FCC Test Report

for

47 CFR Part 15 Subpart C

Equipment	:	**Pocket PC Phone**
Trade Name	:	**glofiish**
Model No.	:	**X650 / X600**
FCC ID	:	**SPUX650**
Filing Type	:	**Certification**
Applicant	:	**E-TEN Information Systems Co., Ltd.** 9F., No. 256, Yangguang Street, Neihu Chiu, Taipei, Taiwan 114, R.O.C.

- The test result refers exclusively to the test presented test model / sample.
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- The data shown in this test report were carried out on Nov. 16, 2007 at **Sporton International Inc. Lab.**
- Report No.: FR790604C, Report Version: Rev. 02.

Jones Tsai
Manager

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

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History of this test report

Report Issue Date: Dec. 14, 2007

Report No.	Description

1. General Description of Equipment under Test

1.1 Applicant

E-TEN Information Systems Co., Ltd.
9F., No. 256, Yangguang Street, Neihu Chiu, Taipei, Taiwan 114, R.O.C.

1.2 Manufacturer

E-TEN Information Systems Co., Ltd.
9F., No. 256, Yangguang Street, Neihu Chiu, Taipei, Taiwan 114, R.O.C.

1.3 Basic Description of Equipment under Test

Equipment		Pocket PC Phone
Trade Name		glofiish
Model Name		X650 / X600
FCC ID		SPUX650
AC Adapter	**Brand Name**	Phihong
	Model Name	PSC05R-050 PH
	Power Rating	I/P:AC 100-240V, 0.2A, 50-60Hz, 14-19VA; O/P: DC 5V, 1A
	AC Power Cord Type	1.9 meter shielded core cable
Battery	**Brand Name**	Foxlink
	Model Name	AHL03716016
	Rating	3.7V, 1530mAh
	Type	Li-ion
Earphone	**Brand Name**	Merry
	Model Name	EMC147-018-01
	Signal Line Type	1.3 meter non-shielded cable without ferrite core
USB Cable	**Brand Name**	Golden Bridge
	Model Name	AS52-07080050
	Signal Line Type	0.9 meter shielded cable without ferrite core

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

1.4 Feature of Equipment under Test

Product Feature & Specification				
1. Modulation Type/Data Rate	GFSK			
2. Frequency Range.	2400 MHz ~ 2483.5 MHz			
3. Number of Channels	79			
4. Carrier Frequency of each channel	2402+ n*1 MHz, n= 0~78			
5. Channel Spacing	1 MHz			
6. Maximum Output Power to Antenna (Normal Condition)	Bluetooth (1Mbps) : 3.94dBm Bluetooth EDR (2Mbps) : 3.15dBm Bluetooth EDR (3Mbps) : 3.39 dBm			
7. Type of Antenna Connector	N/A			
8. Antenna Type	Bluetooth : Chip Antenna WLAN : PIFA Antenna			
9. Antenna Gain	BT : 0 dBi WLAN : -4 dBi			
10. HW Version	1.0			
11. SW Version	VER A42 CHT V030 170 (for X650) VER A42 CHT V030 170ET (for X600)			
12. Function Type	Transmitter		Transceiver	V
13. DUT Stage	Identical Prototype			

2. Test Configuration of Equipment under Test

2.1 Test Manner

a. The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.
b. The EUT is programmed to transmit signal continuously for all testings.
c. Frequency range investigated: conduction 150 kHz to 30 MHz, radiation 30 MHz to 25000MHz.
d. For radiated measurements, the results were the maximum of those obtained in 3 orthogonal axes and only showed the worst data in this report.

2.2 Test Mode

Application			
Radiated Emission	BT(1Mbps)	BT-EDR(2Mbps)	BT-EDR(3Mbps)
	Mode 1: CH00_2402MHz	Mode 4: CH00_2402MHz	Mode 7: CH00_2402MHz
	Mode 2: CH39_2441MHz	Mode 5: CH39_2441MHz	Mode 8: CH39_2441MHz
	Mode 3: CH78_2480MHz	Mode 6: CH78_2480MHz	Mode 9: CH78_2480MHz
Conducted Emission	Mode 1: GSM850 Idle Mode + BT Link + WLAN Link + MPEG4 + Camera + Earphone + GPS Rx + Adapter		
	Mode 2: GSM850 Idle Mode + BT Link + WLAN Link + MPEG4 + Camera + Earphone + GPS Rx + USB Link		
	Mode 3: EDGE Idle Mode + BT Link + WLAN Link + MPEG4 + Camera + Earphone + GPS Rx + USB Link		
	Mode 4: PCS1900 Idle Mode + BT Link + WLAN Link + MPEG4 + Camera + Earphone + GPS Rx + USB Link		
	Mode 5: TMC Rx + 98MHz + Earphone + Adapter		

Note: For BT, we tested radiated emissions full modes in 1Mbps and retesting the worst channel, CH39, in 2Mbps and 3Mbps respectively.

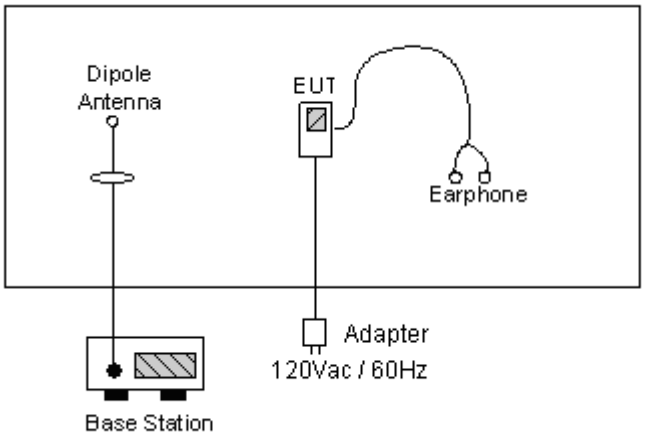
2.3 Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable / Power Cord
1.	Base Station	R&S	CMU200	N/A	Unshielded, 1.8m
2.	WLAN AP	SMC	SMC-100	HEDWG4005ACC	Unshielded, 1.8m
3.	Bluetooth Earphone	Engotech	ET-BH111	PQY471087	N/A
4.	Notebook	DELL	D400	R33002	N/A
5.	(USB)Mouse	Microsoft	B75-00093`	FCC DoC	Shielded, 1.2m
6.	iPod	Apple	A1199	DoC	Shielded, 1.2m

2.4 Connection Diagram of Test System

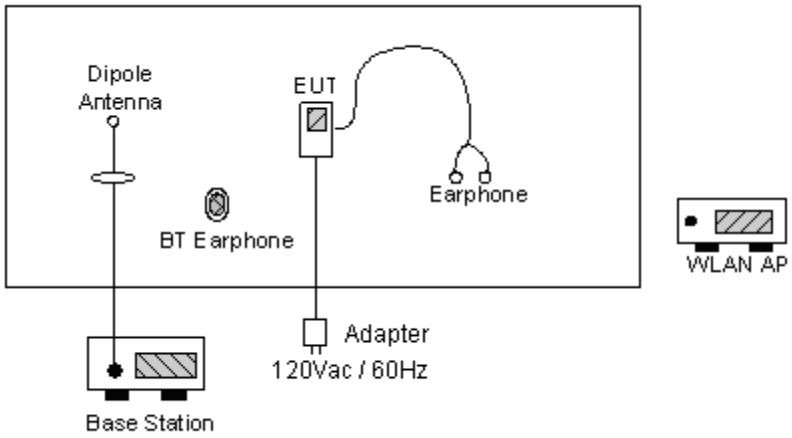
<Radiated Emission>

Bluetooth Tx Mode

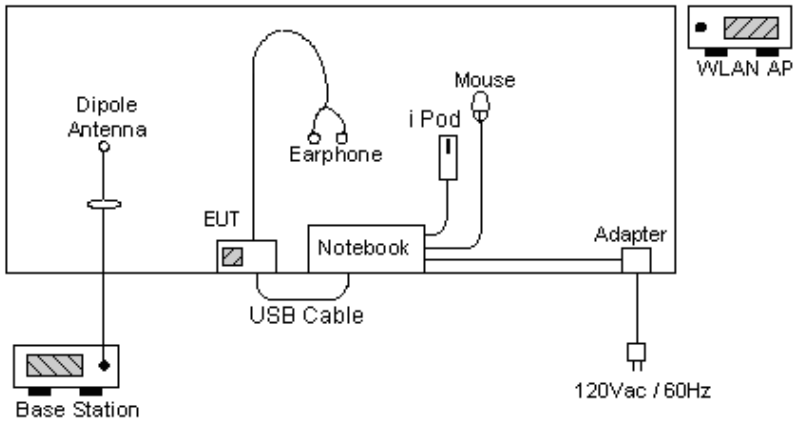


<Conducted Emission>

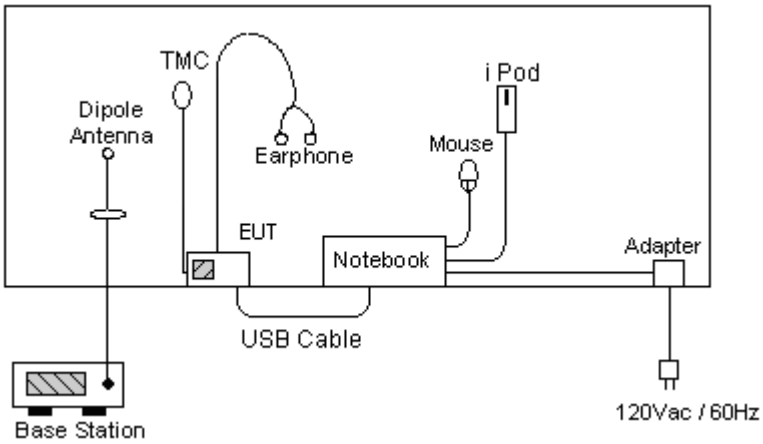
EUT with Adapter Mode



EUT with USB Link Mode



TMC Rx 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	:	CO04-HY, 03CH06-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) (1)	Hopping Channel Bandwidth	Pass
15.247(a)(1)	Hopping Channel Separation	Pass
15.247(a)(1)(iii)	Number of Hopping Frequency	Pass
15.247(a)(1)(iii)	Dwell Time of Each Frequency	Pass
15.247(b)	Output Power	Pass
15.247(c)	100kHz Bandwidth of Frequency Band Edges	Pass
15.209(a)	Radiated Emission	Pass
15.203 15.247(b)(4)	Antenna Requirement	Pass

5.2 Band Edges Measurement

5.2.1 Measuring Instruments：

As described in chapter 6 of this test report.

5.2.2 Test Procedure：

a. The transmitter output was connected to the spectrum analyzer via a low lose cable.

b. Set both RBW and VBW of spectrum analyzer to 100kHz with suitable frequency span including 100 kHz bandwidth from band edge.

c. The band edges was measured and recorded.

5.2.3 Test Result：

Application Type : Bluetooth
Temperature : 26~28℃
Relative Humidity : 51~52%
Test Enginner : Sun

Test Result in BT lower band	:	PASS
Test Result in BT higher band	:	PASS

5.2.4 Note on Band Edge Emission：

➢ **BT(1Mbps)**

CH00 (Horizontal)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390.0	49.16	-24.84	74.00	---	30.26	3.75	35.46	100	0	Peak
2390.0	38.54	-15.46	54.00	---	30.26	3.75	35.46	100	14	Average

CH00 (Vertical)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2385.8	48.42	-25.58	74.00	---	30.26	3.75	35.44	100	0	Peak
2385.8	38.29	-15.71	54.00	---	30.26	3.75	35.44	100	4	Average

CH78 (Horizontal)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	62.33	-11.67	74.00	---	30.29	3.86	35.51	100	0	Peak
2483.5	47.29	-6.71	54.00	---	30.29	3.86	35.51	100	17	Average

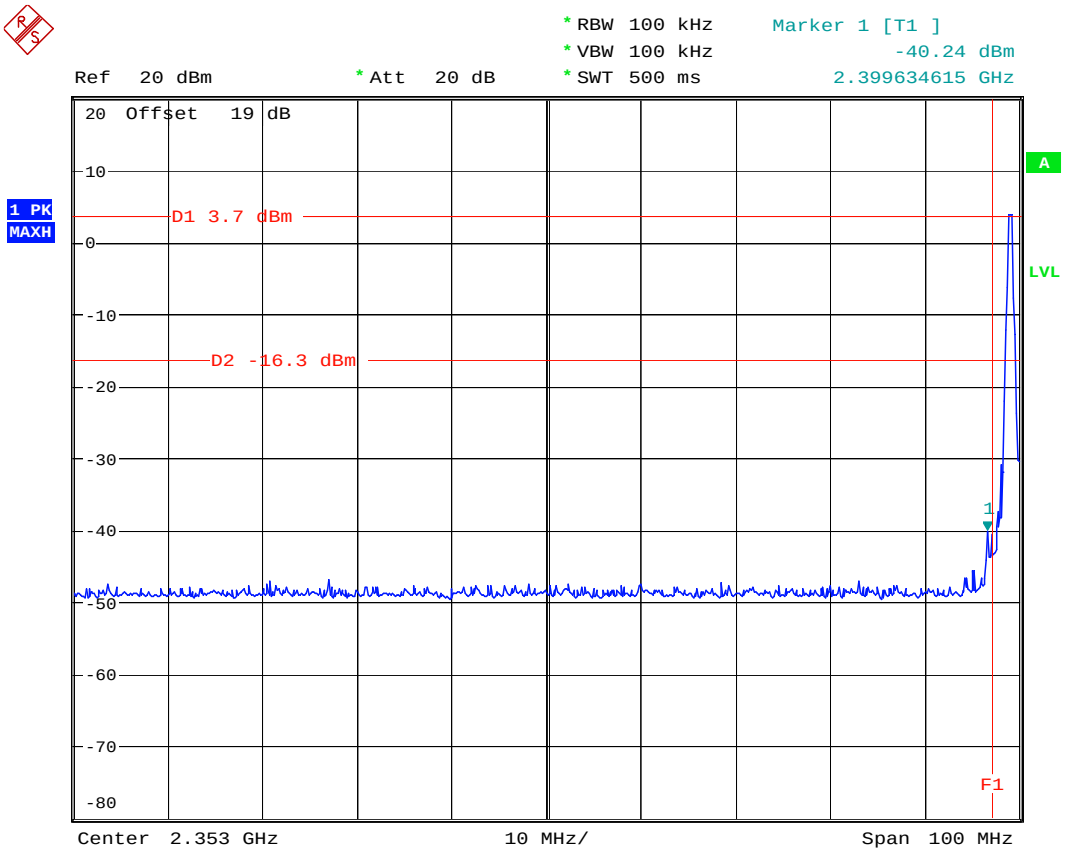
CH78 (Vertical)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	65.51	-8.49	74.00	---	30.29	3.86	35.51	100	0	Peak
2483.5	48.01	-5.99	54.00	---	30.29	3.86	35.51	100	359	Average

5.2.5 Band Edge：

BT(1Mbps)

CH00



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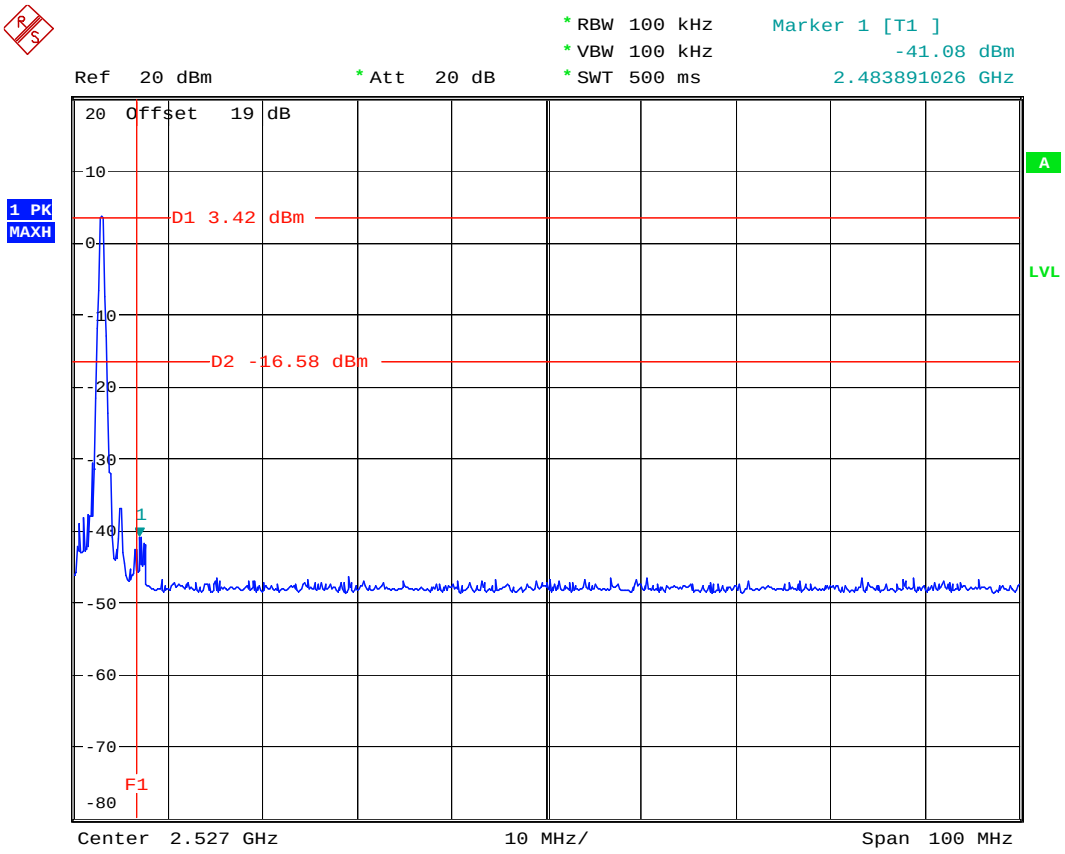
Date: 17.SEP.2007 23:54:03

BT(1Mbps)

CH78



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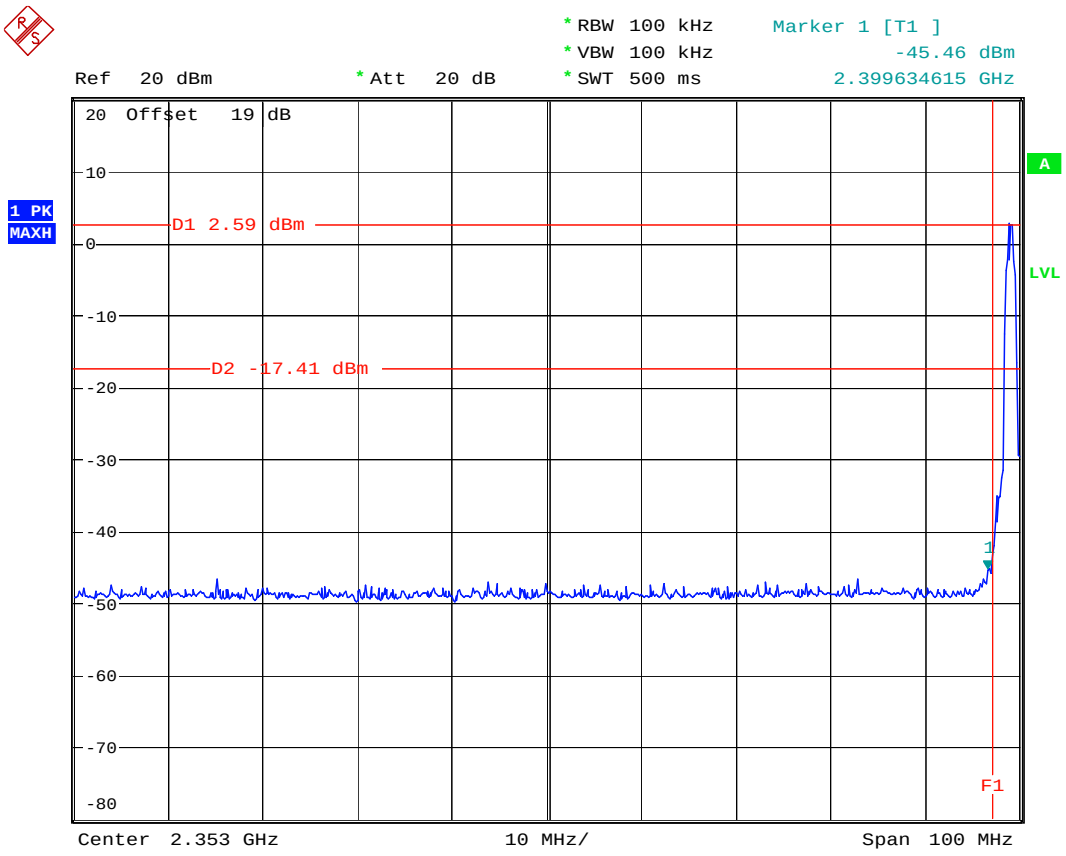
BT-EDR(2Mbps)

CH00



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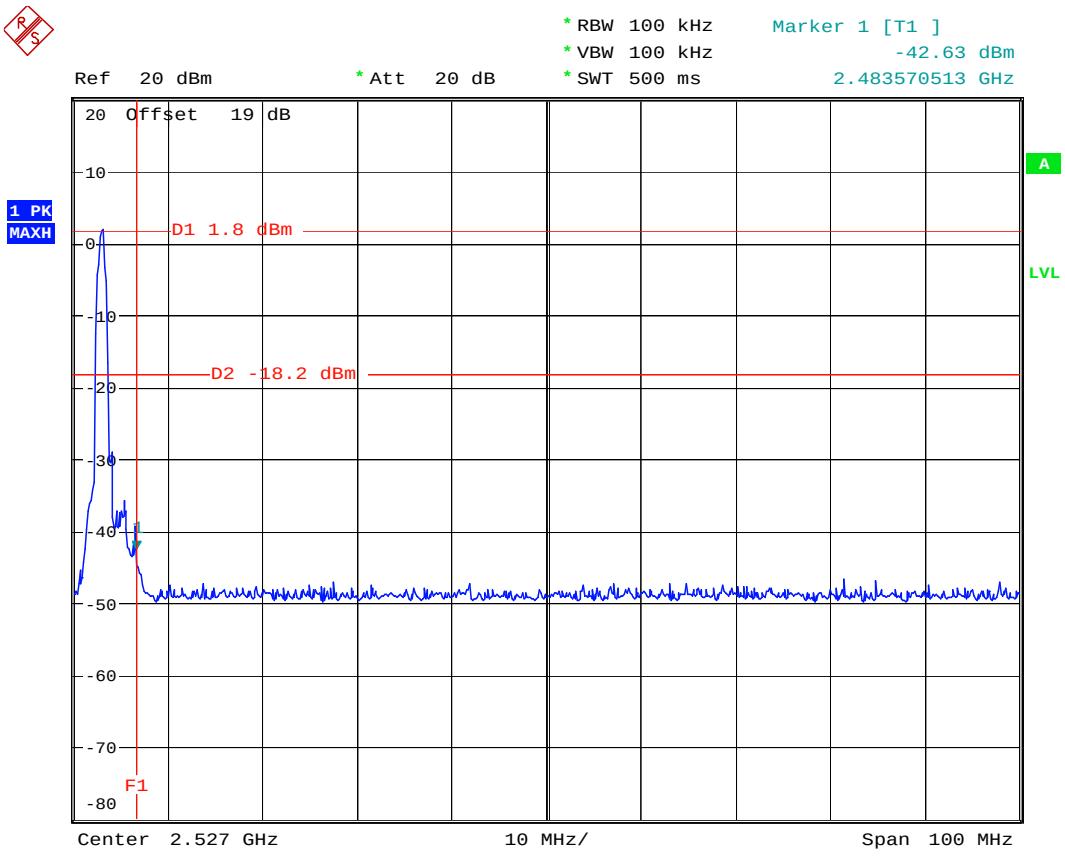
BT-EDR(2Mbps)

CH78



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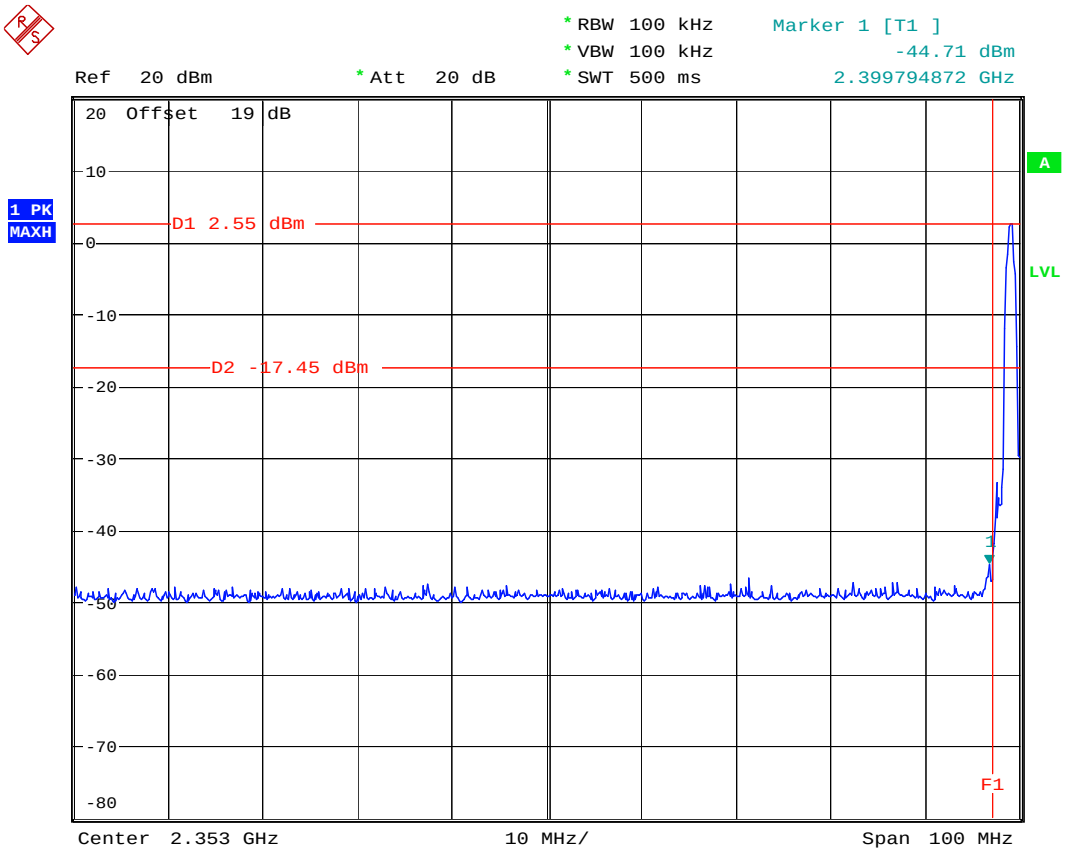
Date: 18.SEP.2007 01:20:03

BT-EDR(3Mbps)

CH00



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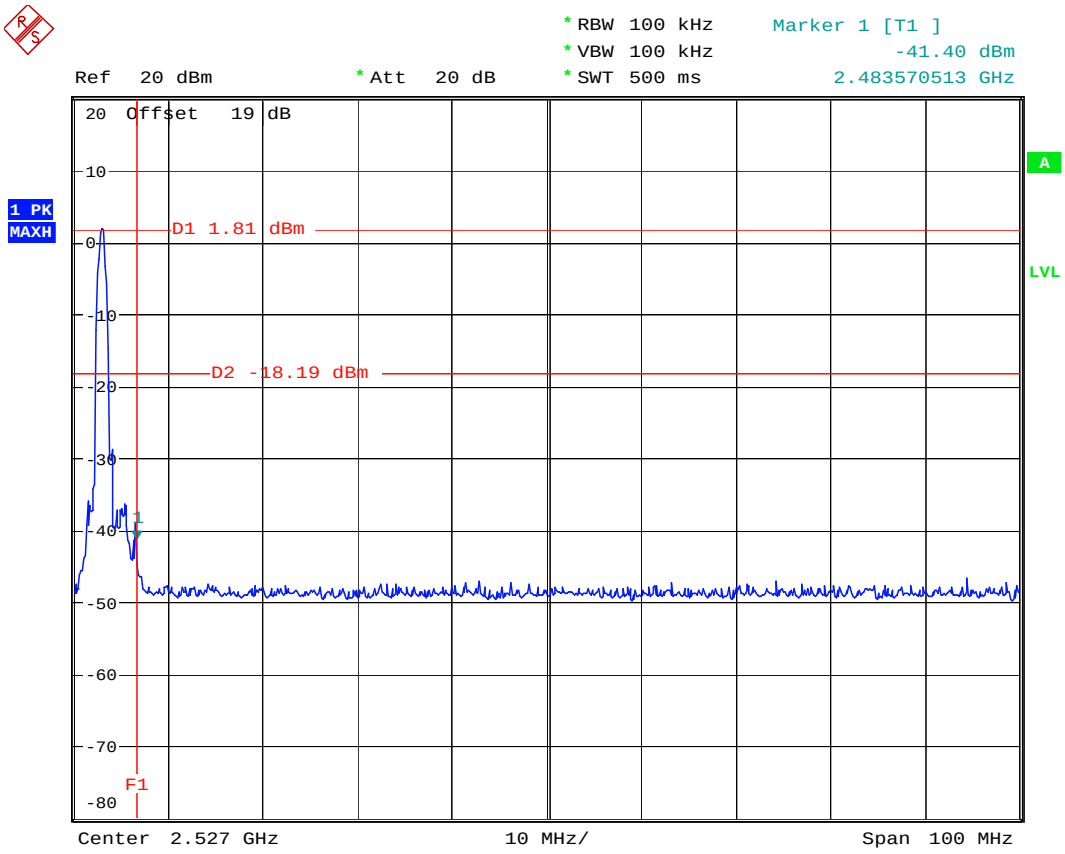
Date: 18.SEP.2007 01:16:54

BT-EDR(3Mbps)

CH78



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Date: 18.SEP.2007 01:18:39

5.3 Hopping Channel Separation

5.3.1 Measuring Instruments：

As described in chapter 6 of this test report.

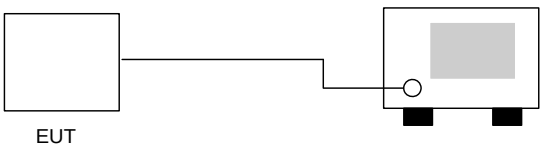
5.3.2 Test Procedure：

a. The output of EUT was connected to the spectrum analyzer by a low loss cable.

b. Set RBW of spectrum analyzer to ≧1% of the span and VBW ≧ RBW.

c. 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(1Mbps)
Temperature : **26~28℃**
Relative Humidity : **51~52%**
Test Enginner : **Sun**

Channel	Frequency (MHz)	Carrier Frequency Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.000	0.600	Mode 1
39	2441	1.003	0.598	Mode 2
78	2480	1.000	0.600	Mode 3

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

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

Application Type : BT-EDR(2Mbps)
Temperature : **26~28℃**
Relative Humidity : **51~52%**
Test Enginner : **Sun**

Channel	Frequency (MHz)	Carrier Frequency Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.000	0.816	Mode 4
39	2441	1.000	0.806	Mode 5
78	2480	1.000	0.825	Mode 6

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

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

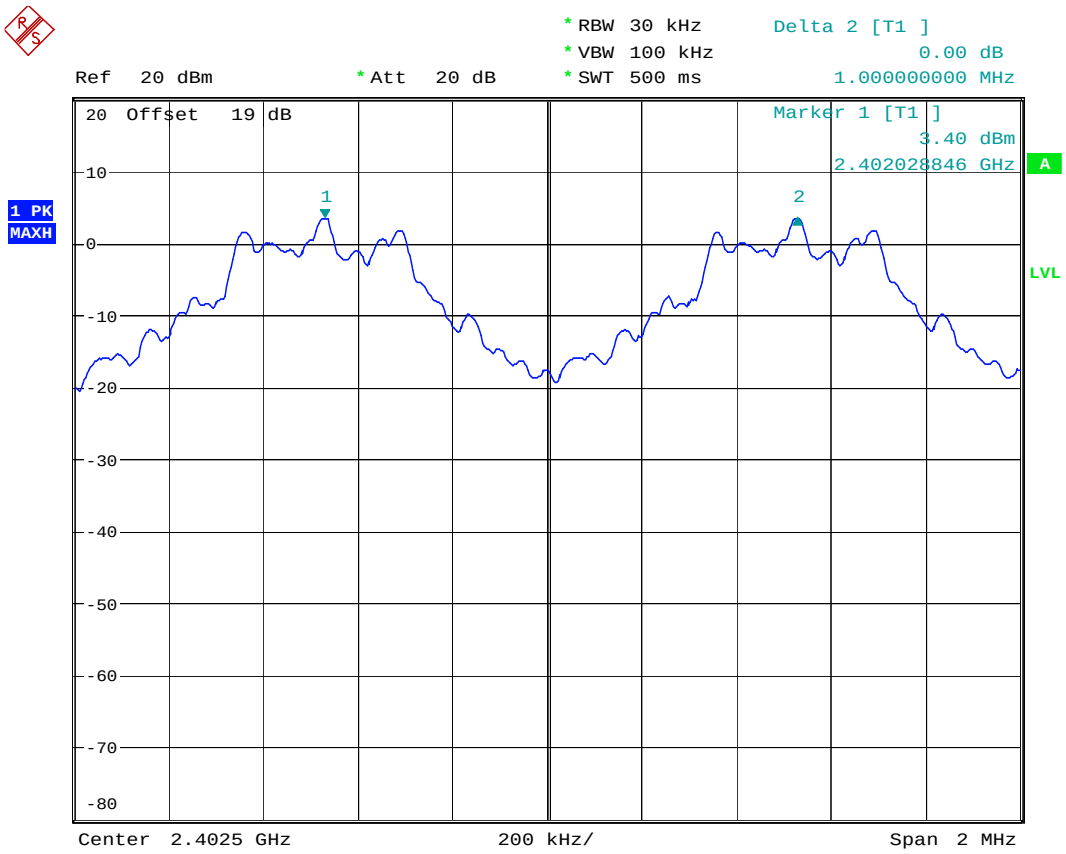
Application Type : BT-EDR(3Mbps)
Temperature : **26~28℃**
Relative Humidity : **51~52%**
Test Enginner : **Sun**

Channel	Frequency (MHz)	Carrier Frequency Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.006	0.840	Mode 7
39	2441	1.000	0.835	Mode 8
78	2480	1.006	0.835	Mode 9

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

5.3.7 Hopping Channel Separation

Mode 1



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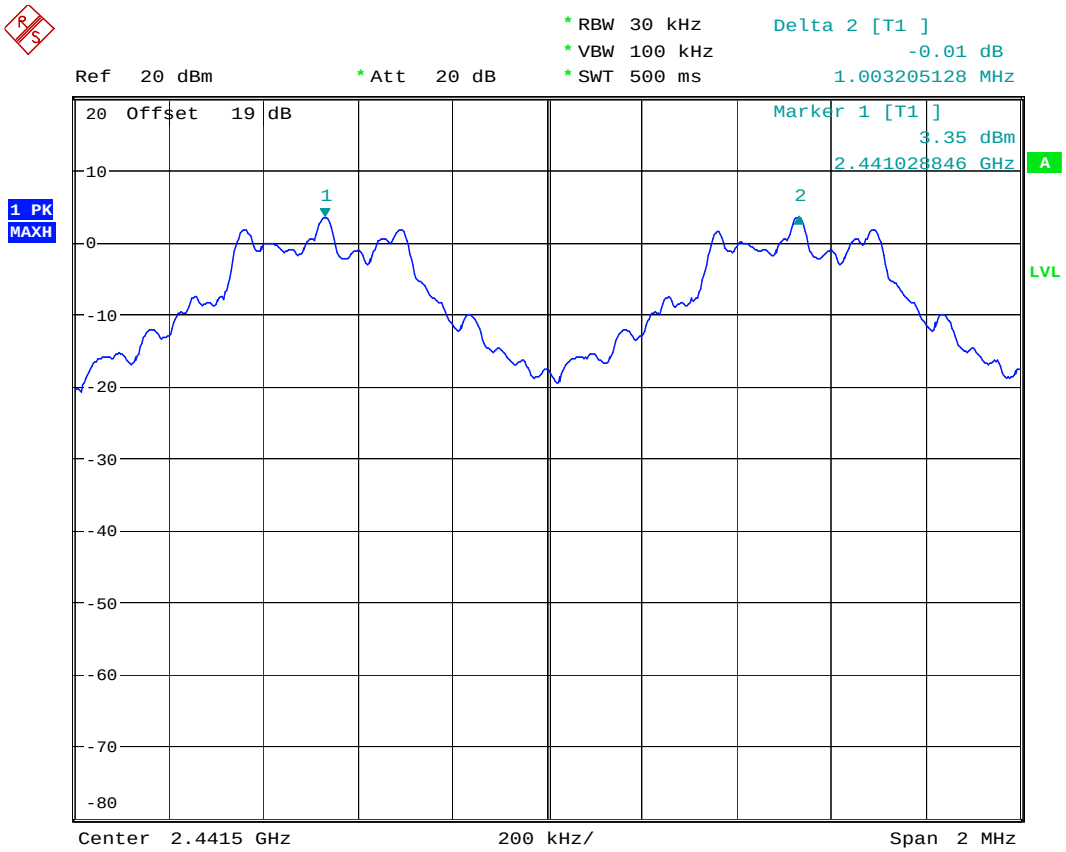
Date: 18.SEP.2007 00:00:33

Mode 2



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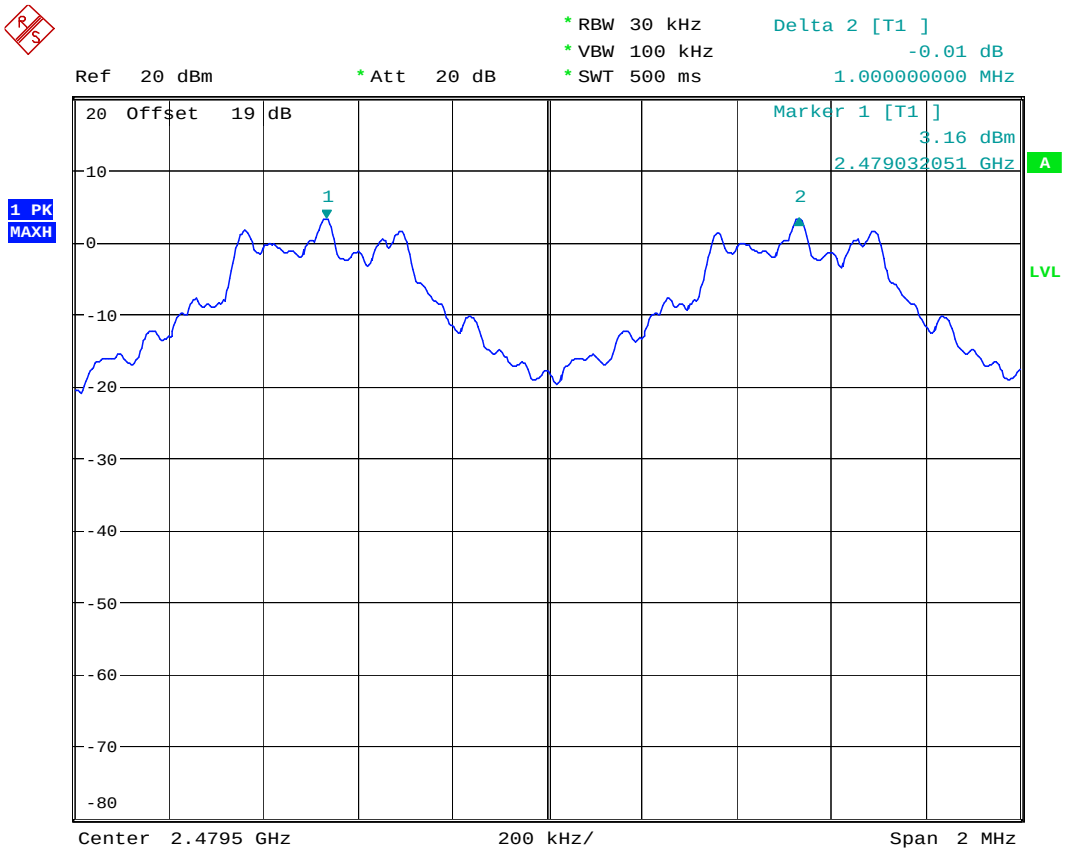
Date: 18.SEP.2007 00:01:51

Mode 3



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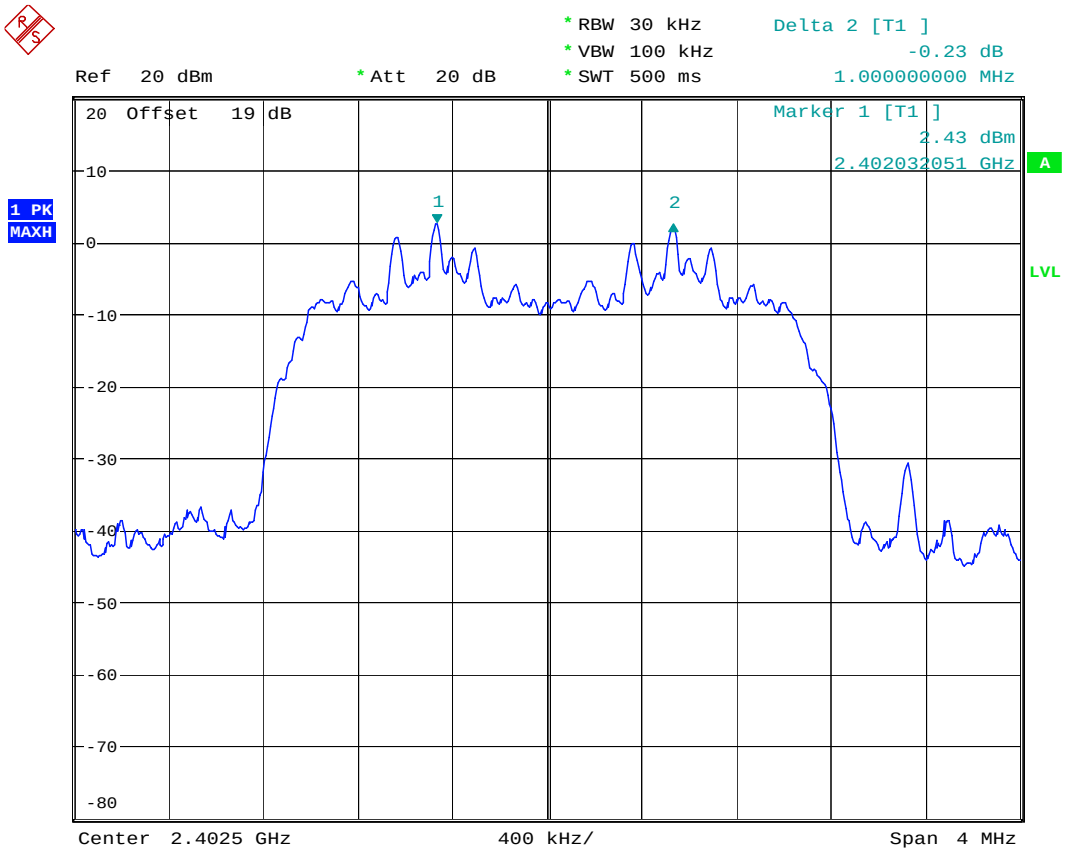
Date: 18.SEP.2007 00:02:48

Mode 4



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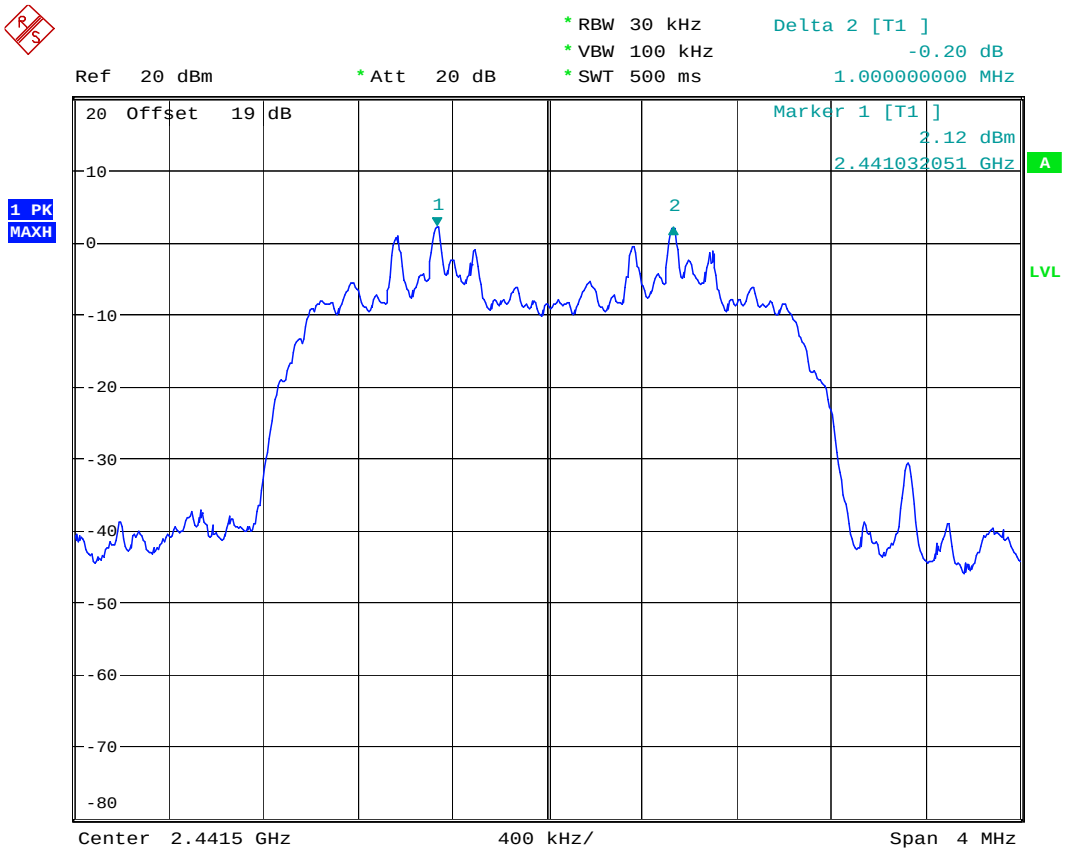
Date: 18.SEP.2007 01:21:30

Mode 5



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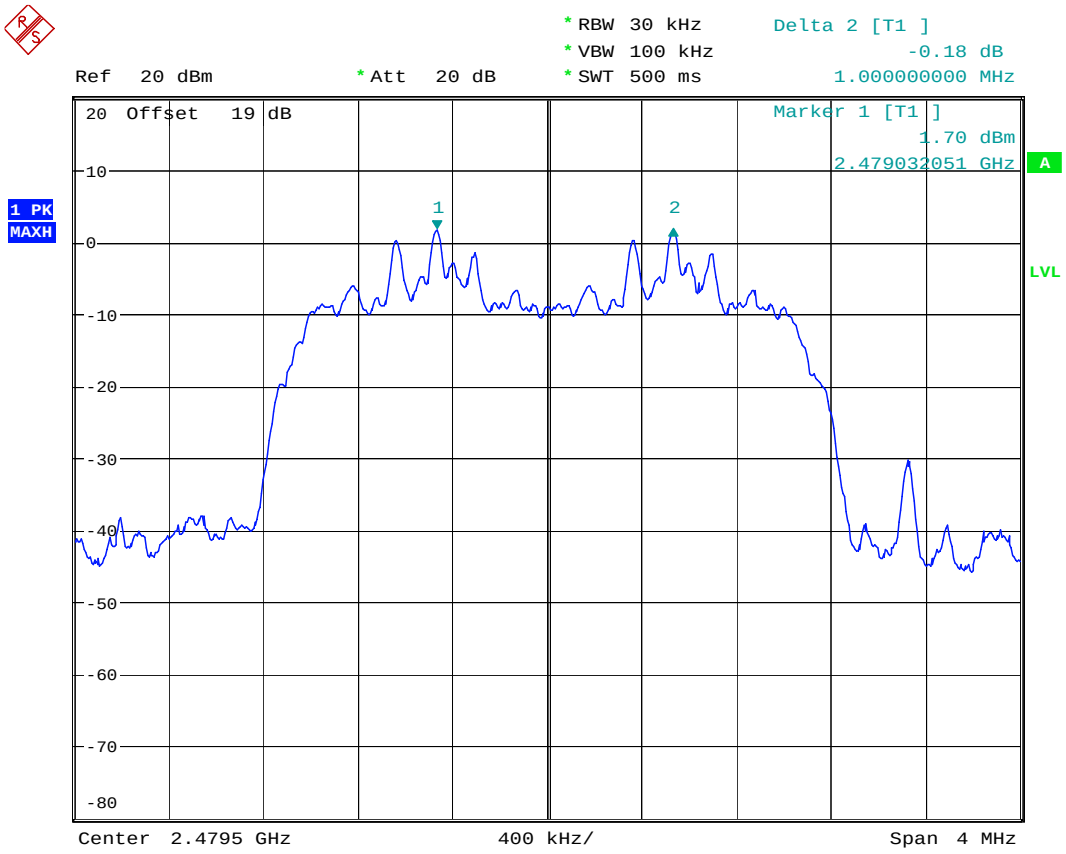
Date: 18.SEP.2007 01:22:44

Mode 6



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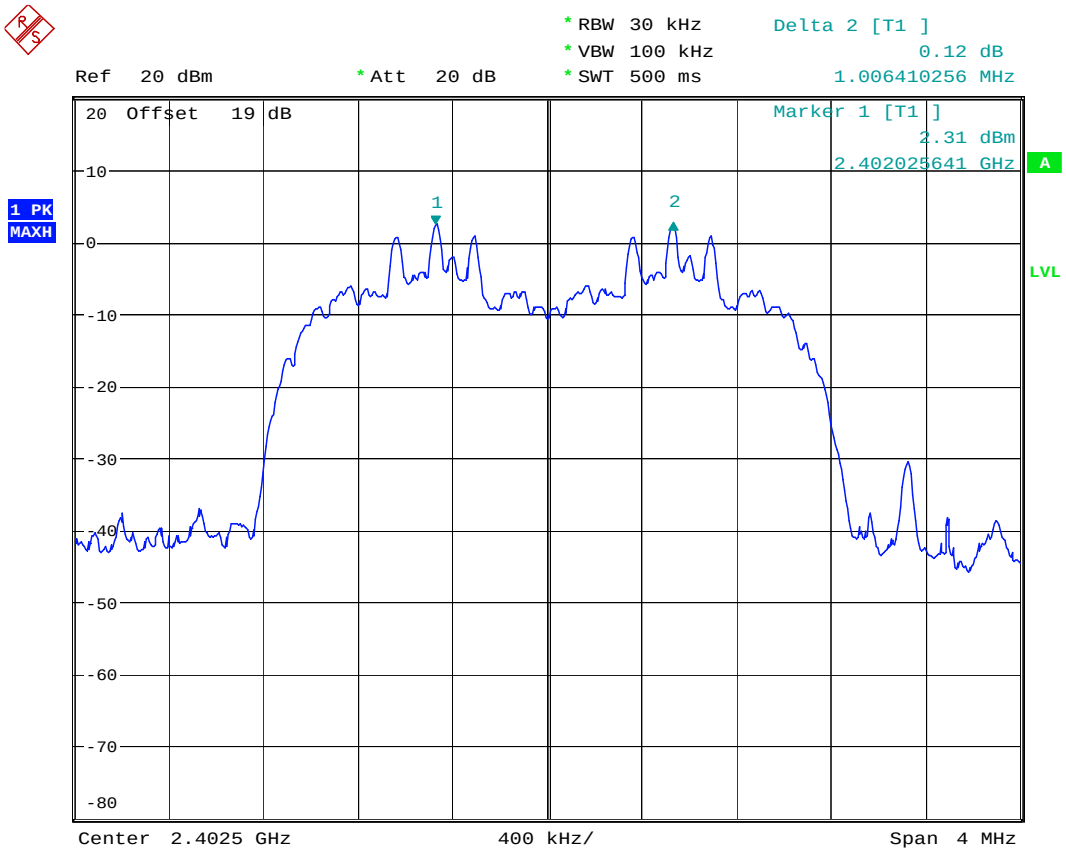
Date: 18.SEP.2007 01:24:26

Mode 7



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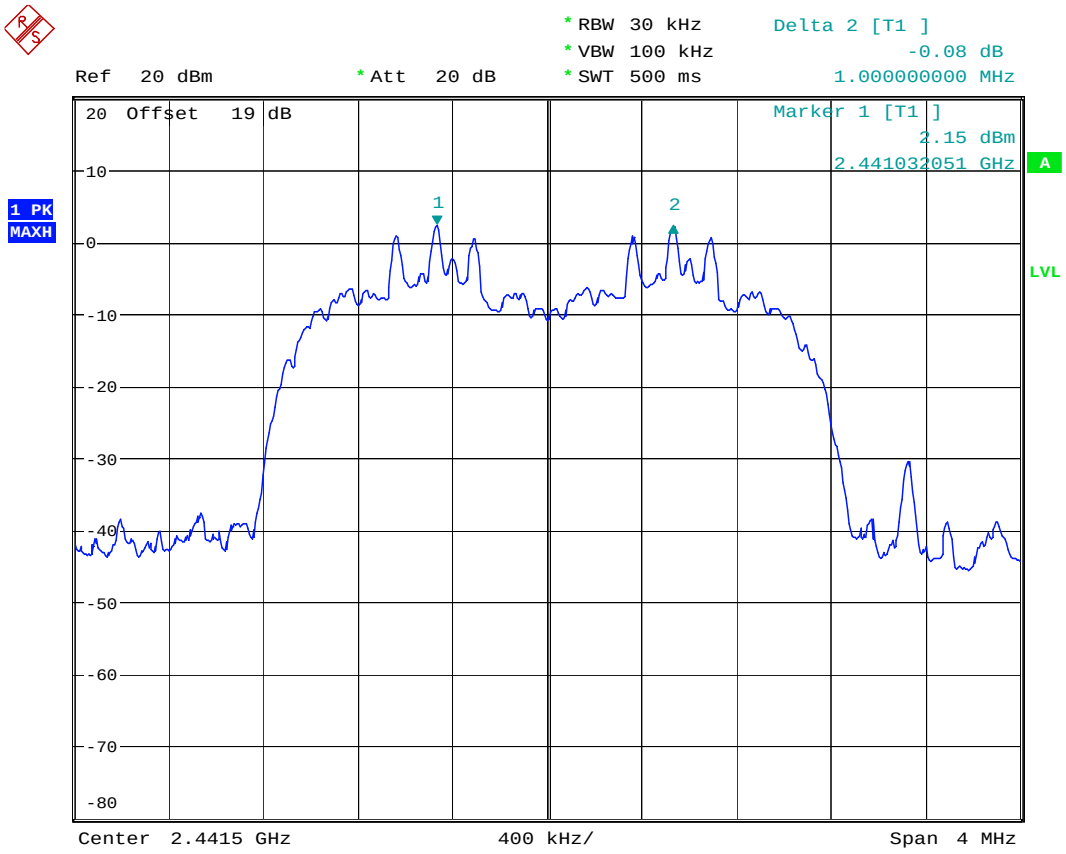
Date: 18.SEP.2007 01:26:13

Mode 8



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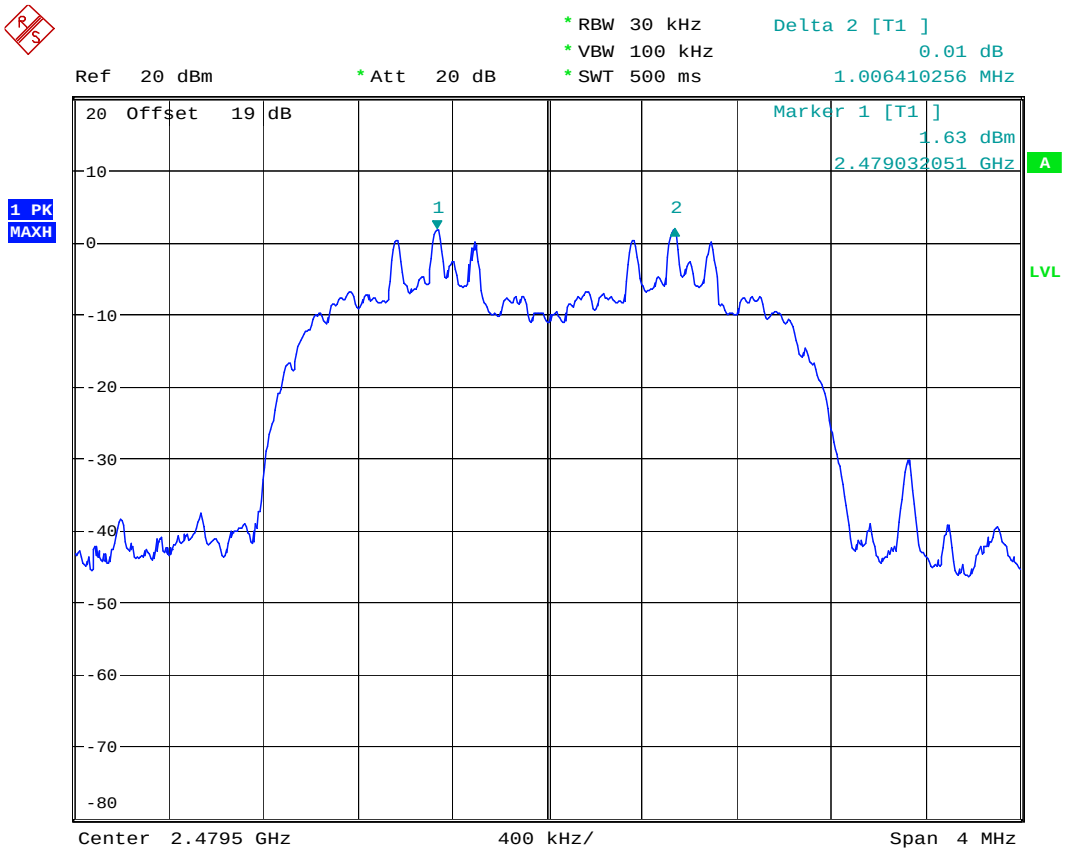
Date: 18.SEP.2007 01:27:32

Mode 9



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5.4 Number of Hopping Frequency

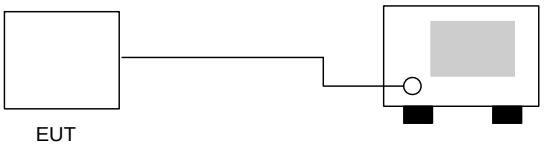
5.4.1 Measuring Instruments：

As described in chapter 6 of this test report.

5.4.2 Test Procedure：

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

5.4.3 Test Setup Layout：



5.4.4 Test Result：See spectrum analyzer plots below

Application Type : BT(1Mbps)
Temperature : **26~28℃**
Relative Humidity : **51~52%**
Test Enginner : **Sun**

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

5.4.5 Test Result：See spectrum analyzer plots below

Application Type : BT-EDR(2Mbps)
Temperature : **26~28℃**
Relative Humidity : **51~52%**
Test Enginner : **Sun**

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

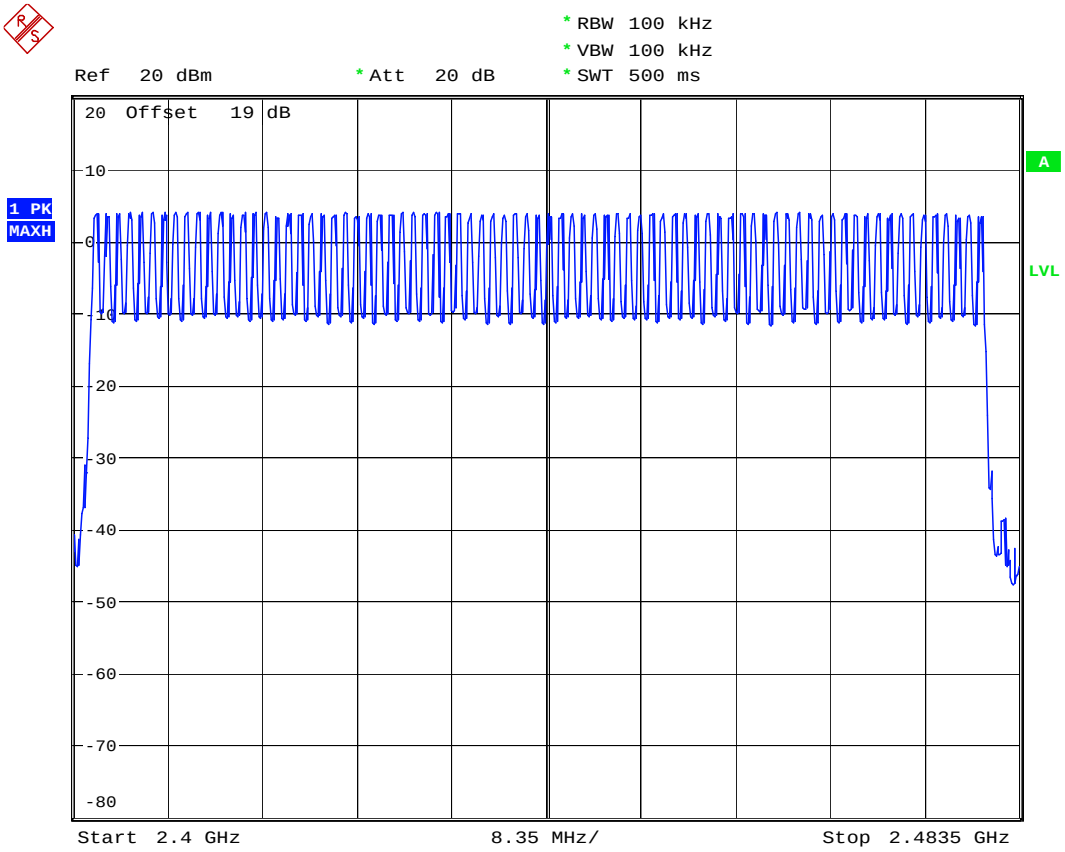
5.4.6 Test Result：See spectrum analyzer plots below

Application Type : BT-EDR(3Mbps)
Temperature : **26~28℃**
Relative Humidity : **51~52%**
Test Enginner : **Sun**

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

5.4.7 Number of Hopping Frequency

BT(1Mbps)



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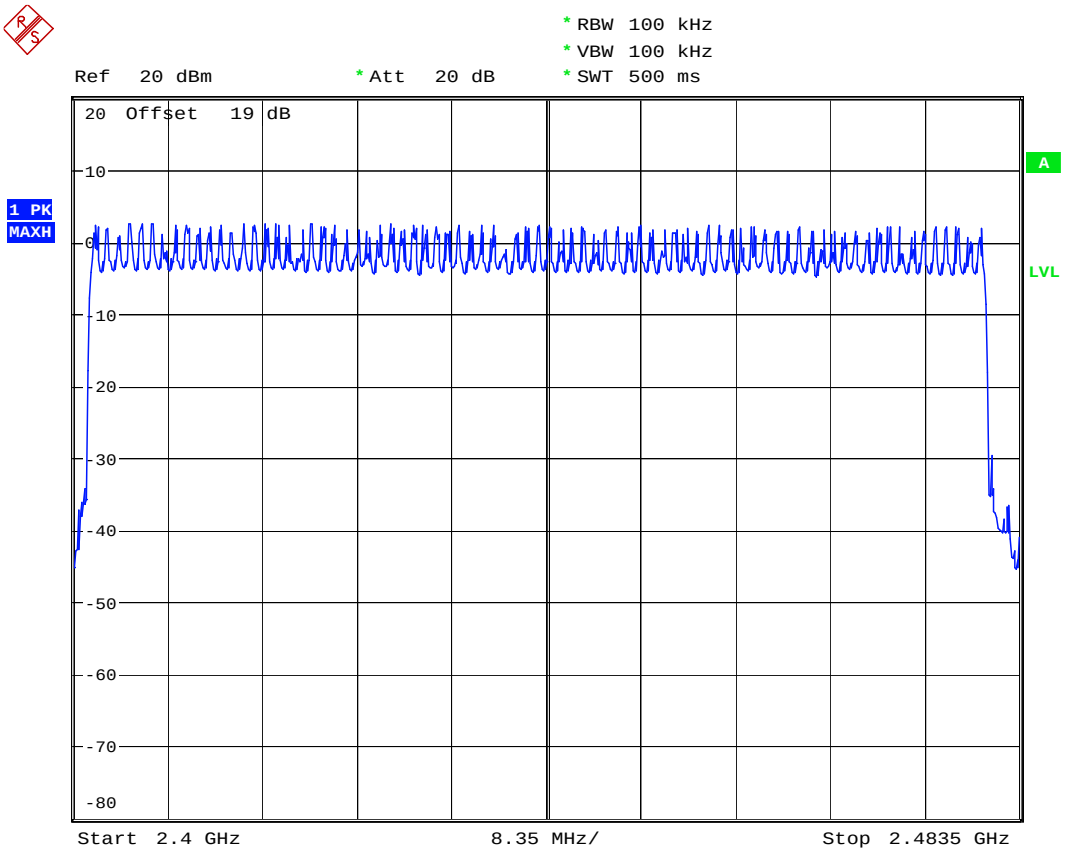
Date: 18.SEP.2007 00:57:54

BT-EDR(2Mbps)



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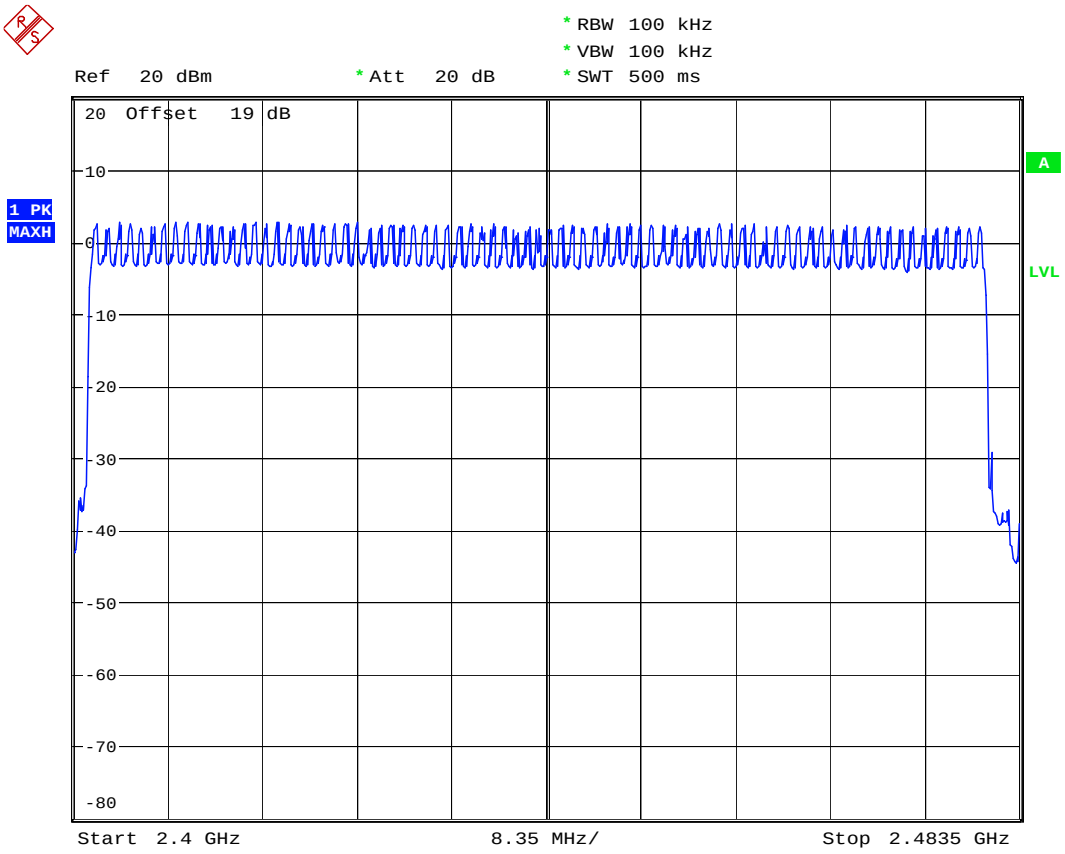
Date: 18.SEP.2007 01:59:22

BT-EDR(3Mbps)



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Date: 18.SEP.2007 02:16:01

5.5 Hopping Channel Bandwidth

5.5.1 Measuring Instruments：

As described in chapter 6 of this test report.

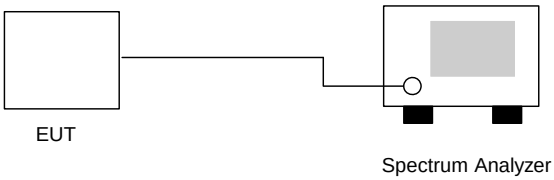
5.5.2 Test Procedure：

a. The transmitter output was connected to the spectrum analyzer by a low loss cable.

b. Set RBW of spectrum analyzer to 30kHz and VBW to 300kHz.

c. The Hopping Channel bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20 dB.

5.5.3 Test Setup Layout：



5.5.4 Test Result：See spectrum analyzer plots below

Application Type : BT(1Mbps)
Temperature : **26~28℃**
Relative Humidity : **51~52%**
Test Enginner : **Sun**

Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Plot Ref. No.
00	2402	0.901	Mode 1
39	2441	0.897	Mode 2
78	2480	0.901	Mode 3

5.5.5 Test Result：See spectrum analyzer plots below

Application Type : BT-EDR(2Mbps)
Temperature : **26~28℃**
Relative Humidity : **51~52%**
Test Enginner : **Sun**

Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Plot Ref. No.
00	2402	1.224	Mode 4
39	2441	1.208	Mode 5
78	2480	1.237	Mode 6

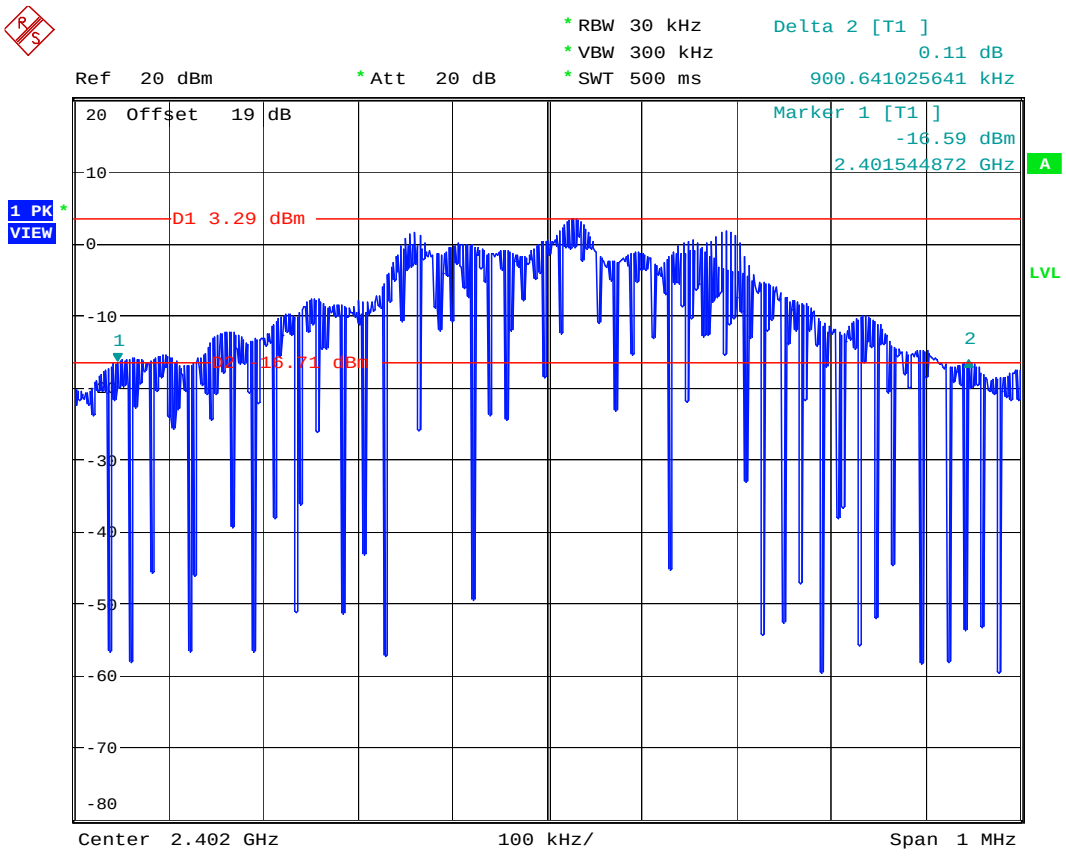
5.6.7 Test Result：See spectrum analyzer plots below

Application Type : BT-EDR(3Mbps)
Temperature : **26~28℃**
Relative Humidity : **51~52%**
Test Enginner : **Sun**

Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Plot Ref. No.
00	2402	1.260	Mode 7
39	2441	1.253	Mode 8
78	2480	1.253	Mode 9

5.5.6 Hopping Channel Bandwidth

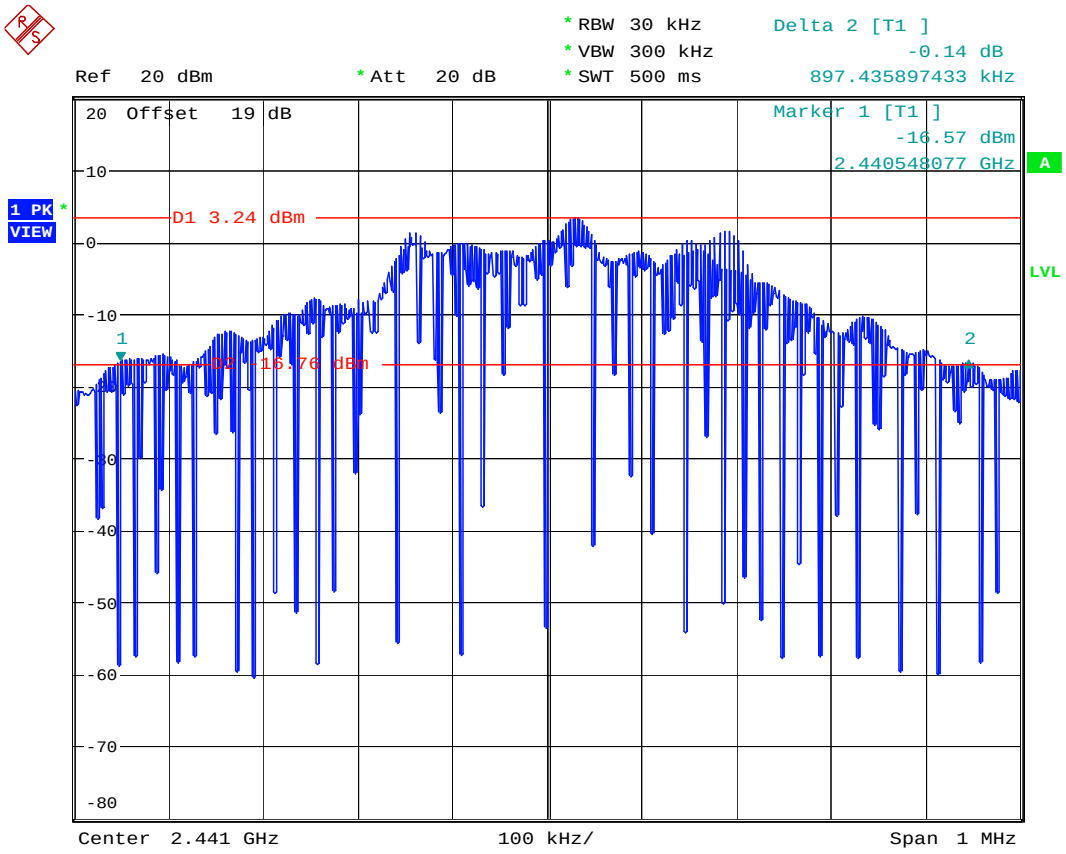
Mode 1



444

Date: 17.SEP.2007 23:23:45

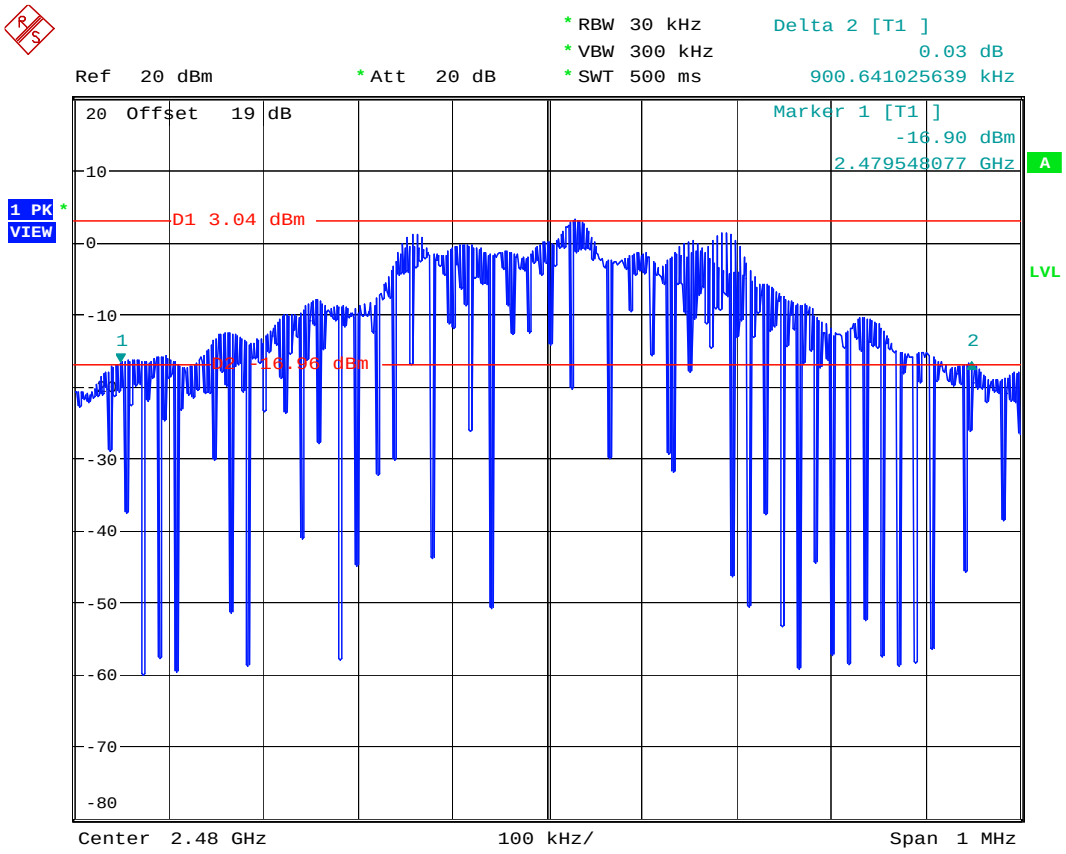
Mode 2



444

Date: 17.SEP.2007 23:32:31

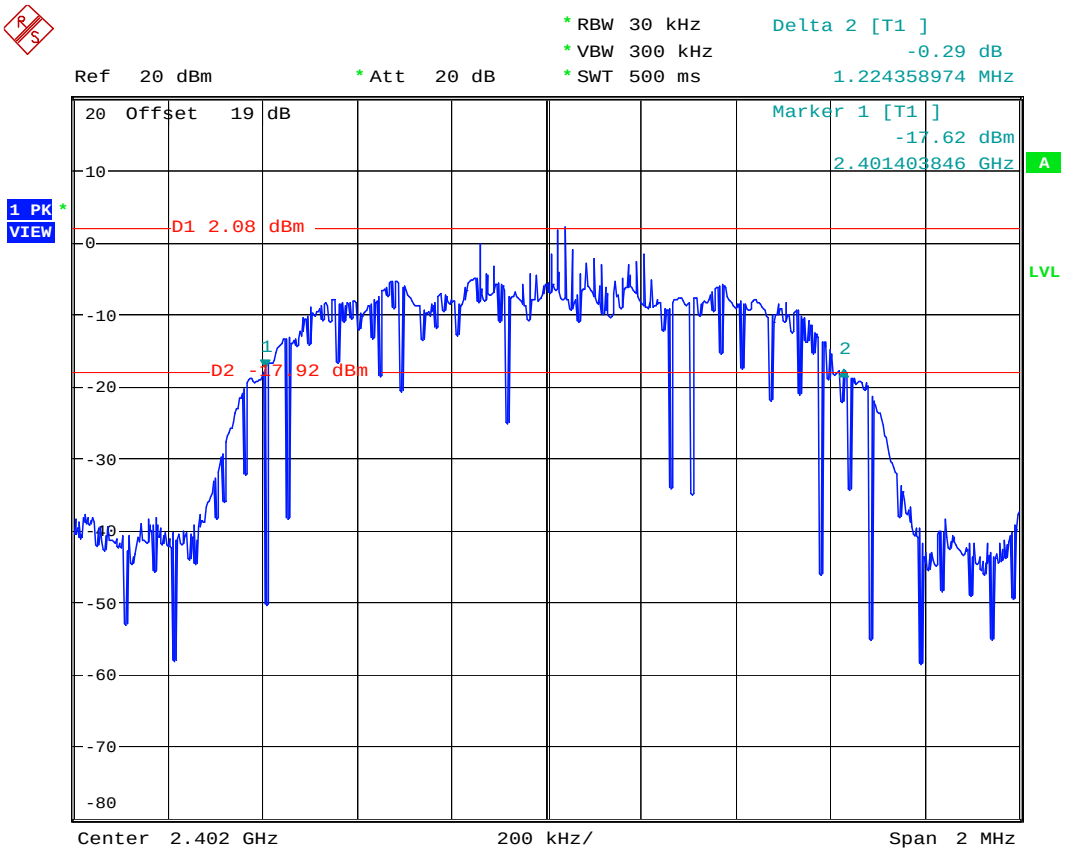
Mode 3



444

Date: 17.SEP.2007 23:36:32

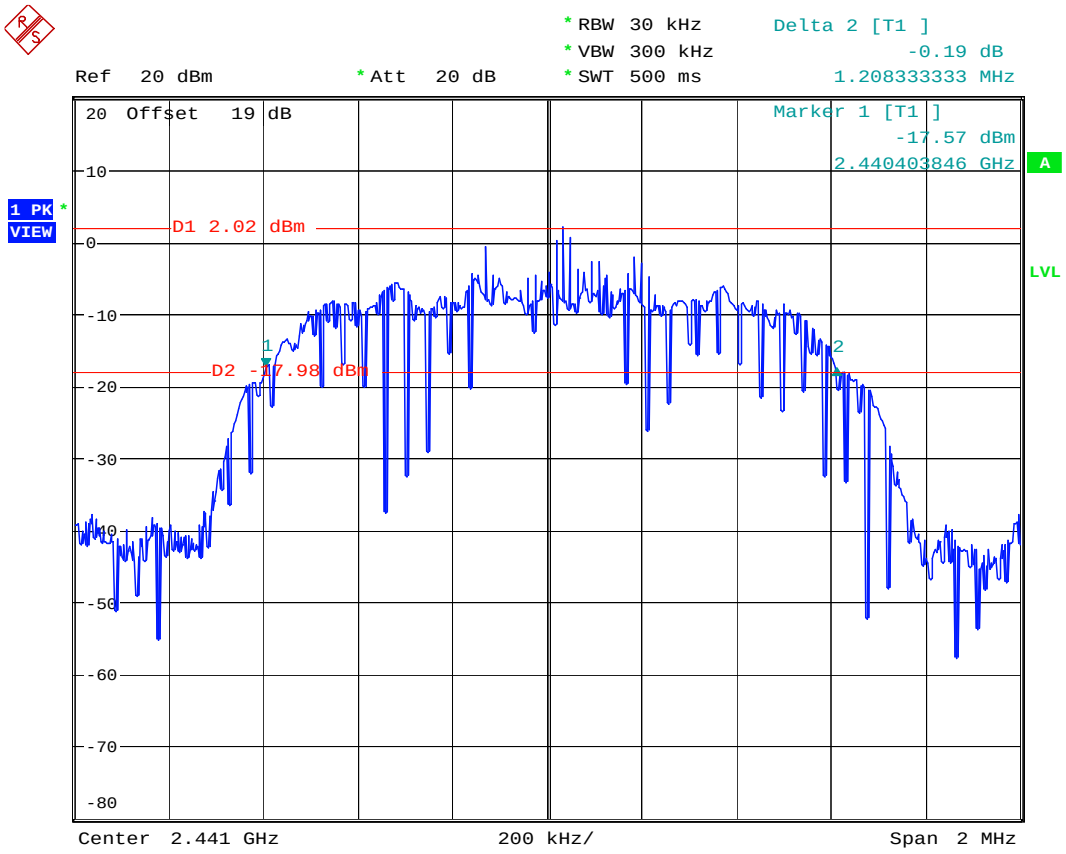
Mode 4



444

Date: 18.SEP.2007 01:00:43

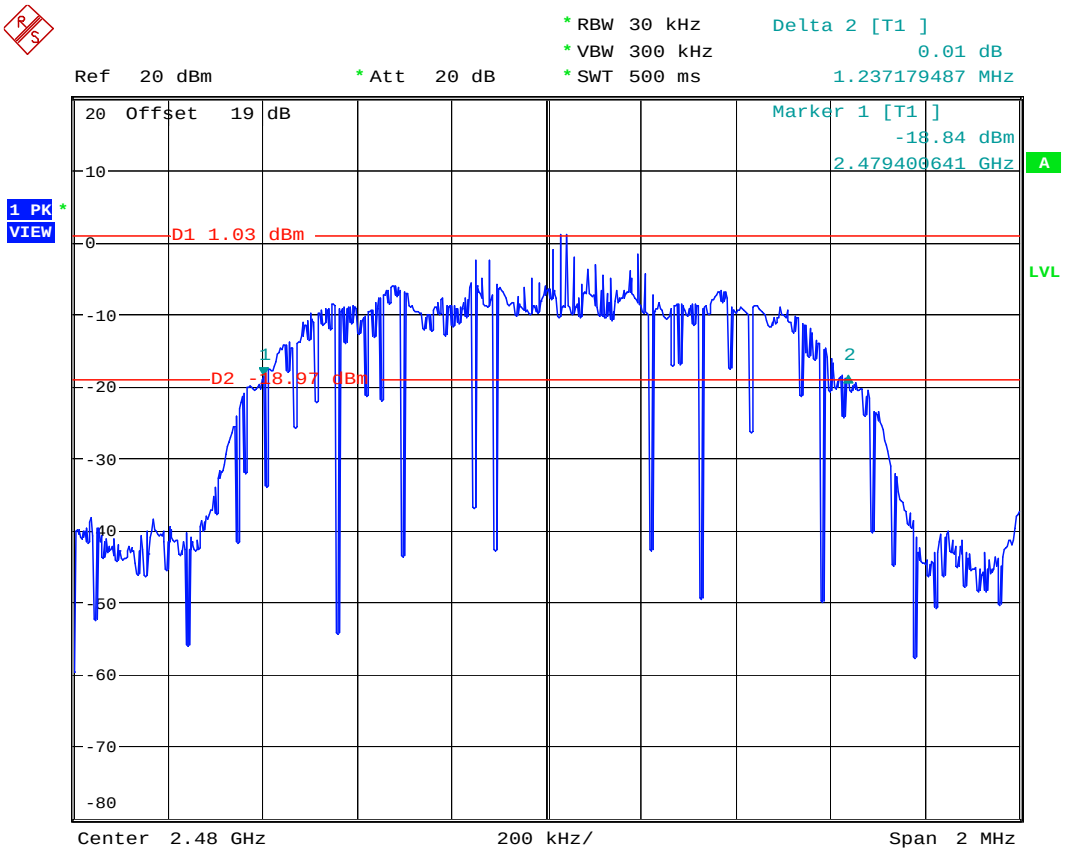
Mode 5



444

Date: 18.SEP.2007 01:03:19

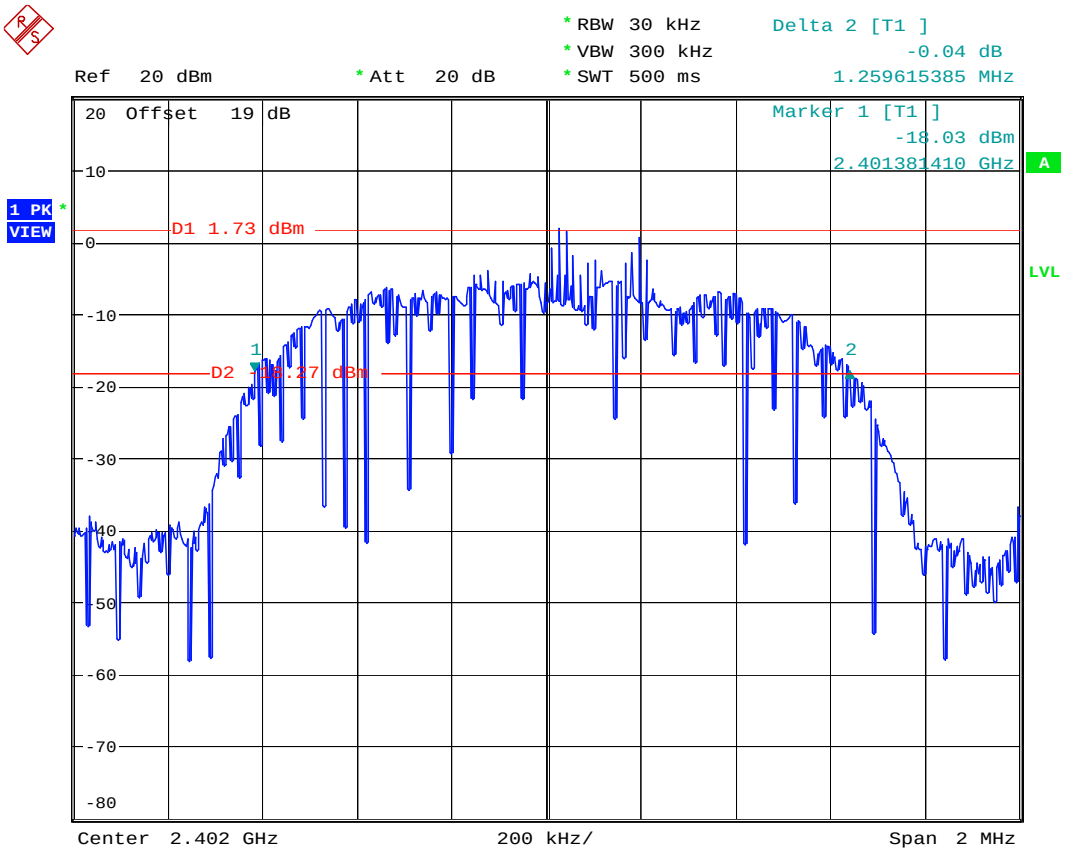
Mode 6



444

Date: 18.SEP.2007 01:05:38

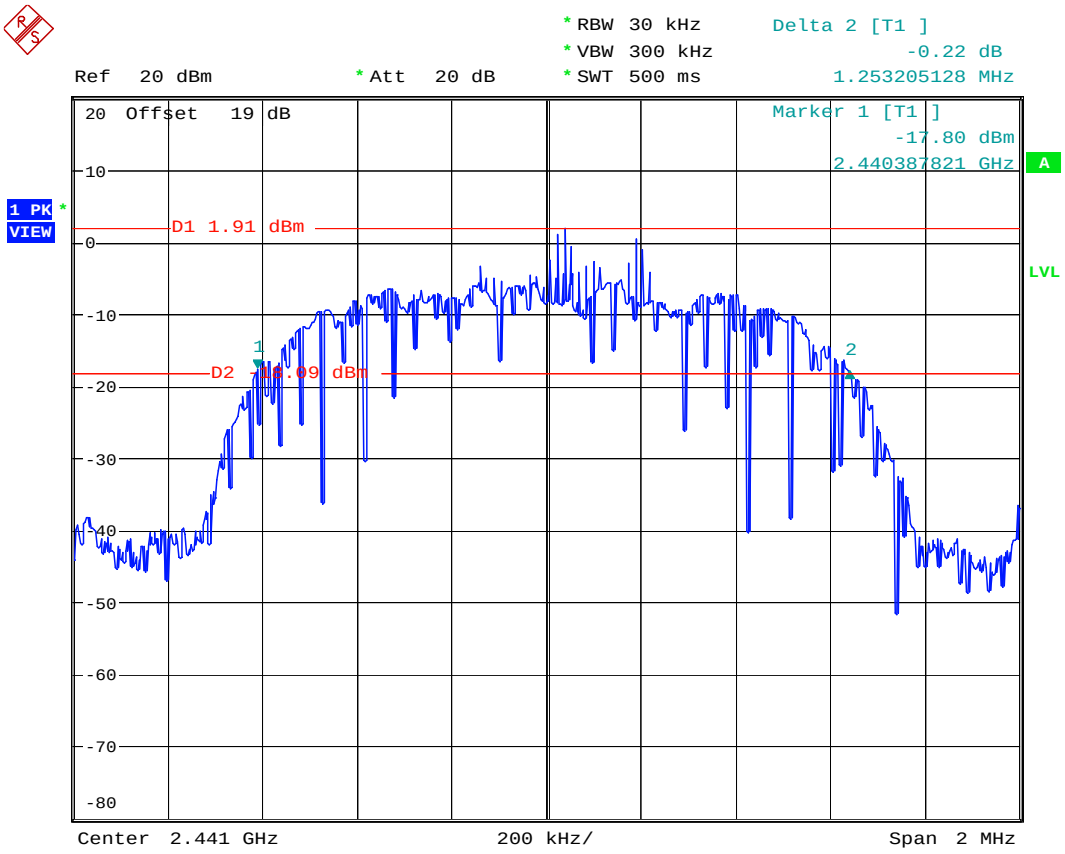
Mode 7



444

Date: 18.SEP.2007 01:09:45

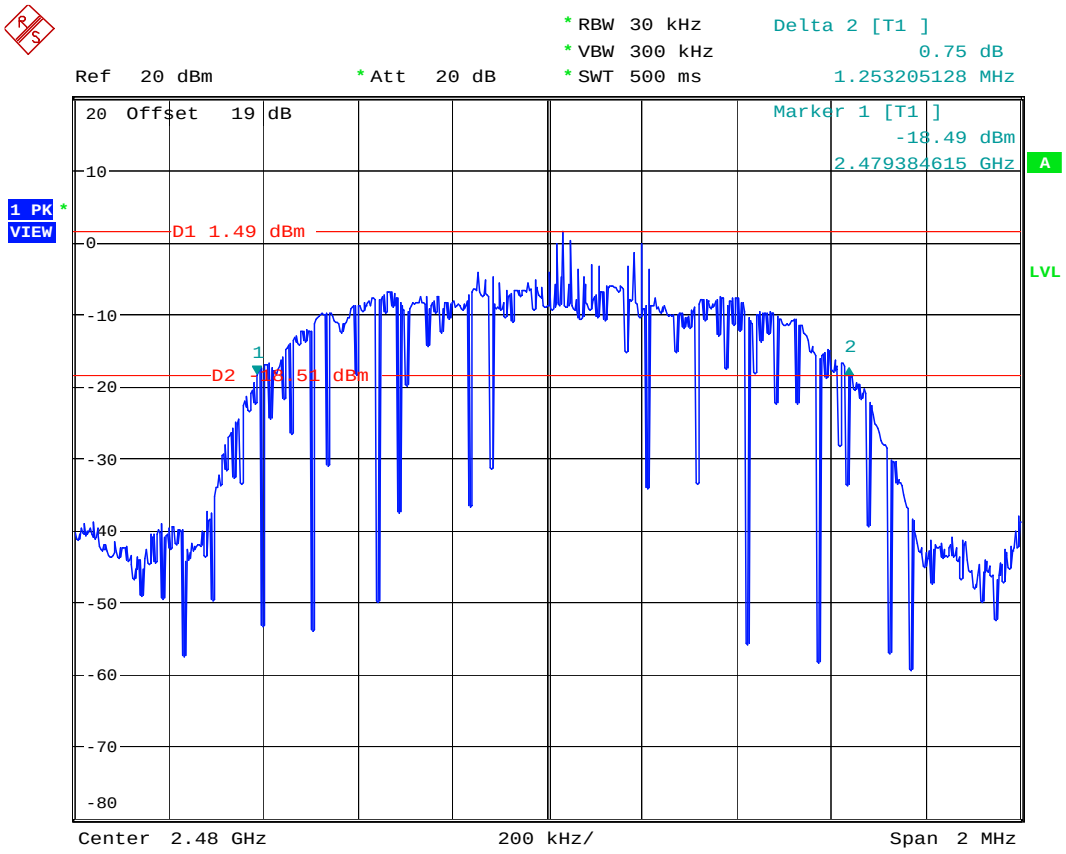
Mode 8



444

Date: 18.SEP.2007 01:08:46

Mode 9



444

Date: 18.SEP.2007 01:07:35

5.6 Dwell Time of Each Frequency

5.6.1 Measuring Instruments

As described in chapter 6 of this test report.

5.6.2 Test Procedure

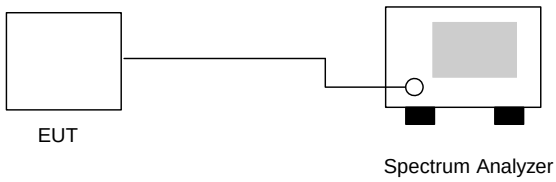
a. The transmitter output was connected to the spectrum analyzer by a low loss cable.

b. Set RBW of spectrum analyzer to 1MHz and VBW to 1MHz.

c. Set the center frequency on any frequency would be measure and set the frequency span to zero span.

d. The calculate equals 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(1Mbps)
Temperature : **26~28℃**
Relative Humidity : **51~52%**
Test Enginner : **Sun**

CH39

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	9.2	442	0.128	0.4
DH3	4.5	1706	0.243	0.4
DH5	3.3	3028	0.316	0.4

5.6.5 Test Result：See spectrum analyzer plots below

Application Type : BT-EDR(2Mbps)
Temperature : **26~28℃**
Relative Humidity : **51~52%**
Test Enginner : **Sun**

CH39

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	9.6	448	0.136	0.4
DH3	5.3	1738	0.291	0.4
DH5	3.5	3028	0.335	0.4

5.6.6 Test Result：See spectrum analyzer plots below

Application Type : BT-EDR(3Mbps)
Temperature : **26~28℃**
Relative Humidity : **51~52%**
Test Enginner : **Sun**

CH39

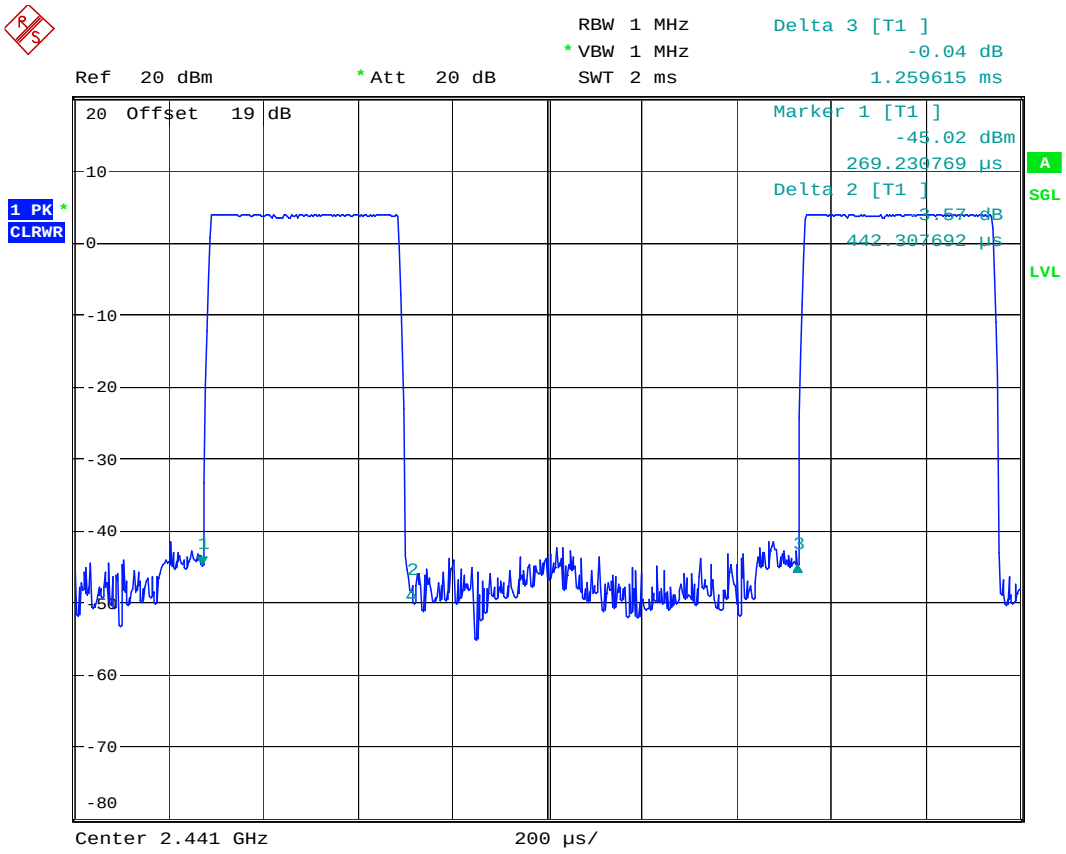
Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	9.1	455	0.131	0.4
DH3	5.1	1714	0.276	0.4
DH5	3.4	2996	0.322	0.4

※ Remark:

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

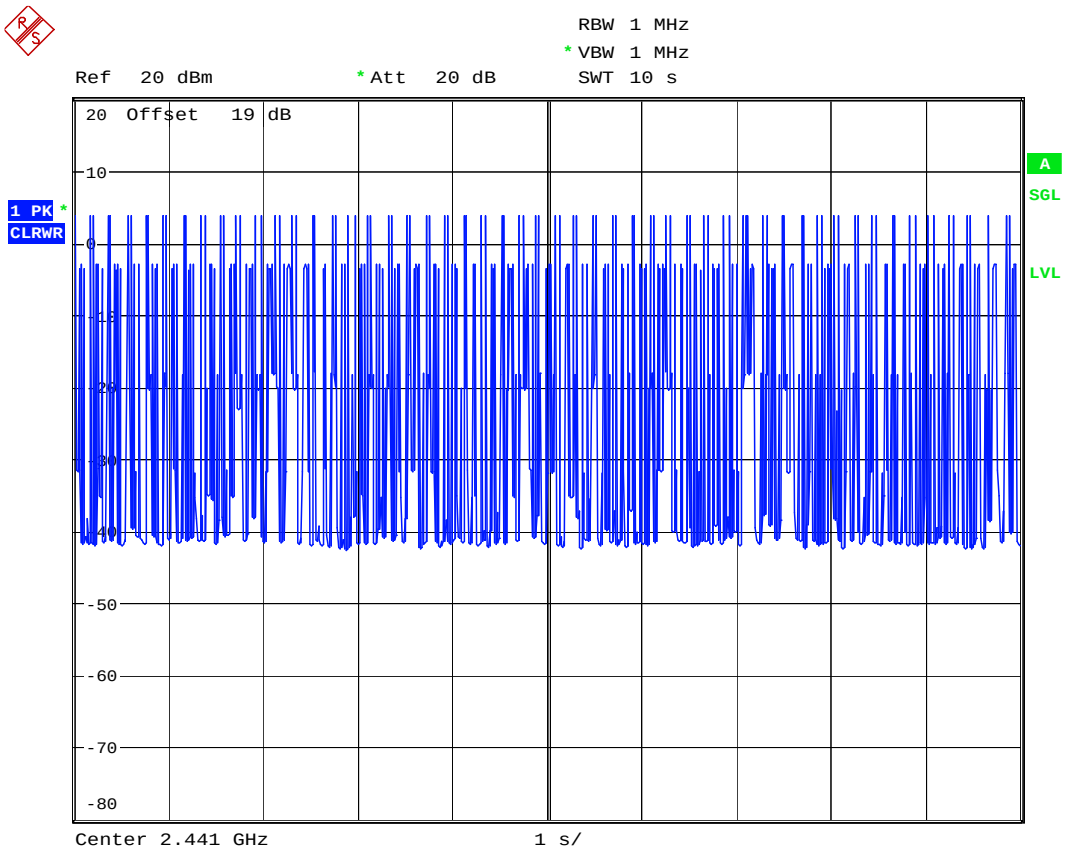
5.6.7 Dwell Time

BT(1Mbps)_DH1 (CH39)



444

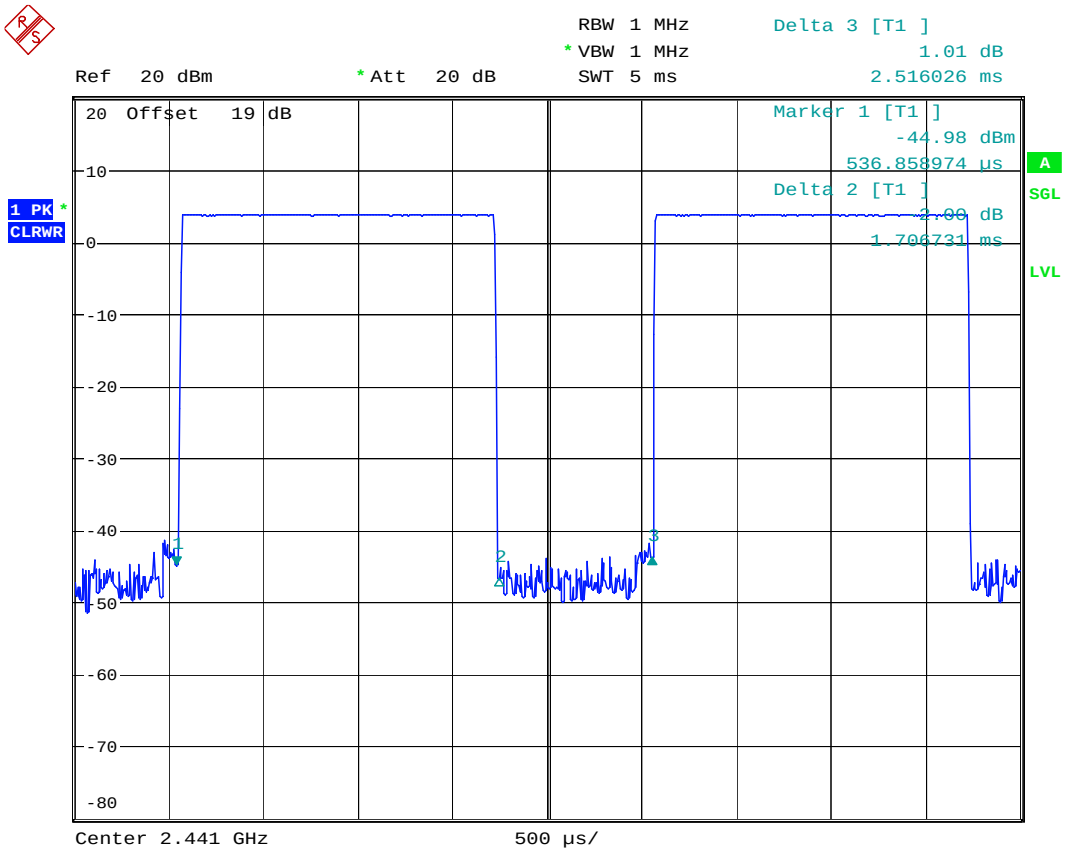
Date: 18.SEP.2007 00:04:59



444

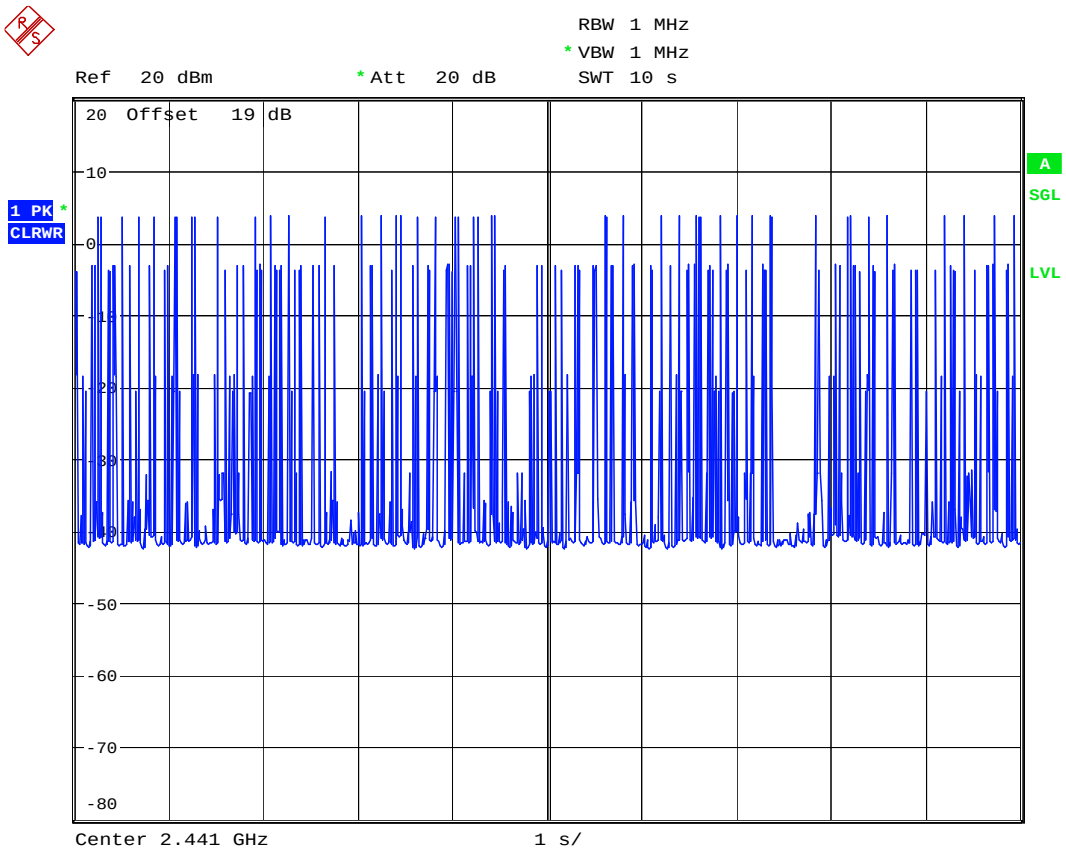
Date: 18.SEP.2007 00:16:44

BT(1Mbps)_DH3 (CH39)



444

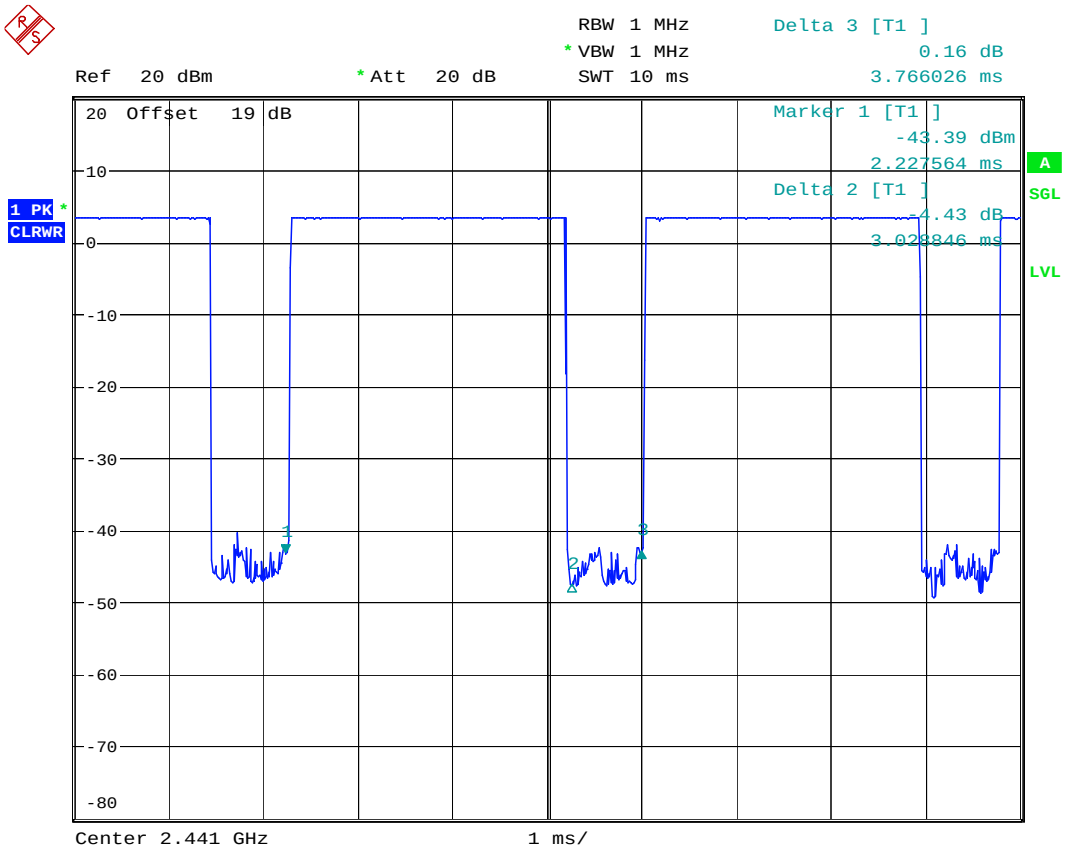
Date: 18.SEP.2007 00:05:49



444

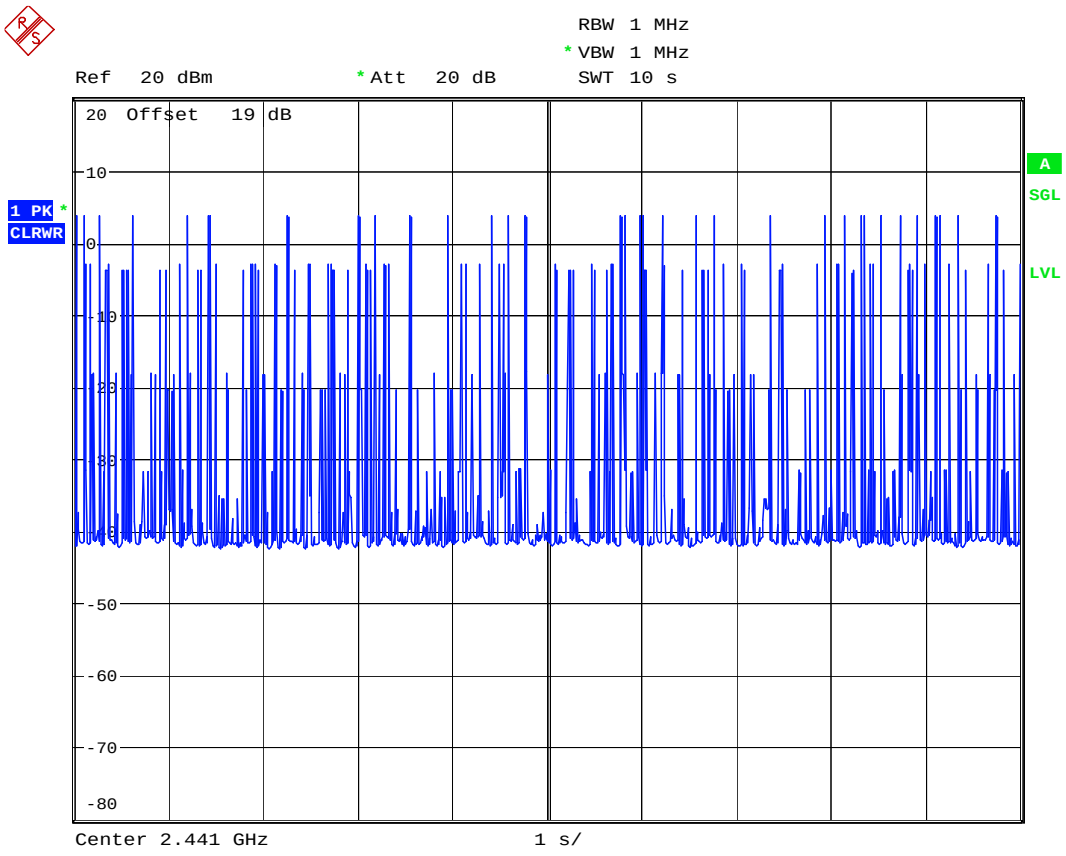
Date: 18.SEP.2007 00:42:31

BT(1Mbps)_DH5 (CH39)



444

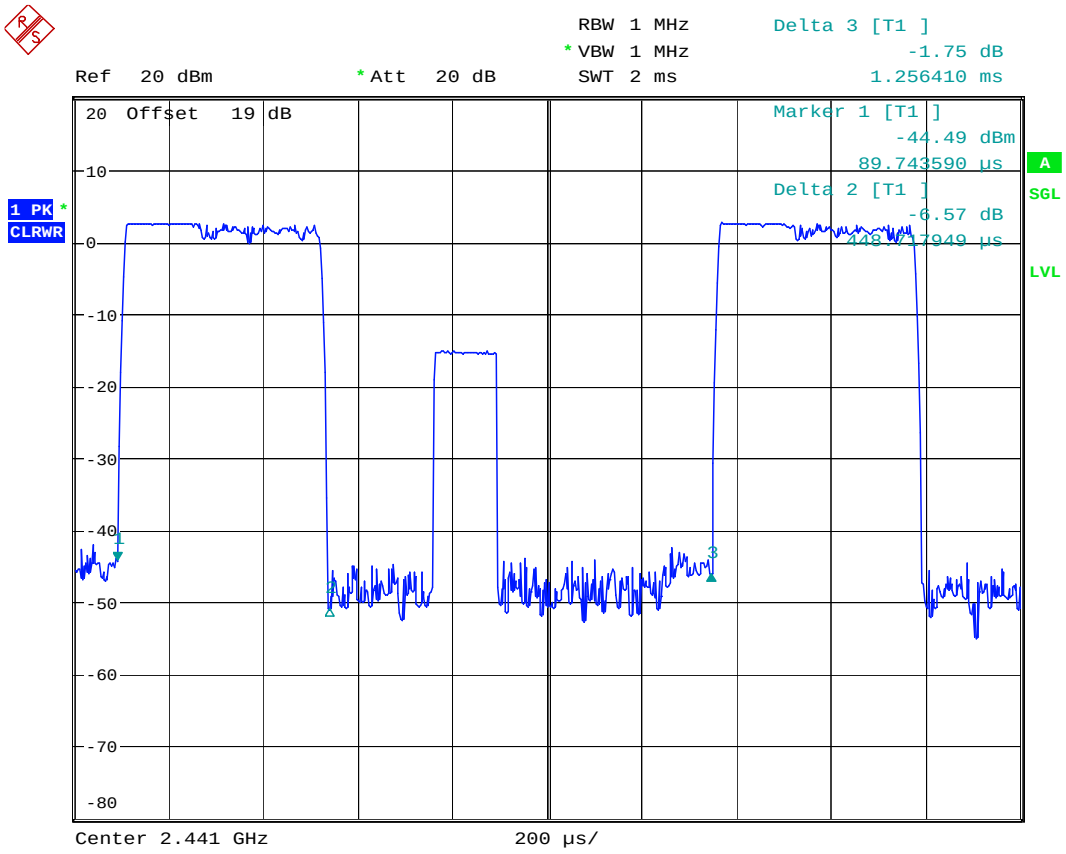
Date: 18.SEP.2007 00:15:28



444

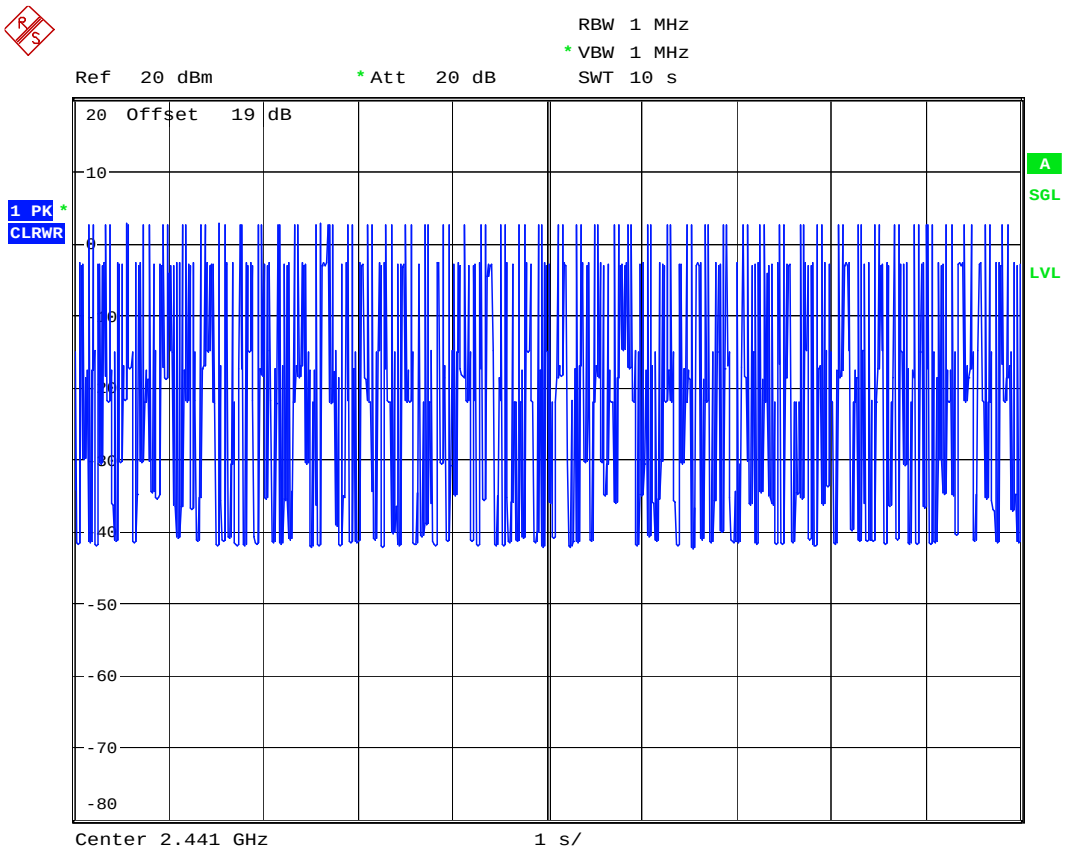
Date: 18.SEP.2007 00:43:38

BT-EDR(2Mbps)_DH1(CH39)



444

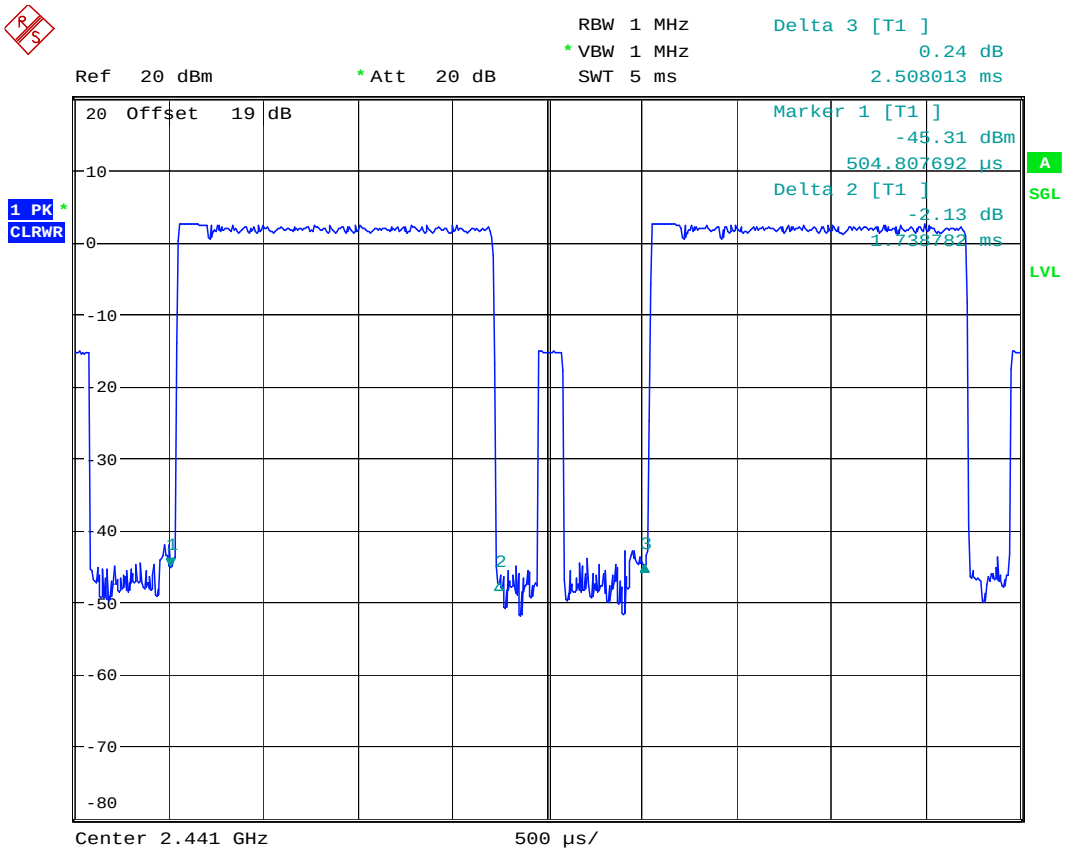
Date: 18.SEP.2007 01:30:55



444

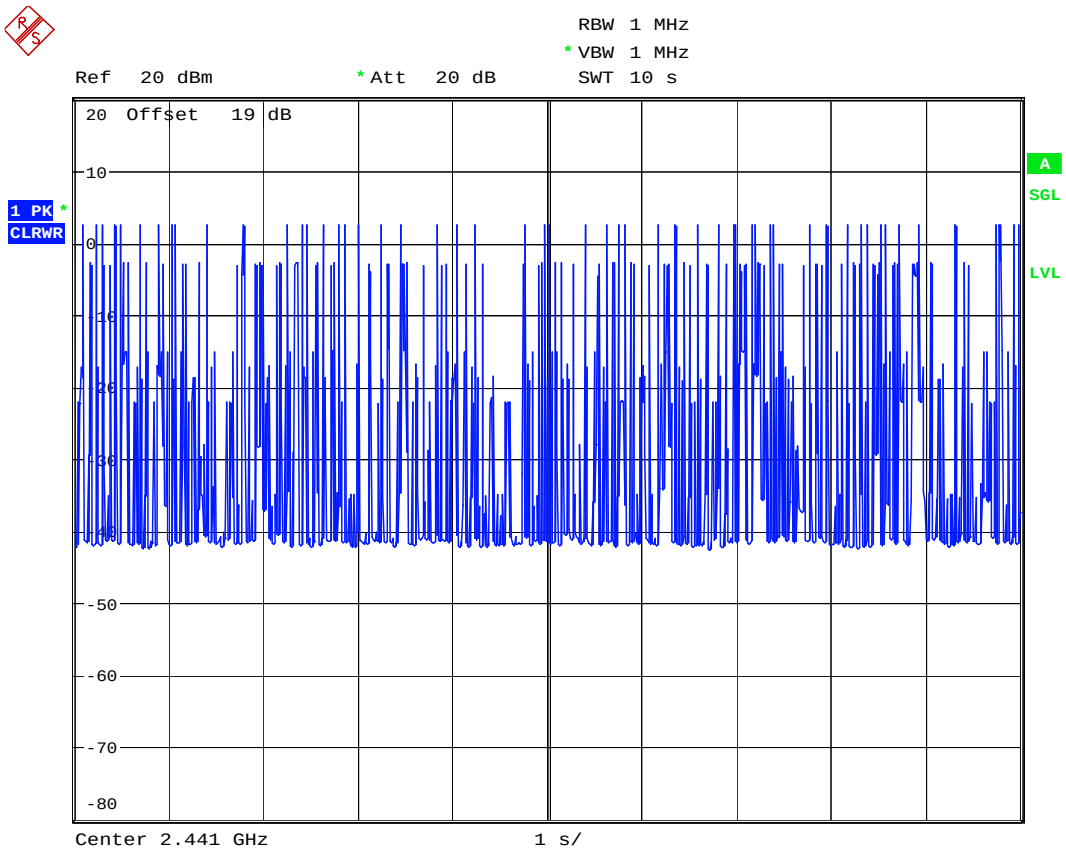
Date: 18.SEP.2007 01:36:31

BT-EDR(2Mbps)_DH3 (CH39)



444

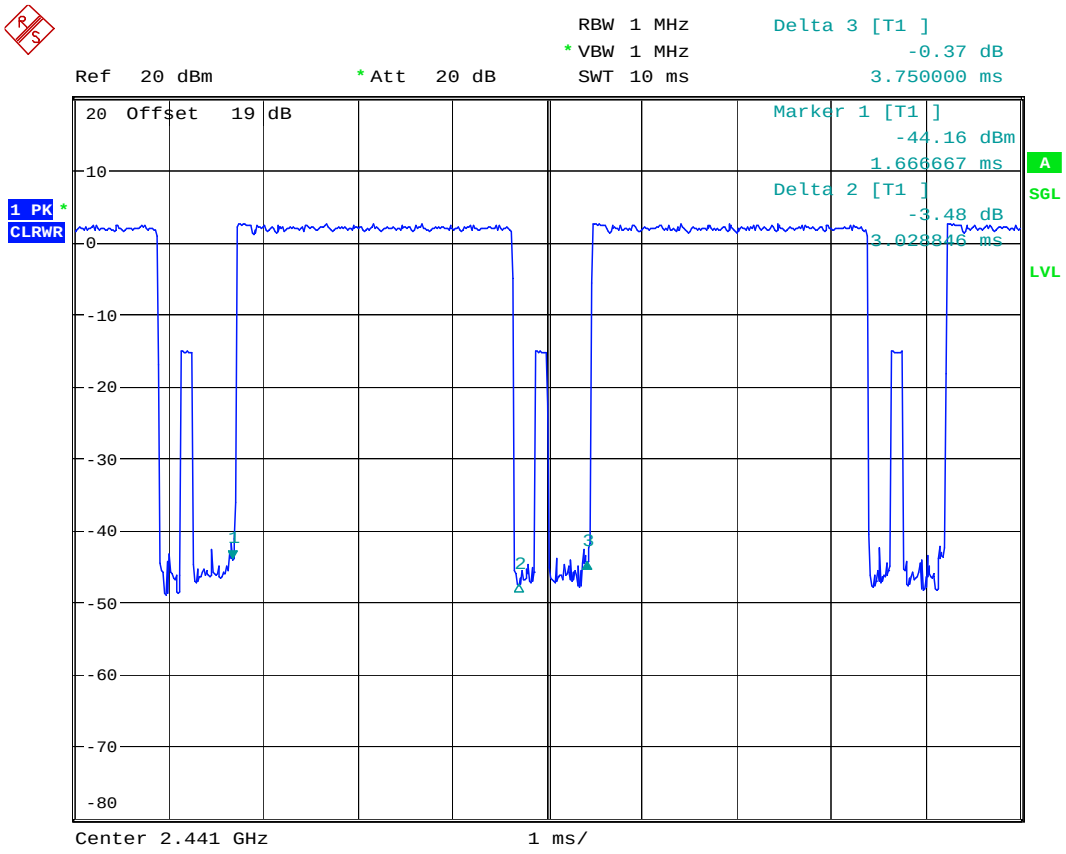
Date: 18.SEP.2007 01:31:42



444

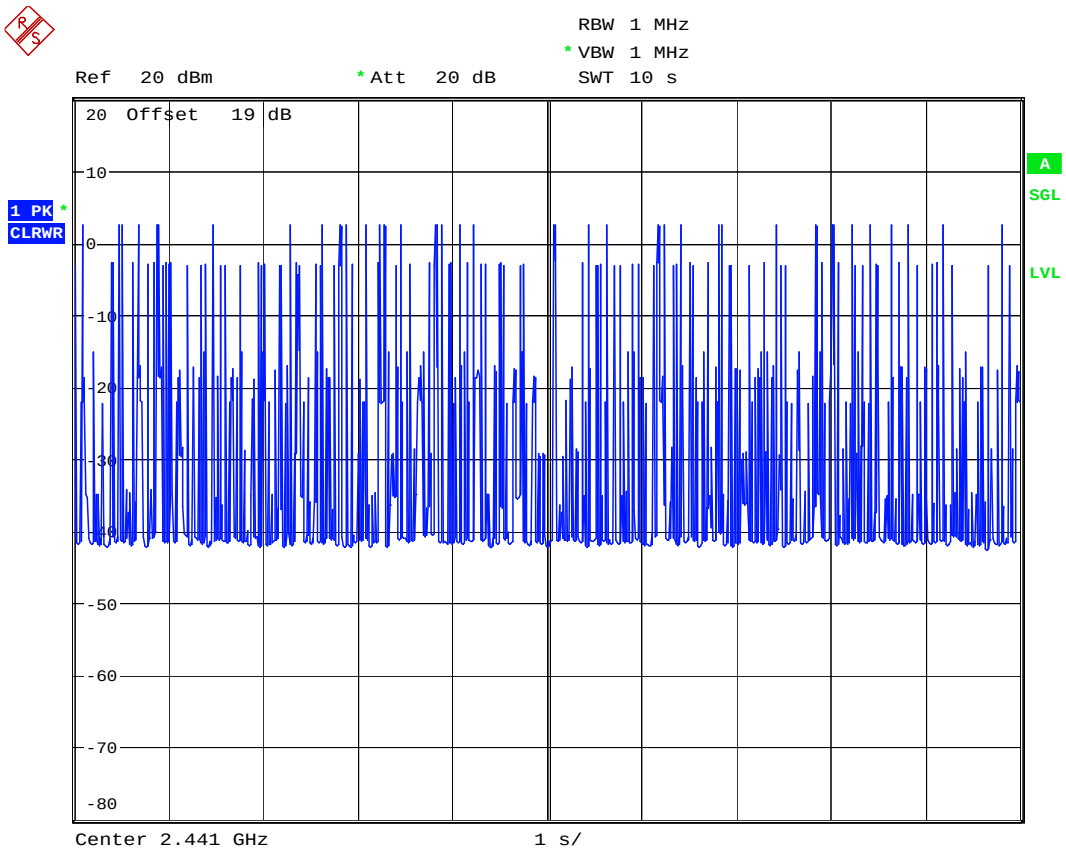
Date: 18.SEP.2007 01:37:01

BT-EDR(2Mbps)_DH5 (CH39)



444

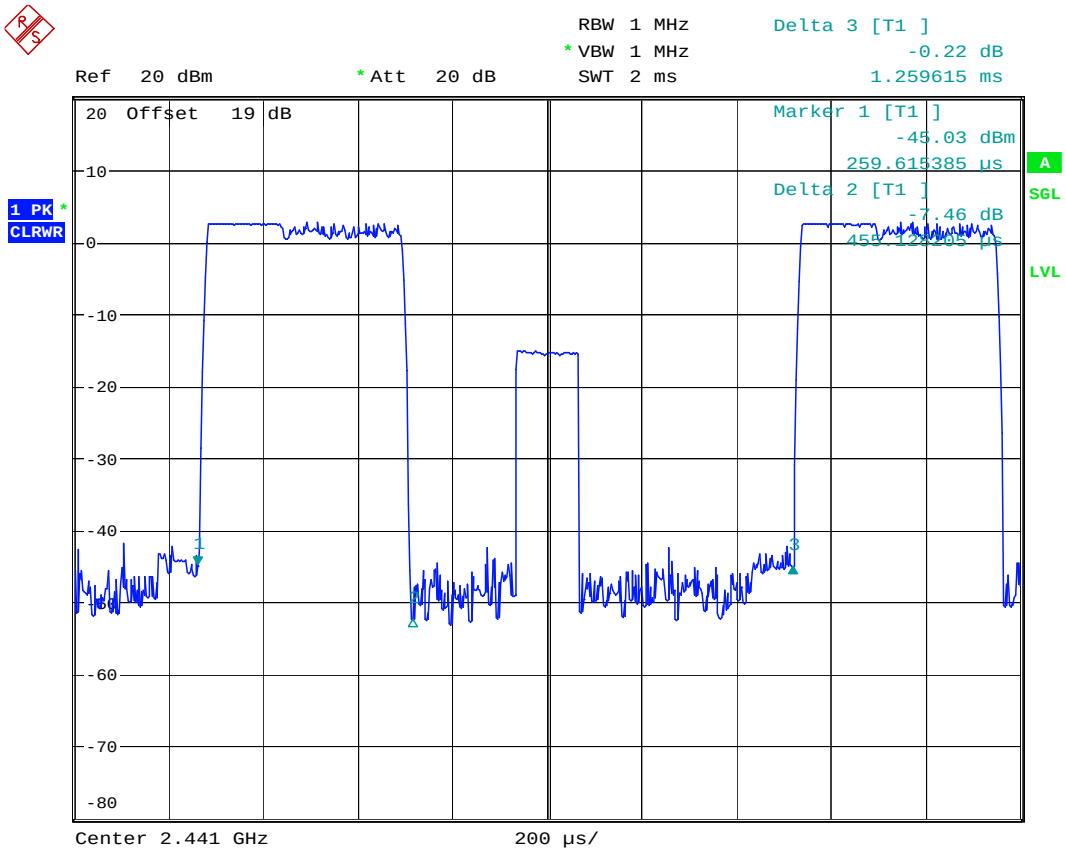
Date: 18.SEP.2007 01:33:10



444

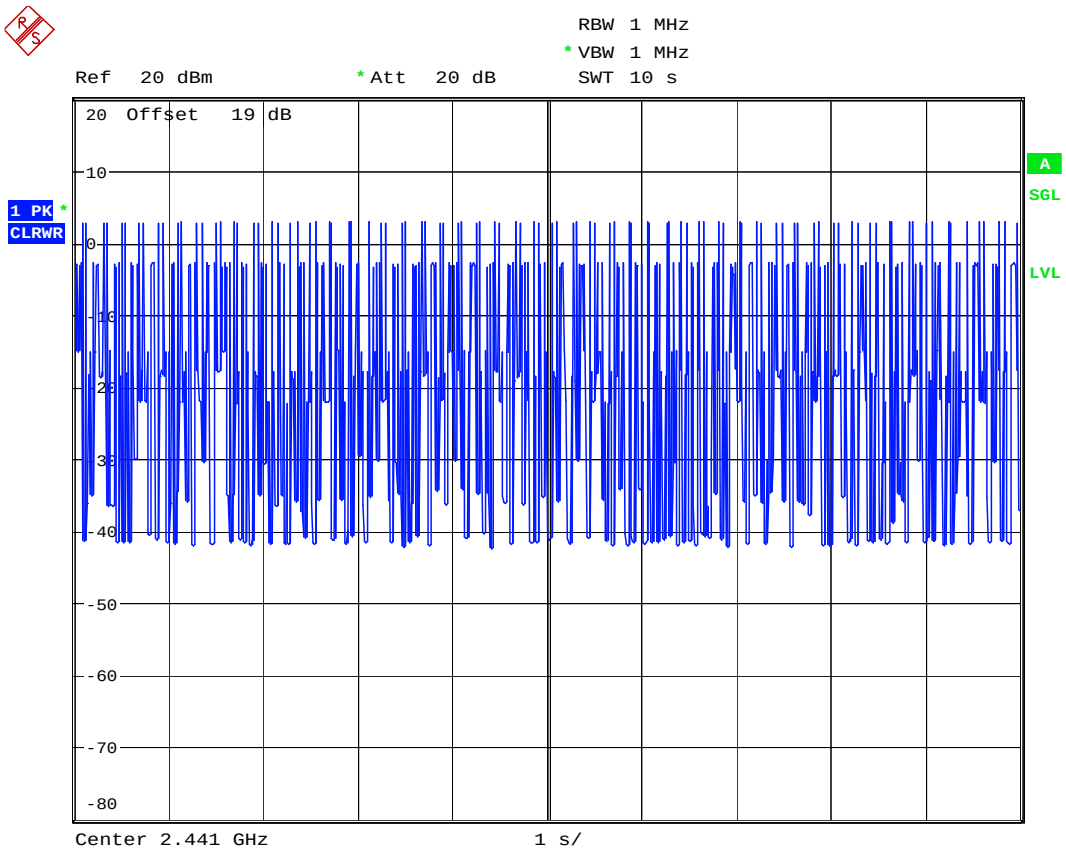
Date: 18.SEP.2007 01:37:29

BT-EDR(3Mbps)_DH1 (CH39)



444

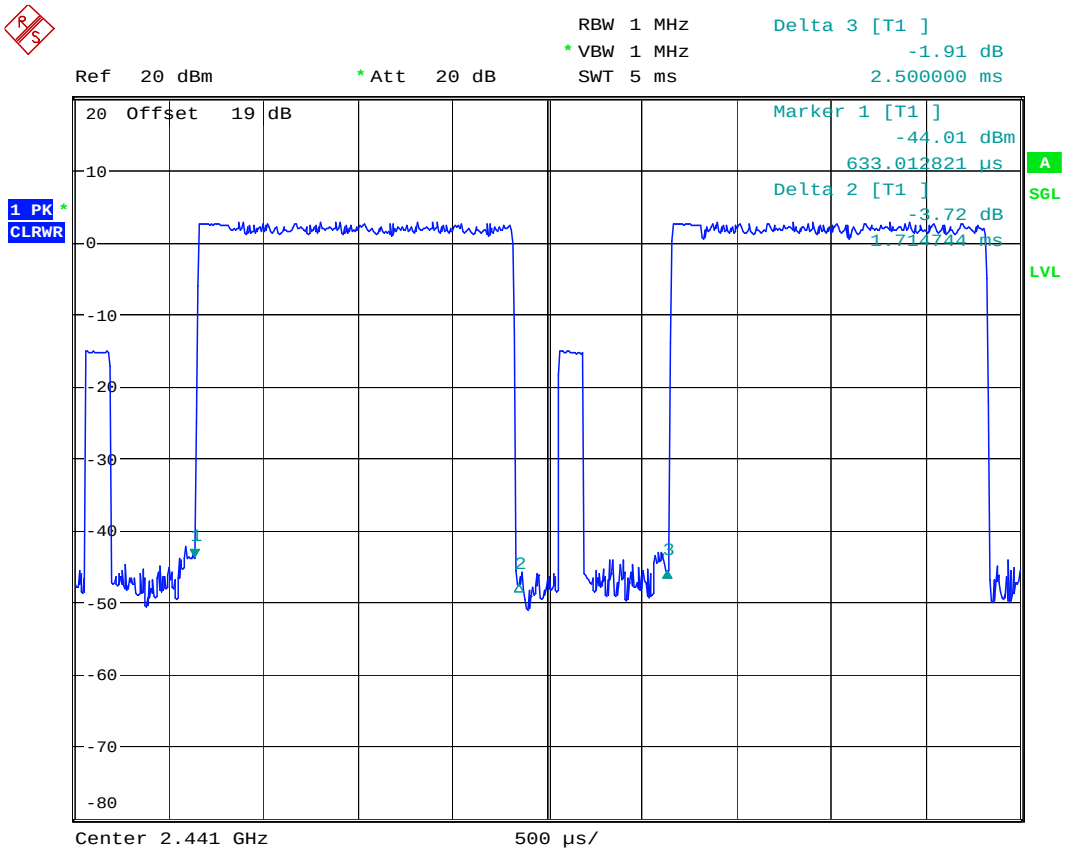
Date: 18.SEP.2007 01:34:04



444

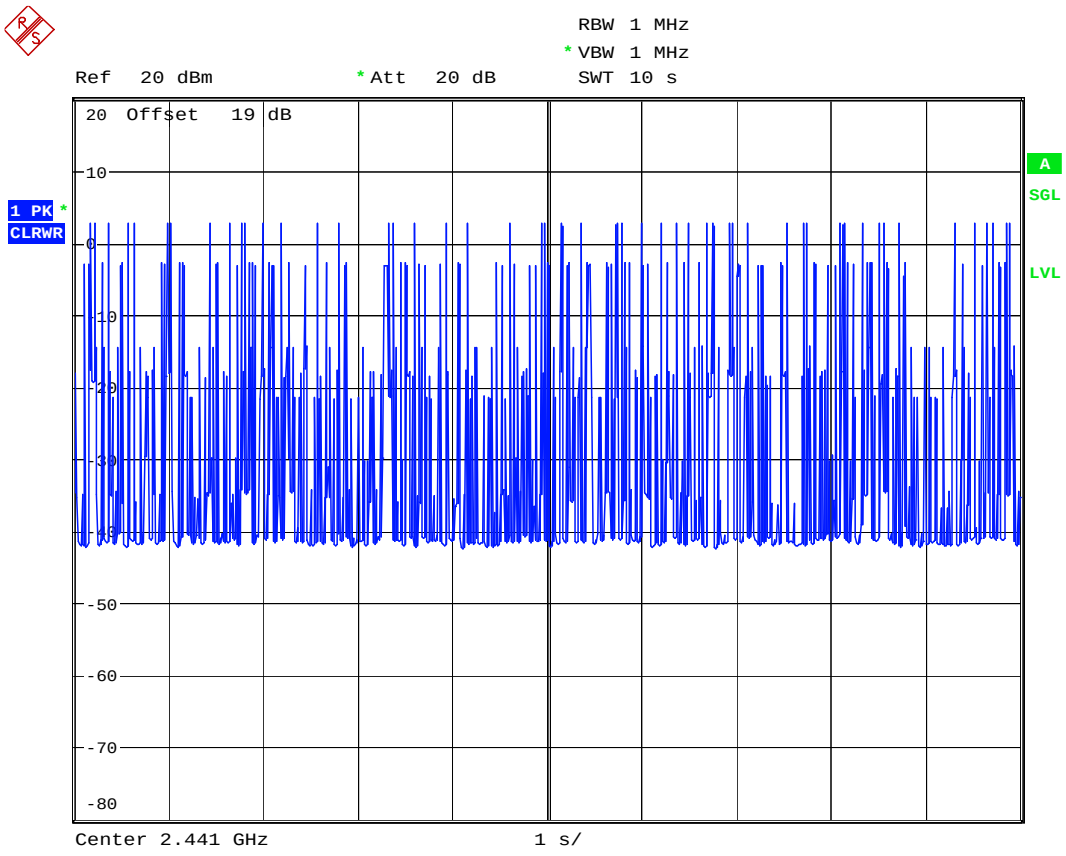
Date: 18.SEP.2007 01:47:12

BT-EDR(3Mbps)_DH3 (CH39)



444

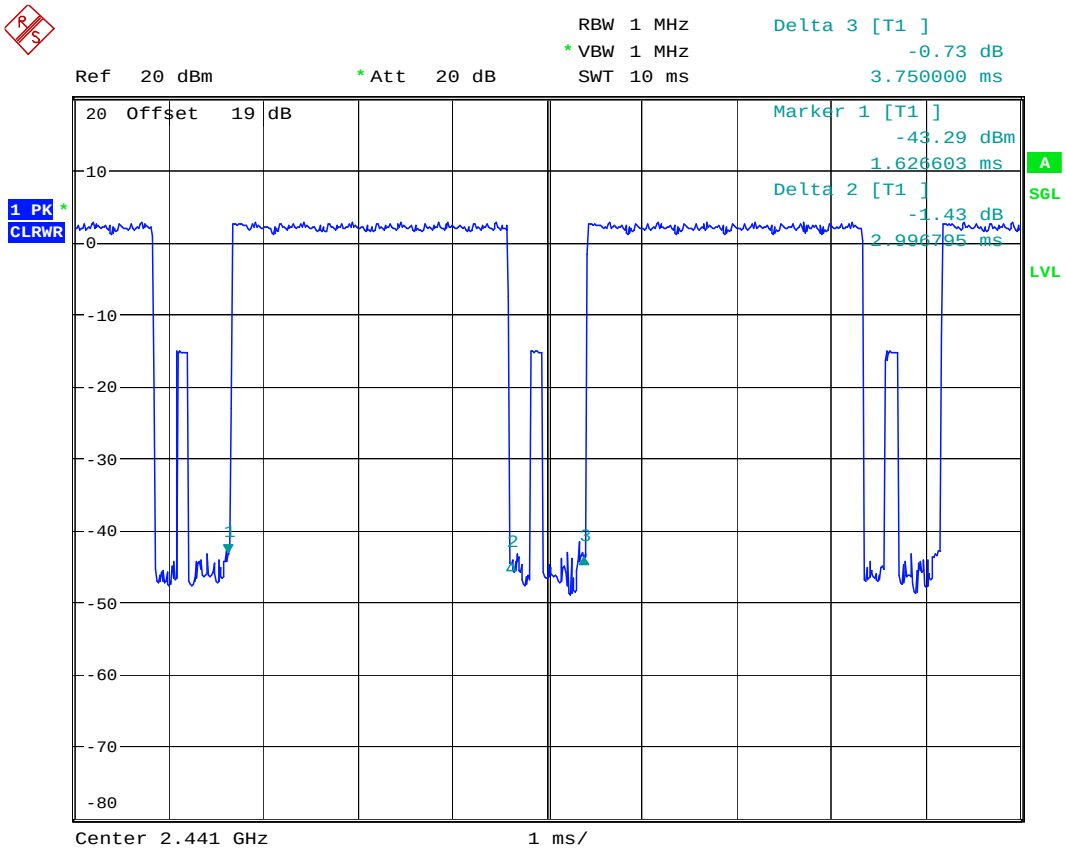
Date: 18.SEP.2007 01:34:53



444

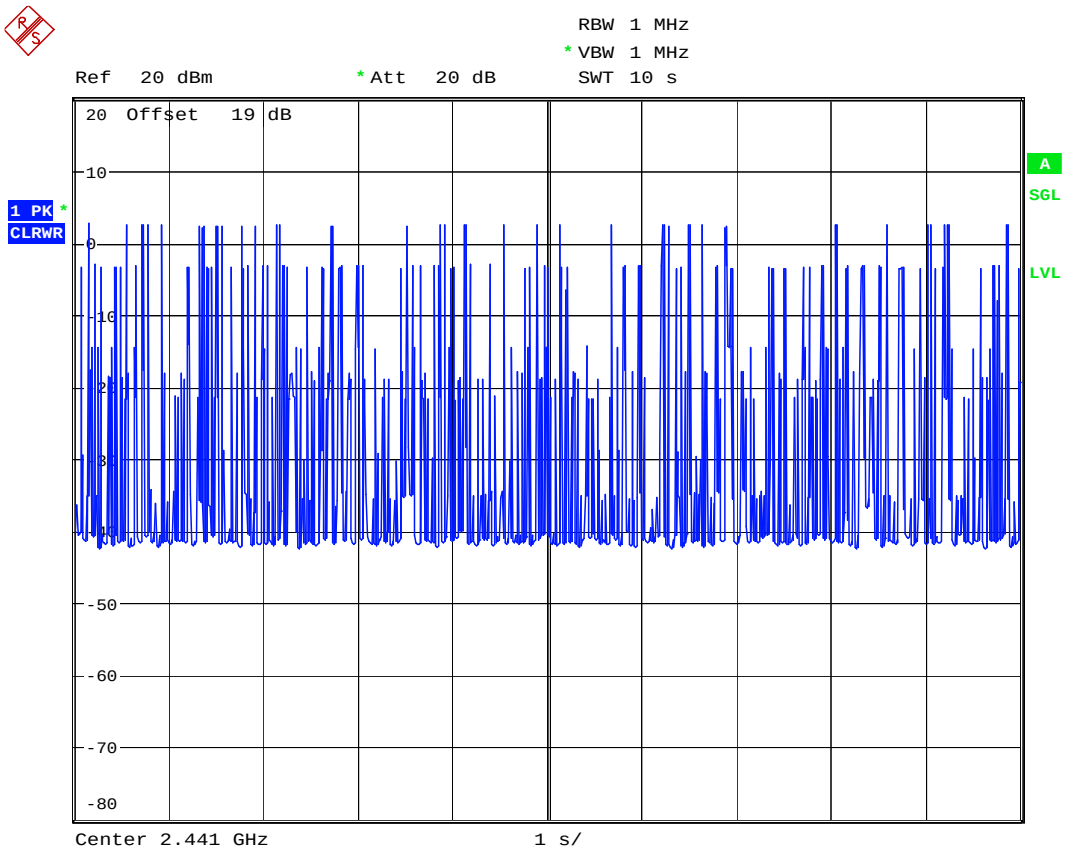
Date: 18.SEP.2007 01:51:48

BT-EDR(3Mbps)_DH5 (CH39)



444

Date: 18.SEP.2007 01:35:40



444

Date: 18.SEP.2007 01:52:46

5.7 Peak Output Power Measurement

5.7.1 Measuring Instruments：

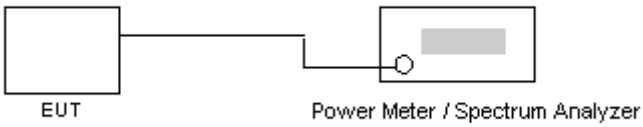
As described in chapter 6 of this test report.

5.7.2 Test Procedure：

a. The antenna port（RF output） of the EUT was connected to the input（RF input）of a power meter for WLAN measurement. The power is equal to the reading level on power meter plus cable loss at the EUT antenna terminal.

b. The antenna port(RF output) of the EUT was connected to the input (RF input) of a spectrum analyzer for BT measurement. The cable loss has been offset before testing.

5.7.3 Test Setup Layout：



5.7.4 Test Result：

Application Type : Bluetooth
Temperature : **26~28℃**
Relative Humidity : **51~52%**
Test Enginner : **Sun**

BT(1Mbps)

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
00	2402	3.94	1W/30 dBm
39	2441	3.83	1W/30 dBm
78	2480	3.63	1W/30 dBm

BT-EDR(2Mbps)

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
00	2402	3.15	1W/30 dBm
39	2441	2.90	1W/30 dBm
78	2480	2.41	1W/30 dBm

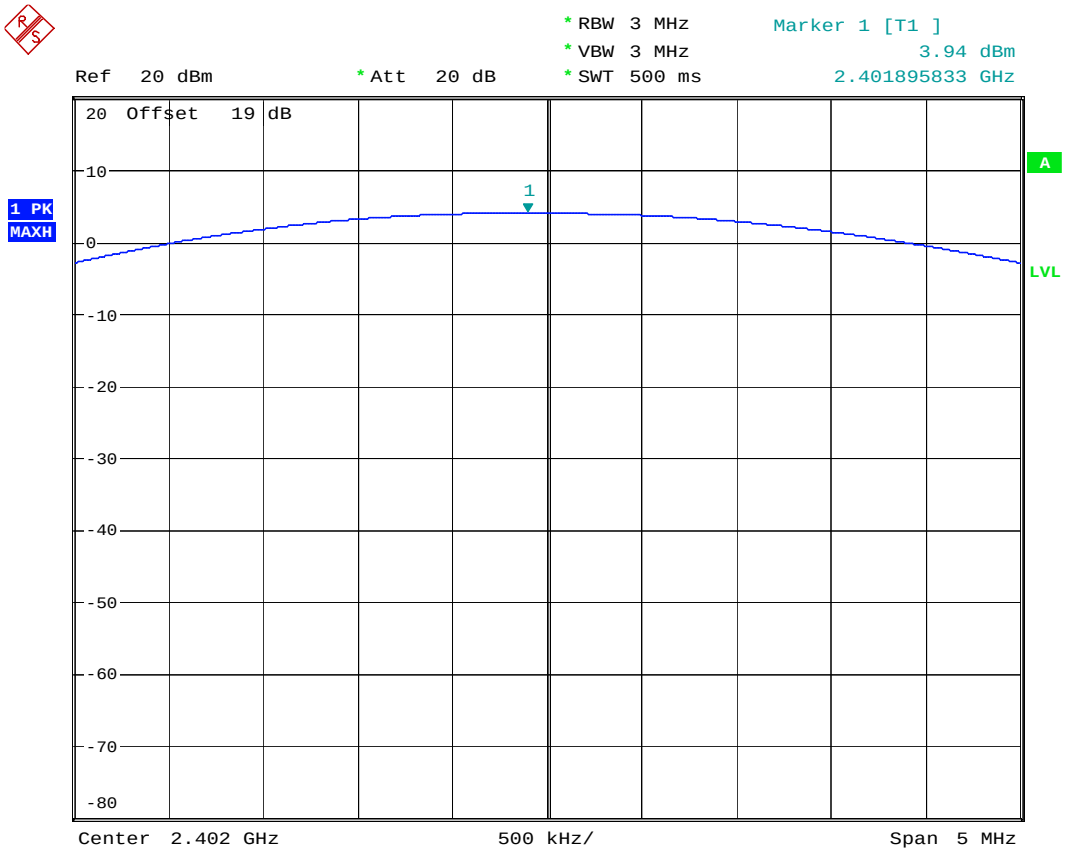
BT-EDR(3Mbps)

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
00	2402	3.39	1W/30 dBm
39	2441	3.14	1W/30 dBm
78	2480	2.66	1W/30 dBm

5.7.5 Output Power

BT(1Mbps)

Mode : CH00 (2402MHz)

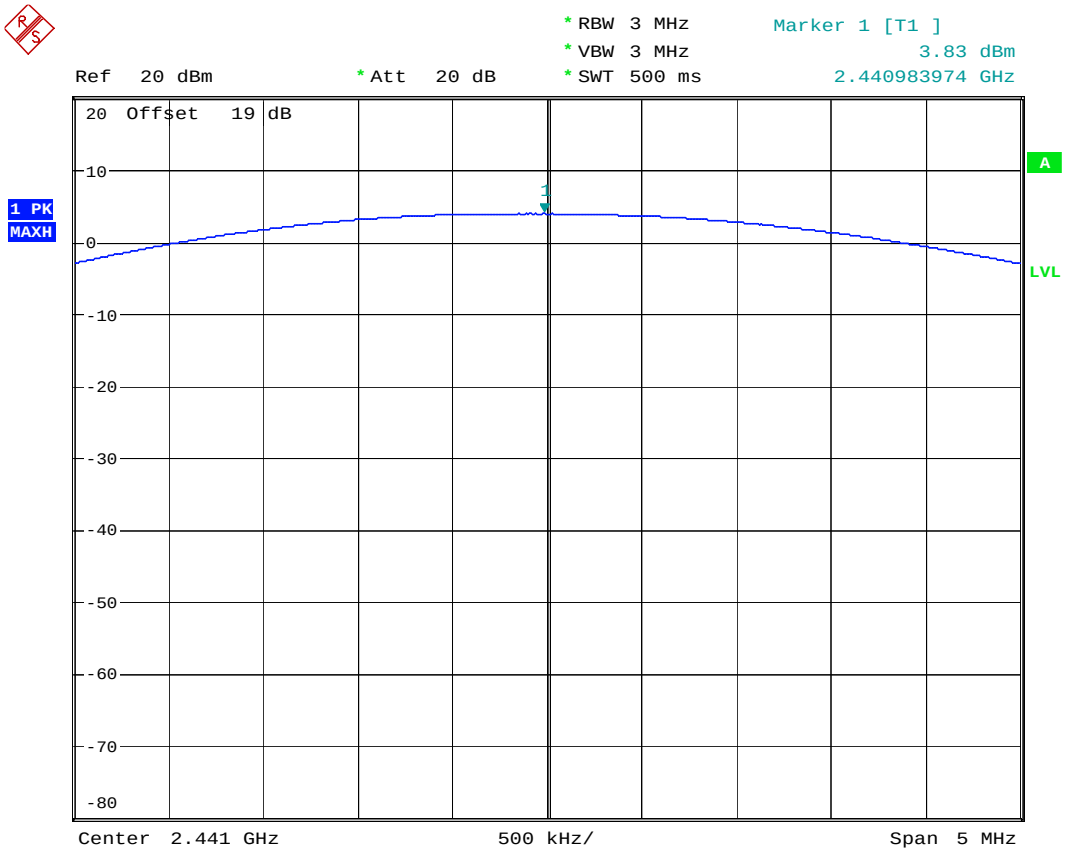


444

Date: 17.SEP.2007 23:20:29

BT(1Mbps)

Mode : CH39 (2441MHz)

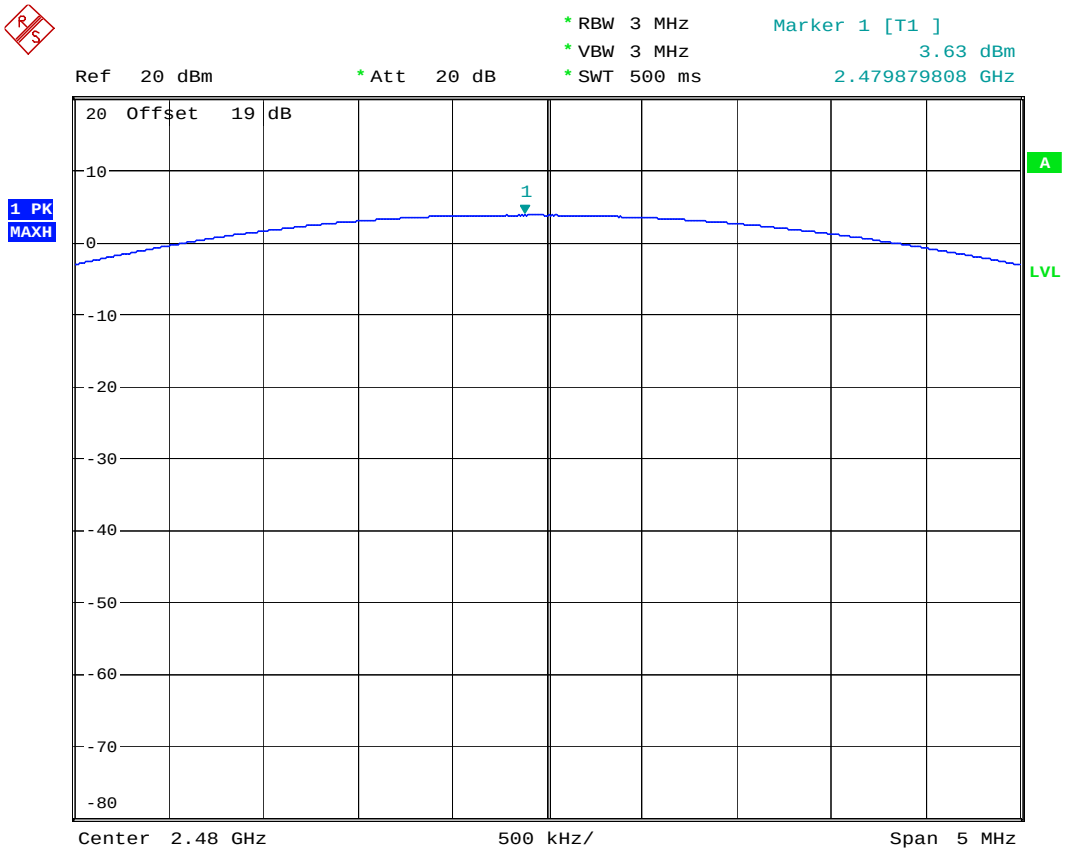


444

Date: 17.SEP.2007 23:20:58

BT(1Mbps)

Mode : CH78 (2480MHz)

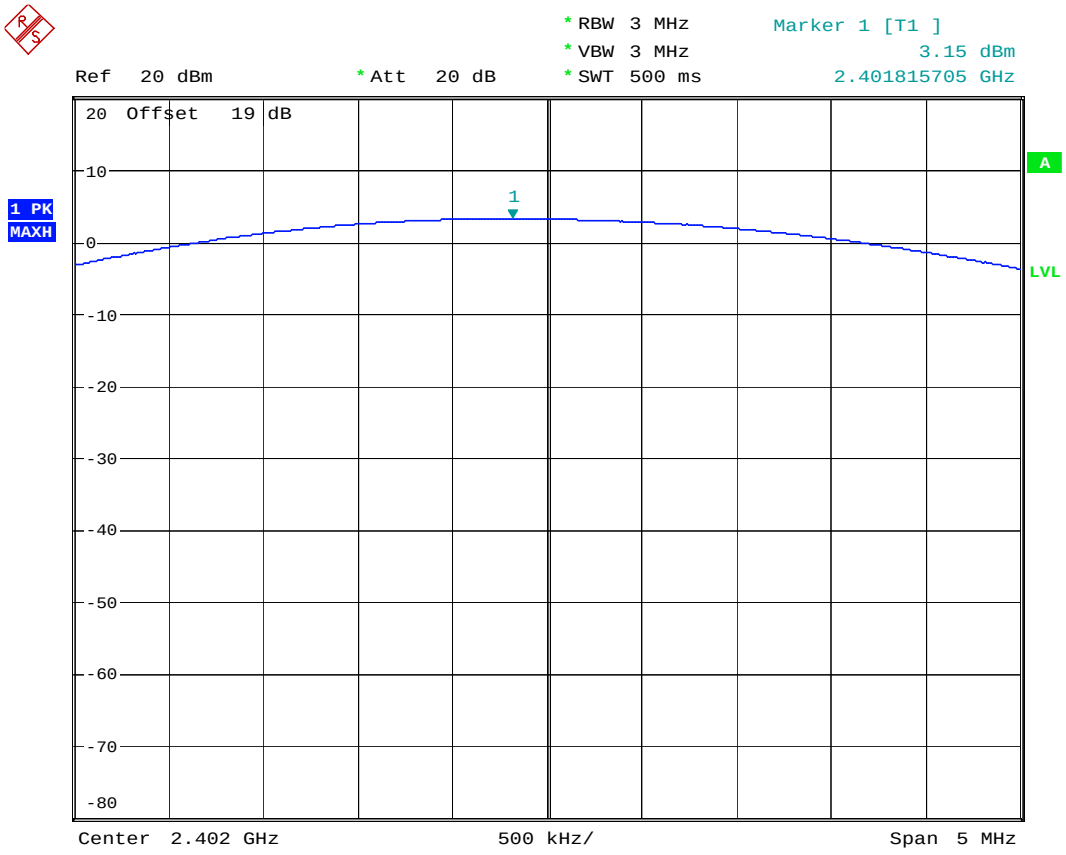


444

Date: 17.SEP.2007 23:21:20

BT-EDR(2Mbps)

Mode : CH00 (2402MHz)

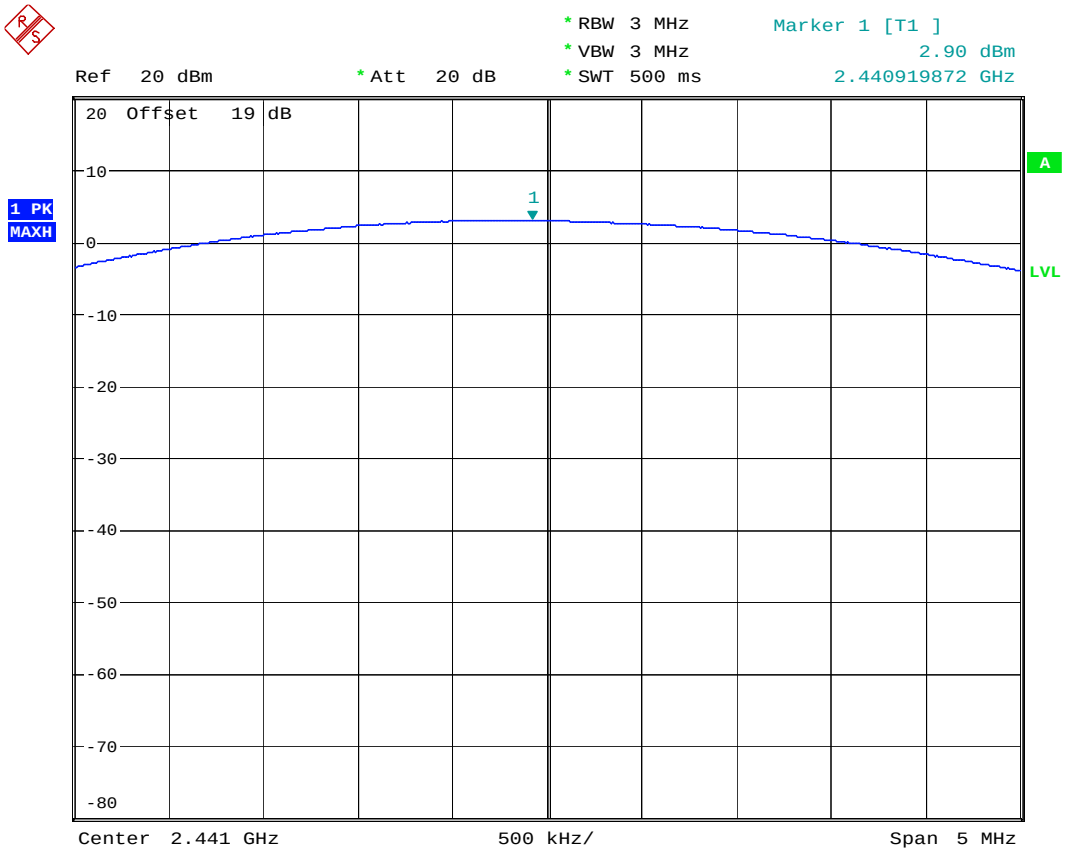


444

Date: 17.SEP.2007 23:56:22

BT-EDR(2Mbps)

Mode : CH39 (2441MHz)

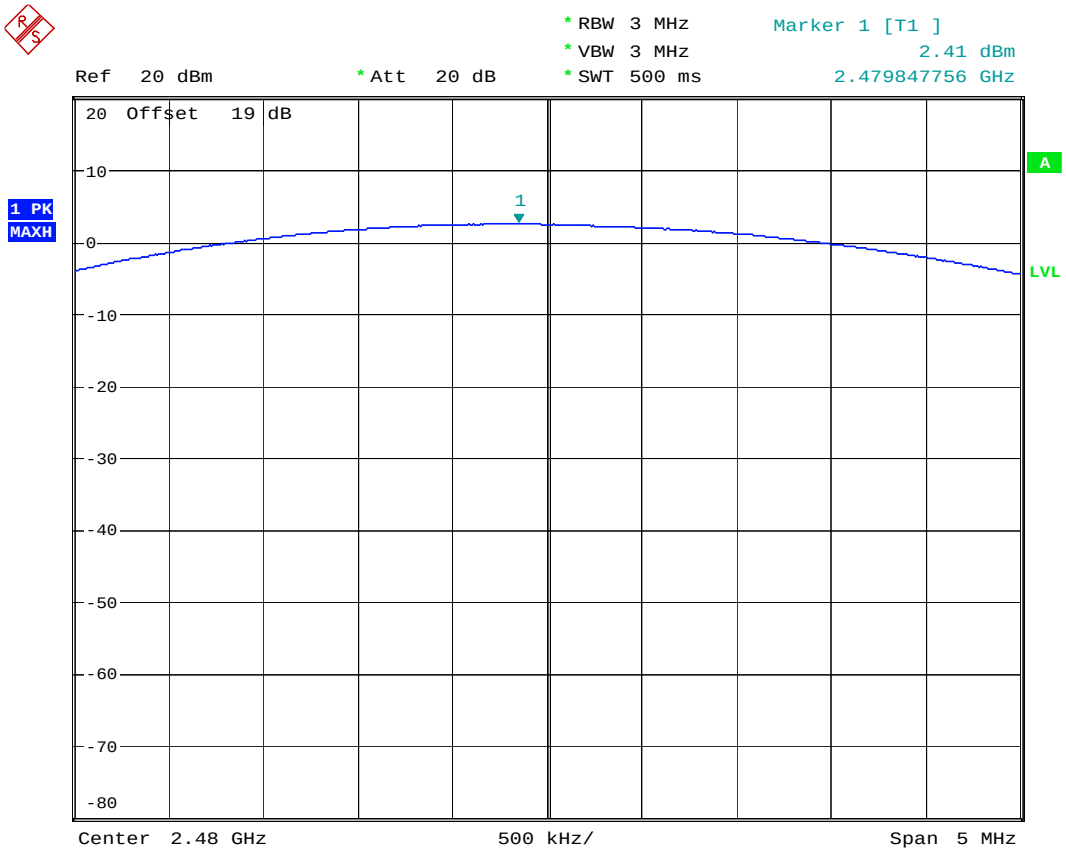


444

Date: 17.SEP.2007 23:56:47

BT-EDR(2Mbps)

Mode : CH78 (2480MHz)

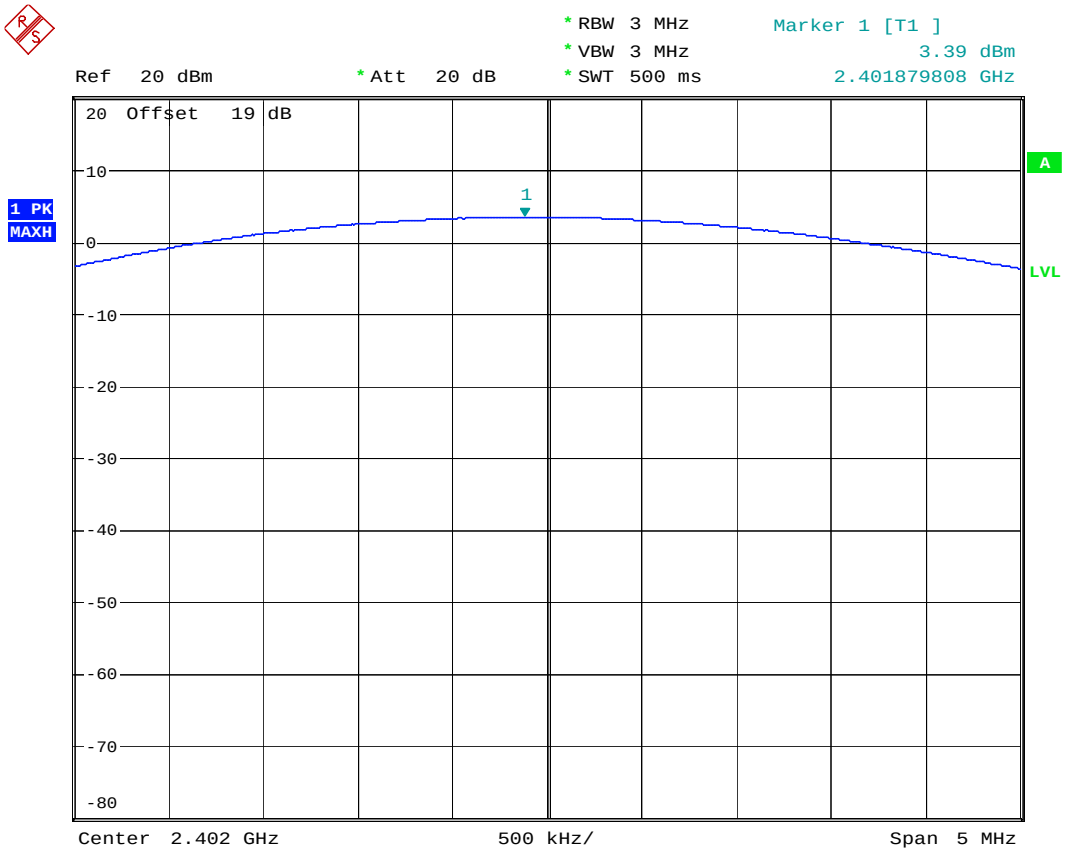


444

Date: 17.SEP.2007 23:57:10

BT-EDR(3Mbps)

Mode : CH00 (2402MHz)

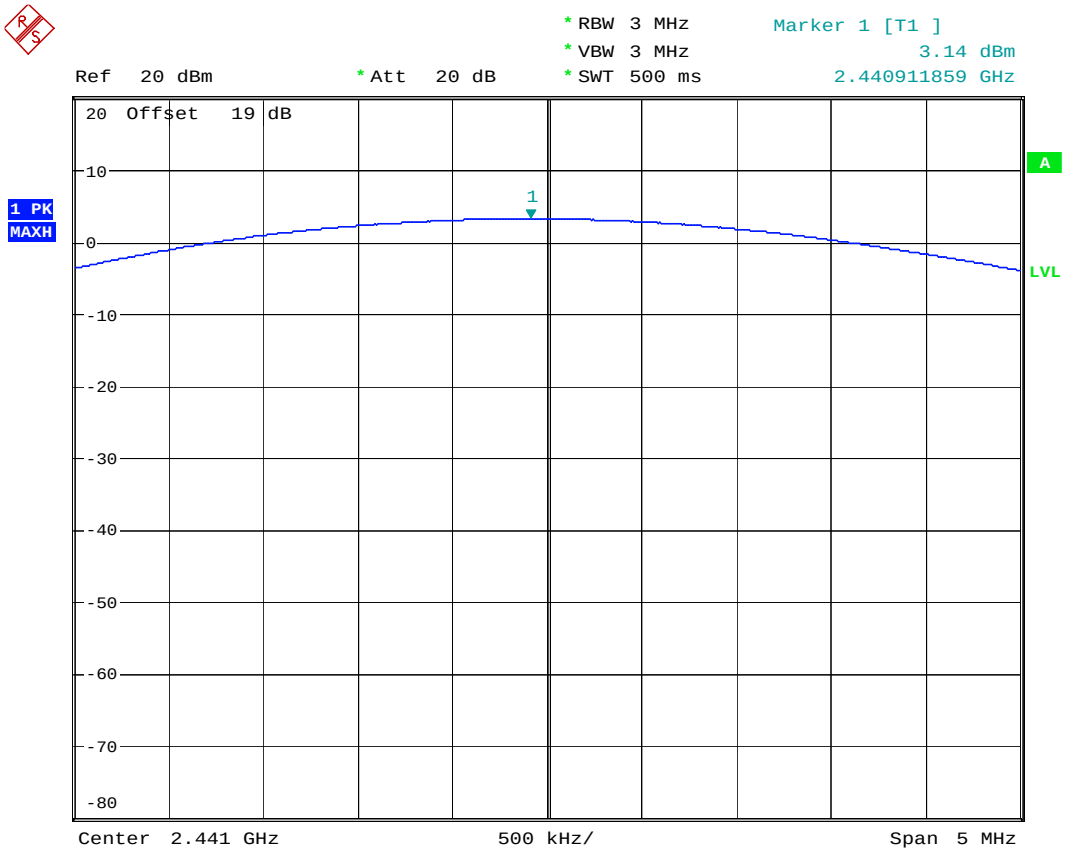


444

Date: 17.SEP.2007 23:58:24

BT-EDR(3Mbps)

Mode : CH39 (2441MHz)

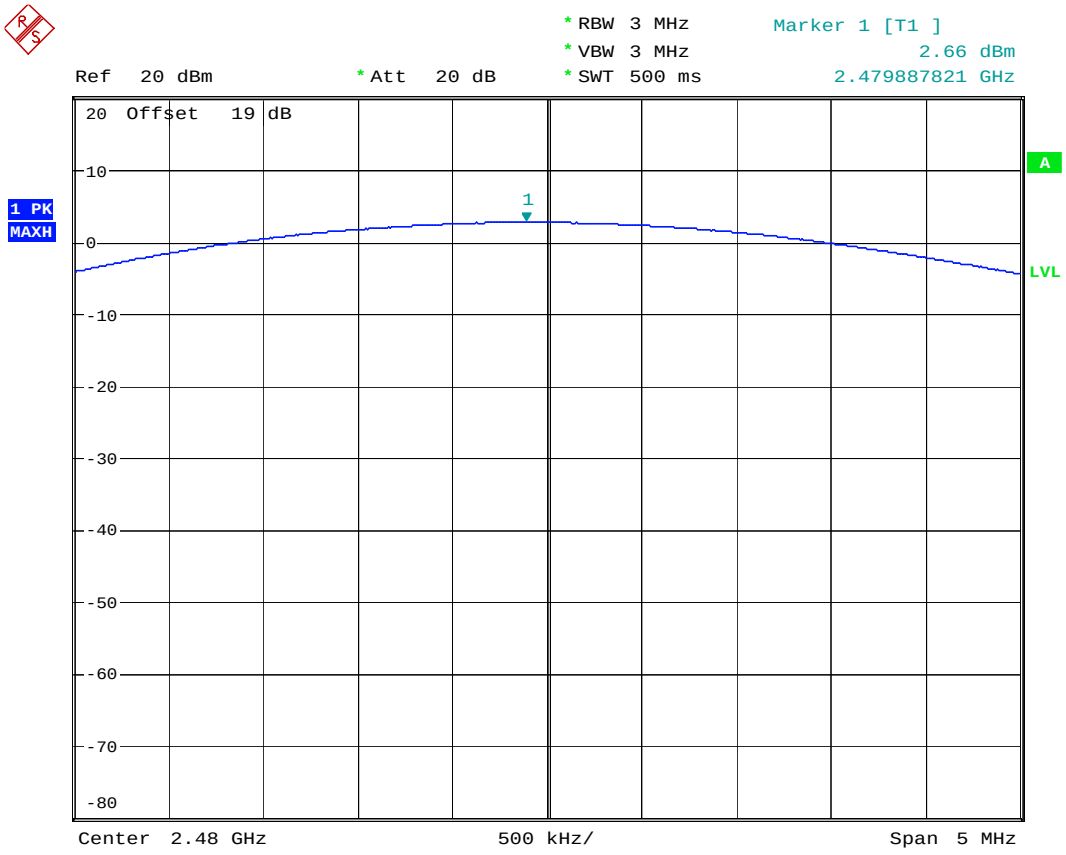


444

Date: 17.SEP.2007 23:58:01

BT-EDR(3Mbps)

Mode : CH78 (2480MHz)



444

Date: 17.SEP.2007 23:57:35

5.8 Conducted Emission

5.8.1 Measuring Instruments

As described in chapter 6 of this test Report.

The receiver setting :

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

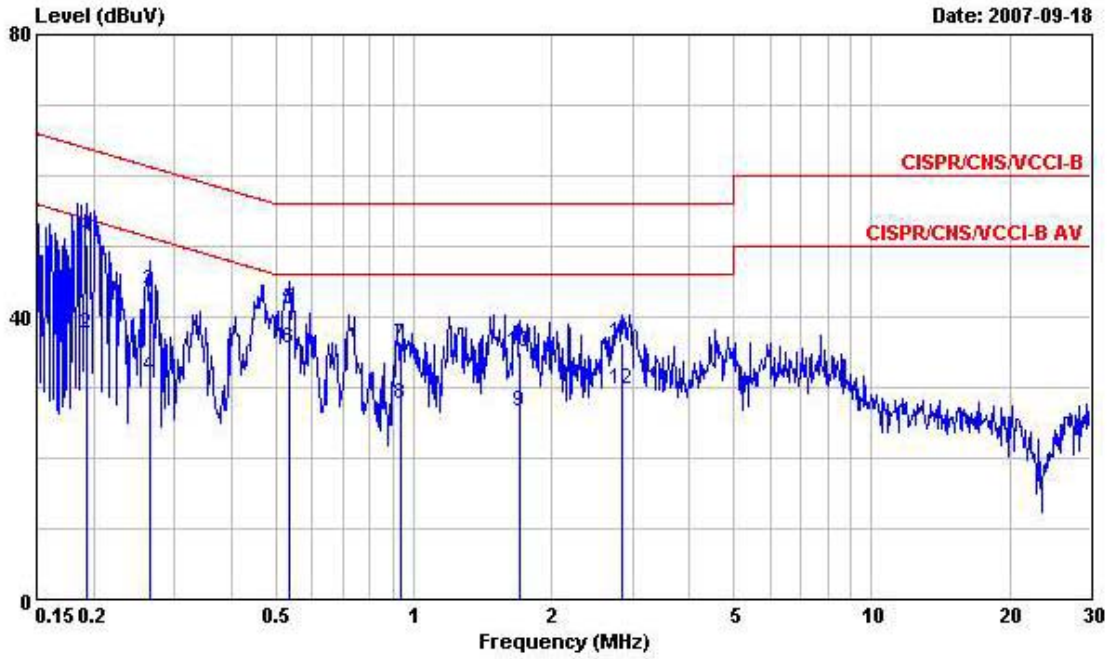
5.8.2 Test Procedures

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.

5.6.8 Test Data

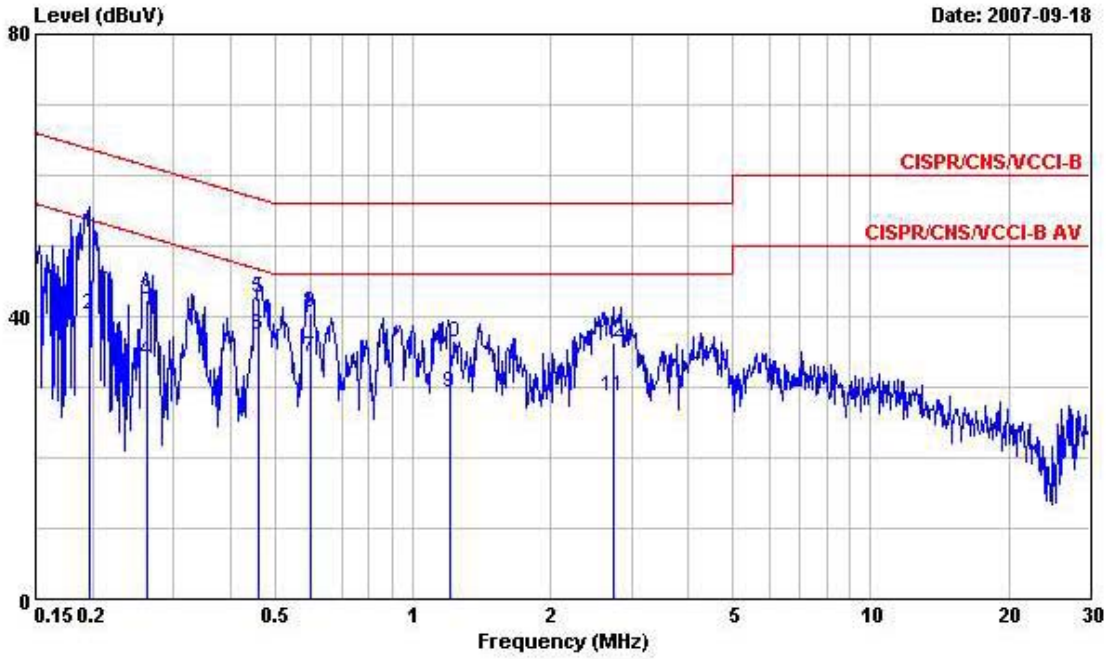
Temperature : **26~28**℃
Relative Humidity : **51~52%**
Test Enginner : **Sun**
Test Mode : Mode 1

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



Site : CO04-HY
Condition : CISPR/CNS/VCCI-B LISN 200704 99041 LINE
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class 10)
Power : 120Vac/60Hz
Model : FR 790604
Memo : GSM850 Idle+BT Link+WLAN Link+Earphone
: +Camera+MPEG4+GPS Rx+Adaptor

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1935700	50.35	-13.53	63.88	50.11	0.10	0.14	QP
2	0.1935700	37.60	-16.28	53.88	37.36	0.10	0.14	Average
3	0.2644340	43.59	-17.70	61.29	43.11	0.10	0.38	QP
4	0.2644340	31.58	-19.71	51.29	31.10	0.10	0.38	Average
5	0.5349810	41.14	-14.86	56.00	40.40	0.10	0.64	QP
6	0.5349810	35.46	-10.54	46.00	34.72	0.10	0.64	Average
7	0.9352200	36.10	-19.90	56.00	35.54	0.10	0.46	QP
8	0.9352200	27.52	-18.48	46.00	26.96	0.10	0.46	Average
9	1.703	26.70	-19.30	46.00	26.17	0.10	0.43	Average
10	1.703	35.11	-20.89	56.00	34.58	0.10	0.43	QP
11	2.850	36.26	-19.74	56.00	35.79	0.10	0.37	QP
12	2.850	29.81	-16.19	46.00	29.34	0.10	0.37	Average

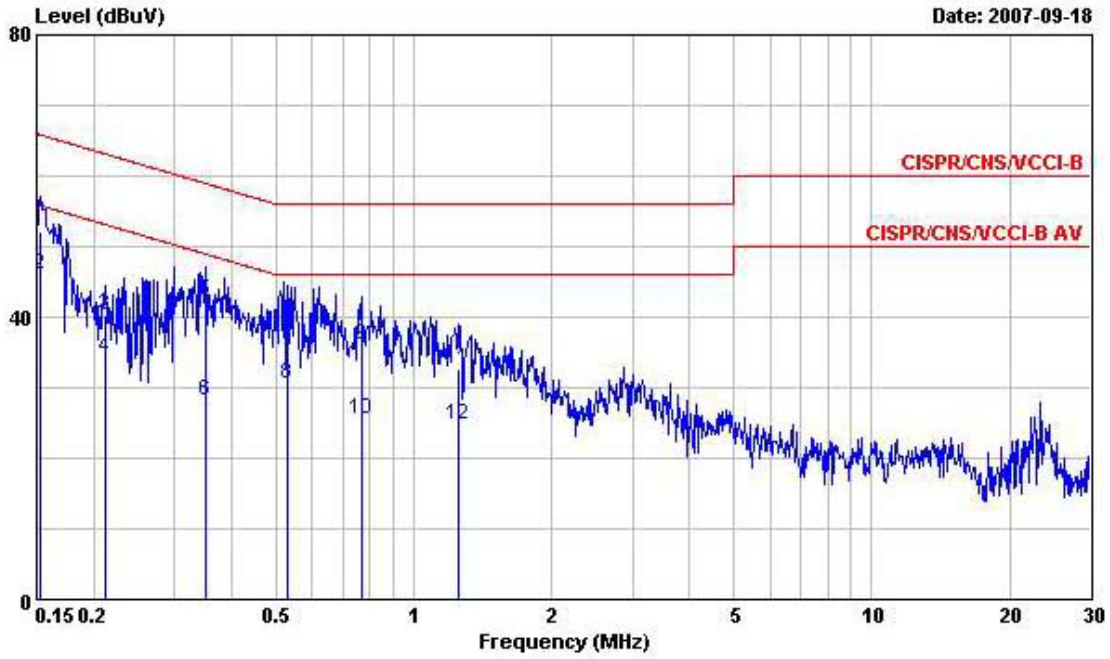


Site : CO04-HY
Condition : CISPR/CNS/VCCI-B LISN 200704 99041 NEUTRAL
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class 10)
Power : 120Vac/60Hz
Model : FR 790604
Memo : GSM850 Idle+BT Link+WLAN Link+Earphone
: +Camera+MPEG4+GPS Rx+Adaptor

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1965370	51.95	-11.81	63.76	51.71	0.10	0.14	QP
2	0.1965370	40.31	-13.45	53.76	40.07	0.10	0.14	Average
3	0.2630950	42.40	-18.93	61.33	41.93	0.10	0.37	QP
4	0.2630950	33.56	-17.77	51.33	33.09	0.10	0.37	Average
5	0.4612220	42.71	-13.96	56.67	41.92	0.10	0.69	QP
6	0.4612220	37.31	-9.36	46.67	36.52	0.10	0.69	Average
7	0.5967930	34.23	-11.77	46.00	33.53	0.10	0.60	Average
8	0.5967930	40.53	-15.47	56.00	39.83	0.10	0.60	QP
9	1.200	29.17	-16.83	46.00	28.63	0.10	0.44	Average
10	1.200	36.25	-19.75	56.00	35.71	0.10	0.44	QP
11	2.743	28.67	-17.33	46.00	28.14	0.15	0.38	Average
12	2.743	36.23	-19.77	56.00	35.70	0.15	0.38	QP

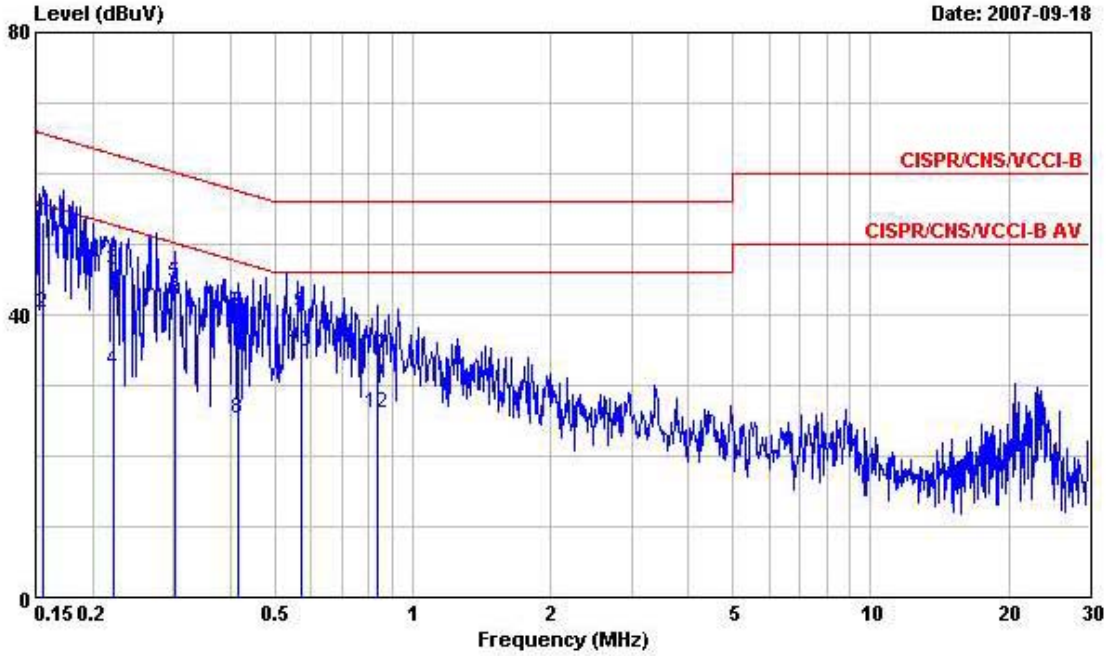
Temperature : **26~28℃**
Relative Humidity : **51~52%**
Test Enginner : **Sun**
Test Mode : Mode 2

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



Site : CO04-HY
Condition : CISPR/CNS/VCCI-B LISN 200704 99041 LINE
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class 10)
Power : From System
Model : FR 790604
Memo : GSM850 Idle+BT Link+WLAN Link+Earphone
: +Camera+MPEG4+GPS Rx+USB Link

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1524030	52.22	-13.65	65.87	51.98	0.10	0.14	QP
2	0.1524030	45.98	-9.89	55.87	45.74	0.10	0.14	Average
3	0.2126870	40.27	-22.83	63.10	39.98	0.10	0.19	QP
4	0.2126870	34.12	-18.98	53.10	33.83	0.10	0.19	Average
5	0.3501520	42.41	-16.55	58.96	41.70	0.10	0.61	QP
6	0.3501520	28.23	-20.73	48.96	27.52	0.10	0.61	Average
7	0.5293420	38.60	-17.40	56.00	37.86	0.10	0.64	QP
8	0.5293420	30.57	-15.43	46.00	29.83	0.10	0.64	Average
9	0.7670230	36.12	-19.88	56.00	35.50	0.10	0.52	QP
10	0.7670230	25.54	-20.46	46.00	24.92	0.10	0.52	Average
11	1.250	32.70	-23.30	56.00	32.16	0.10	0.44	QP
12	1.250	24.85	-21.15	46.00	24.31	0.10	0.44	Average

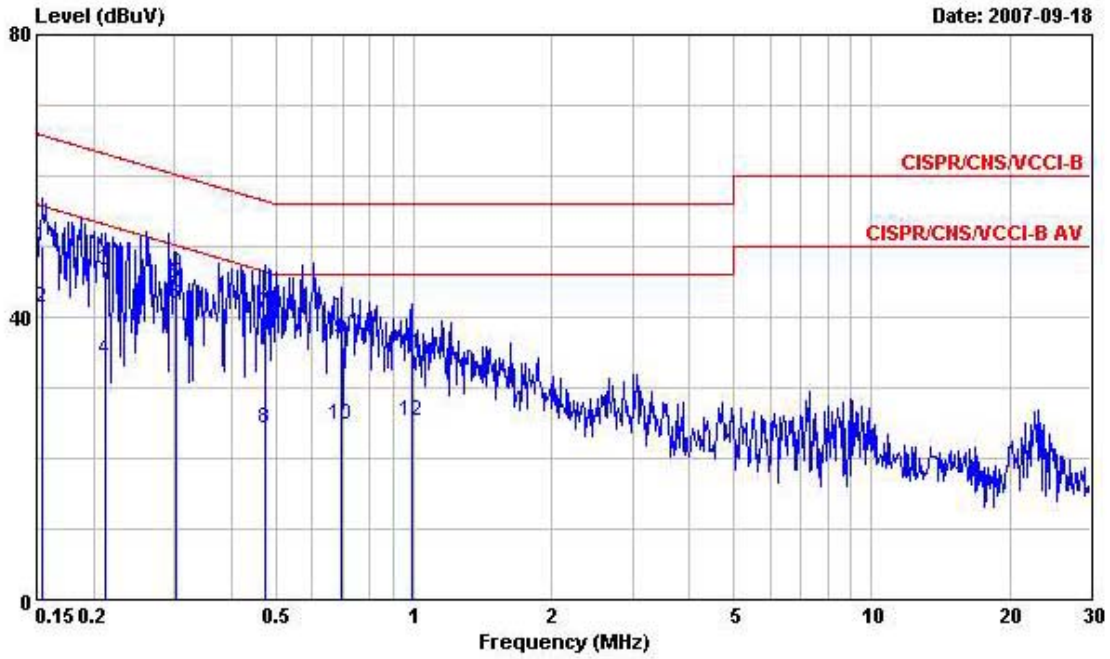


Site : CO04-HY
Condition : CISPR/CNS/VCCI-B LISN 200704 99041 NEUTRAL
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class 10)
Power : From System
Model : FR 790604
Memo : GSM850 Idle+BT Link+WLAN Link+Earphone
: +Camera+MPEG4+GPS Rx+USB Link

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1556680	53.06	-12.63	65.69	52.82	0.10	0.14	QP
2	0.1556680	40.36	-15.33	55.69	40.12	0.10	0.14	Average
3	0.2220070	46.40	-16.34	62.74	46.07	0.10	0.23	QP
4	0.2220070	32.10	-20.64	52.74	31.77	0.10	0.23	Average
5	0.3034790	44.38	-15.77	60.15	43.78	0.10	0.50	QP
6	0.3034790	41.97	-8.18	50.15	41.37	0.10	0.50	Average
7	0.4148480	40.34	-17.21	57.55	39.52	0.10	0.72	QP
8	0.4148480	25.34	-22.21	47.55	24.52	0.10	0.72	Average
9	0.5731280	40.30	-15.70	56.00	39.58	0.10	0.62	QP
10	0.5731280	34.71	-11.29	46.00	33.99	0.10	0.62	Average
11	0.8348820	34.46	-21.54	56.00	33.86	0.10	0.50	QP
12	0.8348820	26.14	-19.86	46.00	25.54	0.10	0.50	Average

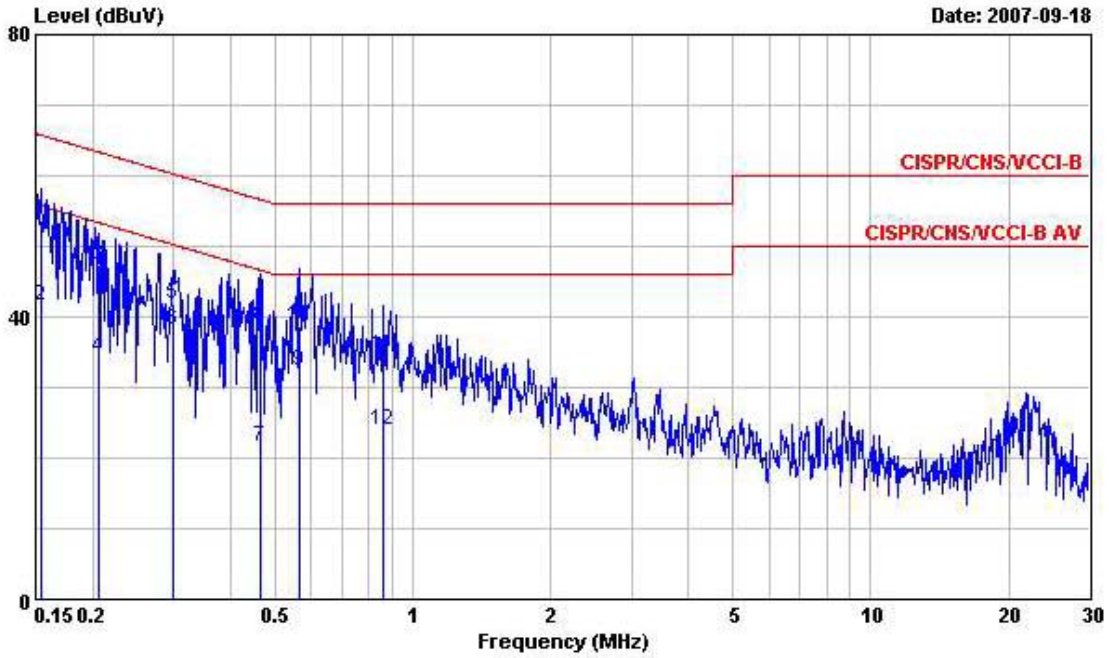
Temperature : **26~28℃**
Relative Humidity : **51~52%**
Test Enginner : **Sun**
Test Mode : Mode 3

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



Site : CO04-HY
Condition : CISPR/CNS/VCCI-B LISN 200704 99041 LINE
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class 10)
Power : From System
Model : FR 790604
Memo : EDGE Idle+BT Link+WLAN Link+Earphone
: +Camera+MPEG4+GPS Rx+USB Link

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1540270	50.12	-15.66	65.78	49.88	0.10	0.14	QP
2	0.1540270	41.21	-14.57	55.78	40.97	0.10	0.14	Average
3	0.2116700	46.50	-16.64	63.14	46.21	0.10	0.19	QP
4	0.2116700	34.03	-19.11	53.14	33.74	0.10	0.19	Average
5	0.3034790	44.66	-15.49	60.15	44.06	0.10	0.50	QP
6	0.3034790	41.89	-8.26	50.15	41.29	0.10	0.50	Average
7	0.4736030	40.44	-16.01	56.45	39.66	0.10	0.68	QP
8	0.4736030	24.25	-22.20	46.45	23.47	0.10	0.68	Average
9	0.6972520	36.74	-19.26	56.00	36.08	0.10	0.56	QP
10	0.6972520	24.72	-21.28	46.00	24.06	0.10	0.56	Average
11	0.9891400	34.67	-21.33	56.00	34.12	0.10	0.45	QP
12	0.9891400	25.22	-20.78	46.00	24.67	0.10	0.45	Average

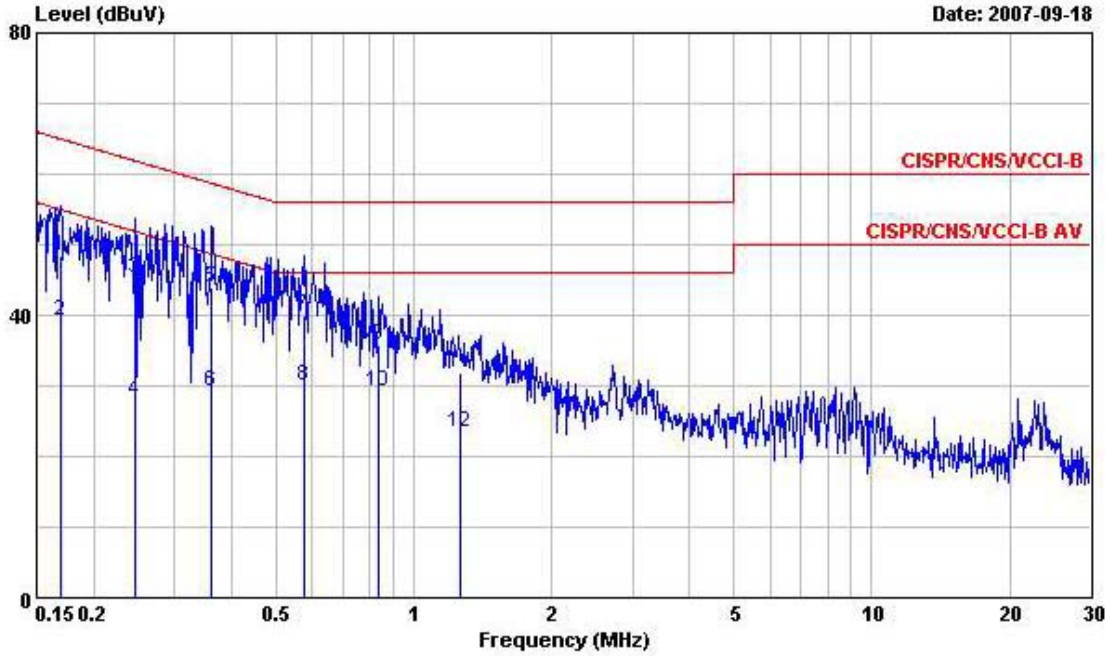


Site : CO04-HY
Condition : CISPR/CNS/VCCI-B LISN 200704 99041 NEUTRAL
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class 10)
Power : From System
Model : FR 790604
Memo : EDGE Idle+BT Link+WLAN Link+Earphone
: +Camera+MPEG4+GPS Rx+USB Link

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1540270	53.66	-12.12	65.78	53.42	0.10	0.14	QP
2	0.1540270	41.61	-14.17	55.78	41.37	0.10	0.14	Average
3	0.2061360	47.26	-16.10	63.36	46.99	0.10	0.17	QP
4	0.2061360	34.24	-19.12	53.36	33.97	0.10	0.17	Average
5	0.2986930	41.85	-18.43	60.28	41.27	0.10	0.48	QP
6	0.2986930	38.13	-12.15	50.28	37.55	0.10	0.48	Average
7	0.4661350	21.62	-24.96	46.58	20.84	0.10	0.68	Average
8	0.4661350	38.56	-18.02	56.58	37.78	0.10	0.68	QP
9	0.5640910	32.32	-13.68	46.00	31.60	0.10	0.62	Average
10	0.5640910	38.68	-17.32	56.00	37.96	0.10	0.62	QP
11	0.8572950	34.49	-21.51	56.00	33.90	0.10	0.49	QP
12	0.8572950	23.84	-22.16	46.00	23.25	0.10	0.49	Average

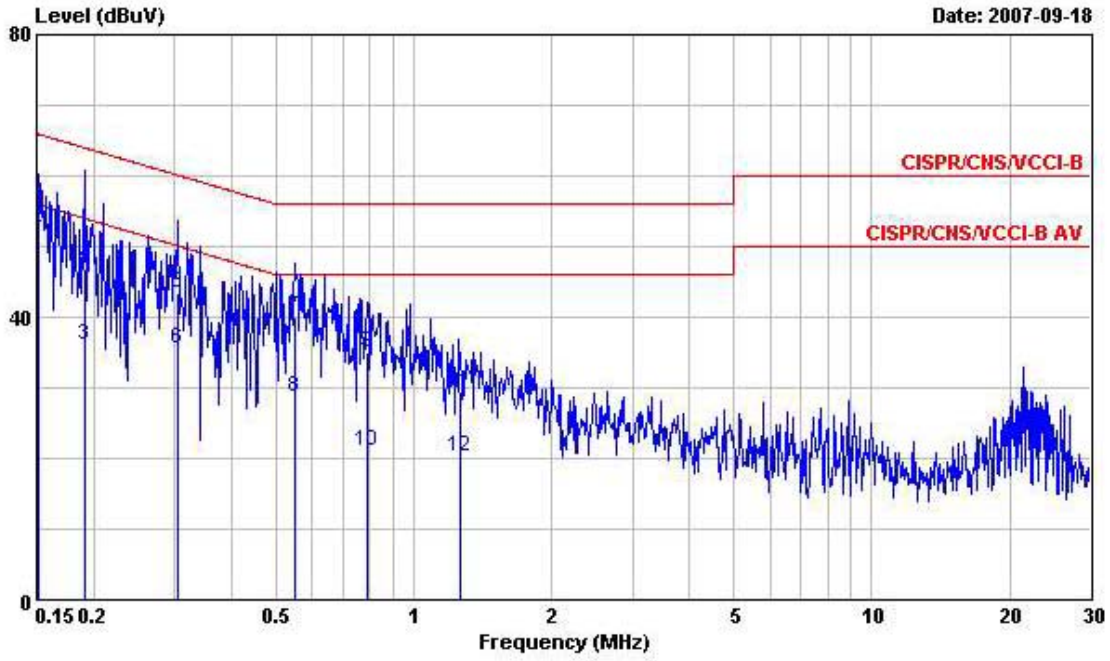
Temperature : **26~28**℃
Relative Humidity : **51~52%**
Test Enginner : **Sun**
Test Mode : Mode 4

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



Site : CO04-HY
Condition : CISPR/CNS/VCCI-B LISN 200704 99041 LINE
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class 10)
Power : From System
Model : FR 790604
Memo : PCS190 Idle+BT Link+WLAN Link+Earphone
: +Camera+MPEG4+GPS Rx+USB Link

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1694400	48.44	-16.55	64.99	48.20	0.10	0.14	QP
2	0.1694400	39.28	-15.71	54.99	39.04	0.10	0.14	Average
3	0.2468240	45.21	-16.65	61.86	44.79	0.10	0.32	QP
4	0.2468240	27.84	-24.02	51.86	27.42	0.10	0.32	Average
5	0.3614620	44.07	-14.62	58.69	43.33	0.10	0.64	QP
6	0.3614620	29.11	-19.58	48.69	28.37	0.10	0.64	Average
7	0.5761730	40.11	-15.89	56.00	39.40	0.10	0.61	QP
8	0.5761730	29.93	-16.07	46.00	29.22	0.10	0.61	Average
9	0.8393170	35.76	-20.24	56.00	35.16	0.10	0.50	QP
10	0.8393170	29.26	-16.74	46.00	28.66	0.10	0.50	Average
11	1.260	31.88	-24.12	56.00	31.34	0.10	0.44	QP
12	1.260	23.30	-22.70	46.00	22.76	0.10	0.44	Average

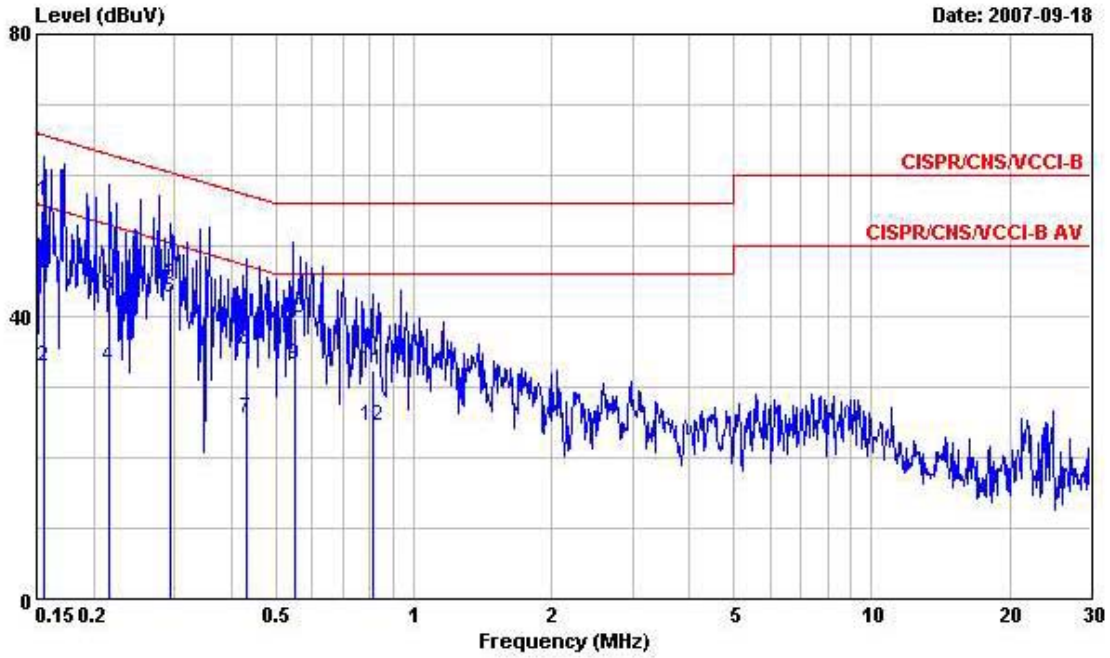


Site : CO04-HY
Condition : CISPR/CNS/VCCI-B LISN 200704 99041 NEUTRAL
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class 10)
Power : From System
Model : FR 790604
Memo : PCS190 Idle+BT Link+WLAN Link+Earphone
: +Camera+MPEG4+GPS Rx+USB Link

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1515980	38.08	-17.83	55.91	37.84	0.10	0.14	Average
2	0.1515980	52.74	-13.17	65.91	52.50	0.10	0.14	QP
3	0.1903870	36.10	-17.92	54.02	35.86	0.10	0.14	Average
4	0.1903870	46.97	-17.05	64.02	46.73	0.10	0.14	QP
5	0.3050910	43.45	-16.65	60.10	42.85	0.10	0.50	QP
6	0.3050910	35.54	-14.56	50.10	34.94	0.10	0.50	Average
7	0.5493430	40.05	-15.95	56.00	39.32	0.10	0.63	QP
8	0.5493430	28.61	-17.39	46.00	27.88	0.10	0.63	Average
9	0.7917990	34.89	-21.11	56.00	34.28	0.10	0.51	QP
10	0.7917990	20.98	-25.02	46.00	20.37	0.10	0.51	Average
11	1.260	29.59	-26.41	56.00	29.05	0.10	0.44	QP
12	1.260	20.32	-25.68	46.00	19.78	0.10	0.44	Average

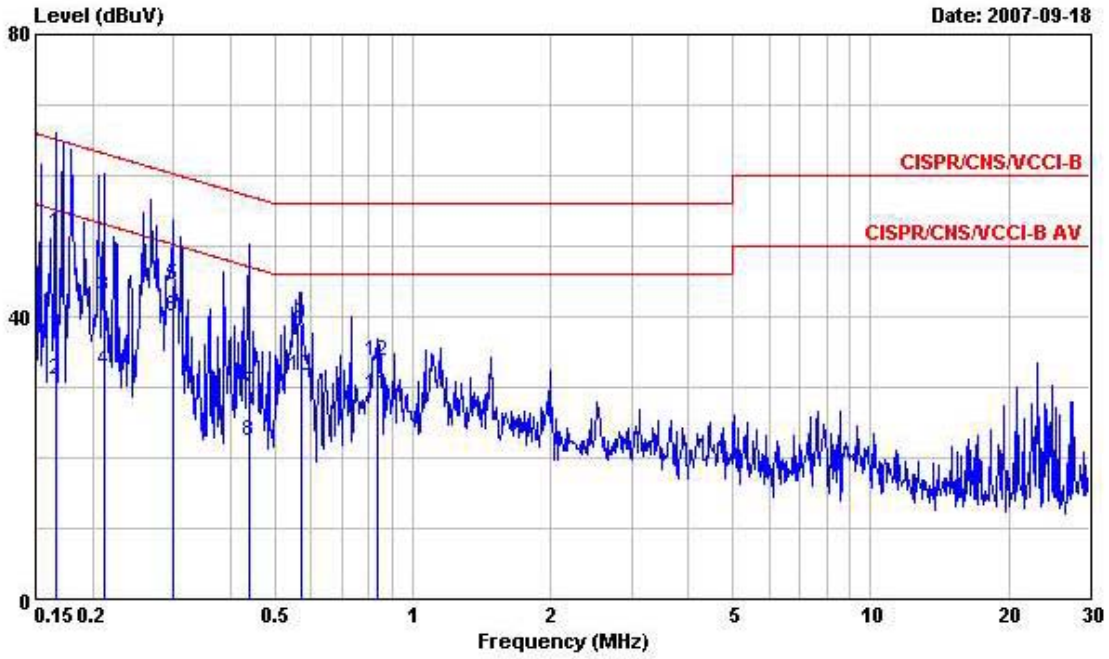
Temperature : **26~28**℃
Relative Humidity : **51~52%**
Test Enginner : **Sun**
Test Mode : Mode 5

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



Site : CO04-HY
Condition : CISPR/CNS/VCCI-B LISN 200704 99041 LINE
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class 10)
Power : 120Vac/60Hz
Model : FR 790604
Memo : TMC Rx+98MHz+Earphone+Adaptor

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1556680	56.34	-9.35	65.69	56.10	0.10	0.14	QP
2	0.1556680	32.90	-22.79	55.69	32.66	0.10	0.14	Average
3	0.2162030	43.02	-19.94	62.96	42.71	0.10	0.21	QP
4	0.2162030	32.90	-20.06	52.96	32.59	0.10	0.21	Average
5	0.2936320	44.40	-16.02	60.42	43.83	0.10	0.47	QP
6	@0.2936320	42.55	-7.87	50.42	41.98	0.10	0.47	Average
7	0.4305230	25.40	-21.84	47.24	24.59	0.10	0.71	Average
8	0.4305230	35.37	-21.87	57.24	34.56	0.10	0.71	QP
9	0.5517430	33.16	-12.84	46.00	32.43	0.10	0.63	Average
10	0.5517430	39.67	-16.33	56.00	38.94	0.10	0.63	QP
11	0.8130550	32.38	-23.62	56.00	31.77	0.10	0.51	QP
12	0.8130550	24.45	-21.55	46.00	23.84	0.10	0.51	Average



Site : CO04-HY
Condition : CISPR/CNS/VCCI-B LISN 200704 99041 NEUTRAL
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class 10)
Power : 120Vac/60Hz
Model : FR 790604
Memo : TMC Rx+98MHz+Earphone+Adaptor

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1658860	51.96	-13.20	65.16	51.72	0.10	0.14	QP
2	0.1658860	31.13	-24.03	55.16	30.89	0.10	0.14	Average
3	0.2116700	42.97	-20.17	63.14	42.68	0.10	0.19	QP
4	0.2116700	32.31	-20.83	53.14	32.02	0.10	0.19	Average
5	0.2986930	44.44	-15.84	60.28	43.86	0.10	0.48	QP
6	0.2986930	40.12	-10.16	50.28	39.54	0.10	0.48	Average
7	0.4374210	29.13	-27.98	57.11	28.33	0.10	0.70	QP
8	0.4374210	22.36	-24.75	47.11	21.56	0.10	0.70	Average
9	0.5701000	38.84	-17.16	56.00	38.12	0.10	0.62	QP
10	0.5701000	31.52	-14.48	46.00	30.80	0.10	0.62	Average
11	0.8393170	28.83	-17.17	46.00	28.23	0.10	0.50	Average
12	0.8393170	33.76	-22.24	56.00	33.16	0.10	0.50	QP

5.9 Radiated Emission Measurement

5.9.1 Measuring Instruments：

As described in chapter 6 of this Report.

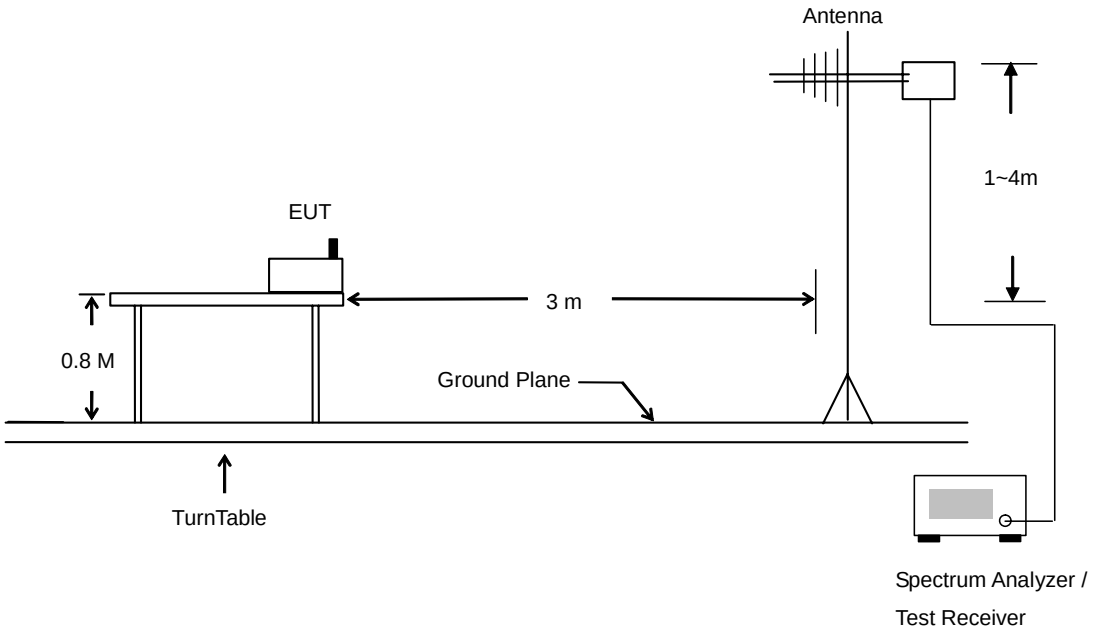
The spectrum analyzer setting :

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

5.9.2 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.

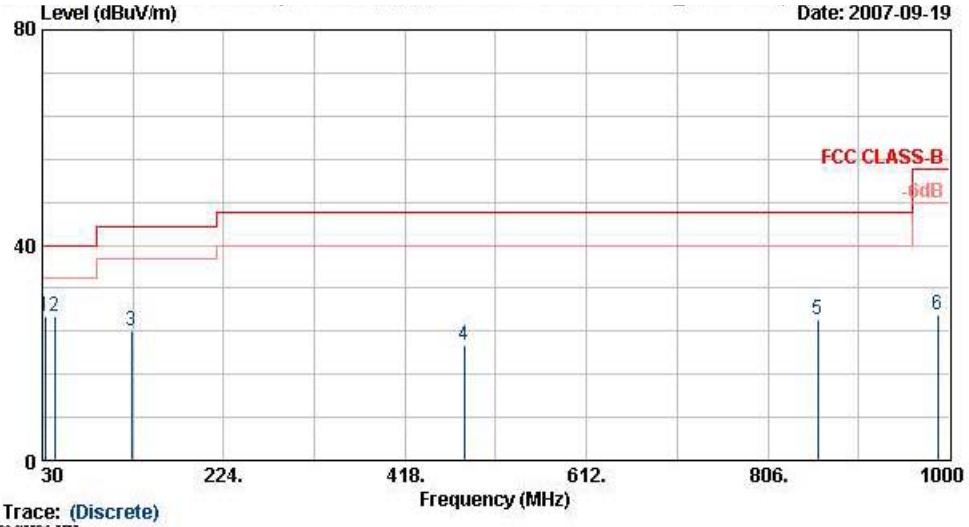
5.9.3 Typical Test Setup Layout of Radiated Emission



5.9.4 Test Data

Temperature : 25~26℃
Relating Humidity : 54~55%
Test Enginner : Andrew
Test Mode : Mode 1
Polarization : Horizontal

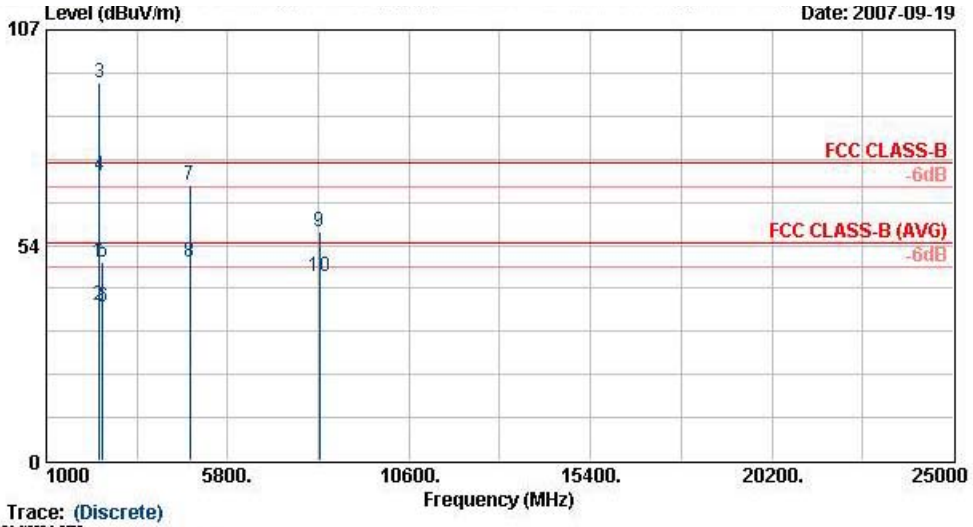
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site : 03CH06-HY
Condition : LF-ANT(951121) HORIZONTAL
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class10)
Power : 120Vac/60Hz
Model : FR 790604
Mode : Bluetooth TX_CH00;2402MHz
Plane : E1
Data Rate : DH1

	Freq	Level	Over Limit	Limit Line	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark	Pol/Phas
	MHz	dBuV/m	dB	dBuV/m	dB/m	dB	dB	cm	deg		
1	33.2	26.86	-13.14	40.00	17.54	0.66	31.36	110	221	Peak	HORIZONT
2	43.2	26.84	-13.16	40.00	11.52	0.75	31.14	---	---	Peak	HORIZONT
3	125.0	24.01	-19.49	43.50	12.66	1.21	31.09	---	---	Peak	HORIZONT
4	481.3	21.35	-24.65	46.00	17.11	2.53	30.81	---	---	Peak	HORIZONT
5	859.3	26.16	-19.84	46.00	20.24	3.65	30.42	---	---	Peak	HORIZONT
6	987.4	27.03	-26.97	54.00	21.15	3.99	30.27	---	---	Peak	HORIZONT



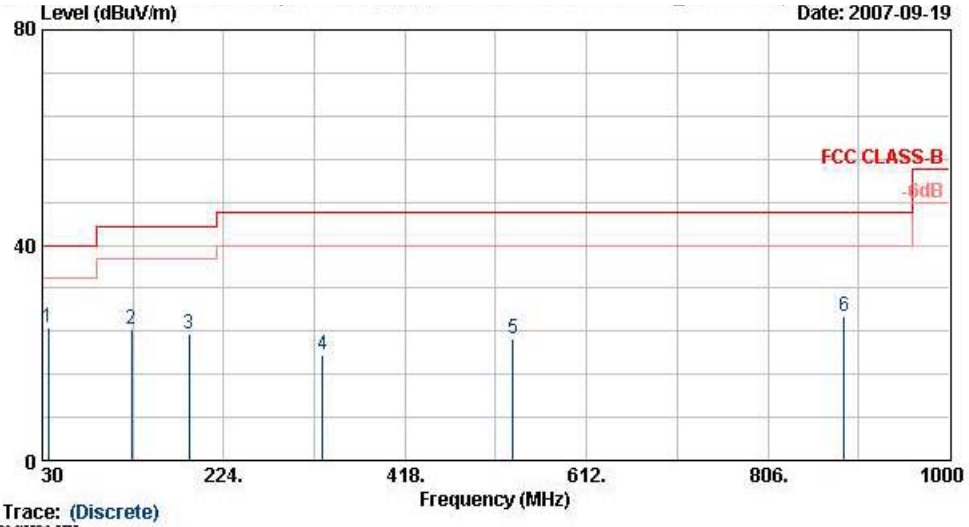
Site : 03CH06-HY
Condition : SHF-EHF HORN HORIZONTAL
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class10)
Power : 120Vac/60Hz
Model : FR 790604
Mode : Bluetooth TX_CH00;2402MHz
Plane : E1
Data Rate : DH1

		Freq	Level	Over Limit	Limit Line	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark	Pol/Phas
		MHz	dBuV/m	dB	dBuV/m	dB/m	dB	dB	cm	deg		
1		2390.0	49.16	-24.84	74.00	30.26	3.75	35.46	100	0	Peak	HORIZONT
2		2390.0	38.54	-15.46	54.00	30.26	3.75	35.46	100	14	Average	HORIZONT
3	X	2402.0	93.98			30.26	3.77	35.46	100	0	Peak	HORIZONT
4	X	2402.0	70.99			30.26	3.77	35.46	100	14	Average	HORIZONT
5		2494.0	49.22	-24.78	74.00	30.30	3.88	35.53	100	0	Peak	HORIZONT
6		2494.0	38.28	-15.72	54.00	30.30	3.88	35.53	100	14	Average	HORIZONT
7	!	4806.0	68.43	-5.57	74.00	32.88	5.83	36.10	100	0	Peak	HORIZONT
8	!	4806.0	49.36	-4.64	54.00	32.88	5.83	36.10	100	226	Average	HORIZONT
9		8232.0	56.78	-17.22	74.00	39.42	8.06	35.98	100	0	Peak	HORIZONT
10		8232.0	45.78	-8.22	54.00	39.42	8.06	35.98	100	22	Average	HORIZONT

Remark: #3 and #4 Fundamental Signal

Polarization : Vertical

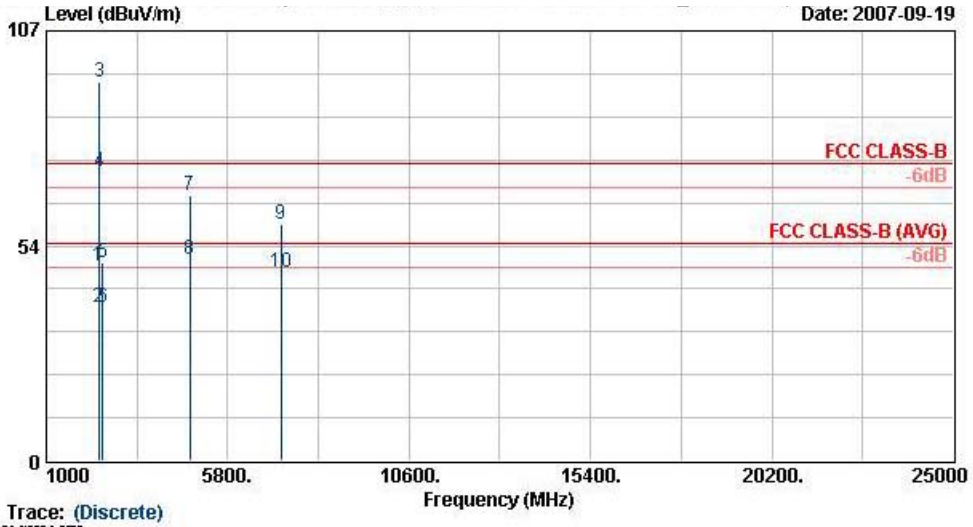
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site : 03CH06-HY
Condition : LF-ANT(951121) VERTICAL
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class10)
Power : 120Vac/60Hz
Model : FR 790604
Mode : Bluetooth TX_CH00;2402MHz
Plane : E1
Data Rate : DH1

	Freq	Level	Over Limit	Limit Line	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark	Pol/Phas
	MHz	dBuV/m	dB	dBuV/m	dB/m	dB	dB	cm	deg		
1	36.5	24.58	-15.42	40.00	15.08	0.69	31.26	100	214	Peak	VERTICAL
2	125.0	24.36	-19.14	43.50	12.66	1.21	31.09	---	---	Peak	VERTICAL
3	187.1	23.51	-19.99	43.50	9.39	1.49	31.02	---	---	Peak	VERTICAL
4	329.4	19.50	-26.50	46.00	13.98	2.04	30.91	---	---	Peak	VERTICAL
5	533.8	22.46	-23.54	46.00	17.77	2.73	30.75	---	---	Peak	VERTICAL
6	887.3	26.62	-19.38	46.00	20.44	3.77	30.39	---	---	Peak	VERTICAL



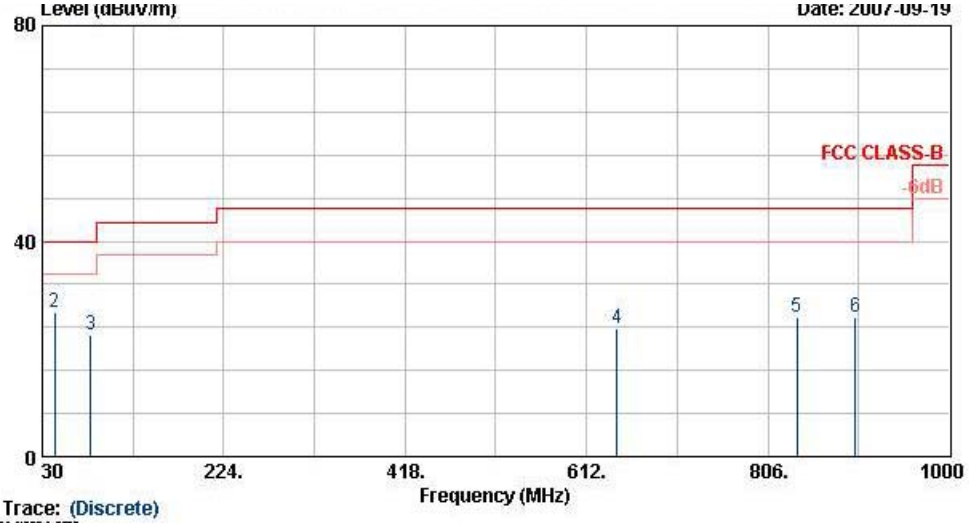
Site : 03CH06-HY
Condition : SHF-EHF HORN VERTICAL
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class10)
Power : 120Vac/60Hz
Model : FR 790604
Mode : Bluetooth TX_CH00;2402MHz
Plane : E1
Data Rate : DH1

		Freq	Level	Over Limit	Limit Line	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark	Pol/Phas
		MHz	dBuV/m	dB	dBuV/m	dB/m	dB	dB	cm	deg		
1		2385.8	48.42	-25.58	74.00	30.26	3.75	35.44	100	0	Peak	VERTICAL
2		2385.8	38.29	-15.71	54.00	30.26	3.75	35.44	100	4	Average	VERTICAL
3	@	2402.0	94.30			30.26	3.77	35.46	100	0	Peak	VERTICAL
4	X	2402.0	72.07			30.26	3.77	35.46	100	4	Average	VERTICAL
5		2494.0	49.44	-24.56	74.00	30.30	3.88	35.53	100	0	Peak	VERTICAL
6		2494.0	38.29	-15.71	54.00	30.30	3.88	35.53	100	4	Average	VERTICAL
7		4806.0	65.92	-8.08	74.00	32.88	5.83	36.10	100	0	Peak	VERTICAL
8	!	4806.0	50.26	-3.74	54.00	32.88	5.83	36.10	100	229	Average	VERTICAL
9		7206.0	59.01	-14.99	74.00	38.26	7.79	35.88	100	0	Peak	VERTICAL
10		7206.0	46.94	-7.06	54.00	38.26	7.79	35.88	100	263	Average	VERTICAL

Remark: #3 and #4 Fundamental Signal

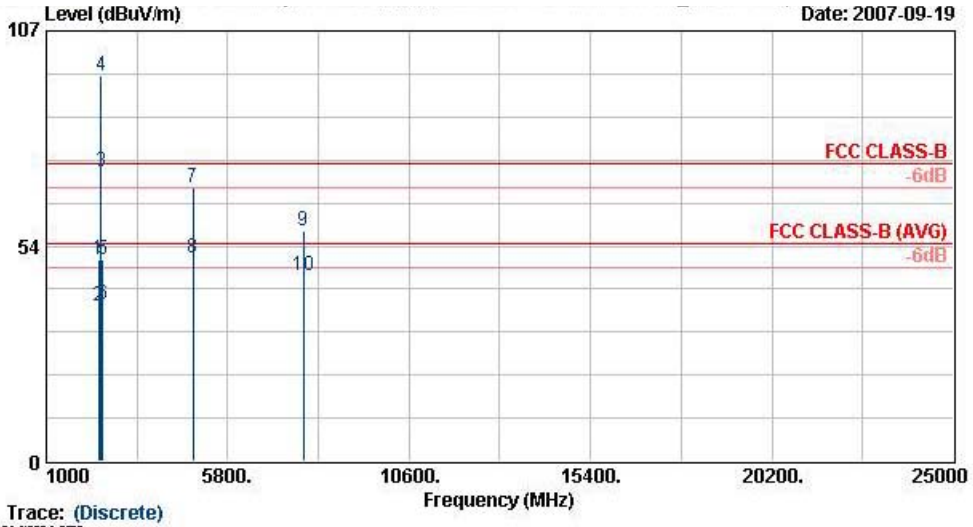
Test Mode : Mode 2
Polarization : Horizontal

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



Site : 03CH06-HY
Condition : LF-ANT(951121) HORIZONTAL
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class10)
Power : 120Vac/60Hz
Model : FR 790604
Mode : Bluetooth TX_CH39;2441MHz
Plane : E1
Data Rate : DH1

	Freq	Level	Over Limit	Limit Line	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark	Pol/Phas
	MHz	dBuV/m	dB	dBuV/m	dB/m	dB	dB	cm	deg		
1	30.0	27.06	-12.94	40.00	19.66	0.63	31.46	104	221	Peak	HORIZONT
2	43.2	26.63	-13.37	40.00	11.52	0.75	31.14	---	---	Peak	HORIZONT
3	81.8	22.72	-17.28	40.00	7.67	0.98	31.09	---	---	Peak	HORIZONT
4	644.4	23.85	-22.15	46.00	18.65	3.09	30.65	---	---	Peak	HORIZONT
5	836.9	25.92	-20.08	46.00	20.08	3.56	30.45	---	---	Peak	HORIZONT
6	899.9	25.92	-20.08	46.00	20.53	3.82	30.37	---	---	Peak	HORIZONT



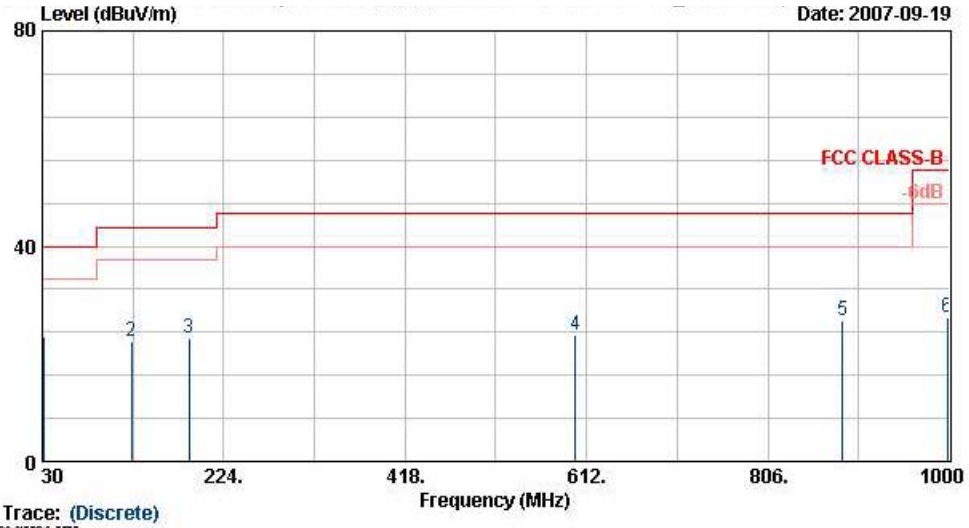
Site : 03CH06-HY
Condition : SHF-EHF HORN HORIZONTAL
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class10)
Power : 120Vac/60Hz
Model : FR 790604
Mode : Bluetooth TX_CH39;2441MHz
Plane : E1
Data Rate : DH1

		Freq	Level	Over Limit	Limit Line	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark	Pol/Phas
		MHz	dBuV/m	dB	dBuV/m	dB/m	dB	dB	cm	deg		
1		2388.0	50.09	-23.91	74.00	30.26	3.75	35.44	100	0	Peak	HORIZONT
2		2388.0	38.54	-15.46	54.00	30.26	3.75	35.44	100	5	Average	HORIZONT
3	X	2441.0	72.15			30.28	3.82	35.49	100	5	Average	HORIZONT
4	X	2441.0	96.01			30.28	3.82	35.47	100	0	Peak	HORIZONT
5		2494.0	50.11	-23.89	74.00	30.30	3.88	35.53	100	0	Peak	HORIZONT
6		2494.0	38.79	-15.21	54.00	30.30	3.88	35.53	100	5	Average	HORIZONT
7	!	4881.0	68.21	-5.79	74.00	33.14	5.88	36.16	100	0	Peak	HORIZONT
8	!	4881.0	50.56	-3.44	54.00	33.14	5.88	36.16	100	174	Average	HORIZONT
9		7806.0	57.19	-16.81	74.00	39.32	7.72	35.92	100	0	Peak	HORIZONT
10		7806.0	46.19	-7.81	54.00	39.32	7.72	35.92	100	331	Average	HORIZONT

Remark: #3 and #4 Fundamental Signal

Polarization : Vertical

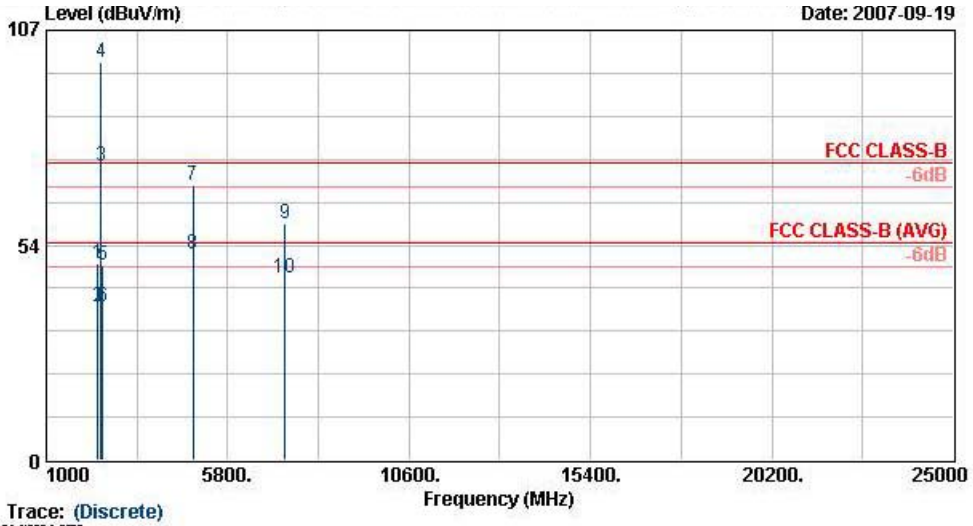
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site : 03CH06-HY
Condition : LF-ANT(951121) VERTICAL
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class10)
Power : 120Vac/60Hz
Model : FR 790604
Mode : Bluetooth TX_CH39;2441MHz
Plane : E1
Data Rate : DH1

	Freq	Level	Over Limit	Limit Line	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark	Pol/Phas
	MHz	dBuV/m	dB	dBuV/m	dB/m	dB	dB	cm	deg		
1	31.1	23.25	-16.75	40.00	18.95	0.64	31.43	100	124	Peak	VERTICAL
2	125.0	22.29	-21.21	43.50	12.66	1.21	31.09	---	---	Peak	VERTICAL
3	187.1	22.82	-20.68	43.50	9.39	1.49	31.02	---	---	Peak	VERTICAL
4	600.3	23.51	-22.49	46.00	18.47	2.96	30.66	---	---	Peak	VERTICAL
5	885.9	26.09	-19.91	46.00	20.43	3.76	30.39	---	---	Peak	VERTICAL
6	997.9	26.70	-27.30	54.00	21.23	4.02	30.27	---	---	Peak	VERTICAL



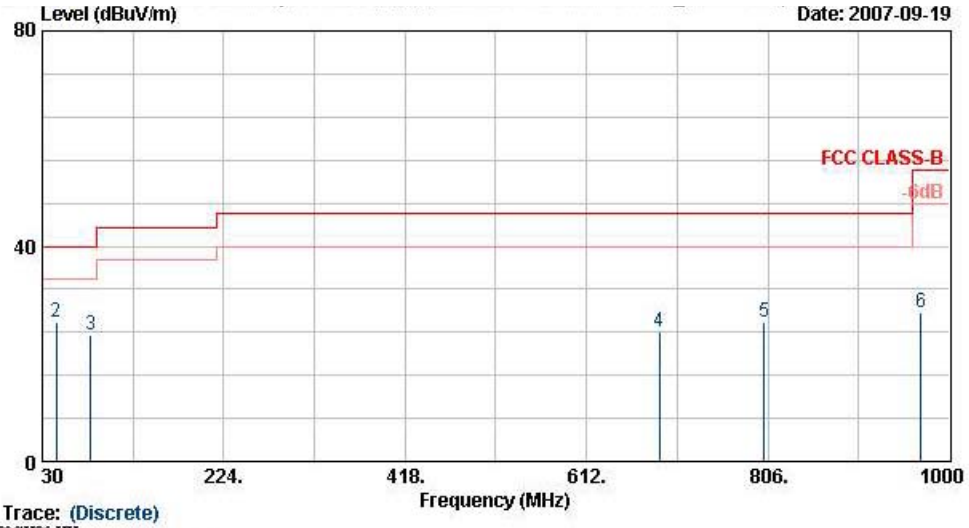
Site : 03CH06-HY
Condition : SHF-EHF HORN VERTICAL
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class10)
Power : 120Vac/60Hz
Model : FR 790604
Mode : Bluetooth TX_CH39;2441MHz
Plane : E1
Data Rate : DH1

		Freq	Level	Over Limit	Limit Line	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark	Pol/Phas
		MHz	dBuV/m	dB	dBuV/m	dB/m	dB	dB	cm	deg		
1		2374.0	49.03	-24.97	74.00	30.25	3.73	35.44	100	0	Peak	VERTICAL
2		2374.0	38.05	-15.95	54.00	30.25	3.73	35.44	100	354	Average	VERTICAL
3	X	2441.0	73.21			30.28	3.82	35.49	100	354	Average	VERTICAL
4	@	2441.0	98.87			30.28	3.82	35.47	100	0	Peak	VERTICAL
5		2488.0	48.73	-25.27	74.00	30.30	3.86	35.51	100	0	Peak	VERTICAL
6		2488.0	38.11	-15.89	54.00	30.30	3.86	35.51	100	354	Average	VERTICAL
7	!	4881.0	68.59	-5.41	74.00	33.14	5.88	36.16	100	0	Peak	VERTICAL
8	!	4881.0	51.45	-2.55	54.00	33.14	5.88	36.16	100	253	Average	VERTICAL
9		7317.0	58.81	-15.19	74.00	38.52	7.73	35.97	100	0	Peak	VERTICAL
10		7317.0	45.16	-8.84	54.00	38.52	7.73	35.97	100	207	Average	VERTICAL

Remark: #3 and #4 Fundamental Signal

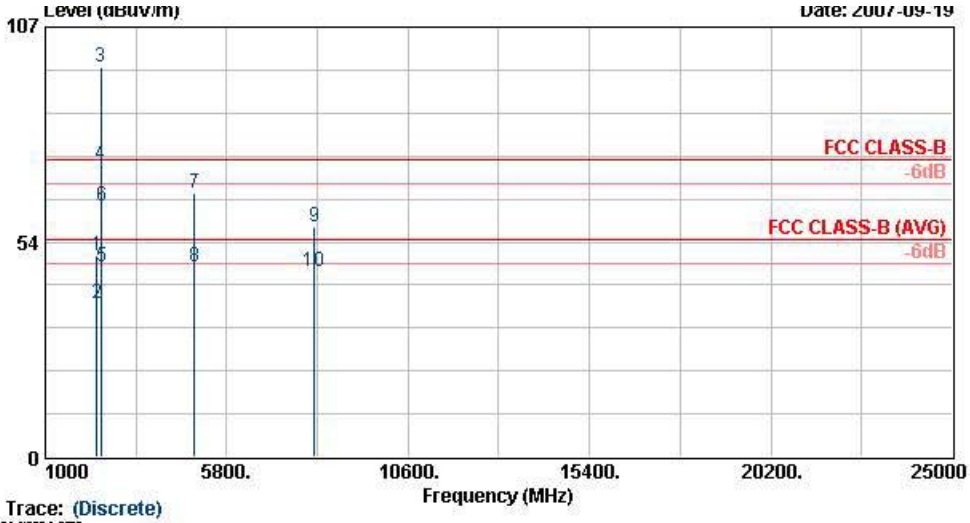
Test Mode : Mode 3
Polarization : Horizontal

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



Site : 03CH06-HY
Condition : LF-ANT(951121) HORIZONTAL
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class10)
Power : 120Vac/60Hz
Model : FR 790604
Mode : Bluetooth TX_CH78;2480MHz
Plane : E1
Data Rate : DH1

	Freq	Level	Over Limit	Limit Line	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark	Pol/Phas
	MHz	dBuV/m	dB	dBuV/m	dB/m	dB	dB	cm	deg		
1	30.5	26.37	-13.63	40.00	18.95	0.64	31.43	121	223	Peak	HORIZONT
2	44.6	25.87	-14.13	40.00	11.02	0.76	31.12	---	---	Peak	HORIZONT
3	81.8	23.50	-16.50	40.00	7.67	0.98	31.09	---	---	Peak	HORIZONT
4	689.9	24.04	-21.96	46.00	18.85	3.22	30.60	---	---	Peak	HORIZONT
5	801.9	25.96	-20.04	46.00	19.83	3.42	30.49	---	---	Peak	HORIZONT
6	969.9	27.75	-26.25	54.00	21.03	3.96	30.28	---	---	Peak	HORIZONT



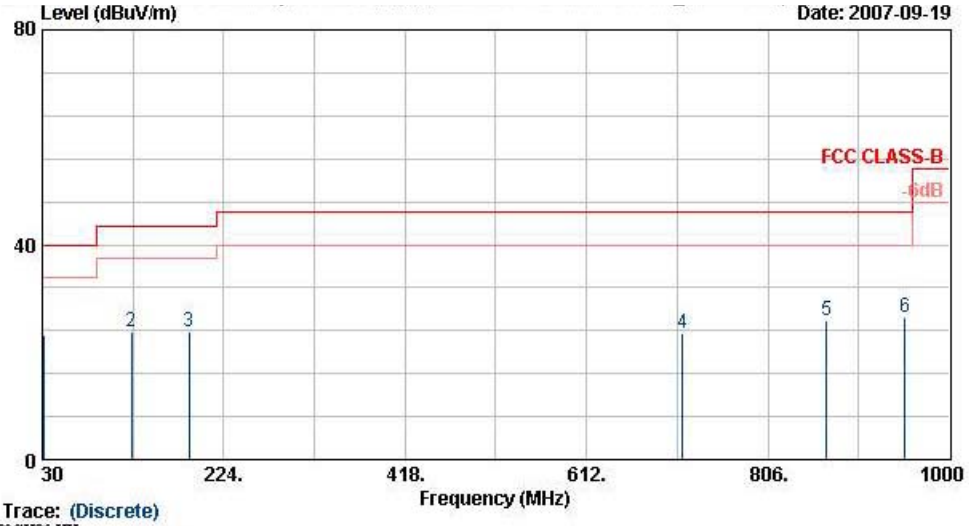
Site : 03CH06-HY
Condition : SHF-EHF HORN HORIZONTAL
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class10)
Power : 120Vac/60Hz
Model : FR 790604
Mode : Bluetooth TX_CH78;2480MHz
Plane : E1
Data Rate : DH1

		Freq	Level	Over Limit	Limit Line	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark	Pol/Phas
		MHz	dBuV/m	dB	dBuV/m	dB/m	dB	dB	cm	deg		
1		2364.0	50.15	-23.85	74.00	30.24	3.73	35.42	100	0	Peak	HORIZONT
2		2364.0	38.15	-15.85	54.00	30.24	3.73	35.42	100	17	Average	HORIZONT
3	X	2480.0	97.09			30.29	3.86	35.51	100	0	Peak	HORIZONT
4	X	2480.0	72.68			30.29	3.86	35.51	100	17	Average	HORIZONT
5		2483.5	47.29	-6.71	54.00	30.29	3.86	35.51	100	17	Average	HORIZONT
6		2483.5	62.33	-11.67	74.00	30.29	3.86	35.51	100	0	Peak	HORIZONT
7		4956.0	65.66	-8.34	74.00	33.47	5.93	36.23	100	0	Peak	HORIZONT
8		4956.0	47.51	-6.49	54.00	33.47	5.93	36.23	100	176	Average	HORIZONT
9		8112.0	57.34	-16.66	74.00	39.52	7.91	35.91	100	0	Peak	HORIZONT
10		8112.0	46.34	-7.66	54.00	39.52	7.91	35.91	100	22	Average	HORIZONT

Remark: #3 and #4 Fundamental Signal

Polarization : Vertical

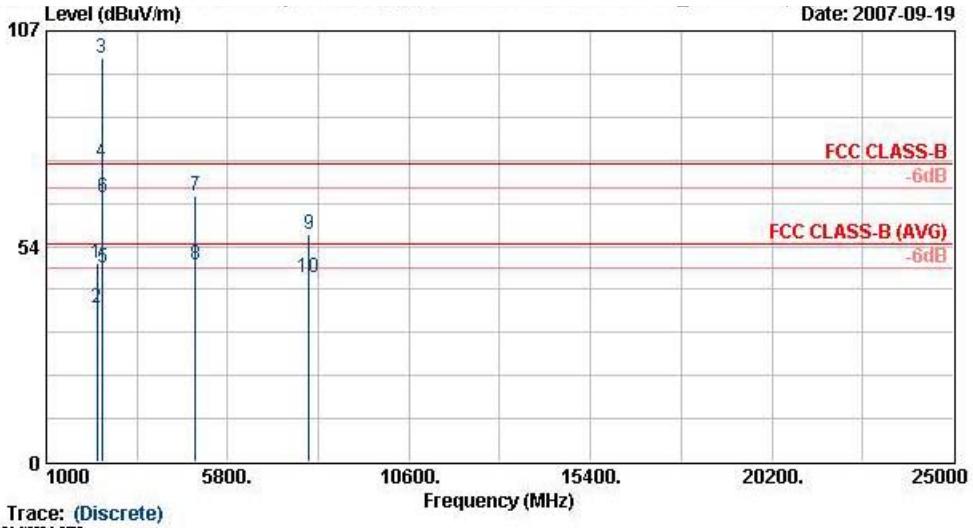
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site : 03CH06-HY
Condition : LF-ANT(951121) VERTICAL
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class10)
Power : 120Vac/60Hz
Model : FR 790604
Mode : Bluetooth TX_CH78;2480MHz
Plane : E1
Data Rate : DH1

	Freq	Level	Over Limit	Limit Line	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark	Pol/Phas
	MHz	dBuV/m	dB	dBuV/m	dB/m	dB	dB	cm	deg		
1	31.4	23.12	-16.88	40.00	18.95	0.64	31.39	110	224	Peak	VERTICAL
2	125.0	23.72	-19.78	43.50	12.66	1.21	31.09	---	---	Peak	VERTICAL
3	187.1	23.75	-19.75	43.50	9.39	1.49	31.02	---	---	Peak	VERTICAL
4	714.4	23.63	-22.37	46.00	19.03	3.27	30.57	---	---	Peak	VERTICAL
5	868.4	25.82	-20.18	46.00	20.30	3.69	30.41	---	---	Peak	VERTICAL
6	952.4	26.35	-19.65	46.00	20.90	3.92	30.28	---	---	Peak	VERTICAL



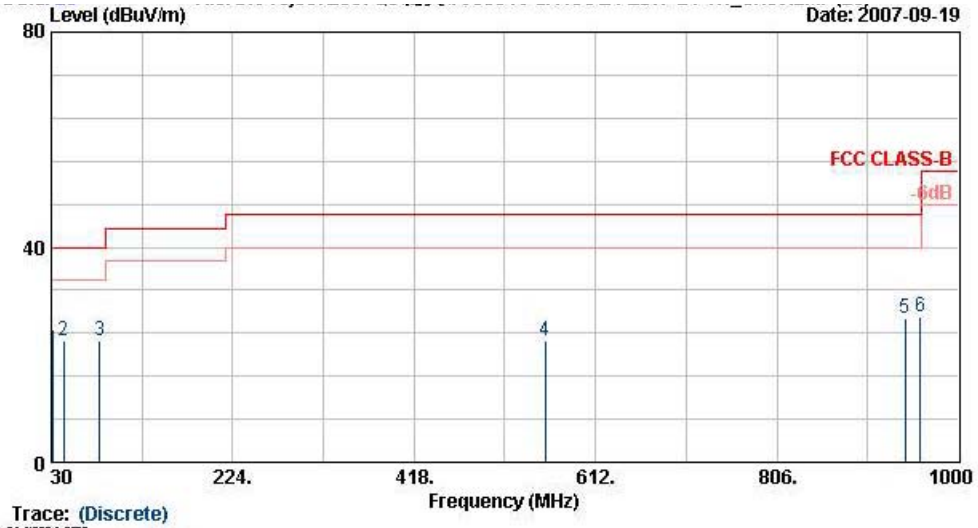
Site : 03CH06-HY
Condition : SHF-EHF HORN VERTICAL
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class10)
Power : 120Vac/60Hz
Model : FR 790604
Mode : Bluetooth TX_CH78;2480MHz
Plane : E1
Data Rate : DH1

		Freq	Level	Over Limit	Limit Line	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark	Pol/Phas
		MHz	dBuV/m	dB	dBuV/m	dB/m	dB	dB	cm	deg		
1		2338.0	49.41	-24.59	74.00	30.24	3.69	35.40	100	0	Peak	VERTICAL
2		2338.0	38.06	-15.94	54.00	30.24	3.69	35.40	100	359	Average	VERTICAL
3	@	2480.0	100.11			30.29	3.86	35.51	100	0	Peak	VERTICAL
4	X	2480.0	74.42			30.29	3.86	35.51	100	359	Average	VERTICAL
5	!	2483.5	48.01	-5.99	54.00	30.29	3.86	35.51	100	359	Average	VERTICAL
6		2483.5	65.51	-8.49	74.00	30.29	3.86	35.51	100	0	Peak	VERTICAL
7		4956.0	65.92	-8.08	74.00	33.47	5.93	36.23	100	0	Peak	VERTICAL
8	!	4956.0	49.09	-4.91	54.00	33.47	5.93	36.23	100	254	Average	VERTICAL
9		7962.0	56.67	-17.33	74.00	39.55	7.78	35.86	100	0	Peak	VERTICAL
10		7962.0	45.67	-8.33	54.00	39.55	7.78	35.86	100	334	Average	VERTICAL

Remark: #3 and #4 Fundamental Signal

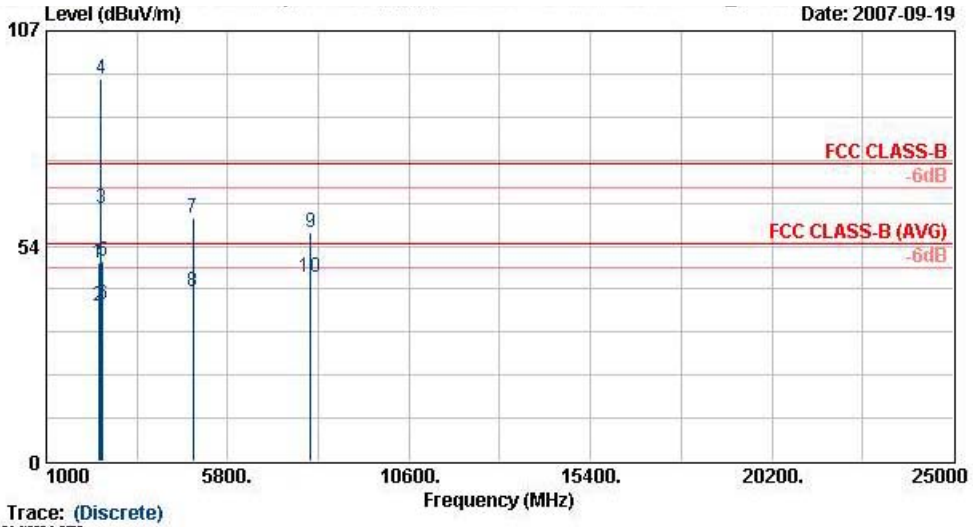
Test Mode : Mode 5
Polarization : Horizontal

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



Site : 03CH06-HY
Condition : LF-ANT(951121) HORIZONTAL
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class10)
Power : 120Vac/60Hz
Model : FR 790604
Mode : Bluetooth TX_CH39;2441MHz
Plane : E1
Data Rate : 2DH1

	Freq	Level	Over Limit	Limit Line	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark	Pol/Phas
	MHz	dBuV/m	dB	dBuV/m	dB/m	dB	dB	cm	deg		
1	31.1	24.65	-15.35	40.00	18.95	0.64	31.43	121	223	Peak	HORIZONT
2	43.2	22.55	-17.45	40.00	11.52	0.75	31.14	---	---	Peak	HORIZONT
3	81.8	22.63	-17.37	40.00	7.67	0.98	31.09	---	---	Peak	HORIZONT
4	558.3	22.60	-23.40	46.00	18.04	2.81	30.72	---	---	Peak	HORIZONT
5	943.3	26.82	-19.18	46.00	20.84	3.91	30.29	---	---	Peak	HORIZONT
6	959.4	27.15	-18.85	46.00	20.95	3.94	30.28	---	---	Peak	HORIZONT



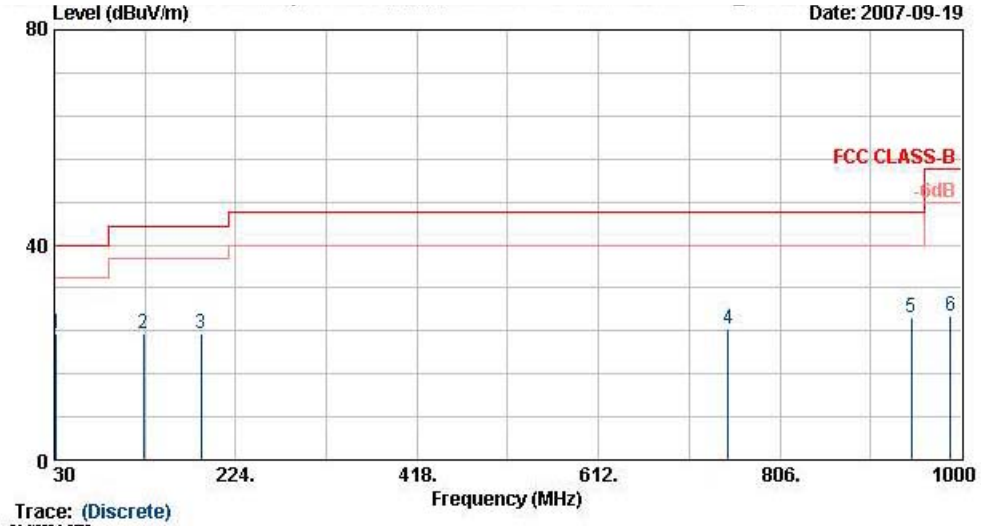
Site : 03CH06-HY
Condition : SHF-EHF HORN HORIZONTAL
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class10)
Power : 120Vac/60Hz
Model : FR 790604
Mode : Bluetooth TX_CH39;2441MHz
Plane : E1
Data Rate : 2DH1

		Freq	Level	Over Limit	Limit Line	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark	Pol/Phas
		MHz	dBuV/m	dB	dBuV/m	dB/m	dB	dB	cm	deg		
1		2388.0	49.50	-24.50	74.00	30.26	3.75	35.44	100	0	Peak	HORIZONT
2		2388.0	38.47	-15.53	54.00	30.26	3.75	35.44	100	156	Average	HORIZONT
3	X	2441.0	62.71			30.28	3.82	35.49	100	156	Average	HORIZONT
4	X	2441.0	94.89			30.28	3.82	35.47	100	0	Peak	HORIZONT
5		2494.0	49.81	-24.19	74.00	30.30	3.88	35.53	100	0	Peak	HORIZONT
6		2494.0	38.85	-15.15	54.00	30.30	3.88	35.53	100	156	Average	HORIZONT
7		4881.0	60.41	-13.59	74.00	33.14	5.88	36.16	100	0	Peak	HORIZONT
8		4881.0	42.27	-11.73	54.00	33.14	5.88	36.16	100	171	Average	HORIZONT
9		8001.0	56.78	-17.22	74.00	39.60	7.79	35.86	100	0	Peak	HORIZONT
10		8001.0	45.78	-8.22	54.00	39.60	7.79	35.86	100	22	Average	HORIZONT

Remark: #3 and #4 Fundamental Signal

Polarization : Vertical

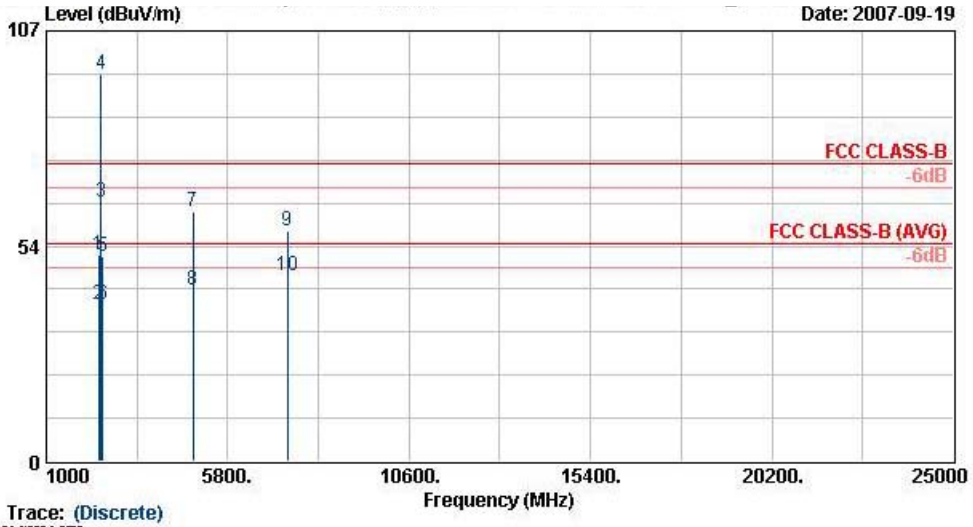
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site : 03CH06-HY
Condition : LF-ANT(951121) VERTICAL
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class10)
Power : 120Vac/60Hz
Model : FR 790604
Mode : Bluetooth TX_CH39;2441MHz
Plane : E1
Data Rate : 2DH1

	Freq	Level	Over Limit	Limit Line	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark	Pol/Phas
	MHz	dBuV/m	dB	dBuV/m	dB/m	dB	dB	cm	deg		
1	32.4	23.53	-16.47	40.00	17.54	0.66	31.36	141	117	Peak	VERTICAL
2	125.0	23.54	-19.96	43.50	12.66	1.21	31.09	---	---	Peak	VERTICAL
3	187.1	23.47	-20.03	43.50	9.39	1.49	31.02	---	---	Peak	VERTICAL
4	750.8	24.45	-21.55	46.00	19.36	3.33	30.53	---	---	Peak	VERTICAL
5	946.8	26.34	-19.66	46.00	20.86	3.91	30.29	---	---	Peak	VERTICAL
6	988.8	26.76	-27.24	54.00	21.16	4.00	30.27	---	---	Peak	VERTICAL



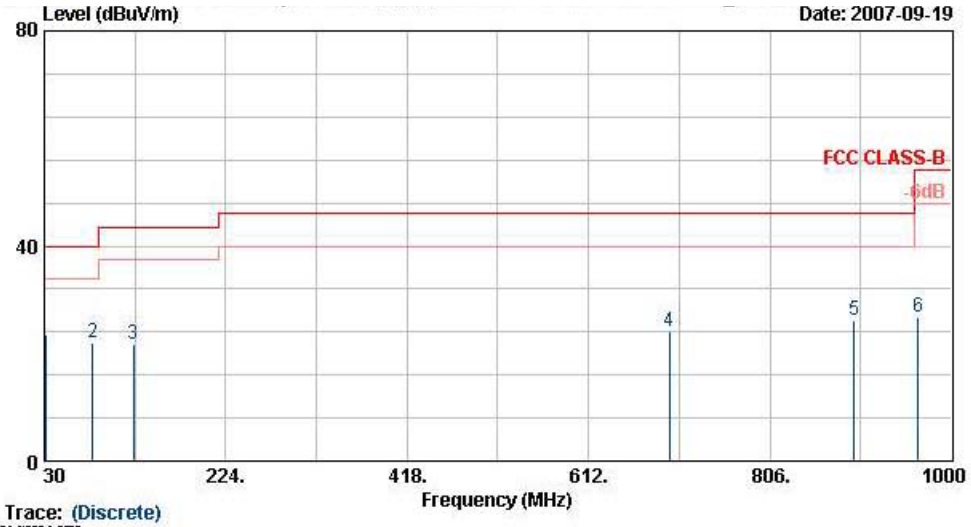
Site : 03CH06-HY
Condition : SHF-EHF HORN VERTICAL
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class10)
Power : 120Vac/60Hz
Model : FR 790604
Mode : Bluetooth TX_CH39;2441MHz
Plane : E1
Data Rate : 2DH1

		Freq	Level	Over Limit	Limit Line	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark	Pol/Phas
		MHz	dBuV/m	dB	dBuV/m	dB/m	dB	dB	cm	deg		
1		2388.0	51.49	-22.51	74.00	30.26	3.75	35.44	100	0	Peak	VERTICAL
2		2388.0	39.14	-14.86	54.00	30.26	3.75	35.44	100	262	Average	VERTICAL
3	X	2441.0	64.53			30.28	3.82	35.49	100	262	Average	VERTICAL
4	@	2441.0	96.16			30.28	3.82	35.47	100	0	Peak	VERTICAL
5		2494.0	51.02	-22.98	74.00	30.30	3.88	35.53	100	0	Peak	VERTICAL
6		2494.0	39.10	-14.90	54.00	30.30	3.88	35.53	100	262	Average	VERTICAL
7		4881.0	61.96	-12.04	74.00	33.14	5.88	36.16	100	0	Peak	VERTICAL
8		4881.0	42.76	-11.24	54.00	33.14	5.88	36.16	100	323	Average	VERTICAL
9		7371.0	57.28	-16.72	74.00	38.63	7.69	36.00	100	0	Peak	VERTICAL
10		7371.0	46.28	-7.72	54.00	38.63	7.69	36.00	100	330	Average	VERTICAL

Remark: #3 and #4 Fundamental Signal

Test Mode : Mode 8
Polarization : Horizontal

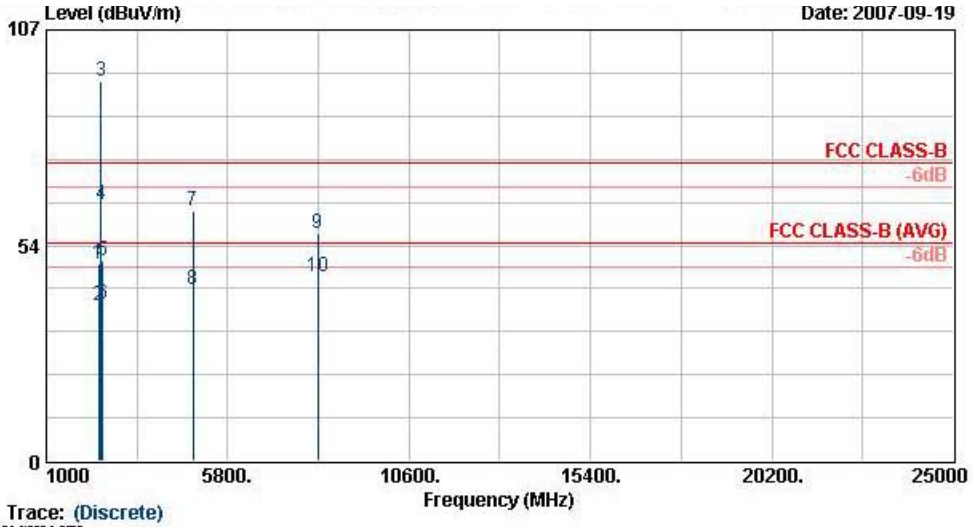
■ **The test that passed at minimum margin was marked by the frame in the following table.**



Trace: (Discrete)

Site : 03CH06-HY
Condition : LF-ANT(951121) HORIZONTAL
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class10)
Power : 120Vac/60Hz
Model : FR 790604
Mode : Bluetooth TX_CH39;2441MHz
Plane : E1
Data Rate : 3DH1

	Freq	Level	Over Limit	Limit Line	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark	Pol/Phas
	MHz	dBuV/m	dB	dBuV/m	dB/m	dB	dB	cm	deg		
1	31.1	23.56	-16.44	40.00	18.95	0.64	31.43	105	224	Peak	HORIZONT
2	81.8	22.05	-17.95	40.00	7.67	0.98	31.09	---	---	Peak	HORIZONT
3	125.0	21.73	-21.77	43.50	12.66	1.21	31.09	---	---	Peak	HORIZONT
4	698.3	24.16	-21.84	46.00	18.88	3.24	30.59	---	---	Peak	HORIZONT
5	896.4	26.12	-19.88	46.00	20.50	3.80	30.37	---	---	Peak	HORIZONT
6	964.3	26.85	-27.15	54.00	20.98	3.95	30.28	---	---	Peak	HORIZONT



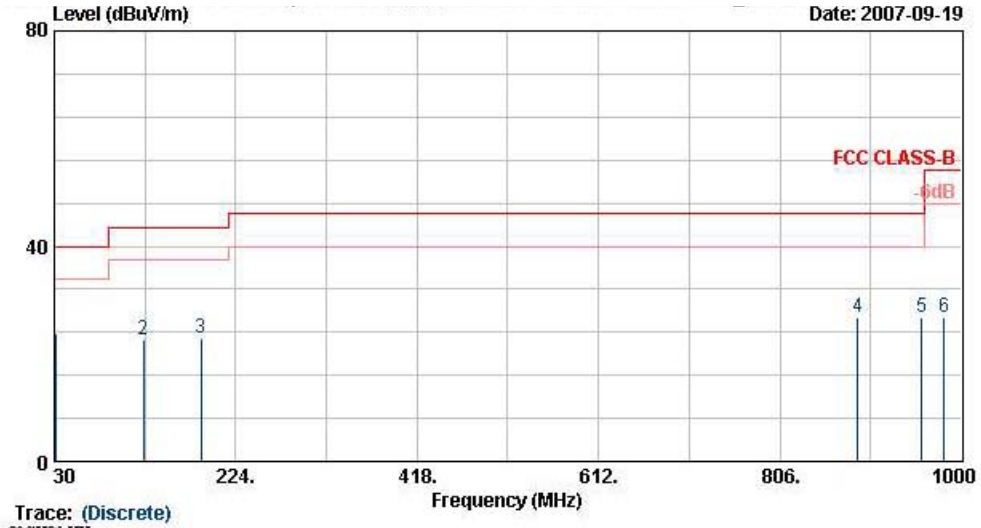
Site : 03CH06-HY
Condition : SHF-EHF HORN HORIZONTAL
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class10)
Power : 120Vac/60Hz
Model : FR 790604
Mode : Bluetooth TX_CH39;2441MHz
Plane : E1
Data Rate : 3DH1

		Freq	Level	Over Limit	Limit Line	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark	Pol/Phas
		MHz	dBuV/m	dB	dBuV/m	dB/m	dB	dB	cm	deg		
1		2390.0	49.07	-24.93	74.00	30.26	3.75	35.46	100	0	Peak	HORIZONT
2		2390.0	38.45	-15.55	54.00	30.26	3.75	35.46	100	157	Average	HORIZONT
3	X	2441.0	94.43			30.28	3.82	35.47	100	0	Peak	HORIZONT
4	X	2441.0	63.46			30.28	3.82	35.47	100	157	Average	HORIZONT
5		2494.0	49.89	-24.11	74.00	30.30	3.88	35.53	100	0	Peak	HORIZONT
6		2494.0	38.85	-15.15	54.00	30.30	3.88	35.53	100	157	Average	HORIZONT
7		4881.0	61.93	-12.07	74.00	33.14	5.88	36.16	100	0	Peak	HORIZONT
8		4881.0	42.55	-11.45	54.00	33.14	5.88	36.16	100	174	Average	HORIZONT
9		8187.0	56.64	-17.36	74.00	39.45	8.00	35.96	100	0	Peak	HORIZONT
10		8187.0	45.64	-8.36	54.00	39.45	8.00	35.96	100	21	Average	HORIZONT

Remark: #3 and #4 Fundamental Signal

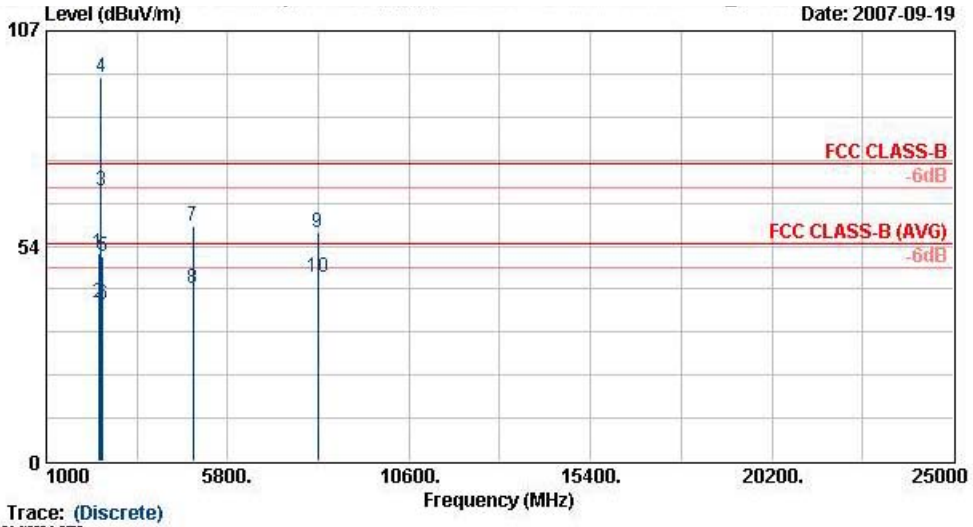
Polarization : Vertical

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



Site : 03CH06-HY
Condition : LF-ANT(951121) VERTICAL
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class10)
Power : 120Vac/60Hz
Model : FR 790604
Mode : Bluetooth TX_CH39;2441MHz
Plane : E1
Data Rate : 3DH1

	Freq	Level	Over Limit	Limit Line	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark	Pol/Phas
	MHz	dBuV/m	dB	dBuV/m	dB/m	dB	dB	cm	deg		
1	31.1	23.65	-16.35	40.00	18.95	0.64	31.43	123	144	Peak	VERTICAL
2	125.0	22.56	-20.94	43.50	12.66	1.21	31.09	---	---	Peak	VERTICAL
3	187.1	22.91	-20.59	43.50	9.39	1.49	31.02	---	---	Peak	VERTICAL
4	889.4	26.72	-19.28	46.00	20.45	3.78	30.38	---	---	Peak	VERTICAL
5	957.3	26.65	-19.35	46.00	20.94	3.93	30.28	---	---	Peak	VERTICAL
6	981.8	26.81	-27.19	54.00	21.11	3.98	30.27	---	---	Peak	VERTICAL



Trace: (Discrete)

Site : 03CH06-HY
Condition : SHF-EHF HORN VERTICAL
EUT : GSM/EDGE 850/900/1800/1900 Smart Phone
: (Class10)
Power : 120Vac/60Hz
Model : FR 790604
Mode : Bluetooth TX_CH39;2441MHz
Plane : E1
Data Rate : 3DH1

		Freq	Level	Over Limit	Limit Line	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark	Pol/Phas
		MHz	dBuV/m	dB	dBuV/m	dB/m	dB	dB	cm	deg		
1		2388.0	51.60	-22.40	74.00	30.26	3.75	35.44	100	0	Peak	VERTICAL
2		2388.0	39.20	-14.80	54.00	30.26	3.75	35.44	100	232	Average	VERTICAL
3	X	2441.0	67.08			30.28	3.82	35.47	100	232	Average	VERTICAL
4	X	2441.0	95.52			30.28	3.82	35.47	100	0	Peak	VERTICAL
5		2494.0	50.77	-23.23	74.00	30.30	3.88	35.53	100	0	Peak	VERTICAL
6		2494.0	38.96	-15.04	54.00	30.30	3.88	35.53	100	232	Average	VERTICAL
7		4881.0	58.54	-15.46	74.00	33.14	5.88	36.16	100	0	Peak	VERTICAL
8		4881.0	43.05	-10.95	54.00	33.14	5.88	36.16	100	323	Average	VERTICAL
9		8187.0	56.86	-17.14	74.00	39.45	8.00	35.96	100	0	Peak	VERTICAL
10		8187.0	45.86	-8.14	54.00	39.45	8.00	35.96	100	336	Average	VERTICAL

Remark: #3 and #4 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 WLAN and Chip Antenna for BT without connector 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 necessany to reduce maximum peak output powen limit.

6. List of Measuring Equipments

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
EMC Receiver	R&S	ESCS 30	100359	9kHz – 2.75GHz	Mar. 01, 2007	Feb. 29, 2008	Conduction (CO04-HY)
LISN	MessTec	NNB-2/16Z	99079	9kHz – 30MHz	Mar. 31, 2007	Mar. 30, 2008	Conduction (CO04-HY)
LISN (Support Unit)	EMCO	3810/2NM	9703-1839	9kHz – 30MHz	Mar. 22, 2007	Mar. 21, 2008	Conduction (CO04-HY)
RF Cable-CON	UTIFLEX	3102-26886-4	CB049	9kHz – 30MHz	Apr. 20, 2007	Apr. 19, 2008	Conduction (CO04-HY)
ISN	SCHAFFNER	ISN T400	21653	9kHz –30MHz	Mar. 09, 2007	Mar. 08, 2008	Conduction (CO04-HY)
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	N/A	N/A	Conduction (CO04-HY)
Isolation Transformer	Erika Fiedler OHG	D-65396 Walluf	58	45MHz-2.15GHz	N/A	N/A	Conduction (CO04-HY)
Spectrum Analyzer	Agilent	E4408B	MY44211028	9KHz-26.5GHz	Oct. 17, 2007	Oct. 16, 2008	Radiation (03CH06-HY)
EMI Test Receiver	R&S	ESCS30	100356	9KHz-2.75GHz	Jul. 26, 2007	Jul. 25, 2008	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2892	30MHz -2GHz	Jul. 19, 2007	Jul. 18, 2008	Radiation (03CH06-HY)
Double Ridge Horn Antenna	Com-Power	AH118	071025	1G~18G	Jun. 04, 2007	Jun. 03, 2008	Radiation (03CH06-HY)
SHF-EHF Horn	SCHWARZBECK	BBHA 9170	9170-249	14G - 40G	Nov. 20, 2006	Nov. 19, 2008	Radiation (03CH06-HY)
Base Station Simulator	R & S	CMU200	106656	WCDMA	Nov. 20, 2006	Nov. 19, 2007	Radiation (03CH06-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		$u(x_i)$	Ci	$Ci*u(x_i)$
	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 Γ1= 0.197 Antenna VSWR Γ2= 0.194 Uncertainty=20log(1-Γ1*Γ2*Γ3)	+0.34/-0.35	U-shaped	0.244	1	0.244
Combined standard uncertainty Uc(y)	**2.36**				
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)	**4.72**				

The measured result is ：y dBuV ± U dB

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