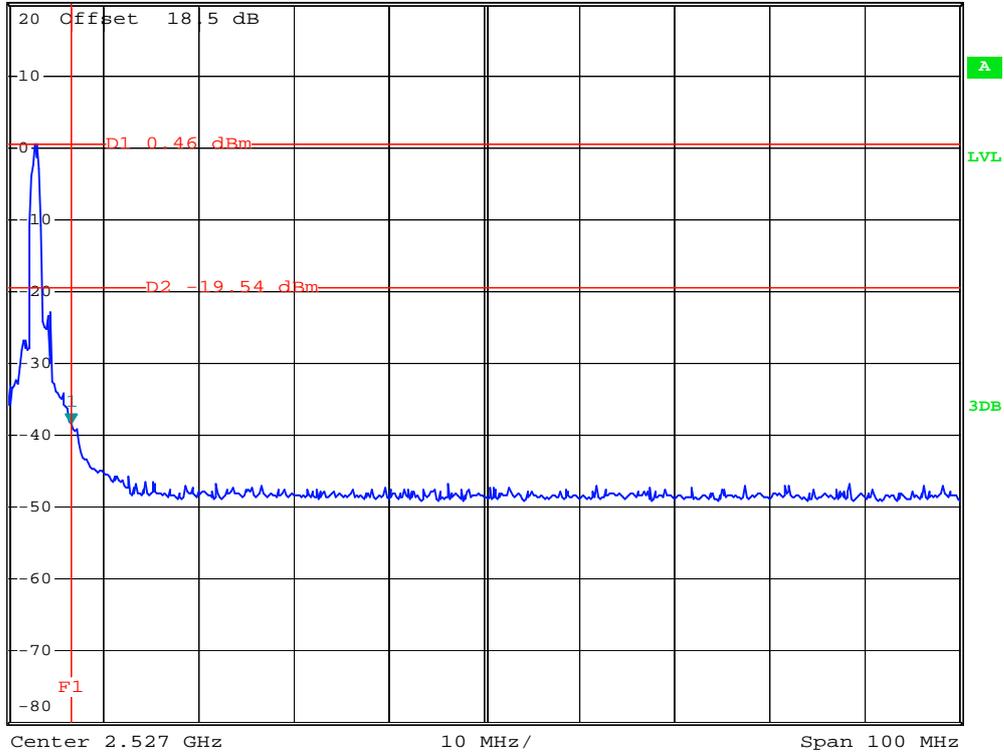


*RBW 100 kHz Marker 1 [T1]
*VBW 100 kHz -38.38 dBm
*SWT 500 ms 2.483600000 GHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



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5.3 Hopping Channel Separation

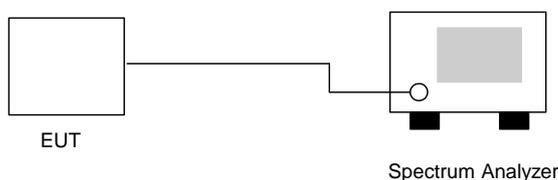
5.3.1 Measuring Instruments :

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 30kHz and VBW to 100kHz.
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
- Temperature : 26~27
- Relative Humidity : 49~51%
- Test Engineer : Ken

Channel	Frequency (MHz)	Carrier Frequency Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.000	0.504	Mode 1
39	2441	1.004	0.509	Mode 2
78	2480	1.000	0.507	Mode 3

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



- Application Type : BT EDR(2Mbps)
- Temperature : 26~27
- Relative Humidity : 49~51%
- Test Enginner : Ken

Channel	Frequency (MHz)	Carrier Frequency Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.000	0.853	Mode 4
39	2441	1.000	0.867	Mode 5
78	2480	1.008	0.883	Mode 6

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

- Application Type : BT EDR(3Mbps)
- Temperature : 26~27
- Relative Humidity : 49~51%
- Test Enginner : Ken

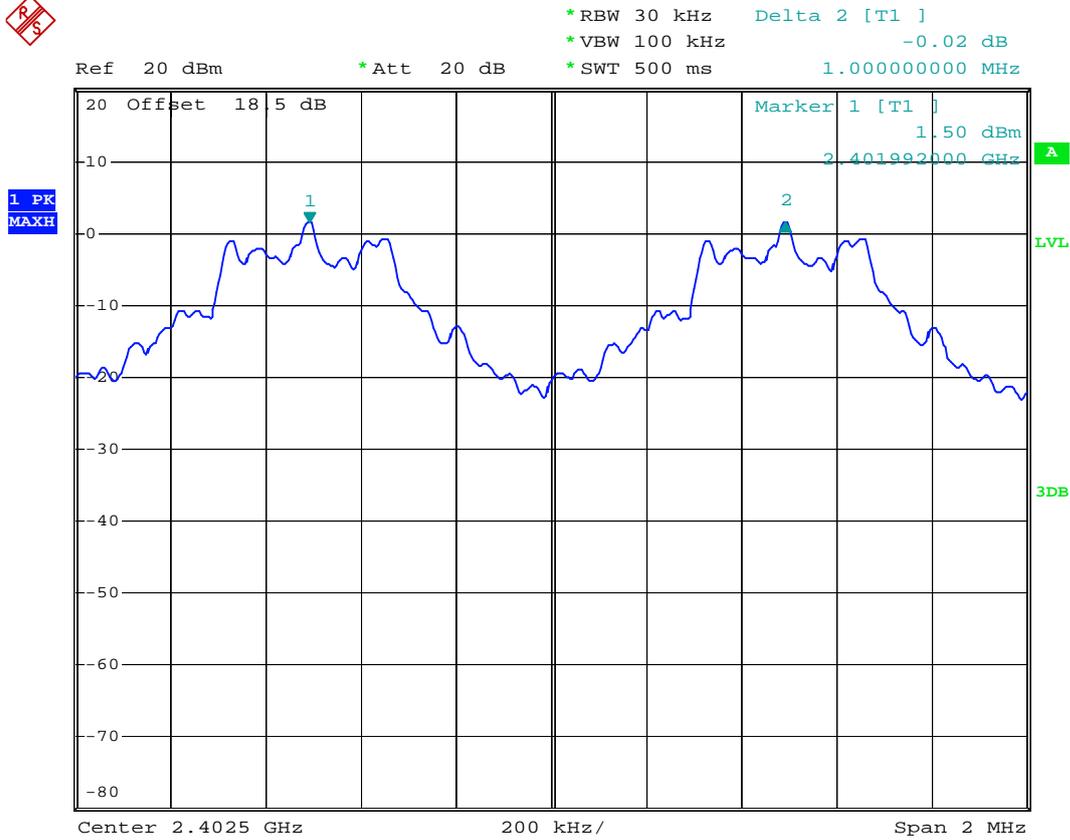
Channel	Frequency (MHz)	Carrier Frequency Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.000	0.848	Mode 7
39	2441	1.000	0.851	Mode 8
78	2480	1.008	0.859	Mode 9

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



5.3.5 Hopping Channel Separation

Mode 1



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Mode 2

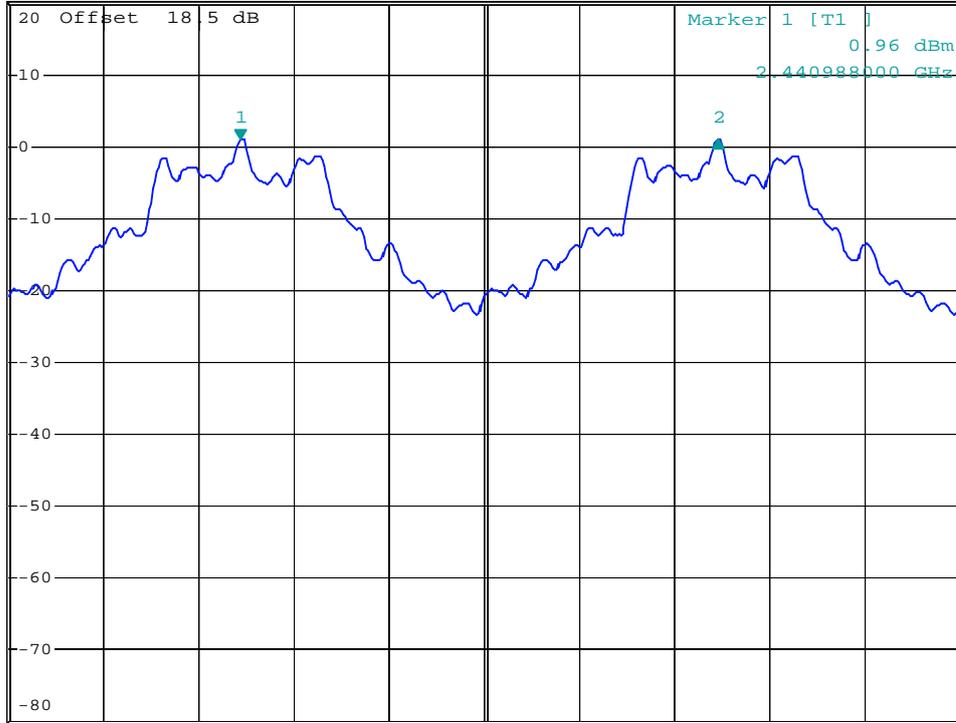


*RBW 30 kHz Delta 2 [T1]
*VBW 100 kHz 0.02 dB
*SWT 500 ms 1.004000000 MHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



Center 2.4415 GHz 200 kHz/ Span 2 MHz

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Mode 4

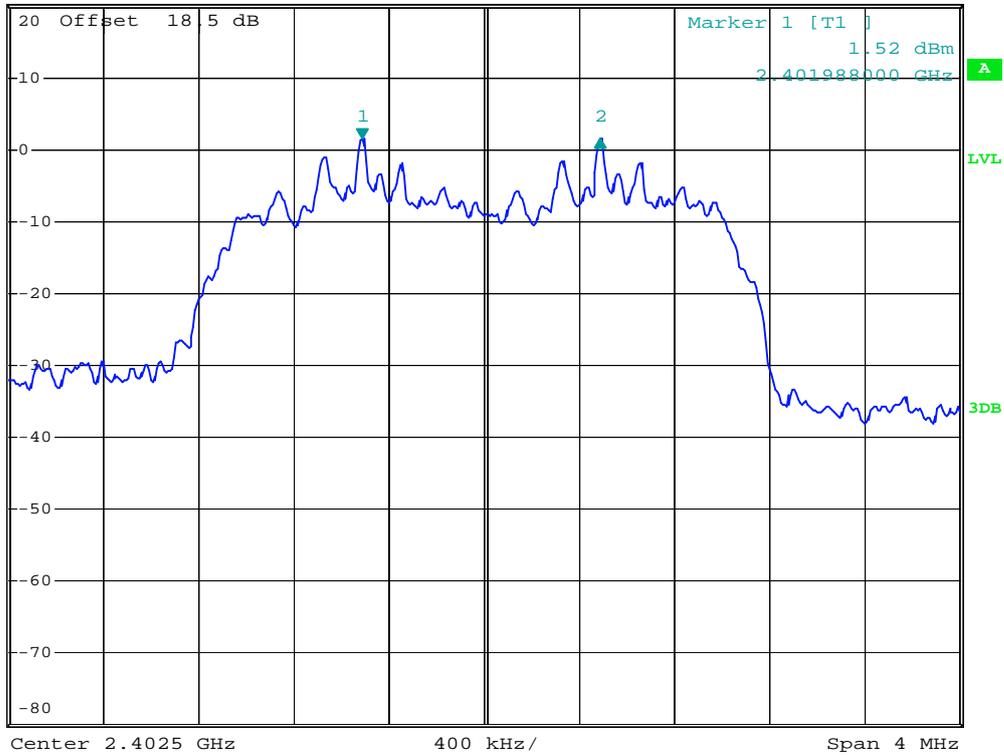


*RBW 30 kHz Delta 2 [T1]
*VBW 100 kHz -0.02 dB
*SWT 500 ms 1.000000000 MHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



Date: 27.SEP.2007 21:10:06



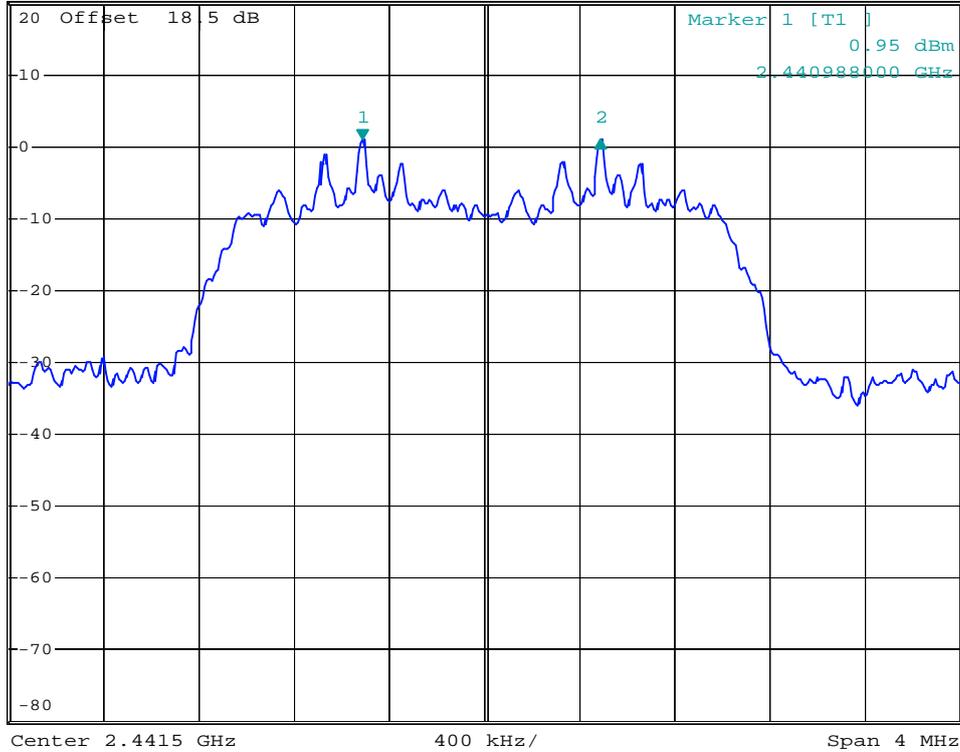
Mode 5



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

Ref 20 dBm

*Att 20 dB



Date: 27.SEP.2007 21:11:00



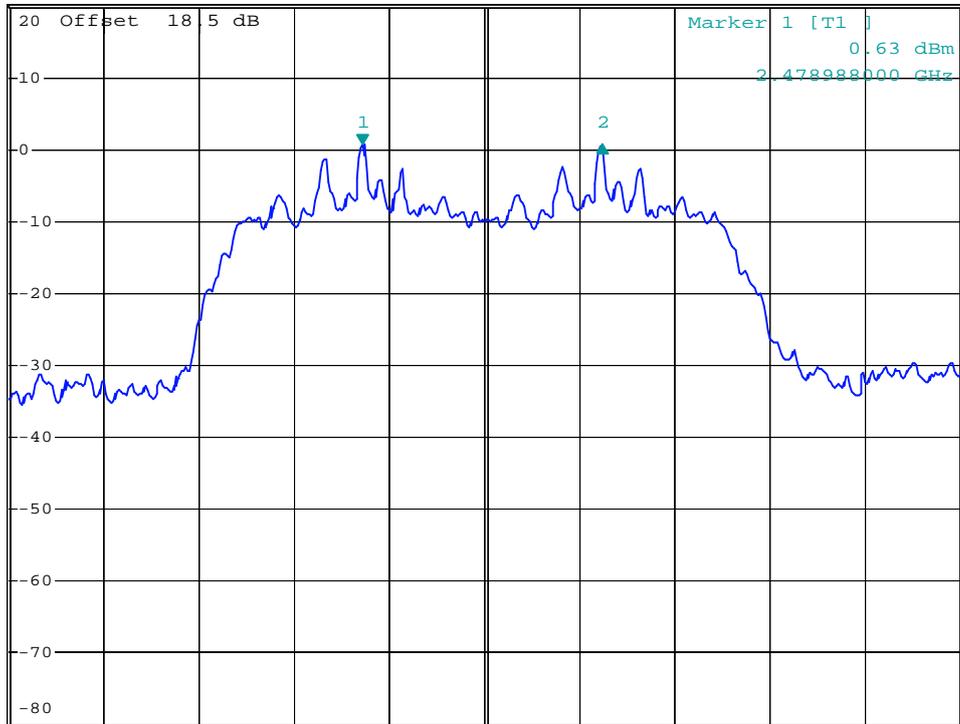
Mode 6



*RBW 30 kHz Delta 2 [T1]
 *VBW 100 kHz -0.06 dB
 *SWT 500 ms 1.008000000 MHz

Ref 20 dBm

*Att 20 dB



Center 2.4795 GHz

400 kHz/

Span 4 MHz

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Mode 7

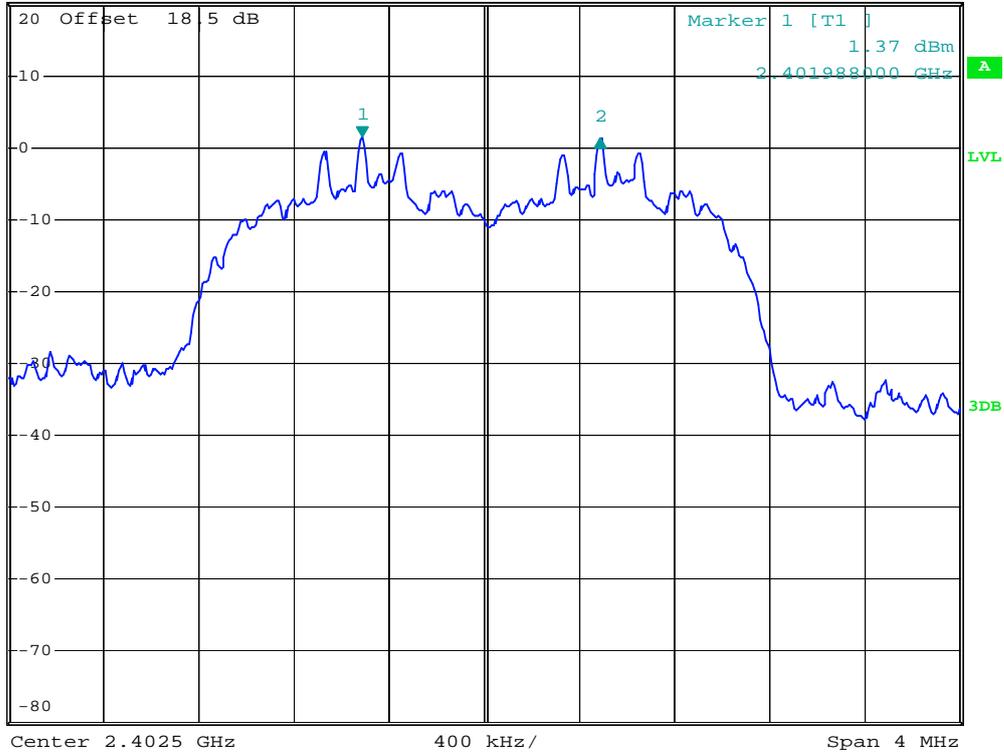


*RBW 30 kHz Delta 2 [T1]
*VBW 100 kHz -0.03 dB
*SWT 500 ms 1.000000000 MHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



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Mode 8

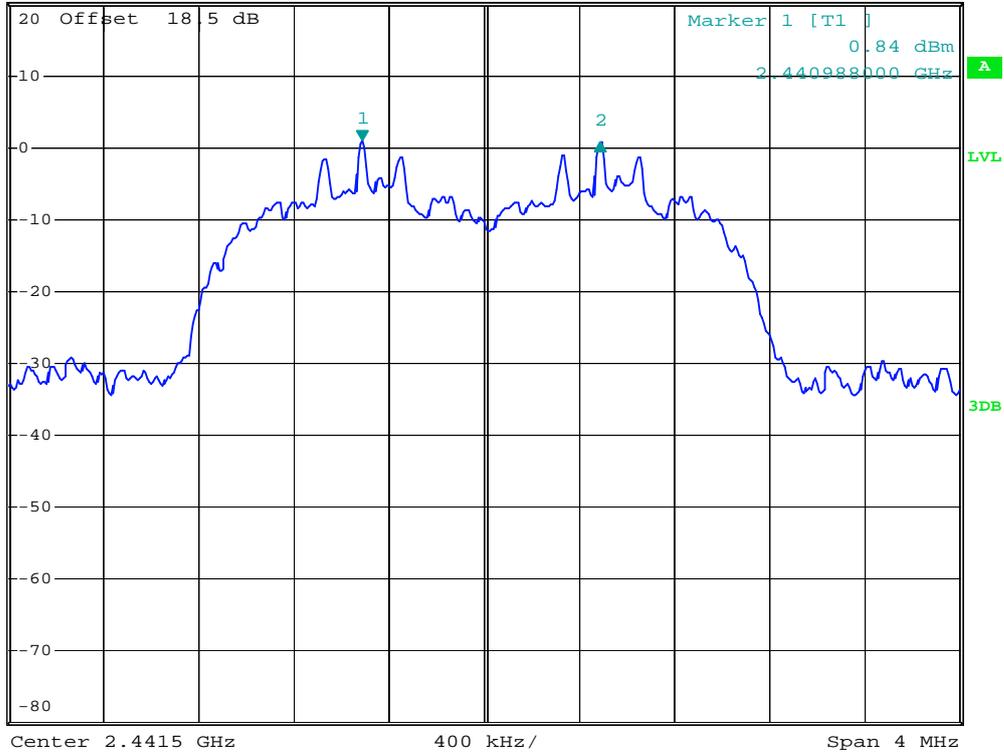


*RBW 30 kHz Delta 2 [T1]
 *VBW 100 kHz -0.01 dB
 *SWT 500 ms 1.000000000 MHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



Date: 27.SEP.2007 21:14:25



Mode 9

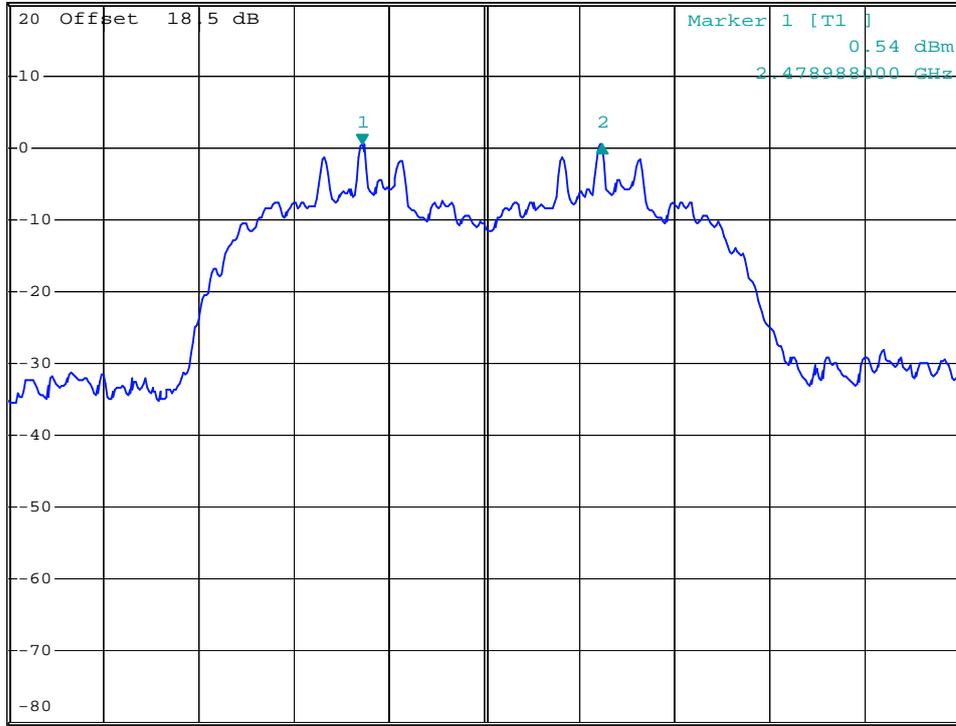


*RBW 30 kHz Delta 2 [T1]
*VBW 100 kHz -0.06 dB
*SWT 500 ms 1.008000000 MHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



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5.4 Number of Hopping Frequency

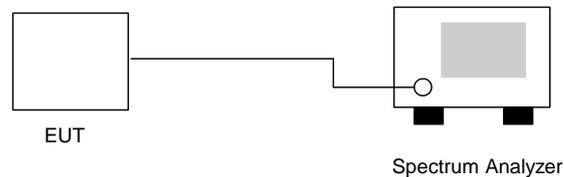
5.4.1 Measuring Instruments :

As described in chapter 9 of this test report.

5.4.2 Test Procedure :

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

5.4.3 Test Setup Layout :





5.4.4 Test Result : See spectrum analyzer plots below

- Application Type : BT
- Temperature : 26~27
- Relative Humidity : 49~51%
- Test Enginner : Ken

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

- Application Type : BT EDR(2Mbps)
- Temperature : 26~27
- Relative Humidity : 49~51%
- Test Enginner : Ken

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

- Application Type : BT EDR(3Mbps)
- Temperature : 26~27
- Relative Humidity : 49~51%
- Test Enginner : Ken

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



BT EDR(2Mbps)

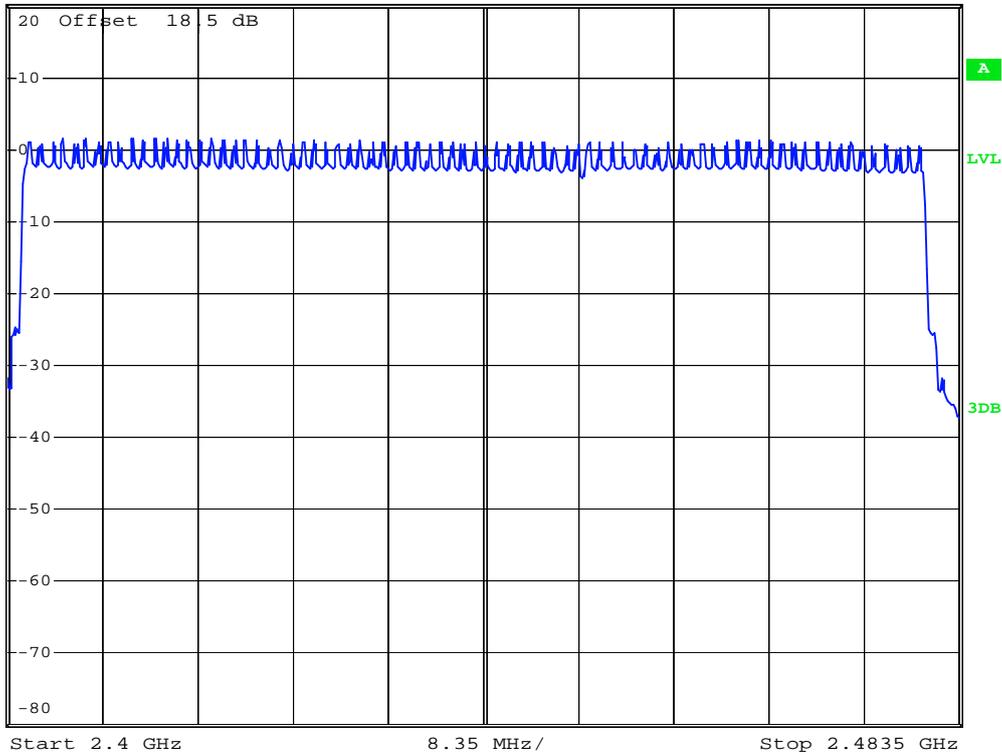


*RBW 100 kHz
*VBW 100 kHz
*SWT 500 ms

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



Date: 27.SEP.2007 21:36:21



BT EDR(3Mbps)

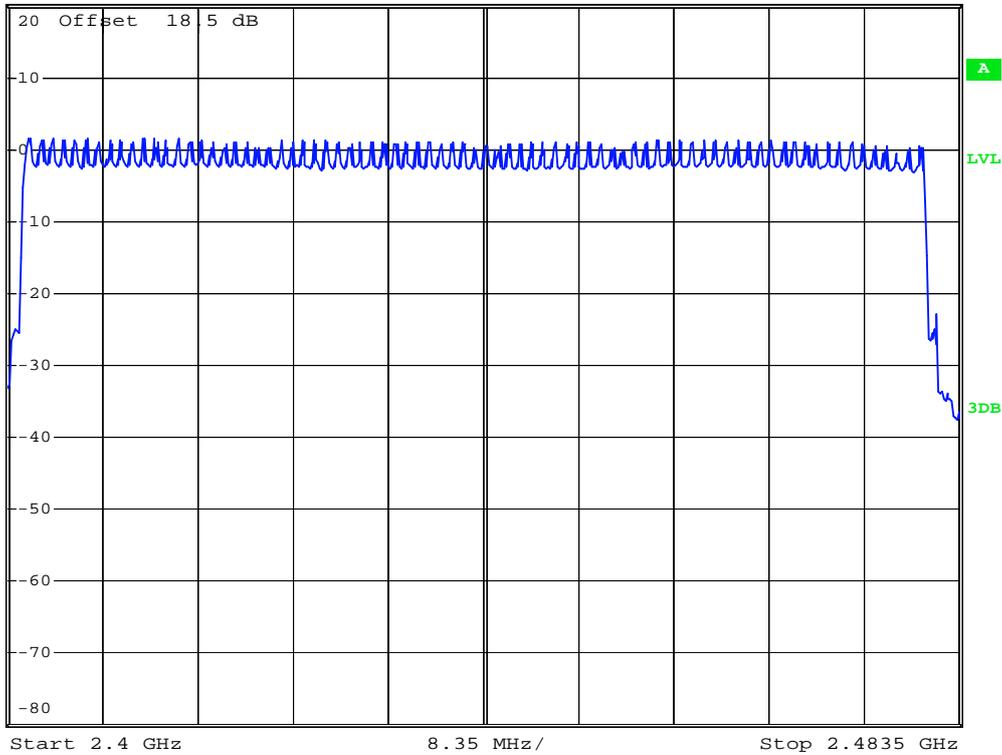


*RBW 100 kHz
*VBW 100 kHz
*SWT 500 ms

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



Date: 27.SEP.2007 21:46:49

5.5 Hopping Channel Bandwidth

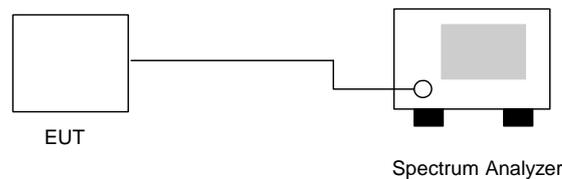
5.5.1 Measuring Instruments :

As described in chapter 9 of this test report.

5.5.2 Test Procedure :

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

5.5.3 Test Setup Layout :





5.5.4 Test Result : See spectrum analyzer plots below

- Application Type : BT
- Temperature : 26~27
- Relative Humidity : 49~51%
- Test Enginner : Ken

Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Plot Ref. No.
00	2402	0.756	Mode 1
39	2441	0.764	Mode 2
78	2480	0.760	Mode 3

- Application Type : BT EDR(2Mbps)
- Temperature : 26~27
- Relative Humidity : 49~51%
- Test Enginner : Ken

Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Plot Ref. No.
00	2402	1.280	Mode 4
39	2441	1.300	Mode 5
78	2480	1.324	Mode 6

- Application Type : BT EDR(3Mbps)
- Temperature : 26~27
- Relative Humidity : 49~51%
- Test Enginner : Ken

Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Plot Ref. No.
00	2402	1.272	Mode 7
39	2441	1.276	Mode 8
78	2480	1.288	Mode 9



5.5.5 Hopping Channel Bandwidth

Mode 1

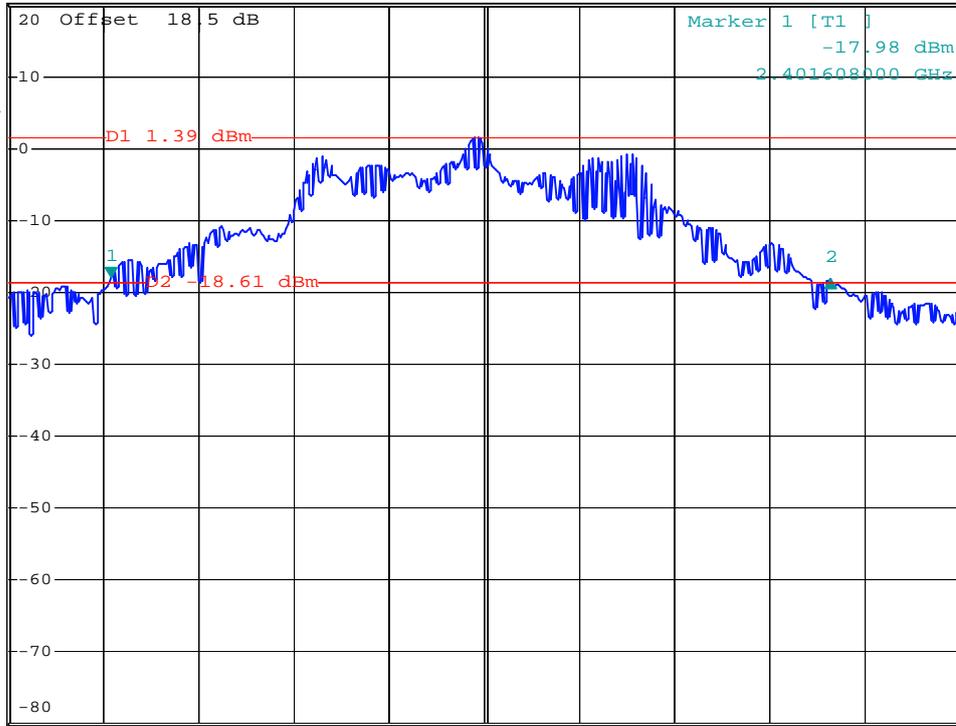


*RBW 30 kHz Delta 2 [T1]
*VBW 300 kHz -0.32 dB
*SWT 500 ms 756.00000000 kHz

Ref 20 dBm

*Att 20 dB

1 PK*
VIEW



Center 2.402 GHz 100 kHz/ Span 1 MHz

Date: 27.SEP.2007 21:54:21



Mode 2

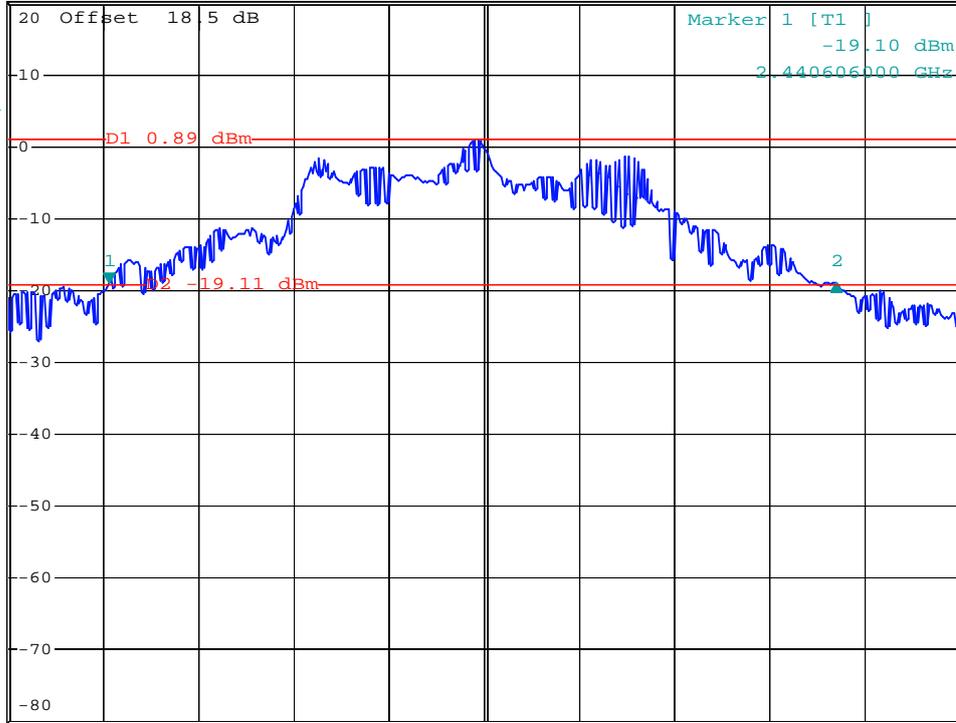


*RBW 30 kHz Delta 2 [T1]
*VBW 300 kHz 0.03 dB
*SWT 500 ms 764.00000000 kHz

Ref 20 dBm

*Att 20 dB

1 PK*
VIEW



Center 2.441 GHz 100 kHz/ Span 1 MHz

Date: 27.SEP.2007 21:55:38



Mode 3

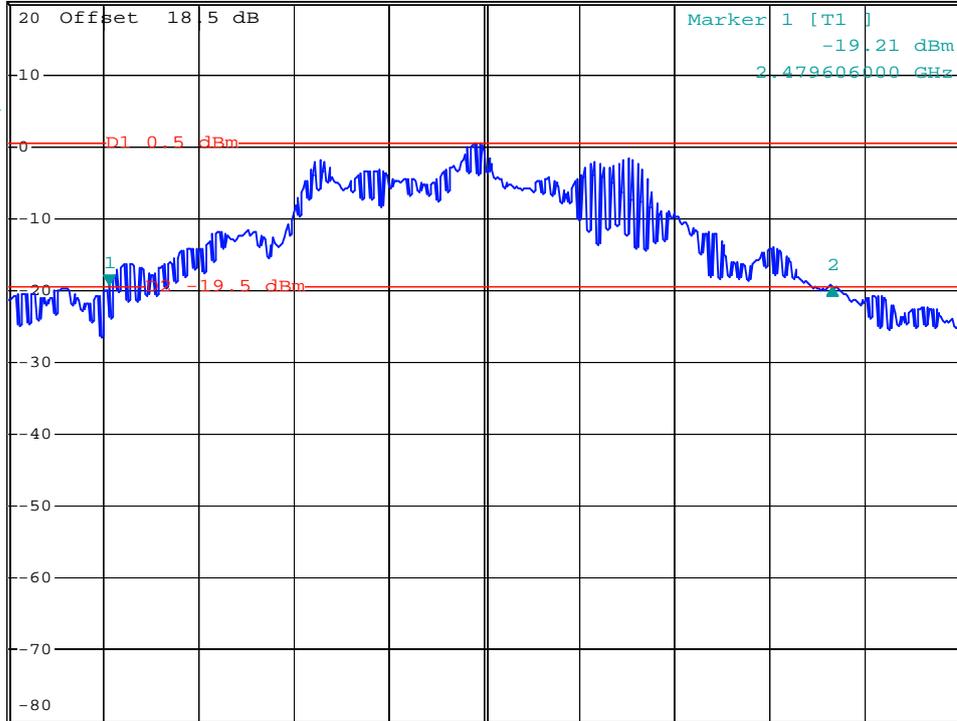


*RBW 30 kHz Delta 2 [T1]
*VBW 300 kHz -0.24 dB
*SWT 500 ms 760.00000000 kHz

Ref 20 dBm

*Att 20 dB

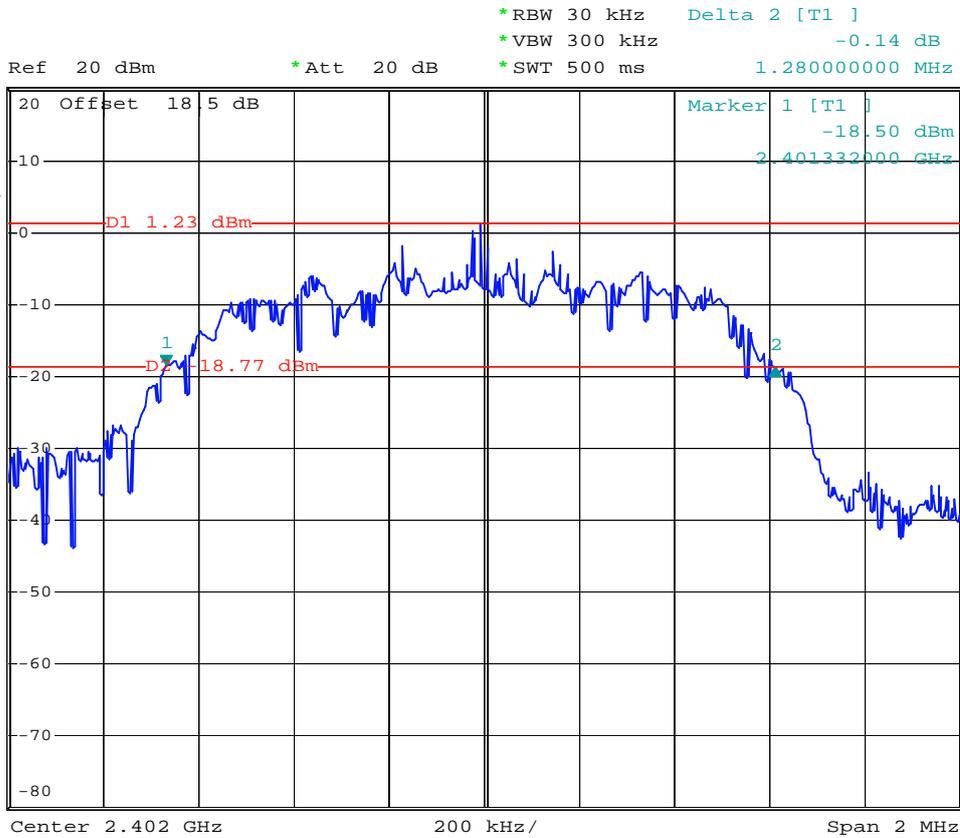
1 PK*
VIEW



Date: 27.SEP.2007 21:56:44



Mode 4



Date: 27.SEP.2007 21:00:52



Mode 5

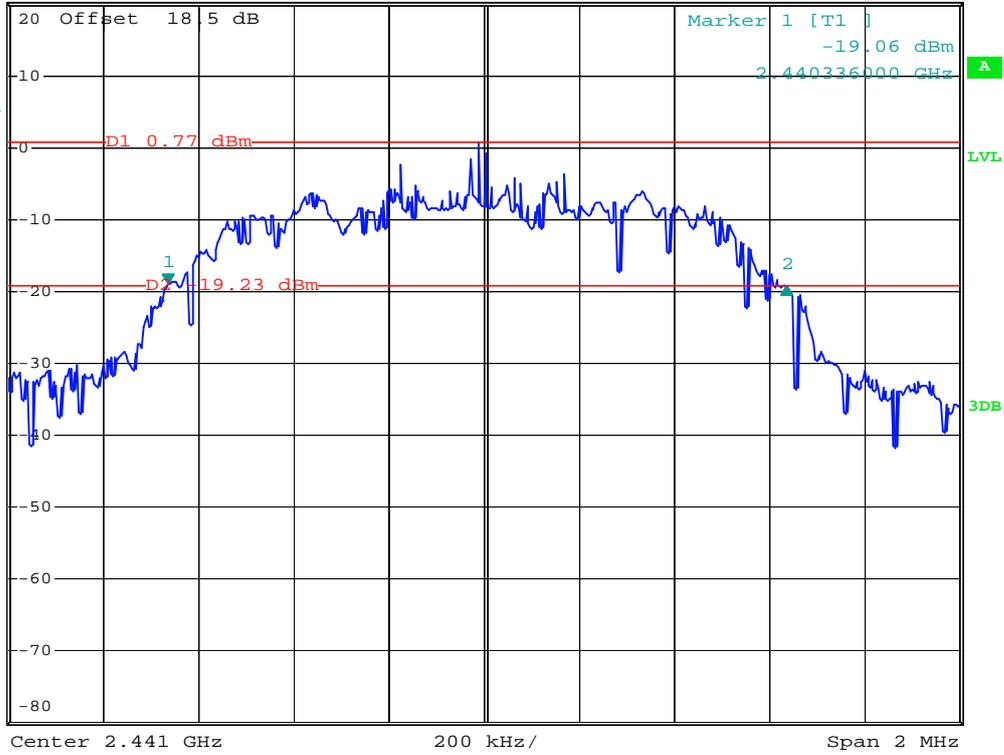


*RBW 30 kHz Delta 2 [T1]
 *VBW 300 kHz -0.13 dB
 *SWT 500 ms 1.300000000 MHz

Ref 20 dBm

*Att 20 dB

1 PK*
VIEW



Date: 27.SEP.2007 20:58:04



Mode 7

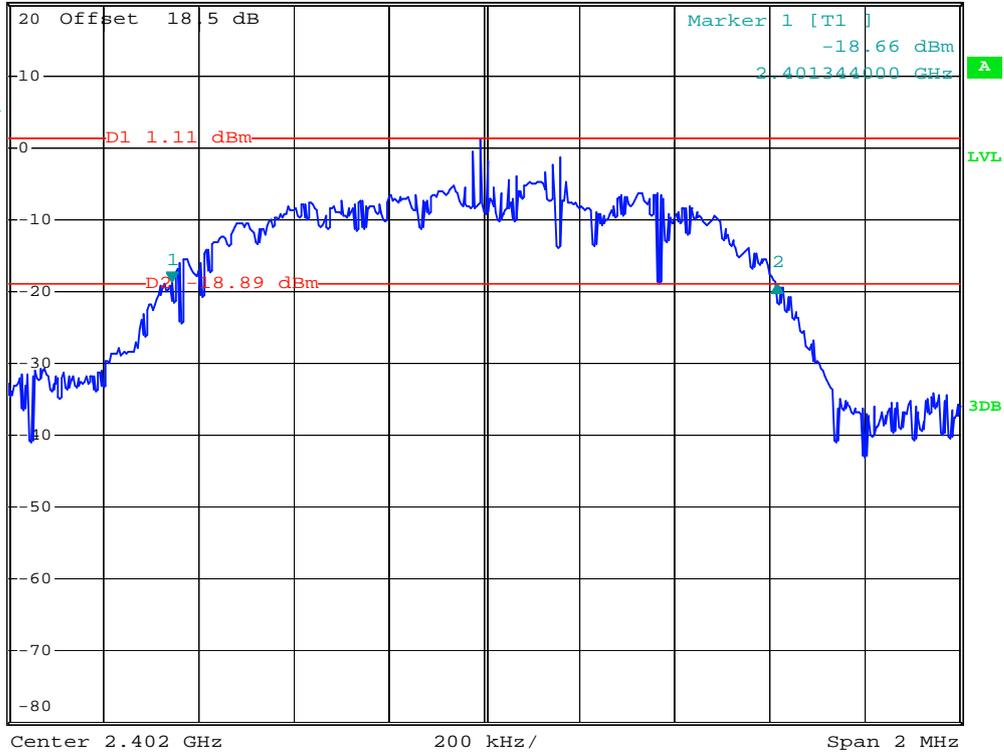


*RBW 30 kHz Delta 2 [T1]
 *VBW 300 kHz -0.20 dB
 *SWT 500 ms 1.27200000 MHz

Ref 20 dBm

*Att 20 dB

1 PK*
VIEW



Date: 27.SEP.2007 20:54:04



Mode 8

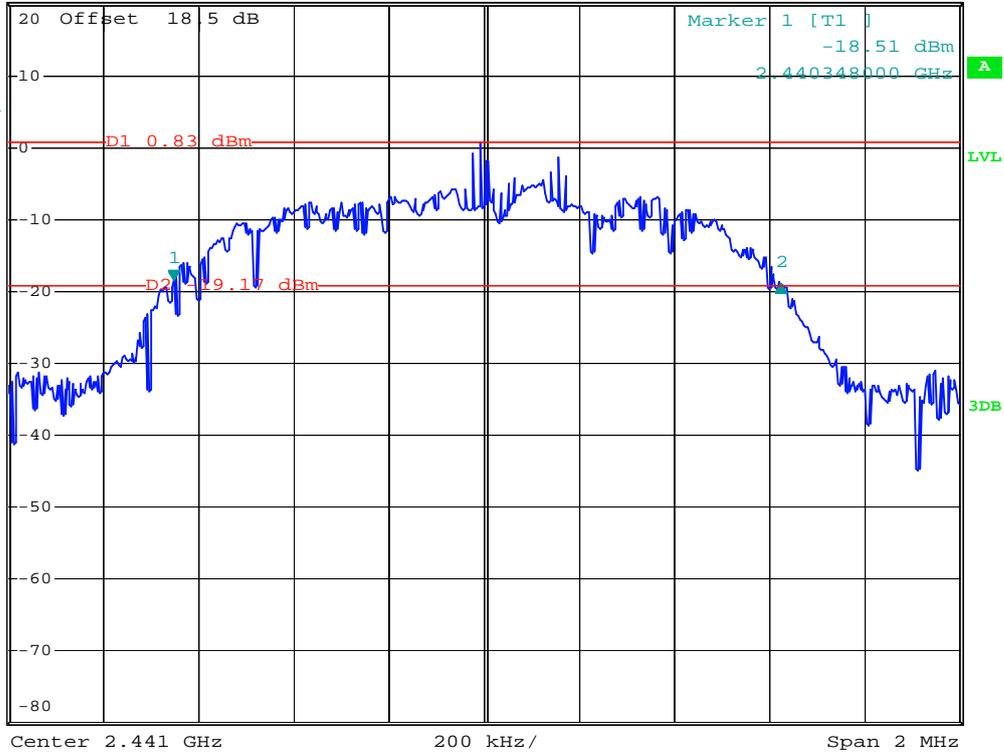


*RBW 30 kHz Delta 2 [T1]
 *VBW 300 kHz -0.38 dB
 *SWT 500 ms 1.276000000 MHz

Ref 20 dBm

*Att 20 dB

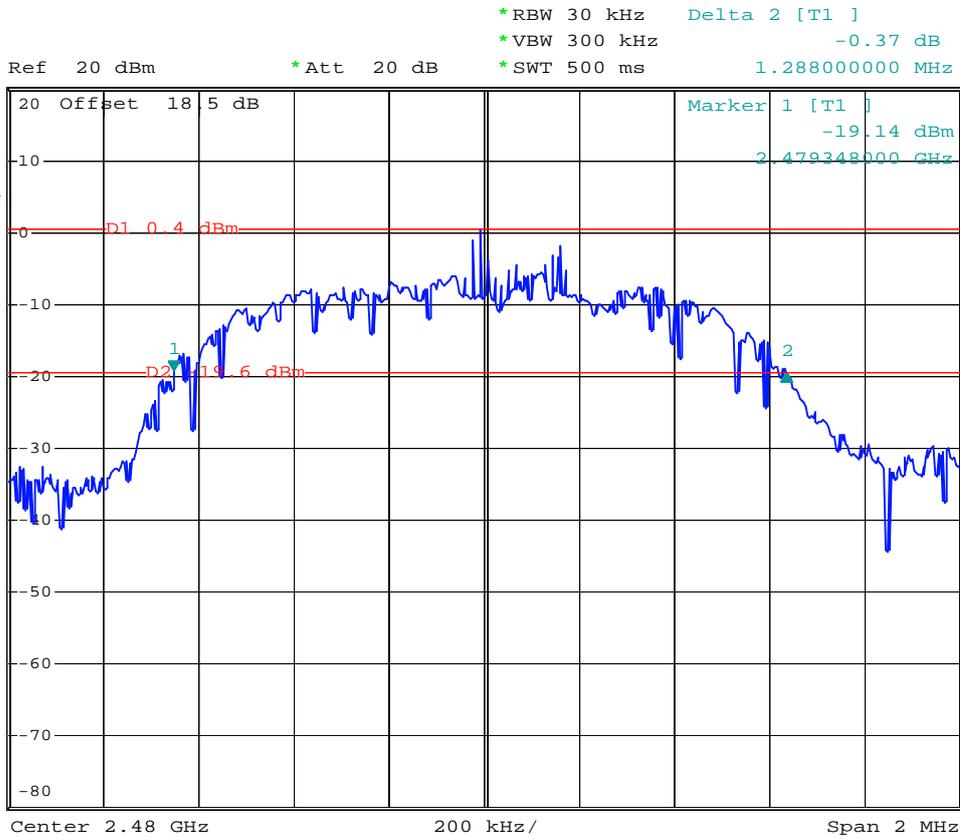
1 PK*
VIEW



Date: 27.SEP.2007 21:49:25



Mode 9



Date: 27.SEP.2007 20:56:11

5.6 Dwell Time of Each Frequency

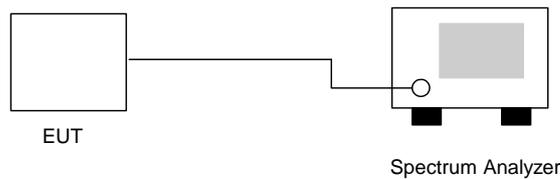
5.6.1 Measuring Instruments :

As described in chapter 9 of this test report.

5.6.2 Test Procedure :

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

5.6.3 Test Setup Layout :



5.6.4 Test Result : See spectrum analyzer plots below

- Application Type : BT
- Temperature : 26~27
- Relative Humidity : 49~51%
- Test Enginner : Ken

CH39

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	8.7	452	0.124	0.4
DH3	4.2	1720	0.229	0.4
DH5	3.1	3080	0.302	0.4

Remark:

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





- Application Type : BT EDR(2Mbps)
- Temperature : 26~27
- Relative Humidity : 49~51%
- Test Enginner : Ken

CH39

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	8.8	452	0.126	0.4
DH3	4.4	1710	0.238	0.4
DH5	3.6	3000	0.341	0.4

Remark:

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

- Application Type : BT EDR(3Mbps)
- Temperature : 26~27
- Relative Humidity : 49~51%
- Test Enginner : Ken

CH39

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	8.7	448	0.123	0.4
DH3	4.7	1750	0.260	0.4
DH5	3.5	3000	0.332	0.4

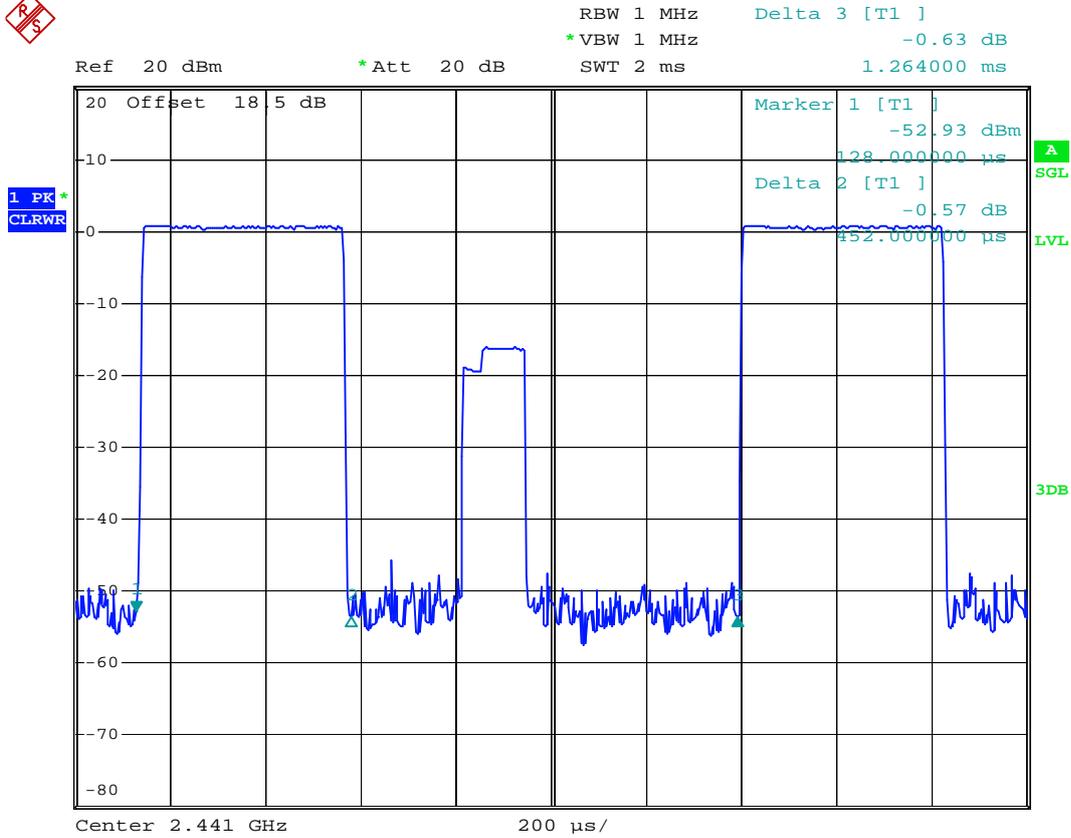
Remark:

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

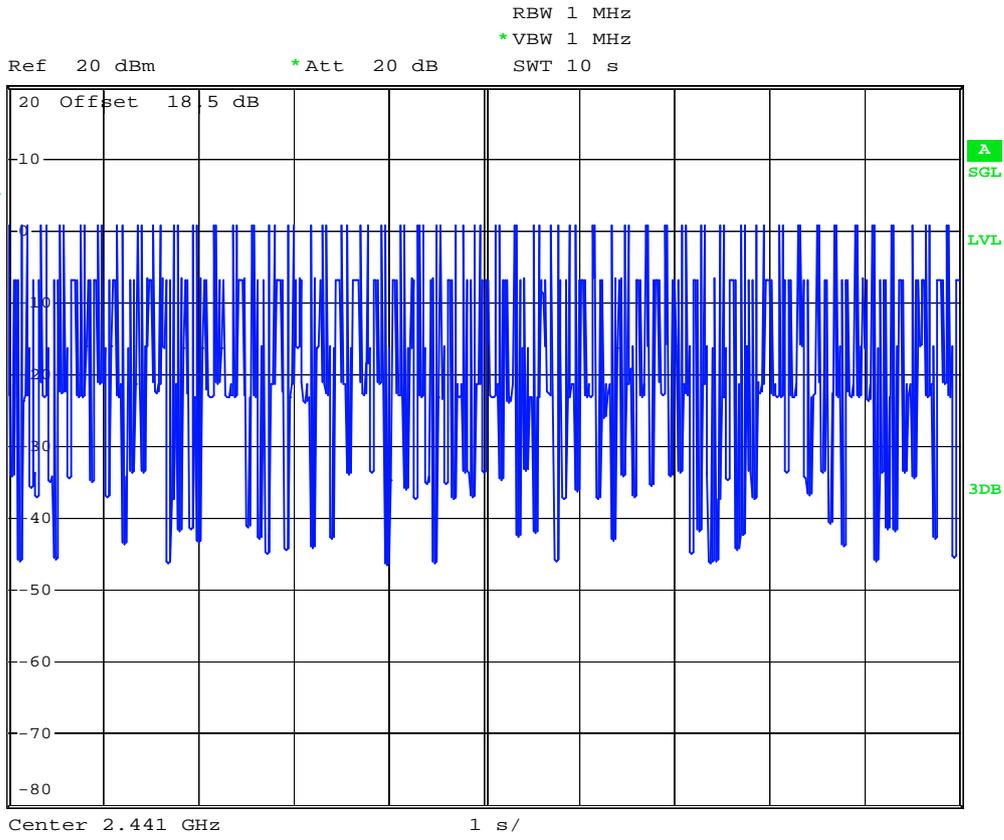


5.6.5 Dwell Time

DH1 (CH39)



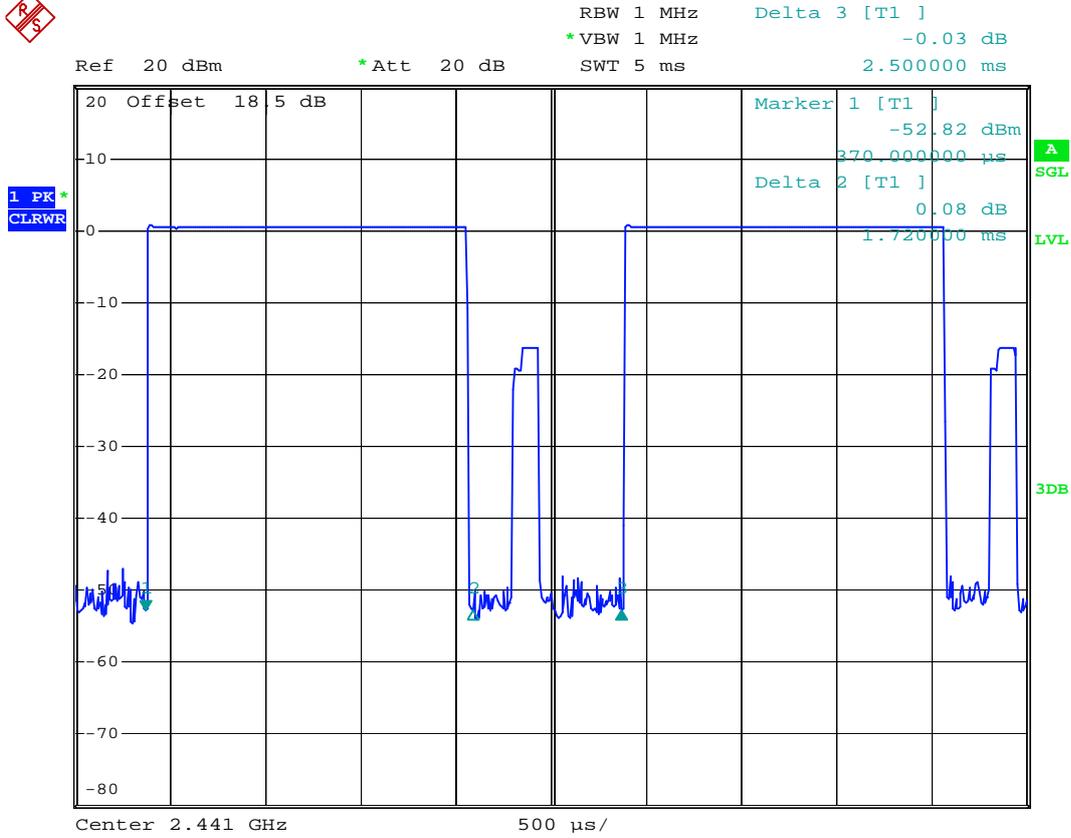
Date: 27.SEP.2007 22:08:16



Date: 27.SEP.2007 22:10:17



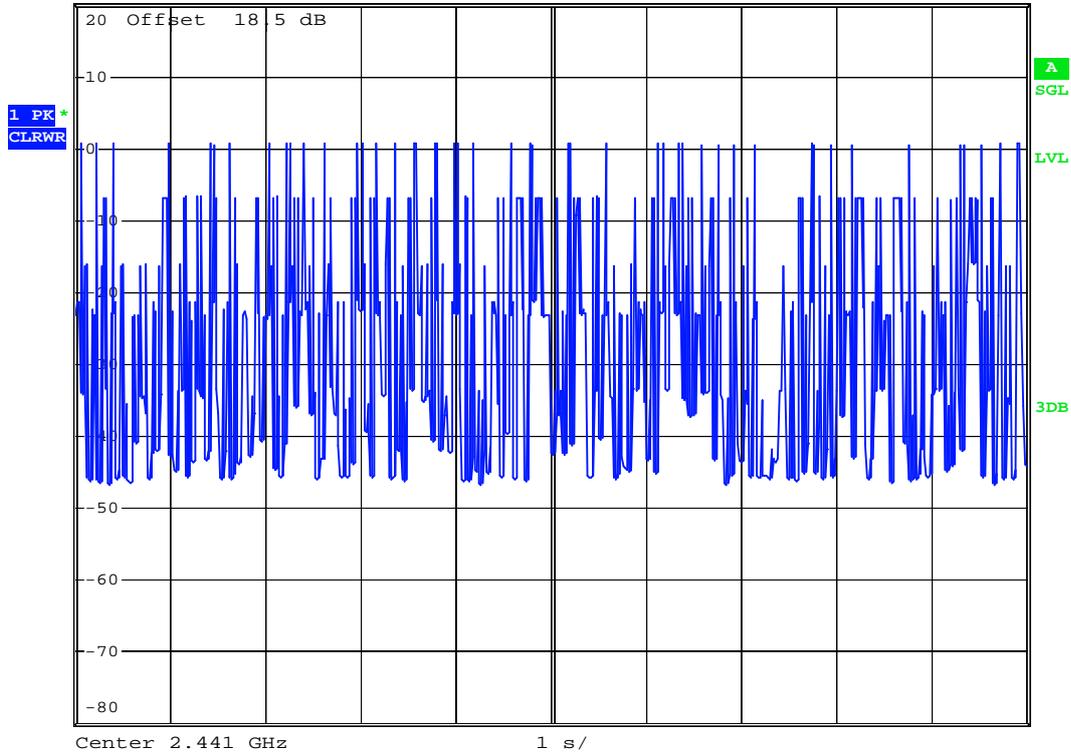
DH3 (CH39)



Date: 27.SEP.2007 22:08:56



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



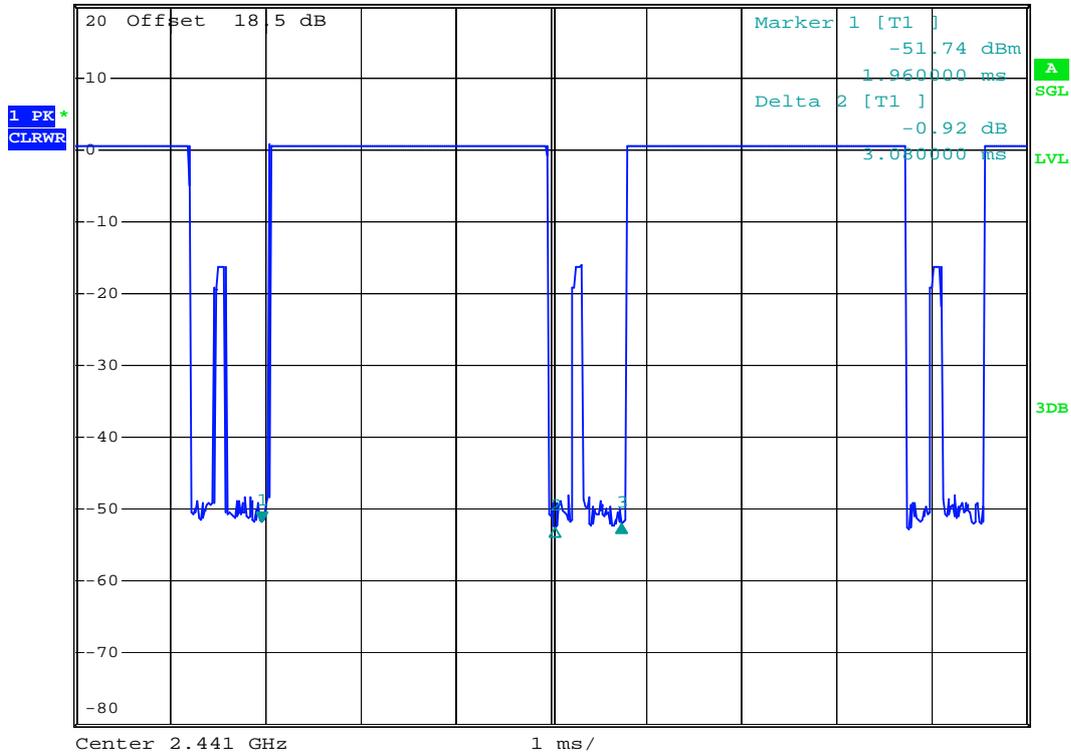
Date: 27.SEP.2007 22:10:45



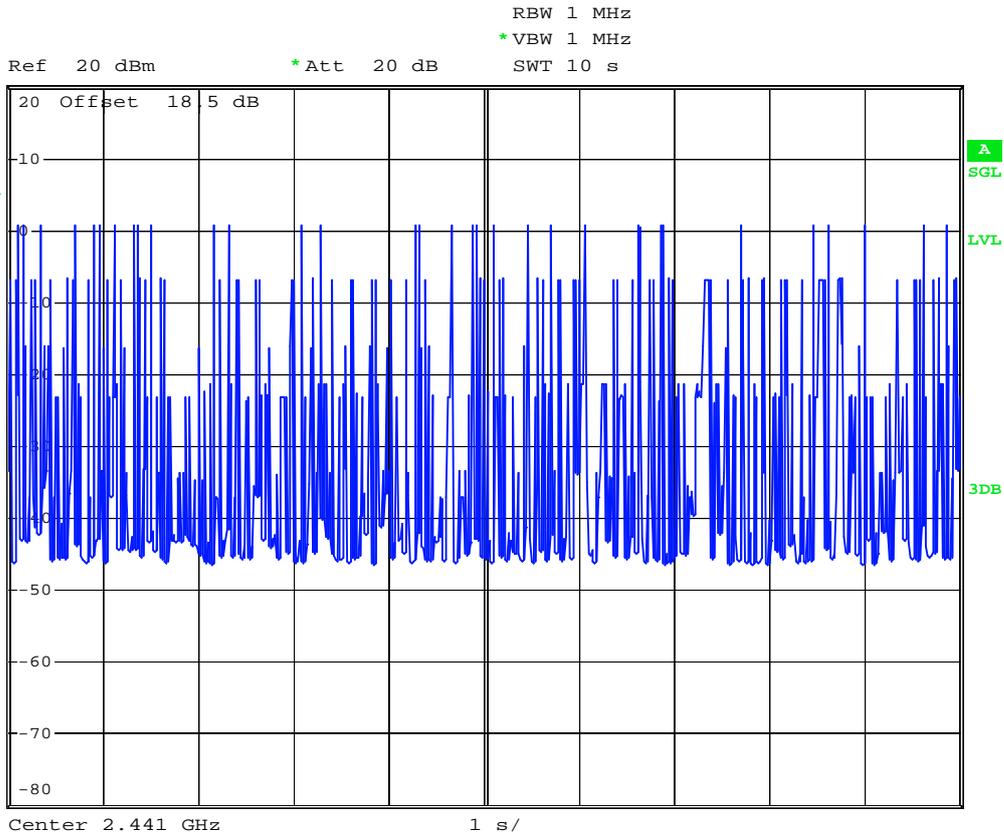
DH5 (CH39)



RBW 1 MHz Delta 3 [T1]
 *VBW 1 MHz -0.22 dB
 Ref 20 dBm *Att 20 dB SWT 10 ms 3.780000 ms



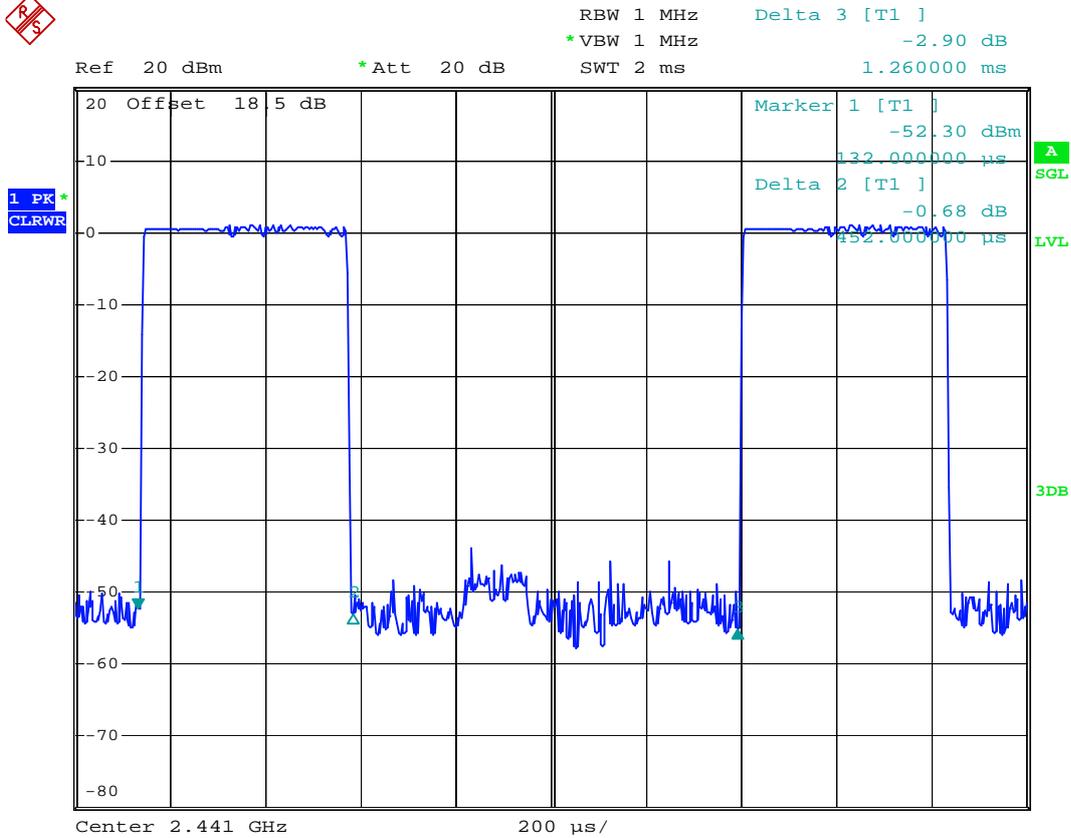
Date: 27.SEP.2007 22:09:40



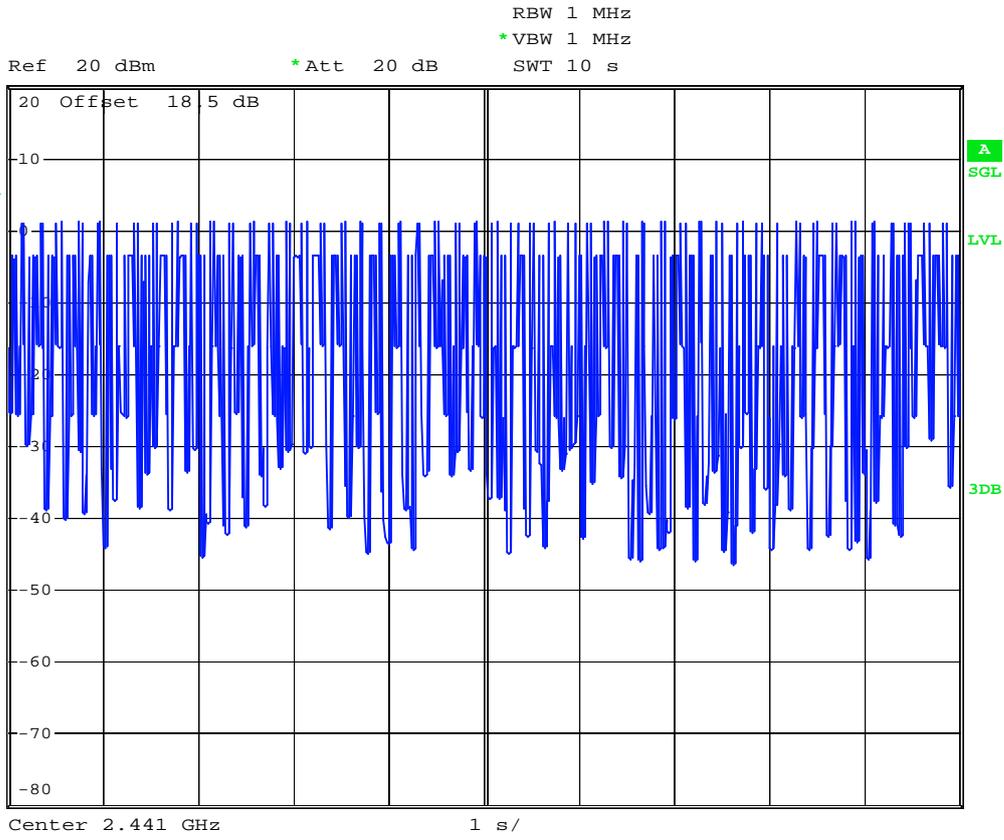
Date: 27.SEP.2007 22:11:19



2DH1 (CH39)



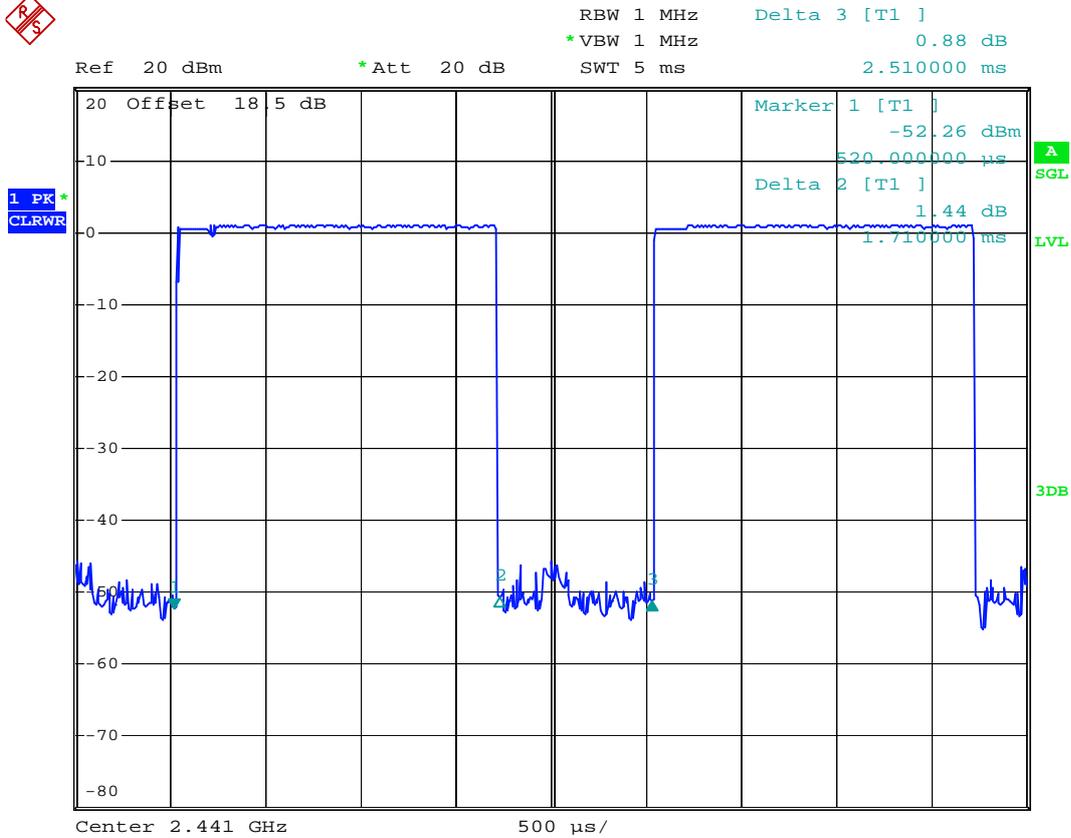
Date: 27.SEP.2007 21:17:28



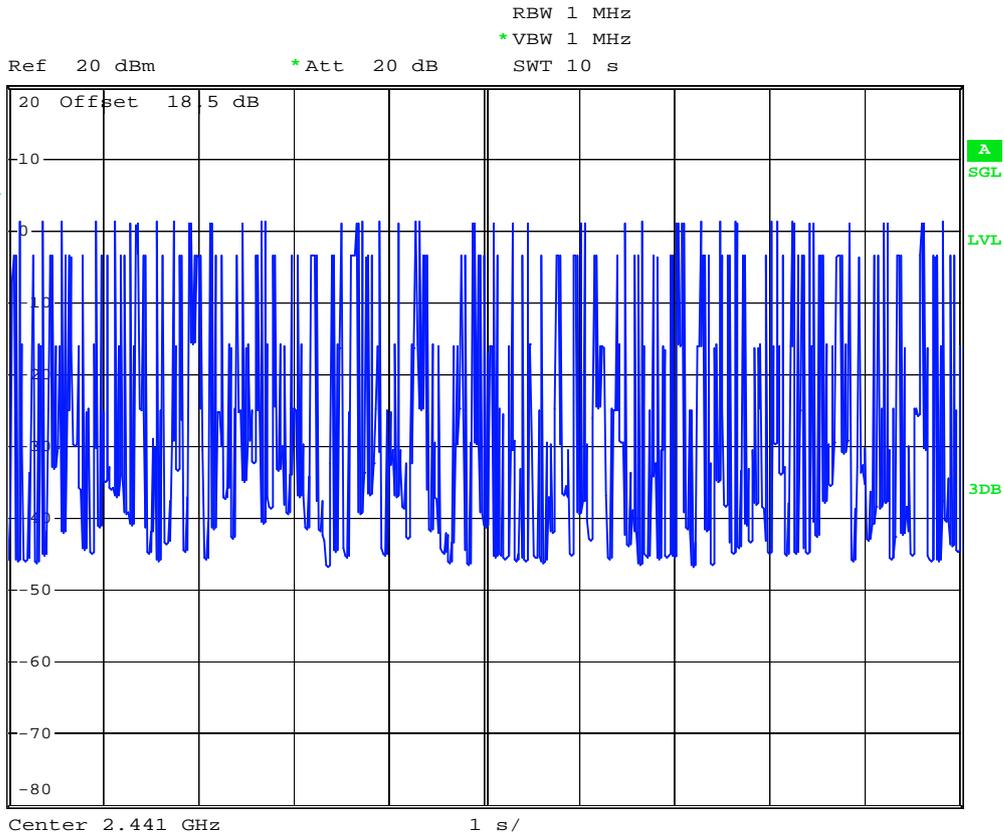
Date: 27.SEP.2007 21:23:56



2DH3 (CH39)



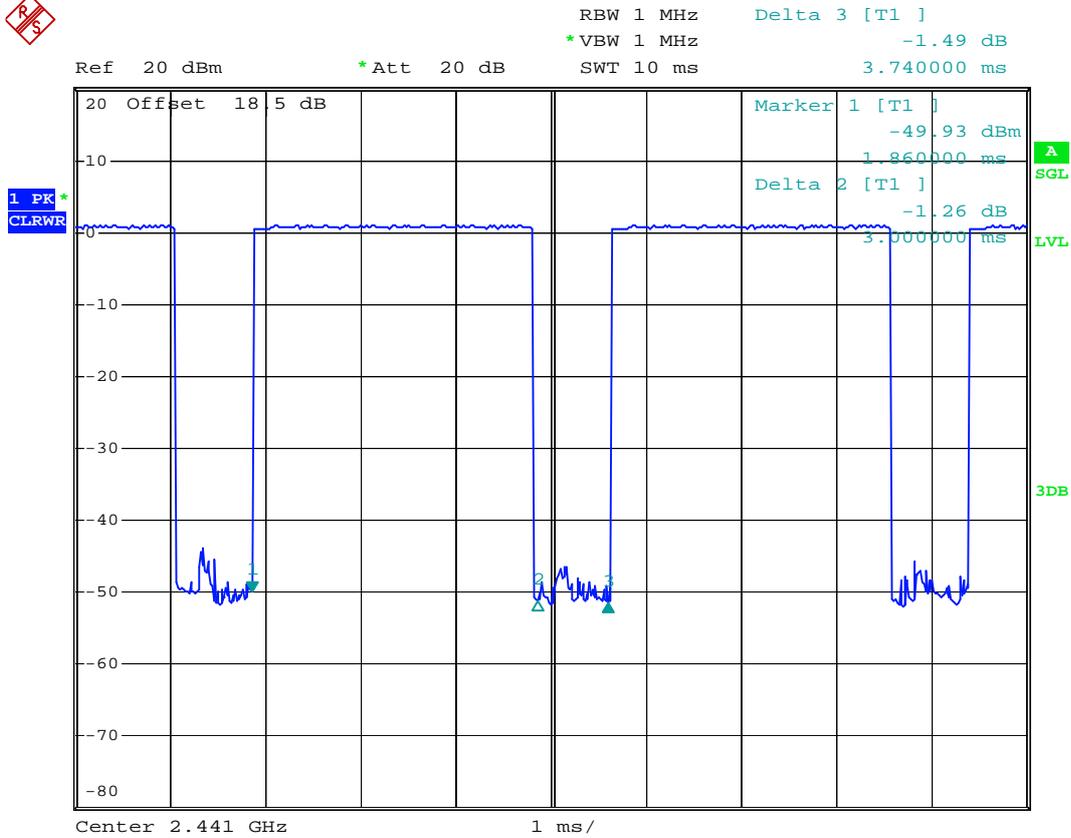
Date: 27.SEP.2007 21:19:17



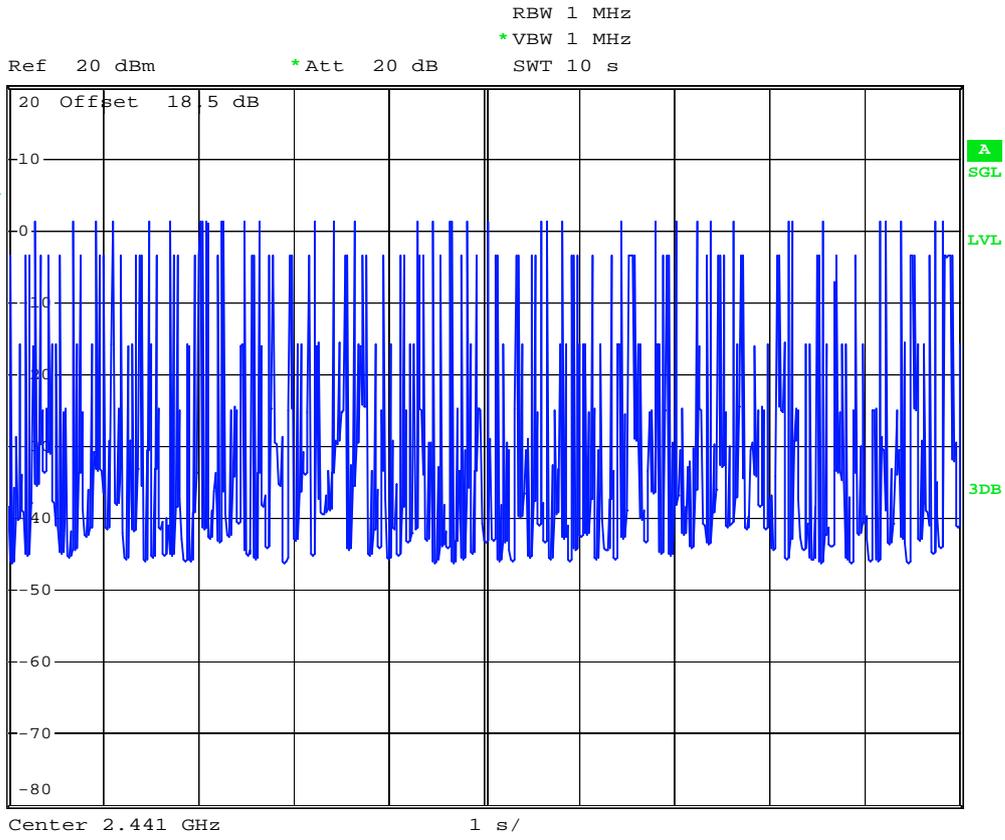
Date: 27.SEP.2007 21:24:24



2DH5 (CH39)



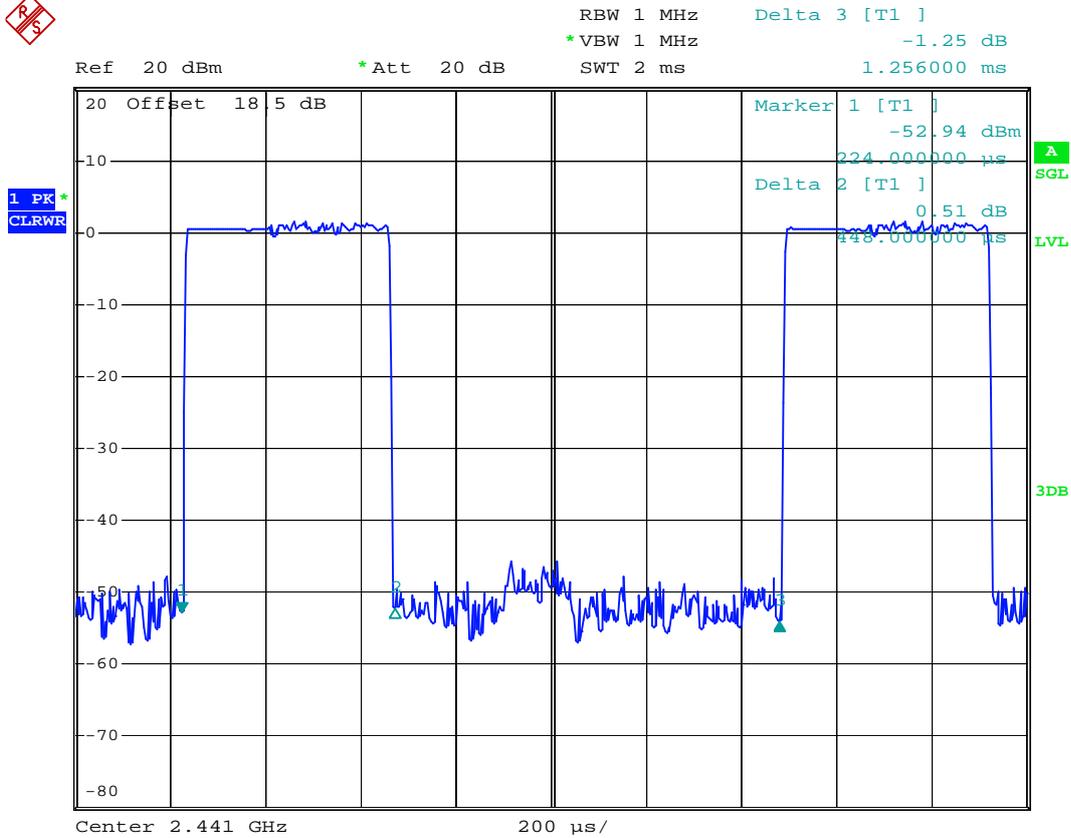
Date: 27.SEP.2007 21:19:52



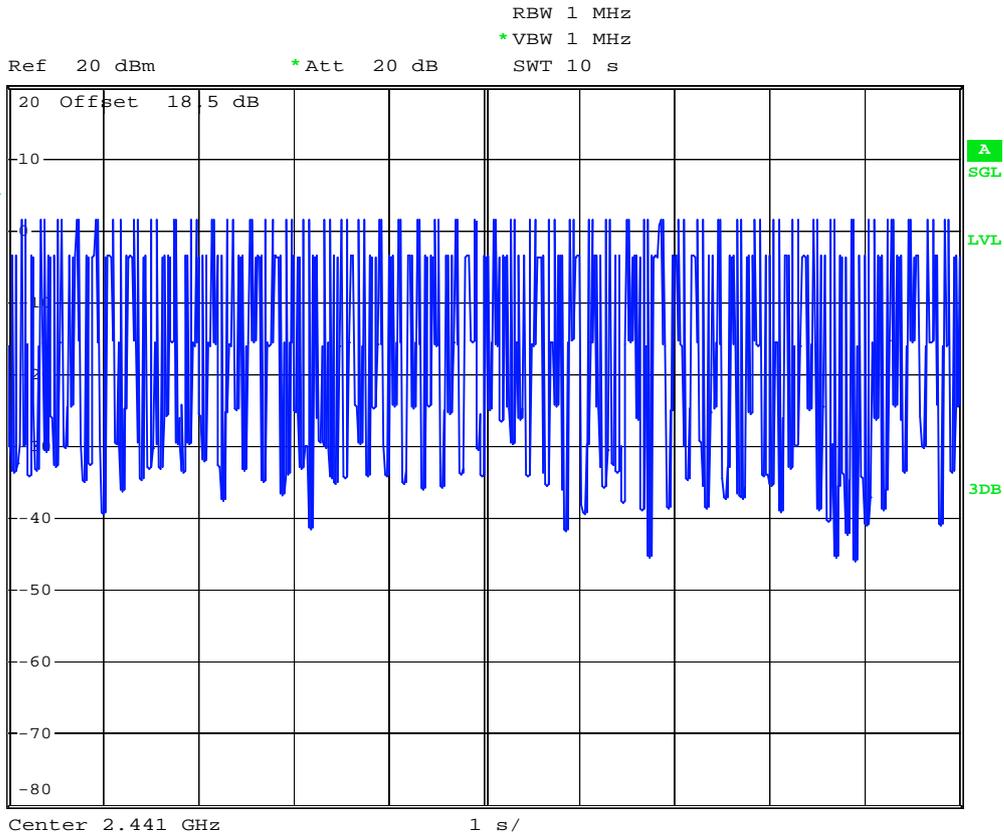
Date: 27.SEP.2007 21:24:54



3DH1 (CH39)



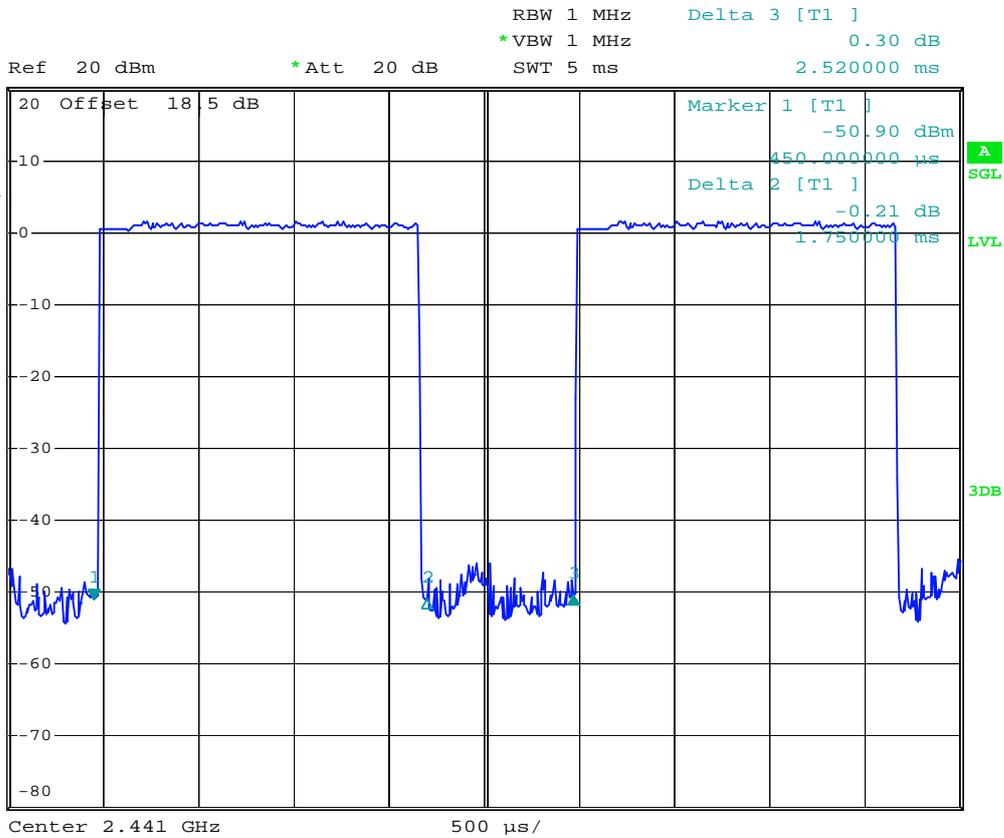
Date: 27.SEP.2007 21:20:52



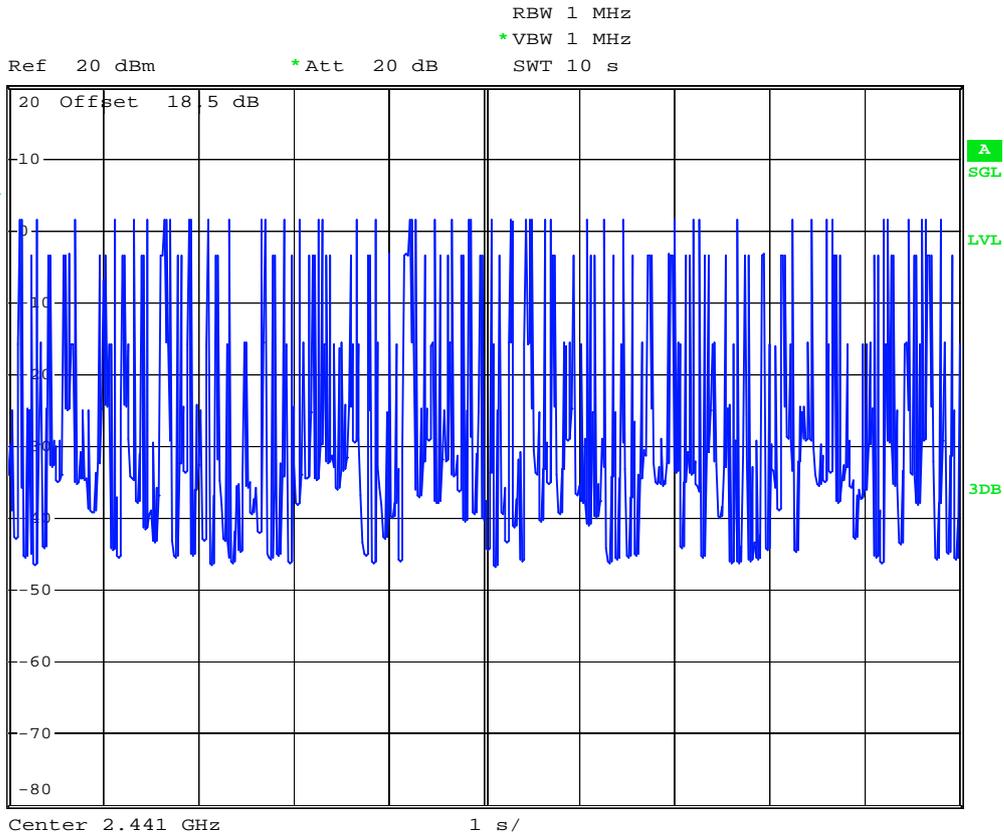
Date: 27.SEP.2007 21:25:23



3DH3 (CH39)



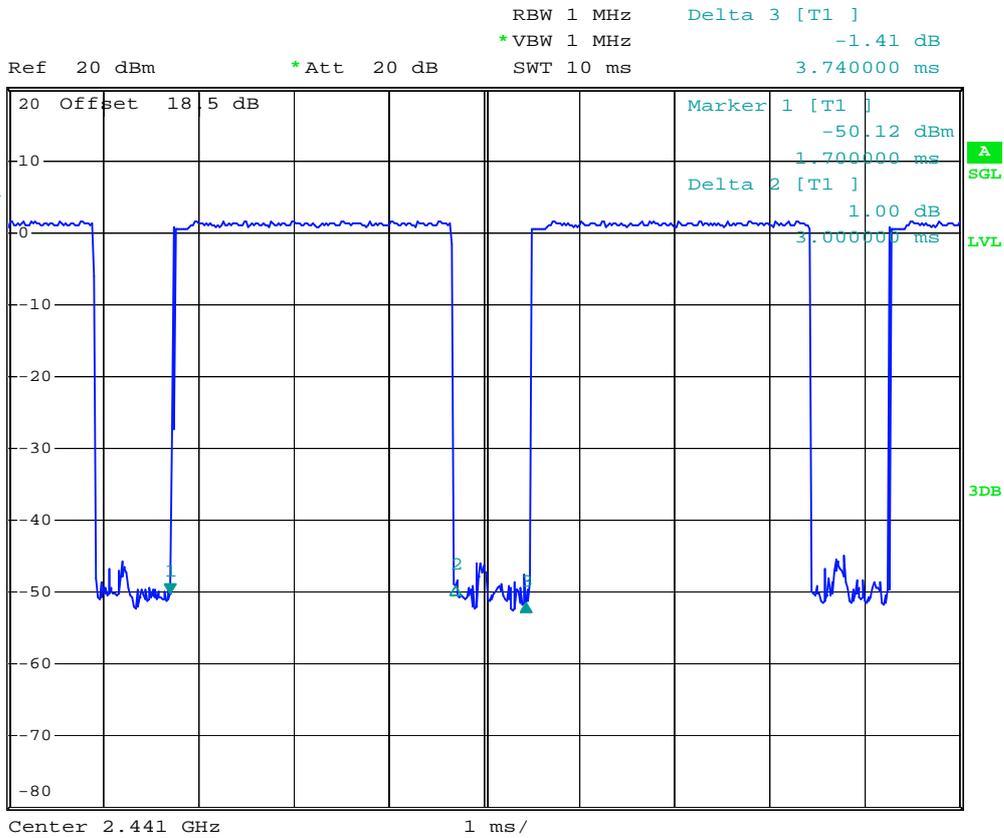
Date: 27.SEP.2007 21:22:12



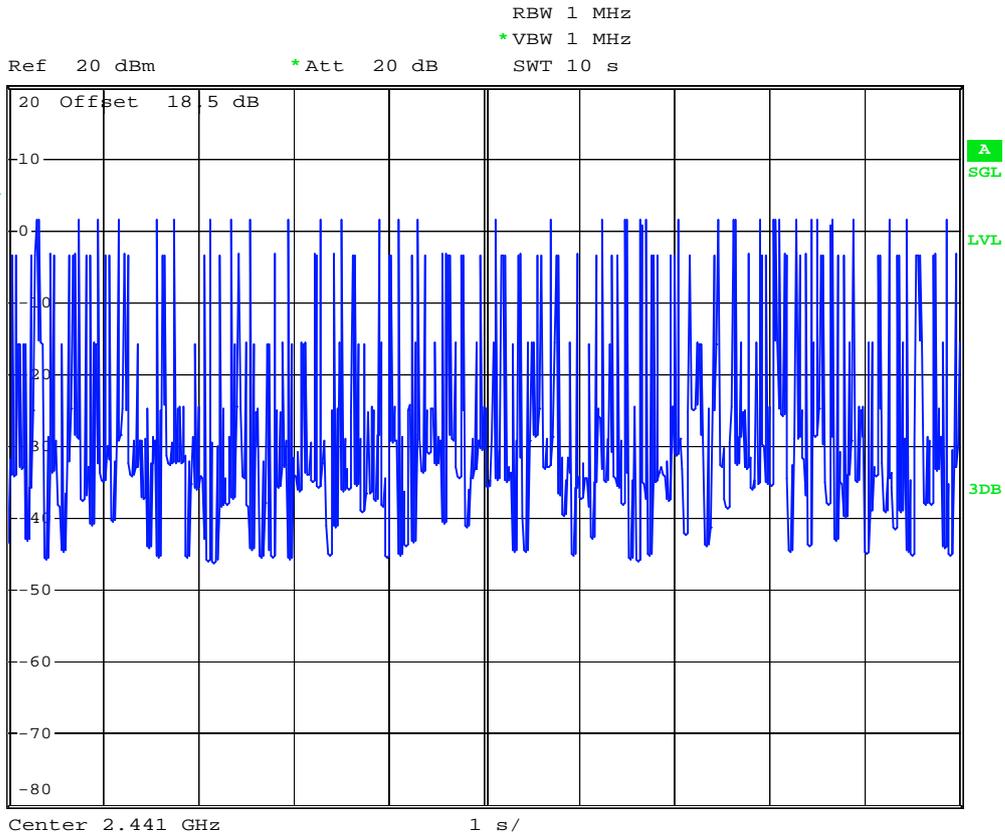
Date: 27.SEP.2007 21:25:49



3DH5 (CH39)



Date: 27.SEP.2007 21:22:49



Date: 27.SEP.2007 21:26:15

5.7 Peak Output Power Measurement

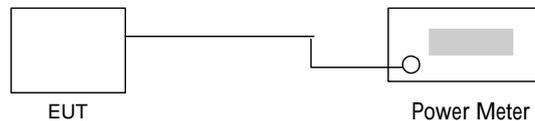
5.7.1 Measuring Instruments :

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 : 26~27
- Relative Humidity : 49~51%
- Test Engineer : Ken

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
00	2402	1.18	1W/30 dBm
39	2441	0.71	1W/30 dBm
78	2480	0.32	1W/30 dBm



- Application Type : BT EDR(2Mbps)
- Temperature : 26~27
- Relative Humidity : 49~51%
- Test Enginner : Ken

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
00	2402	2.23	1W/30 dBm
39	2441	1.63	1W/30 dBm
78	2480	1.19	1W/30 dBm

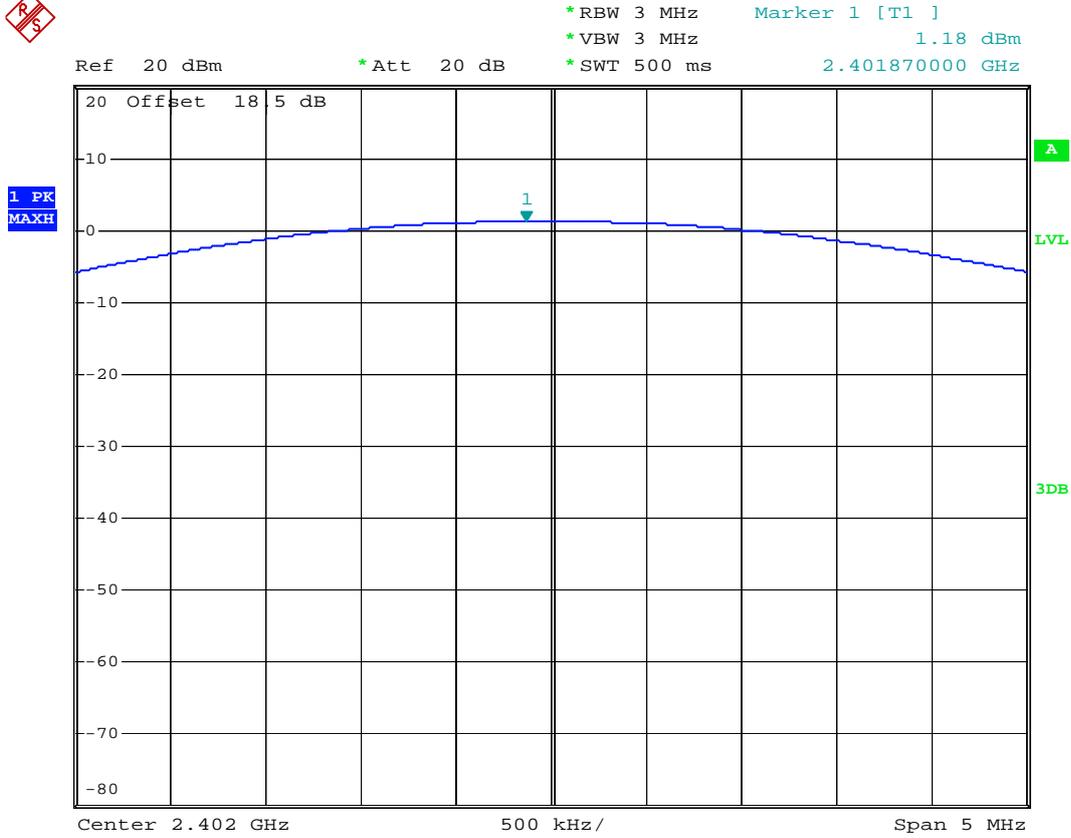
- Application Type : BT EDR(3Mbps)
- Temperature : 26~27
- Relative Humidity : 49~51%
- Test Enginner : Ken

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
00	2402	2.47	1W/30 dBm
39	2441	1.85	1W/30 dBm
78	2480	1.46	1W/30 dBm



5.7.5 Output Power

Bluetooth(1Mbps) Mode : CH00 (2402MHz)



Date: 27.SEP.2007 21:57:50



Bluetooth(1Mbps) Mode : CH39 (2441MHz)

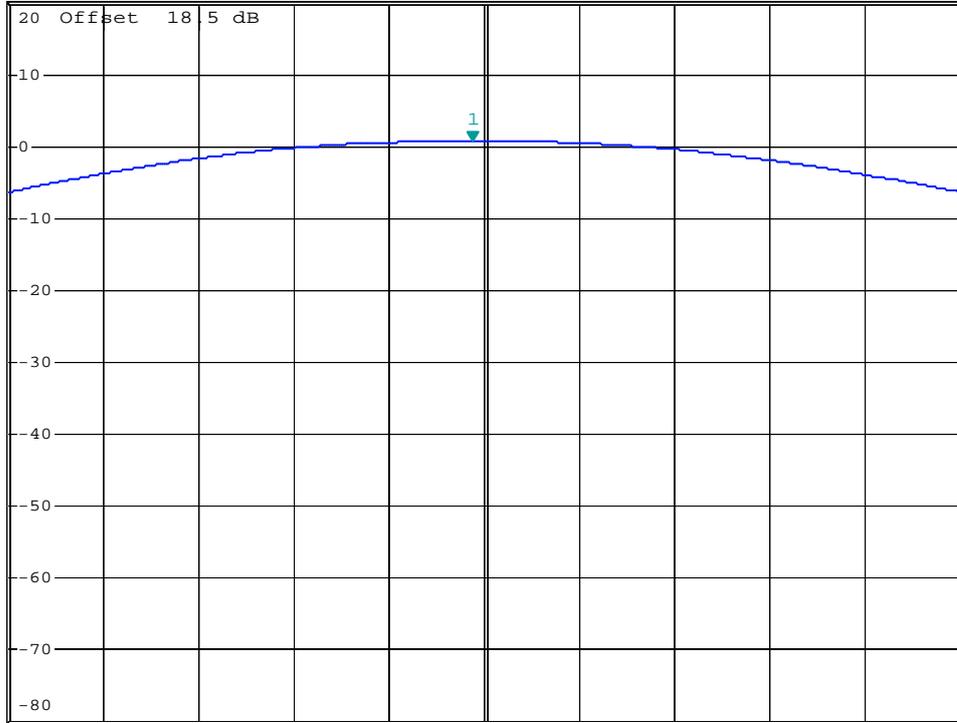


*RBW 3 MHz Marker 1 [T1]
*VBW 3 MHz 0.71 dBm
*SWT 500 ms 2.440940000 GHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



Center 2.441 GHz 500 kHz/ Span 5 MHz

Date: 27.SEP.2007 21:58:16



Bluetooth(1Mbps) Mode : CH78 (2480MHz)

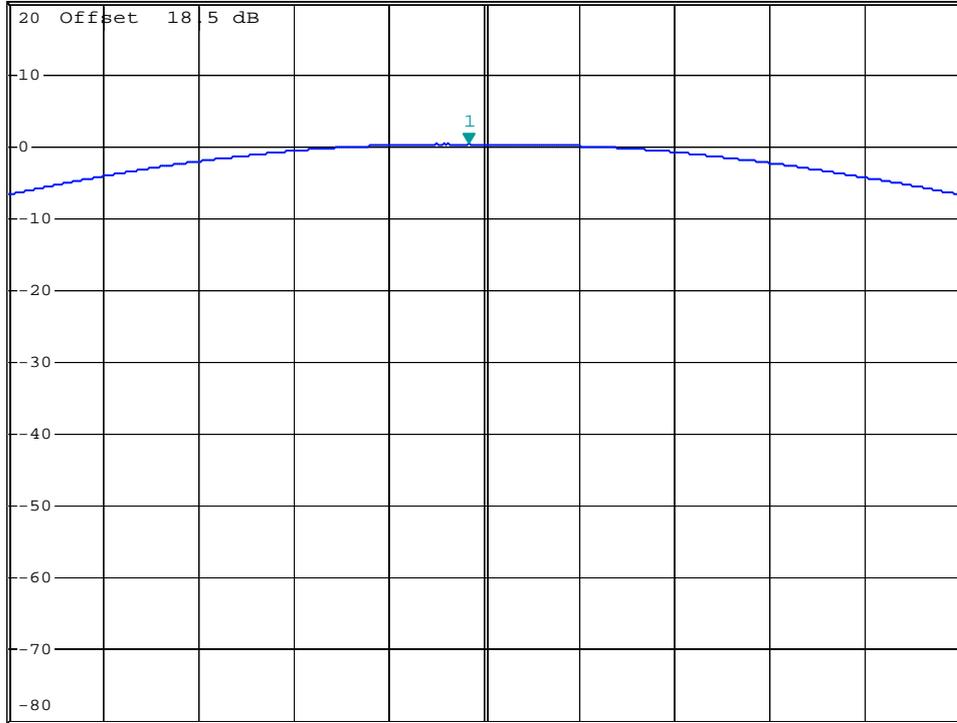


*RBW 3 MHz Marker 1 [T1]
*VBW 3 MHz 0.32 dBm
*SWT 500 ms 2.479920000 GHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



Center 2.48 GHz

500 kHz/

Span 5 MHz

Date: 27.SEP.2007 21:58:48



Bluetooth(2Mbps) Mode : CH00 (2402MHz)

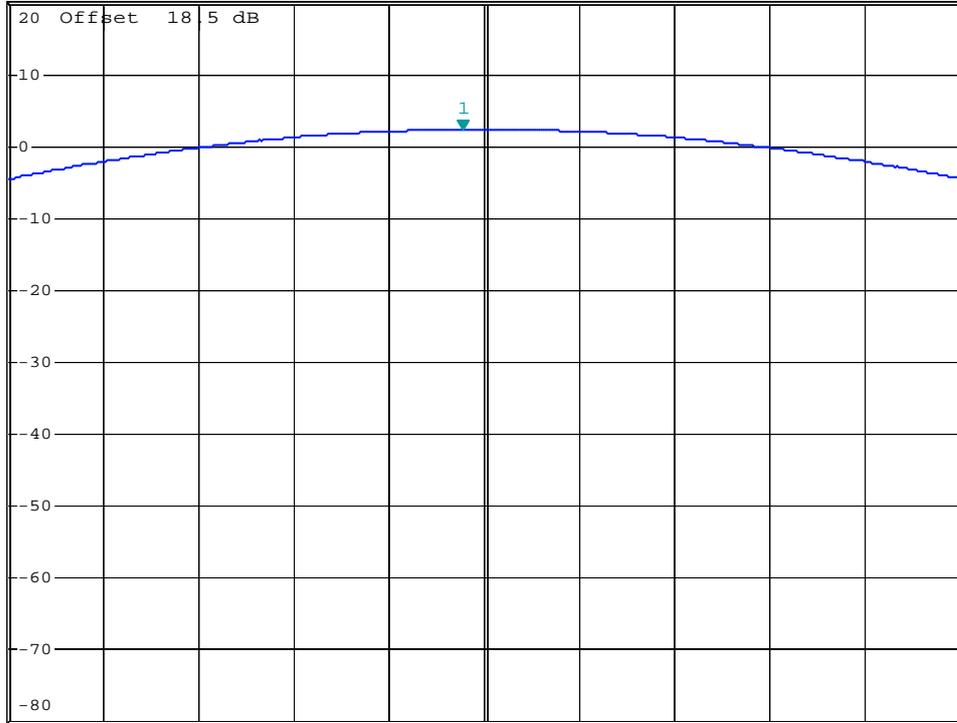


*RBW 3 MHz Marker 1 [T1]
*VBW 3 MHz 2.23 dBm
*SWT 500 ms 2.401890000 GHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



Date: 27.SEP.2007 20:48:01



Bluetooth(2Mbps) Mode : CH39 (2441MHz)

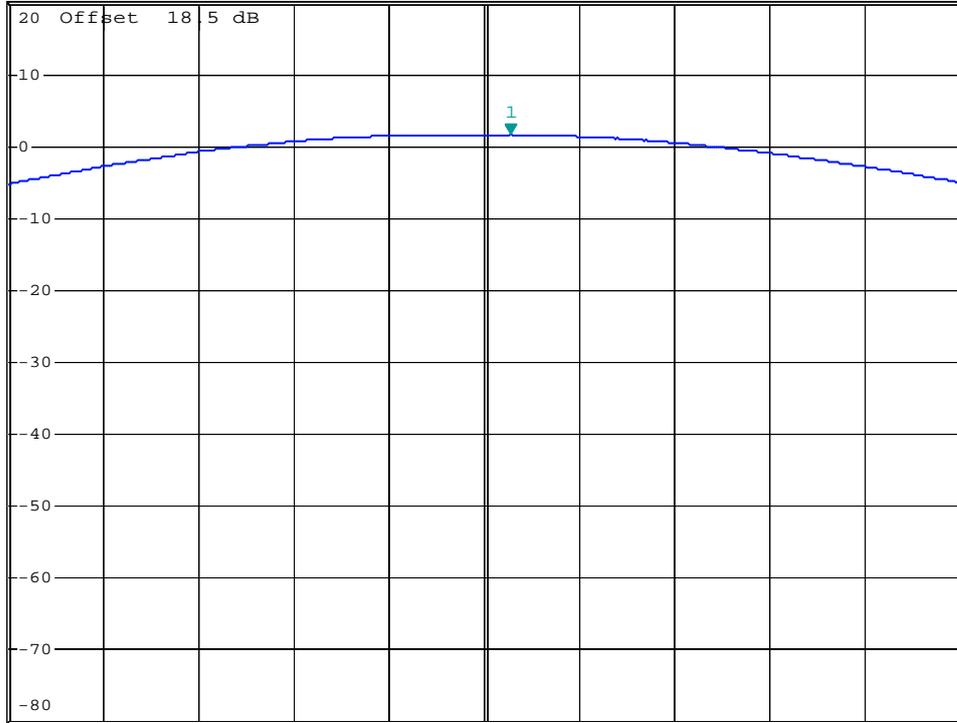


*RBW 3 MHz Marker 1 [T1]
*VBW 3 MHz 1.63 dBm
*SWT 500 ms 2.441140000 GHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



Center 2.441 GHz 500 kHz/ Span 5 MHz

Date: 27.SEP.2007 20:48:45



Bluetooth(2Mbps) Mode : CH78 (2480MHz)

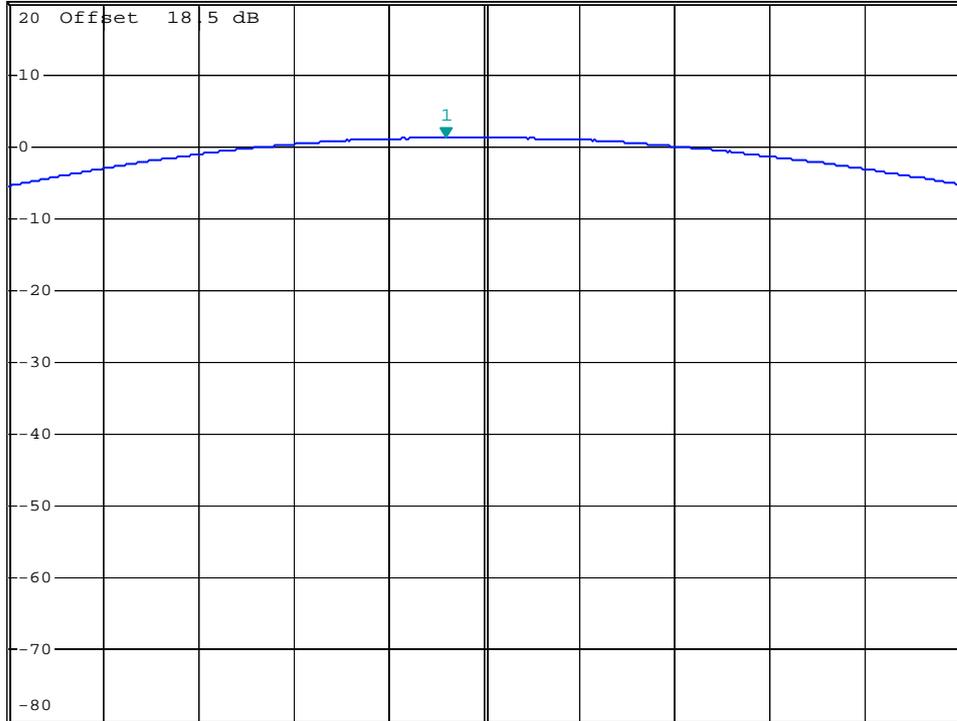


*RBW 3 MHz Marker 1 [T1]
*VBW 3 MHz 1.19 dBm
*SWT 500 ms 2.479800000 GHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



Center 2.48 GHz

500 kHz/

Span 5 MHz

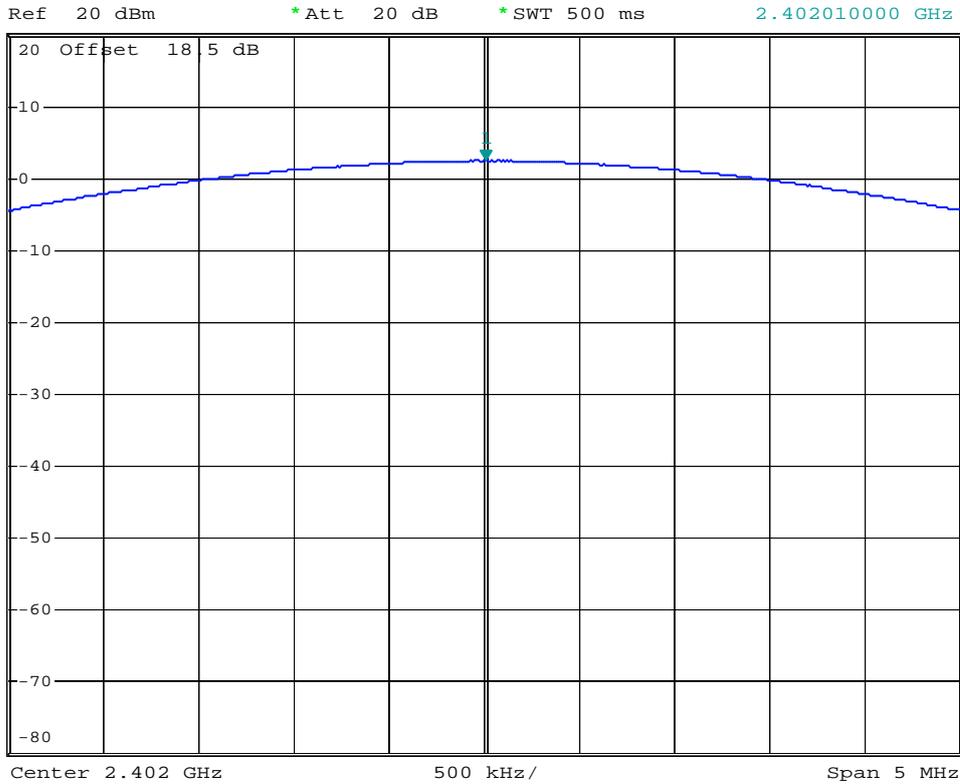
Date: 27.SEP.2007 20:49:14



Bluetooth(3Mbps) Mode : CH00 (2402MHz)



*RBW 3 MHz Marker 1 [T1]
*VBW 3 MHz 2.47 dBm
*SWT 500 ms 2.402010000 GHz



Date: 27.SEP.2007 20:51:50



Bluetooth(3Mbps) Mode : CH39 (2441MHz)

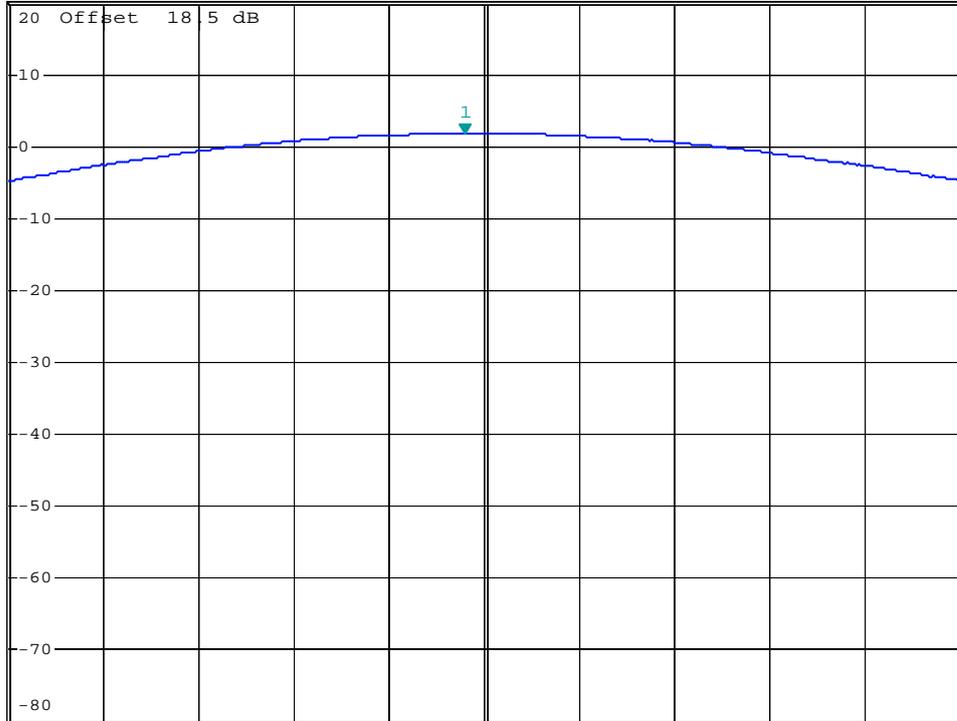


*RBW 3 MHz Marker 1 [T1]
*VBW 3 MHz 1.85 dBm
*SWT 500 ms 2.440900000 GHz

Ref 20 dBm

*Att 20 dB

1 PK
MAXH



Center 2.441 GHz 500 kHz/ Span 5 MHz

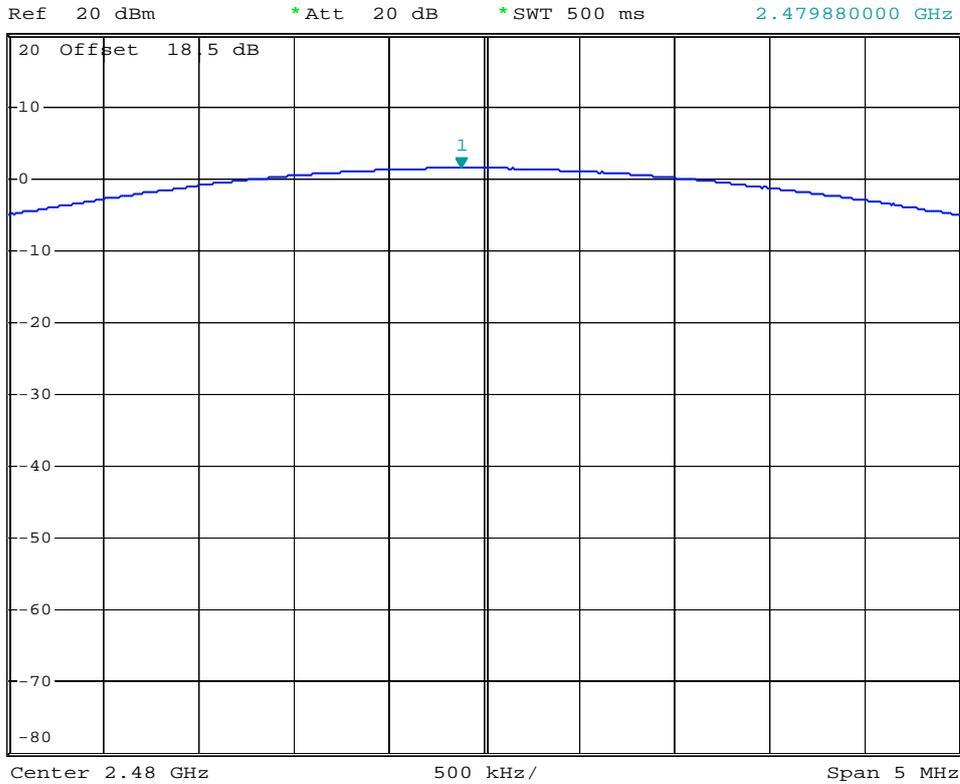
Date: 27.SEP.2007 20:51:21



Bluetooth(3Mbps) Mode : CH78 (2480MHz)



*RBW 3 MHz Marker 1 [T1]
*VBW 3 MHz 1.46 dBm
*SWT 500 ms 2.479880000 GHz



Date: 27.SEP.2007 20:50:53



5.8 Conducted Emission

5.8.1 Measuring Instruments

As described in chapter 6 of this test Report.

5.8.2 Test Procedures :

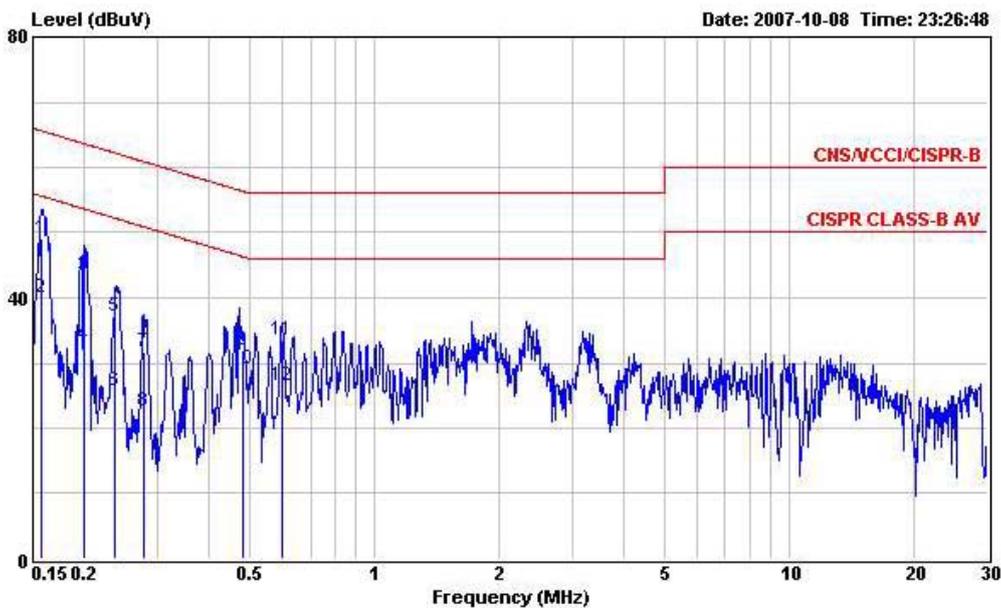
- a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- b. Connect EUT to the power port of a line impedance stabilization network (LISN).
- c. All the support units are connected to the other LISN.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



5.8.3 Test Data

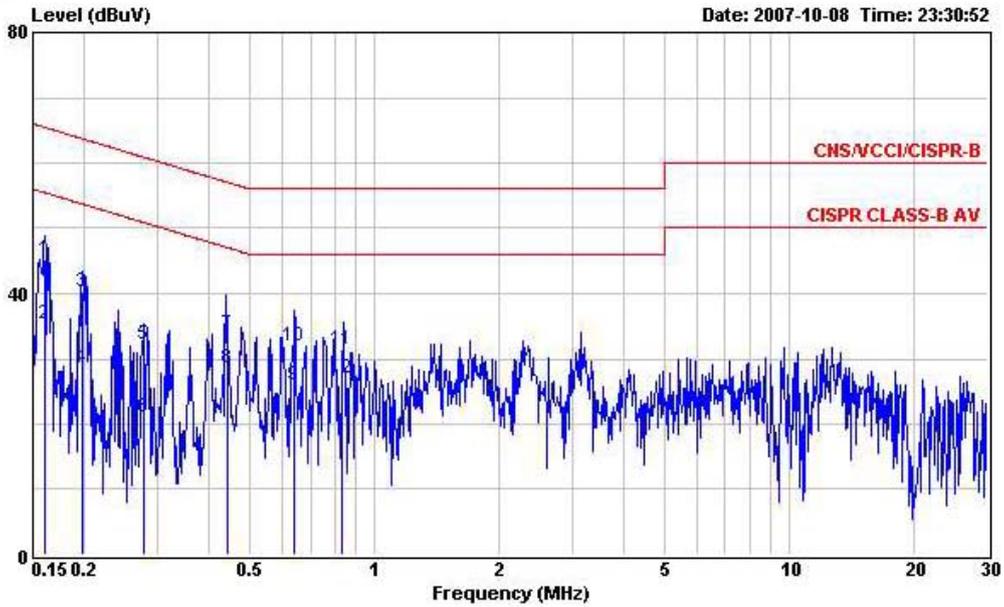
- Temperature : 26~27
- Relative Humidity : 49~51%
- Test Enginner : Sun
- Test Mode : Mode 1

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



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 LINE
 EUT : GSM/EDGE(Class 12) 850/900/1800/1900
 : UMTS/HSDPA 850/2100(Band I and V)with
 : BT_EDR Phone_Slide Type
 Power : 120Vac/60Hz
 Model : FR 792103
 Memo : GSM850 Idle+BT Link+Camera A+Adaptor A

	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	Probe Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.158	48.97	-16.60	65.57	48.78	0.09	0.10	QP
2	0.158	39.95	-15.62	55.57	39.76	0.09	0.10	Average
3	0.199	43.33	-20.32	63.65	43.15	0.08	0.10	QP
4	0.199	32.64	-21.01	53.65	32.46	0.08	0.10	Average
5	0.237	37.24	-24.95	62.19	37.05	0.09	0.10	QP
6	0.237	25.64	-26.55	52.19	25.45	0.09	0.10	Average
7	0.277	31.67	-29.24	60.91	31.47	0.10	0.10	QP
8	0.277	22.68	-28.23	50.91	22.48	0.10	0.10	Average
9	0.480	31.99	-24.36	56.35	31.76	0.13	0.10	QP
10	0.480	29.11	-17.24	46.35	28.88	0.13	0.10	Average
11	0.599	33.54	-22.46	56.00	33.30	0.14	0.10	QP
12	0.599	26.52	-19.48	46.00	26.28	0.14	0.10	Average



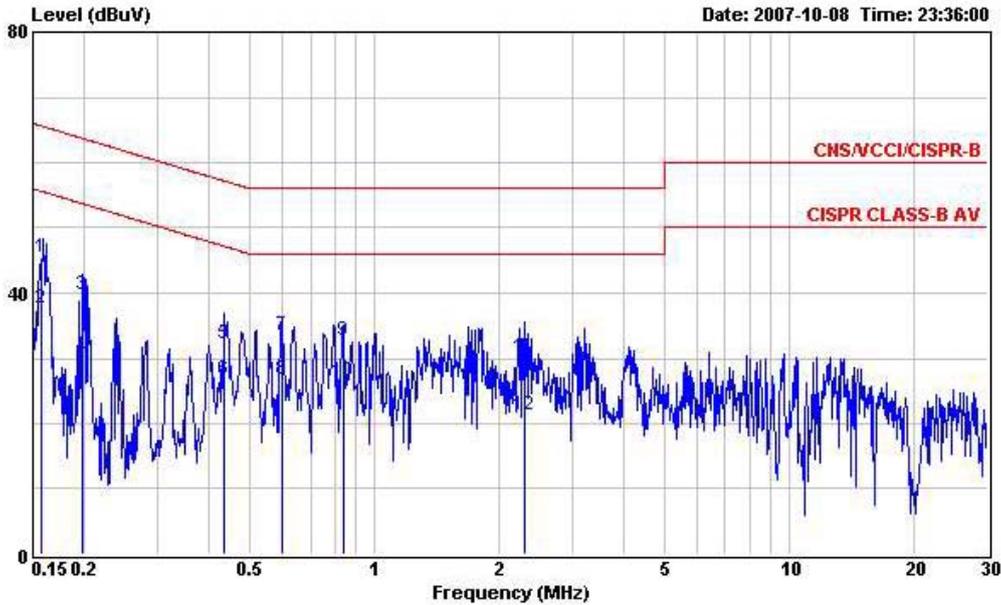
Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 NEUTRAL
 EUT : GSM/EDGE(Class 12) 850/900/1800/1900
 : UMTS/HSDPA 850/2100(Band I and V)with
 : BT_EDR Phone_Slide Type
 Power : 120Vac/60Hz
 Model : FR 792103
 Memo : GSM850 Idle+BT Link+Camera A+Adaptor A

	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	Probe Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.161	45.24	-20.17	65.41	45.05	0.09	0.10	QP
2	0.161	35.41	-20.00	55.41	35.22	0.09	0.10	Average
3	0.198	40.16	-23.53	63.69	39.98	0.08	0.10	QP
4	0.198	28.69	-25.00	53.69	28.51	0.08	0.10	Average
5	0.279	32.23	-28.62	60.85	32.03	0.10	0.10	QP
6	0.279	21.05	-29.80	50.85	20.85	0.10	0.10	Average
7	0.440	33.76	-23.30	57.06	33.54	0.12	0.10	QP
8	0.440	28.51	-18.55	47.06	28.29	0.12	0.10	Average
9	0.641	25.96	-20.04	46.00	25.71	0.15	0.10	Average
10	0.641	31.85	-24.15	56.00	31.60	0.15	0.10	QP
11	0.837	31.37	-24.63	56.00	31.11	0.16	0.10	QP
12	0.837	26.89	-19.11	46.00	26.63	0.16	0.10	Average



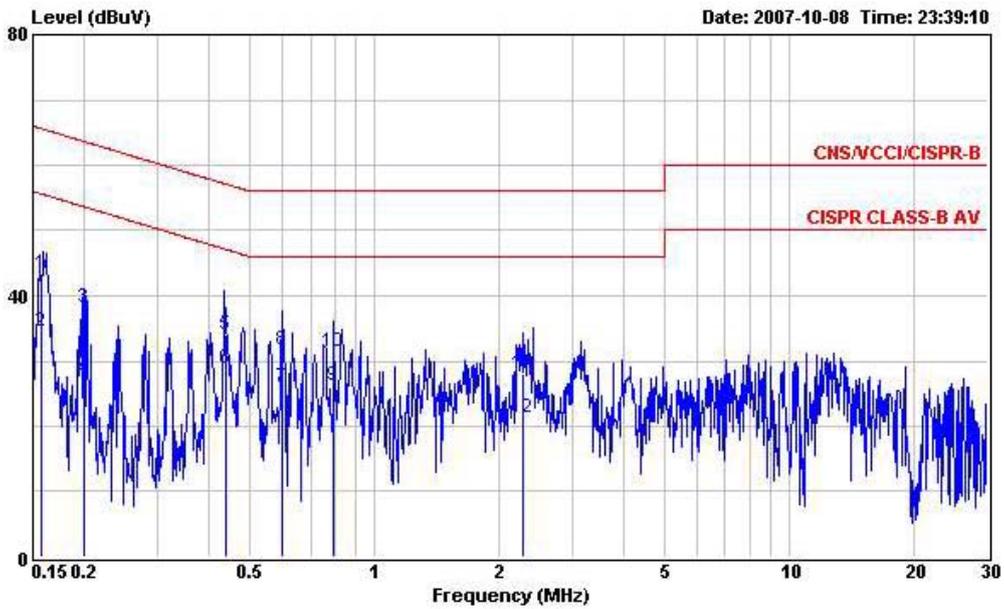
- Temperature : 26~27
- Relative Humidity : 49~51%
- Test Enginner : Sun
- Test Mode : Mode 2

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



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 LINE
 EUT : GSM/EDGE(Class 12)850/900/1800/1900
 : UMTS/HSDPA 850/2100(Band I and V)with
 : BT_EDR Phone_Slide Type
 Power : 120Vac/60Hz
 Model : FR 792103
 Memo : GSM850 Idle+BT Link+Camera B+Adaptor A

No	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	Probe Factor	Remark
1	0.158	45.44	-20.13	65.57	45.25	0.09	0.10	QP
2	0.158	37.70	-17.87	55.57	37.51	0.09	0.10	Average
3	0.198	39.84	-23.85	63.69	39.66	0.08	0.10	QP
4	0.198	30.10	-23.59	53.69	29.92	0.08	0.10	Average
5	0.435	32.24	-24.92	57.16	32.02	0.12	0.10	QP
6	0.435	26.65	-20.51	47.16	26.43	0.12	0.10	Average
7	0.599	33.44	-22.56	56.00	33.20	0.14	0.10	QP
8	0.599	26.65	-19.35	46.00	26.41	0.14	0.10	Average
9	0.839	32.75	-23.25	56.00	32.49	0.16	0.10	QP
10	0.839	26.42	-19.58	46.00	26.16	0.16	0.10	Average
11	2.310	30.02	-25.98	56.00	29.73	0.17	0.12	QP
12	2.310	21.38	-24.62	46.00	21.09	0.17	0.12	Average



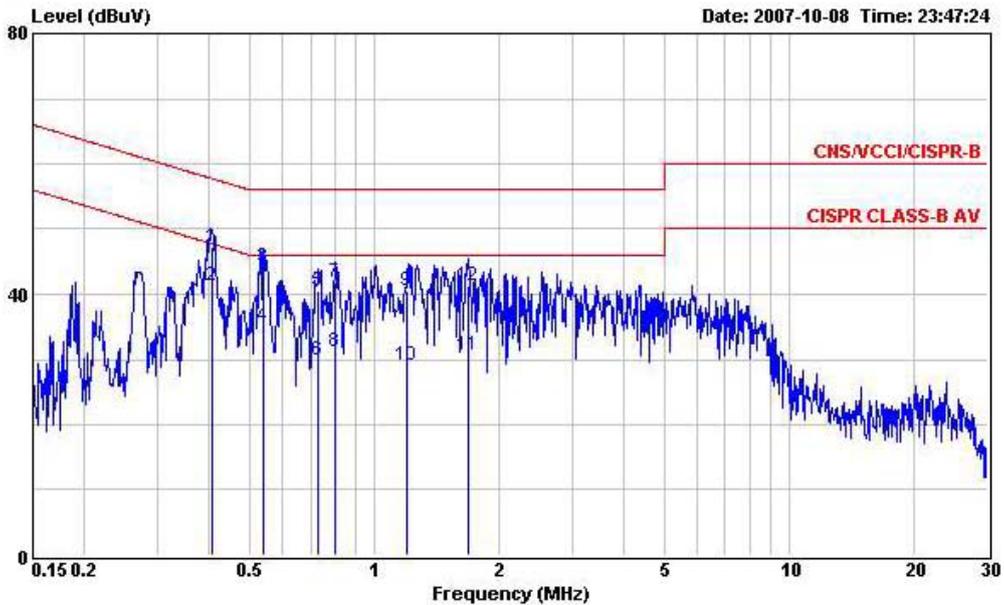
Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 NEUTRAL
 EUT : GSM/EDGE(Class 12) 850/900/1800/1900
 : UMTS/HSDPA 850/2100(Band I and V)with
 : BT_EDR Phone_Slide Type
 Power : 120Vac/60Hz
 Model : FR 792103
 Memo : GSM850 Idle+BT Link+Camera B+Adaptor A

	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	Probe Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.158	43.47	-22.10	65.57	43.28	0.09	0.10	QP
2	0.158	34.44	-21.13	55.57	34.25	0.09	0.10	Average
3	0.199	38.16	-25.49	63.65	37.98	0.08	0.10	QP
4	0.199	27.19	-26.46	53.65	27.01	0.08	0.10	Average
5	0.438	33.94	-23.15	57.09	33.72	0.12	0.10	QP
6	0.438	28.83	-18.26	47.09	28.61	0.12	0.10	Average
7	0.601	26.10	-19.90	46.00	25.86	0.14	0.10	Average
8	0.601	31.70	-24.30	56.00	31.46	0.14	0.10	QP
9	0.796	26.34	-19.66	46.00	26.08	0.16	0.10	Average
10	0.796	31.32	-24.68	56.00	31.06	0.16	0.10	QP
11	2.270	28.03	-27.97	56.00	27.76	0.17	0.10	QP
12	2.270	21.40	-24.60	46.00	21.13	0.17	0.10	Average



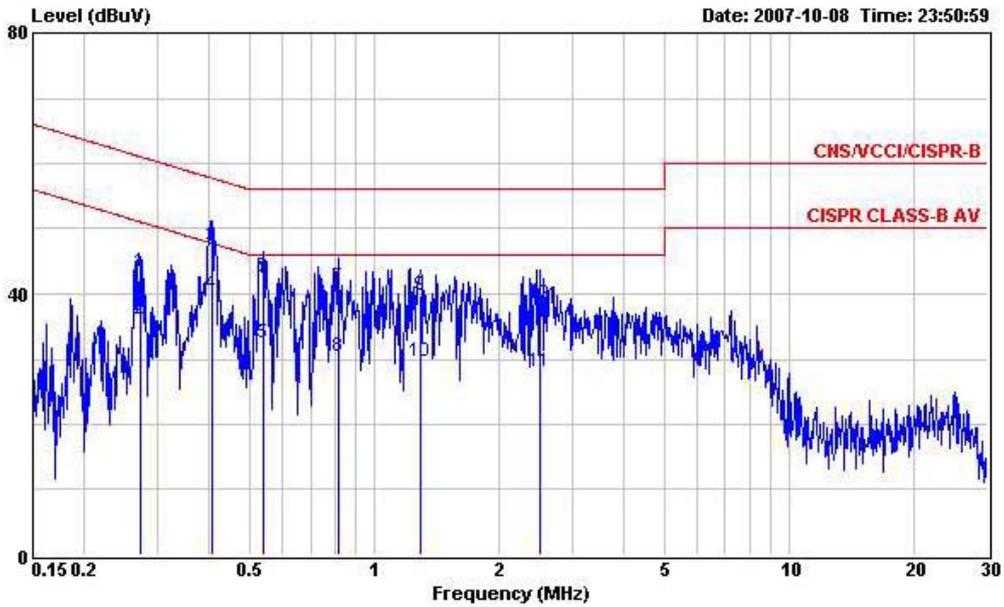
- Temperature : 26~27
- Relative Humidity : 49~51%
- Test Enginner : Sun
- Test Mode : Mode 3

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



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 LINE
 EUT : GSM/EDGE(Class 12) 850/900/1800/1900
 : UMTS/HSDPA 850/2100(Band I and V)with
 : BT_EDR Phone_Slide Type
 Power : 120Vac/60Hz
 Model : FR 792103
 Memo : GSM850 Idle+BT Link+Camera A+Adaptor B

	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	Probe Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.404	47.28	-10.49	57.77	47.06	0.12	0.10	QP
2	0.404	41.41	-6.36	47.77	41.19	0.12	0.10	Average
3	0.539	44.26	-11.74	56.00	44.02	0.14	0.10	QP
4	0.539	35.14	-10.86	46.00	34.90	0.14	0.10	Average
5	0.731	40.46	-15.54	56.00	40.21	0.15	0.10	QP
6	0.731	29.89	-16.11	46.00	29.64	0.15	0.10	Average
7	0.804	41.95	-14.05	56.00	41.69	0.16	0.10	QP
8	0.804	31.07	-14.93	46.00	30.81	0.16	0.10	Average
9	1.200	40.64	-15.36	56.00	40.38	0.16	0.10	QP
10	1.200	29.17	-16.83	46.00	28.91	0.16	0.10	Average
11	1.680	30.59	-15.41	46.00	30.35	0.14	0.10	Average
12	1.680	41.39	-14.61	56.00	41.15	0.14	0.10	QP



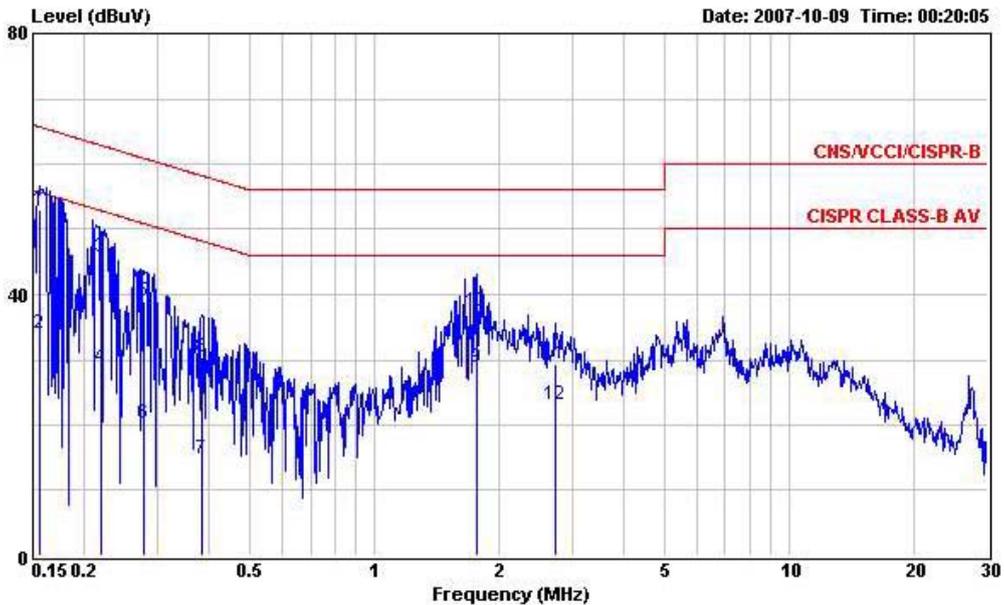
Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 NEUTRAL
 EUT : GSM/EDGE(Class 12) 850/900/1800/1900
 : UMTS/HSDPA 850/2100(Band I and V)with
 : BT_EDR Phone_Slide Type
 Power : 120Vac/60Hz
 Model : FR 792103
 Memo : GSM850 Idle+BT Link+Camera A+Adaptor B

	Over	Limit	Read	Probe				
Freq	Level	Limit	Line	Level	Cable	Loss	Factor	
MHz	dBuV	dB	dBuV	dBuV	dB	dB	dB	
1	0.273	43.29	-17.74	61.03	43.09	0.10	0.10	QP
2	0.273	36.18	-14.85	51.03	35.98	0.10	0.10	Average
3	0.406	47.35	-10.38	57.73	47.13	0.12	0.10	QP
4	0.406	39.98	-7.75	47.73	39.76	0.12	0.10	Average
5	0.538	32.41	-13.59	46.00	32.17	0.14	0.10	Average
6	0.538	42.72	-13.28	56.00	42.48	0.14	0.10	QP
7	0.817	41.12	-14.88	56.00	40.86	0.16	0.10	QP
8	0.817	30.47	-15.53	46.00	30.21	0.16	0.10	Average
9	1.290	39.76	-16.24	56.00	39.50	0.16	0.10	QP
10	1.290	29.62	-16.38	46.00	29.36	0.16	0.10	Average
11	2.500	28.02	-17.98	46.00	27.72	0.20	0.10	Average
12	2.500	38.37	-17.63	56.00	38.07	0.20	0.10	QP



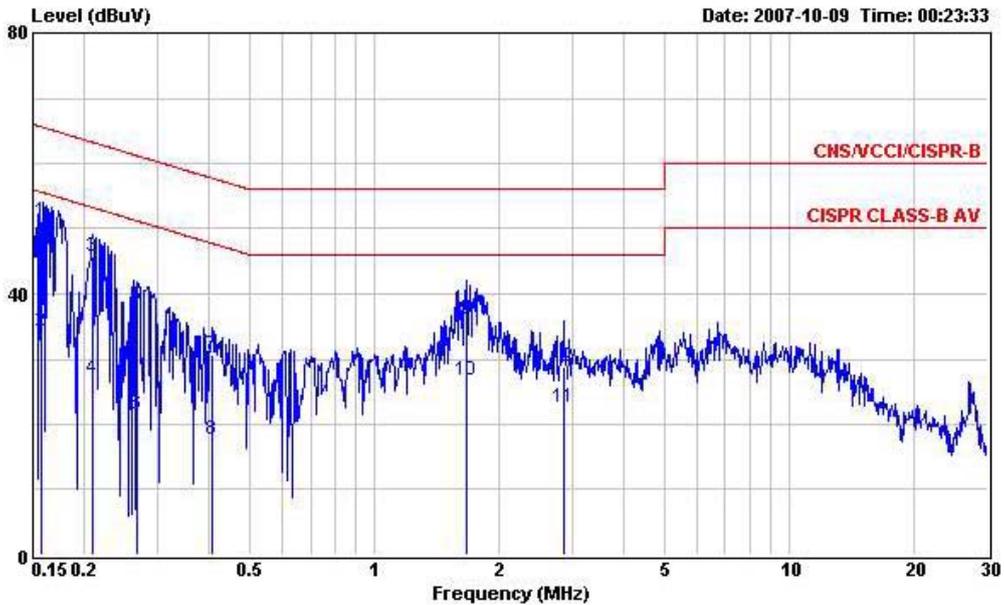
- Temperature : 26~27
- Relative Humidity : 49~51%
- Test Enginner : Sun
- Test Mode : Mode 4

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



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 LINE
 EUT : GSM/EDGE(Class 12)850/900/1800/1900
 : UMTS/HSDPA 850/2100(Band I and V)with
 : BT_EDR Phone_Slide Type
 Power : From System
 Model : FR 792103
 Memo : GSM850 Idle+BT Link+Camera A+USB Link

Freq	Level	Over	Limit	Read	Cable	Probe	Remark
		Limit	Line	Level	Loss	Factor	
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.156	52.98	-12.69	65.67	52.79	0.09	0.10 QP
2	0.156	33.92	-21.75	55.67	33.73	0.09	0.10 Average
3	0.220	45.79	-17.02	62.81	45.60	0.09	0.10 QP
4	0.220	28.78	-24.03	52.81	28.59	0.09	0.10 Average
5	0.277	39.08	-21.83	60.91	38.88	0.10	0.10 QP
6	0.277	20.37	-30.54	50.91	20.17	0.10	0.10 Average
7	0.383	14.86	-33.35	48.21	14.64	0.12	0.10 Average
8	0.383	30.42	-27.79	58.21	30.20	0.12	0.10 QP
9	1.770	28.93	-17.07	46.00	28.69	0.14	0.10 Average
10	1.770	37.37	-18.63	56.00	37.13	0.14	0.10 QP
11	2.720	29.37	-26.63	56.00	29.01	0.22	0.14 QP
12	2.720	23.17	-22.83	46.00	22.81	0.22	0.14 Average



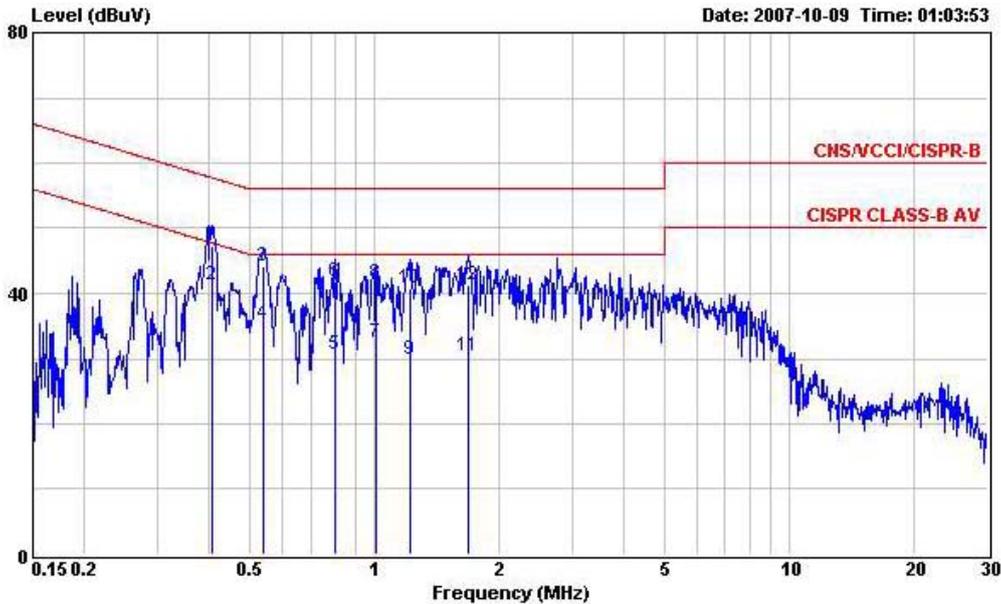
Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 NEUTRAL
 EUT : GSM/EDGE(Class 12)850/900/1800/1900
 : UMTS/HSDPA 850/2100(Band I and V)with
 : BT_EDR Phone_Slide Type
 Power : From System
 Model : FR 792103
 Memo : GSM850 Idle+BT Link+Camera A+USB Link

	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	Probe Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.158	51.29	-14.28	65.57	51.10	0.09	0.10	QP
2	0.158	34.33	-21.24	55.57	34.14	0.09	0.10	Average
3	0.209	45.62	-17.62	63.24	45.44	0.08	0.10	QP
4	0.209	27.00	-26.24	53.24	26.82	0.08	0.10	Average
5	0.267	38.22	-22.99	61.21	38.02	0.10	0.10	QP
6	0.267	21.56	-29.65	51.21	21.36	0.10	0.10	Average
7	0.406	30.53	-27.20	57.73	30.31	0.12	0.10	QP
8	0.406	17.72	-30.01	47.73	17.50	0.12	0.10	Average
9	1.670	36.14	-19.86	56.00	35.90	0.14	0.10	QP
10	1.670	26.70	-19.30	46.00	26.46	0.14	0.10	Average
11	2.850	22.65	-23.35	46.00	22.31	0.24	0.10	Average
12	2.850	28.76	-27.24	56.00	28.42	0.24	0.10	QP



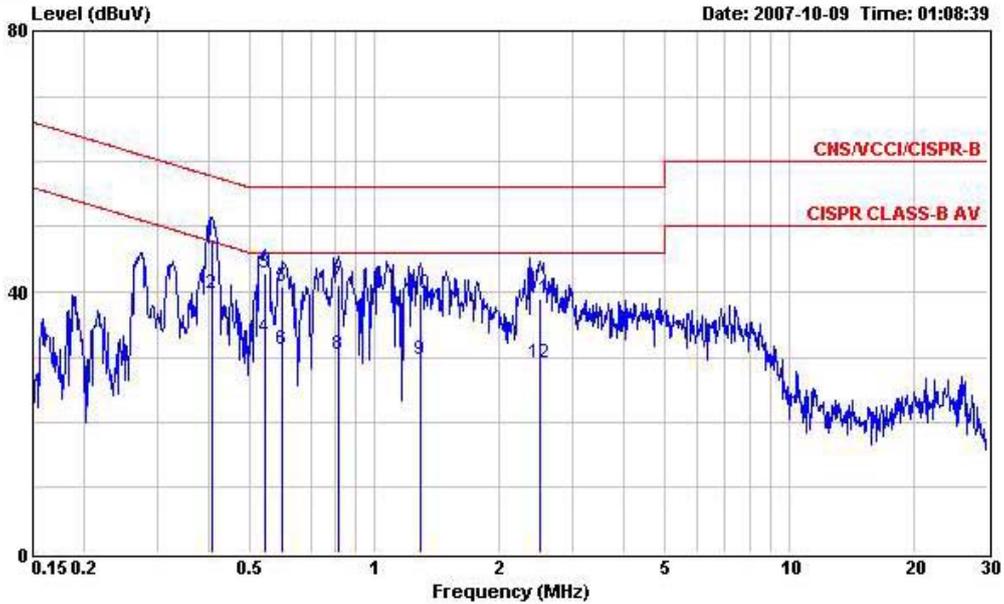
- Temperature : 26~27
- Relative Humidity : 49~51%
- Test Enginner : Win
- Test Mode : Mode 5

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



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 LINE
 EUT : GSM/EDGE(Class 12)850/900/1800/1900
 : UMTS/HSDPA 850/2100(Band I and V)with
 : BT_EDR Phone_Slide Type
 Power : 120Vac/60Hz
 Model : FR 792103
 Memo : EDGE Idle+BT Link+Camera A+Adaptor B

Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	Probe Factor	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.406	47.22	-10.51	57.73	47.00	0.12	0.10 QP
2	0.406	41.36	-6.37	47.73	41.14	0.12	0.10 Average
3	0.541	44.19	-11.81	56.00	43.95	0.14	0.10 QP
4	0.541	35.39	-10.61	46.00	35.15	0.14	0.10 Average
5	0.804	30.64	-15.36	46.00	30.38	0.16	0.10 Average
6	0.804	41.77	-14.23	56.00	41.51	0.16	0.10 QP
7	1.010	32.56	-13.44	46.00	32.29	0.17	0.10 Average
8	1.010	41.56	-14.44	56.00	41.29	0.17	0.10 QP
9	1.220	29.94	-16.06	46.00	29.68	0.16	0.10 Average
10	1.220	40.68	-15.32	56.00	40.42	0.16	0.10 QP
11	1.680	30.42	-15.58	46.00	30.18	0.14	0.10 Average
12	1.680	41.23	-14.77	56.00	40.99	0.14	0.10 QP



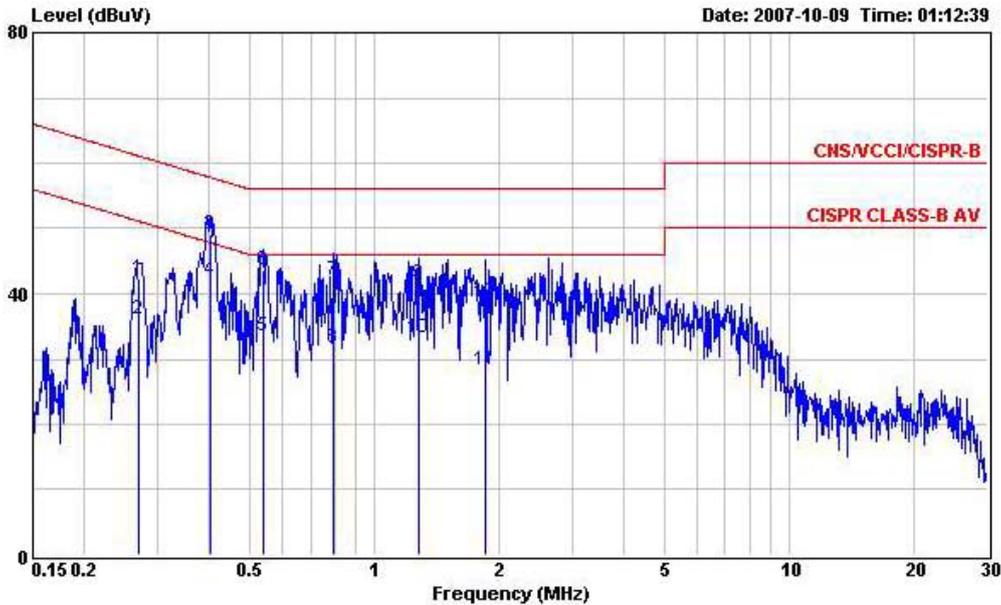
Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 NEUTRAL
 EUT : GSM/EDGE(Class 12) 850/900/1800/1900
 : UMTS/HSDPA 850/2100(Band I and V)with
 : BT_EDR Phone_Slide Type
 Power : 120Vac/60Hz
 Model : FR 792103
 Memo : EDGE Idle+BT Link+Camera A+Adaptor B

	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	Probe Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.404	47.91	-9.86	57.77	47.69	0.12	0.10	QP
2	0.404	39.80	-7.97	47.77	39.58	0.12	0.10	Average
3	0.544	42.92	-13.08	56.00	42.68	0.14	0.10	QP
4	0.544	32.90	-13.10	46.00	32.66	0.14	0.10	Average
5	0.601	40.83	-15.17	56.00	40.59	0.14	0.10	QP
6	0.601	31.04	-14.96	46.00	30.80	0.14	0.10	Average
7	0.817	41.10	-14.90	56.00	40.84	0.16	0.10	QP
8	0.817	30.38	-15.62	46.00	30.12	0.16	0.10	Average
9	1.290	29.72	-16.28	46.00	29.46	0.16	0.10	Average
10	1.290	39.64	-16.36	56.00	39.38	0.16	0.10	QP
11	2.510	38.87	-17.13	56.00	38.57	0.20	0.10	QP
12	2.510	29.14	-16.86	46.00	28.84	0.20	0.10	Average



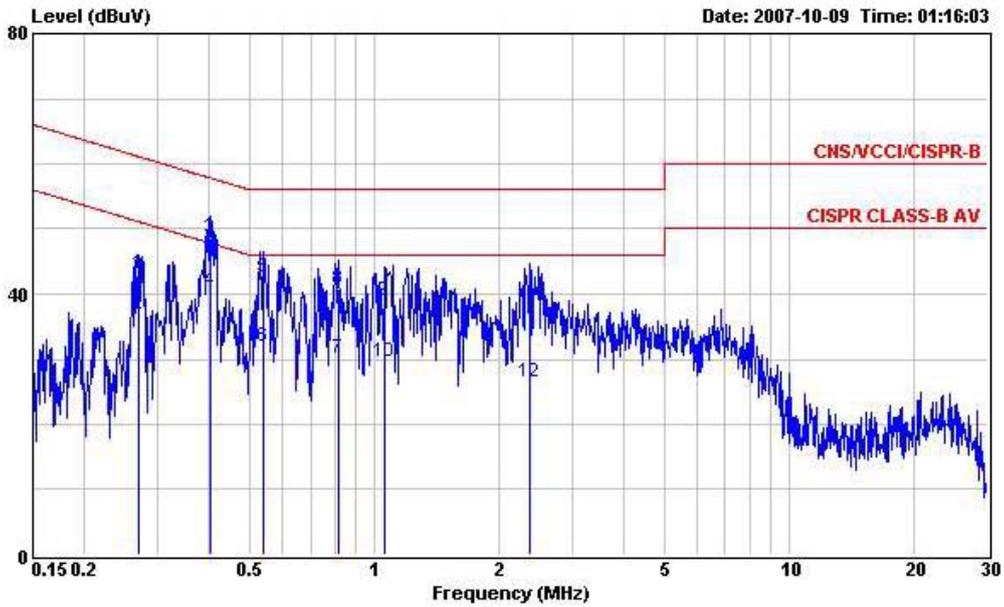
- Temperature : 26~27
- Relative Humidity : 49~51%
- Test Enginner : Sun
- Test Mode : Mode 6

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



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 LINE
 EUT : GSM/EDGE(Class 12) 850/900/1800/1900
 : UMTS/HSDPA 850/2100(Band I and V)with
 : BT_EDR Phone_Slide Type
 Power : 120Vac/60Hz
 Model : FR 792103
 Memo : WCDMA Idle+BT Link+Camera A+Adaptor B

	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	Probe Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.270	42.42	-18.69	61.11	42.22	0.10	0.10	QP
2	0.270	35.98	-15.13	51.11	35.78	0.10	0.10	Average
3	0.403	49.00	-8.80	57.80	48.78	0.12	0.10	QP
4	0.403	42.02	-5.78	47.80	41.80	0.12	0.10	Average
5	0.538	33.41	-12.59	46.00	33.17	0.14	0.10	Average
6	0.538	43.71	-12.29	56.00	43.47	0.14	0.10	QP
7	0.792	42.21	-13.79	56.00	41.95	0.16	0.10	QP
8	0.792	31.78	-14.22	46.00	31.52	0.16	0.10	Average
9	1.280	41.61	-14.39	56.00	41.35	0.16	0.10	QP
10	1.280	33.33	-12.67	46.00	33.07	0.16	0.10	Average
11	1.850	28.37	-17.63	46.00	28.14	0.13	0.10	Average
12	1.850	38.58	-17.42	56.00	38.35	0.13	0.10	QP



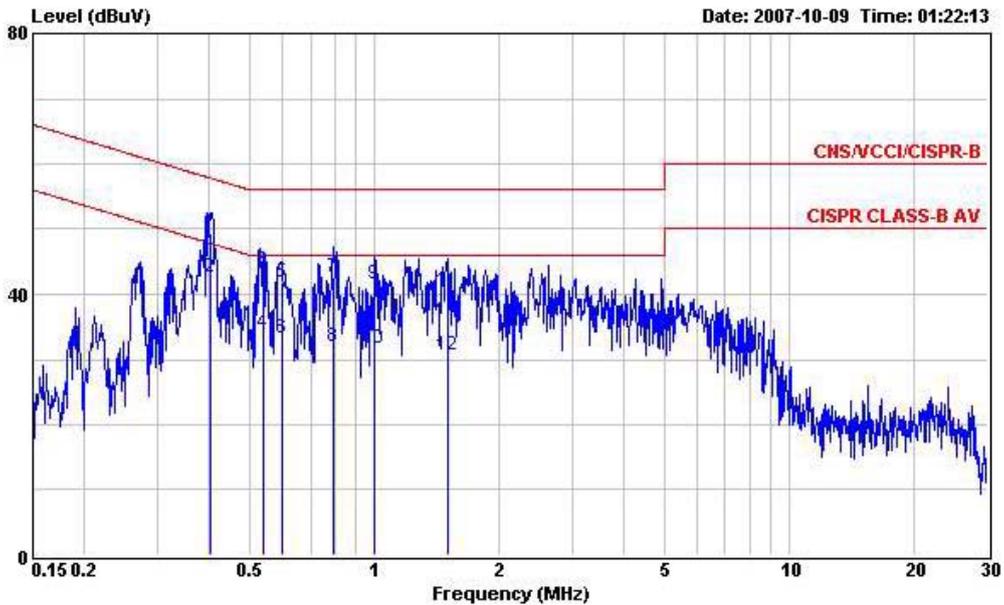
Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 NEUTRAL
 EUT : GSM/EDGE(Class 12) 850/900/1800/1900
 : UMTS/HSDPA 850/2100(Band I and V)with
 : BT_EDR Phone_Slide Type
 Power : 120Vac/60Hz
 Model : FR 792103
 Memo : WCDMA Idle+BT Link+Camera A+Adaptor B

	Freq	Level	Over	Limit	Read	Cable	Probe	Remark
	MHz	dBuV	Limit	Line	Level	Loss	Factor	
			dB	dBuV	dBuV	dB	dB	
1	0.270	43.15	-17.97	61.12	42.95	0.10	0.10	QP
2	0.270	36.97	-14.15	51.12	36.77	0.10	0.10	Average
3	0.403	48.47	-9.31	57.78	48.25	0.12	0.10	QP
4	0.403	40.61	-7.17	47.78	40.39	0.12	0.10	Average
5	0.538	42.64	-13.36	56.00	42.40	0.14	0.10	QP
6	0.538	32.04	-13.96	46.00	31.80	0.14	0.10	Average
7	0.817	30.13	-15.87	46.00	29.87	0.16	0.10	Average
8	0.817	40.84	-15.16	56.00	40.58	0.16	0.10	QP
9	1.060	38.90	-17.10	56.00	38.63	0.17	0.10	QP
10	1.060	29.59	-16.41	46.00	29.32	0.17	0.10	Average
11	2.370	38.05	-17.95	56.00	37.77	0.18	0.10	QP
12	2.370	26.48	-19.52	46.00	26.20	0.18	0.10	Average



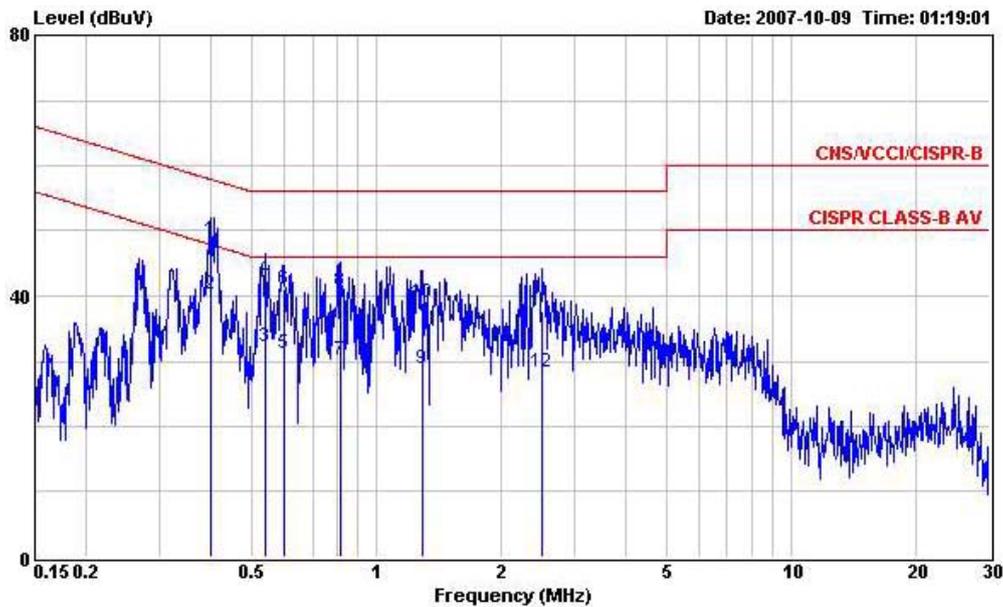
- Temperature : 26~27
- Relative Humidity : 49~51%
- Test Enginner : Sun
- Test Mode : Mode 7

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



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 LINE
 EUT : GSM/EDGE(Class 12) 850/900/1800/1900
 : UMTS/HSDPA 850/2100(Band I and V)with
 : BT_EDR Phone_Slide Type
 Power : 120Vac/60Hz
 Model : FR 792103
 Memo : HSDPA Idle+BT Link+Camera A+Adaptor B

Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	Probe Factor	Remark
MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.402	49.42	-8.39	57.81	49.20	0.12	0.10 QP
2	0.402	42.55	-5.26	47.81	42.33	0.12	0.10 Average
3	0.538	43.69	-12.31	56.00	43.45	0.14	0.10 QP
4	0.538	33.91	-12.09	46.00	33.67	0.14	0.10 Average
5	0.598	41.76	-14.24	56.00	41.52	0.14	0.10 QP
6	0.598	33.16	-12.84	46.00	32.92	0.14	0.10 Average
7	0.792	42.61	-13.39	56.00	42.35	0.16	0.10 QP
8	0.792	32.07	-13.93	46.00	31.81	0.16	0.10 Average
9	1.000	41.66	-14.34	56.00	41.39	0.17	0.10 QP
10	1.000	31.61	-14.39	46.00	31.34	0.17	0.10 Average
11	1.500	40.45	-15.55	56.00	40.20	0.15	0.10 QP
12	1.500	30.54	-15.46	46.00	30.29	0.15	0.10 Average



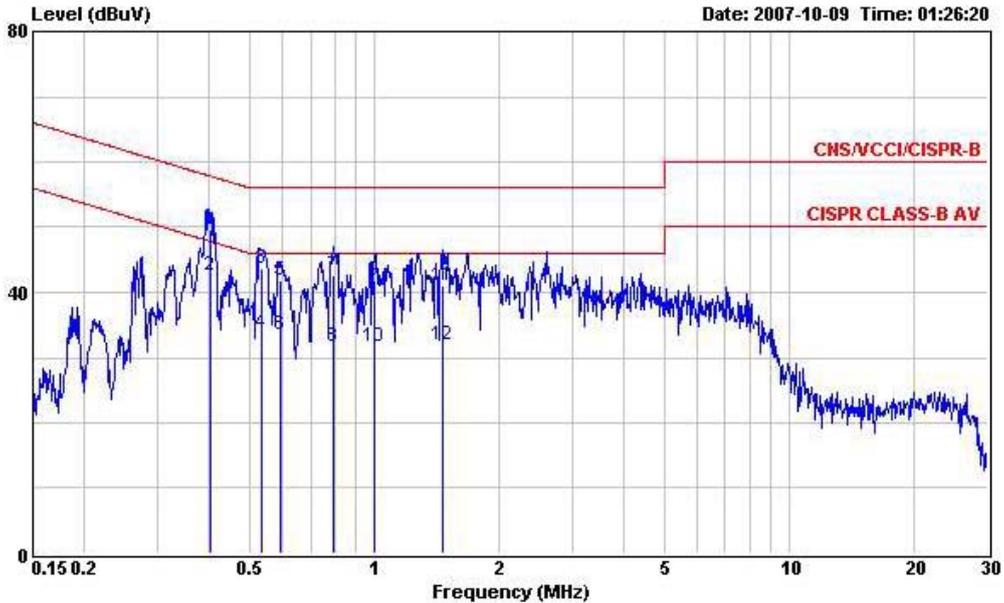
Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 NEUTRAL
 EUT : GSM/EDGE(Class 12) 850/900/1800/1900
 : UMTS/HSDPA 850/2100(Band I and V)with
 : BT_EDR Phone_Slide Type
 Power : 120Vac/60Hz
 Model : FR 792103
 Memo : HSDPA Idle+BT Link+Camera A+Adaptor B

	Freq	Level	Over	Limit	Read	Cable	Probe	Remark
	MHz	dBuV	Limit	Line	Level	Loss	Factor	
			dB	dBuV	dBuV	dB	dB	
1	0.400	48.70	-9.15	57.85	48.48	0.12	0.10	QP
2	0.400	40.33	-7.52	47.85	40.11	0.12	0.10	Average
3	0.538	32.27	-13.73	46.00	32.03	0.14	0.10	Average
4	0.538	42.68	-13.32	56.00	42.44	0.14	0.10	QP
5	0.598	31.28	-14.72	46.00	31.04	0.14	0.10	Average
6	0.598	41.11	-14.89	56.00	40.87	0.14	0.10	QP
7	0.817	30.08	-15.92	46.00	29.82	0.16	0.10	Average
8	0.817	40.84	-15.16	56.00	40.58	0.16	0.10	QP
9	1.290	28.77	-17.23	46.00	28.51	0.16	0.10	Average
10	1.290	39.01	-16.99	56.00	38.75	0.16	0.10	QP
11	2.510	37.65	-18.35	56.00	37.35	0.20	0.10	QP
12	2.510	28.19	-17.81	46.00	27.89	0.20	0.10	Average



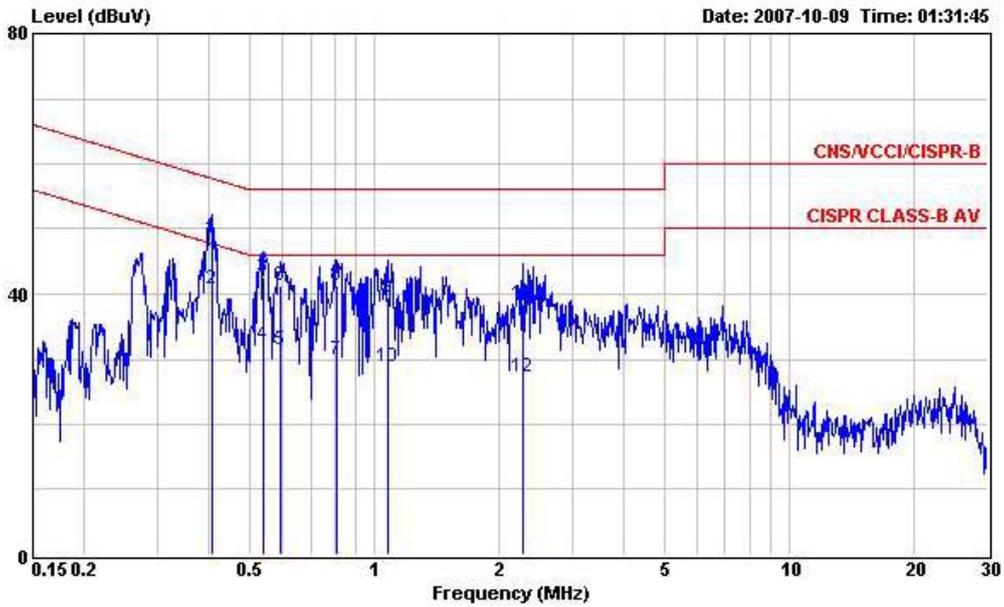
- Temperature : 26~27
- Relative Humidity : 49~51%
- Test Enginner : Sun
- Test Mode : Mode 8

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



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 LINE
 EUT : GSM/EDGE(Class 12) 850/900/1800/1900
 : UMTS/HSDPA 850/2100(Band I and V)with
 : BT_EDR Phone_Slide Type
 Power : 120Vac/60Hz
 Model : FR 792103
 Memo : PCS1900 Idle+BT Link+Camera A+Adaptor B

	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	Probe Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.402	49.50	-8.32	57.82	49.28	0.12	0.10	QP
2	0.402	42.55	-5.27	47.82	42.33	0.12	0.10	Average
3	0.536	43.75	-12.25	56.00	43.51	0.14	0.10	QP
4	0.536	33.73	-12.27	46.00	33.49	0.14	0.10	Average
5	0.595	41.84	-14.16	56.00	41.60	0.14	0.10	QP
6	0.595	33.41	-12.59	46.00	33.17	0.14	0.10	Average
7	0.796	42.57	-13.43	56.00	42.31	0.16	0.10	QP
8	0.796	31.70	-14.30	46.00	31.44	0.16	0.10	Average
9	1.000	41.79	-14.21	56.00	41.52	0.17	0.10	QP
10	1.000	31.76	-14.24	46.00	31.49	0.17	0.10	Average
11	1.460	41.05	-14.95	56.00	40.80	0.15	0.10	QP
12	1.460	31.90	-14.10	46.00	31.65	0.15	0.10	Average



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 NEUTRAL
 EUT : GSM/EDGE(Class 12) 850/900/1800/1900
 : UMTS/HSDPA 850/2100(Band I and V)with
 : BT_EDR Phone_Slide Type
 Power : 120Vac/60Hz
 Model : FR 792103
 Memo : PCS1900 Idle+BT Link+Camera A+Adaptor B

	Freq	Level	Over	Limit	Read	Cable	Probe	Remark
	MHz	dBuV	Limit	Line	Level	Loss	Factor	
			dB	dBuV	dBuV	dB	dB	
1	0.404	48.47	-9.30	57.77	48.25	0.12	0.10	QP
2	0.404	40.74	-7.03	47.77	40.52	0.12	0.10	Average
3	0.541	42.62	-13.38	56.00	42.38	0.14	0.10	QP
4	0.541	32.34	-13.66	46.00	32.10	0.14	0.10	Average
5	0.595	31.43	-14.57	46.00	31.19	0.14	0.10	Average
6	0.595	41.25	-14.75	56.00	41.01	0.14	0.10	QP
7	0.809	29.76	-16.24	46.00	29.50	0.16	0.10	Average
8	0.809	41.18	-14.82	56.00	40.92	0.16	0.10	QP
9	1.080	39.48	-16.52	56.00	39.21	0.17	0.10	QP
10	1.080	28.90	-17.10	46.00	28.63	0.17	0.10	Average
11	2.280	38.33	-17.67	56.00	38.06	0.17	0.10	QP
12	2.280	27.15	-18.85	46.00	26.88	0.17	0.10	Average



5.9 Radiated Emission Measurement

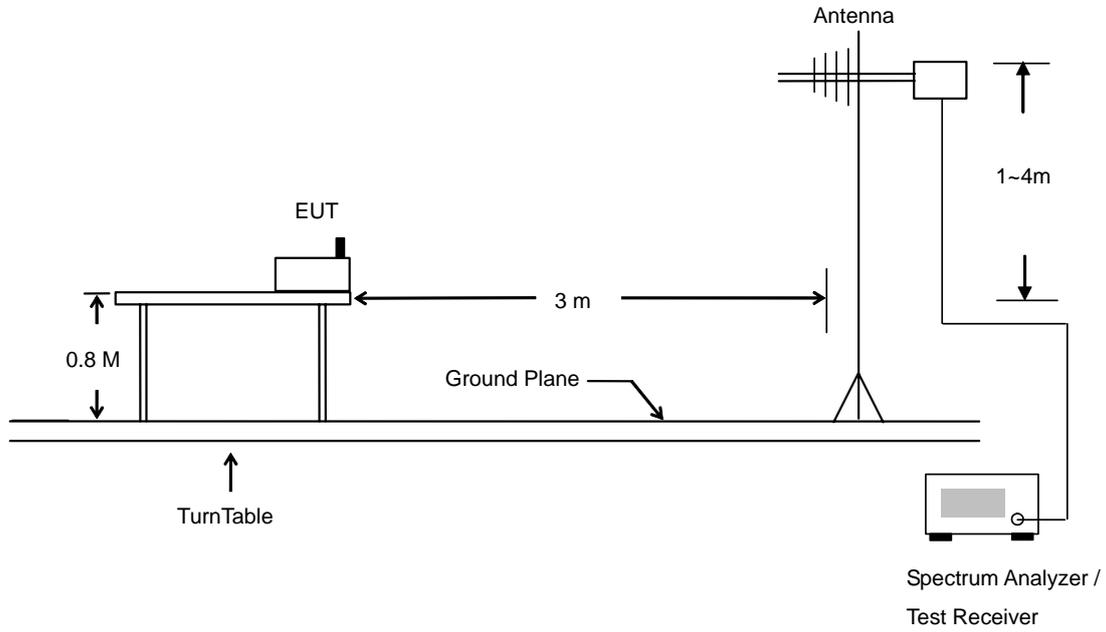
5.9.1 Measuring Instruments

As described in chapter 6 of this Report.

5.9.2 Test Procedures

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

5.9.3 Typical Test Setup Layout of Radiated Emission

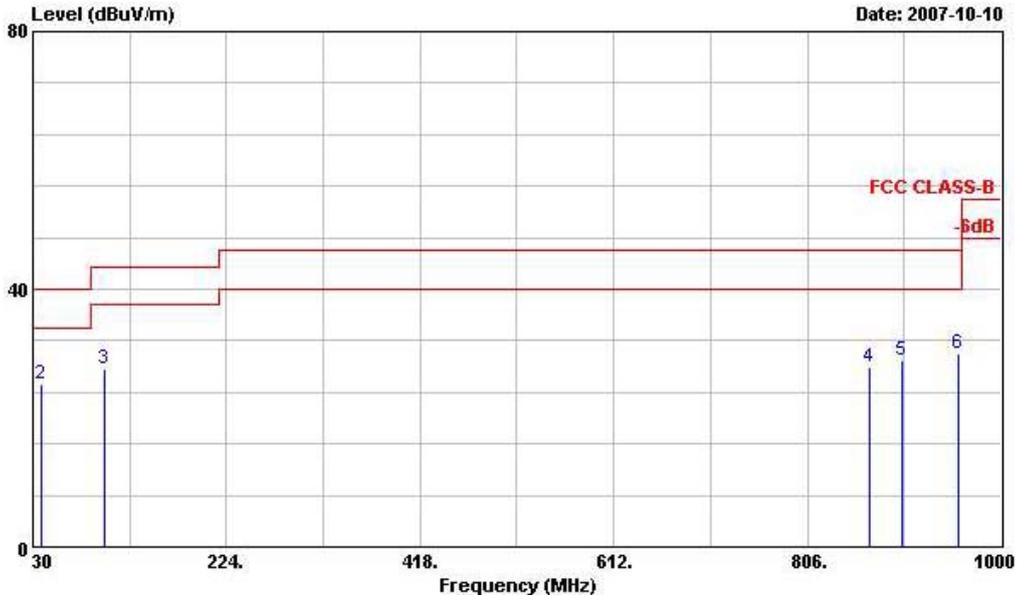




5.9.4 Test Data

- Temperature : 26~27°C
- Relating Humidity : 48~50%
- Test Enginner : Derek
- Test Mode : Mode 1
- Polarization : Horizontal (30MHz-1GHz)

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



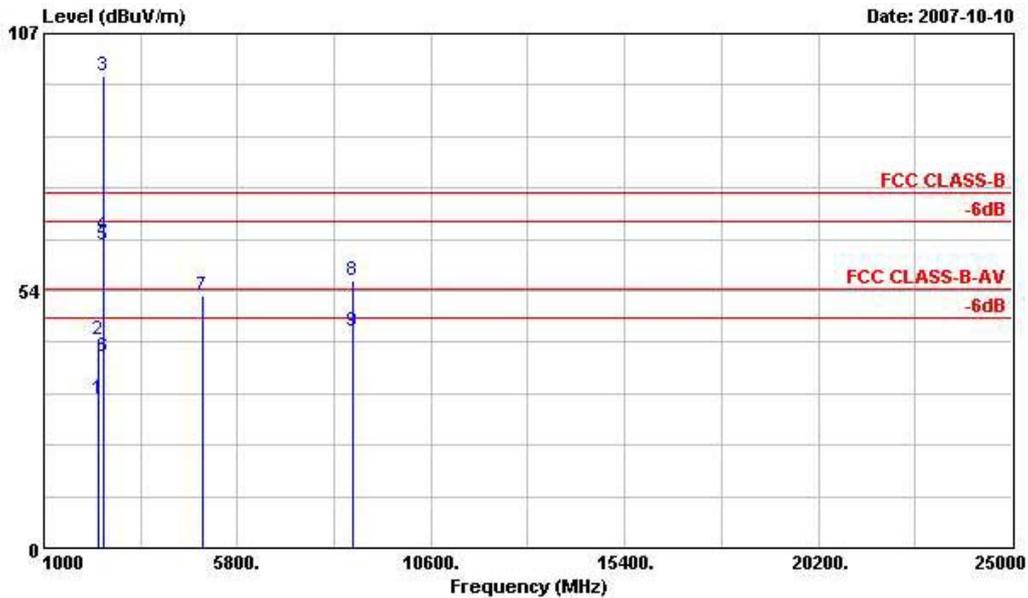
Site : 03CH04-HY
 Condition: FCC CLASS-B 3m ANT2724 HORIZONTAL
 EUT : GSM/EDGE (Class12) 850/900/1800/
 . : 1900 UMTS/HSDPA 850/2100 (BAND I and
 . : V) with BT_EDR Phone_Slide Type
 POWER : 120Vac/60Hz
 MODEL : FR 792103
 MOME : Bluetooth Tx_Ch78;2480MHz
 DATA RATE: DH1
 PLANE : E2
 ADAPTOR : B

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.540	32.41	-7.59	40.00	41.85	16.36	0.87	26.67	100	42	Peak
2	39.180	25.24	-14.76	40.00	38.21	12.71	0.96	26.64	---	---	Peak
3	101.820	27.66	-15.84	43.50	44.51	8.22	1.39	26.45	---	---	Peak
4	867.700	27.82	-18.18	46.00	28.26	22.34	3.90	26.68	---	---	Peak
5	900.600	29.05	-16.95	46.00	28.18	23.53	3.96	26.62	---	---	Peak
6	956.600	30.13	-15.87	46.00	27.77	24.94	3.98	26.56	---	---	Peak



- Polarization : Horizontal (1GHz-25GHz)

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



Site : 03CH04-HY
 Condition: FCC CLASS-B 3m HF-ANT-6903 HORIZONTAL
 EUT : GSM/EDGE(Class12) 850/900/1800/
 . : 1900 UMTS/HSDPA 850/2100(BAND I and
 . : V) with BT_EDR Phone_Slide Type
 POWER : 120Vac/60Hz
 MODEL : FR 792103
 MOME : Bluetooth Tx_Ch78;2480MHz
 DATA RATE:DH1
 PLANE : E2
 ADAPTOR : B

	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	2350.000	30.96	-23.04	54.00	33.08	27.96	3.69	33.77	100	358	Average
2	2350.000	43.43	-30.57	74.00	45.55	27.96	3.69	33.77	100	0	Peak
3 @	2480.000	98.18			99.88	28.26	3.84	33.80	100	0	Peak
4 X	2480.000	65.16			66.86	28.26	3.84	33.80	100	358	Average
5	2483.500	62.90	-11.10	74.00	64.60	28.26	3.84	33.80	100	0	Peak
6	2483.500	39.74	-14.26	54.00	41.44	28.26	3.84	33.80	100	358	Average
7	4950.000	52.48	-21.52	74.00	47.71	33.11	5.96	34.30	100	0	Peak
8	8649.000	55.67	-18.33	74.00	45.41	37.68	7.10	34.52	100	0	Peak
9	8649.000	45.14	-8.86	54.00	34.88	37.68	7.10	34.52	100	170	Average

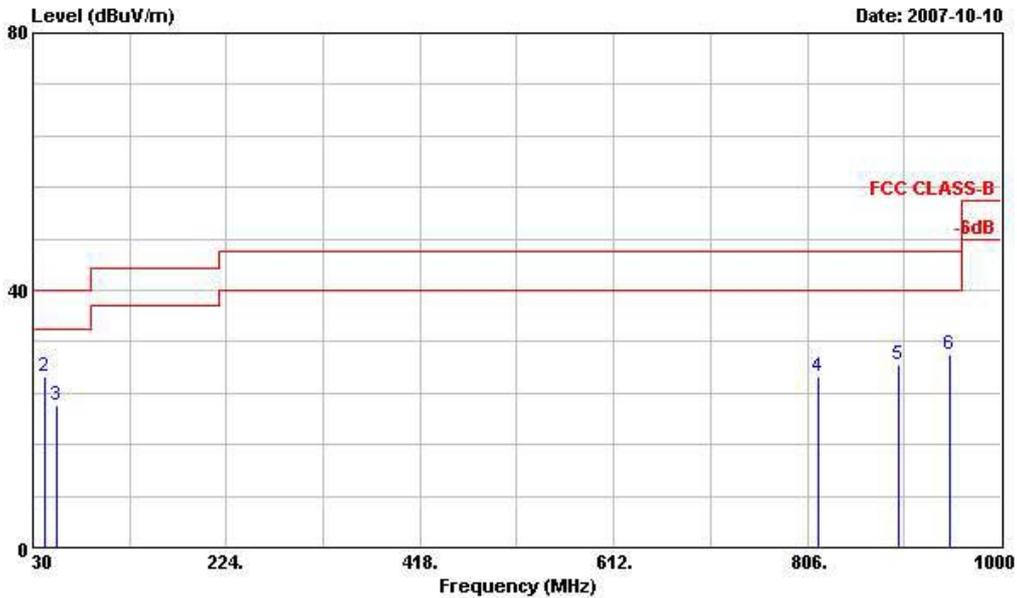
Remark:

1. "3" represents the Fundamental Signal
2. "4" represents the Fundamental Signal



- Polarization : Vertical (30MHz-1GHz)

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



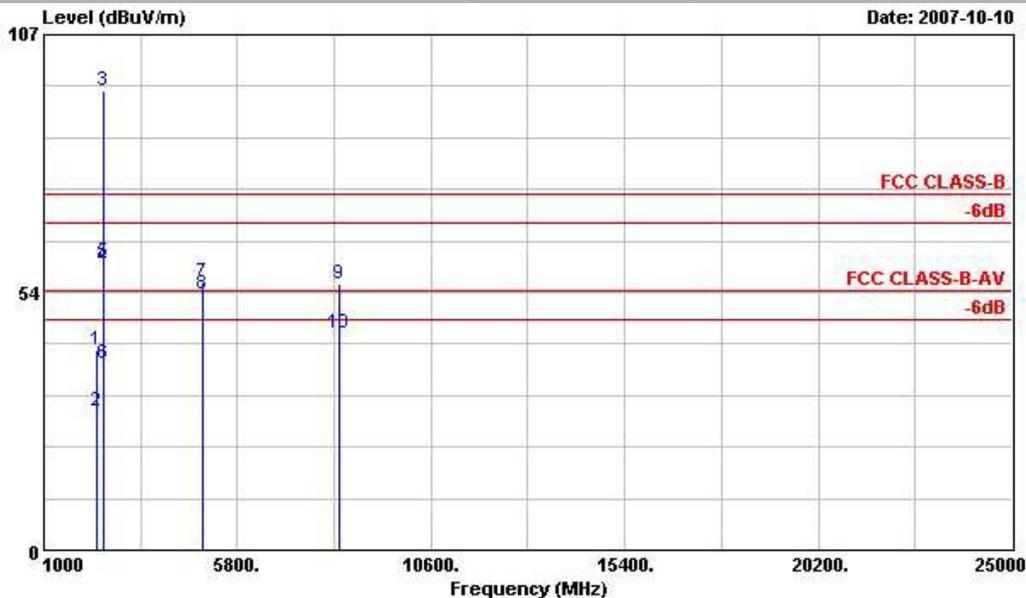
Site : 03CH04-HY
 Condition: FCC CLASS-B 3m ANT2724 VERTICAL
 EUT : GSM/EDGE(Class12) 850/900/1800/
 : 1900 UITS/HSDPA 850/2100(BAND I and
 : V) with BT_EDR Phone_Slide Type
 POWER : 120Vac/60Hz
 MODEL : FR 792103
 HOME : Bluetooth Tx_Ch78;2480MHz
 DATA RATE:DH1
 PLANE : E2
 ADAPTOR : B

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	dB	dBuV/m	dBuV	Loss	Factor	Pos	Pos	Remark
					dB/m	dB	dB	cm	deg	
1	30.540	29.51	-10.49	40.00	38.95	16.36	0.87	26.67	100	247 Peak
2	42.690	26.64	-13.36	40.00	41.54	10.75	0.97	26.63	---	---
3	54.570	21.99	-18.01	40.00	41.95	5.57	1.07	26.60	---	---
4	817.300	26.53	-19.47	46.00	29.16	20.49	3.66	26.78	---	---
5	897.800	28.42	-17.58	46.00	27.65	23.44	3.95	26.62	---	---
6	948.900	30.03	-15.97	46.00	27.88	24.74	3.98	26.57	---	---



- Polarization : Vertical (1GHz-25GHz)

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



Site : 03CH04-HY
 Condition: FCC CLASS-B 3m HF-ANT-6903 VERTICAL
 EUT : GSM/EDGE(Class12) 850/900/1800/
 . : 1900 UMTS/HSDPA 850/2100(BAND I and
 . : V) with BT_EDR Phone_Slide Type
 POWER : 120Vac/60Hz
 MODEL : FR 792103
 HOME : Bluetooth Tx_Ch78;2480MHz
 DATA RATE:DH1
 PLANE : E2
 ADAPTOR : B

	Freq	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	Remark
1	2326.000	41.64	-32.36	74.00	43.82	27.92	3.66	33.77	100	0	Peak
2	2326.000	28.87	-25.13	54.00	31.05	27.92	3.66	33.77	100	153	Average
3	2480.000	95.34			97.04	28.26	3.84	33.80	100	0	Peak
4	2480.000	58.62			60.32	28.26	3.84	33.80	100	153	Average
5	2483.500	59.73	-14.27	74.00	61.43	28.26	3.84	33.80	100	0	Peak
6	2483.500	38.86	-15.14	54.00	40.56	28.26	3.84	33.80	100	153	Average
7	4950.000	55.49	-18.51	74.00	50.72	33.11	5.96	34.30	100	0	Peak
8	4950.000	53.26	-0.74	54.00	48.49	33.11	5.96	34.30	100	12	Average
9	8310.000	55.42	-18.58	74.00	45.37	37.23	6.92	34.11	100	0	Peak
10	8310.000	45.21	-8.79	54.00	35.16	37.23	6.92	34.11	100	165	Average

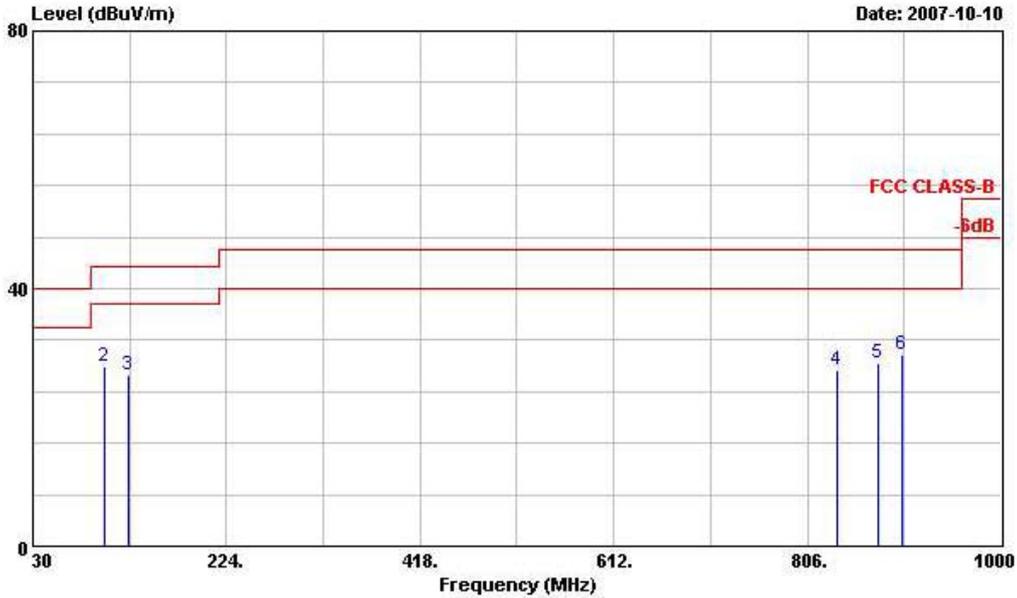
Remark:

1. "3" represents the Fundamental Signal
2. "4" represents the Fundamental Signal



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

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



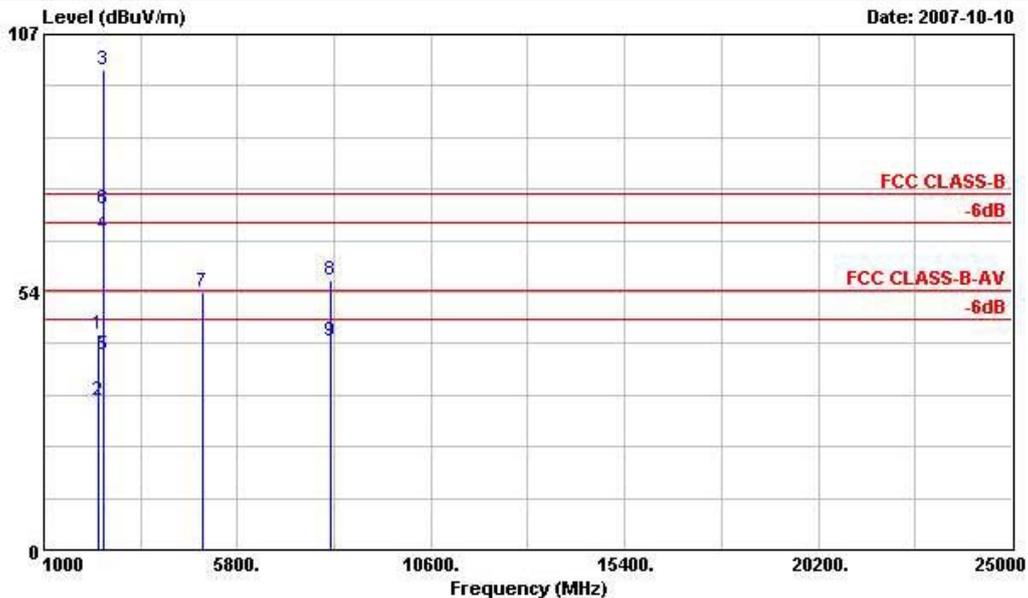
Site : 03CH04-HY
 Condition: FCC CLASS-B 3m ANT2724 HORIZONTAL
 EUT : GSM/EDGE (Class12) 850/900/1800/
 . : 1900 UMTS/HSDEA 850/2100 (BAND I and
 . : V) with BT_EDR Phone_Slide Type
 POWER : 120Vac/60Hz
 MODEL : FR 792103
 MOME : Bluetooth Tx_Ch78;2480MHz
 DATA RATE: 2DH1
 PLANE : E2
 ADAPTOR : B

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.540	27.93	-12.07	40.00	37.37	16.36	0.87	26.67	100	169	Peak
2	101.820	28.02	-15.48	43.50	44.87	8.22	1.39	26.45	---	---	Peak
3	125.580	26.69	-16.81	43.50	39.73	11.81	1.51	26.37	---	---	Peak
4	836.200	27.43	-18.57	46.00	29.23	21.16	3.78	26.75	---	---	Peak
5	876.100	28.32	-17.68	46.00	28.45	22.62	3.92	26.67	---	---	Peak
6	900.600	29.76	-16.24	46.00	28.89	23.53	3.96	26.62	---	---	Peak



- Polarization : Horizontal (1GHz-25GHz)

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



Site : 03CH04-HY
 Condition: FCC CLASS-B 3m HF-ANT-6903 HORIZONTAL
 EUT : GSM/EDGE(Class12) 850/900/1800/
 . : 1900 UMTS/HSDPA 850/2100(BAND I and
 . : V) with BT_EDR Phone_Slide Type
 POWER : 120Vac/60Hz
 MODEL : FR 792103
 MOMIE : Bluetooth Tx_Ch78;2480MHz
 DATA RATE: 2DH1
 PLANE : E2
 ADAPTOR : B

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	cm	deg	Remark
1	2350.000	44.59	-29.41	74.00	46.71	27.96	3.69	33.77	100	0 Peak
2	2350.000	31.00	-23.00	54.00	33.12	27.96	3.69	33.77	100	359 Average
3 @	2480.000	99.45			101.15	28.26	3.84	33.80	100	0 Peak
4 X	2480.000	65.39			67.09	28.26	3.84	33.80	100	359 Average
5	2483.500	40.50	-13.50	54.00	42.20	28.26	3.84	33.80	100	359 Average
6 !	2483.500	70.72	-3.28	74.00	72.42	28.26	3.84	33.80	100	0 Peak
7	4950.000	53.43	-20.57	74.00	48.66	33.11	5.96	34.30	100	0 Peak
8	8121.000	55.86	-18.14	74.00	45.84	36.97	6.82	33.77	100	0 Peak
9	8121.000	43.46	-10.54	54.00	33.44	36.97	6.82	33.77	100	67 Average

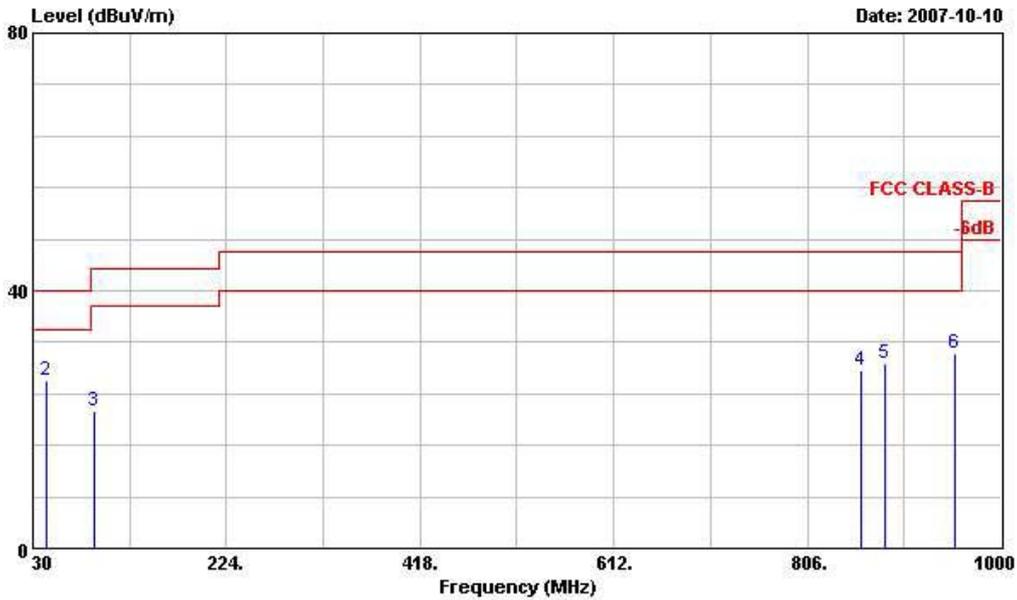
Remark:

1. "3" represents the Fundamental Signal
2. "4" represents the Fundamental Signal



- Polarization : Vertical (30MHz-1GHz)

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



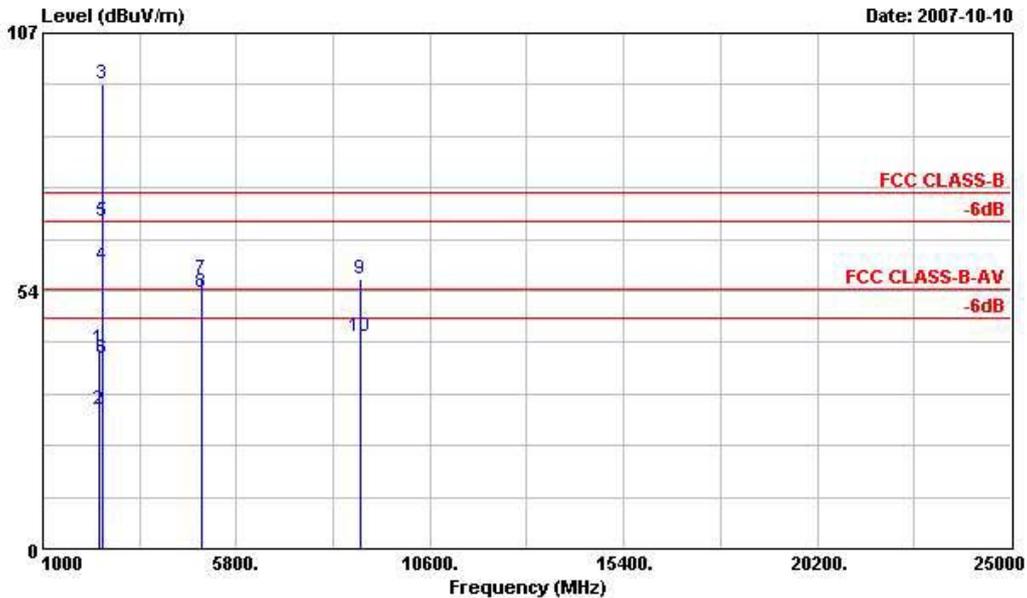
Site : 03CH04-HY
 Condition: FCC CLASS-B 3m ANT2724 VERTICAL
 EUT : GSM/EDGE(Class12) 850/900/1800/
 : 1900 UMTS/HSDPA 850/2100(BAND I and
 : V) with BT_EDR Phone_Slide Type
 POWER : 120Vac/60Hz
 MODEL : FR 792103
 HOME : Bluetooth Tx_Ch78;2480MHz
 DATA RATE: 2DHL
 PLANE : E2
 ADAPTOR : B

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table		
	MHz	dBuV/m	dB	dBuV/m	dBuV	Loss	Factor	Pos	Pos	Remark	
					dB/m	dB	dB	cm	deg		
1	30.540	28.14	-11.86	40.00	37.58	16.36	0.87	26.67	100	267 Peak	
2	43.500	26.08	-13.92	40.00	41.33	10.40	0.98	26.63	---	---	Peak
3	92.370	21.35	-22.15	43.50	38.95	7.53	1.35	26.48	---	---	Peak
4	859.300	27.57	-18.43	46.00	28.36	22.02	3.89	26.70	---	---	Peak
5	884.500	28.60	-17.40	46.00	28.38	22.94	3.93	26.65	---	---	Peak
6	953.800	30.19	-15.81	46.00	27.91	24.87	3.98	26.57	---	---	Peak



- Polarization : Vertical (1GHz-25GHz)

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



Site : 03CH04-HY
 Condition: FCC CLASS-B 3m HF-ANT-6903 VERTICAL
 EUT : GSM/EDGE(Class12) 850/900/1800/
 : 1900 UMTS/HSDPA 850/2100(BAND I and
 : V) with BT_EDR Phone_Slide Type
 POWER : 120Vac/60Hz
 MODEL : FR 792103
 MOMIE : Bluetooth Tx_Ch78;2480MHz
 DATA RATE: 2DHL
 PLANE : E2
 ADAPTOR : B

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	Remark
			dB	dBuV/m	dBuV	dB	dB	cm	deg	
1	2390.000	41.57	-32.43	74.00	43.54	28.07	3.74	33.78	100	0 Peak
2	2390.000	28.83	-25.17	54.00	30.80	28.07	3.74	33.78	100	154 Average
3 @	2480.000	96.38			98.08	28.26	3.84	33.80	100	0 Peak
4 X	2480.000	58.63			60.33	28.26	3.84	33.80	100	154 Average
5	2483.500	67.87	-6.13	74.00	69.57	28.26	3.84	33.80	100	0 Peak
6	2483.500	39.56	-14.44	54.00	41.26	28.26	3.84	33.80	100	154 Average
7	4950.000	55.95	-18.05	74.00	51.18	33.11	5.96	34.30	100	0 Peak
8 !	4950.000	53.19	-0.81	54.00	48.42	33.11	5.96	34.30	100	8 Average
9	8865.000	55.92	-18.08	74.00	45.45	37.94	7.21	34.68	100	0 Peak
10	8865.000	43.87	-10.13	54.00	33.40	37.94	7.21	34.68	100	128 Average

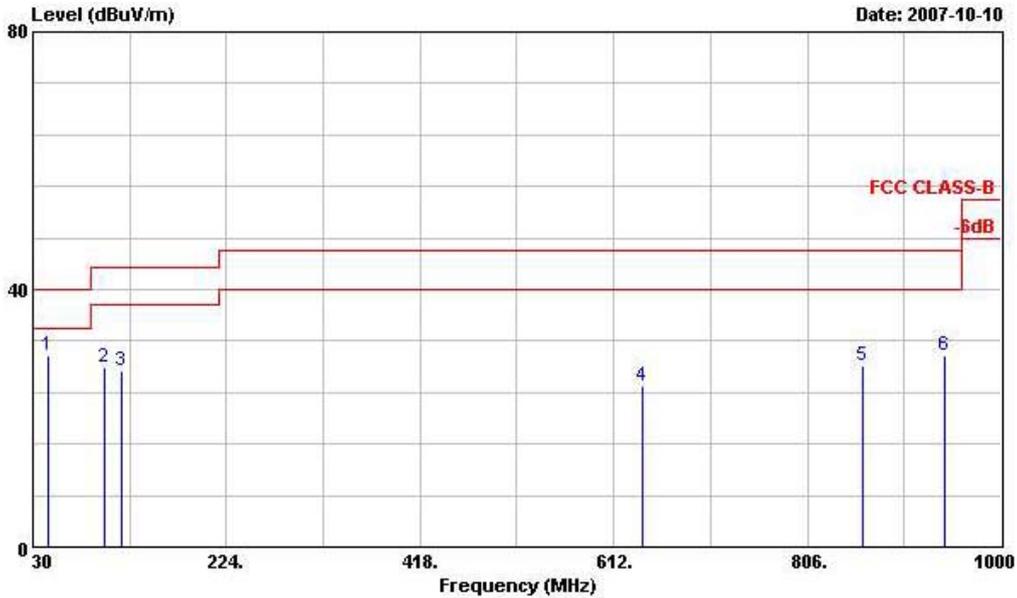
Remark:

1. "3" represents the Fundamental Signal
2. "4" represents the Fundamental Signal



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

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



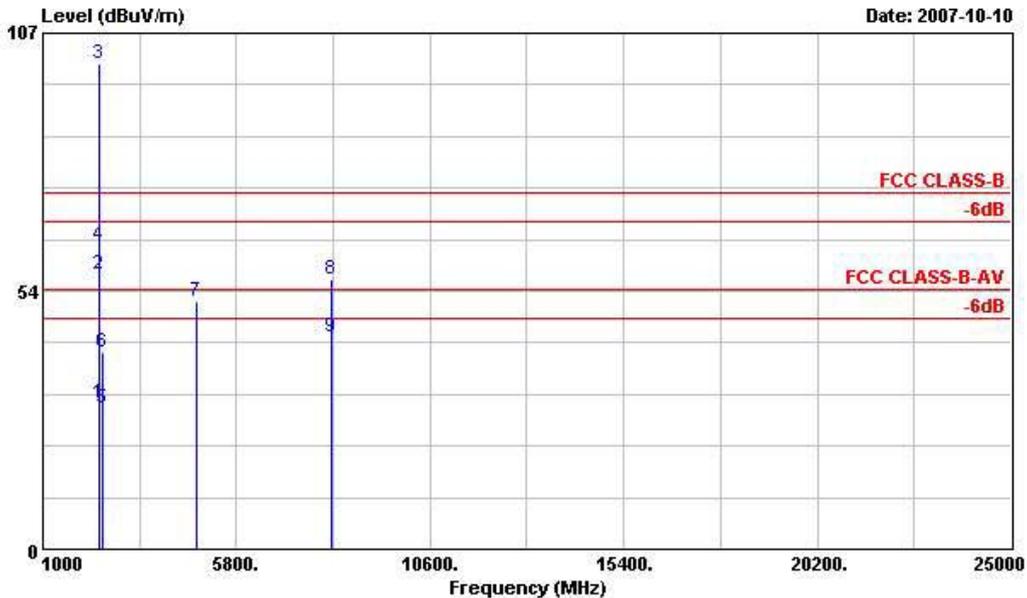
Site : 03CH04-HY
 Condition: FCC CLASS-B 3m ANT2724 HORIZONTAL
 EUT : GSM/EDGE (Class12) 850/900/1800/
 . : 1900 UMTS/HSDPA 850/2100 (BAND I and
 . : V) with BT_EDR Phone_Slide Type
 POWER : 120Vac/60Hz
 MODEL : FR 792103
 MOME : Bluetooth Tx_Ch00;2402MHz
 DATA RATE: 3DH1
 PLANE : E2
 ADAPTOR : B

	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	44.580	29.63	-10.37	40.00	45.23	10.04	0.98	26.62	100	135	Peak
2	101.820	27.78	-15.72	43.50	44.63	8.22	1.39	26.45	---	---	Peak
3	119.100	27.42	-16.08	43.50	41.73	10.61	1.47	26.39	---	---	Peak
4	640.900	24.87	-21.13	46.00	28.54	20.00	3.37	27.03	---	---	Peak
5	861.400	28.11	-17.89	46.00	28.82	22.09	3.89	26.70	---	---	Peak
6	943.300	29.70	-16.30	46.00	27.68	24.62	3.98	26.58	---	---	Peak



- Polarization : Horizontal (1GHz-25GHz)

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



Site : 03CH04-HY
 Condition: FCC CLASS-B 3m HF-ANT-6903 HORIZONTAL
 EUT : GSM/EDGE(Class12) 850/900/1800/
 : 1900 UMITS/HSDPA 850/2100(BAND I and
 : V) with BT_EDR Phone_Slide Type
 POWER : 120Vac/60Hz
 MODEL : FR 792103
 HOME : Bluetooth Tx_Ch00;2402MHz
 DATA RATE: 3DHL
 PLANE : E2
 ADAPTOR : B

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2390.000	30.26	-23.74	54.00	32.23	28.07	3.74	33.78	100	354	Average
2	2390.000	57.16	-16.84	74.00	59.13	28.07	3.74	33.78	100	0	Peak
3 @	2402.000	100.63			102.56	28.11	3.74	33.78	100	0	Peak
4 X	2402.000	62.98			64.95	28.07	3.74	33.78	100	354	Average
5	2492.000	29.24	-24.76	54.00	30.90	28.30	3.84	33.80	100	354	Average
6	2492.000	40.90	-33.10	74.00	42.56	28.30	3.84	33.80	100	0	Peak
7	4794.000	51.32	-22.68	74.00	46.93	32.83	5.86	34.30	100	0	Peak
8	8157.000	56.02	-17.98	74.00	46.02	37.02	6.83	33.85	100	0	Peak
9	8157.000	43.83	-10.17	54.00	33.83	37.02	6.83	33.85	100	173	Average

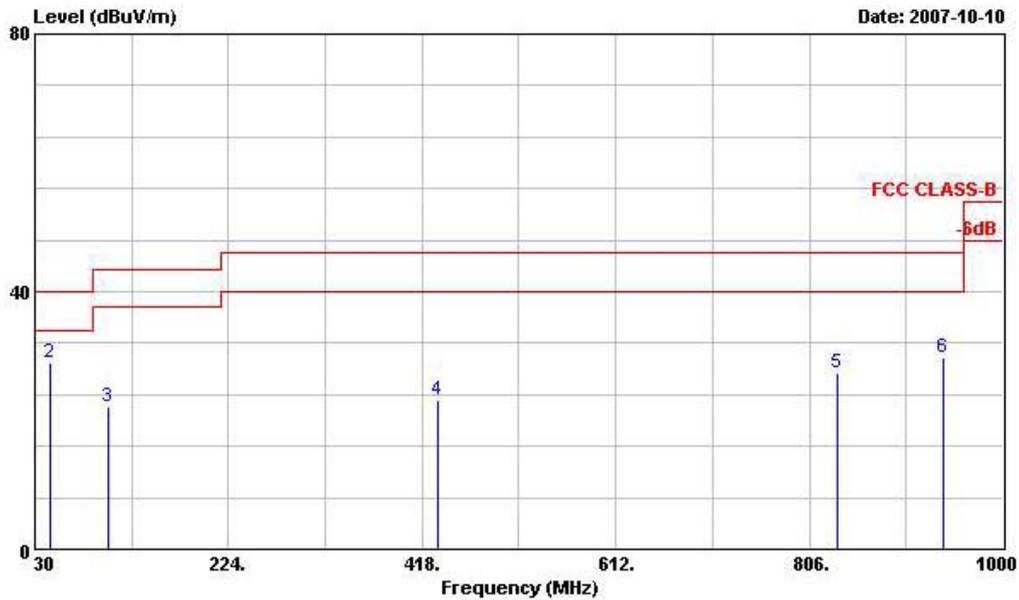
Remark:

1. "3" represents the Fundamental Signal
2. "4" represents the Fundamental Signal



- Polarization : Vertical (30MHz-1GHz)

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



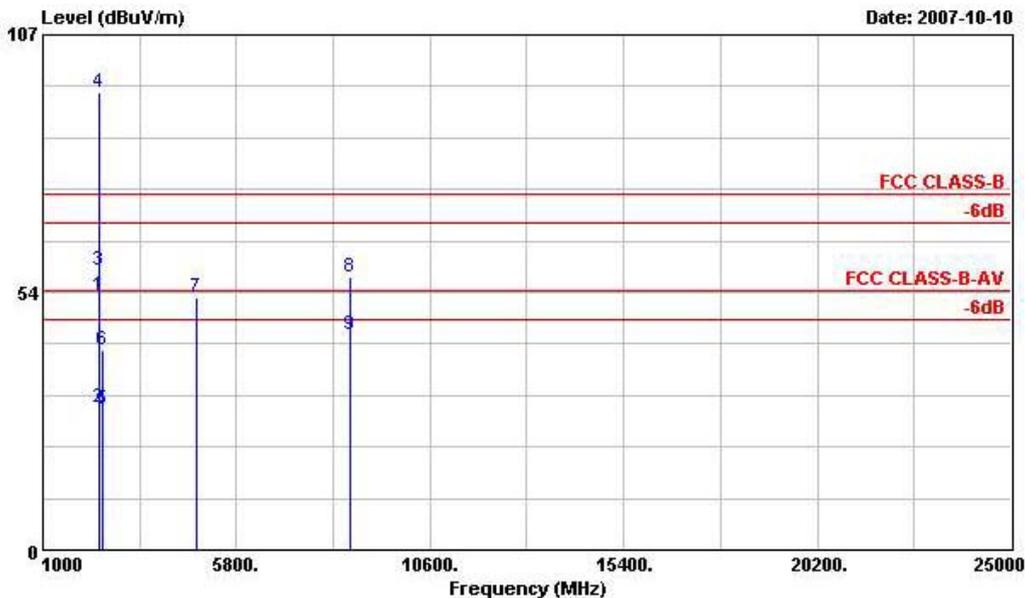
Site : 03CH04-HY
 Condition: FCC CLASS-B 3m ANT2724 VERTICAL
 EUT : GSM/EDGE(Class12) 850/900/1800/
 . : 1900 UMTS/HSDPA 850/2100(BAND I and
 . : V) with BT_EDR Phone_Slide Type
 POWER : 120Vac/60Hz
 MODEL : FR 792103
 MOME : Bluetooth Tx_Ch00;2402MHz
 DATA RATE: 3DH1
 PLANE : E2
 ADAPTOR : B

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.540	23.49	-16.51	40.00	32.93	16.36	0.87	26.67	---	---	Peak
2	44.850	28.91	-11.09	40.00	44.51	10.04	0.98	26.62	100	286	Peak
3	103.170	22.17	-21.33	43.50	38.88	8.35	1.39	26.45	---	---	Peak
4	433.000	23.13	-22.87	46.00	30.96	16.13	2.68	26.63	---	---	Peak
5	834.100	27.35	-18.65	46.00	29.24	21.09	3.77	26.75	---	---	Peak
6	939.800	29.74	-16.26	46.00	27.82	24.52	3.98	26.58	---	---	Peak



- Polarization : Vertical (1GHz-25GHz)

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



Site : 03CH04-HY
 Condition: FCC CLASS-B 3m HF-ANT-6903 VERTICAL
 EUT : GSM/EDGE(Class12) 850/900/1800/
 . : 1900 UMTS/HSDPA 850/2100(BAND I and
 . : V) with BT_EDR Phone_Slide Type
 POWER : 120Vac/60Hz
 MODEL : FR 792103
 MOMIE : Bluetooth Tx_Ch00;2402MHz
 DATA RATE: 3DH1
 PLANE : E2
 ADAPTOR : B

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2390.000	52.86	-21.14	74.00	54.83	28.07	3.74	33.78	100	0	Peak
2	2390.000	29.42	-24.58	54.00	31.39	28.07	3.74	33.78	100	150	Average
3 X	2402.000	58.00			59.97	28.07	3.74	33.78	100	150	Average
4 @	2402.000	95.15			97.08	28.11	3.74	33.78	100	0	Peak
5	2486.000	29.20	-24.80	54.00	30.90	28.26	3.84	33.80	100	150	Average
6	2486.000	41.49	-32.51	74.00	43.19	28.26	3.84	33.80	100	0	Peak
7	4794.000	52.35	-21.65	74.00	47.96	32.83	5.86	34.30	100	0	Peak
8	8634.000	56.68	-17.32	74.00	46.44	37.66	7.08	34.50	100	0	Peak
9	8634.000	44.57	-9.43	54.00	34.33	37.66	7.08	34.50	100	198	Average

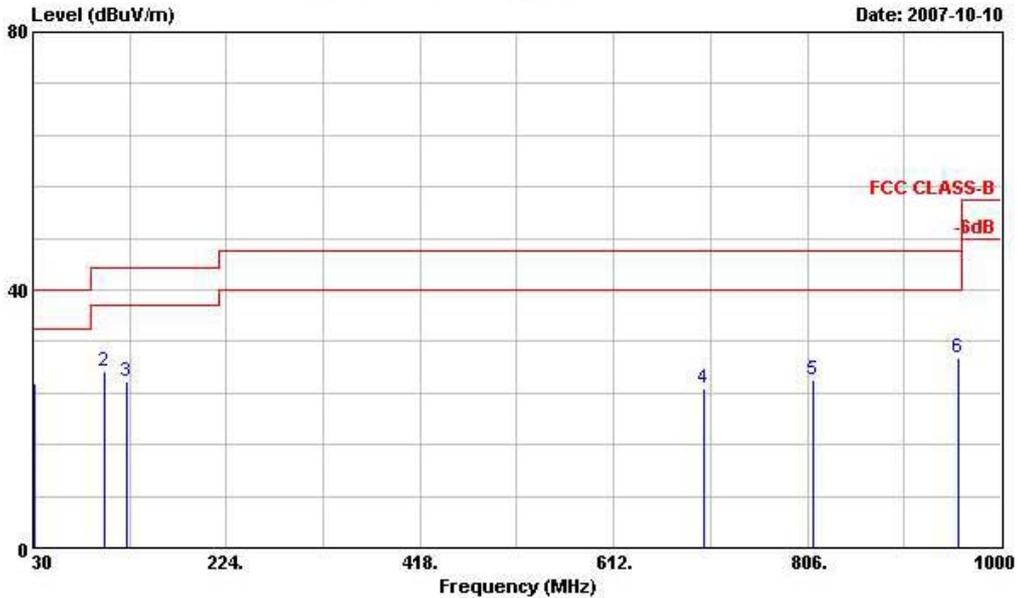
Remark:

1. "3" represents the Fundamental Signal
2. "4" represents the Fundamental Signal



- Test Mode : Mode 4
- Polarization : Horizontal (30MHz-1GHz)

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



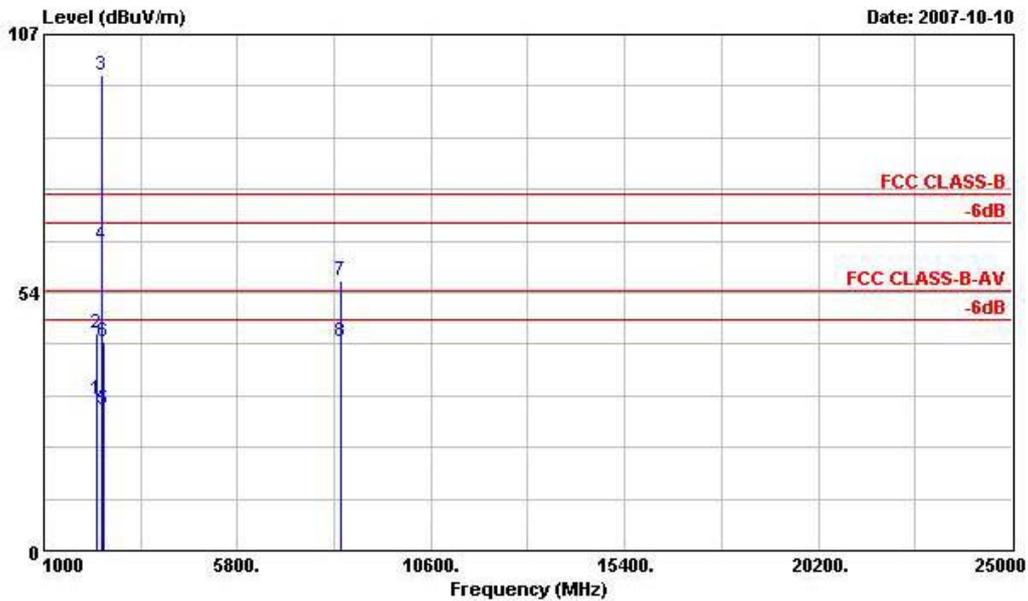
Site : 03CH04-HY
 Condition: FCC CLASS-B 3m ANT2724 HORIZONTAL
 EUT : GSM/EDGE (Class12) 850/900/1800/
 . : 1900 UMTS/HSDPA 850/2100 (BAND I and
 . : V) with BT_EDR Phone_Slide Type
 POWER : 120Vac/60Hz
 MODEL : FR 792103
 MOME : Bluetooth Tx_Ch39;2441MHz
 DATA RATE: 3DH1
 PLANE : E2
 ADAPTOR : B

	Freq	Level	Over Limit	Limit Line	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	cm	deg	Remark
1 @	31.890	25.62	-14.38	40.00	35.05	16.34	0.89	26.66	100	193 Peak
2	101.820	27.31	-16.19	43.50	44.16	8.22	1.39	26.45	---	Peak
3	123.690	25.88	-17.62	43.50	39.08	11.67	1.50	26.37	---	Peak
4	702.500	24.82	-21.18	46.00	28.19	20.13	3.50	27.00	---	Peak
5	811.000	25.95	-20.05	46.00	28.89	20.24	3.62	26.79	---	Peak
6	956.600	29.58	-16.42	46.00	27.22	24.94	3.98	26.56	---	Peak



- Polarization : Horizontal (1GHz-25GHz)

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



Site : 03CH04-HY
 Condition: FCC CLASS-B 3m HF-ANT-6903 HORIZONTAL
 EUT : GSM/EDGE(Class12) 850/900/1800/
 . : 1900 UMTS/HSDPA 850/2100(BAND I and
 . : V) with BT_EDR Phone_Slide Type
 POWER : 120Vac/60Hz
 MODEL : FR 792103
 MOMENT : Bluetooth Tx_Ch39;2441MHz
 DATA RATE: 3DHL
 PLANE : E2
 ADAPTOR : B

	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	2310.000	31.26	-22.74	54.00	33.47	27.88	3.66	33.76	100	352	Average
2	2310.000	44.93	-29.07	74.00	47.14	27.88	3.66	33.76	100	0	Peak
3 @	2441.000	98.70			100.52	28.19	3.79	33.79	100	0	Peak
4 @	2441.000	63.23			65.05	28.19	3.79	33.79	100	352	Average
5	2494.000	29.22	-24.78	54.00	30.88	28.30	3.84	33.80	100	352	Average
6	2494.000	43.23	-30.77	74.00	44.89	28.30	3.84	33.80	100	0	Peak
7	8346.000	55.81	-18.19	74.00	45.74	37.28	6.93	34.15	100	0	Peak
8 @	8346.000	43.18	-10.82	54.00	33.11	37.28	6.93	34.15	100	186	Average

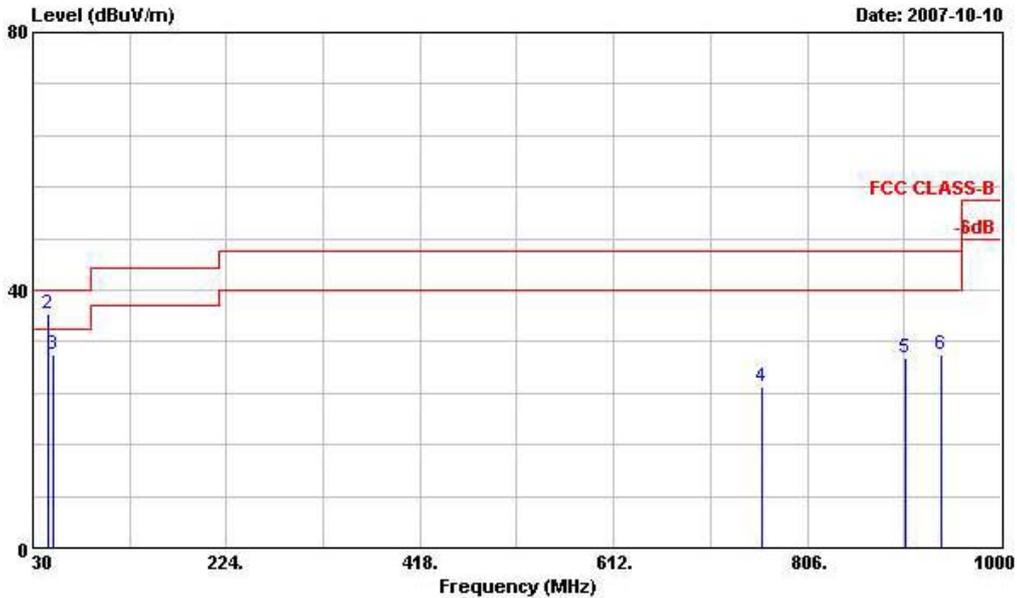
Remark:

1. "3" represents the Fundamental Signal
2. "4" represents the Fundamental Signal



- Polarization : Vertical (30MHz-1GHz)

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



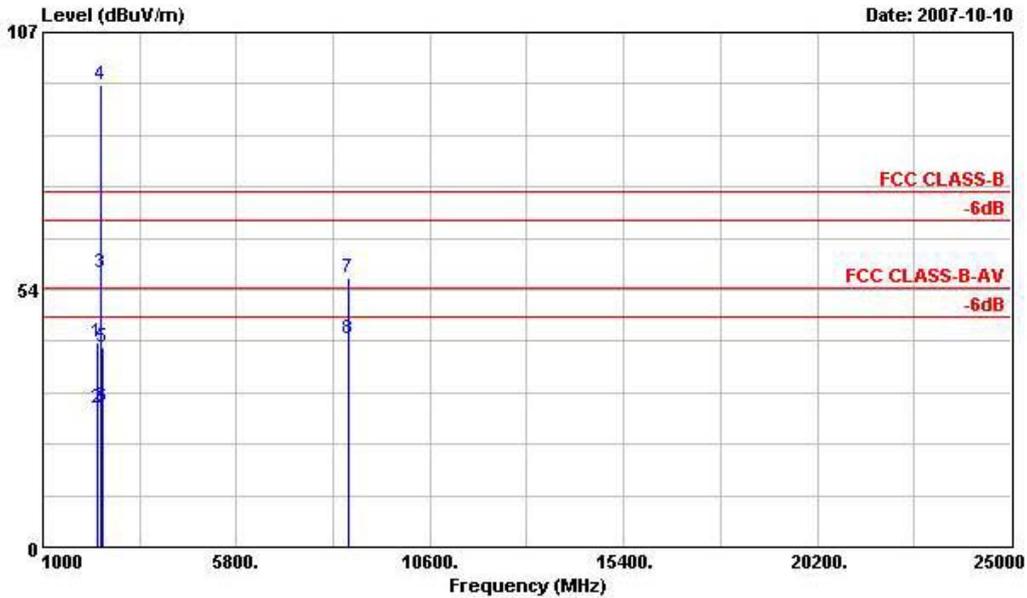
Site : 03CH04-HY
 Condition: FCC CLASS-B 3m ANT2724 VERTICAL
 EUT : GSM/EDGE(Class12) 850/900/1800/
 . : 1900 UMTS/HSDPA 850/2100(BAND I and
 . : V) with BT_EDR Phone_Slide Type
 POWER : 120Vac/60Hz
 MODEL : FR 792103
 MOMI : Bluetooth Tx_Ch39;2441MHz
 DATA RATE: 3DHL
 PLANE : E2
 ADAPTOR : B

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	30.540	27.82	-12.18	40.00	37.26	16.36	0.87	26.67	---	---	Peak
2 @	44.850	36.22	-3.78	40.00	51.82	10.04	0.98	26.62	100	68	Peak
3 @	49.980	30.11	-9.89	40.00	48.66	7.02	1.03	26.61	---	---	Peak
4	761.300	25.02	-20.98	46.00	28.39	19.96	3.56	26.89	---	---	Peak
5	904.100	29.38	-16.62	46.00	28.43	23.61	3.96	26.62	---	---	Peak
6	939.800	29.97	-16.03	46.00	28.05	24.52	3.98	26.58	---	---	Peak



- Polarization : Vertical (1GHz-25GHz)

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



Site : 03CH04-HY
 Condition: FCC CLASS-B 3m HF-ANT-6903 VERTICAL
 EUT : GSM/EDGE(Class12) 850/900/1800/
 . : 1900 UMTS/HSDPA 850/2100(BAND I and
 . : V) with BT_EDR Phone_Slide Type
 POWER : 120Vac/60Hz
 MODEL : FR 792103
 MOMI : Bluetooth Tx_Ch39;2441MHz
 DATA RATE: 3DHL
 PLANE : E2
 ADAPTOR : B

	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	2374.000	42.61	-31.39	74.00	44.64	28.03	3.71	33.78	100	0	Peak
2	2374.000	28.75	-25.25	54.00	30.78	28.03	3.71	33.78	100	153	Average
3 @	2441.000	56.96			58.78	28.19	3.79	33.79	100	153	Average
4 @	2441.000	96.00			97.82	28.19	3.79	33.79	100	0	Peak
5	2486.000	41.57	-32.43	74.00	43.27	28.26	3.84	33.80	100	0	Peak
6	2486.000	29.19	-24.81	54.00	30.89	28.26	3.84	33.80	100	153	Average
7	8574.000	55.98	-18.02	74.00	45.78	37.60	7.06	34.46	100	0	Peak
8 @	8574.000	43.45	-10.55	54.00	33.25	37.60	7.06	34.46	100	135	Average

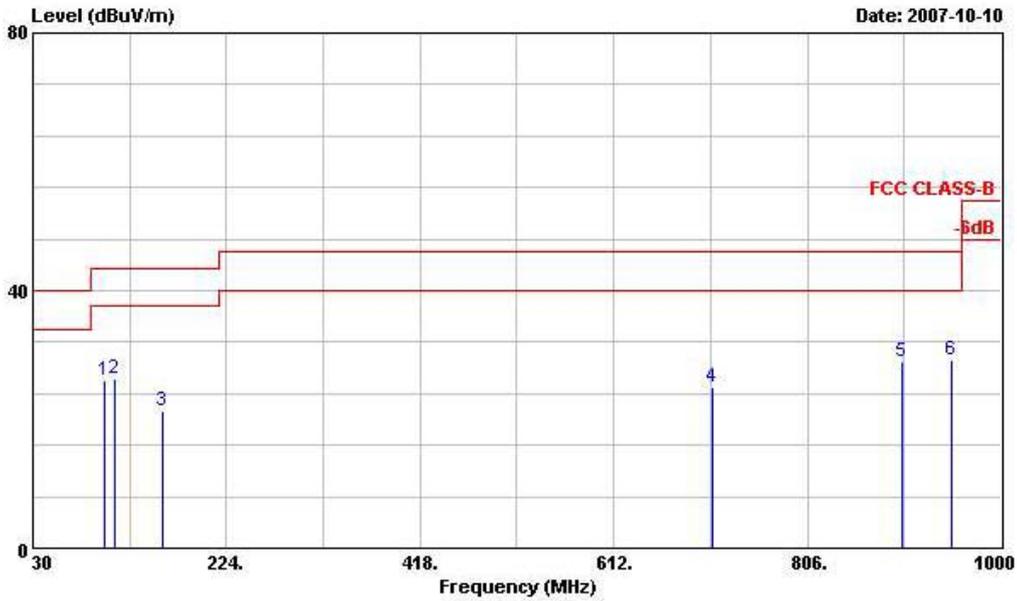
Remark:

1. "3" represents the Fundamental Signal
2. "4" represents the Fundamental Signal



- Test Mode : Mode 5
- Polarization : Horizontal (30MHz-1GHz)

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



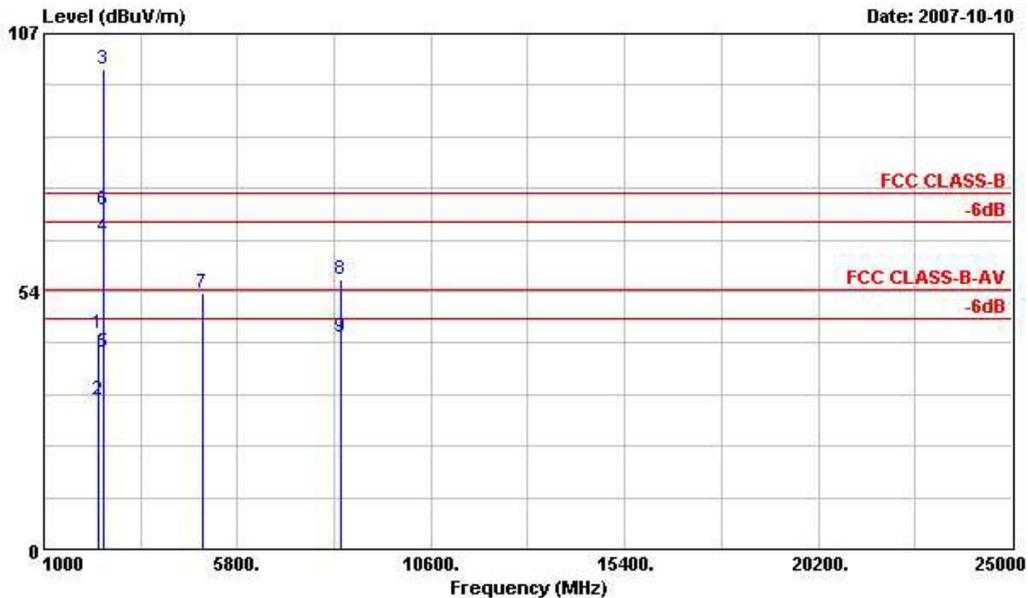
Site : 03CH04-HY
 Condition: FCC CLASS-B 3m ANT2724 HORIZONTAL
 EUT : GSM/EDGE (Class12) 850/900/1800/
 . : 1900 UMTS/HSDPA 850/2100 (BAND I and
 . : V) with BT_EDR Phone_Slide Type
 POWER : 120Vac/60Hz
 MODEL : FR 792103
 MOME : Bluetooth Tx_Ch78;2480MHz
 DATA RATE: 3DH1
 PLANE : E2
 ADAPTOR : B

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	cm	deg	Remark
1	101.820	25.99	-17.51	43.50	42.84	8.22	1.39	26.45	---	Peak
2	111.540	26.19	-17.31	43.50	41.63	9.54	1.43	26.42	---	Peak
3	160.410	21.23	-22.27	43.50	36.58	9.20	1.69	26.24	---	Peak
4	710.200	25.11	-20.89	46.00	28.48	20.11	3.51	26.99	---	Peak
5	901.300	28.84	-17.16	46.00	27.97	23.53	3.96	26.62	---	Peak
6	951.000	29.24	-16.76	46.00	27.03	24.79	3.98	26.57	100	87 Peak



- Polarization : Horizontal (1GHz-25GHz)

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



Site : 03CH04-HY
 Condition: FCC CLASS-B 3m HF-ANT-6903 HORIZONTAL
 EUT : GSM/EDGE(Class12) 850/900/1800/
 : 1900 UMTS/HSDPA 850/2100(BAND I and
 : V) with BT_EDR Phone_Slide Type
 POWER : 120Vac/60Hz
 MODEL : FR 792103
 MOME : Bluetooth Tx_Ch78;2480MHz
 DATA RATE: 3DHL
 PLANE : E2
 ADAPTOR : B

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	cm	deg	Remark
1	2350.000	44.76	-29.24	74.00	46.88	27.96	3.69	33.77	100	0 Peak
2	2350.000	30.85	-23.15	54.00	32.97	27.96	3.69	33.77	100	359 Average
3 @	2480.000	99.65			101.35	28.26	3.84	33.80	100	0 Peak
4 X	2480.000	64.81			66.51	28.26	3.84	33.80	100	359 Average
5	2483.500	40.68	-13.32	54.00	42.38	28.26	3.84	33.80	100	359 Average
6 !	2483.500	70.52	-3.48	74.00	72.22	28.26	3.84	33.80	100	0 Peak
7	4950.000	53.08	-20.92	74.00	48.31	33.11	5.96	34.30	100	0 Peak
8	8385.000	56.02	-17.98	74.00	45.96	37.33	6.96	34.23	100	0 Peak
9	8385.000	43.89	-10.11	54.00	33.83	37.33	6.96	34.23	100	169 Average

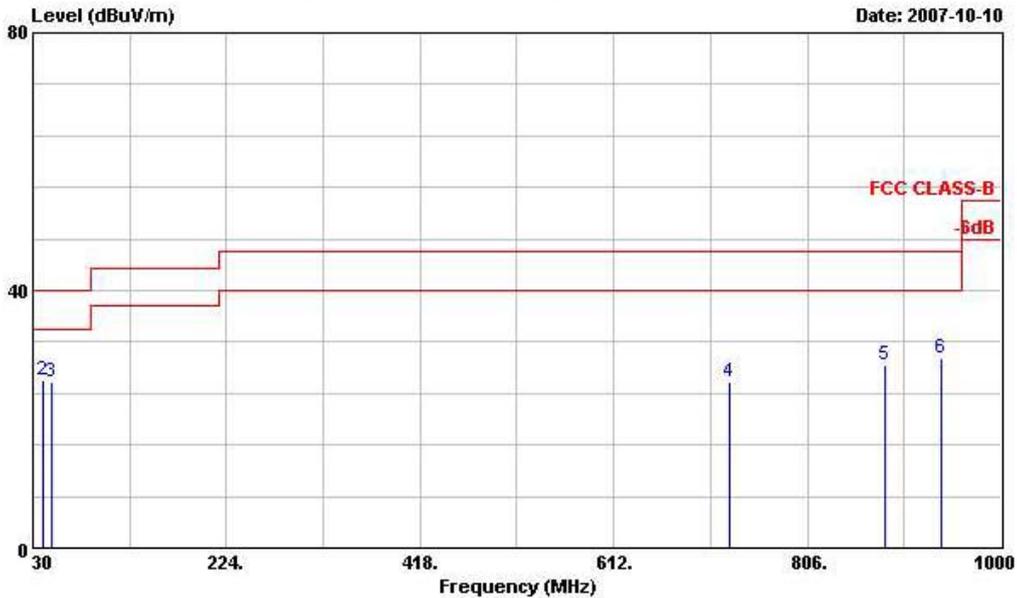
Remark:

1. "3" represents the Fundamental Signal
2. "4" represents the Fundamental Signal



- Polarization : Vertical (30MHz-1GHz)

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



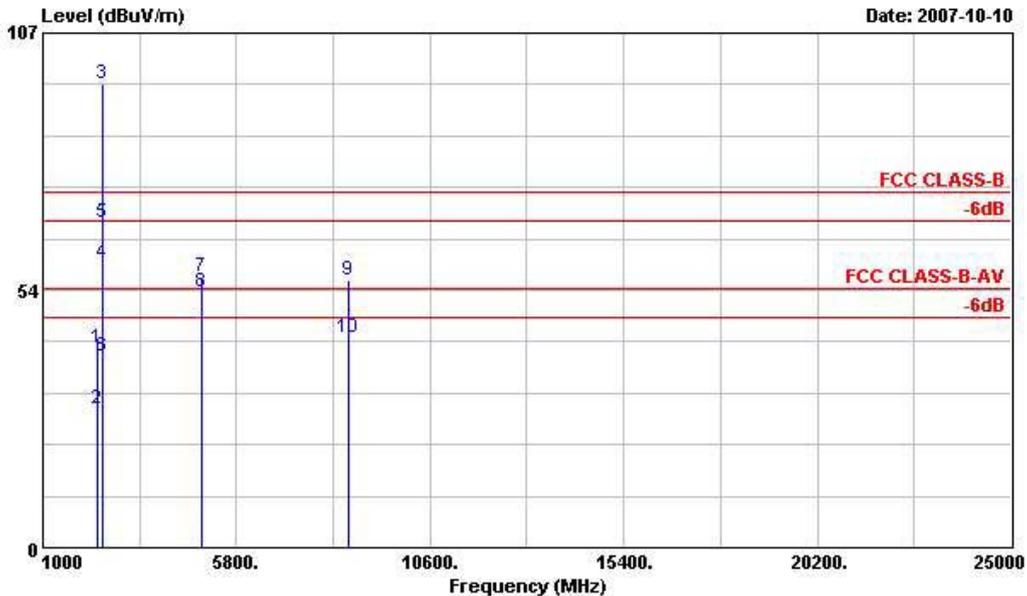
Site : 03CH04-HY
 Condition: FCC CLASS-B 3m ANT2724 VERTICAL
 EUT : GSM/EDGE (Class12) 850/900/1800/
 . : 1900 UIMITS/HSDPA 850/2100 (BAND I and
 . : V) with BT_EDR Phone_Slide Type
 POWER : 120Vac/60Hz
 MODEL : FR 792103
 MOME : Bluetooth Tx_Ch78;2480MHz
 DATA RATE: 3DH1
 PLANE : E2
 ADAPTOR : B

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	dB	dBuV/m	dBuV	Loss	Factor	Pos	Pos	Remark
					dB/m	dB	dB	cm	deg	
1	30.540	25.06	-14.94	40.00	34.50	16.36	0.87	26.67	---	--- Peak
2	40.260	26.03	-13.97	40.00	40.23	11.46	0.97	26.64	100	258 Peak
3	48.900	25.73	-14.27	40.00	43.29	8.03	1.02	26.61	---	--- Peak
4	727.700	25.69	-20.31	46.00	29.05	20.06	3.53	26.96	---	--- Peak
5	884.500	28.43	-17.57	46.00	28.21	22.94	3.93	26.65	---	--- Peak
6	939.800	29.55	-16.45	46.00	27.63	24.52	3.98	26.58	---	--- Peak



- Polarization : Vertical (1GHz-25GHz)

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



Site : 03CH04-HY
 Condition: FCC CLASS-B 3m HF-ANT-6903 VERTICAL
 EUT : GSM/EDGE(Class12) 850/900/1800/
 : 1900 UMITS/HSDPA 850/2100(BAND I and
 : V) with BT_EDR Phone_Slide Type
 POWER : 120Vac/60Hz
 MODEL : FR 792103
 MOME : Bluetooth Tx_Ch78;2480MHz
 DATA RATE: 3DHL
 PLANE : E2
 ADAPTOR : B

	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	2356.000	41.37	-32.63	74.00	43.46	28.00	3.69	33.77	100	0	Peak
2	2356.000	28.70	-25.30	54.00	30.79	28.00	3.69	33.77	100	154	Average
3 @	2480.000	96.56			98.26	28.26	3.84	33.80	100	0	Peak
4 X	2480.000	59.17			60.87	28.26	3.84	33.80	100	154	Average
5	2483.500	67.47	-6.53	74.00	69.17	28.26	3.84	33.80	100	0	Peak
6	2483.500	39.64	-14.36	54.00	41.34	28.26	3.84	33.80	100	154	Average
7	4950.000	56.15	-17.85	74.00	51.40	33.11	5.95	34.30	100	0	Peak
8 !	4950.000	53.10	-0.90	54.00	48.35	33.11	5.95	34.30	100	6	Average
9	8586.000	55.44	-18.56	74.00	45.24	37.60	7.06	34.46	100	0	Peak
10	8586.000	43.56	-10.44	54.00	33.36	37.60	7.06	34.46	100	187	Average

Remark:

1. "3" represents the Fundamental Signal
2. "4" represents the Fundamental Signal



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 antennas used in this product are PIFA Antenna for BT 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 Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
EMC Receiver	R&S	ESCS 30	100132	9kHz – 2.75GHz	Jul. 14, 2007	Jul. 13, 2008	Conduction (CO01-HY)
LISN	MessTec	NNB-2/16Z	2001/004	9kHz – 30MHz	Mar. 30, 2007	Mar. 29, 2008	Conduction (CO01-HY)
LISN (Support Unit)	MessTec	NNB-2/16Z	2001/009	9kHz – 30MHz	Mar. 30, 2007	Mar. 29, 2008	Conduction (CO01-HY)
EMI Filter	LINDGREN	LRE-2060	1004	< 450Hz	N/A	N/A	Conduction (CO01-HY)
EMI Filter	LINDGREN	N6006	201052	0 – 60Hz	N/A	N/A	Conduction (CO01-HY)
RF Cable-CON	Suhner Switzerland	RG223/U	CB029	9kHz – 30MHz	Dec. 04, 2006	Dec. 03, 2007	Conduction (CO01-HY)
Isolation Transformer	Erika Fiedler OHG	D-65396 Walluf	58	45MHz-2.15GHz	N/A	N/A	Conduction (CO01-HY)
3m Semi Anechoic	TDK	SAC-3M	03CH04-HY	30 MHz - 1 GHz 3m	Oct. 29, 2007	Oct. 28, 2008	Radiation (03CH04-HY)
Amplifier	HP	87405A	3950M00135	10MHz - 3 GHz	Mar. 02, 2007	Mar. 01, 2008	Radiation (03CH04-HY)
Spectrum Analyzer	R&S	FSP30	100792	9 kHz – 30GHz	Dec. 13, 2006	Dec. 12, 2007	Radiation (03CH04-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2724	30 MHz - 1 GHz	Aug. 13, 2007	Aug. 12 2008	Radiation (03CH04-HY)
Turn Table	HD	Deis HD 2000	420/610	0 - 360 degree	N/A	N/A	Radiation (03CH04-HY)
Antenna Mast	Chaintek	3000	N/A	1 m - 4 m	N/A	N/A	Radiation (03CH04-HY)
RF Cable-R03m	Suhner Switzerland +	RG223/U +RG8/U	CB024	30 MHz - 1 GHz	Sep. 20, 2007	Sep. 19, 2008	Radiation (03CH04-HY)
Isolation Transformer	Erika FiedLer OHG	D-65396 Walluf	N/A	45 MHz – 2.15 GHz	N/A	N/A	Radiation (03CH04-HY)



7. Uncertainty Evaluation

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

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

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

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



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

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

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