Testing Laboratory 1190

FCC Test Report

for

47 CFR Part 15 Subpart C

Equipment	:	**Pocket PC Phone**
Trade Name	:	**glofiish**
Model No.	:	**M800/M800+**
FCC ID	:	**SPUM800**
Filing Type	:	**Certification**
Applicant	:	**E-TEN Information System Co., Ltd.** 9F., No. 256, Yangguang Street, Neihu Chiu, Taipei, Taiwan114, R.O.C.

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- The data shown in this test report were carried out on Sep. 29, 2007 at **Sporton International Inc. LAB.**
- Report No.: FR761327-04, Report Version: Rev. 01.

Jones Tsai
Manager

SPORTON International Inc.

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

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History of this test report

Report Issue Date: Oct. 09, 2007

Report No.	Description

1. General Description of Equipment under Test

1.1 Applicant

E-TEN Information System Co., Ltd.
9F., No. 256, Yangguang Street, Neihu Chiu, Taipei, Taiwan114, R.O.C.

1.2 Manufacturer

E-TEN Information System Co., Ltd.
9F., No. 256, Yangguang Street, Neihu Chiu, Taipei, Taiwan114, R.O.C.

1.3 Basic Description of Equipment under Test

Equipment		Pocket PC Phone
Trade Name		glofiish
Model Name		M800/M800+
AC Adapter	**Brand Name**	Phihong
	Model Name	PSC05R-050 PH
	Power Rating	I/P: 100-240Vac, 50-60Hz, 14-19VA, 0.2A; O/P: 5Vdc, 1A
	AC Power Cord Type	1.9 meter shielded cable with ferrite core
Battery	**Brand Name**	Welldone
	Model Name	E4ET011K1002
	Rating	3.7Vdc, 1530mA
	Type	Li-ion
Earphone	**Brand Name**	Merry
	Model Name	DD0EN5EP004
	Signal line Type	1.6 meter non-shielded cable without ferrite core
USB Cable	**Brand Name**	Golden Bridge
	Model Name	As52-07030013
	Signal line Type	1 meter non-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. Type of Modulation	WLAN: DSSS / OFDM Bluetooth(1Mbps): GFSK Bluetooth EDR (2Mbps): Pi/4-DQPSK Bluetooth EDR (3Mbps): 8-DPSK			
2. Number of Channels	WLAN: 11 Channels Bluetooth : 79 Channels			
3. Frequency Band	WLAN: 2400MHz~2483.5MHz Bluetooth: 2400MHz~2483.5MHz			
4. Carrier Frequency of each channel	WLAN: 2412+(n-1) * 5MHz; n=1-11 Bluetooth: 2402+ n*1MHz, n= 0~78			
5. Channel Spacing	WLAN: 5MHz Bluetooth: 1MHz			
6. Maximum Output Power to Antenna (Normal Condition)	WLAN: 802.11b : 17.35 dBm / 802.11g: 21.20 dBm Bluetooth(1Mbps): 3.46dBm Bluetooth EDR (2Mbps): 3.47dBm Bluetooth EDR (3Mbps): 3.89 dBm			
7. Type of Antenna Connector	N/A			
8. Antenna Type	WLAN: PIFA Antenna Bluetooth: FPC Antenna			
9. Antenna Gain	WLAN : -4 dBi BT : 0 dBi			
10. HW Version :	1.1V			
11. SW Version :	021			
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 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 / RF Conducted	**802.11b**	**802.11g**	
	Mode1:CH01_2412MHz	Mode4:CH01_2412MHz	
	Mode2:CH06_2437MHz	Mode5:CH06_2437MHz	
	Mode3:CH11_2462MHz	Mode6:CH11_2462MHz	
	BT(1Mbps)	**BT-EDR(2Mbps)**	**BT-EDR(3Mbps)**
	Mode7:CH00_2402MHz	Mode10:CH00_2402MHz	Mode13:CH00_2402MHz
	Mode8:CH39_2441MHz	Mode11:CH39_2441MHz	Mode14:CH39_2441MHz
	Mode9:CH78_2480MHz	Mode12:CH78_2480MHz	Mode15: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: WCDMA Idle Mode + BT Link + WLAN Link + MPEG4 + Camera + Earphone + GPS Rx + USB Link		
	Mode 5: HSDPA Idle Mode + BT Link + WLAN Link + MPEG4 + Camera + Earphone + GPS Rx + USB Link		
	Mode 6: PCS1900 Idle Mode + BT Link + WLAN Link + MPEG4 + Camera + Earphone + GPS Rx + USB Link		
	Mode 7: TMC Rx 98MHz		

Note: For BT we tested Radiated emissions full modes in 3Mbps and retesting the worst channel ,CH78, in 1Mbps and 2Mbps respectively.

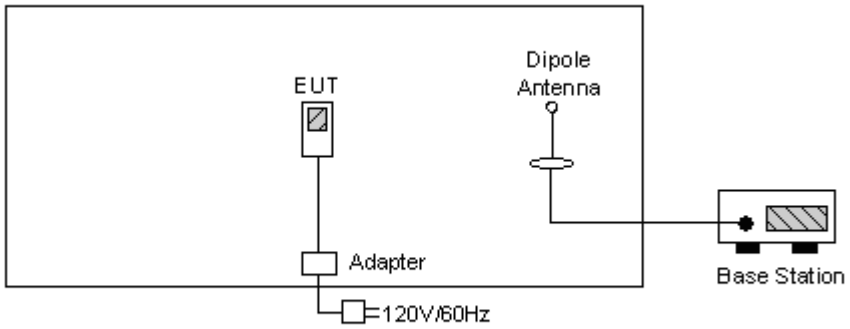
2.3 Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	FCC ID	Power Cord / Cable
1.	BT Base Station	Anritus	MT-8852B	N/A	Unshielded, 1.8m

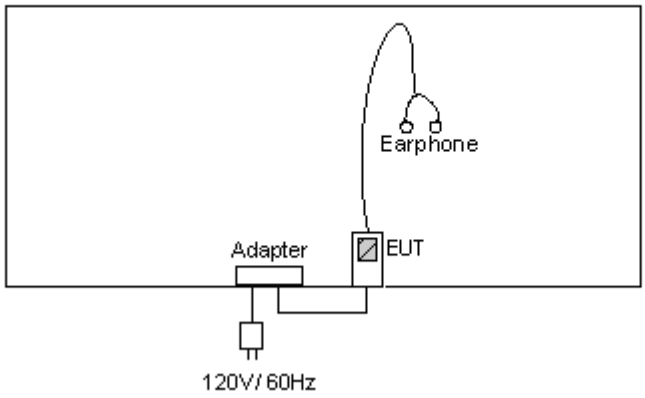
2.4 Connection Diagram of Test System

<Radiated Emission >

Bluetooth Tx Mode

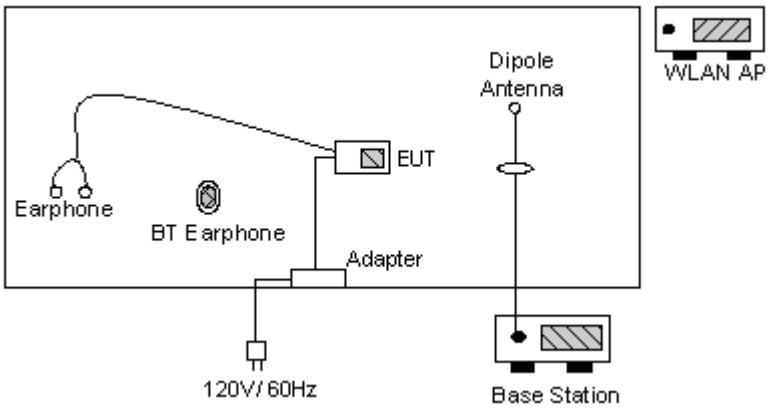


WLAN Tx Mode

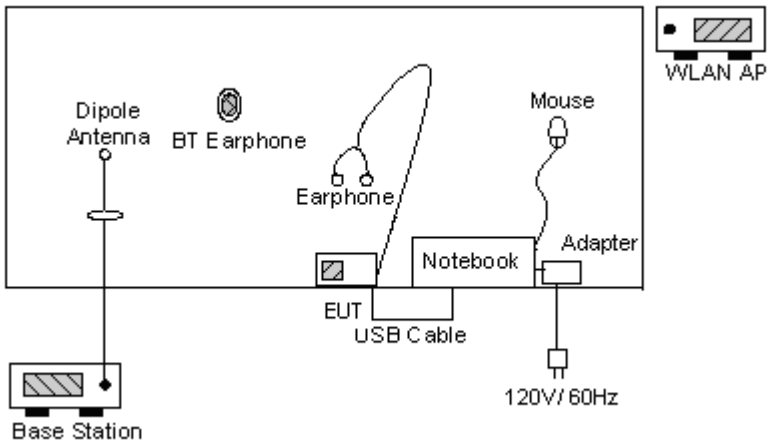


<Conducted Emission>

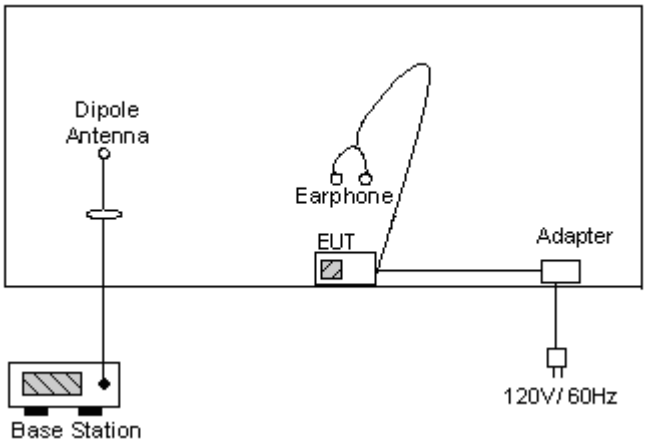
EUT with Adapter Mode



EUT with USB Link Mode



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 tests.

4. General Information of Test

Test Site Location	:	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-318-0055
Test Site No	:	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: Wireless LAN

FCC Rule	Description of Test	Result
15.207	Conducted Emission	Pass
15.247(a)(2)	6dB Bandwidth	Pass
15.247(b)	Maximum Peak Output Power	Pass
15.209(a)	Radiated Emission	Pass
15.247 (c)	100kHz Bandwidth of Frequency Band Edges	Pass
15.247(d)	Power Spectral Density	Pass
15.203 15.247(b)(4)	Antenna Requirement	Pass

The Emission Mode: Bluetooth

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

5.2 6dB Bandwidth Measurement

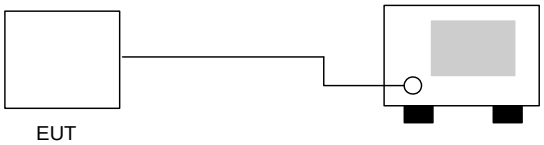
5.2.1 Measuring Instruments：

As described in chapter 6 of this test report.

5.2.2 Test Procedure：

1. The transmitter output was connected to the spectrum analyzer directly.
2. Set RBW of spectrum analyzer to 100kHz and VBW to 100kHz.
3. The 6 dB bandwidth is defined as the frequency range where the power is higher than the peak power minus 6dB.

5.2.3 Test Setup Layout：



5.2.4 Test Result：

Application Type : WLAN 802.11b/g
Temperature : 26~27℃
Relative Humidity : 53~54%
Test Enginner : James

802.11b

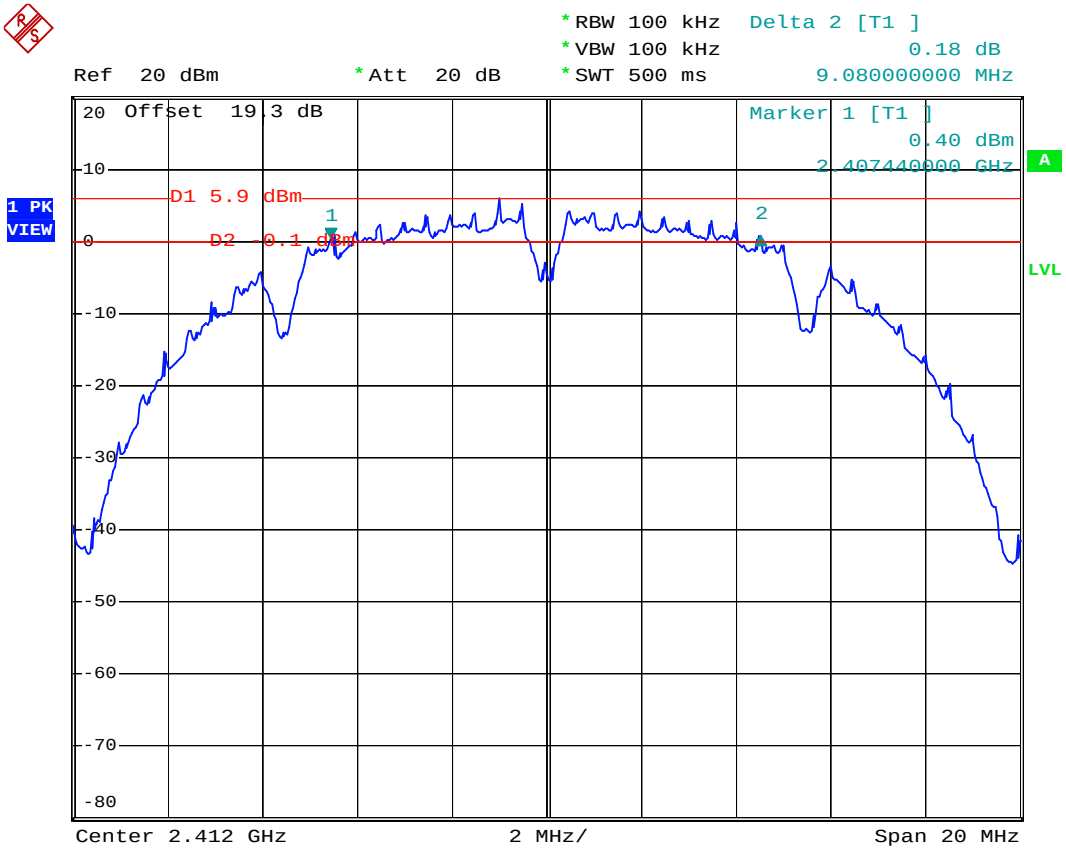
Channel	Frequency (MHz)	6dB Emission bandwidth (MHz)	Limits (MHz)	Plot Ref. No.
01	2412	9.08	> 0.5MHz	Mode 1
06	2437	9.96	> 0.5MHz	Mode 2
11	2462	9.36	> 0.5MHz	Mode 3

802.11g

Channel	Frequency (MHz)	6dB Emission bandwidth (MHz)	Limits (MHz)	Plot Ref. No.
01	2412	16.36	> 0.5MHz	Mode 4
06	2437	16.36	> 0.5MHz	Mode 5
11	2462	16.36	> 0.5MHz	Mode 6

5.2.5 6dB Bandwidth

Mode 1



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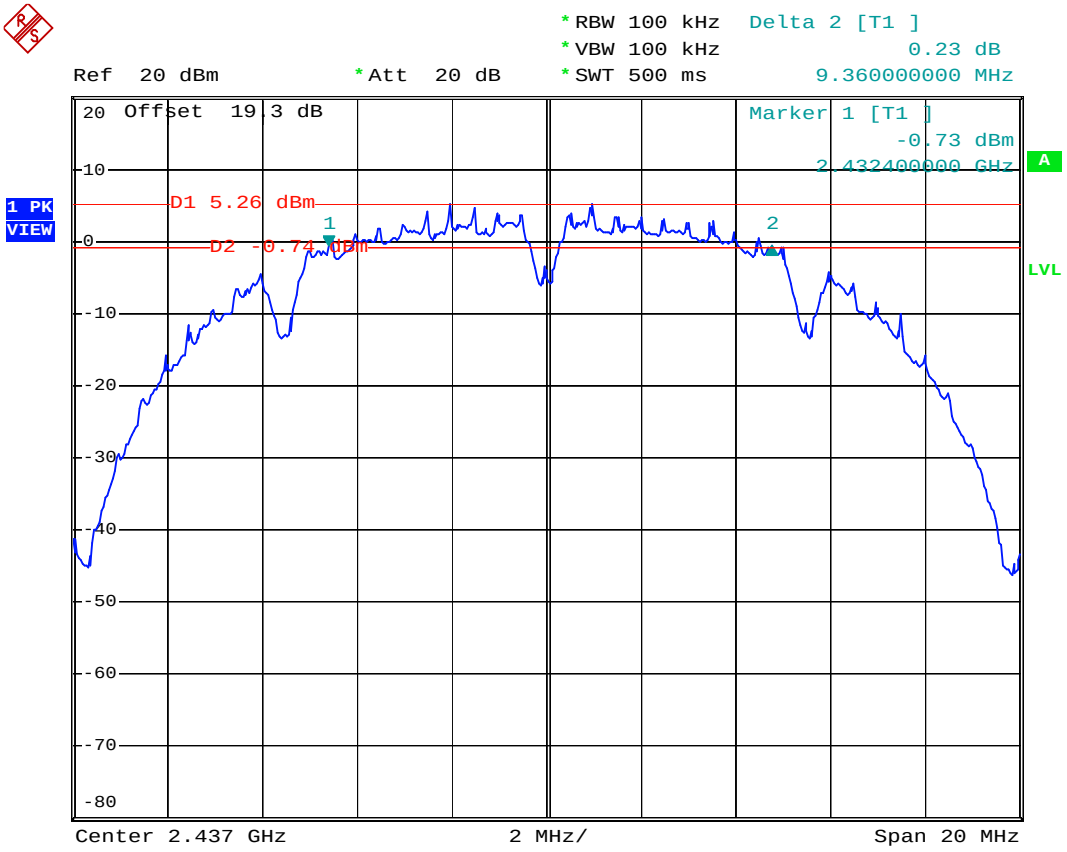
Mode 2



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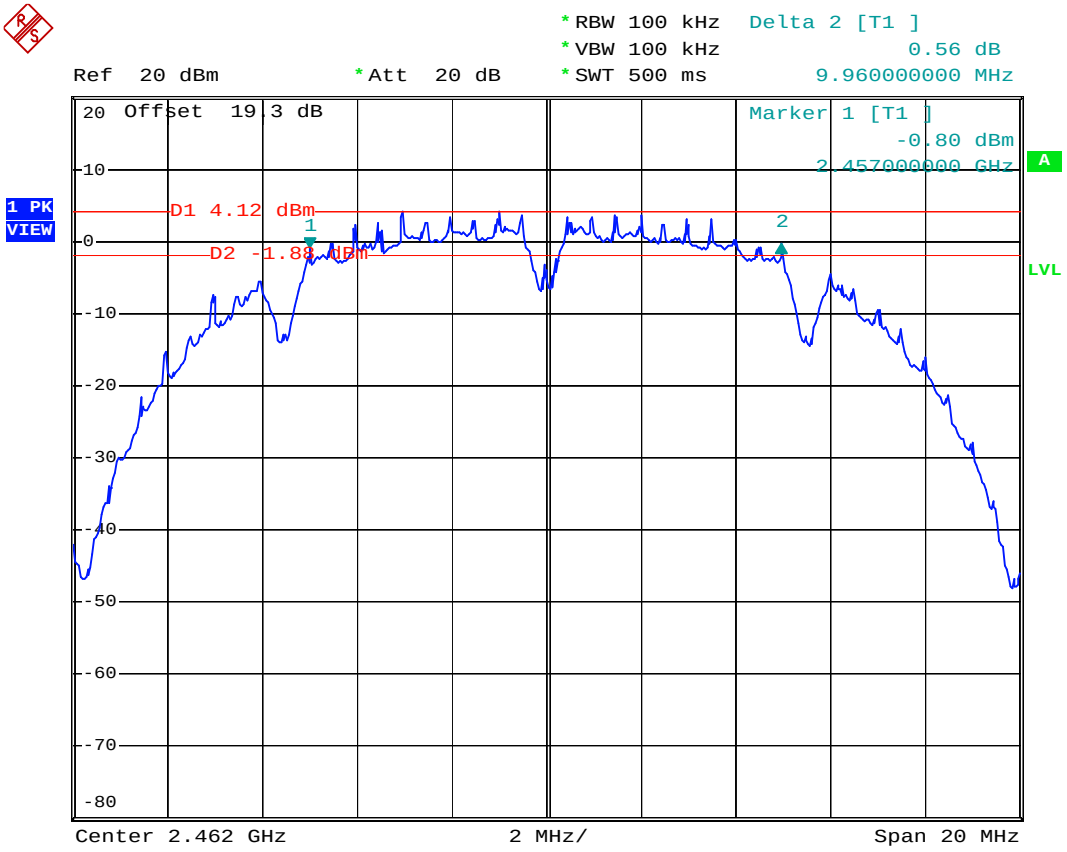
Mode 3



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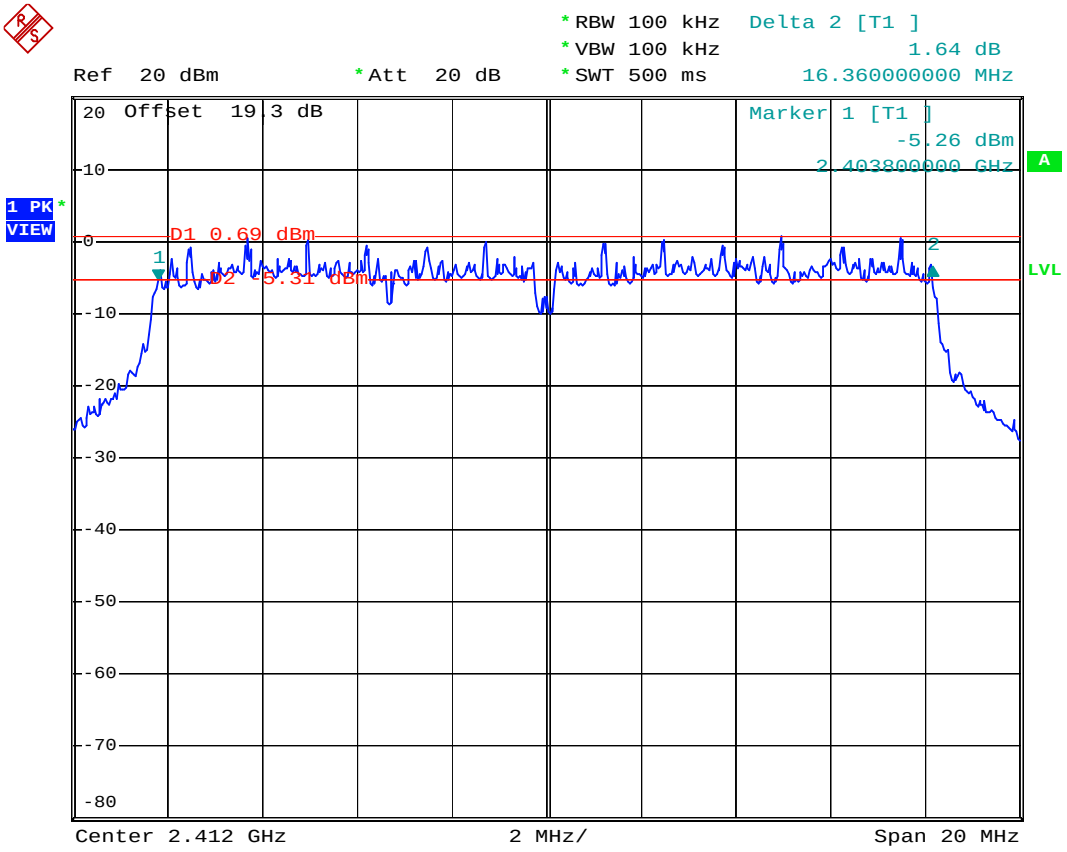
Mode 4



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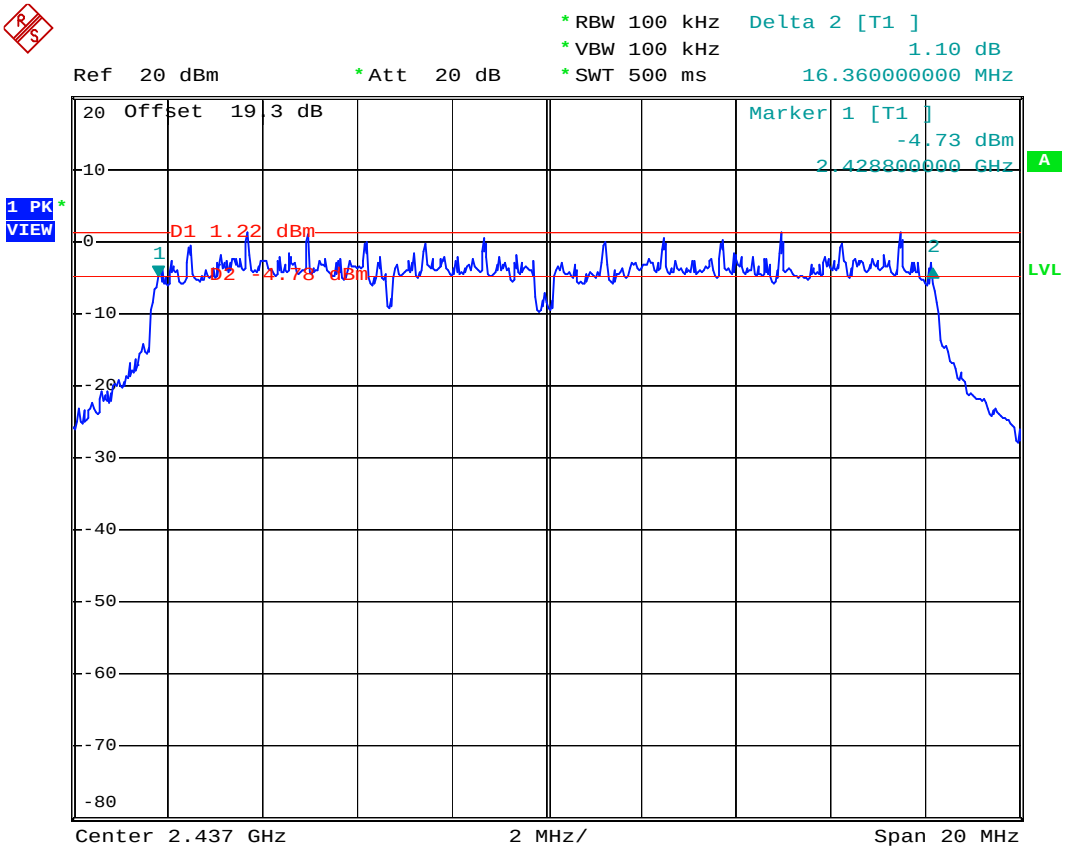
Mode 5



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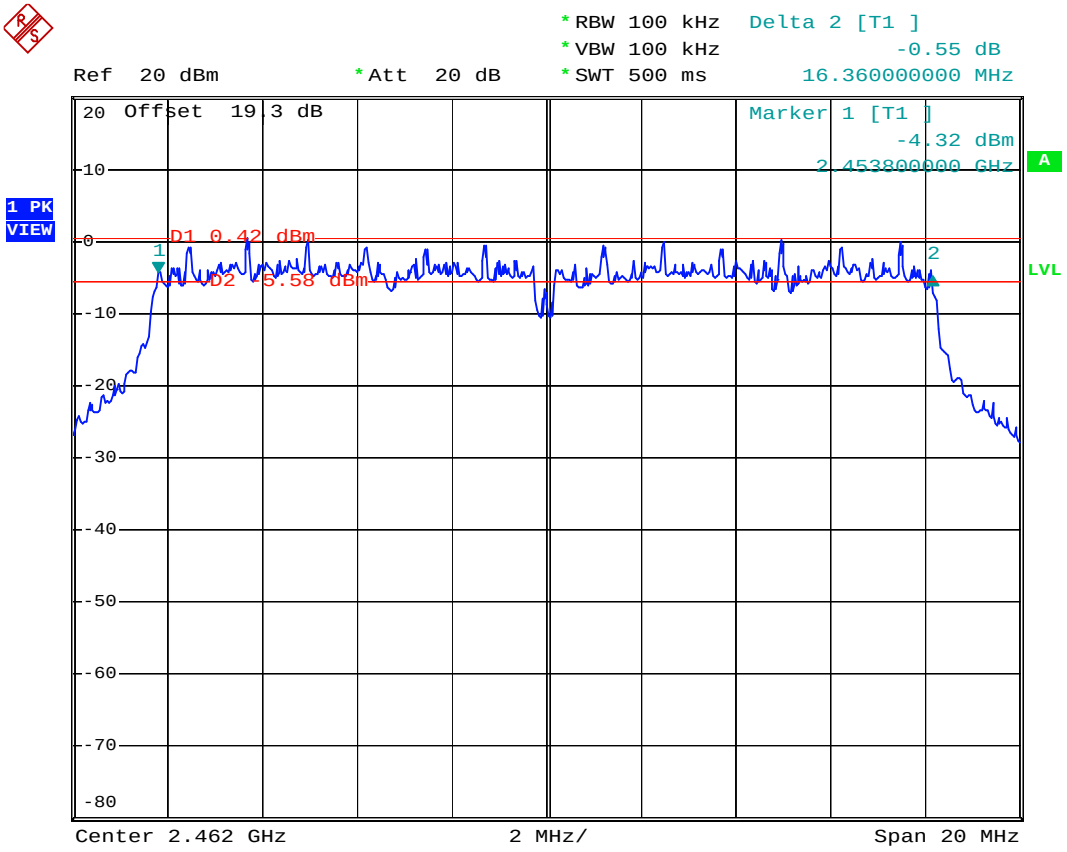
Mode 6



Date: 7.SEP.2007 14:45:00

5.3 Power Spectral Density Measurement

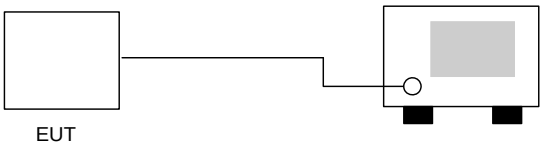
5.3.1 Measuring Instruments：

As described in chapter 6 of this test report.

5.3.2 Test Procedure：

1. The transmitter output was connected to spectrum analyzer directly.
2. The spectrum analyzer's resolution bandwidth was set at 3kHz RBW and 30kHz VBW as that of the fundamental frequency. Set the sweep time=span/3kHz.
3. The power spectral density was measured and recorded.
4. The sweep time is allowed to be longer than span/3kHz for a full response of the mixer in the spectrum analyzer.

5.3.3 Test Setup Layout：



5.3.4 Test Result：

Application Type : 802.11b/g
Temperature : 26~27℃
Relative Humidity : 53~54%
Test Enginner : James

802.11b

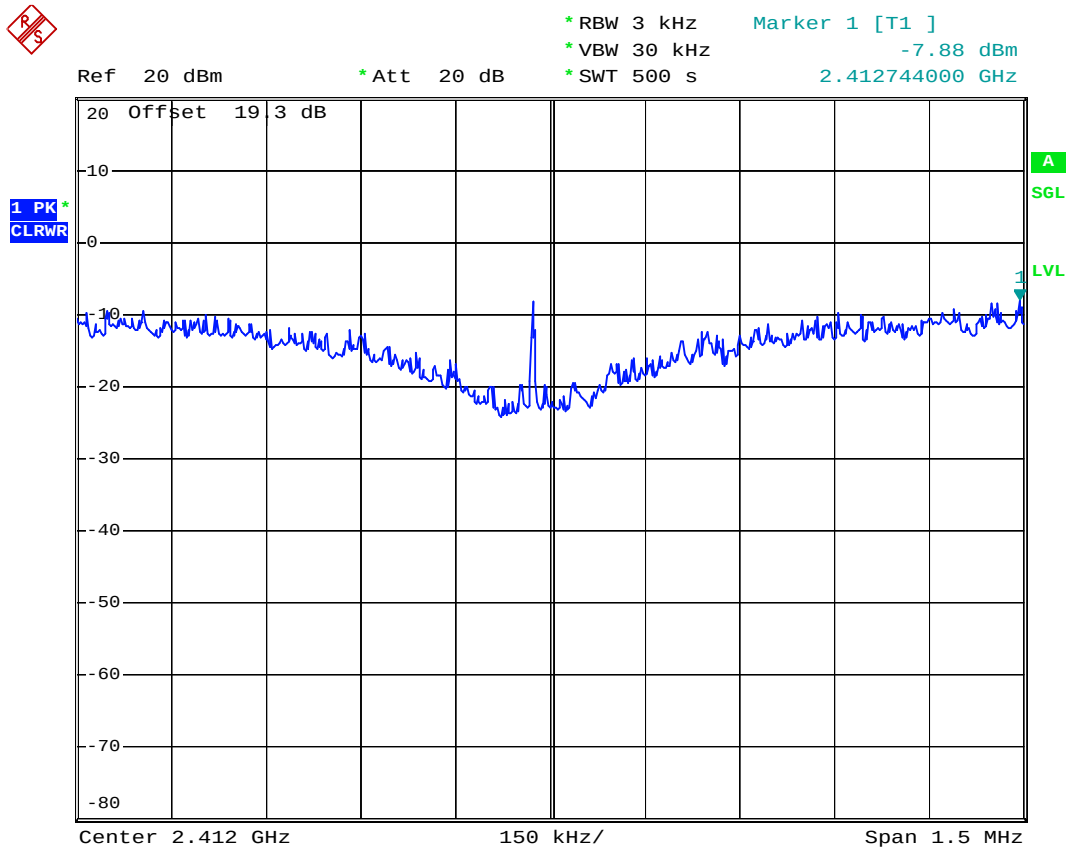
Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Plot Ref. No.
01	2412	-7.88	8	Mode 1
06	2437	-1.76	8	Mode 2
11	2462	-3.11	8	Mode 3

802.11g

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Plot Ref. No.
01	2412	-5.71	8	Mode 4
06	2437	-5.04	8	Mode 5
11	2462	-5.13	8	Mode 6

5.3.5 Power Spectral Density

Mode 1



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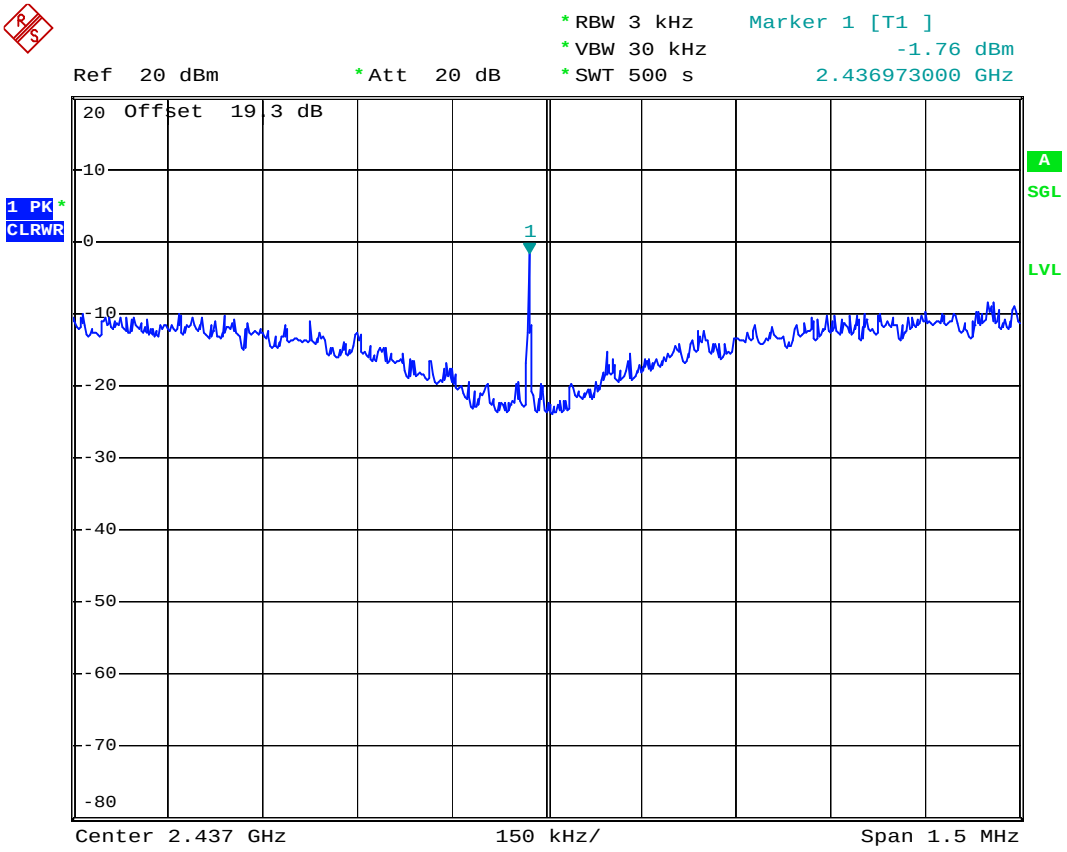
Mode 2



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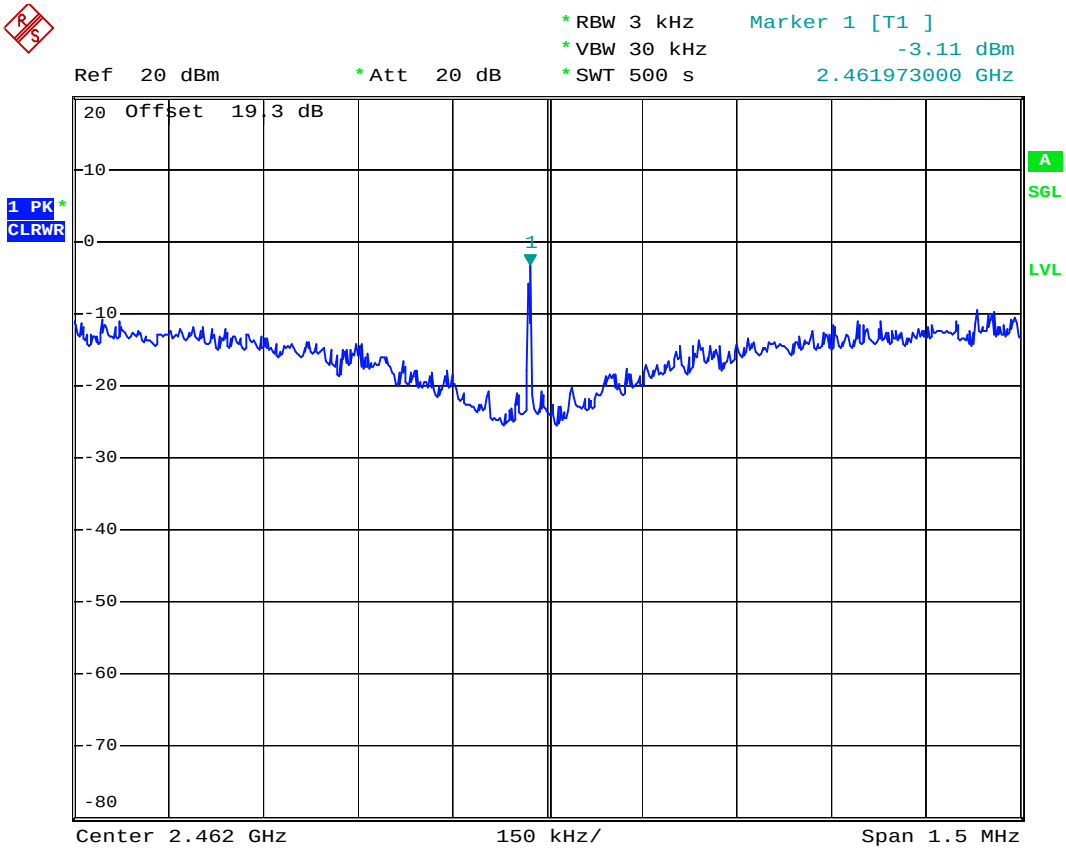
Mode 3



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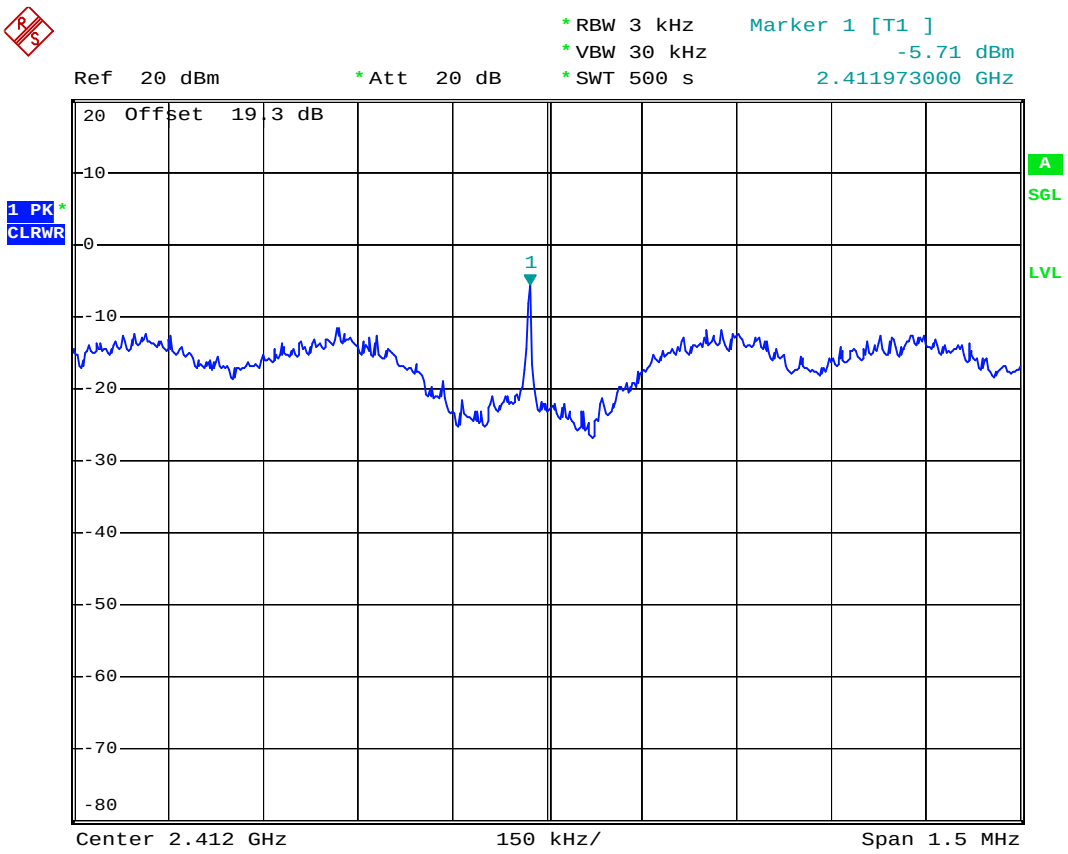
Mode 4



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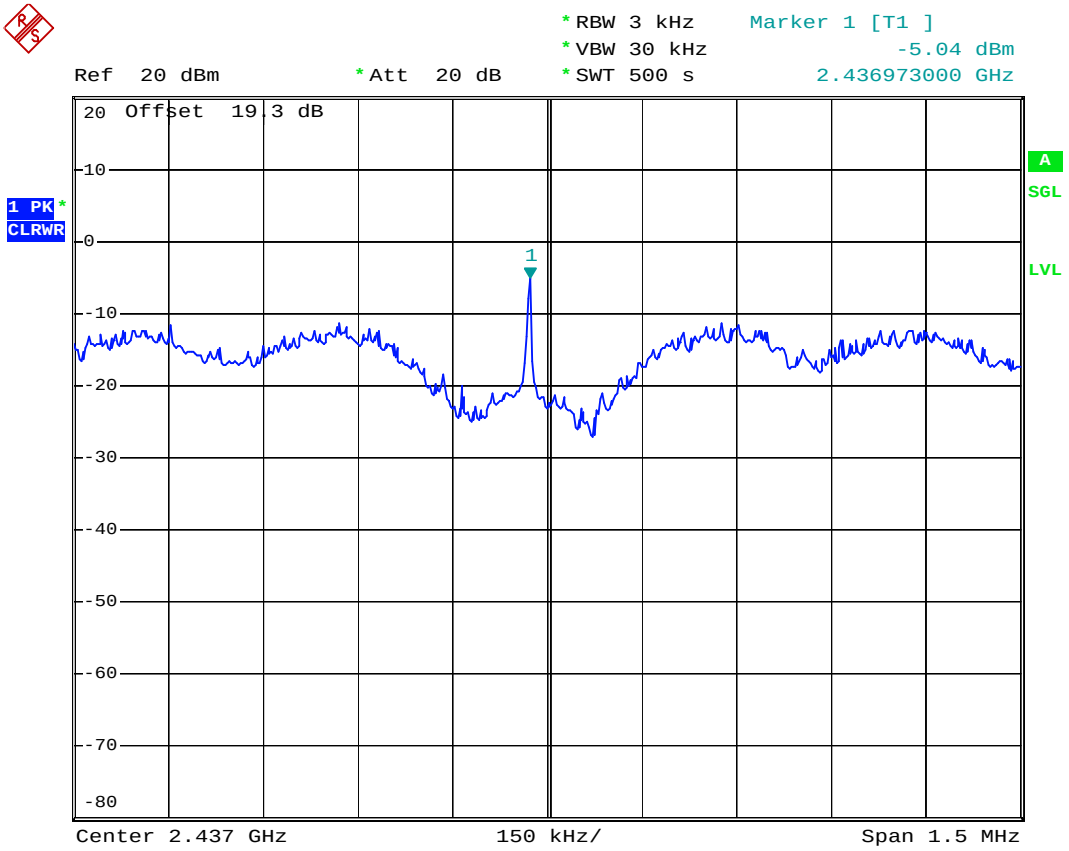
Mode 5



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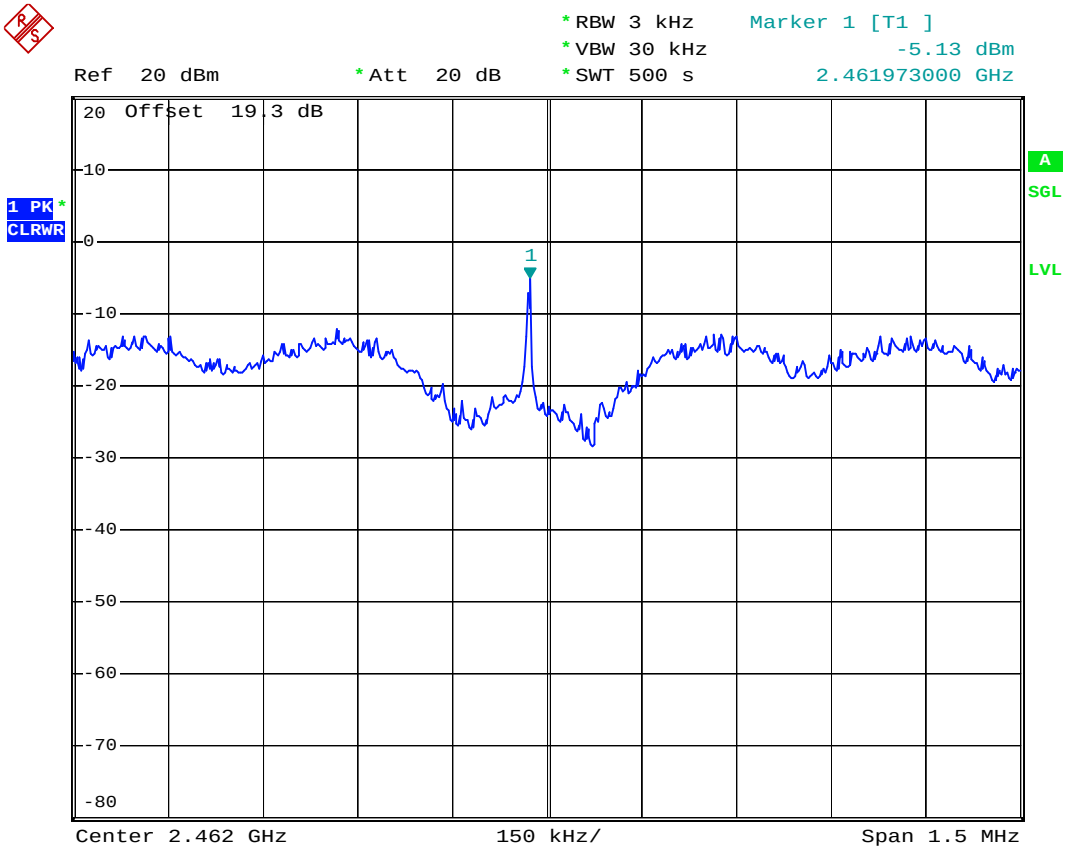
Mode 6



Date: 7.SEP.2007 16:40:28

5.4 Band Edges Measurement

5.4.1 Measuring Instruments：

As described in chapter 6 of this test report.

5.4.2 Test Procedure：

1. The transmitter output was connected to the spectrum analyzer via a low lose cable.
2. Set both RBW and VBW of spectrum analyzer to 100kHz with suitable frequency span including 100 kHz bandwidth from band edge.
3. The band edges was measured and recorded.

5.4.3 Test Result：

Application Type : WLAN 802.11b/g and BT
Temperature : 26~27℃
Relative Humidity : 53~54%
Test Enginner : James

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

5.4.4 Note on Band Edge Emission：

➢WLAN 802.11b

CH01 (Horizontal)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.2	52.63	-21.37	74.00	54.06	30.26	3.75	35.44	100	0	Peak
2389.2	41.53	-12.47	54.00	42.96	30.29	3.75	35.44	123	55	Average

CH01 (Vertical)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390.0	49.41	-24.59	74.00	50.86	30.26	3.75	35.46	100	0	Peak
2390.0	39.25	-14.75	54.00	40.70	30.26	3.75	35.46	100	101	Average

CH11 (Horizontal)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2487.5	50.41	-23.59	74.00	51.77	30.29	3.86	35.51	100	0	Peak
2487.5	40.31	-13.69	54.00	41.67	30.29	3.86	35.51	126	62	Average

CH11 (Vertical)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2484.6	50.74	-23.26	74.00	52.10	30.29	3.86	35.51	100	0	Peak
2484.6	40.96	-13.04	54.00	42.32	30.29	3.86	35.51	100	81	Average

➢**WLAN 802.11g**

CH01 (Horizontal)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390.0	54.42	-19.58	74.00	55.87	30.26	3.75	35.46	100	0	Peak
2390.0	41.21	-12.79	54.00	42.66	30.26	3.75	35.46	100	82	Average

CH01 (Vertical)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390.0	57.06	-16.94	74.00	58.51	30.26	3.75	35.46	100	0	Peak
2390.0	42.40	-11.60	54.00	43.85	30.26	3.75	35.46	127	300	Average

CH11 (Horizontal)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	61.33	-12.67	74.00	62.69	30.29	3.86	35.51	100	0	Peak
2483.5	45.16	-8.84	54.00	46.52	30.29	3.86	35.51	100	100	Average

CH11 (Vertical)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	57.81	-16.19	74.00	59.17	30.29	3.86	35.51	100	0	Peak
2483.5	42.52	-11.48	54.00	43.88	30.29	3.86	35.51	127	63	Average

➢ **BT(1Mbps)**

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	63.07	-10.93	74.00	64.43	30.29	3.86	35.51	100	0	Peak
2483.5	42.96	-11.04	54.00	44.32	30.29	3.86	35.5	100	352	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	67.09	-6.91	74.00	68.45	30.29	3.86	35.51	100	0	Peak
2483.5	45.94	-8.06	54.00	47.30	30.29	3.86	35.51	103	23	Average

➢ **BT EDR(2Mbps)**

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	63.82	-10.18	74.00	65.18	30.29	3.86	35.51	100	0	Peak
2483.5	42.98	-11.02	54.00	44.34	30.29	3.86	35.51	100	352	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	67.52	-6.48	74.00	68.88	30.29	3.86	35.51	100	0	Peak
2483.5	45.98	-8.02	54.00	47.34	30.29	3.86	35.51	103	23	Average

➢ **BT-EDR(3Mbps)**

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	47.32	-26.68	74.00	48.77	30.26	3.75	35.46	100	0	Peak
2390.0	40.15	-13.85	54.00	41.60	30.26	3.75	35.46	100	351	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
2390.0	46.96	-27.04	74.00	48.41	30.26	3.75	35.46	100	0	Peak
2390.0	40.14	-13.86	54.00	41.59	30.26	3.75	35.46	106	28	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	63.46	-10.54	74.00	64.82	30.29	3.86	35.51	100	0	Peak
2483.5	43.85	-10.15	54.00	45.21	30.29	3.86	35.51	100	355	Average

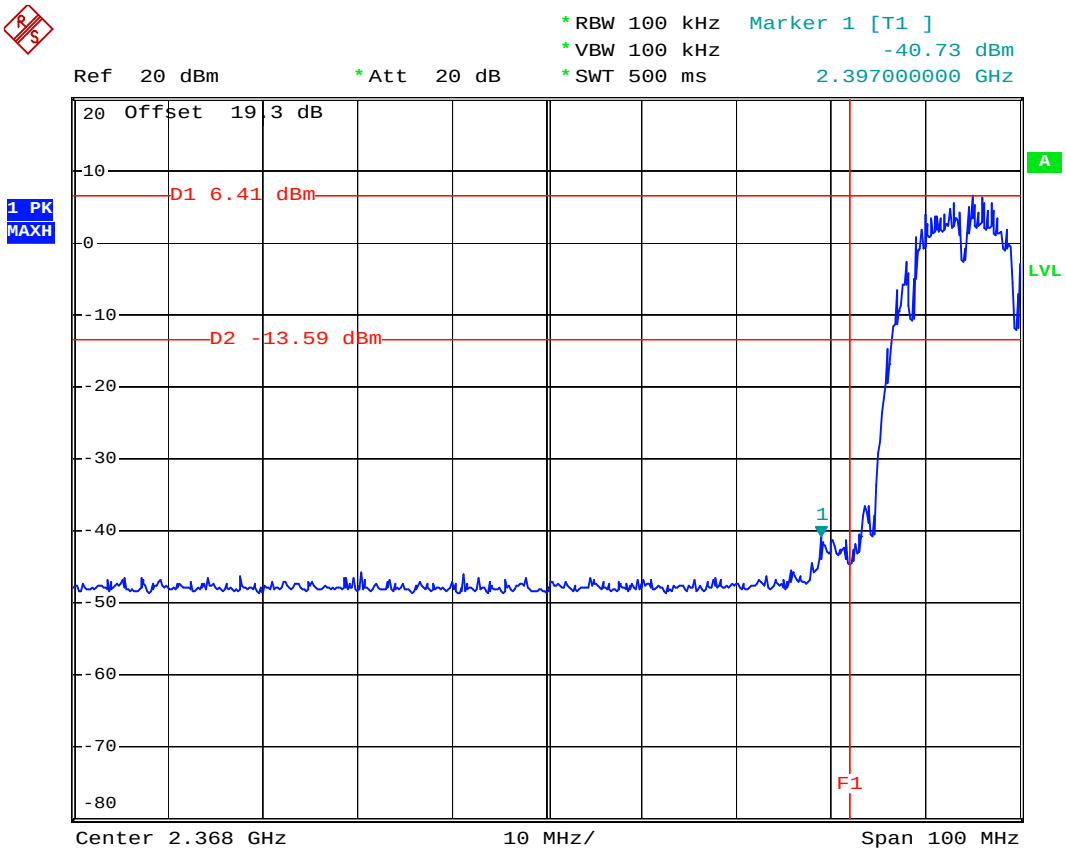
CH78 (Vertical)

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	67.32	-6.68	74.00	68.68	30.29	3.86	35.51	100	0	Peak
2483.5	45.54	-8.46	54.00	46.90	30.29	3.86	35.51	100	23	Average

5.4.5 Band Edge

WLAN 802.11b

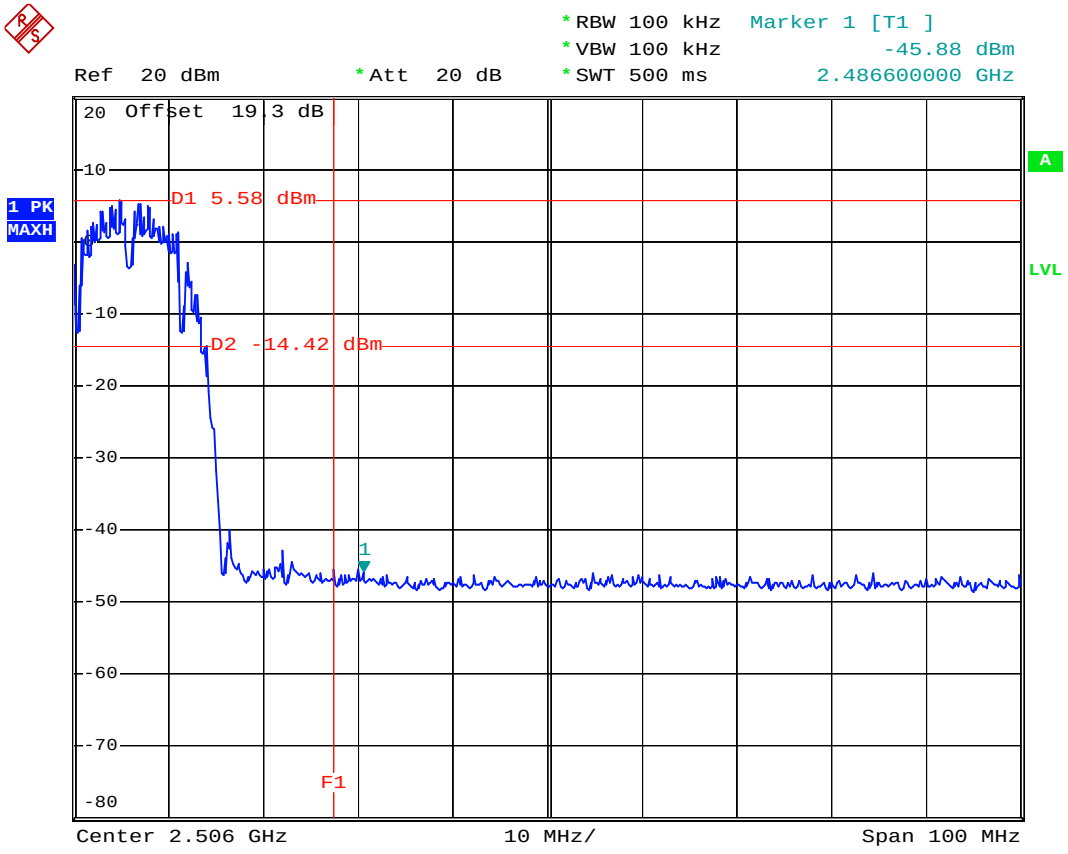
CH01



Date: 7.SEP.2007 17:38:53

WLAN 802.11b

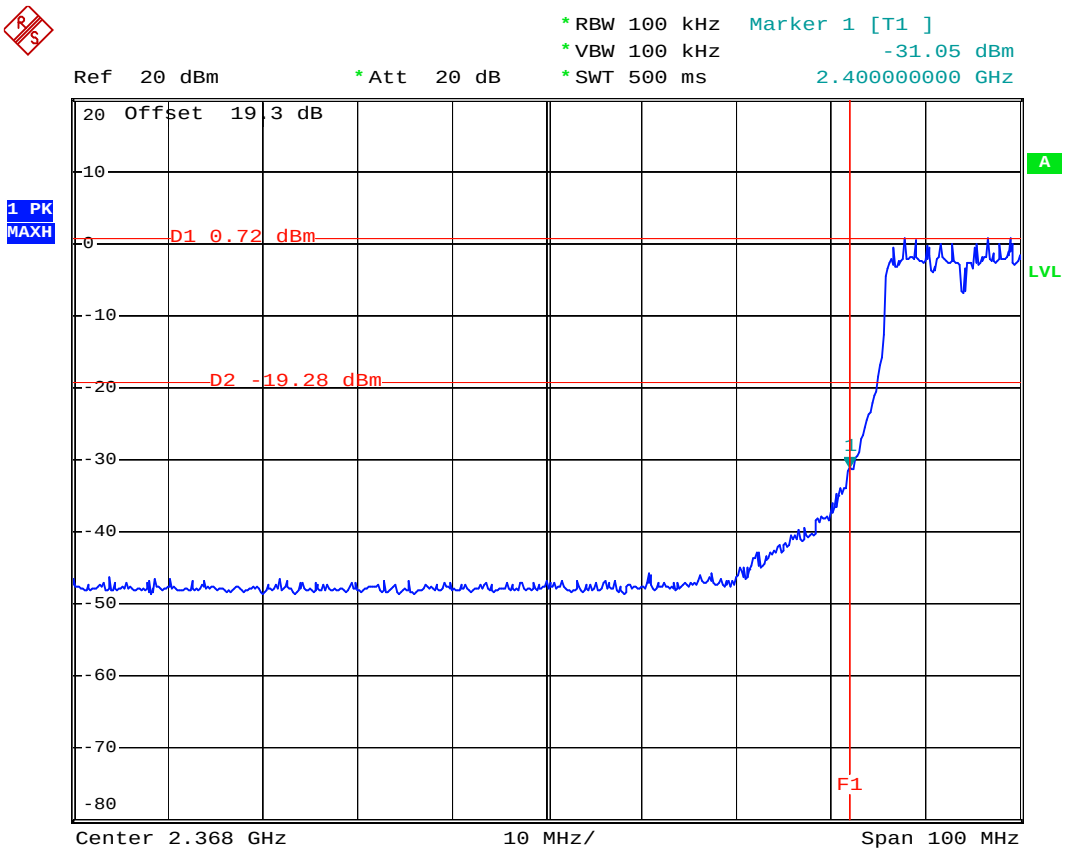
CH11



Date: 7.SEP.2007 17:36:54

WLAN 802.11g

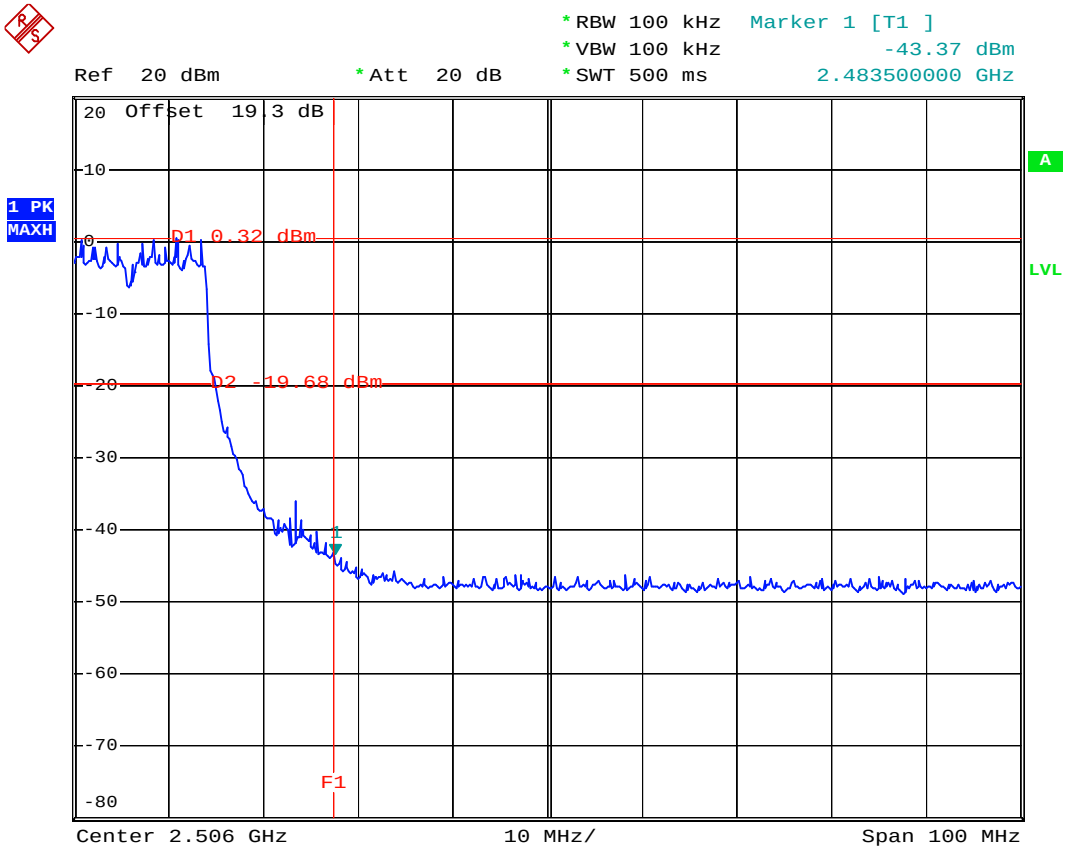
CH01



Date: 7.SEP.2007 14:48:44

WLAN 802.11g

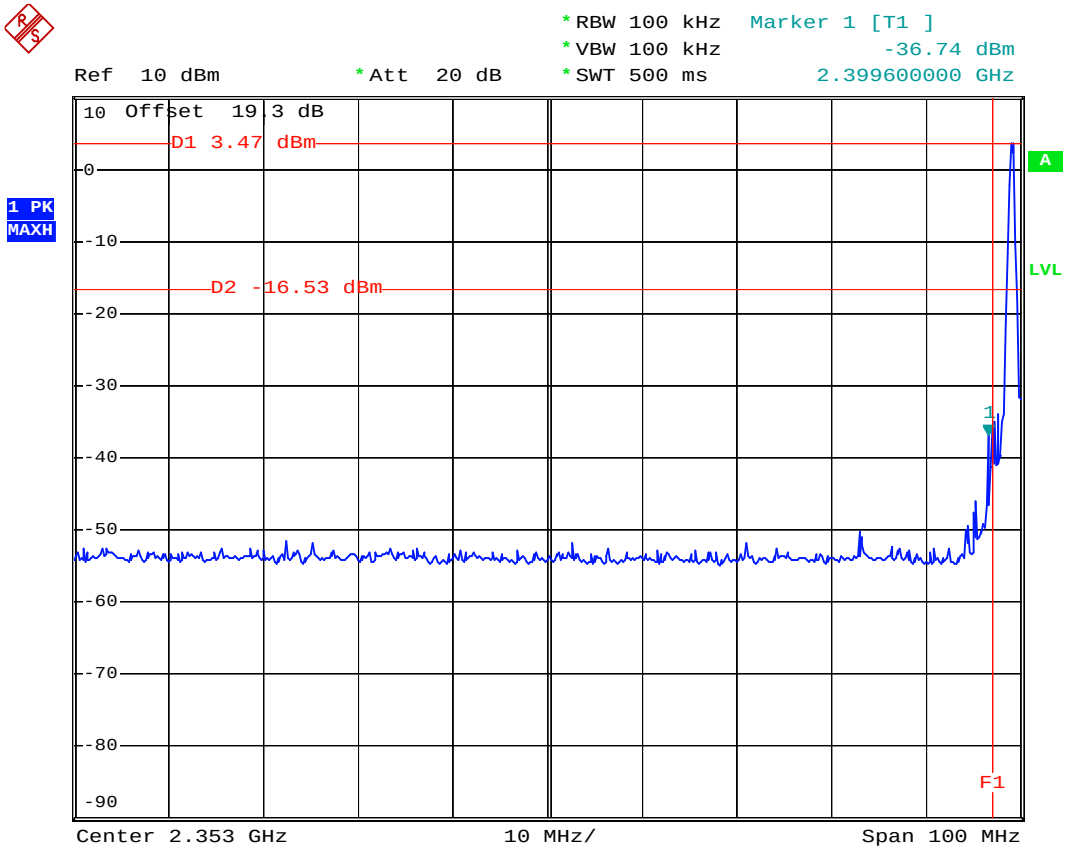
CH11



Date: 7.SEP.2007 14:46:32

BT(1Mbps)

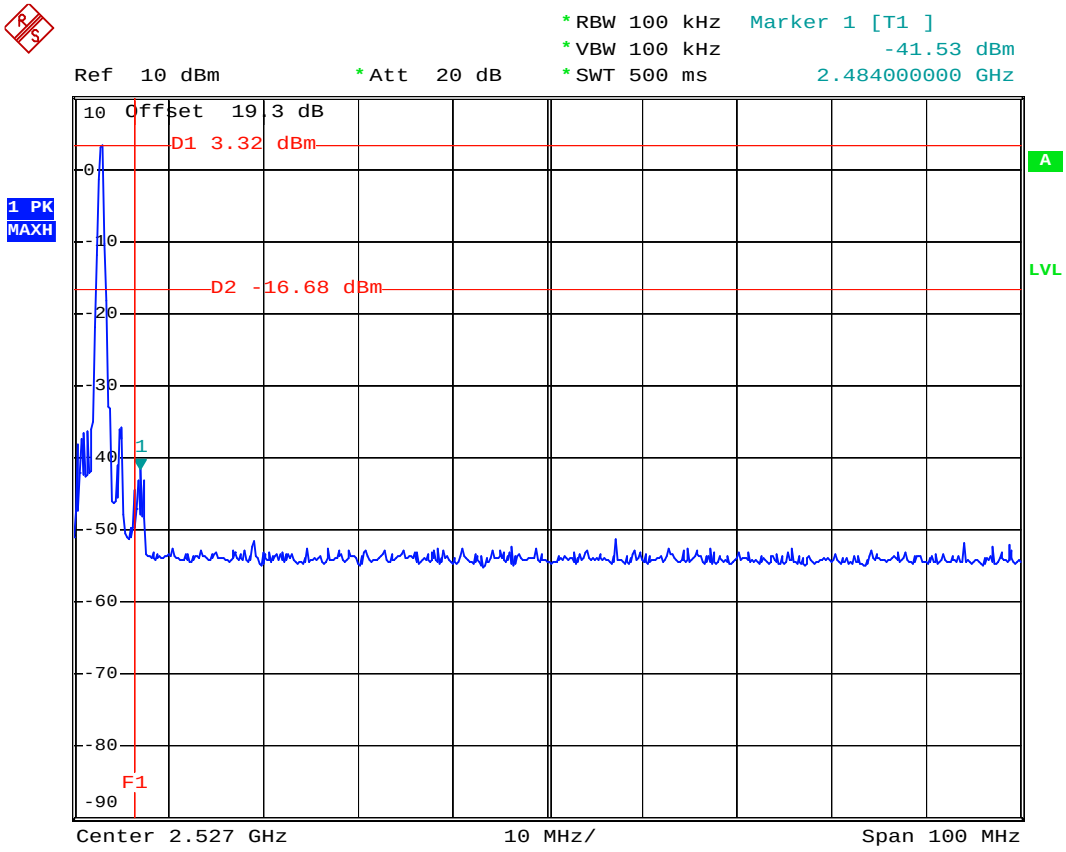
CH00



Date: 7.SEP.2007 11:38:32

BT(1Mbps)

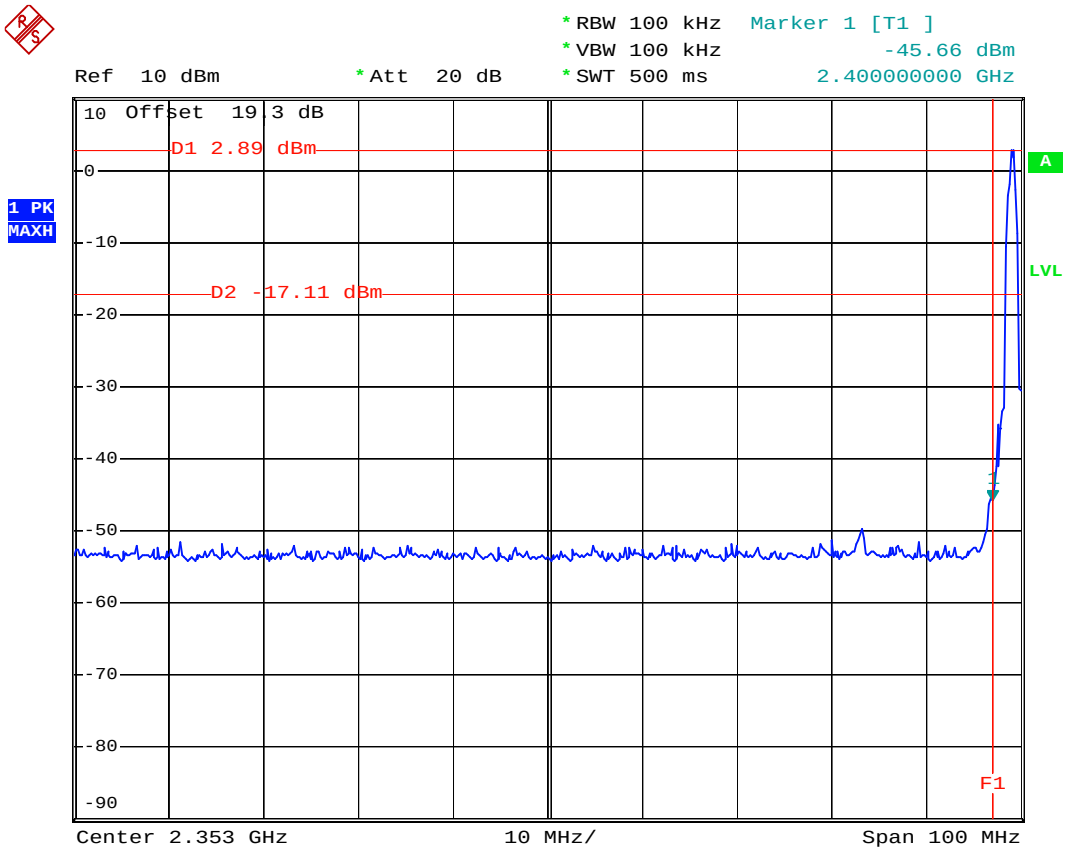
CH78



Date: 7.SEP.2007 11:39:17

BT-EDR(2Mbps)

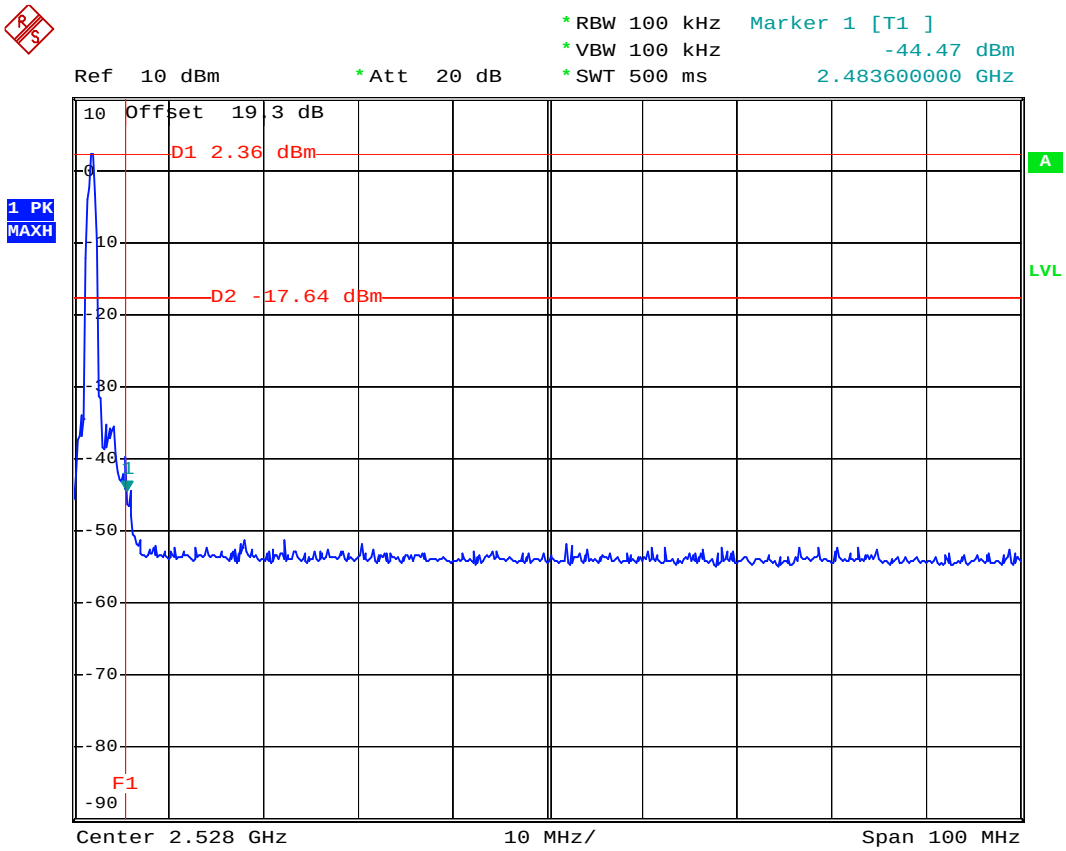
CH00



Date: 7.SEP.2007 21:53:07

BT-EDR(2Mbps)

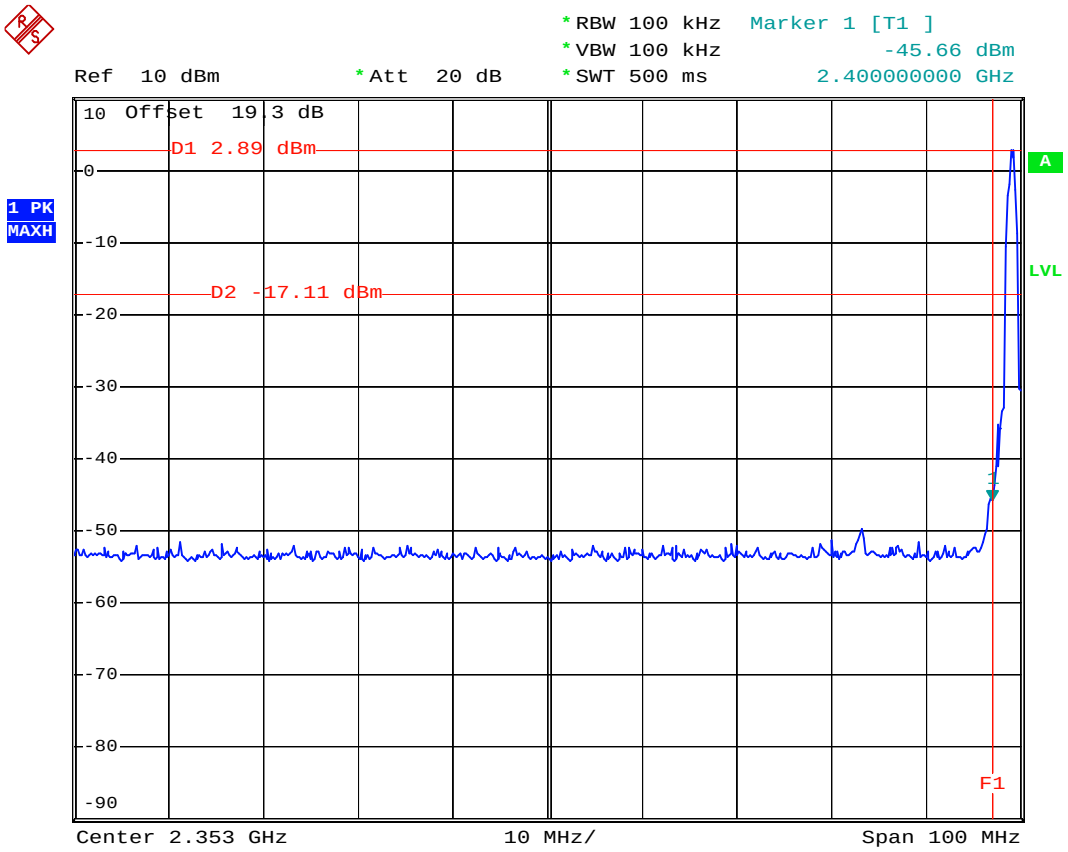
CH78



Date: 7.SEP.2007 21:54:22

BT-EDR(3Mbps)

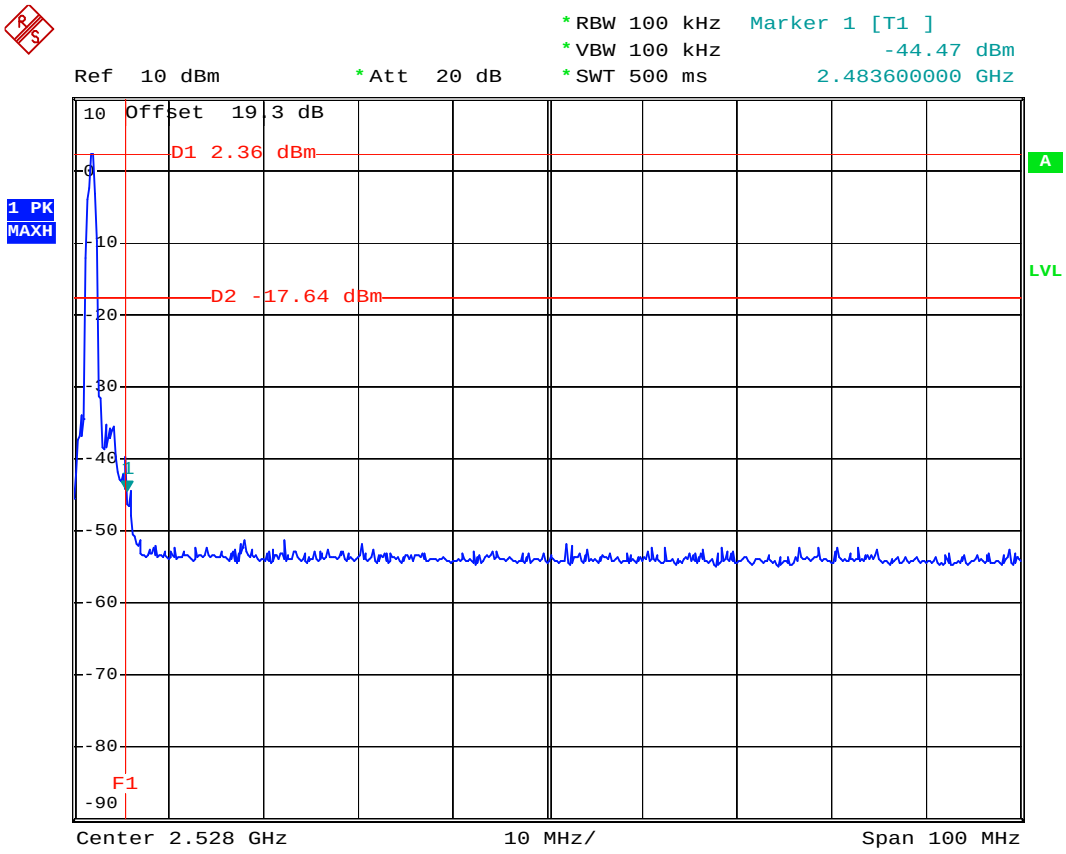
CH00



Date: 7.SEP.2007 21:53:07

BT-EDR(3Mbps)

CH78



Date: 7.SEP.2007 21:54:22

5.5 Hopping Channel Separation

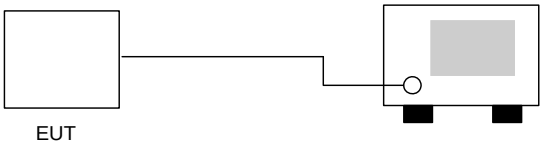
5.5.1 Measuring Instruments：

As described in chapter 6 of this test report.

5.5.2 Test Procedure：

1. The output of EUT was connected to the spectrum analyzer by a low loss cable.
2. Set RBW of spectrum analyzer to ≧1% of the span and VBW ≧ RBW.
3. The Hopping Channel Separation is defined as the channel is separated with the next channel.

5.5.3 Test Setup Layout：



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

Application Type : BT(1Mbps)
Temperature : 26~27℃
Relative Humidity : 53~54%
Test Enginner : James

Channel	Frequency (MHz)	Carrier Frequency Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.004	0.616	Mode 7
39	2441	1.004	0.616	Mode 8
78	2480	0.996	0.616	Mode 9

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

5.5.5 est Result：The spectrum analyzer plots are attached as below

Application Type : BT-EDR(2Mbps)
Temperature : 26~27℃
Relative Humidity : 53~54%
Test Enginner : James

Channel	Frequency (MHz)	Carrier Frequency Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.016	0.861	Mode 10
39	2441	0.992	0.869	Mode 11
78	2480	1.008	0.872	Mode 12

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

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

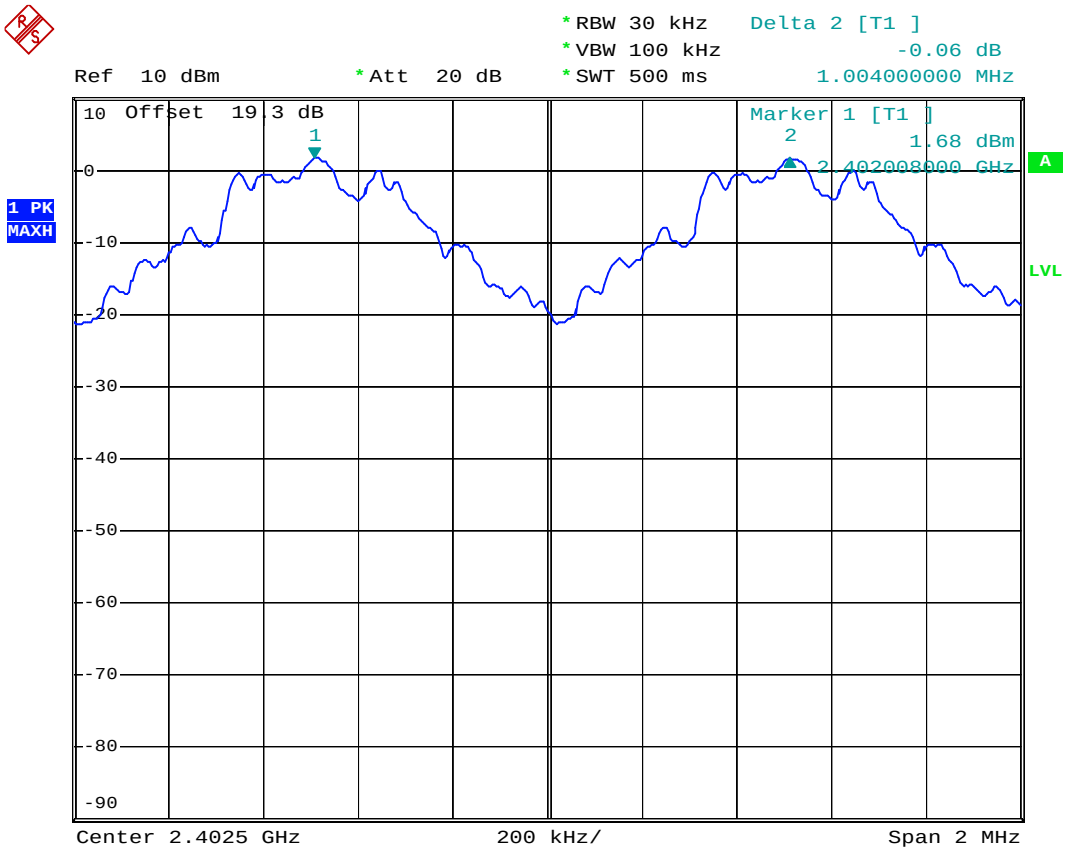
Application Type : BT-EDR(3Mbps)
Temperature : 26~27℃
Relative Humidity : 53~54%
Test Enginner : James

Channel	Frequency (MHz)	Carrier Frequency Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.008	0.835	Mode 13
39	2441	1.000	0.853	Mode 14
78	2480	1.000	0.859	Mode 15

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

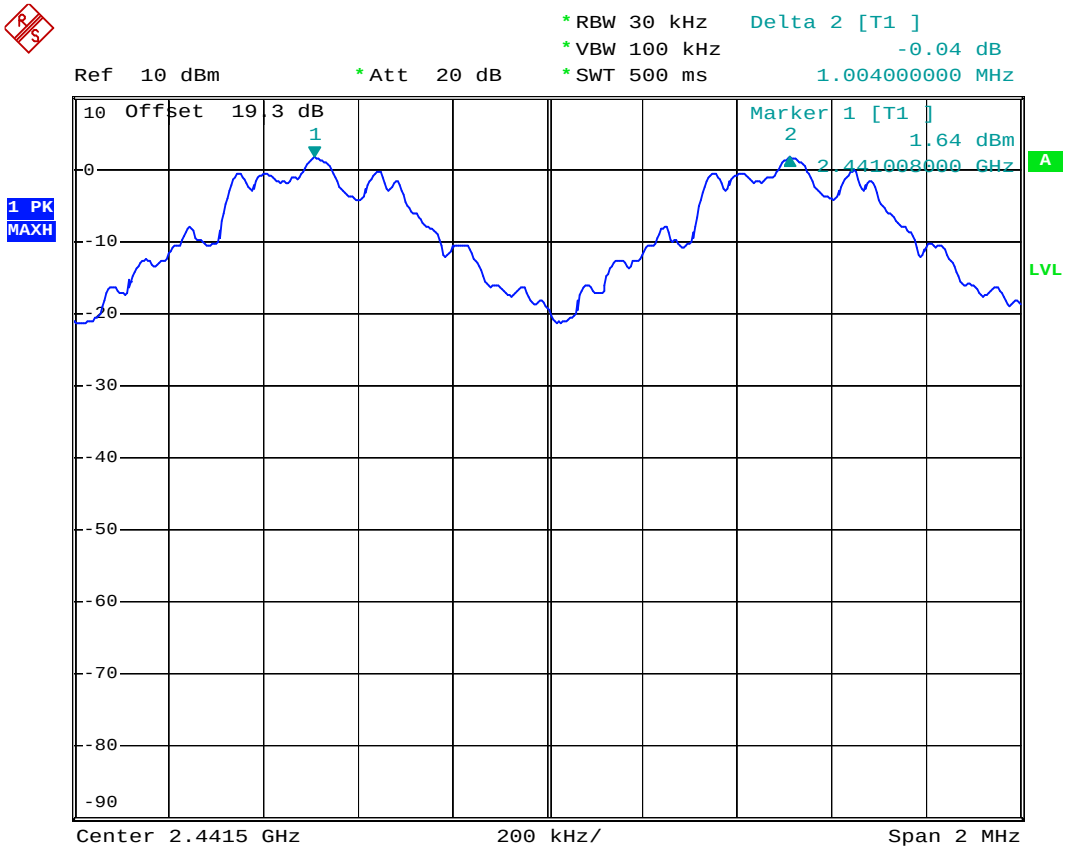
5.5.7 Hopping Channel Seperation

Mode 7



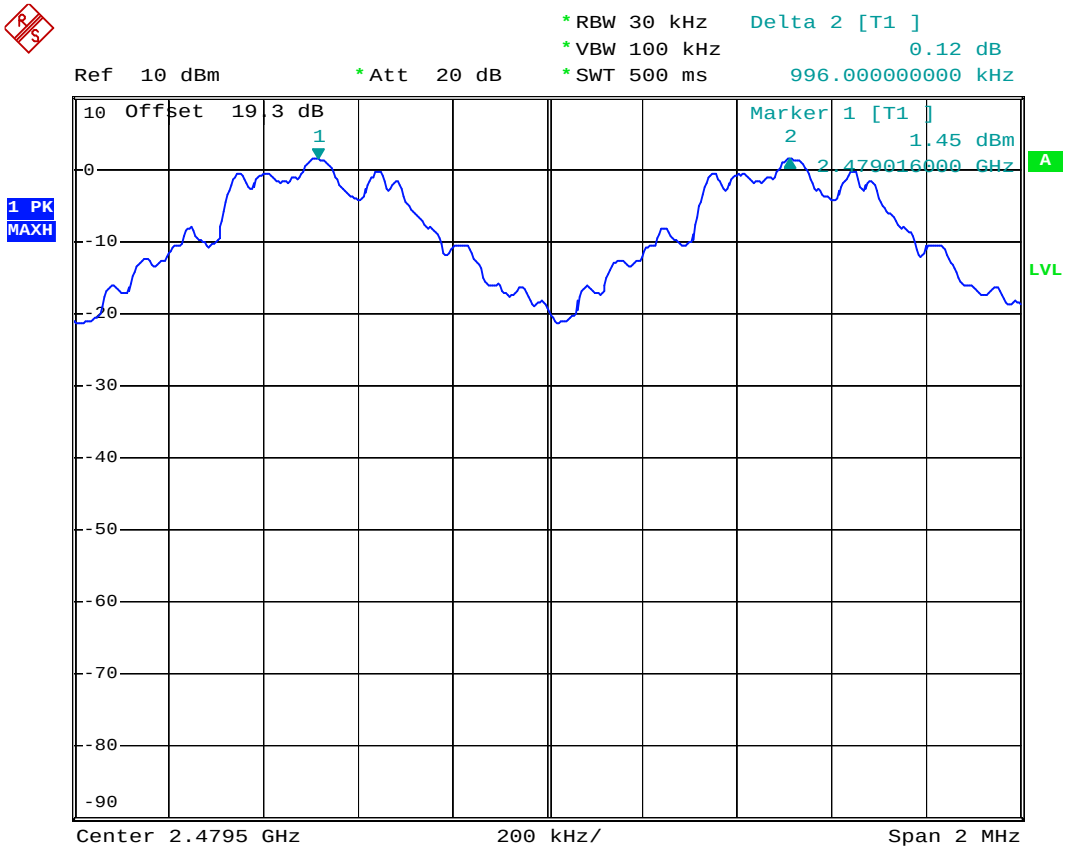
Date: 7.SEP.2007 11:40:01

Mode 8



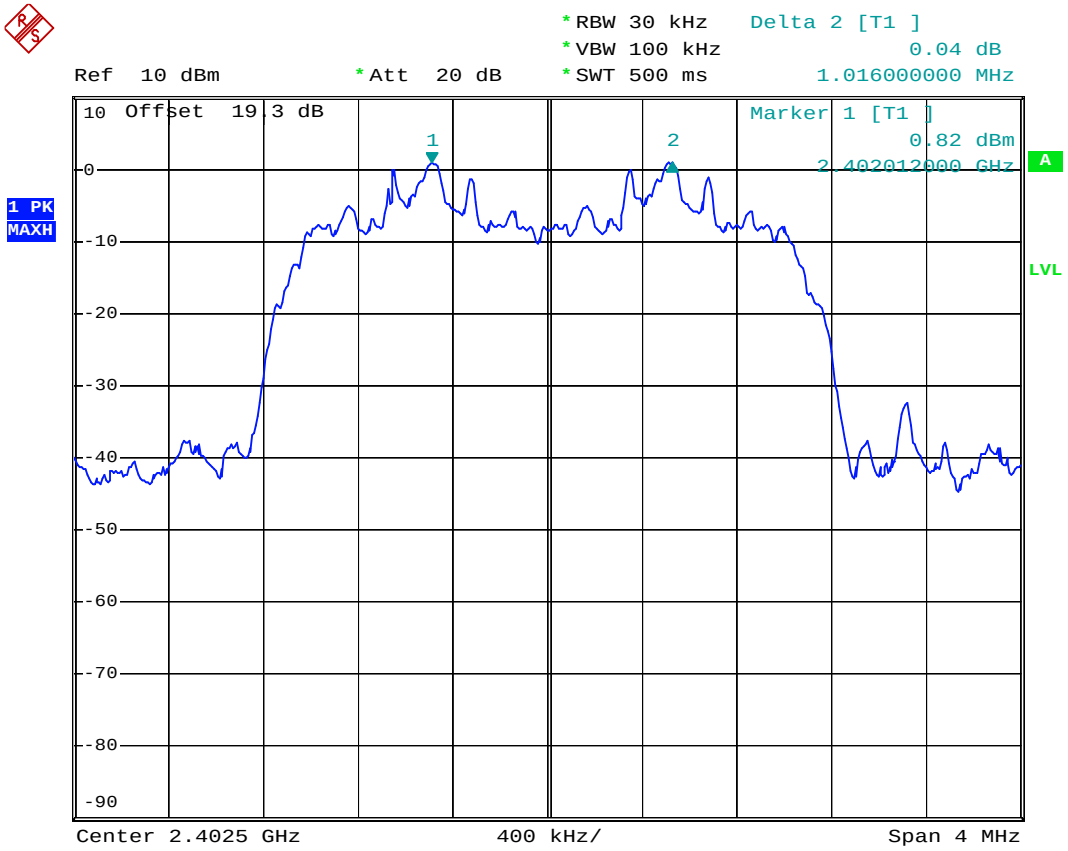
Date: 7.SEP.2007 11:40:42

Mode 9



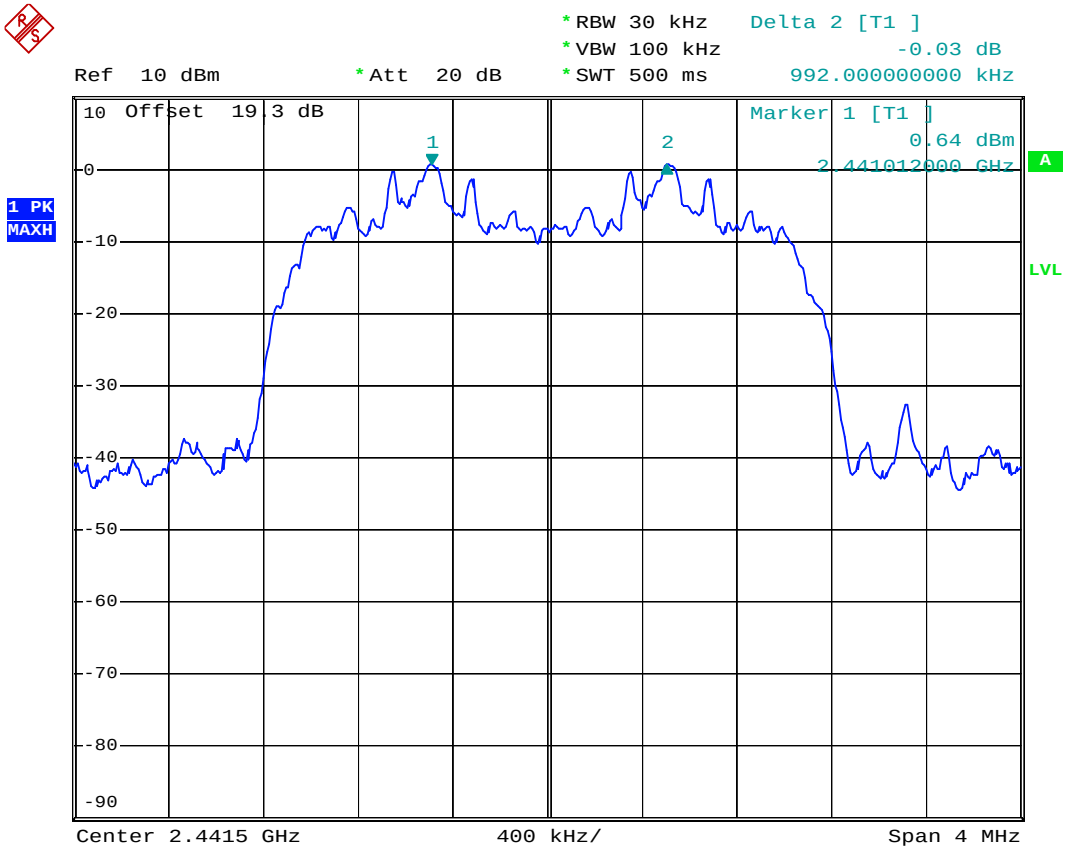
Date: 7.SEP.2007 11:42:45

Mode 10



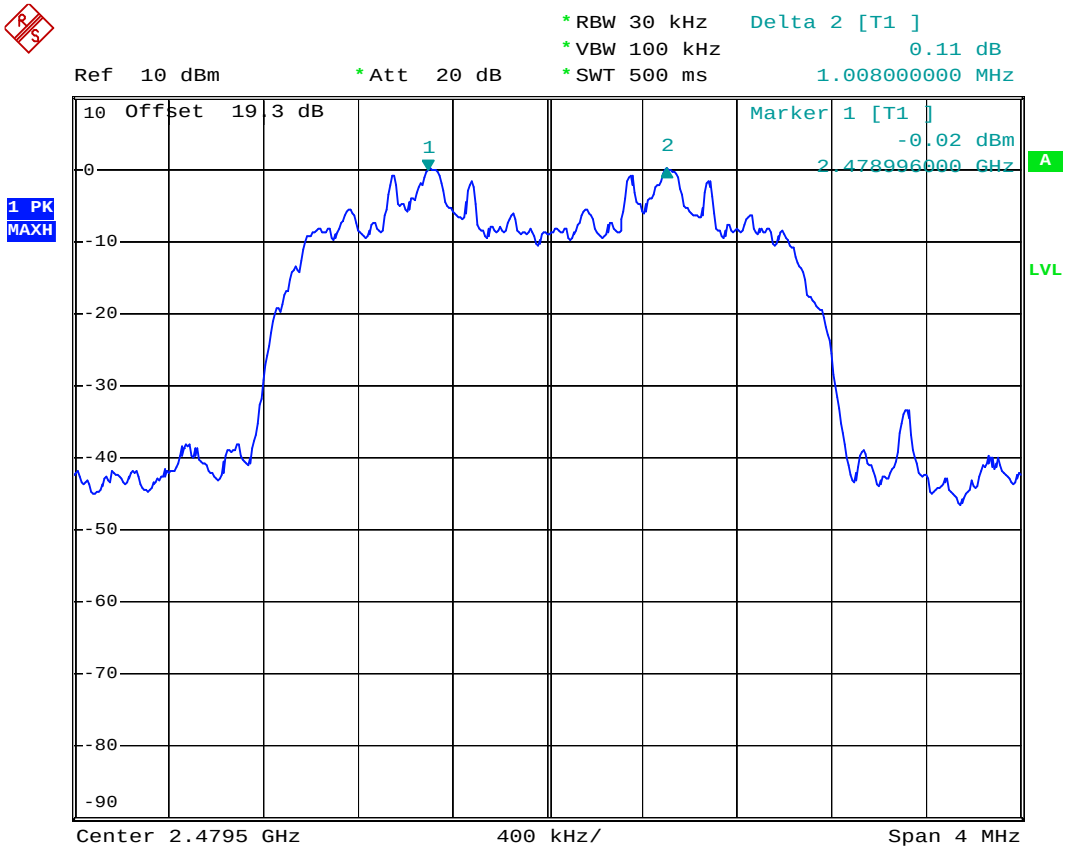
Date: 7.SEP.2007 21:55:09

Mode 11



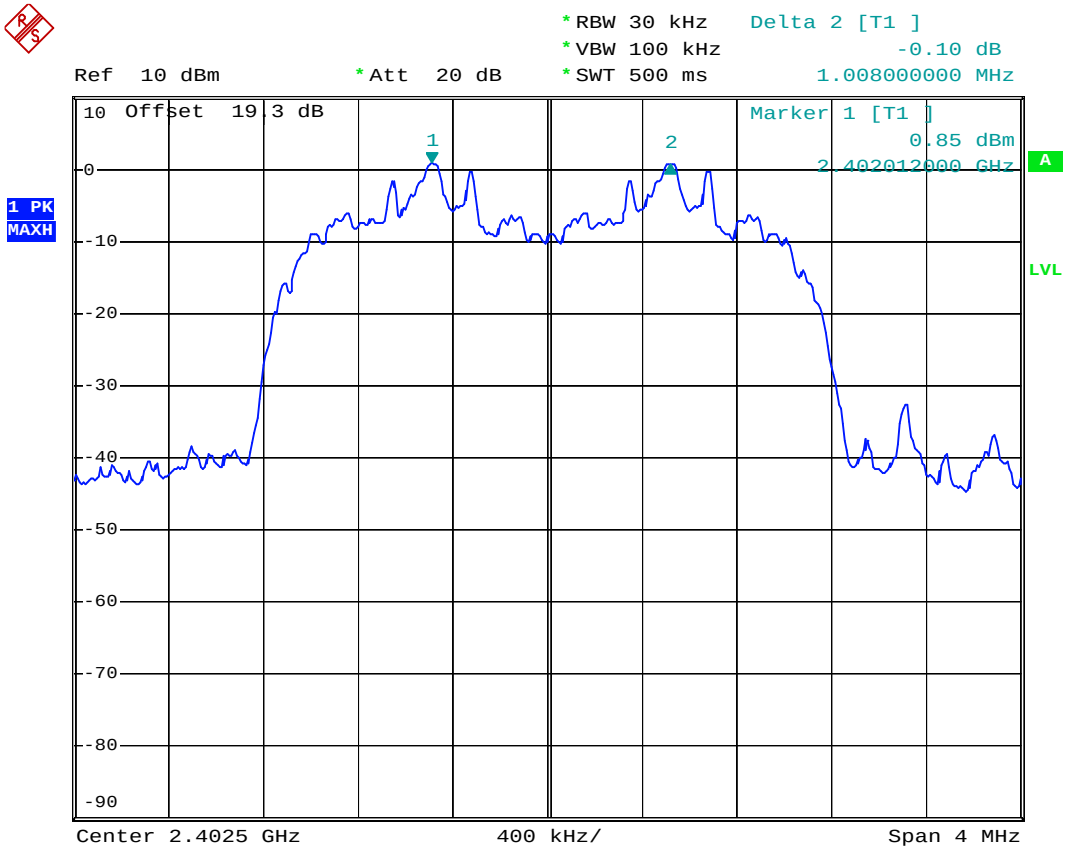
Date: 7.SEP.2007 21:55:43

Mode 12



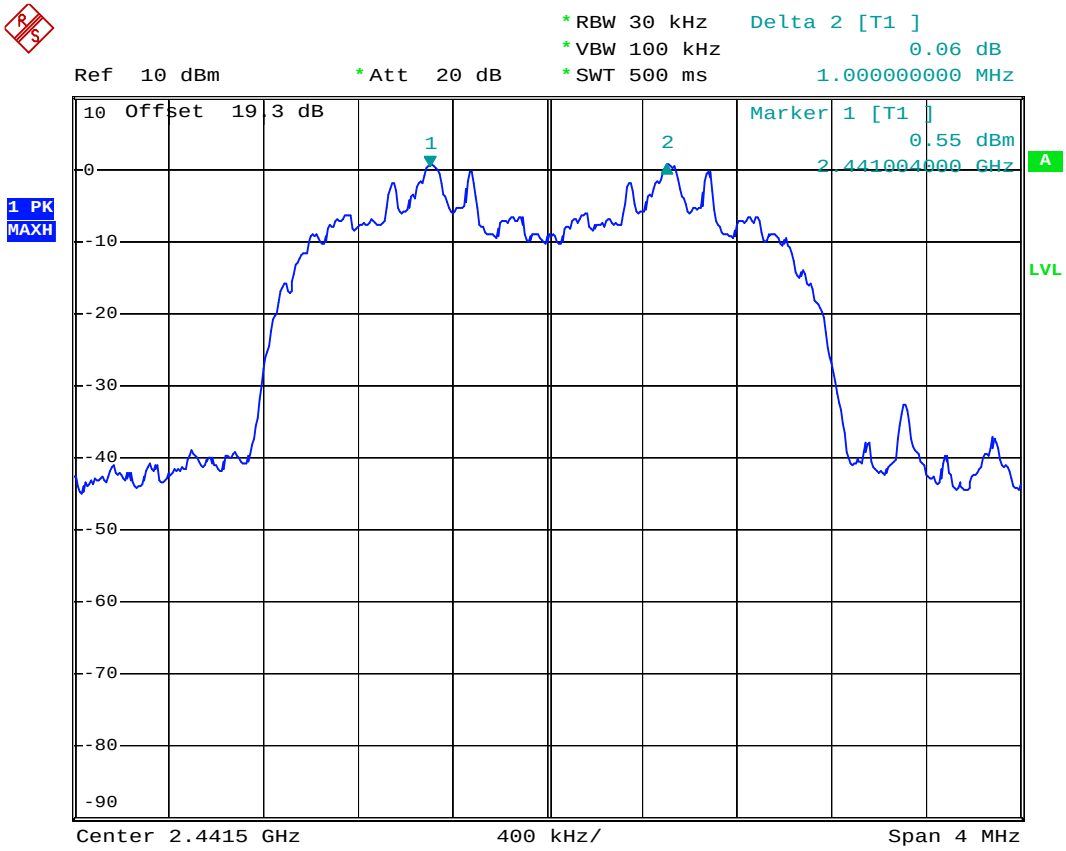
Date: 7.SEP.2007 21:56:21

Mode 13



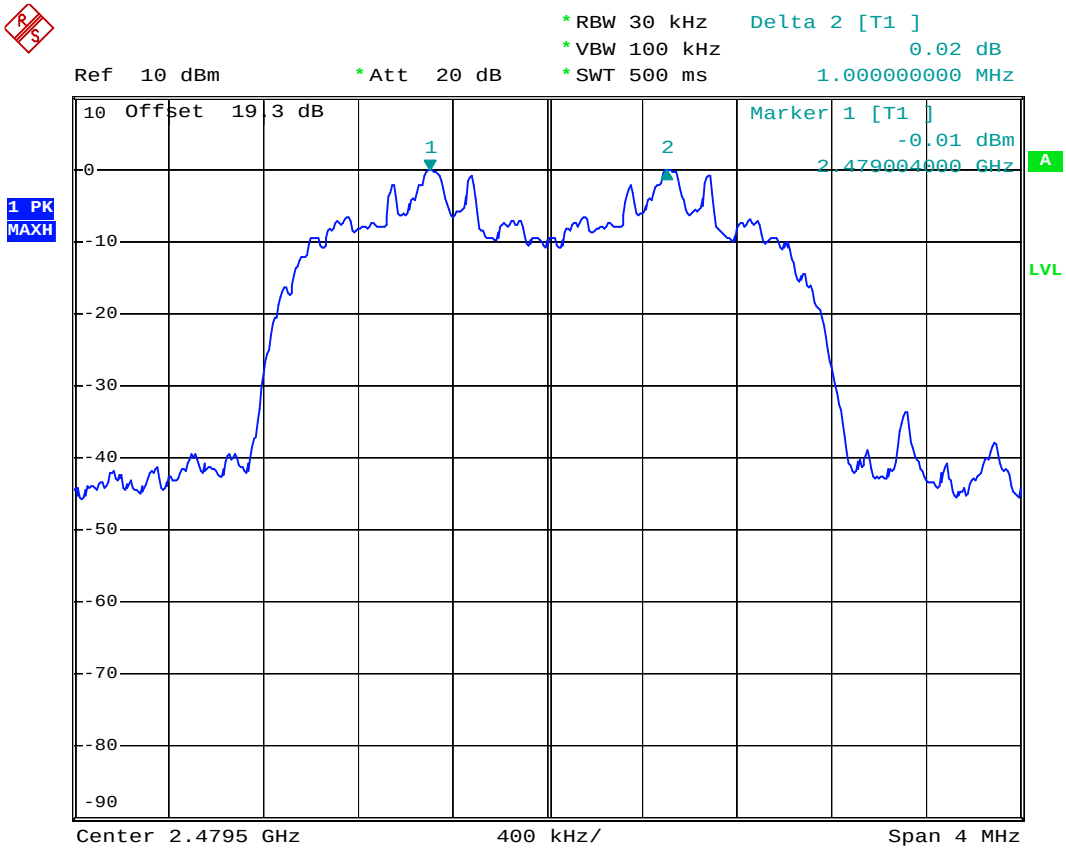
Date: 7.SEP.2007 22:30:38

Mode 14



Date: 7.SEP.2007 22:31:14

Mode 15



Date: 7.SEP.2007 22:31:52

5.6 Number of Hopping Frequency

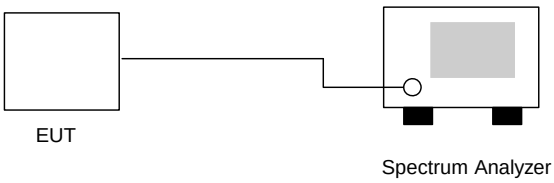
5.6.1 Measuring Instruments：

As described in chapter 6 of this test report.

5.6.2 Test Procedure：

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

5.6.3 Test Setup Layout：



5.6.4 Test Result：See spectrum analyzer plots below

Application Type : BT(1Mbps)
Temperature : 26~27℃
Relative Humidity : 53~54%
Test Enginner : James

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

5.6.5 Test Result：See spectrum analyzer plots below

Application Type : BT-EDR(2Mbps)
Temperature : 26~27℃
Relative Humidity : 53~54%
Test Enginner : James

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

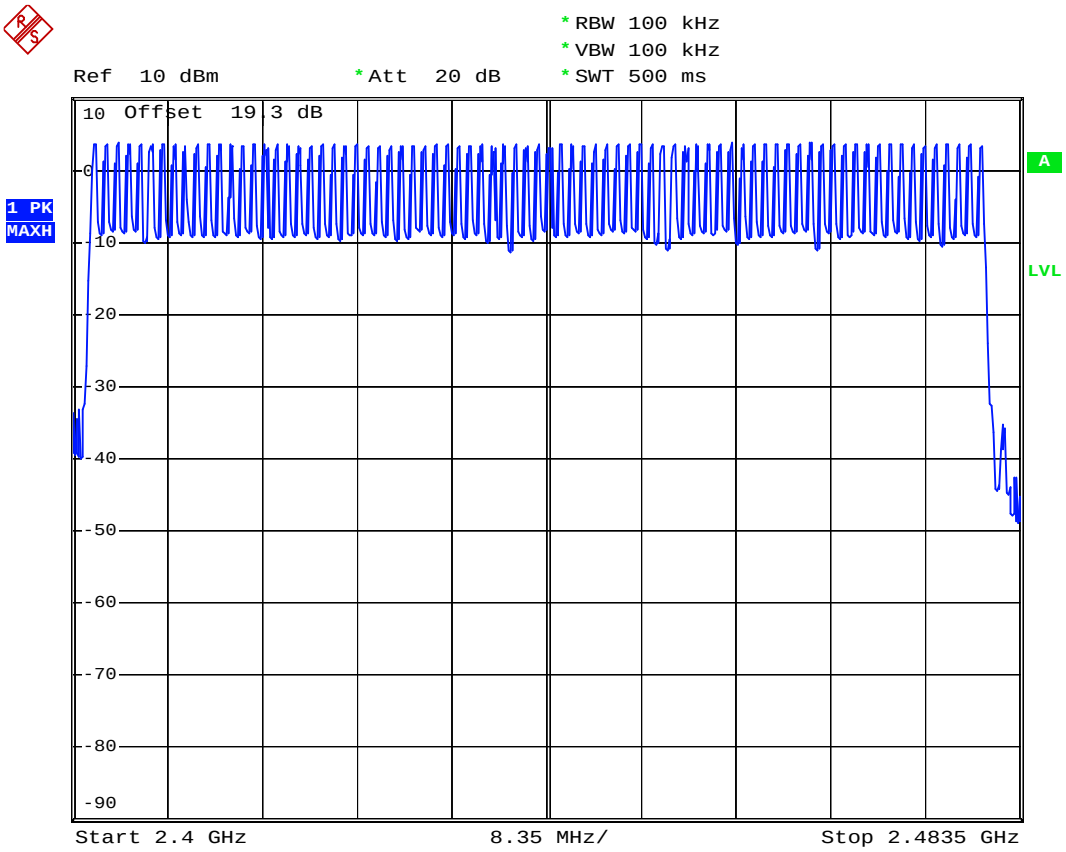
5.6.6 Test Result：See spectrum analyzer plots below

Application Type : BT-EDR(3Mbps)
Temperature : 26~27℃
Relative Humidity : 53~54%
Test Enginner : James

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

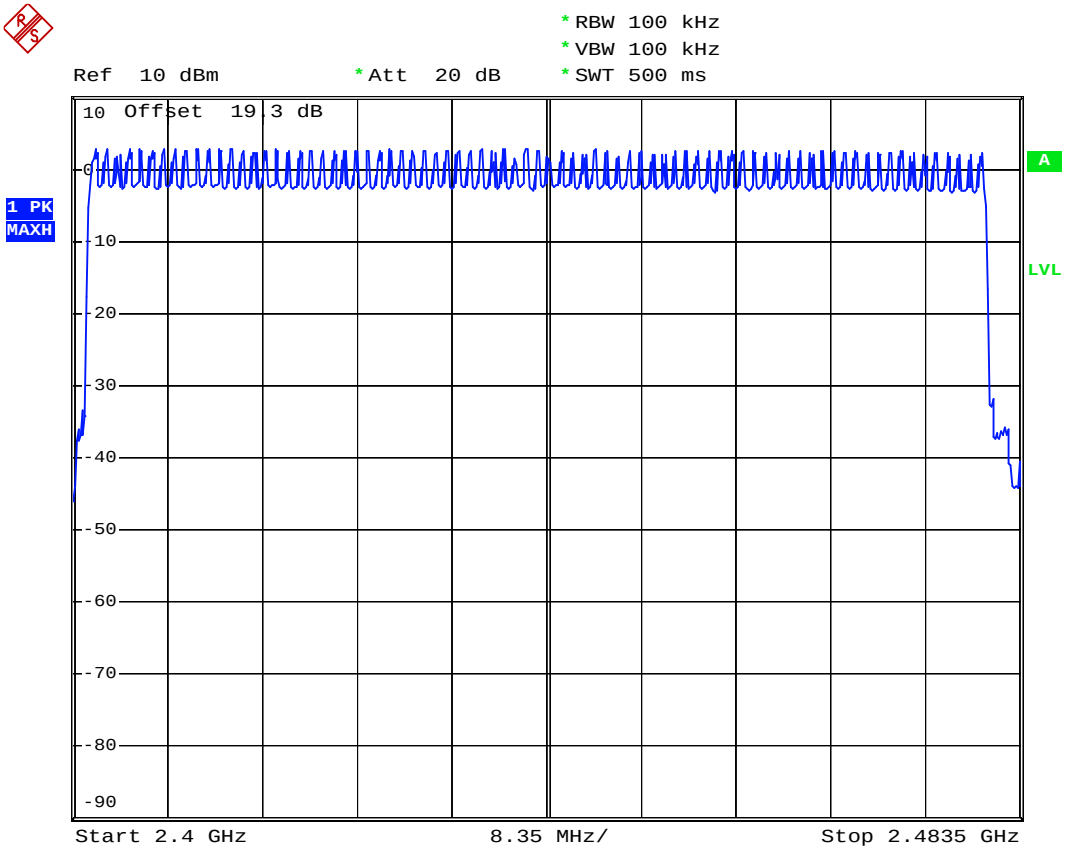
5.6.7 Number of Hopping Frequency

BT(1Mbps)



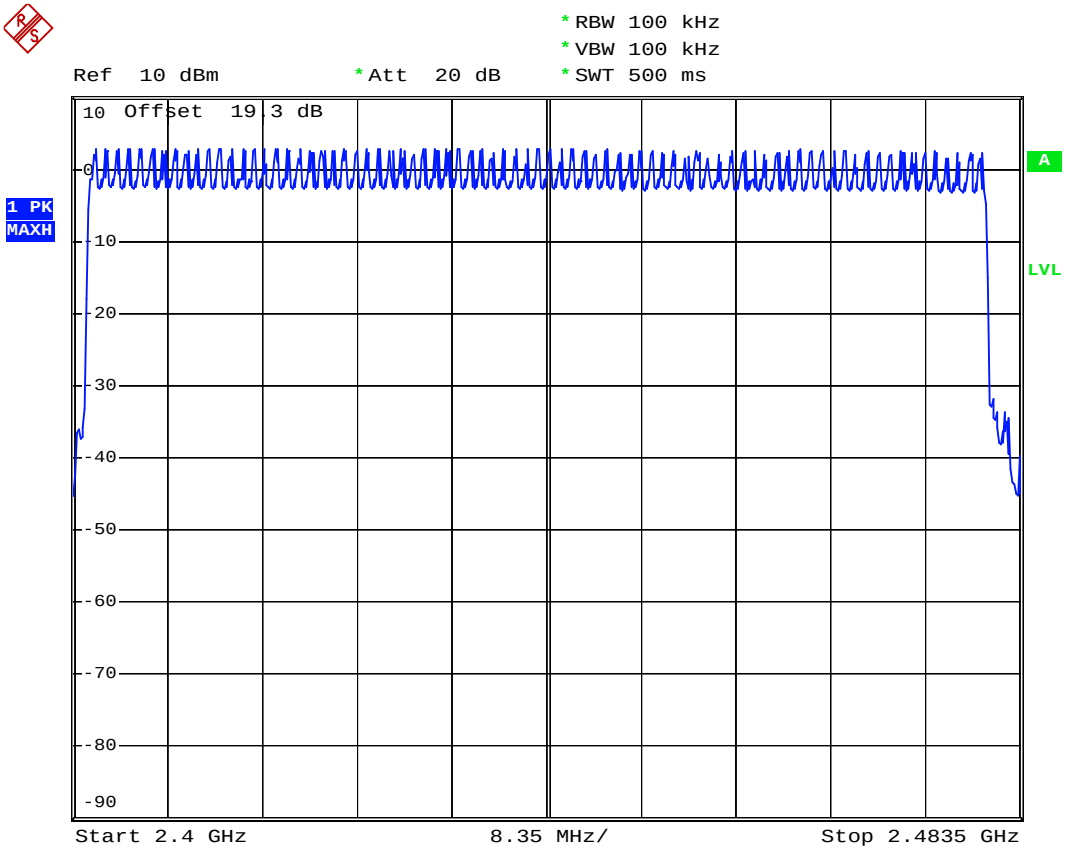
Date: 7.SEP.2007 12:01:35

BT-EDR(2Mbps)



Date: 7.SEP.2007 22:11:46

BT-EDR(3Mbps)



Date: 7.SEP.2007 22:51:16

5.7 Hopping Channel Bandwidth

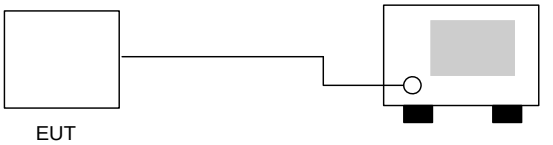
5.7.1 Measuring Instruments：

As described in chapter 6 of this test report.

5.7.2 Test Procedure：

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

5.7.3 Test Setup Layout：



5.7.4 Test Result：See spectrum analyzer plots below

Application Type : BT(1Mbps)
Temperature : 26~27℃
Relative Humidity : 53~54%
Test Enginner : James

Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Plot Ref. No.
00	2402	0.924	Mode 7
39	2441	0.924	Mode 8
78	2480	0.924	Mode 9

5.7.5 Test Result：See spectrum analyzer plots below

Application Type : BT-EDR(2Mbps)
Temperature : 26~27℃
Relative Humidity : 53~54%
Test Enginner : James

Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Plot Ref. No.
00	2402	1.292	Mode 10
39	2441	1.304	Mode 11
78	2480	1.308	Mode 12

5.7.6 Test Result：See spectrum analyzer plots below

Application Type : BT-EDR(3Mbps)
Temperature : 26~27℃
Relative Humidity : 53~54%
Test Enginner : James

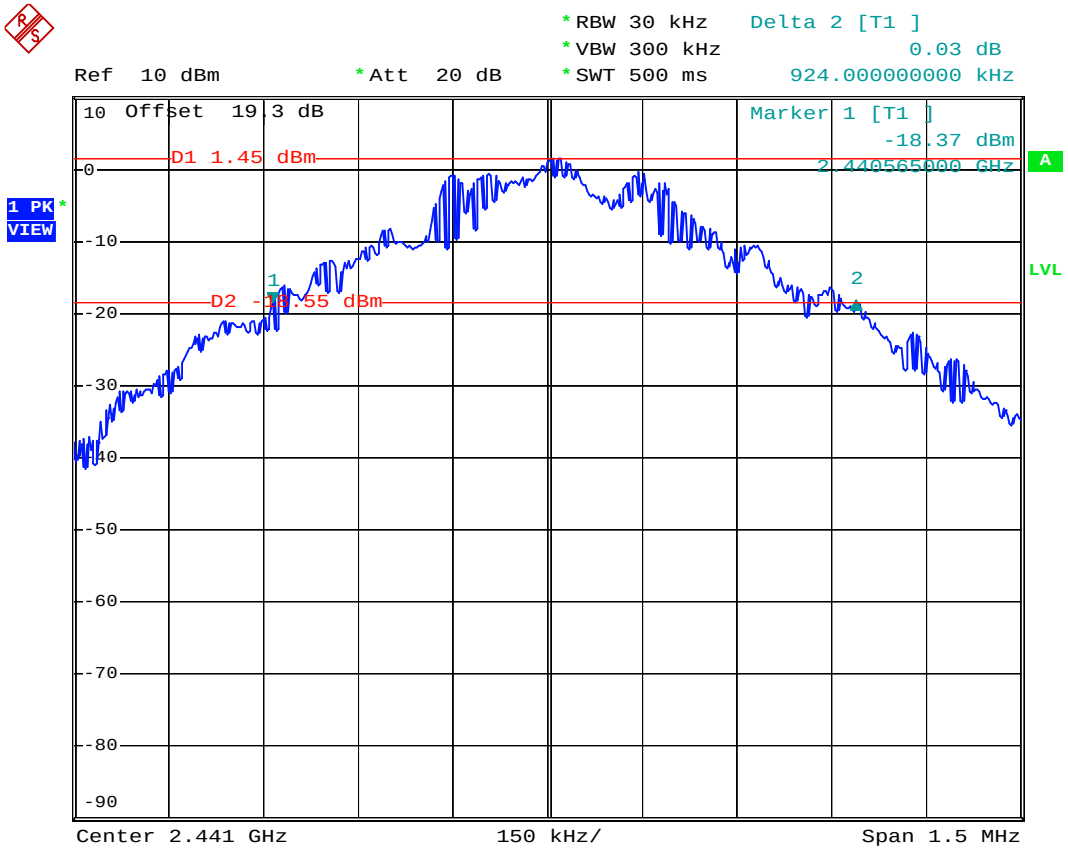
Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Plot Ref. No.
00	2402	1.252	Mode 13
39	2441	1.280	Mode 14
78	2480	1.288	Mode 15

5.7.7 Hopping Channel Bandwidth

Mode 7

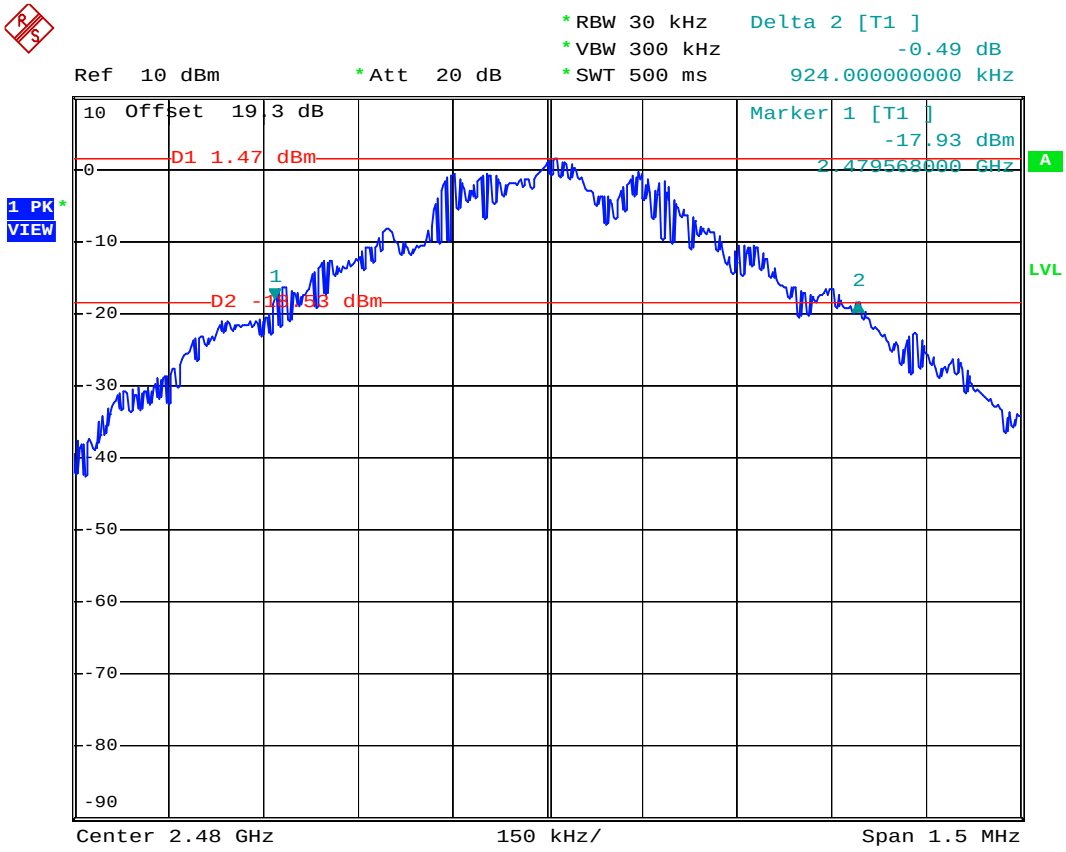
Date: 7.SEP.2007 11:35:38

Mode 8



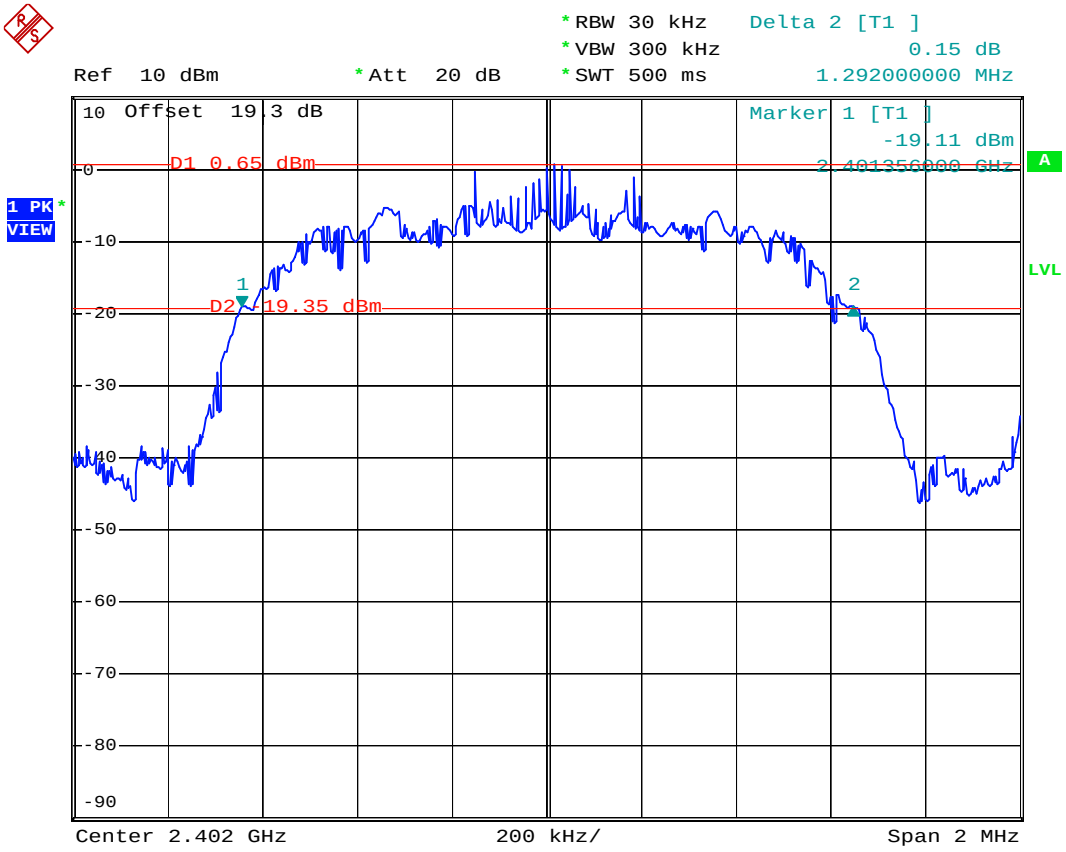
Date: 7.SEP.2007 11:36:42

Mode 9



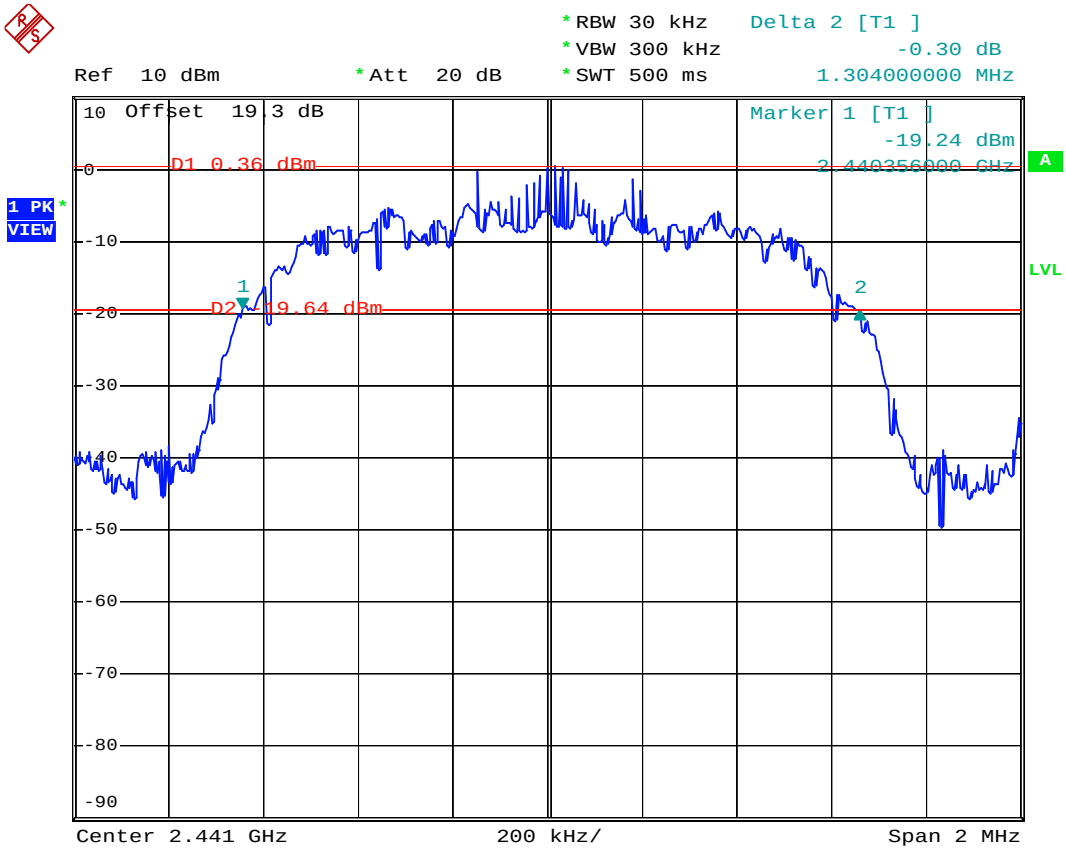
Date: 7.SEP.2007 11:37:42

Mode 10



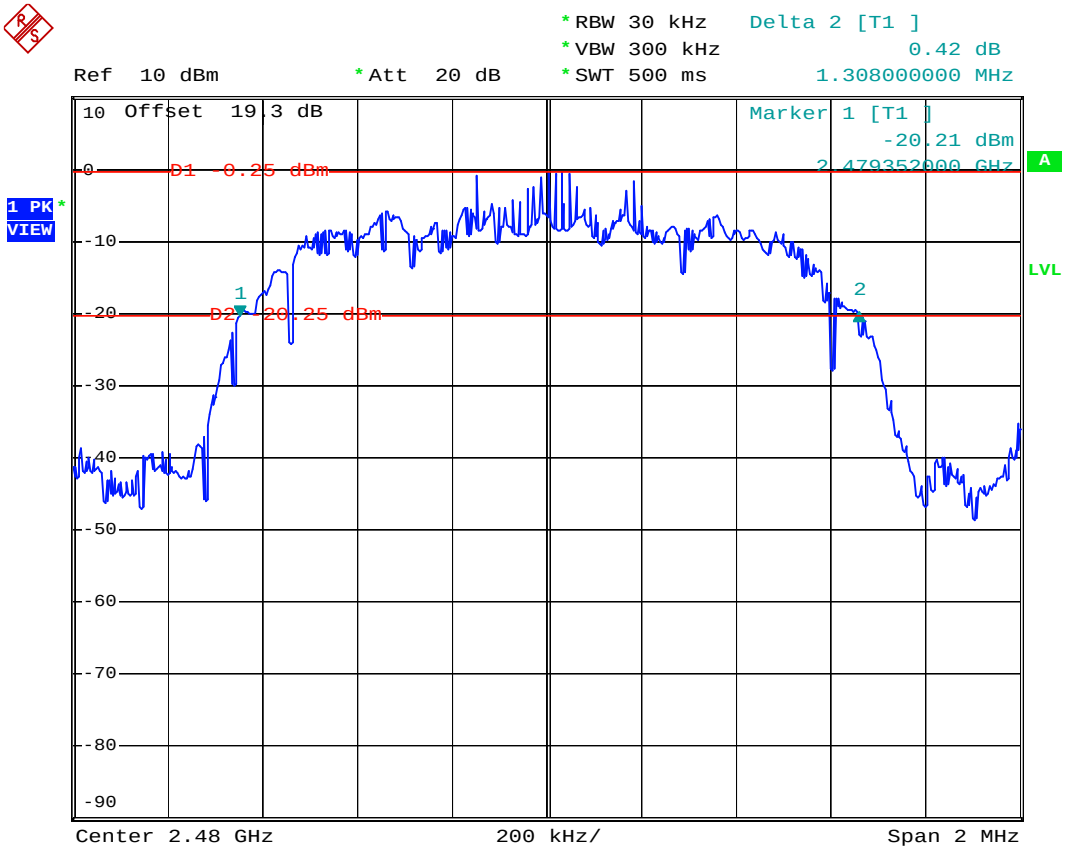
Date: 7.SEP.2007 21:49:51

Mode 11



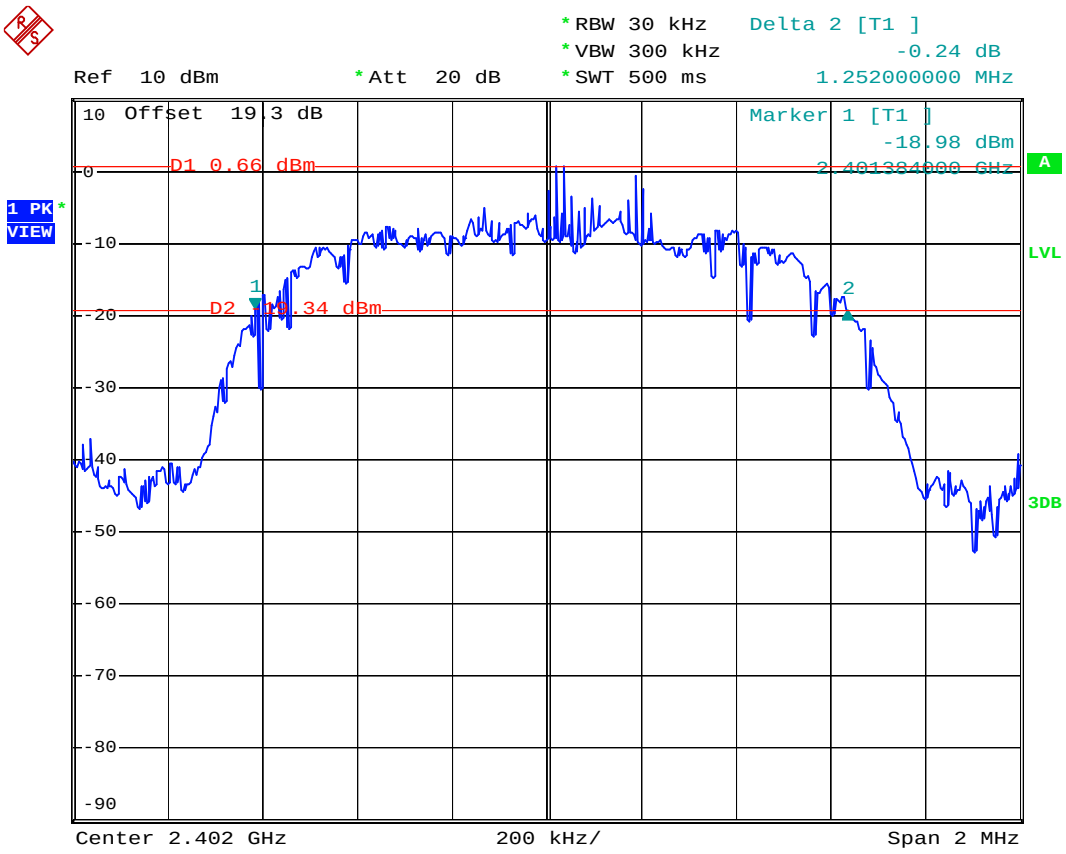
Date: 7.SEP.2007 21:50:41

Mode 12



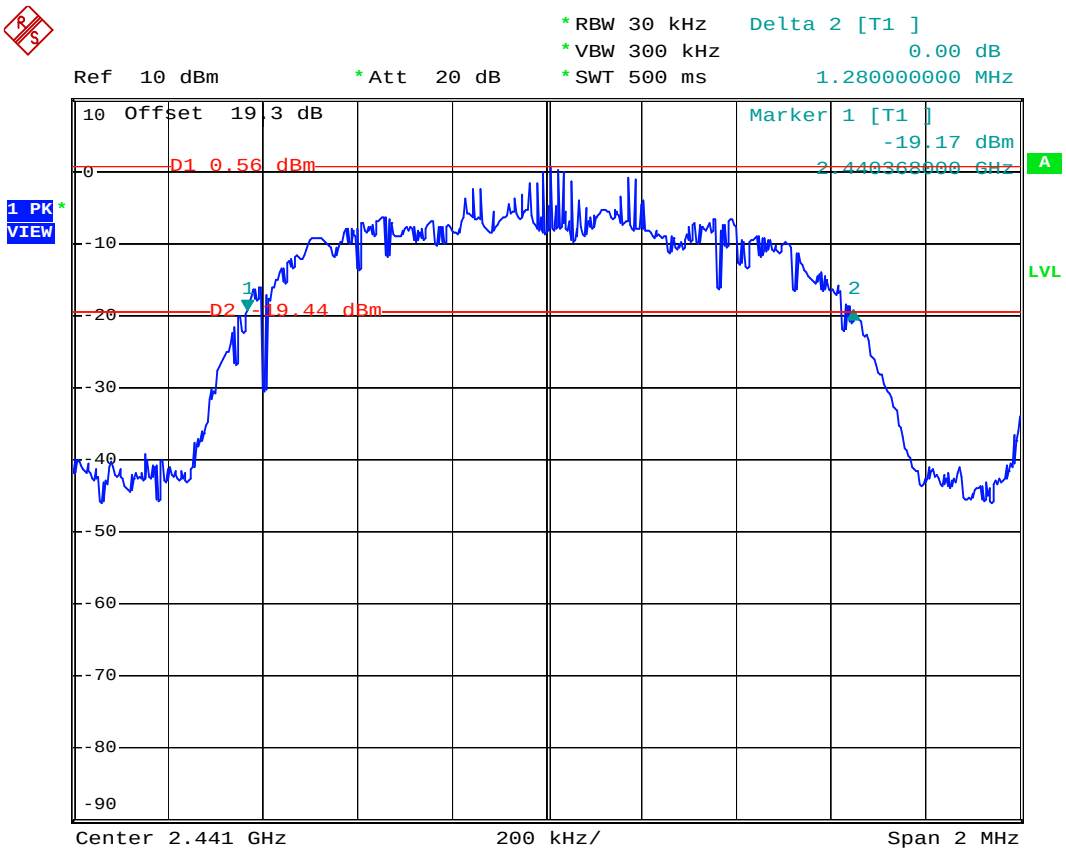
Date: 7.SEP.2007 21:51:25

Mode 13



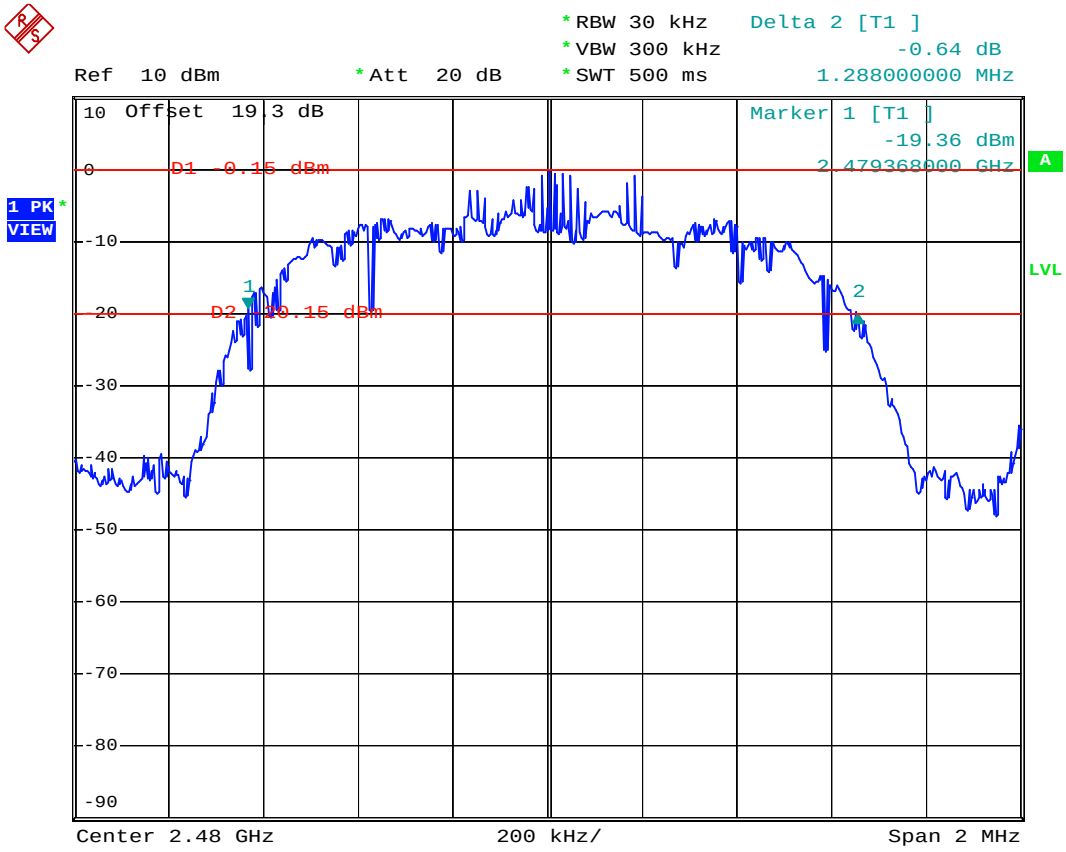
Date: 2.OCT.2007 01:19:15

Mode 14



Date: 7.SEP.2007 22:26:46

Mode 15



Date: 7.SEP.2007 22:27:21

5.8 Dwell Time of Each Frequency

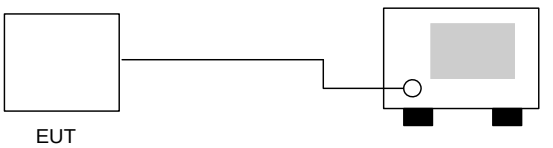
5.8.1 Measuring Instruments：

As described in chapter 6 of this test report.

5.8.2 Test Procedure：

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

5.8.3 Test Setup Layout：



5.8.4 Test Result：See spectrum analyzer plots below

Application Type : BT(1Mbps)
Temperature : 26~27℃
Relative Humidity : 53~54%
Test Enginner : James

CH39

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	8.6	444	0.121	0.4
DH3	4	1720	0.217	0.4
DH5	3	3000	0.284	0.4

5.8.5 Test Result：See spectrum analyzer plots below

Application Type : BT-EDR(2Mbps)
Temperature : 26~27℃
Relative Humidity : 53~54%
Test Enginner : James

CH39

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	8.6	456	0.124	0.4
DH3	4.6	1760	0.256	0.4
DH5	3	3020	0.286	0.4

5.8.6 Test Result：See spectrum analyzer plots below

Application Type : BT-EDR(3Mbps)
Temperature : 26~27℃
Relative Humidity : 53~54%
Test Enginner : James

CH39

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	9.2	456	0.133	0.4
DH3	5.1	1706	0.275	0.4
DH5	3.4	3020	0.322	0.4

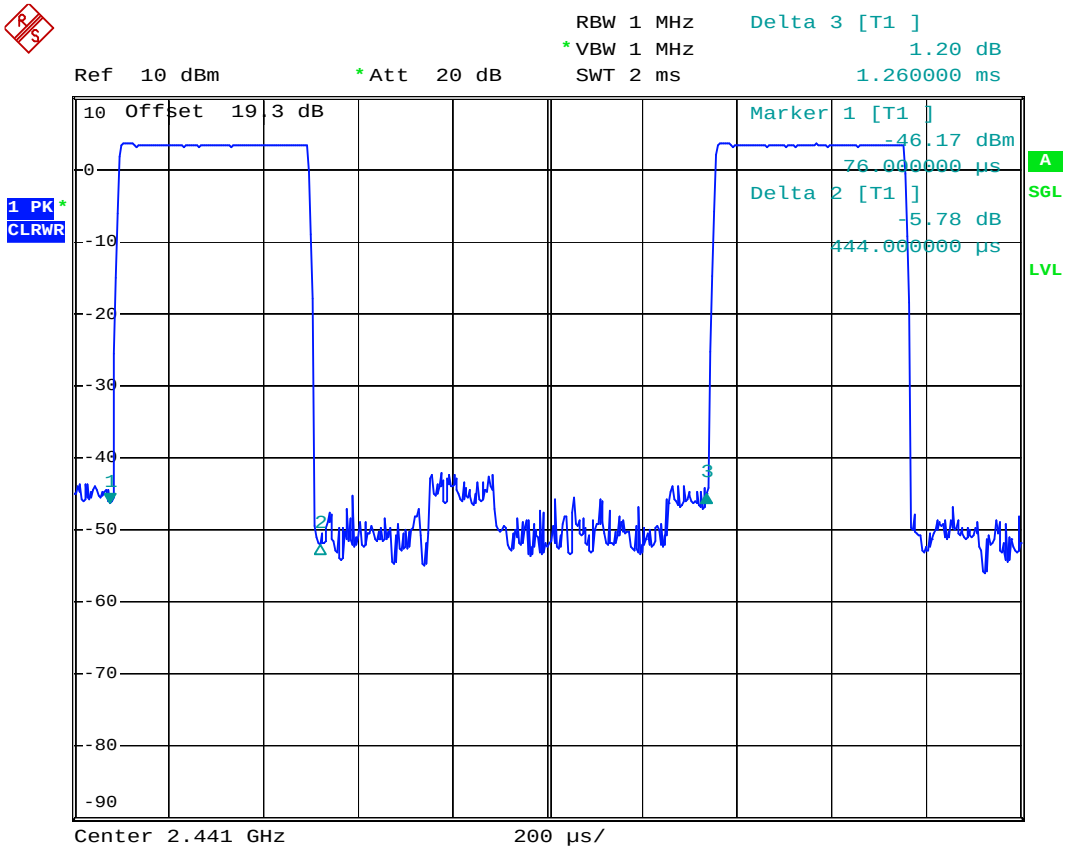
※ Remark:

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)

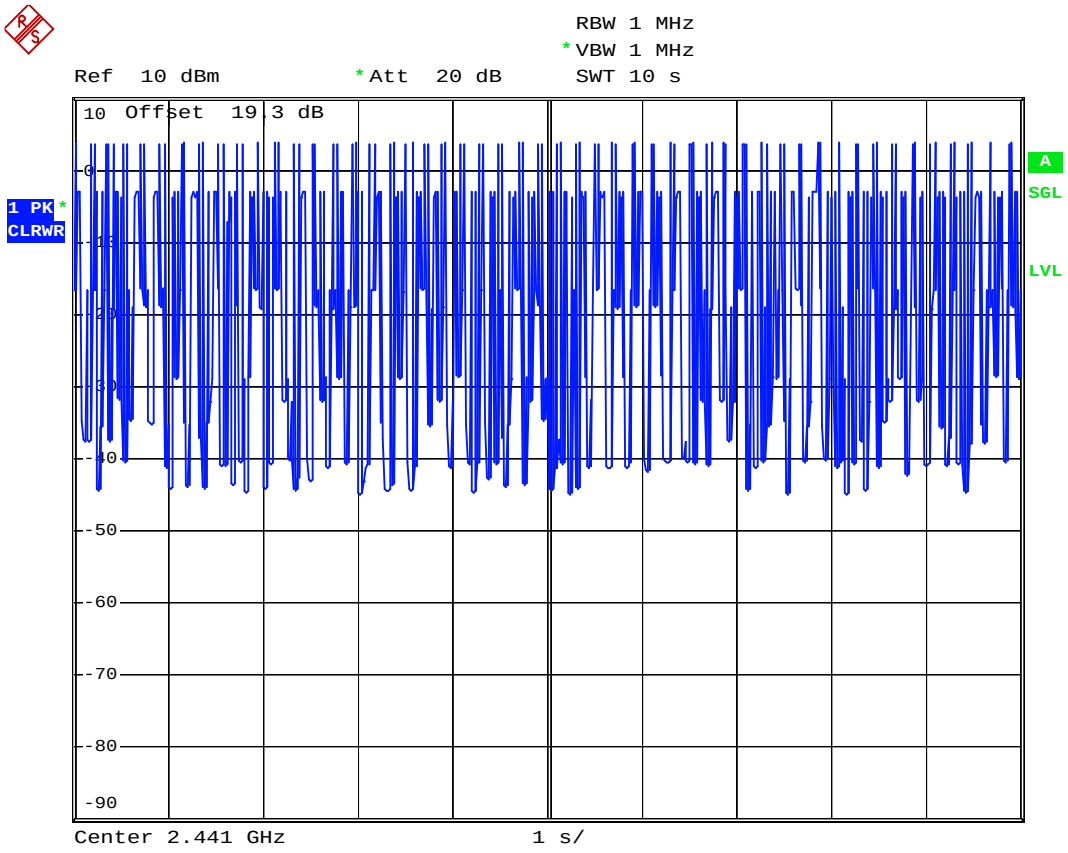
5.8.7 Dwell Time

BT(1Mbps)_DH1

(CH39)

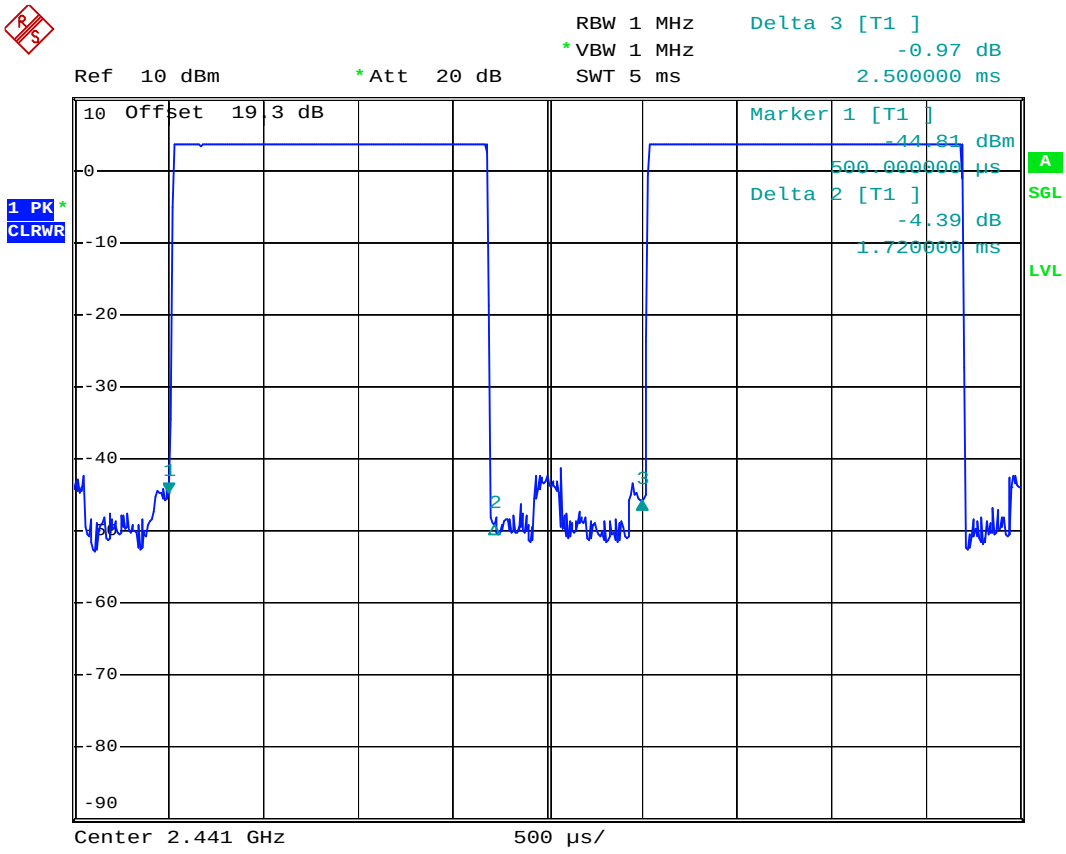


Date: 8.SEP.2007 00:23:50

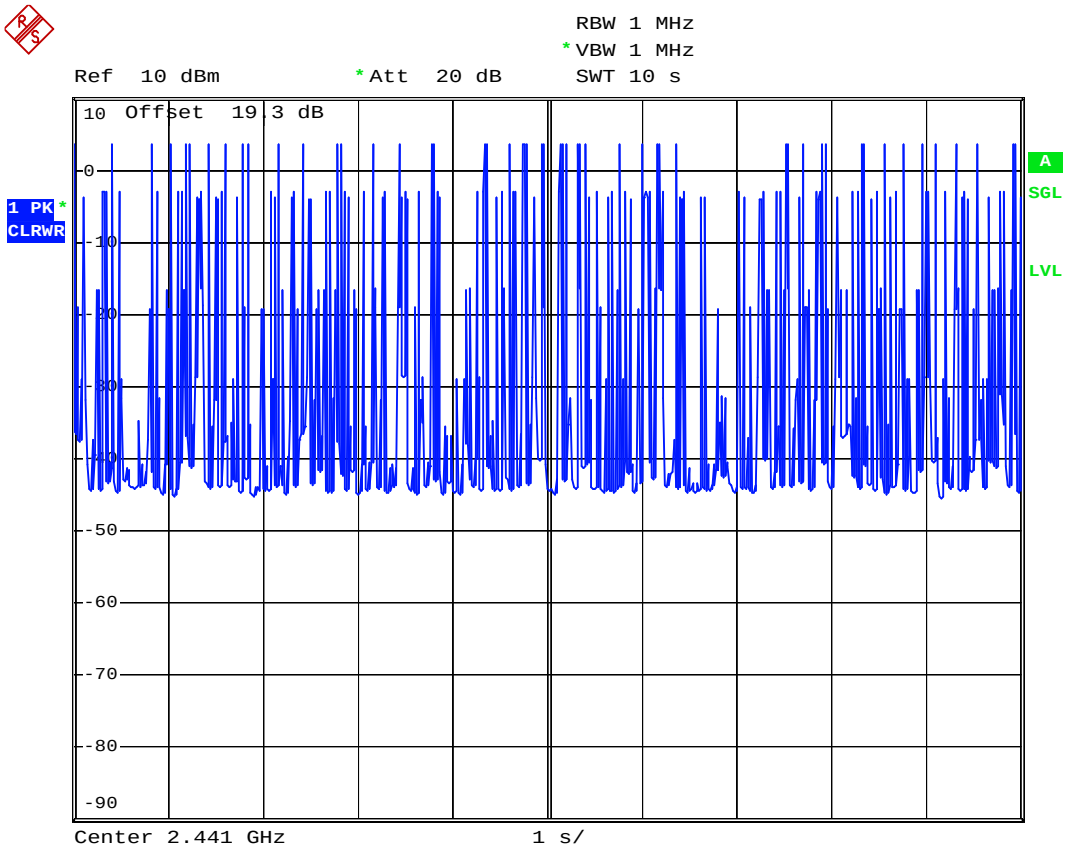


Date: 7.SEP.2007 11:55:22

BT(1Mbps)_DH3 (CH39)

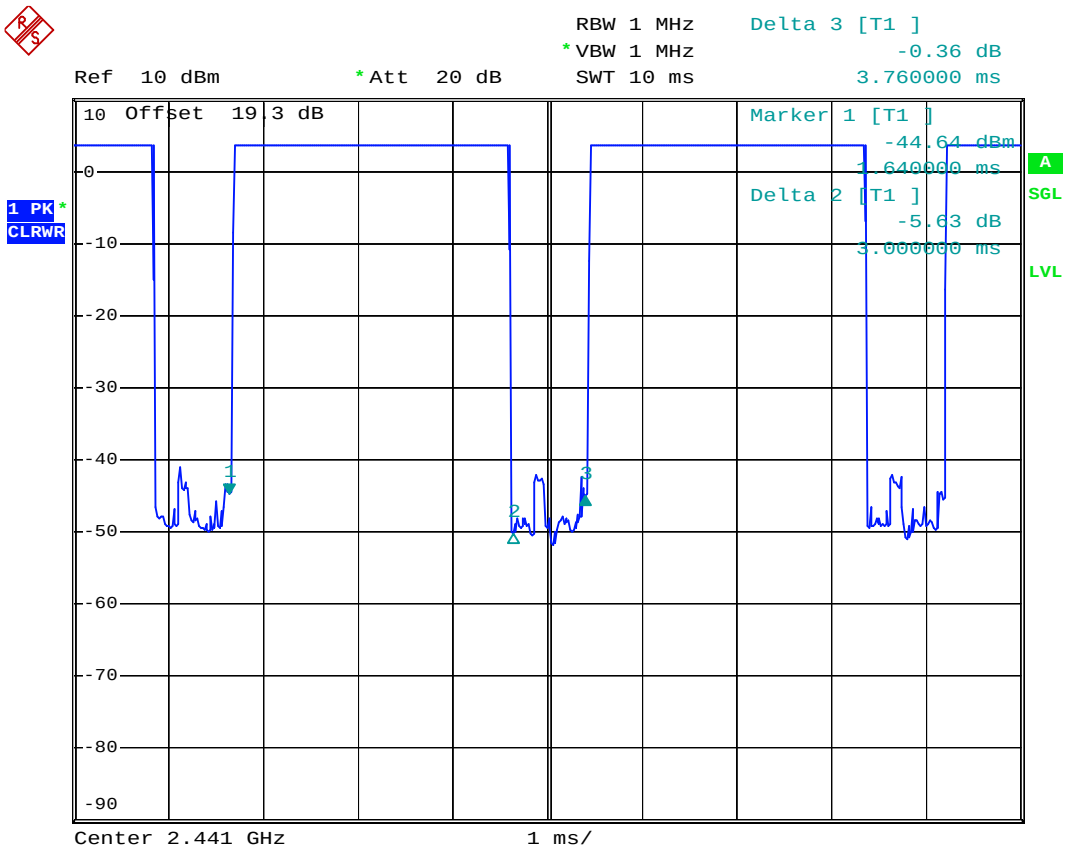


Date: 8.SEP.2007 00:25:40

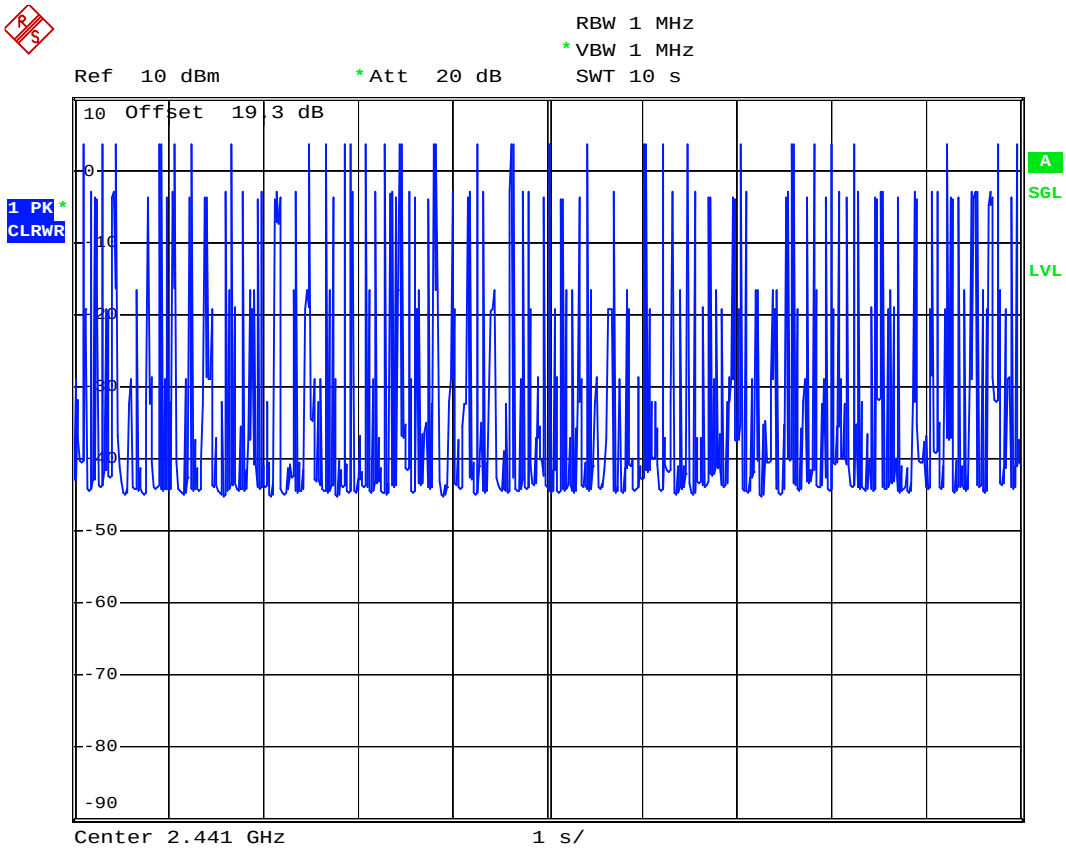


Date: 7.SEP.2007 11:54:30

BT(1Mbps)_DH5 (CH39)

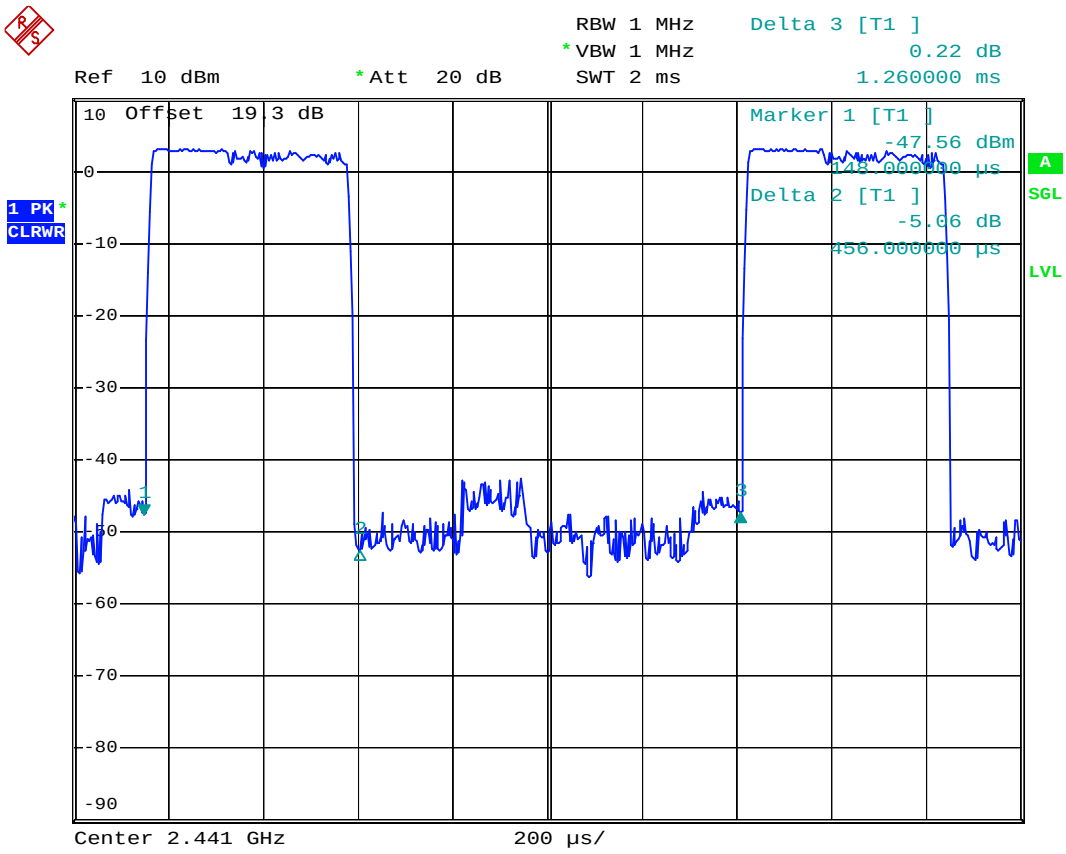


Date: 8.SEP.2007 00:26:36

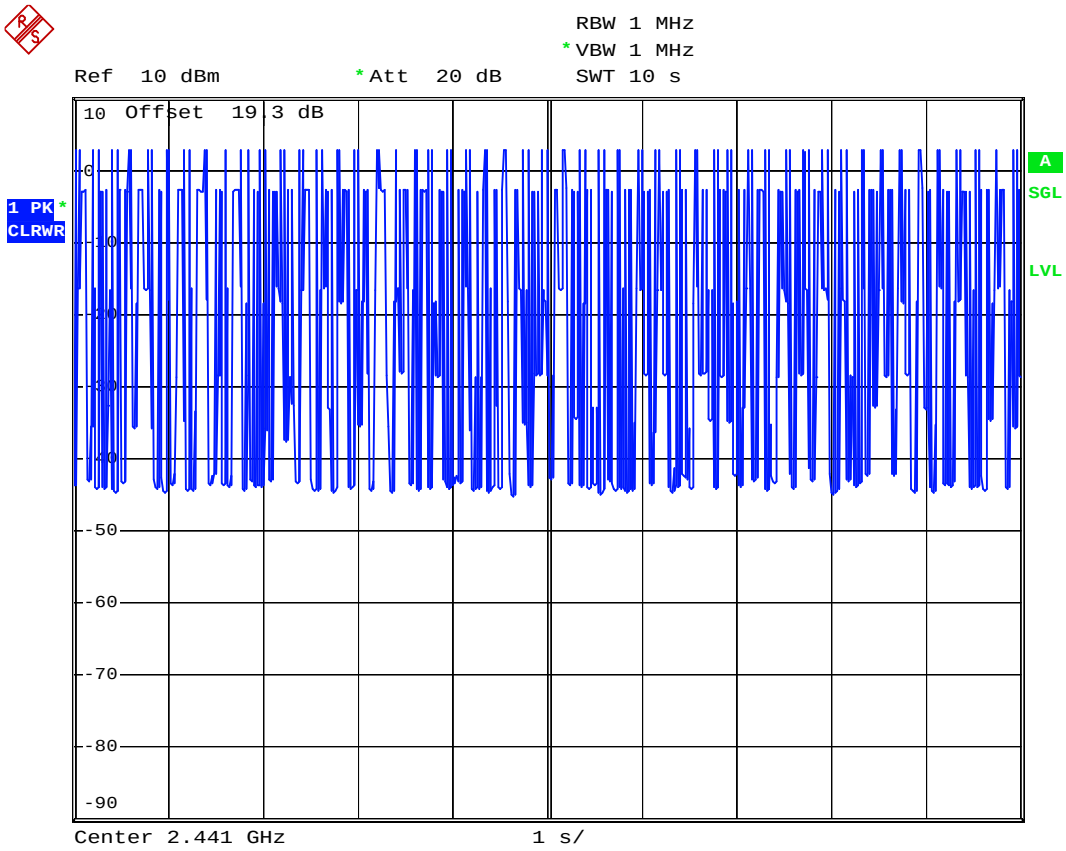


Date: 7.SEP.2007 11:54:01

BT-EDR(2Mbps)_DH1(CH39)

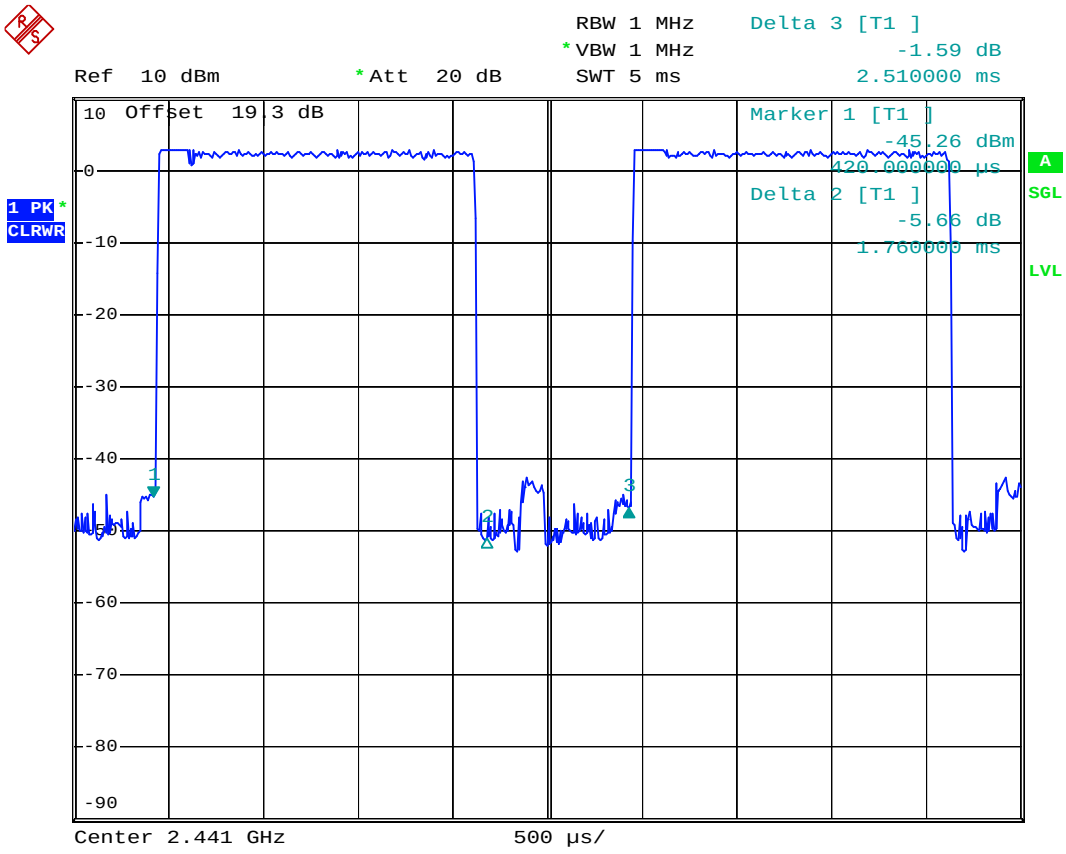


Date: 7.SEP.2007 21:57:33

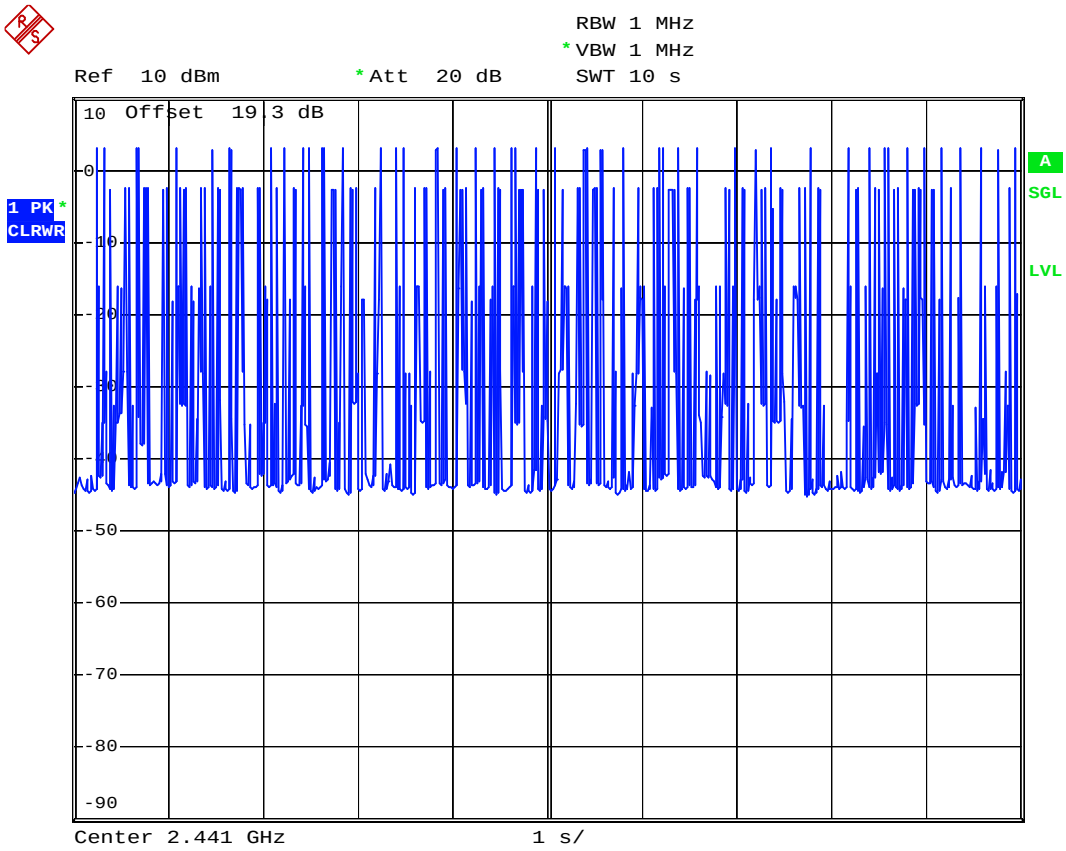


Date: 7.SEP.2007 22:00:42

BT-EDR(2Mbps)_DH3 (CH39)

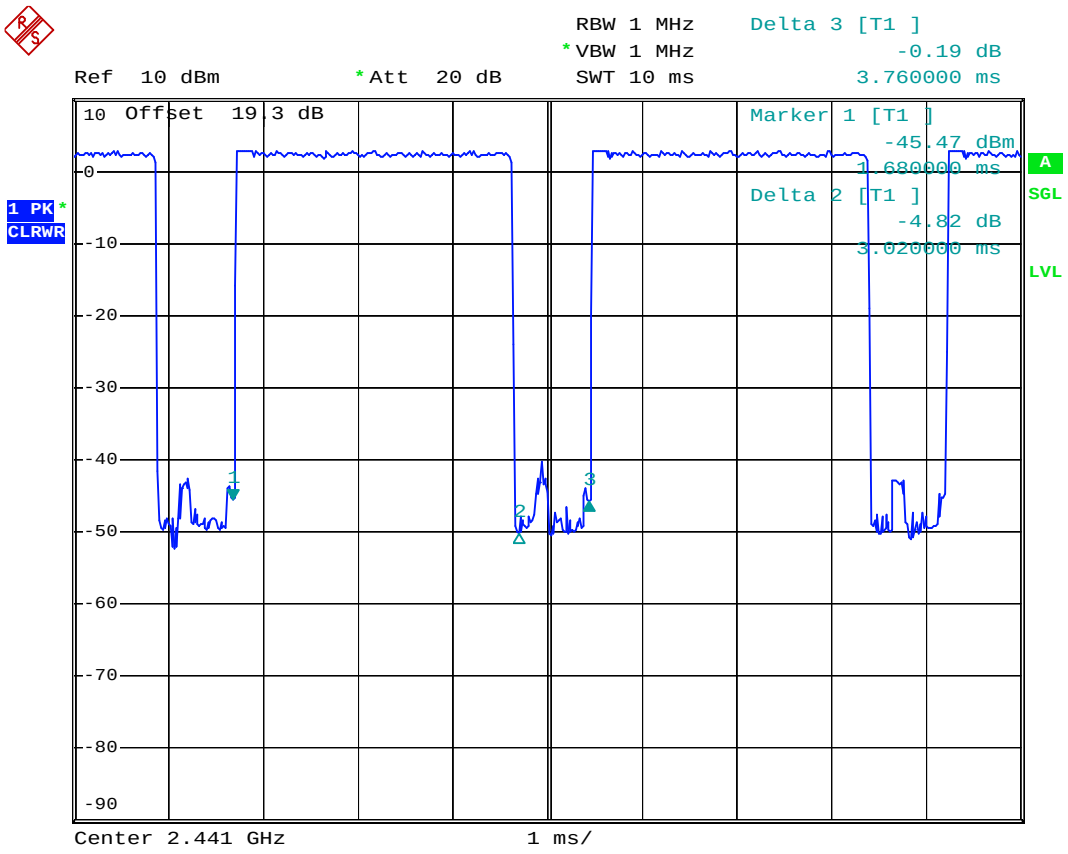


Date: 7.SEP.2007 21:58:32

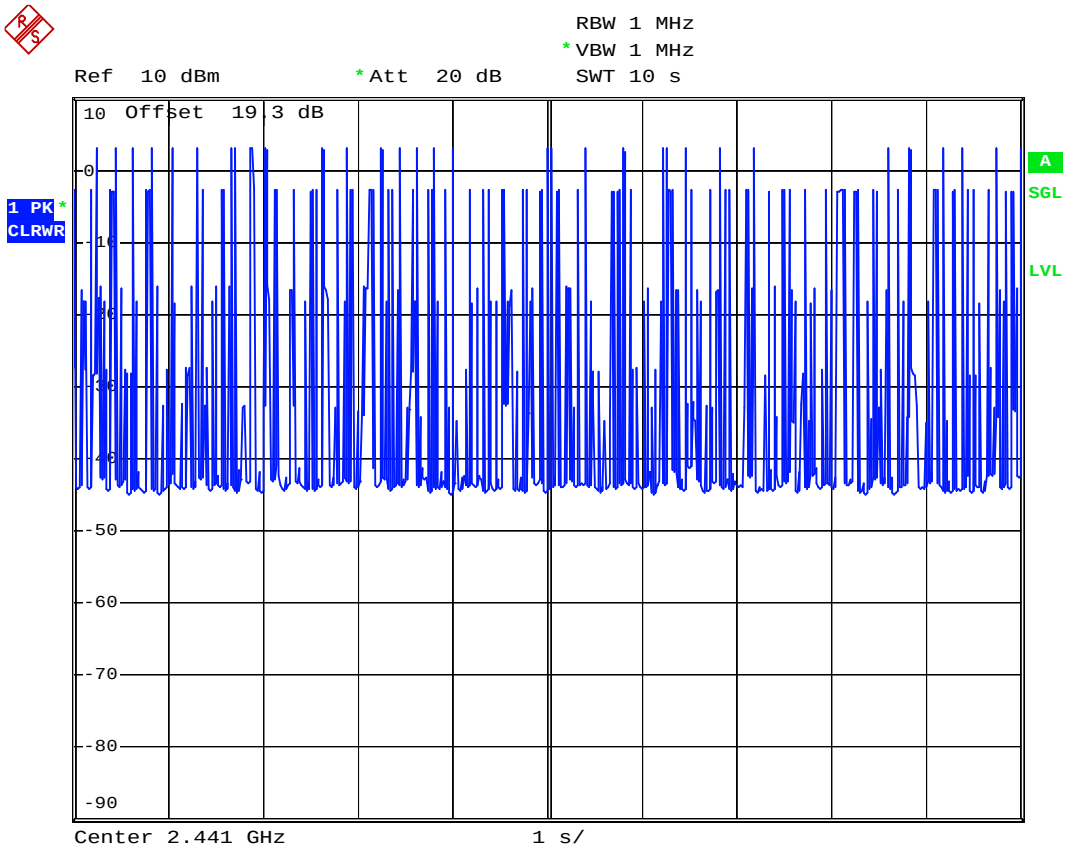


Date: 7.SEP.2007 22:43:16

BT-EDR(2Mbps)_DH5 (CH39)

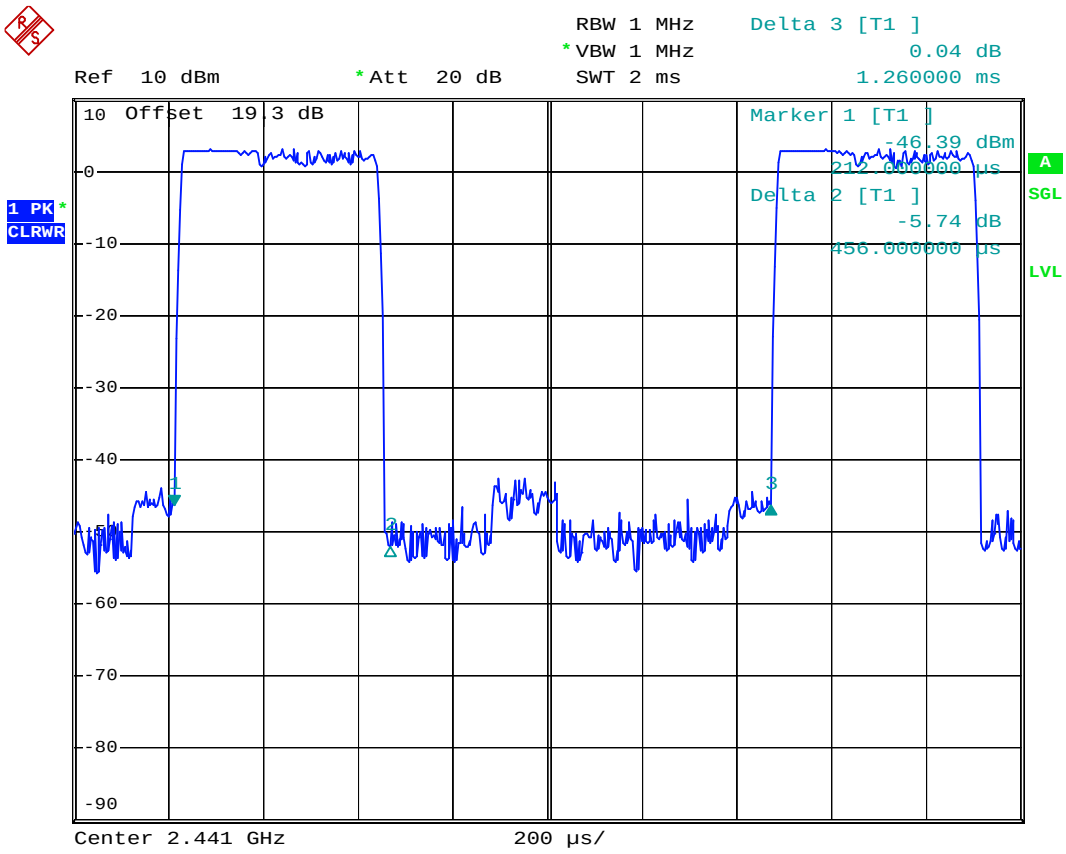


Date: 7.SEP.2007 21:59:21

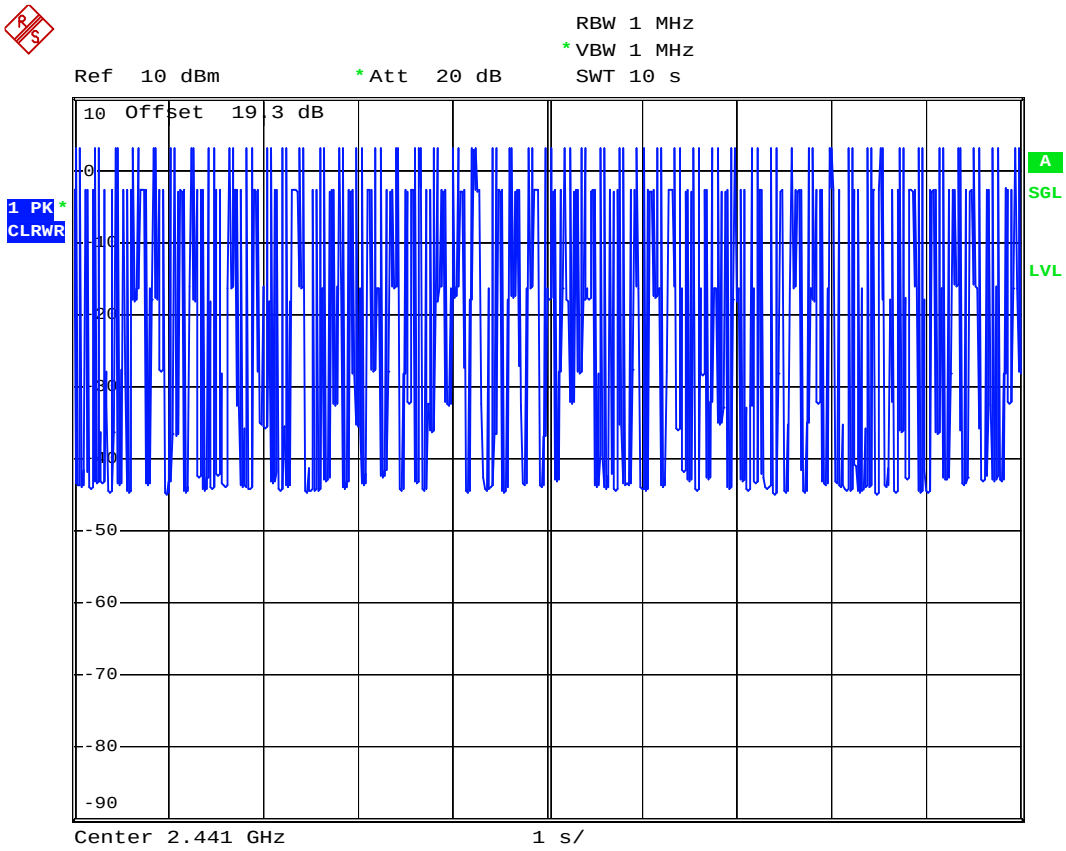


Date: 7.SEP.2007 22:12:50

BT-EDR(3Mbps)_DH1 (CH39)

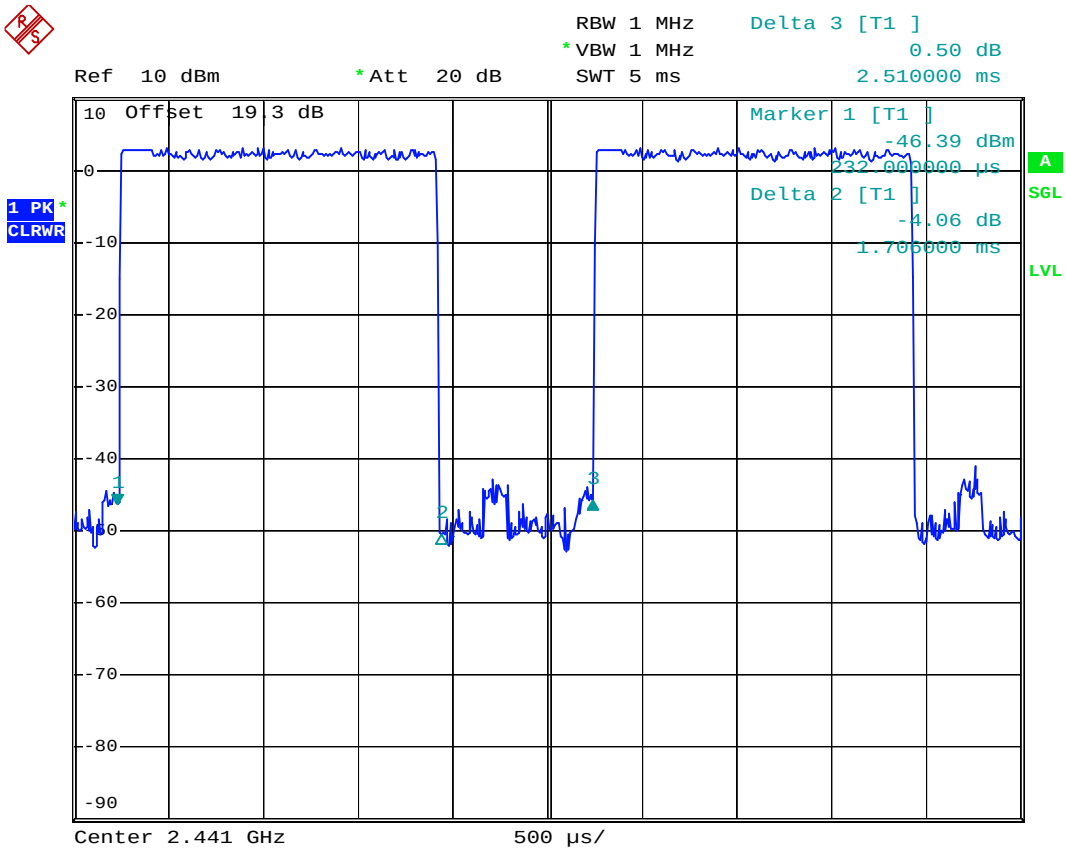


Date: 7.SEP.2007 22:32:37

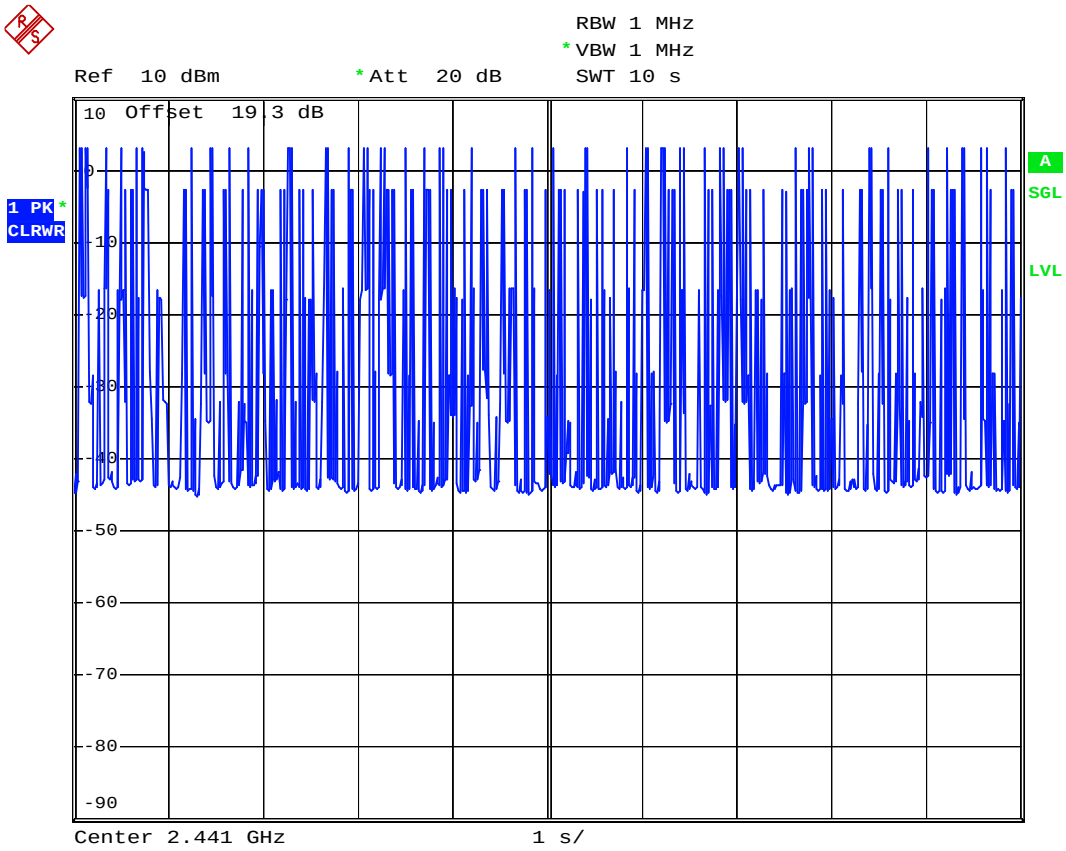


Date: 7.SEP.2007 22:39:51

BT-EDR(3Mbps)_DH3 (CH39)

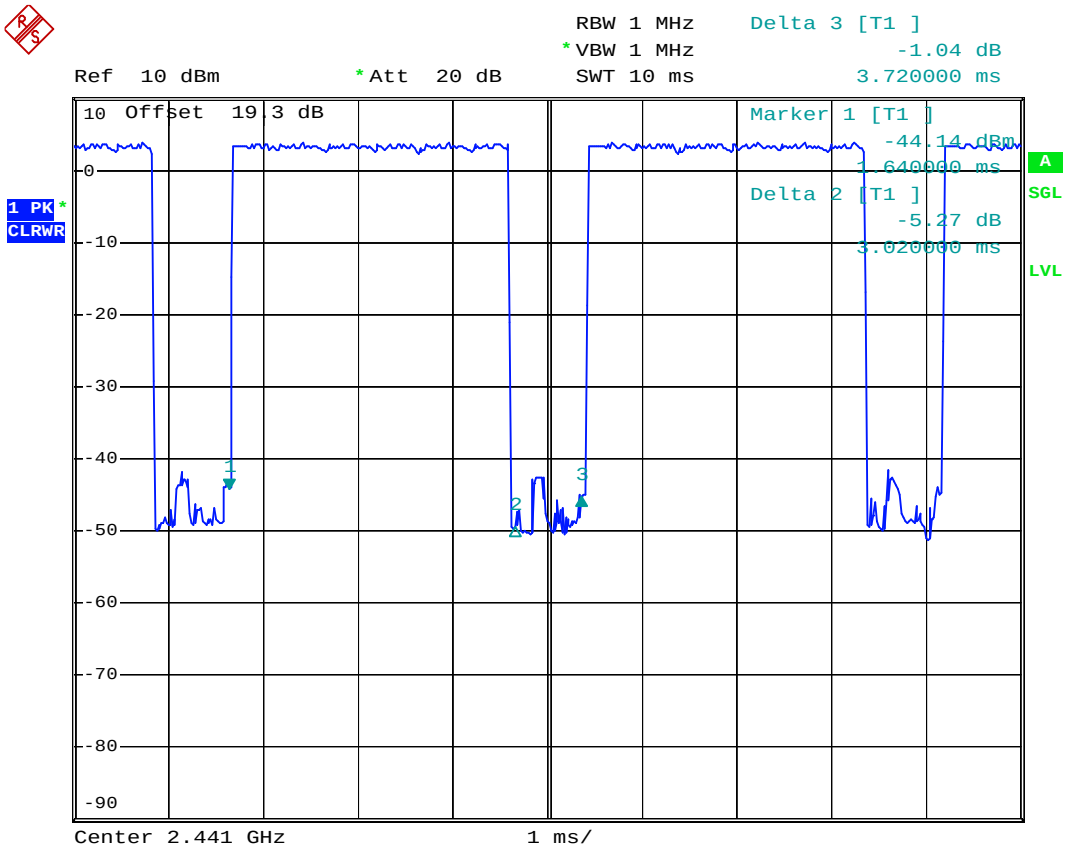


Date: 7.SEP.2007 22:33:20

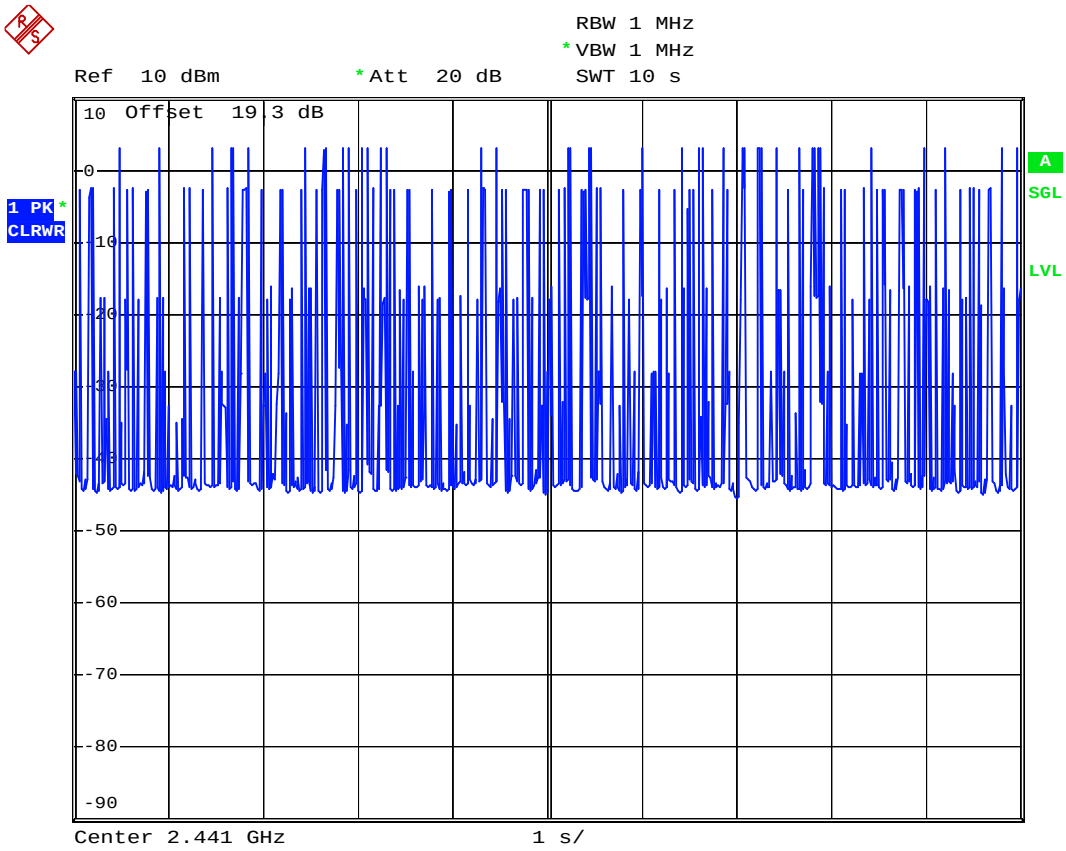


Date: 7.SEP.2007 22:42:12

BT-EDR(3Mbps)_DH5 (CH39)



Date: 8.SEP.2007 01:57:46



Date: 7.SEP.2007 22:42:43

5.9 Peak Output Power Measurement

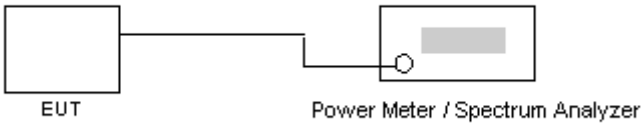
5.9.1 Measuring Instruments：

As described in chapter 6 of this test report.

5.9.2 Test Procedure：

1. The antenna port（RF output） of the EUT was connected to the input（RF input）of a power meter for WLAN measurement. The power is equal to the reading level on power meter plus cable loss at the EUT antenna terminal.
2. The antenna port(RF output) of the EUT was connected to the input (RF input) of a spectrum analyzer for BT measurement. The cable loss has been offset before testing.

5.9.3 Test Setup Layout：



5.9.4 Test Result：

Application Type : WLAN 802.11b/g and BT
Temperature : 26~27℃
Relative Humidity : 53~54%
Test Enginner : James

WLAN 802.11b

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
01	2412	17.31	1W/30 dBm
06	2437	17.35	1W/30 dBm
11	2462	16.39	1W/30 dBm

WLAN 802.11g

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
01	2412	20.97	1W/30 dBm
06	2437	21.20	1W/30 dBm
11	2462	19.84	1W/30 dBm

BT(1Mbps)

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
00	2402	3.33	1W/30 dBm
39	2441	3.46	1W/30 dBm
78	2480	3.44	1W/30 dBm

BT-EDR(2Mbps)

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
00	2402	3.47	1W/30 dBm
39	2441	3.42	1W/30 dBm
78	2480	3.05	1W/30 dBm

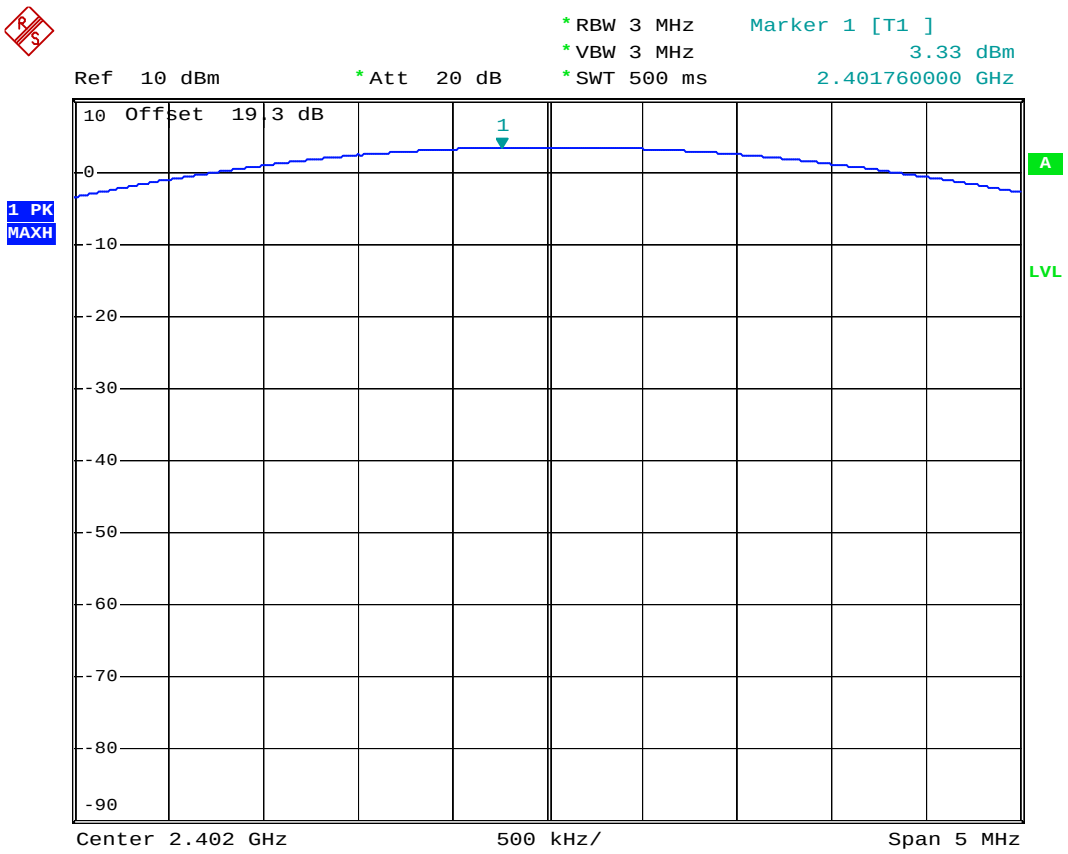
BT-EDR(3Mbps)

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
00	2402	3.89	1W/30 dBm
39	2441	3.77	1W/30 dBm
78	2480	3.38	1W/30 dBm

5.9.5 Output Power

BT(1Mbps)

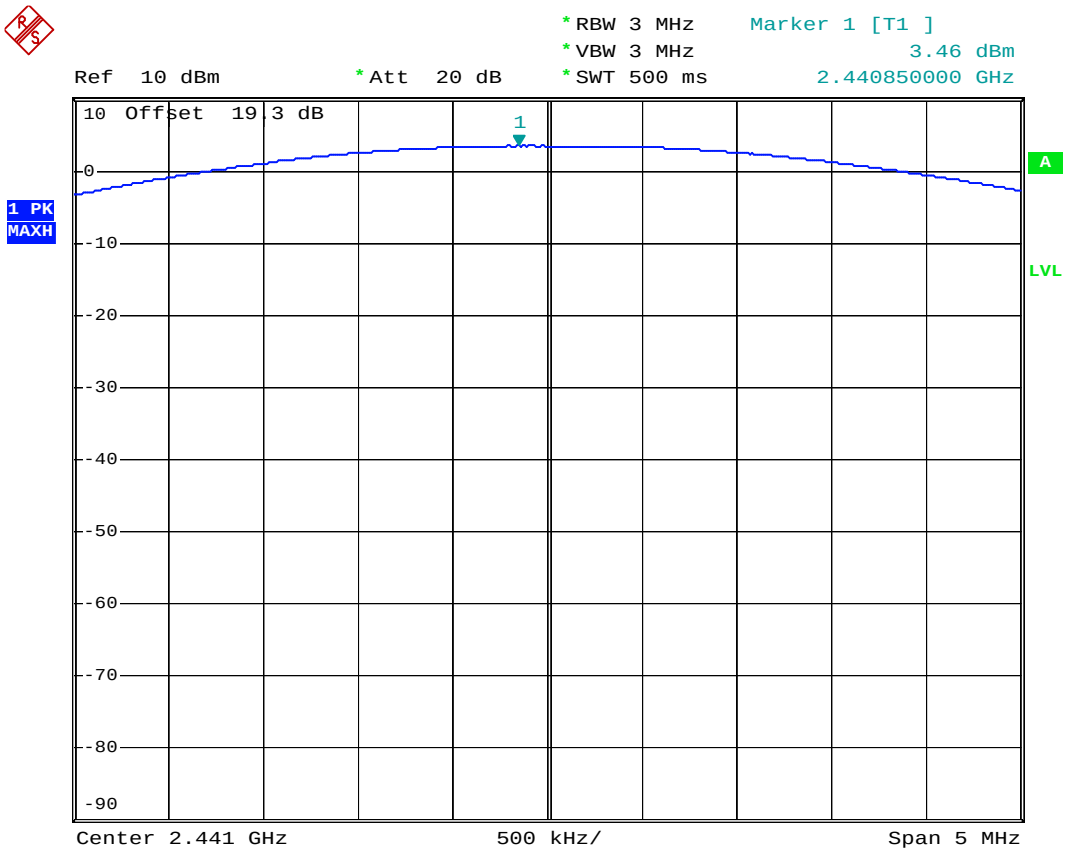
Mode : CH00 (2402MHz)



Date: 7.SEP.2007 11:29:25

BT(1Mbps)

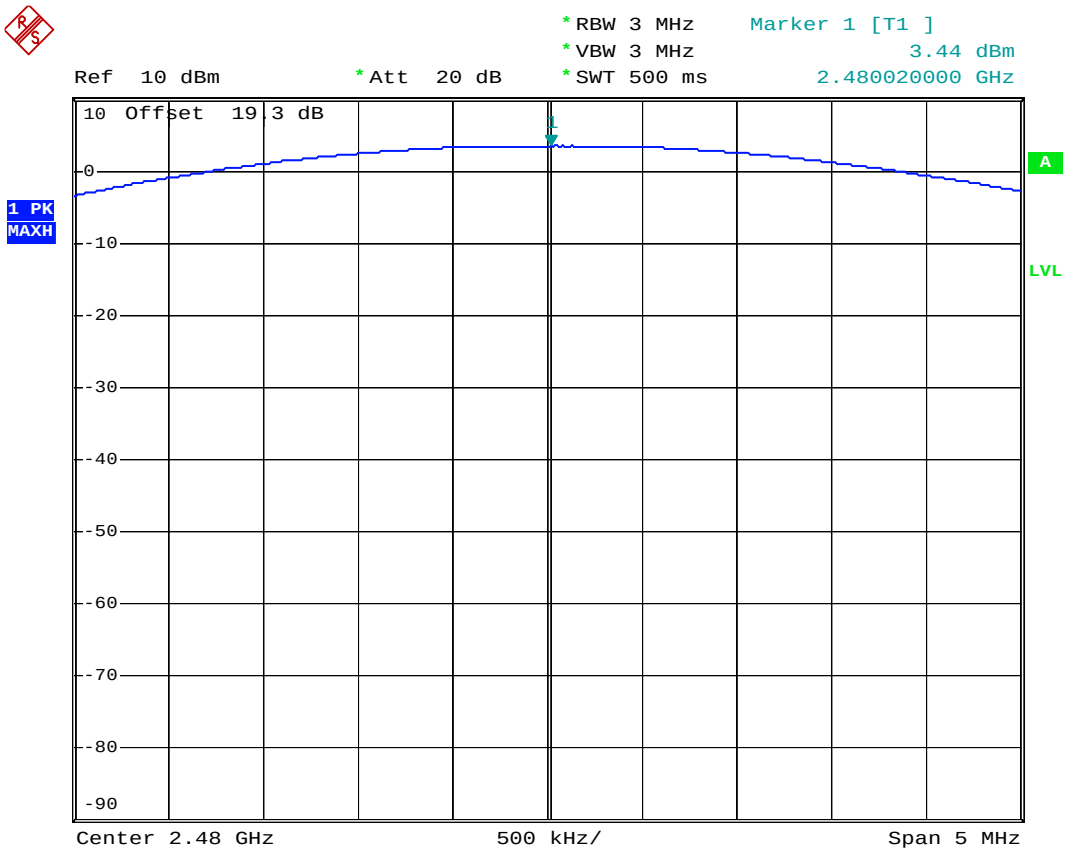
Mode : CH39 (2441MHz)



Date: 7.SEP.2007 11:30:49

BT(1Mbps)

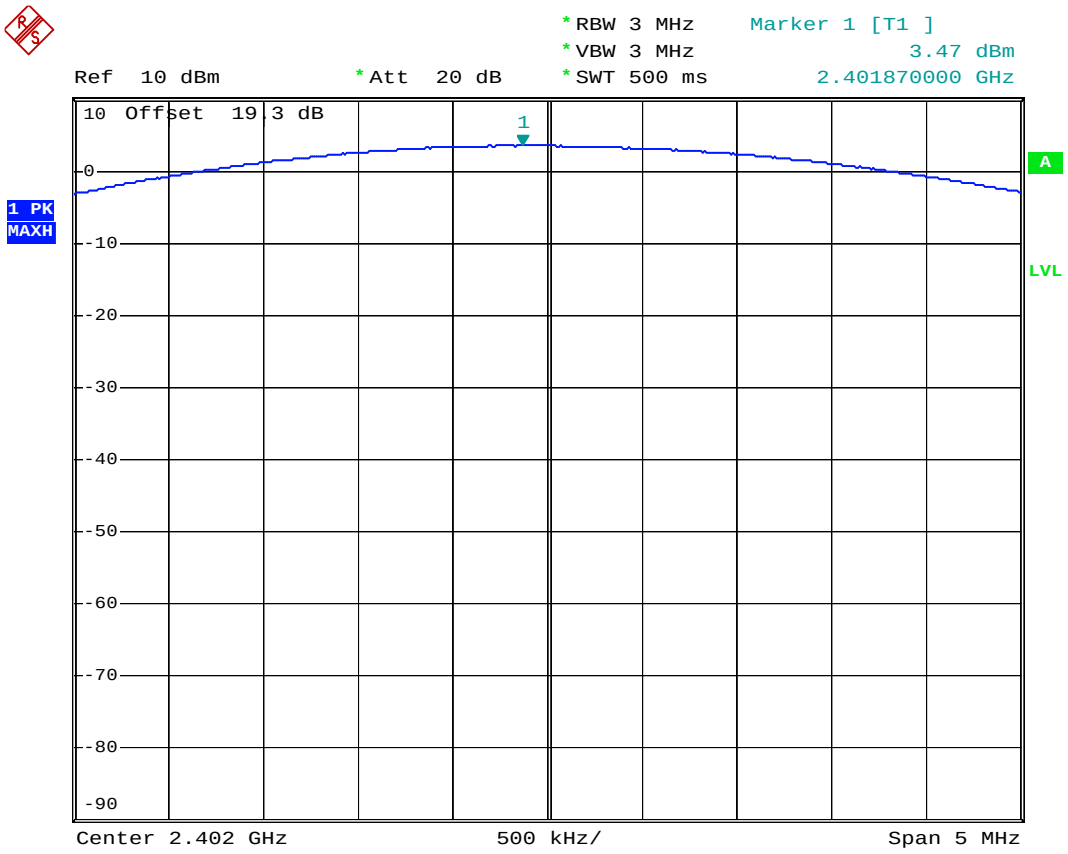
Mode : CH78 (2480MHz)



Date: 7.SEP.2007 11:31:11

BT-EDR(2Mbps)

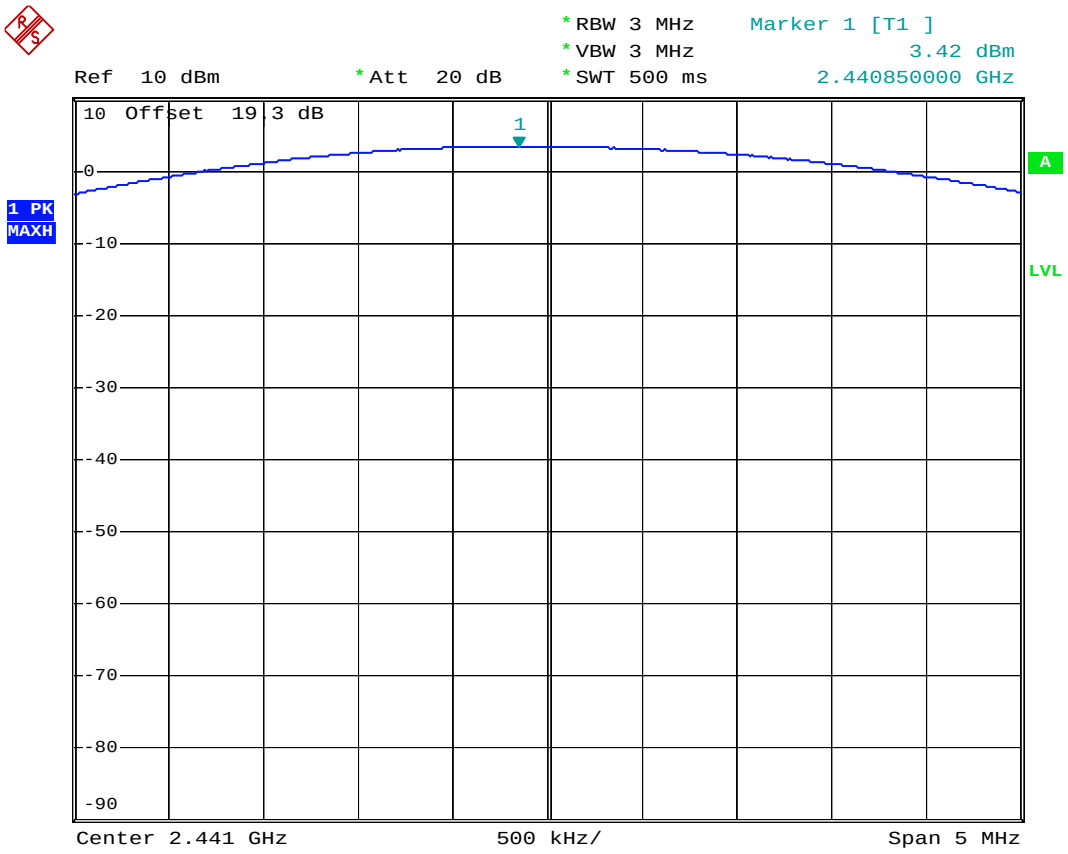
Mode : CH00 (2402MHz)



Date: 7.SEP.2007 21:48:23

BT-EDR(2Mbps)

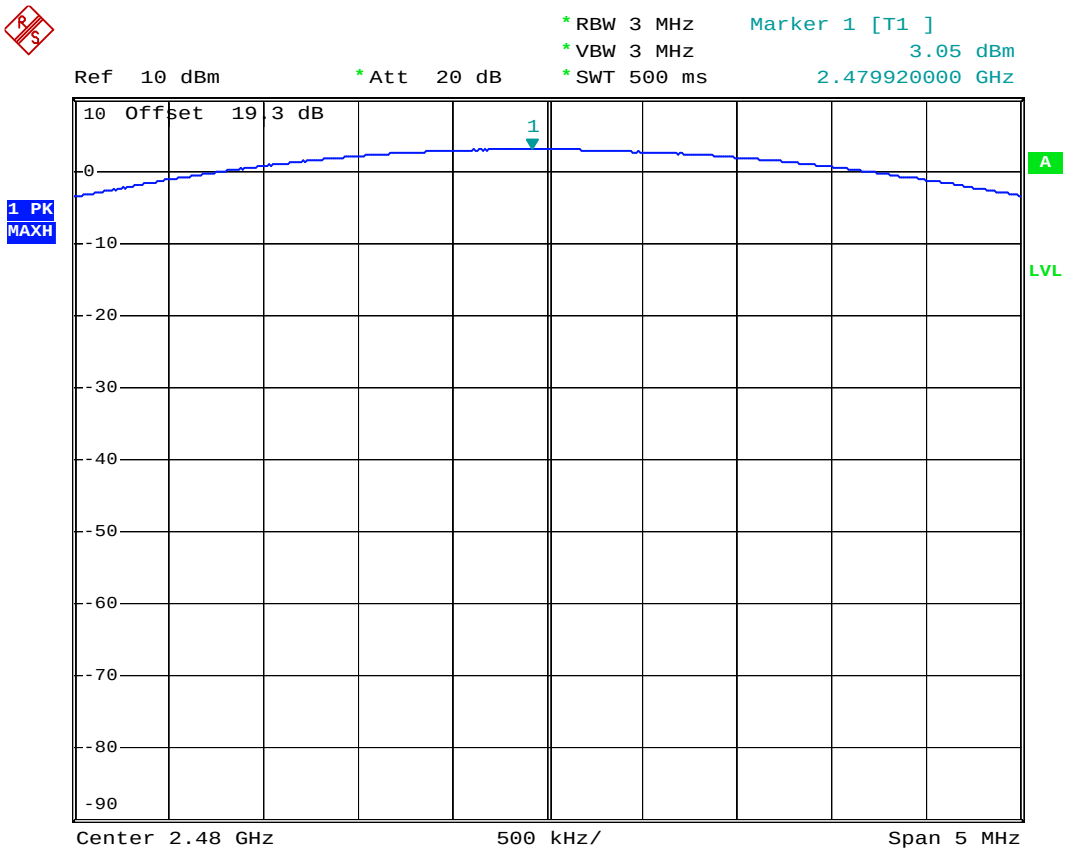
Mode : CH39 (2441MHz)



Date: 7.SEP.2007 21:48:43

BT-EDR(2Mbps)

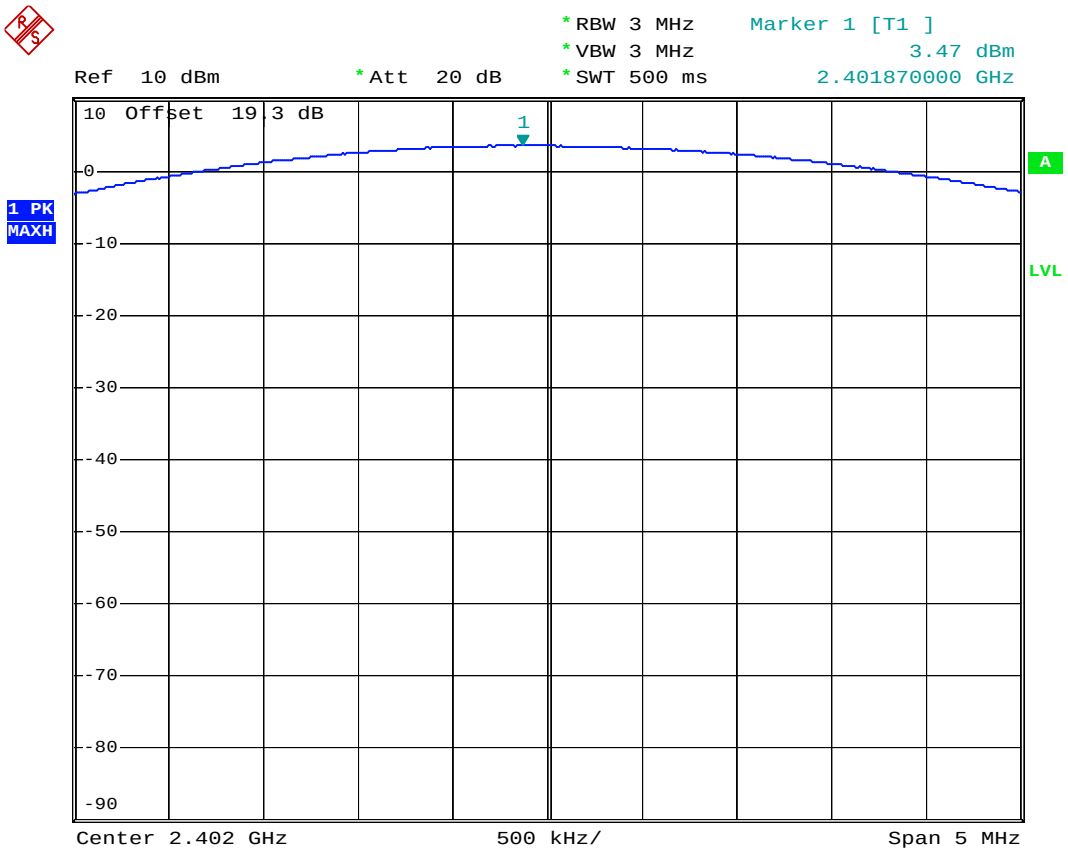
Mode : CH78 (2480MHz)



Date: 7.SEP.2007 21:48:58

BT-EDR(3Mbps)

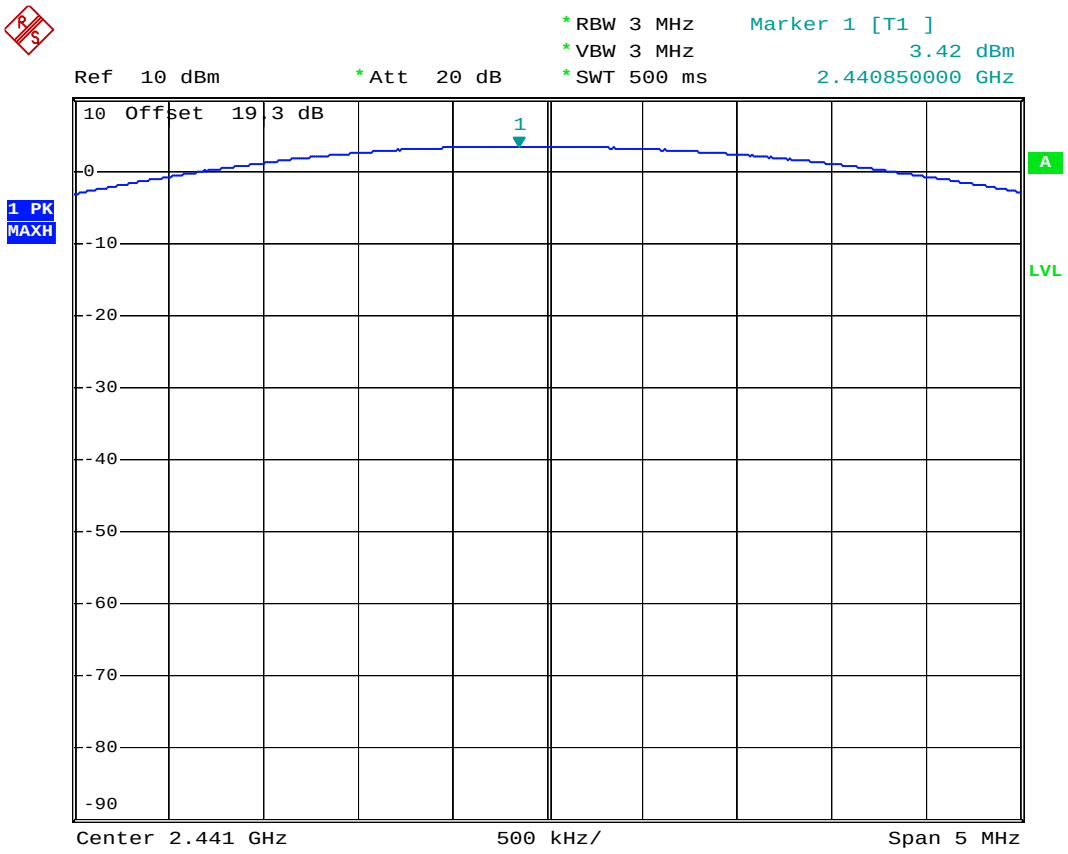
Mode : CH00 (2402MHz)



Date: 7.SEP.2007 21:48:23

BT-EDR(3Mbps)

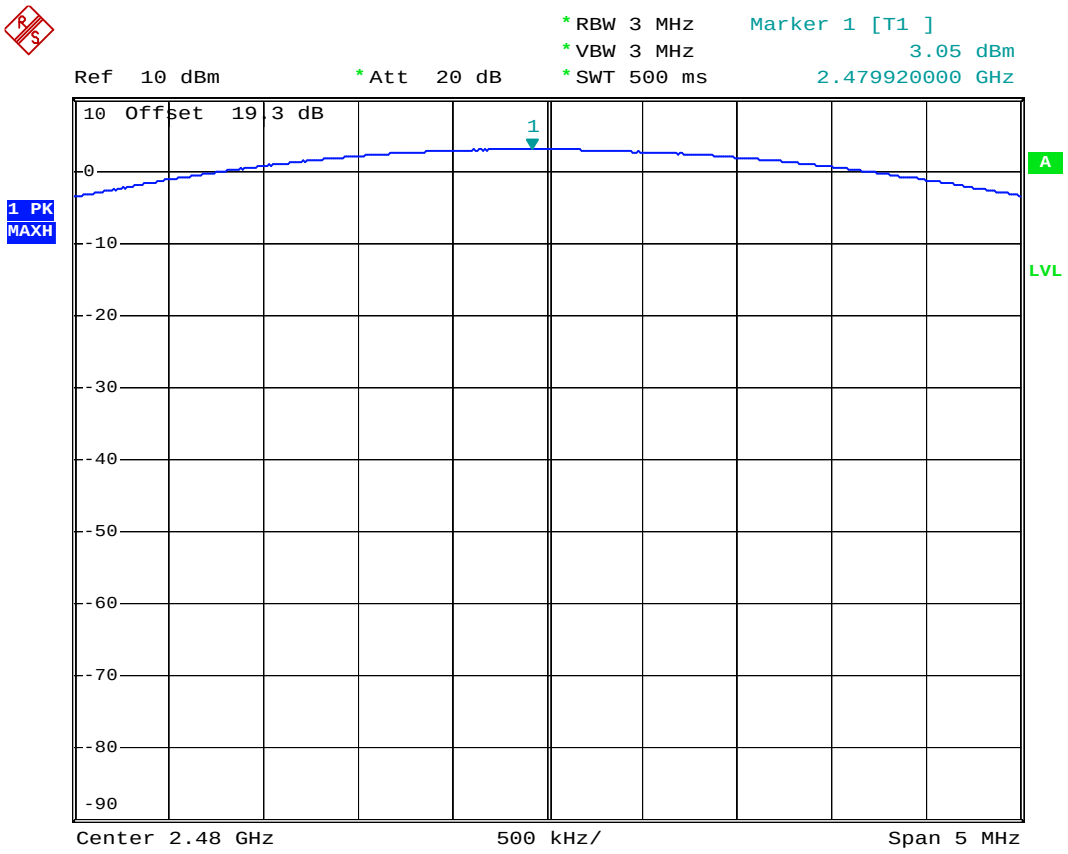
Mode : CH39 (2441MHz)



Date: 7.SEP.2007 21:48:43

BT-EDR(3Mbps)

Mode : CH78 (2480MHz)



Date: 7.SEP.2007 21:48:58

5.10 Conducted Emission

5.10.1 Measuring Instruments

As describ ed in chapter 6 of this test Report.

The receiver setting :

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

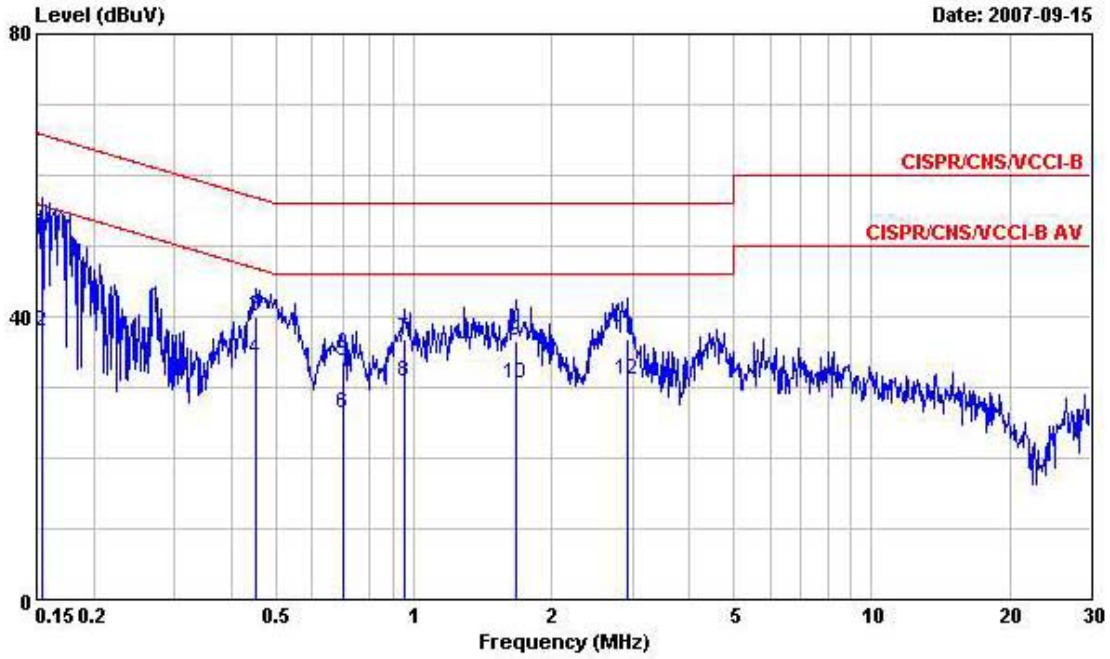
5.10.2 Test Procedures：

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.

5.10.3 Test Data

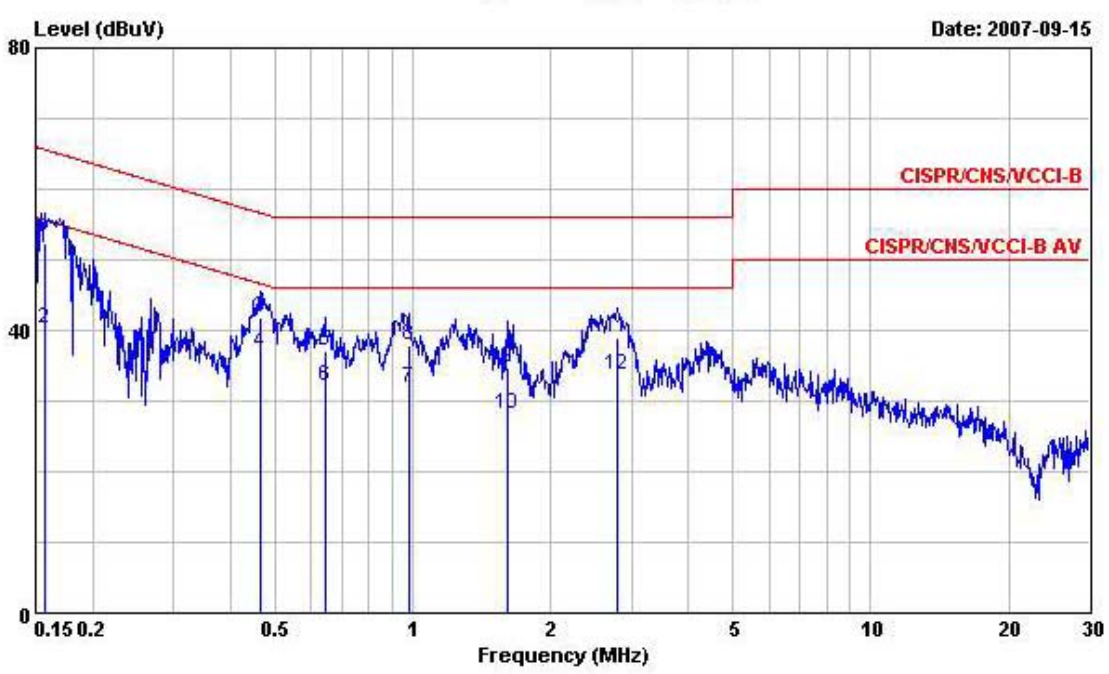
Temperature : 26~27℃
Relative Humidity : 53~54%
Test Enginner : James
Test Mode : Mode 1

■ **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 : PDA Phone
POWER: 120Vac/60Hz
Model : FR 761327-04
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	0.1540270	51.91	-13.87	65.78	51.67	0.10	0.14	QP
2	0.1540270	37.88	-17.90	55.78	37.64	0.10	0.14	Average
3	0.4515500	39.94	-16.91	56.85	39.15	0.10	0.69	QP
4	0.4515500	33.89	-12.96	46.85	33.10	0.10	0.69	Average
5	0.7009560	33.77	-22.23	56.00	33.12	0.10	0.55	QP
6	0.7009560	26.26	-19.74	46.00	25.61	0.10	0.55	Average
7	0.9531270	36.90	-19.10	56.00	36.34	0.10	0.46	QP
8	0.9531270	30.76	-15.24	46.00	30.20	0.10	0.46	Average
9	1.670	36.49	-19.51	56.00	35.96	0.10	0.43	QP
10	1.670	30.60	-15.40	46.00	30.07	0.10	0.43	Average
11	2.917	36.72	-19.28	56.00	36.25	0.10	0.37	QP
12	2.917	31.12	-14.88	46.00	30.65	0.10	0.37	Average

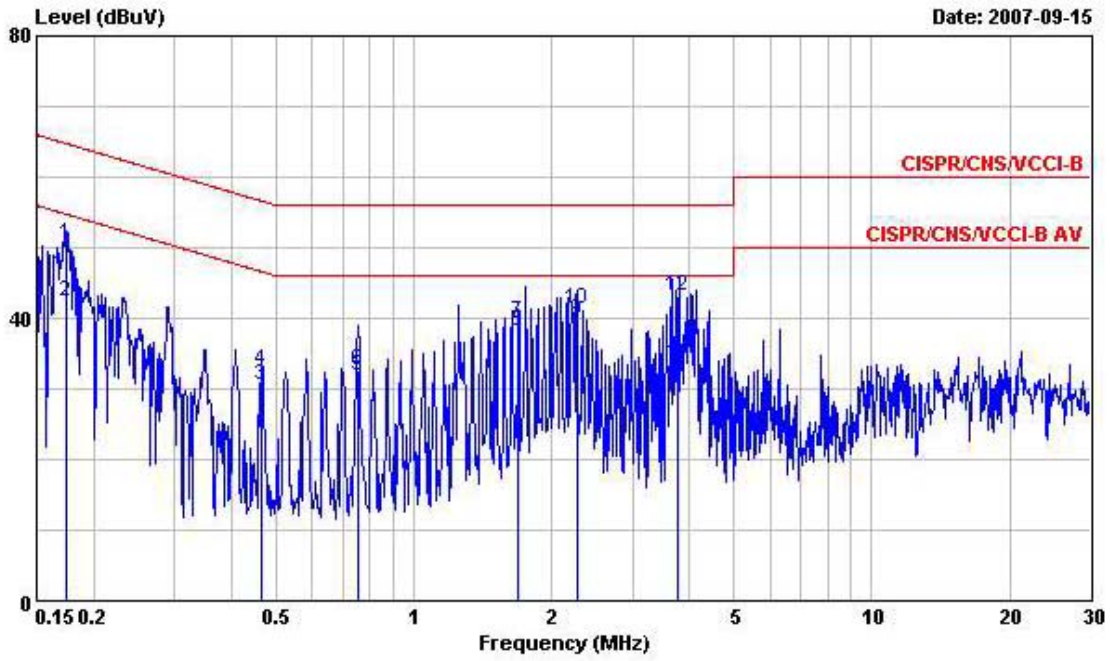


Site : CO04-HY
Condition : CISPR/CNS/VCCI-B LISN 200704 99041 NEUTRAL
EUT : PDA Phone
POWER: 120Vac/60Hz
Model : FR 761327-04
Memo : GSM850 Idle+BT Link+WLAN Link+Earphone
: +Camera+MPEG4+GPS Rx+Adaptor

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1573260	52.48	-13.12	65.60	52.24	0.10	0.14	QP
2	0.1573260	40.26	-15.34	55.60	40.02	0.10	0.14	Average
3	0.4636720	41.91	-14.72	56.63	41.13	0.10	0.68	QP
4	0.4636720	36.75	-9.88	46.63	35.97	0.10	0.68	Average
5	0.6439830	37.20	-18.80	56.00	36.52	0.10	0.58	QP
6	0.6439830	32.11	-13.89	46.00	31.43	0.10	0.58	Average
7	0.9787140	31.86	-14.14	46.00	31.31	0.10	0.45	Average
8	0.9787140	37.89	-18.11	56.00	37.34	0.10	0.45	QP
9	1.610	34.81	-21.19	56.00	34.28	0.10	0.43	QP
10	1.610	28.24	-17.76	46.00	27.71	0.10	0.43	Average
11	2.790	39.01	-16.99	56.00	38.48	0.15	0.38	QP
12	2.790	33.67	-12.33	46.00	33.14	0.15	0.38	Average

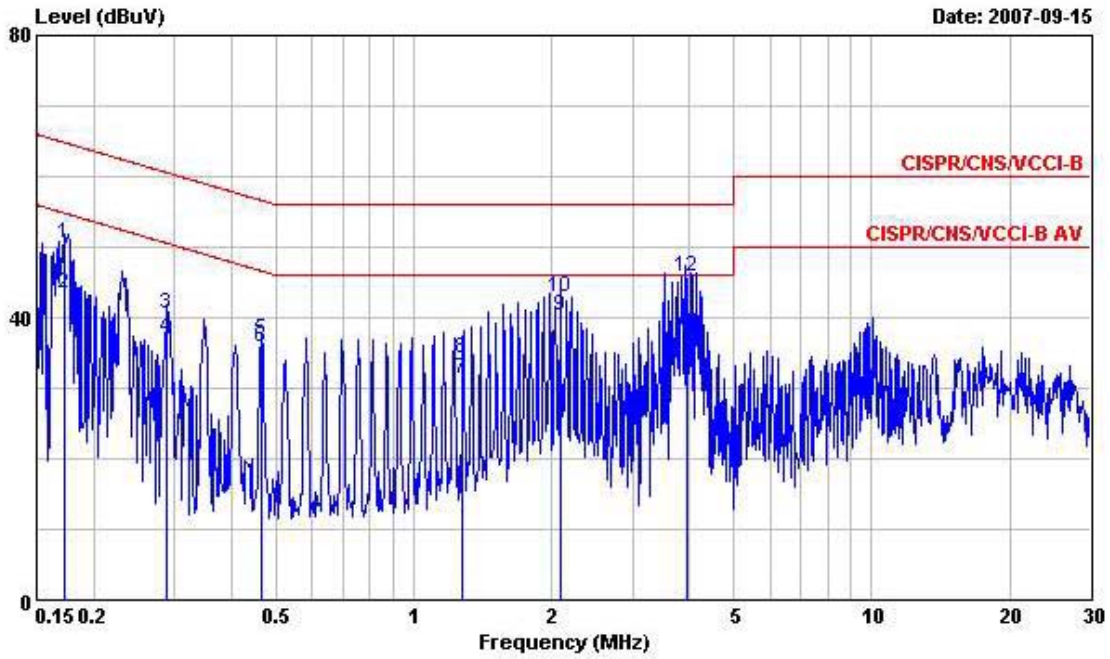
Temperature : 26~27℃
Relative Humidity : 53~54%
Test Enginner : James
Test Mode : Mode 2

■ **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 : PDA Phone
POWER: From System
Model : FR 761327-04
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		0.1749130	50.64	-14.08	64.72	50.40	0.10	0.14	QP
2		0.1749130	42.35	-12.37	54.72	42.11	0.10	0.14	Average
3		0.4661350	30.64	-15.94	46.58	29.86	0.10	0.68	Average
4		0.4661350	32.50	-24.08	56.58	31.72	0.10	0.68	QP
5		0.7549280	31.82	-14.18	46.00	31.19	0.10	0.53	Average
6		0.7549280	32.53	-23.47	56.00	31.90	0.10	0.53	QP
7		1.684	39.45	-16.55	56.00	38.92	0.10	0.43	QP
8	@	1.684	38.04	-7.96	46.00	37.51	0.10	0.43	Average
9	@	2.268	39.70	-6.30	46.00	39.19	0.10	0.41	Average
10		2.268	41.38	-14.62	56.00	40.87	0.10	0.41	QP
11		3.781	33.44	-12.56	46.00	33.01	0.10	0.33	Average
12		3.781	43.09	-12.91	56.00	42.66	0.10	0.33	QP

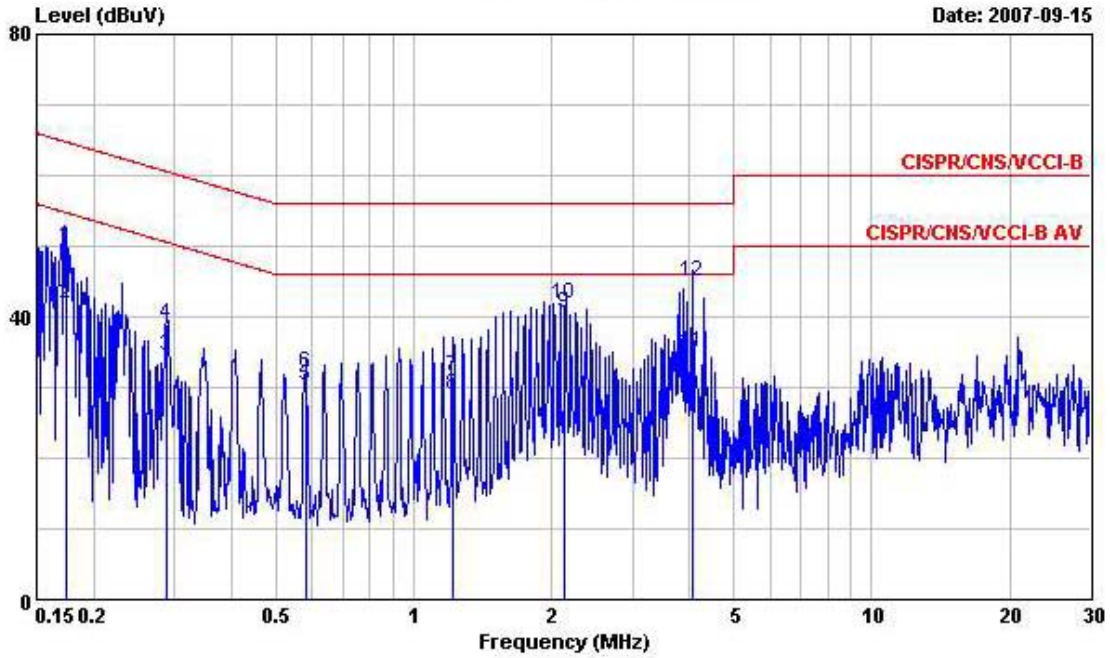


Site : CO04-HY
Condition : CISPR/CNS/VCCI-B LISN 200704 99041 NEUTRAL
EUT : PDA Phone
POWER: From System
Model : FR 761327-04
Memo : GSM850 Idle+BT Link+WLAN Link+Earphone
: +Camera+MPEG4+GPS Rx+USB Link

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1721540	50.56	-14.30	64.86	50.32	0.10	0.14	QP
2	0.1721540	43.49	-11.37	54.86	43.25	0.10	0.14	Average
3	0.2893470	40.50	-20.04	60.54	39.94	0.10	0.46	QP
4	0.2893470	37.02	-13.52	50.54	36.46	0.10	0.46	Average
5	0.4636720	36.78	-19.85	56.63	36.00	0.10	0.68	QP
6	0.4636720	35.79	-10.84	46.63	35.01	0.10	0.68	Average
7	1.280	31.31	-14.69	46.00	30.77	0.10	0.44	Average
8	1.280	34.32	-21.68	56.00	33.78	0.10	0.44	QP
9 @	2.090	40.38	-5.62	46.00	39.85	0.11	0.42	Average
10	2.090	43.01	-12.99	56.00	42.48	0.11	0.42	QP
11 @	3.944	37.18	-8.82	46.00	36.66	0.20	0.32	Average
12	3.944	45.76	-10.24	56.00	45.24	0.20	0.32	QP

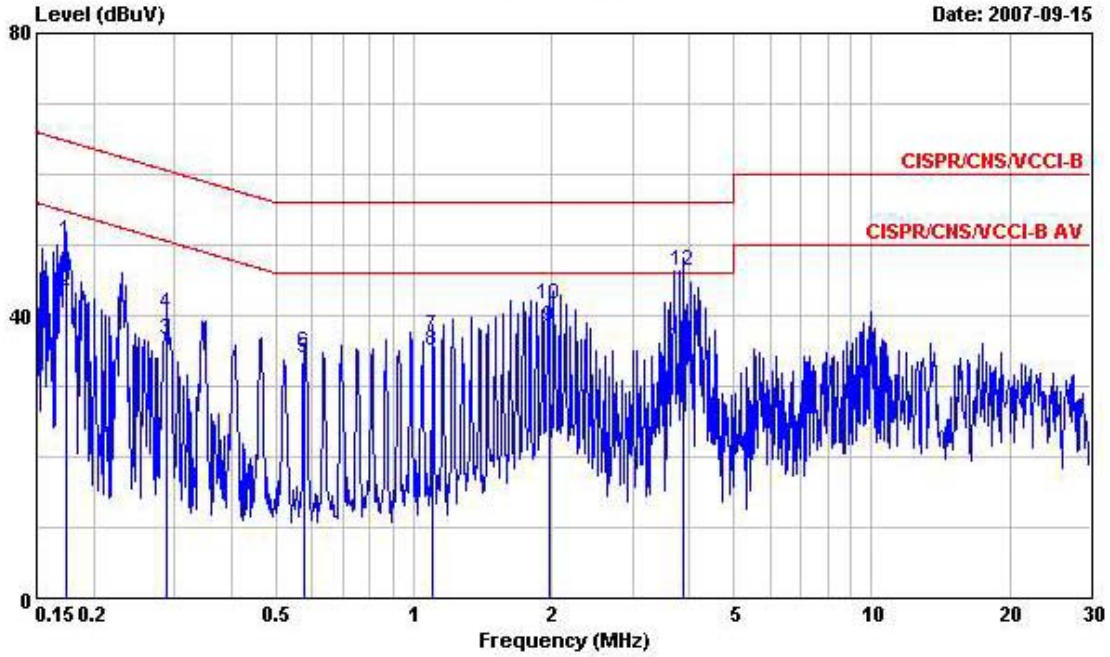
Temperature : 26~27℃
Relative Humidity : 53~54%
Test Enginner : James
Test Mode : Mode 3

■ **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 : PDA Phone
POWER: From System
Model : FR761327-04
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		0.1739880	49.94	-14.83	64.77	49.70	0.10	0.14	QP
2		0.1739880	41.83	-12.94	54.77	41.59	0.10	0.14	Average
3		0.2878180	34.50	-16.09	50.59	33.95	0.10	0.45	Average
4		0.2878180	39.07	-21.52	60.59	38.52	0.10	0.45	QP
5		0.5792340	30.20	-15.80	46.00	29.49	0.10	0.61	Average
6		0.5792340	32.13	-23.87	56.00	31.42	0.10	0.61	QP
7		1.220	31.62	-24.38	56.00	31.08	0.10	0.44	QP
8		1.220	28.94	-17.06	46.00	28.40	0.10	0.44	Average
9	@	2.140	40.52	-5.48	46.00	40.00	0.10	0.42	Average
10		2.140	41.91	-14.09	56.00	41.39	0.10	0.42	QP
11		4.054	35.11	-10.89	46.00	34.69	0.10	0.32	Average
12		4.054	44.87	-11.13	56.00	44.45	0.10	0.32	QP

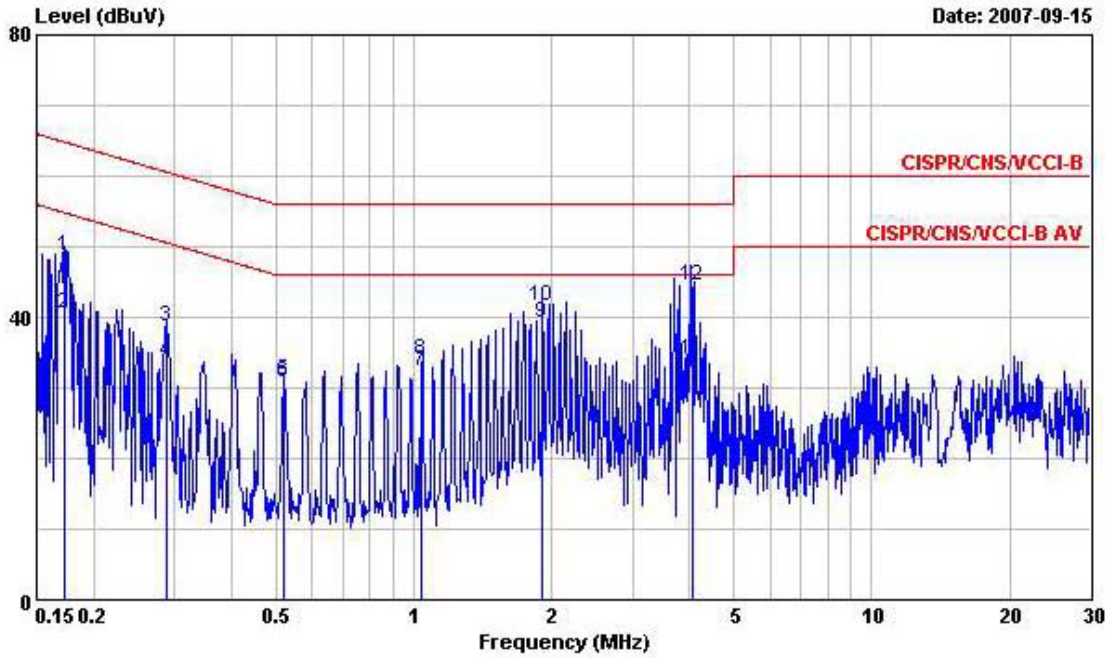


Site : CO04-HY
Condition : CISPR/CNS/VCCI-B LISN 200704 99041 NEUTRAL
EUT : PDA Phone
POWER: From System
Model : FR 761327-04
Memo : EDGE Idle+BT Link+WLAN Link+Earphone
: +Camera+MPEG4+GPS Rx+USB Link

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.1739880	50.58	-14.19	64.77	50.34	0.10	0.14	QP
2		0.1739880	43.34	-11.43	54.77	43.10	0.10	0.14	Average
3		0.2893470	36.68	-13.86	50.54	36.12	0.10	0.46	Average
4		0.2893470	40.16	-20.38	60.54	39.60	0.10	0.46	QP
5		0.5761730	33.94	-12.06	46.00	33.23	0.10	0.61	Average
6		0.5761730	34.71	-21.29	56.00	34.00	0.10	0.61	QP
7		1.100	37.23	-18.77	56.00	36.69	0.10	0.44	QP
8		1.100	34.91	-11.09	46.00	34.37	0.10	0.44	Average
9	@	1.970	38.53	-7.47	46.00	38.00	0.10	0.43	Average
10		1.970	41.56	-14.44	56.00	41.03	0.10	0.43	QP
11		3.880	35.91	-10.09	46.00	35.38	0.20	0.33	Average
12	@	3.880	46.37	-9.63	56.00	45.84	0.20	0.33	QP

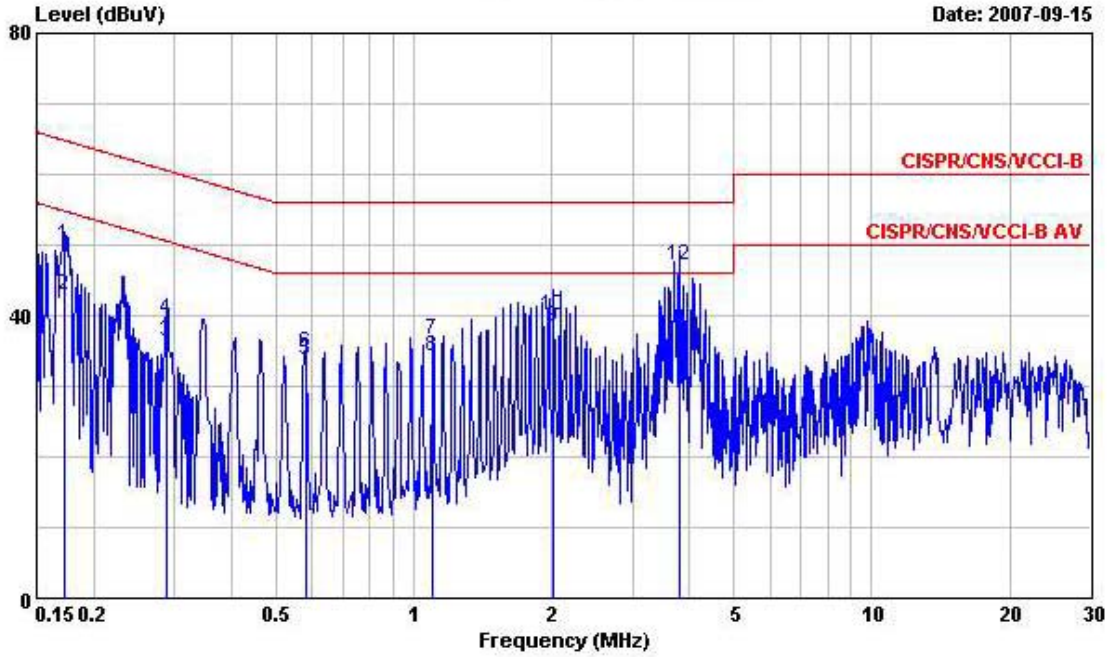
Temperature : 26~27℃
Relative Humidity : 53~54%
Test Enginner : James
Test Mode : Mode 4

■ **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 : PDA Phone
POWER: From System
Model : FR 761327-04
Memo : WCDMA 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		0.1721540	48.69	-16.17	64.86	48.45	0.10	0.14	QP
2		0.1721540	40.63	-14.23	54.86	40.39	0.10	0.14	Average
3		0.2893470	38.73	-21.81	60.54	38.17	0.10	0.46	QP
4		0.2893470	33.76	-16.78	50.54	33.20	0.10	0.46	Average
5		0.5209950	31.15	-24.85	56.00	30.40	0.10	0.65	QP
6		0.5209950	30.82	-15.18	46.00	30.07	0.10	0.65	Average
7		1.040	32.44	-13.56	46.00	31.90	0.10	0.44	Average
8		1.040	34.01	-21.99	56.00	33.47	0.10	0.44	QP
9	@	1.910	39.10	-6.90	46.00	38.57	0.10	0.43	Average
10		1.910	41.68	-14.32	56.00	41.15	0.10	0.43	QP
11		4.052	33.94	-12.06	46.00	33.52	0.10	0.32	Average
12		4.052	44.39	-11.61	56.00	43.97	0.10	0.32	QP

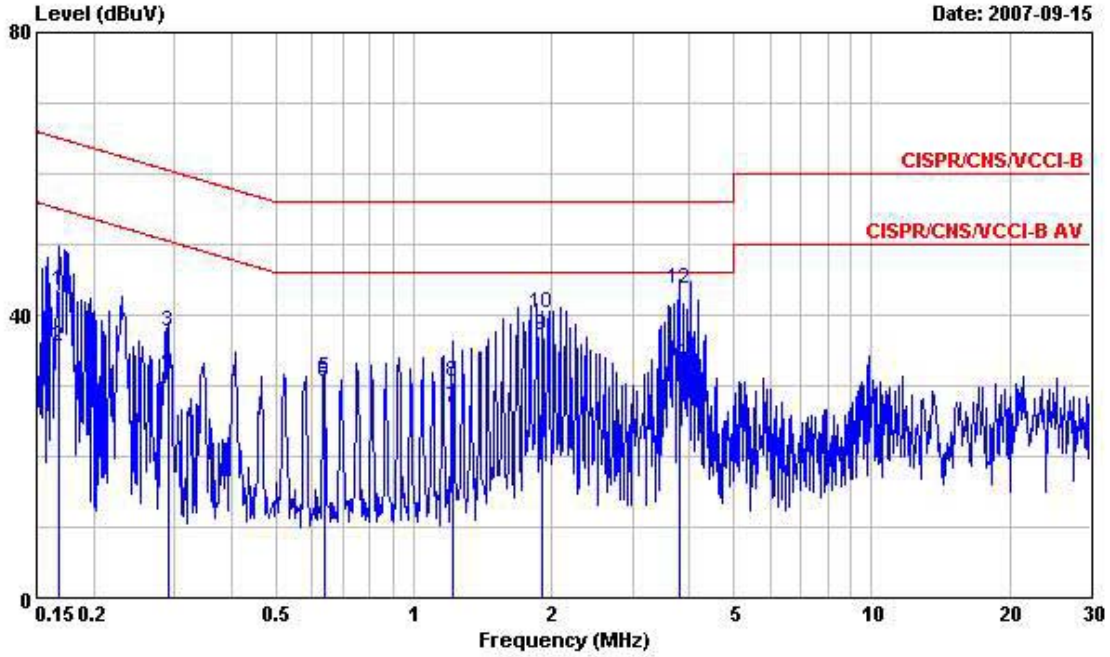


Site : CO04-HY
Condition : CISPR/CNS/VCCI-B LISN 200704 99041 NEUTRAL
EUT : PDA Phone
POWER: From System
Model : FR 761327-04
Memo : WCDMA Idle+BT Link+WLAN Link+Earphone
: +Camera+MPEG4+GPS Rx+USB Link

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.1721540	49.90	-14.96	64.86	49.66	0.10	0.14	QP
2		0.1721540	42.83	-12.03	54.86	42.59	0.10	0.14	Average
3		0.2893470	36.25	-14.29	50.54	35.69	0.10	0.46	Average
4		0.2893470	39.57	-20.97	60.54	39.01	0.10	0.46	QP
5		0.5792340	33.75	-12.25	46.00	33.04	0.10	0.61	Average
6		0.5792340	34.79	-21.21	56.00	34.08	0.10	0.61	QP
7		1.100	36.59	-19.41	56.00	36.05	0.10	0.44	QP
8		1.100	34.16	-11.84	46.00	33.62	0.10	0.44	Average
9	@	2.021	38.30	-7.70	46.00	37.77	0.10	0.43	Average
10		2.021	39.92	-16.08	56.00	39.39	0.10	0.43	QP
11	@	3.820	36.31	-9.69	46.00	35.79	0.19	0.33	Average
12	@	3.820	47.14	-8.86	56.00	46.62	0.19	0.33	QP

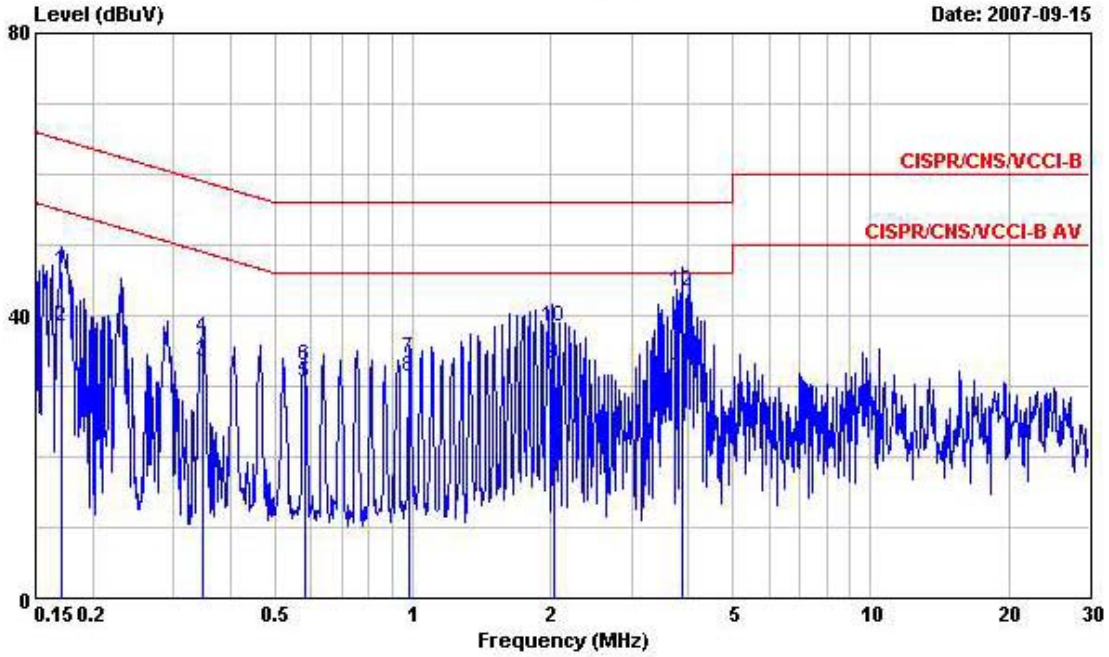
Temperature : 26~27℃
Relative Humidity : 53~54%
Test Enginner : James
Test Mode : Mode 5

■ **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 : PDA Phone
POWER: From System
Model : FR 761327-04
Memo : HSDPA 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	0.1685440	43.44	-21.59	65.03	43.20	0.10	0.14	QP
2	0.1685440	35.40	-19.63	55.03	35.16	0.10	0.14	Average
3	0.2908840	37.75	-22.75	60.50	37.19	0.10	0.46	QP
4	0.2908840	32.46	-18.04	50.50	31.90	0.10	0.46	Average
5	0.6371950	30.98	-25.02	56.00	30.30	0.10	0.58	QP
6	0.6371950	30.40	-15.60	46.00	29.72	0.10	0.58	Average
7	1.220	26.84	-19.16	46.00	26.30	0.10	0.44	Average
8	1.220	30.62	-25.38	56.00	30.08	0.10	0.44	QP
9 @	1.913	37.13	-8.87	46.00	36.60	0.10	0.43	Average
10	1.913	40.16	-15.84	56.00	39.63	0.10	0.43	QP
11	3.820	33.15	-12.85	46.00	32.72	0.10	0.33	Average
12	3.820	43.70	-12.30	56.00	43.27	0.10	0.33	QP

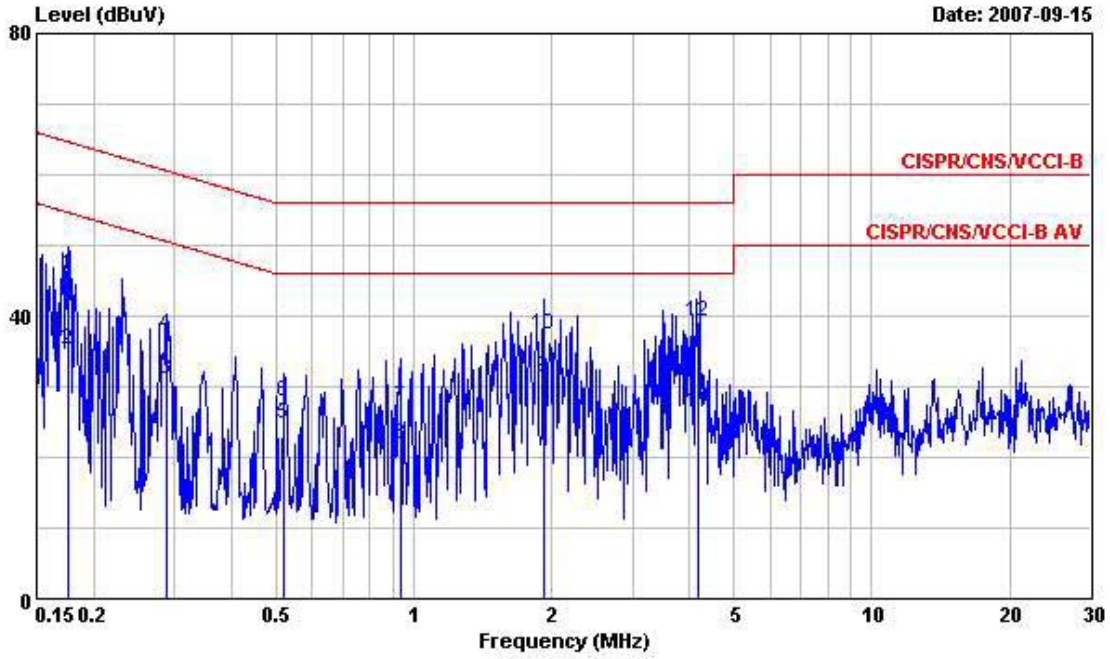


Site : CO04-HY
Condition : CISPR/CNS/VCCI-B LISN 200704 99041 NEUTRAL
EUT : PDA Phone
POWER: From System
Model : FR 761327-04
Memo : HSDPA Idle+BT Link+WLAN Link+Earphone
: +Camera+MPEG4+GPS Rx+USB Link

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1712450	46.41	-18.49	64.90	46.17	0.10	0.14	QP
2	0.1712450	38.53	-16.37	54.90	38.29	0.10	0.14	Average
3	0.3483010	33.39	-15.61	49.00	32.68	0.10	0.61	Average
4	0.3483010	36.81	-22.19	59.00	36.10	0.10	0.61	QP
5	0.5792340	30.64	-15.36	46.00	29.93	0.10	0.61	Average
6	0.5792340	33.01	-22.99	56.00	32.30	0.10	0.61	QP
7	0.9839140	34.07	-21.93	56.00	33.52	0.10	0.45	QP
8	0.9839140	31.30	-14.70	46.00	30.75	0.10	0.45	Average
9	2.028	33.15	-12.85	46.00	32.62	0.10	0.43	Average
10	2.028	38.32	-17.68	56.00	37.79	0.10	0.43	QP
11	3.880	31.27	-14.73	46.00	30.74	0.20	0.33	Average
12	3.880	43.32	-12.68	56.00	42.79	0.20	0.33	QP

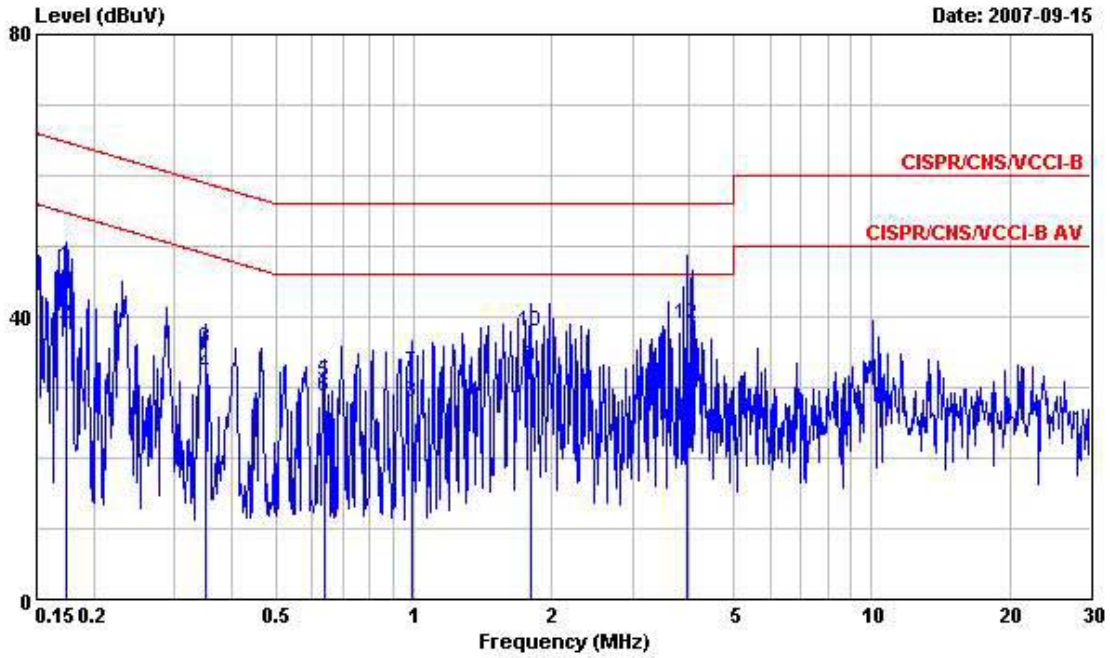
Temperature : 26~27℃
Relative Humidity : 53~54%
Test Enginner : James
Test Mode : Mode 6

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



Site : CO04-HY
Condition : CISPR/CNS/VCCI-B LISN 200704 99041 LINE
EUT : PDA Phone
POWER: From System
Model : FR 761327-04
Memo : PCS1900 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	0.1758420	45.72	-18.96	64.68	45.48	0.10	0.14	QP
2	0.1758420	35.21	-19.47	54.68	34.97	0.10	0.14	Average
3	0.2893470	31.00	-19.54	50.54	30.44	0.10	0.46	Average
4	0.2893470	37.35	-23.19	60.54	36.79	0.10	0.46	QP
5	0.5209950	24.84	-21.16	46.00	24.09	0.10	0.65	Average
6	0.5209950	27.95	-28.05	56.00	27.20	0.10	0.65	QP
7	0.9331400	27.09	-28.91	56.00	26.53	0.10	0.46	QP
8	0.9331400	21.84	-24.16	46.00	21.28	0.10	0.46	Average
9	1.920	31.42	-14.58	46.00	30.89	0.10	0.43	Average
10	1.920	37.32	-18.68	56.00	36.79	0.10	0.43	QP
11	4.184	26.26	-19.74	46.00	25.83	0.11	0.32	Average
12	4.184	39.32	-16.68	56.00	38.89	0.11	0.32	QP

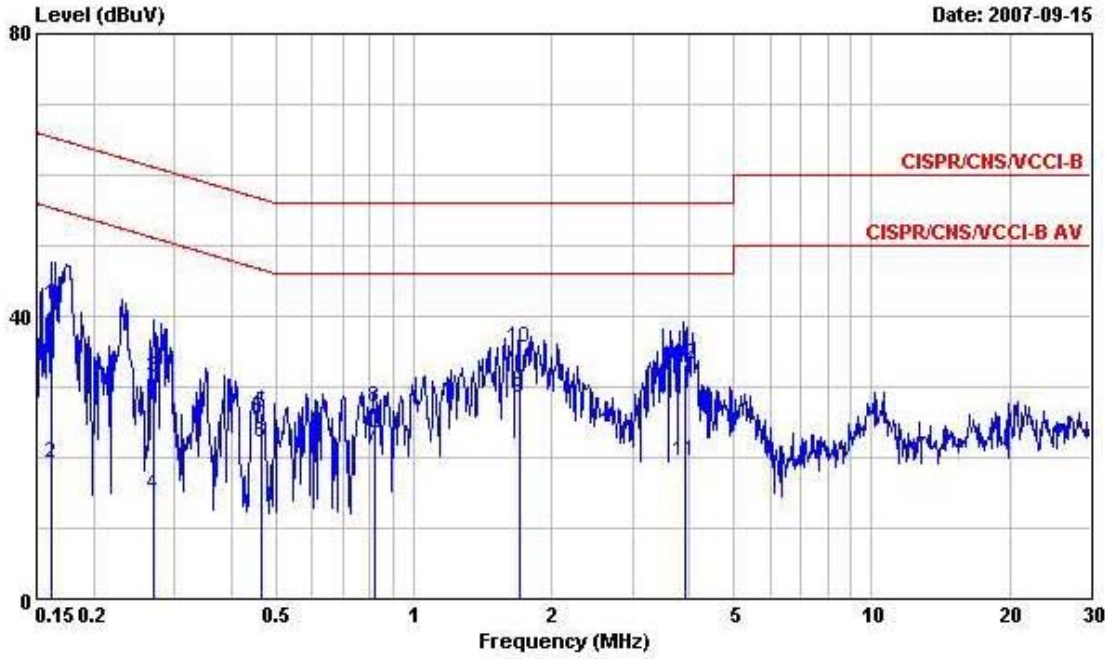


Site : CO04-HY
Condition : CISPR/CNS/VCCI-B LISN 200704 99041 NEUTRAL
EUT : PDA Phone
POWER: From System
Model : FR 761327-04
Memo : PCS1900 Idle+BT Link+WLAN Link+Earphone
: +Camera+MPEG4+GPS Rx+USB Link

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1739880	47.02	-17.75	64.77	46.78	0.10	0.14	QP
2	0.1739880	38.90	-15.87	54.77	38.66	0.10	0.14	Average
3	0.3501520	35.51	-23.45	58.96	34.80	0.10	0.61	QP
4	0.3501520	31.81	-17.15	48.96	31.10	0.10	0.61	Average
5	0.6371950	30.76	-25.24	56.00	30.08	0.10	0.58	QP
6	0.6371950	28.71	-17.29	46.00	28.03	0.10	0.58	Average
7	0.9891400	32.23	-23.77	56.00	31.68	0.10	0.45	QP
8	0.9891400	27.99	-18.01	46.00	27.44	0.10	0.45	Average
9	1.800	32.92	-13.08	46.00	32.39	0.10	0.43	Average
10	1.800	37.86	-18.14	56.00	37.33	0.10	0.43	QP
11	3.941	27.14	-18.86	46.00	26.62	0.20	0.32	Average
12	3.941	39.06	-16.94	56.00	38.54	0.20	0.32	QP

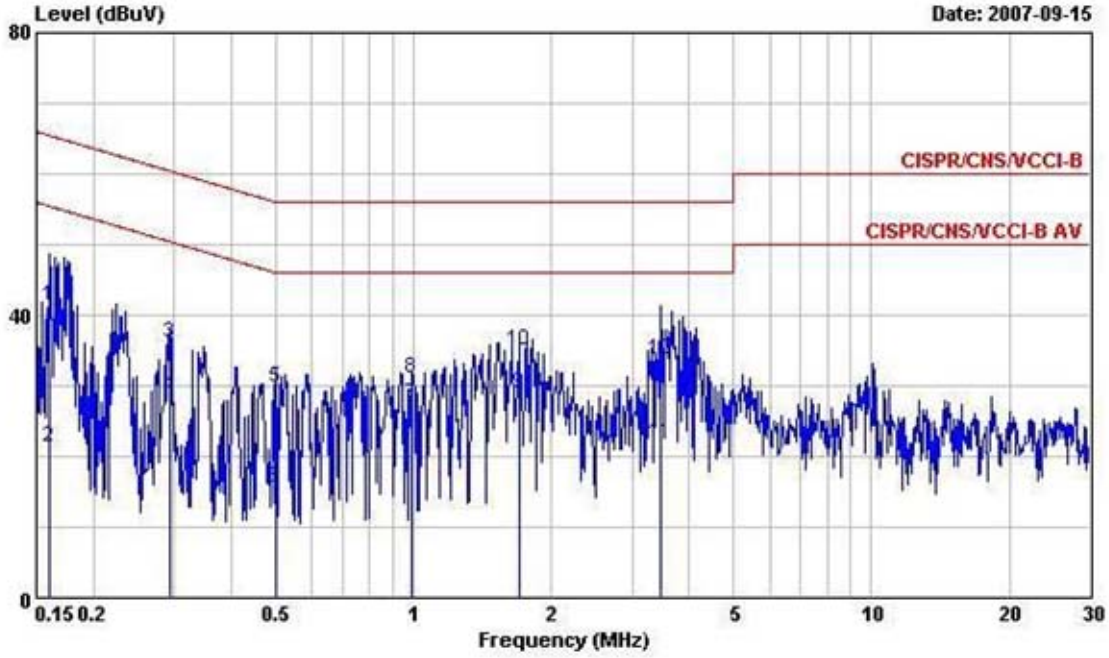
Temperature : 26~27℃
Relative Humidity : 53~54%
Test Enginner : James
Test Mode : Mode 7

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



Site : CO04-HY
Condition : CISPR/CNS/VCCI-B LISN 200704 99041 LINE
EUT : PDA Phone
POWER: 120Vac/60Hz
Model : FD 761327-04
Memo : TMC Rx+98MHz+Adaptor+Earphone
:

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1615500	41.62	-23.76	65.38	41.38	0.10	0.14	QP
2	0.1615500	19.09	-36.29	55.38	18.85	0.10	0.14	Average
3	0.2700880	31.31	-29.81	61.12	30.82	0.10	0.39	QP
4	0.2700880	14.63	-36.49	51.12	14.14	0.10	0.39	Average
5	0.4636720	26.34	-30.29	56.63	25.56	0.10	0.68	QP
6	0.4636720	22.06	-24.57	46.63	21.28	0.10	0.68	Average
7	0.8217160	21.59	-24.41	46.00	20.99	0.10	0.50	Average
8	0.8217160	27.03	-28.97	56.00	26.43	0.10	0.50	QP
9	1.700	28.39	-17.61	46.00	27.86	0.10	0.43	Average
10	1.700	35.43	-20.57	56.00	34.90	0.10	0.43	QP
11	3.910	19.58	-26.42	46.00	19.16	0.10	0.32	Average
12	3.910	33.19	-22.81	56.00	32.77	0.10	0.32	QP



Site : CO04-HY
Condition : CISPR/CNS/VCCI-B LISN 200704 99041 NEUTRAL
EUT : PDA Phone
POWER: 120Vac/60Hz
Model : FD 761327-04
Memo : TMC Rx+98MHz+Adaptor+Earphone
:

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1606960	41.30	-24.13	65.43	41.06	0.10	0.14	QP
2	0.1606960	21.33	-34.10	55.43	21.09	0.10	0.14	Average
3	0.2939830	36.06	-24.35	60.41	35.49	0.10	0.47	QP
4	0.2939830	28.48	-21.93	50.41	27.91	0.10	0.47	Average
5	0.5020260	29.69	-26.31	56.00	28.93	0.10	0.66	QP
6	0.5020260	15.47	-30.53	46.00	14.71	0.10	0.66	Average
7	0.9943950	27.39	-18.61	46.00	26.85	0.10	0.44	Average
8	0.9943950	30.98	-25.02	56.00	30.44	0.10	0.44	QP
9	1.700	28.91	-17.09	46.00	28.38	0.10	0.43	Average
10	1.700	34.97	-21.03	56.00	34.44	0.10	0.43	QP
11	3.451	21.81	-24.19	46.00	21.29	0.18	0.34	Average
12	3.451	33.71	-22.29	56.00	33.19	0.18	0.34	QP

5.11 Radiated Emission Measurement

5.11.1 Measuring Instruments

As described in chapter 6 of this Report.

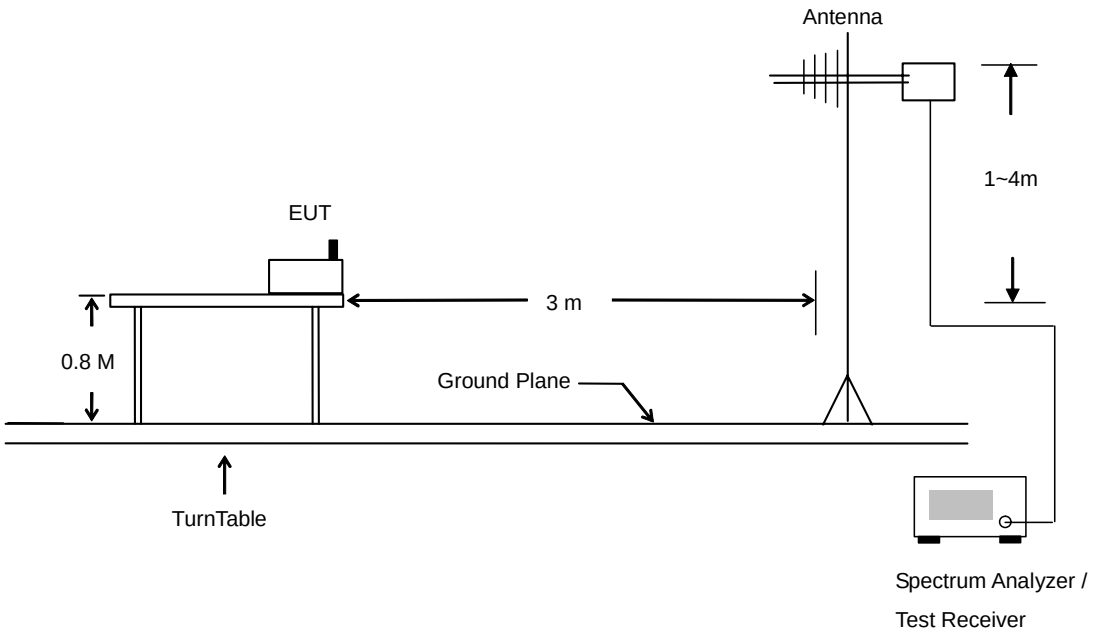
The spectrum analyzer setting :

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

5.11.2 Test Procedures

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.

5.11.3 Typical Test Setup Layout of Radiated Emission



5.11.4 Test Data

Temperature : 26~27℃

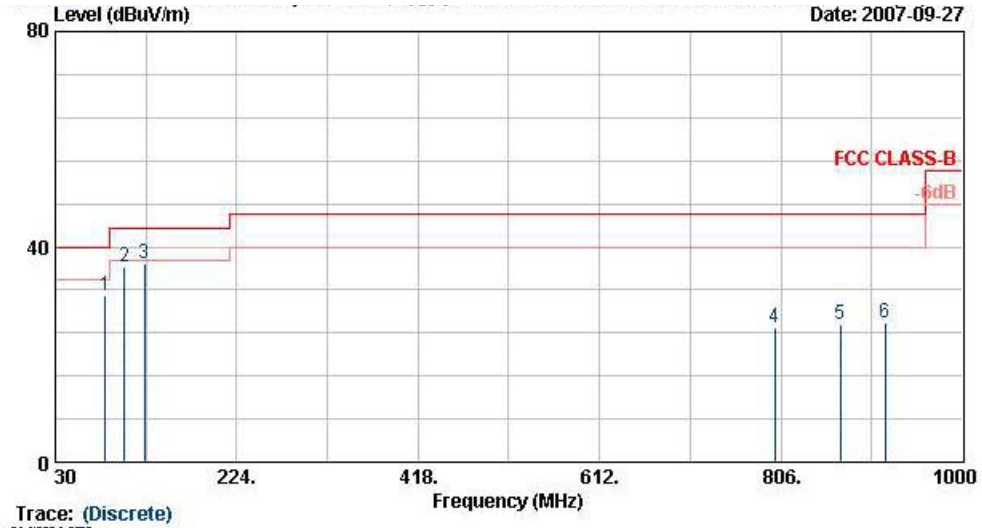
Relating Humidity : 53~54%

Test Enginner : Andrew

Test Mode : Mode 1

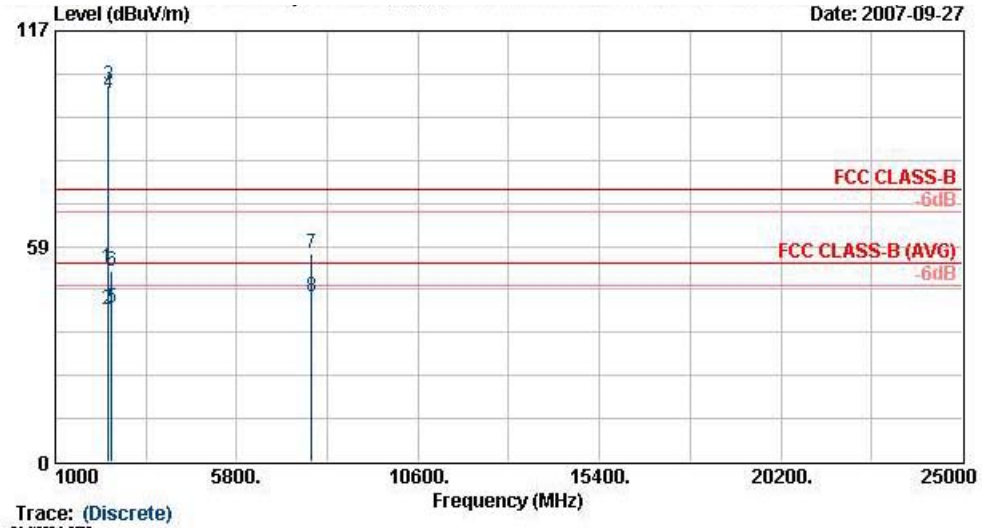
Polarization : Horizontal

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



Site : 03CH06-HY
Condition : LF-ANT(951121) HORIZONTAL
EUT : GSM/EDGE 850/900/1800/1900 WCDMA
: /HSDPA 850/1900/2100 PDA Phone
Power : 120Vac/60Hz
Model : FR 761327-04
Memo : 11b Tx_Ch01;2412MHz
Data Rate : 1
Plane : E1

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		83.2	31.02	-8.98	40.00	53.15	7.97	0.99	31.10	---	---	Peak
2		104.0	36.30	-7.20	43.50	55.04	11.29	1.08	31.11	---	---	Peak
3	@	125.0	36.92	-6.58	43.50	54.14	12.66	1.21	31.09	100	299	Peak
4		799.8	24.96	-21.04	46.00	32.22	19.82	3.41	30.49	---	---	Peak
5		869.8	25.64	-20.36	46.00	32.03	20.32	3.70	30.41	---	---	Peak
6		917.4	25.89	-20.11	46.00	31.72	20.65	3.85	30.34	---	---	Peak



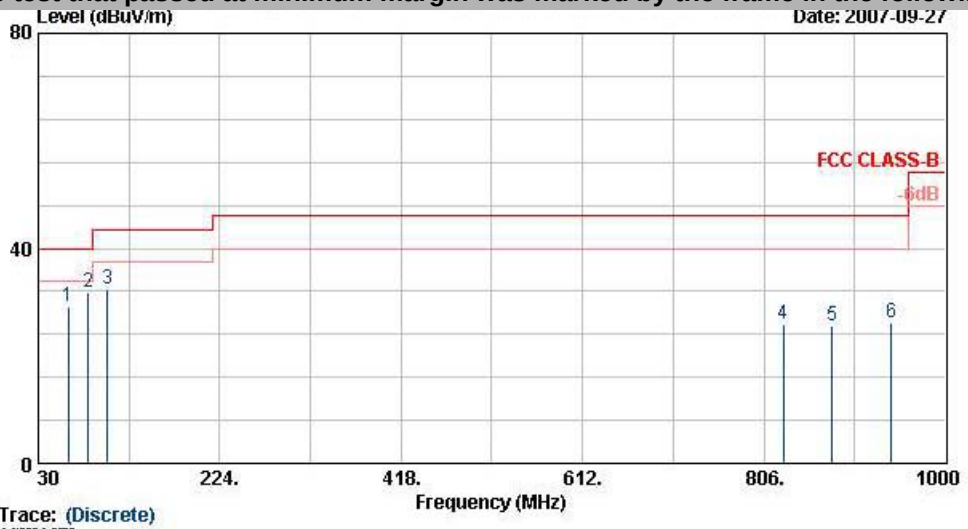
Site : 03CH06-HY
Condition : SHF-EHF HORN HORIZONTAL
EUT : GSM/EDGE 850/900/1800/1900 WCDMA
: /HSDPA 850/1900/2100 PDA Phone
Power : 120Vac/60Hz
Model : FR 761327-04
Memo : 11b Tx_Ch01;2412MHz
Data Rate : 1
Plane : E1

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2389.2	52.63	-21.37	74.00	54.06	30.26	3.75	35.44	100	0	Peak
2	2389.2	41.53	-12.47	54.00	42.96	30.26	3.75	35.44	123	55	Average
3 @	2412.0	102.31			103.73	30.27	3.77	35.46	100	0	Peak
4 @	2412.0	99.88			101.30	30.27	3.77	35.46	123	55	Average
5	2498.0	41.57	-12.43	54.00	42.92	30.30	3.88	35.53	123	55	Average
6	2498.0	51.92	-22.08	74.00	53.26	30.30	3.88	35.53	100	0	Peak
7	7776.0	56.75	-17.25	74.00	45.67	39.30	7.71	35.94	100	0	Peak
8	7776.0	44.67	-9.33	54.00	33.60	39.30	7.71	35.94	100	236	Average

Remark: #3 and #4 Fundamental Signal

Polarization : Vertical

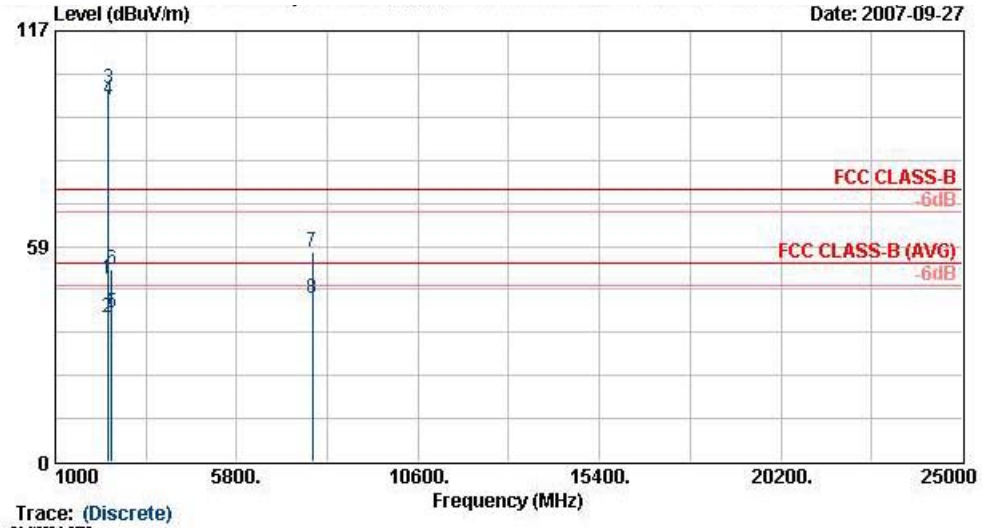
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site : 03CH06-HY
Condition : LF-ANT(951121) VERTICAL
EUT : GSM/EDGE 850/900/1800/1900 WCDMA
: /HSDPA 850/1900/2100 PDA Phone
Power : 120Vac/60Hz
Model : FR 761327-04
Memo : 11b Tx_Ch01;2412MHz
Data Rate : 1
Plane : E1

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	62.1	29.20	-10.80	40.00	52.85	6.67	0.87	31.20	---	---	Peak
2	83.2	31.89	-8.11	40.00	54.02	7.97	0.99	31.10	100	332	Peak
3	104.0	32.31	-11.19	43.50	51.04	11.29	1.08	31.11	---	---	Peak
4	826.4	25.87	-20.13	46.00	32.81	20.01	3.52	30.46	---	---	Peak
5	878.9	25.68	-20.32	46.00	31.96	20.38	3.73	30.39	---	---	Peak
6	941.9	26.06	-19.94	46.00	31.62	20.83	3.90	30.30	---	---	Peak



Site : 03CH06-HY
Condition : SHF-EHF HORN VERTICAL
EUT : GSM/EDGE 850/900/1800/1900 WCDMA
: /HSDPA 850/1900/2100 PDA Phone
Power : 120Vac/60Hz
Model : FR 761327-04
Memo : 11b Tx_Ch01;2412MHz
Data Rate : 1
Plane : E1

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		2390.0	49.41	-24.59	74.00	50.86	30.26	3.75	35.46	100	0	Peak
2		2390.0	39.25	-14.75	54.00	40.70	30.26	3.75	35.46	100	101	Average
3	@	2412.0	101.41			102.83	30.27	3.77	35.46	100	0	Peak
4	@	2412.0	98.24			99.66	30.27	3.77	35.46	100	101	Average
5		2494.0	40.63	-13.37	54.00	41.98	30.30	3.88	35.53	100	101	Average
6		2494.0	52.21	-21.79	74.00	53.56	30.30	3.88	35.53	100	0	Peak
7		7812.0	56.79	-17.21	74.00	45.64	39.34	7.73	35.92	100	0	Peak
8		7812.0	44.35	-9.65	54.00	33.20	39.34	7.73	35.92	100	258	Average

Remark: #3 and #4 Fundamental Signal