Testing Laboratory
1190

FCC Test Report

for

47 CFR Part 15 Subpart C

Equipment	:	**Qual-Band PDA Phone**
Trade Name	:	**ASUS**
Model No.	:	**P320**
FCC ID	:	**MSQP320**
Filing Type	:	**Certification**
Applicant	:	**ASUSTek COMPUTER INC.** 4F., No. 150, Li-Te Rd., Peitou, Taipei, Taiwan

- The test result refers exclusively to the test presented test model / sample.
- Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.
- **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 Mar. 28, 2008 at **Sporton International Inc. LAB.**
- Report No.: FR822203A, Report Version: Rev. 01.

Roy Wu
Manager

SPORTON International Inc.
No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

Table of Contents

History of this test report

Report Issue Date: Mar. 31, 2008

Report No.	Description

1. General Description of Equipment under Test

1.1 Applicant

ASUSTek COMPUTER INC.
4F., No. 150, Li-Te Rd., Peitou, Taipei, Taiwan

1.2 Manufacturer

1. Pegatron Corporation Taoyuan Mfg.
No.5, Shing Yeh Street, 333 Kwei Shan Hsiang, Taoyuan Hsien, Taiwan
2. ProTek (Shanghai) Ltd.
No.3768, Xiu Yan Road, Nanhui District, 201315 Shanghai, People's Republic of China
3. MainTek Computer (Suzhou) Co., Ltd.
No.233 Jing Feng Road, 215011 Suzhou New District, Jiangsu, People's Republic of China

1.3 Basic Description of Equipment under Test

Equipment		Qual-Band PDA Phone
Trade Name		ASUS
Model Name		P320
FCC ID :		MSQP320
AC Adapter	**Brand Name**	TAMURA
	Model Name	JSP050090UU
	Power Rating	I/P: 100-240Vac, 50-60Hz, 0.3A; O/P: 5Vdc, 0.9A
	AC Power Cord Type	1.5 meter shielded cable without ferrite core
Car Charger	**Brand Name**	L&K
	Model Name	04G267011910
	Power Rating	I/P: 12V/24V; O/P: 5V, 900mA
	Power Cord Type	1.8 meter shielded cable without ferrite core
Battery	**Brand Name**	ASUS
	Model Name	SBP-17
	Rating	3.7Vdc, 1100mAh
	Type	Li-ion
Earphone	**Brand Name**	ASUS
	Model Name	04G171301270
	Signal line Type	1.5 meter non-shielded cable without ferrite core
USB Cable	**Brand Name**	Foxconn
	Model Name	14G000506200
	Signal Line Type	1 meter shielded cable with 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

DUT Type	Qual-Band PDA Phone
Trade Name	ASUS
Model Name	P320
FCC ID	MSQP320
Tx Frequency	GSM850 : 824 ~ 849 MHz PCS1900 : 1850 ~1910 MHz Bluetooth / Bluetooth EDR : 2400 ~ 2483.5 MHz 802.11b / 802.11g : 2400 ~ 2483.5 MHz
Rx Frequency	GSM850 : 869 ~ 894 MHz PCS1900 : 1930 ~ 1990 MHz Bluetooth / Bluetooth EDR : 2400 ~ 2483.5 MHz 802.11b / 802.11g : 2400 ~ 2483.5 MHz GPS : 1575.42 MHz
Antenna Type	GSM850 / PCS1900 : Fixed Internal GPS : Fixed Internal Bluetooth / Bluetooth EDR : Chip Antenna 802.11b / 802.11g : Chip Antenna
Power Rating	DC 4.2V, 2.5A
HW Version	ER2
SW Version	20080221_Version 2.6.4
Maximum Output Power to Antenna	GSM850 : 32.07 dBm(GSM) / 32.04 dBm(GPRS10) / 27.23 dBm(EGPRS10) PCS1900 : 29.24 dBm(GSM) / 29.20 dBm(GPRS10) / 26.06 dBm(GPRS10) Buetooth : 2.06 dBm(1Mbps) Bluetooth EDR : -0.1 dBm(2Mbps) / 0.1 dBm(3Mbps) 802.11b : 14.42 dBm 802.11g : 16.81 dBm
Antenna Gain	Bluetooth / Bluetooth EDR : -3 dBi 802.11b / 802.11g : -3 dBi
Type of Antenna Connector	N/A
GPRS / EGPRS Multislot class	10
Type of Modulation	GSM / GPRS : GMSK EDGE : 8PSK Bluetooth (1Mbps) : GFSK Bluetooth EDR (2Mbps) : π/4-DQPSK, 8-DPSK 802.11b/g : DSSS, OFDM

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	π/4-DQPSK	8-DPSK
		1Mbps	2Mbps	3Mbps
Ch00	2400MHz	1.32 dBm	-0.64 dBm	-0.44 dBm
Ch39	2441MHz	2.06 dBm	-0.1 dBm	0.1 dBm
Ch78	2480MHz	1.06 dBm	-1.3 dBm	-1.08 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

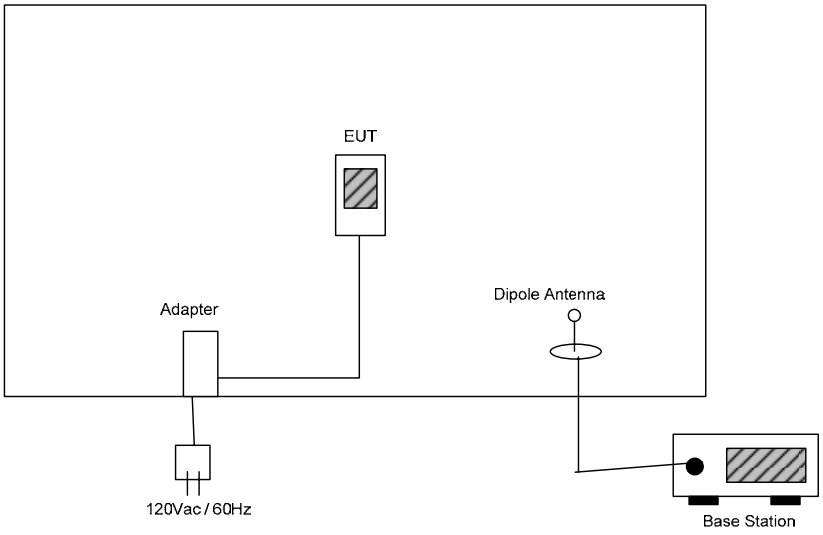
Application	Test Modes
Radiated Emission	Mode 1: CH00_2402 MHz (1Mbps) Mode 2: CH39_2441 MHz (1Mbps) Mode 3: CH78_2480 MHz (1Mbps) Mode 4: CH78_2480 MHz (2Mbps) Mode 5: CH78_2480 MHz (3Mbps)
Conducted Emission	Mode 1: GSM850 Idle Mode + GPS Rx + BT Link + WLAN Link + Camera + Adapter Mode 2: GSM850 Idle Mode + GPS Rx + BT Link + WLAN Link + MPEG4 + Adapter Mode 3: GSM850 Idle Mode + GPS Rx + BT Link + WLAN Link + Camera + USB Link Mode 4: PCS1900 Idle Mode + GPS Rx + BT Link + WLAN Link + Camera + USB Link Mode 5: EDGE Idle Mode + GPS Rx + BT Link + WLAN Link + Camera + USB LinK

2.3 Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable / Power Cord
1.	Base Station	R&S	CMU200	N/A	Unshielded, 1.8m
2.	WLAN AP	SMC	SMC-100	HEDWG4005ACC	Unshielded, 1.8m
3.	Bluetooth Earphone	Engotech	ET-BH111	PQY471087	N/A
4.	Notebook	DELL	D400	R33002	N/A
5.	(RS-232)Mouse	State	MS-303	Fcc Doc	N/A
6.	iPod	Apple	A1199	DoC	Shielded, 1.2m
7.	GPS Station	T&E	GP-50	N/A	Unshielded, 1.8m

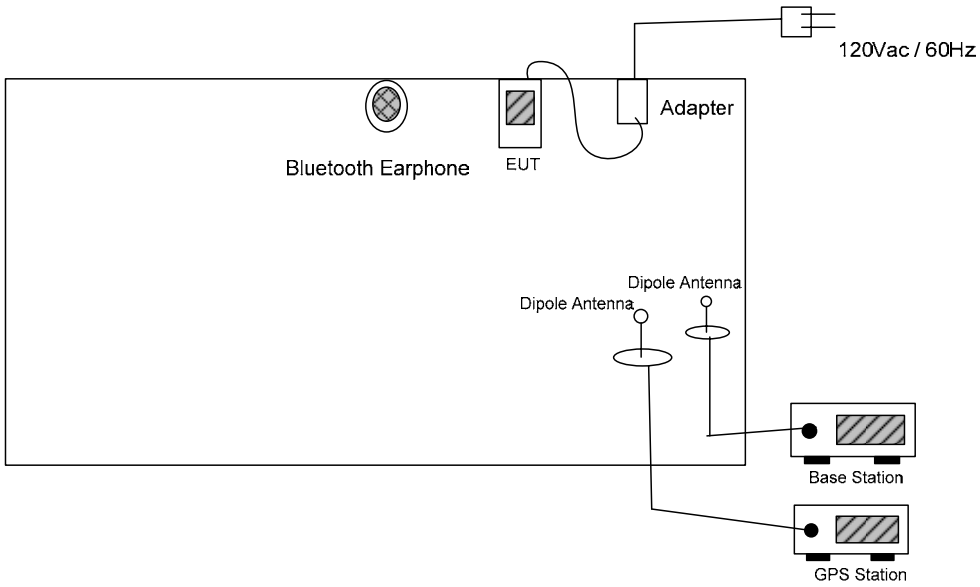
2.4 Connection Diagram of Test System

<Radiated Emission>

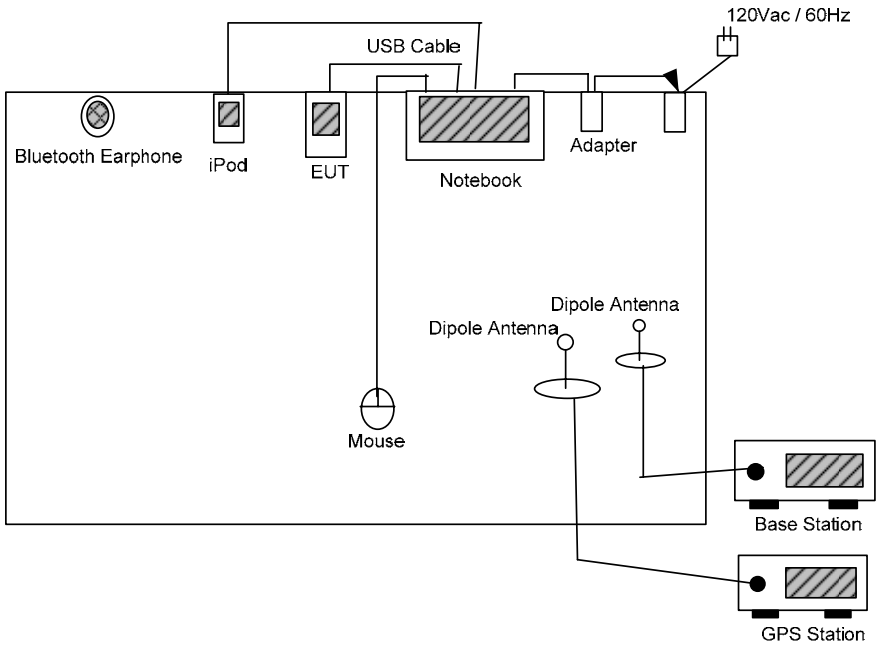


<Conducted Emission>

Mode 1 ~ 2



Mode 3 ~ 5



3. RF Utility

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

4. General Information of Test

Test Site Location	:	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-328-4978
Test Site No	:	CO04-HY, 03CH06-HY

4.1 Test Voltage

AC 120V / 60Hz

4.2 Standard for Methods of Measurement

ANSI C63.4-2003

4.3 Test Compliance

47 CFR Part 15 Subpart C

4.4 Frequency Range

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

4.5 Test Distance

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

5. Test Data and Test Result

5.1 List of Measurements and Examinations

The Emission Mode: Bluetooth

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

5.2 Band Edges Measurement

5.2.1 Measuring Instruments

As described in chapter 6 of this test report.

5.2.2 Test Procedure

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

5.2.3 Test Result

- Application Type : Bluetooth
- Temperature : 20~26℃
- Relative Humidity : 49~52%
- Test Enginner : Ken

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

5.2.4 Note on Band Edge Emission

➢ **BT(1Mbps)**

CH00 (Horizontal)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.61	50.37	-23.63	74.00	50.33	31.83	3.89	35.68	100	0	Peak
2389.61	40.88	-13.12	54.00	40.78	31.86	3.92	35.68	100	359	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
2333.18	50.30	-23.70	74.00	50.41	31.73	3.82	35.67	100	0	Peak
2333.18	39.77	-14.23	54.00	39.82	31.76	3.86	35.67	126	123	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
2354.00	51.20	-22.80	74.00	51.21	31.81	3.86	35.67	100	0	Peak
2354.00	39.48	-14.52	54.00	39.49	31.81	3.86	35.67	121	167	Average

CH78 (Vertical)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.47	55.22	-18.78	74.00	54.89	31.98	4.058	35.70	100	0	Peak
2483.47	46.42	-7.58	54.00	46.09	31.98	4.05	35.701	100	290	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
2384.00	51.07	-22.93	74.00	50.99	31.83	3.92	35.68	100	0	Peak
2384.00	39.58	-14.42	54.00	39.50	31.83	3.92	35.68	102	350	Average

CH78 (Vertical)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.47	54.36	-19.64	74.00	54.03	31.98	4.05	35.70	100	0	Peak
2483.47	44.93	-9.07	54.00	44.60	31.98	4.05	35.70	100	94	Average

➢ **BT EDR(3Mbps)**

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
2388.00	50.73	-22.27	74.00	50.63	31.86	3.92	35.68	100	0	Peak
2388.00	35.59	-14.41	54.00	39.49	31.86	3.92	35.68	103	349	Average

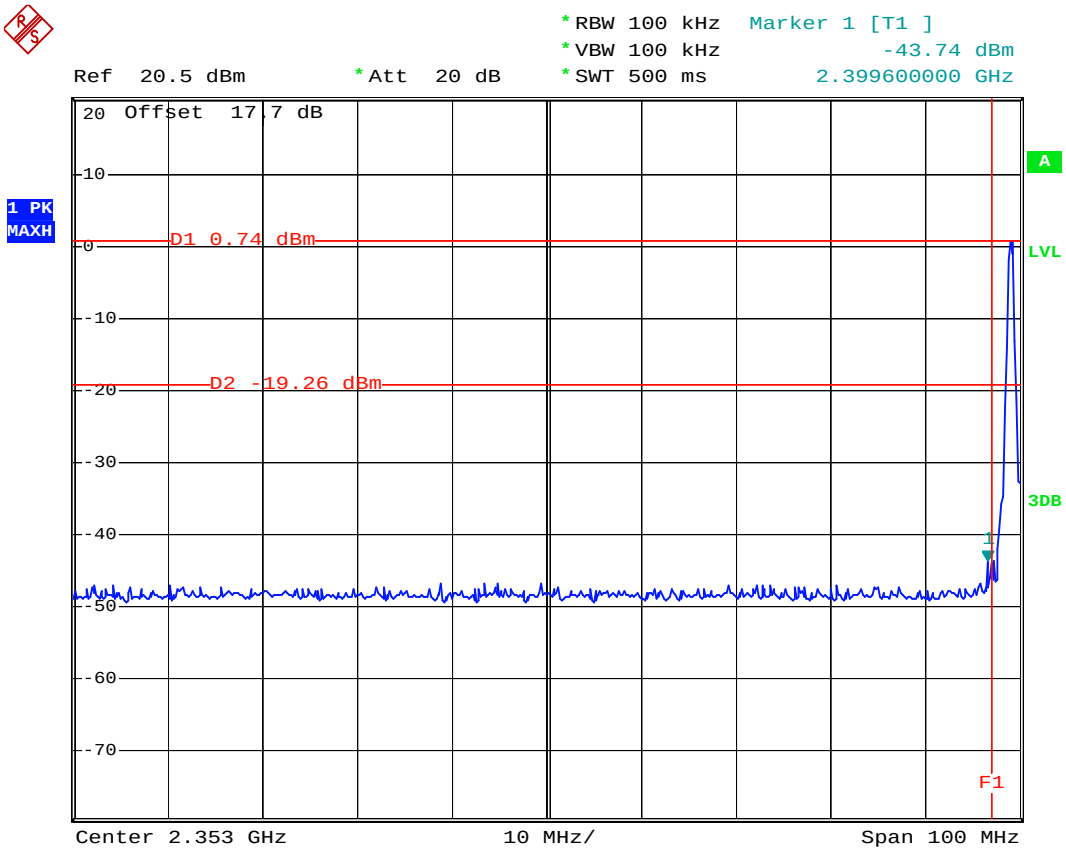
CH78 (Vertical)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.47	54.42	-19.58	74.00	54.09	31.98	4.05	35.70	100	0	Peak
2483.74	45.09	-8.91	54.00	44.76	31.98	4.05	35.70	100	95	Average

5.2.5 20dB Band Edge

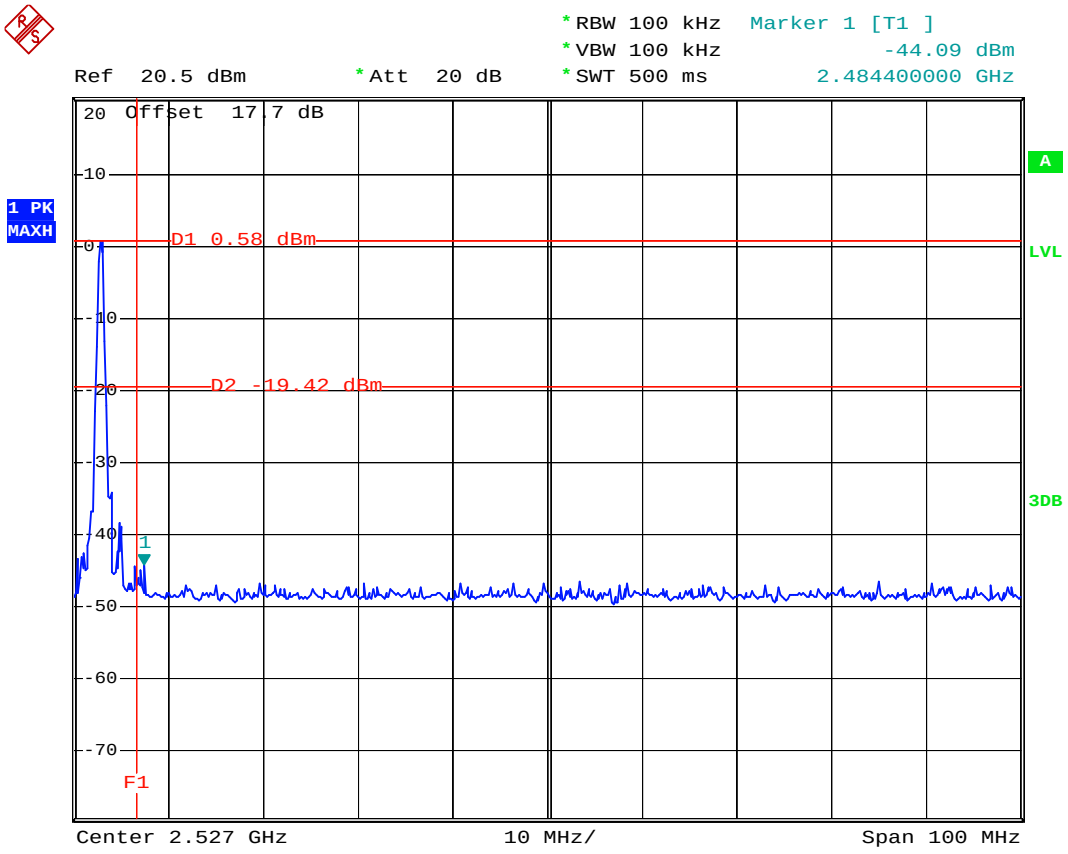
BT

CH00



Date: 17.MAR.2008 17:22:23

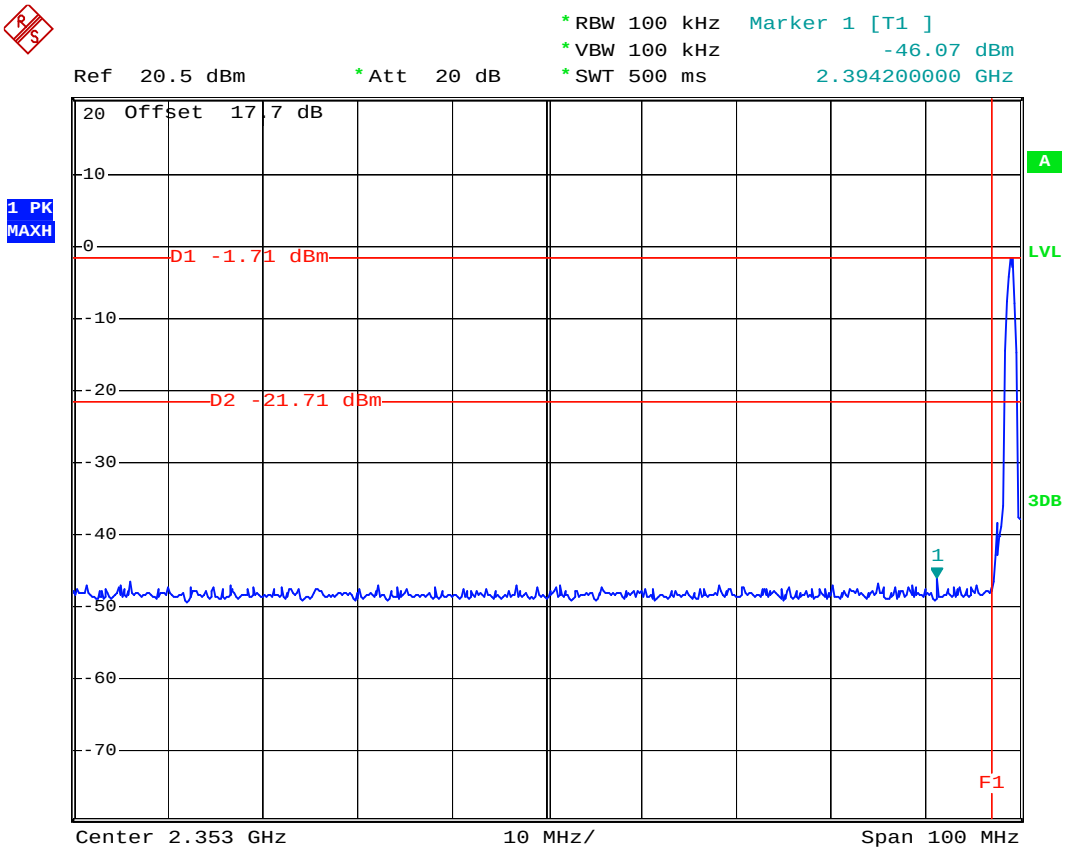
CH78



Date: 17.MAR.2008 17:21:35

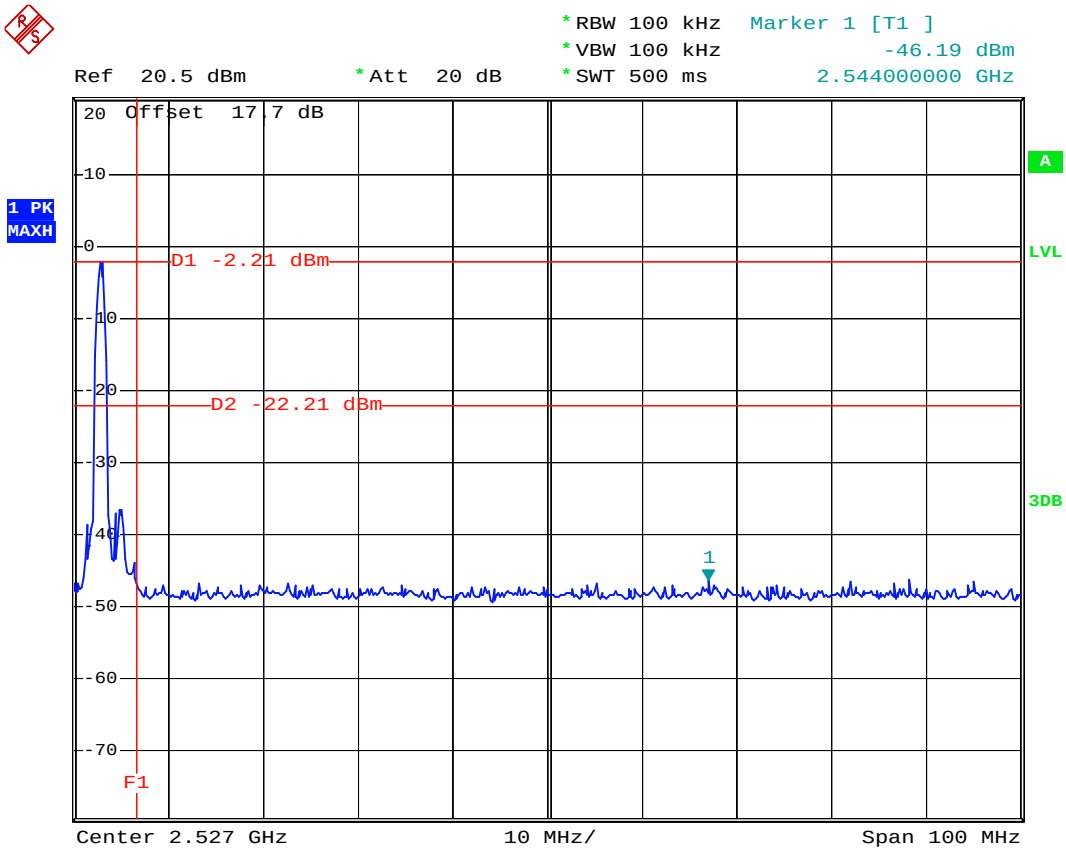
BT EDR(2Mbps)

CH00



Date: 17.MAR.2008 19:22:40

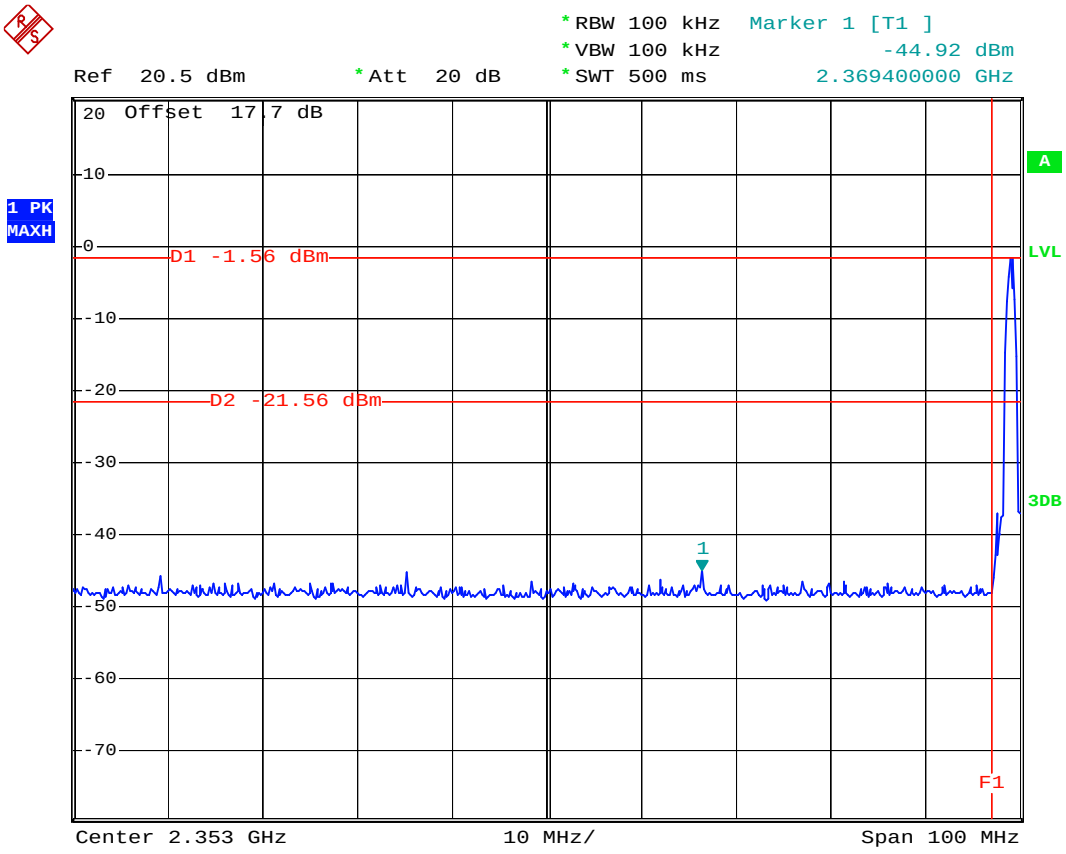
CH78



Date: 17.MAR.2008 19:21:23

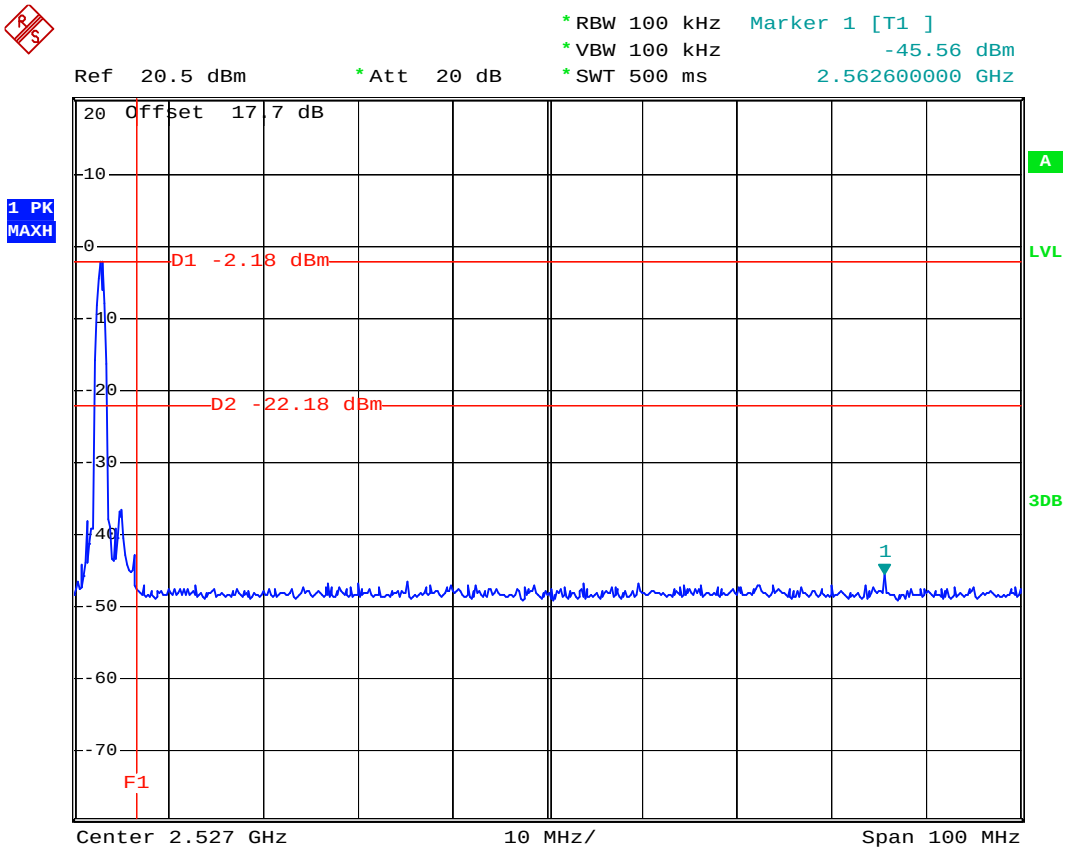
BT EDR(3Mbps)

CH00



Date: 17.MAR.2008 19:24:25

CH78



Date: 17.MAR.2008 19:20:15

5.3 Hopping Channel Separation

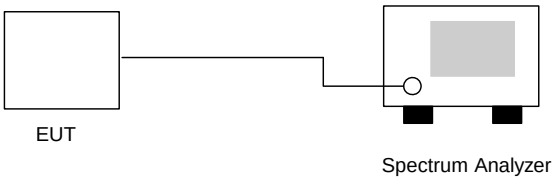
5.3.1 Measuring Instruments

As described in chapter 9 of this test report.

5.3.2 Test Procedure

1. The output of EUT was connected to the spectrum analyzer by a low loss cable..
2. Set RBW of spectrum analyzer to 30kHz and VBW to 100kHz.
3. The Hopping Channel Separation is defined as the channel is separated with the next channel.

5.3.3 Test Setup Layout



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

- Application Type : BT
- Temperature : 20~26℃
- Relative Humidity : 49~52%
- Test Enginner : Ken

Channel	Frequency (MHz)	Carrier Frequency Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.004	0.579	Mode 1
39	2441	1.000	0.581	Mode 2
78	2480	1.004	0.580	Mode 3

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

- Application Type : BT EDR(2Mbps)
- Temperature : 20~26℃
- Relative Humidity : 49~52%
- Test Enginner : Ken

Channel	Frequency (MHz)	Carrier Frequency Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.000	0.805	Mode 4
39	2441	1.008	0.808	Mode 5
78	2480	1.000	0.805	Mode 6

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

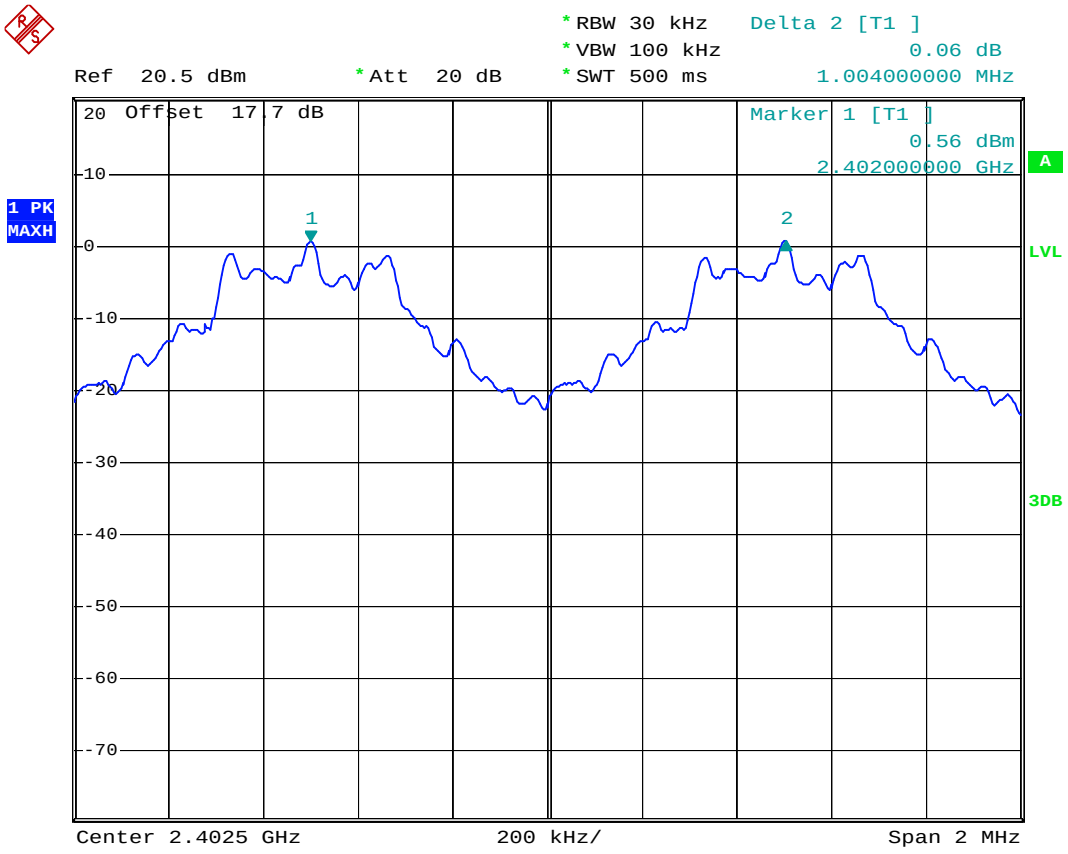
- Application Type : BT EDR(3Mbps)
- Temperature : 20~26℃
- Relative Humidity : 49~52%
- Test Enginner : Ken

Channel	Frequency (MHz)	Carrier Frequency Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.008	0.803	Mode 7
39	2441	1.000	0.805	Mode 8
78	2480	1.008	0.805	Mode 9

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

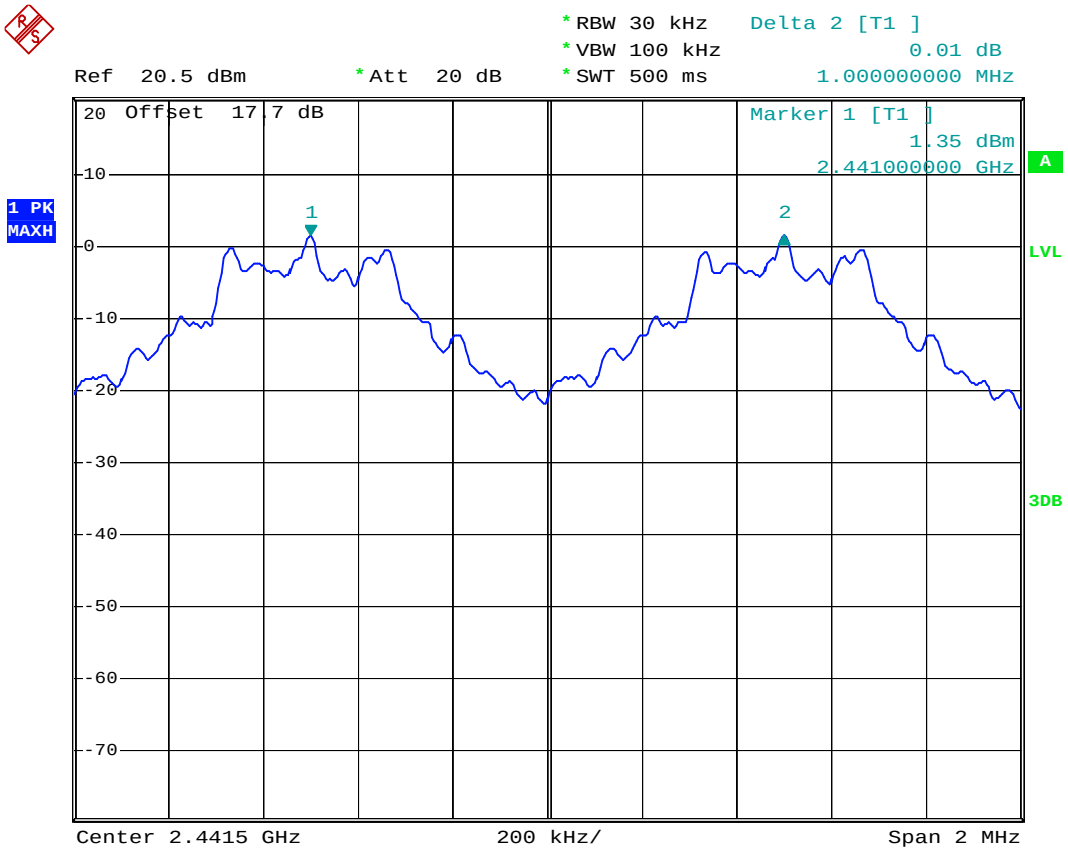
5.3.5 Hopping Channel Seperation

Mode 1



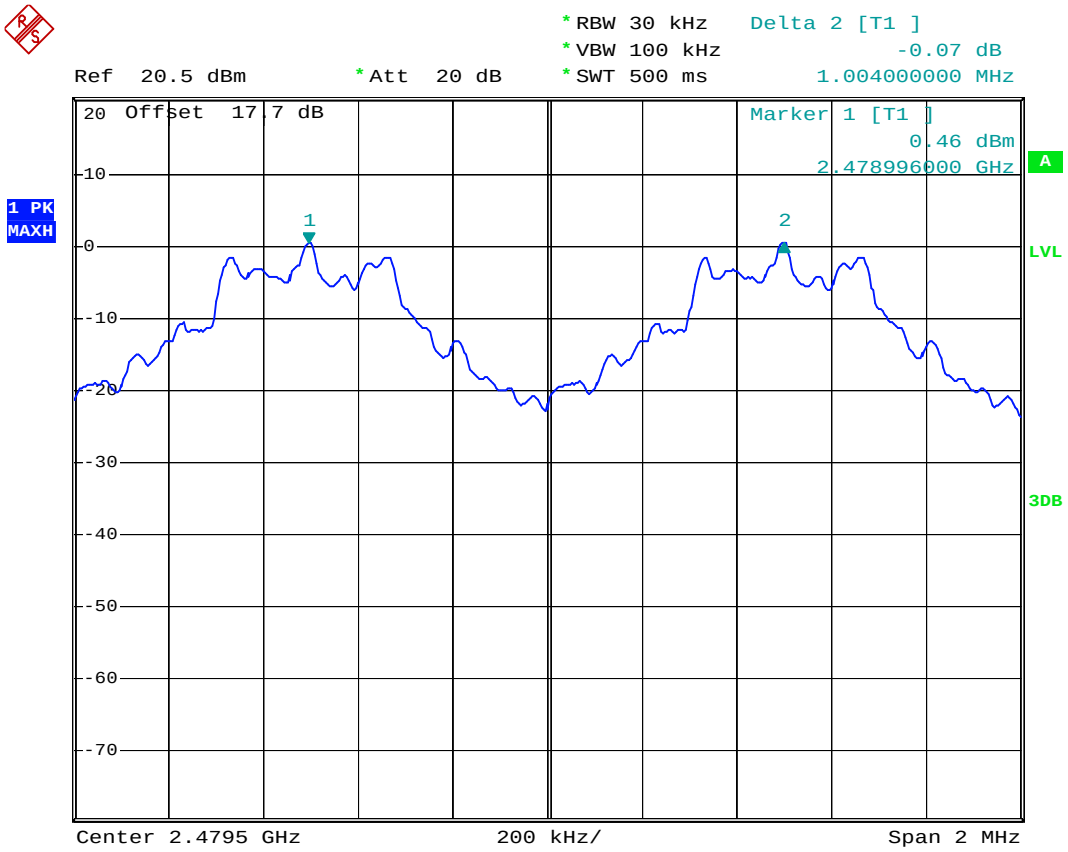
Date: 17.MAR.2008 17:23:10

Mode 2



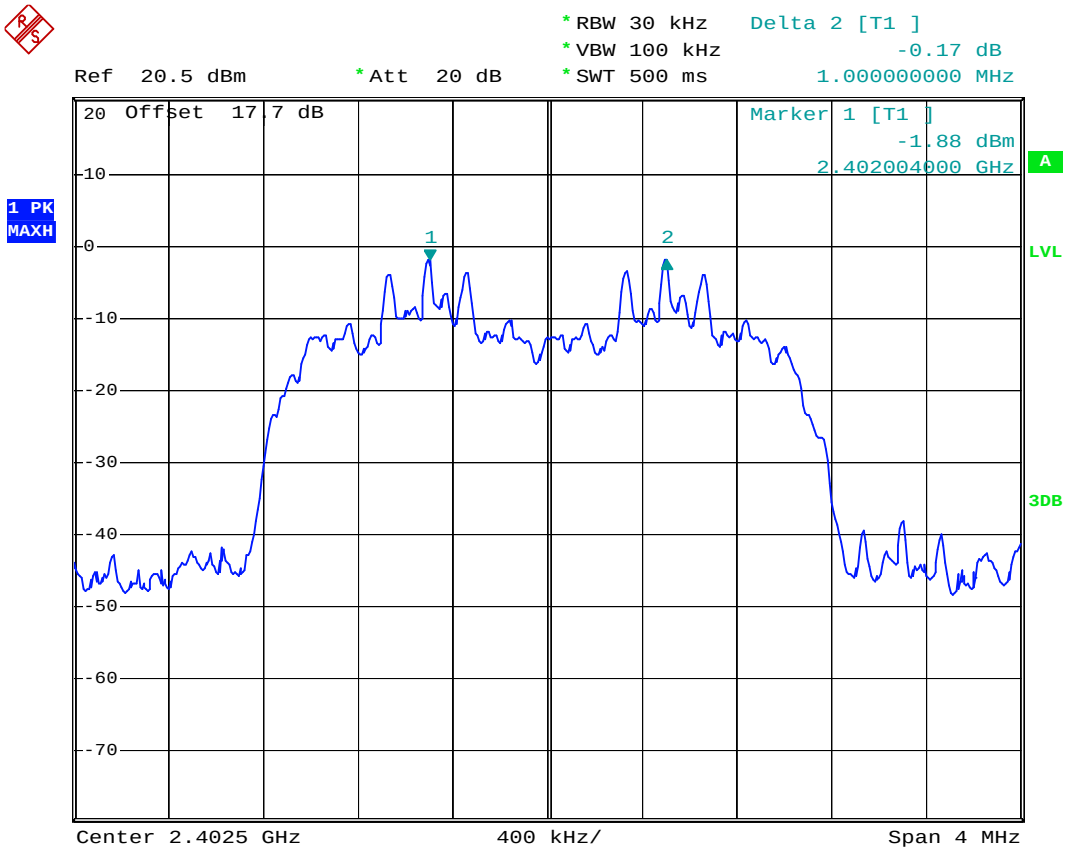
Date: 17.MAR.2008 17:23:40

Mode 3



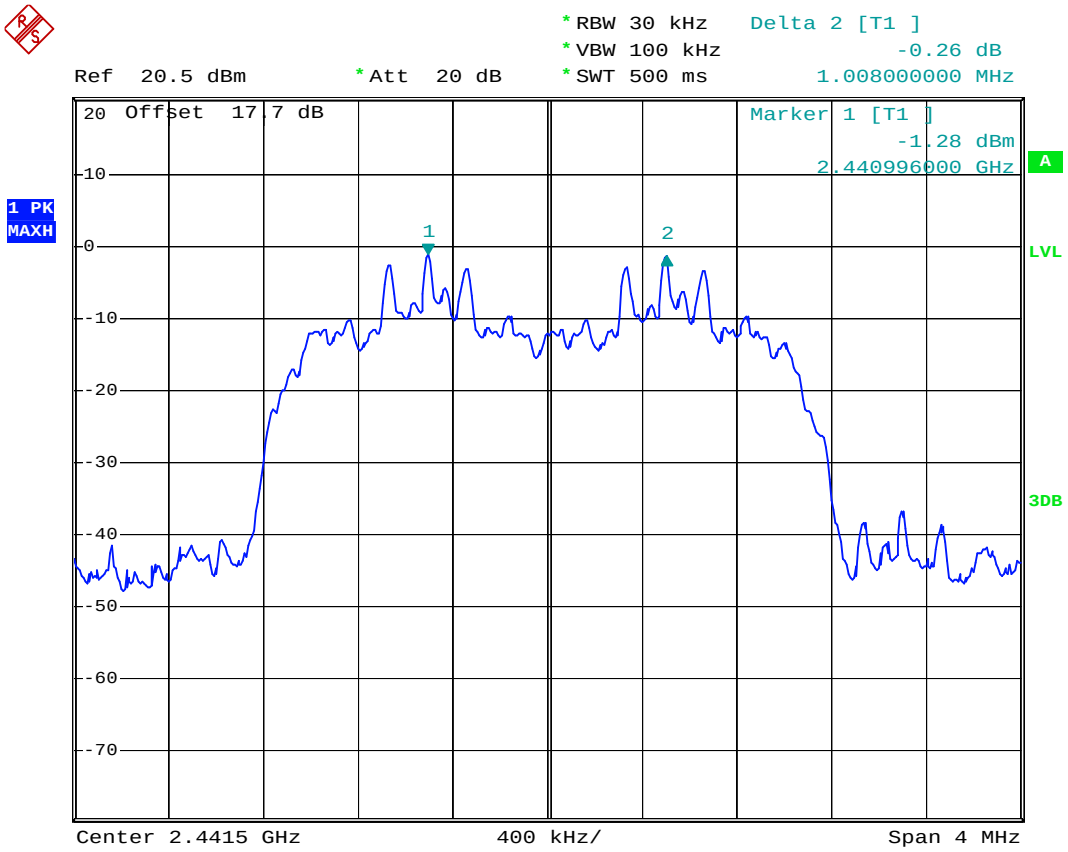
Date: 17.MAR.2008 17:24:27

Mode 4



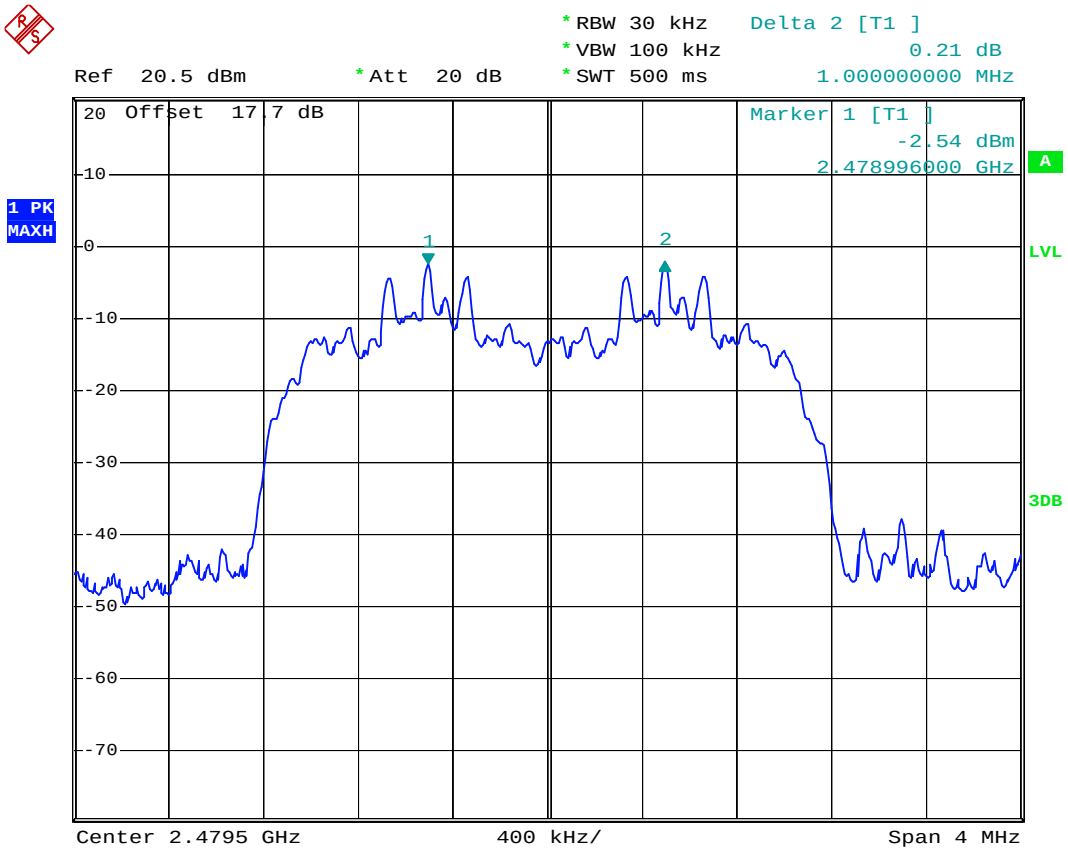
Date: 17.MAR.2008 19:25:29

Mode 5



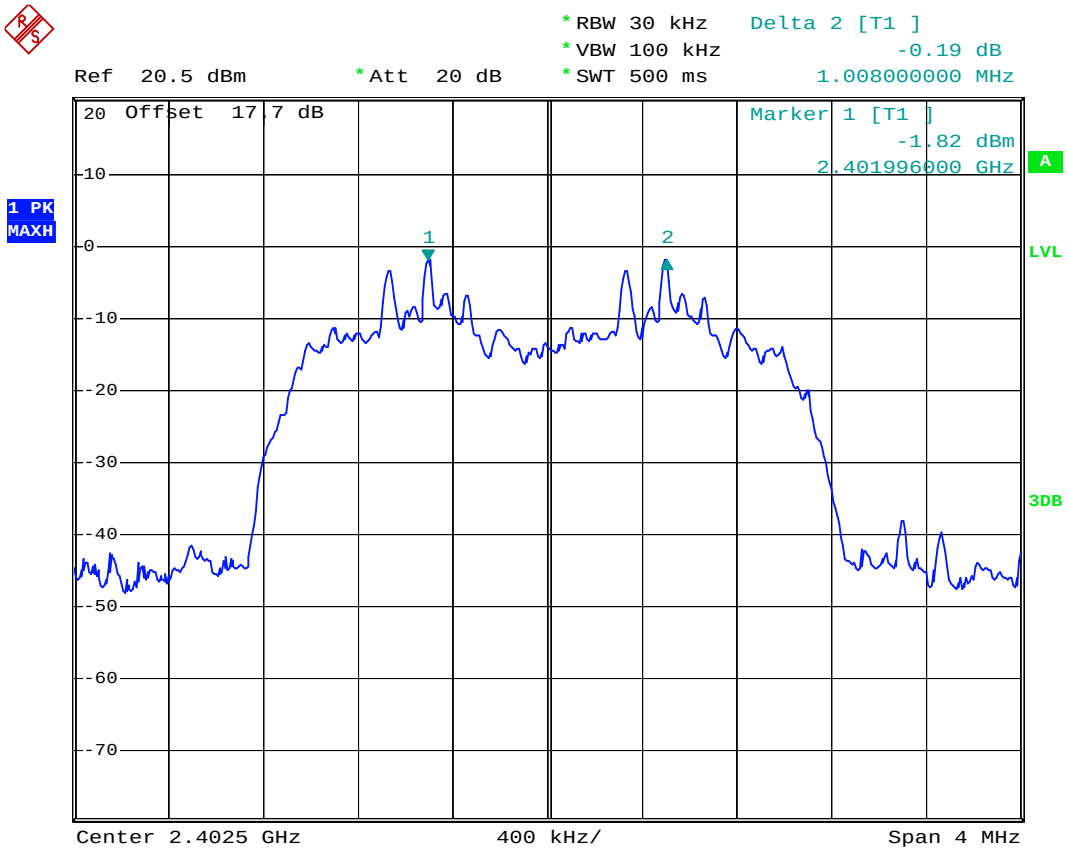
Date: 17.MAR.2008 19:26:35

Mode 6



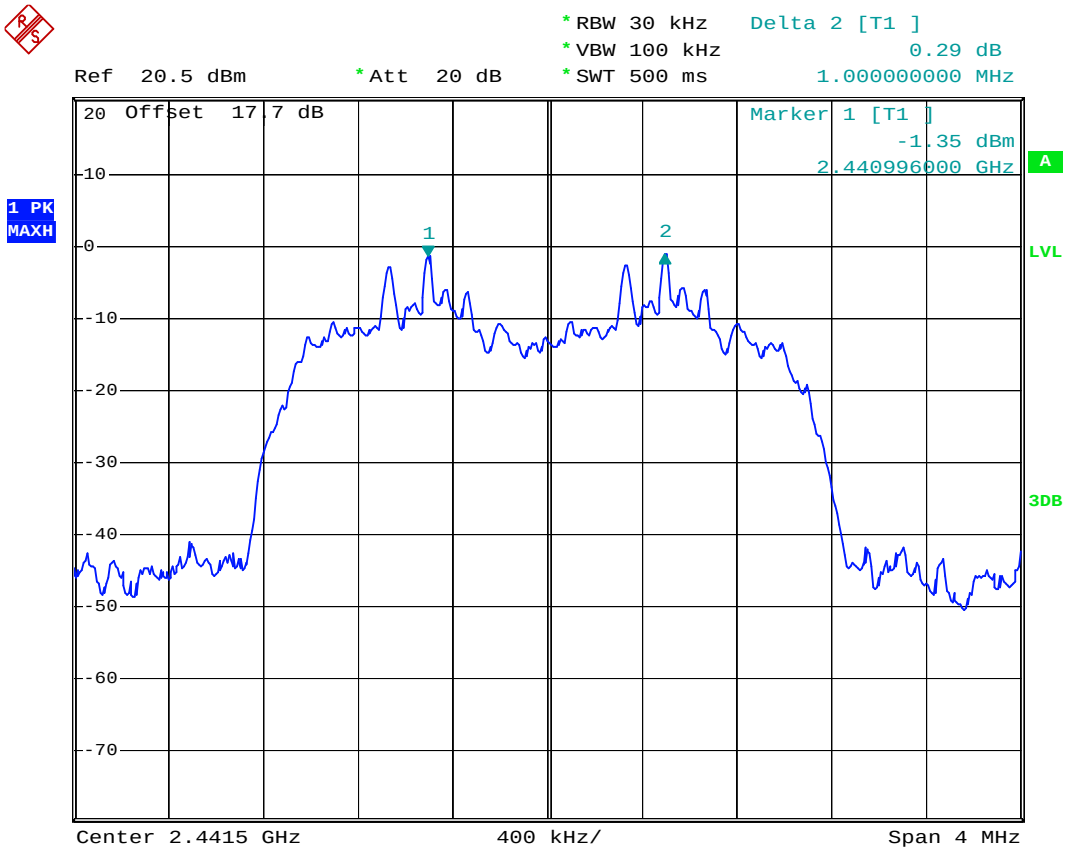
Date: 17.MAR.2008 19:27:27

Mode 7



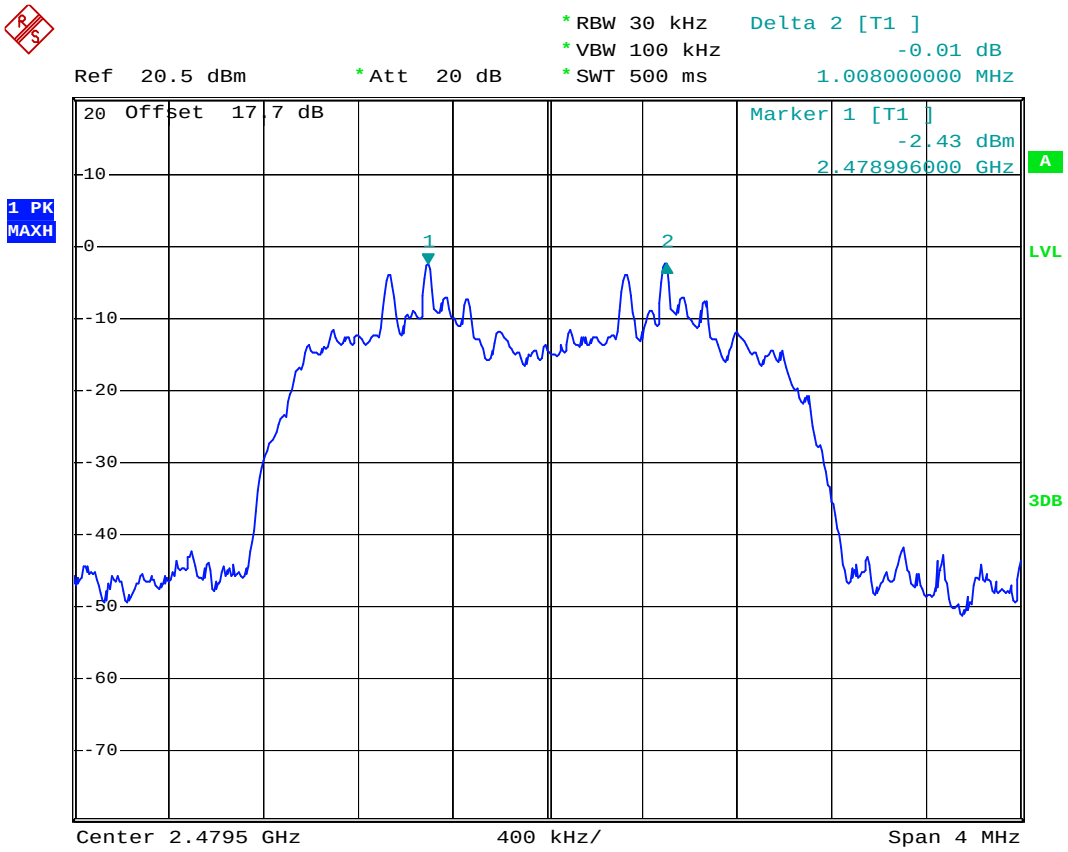
Date: 17.MAR.2008 19:29:11

Mode 8



Date: 17.MAR.2008 19:30:34

Mode 9



Date: 17.MAR.2008 19:32:25

5.4 Number of Hopping Frequency

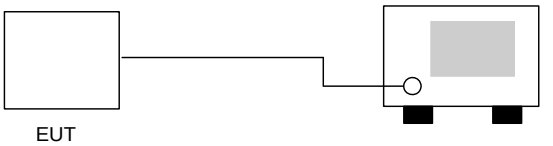
5.4.1 Measuring Instruments

As described in chapter 9 of this test report.

5.4.2 Test Procedure

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

5.4.3 Test Setup Layout



5.4.4 Test Result：See spectrum analyzer plots below

- Application Type : BT
- Temperature : 20~26℃
- Relative Humidity : 49~52%
- Test Enginner : Ken

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

- Application Type : BT EDR(2Mbps)
- Temperature : 20~26℃
- Relative Humidity : 49~52%
- Test Enginner : Ken

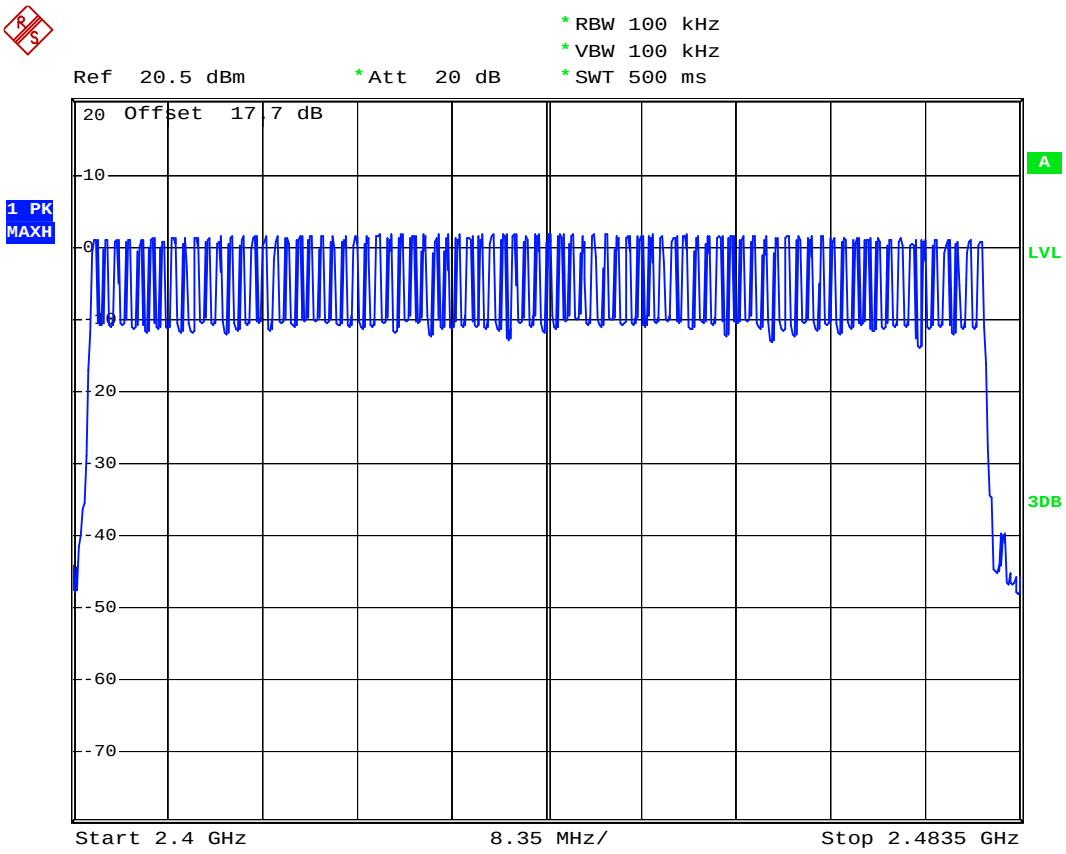
Number of Hopping Frequency (Channel)	Limits (Channel)
79	15

- Application Type : BT EDR(3Mbps)
- Temperature : 20~26℃
- Relative Humidity : 49~52%
- Test Enginner : Ken

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

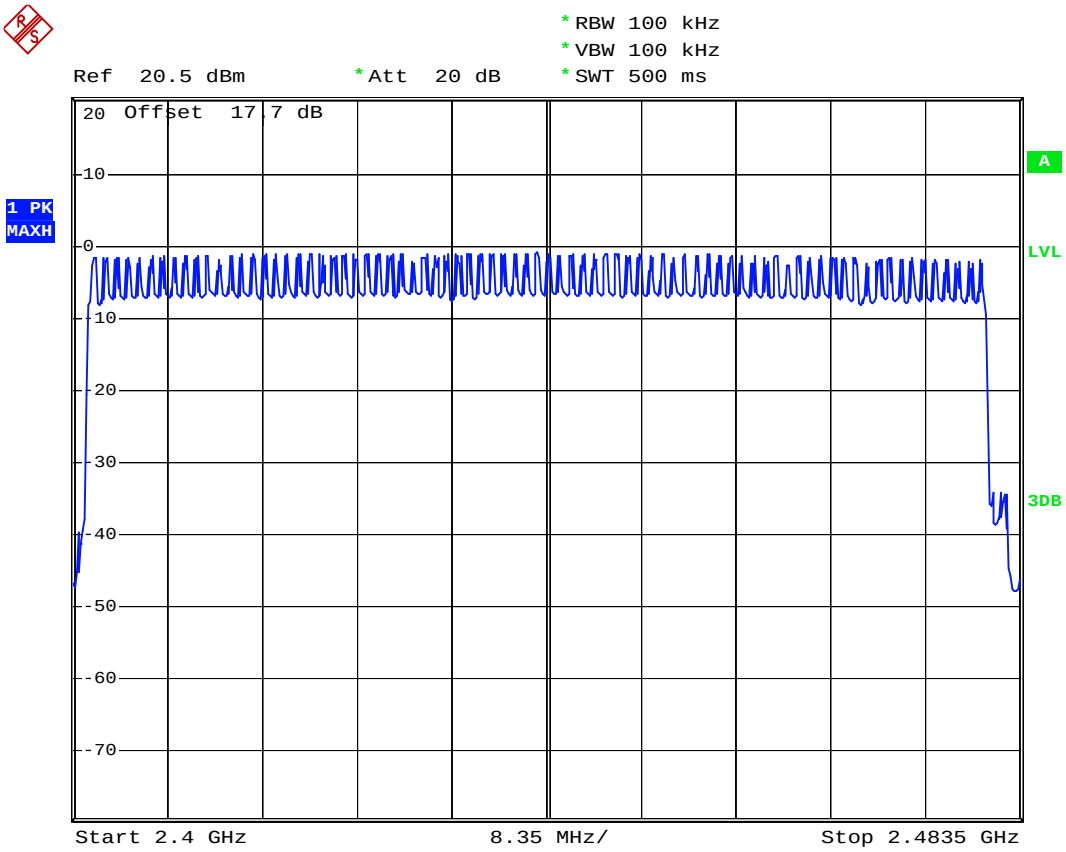
5.4.5 Number of Hopping Frequency

BT



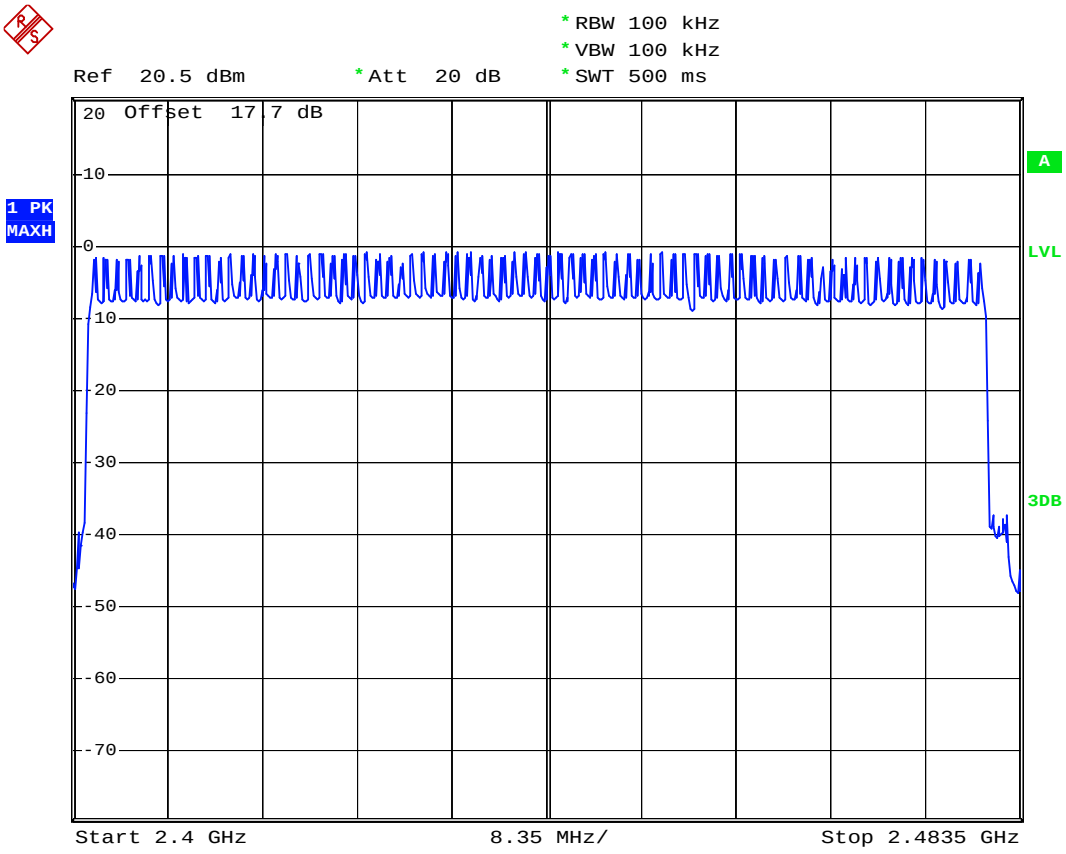
Date: 17.MAR.2008 17:55:44

BT EDR(2Mbps)



Date: 17.MAR.2008 19:51:11

BT EDR(3Mbps)



Date: 17.MAR.2008 19:56:11

5.5 Hopping Channel Bandwidth

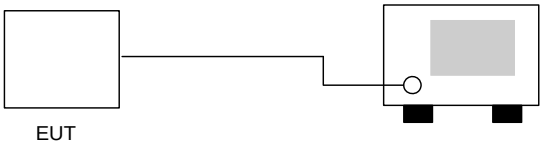
5.5.1 Measuring Instruments

As described in chapter 9 of this test report.

5.5.2 Test Procedure

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

5.5.3 Test Setup Layout



5.5.4 Test Result：See spectrum analyzer plots below

- Application Type : BT
- Temperature : 20~26℃
- Relative Humidity : 49~52%
- Test Enginner : Ken

Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Plot Ref. No.
00	2402	0.868	Mode 1
39	2441	0.872	Mode 2
78	2480	0.870	Mode 3

- Application Type : BT EDR(2Mbps)
- Temperature : 20~26℃
- Relative Humidity : 49~52%
- Test Enginner : Ken

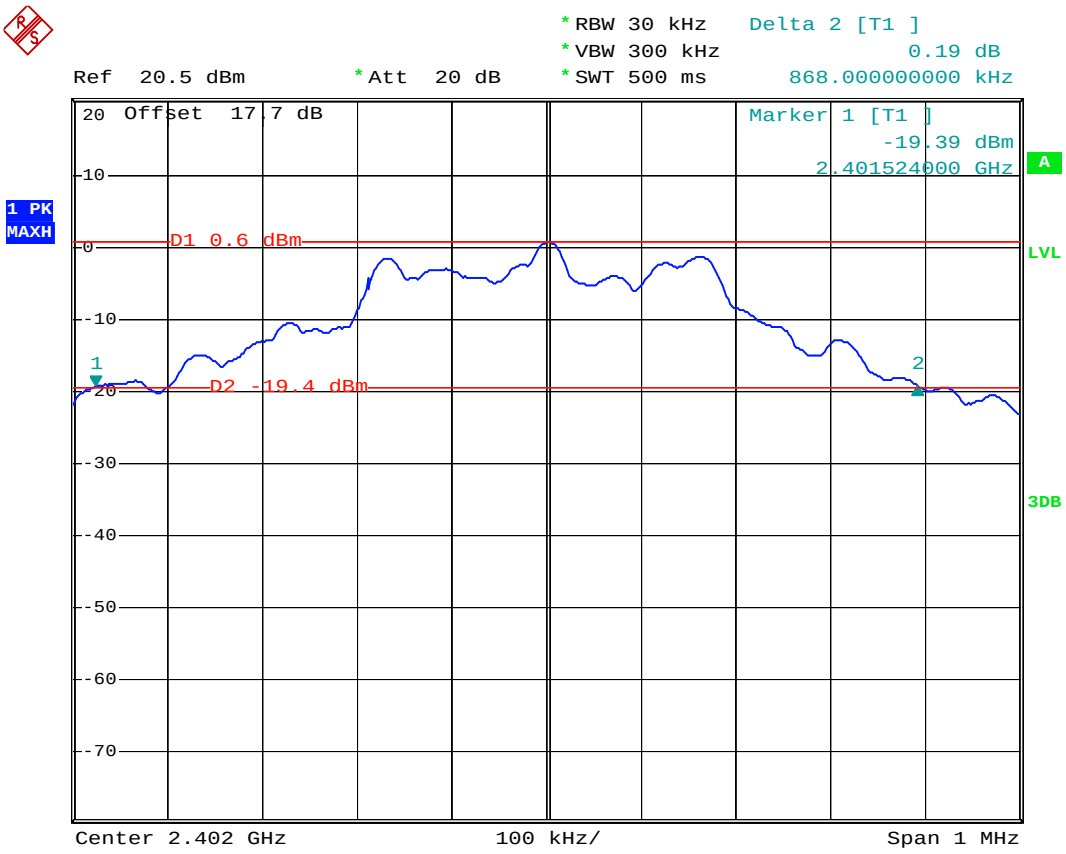
Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Plot Ref. No.
00	2402	1.208	Mode 4
39	2441	1.212	Mode 5
78	2480	1.208	Mode 6

- Application Type : BT EDR(3Mbps)
- Temperature : 20~26℃
- Relative Humidity : 49~52%
- Test Enginner : Ken

Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Plot Ref. No.
00	2402	1.204	Mode 7
39	2441	1.208	Mode 8
78	2480	1.208	Mode 9

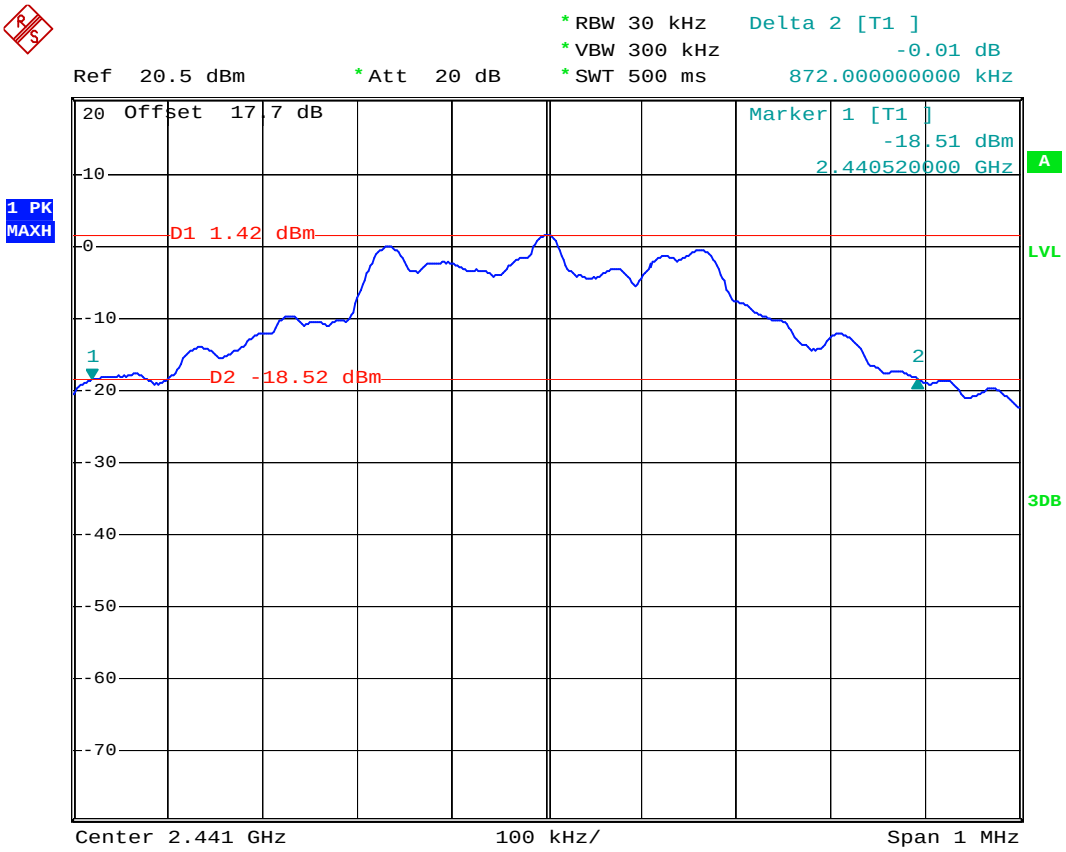
5.5.5 Hopping Channel Bandwidth

Mode 1

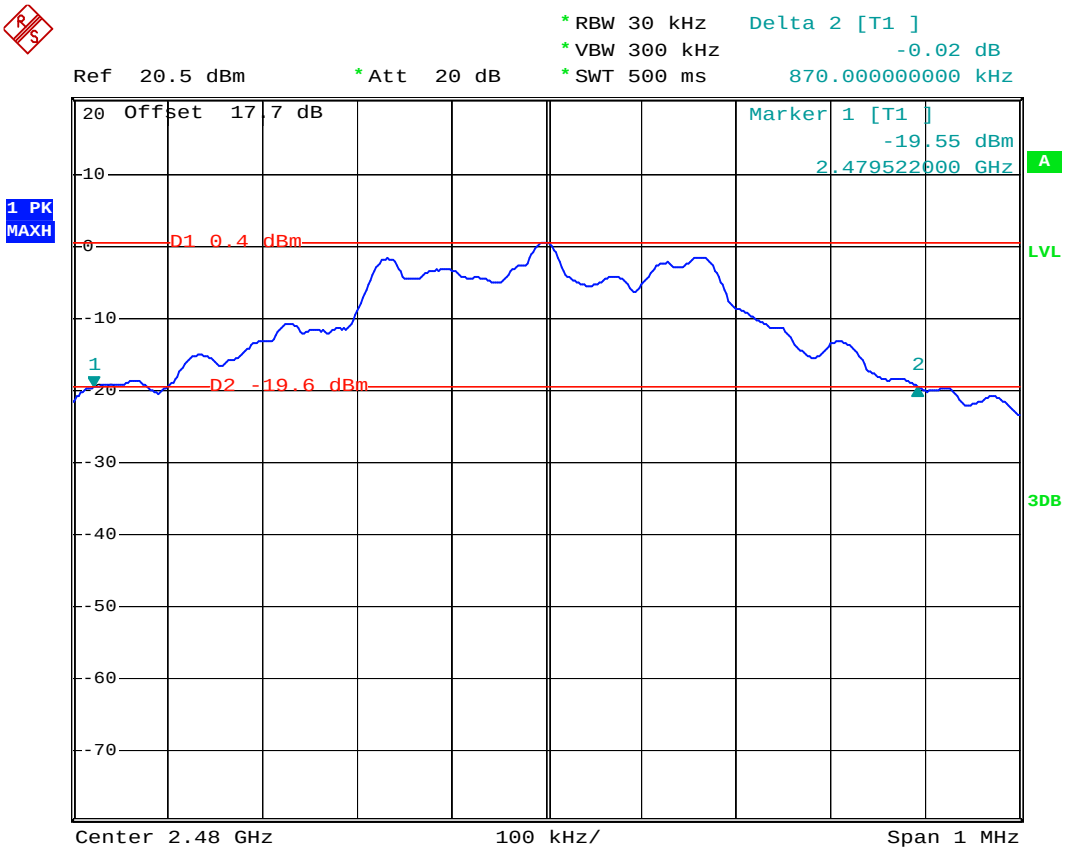


Date: 17.MAR.2008 20:10:15

Mode 2

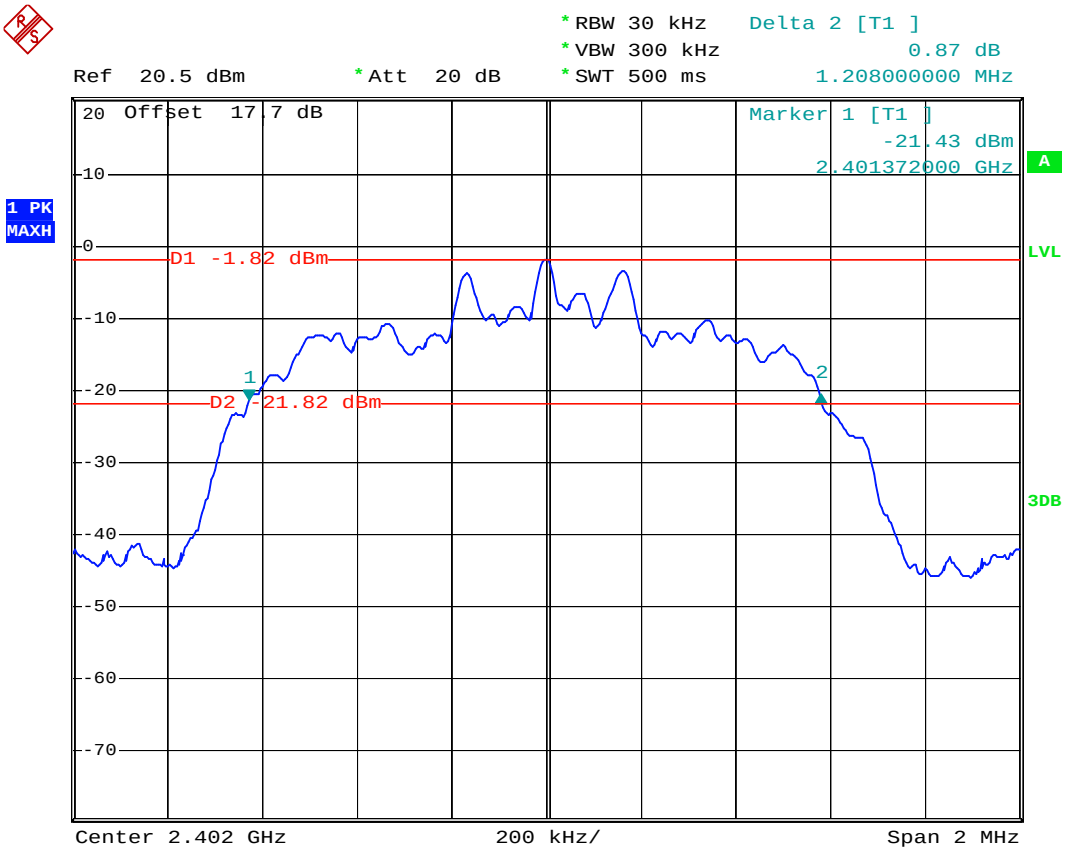

RBW 30 kHz
VBW 300 kHz
SWT 500 ms
Delta 2 [T1]
-0.01 dB
872.000000000 kHz
Ref 20.5 dBm
Att 20 dB
Offset 17.7 dB
Marker 1 [T1]
-18.51 dBm
2.440520000 GHz
1 PK
MAXH
A
LVL
3DB
D1 1.42 dBm
D2 -18.52 dBm
Center 2.441 GHz
100 kHz/
Span 1 MHz
Date: 17.MAR.2008 17:19:35

Mode 3



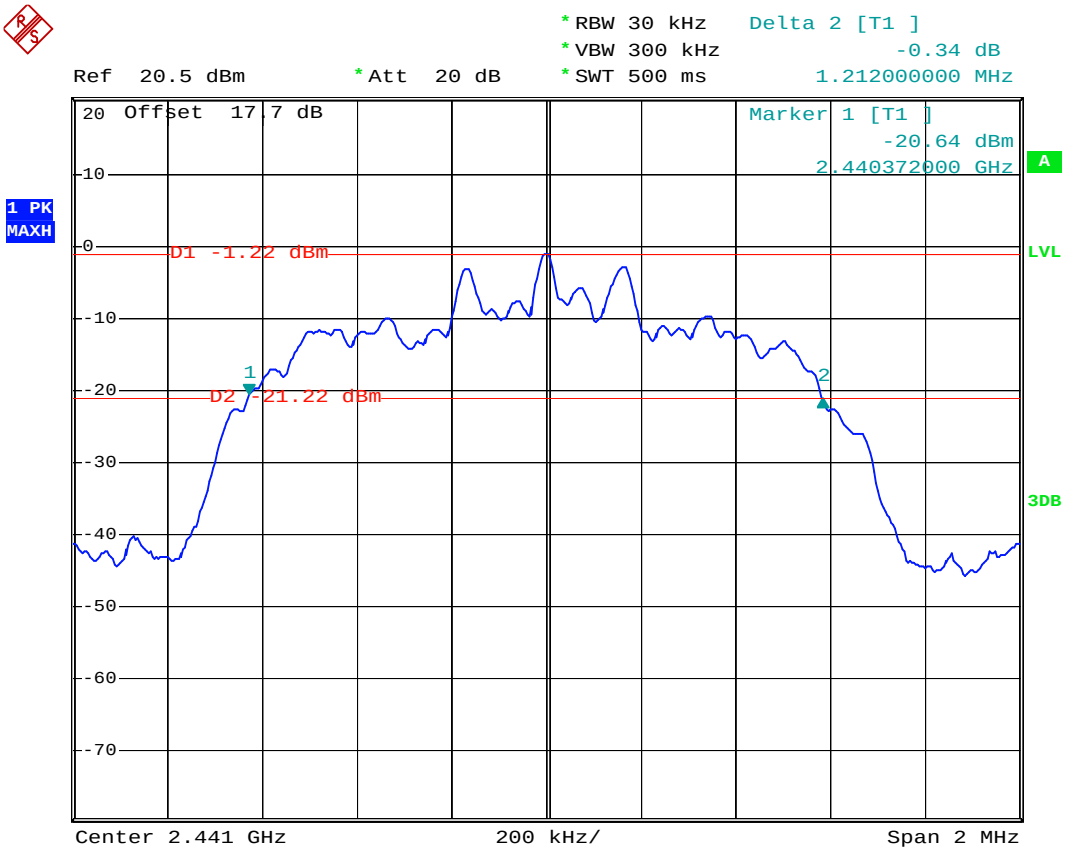
Date: 17.MAR.2008 17:20:47

Mode 4



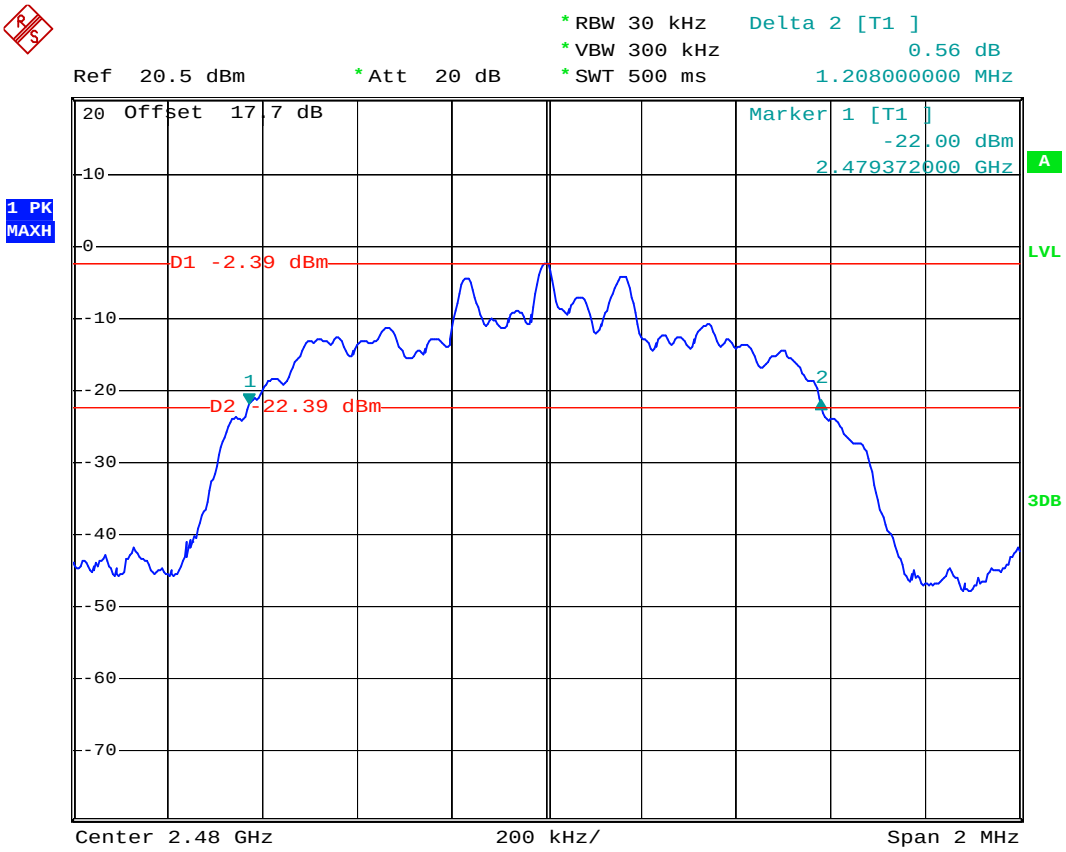
Date: 17.MAR.2008 19:00:06

Mode 5

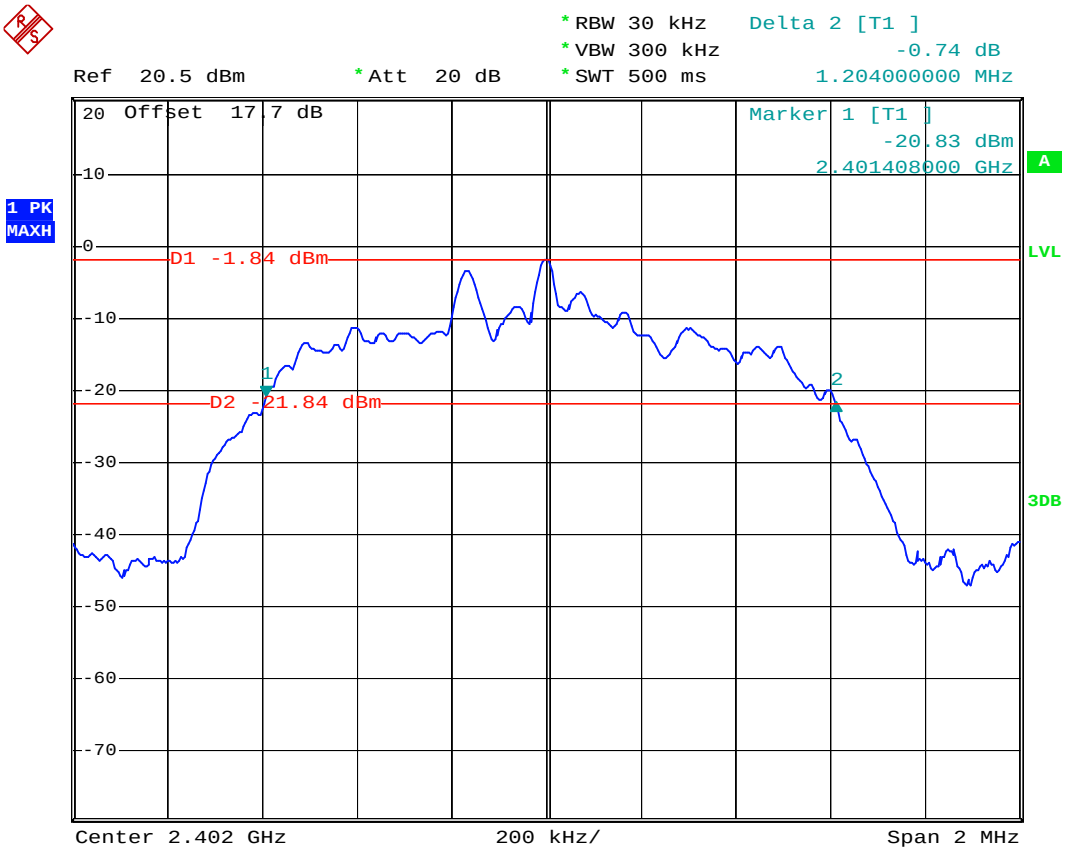


Date: 17.MAR.2008 19:09:11

Mode 6

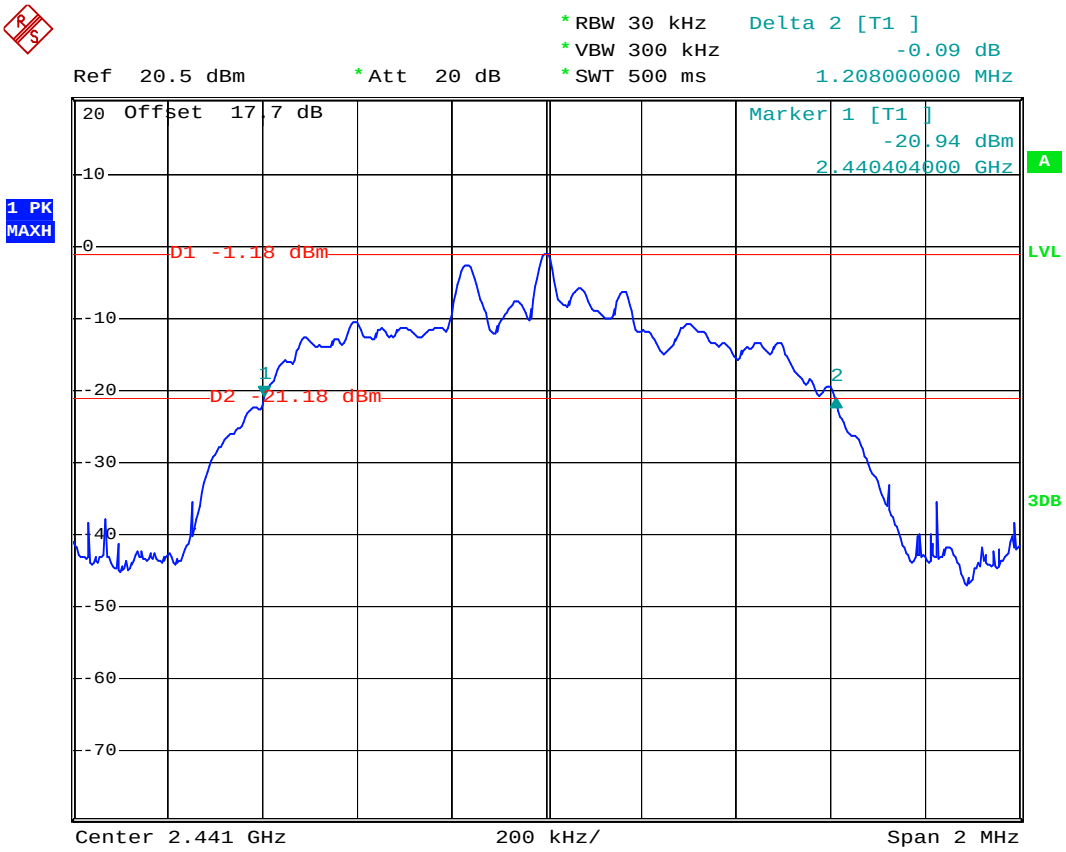

RBW 30 kHz
VBW 300 kHz
SWT 500 ms
Delta 2 [T1]
0.56 dB
1.208000000 MHz
Ref 20.5 dBm
Att 20 dB
Offset 17.7 dB
Marker 1 [T1]
-22.00 dBm
2.479372000 GHz
1 PK
MAXH
A
LVL
3DB
D1 -2.39 dBm
D2 -22.39 dBm
Center 2.48 GHz
200 kHz/
Span 2 MHz
Date: 17.MAR.2008 19:11:43

Mode 7



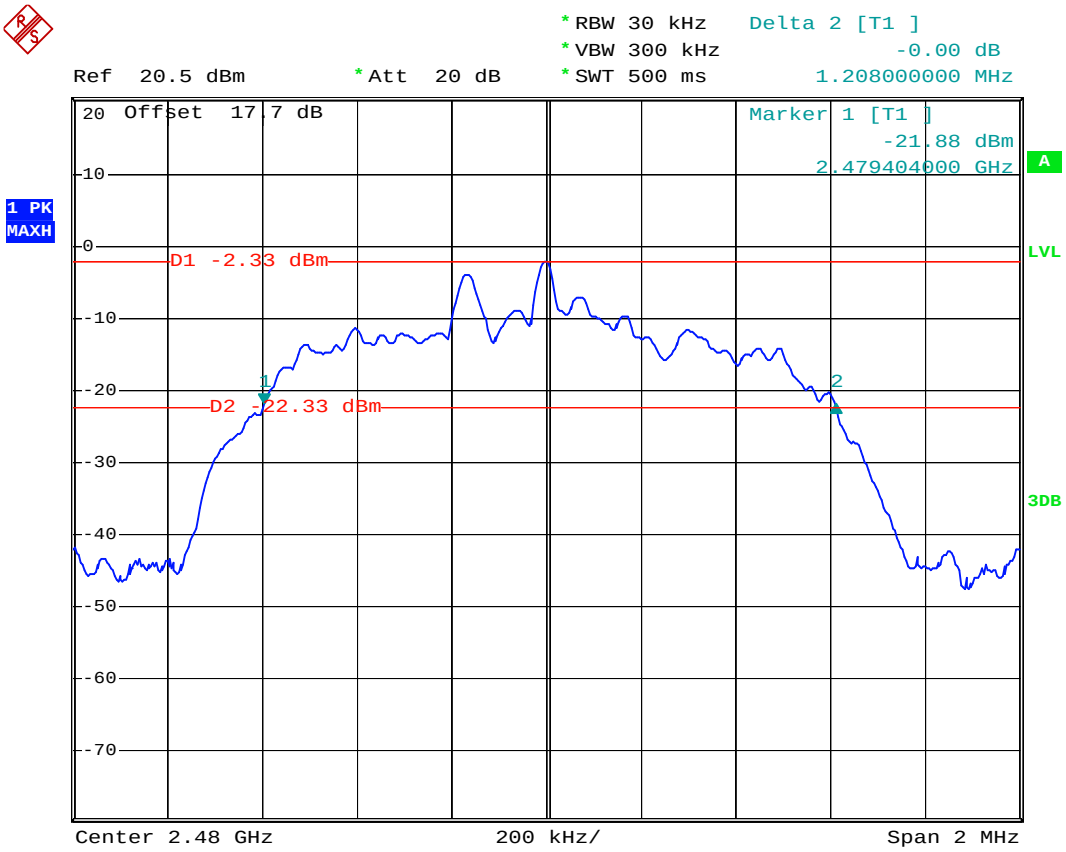
Date: 17.MAR.2008 19:13:17

Mode 8



Date: 17.MAR.2008 19:16:24

Mode 9



Date: 17.MAR.2008 20:08:12

5.6 Dwell Time of Each Frequency

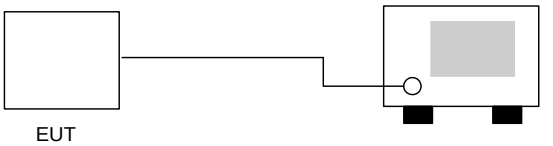
5.6.1 Measuring Instruments

As described in chapter 9 of this test report.

5.6.2 Test Procedure

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

5.6.3 Test Setup Layout



5.6.4 Test Result：See spectrum analyzer plots below

- Application Type : BT
- Temperature : 20~26℃
- Relative Humidity : 49~52%
- Test Enginner : Ken

CH39

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	9.7	440	0.135	0.4
DH3	4.8	1720	0.261	0.4
DH5	3.6	2980	0.339	0.4

- Application Type : BT EDR(2Mbps)
- Temperature : 20~26℃
- Relative Humidity : 49~52%
- Test Enginner : Ken

CH39

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	8.5	456	0.122	0.4
DH3	4	1730	0.219	0.4
DH5	3.2	2980	0.301	0.4

- Application Type : BT EDR(3Mbps)
- Temperature : 20~26℃
- Relative Humidity : 49~52%
- Test Enginner : Ken

CH39

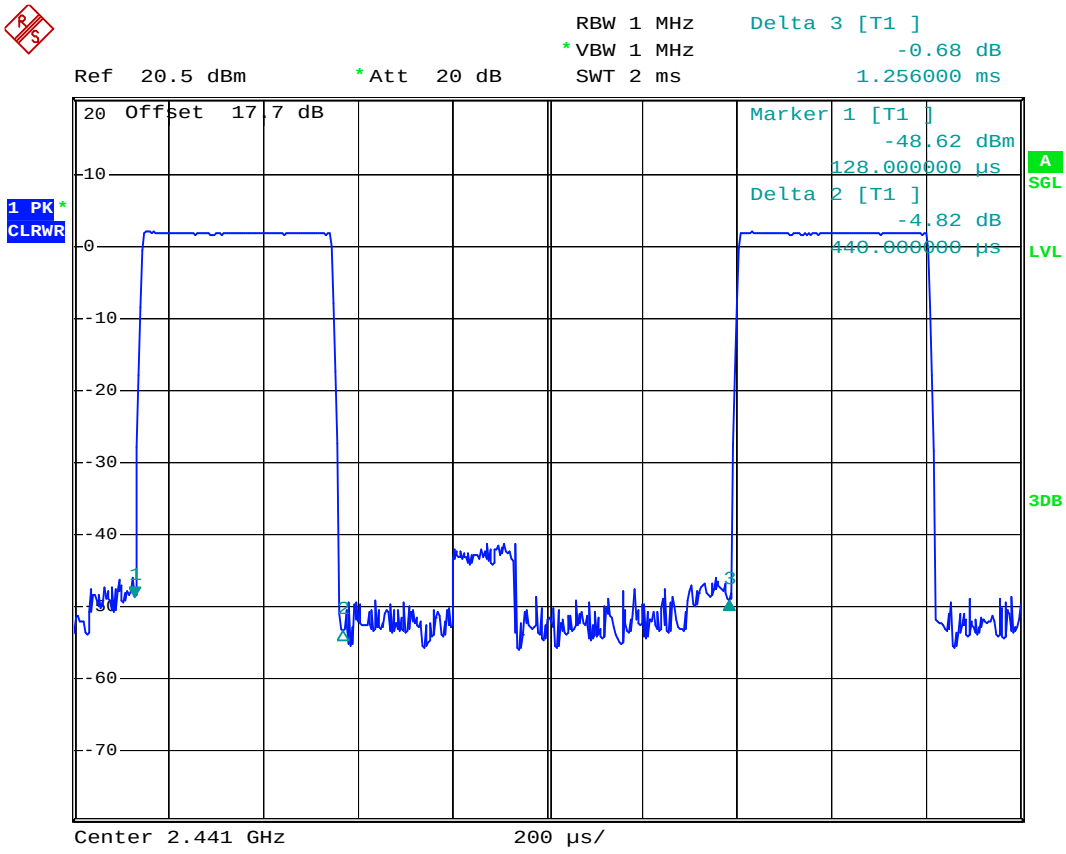
Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	8.8	456	0.127	0.4
DH3	4.8	1740	0.264	0.4
DH5	2.9	3000	0.275	0.4

※ Remark:

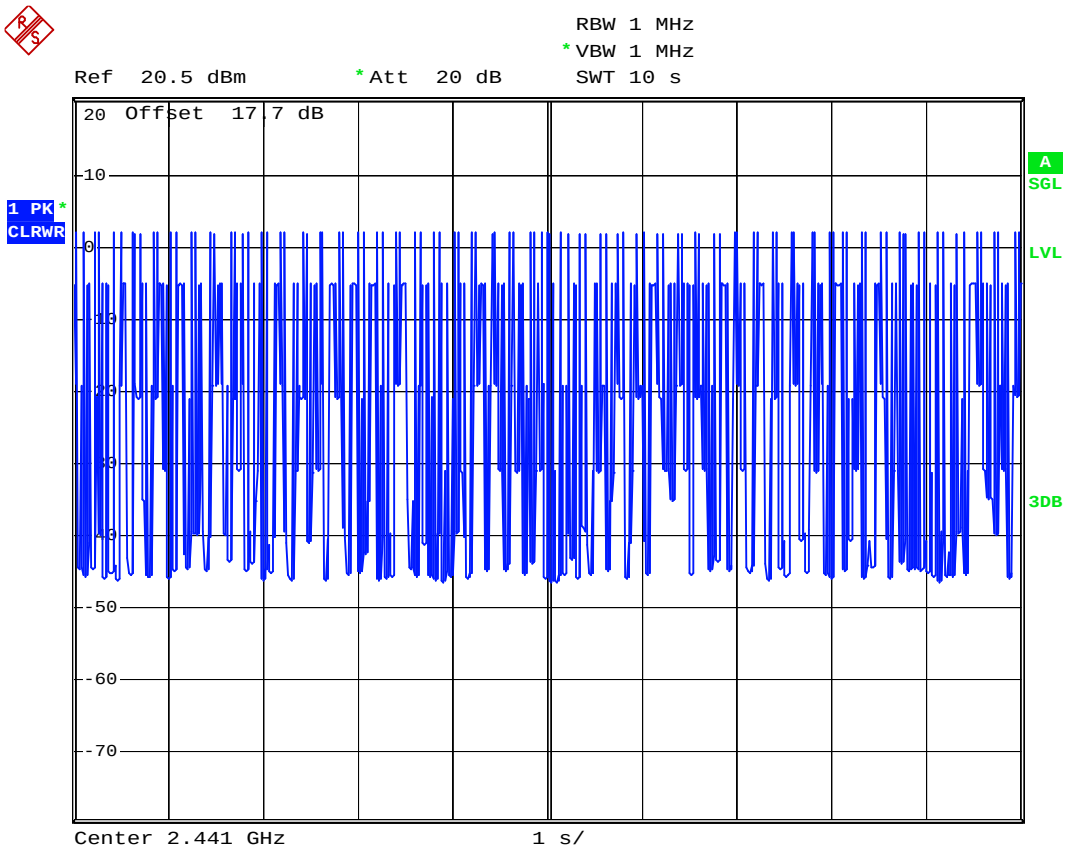
1. Dwell Time=79(channels) x 0.4(s) x average hopping channel x package transfer time
2. 79 channels come from the Hopping Channel number.
3. Average Hopping Channel = hops/sweep time
4. t: Package Transfer Time(us)

5.6.5 Dwell Time

DH1 (CH39)

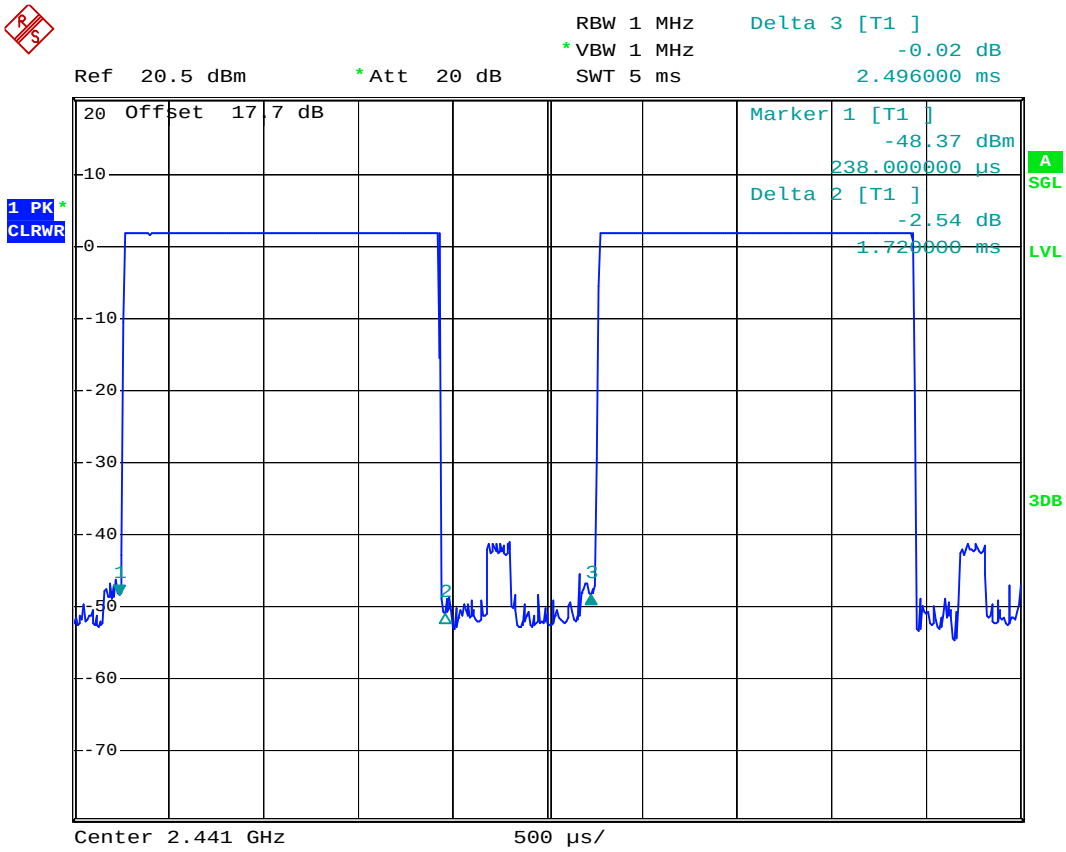


Date: 17.MAR.2008 17:47:12

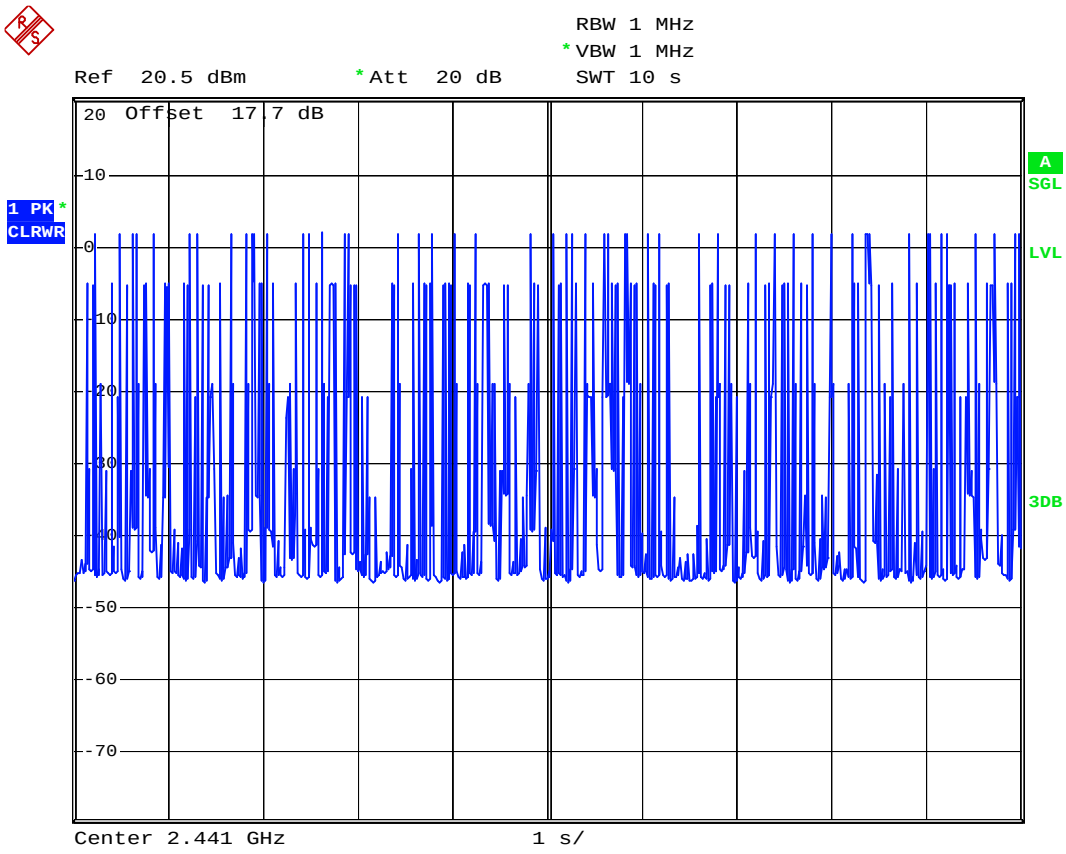


Date: 17.MAR.2008 17:49:08

DH3 (CH39)

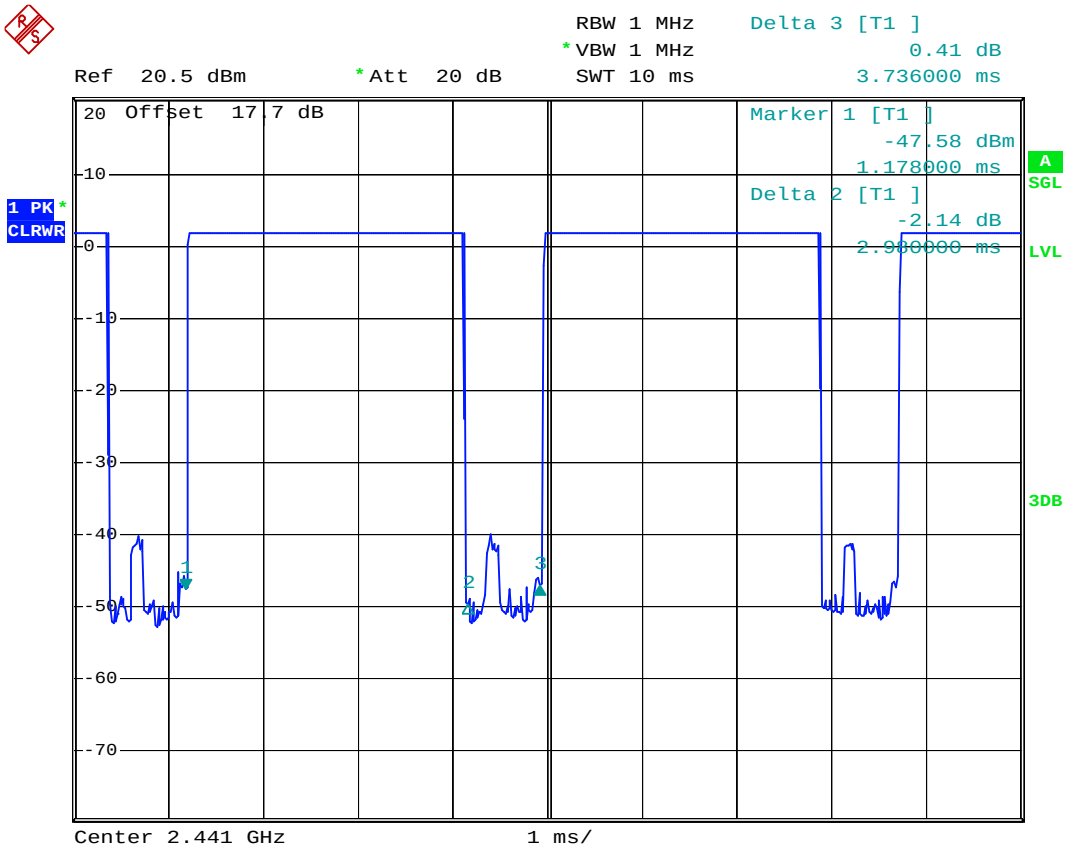


Date: 17.MAR.2008 17:47:46

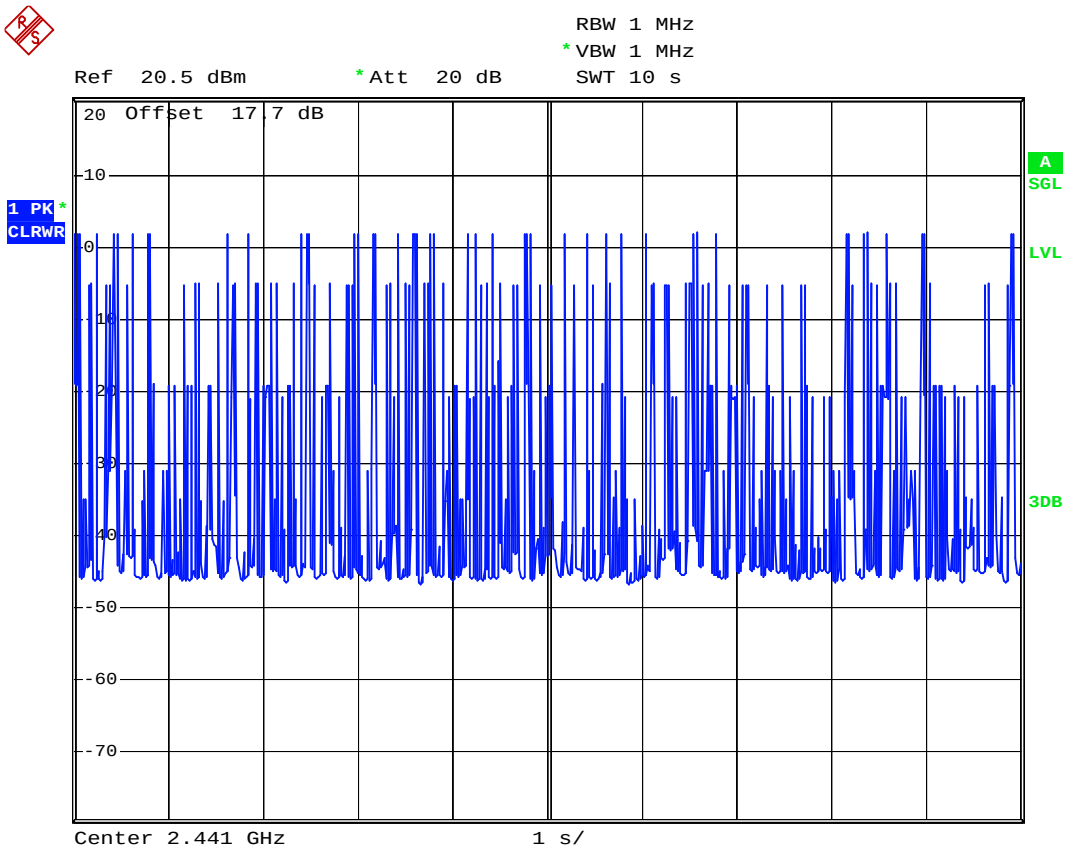


Date: 17.MAR.2008 17:49:49

DH5 (CH39)

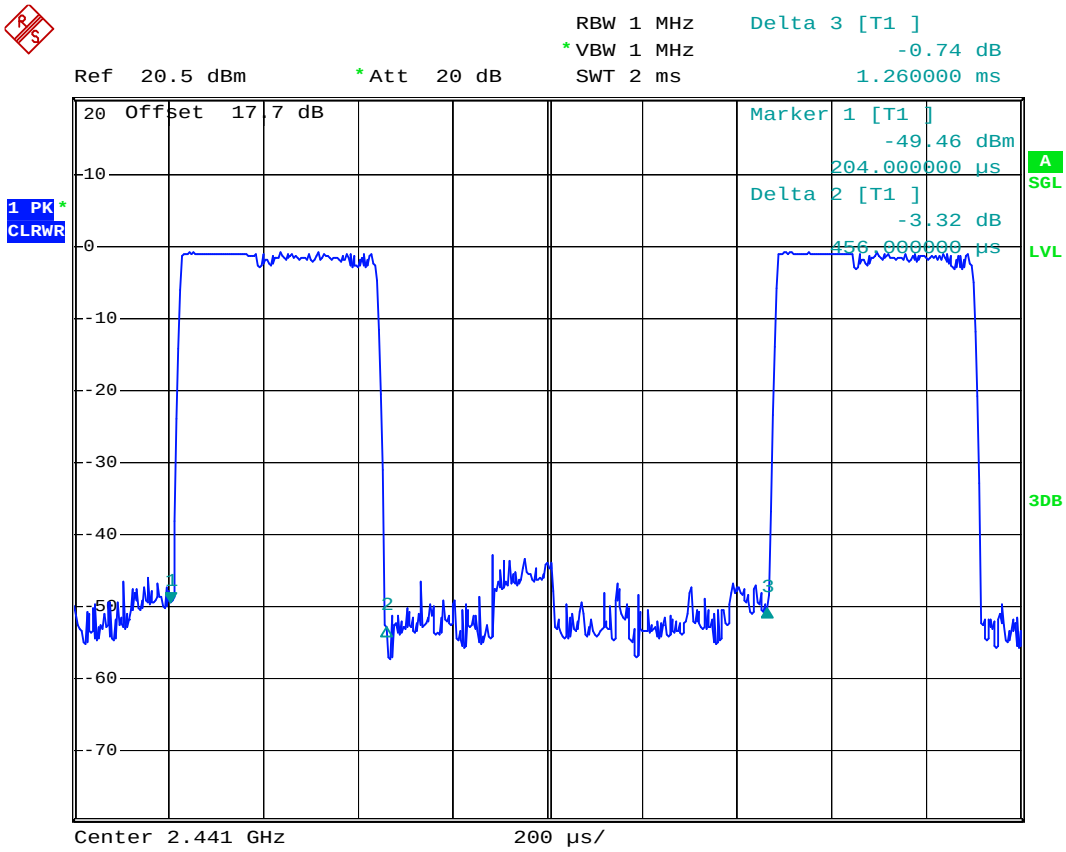


Date: 17.MAR.2008 17:48:22

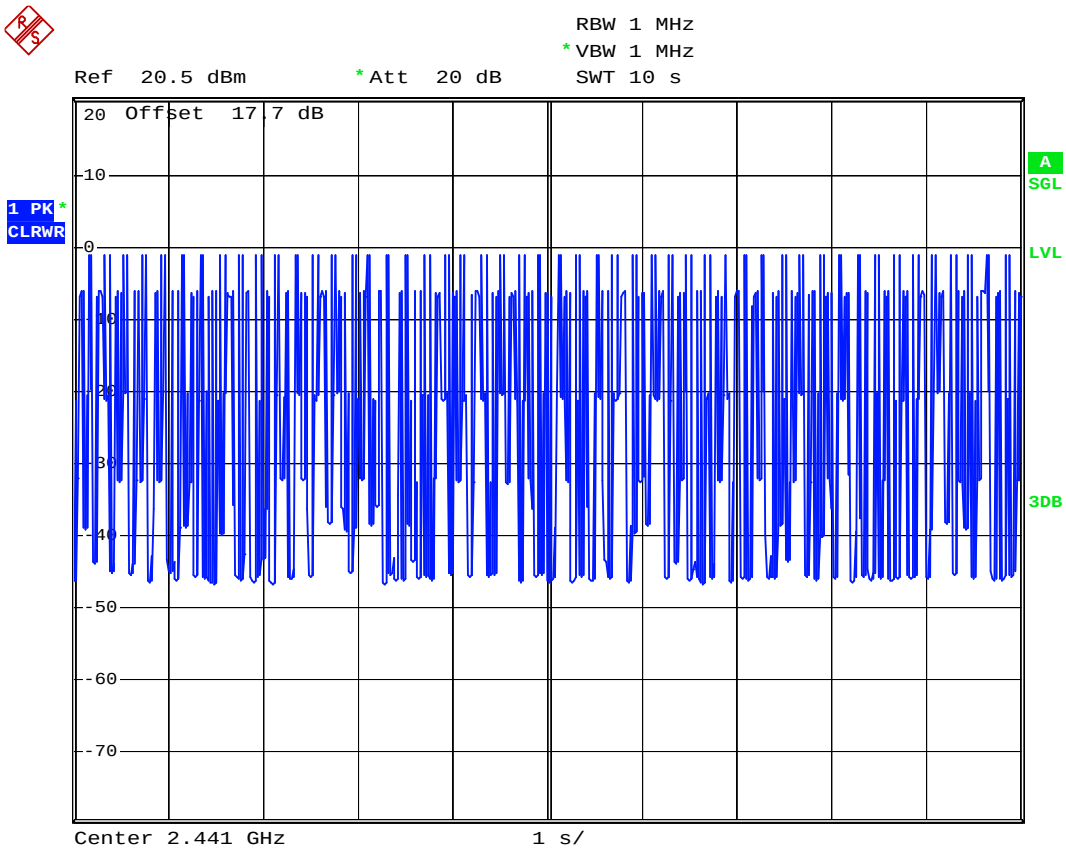


Date: 17.MAR.2008 17:50:10

2DH1 (CH39)

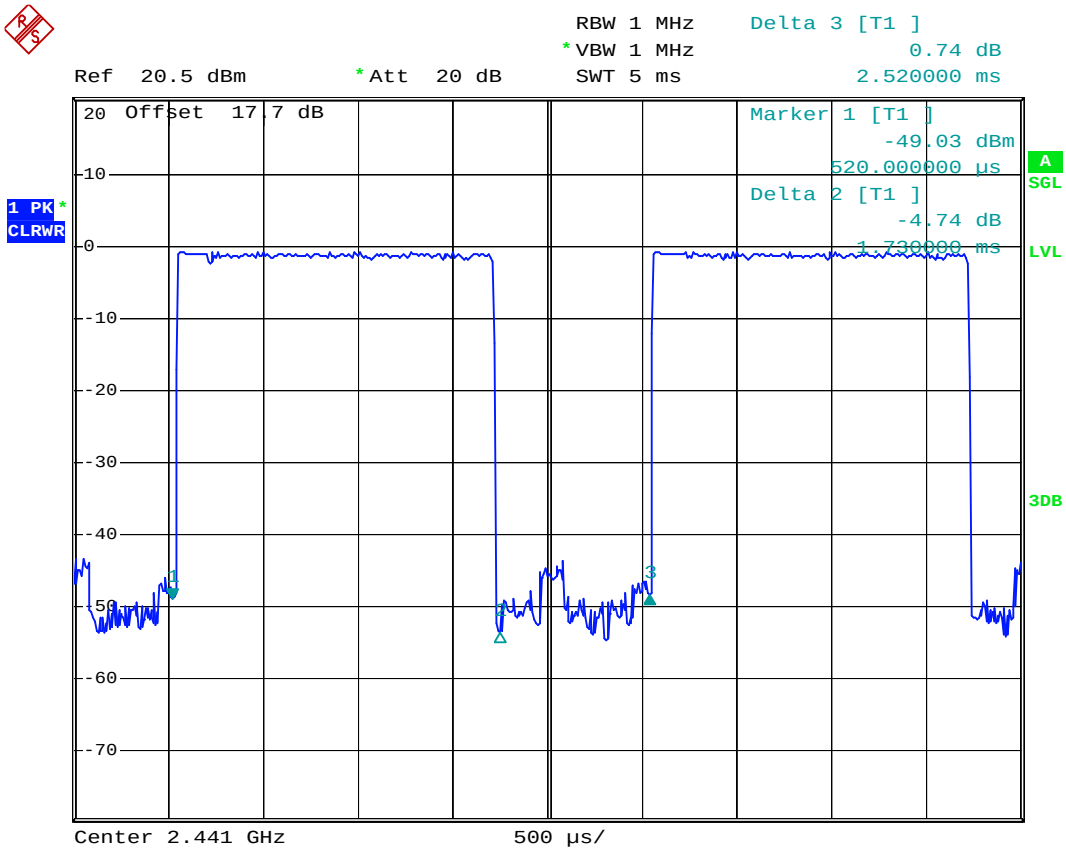


Date: 17.MAR.2008 19:34:37

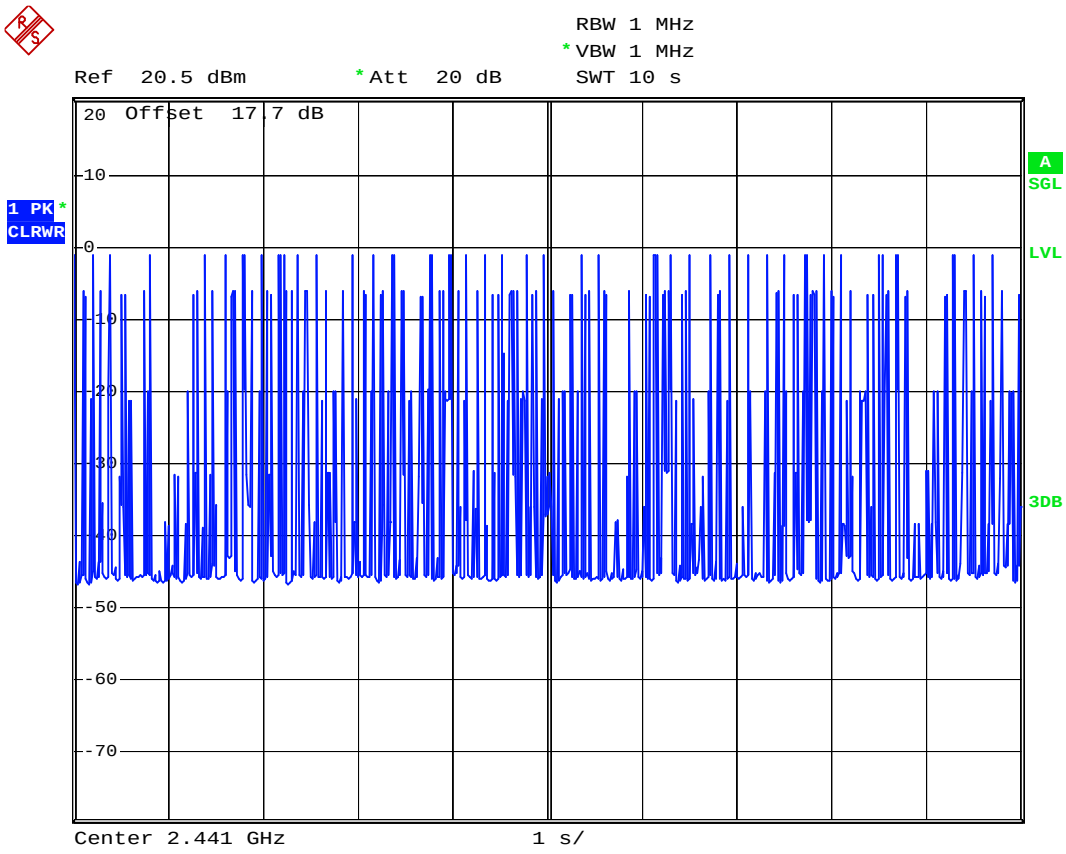


Date: 17.MAR.2008 19:41:03

2 DH3 (CH39)

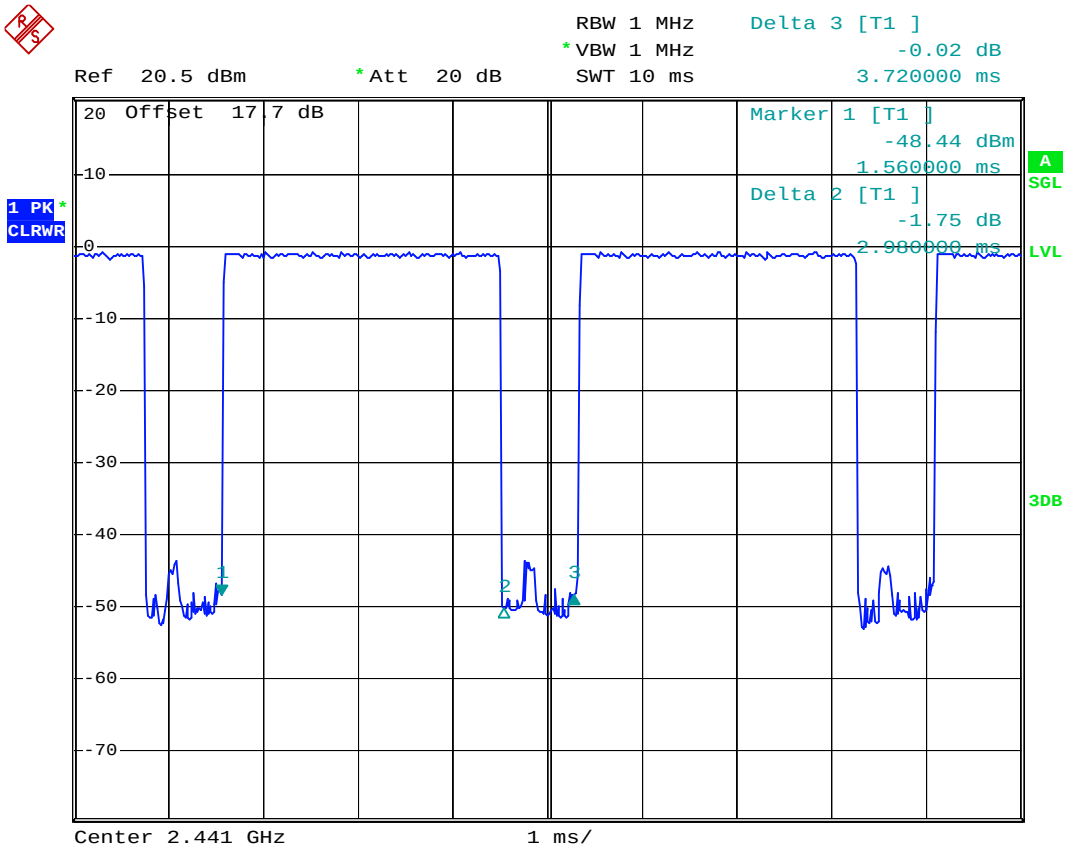


Date: 17.MAR.2008 19:36:24

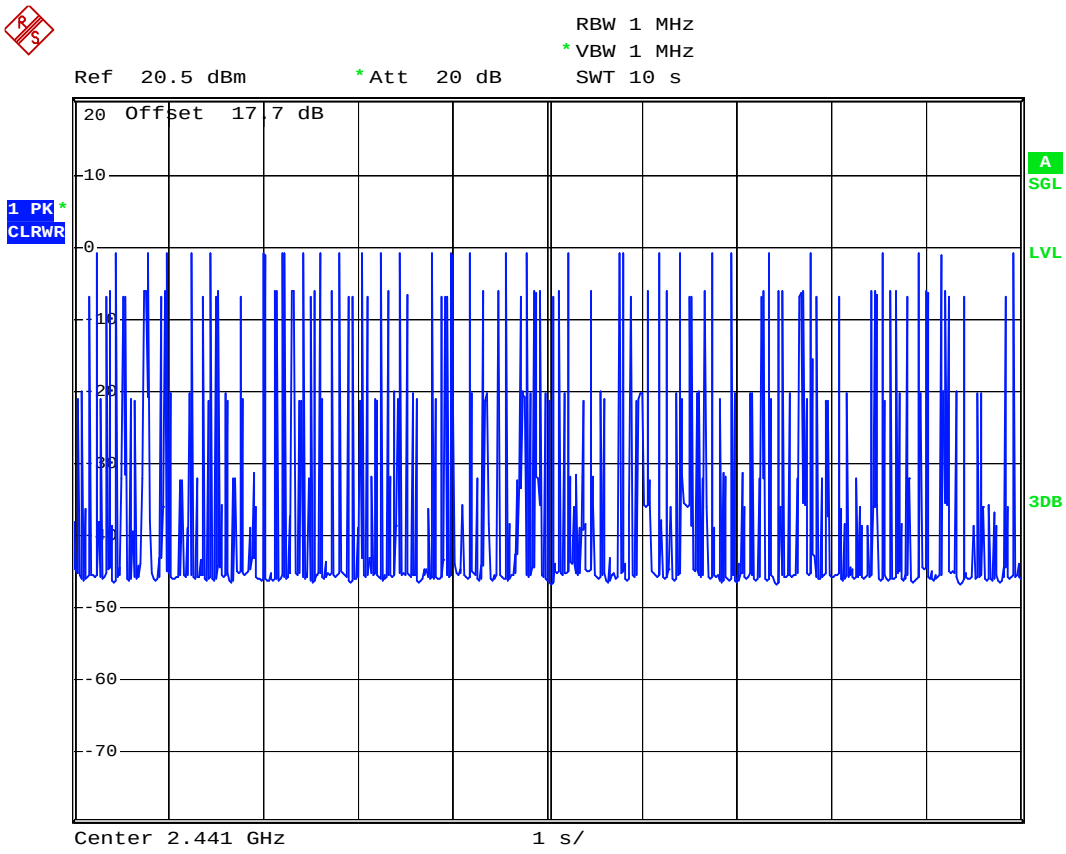


Date: 17.MAR.2008 19:42:09

2 DH5 (CH39)

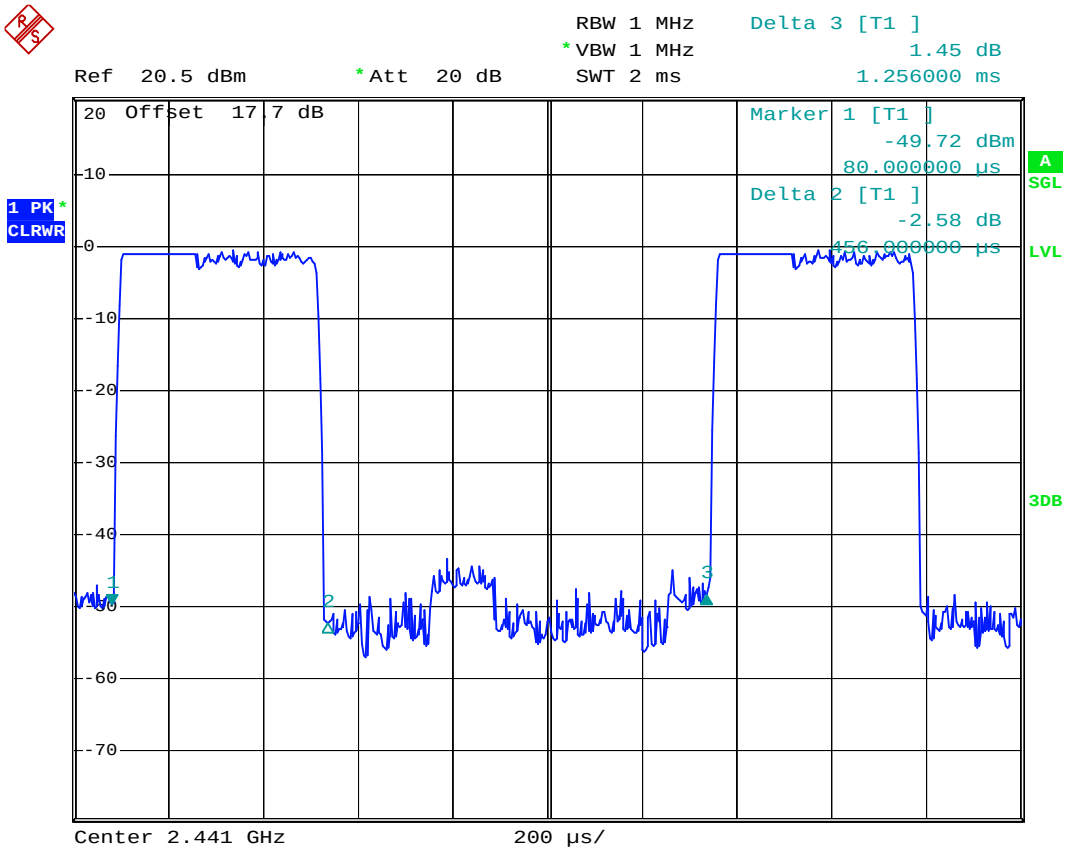


Date: 17.MAR.2008 19:38:06

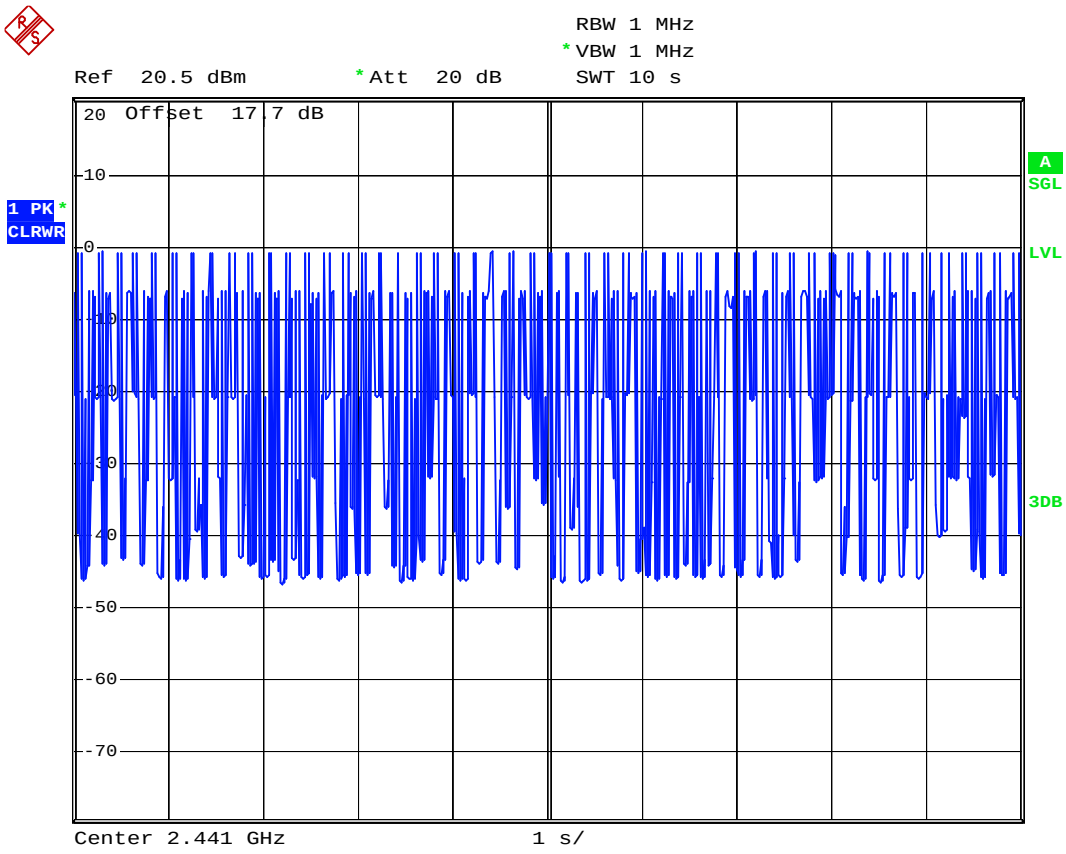


Date: 17.MAR.2008 19:42:57

3DH1 (CH39)

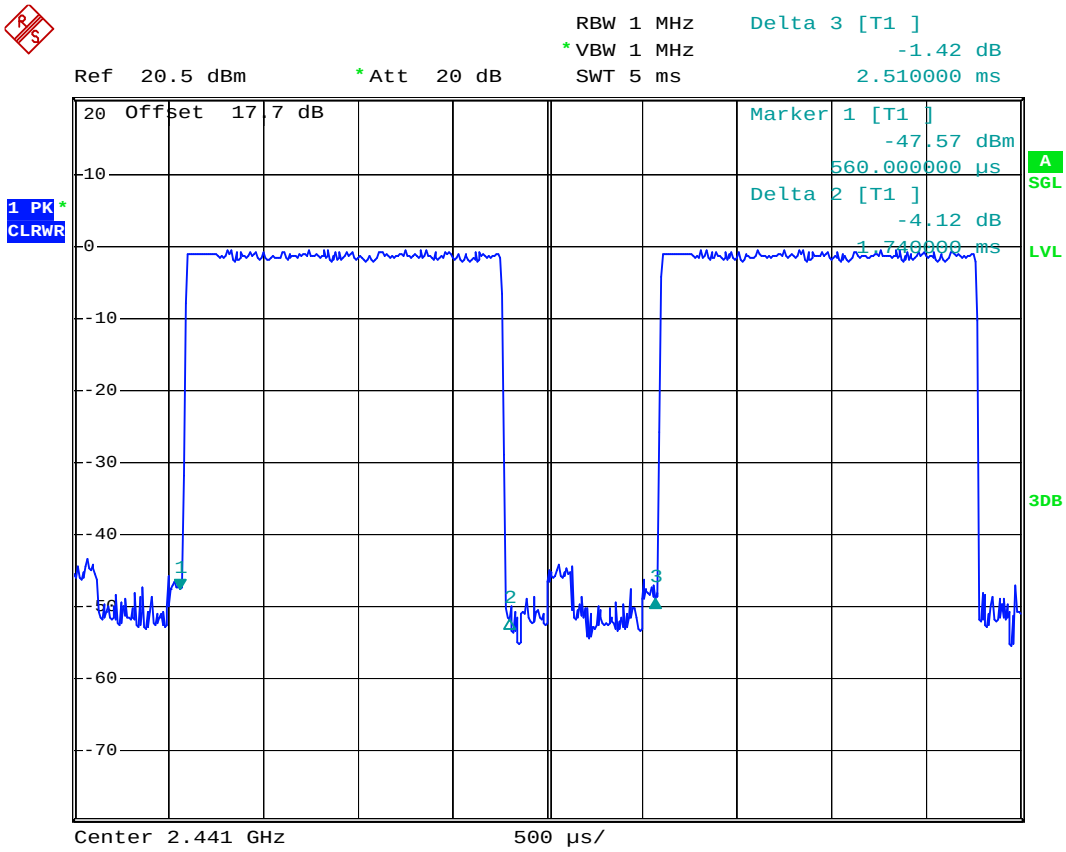


Date: 17.MAR.2008 19:38:52

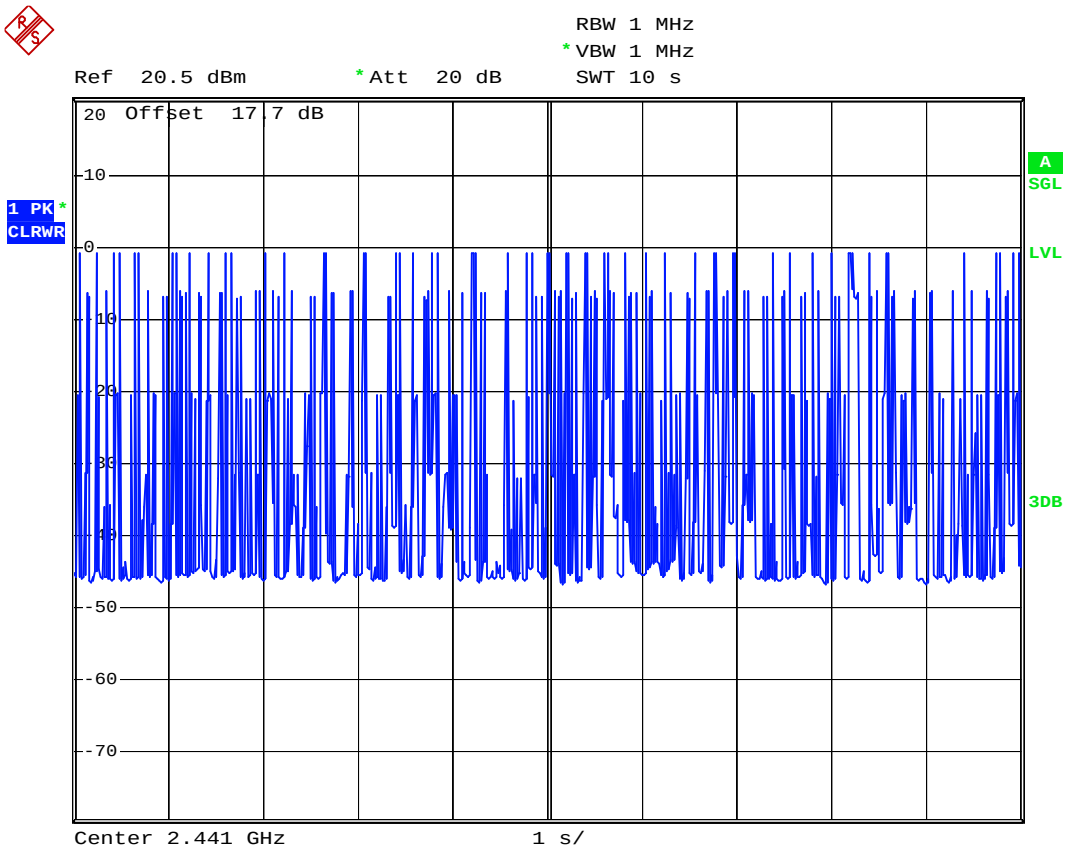


Date: 17.MAR.2008 19:43:31

3DH3 (CH39)

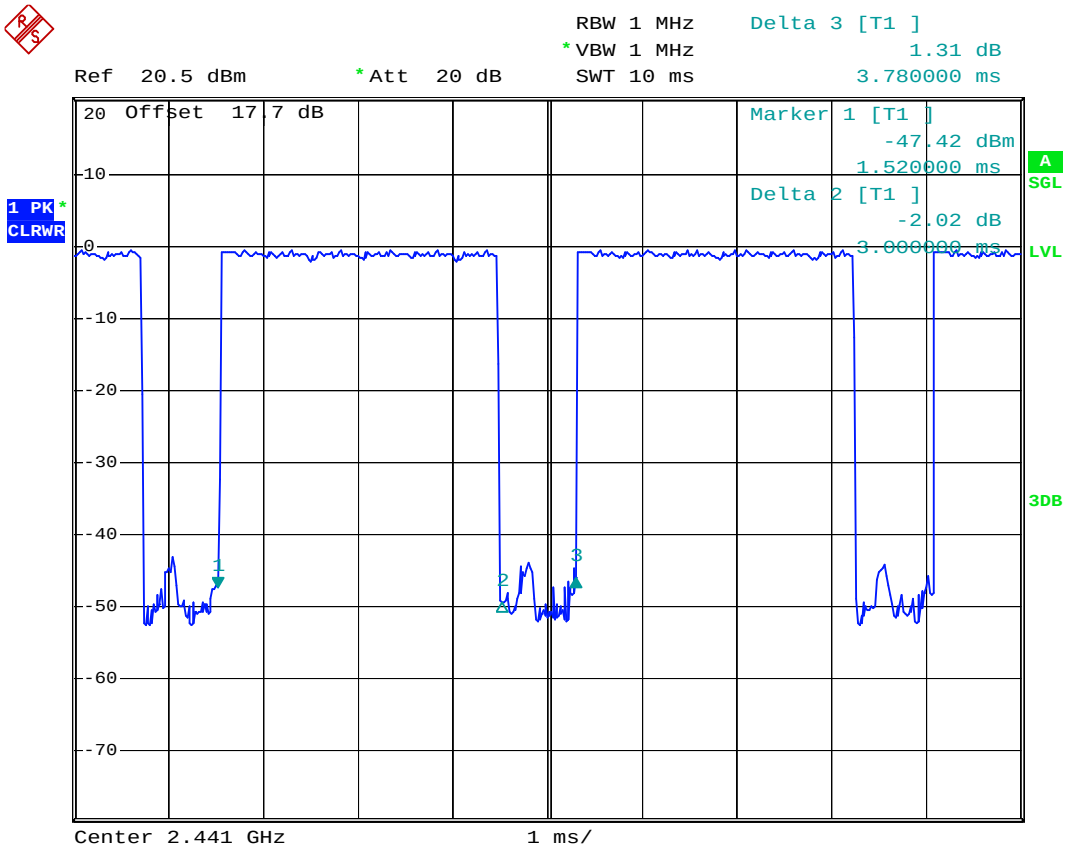


Date: 17.MAR.2008 19:39:28

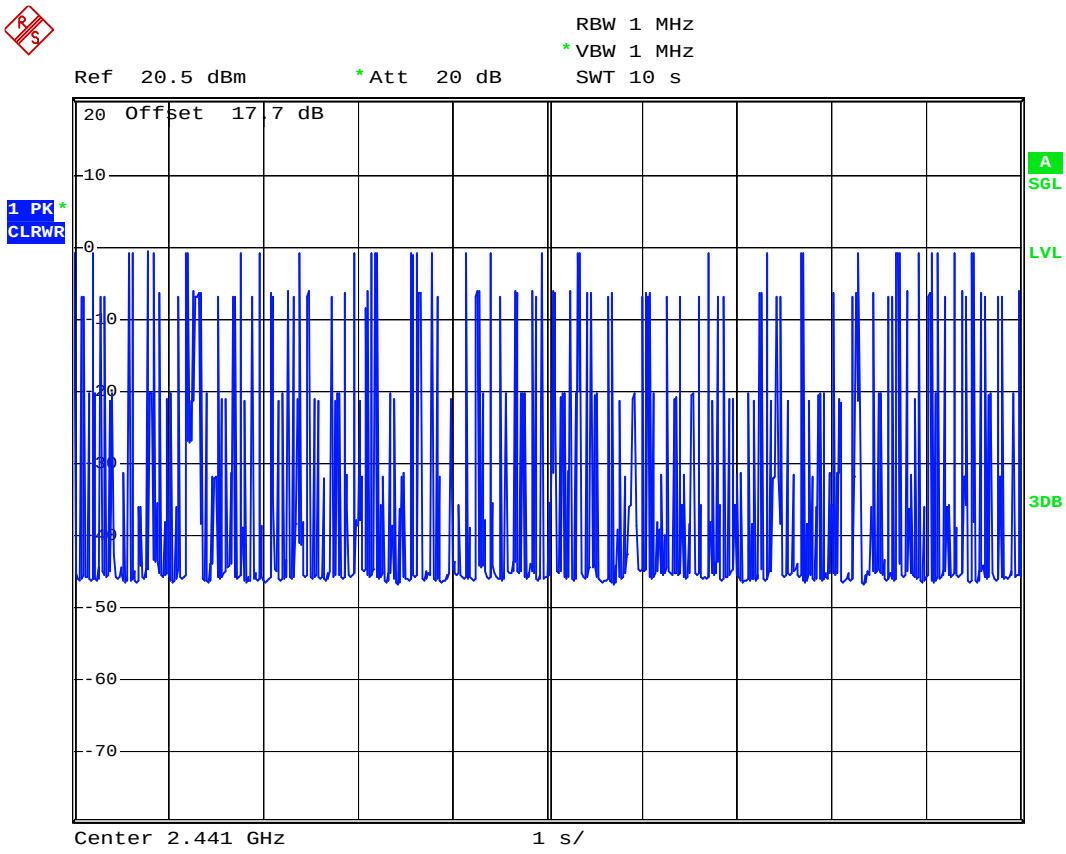


Date: 17.MAR.2008 19:45:01

3DH5 (CH39)



Date: 17.MAR.2008 19:40:01



Date: 17.MAR.2008 19:44:39

5.7 Peak Output Power Measurement

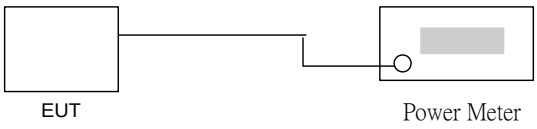
5.7.1 Measuring Instruments

As described in chapter 6 of this test report.

5.7.2 Test Procedure

The antenna port (RF output) of the EUT was connected to the input (RF input) of a spectrum analyzer for BT measurement. RBW and VBW are set to 3MHz. The cable loss has been offset before testing.

5.7.3 Test Setup Layout



5.7.4 Test Result

- Application Type : BT
- Temperature : 20~26℃
- Relative Humidity : 49~52%
- Test Enginner : Ken

- **BT(1Mbps)**

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
00	2402	1.32	1W/30 dBm
39	2441	2.06	1W/30 dBm
78	2480	1.06	1W/30 dBm

- **BT EDR(2Mbps)**

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
00	2402	-0.64	1W/30 dBm
39	2441	-0.1	1W/30 dBm
78	2480	-1.3	1W/30 dBm

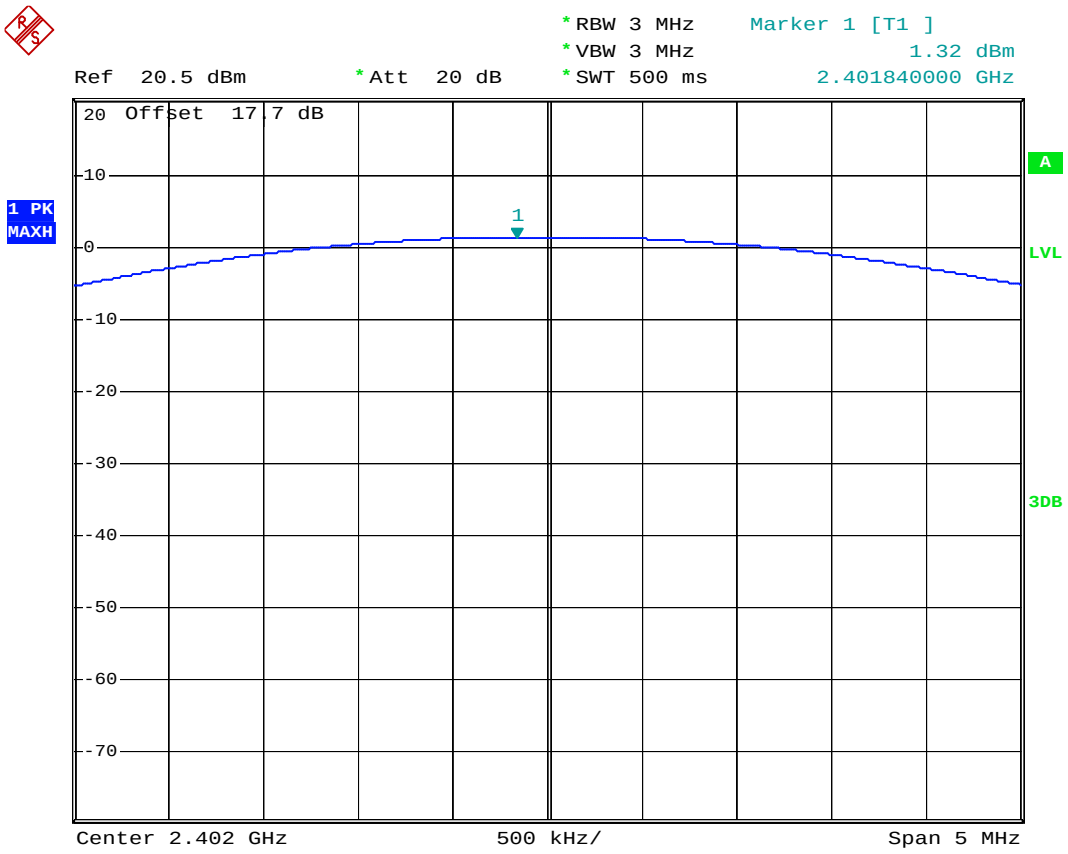
- **BT EDR(3Mbps)**

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
00	2402	-0.44	1W/30 dBm
39	2441	0.1	1W/30 dBm
78	2480	-1.08	1W/30 dBm

5.7.5 Output Power

Bluetooth (1Mbps)

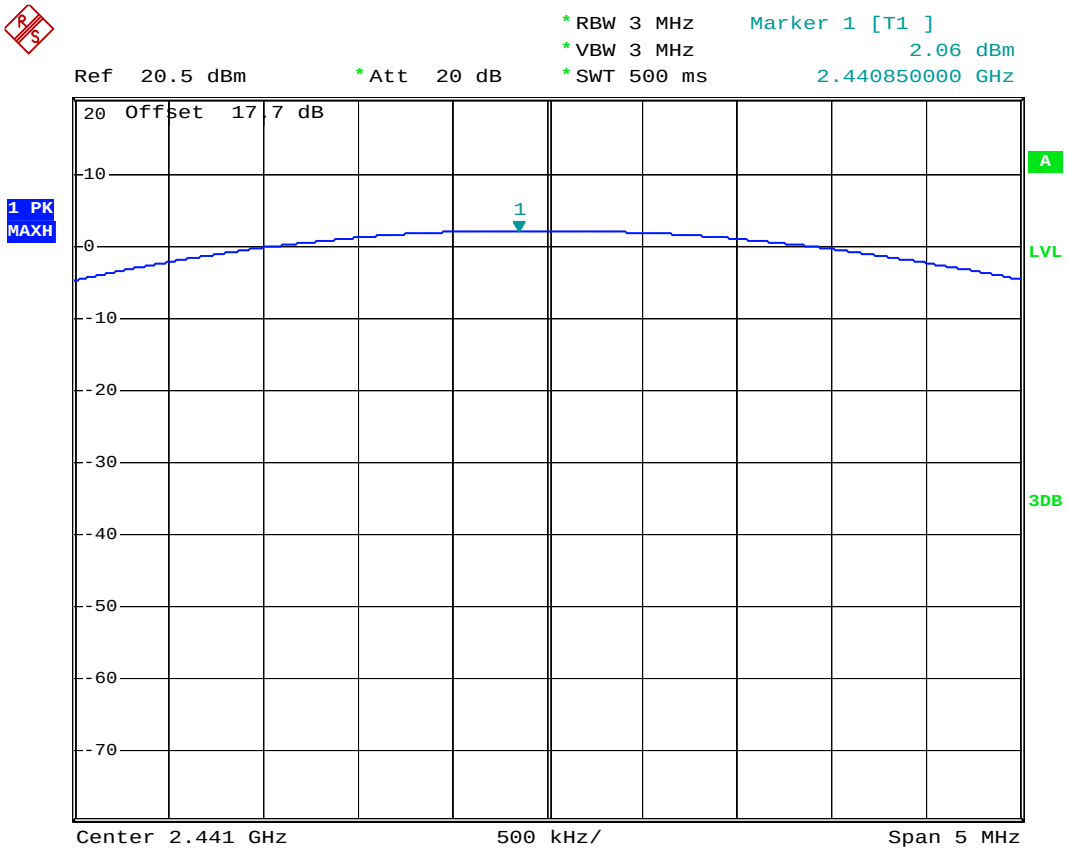
Mode : CH00 (2402MHz)



Date: 17.MAR.2008 16:47:29

Bluetooth (1Mbps)

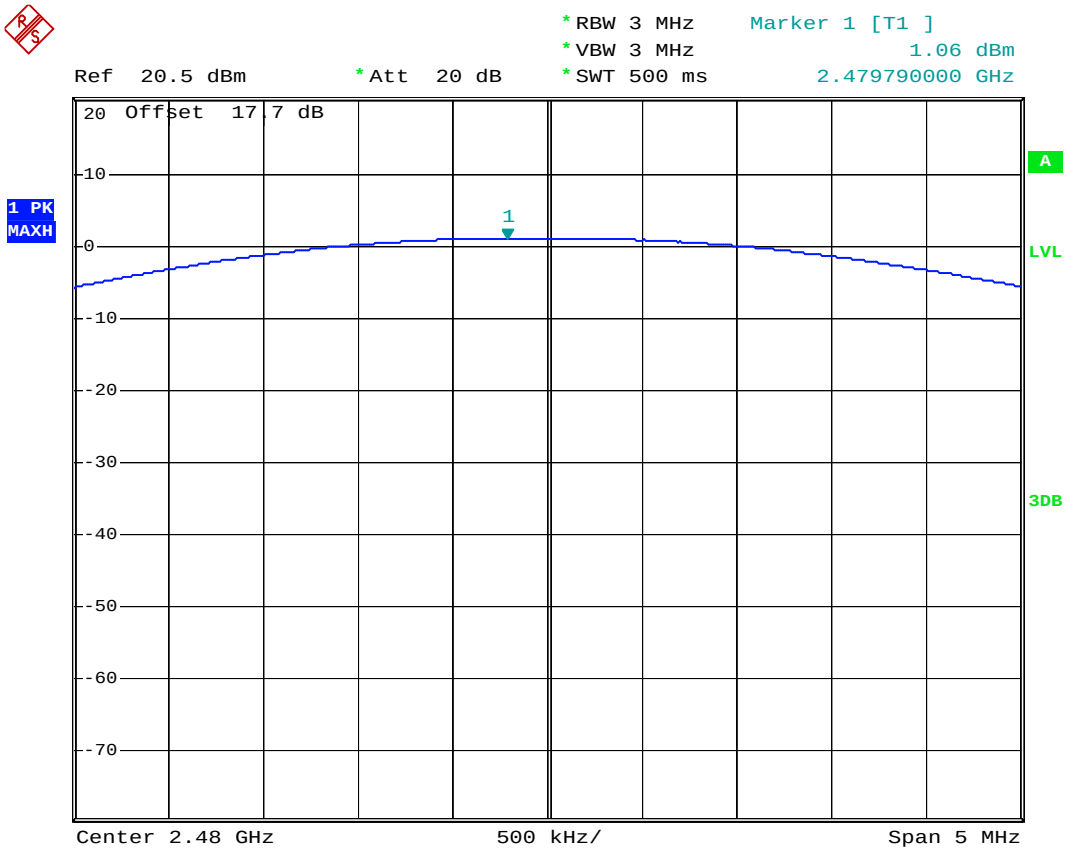
Mode : CH39 (2441MHz)



Date: 17.MAR.2008 16:47:45

Bluetooth (1Mbps)

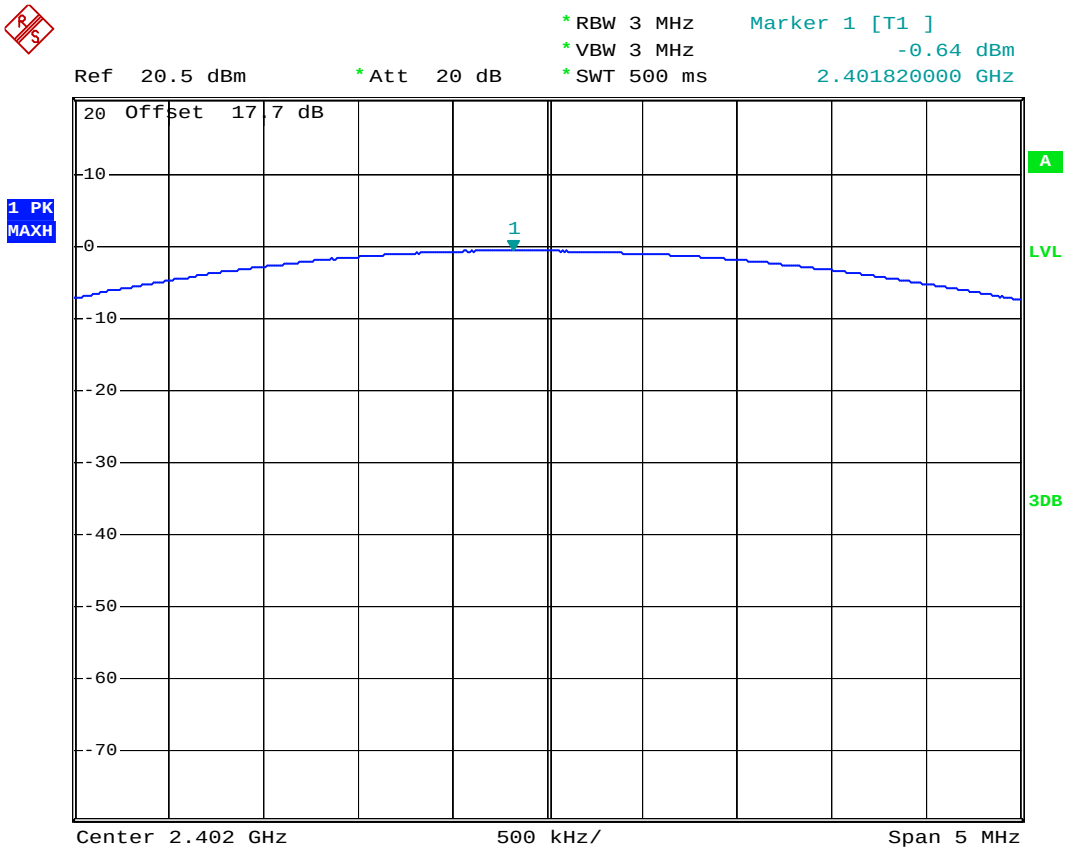
Mode : CH78 (2480MHz)



Date: 17.MAR.2008 16:48:03

Bluetooth (2Mbps)

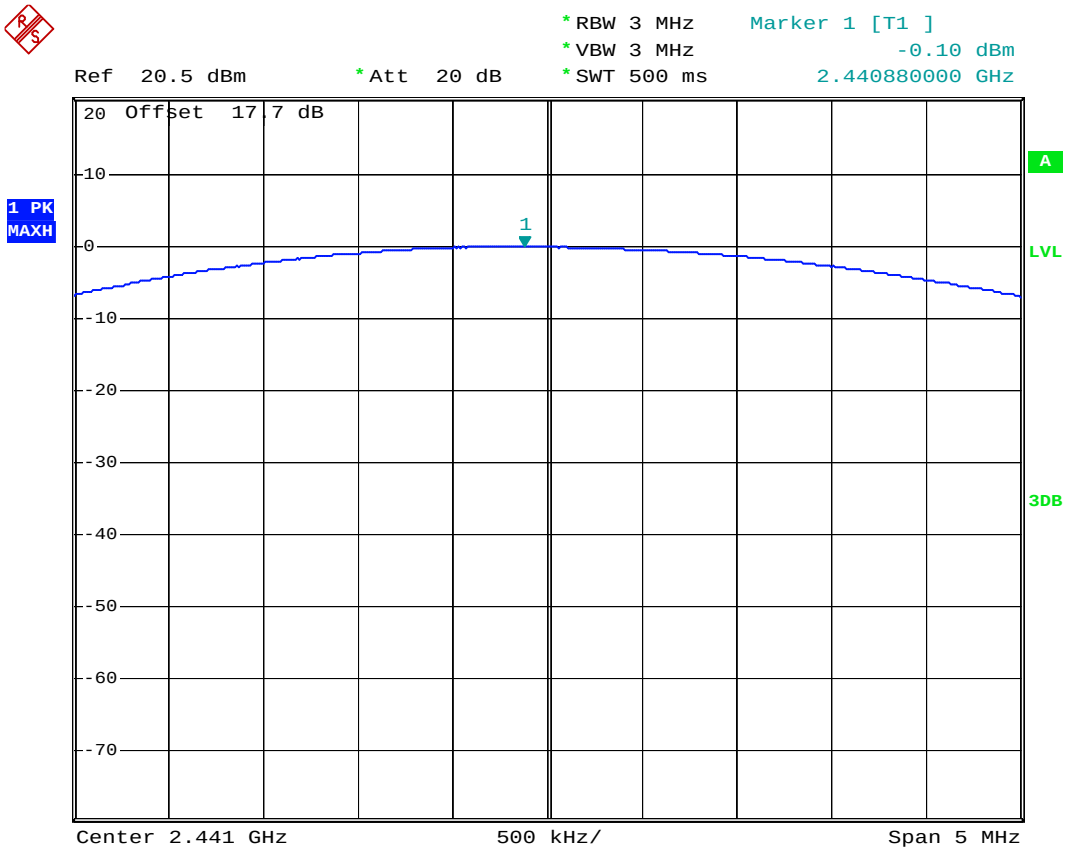
Mode : CH00 (2402MHz)



Date: 17.MAR.2008 16:50:53

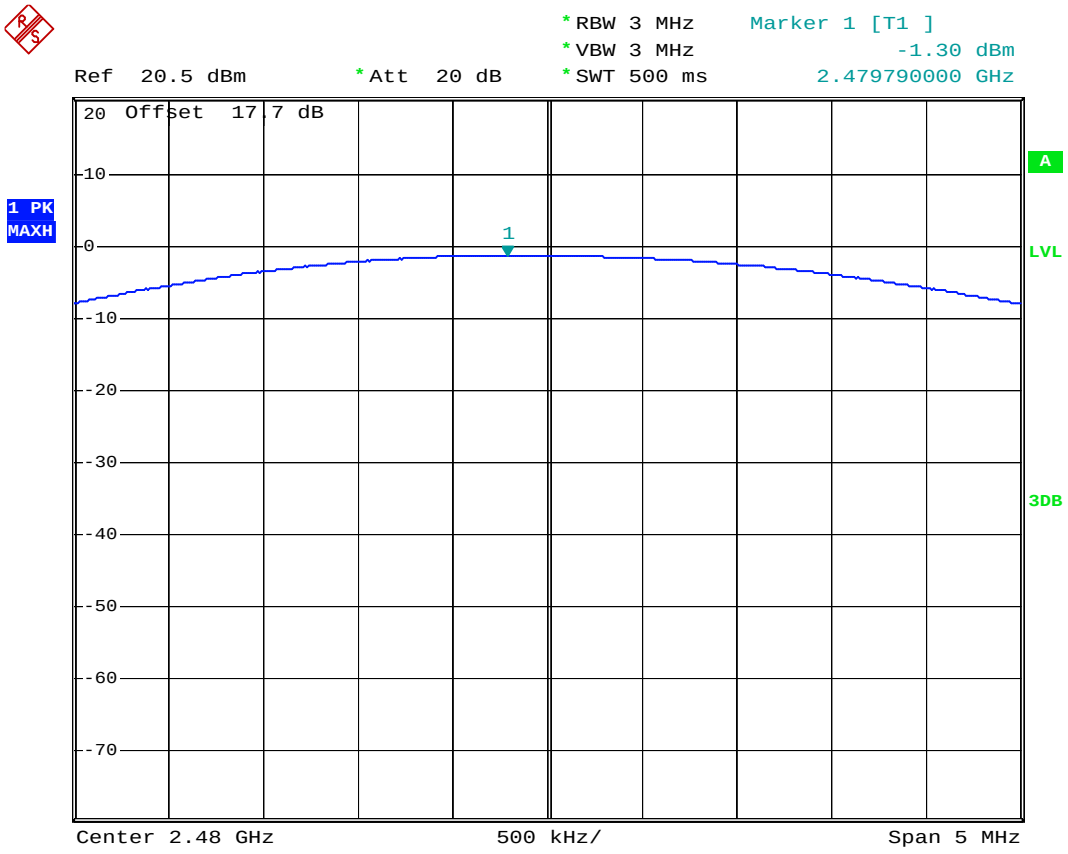
Bluetooth (2Mbps)

Mode : CH39 (2441MHz)



Bluetooth (2Mbps)

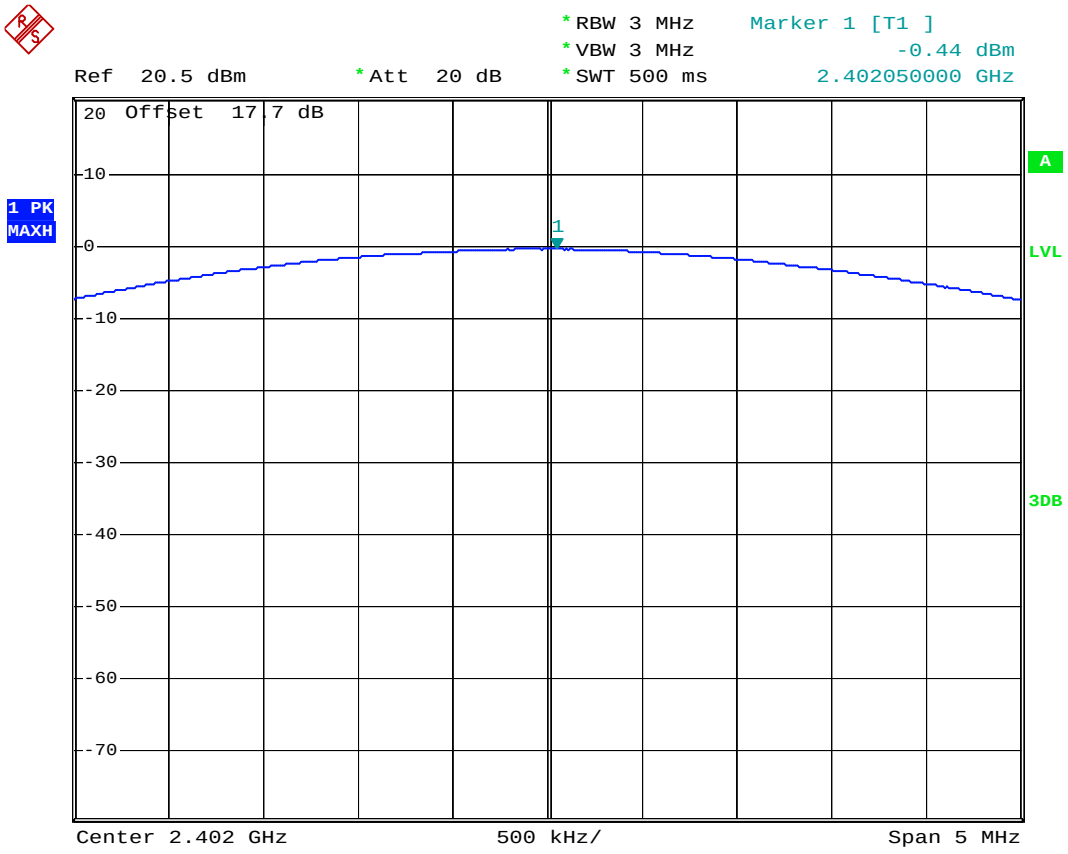
Mode : CH78 (2480MHz)



Date: 17.MAR.2008 16:51:26

Bluetooth (3Mbps)

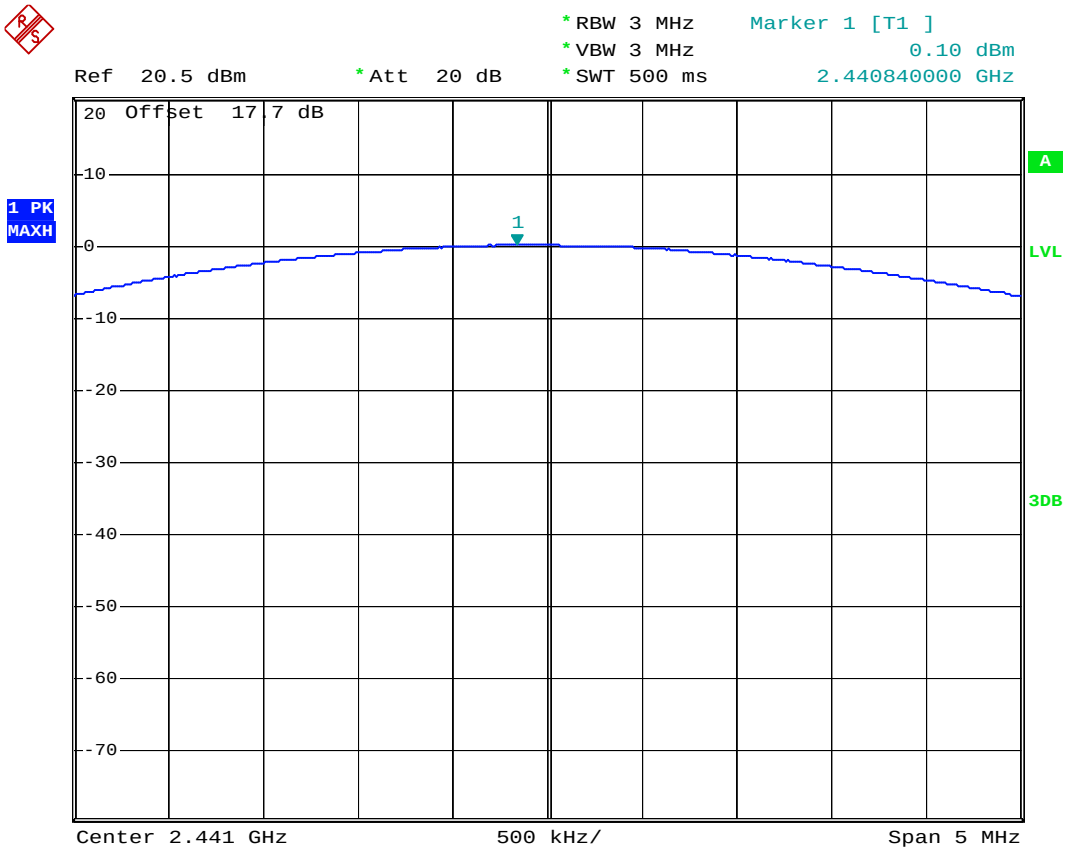
Mode : CH00 (2402MHz)



Date: 17.MAR.2008 16:54:10

Bluetooth (3Mbps)

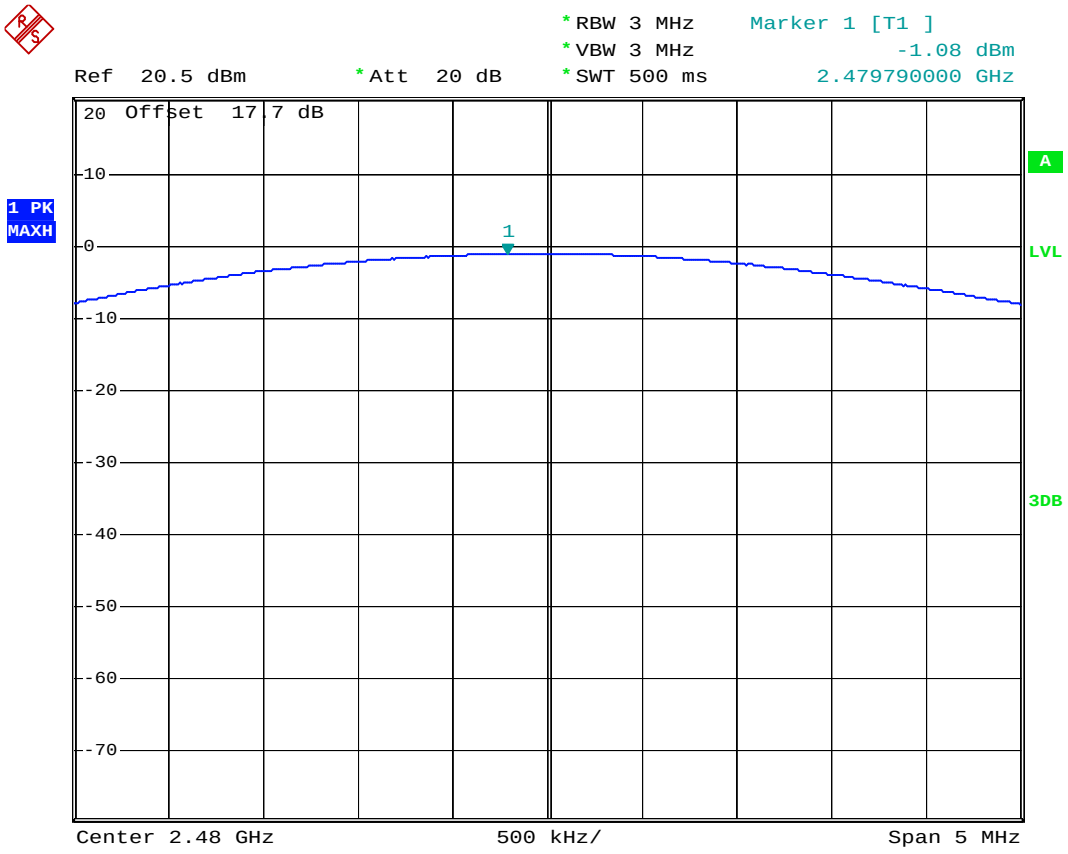
Mode : CH39 (2441MHz)



Date: 17.MAR.2008 16:54:33

Bluetooth (3Mbps)

Mode : CH78 (2480MHz)



Date: 17.MAR.2008 16:55:01

5.8 Conducted Emission

5.8.1 Measuring Instruments

As describ ed in chapter 6 of this test Report.

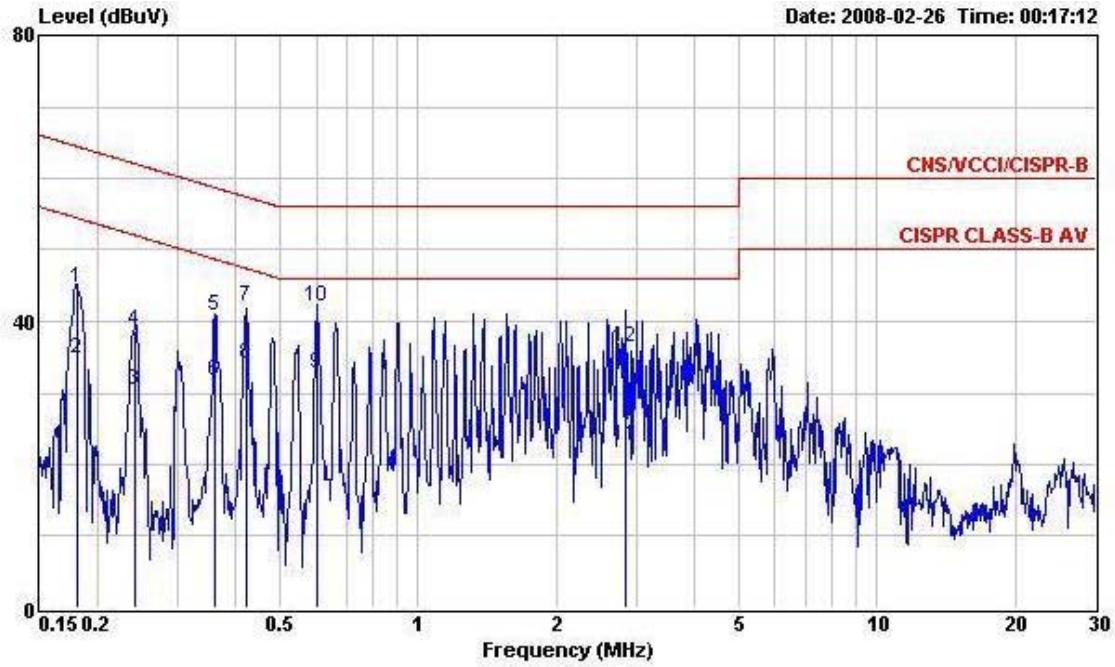
5.8.2 Test Procedures

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

5.8.3 Test Data

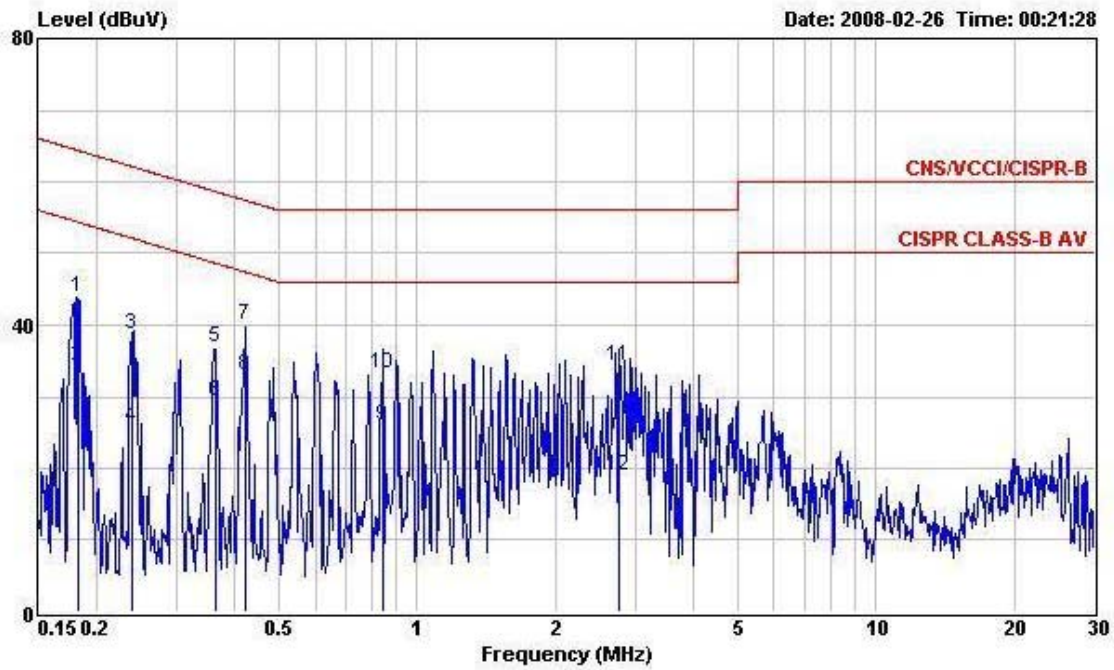
Temperature : 21~22℃
Relative Humidity : 52~53%
Test Enginner : Sun
Test Mode : Mode 1

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



Site : site
Condition : CNS/VCCI/CISPR-B 2001/004 200604 LINE
EUT : GSM/EDGE(Class 10) 850/900/1800/1900 PDA
Power : 120V/60Hz
Model : FR 822203
Memo : GSM850 Idle+GPS Rx+BT Link+WLAN Link
: +Camera+Adaptor

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.181	44.63	-19.81	64.44	44.44	0.10	0.09	QP
2	0.181	34.81	-19.63	54.44	34.62	0.10	0.09	Average
3	0.242	30.31	-21.72	52.03	30.13	0.10	0.08	Average
4	0.242	38.62	-23.41	62.03	38.44	0.10	0.08	QP
5	0.360	40.67	-18.06	58.73	40.52	0.10	0.05	QP
6	0.360	31.79	-16.94	48.73	31.64	0.10	0.05	Average
7	0.421	41.99	-15.44	57.43	41.84	0.10	0.05	QP
8	0.421	33.93	-13.50	47.43	33.78	0.10	0.05	Average
9	0.601	32.75	-13.25	46.00	32.55	0.10	0.10	Average
10	0.601	42.16	-13.84	56.00	41.96	0.10	0.10	QP
11	2.840	22.51	-23.49	46.00	22.16	0.15	0.20	Average
12	2.840	36.30	-19.70	56.00	35.95	0.15	0.20	QP

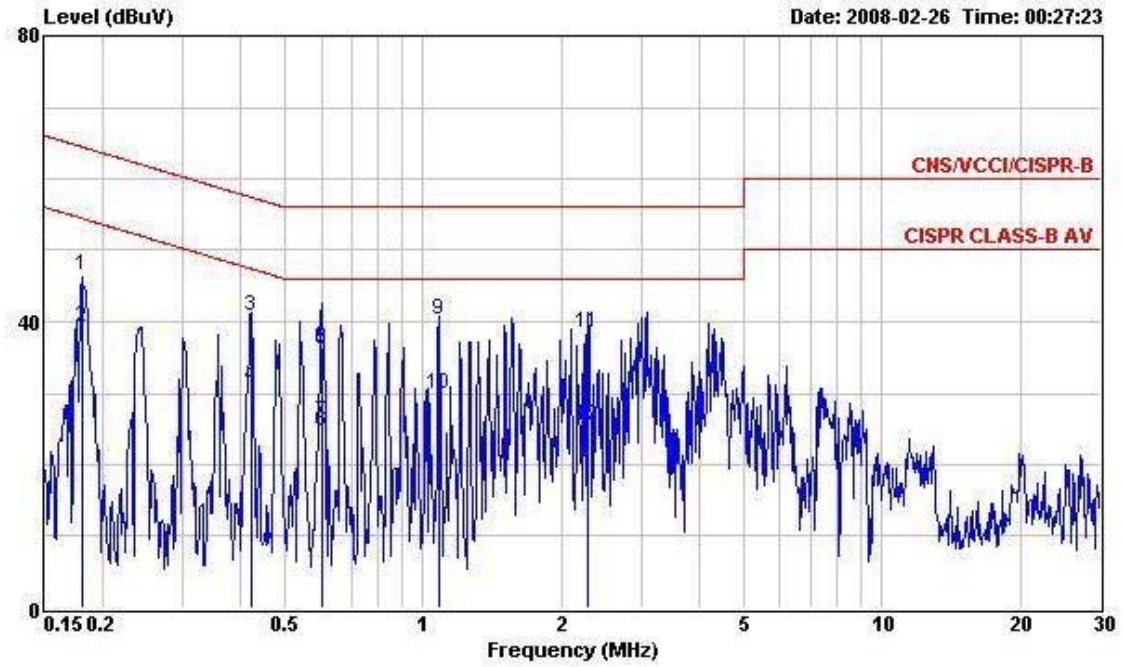


Site : site
Condition : CNS/VCCI/CISPR-B 2001/004 200604 NEUTRAL
EUT : GSM/EDGE(Class 10) 850/900/1800/1900 PDA
Power : 120V/60Hz
Model : FR 822203
Memo : GSM850 Idle+GPS Rx+BT Link+WLAN Link
: +Camera+Adaptor

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.182	44.02	-20.37	64.39	43.83	0.10	0.09	QP
2	0.182	34.34	-20.05	54.39	34.15	0.10	0.09	Average
3	0.240	38.62	-23.48	62.10	38.44	0.10	0.08	QP
4	0.240	25.74	-26.36	52.10	25.56	0.10	0.08	Average
5	0.363	36.89	-21.77	58.66	36.74	0.10	0.05	QP
6	0.363	29.45	-19.21	48.66	29.30	0.10	0.05	Average
7	0.421	39.99	-17.44	57.43	39.84	0.10	0.05	QP
8	0.421	33.02	-14.41	47.43	32.87	0.10	0.05	Average
9	0.844	25.97	-20.03	46.00	25.72	0.10	0.15	Average
10	0.844	33.19	-22.81	56.00	32.94	0.10	0.15	QP
11	2.760	34.23	-21.77	56.00	33.93	0.10	0.20	QP
12	2.760	18.94	-27.06	46.00	18.64	0.10	0.20	Average

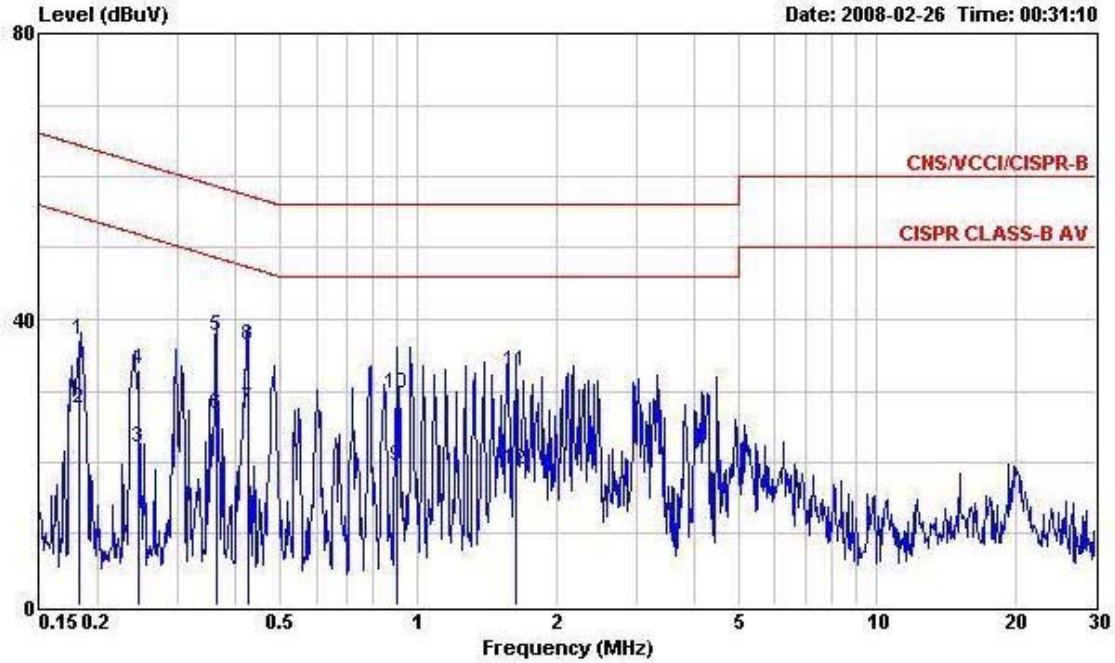
Temperature : 21~22℃
Relative Humidity : 52~53%
Test Enginner : Sun
Test Mode : Mode 2

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



Site : site
Condition : CNS/VCCI/CISPR-B 2001/004 200604 LINE
EUT : GSM/EDGE(Class 10) 850/900/1800/1900 PDA
Power : 120V/60Hz
Model : FR 822203
Memo : GSM850 Idle+GPS Rx+BT Link+WLAN Link
: +MPEG4+Adaptor

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.181	46.48	-17.96	64.44	46.29	0.10	0.09	QP
2	0.181	39.19	-15.25	54.44	39.00	0.10	0.09	Average
3	0.421	40.74	-16.69	57.43	40.59	0.10	0.05	QP
4	0.421	30.97	-16.46	47.43	30.82	0.10	0.05	Average
5	0.601	36.09	-19.91	56.00	35.89	0.10	0.10	QP
6	0.601	24.58	-21.42	46.00	24.38	0.10	0.10	Average
7	0.601	25.92	-20.08	46.00	25.72	0.10	0.10	Average
8	0.601	36.24	-19.76	56.00	36.04	0.10	0.10	QP
9	1.080	40.36	-15.64	56.00	40.08	0.10	0.18	QP
10	1.080	29.97	-16.03	46.00	29.69	0.10	0.18	Average
11	2.280	38.41	-17.59	56.00	38.07	0.12	0.22	QP
12	2.280	25.57	-20.43	46.00	25.23	0.12	0.22	Average

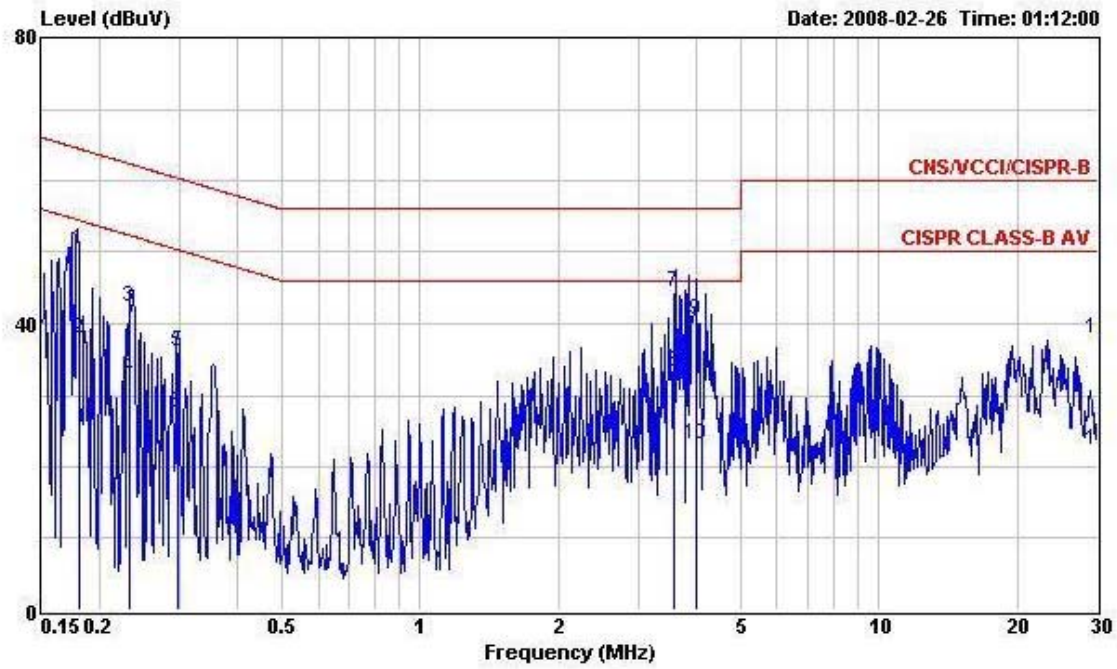


Site : site
Condition : CNS/VCCI/CISPR-B 2001/004 200604 NEUTRAL
EUT : GSM/EDGE(Class 10) 850/900/1800/1900 PDA
Power : 120V/60Hz
Model : FR 822203
Memo : GSM850 Idle+GPS Rx+BT Link+WLAN Link
: +MPEG4+Adaptor

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.183	37.18	-27.17	64.35	36.99	0.10	0.09	QP
2	0.183	27.48	-26.87	54.35	27.29	0.10	0.09	Average
3	0.247	22.17	-29.70	51.87	21.99	0.10	0.08	Average
4	0.247	32.98	-28.89	61.87	32.80	0.10	0.08	QP
5	0.363	37.74	-20.92	58.66	37.59	0.10	0.05	QP
6	0.363	26.70	-21.96	48.66	26.55	0.10	0.05	Average
7	0.426	27.42	-19.91	47.33	27.27	0.10	0.05	Average
8	0.426	36.45	-20.88	57.33	36.30	0.10	0.05	QP
9	0.899	19.51	-26.49	46.00	19.25	0.10	0.16	Average
10	0.899	29.57	-26.43	56.00	29.31	0.10	0.16	QP
11	1.640	32.77	-23.23	56.00	32.45	0.10	0.22	QP
12	1.640	18.98	-27.02	46.00	18.66	0.10	0.22	Average

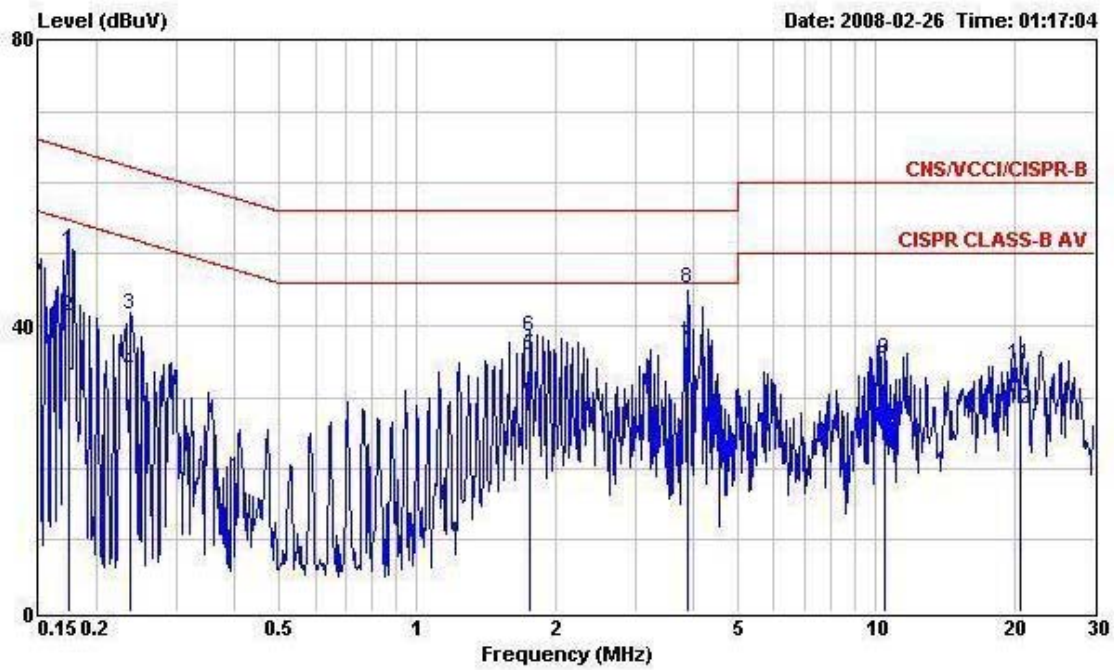
Temperature : 21~22℃
Relative Humidity : 52~53%
Test Enginner : Sun
Test Mode : Mode 3

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



Site : site
Condition : CNS/VCCI/CISPR-B 2001/004 200604 LINE
EUT : GSM/EDGE(Class 10) 850/900/1800/1900 PDA
Power : 120V/60Hz
Model : FR 822203
Memo : GSM850 Idle+GPS Rx+BT Link+WLAN Link
: +Camera+USB Link

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.182	50.28	-14.14	64.42	50.09	0.10	0.09	QP
2	0.182	37.82	-16.60	54.42	37.63	0.10	0.09	Average
3	0.232	42.39	-19.99	62.38	42.20	0.10	0.09	QP
4	0.232	32.47	-19.91	52.38	32.28	0.10	0.09	Average
5	0.297	36.07	-24.26	60.33	35.90	0.10	0.07	QP
6	0.297	27.45	-22.88	50.33	27.28	0.10	0.07	Average
7	3.592	44.49	-11.51	56.00	44.14	0.18	0.17	QP
8	3.592	33.31	-12.69	46.00	32.96	0.18	0.17	Average
9	4.010	40.60	-15.40	56.00	40.24	0.20	0.16	QP
10	4.010	23.01	-22.99	46.00	22.65	0.20	0.16	Average
11	30.000	37.97	-22.03	60.00	36.96	0.60	0.41	QP
12	30.000	22.22	-27.78	50.00	21.21	0.60	0.41	Average

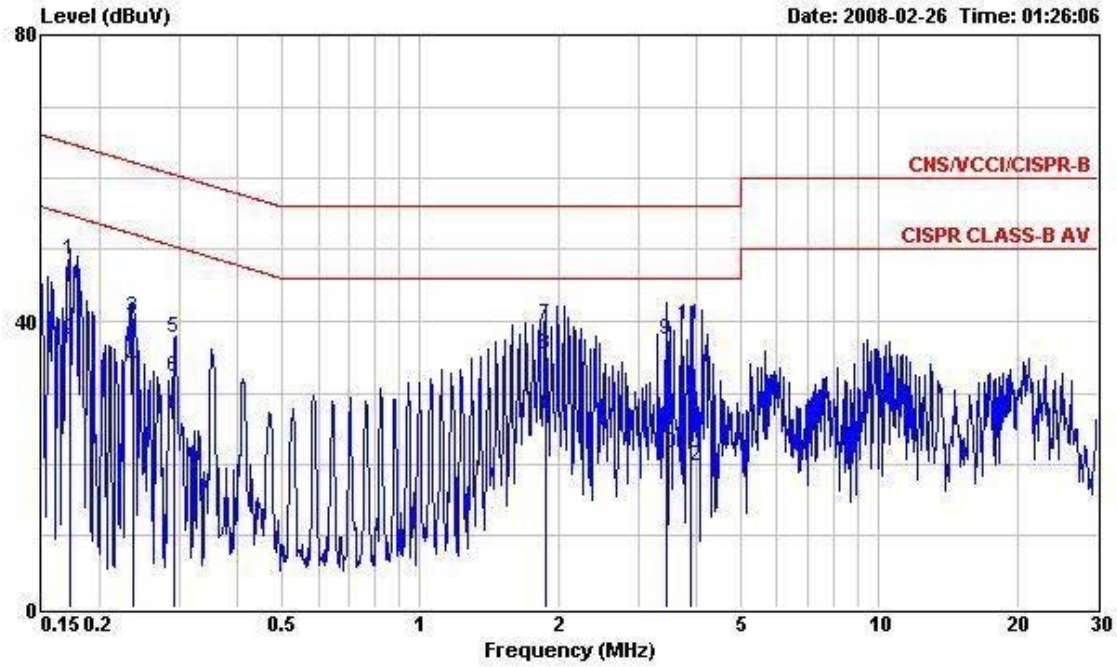


Site : site
Condition : CNS/VCCI/CISPR-B 2001/004 200604 NEUTRAL
EUT : GSM/EDGE(Class 10) 850/900/1800/1900 PDA
Power : 120V/60Hz
Model : FR 822203
Memo : GSM850 Idle+GPS Rx+BT Link+WLAN Link
: +Camera+USB Link

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.174	50.28	-14.49	64.77	50.09	0.10	0.09	QP
2	0.174	41.21	-13.56	54.77	41.02	0.10	0.09	Average
3	0.238	41.46	-20.71	62.17	41.28	0.10	0.08	QP
4	0.238	33.50	-18.67	52.17	33.32	0.10	0.08	Average
5	1.760	35.82	-10.18	46.00	35.49	0.10	0.23	Average
6	1.760	38.35	-17.65	56.00	38.02	0.10	0.23	QP
7	3.872	37.21	-8.79	46.00	36.95	0.10	0.16	Average
8	3.872	45.23	-10.77	56.00	44.97	0.10	0.16	QP
9	10.450	35.22	-24.78	60.00	34.68	0.21	0.33	QP
10	10.450	25.80	-24.20	50.00	25.26	0.21	0.33	Average
11	20.700	34.63	-25.37	60.00	33.82	0.42	0.39	QP
12	20.700	28.33	-21.67	50.00	27.52	0.42	0.39	Average

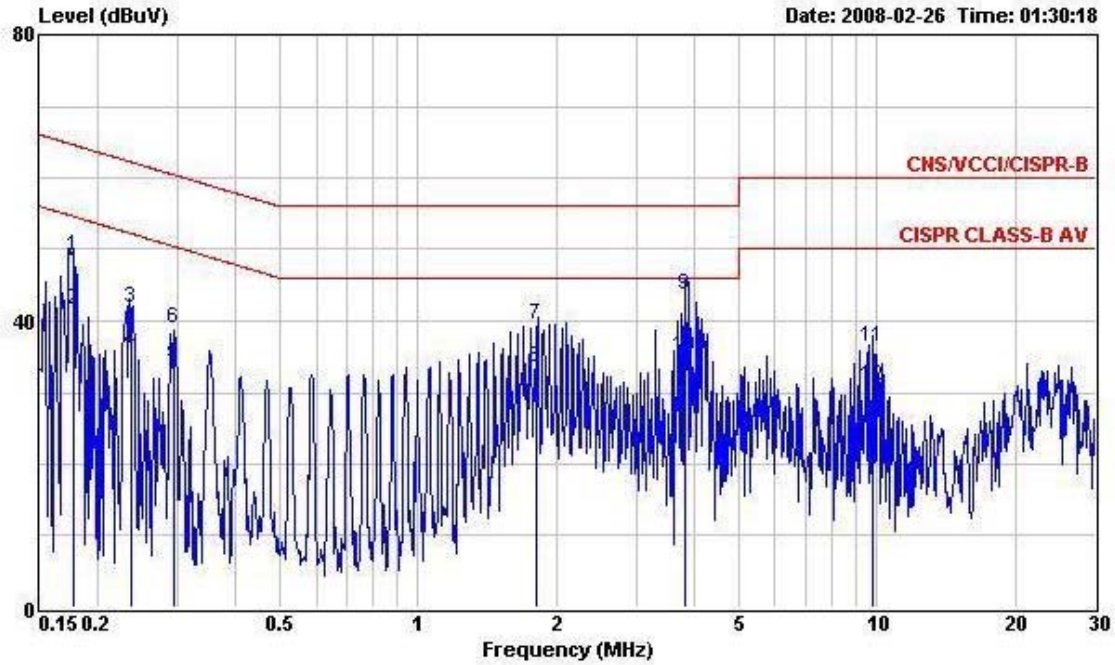
Temperature : 21~22℃
Relative Humidity : 52~53%
Test Enginner : Sun
Test Mode : Mode 4

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



Site : site
Condition : CNS/VCCI/CISPR-B 2001/004 200604 LINE
EUT : GSM/EDGE(Class 10) 850/900/1800/1900 PDA
Power : 120V/60Hz
Model : FR 822203
Memo : PCS1900 Idle+GPS Rx+BT Link+WLAN Link
: +Camera+USB Link

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.172	48.59	-16.27	64.86	48.40	0.10	0.09	QP
2	0.172	37.53	-17.33	54.86	37.34	0.10	0.09	Average
3	0.237	40.65	-21.55	62.20	40.46	0.10	0.09	QP
4	0.237	33.64	-18.56	52.20	33.45	0.10	0.09	Average
5	0.292	37.60	-22.87	60.47	37.43	0.10	0.07	QP
6	0.292	32.15	-18.32	50.47	31.98	0.10	0.07	Average
7	1.880	39.40	-16.60	56.00	39.07	0.10	0.23	QP
8	1.880	35.43	-10.57	46.00	35.10	0.10	0.23	Average
9	3.450	37.28	-18.72	56.00	36.92	0.18	0.18	QP
10	3.450	21.62	-24.38	46.00	21.26	0.18	0.18	Average
11	3.880	39.52	-16.48	56.00	39.16	0.20	0.16	QP
12	3.880	19.74	-26.26	46.00	19.38	0.20	0.16	Average

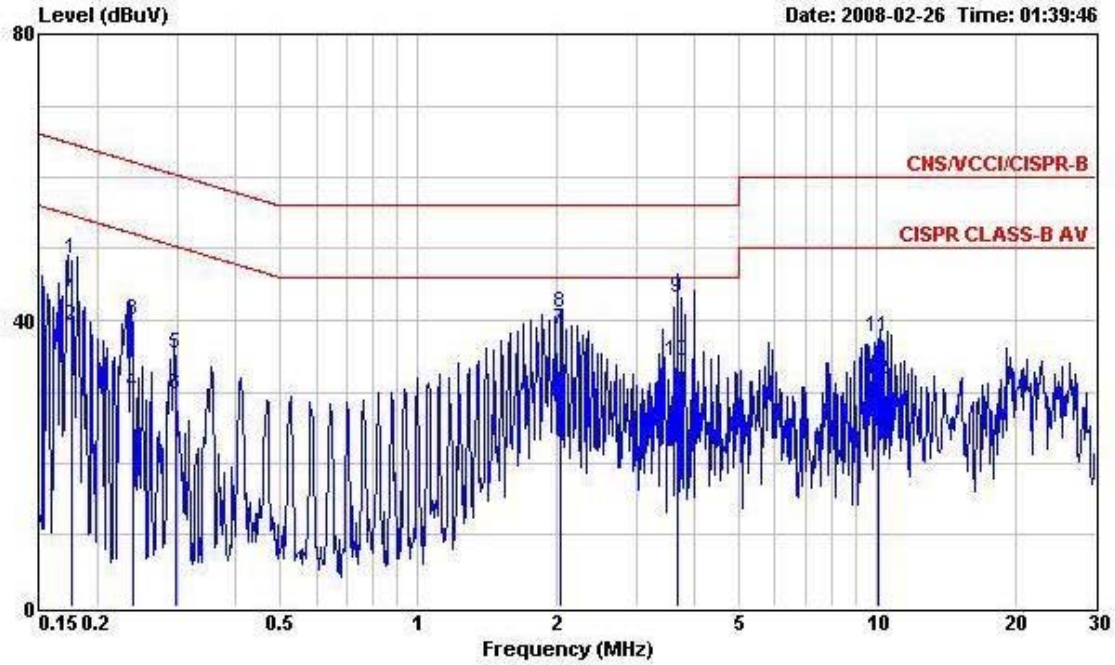


Site : site
Condition : CNS/VCCI/CISPR-B 2001/004 200604 NEUTRAL
EUT : GSM/EDGE(Class 10) 850/900/1800/1900 PDA
Power : 120V/60Hz
Model : FR 822203
Memo : PCS1900 Idle+GPS Rx+BT Link+WLAN Link
: +Camera+USB Link

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.177	49.00	-15.63	64.63	48.81	0.10	0.09	QP
2	0.177	41.62	-13.01	54.63	41.43	0.10	0.09	Average
3	0.236	41.81	-20.41	62.22	41.62	0.10	0.09	QP
4	0.236	35.83	-16.39	52.22	35.64	0.10	0.09	Average
5	0.293	34.11	-16.34	50.45	33.94	0.10	0.07	Average
6	0.293	38.94	-21.51	60.45	38.77	0.10	0.07	QP
7	1.815	39.45	-16.55	56.00	39.12	0.10	0.23	QP
8	1.815	33.43	-12.57	46.00	33.10	0.10	0.23	Average
9	3.806	43.52	-12.48	56.00	43.25	0.10	0.17	QP
10	3.806	35.00	-11.00	46.00	34.73	0.10	0.17	Average
11	9.773	36.27	-23.73	60.00	35.73	0.20	0.34	QP
12	9.773	30.90	-19.10	50.00	30.36	0.20	0.34	Average

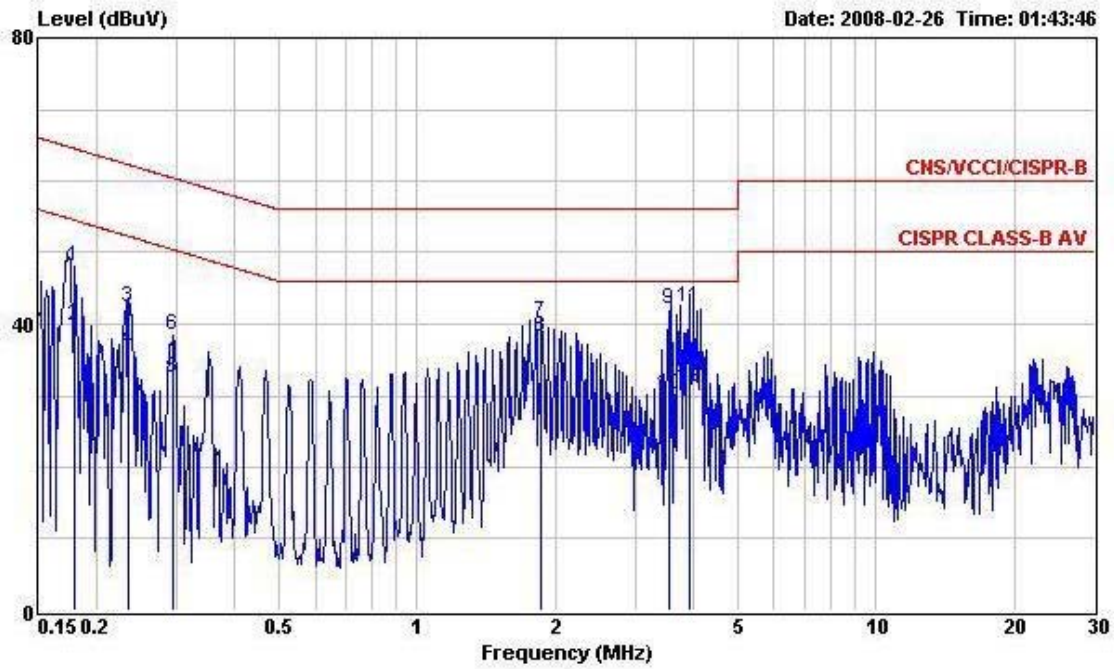
Temperature : 21~22℃
Relative Humidity : 52~53%
Test Enginner : Sun
Test Mode : Mode 5

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



Site : site
Condition : CNS/VCCI/CISPR-B 2001/004 200604 LINE
EUT : GSM/EDGE(Class 10) 850/900/1800/1900 PDA
Power : 120V/60Hz
Model : FR 822203
Memo : EDGE Idle+GPS Rx+BT Link+WLAN Link
: +Camera+USB Link

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.176	48.64	-16.01	64.65	48.45	0.10	0.09	QP
2	0.176	39.16	-15.49	54.65	38.97	0.10	0.09	Average
3	0.238	40.03	-22.12	62.15	39.85	0.10	0.08	QP
4	0.238	29.90	-22.25	52.15	29.72	0.10	0.08	Average
5	0.296	35.22	-25.14	60.36	35.05	0.10	0.07	QP
6	0.296	29.61	-20.75	50.36	29.44	0.10	0.07	Average
7	2.045	38.75	-7.25	46.00	38.41	0.10	0.24	Average
8	2.045	41.02	-14.98	56.00	40.68	0.10	0.24	QP
9	3.683	43.10	-12.90	56.00	42.74	0.19	0.17	QP
10	3.683	34.23	-11.77	46.00	33.87	0.19	0.17	Average
11	10.109	37.78	-22.22	60.00	37.13	0.30	0.35	QP
12	10.109	31.76	-18.24	50.00	31.11	0.30	0.35	Average



Site : site
Condition : CNS/VCCI/CISPR-B 2001/004 200604 NEUTRAL
EUT : GSM/EDGE(Class 10) 850/900/1800/1900 PDA
Power : 120V/60Hz
Model : FR 822203
Memo : EDGE Idle+GPS Rx+BT Link+WLAN Link
: +Camera+USB Link

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.179	47.98	-16.56	64.54	47.79	0.10	0.09	QP
2	0.179	39.67	-14.87	54.54	39.48	0.10	0.09	Average
3	0.235	42.22	-20.05	62.27	42.03	0.10	0.09	QP
4	0.235	36.32	-15.95	52.27	36.13	0.10	0.09	Average
5	0.294	32.59	-17.82	50.41	32.42	0.10	0.07	Average
6	0.294	38.41	-22.00	60.41	38.24	0.10	0.07	QP
7	1.870	40.15	-15.85	56.00	39.82	0.10	0.23	QP
8	1.870	38.18	-7.82	46.00	37.85	0.10	0.23	Average
9	3.559	42.19	-13.81	56.00	41.92	0.10	0.17	QP
10	3.559	30.24	-15.76	46.00	29.97	0.10	0.17	Average
11	3.920	42.37	-13.63	56.00	42.11	0.10	0.16	QP
12	3.920	31.26	-14.74	46.00	31.00	0.10	0.16	Average

5.9 Radiated Emission Measurement

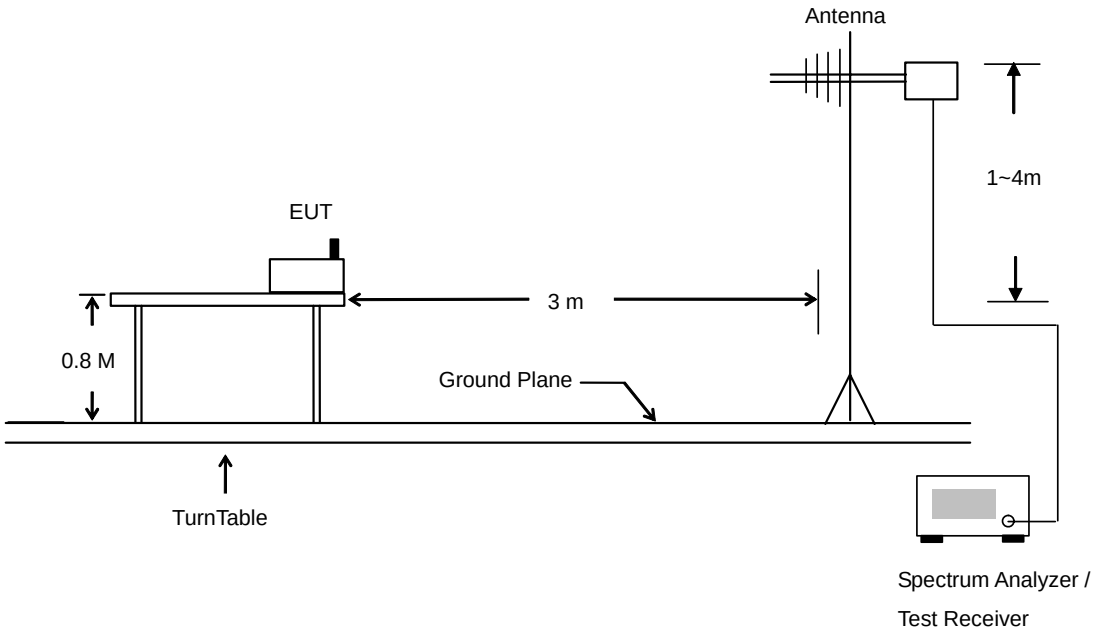
5.9.1 Measuring Instruments

As described in chapter 6 of this Report.

5.9.2 Test Procedures

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

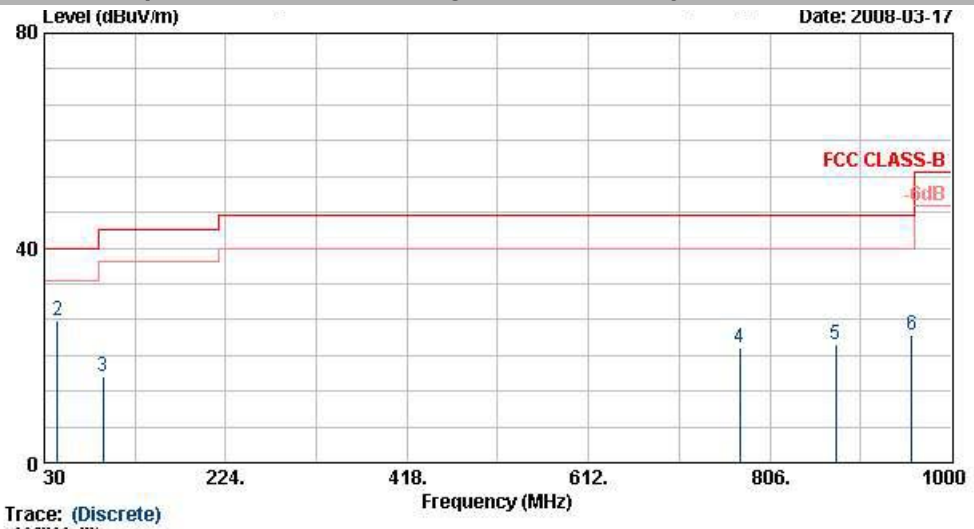
5.9.3 Typical Test Setup Layout of Radiated Emission



5.9.4 Test Data

- Temperature : 20~26°C
- Relating Humidity : 49~52%
- Test Enginner : Derek
- Test Mode : Mode 1
- Polarization : Horizontal (30MHz-1GHz)

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

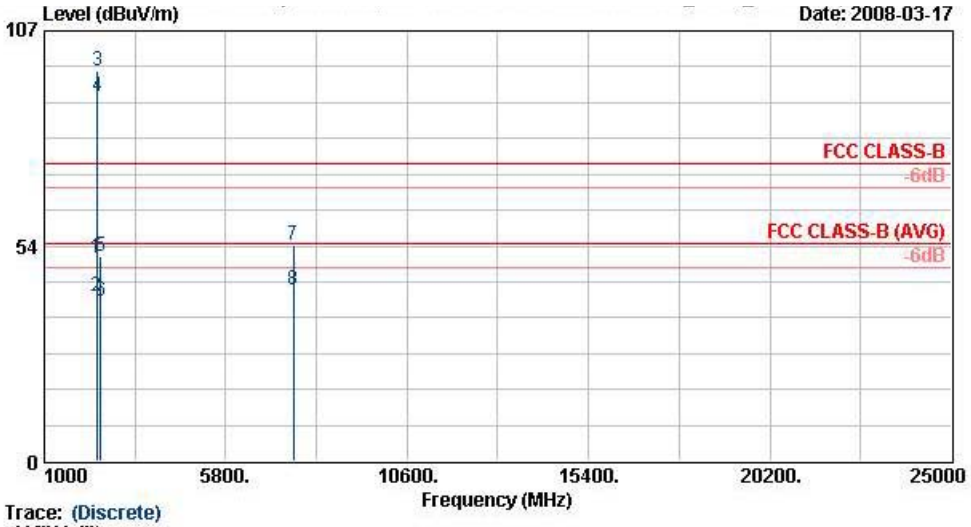


Site : 03CH06-HY
Condition : FCC CLASS-B 3m LF-ANT(951121) HORIZONTAL
EUT : GSM/EDGE(Class 10) 850/900/1800/1900
: PDA Phone
Power : 120Vac/60Hz
Model : FR 822203
Memo : BT Tx_Ch00;2402MHz + Adaptor
Data Rate : DH5
Plane : H
TMET : 004400003501112

	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	21.97	-18.03	40.00	35.51	19.66	0.30	33.50	---	---	Peak
2	44.04	26.53	-13.47	40.00	47.84	11.52	0.30	33.13	100	173	Peak
3	92.64	16.14	-27.36	43.50	39.36	9.62	0.50	33.33	---	---	Peak
4	773.90	21.50	-24.50	46.00	33.50	19.58	1.14	32.72	---	---	Peak
5	876.80	22.06	-23.94	46.00	33.13	20.36	1.30	32.74	---	---	Peak
6	957.30	23.76	-22.24	46.00	33.93	20.94	1.27	32.38	---	---	Peak

- Polarization : Horizontal (1GHz-25GHz)

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



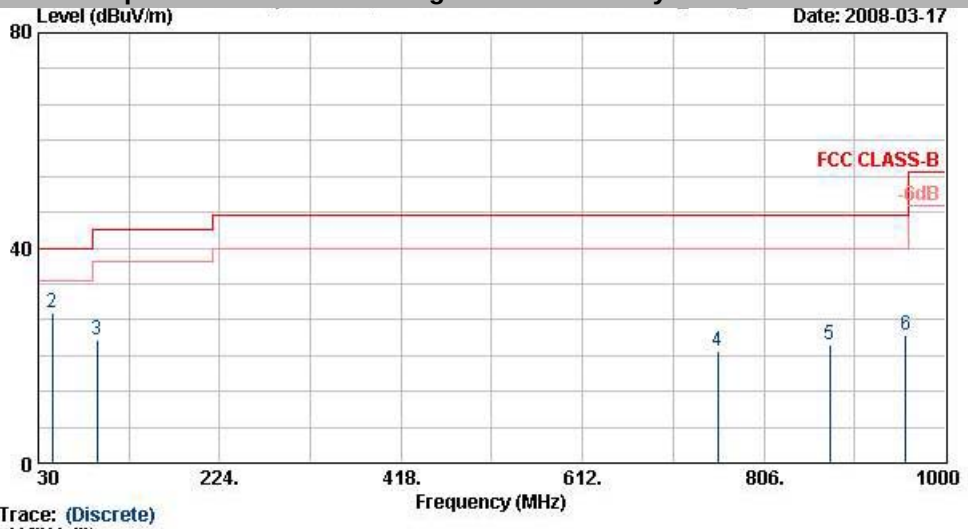
Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
EUT : GSM/EDGE(Class 10) 850/900/1800/1900
: PDA Phone
Power : 120Vac/60Hz
Model : FR 822203
Memo : BT Tx_Ch00;2402MHz + Adaptor
Data Rate : DH5
Plane : H
TMET : 0044000035011 12

		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		2389.61	50.37	-23.63	74.00	50.33	31.83	3.89	35.68	100	0	Peak
2		2389.61	40.88	-13.12	54.00	40.78	31.86	3.92	35.68	100	359	Average
3	X	2402.00	97.15			97.03	31.88	3.92	35.68	100	0	Peak
4	@	2402.00	90.67			90.57	31.86	3.92	35.68	100	359	Average
5		2484.00	50.91	-23.09	74.00	50.58	31.98	4.05	35.70	100	0	Peak
6		2484.00	39.60	-14.40	54.00	39.27	31.98	4.05	35.70	100	359	Average
7		7596.00	53.65	-20.35	74.00	46.93	35.62	7.32	36.22	100	0	Peak
8		7596.00	42.56	-11.44	54.00	35.84	35.62	7.32	36.22	100	203	Average

Remark: #3 and #4 are Fundamental Signals

- Polarization : Vertical (30MHz-1GHz)

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



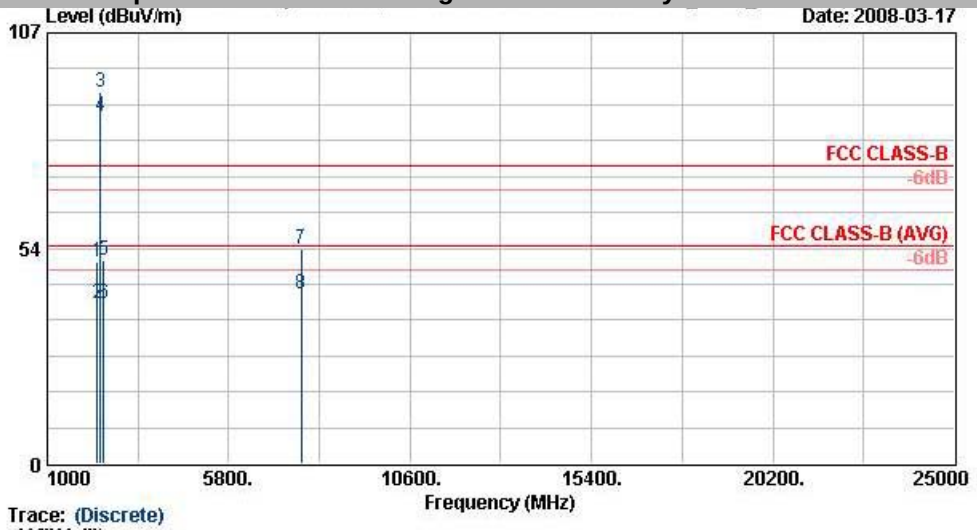
Trace: (Discrete)

Site	:	03CH06-HY
Condition	:	FCC CLASS-B 3m LF-ANT(951121) VERTICAL
EUT	:	GSM/EDGE(Class 10) 850/900/1800/1900
	:	PDA Phone
Power	:	120Vac/60Hz
Model	:	FR 822203
Memo	:	BT Tx_Ch00;2402MHz + Adaptor
Data Rate	:	DH5
Plane	:	H
TMET	:	0044000035011 12

	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	22.48	-17.52	40.00	36.02	19.66	0.30	33.50	---	---	Peak
2	45.39	28.06	-11.94	40.00	50.35	10.53	0.30	33.12	100	231	Peak
3	92.64	22.98	-20.52	43.50	46.20	9.62	0.50	33.33	---	---	Peak
4	756.40	20.77	-25.23	46.00	33.09	19.41	1.10	32.83	---	---	Peak
5	876.80	21.99	-24.01	46.00	33.07	20.36	1.30	32.74	---	---	Peak
6	957.30	23.89	-22.11	46.00	34.06	20.94	1.27	32.38	---	---	Peak

- Polarization : Vertical (1GHz-25GHz)

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



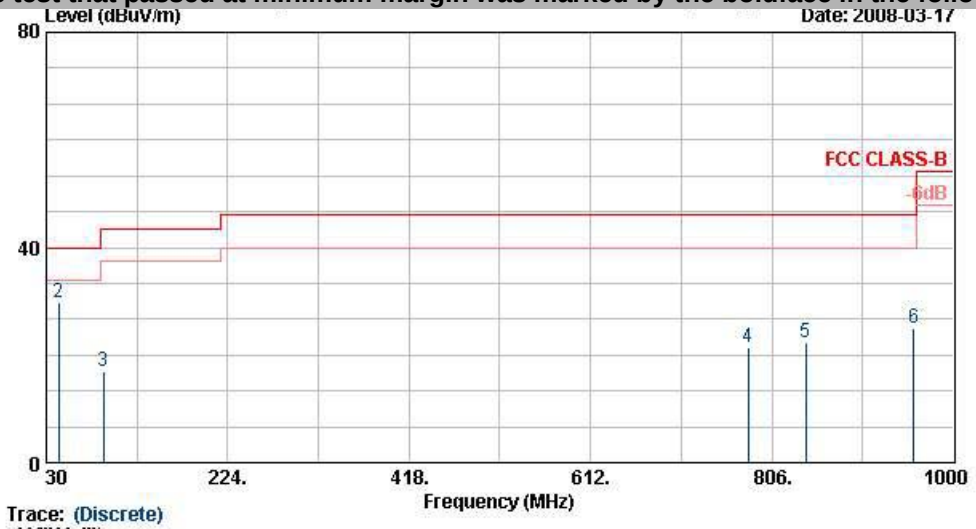
Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
EUT : GSM/EDGE(Class 10) 850/900/1800/1900
: PDA Phone
Power : 120Vac/60Hz
Model : FR 822203
Memo : BT Tx_Ch00;2402MHz + Adaptor
Data Rate : DH5
Plane : H
TMET : 00440000350111 2

		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		2333.18	50.30	-23.70	74.00	50.41	31.73	3.82	35.67	100	0	Peak
2		2333.18	39.77	-14.23	54.00	39.82	31.76	3.86	35.67	126	123	Average
3	X	2402.00	92.16			92.04	31.88	3.92	35.68	100	0	Peak
4	@	2402.00	86.25			86.15	31.86	3.92	35.68	126	123	Average
5		2500.00	50.34	-23.66	74.00	49.99	32.00	4.05	35.70	100	0	Peak
6		2500.00	39.58	-14.42	54.00	39.23	32.00	4.05	35.70	126	123	Average
7		7716.00	53.45	-20.55	74.00	46.67	35.64	7.38	36.24	100	0	Peak
8		7716.00	42.04	-11.96	54.00	35.26	35.64	7.38	36.24	113	0	Average

Remark: #3 and #4 are Fundamental Signals

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

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



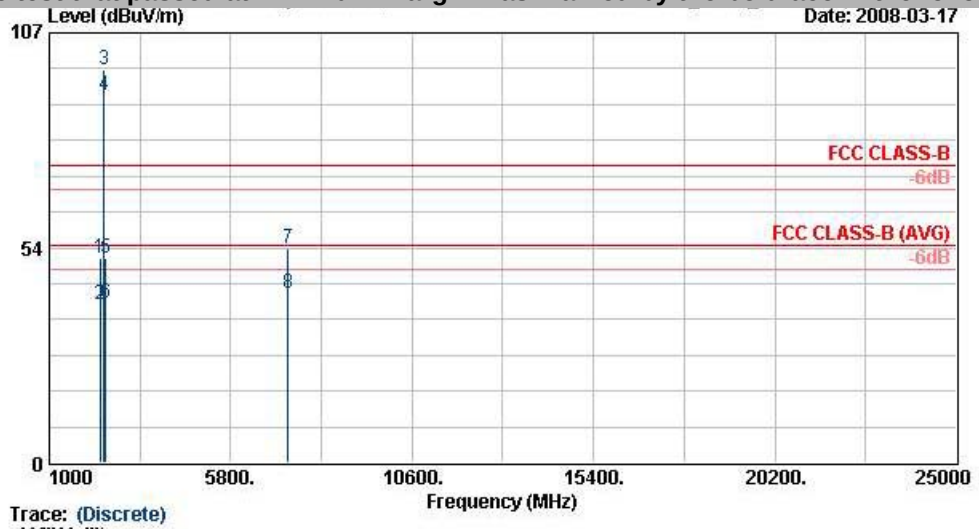
Trace: (Discrete)

Site	:	03CH06-HY
Condition	:	FCC CLASS-B 3m LF-ANT(951121) HORIZONTAL
EUT	:	GSM/EDGE(Class 10) 850/900/1800/1900
	:	PDA Phone
Power	:	120Vac/60Hz
Model	:	FR 822203
Memo	:	BT Tx_Ch39;2441MHz + Adaptor
Data Rate	:	DH5
Plane	:	H
TMET	:	0044000035011 12

	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	22.24	-17.76	40.00	35.78	19.66	0.30	33.50	---	---	Peak
2	43.23	29.71	-10.29	40.00	51.02	11.52	0.30	33.13	100	267	Peak
3	91.29	16.97	-26.53	43.50	40.55	9.23	0.50	33.30	---	---	Peak
4	780.90	21.28	-24.72	46.00	33.11	19.64	1.20	32.68	---	---	Peak
5	841.80	22.22	-23.78	46.00	33.56	20.12	1.20	32.66	---	---	Peak
6	957.30	24.89	-21.11	46.00	35.06	20.94	1.27	32.38	---	---	Peak

- Polarization : Horizontal (1GHz-25GHz)

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



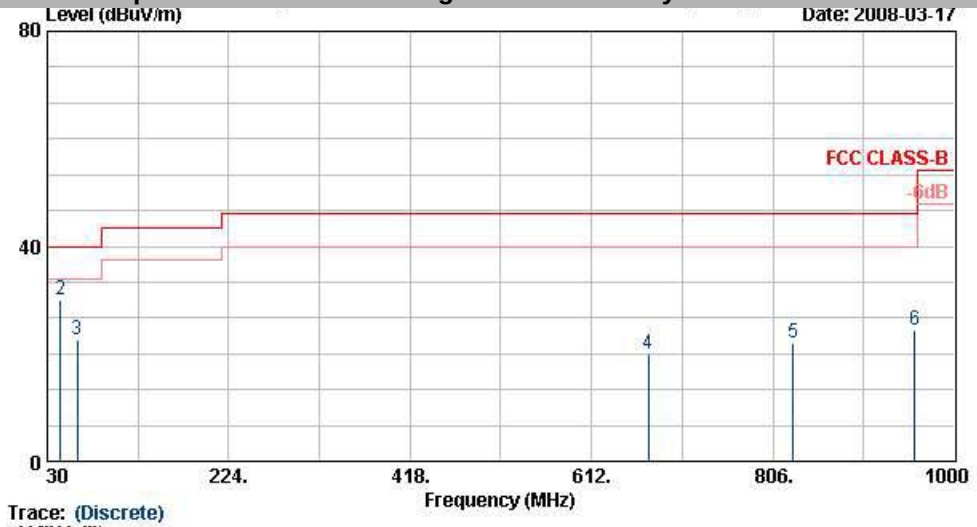
Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
EUT : GSM/EDGE(Class 10) 850/900/1800/1900
: PDA Phone
Power : 120Vac/60Hz
Model : FR 822203
Memo : BT Tx_Ch39;2441MHz + Adaptor
Data Rate : DH5
Plane : H
TMET : 00440000350111 2

		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		2338.00	51.08	-22.92	74.00	51.11	31.78	3.86	35.67	100	0	Peak
2		2338.00	39.47	-14.53	54.00	39.50	31.78	3.86	35.67	129	192	Average
3	X	2441.00	97.92			97.69	31.93	3.99	35.69	100	0	Peak
4	@	2441.00	91.37			91.15	31.93	3.99	35.69	129	192	Average
5		2484.00	50.88	-23.12	74.00	50.55	31.98	4.05	35.70	100	0	Peak
6		2484.00	39.59	-14.41	54.00	39.26	31.98	4.05	35.70	129	192	Average
7		7311.00	53.14	-20.86	74.00	46.39	35.68	7.20	36.12	100	0	Peak
8		7311.00	42.02	-11.98	54.00	35.26	35.68	7.20	36.12	100	209	Average

Remark: #3 and #4 are Fundamental Signals

- Polarization : Vertical (30MHz-1GHz)

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



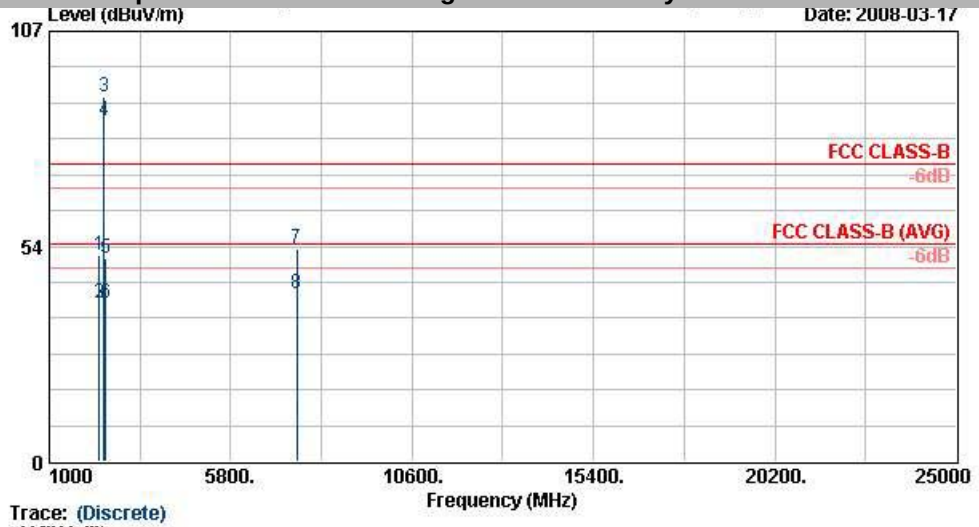
Trace: (Discrete)

Site	:	03CH06-HY
Condition	:	FCC CLASS-B 3m LF-ANT(951121) VERTICAL
EUT	:	GSM/EDGE(Class 10) 850/900/1800/1900
	:	PDA Phone
Power	:	120Vac/60Hz
Model	:	FR 822203
Memo	:	BT Tx_Ch39;2441MHz + Adaptor
Data Rate	:	DH5
Plane	:	H
TARET	:	004400003501112

	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	22.92	-17.08	40.00	36.46	19.66	0.30	33.50	---	---	Peak
2	44.04	30.03	-9.97	40.00	51.34	11.52	0.30	33.13	100	139	Peak
3	62.13	22.49	-17.51	40.00	48.87	6.67	0.40	33.45	---	---	Peak
4	672.40	19.97	-26.03	46.00	33.26	18.77	1.02	33.08	---	---	Peak
5	827.80	21.93	-24.07	46.00	33.35	20.01	1.20	32.63	---	---	Peak
6	957.30	24.31	-21.69	46.00	34.49	20.94	1.27	32.38	---	---	Peak

- Polarization : Vertical (1GHz-25GHz)

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



Trace: (Discrete)

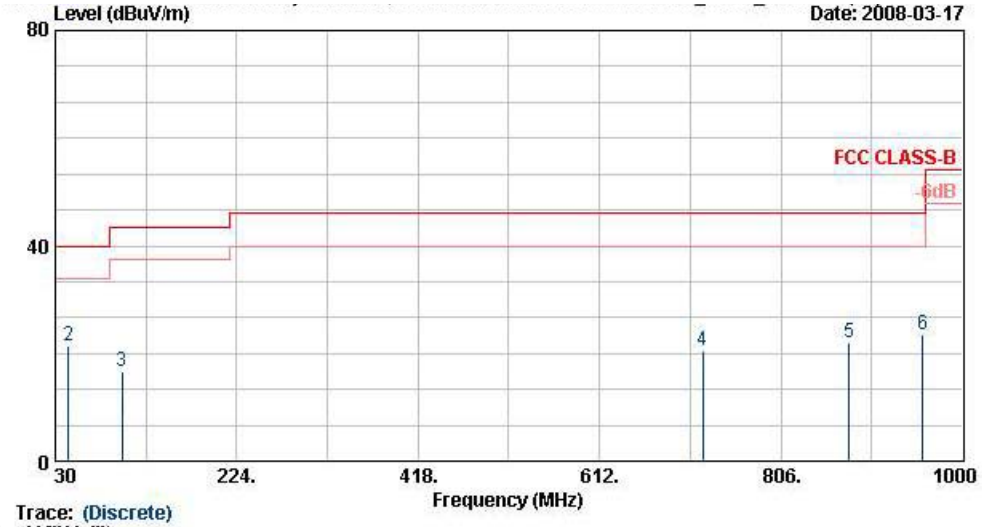
Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
EUT : GSM/EDGE(Class 10) 850/900/1800/1900
: PDA Phone
Power : 120Vac/60Hz
Model : FR 822203
Memo : BT Tx_Ch39;2441MHz + Adaptor
Data Rate : DH5
Plane : H
TMET : 0044000035011I2

		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		2328.00	51.36	-22.64	74.00	51.44	31.76	3.82	35.67	100	0	Peak
2		2328.00	39.42	-14.58	54.00	39.50	31.76	3.82	35.67	100	91	Average
3	X	2441.00	90.57			90.35	31.93	3.99	35.69	100	0	Peak
4	@	2441.00	84.74			84.52	31.93	3.99	35.69	100	91	Average
5		2484.00	50.55	-23.45	74.00	50.22	31.98	4.05	35.70	100	0	Peak
6		2484.00	39.56	-14.44	54.00	39.23	31.98	4.05	35.70	100	91	Average
7		7551.00	53.00	-21.00	74.00	46.31	35.61	7.29	36.21	100	0	Peak
8		7551.00	41.75	-12.25	54.00	35.06	35.61	7.29	36.21	100	181	Average

Remark: #3 and #4 are Fundamental Signals

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

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



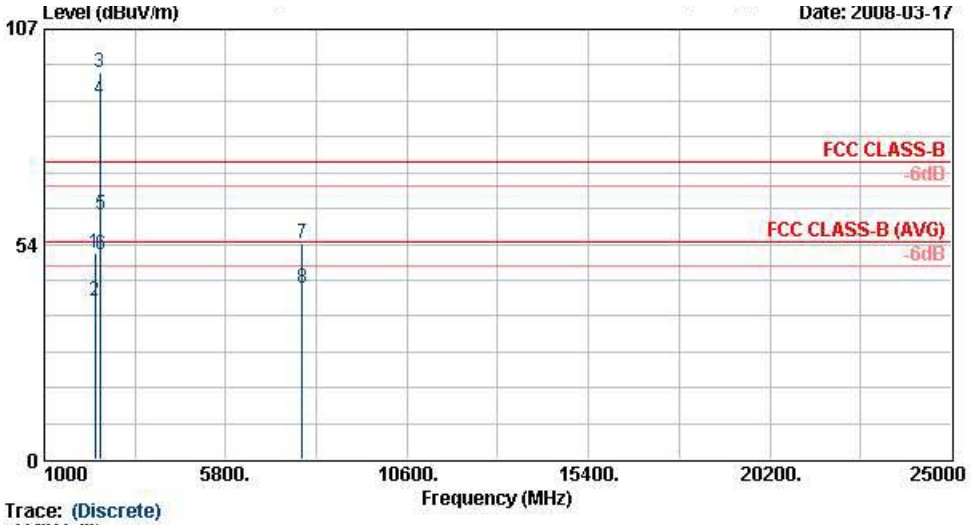
Trace: (Discrete)

Site	:	03CH06-HY
Condition	:	FCC CLASS-B 3m LF-ANT(951121) HORTZONTAL
EUT	:	GSM/EDGE(Class 10) 850/900/1800/1900
	:	PDA Phone
Power	:	120Vac/60Hz
Model	:	FR 822203
Memo	:	BT Tx_Ch78;2480MHz + Adaptor
Data Rate	:	DH5
Plane	:	H
TMET	:	004400003501112

	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	22.60	-17.40	40.00	36.14	19.66	0.30	33.50	100	209	Peak
2	44.04	21.46	-18.54	40.00	42.77	11.52	0.30	33.13	---	---	Peak
3	101.28	16.55	-26.95	43.50	38.25	11.07	0.50	33.27	---	---	Peak
4	722.80	20.58	-25.42	46.00	33.34	19.10	1.17	33.03	---	---	Peak
5	878.90	22.03	-23.97	46.00	33.10	20.38	1.30	32.75	---	---	Peak
6	957.30	23.60	-22.40	46.00	33.77	20.94	1.27	32.38	---	---	Peak

- Polarization : Horizontal (1GHz-25GHz)

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



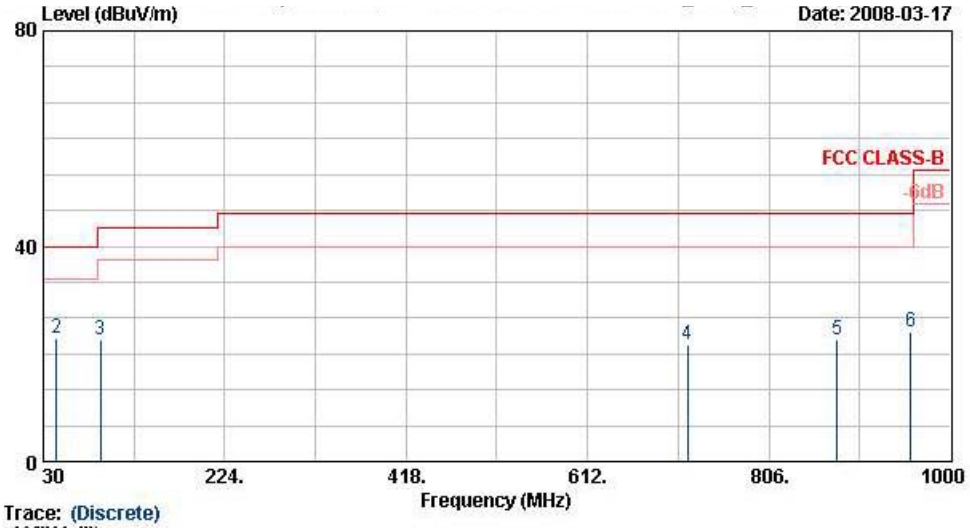
Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
EUT : GSM/EDGE(Class 10) 850/900/1800/1900
: PDA Phone
Power : 120Vac/60Hz
Model : FR 822203
Memo : BT Tx_Ch78;2480MHz + Adaptor
Data Rate : DH5
Plane : H
TMET : 00440000350111 2

		Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
		MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1		2354.00	51.20	-22.80	74.00	51.21	31.81	3.86	35.67	100	0	Peak
2		2354.00	39.48	-14.52	54.00	39.49	31.81	3.86	35.67	121	167	Average
3	X	2480.00	96.16			95.83	31.98	4.05	35.70	100	0	Peak
4	@	2480.00	89.47			89.14	31.98	4.05	35.70	121	167	Average
5		2483.47	60.79	-13.21	74.00	60.46	31.98	4.05	35.70	100	0	Peak
6	!	2483.47	50.99	-3.01	54.00	50.66	31.98	4.05	35.70	121	167	Average
7		7821.00	53.54	-20.46	74.00	46.71	35.66	7.42	36.26	100	0	Peak
8		7821.00	42.52	-11.48	54.00	35.69	35.66	7.42	36.26	100	187	Average

Remark: #3 and #4 are Fundamental Signals

- Polarization : Vertical (30MHz-1GHz)

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



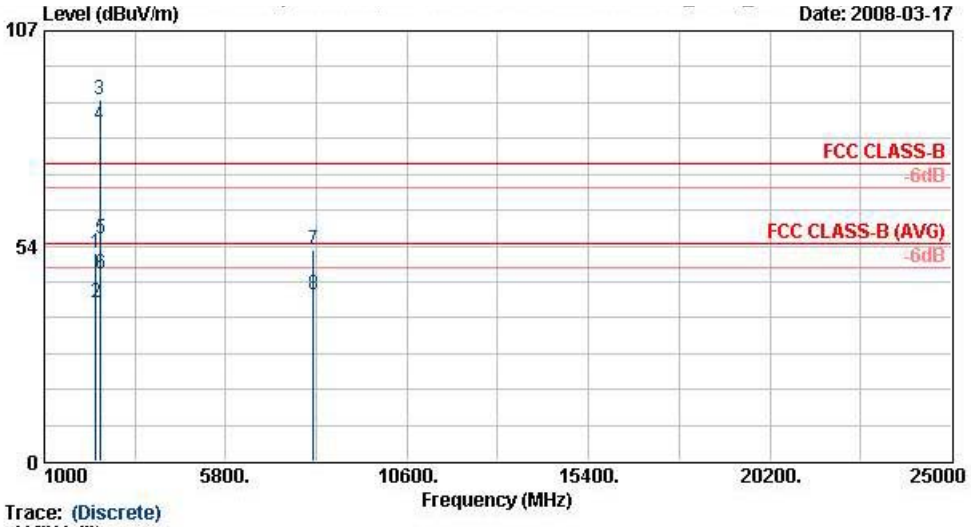
Trace: (Discrete)

Site	:	03CH06-HY
Condition	:	FCC CLASS-B 3m LF-ANT(951121) VERTICAL
EUT	:	GSM/EDGE(Class 10) 850/900/1800/1900
	:	PDA Phone
Power	:	120Vac/60Hz
Model	:	FR 822203
Memo	:	BT Tx_Ch78;2480MHz + Adaptor
Data Rate	:	DH5
Plane	:	H
TMET	:	0044000035011I2

	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	22.61	-17.39	40.00	36.15	19.66	0.30	33.50	---	---	Peak
2	44.31	22.91	-17.09	40.00	44.70	11.02	0.30	33.11	100	122	Peak
3	91.29	22.46	-21.04	43.50	46.04	9.23	0.50	33.30	---	---	Peak
4	719.30	21.67	-24.33	46.00	34.45	19.07	1.20	33.05	---	---	Peak
5	878.90	22.59	-23.41	46.00	33.66	20.38	1.30	32.75	---	---	Peak
6	957.30	24.06	-21.94	46.00	34.23	20.94	1.27	32.38	---	---	Peak

- Polarization : Vertical (1GHz-25GHz)

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



Trace: (Discrete)

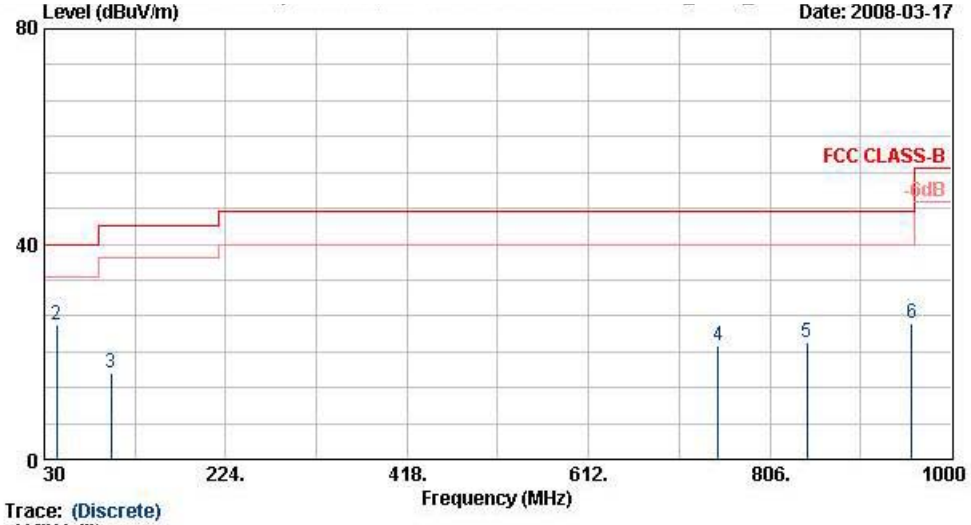
Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
EUT : GSM/EDGE(Class 10) 850/900/1800/1900
PDA Phone
Power : 120Vac/60Hz
Model : FR 822203
Memo : BT Tx_Ch78;2480MHz + Adaptor
Data Rate : DH5
Plane : H
TMET : 0044000035011 12

	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	51.69	-22.31	74.00	51.67	31.81	3.89	35.67	100	0	Peak
2	2358.00	39.50	-14.50	54.00	39.48	31.81	3.89	35.67	100	290	Average
3 X	2480.00	89.76			89.43	31.98	4.05	35.70	100	0	Peak
4 @	2480.00	83.58			83.25	31.98	4.05	35.70	100	290	Average
5	2483.47	55.22	-18.78	74.00	54.89	31.98	4.05	35.70	100	0	Peak
6	2483.47	46.42	-7.58	54.00	46.09	31.98	4.05	35.70	100	290	Average
7	8127.00	52.67	-21.33	74.00	45.81	35.72	7.44	36.30	100	0	Peak
8	8127.00	41.23	-12.77	54.00	34.37	35.72	7.44	36.30	100	226	Average

Remark: #3 and #4 are Fundamental Signals

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

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



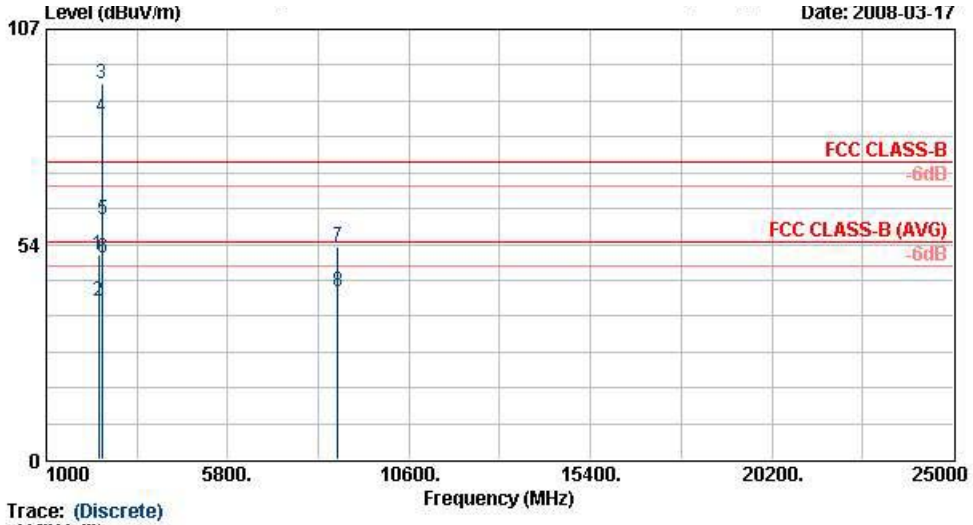
Trace: (Discrete)

Site	:	03CH06-HY
Condition	:	FCC CLASS-B 3m LF-ANT(951121) HORIZONTAL
EUT	:	GSM/EDGE(Class 10) 850/900/1800/1900
	:	PDA Phone
Power	:	120Vac/60Hz
Model	:	FR 822203
Memo	:	BT Tx_Ch78;2480MHz + Adaptor
Data Rate	:	2DH5
Plane	:	H
TMET	:	004400003501112

	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	22.61	-17.39	40.00	36.15	19.66	0.30	33.50	---	---	Peak
2 @	43.23	24.96	-15.04	40.00	46.27	11.52	0.30	33.13	100	197	Peak
3	101.28	15.91	-27.59	43.50	37.61	11.07	0.50	33.27	---	---	Peak
4	750.80	21.17	-24.83	46.00	33.58	19.36	1.10	32.86	---	---	Peak
5	845.30	21.81	-24.19	46.00	33.14	20.14	1.20	32.67	---	---	Peak
6	957.30	25.16	-20.84	46.00	35.33	20.94	1.27	32.38	---	---	Peak

- Polarization : Horizontal (1GHz-25GHz)

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



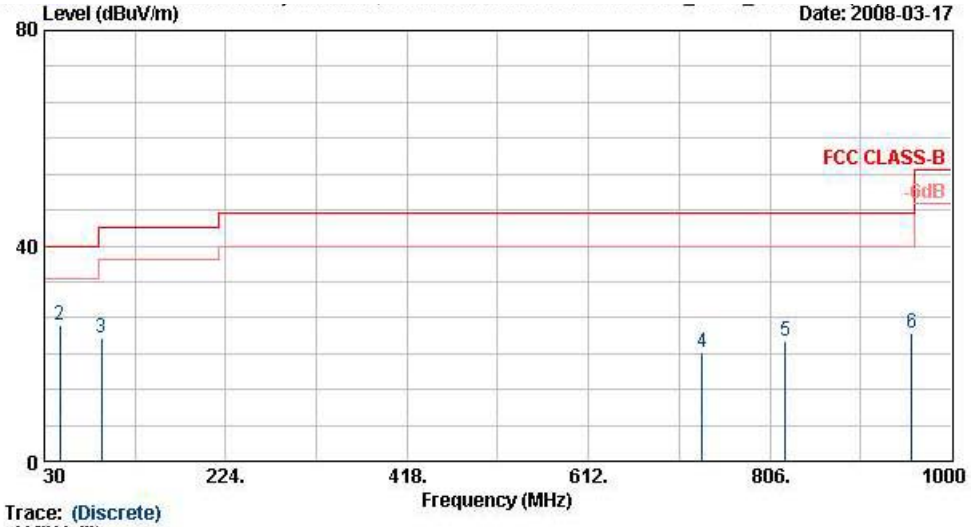
Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
EUT : GSM/EDGE(Class 10) 850/900/1800/1900
: PDA Phone
Power : 120Vac/60Hz
Model : FR 822203
Memo : BT Tx_Ch78;2480MHz + Adaptor
Data Rate : 2DH5
Plane : H
TMET : 00440000350111 2

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2384.00	51.07	-22.93	74.00	50.99	31.83	3.92	35.68	100	0	Peak
2 @	2384.00	39.58	-14.42	54.00	39.50	31.83	3.92	35.68	102	350	Average
3 @	2480.00	93.42			93.09	31.98	4.05	35.70	100	0	Peak
4 @	2480.00	84.99			84.66	31.98	4.05	35.70	102	350	Average
5 @	2483.47	59.66	-14.34	74.00	59.33	31.98	4.05	35.70	100	0	Peak
6 @	2483.47	49.93	-4.07	54.00	49.60	31.98	4.05	35.70	102	350	Average
7	8706.00	52.92	-21.08	74.00	45.81	36.08	7.45	36.42	100	0	Peak
8 @	8706.00	41.73	-12.27	54.00	34.62	36.08	7.45	36.42	100	193	Average

Remark: #3, and #4 are Fundamental Signals

- Polarization : Vertical (30MHz-1GHz)

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



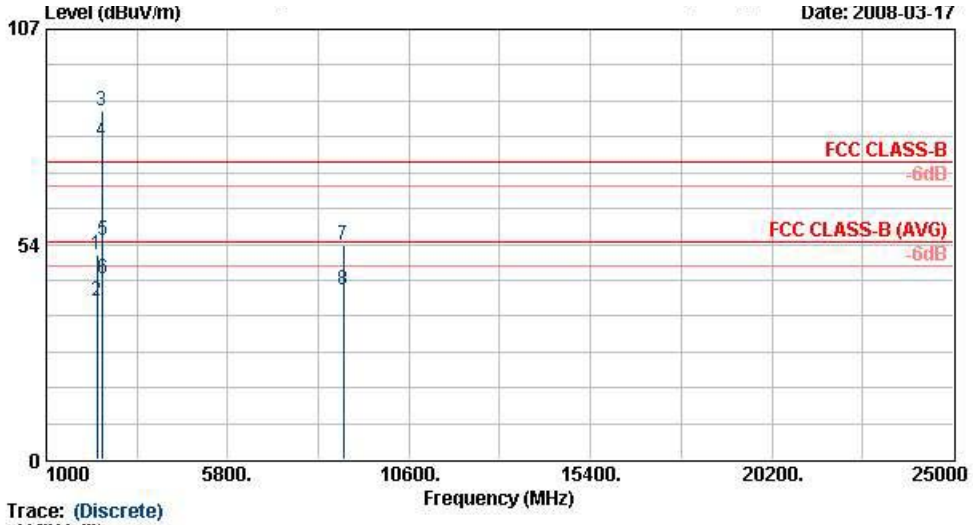
Trace: (Discrete)

Site	:	03CH06-HY
Condition	:	FCC CLASS-B 3m LF-ANT(951121) VERTICAL
EUT	:	GSM/EDGE(Class 10) 850/900/1800/1900
	:	PDA Phone
Power	:	120Vac/60Hz
Model	:	FR 822203
Memo	:	BT Tx_Ch78;2480MHz + Adaptor
Data Rate	:	2DH5
Plane	:	H
TMET	:	0044000035011 12

	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	22.55	-17.45	40.00	36.09	19.66	0.30	33.50	---	---	Peak
2 @	46.74	25.26	-14.74	40.00	48.04	10.04	0.30	33.12	100	301	Peak
3	91.29	22.92	-20.58	43.50	46.49	9.23	0.50	33.30	---	---	Peak
4	733.30	20.26	-25.74	46.00	32.93	19.20	1.10	32.97	---	---	Peak
5	822.90	22.41	-23.59	46.00	33.85	19.98	1.20	32.61	---	---	Peak
6	957.30	23.86	-22.14	46.00	34.03	20.94	1.27	32.38	---	---	Peak

- Polarization : Vertical (1GHz-25GHz)

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



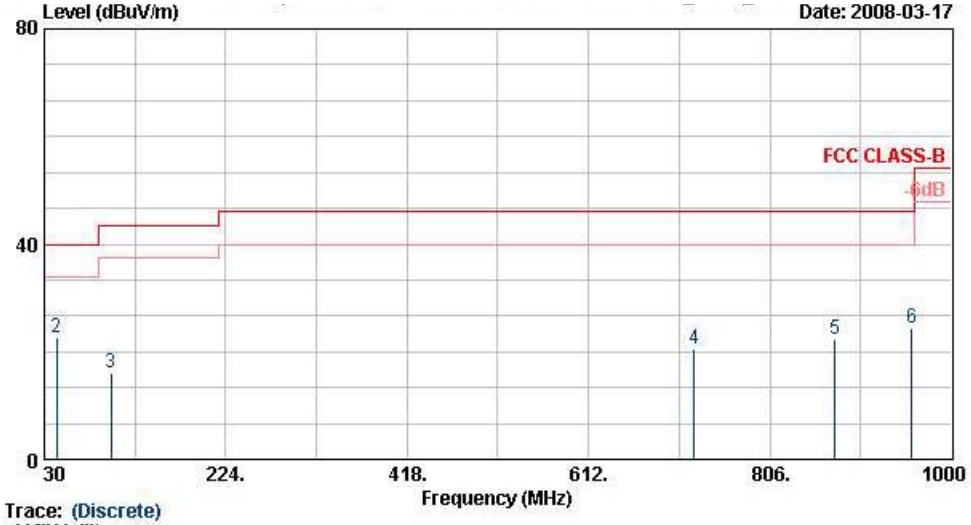
Site : 03CH06-HV
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
EUT : GSM/EDGE(Class 10) 850/900/1800/1900
: PDA Phone
Power : 120Vac/60Hz
Model : FR 822203
Memo : BT Tx_Ch78;2480MHz + Adaptor
Data Rate : 2DH5
Plane : H
TMET : 00440000350111 2

	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	2348.00	51.00	-23.00	74.00	51.04	31.78	3.86	35.67	100	0	Peak
2 @	2348.00	39.48	-14.52	54.00	39.51	31.78	3.86	35.67	100	94	Average
3 @	2480.00	86.91			86.58	31.98	4.05	35.70	100	0	Peak
4 @	2480.00	79.22			78.89	31.98	4.05	35.70	100	94	Average
5	2483.47	54.36	-19.64	74.00	54.03	31.98	4.05	35.70	100	0	Peak
6 @	2483.47	44.93	-9.07	54.00	44.60	31.98	4.05	35.70	100	94	Average
7	8856.00	53.22	-20.78	74.00	45.82	36.29	7.62	36.51	100	0	Peak
8 @	8856.00	41.99	-12.01	54.00	34.59	36.29	7.62	36.51	100	213	Average

Remark: #3, and #4 are Fundamental Signals

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

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



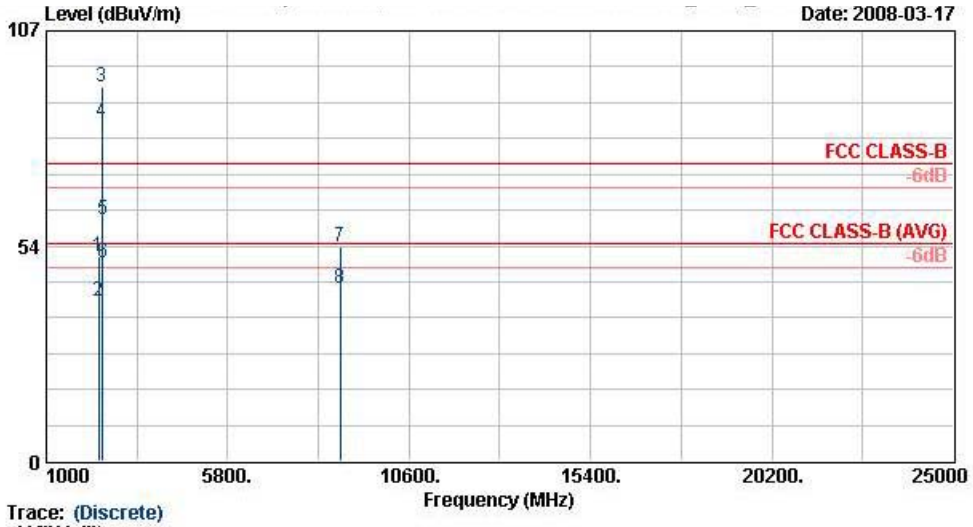
Trace: (Discrete)

Site	:	03CH06-HY
Condition	:	FCC CLASS-B 3m LF-ANT(951121) HORIZONTAL
EUT	:	GSM/EDGE(Class 10) 850/900/1800/1900
	:	PDA Phone
Power	:	120Vac/60Hz
Model	:	FR 822203
Memo	:	BT Tx_Ch78;2480MHz + Adaptor
Data Rate	:	3DH5
Plane	:	H
TMET	:	004400003501112

	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	22.85	-17.15	40.00	36.39	19.66	0.30	33.50	100	93	Peak
2	43.23	22.65	-17.35	40.00	43.96	11.52	0.30	33.13	---	---	Peak
3	101.28	16.12	-27.38	43.50	37.82	11.07	0.50	33.27	---	---	Peak
4	724.90	20.48	-25.52	46.00	33.23	19.12	1.15	33.02	---	---	Peak
5	875.40	22.35	-23.65	46.00	33.44	20.36	1.30	32.74	---	---	Peak
6	957.30	24.35	-21.65	46.00	34.52	20.94	1.27	32.38	---	---	Peak

- Polarization : Horizontal (1GHz-25GHz)

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



Trace: (Discrete)

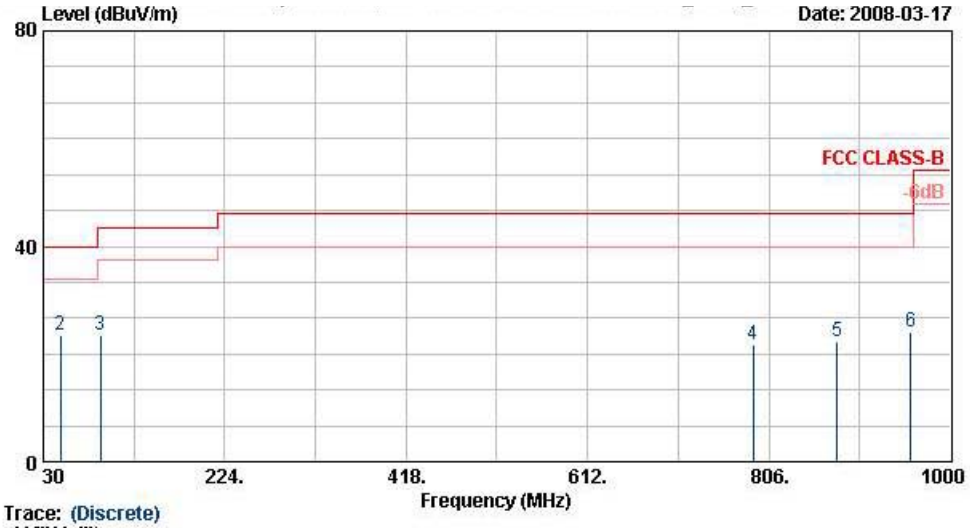
Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
EUT : GSM/EDGE(Class 10) 850/900/1800/1900
: PDA Phone
Power : 120Vac/60Hz
Model : FR 822203
Memo : BT Tx_Ch78;2480MHz + Adaptor
Data Rate : 3DH5
Plane : H
TMET : 0044000035011I2

	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	50.73	-23.27	74.00	50.63	31.86	3.92	35.68	100	0	Peak
2 @	2388.00	39.59	-14.41	54.00	39.49	31.86	3.92	35.68	103	349	Average
3 @	2480.00	93.27			92.94	31.98	4.05	35.70	100	0	Peak
4 @	2480.00	84.33			84.00	31.98	4.05	35.70	103	349	Average
5 @	2483.47	60.04	-13.96	74.00	59.71	31.98	4.05	35.70	100	0	Peak
6 @	2483.47	49.40	-4.60	54.00	49.07	31.98	4.05	35.70	103	349	Average
7	8772.00	53.30	-20.70	74.00	46.05	36.17	7.53	36.47	100	0	Peak
8 @	8772.00	42.80	-11.20	54.00	35.56	36.17	7.53	36.47	100	283	Average

Remark: #3, and #4 are Fundamental Signals

- Polarization : Vertical (30MHz-1GHz)

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



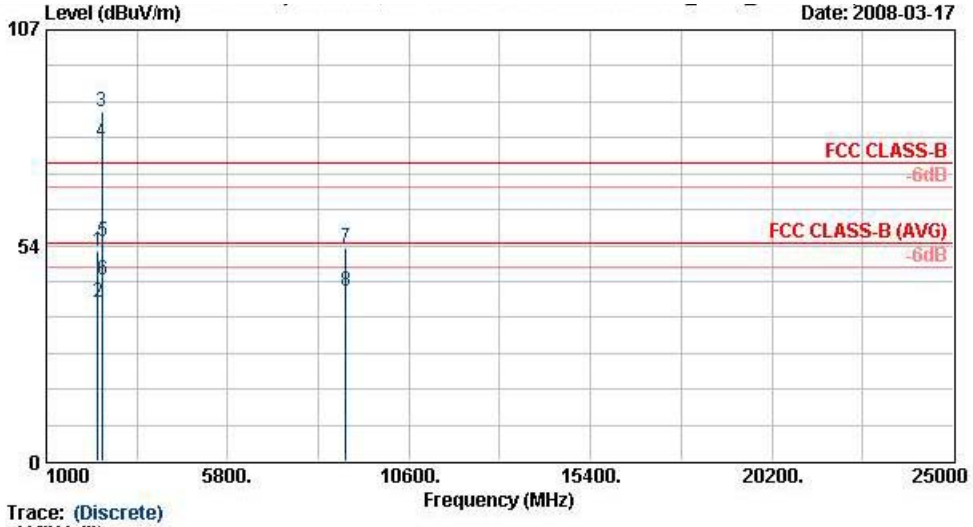
Trace: (Discrete)

Site	:	03CH06-HY
Condition	:	FCC CLASS-B 3m LF-ANT(951121) VERTICAL
EUT	:	GSM/EDGE(Class 10) 850/900/1800/1900
	:	PDA Phone
Power	:	120Vac/60Hz
Model	:	FR 822203
Memo	:	BT Tx_Ch78;2480MHz + Adaptor
Data Rate	:	3DH5
Plane	:	H
TMET	:	0044000035011I2

	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	22.82	-17.18	40.00	36.36	19.66	0.30	33.50	---	---	Peak
2 @	48.63	23.52	-16.48	40.00	47.30	9.06	0.30	33.14	100	148	Peak
3	91.29	23.39	-20.11	43.50	46.96	9.23	0.50	33.30	---	---	Peak
4	789.30	21.71	-24.29	46.00	33.42	19.72	1.20	32.63	---	---	Peak
5	878.90	22.18	-23.82	46.00	33.25	20.38	1.30	32.75	---	---	Peak
6	957.30	24.18	-21.82	46.00	34.35	20.94	1.27	32.38	---	---	Peak

- Polarization : Vertical (1GHz-25GHz)

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



Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
EUT : GSM/EDGE(Class 10) 850/900/1800/1900
: PDA Phone
Power : 120Vac/60Hz
Model : FR 822203
Memo : BT Tx_Ch78;2480MHz + Adaptor
Data Rate : 3DH5
Plane : H
TMET : 0044000035011 12

	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	52.00	-22.00	74.00	51.97	31.81	3.89	35.67	100	0	Peak
2 @	2364.00	39.51	-14.49	54.00	39.49	31.81	3.89	35.67	100	95	Average
3 @	2480.00	86.57			86.24	31.98	4.05	35.70	100	0	Peak
4 @	2480.00	78.99			78.66	31.98	4.05	35.70	100	95	Average
5	2483.47	54.42	-19.58	74.00	54.09	31.98	4.05	35.70	100	0	Peak
6 @	2483.74	45.09	-8.91	54.00	44.76	31.98	4.05	35.70	100	95	Average
7	8931.00	52.97	-21.03	74.00	45.40	36.41	7.71	36.56	100	0	Peak
8 @	8931.00	42.24	-11.76	54.00	34.68	36.41	7.71	36.56	100	115	Average

Remark: #3, and #4 are Fundamental Signals

5.10 Antenna Requirements

5.10.1 Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no other antenna except assembled by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.247 (b), if directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi.

5.10.2 Antenna Connected Construction

The antenna used in this product is chip antenna without connector and it is considered to meet antenna requirement of FCC.

5.10.3 Antenna Gain

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

6. List of Measuring Equipments

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
EMC Receiver	R&S	ESCS 30	100174	9kHz – 2.75GHz	Mar. 03, 2008	Mar. 02, 2009	Conduction (CO04-HY)
LISN	MessTec	NNB-2/16Z	99079	9kHz – 30MHz	Mar. 31, 2008	Mar. 30, 2009	Conduction (CO04-HY)
LISN (Support Unit)	EMCO	3810/2NM	9703-1839	9kHz – 30MHz	Mar. 22, 2008	Mar. 21, 2009	Conduction (CO04-HY)
RF Cable-CON	UTIFLEX	3102-26886-4	CB049	9kHz – 30MHz	Apr. 20, 2007	Apr. 19, 2008	Conduction (CO04-HY)
ISN	SCHAFFNER	ISN T400	21653	9kHz –30MHz	Mar. 27, 2008	Mar. 26, 2009	Conduction (CO04-HY)
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	N/A	N/A	Conduction (CO04-HY)
Spectrum Analyzer	Agilent	E4408B	MY44211028	9KHz-26.5GHz	Oct. 17, 2007	Oct. 16, 2008	Radiation (03CH06-HY)
EMI Test Receiver	R&S	ESCS30	100356	9KHz-2.75GHz	Jul. 26, 2007	Jul. 25, 2008	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2885	30MHz -2GHz	Dec. 01, 2007	Nov. 30, 2008	Radiation (03CH06-HY)
Double Ridge Horn Antenna	Com-Power	AH118	071025	1G~18G	Jun. 04, 2007	Jun. 03, 2008	Radiation (03CH06-HY)
SHF-EHF Horn	SCHWARZBECK	BBHA 9170	9170-251	14G - 40G	Oct. 17, 2007	Oct. 16, 2008	Radiation (03CH06-HY)
Pre Amplifier	Agilent	8449B	3008A01917	1G - 26.5G	Nov. 22, 2007	Nov. 21, 2008	Radiation (03CH06-HY)
Pre Amplifier	EMEC	PA303	PA303-SMA-059	100K~3GHz	Nov. 26, 2007	Nov. 25, 2008	Radiation (03CH06-HY)
Base Station Simulator	R & S	CMU200	103937	Third-Band	Oct. 19, 2007	Oct. 18, 2008	Radiation (03CH06-HY)

7. Uncertainty Evaluation

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

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

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

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

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

Contribution	Uncertainty of x_i		$u(x_i)$	Ci	$Ci*u(x_i)$
	dB	Probability Distribution			
Receiver reading	±0.10	Normal(k=1)	0.10	1	0.10
Antenna factor calibration	±1.70	Normal(k=2)	0.85	1	0.85
Cable loss calibration	±0.50	Normal(k=2)	0.25	1	0.25
Receiver Correction	±2.00	Rectangular	1.15	1	1.15
Antenna Factor Directional	±1.50	Rectangular	0.87	1	0.87
Site imperfection	±2.80	Triangular	1.14	1	1.14
Mismatch Receiver VSWR Γ1= 0.197 Antenna VSWR Γ2= 0.194 Uncertainty=20log(1-Γ1*Γ2*Γ3)	+0.34/-0.35	U-shaped	0.244	1	0.244
Combined standard uncertainty Uc(y)	**2.36**				
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)	**4.72**				

The measured result is ：y dBuV ± U dB

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