FCC TEST REPORT

for

47 CFR Part 15 Subpart C

Equipment	**:**	**PDA Phone**
Trade Name	**:**	**Palm**
Model No.	**:**	**Treo 500, Treo 500v**
FCC ID	**:**	**MSQ-777**
Filing Type	**:**	**Certification**
Applicant	**:**	**ASUSTeK COMPUTER INC.** No. 150, Li-Te Rd., Peitou, Taipei, Taiwan, R.O.C.

- The test result refers exclusively to the test presented test model / sample.
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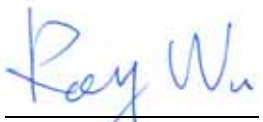
- **Certificate or Test Report must not be used by the applicant to claim the product in this test report endorsement by NVLAP or any agency of U.S. government.**
- The data shown in this test report were carried out on Jul. 09, 2007 at **Sporton International Inc. LAB.**
- Report No.: FR742403, Report Version: Rev. 02.



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Manager

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Appendix A. Setup Photograph

History of this test report

Report Issue Date: Jul. 09, 2007

Report No.	Description

1. General Description of Equipment under Test

1.1. Applicant

ASUSTeK COMPUTER INC.
No. 150, Li-Te Rd., Peitou, Taipei, Taiwan, R.O.C.

1.2. Manufacturer

ASUSTeK COMPUTER INC.
No. 150, Li-Te Rd., Peitou, Taipei, Taiwan, R.O.C.

1.3. Basic Description of Equipment under Test

Equipment	:	PDA Phone
Trade Name	:	Palm
Model No.	:	Treo 500, Treo 500v
FCC ID	:	MSQ-777
Power Supply Type	:	Switching
AC Power Cord	:	AC120V, Wall-mount, 1.6 meter, 2 pin
Adapter 1	:	Deevan / DSC-51F 52050
Adapter 2	:	PIE / A07112A
Battery	:	Welldone / SBP-10
Earphone	:	Palm / EMC219-001-01
Camera	:	Walton / ASUS OTTO, Liton / DCM-200MFG
USB Cable	:	Foxconn / CUHD004B-S17-EF
LCD Panel	:	WINTEK / WD-F3224VN-6FLW, TOPPOLY / TD025THED2

1.4. Feature of Equipment under Test

Product Feature & Specification				
1. Modulation Type/Data Rate	1Mbps : GFSK 2Mbps : Pi/4-DQPSK 3Mbps : 8-DPSK			
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)	1.01 dBm (BT_1Mbps) ; 0.49 dBm (BT_EDR_2Mbps) ; 0.85 dBm (BT_EDR_3Mbps)			
7. Type of Antenna Connector	N/A			
8. Antenna Type	PIFA Antenna			
9. Antenna Gain	-3 dBi			
10. Function Type	Transmitter		Transceiver	V
11. DUT Stage	Identical Prototype			

2. Test Configuration of Equipment under Test

2.1. Test Manner

a. The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

b. The data rate, 1Mbps was chosen to being tested, due to the highest RF output power.

Channel	Frequency	Data Rate / Modulation		
		GFSK	Pi/4-DQPSK	8-DPSK
		1Mbps	2Mbps	3Mbps
Ch00	2400MHz	1.01 dBm	0.49 dBm	0.85 dBm
Ch39	2441MHz	-0.25 dBm	-0.65 dBm	-0.32 dBm
Ch78	2480MHz	0.82 dBm	0.42 dBm	0.73 dBm

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

c. The EUT is programmed to transmit signal continuously for all testings.

d. Frequency range investigated: conduction 150 kHz to 30 MHz, radiation 30 MHz to 25000MHz.

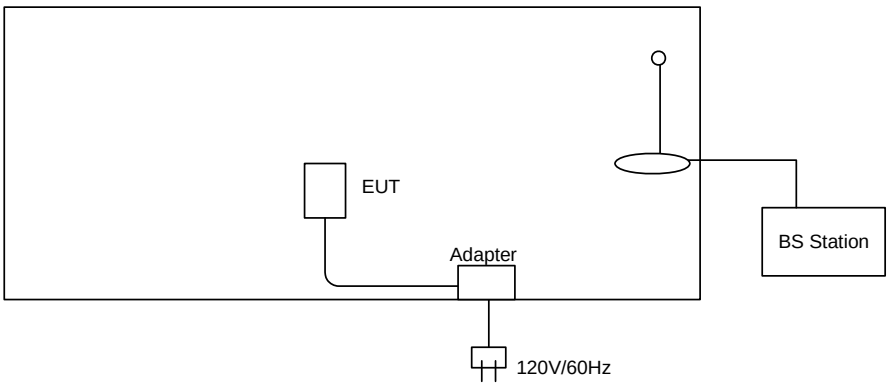
2.2. Test Mode

Application	Bluetooth
Radiated Emission	Mode 1: Tx_CH00_2402MHz_Bluetooth Mode 2: Tx_CH39_2441MHz_Bluetooth Mode 3: Tx_CH78_2480MHz_Bluetooth Mode 4: Tx_CH39_2441MHz_Bluetooth_EDR_2Mbps Mode 5: Tx_CH39_2441MHz_Bluetooth_EDR_3Mbps
Conducted Emission	Mode 1: PCS1900 Idle Mode + BT Link + MPEG4 + Earphone + Adapter1 Mode 2: PCS1900 Idle Mode + BT Link + MPEG4 + Earphone + Adapter2 Mode 3: PCS1900 Idle Mode + BT Link + MPEG4 + Earphone + USB Link

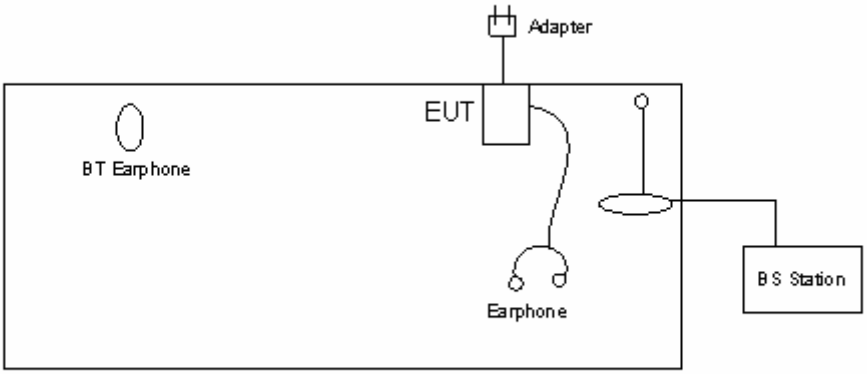
Remark :
1. The data rate, 1Mbps was chosen to being tested, due to the highest RF output power.
2. The 2Mbps, 3Mbps (mode 4 and 5) have also verified for radiation spurious emissions chosen from 1Mbps's worst mode.

2.3. Connection Diagram of Test System

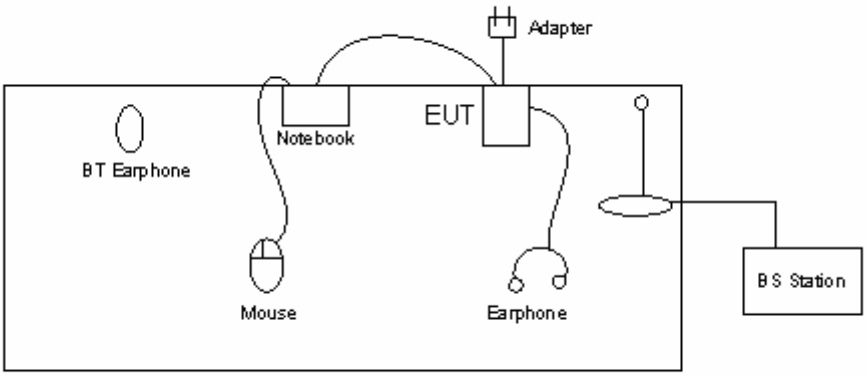
<Radiated Emission>



<Conducted Emission>
Mode 1 and 2



Mode 3



2.4. Ancillary Equipment List

Item	Equipment (Trade Name)	Model No.	FCC ID	Serial No.
1.	BT Base Station (Anritus)	8852A	N/A	N/A
2.	Notebook (DELL)	D400	E2K24GBRL	N/A
3.	USB Mouse (Microsoft)	B75-00093	DOC	N/A
4.	BT Earphone (Engotech)	ET-BD201	PQY471087	N/A

3. RF Utility

The EUT is in BT Link mode with mobile phone for conducted emission or in BT continuous Tx Mode controlled by base station simulator for radiation emission.

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	:	CO01-HY, 03CH06-HY

4.1. Test Voltage

AC 120V / 60Hz

4.2. Standard for Methods of Measurement

ANSI C63.4-2003

4.3. Test in Compliance with

47 CFR Part 15 Subpart C

4.4. Frequency Range Investigated

Conduction: from 150 kHz to 30 MHz
Radiation: from 30 MHz to 25000MHz

4.5. Test Distance

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

5. Report of Measurements and Examinations

5.1. List of Measurements and Examinations

FCC Rule	Description of Test	Result	Section
15.247(a)(1)	Hopping Channel Separation	Pass	5.2
15.247(a)(1)(iii)	Number of Hopping Frequency Used	Pass	5.3
15.247(a)(1)	Hopping Channel Bandwidth	Pass	5.4
15.247(a)(1)(iii)	Dwell Time of Each Frequency	Pass	5.5
15.247(b)(1)	Output Power	Pass	5.6
15.247(c)	100kHz Bandwidth of Frequency Band Edges	Pass	5.7
15.207	Conducted Emission	Pass	5.8
15.209	Radiated Emission	Pass	5.9
15.203	Antenna Requirement	Pass	5.10

5.2. Hopping Channel Separation

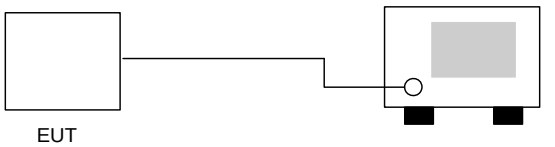
5.2.1. Measuring Instruments：

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

5.2.3. Test Setup Layout：



5.2.4. Test Result：The spectrum analyzer plots are attached as below

- Test Mode : Bluetooth
- Temperature : 26°C
- Relative Humidity : 54%
- Test Engineer : Andrew

Channel	Frequency (MHz)	Hopping Channel Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.000	0.872	Plot 1
39	2441	1.000	0.872	Plot 2
78	2480	1.000	0.876	Plot 3

Remark: Limit is the greater one of 25 kHz or the 20dB bandwidth of the hopping channel.

- Test Mode : Bluetooth EDR 2Mbps
- Temperature : 26°C
- Relative Humidity : 54%
- Test Engineer : Andrew

Channel	Frequency (MHz)	Hopping Channel Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.000	1.240	Plot 4
39	2441	1.000	1.240	Plot 5
78	2480	1.000	1.224	Plot 6

Remark: Limit is the greater one of 25kHz or the 20dB bandwidth of the hopping channel.

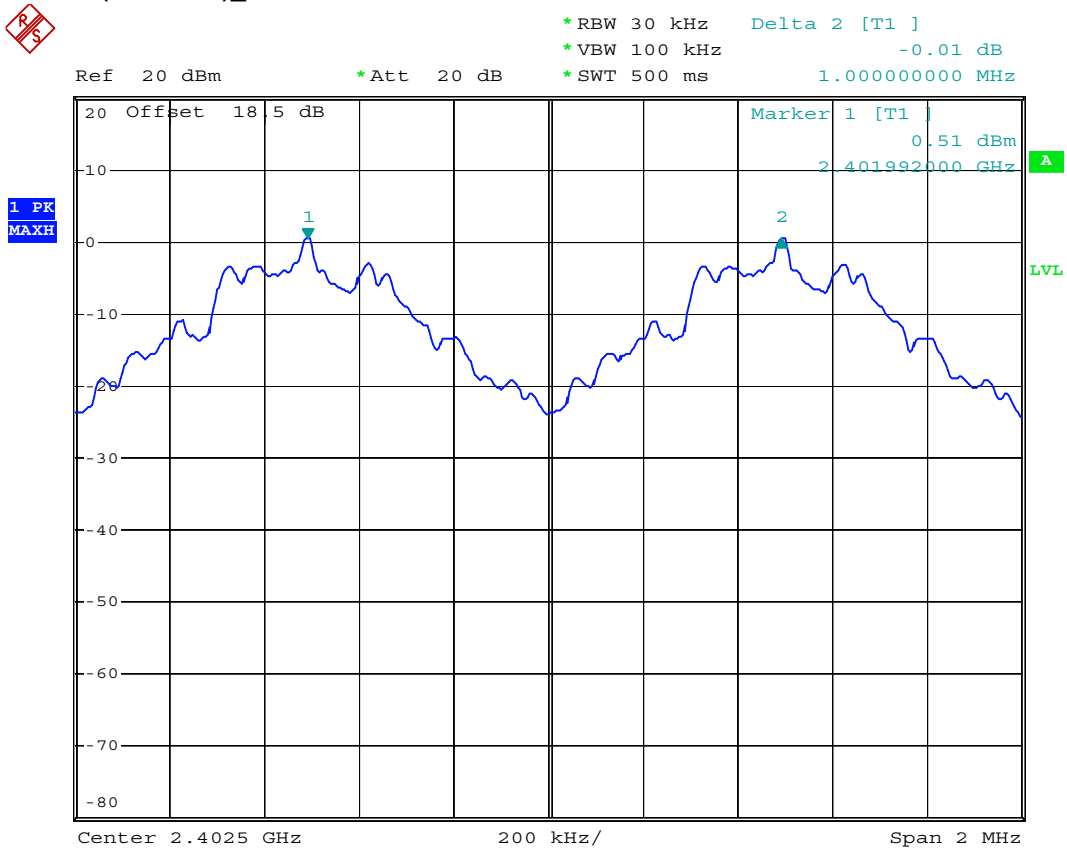
- Test Mode : Bluetooth EDR 3Mbps
- Temperature : 26°C
- Relative Humidity : 54%
- Test Engineer : Andrew

Channel	Frequency (MHz)	Hopping Channel Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.000	1.248	Plot 7
39	2441	1.008	1.260	Plot 8
78	2480	1.000	1.260	Plot 9

Remark: Limit is the greater one of 25 kHz or the 20dB bandwidth of the hopping channel.

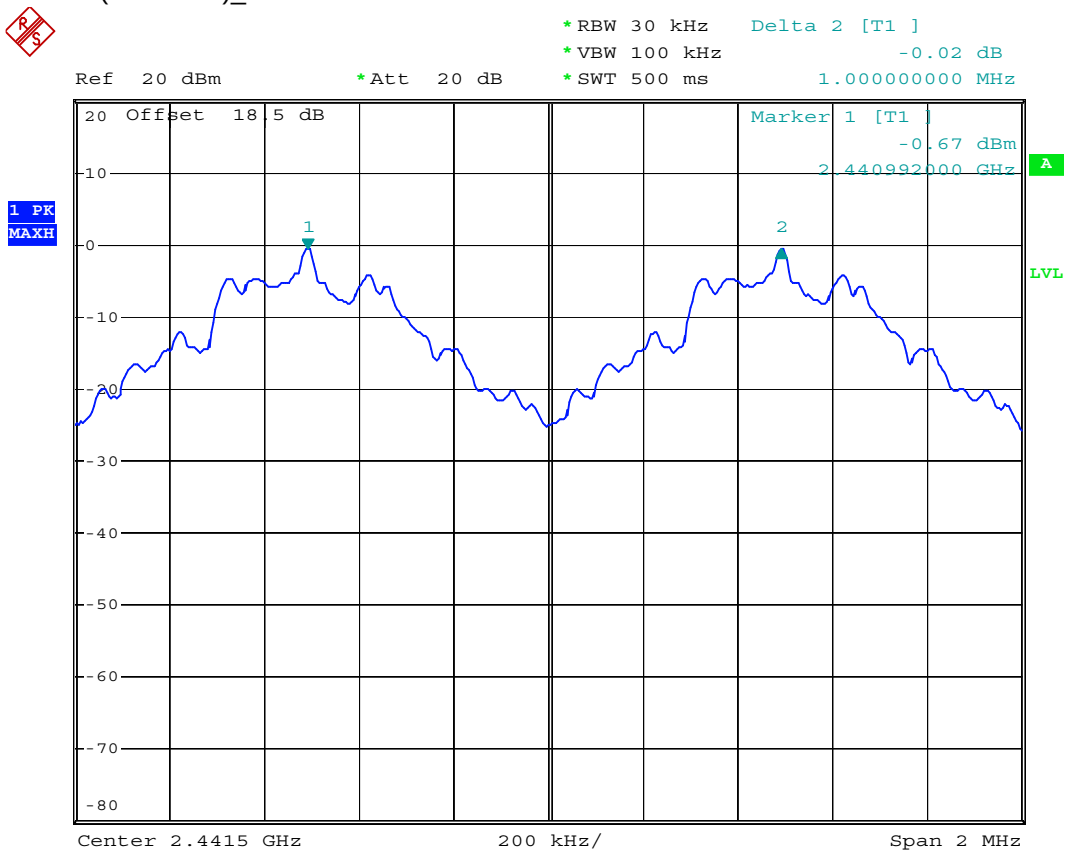
5.2.5 Hopping Channel Separation

Plot 1: CH00 (2402MHz)_Bluetooth



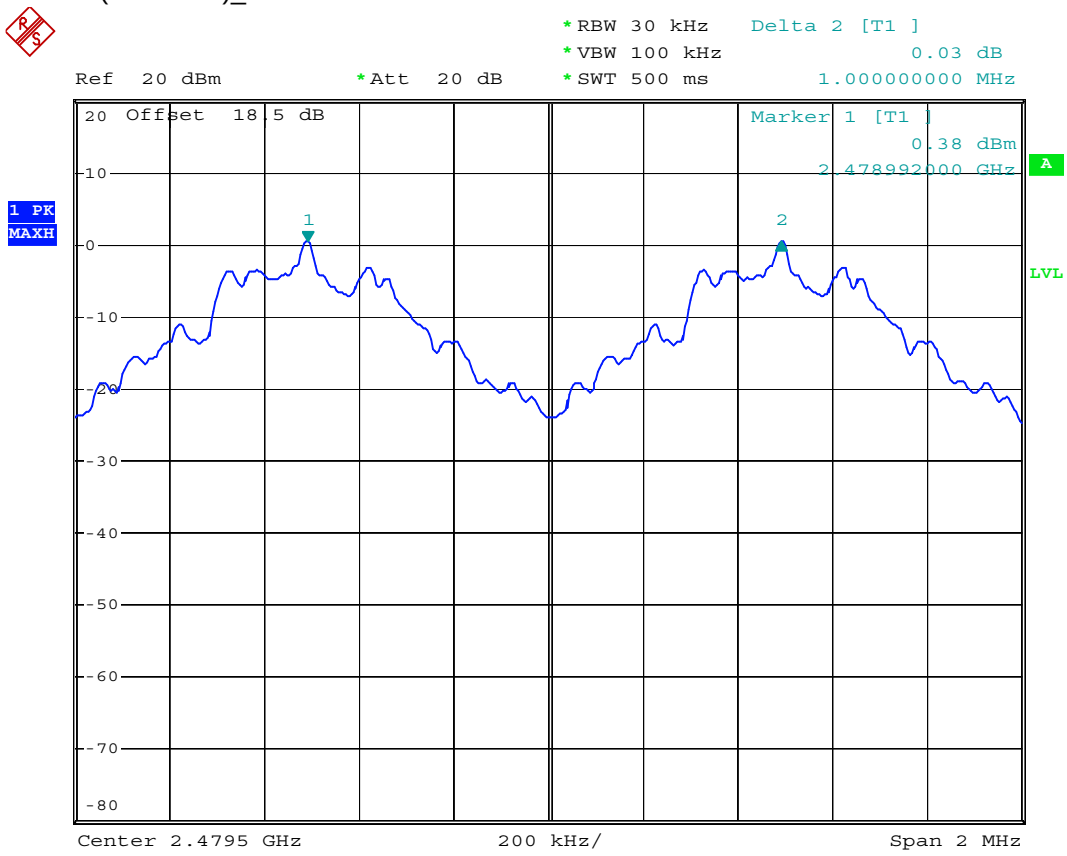
Date: 25.APR.2007 12:33:50

Plot 2: CH39 (2441MHz)_Bluetooth



Date: 25.APR.2007 12:34:22

Plot 3: CH78 (2480MHz)_Bluetooth



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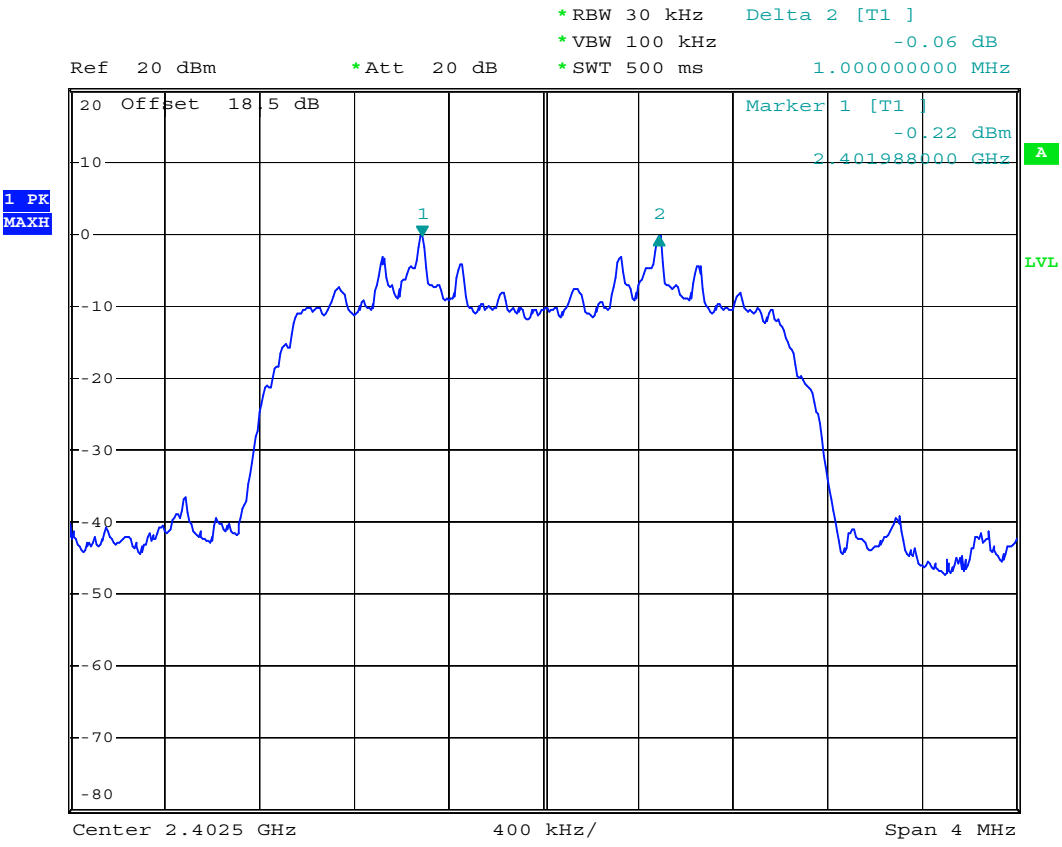
Plot 4: CH00 (2402MHz)_Bluetooth_EDR_2Mbps



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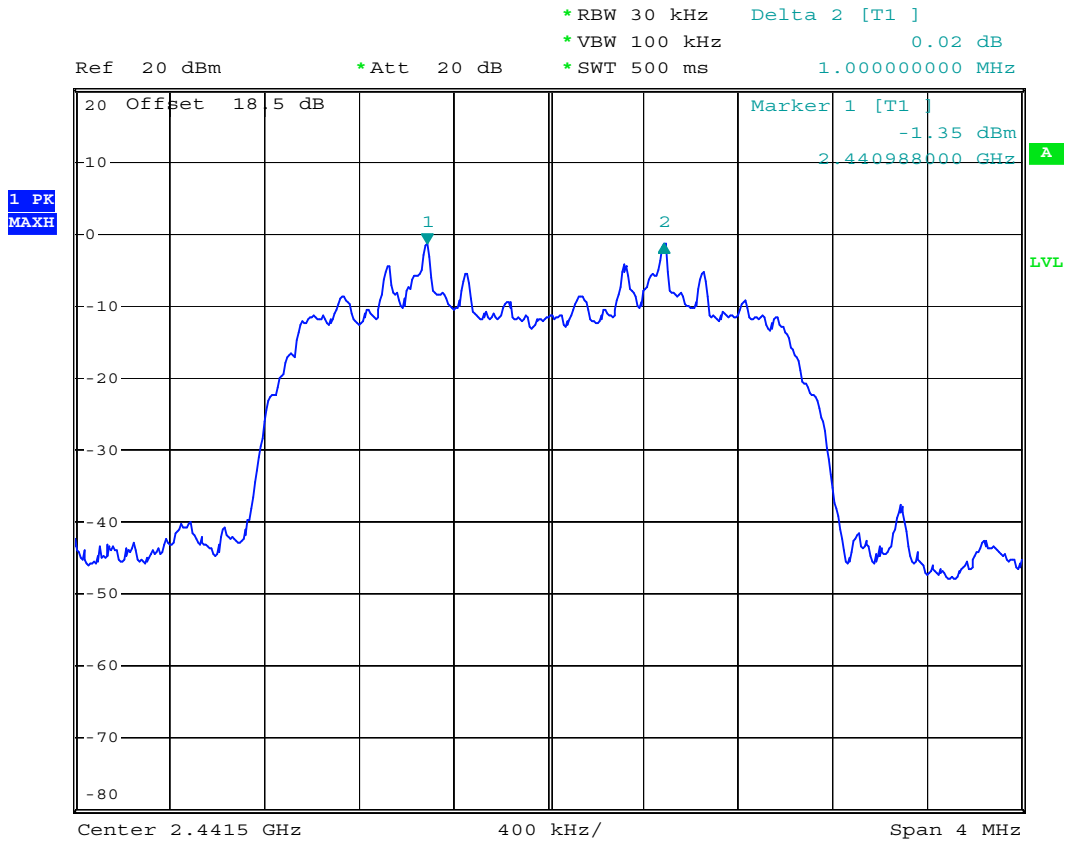
Plot 5: CH39 (2441MHz)_Bluetooth_EDR_2Mbps



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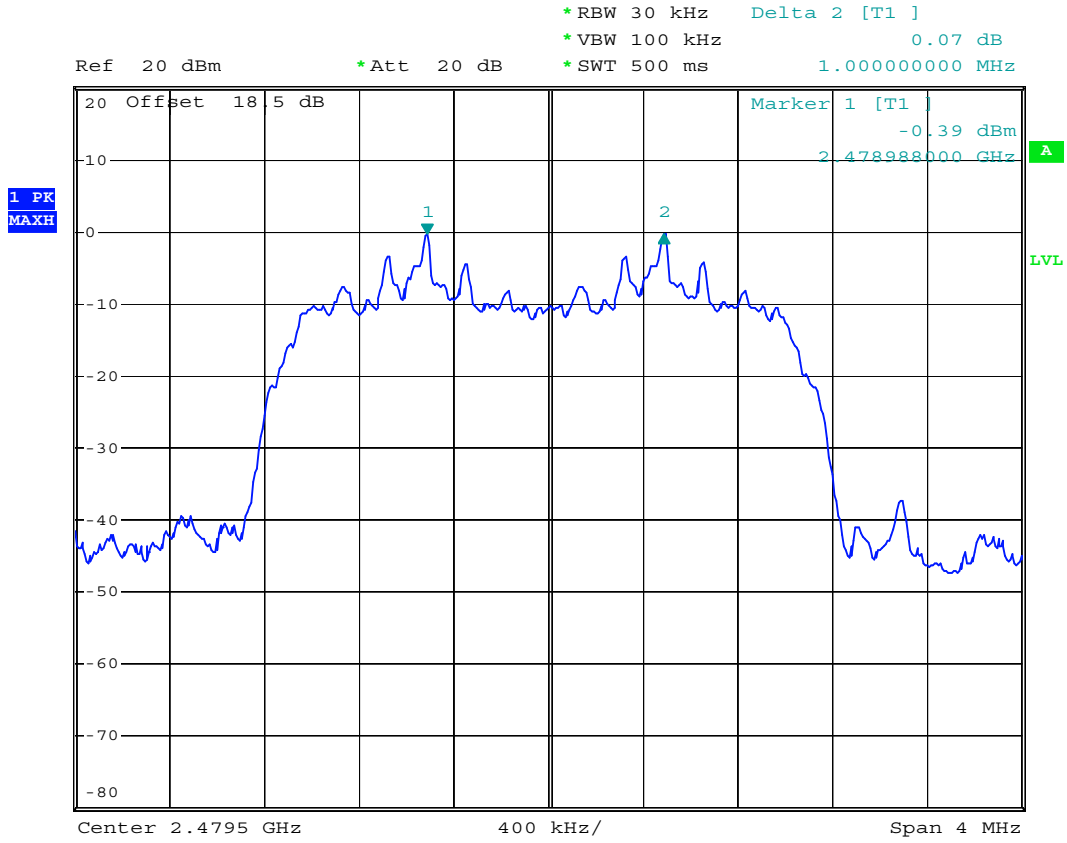
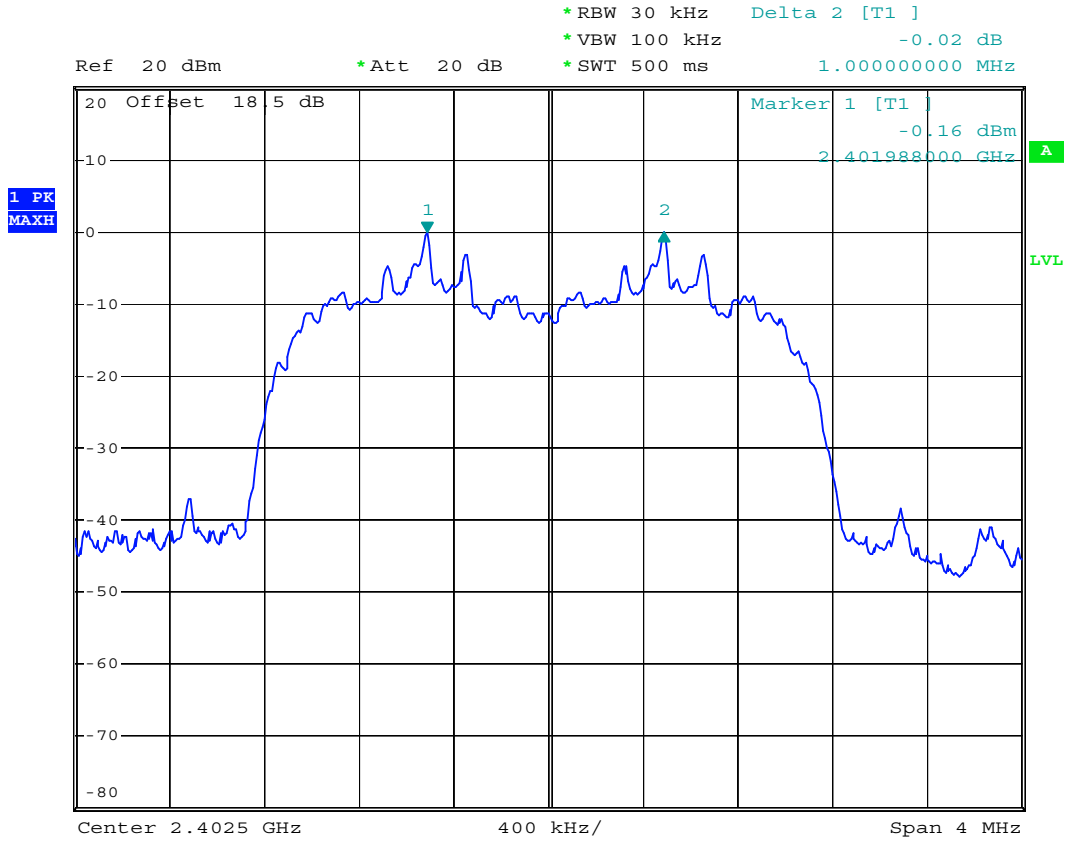
Plot 6: CH78 (2480MHz)_Bluetooth_EDR_2Mbps

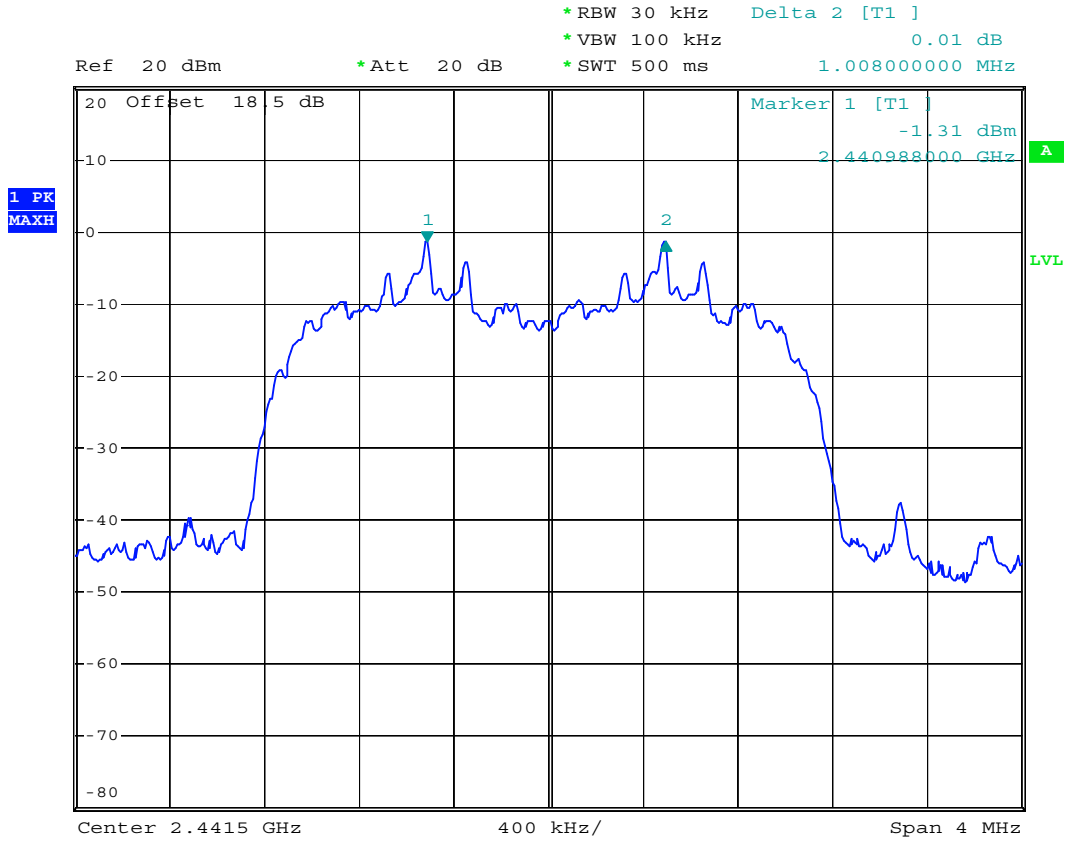


Plot 7: CH00 (2402MHz)_Bluetooth_EDR_3Mbps



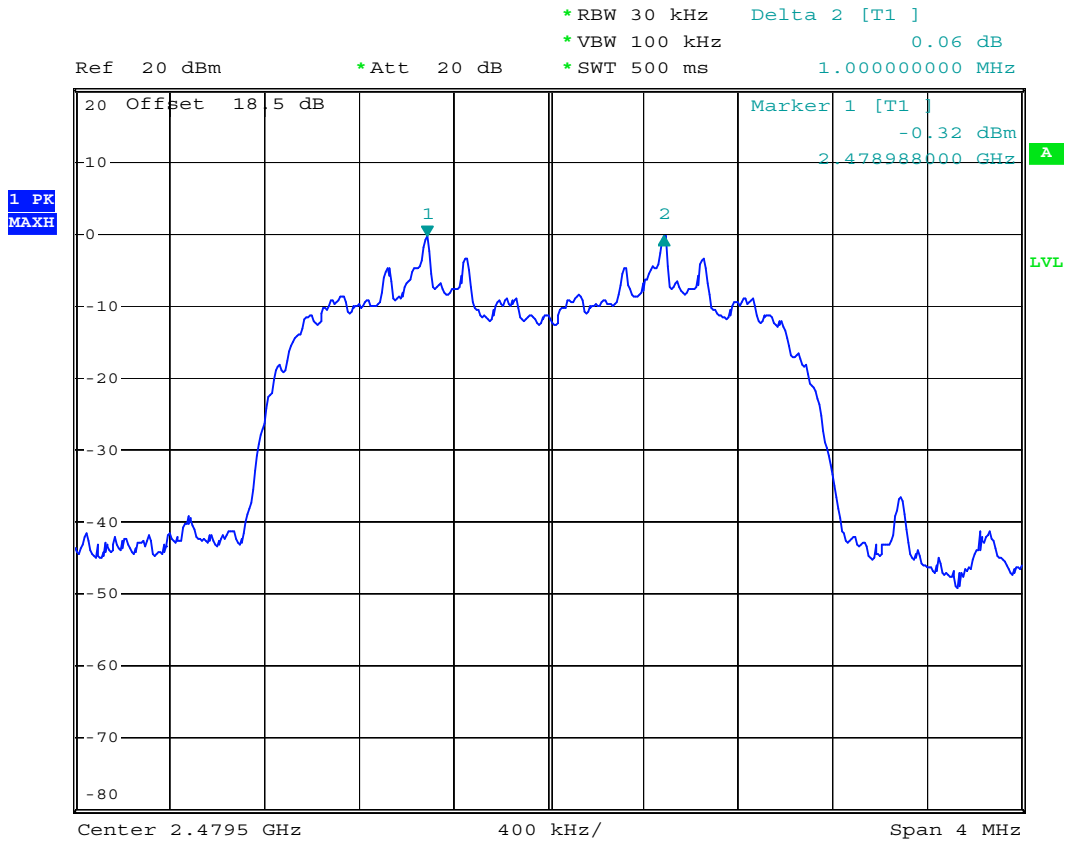
Date: 7.JUL.2007 16:44:00

Plot 8: CH39 (2441MHz)_Bluetooth_EDR_3Mbps



Date: 7.JUL.2007 16:44:35

Plot 9: CH78 (2480MHz)_Bluetooth_EDR_3Mbps



Date: 7.JUL.2007 16:45:10

5.3. Number of Hopping Frequency

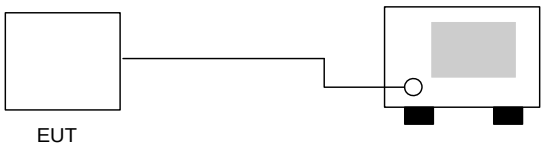
5.3.1. Measuring Instruments：

As described in chapter 6 of this test report.

5.3.2. Test Procedure：

1. The transmitter output was connected to the spectrum analyzer directly.
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.

5.3.3. Test Setup Layout：



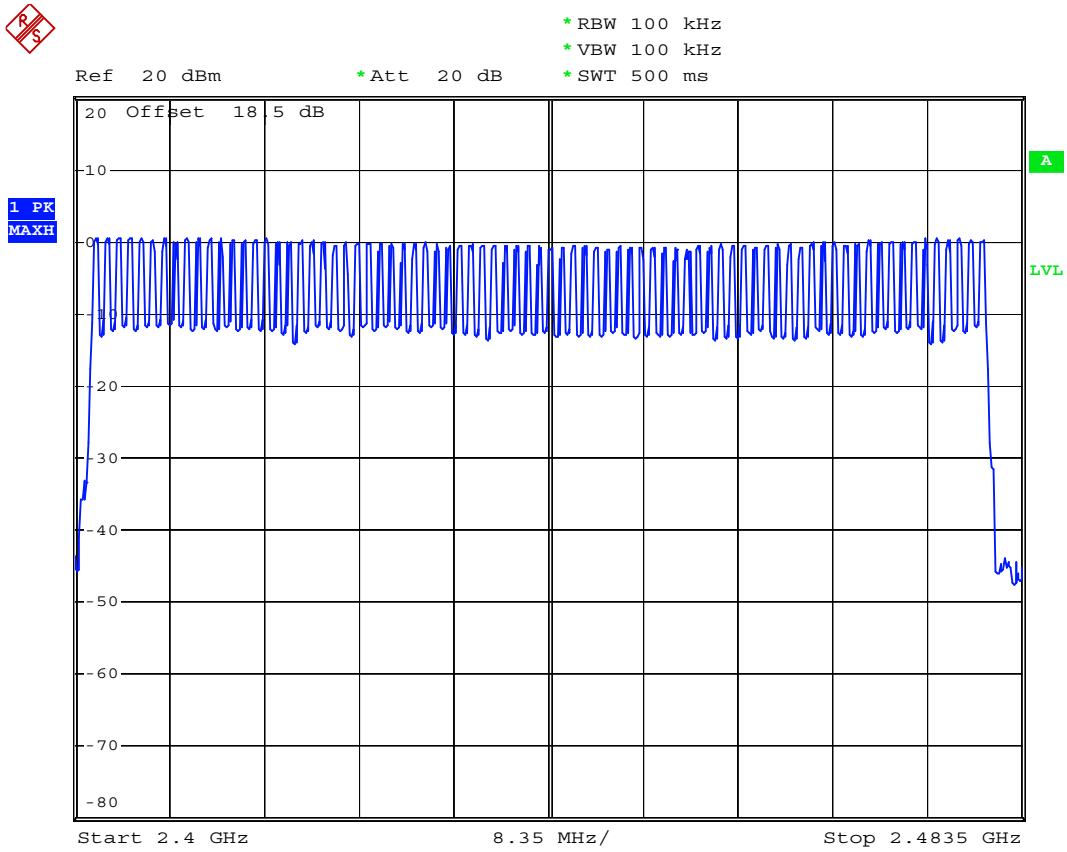
5.3.4. Test Result：See spectrum analyzer plots below

- Temperature: 26°C
- Relative Humidity: 54%
- Test Engineer : Andrew

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

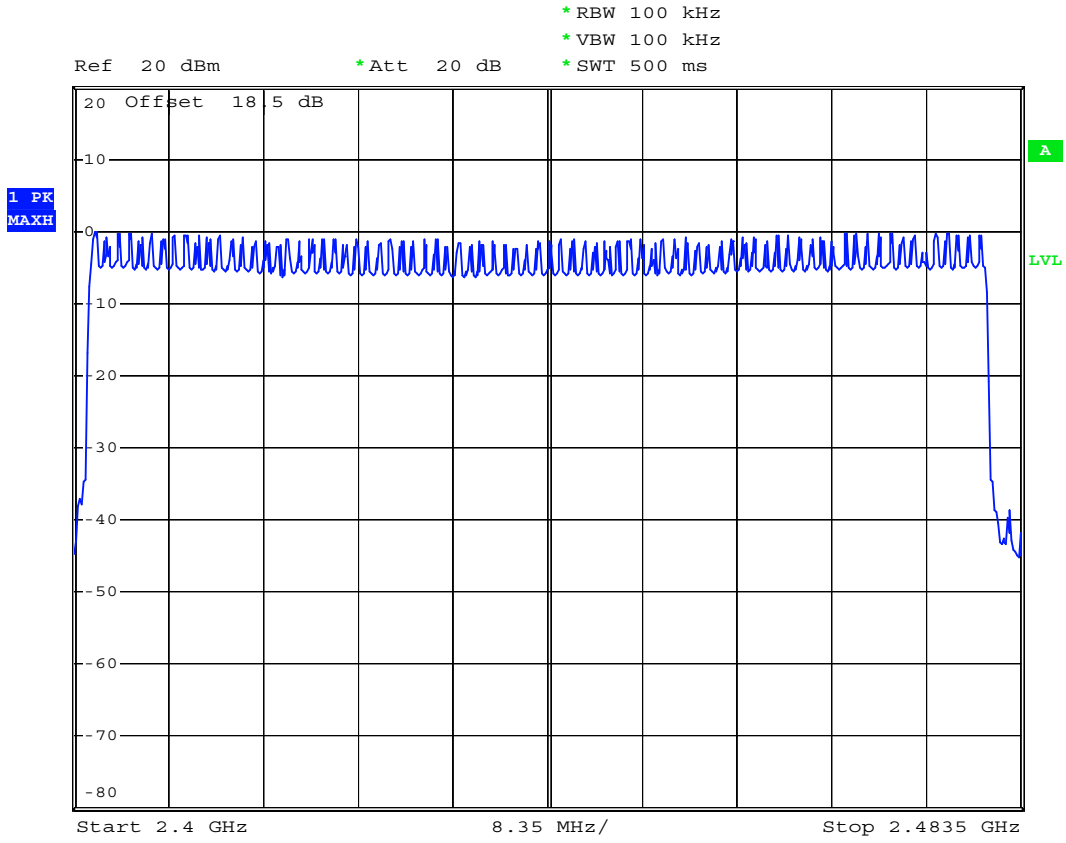
5.3.5 Number of Hopping Frequency

Bluetooth



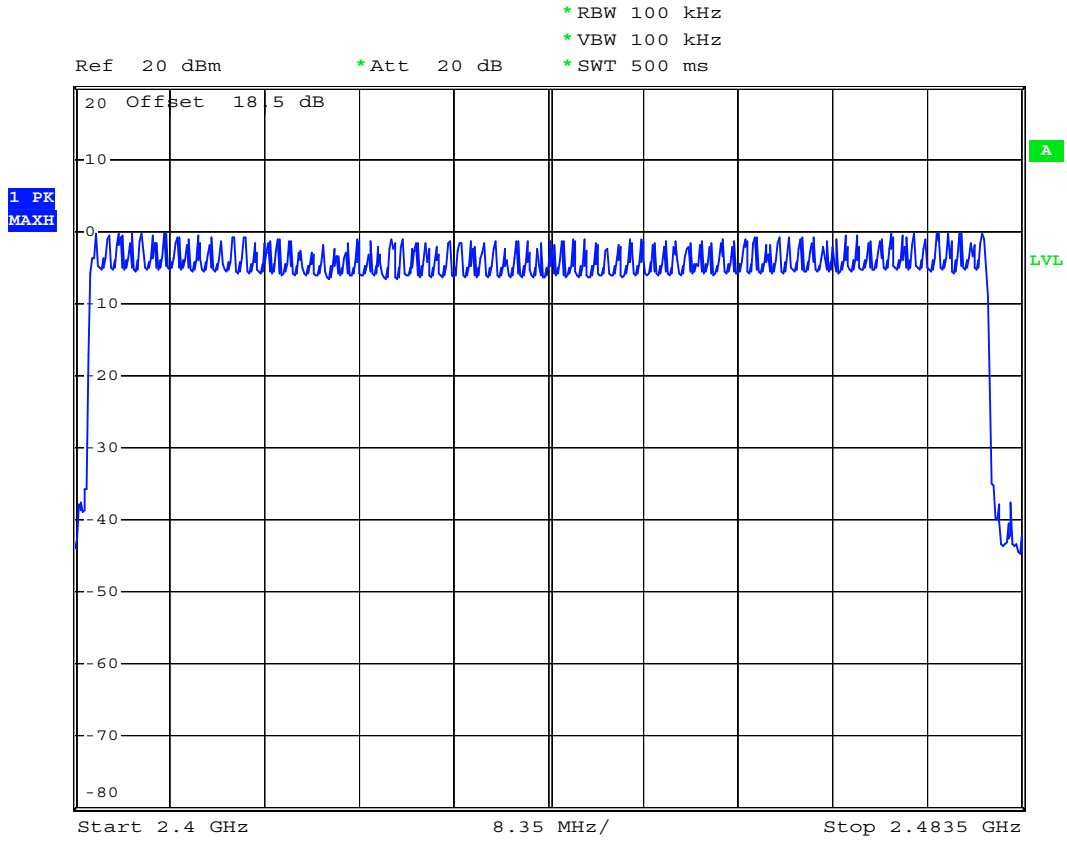
Date: 25.APR.2007 14:45:47

Bluetooth_EDR_2Mbps



Date: 7.JUL.2007 16:36:56

Bluetooth_EDR_3Mbps



Date: 7.JUL.2007 16:52:34

5.4 Hopping Channel Bandwidth

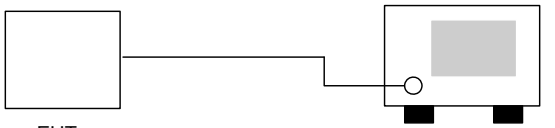
5.4.1 Measuring Instruments：

As described in chapter 6 of this test report.

5.4.2 Test Procedure：

1. The transmitter output was connected to the spectrum analyzer directly.
2. Set RBW of spectrum analyzer to 30kHz and VBW to 300kHz.
3. The Hopping Channel bandwidth is defined as the frequency range where the power is higher than peak power minus 20dB.

5.4.3 Test Setup Layout：



5.4.4 Test Result：See spectrum analyzer plots below

- Test Mode: Bluetooth
- Temperature: 26°C
- Relative Humidity: 54%
- Test Engineer : Andrew

Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	0.872	1.0	Plot 1
39	2441	0.872	1.0	Plot 2
78	2480	0.876	1.0	Plot 3

- Test Mode: Bluetooth_EDR_2Mbps
- Temperature: 26°C
- Relative Humidity: 54%
- Test Engineer : Andrew

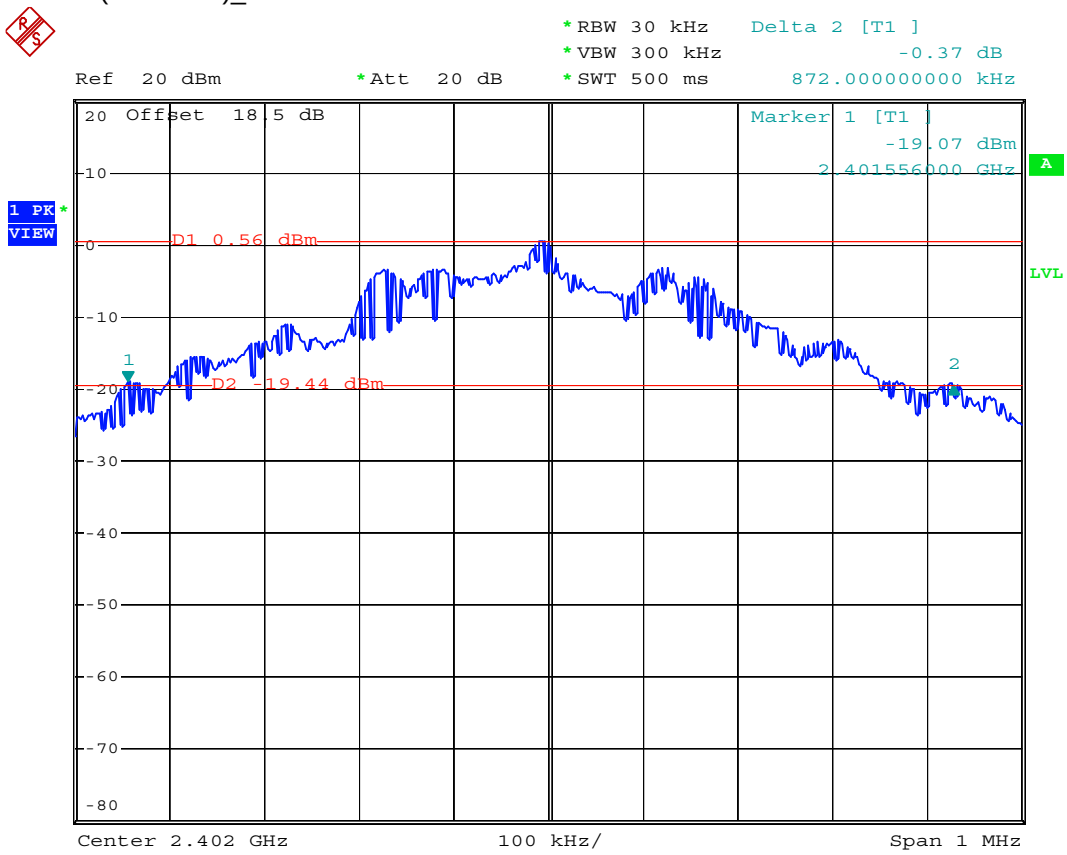
Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.240	1.0	Plot 4
39	2441	1.240	1.0	Plot 5
78	2480	1.224	1.0	Plot 6

- Test Mode: Bluetooth_EDR_3Mbps
- Temperature: 26°C
- Relative Humidity: 54%
- Test Engineer : Andrew

Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.248	1.0	Plot 7
39	2441	1.260	1.0	Plot 8
78	2480	1.260	1.0	Plot 9

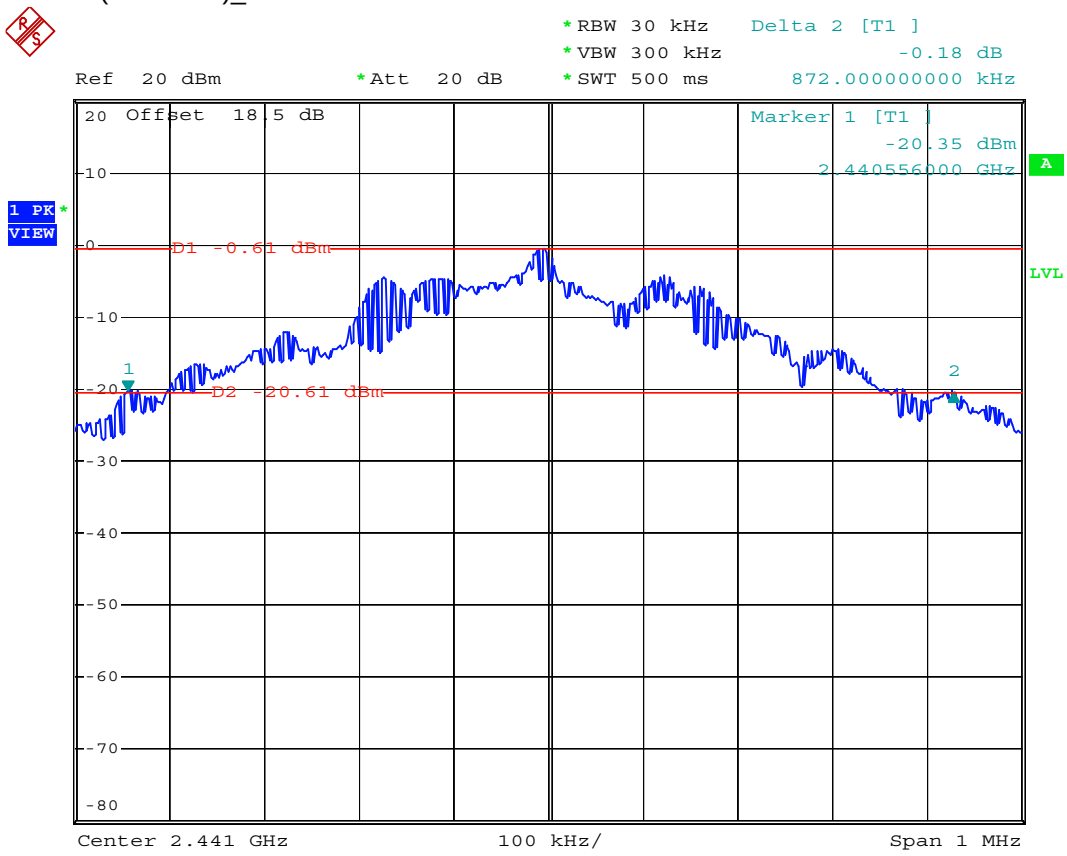
5.4.5 Hopping Channel Bandwidth

Plot 1: CH00 (2402MHz)_Bluetooth

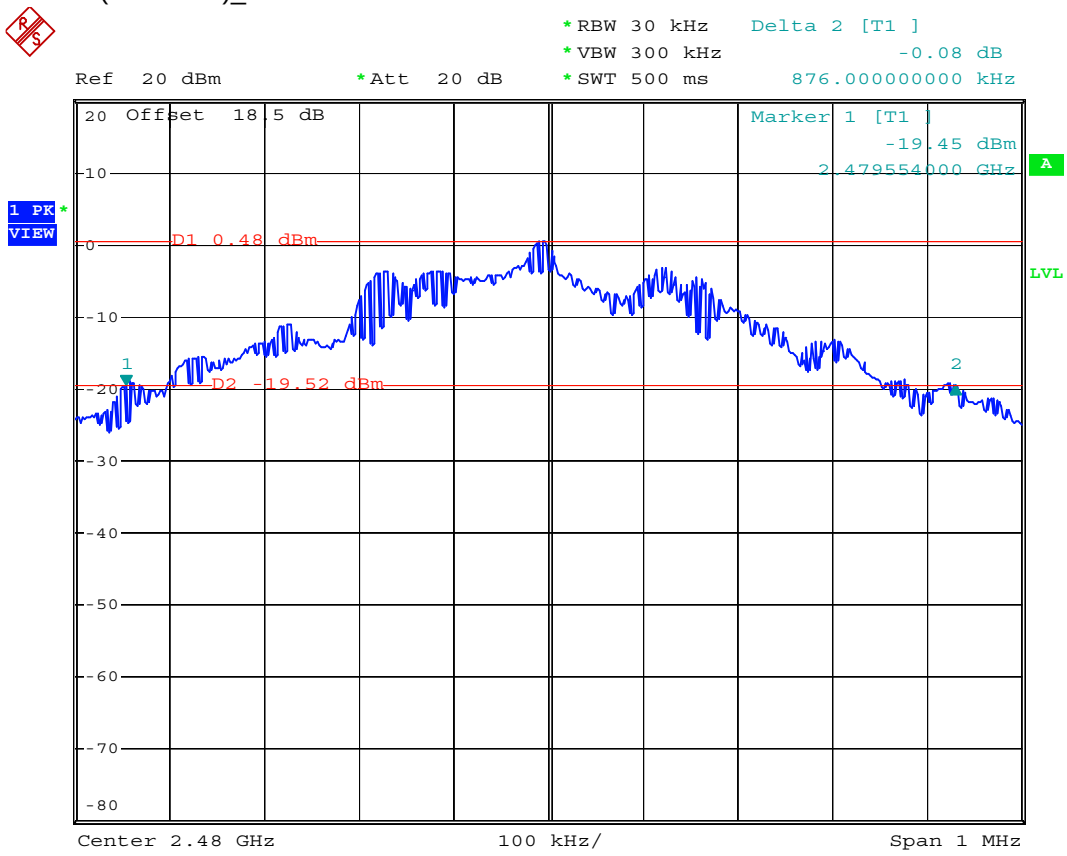


Date: 25.APR.2007 12:24:01

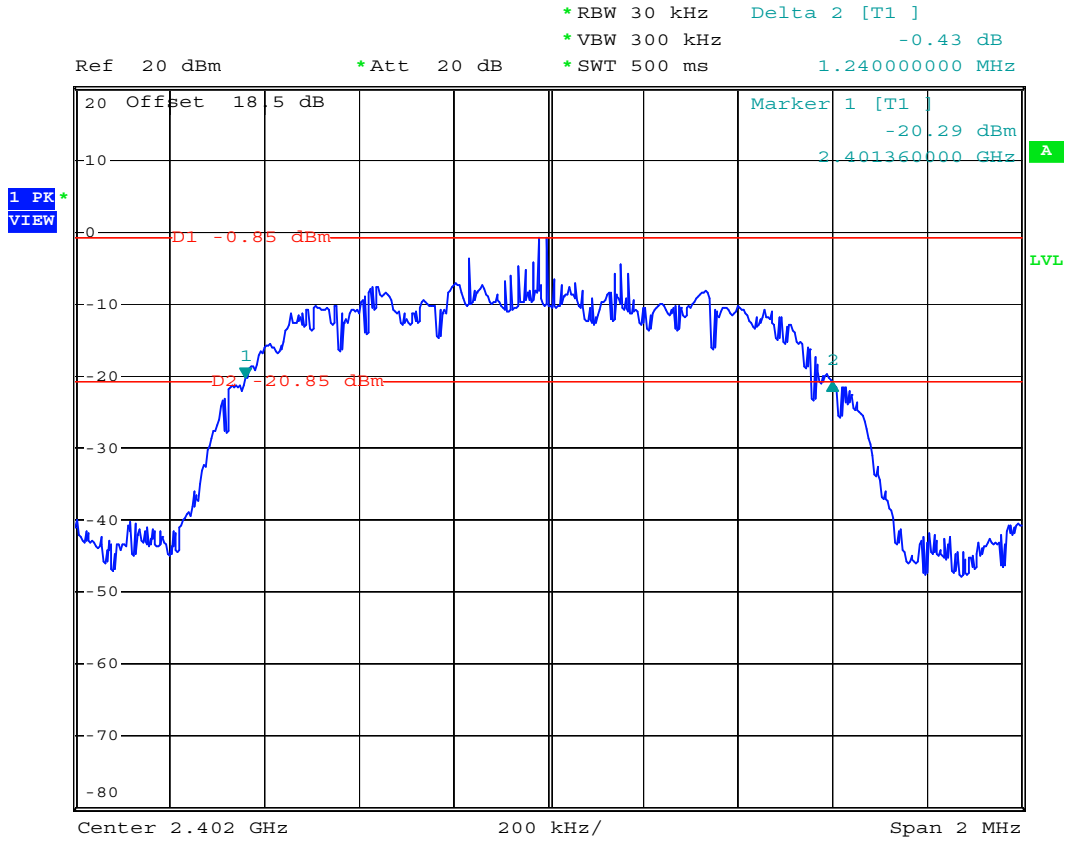
Plot 2: CH39 (2441MHz)_Bluetooth



Plot 3: CH78 (2480MHz)_Bluetooth

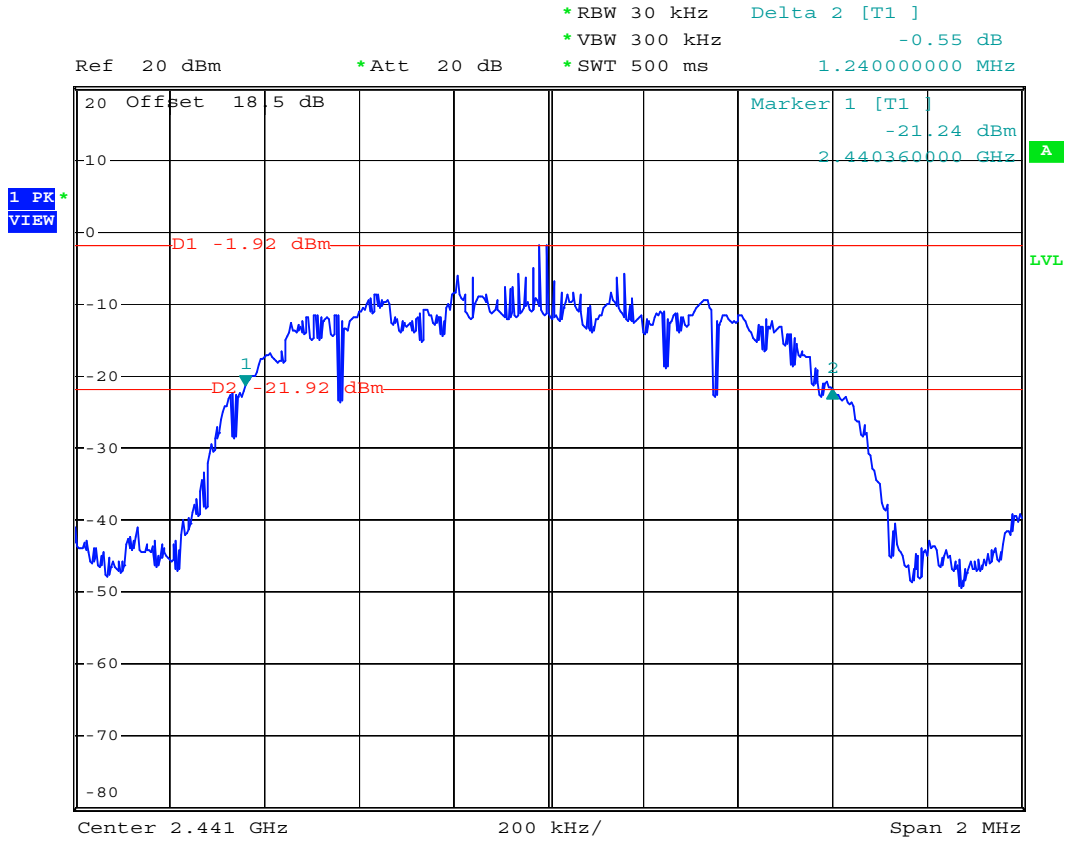


Plot 4: CH00 (2402MHz)_Bluetooth_EDR_2Mbps

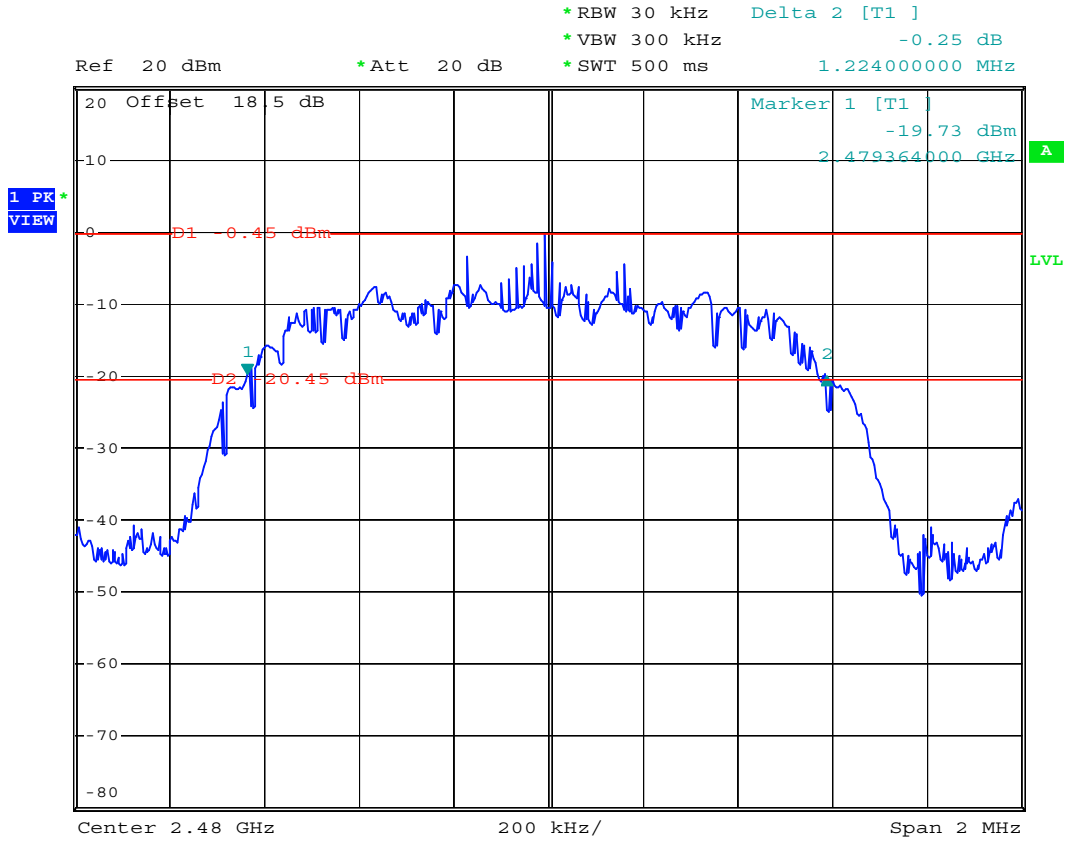


Date: 7.JUL.2007 16:20:50

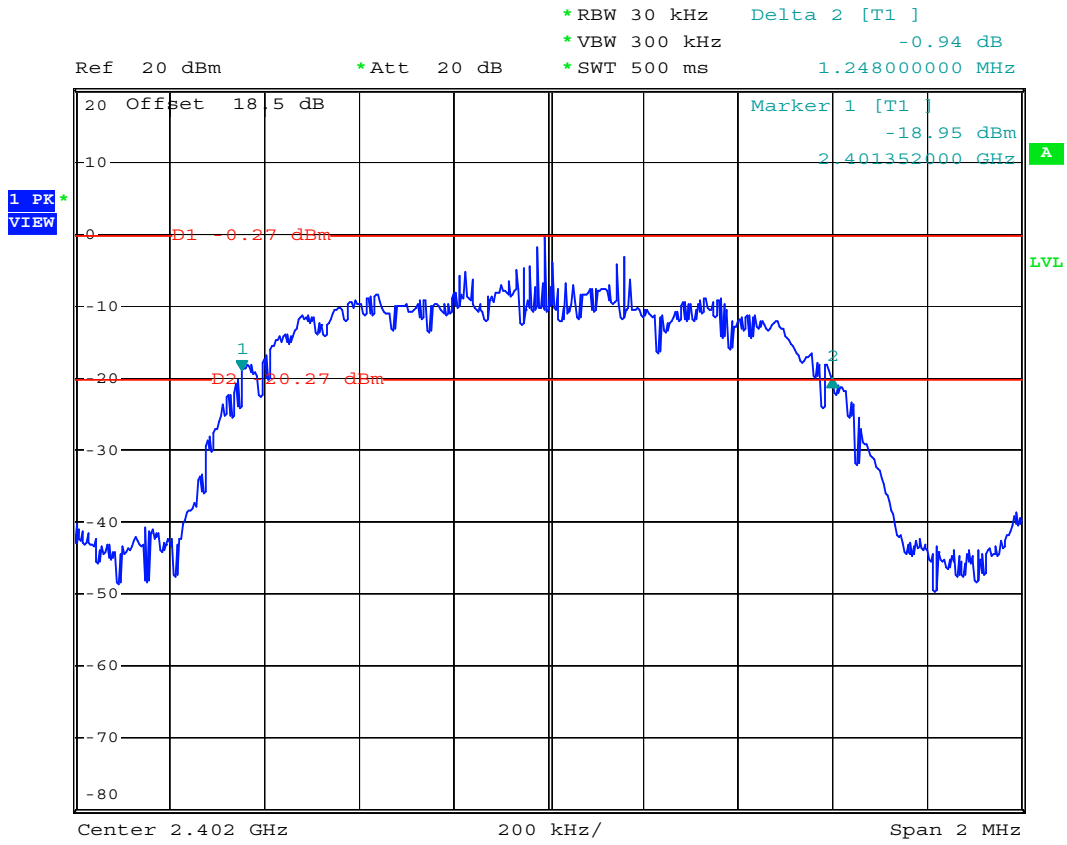
Plot 5: CH39 (2441MHz)_Bluetooth_EDR_2Mbps



Plot 6: CH78 (2480MHz)_Bluetooth_EDR_2Mbps

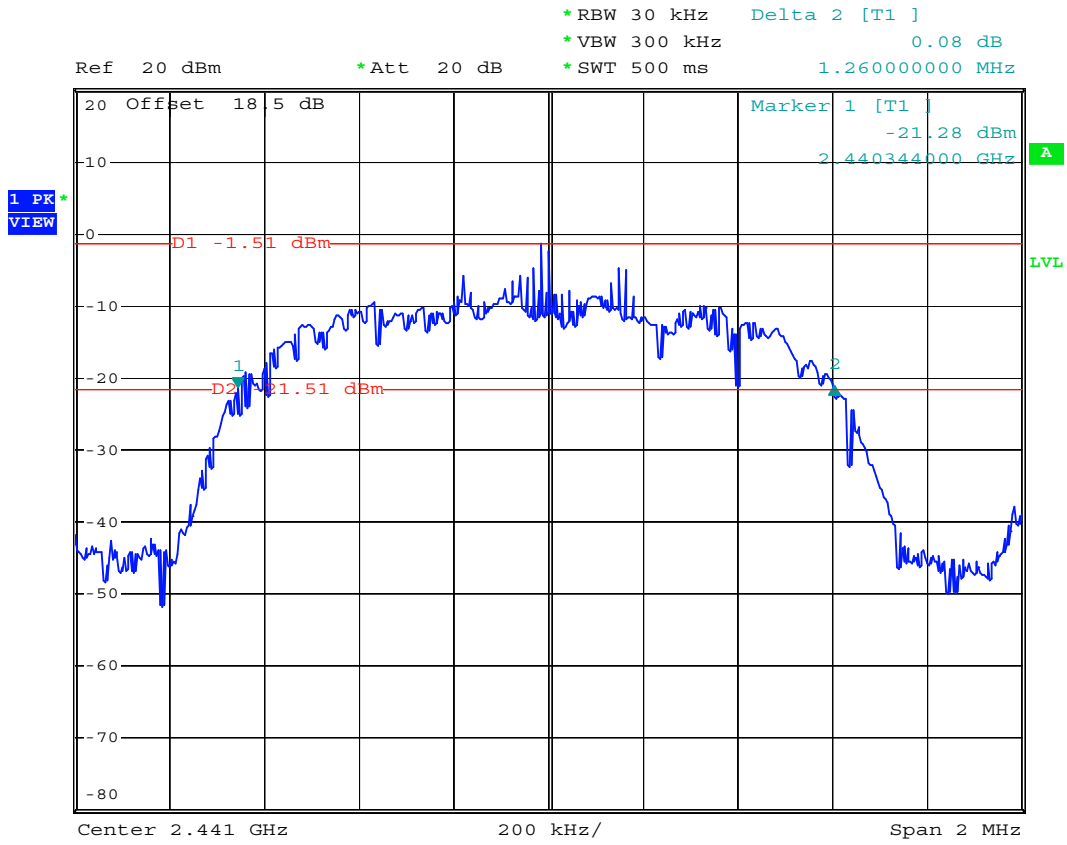


Plot 7: CH00 (2402MHz)_Bluetooth_EDR_3Mbps



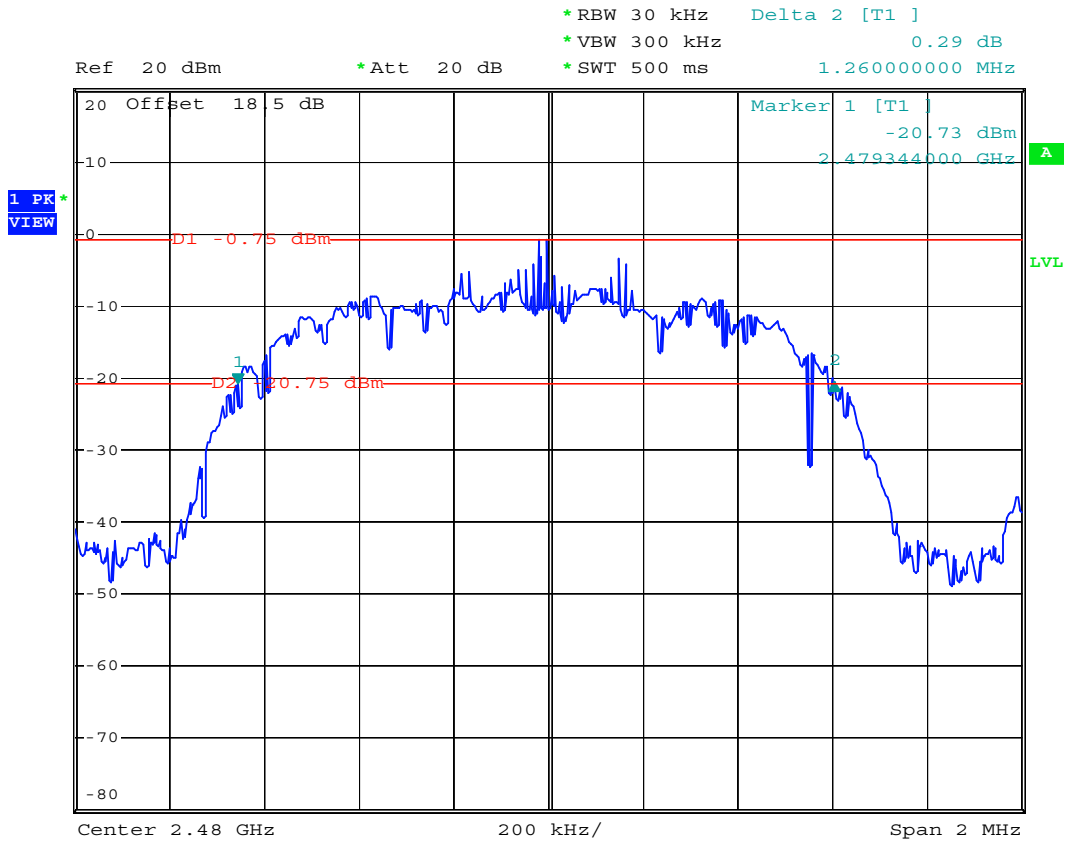
Date: 7.JUL.2007 16:39:48

Plot 8: CH39 (2441MHz)_Bluetooth_EDR_3Mbps



Date: 7.JUL.2007 16:40:27

Plot 9: CH78 (2480MHz)_Bluetooth_EDR_3Mbps



Date: 7.JUL.2007 16:41:06

5.5 Dwell Time of Each Frequency within a 30 Seconds Period

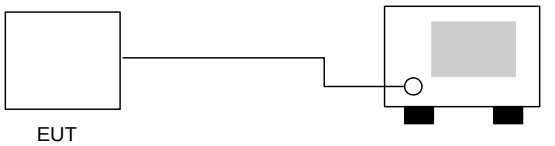
5.5.1 Measuring Instruments：

As described in chapter 6 of this test report.

5.5.2 Test Procedure：

1. The transmitter output was connected to the spectrum analyzer directly.
2. Set RBW of spectrum analyzer to 1MHz and VBW to 1MHz.
3. Set the center frequency on any frequency would be measured and set the frequency span to zero span.
4. The equation = 79*0.4*(1600/79)*t (t = the time duration of one single pulse)

5.5.3 Test Setup Layout：



5.5.4 Test Result：See spectrum analyzer plots below

- Test Mode: Bluetooth
- Temperature: 26°C
- Relative Humidity: 54%
- Test Engineer : Andrew

Ch00

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	9	472.00	0.134	0.4
DH3	4.7	1758.00	0.261	0.4
DH5	3.6	3028.00	0.344	0.4

CH39

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	9.4	460.00	0.137	0.4
DH3	5.4	1718.00	0.293	0.4
DH5	3.7	3020.00	0.353	0.4

CH78

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	9	468.00	0.133	0.4
DH3	5	1748.00	0.276	0.4
DH5	3.4	3008.00	0.323	0.4

- Test Mode: Bluetooth_EDR_2Mbps
- Temperature: 26°C
- Relative Humidity: 54%
- Test Engineer : Andrew

Ch39

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH5	3.6	3080.00	0.350	0.4

- Test Mode: Bluetooth_EDR_3Mbps
- Temperature: 26°C
- Relative Humidity: 54%
- Test Engineer : Andrew

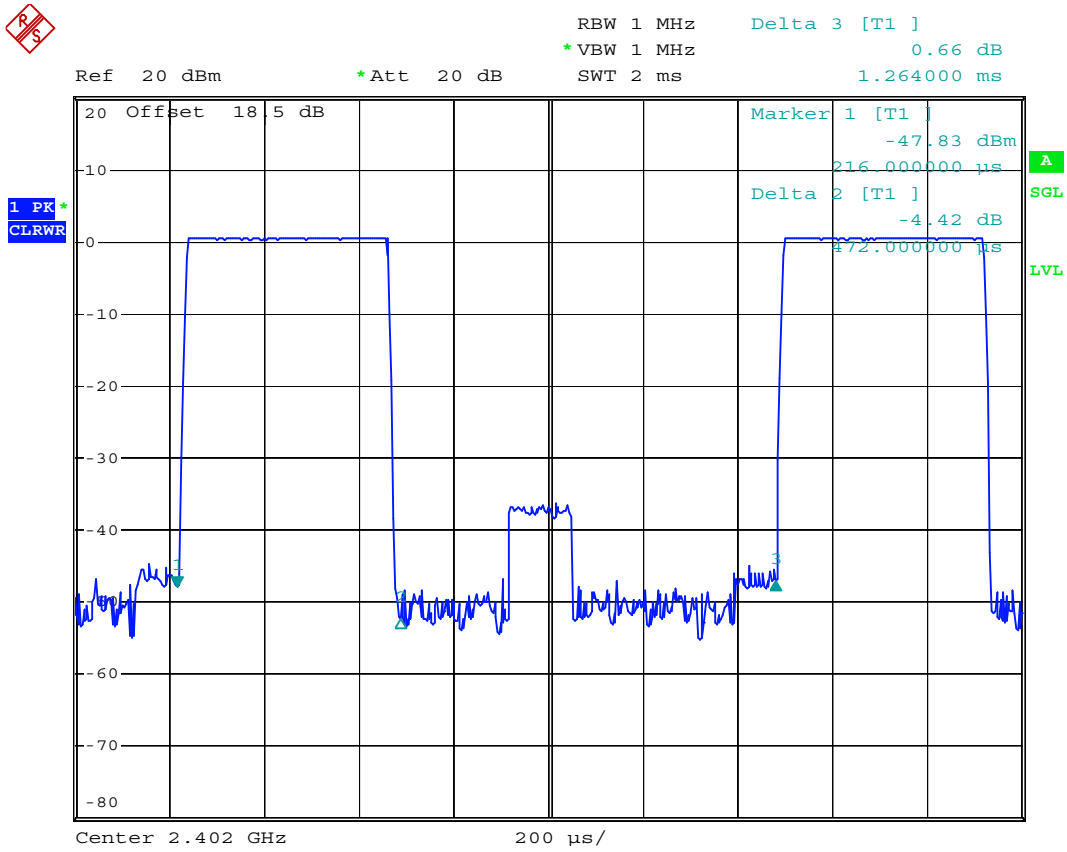
Ch39

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH5	3.7	3060.00	0.358	0.4

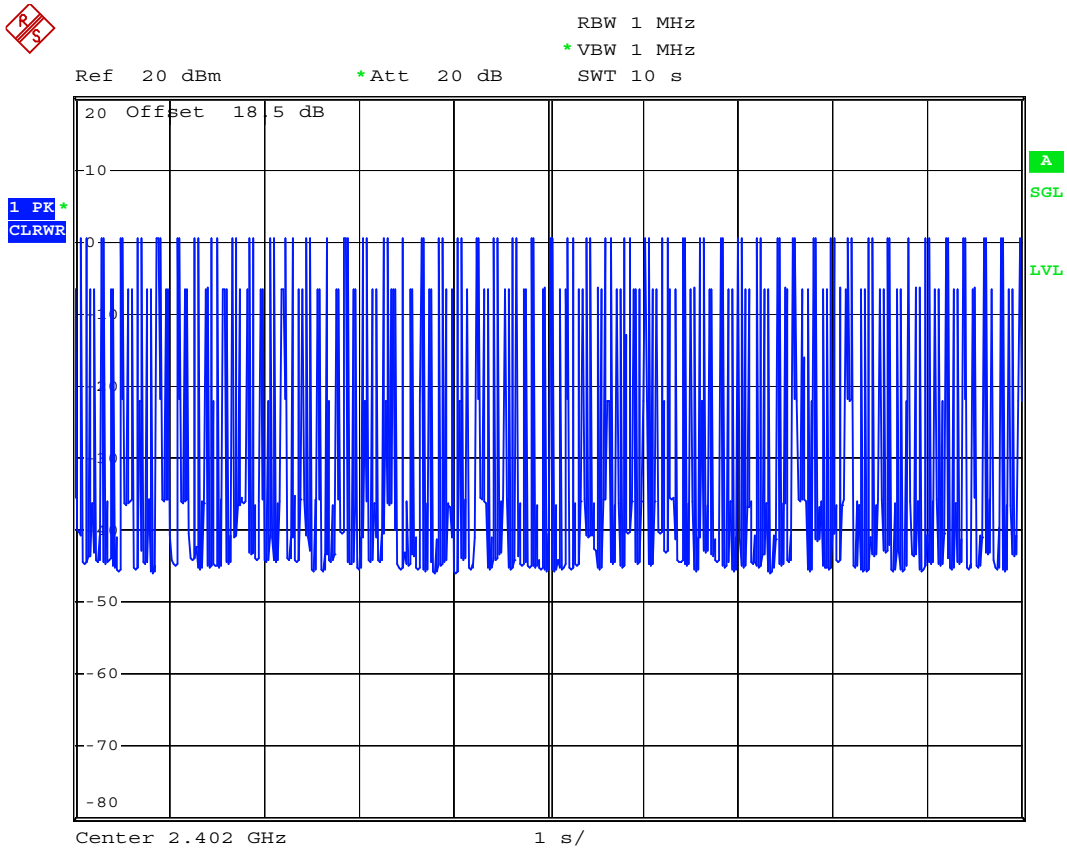
※ Remark:
1. Dwell Time=79(channels) x 0.4(s) x average hopping channel x package transfer time
2. 79 channels come from the Hopping Channel number.
3. Average Hopping Channel = hops/sweep time
4. t: Package Transfer Time(us)

5.5.5 Dwell Time

DH1 (CH00)_Bluetooth

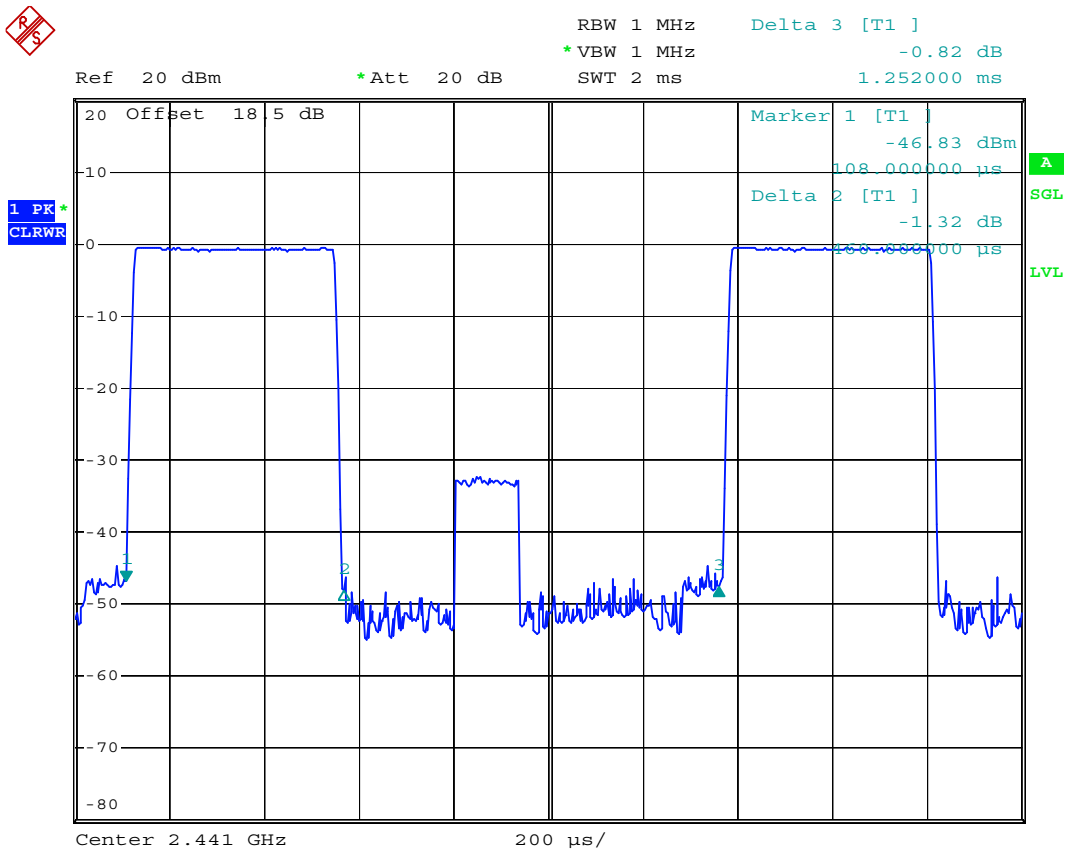


Date: 25.APR.2007 12:36:18

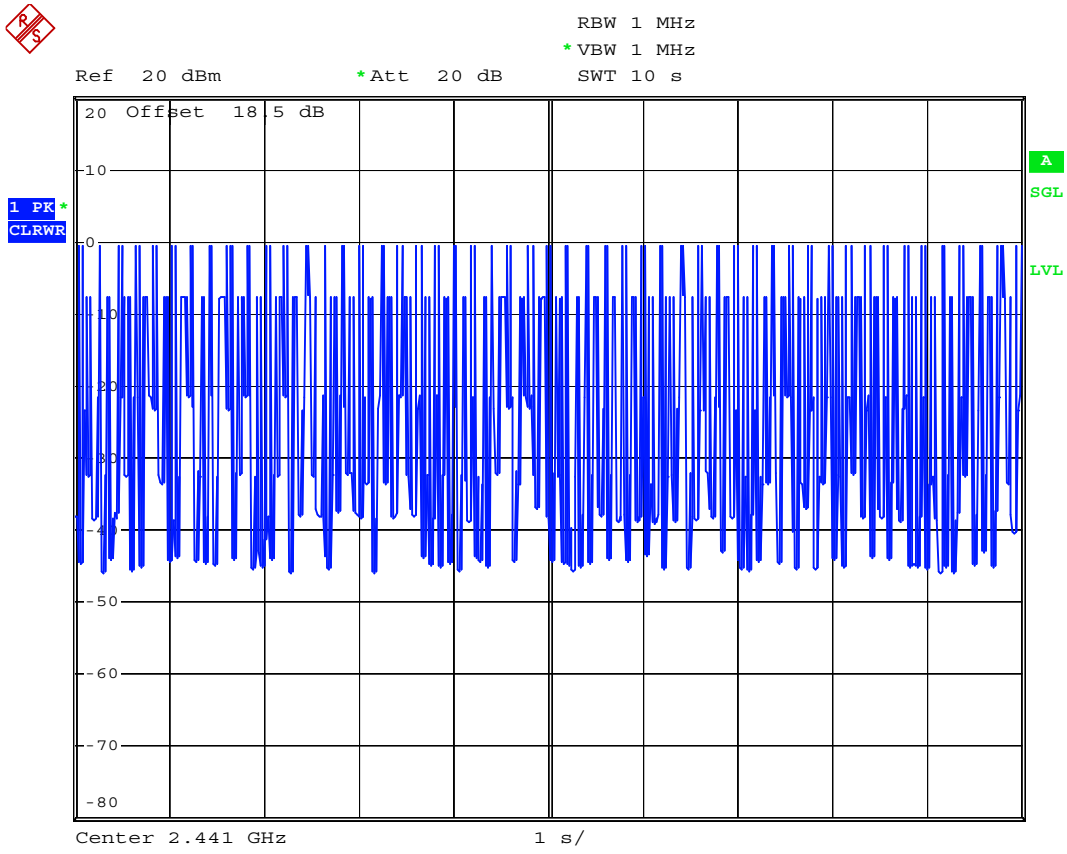


Date: 25.APR.2007 14:27:47

DH1 (CH39)_Bluetooth

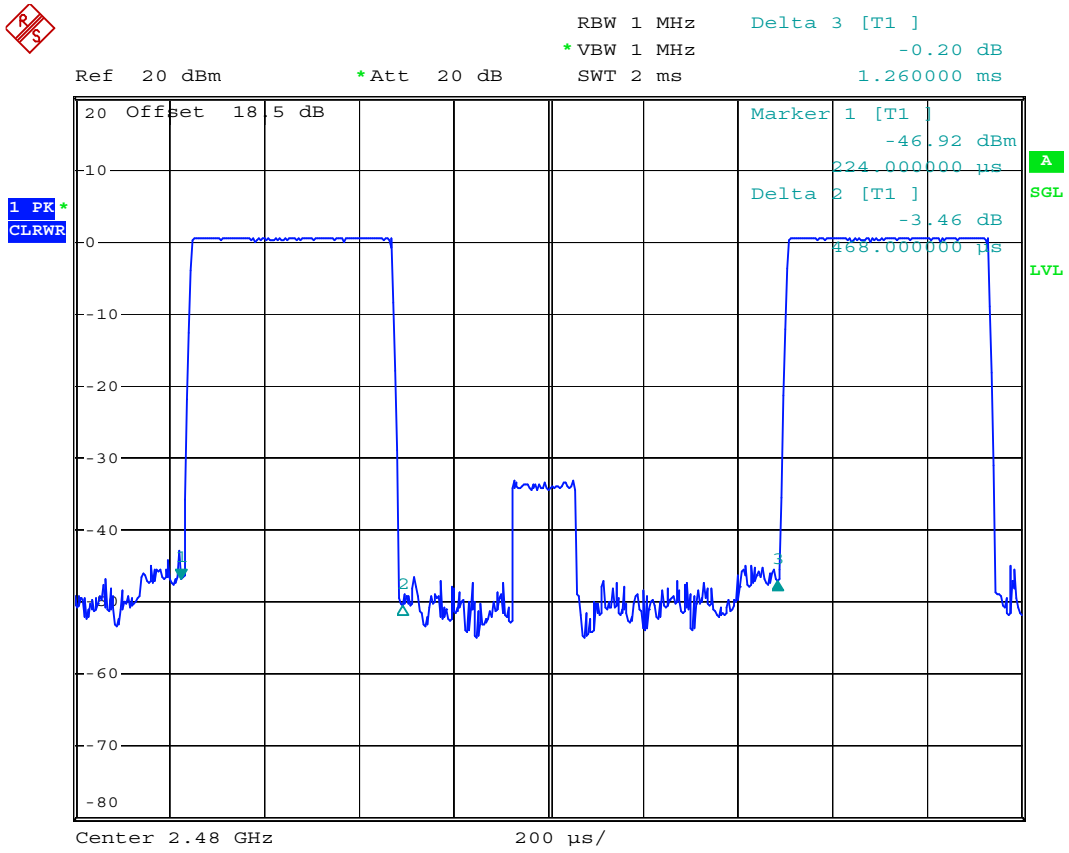


Date: 25.APR.2007 12:37:28

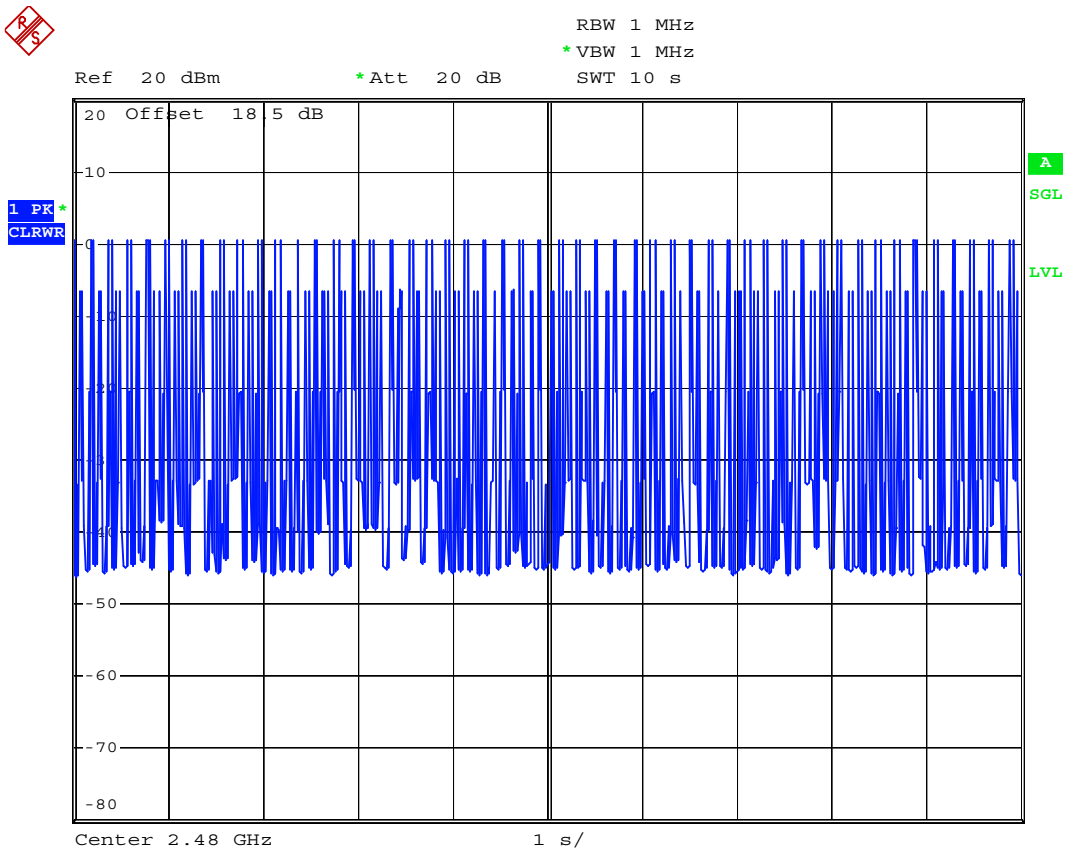


Date: 25.APR.2007 14:28:27

DH1 (CH78)_Bluetooth

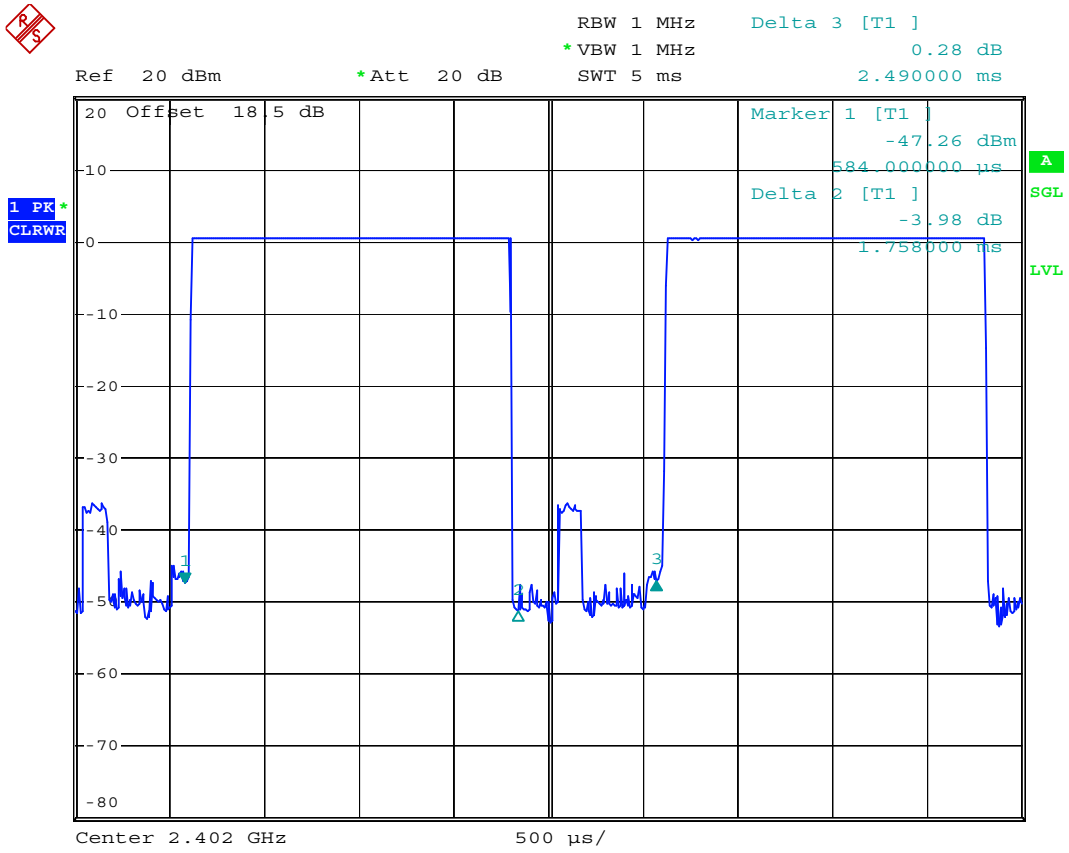


Date: 25.APR.2007 12:38:07

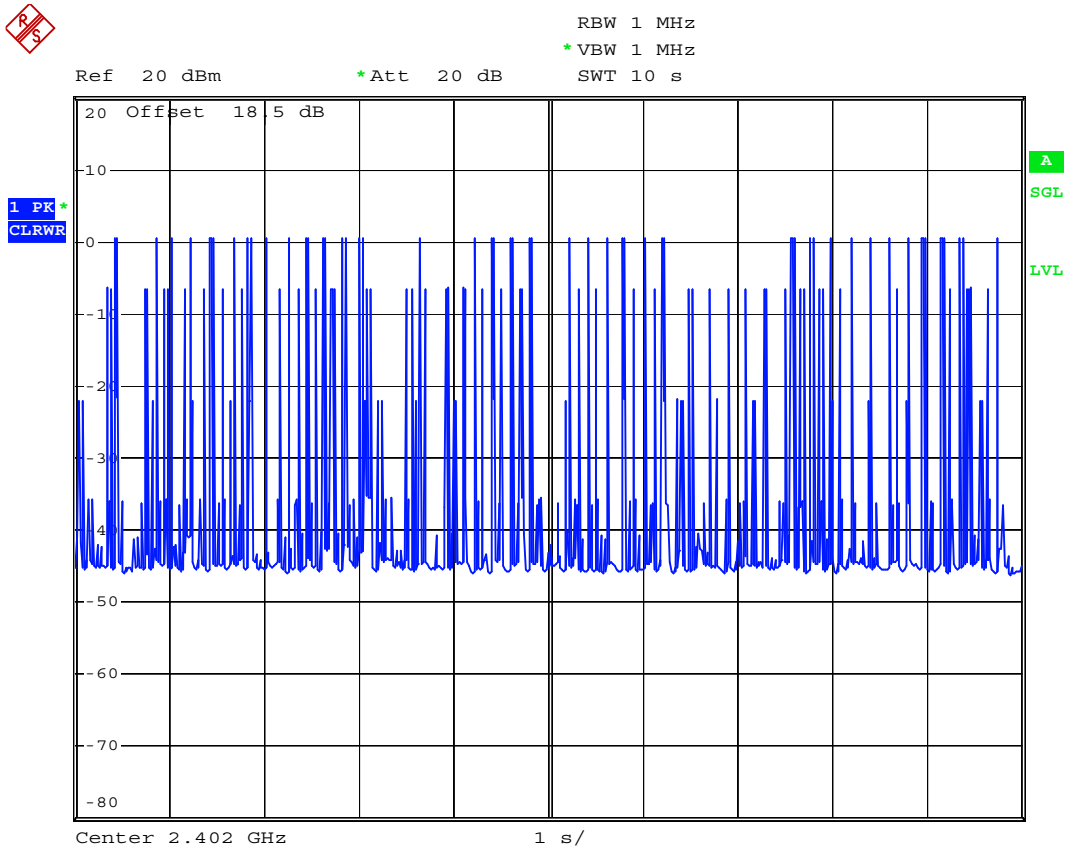


Date: 25.APR.2007 14:29:30

DH3 (CH00)_Bluetooth

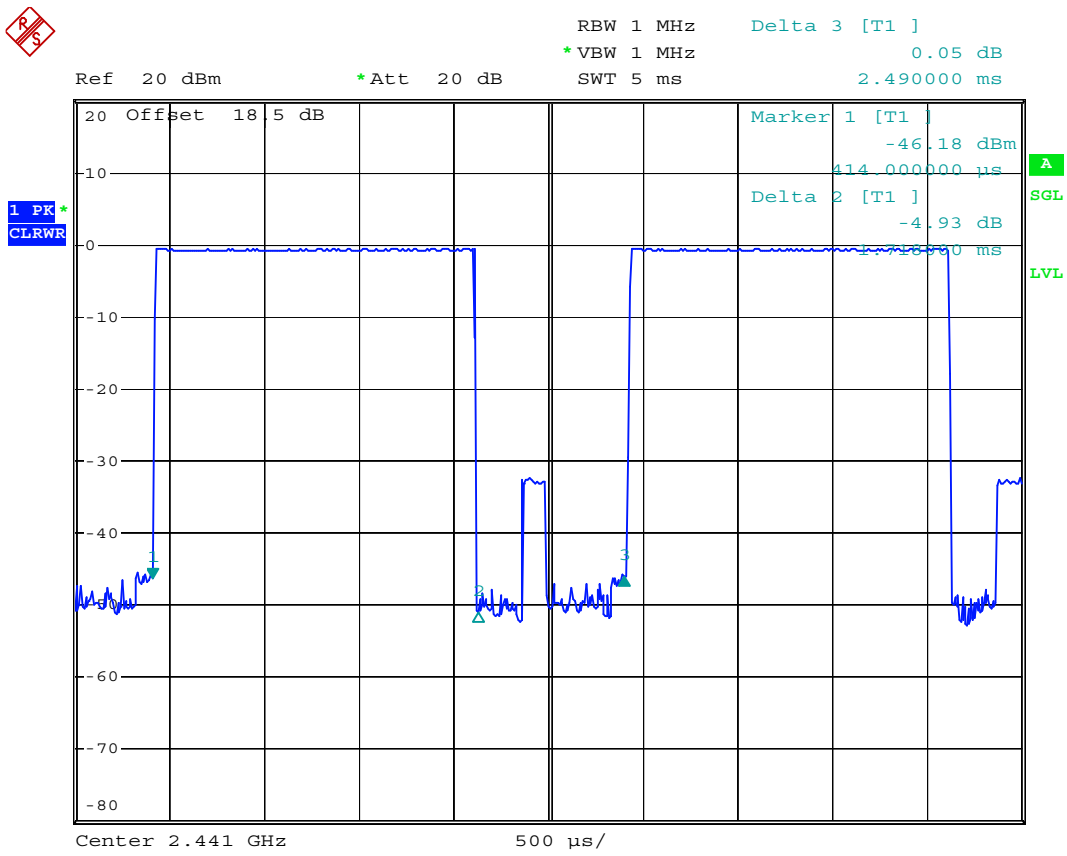


Date: 25.APR.2007 14:20:13

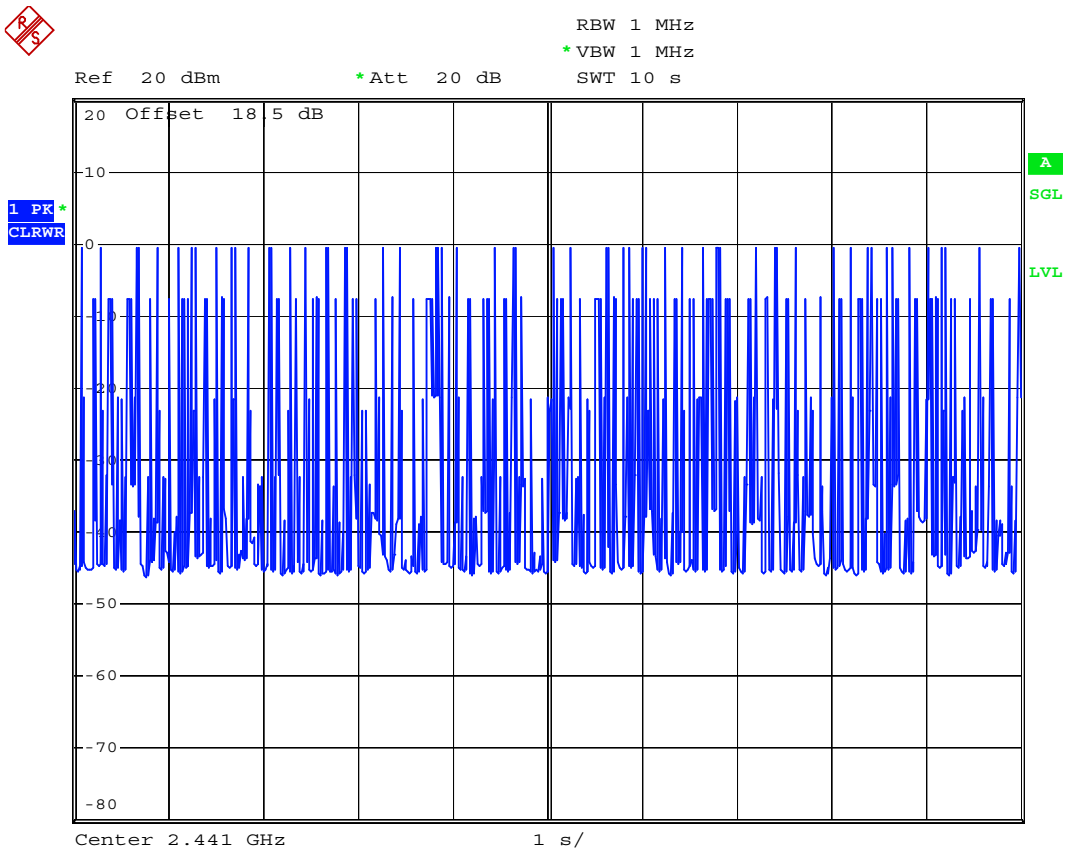


Date: 25.APR.2007 14:30:10

DH3 (CH39)_Bluetooth

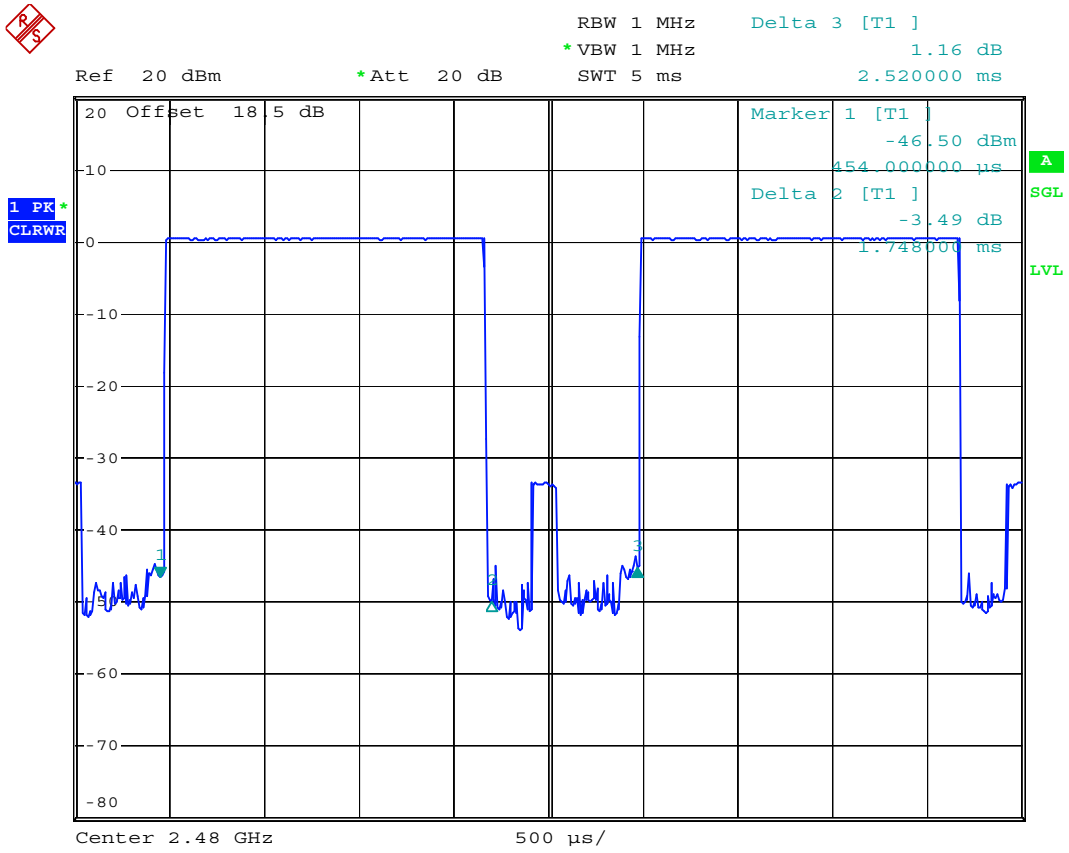


Date: 25.APR.2007 14:20:58

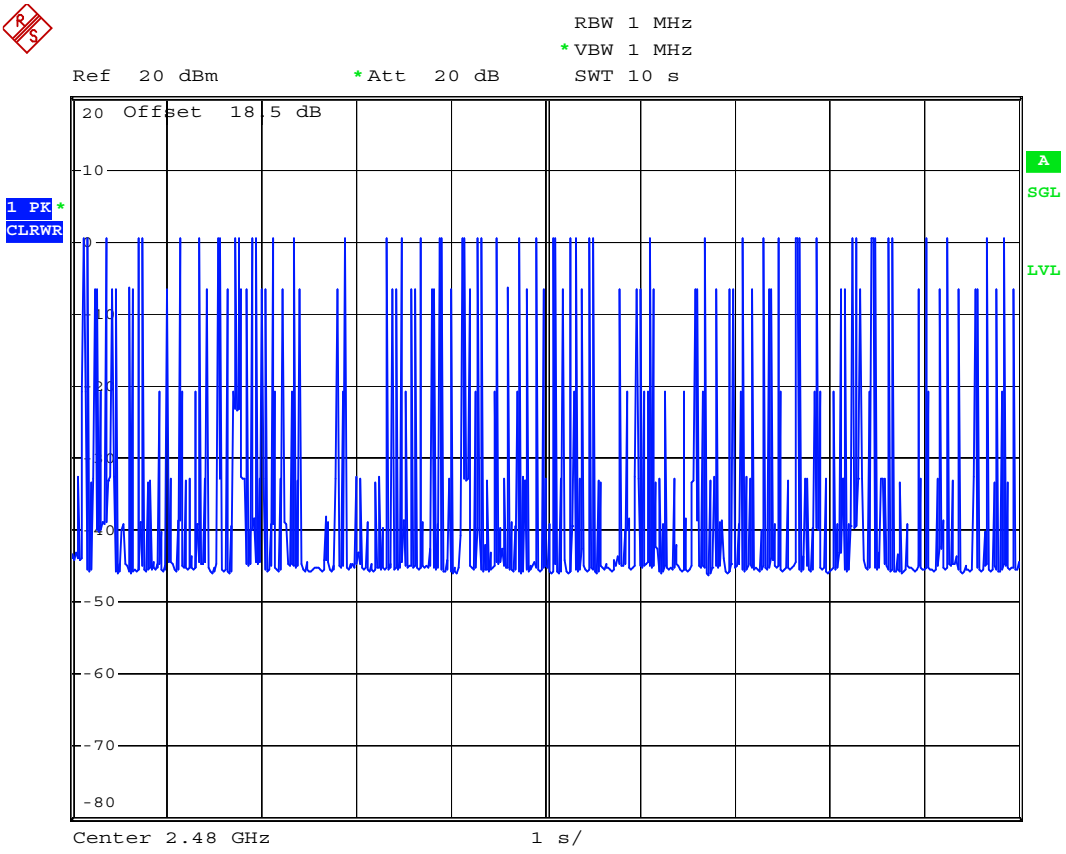


Date: 25.APR.2007 14:30:42

DH3 (CH78)_Bluetooth

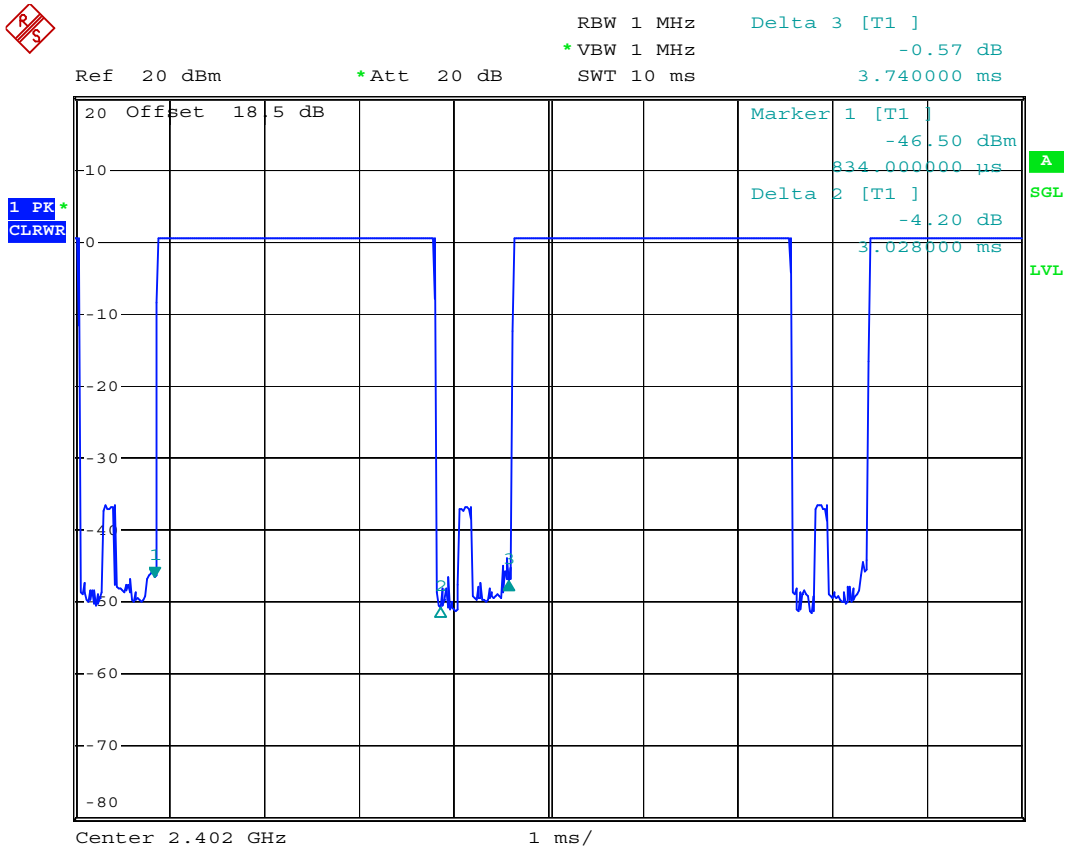


Date: 25.APR.2007 14:21:27

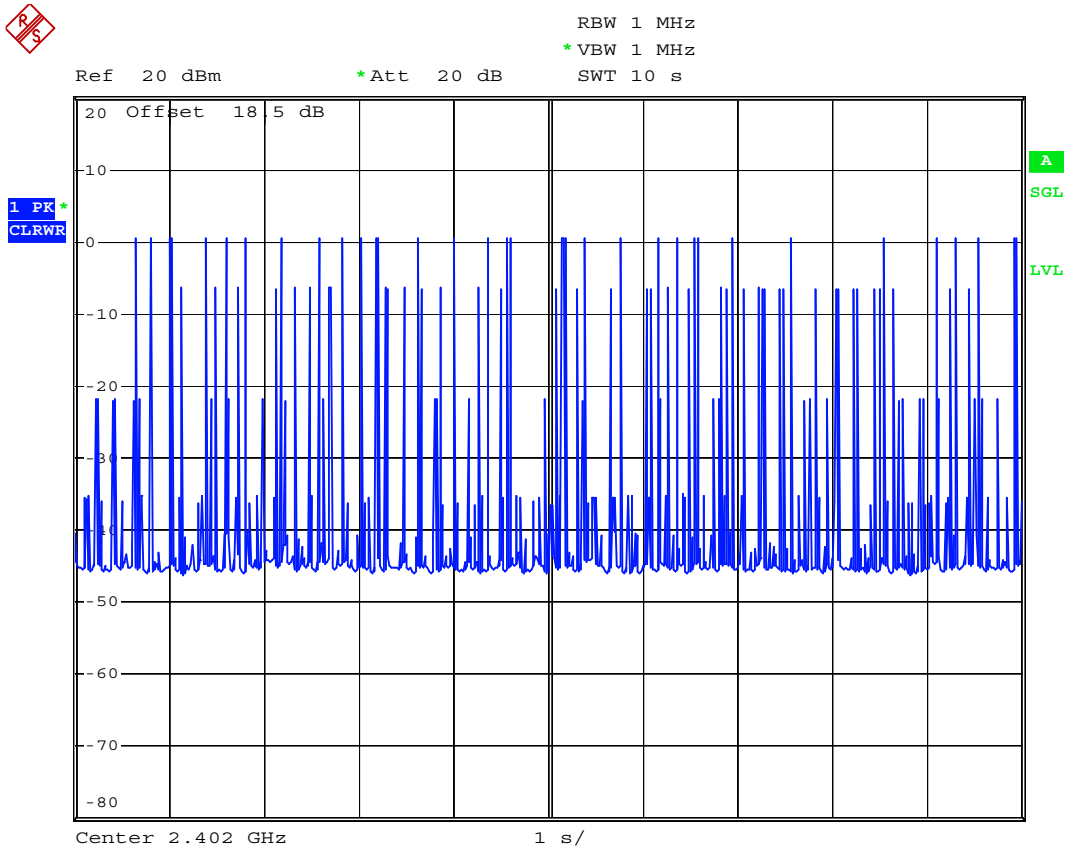


Date: 25.APR.2007 14:31:13

DH5 (CH00)_Bluetooth

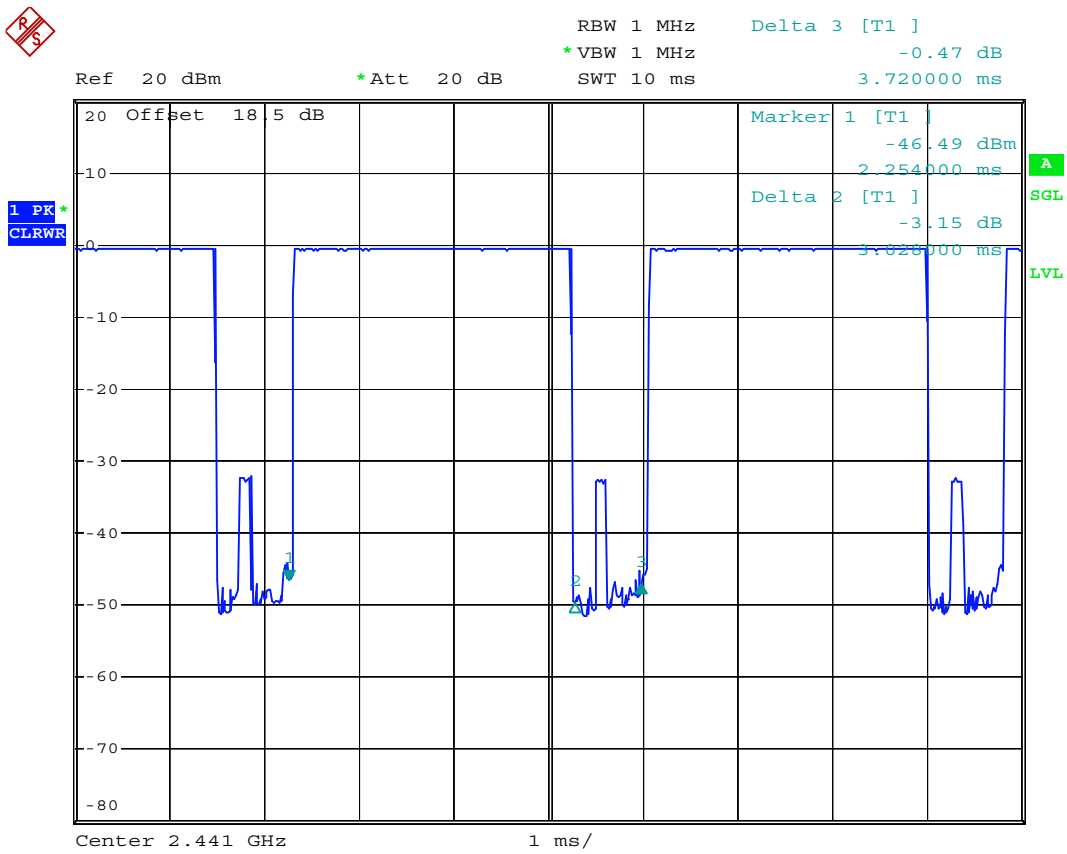


Date: 25.APR.2007 14:22:15

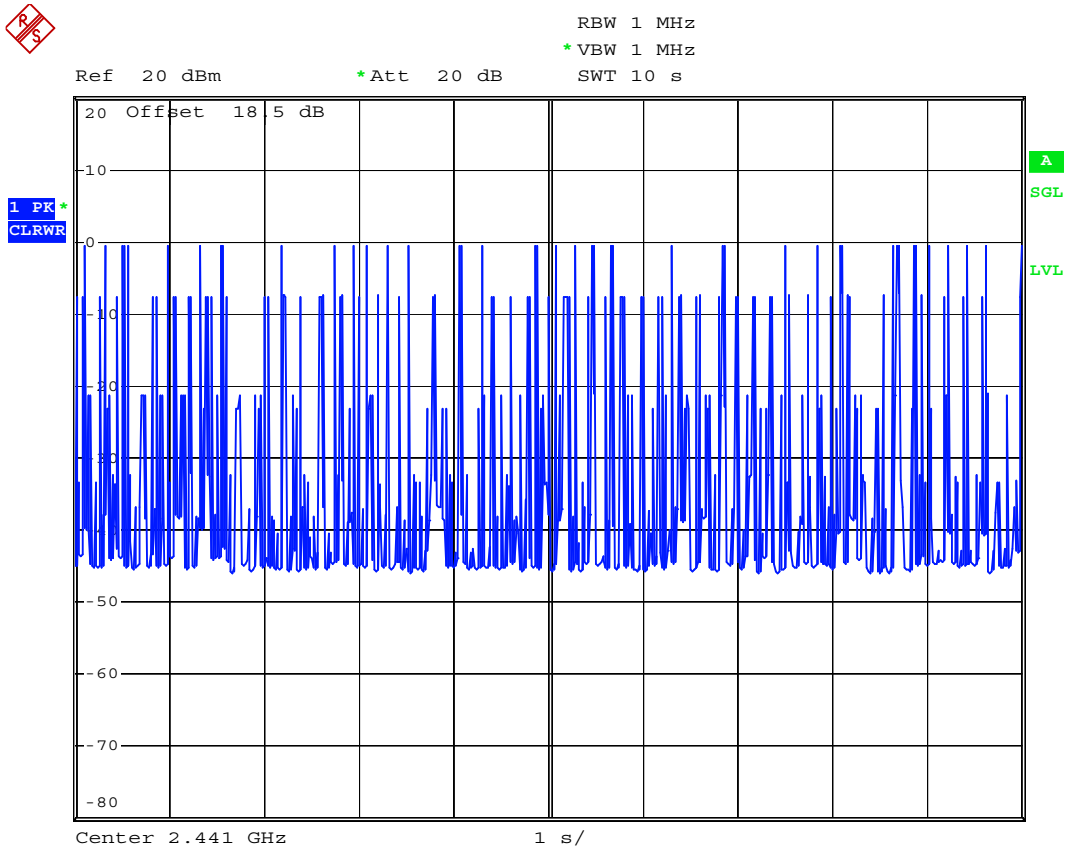


Date: 25.APR.2007 14:31:49

DH5 (CH39)_Bluetooth

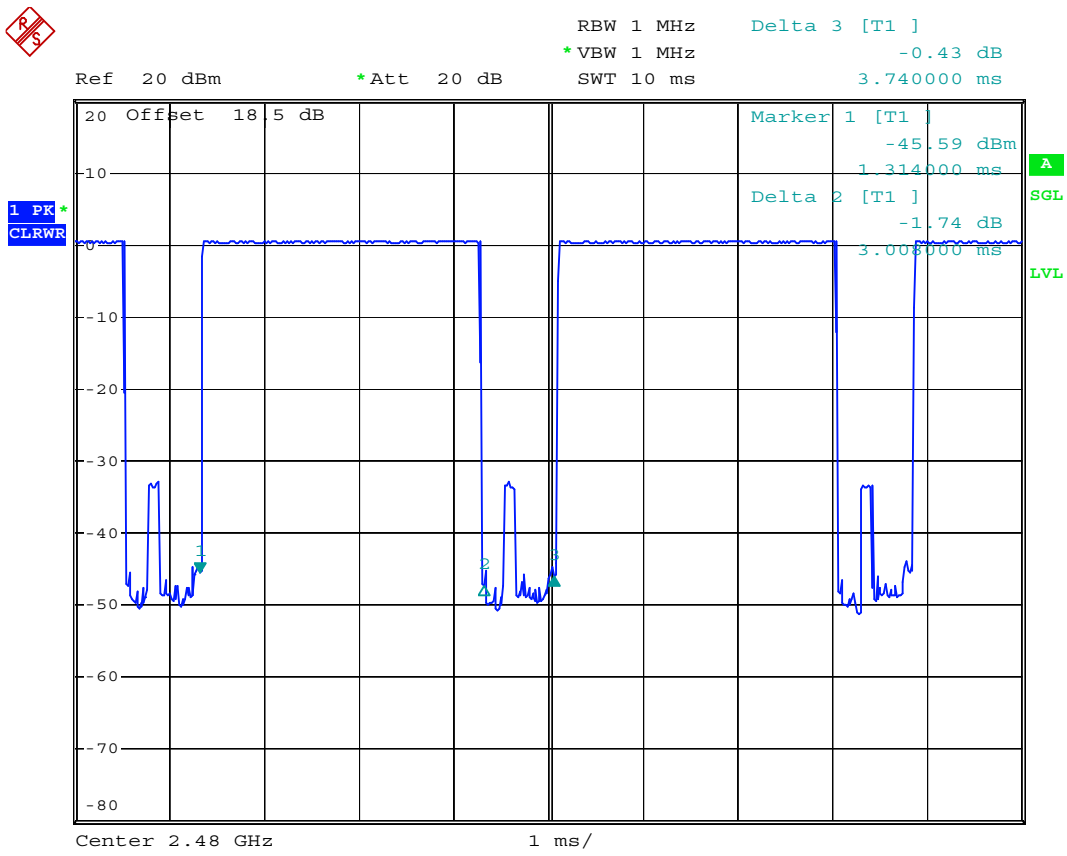


Date: 25.APR.2007 14:24:41

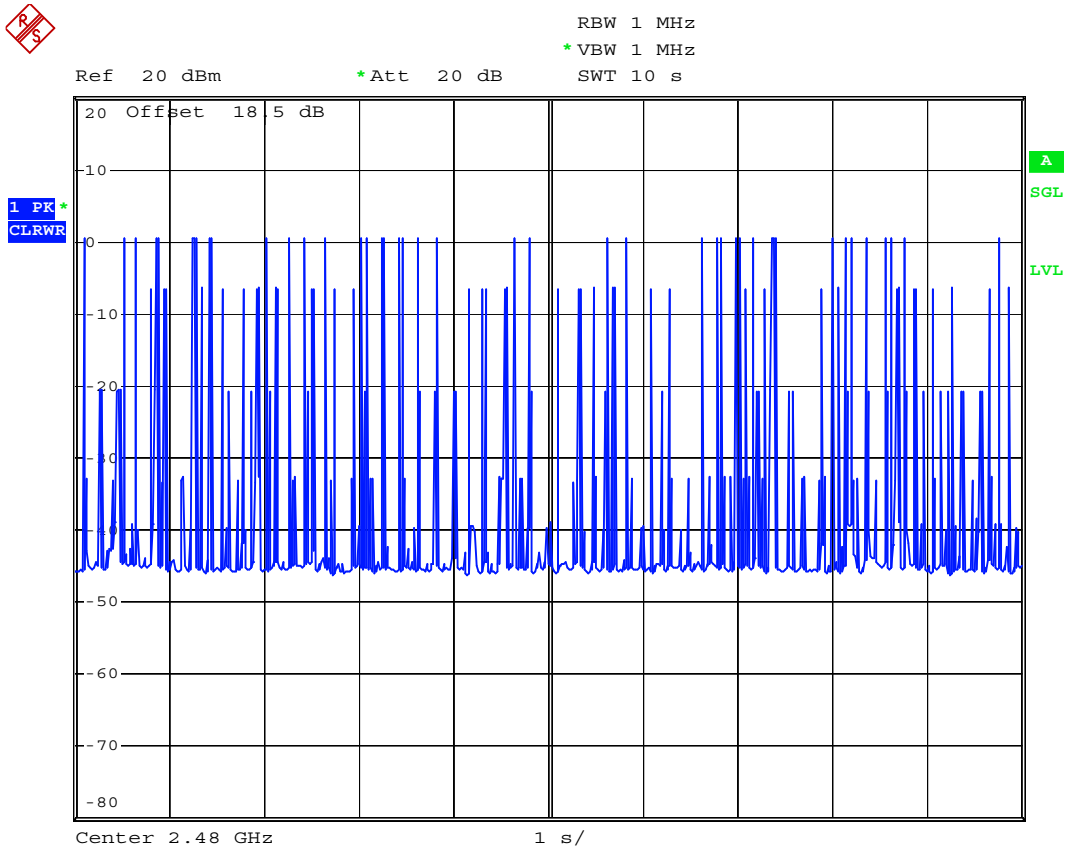


Date: 25.APR.2007 14:32:19

DH5 (CH78)_Bluetooth

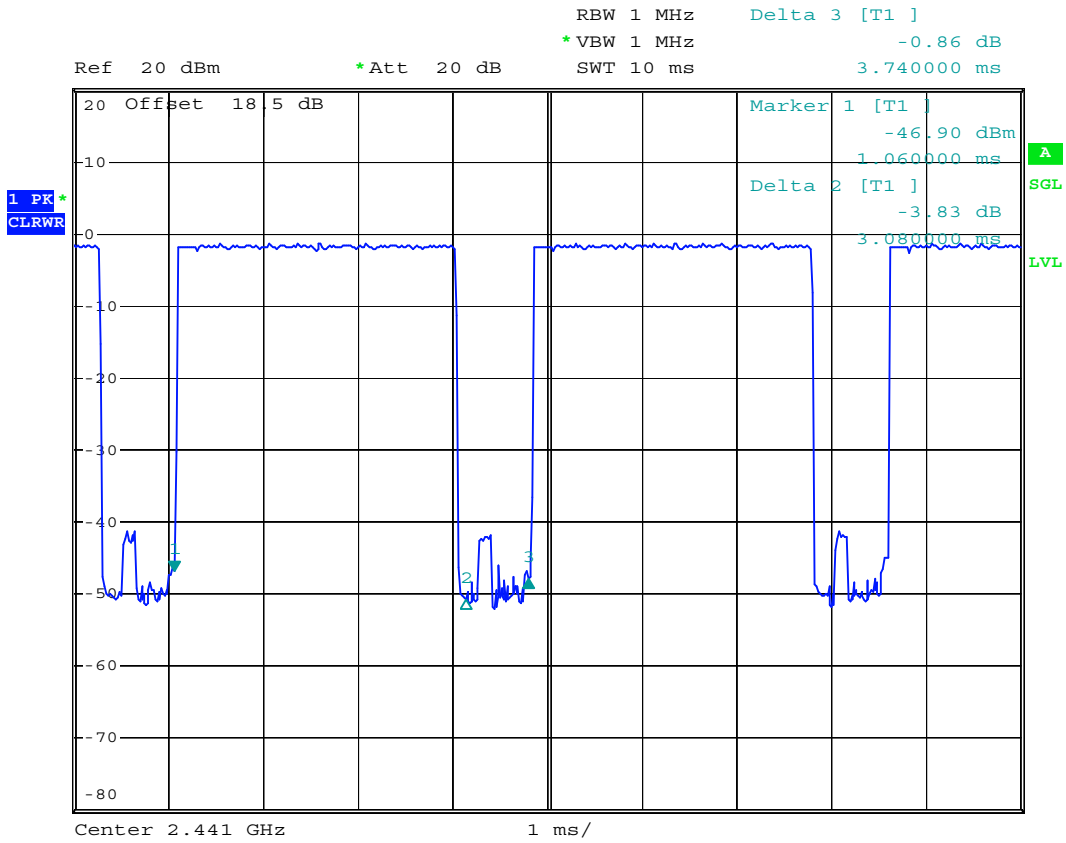


Date: 25.APR.2007 14:25:15

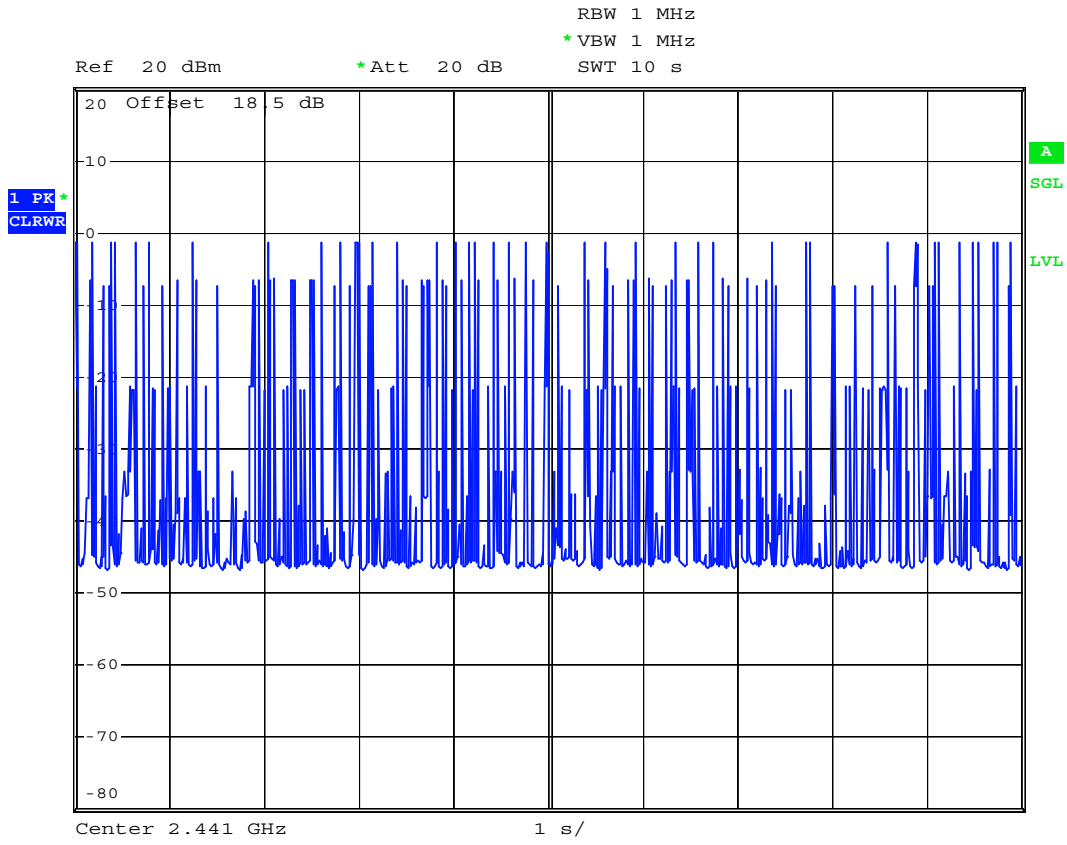


Date: 25.APR.2007 14:32:52

DH5 (CH39)_Bluetooth_EDR_2Mbps

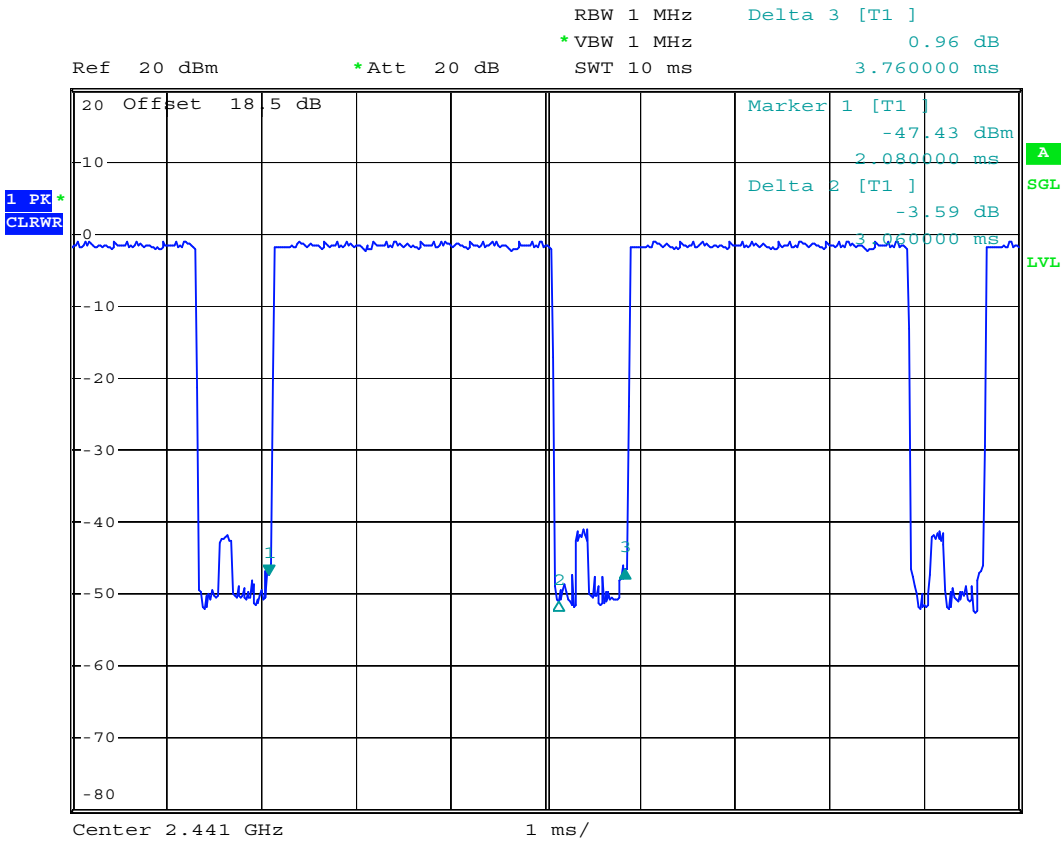


Date: 7.JUL.2007 16:27:31

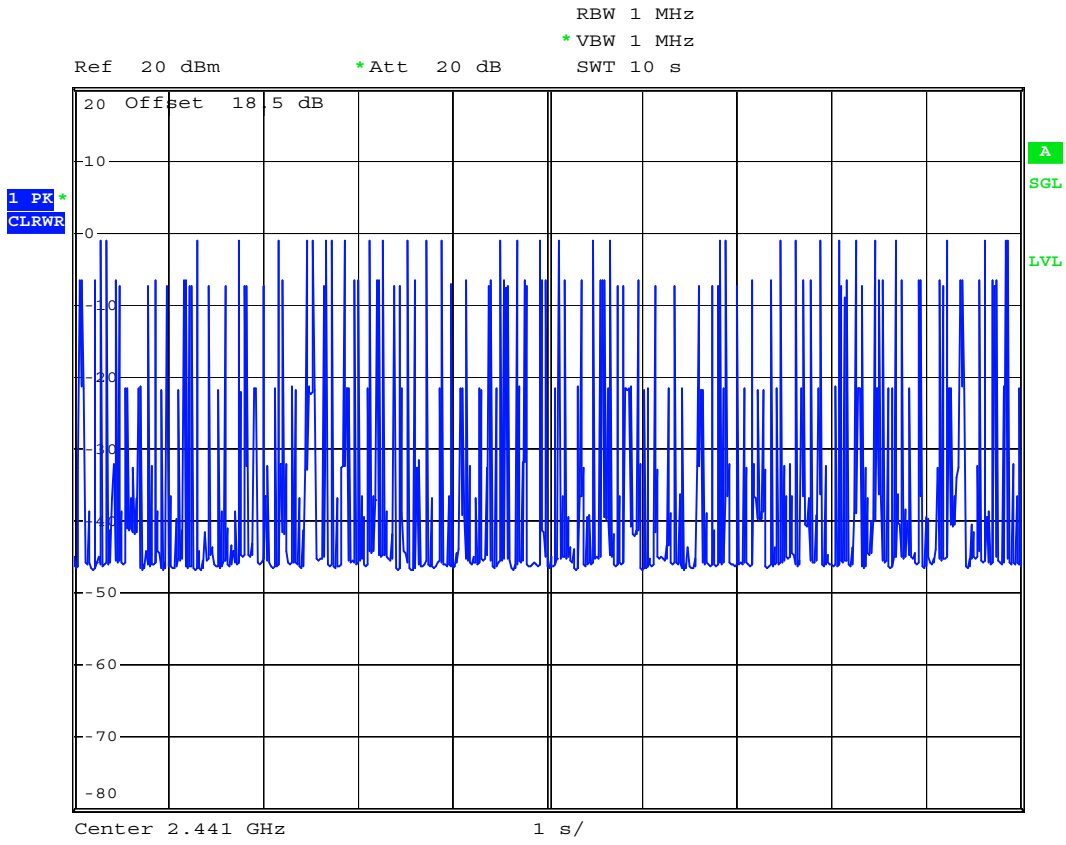


Date: 7.JUL.2007 16:28:07

DH5 (CH39)_Bluetooth_EDR_3Mbps



Date: 7.JUL.2007 16:46:02



Date: 7.JUL.2007 16:46:27

5.6 Output Power

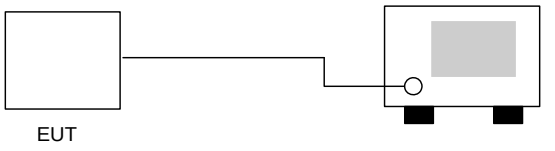
5.6.1 Measuring Instruments：

As described in chapter 6 of this test report.

5.6.2 Test Procedure：

1. The transmitter output was connected to the spectrum analyzer directly.
2. The center frequency of the spectrum analyzer was set to the fundamental frequency and set RBW to 3MHz and VBW to 3MHz.

5.6.3 Test Setup Layout：



5.6.4 Test Result：See spectrum analyzer plots below

- Bluetooth
- Temperature: 26°C
- Relative Humidity: 54%
- Test Engineer : Andrew

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)	Plot Ref. No.
00	2402	1.01	1W/30 dBm	Plot 1
39	2441	-0.25	1W/30 dBm	Plot 2
78	2480	0.82	1W/30 dBm	Plot 3

- Bluetooth_EDR_2Mbps
- Temperature: 26°C
- Relative Humidity: 54%
- Test Engineer : Andrew

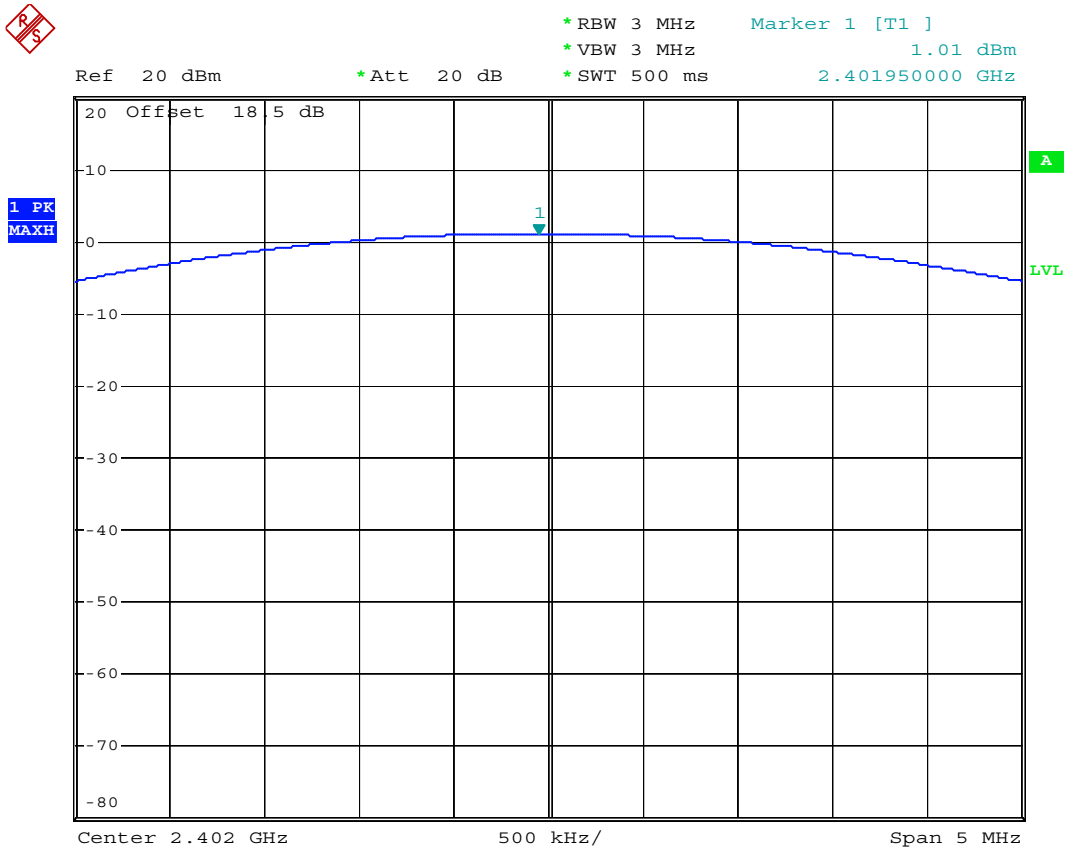
Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)	Plot Ref. No.
00	2402	0.49	1W/30 dBm	Plot 4
39	2441	-0.65	1W/30 dBm	Plot 5
78	2480	0.42	1W/30 dBm	Plot 6

- Bluetooth_EDR_3Mbps
- Temperature: 26°C
- Relative Humidity: 54%
- Test Engineer : Andrew

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)	Plot Ref. No.
00	2402	0.85	1W/30 dBm	Plot 7
39	2441	-0.32	1W/30 dBm	Plot 8
78	2480	0.73	1W/30 dBm	Plot 9

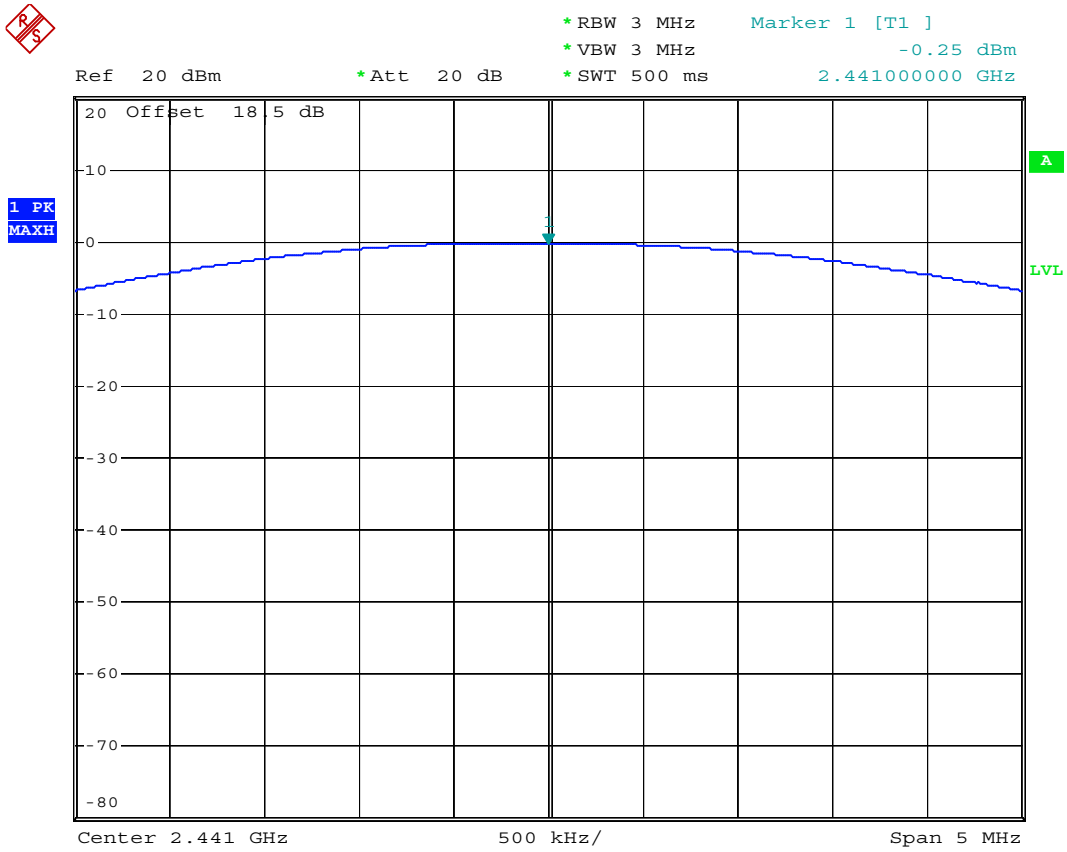
5.6.5 Output Power

Plot 1: CH00 (2402MHz)_Bluetooth



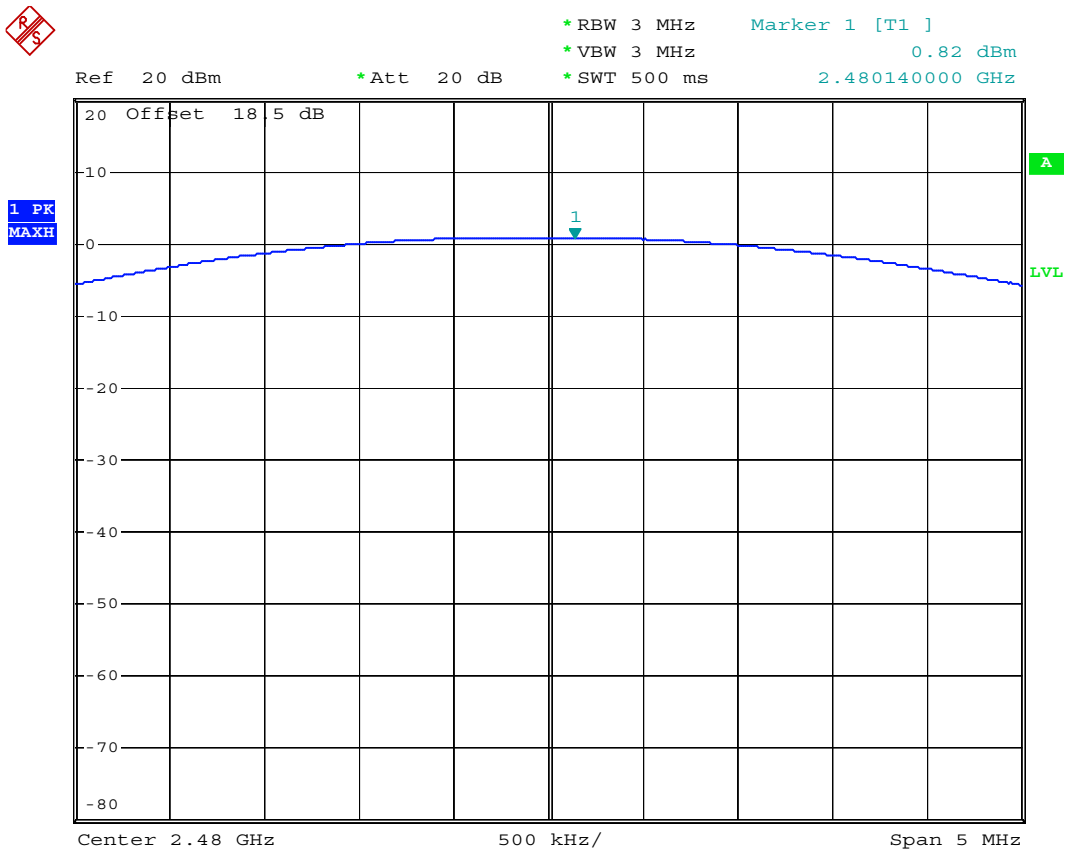
Date: 25.APR.2007 12:16:02

Plot 2: CH39 (2441MHz)_Bluetooth



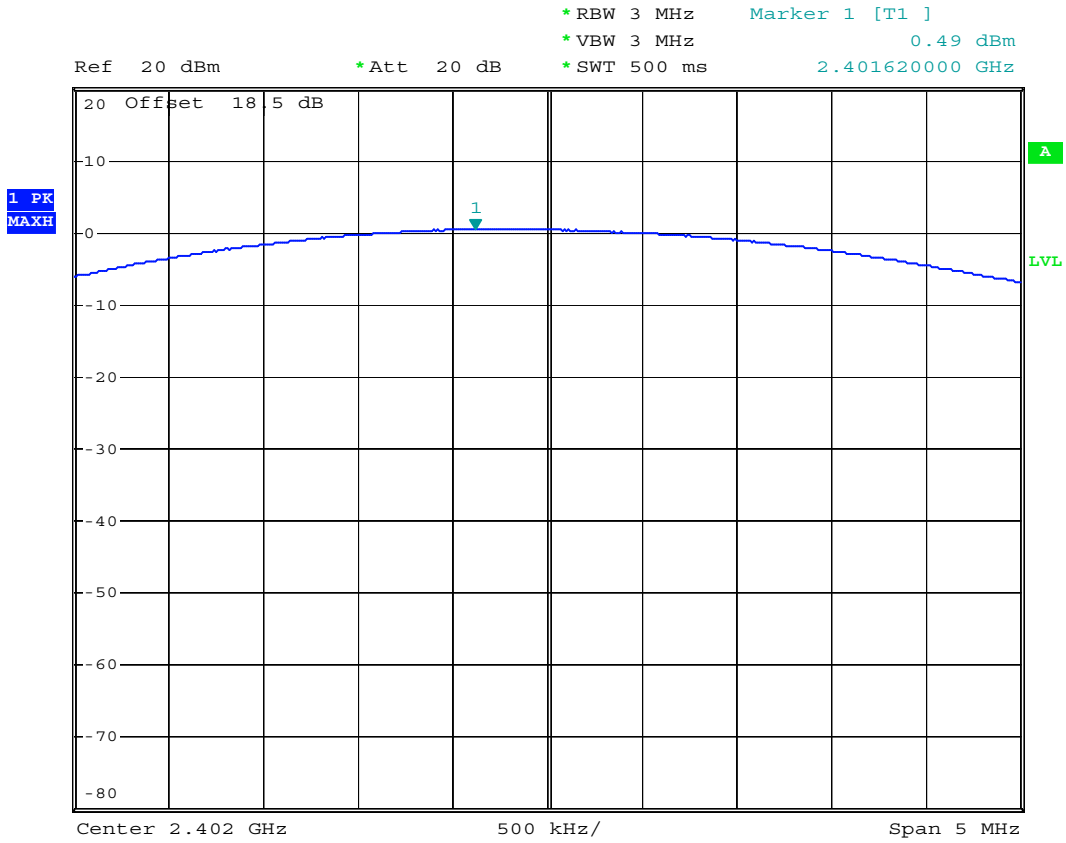
Date: 25.APR.2007 12:16:25

Plot 3: CH78 (2480MHz) _Bluetooth



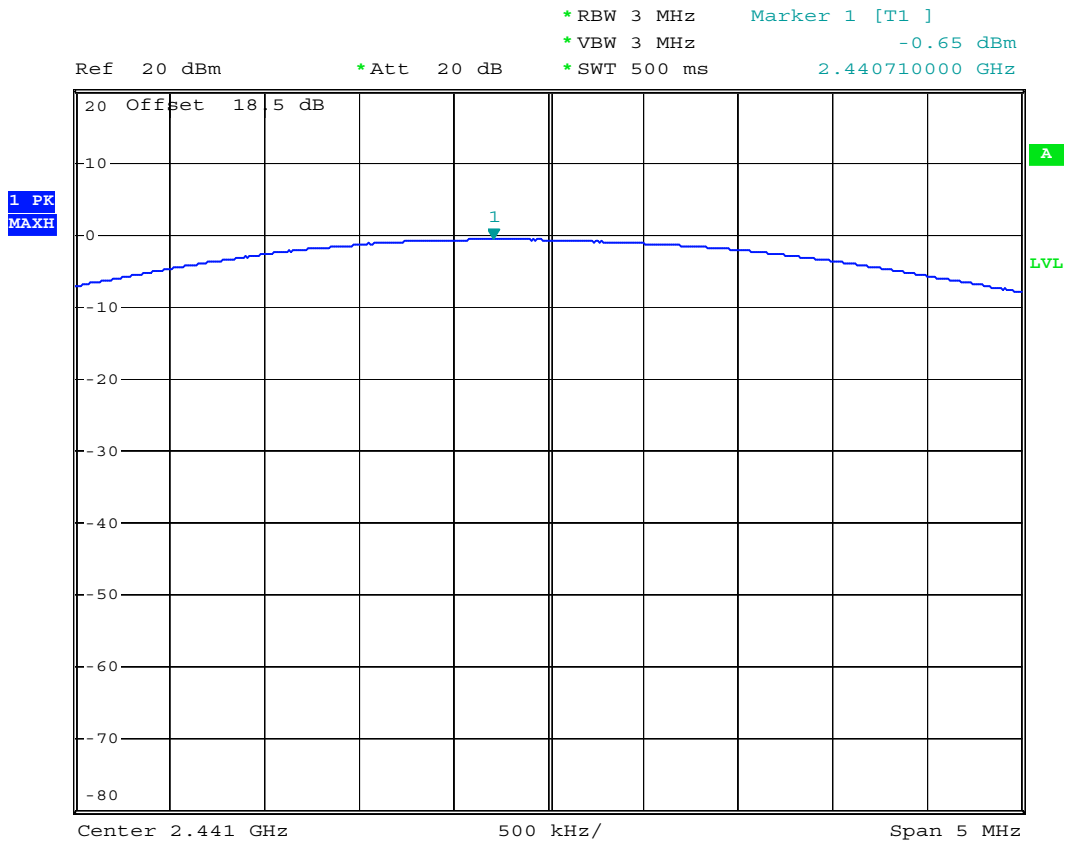
Date: 25.APR.2007 12:16:40

Plot 4: CH00 (2402MHz)_Bluetooth_EDR_2Mbps

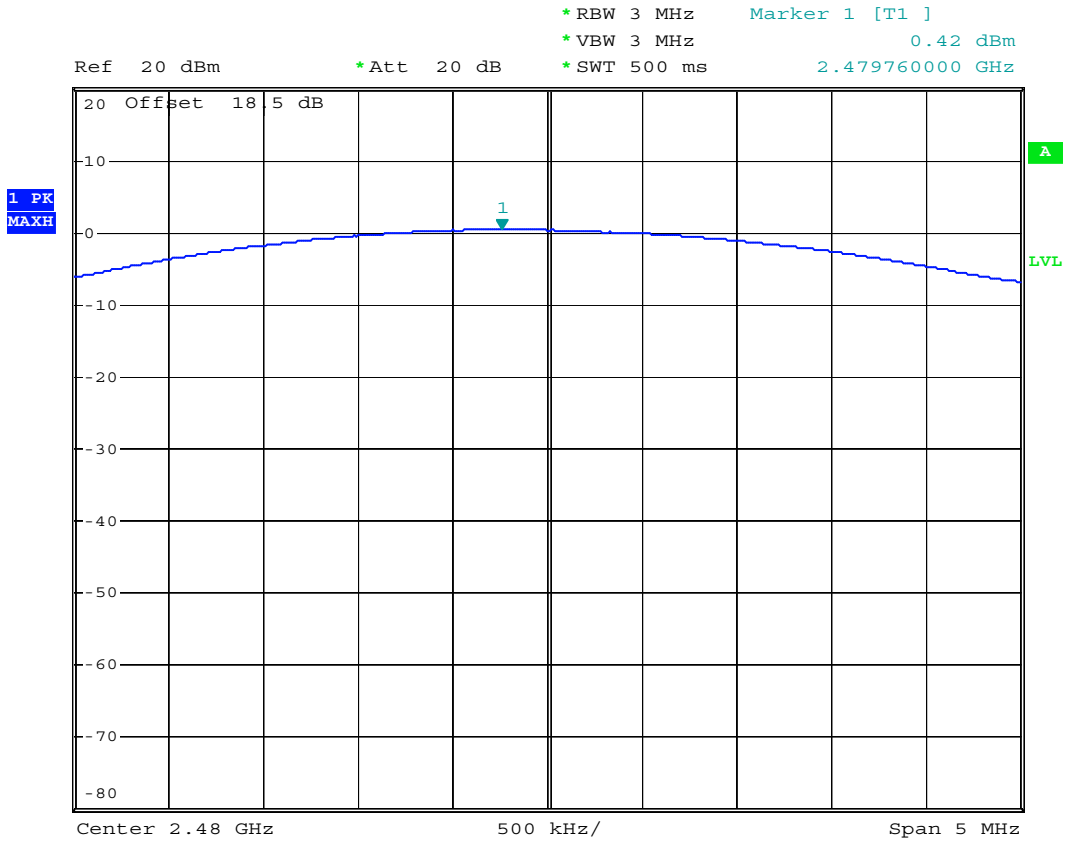


Date: 7.JUL.2007 16:16:28

Plot 5: CH39 (2441MHz)_Bluetooth_EDR_2Mbps

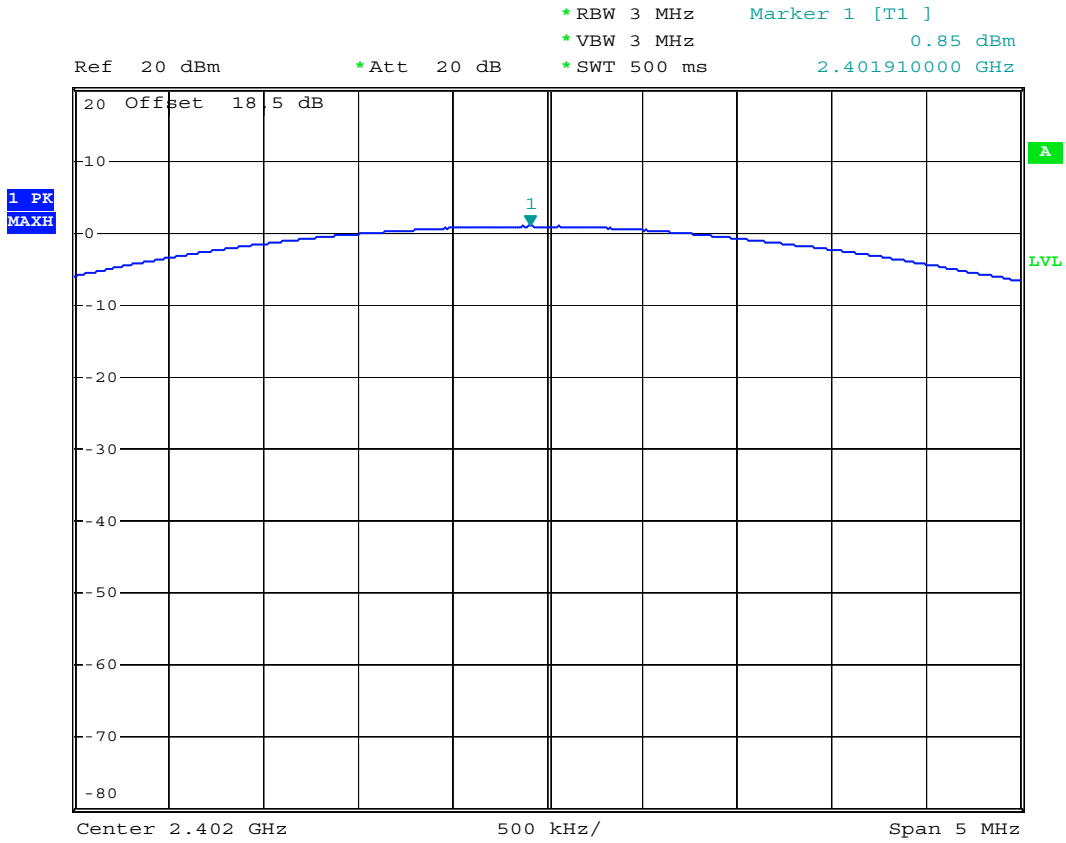


Plot 6: CH78 (2480MHz) _Bluetooth_EDR_2Mbps



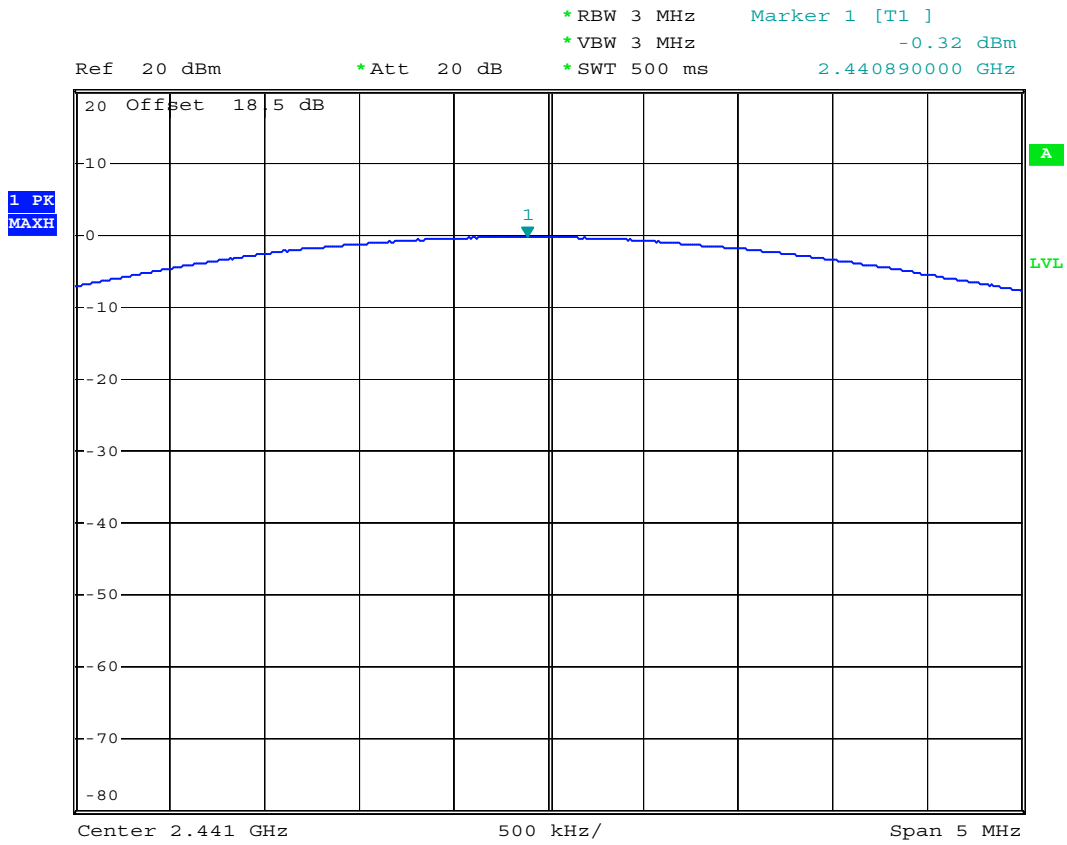
Date: 7.JUL.2007 16:17:23

Plot 7: CH00 (2402MHz)_Bluetooth_EDR_3Mbps

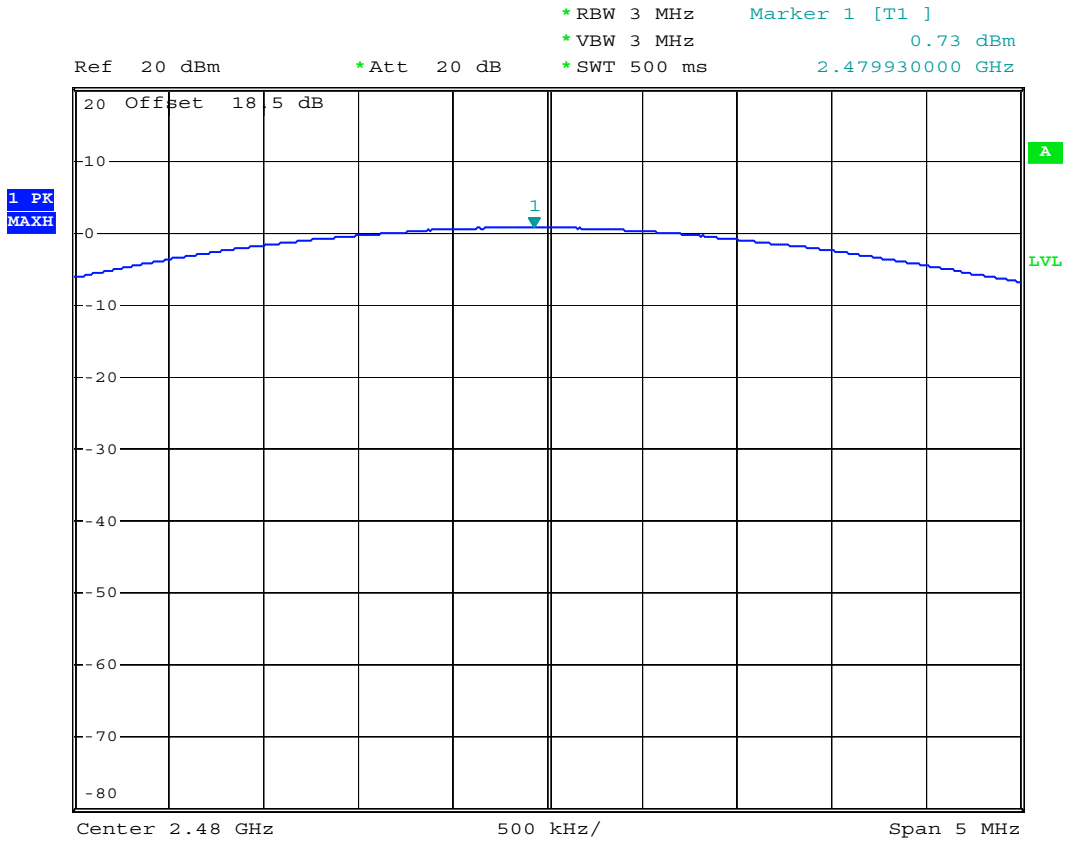


Date: 7.JUL.2007 16:38:31

Plot 8: CH39 (2441MHz)_Bluetooth_EDR_3Mbps



Plot 9: CH78 (2480MHz) _Bluetooth_EDR_3Mbps



Date: 7.JUL.2007 16:38:54

5.7 100 kHz Bandwidth of Frequency Band Edges

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 via a low lose cable.
2. Set both RBW and VBW of spectrum analyzer to 100kHz with suitable frequency span for the conducted measurement, and RBW/VBW=1MHz/1MHz for peak measurement and RBW/VBW=1MHz/10Hz for average measurement in the radiated measurement.
3. The band edges was measured and recorded.

5.7.3 Test Result：

- Test Mode: Bluetooth
- Temperature: 26°C
- Relative Humidity: 54%
- Test Engineer : Andrew

Test Result in lower band (Channel 00)： PASS

Test Result in higher band(Channel 78)： PASS

- Test Mode: Bluetooth_EDR_2Mbps
- Temperature: 26°C
- Relative Humidity: 54%
- Test Engineer : Andrew

Test Result in lower band (Channel 00)： PASS

Test Result in higher band(Channel 78)： PASS

- Test Mode: Bluetooth_EDR_3Mbps
- Temperature: 26°C
- Relative Humidity: 54%
- Test Engineer : Andrew

Test Result in lower band (Channel 00)： PASS

Test Result in higher band(Channel 78)： PASS

5.7.4 Note on Band edge Emission

BT_CH00 (Horizontal)

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Detect
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	Mode
2375.92	50.30	-23.70	74.00	51.75	30.24	3.73	35.42	100	0	Peak
2375.92	40.03	-13.97	54.00	41.49	30.25	3.73	35.44	100	152	Average

BT_CH00 (Vertical)

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Detect
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	Mode
2376.16	49.10	-24.90	74.00	50.55	30.26	3.75	35.46	100	0	Peak
2376.16	39.58	-14.42	54.00	41.04	30.25	3.73	35.44	107	270	Average

BT_CH78 (Horizontal)

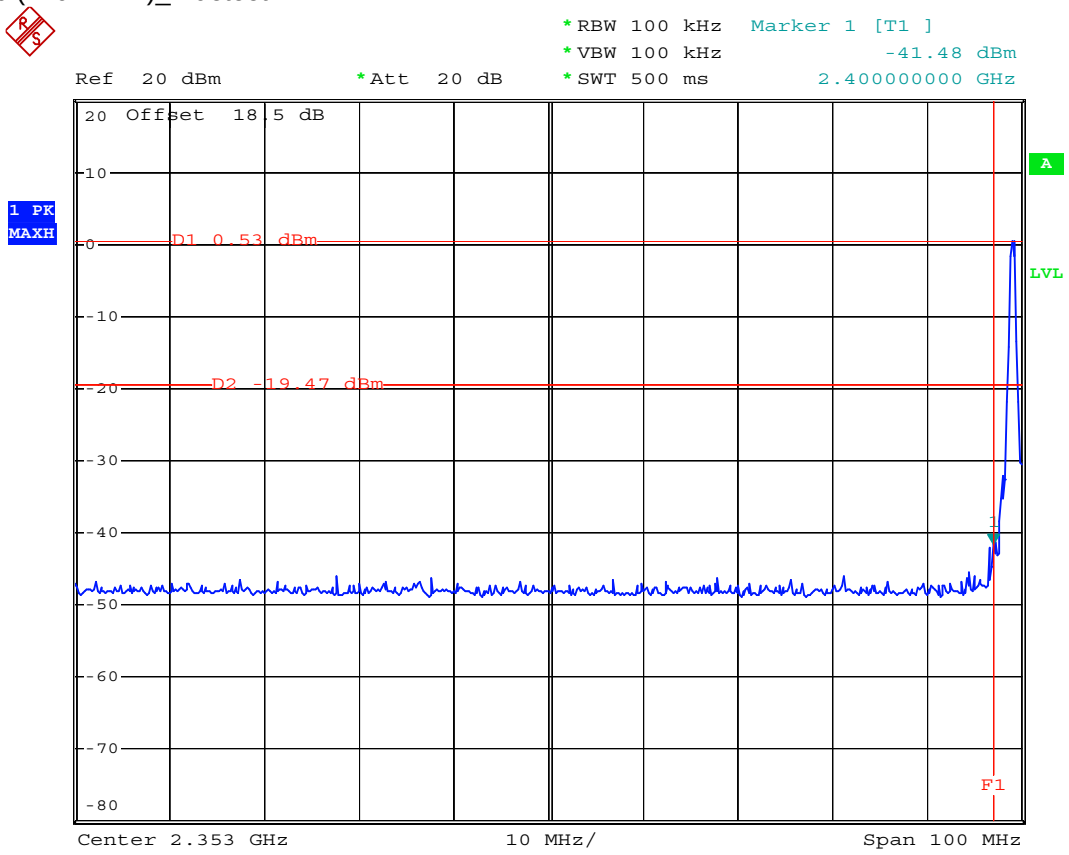
Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Detect
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	Mode
2483.50	64.48	-9.52	74.00	65.84	30.29	3.86	35.51	100	0	Peak
2483.50	48.62	-5.38	54.00	49.98	30.29	3.86	35.51	100	168	Average

BT_CH78 (Vertical)

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Detect
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	Mode
2483.50	63.81	-10.19	74.00	65.17	30.29	3.86	35.51	100	0	Peak
2483.50	47.75	-6.25	54.00	49.11	30.29	3.86	35.51	100	282	Average

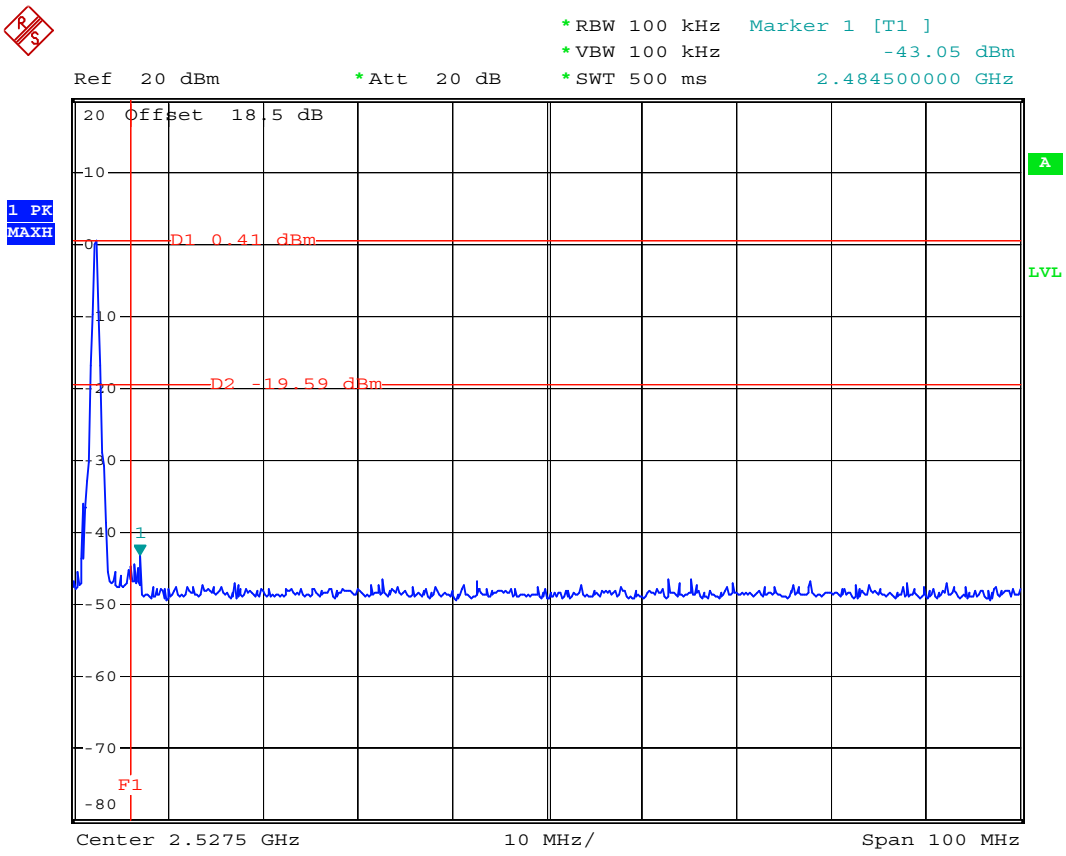
5.7.5 Frequency Band Edge

CH00 (2402 MHz)_Bluetooth



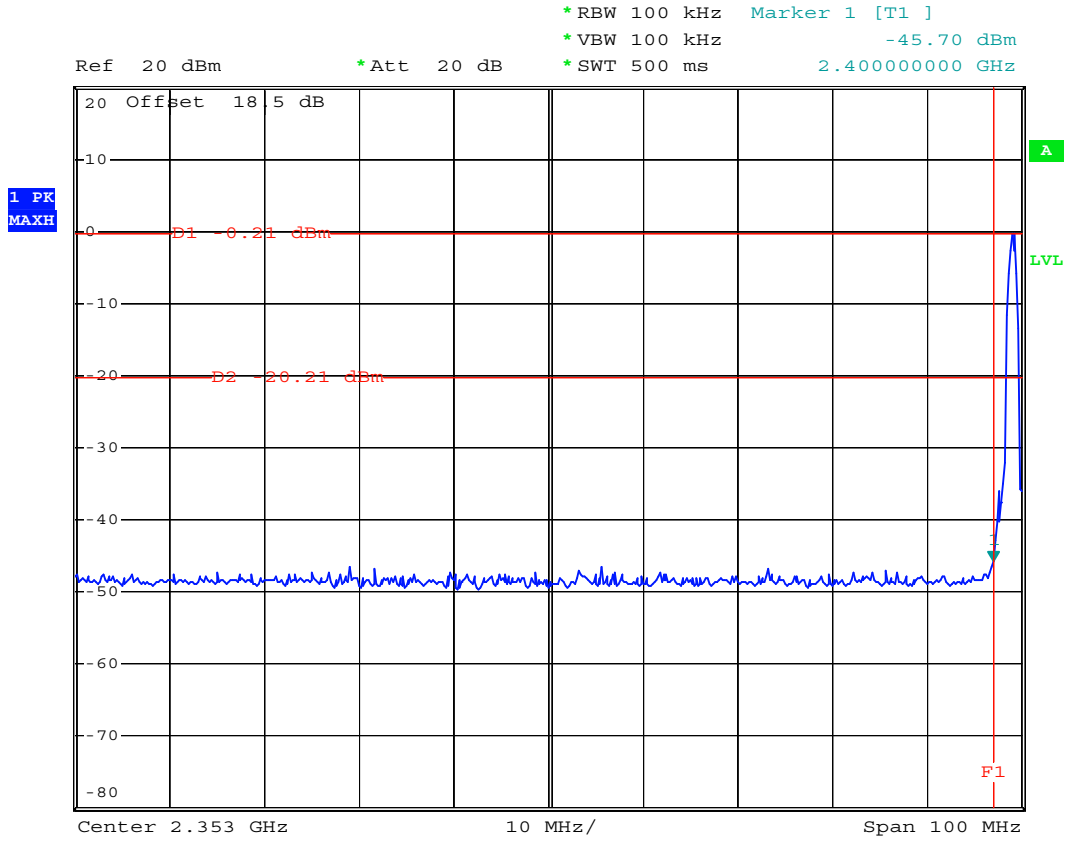
Date: 25.APR.2007 12:31:02

CH78 (2480 MHz)_Bluetooth



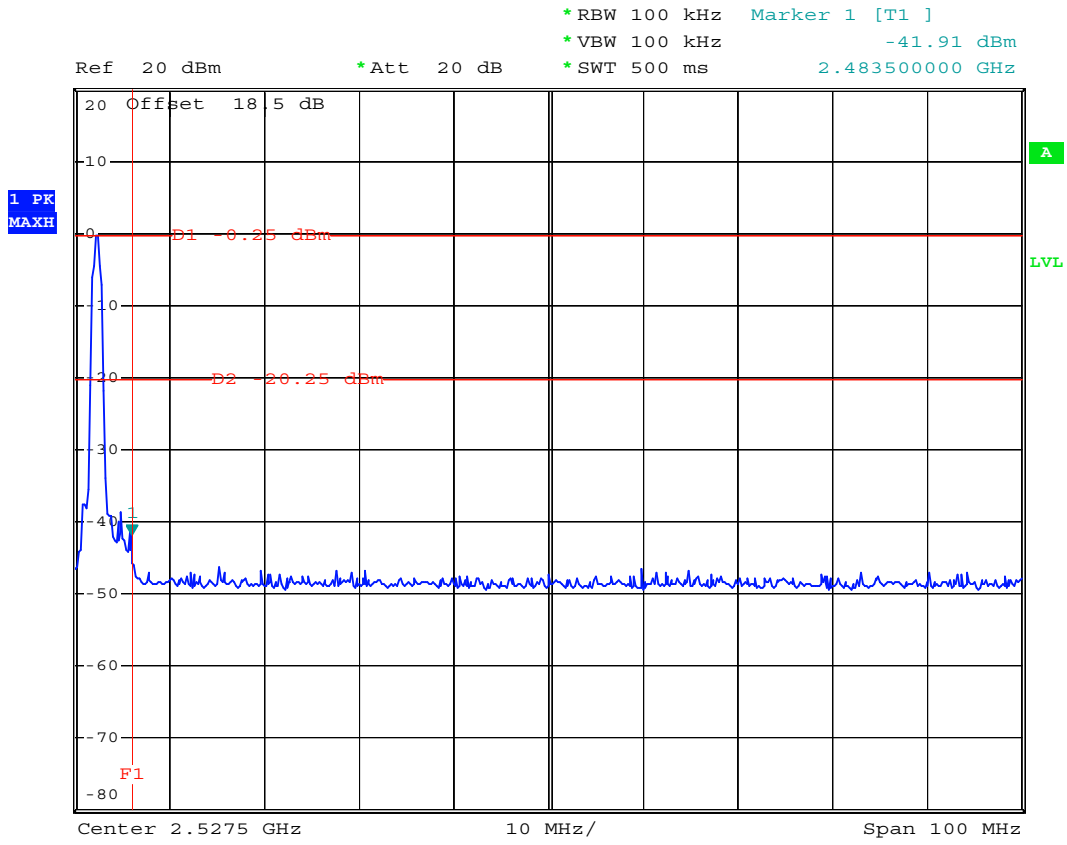
Date: 25.APR.2007 12:32:26

CH00 (2402 MHz)_Bluetooth_EDR_2Mbps



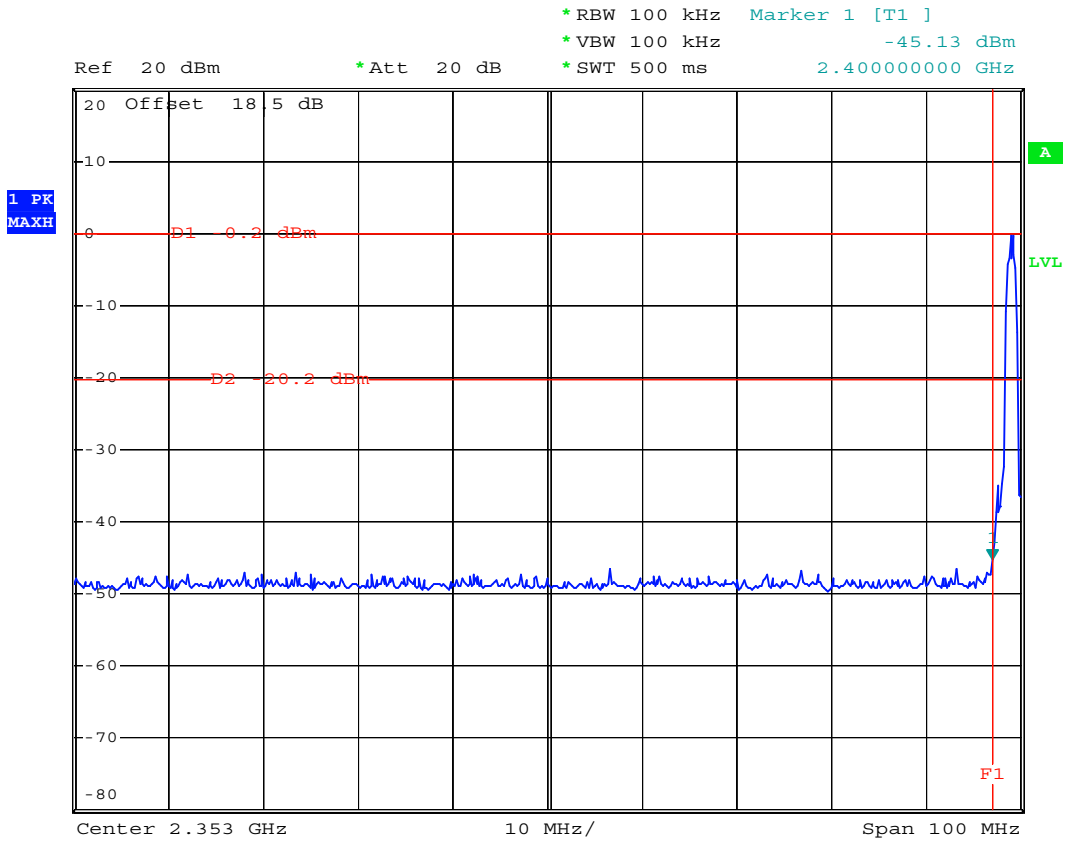
Date: 7.JUL.2007 16:23:27

CH78 (2480 MHz)_Bluetooth_EDR_2Mbps



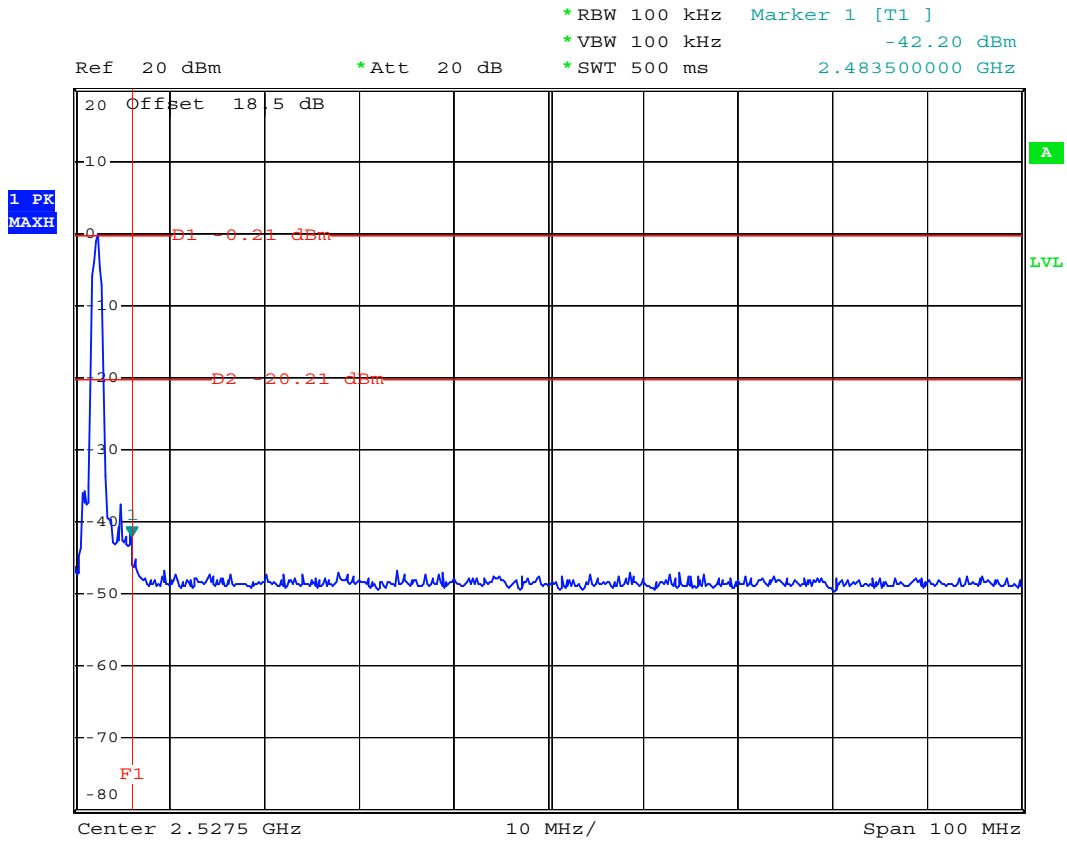
Date: 7.JUL.2007 16:24:37

CH00 (2402 MHz)_Bluetooth_EDR_3Mbps



Date: 7.JUL.2007 16:43:24

CH78 (2480 MHz)_Bluetooth_EDR_3Mbps



Date: 7.JUL.2007 16:42:35

5.8 Conducted Emission

5.8.1 Measuring Instruments

As described in chapter 6 of this test Report.

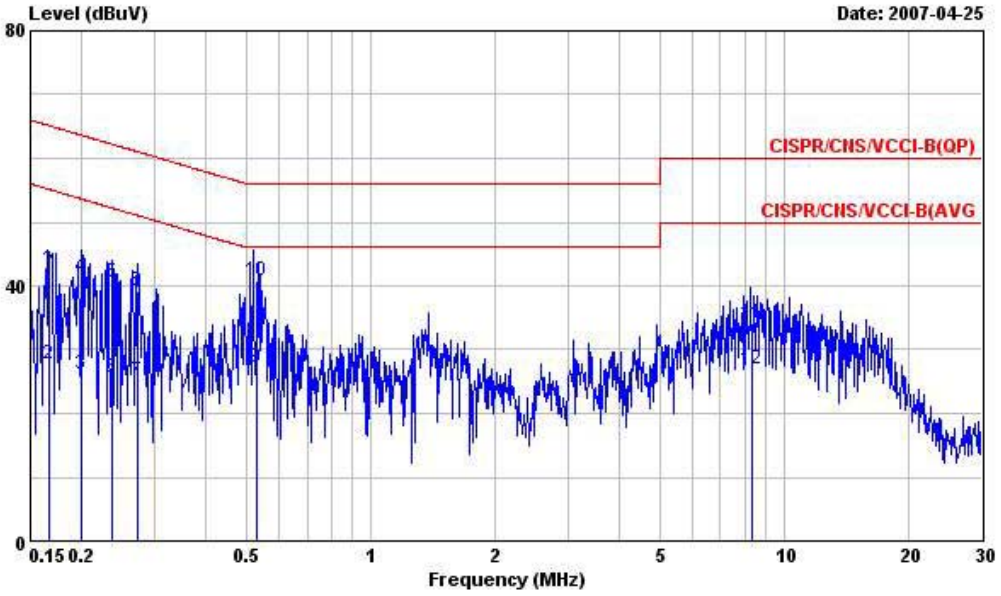
5.8.2 Test Procedures：

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

5.8.3 Test Data Test Mode 1

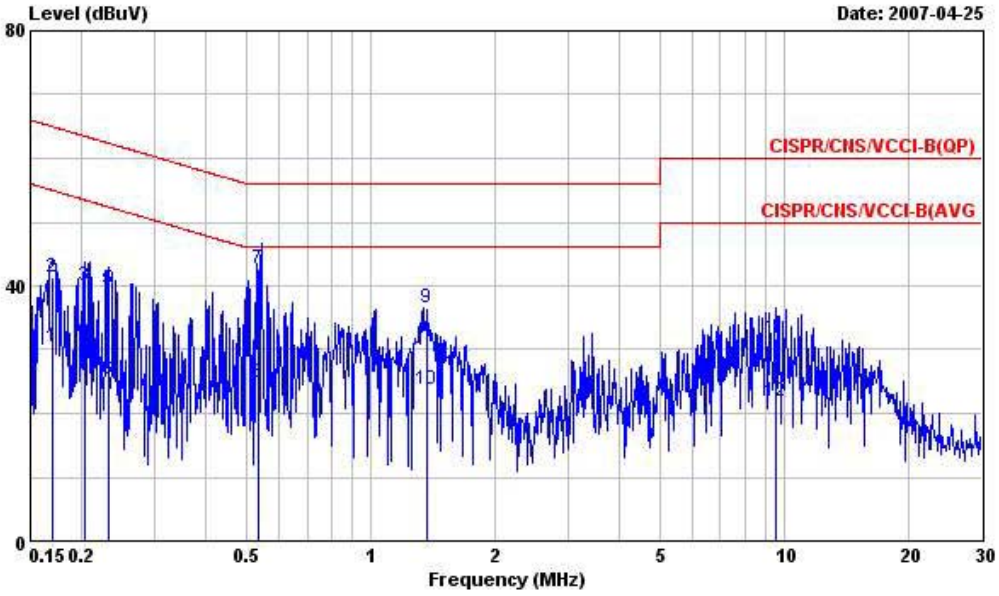
- Temperature: 26°C
- Relative Humidity: 54%
- Test Engineer : Andrew

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



Site : CO01-LK
Condition : CISPR/CNS/VCCI-B(QP) LISN-2006-0929 LINE
EUT: : PDA Phone
MODEL: : FD742403
POWER: : 120V 60Hz
MEMO: : PCS 1900 Idle+BT Idle+Camera+MPEG4
: +Earphone+Adaptor 1

	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	LISN Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.167	42.55	-22.56	65.11	42.44	0.01	0.10	QP
2	0.167	27.64	-27.47	55.11	27.53	0.01	0.10	Average
3	0.200	26.13	-27.48	53.61	26.01	0.02	0.10	Average
4	0.200	41.40	-22.21	63.61	41.28	0.02	0.10	QP
5	0.237	40.64	-21.56	62.20	40.51	0.03	0.10	QP
6	0.237	25.59	-26.61	52.20	25.46	0.03	0.10	Average
7	0.272	25.03	-26.03	51.06	24.89	0.04	0.10	Average
8	0.272	39.32	-21.74	61.06	39.18	0.04	0.10	QP
9	0.531	27.12	-18.88	46.00	26.96	0.06	0.10	Average
10 @	0.531	40.75	-15.25	56.00	40.59	0.06	0.10	QP
11	8.309	34.27	-25.73	60.00	33.55	0.28	0.44	QP
12	8.309	27.05	-22.95	50.00	26.33	0.28	0.44	Average



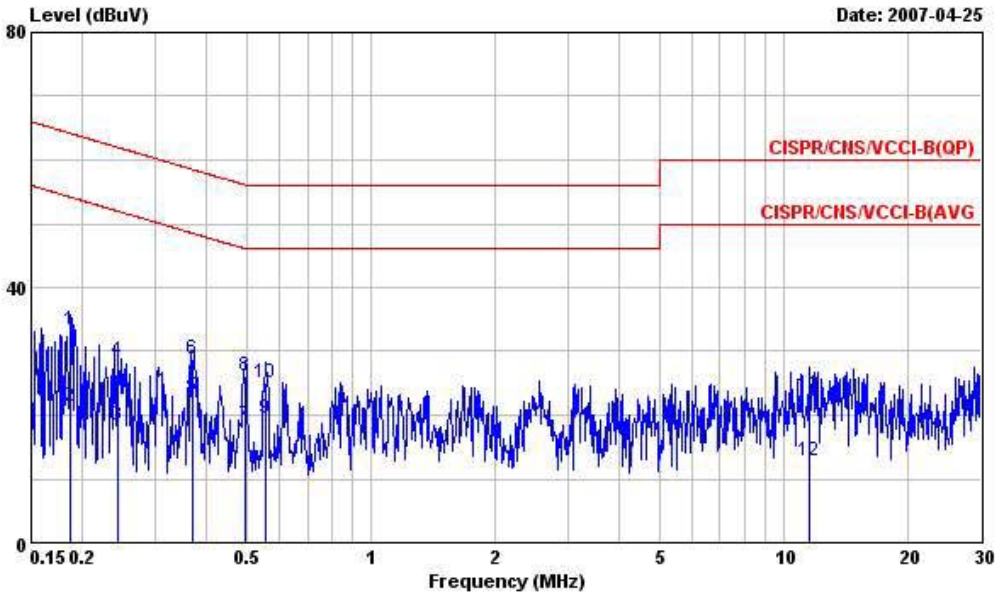
Site : CO01-LK
Condition : CISPR/CNS/VCCI-B(QP) LISN-2006-0929 NEUTRAL
EUT: : PDA Phone
MODEL: : FD742403
POWER: : 120V 60Hz
MEMO: : PCS 1900 Idle+BT Idle+Camera+MPEG4
: +Earphone+Adaptor 1

	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	LISN Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.169	30.49	-24.52	55.01	30.37	0.02	0.10	Average
2	0.169	41.47	-23.54	65.01	41.35	0.02	0.10	QP
3	0.203	40.13	-23.36	63.49	40.01	0.02	0.10	QP
4	0.203	27.77	-25.72	53.49	27.65	0.02	0.10	Average
5	0.232	39.35	-23.03	62.38	39.22	0.03	0.10	QP
6	0.232	25.28	-27.10	52.38	25.15	0.03	0.10	Average
7 @	0.537	42.73	-13.27	56.00	42.57	0.06	0.10	QP
8	0.537	24.75	-21.25	46.00	24.59	0.06	0.10	Average
9	1.371	36.67	-19.33	56.00	36.46	0.11	0.10	QP
10	1.371	23.69	-22.31	46.00	23.48	0.11	0.10	Average
11	9.560	31.85	-28.15	60.00	31.17	0.29	0.39	QP
12	9.560	21.99	-28.01	50.00	21.31	0.29	0.39	Average

5.8.4 Test Data Test Mode 2

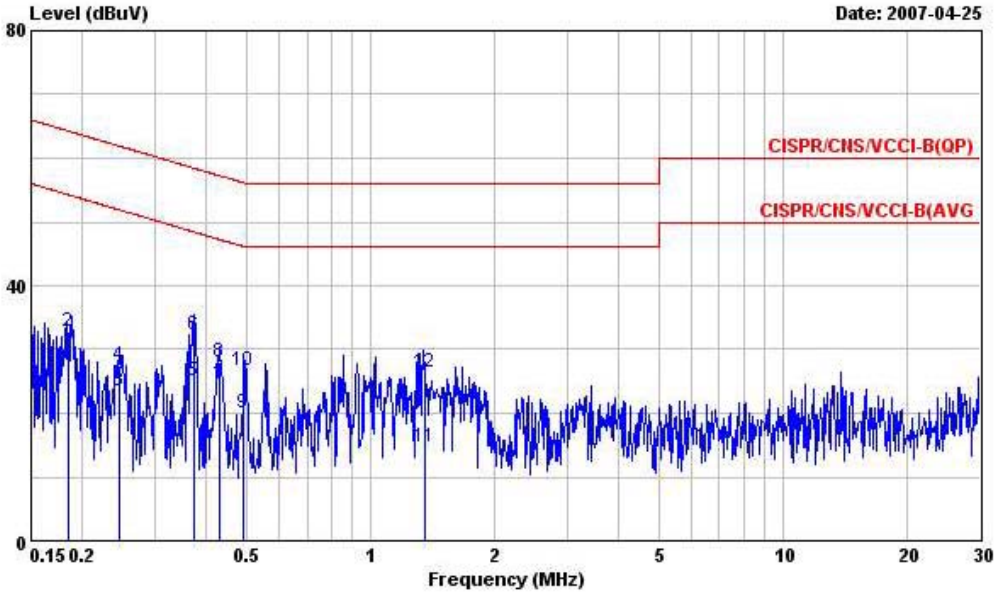
- Temperature: 26°C
- Relative Humidity: 54%
- Test Engineer : Andrew

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



Site : CO01-LK
Condition : CISPR/CNS/VCCI-B(QP) LISN-2006-0929 LINE
EUT: : PDA Phone
MODEL: : FD742403
POWER: : 120V 60Hz
MEMO: : PCS 1900 Idle+BT Idle+Camera+MPEG4
: +Earphone+Adaptor 2

	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	LISN Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.187	33.40	-30.77	64.17	33.28	0.02	0.10	QP
2	0.187	21.34	-32.83	54.17	21.22	0.02	0.10	Average
3	0.243	18.41	-33.58	51.99	18.28	0.03	0.10	Average
4	0.243	28.43	-33.56	61.99	28.30	0.03	0.10	QP
5	0.370	22.87	-25.64	48.51	22.71	0.06	0.10	Average
6	0.370	28.81	-29.70	58.51	28.65	0.06	0.10	QP
7	0.496	18.34	-27.73	46.07	18.18	0.06	0.10	Average
8	0.496	26.03	-30.04	56.07	25.87	0.06	0.10	QP
9	0.556	19.47	-26.53	46.00	19.31	0.06	0.10	Average
10	0.556	25.18	-30.82	56.00	25.02	0.06	0.10	QP
11	11.479	23.28	-36.72	60.00	22.43	0.32	0.53	QP
12	11.479	12.89	-37.11	50.00	12.04	0.32	0.53	Average



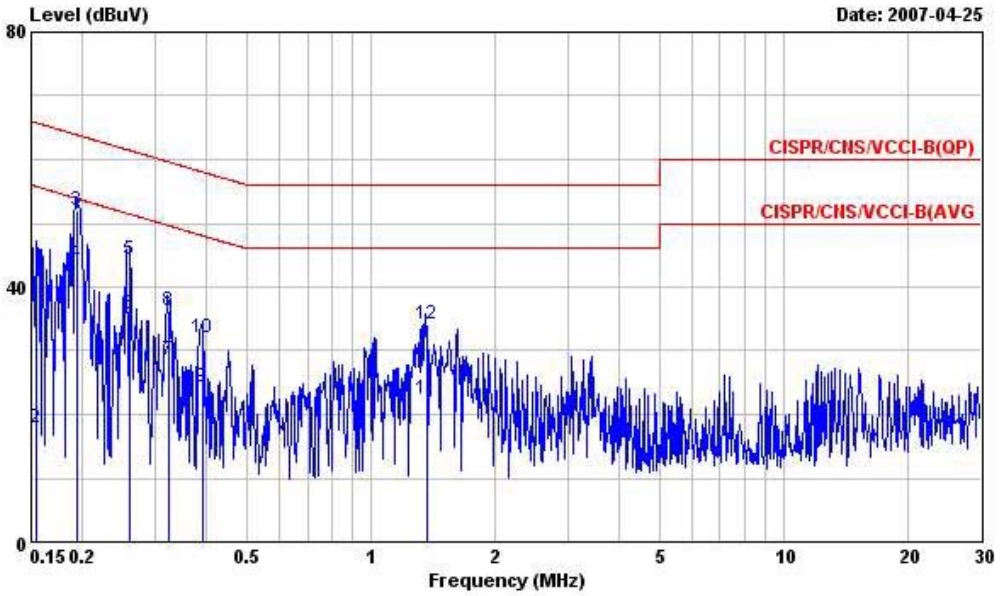
Site : CO01-LK
Condition : CISPR/CNS/VCCI-B(QP) LISN-2006-0929 NEUTRAL
EUT: : PDA Phone
MODEL: : FD742403
POWER: : 120V 60Hz
MEMO: : PCS 1900 Idle+BT Idle+Camera+MPEG4
: +Earphone+Adaptor 2

	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	LISN Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.185	27.44	-26.80	54.24	27.32	0.02	0.10	Average
2	0.185	32.69	-31.55	64.24	32.57	0.02	0.10	QP
3	0.246	23.54	-28.35	51.89	23.41	0.03	0.10	Average
4	0.246	27.54	-34.35	61.89	27.41	0.03	0.10	QP
5	0.371	25.14	-23.34	48.48	24.98	0.06	0.10	Average
6	0.371	32.38	-26.10	58.48	32.22	0.06	0.10	QP
7	0.431	24.19	-23.05	47.24	24.03	0.06	0.10	Average
8	0.431	28.08	-29.16	57.24	27.92	0.06	0.10	QP
9	0.491	20.10	-26.05	46.15	19.94	0.06	0.10	Average
10	0.491	26.79	-29.36	56.15	26.63	0.06	0.10	QP
11	1.353	14.64	-31.36	46.00	14.44	0.10	0.10	Average
12	1.353	26.37	-29.63	56.00	26.17	0.10	0.10	QP

5.8.5 Test Data Test Mode 3

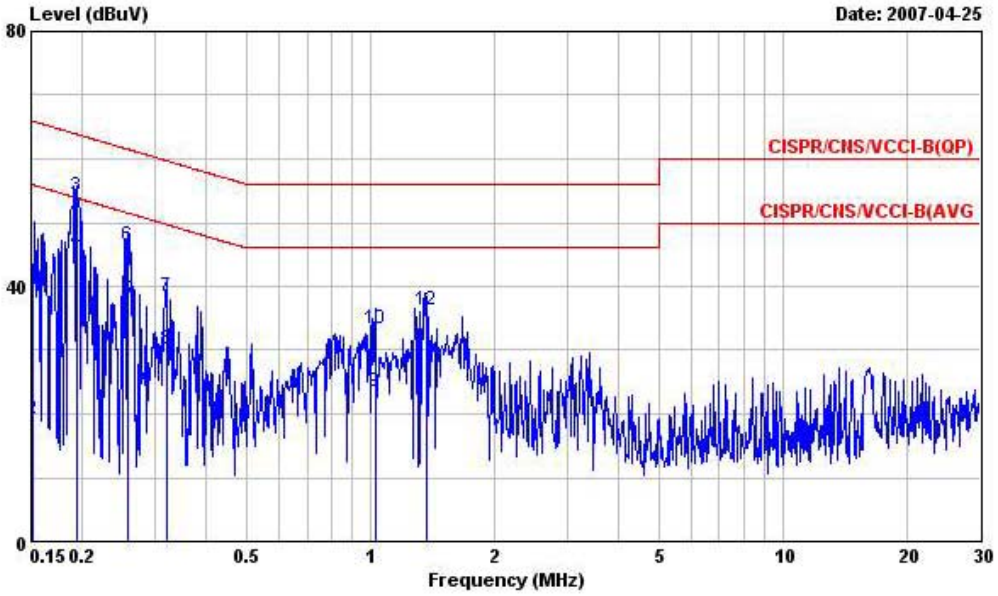
- Temperature: 26°C
- Relative Humidity: 54%
- Test Engineer : Andrew

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



Site : CO01-LK
Condition : CISPR/CNS/VCCI-B(QP) LISN-2006-0929 LINE
EUT: : PDA Phone
MODEL: : FD742403
POWER: : 120V 60Hz
MEMO: : PCS 1900 Idle+BT Idle+Camera+MPEG4
: +Earphone+USB Link

	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	LISN Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.154	37.40	-28.38	65.78	37.29	0.01	0.10	QP
2	0.154	17.86	-37.92	55.78	17.75	0.01	0.10	Average
3 @	0.193	52.02	-11.89	63.91	51.90	0.02	0.10	QP
4 @	0.193	43.64	-10.27	53.91	43.52	0.02	0.10	Average
5 @	0.259	44.21	-17.25	61.46	44.08	0.03	0.10	QP
6 @	0.259	35.77	-15.69	51.46	35.64	0.03	0.10	Average
7	0.322	28.45	-21.21	49.66	28.30	0.05	0.10	Average
8	0.322	36.35	-23.31	59.66	36.20	0.05	0.10	QP
9	0.389	24.24	-23.85	48.09	24.08	0.06	0.10	Average
10	0.389	32.12	-25.97	58.09	31.96	0.06	0.10	QP
11	1.367	22.41	-23.59	46.00	22.17	0.10	0.14	Average
12	1.367	34.07	-21.93	56.00	33.83	0.10	0.14	QP



Site : CO01-LK
Condition : CISPR/CNS/VCCI-B(QP) LISN-2006-0929 NEUTRAL
EUT: : PDA Phone
MODEL: : FD742403
POWER: : 120V 60Hz
MEMO: : PCS 1900 Idle+BT Idle+Camera+MPEG4
: +Earphone+USB Link

		Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	LISN Factor	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.152	40.16	-25.73	65.89	40.05	0.01	0.10	QP
2		0.152	19.14	-36.75	55.89	19.03	0.01	0.10	Average
3	@	0.193	54.02	-9.89	63.91	53.90	0.02	0.10	QP
4	@	0.193	45.50	-8.41	53.91	45.38	0.02	0.10	Average
5	@	0.258	37.84	-13.66	51.50	37.71	0.03	0.10	Average
6	@	0.258	46.30	-15.20	61.50	46.17	0.03	0.10	QP
7		0.320	38.36	-21.35	59.71	38.21	0.05	0.10	QP
8		0.320	30.10	-19.61	49.71	29.95	0.05	0.10	Average
9		1.029	23.43	-22.57	46.00	23.27	0.06	0.10	Average
10		1.029	33.31	-22.69	56.00	33.15	0.06	0.10	QP
11		1.367	24.61	-21.39	46.00	24.41	0.10	0.10	Average
12		1.367	36.15	-19.85	56.00	35.95	0.10	0.10	QP

5.9 Radiated Emission Measurement

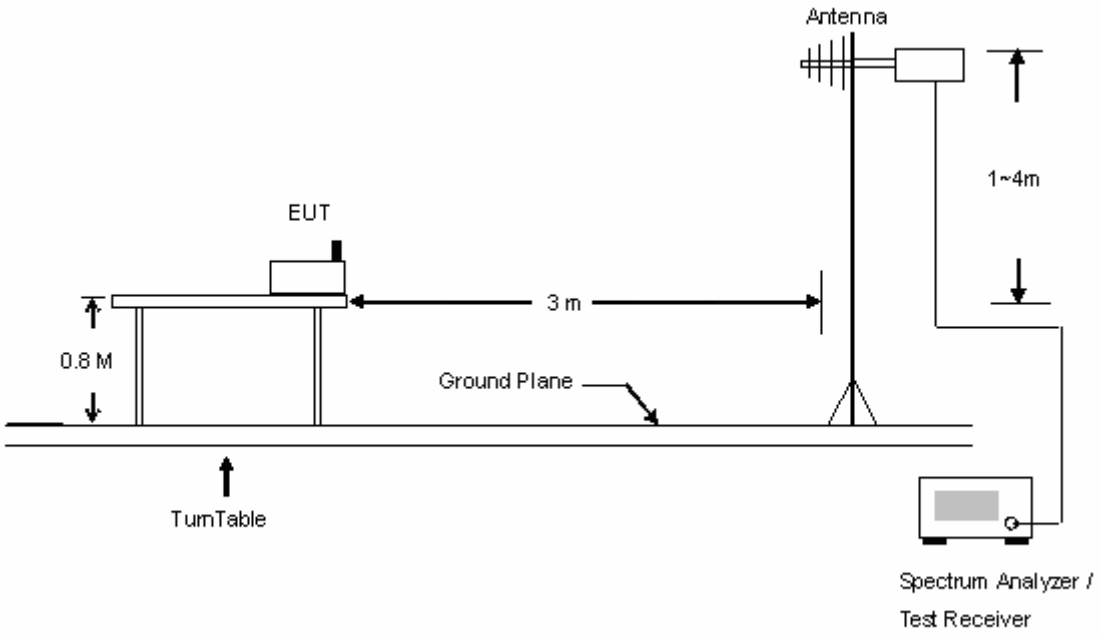
5.9.1 Measuring Instruments

As described in chapter 6 of this Report.

5.9.2 Test Procedures

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

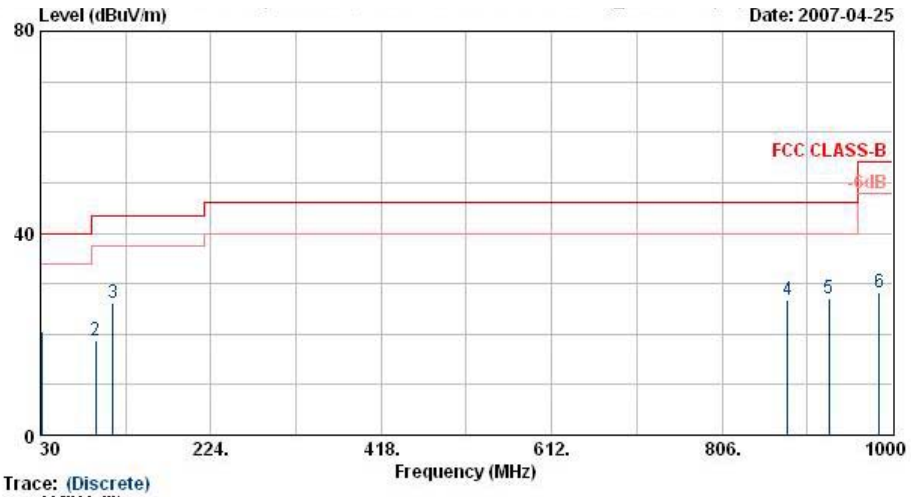
5.9.3 Typical Test Setup Layout of Radiated Emission



5.9.4 Test Data

- Temperature : 26°C
- Relating Humidity : 54 %
- Test Enginner : Andrew
- Test Mode : Mode 1
- Polarization : Horizontal

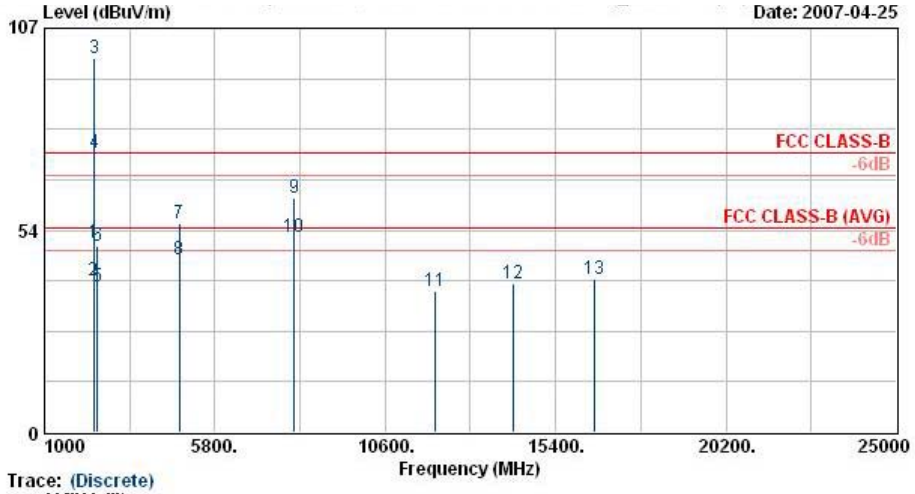
■ The test that passed at the minimum margin was marked by the frame in the following test record



Trace: (Discrete)

Site	: 03CH06-HY
Condition	: LF-ANT(951121) HORIZONTAL
EUT	: PDA Phone
Power	: 120Vac/60Hz
Model	: FR 742403
Memo	: BT Tx_Ch00;2402MHz
Plane	: E2
Data Rate	: DH1
Adaptor	: 2
S/N	: OE2-0188

	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	31.08	20.61	-19.39	40.00	32.24	18.95	0.85	31.43	---	---	Peak
2	92.64	18.88	-24.62	43.50	39.03	9.62	1.35	31.11	---	---	Peak
3	112.89	26.26	-17.24	43.50	43.77	11.97	1.56	31.05	100	226	Peak
4	880.30	26.86	-19.14	46.00	32.11	20.39	4.75	30.39	---	---	Peak
5	927.90	26.98	-19.02	46.00	31.67	20.73	4.90	30.32	---	---	Peak
6	985.30	28.18	-25.82	54.00	32.23	21.14	5.09	30.27	---	---	Peak



Trace: (Discrete)

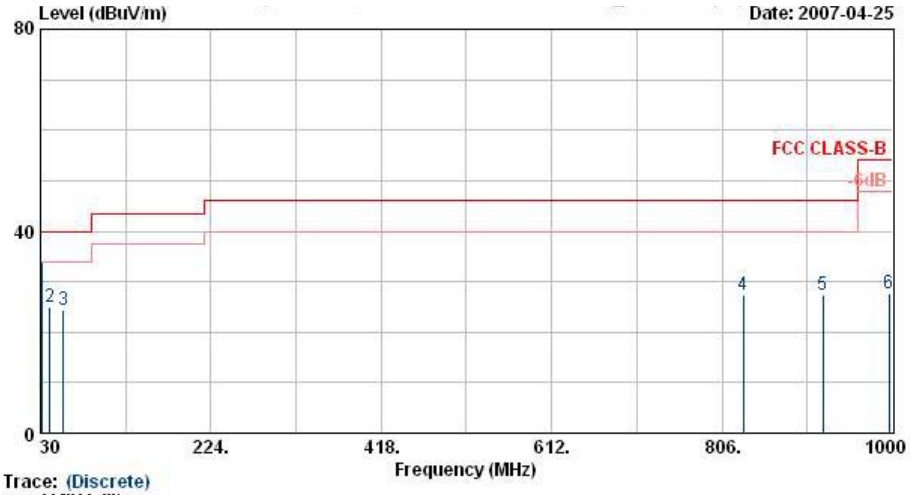
Site : 03CH06-HY
Condition : HF-ANT(6-18)-060918 HORIZONTAL
EUT : PDA Phone
Power : 120Vac/60Hz
Model : FR 742403
Memo : BT Tx_Ch00;2402MHz
Plane : E2
Data Rate : DH1
Adaptor : 2
S/N : OE2-0188

	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	2375.92	50.30	-23.70	74.00	51.75	30.24	3.73	35.42	100	0	Peak
2	2375.92	40.03	-13.97	54.00	41.49	30.25	3.73	35.44	100	152	Average
3 @	2402.00	99.01			100.44	30.26	3.77	35.46	100	0	Peak
4 @	2402.00	74.14			75.57	30.26	3.77	35.46	100	152	Average
5	2488.00	38.78	-15.22	54.00	40.13	30.30	3.86	35.51	100	152	Average
6	2488.00	49.13	-24.87	74.00	50.48	30.30	3.86	35.51	100	0	Peak
7	4804.00	55.41	-18.59	74.00	52.80	32.88	5.83	36.10	100	0	Peak
8	4804.00	45.68	-8.32	54.00	43.07	32.88	5.83	36.10	100	333	Average
9	8037.00	61.92	-12.08	74.00	50.39	39.57	7.83	35.87	---	---	Peak
10 !	8037.00	51.73	-2.27	54.00	40.20	39.57	7.83	35.87	100	226	Average
11	11991.00	37.38	-36.62	74.00	72.97	-9.64	10.63	36.58	---	---	Peak
12	14226.00	39.50	-34.50	74.00	69.14	-6.33	11.67	34.99	---	---	Peak
13	16512.00	40.52	-33.48	74.00	69.77	-10.10	11.88	31.04	---	---	Peak

Remark: #3 and #4 Fundamental Signal

- Test Mode : Mode 1
- Polarization : Vertical

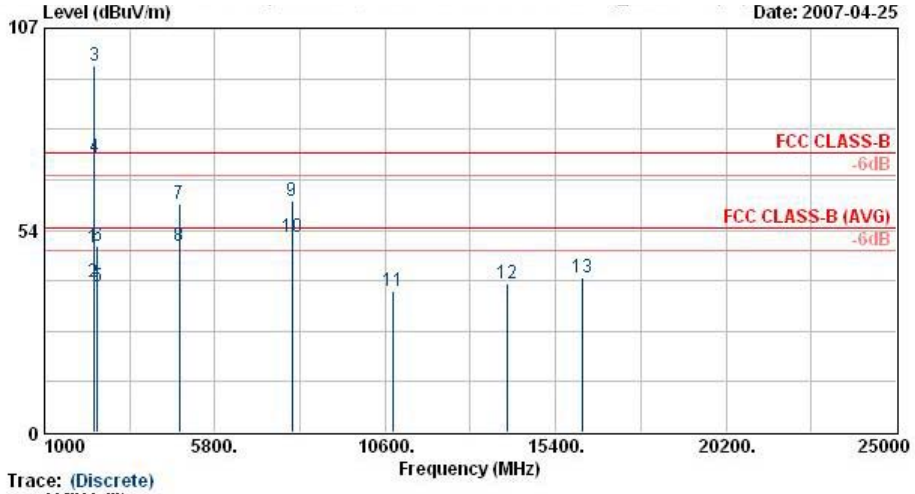
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site : 03CH06-HY
Condition : LF-ANT(95112I) VERTICAL
EUT : PDA Phone
Power : 120Vac/60Hz
Model : FR 742403
Memo : BT Tx_Ch00;2402MHz
Plane : E2
Data Rate : DH1
Adaptor : 2
S/N : 0E2-0188

	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	31.08	33.99	-6.01	40.00	45.62	18.95	0.85	31.43	100	307	Peak
2	40.53	25.07	-14.93	40.00	42.33	13.01	0.92	31.19	---	---	Peak
3	56.19	24.36	-15.64	40.00	47.26	7.20	1.05	31.16	---	---	Peak
4	829.90	27.46	-18.54	46.00	33.24	20.03	4.64	30.45	---	---	Peak
5	920.90	27.32	-18.68	46.00	32.10	20.67	4.88	30.33	---	---	Peak
6	995.80	27.68	-26.32	54.00	31.62	21.21	5.13	30.27	---	---	Peak



Trace: (Discrete)

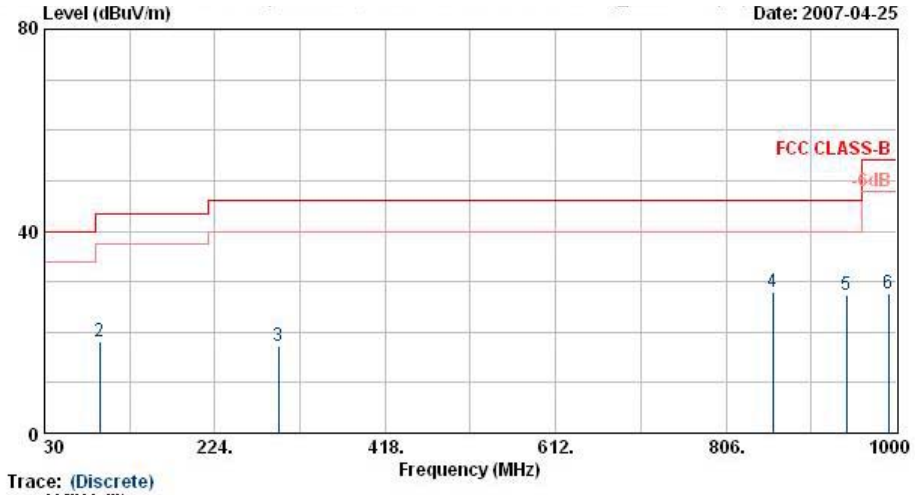
Site : 03CH06-HY
Condition : HF-ANT(6-18)-060918 VERTICAL
EUT : PDA Phone
Power : 120Vac/60Hz
Model : FR 742403
Memo : BT Tx_Ch00;2402MHz
Plane : E2
Data Rate : DH1
Adaptor : 2
S/N : OE2-0188

		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		2376.16	49.10	-24.90	74.00	50.55	30.26	3.75	35.46	100	0	Peak
2		2376.16	39.58	-14.42	54.00	41.04	30.25	3.73	35.44	107	270	Average
3	@	2402.00	97.25			98.68	30.26	3.77	35.46	100	0	Peak
4	@	2402.00	72.59			74.02	30.26	3.77	35.46	107	270	Average
5		2494.00	38.54	-15.46	54.00	39.89	30.30	3.88	35.53	107	270	Average
6		2494.00	49.47	-24.53	74.00	50.81	30.30	3.88	35.53	100	0	Peak
7		4804.00	60.30	-13.70	74.00	57.69	32.88	5.83	36.10	100	0	Peak
8	!	4804.00	49.52	-4.48	54.00	46.91	32.88	5.83	36.10	100	26	Average
9		7971.00	61.38	-12.62	74.00	49.90	39.55	7.78	35.86	---	---	Peak
10	!	7971.00	51.81	-2.19	54.00	40.33	39.55	7.78	35.86	100	299	Average
11		10806.00	37.31	-36.69	74.00	72.17	-8.38	9.72	36.21	---	---	Peak
12		14016.00	39.28	-34.72	74.00	68.30	-6.12	11.63	34.53	---	---	Peak
13		16146.00	40.80	-33.20	74.00	69.41	-5.76	11.80	34.65	---	---	Peak

Remark: #3 and #4 Fundamental Signal

- Test Mode : Mode 2
- Polarization : Horizontal

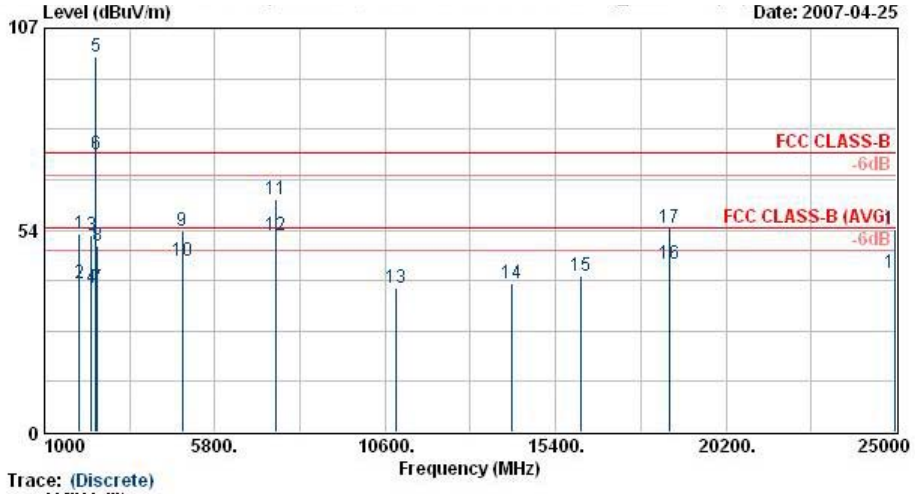
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site	:	03CH06-HY
Condition	:	LF-ANT(951121) HORIZONTAL
EUT	:	PDA Phone
Power	:	120Vac/60Hz
Model	:	FR 742403
Memo	:	BT Tx_Ch39;2441MHz
Plane	:	E2
Data Rate	:	DH1
Adaptor	:	2
S/N	:	0E2-0186

	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	30.00	20.54	-19.46	40.00	31.50	19.66	0.84	31.46	---	---	Peak
2	92.64	18.16	-25.34	43.50	38.30	9.62	1.35	31.11	---	---	Peak
3	296.49	17.11	-28.89	46.00	32.28	13.15	2.62	30.94	---	---	Peak
4	859.30	27.87	-18.13	46.00	33.37	20.24	4.68	30.42	100	209	Peak
5	943.30	27.26	-18.74	46.00	31.77	20.84	4.94	30.29	---	---	Peak
6	990.90	27.67	-26.33	54.00	31.65	21.18	5.11	30.27	---	---	Peak



Trace: (Discrete)

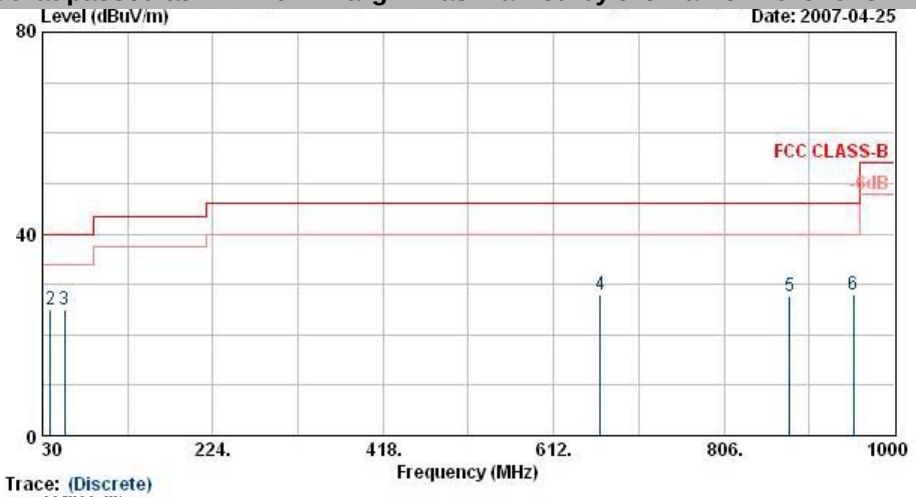
Site	:	03CH06-HY
Condition	:	SHF-EHF HORN HORIZONTAL
EUT	:	PDA Phone
Power	:	120Vac/60Hz
Model	:	FR 742403
Memo	:	BT Tx_Ch39;2441MHz
Plane	:	E2
Data Rate	:	DH1
Adaptor	:	2
S/N	:	OE2-0186

	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	1988.00	52.57	-21.43	74.00	54.47	29.97	3.30	35.17	100	0	Peak
2	1988.00	39.57	-14.43	54.00	41.47	29.97	3.30	35.17	100	320	Average
3	2318.00	52.22	-21.78	74.00	53.73	30.23	3.66	35.40	100	0	Peak
4	2318.00	38.01	-15.99	54.00	39.52	30.23	3.66	35.40	100	168	Average
5 @	2441.00	99.34			100.72	30.28	3.82	35.47	100	0	Peak
6 X	2441.00	73.65			75.05	30.28	3.82	35.49	100	168	Average
7	2488.00	38.16	-15.84	54.00	39.51	30.30	3.86	35.51	100	168	Average
8	2488.00	49.33	-24.67	74.00	50.68	30.30	3.86	35.51	100	0	Peak
9	4882.00	53.40	-20.60	74.00	50.54	33.14	5.88	36.16	100	0	Peak
10	4882.00	45.49	-8.51	54.00	42.63	33.14	5.88	36.16	100	295	Average
11	7512.00	61.81	-12.19	74.00	51.32	38.92	7.62	36.06	---	---	Peak
12 !	7512.00	51.94	-2.06	54.00	41.46	38.92	7.62	36.06	100	225	Average
13	10911.00	38.29	-35.71	74.00	72.89	-8.34	9.81	36.08	---	---	Peak
14	14166.00	39.50	-34.50	74.00	68.94	-6.27	11.66	34.84	---	---	Peak
15	16116.00	41.40	-32.60	74.00	69.94	-5.39	11.80	34.94	---	---	Peak
16	18612.00	44.59	-9.41	54.00	40.24	21.19	19.04	35.88	100	224	Average
17	18612.00	54.14	-19.86	74.00	49.79	21.19	19.04	35.88	---	---	Peak
18	24956.00	42.26	-11.74	54.00	40.32	21.83	18.64	38.53	100	198	Average
19	24956.00	53.54	-20.46	74.00	51.60	21.83	18.64	38.53	---	---	Peak

Remark: #5 and #6 Fundamental Signal

- Test Mode : Mode 2
- Polarization : Vertical

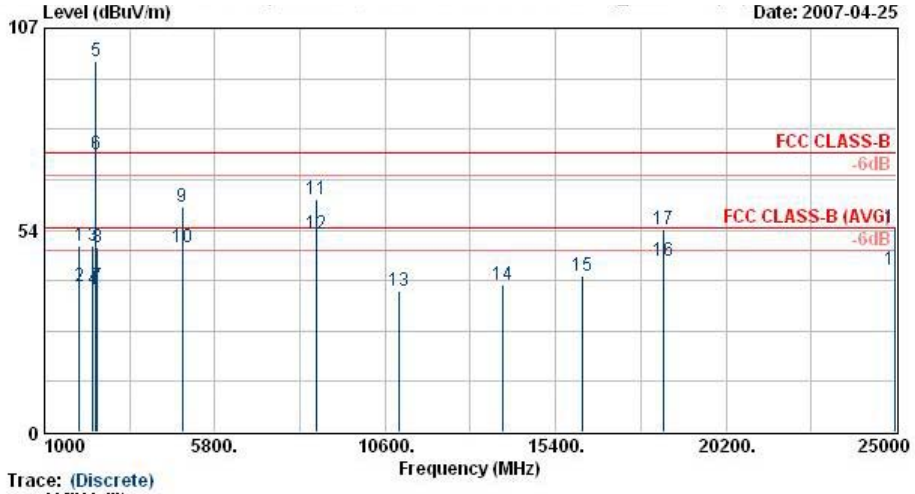
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site : 03CH06-HY
Condition : LF-ANT(95112I) VERTICAL
EUT : PDA Phone
Power : 120Vac/60Hz
Model : FR 742403
Memo : BT Tx_Ch39;2441MHz
Plane : E2
Data Rate : DH1
Adaptor : 2
S/N : 0E2-0186

	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 !	30.81	34.32	-5.68	40.00	45.95	18.95	0.85	31.43	100	354	Peak
2	39.18	24.88	-15.12	40.00	41.14	14.03	0.91	31.21	---	---	Peak
3	55.38	24.86	-15.14	40.00	47.61	7.35	1.04	31.13	---	---	Peak
4	665.40	28.04	-17.96	46.00	35.77	18.74	4.16	30.63	---	---	Peak
5	880.30	27.67	-18.33	46.00	32.92	20.39	4.75	30.39	---	---	Peak
6	953.80	27.91	-18.09	46.00	32.30	20.91	4.97	30.28	---	---	Peak



Trace: (Discrete)

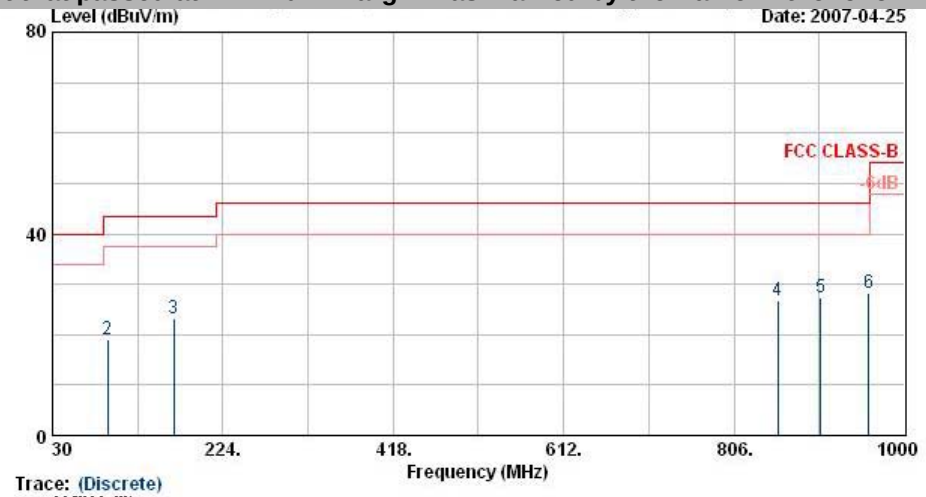
Site	:	03CH06-HY
Condition	:	SHF-EHF HORN VERTICAL
EUT	:	PDA Phone
Power	:	120Vac/60Hz
Model	:	FR 742403
Memo	:	BT Tx_Ch39;2441MHz
Plane	:	E2
Data Rate	:	DH1
Adaptor	:	2
S/N	:	OE2-0186

	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	1988.00	49.40	-24.60	74.00	51.30	29.97	3.30	35.17	100	0	Peak
2	1988.00	38.55	-15.45	54.00	40.45	29.97	3.30	35.17	100	312	Average
3	2368.00	49.43	-24.57	74.00	50.89	30.24	3.73	35.44	100	0	Peak
4	2368.00	37.99	-16.01	54.00	39.45	30.24	3.73	35.44	104	269	Average
5 @	2441.00	98.15			99.53	30.28	3.82	35.47	100	0	Peak
6 X	2441.00	73.77			75.17	30.28	3.82	35.49	104	269	Average
7	2494.00	38.65	-15.35	54.00	40.00	30.30	3.88	35.53	104	269	Average
8	2494.00	49.04	-24.96	74.00	50.39	30.30	3.88	35.53	100	0	Peak
9	4882.00	59.48	-14.52	74.00	56.62	33.14	5.88	36.16	100	0	Peak
10 !	4882.00	48.80	-5.20	54.00	45.94	33.14	5.88	36.16	100	27	Average
11	8667.00	61.60	-12.40	74.00	50.25	38.97	8.63	36.24	---	---	Peak
12 !	8667.00	52.65	-1.35	54.00	41.30	38.97	8.63	36.24	100	304	Average
13	10992.00	37.42	-36.58	74.00	71.83	-8.30	9.87	35.98	---	---	Peak
14	13917.00	39.16	-34.84	74.00	68.72	-6.63	11.55	34.48	---	---	Peak
15	16146.00	41.19	-32.81	74.00	69.80	-5.76	11.80	34.65	---	---	Peak
16	18456.00	45.15	-8.85	54.00	40.80	21.19	19.12	35.96	100	227	Average
17	18456.00	53.89	-20.11	74.00	49.54	21.19	19.12	35.96	---	---	Peak
18	24956.00	43.04	-10.96	54.00	41.10	21.83	18.64	38.53	100	144	Average
19	24956.00	54.06	-19.94	74.00	52.12	21.83	18.64	38.53	---	---	Peak

Remark: #5 and #6 Fundamental Signal

- Test Mode : Mode 3
- Polarization : Horizontal

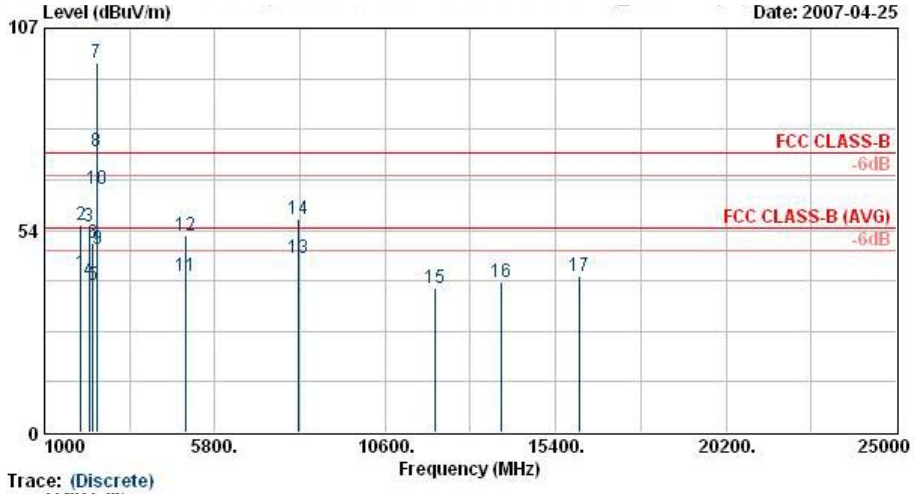
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site : 03CH06-HY
Condition : LF-ANT(95112I) HORIZONTAL
EUT : PDA Phone
Power : 120Vac/60Hz
Model : FR 742403
Memo : BT Tx_Ch78;2480MHz
Plane : E2
Data Rate : DH1
Adaptor : 2
S/N : 0E2-0186

	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	30.27	20.59	-19.41	40.00	31.55	19.66	0.84	31.46	---	---	Peak
2	92.64	18.91	-24.59	43.50	39.06	9.62	1.35	31.11	---	---	Peak
3	168.24	23.13	-20.37	43.50	42.36	9.94	1.83	31.01	---	---	Peak
4	855.80	26.64	-19.36	46.00	32.18	20.21	4.67	30.42	---	---	Peak
5	904.80	27.33	-18.67	46.00	32.29	20.56	4.83	30.36	---	---	Peak
6	959.40	28.25	-17.75	46.00	32.58	20.95	4.99	30.28	100	201	Peak



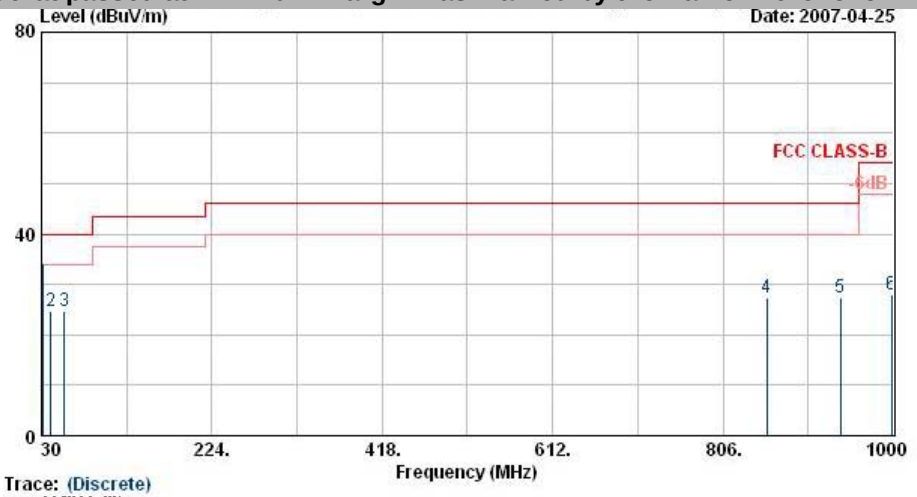
Site : 03CH06-HY
Condition : HF-ANT(6-18)-060918 HORIZONTAL
EUT : PDA Phone
Power : 120Vac/60Hz
Model : FR 742403
Memo : BT Tx_Ch78;2480MHz
Plane : E2
Data Rate : DH1
Adaptor : 2
S/N : OE2-0188

		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		2028.00	41.99	-12.01	54.00	43.73	30.11	3.34	35.19	100	305	Average
2		2028.00	55.00	-19.00	74.00	56.75	30.11	3.34	35.19	100	0	Peak
3		2264.00	54.42	-19.58	74.00	55.96	30.20	3.62	35.37	100	0	Peak
4		2264.00	40.37	-13.63	54.00	41.91	30.20	3.62	35.37	100	147	Average
5		2374.00	38.90	-15.10	54.00	40.36	30.25	3.73	35.44	100	168	Average
6		2374.00	50.29	-23.71	74.00	51.75	30.25	3.73	35.44	100	0	Peak
7	X	2480.00	97.66			99.02	30.29	3.86	35.51	100	0	Peak
8	X	2480.00	74.52			75.88	30.29	3.86	35.51	100	168	Average
9	!	2483.50	48.62	-5.38	54.00	49.98	30.29	3.86	35.51	100	168	Average
10		2483.50	64.48	-9.52	74.00	65.84	30.29	3.86	35.51	100	0	Peak
11		4960.00	41.18	-12.82	54.00	38.01	33.47	5.93	36.23	100	104	Average
12		4960.00	52.20	-21.80	74.00	49.03	33.47	5.93	36.23	100	0	Peak
13		8151.00	46.10	-7.90	54.00	34.60	39.48	7.96	35.93	100	268	Average
14		8151.00	56.51	-17.49	74.00	45.01	39.48	7.96	35.93	---	---	Peak
15		11991.00	38.28	-35.72	74.00	73.88	-9.64	10.63	36.58	---	---	Peak
16		13872.00	39.81	-34.19	74.00	69.75	-6.96	11.50	34.48	---	---	Peak
17		16071.00	41.44	-32.56	74.00	69.96	-4.77	11.79	35.53	---	---	Peak

Remark: #7 and #8 Fundamental Signal

- Test Mode : Mode 3
- Polarization : Vertical

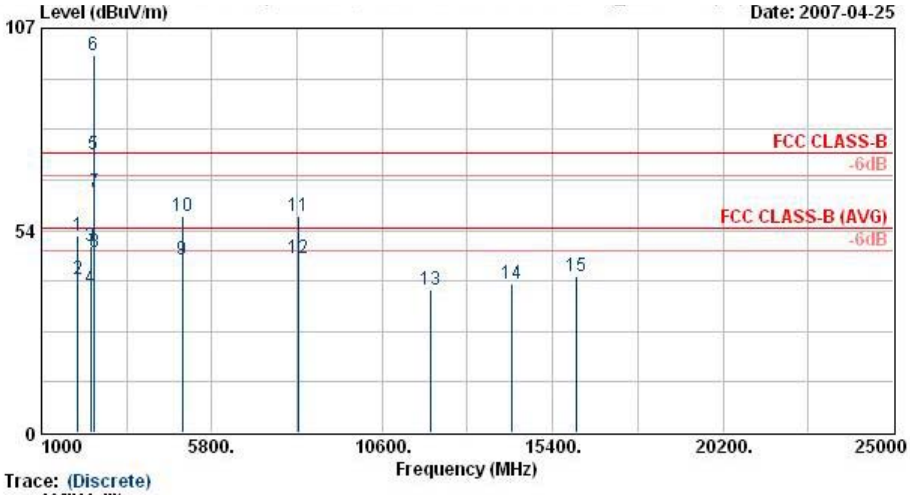
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site : 03CH06-HY
Condition : LF-ANT(951121) VERTICAL
EUT : PDA Phone
Power : 120Vac/60Hz
Model : FR 742403
Memo : BT Tx_Ch78;2480MHz
Plane : E2
Data Rate : DH1
Adaptor : 2
S/N : OE2-0188

	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 !	31.08	34.11	-5.89	40.00	45.73	18.95	0.85	31.43	100	178	Peak
2	40.53	24.65	-15.35	40.00	41.90	13.01	0.92	31.19	---	---	Peak
3	56.19	24.55	-15.45	40.00	47.45	7.20	1.05	31.16	---	---	Peak
4	855.80	27.29	-18.71	46.00	32.83	20.21	4.67	30.42	---	---	Peak
5	939.80	27.34	-18.66	46.00	31.90	20.81	4.93	30.30	---	---	Peak
6	997.90	28.05	-25.95	54.00	31.96	21.23	5.13	30.27	---	---	Peak



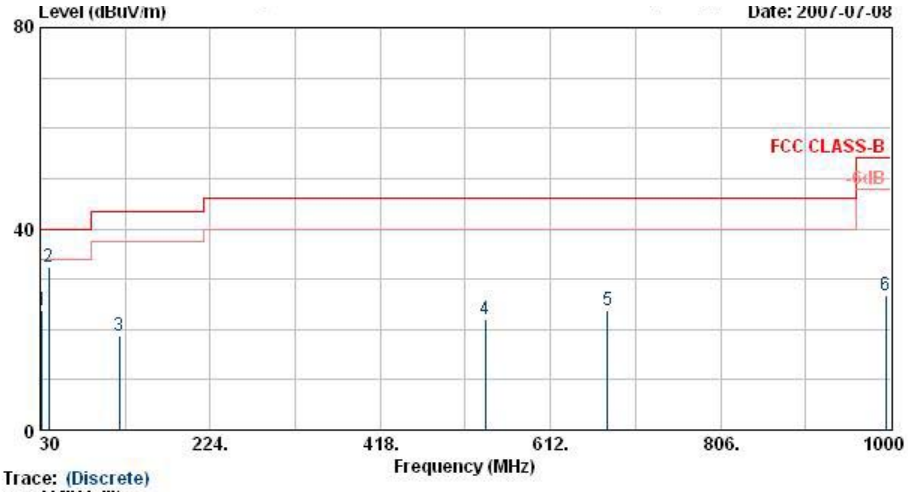
Site : 03CH06-HY
Condition : HF-ANT(6-18)-060918 VERTICAL
EUT : PDA Phone
Power : 120Vac/60Hz
Model : FR 742403
Memo : BT Tx_Ch78;2480MHz
Plane : E2
Data Rate : DH1
Adaptor : 2
S/N : OE2-0186

	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	2028.00	52.02	-21.98	74.00	53.76	30.11	3.34	35.19	100	0	Peak
2	2028.00	40.62	-13.38	54.00	42.36	30.11	3.34	35.19	100	330	Average
3	2388.00	49.26	-24.74	74.00	50.69	30.26	3.75	35.44	100	0	Peak
4	2388.00	38.22	-15.78	54.00	39.65	30.26	3.75	35.44	100	282	Average
5 X	2480.00	73.63			74.99	30.29	3.86	35.51	100	282	Average
6 @	2480.00	99.72			101.08	30.29	3.86	35.51	100	0	Peak
7	2483.50	63.81	-10.19	74.00	65.17	30.29	3.86	35.51	100	0	Peak
8	2483.50	47.75	-6.25	54.00	49.11	30.29	3.86	35.51	100	282	Average
9	4960.00	45.77	-8.23	54.00	42.60	33.47	5.93	36.23	100	24	Average
10	4960.00	57.36	-16.64	74.00	54.19	33.47	5.93	36.23	100	0	Peak
11	8247.00	57.11	-16.89	74.00	45.63	39.41	8.06	35.98	---	---	Peak
12	8247.00	46.16	-7.84	54.00	34.68	39.41	8.06	35.98	100	245	Average
13	11976.00	37.89	-36.11	74.00	73.51	-9.69	10.63	36.56	---	---	Peak
14	14262.00	39.47	-34.53	74.00	69.18	-6.36	11.68	35.04	---	---	Peak
15	16056.00	41.34	-32.66	74.00	70.03	-4.64	11.78	35.83	---	---	Peak

Remark: #5 and #6 Fundamental Signal

- Test Mode : Mode 4
- Polarization : Horizontal

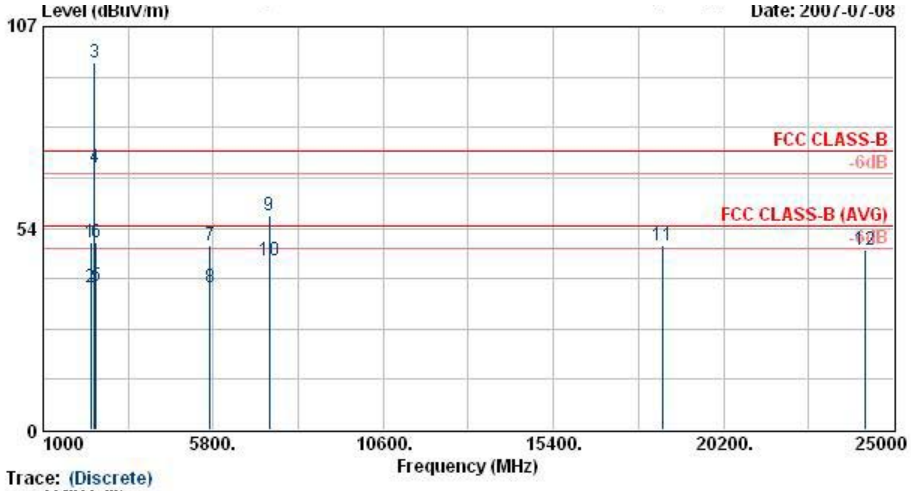
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site : 03CH06-HY
Condition : LF-ANT(951121) HORIZONTAL
EUT : PDA Phone
Power : 120Vac/60Hz
Model : FR 742403
Memo : BT Tx_Ch39;2441MHz
Plane : E2
Data Rate : 2-DH1
Adaptor : 2
S/N : 0E2-0166

	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	31.89	23.66	-16.34	40.00	36.16	18.25	0.65	31.39	---	---	Peak
2 @	39.99	32.29	-7.71	40.00	49.29	13.51	0.70	31.21	---	---	Peak
3	120.18	18.62	-24.88	43.50	35.94	12.58	1.18	31.08	---	---	Peak
4	537.30	22.08	-23.92	46.00	32.28	17.81	2.74	30.75	---	---	Peak
5	677.30	23.91	-22.09	46.00	32.55	18.79	3.18	30.62	---	---	Peak
6	994.40	26.64	-27.36	54.00	31.70	21.20	4.01	30.27	---	---	Peak



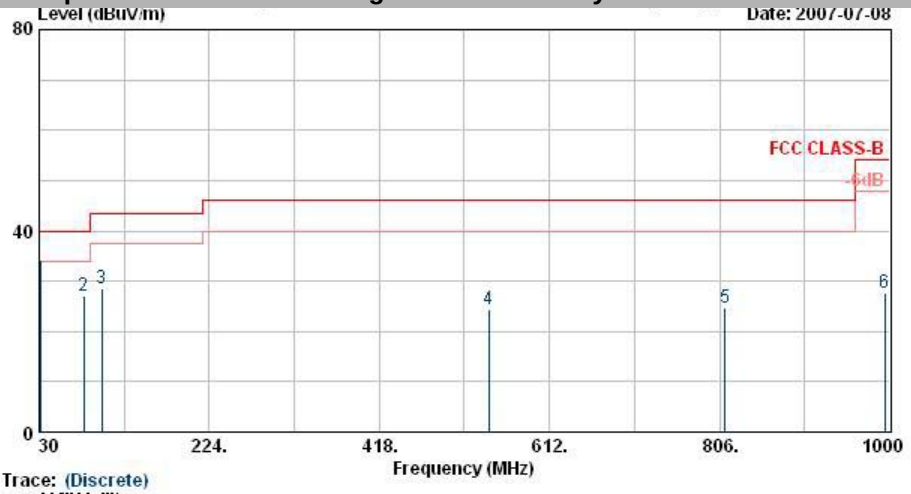
Site : 03CH06-HY
Condition : SHF-EHF HORN HORTZONTAL
EUT : PDA Phone
Power : 120Vac/60Hz
Model : FR 742403
Memo : BT Tx_Ch39;2441MHz
Plane : E2
Data Rate : 2-DH1
Adaptor : 2
S/N : 0E2-0186

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2354.00	49.59	-24.41	74.00	51.05	30.24	3.71	35.42	100	0	Peak
2	2354.00	37.95	-16.05	54.00	39.42	30.24	3.71	35.42	100	167	Average
3 @	2441.00	97.60			98.98	30.28	3.82	35.47	100	0	Peak
4 @	2441.00	69.72			71.10	30.28	3.82	35.47	100	167	Average
5	2494.00	38.33	-15.67	54.00	39.68	30.30	3.88	35.53	100	167	Average
6	2494.00	49.63	-24.37	74.00	50.97	30.30	3.88	35.53	100	0	Peak
7	5712.00	48.92	-25.08	74.00	44.07	33.81	6.90	35.86	100	0	Peak
8	5712.00	37.80	-16.20	54.00	32.96	33.81	6.90	35.86	100	55	Average
9	7377.00	56.70	-17.30	74.00	46.38	38.63	7.68	36.00	100	0	Peak
10	7377.00	44.86	-9.14	54.00	34.55	38.63	7.68	36.00	100	25	Average
11	18486.00	48.87	-25.13	74.00	44.26	21.19	19.36	35.94	---	---	Peak
12	24188.00	47.82	-26.18	74.00	45.88	21.91	18.42	38.39	---	---	Peak

Remark: #3 and #4 Fundamental Signal

- Test Mode : Mode 4
- Polarization : Vertical

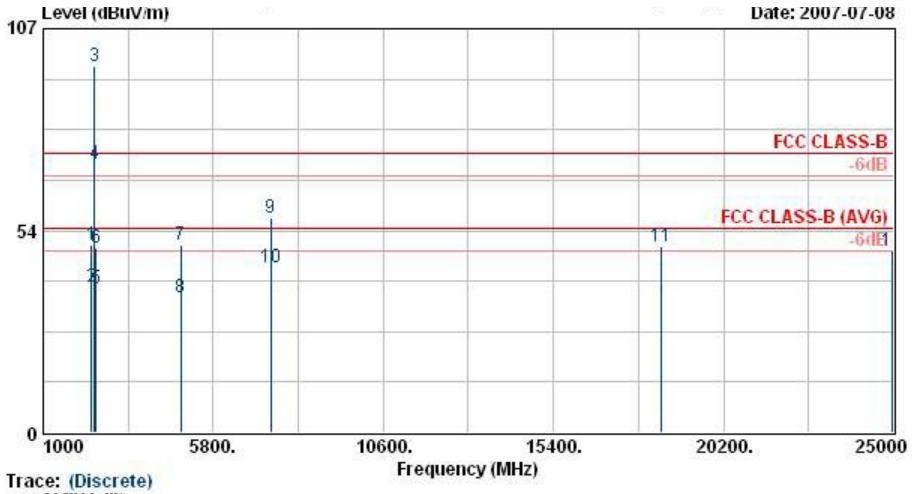
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site	:	03CH06-HY
Condition	:	LF-ANT(951121) VERTICAL
EUT	:	PDA Phone
Power	:	120Vac/60Hz
Model	:	FR 742403
Memo	:	BT Tx_Ch39;2441MHz
Plane	:	E2
Data Rate	:	2-DH1
Adaptor	:	2
S/N	:	OE2-0186

	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 @	31.62	34.22	-5.78	40.00	46.71	18.25	0.65	31.39	---	---	Peak
2	81.03	27.07	-12.93	40.00	49.52	7.67	0.98	31.09	---	---	Peak
3	101.28	28.49	-15.01	43.50	47.50	11.07	1.07	31.15	---	---	Peak
4	542.90	24.42	-21.58	46.00	34.52	17.87	2.76	30.74	---	---	Peak
5	812.40	24.59	-21.41	46.00	31.69	19.91	3.46	30.47	---	---	Peak
6	994.40	27.63	-26.37	54.00	32.69	21.20	4.01	30.27	---	---	Peak



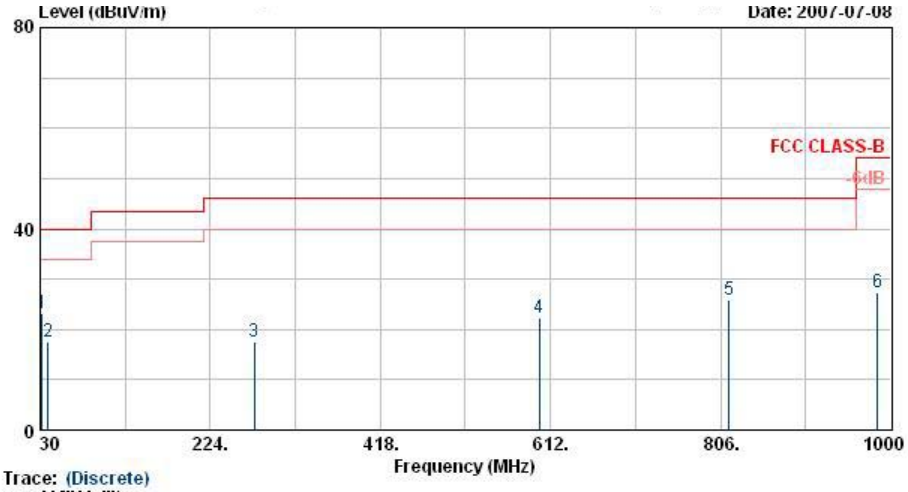
Site : 03CH06-HY
Condition : SHF-EHF HORN VERTICAL
EUT : PDA Phone
Power : 120Vac/60Hz
Model : FR 742403
Memo : BT Tx_Ch39;2441MHz
Plane : E2
Data Rate : 2-DH1
Adaptor : 2
S/N : OE2-0188

	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	2364.00	49.79	-24.21	74.00	51.23	30.24	3.73	35.42	100	0	Peak
2	2364.00	38.42	-15.58	54.00	39.87	30.24	3.73	35.42	100	257	Average
3 @	2441.00	96.93			98.31	30.28	3.82	35.47	100	0	Peak
4 @	2441.00	71.13			72.53	30.28	3.82	35.49	100	257	Average
5	2494.00	38.30	-15.70	54.00	39.65	30.30	3.88	35.53	100	257	Average
6	2494.00	48.99	-25.01	74.00	50.34	30.30	3.88	35.53	100	0	Peak
7	4881.00	49.62	-24.38	74.00	46.76	33.14	5.88	36.16	100	0	Peak
8	4881.00	35.63	-18.37	54.00	32.77	33.14	5.88	36.16	100	55	Average
9	7416.00	56.74	-17.26	74.00	46.41	38.71	7.66	36.04	100	0	Peak
10	7416.00	43.79	-10.21	54.00	33.46	38.71	7.66	36.04	100	285	Average
11	18456.00	49.43	-24.57	74.00	45.08	21.19	19.12	35.96	---	---	Peak
12	24956.00	48.01	-25.99	74.00	46.07	21.83	18.64	38.53	---	---	Peak

Remark: #3 and #4 Fundamental Signal

- Test Mode : Mode 5
- Polarization : Horizontal

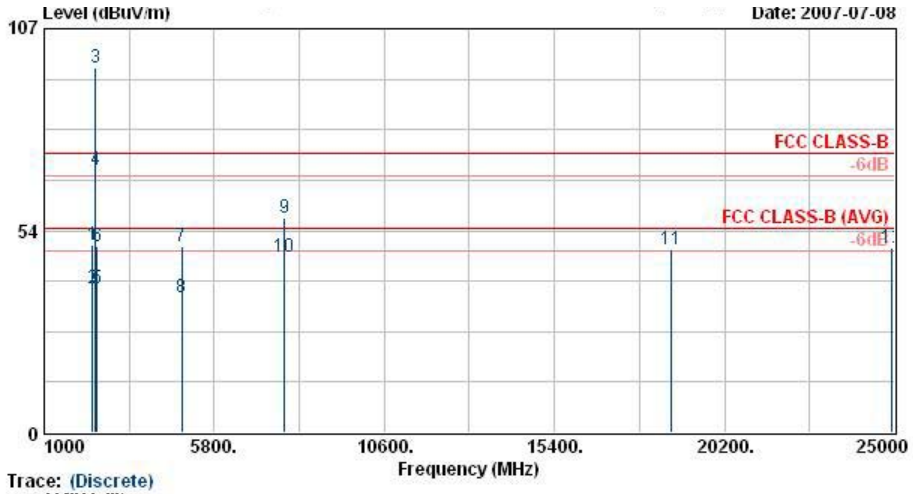
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site : 03CH06-HY
Condition : LF-ANT(951121) HORIZONTAL
EUT : PDA Phone
Power : 120Vac/60Hz
Model : FR 742403
Memo : BT Tx_Ch39;2441MHz
Plane : E2
Data Rate : 3-DH1
Adaptor : 2
S/N : 0E2-0186

	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	32.43	23.09	-16.91	40.00	36.24	17.54	0.66	31.36	---	---	Peak
2	38.64	17.60	-22.40	40.00	34.10	14.03	0.70	31.23	---	---	Peak
3	274.08	17.43	-28.57	46.00	33.83	12.73	1.83	30.96	---	---	Peak
4	598.90	22.35	-23.65	46.00	31.61	18.45	2.95	30.66	---	---	Peak
5	815.90	25.95	-20.05	46.00	33.02	19.93	3.47	30.47	---	---	Peak
6	985.30	27.41	-26.59	54.00	32.56	21.14	3.99	30.27	---	---	Peak



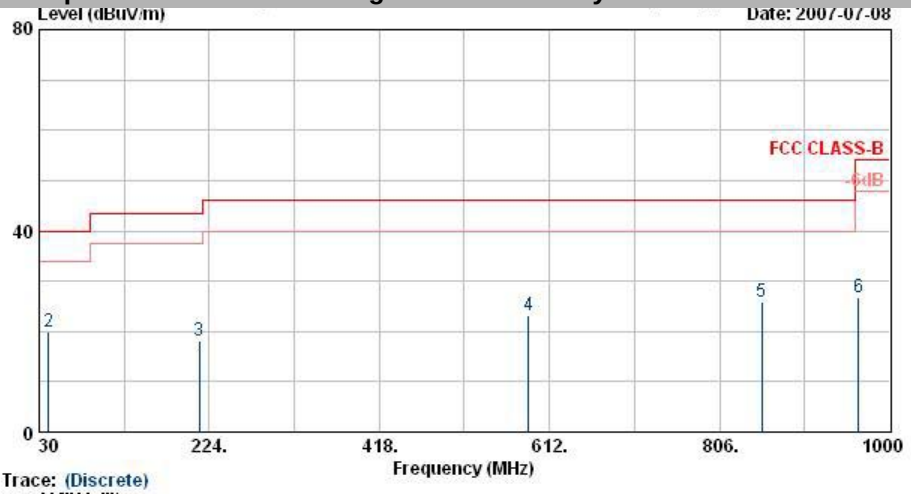
Site : 03CH06-HY
Condition : SHF-EHF HORN HORIZONTAL
EUT : PDA Phone
Power : 120Vac/60Hz
Model : FR 742403
Memo : BT Tx_Ch39;2441MHz
Plane : E2
Data Rate : 3-DH1
Adaptor : 2
S/N : 0E2-0188

	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	2358.00	49.81	-24.19	74.00	51.28	30.24	3.71	35.42	100	0	Peak
2	2358.00	38.38	-15.62	54.00	39.85	30.24	3.71	35.42	100	168	Average
3 @	2441.00	96.54			97.92	30.28	3.82	35.47	100	0	Peak
4 X	2441.00	69.59			70.99	30.28	3.82	35.49	100	168	Average
5	2488.00	38.31	-15.69	54.00	39.66	30.30	3.86	35.51	100	168	Average
6	2488.00	49.25	-24.75	74.00	50.60	30.30	3.86	35.51	100	0	Peak
7	4881.00	49.34	-24.66	74.00	46.48	33.14	5.88	36.16	100	0	Peak
8	4881.00	35.74	-18.26	54.00	32.88	33.14	5.88	36.16	100	50	Average
9	7776.00	56.99	-17.01	74.00	45.92	39.30	7.71	35.94	100	0	Peak
10	7776.00	46.59	-7.41	54.00	35.52	39.30	7.71	35.94	100	255	Average
11	18672.00	48.66	-25.34	74.00	44.36	21.26	18.92	35.87	---	---	Peak
12	24936.00	48.97	-25.03	74.00	47.03	21.83	18.64	38.53	---	---	Peak

Remark: #3 and #4 Fundamental Signal

- Test Mode : Mode 5
- Polarization : Vertical

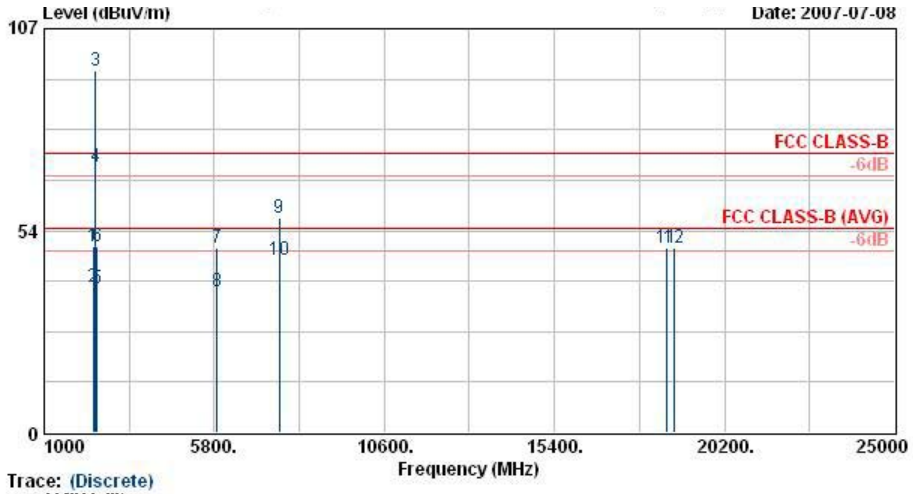
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site	:	03CH06-HY
Condition	:	LF-ANT(951121) VERTICAL
EUT	:	PDA Phone
Power	:	120Vac/60Hz
Model	:	FR 742403
Memo	:	BT Tx_Ch39;2441MHz
Plane	:	E2
Data Rate	:	3-DH1
Adaptor	:	2
S/N	:	0E2-0186

	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	30.00	26.55	-13.45	40.00	37.72	19.66	0.63	31.46	---	---	Peak
2	40.53	19.83	-20.17	40.00	37.30	13.01	0.71	31.19	---	---	Peak
3	212.79	18.23	-25.27	43.50	37.63	10.04	1.59	31.03	---	---	Peak
4	588.40	23.16	-22.84	46.00	32.57	18.35	2.92	30.68	---	---	Peak
5	854.40	25.81	-20.19	46.00	32.40	20.21	3.63	30.42	---	---	Peak
6	964.30	26.68	-27.32	54.00	32.02	20.98	3.95	30.28	---	---	Peak



Site : 03CH06-HY
Condition : SHF-EHF HORN VERTICAL
EUT : PDA Phone
Power : 120Vac/60Hz
Model : FR 742403
Memo : BT Tx_Ch39;2441MHz
Plane : E2
Data Rate : 3-DH1
Adaptor : 2
S/N : 0E2-0188

	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	2388.00	49.40	-24.60	74.00	50.83	30.26	3.75	35.44	100	0	Peak
2	2388.00	38.41	-15.59	54.00	39.84	30.26	3.75	35.44	100	255	Average
3 @	2441.00	95.72			97.10	30.28	3.82	35.47	100	0	Peak
4 X	2441.00	70.53			71.93	30.28	3.82	35.49	100	255	Average
5	2498.00	38.31	-15.69	54.00	39.66	30.30	3.88	35.53	100	255	Average
6	2498.00	49.50	-24.50	74.00	50.85	30.30	3.88	35.53	100	0	Peak
7	5886.00	49.06	-24.94	74.00	43.90	33.98	6.92	35.75	100	0	Peak
8	5886.00	37.26	-16.74	54.00	32.10	33.98	6.92	35.75	100	58	Average
9	7632.00	57.07	-16.93	74.00	46.33	39.09	7.66	36.00	100	0	Peak
10	7632.00	45.57	-8.43	54.00	34.83	39.09	7.66	36.00	100	255	Average
11	18552.00	49.04	-24.96	74.00	44.53	21.19	19.23	35.91	---	---	Peak
12	18784.00	48.74	-25.26	74.00	44.56	21.35	18.66	35.83	---	---	Peak

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 antenna used in this product is a PIFA antenna without connecter and it is considered to meet antenna requirement of FCC.

5.10.3 Antenna Gain

The antenna gain of EUT is less than 6dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

6. List of Measuring Equipments Used

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
EMC Receiver	R&S	ESCS 30	100132	9kHz – 2.75GHz	Aug. 30, 2006	Aug. 30, 2007	Conduction (CO01-HY)
LISN	MessTec	NNB-2/16Z	2001/004	9kHz – 30MHz	Mar. 30, 2007	Mar. 30, 2008	Conduction (CO01-HY)
LISN (Support Unit)	MessTec	NNB-2/16Z	2001/009	9kHz – 30MHz	Mar. 30, 2007	Mar. 30, 2008	Conduction (CO01-HY)
EMI Filter	LINDGREN	LRE-2060	1004	< 450Hz	N/A	N/A	Conduction (CO01-HY)
EMI Filter	LINDGREN	N6006	201052	0 – 60Hz	N/A	N/A	Conduction (CO01-HY)
RF Cable-CON	Suhner Switzerland	RG223/U	CB029	9kHz – 30MHz	Dec. 04, 2006	Dec. 04, 2007	Conduction (CO01-HY)
Isolation Transformer	Erika Fiedler OHG	D-65396 Walluf	58	45MHz-2.15GHz	N/A	N/A	Conduction (CO01-HY)
Spectrum analyzer	Agilent	E4408B	MY44211030	9KHz-26.5GHz	Oct. 05, 2006	Oct. 04, 2007	Radiation (03CH06-HY)
EMI Test Receiver	R&S	ESCS30	100356	9KHz-2.75GHz	Jul. 13, 2006	Jul. 12, 2007	Radiation (03CH06-HY)
Controller	INN-CO	CO2000	N/A	N/A	N/A	N/A	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2885	30MHz -2GHz	Nov. 20, 2006	Nov. 19, 2007	Radiation (03CH06-HY)
Double Ridge Horn Antenna	Com-Power	AH118	10094	1G~18G	Dec. 26, 2006	Dec. 25, 2007	Radiation (03CH06-HY)
SHF-EHF Horn	SCHWARZBECK	BBHA 9170	9170-249	14G - 40G	Nov. 20, 2006	Nov. 19, 2008	Radiation (03CH06-HY)
Pre Amplifier	Agilent	8449B	3008A01917	1G - 26.5G	Nov. 15, 2006	Nov. 14, 2007	Radiation (03CH06-HY)
Pre Amplifier	Mini Circuits	ZKL-2	D092004-1	10~2500MHz	Nov. 15, 2006	Nov. 14, 2007	Radiation (03CH06-HY)
Turn Table	INN-CO	DS2000	420/650/00	0 ~ 360 degree	N/A	N/A	Radiation (03CH06-HY)
Antenna Mast	INN-CO	MM3000	114/8000604/L	1 m - 4 m	N/A	N/A	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 Evaluation (30MHz ~ 1000MHz)

Contribution	Uncertainty of x_i		$u(x_i)$
	dB	Probability Distribution	
Receiver reading	0.15	Normal(k=2)	0.08
Antenna factor calibration	1.12	Normal(k=2)	0.56
Cable loss calibration	0.12	Normal(k=2)	0.06
Pre Amplifier Gain calibration	0.13	Normal(k=2)	0.07
RCV/SPA specification	2.5	Rectangular	0.72
Antenna Factor Interpolation for Frequency	1	Rectangular	0.29
Site imperfection	2.1	Rectangular	1.21
Mismatch	+0.39/-0.41	U-shaped	0.28
combined standard uncertainty Uc(y)	**1.58**		
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)	**3.16**		

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=2Ue(y)	**4.72**				