Testing Laboratory
1190

FCC Test Report

According to

47 CFR Part 15 Subpart C

Equipment	:	**Pocket PC Phone**
Trade Name	:	**NIL**
Model No.	:	**NEON400**
FCC ID	:	**NM8NEON400**
Filing Type	:	**Certification**
Applicant	:	**High Tech Computer Corp.** 1F, No. 6-3, BoqiangRd., Xindian City, Taipei Country, Taiwan

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- The data shown in this test report were carried out on Jun. 12, 2008 at **Sporton International Inc. LAB.**
- Report No.: FR860909, 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.

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Appendix A. Photographs of EUT

Appendix B. Setup Photographs

History of This Test Report

Report Issue Date: Jun. 25, 2008

Report No.	Description

1. General Description of Equipment under Test

1.1 Applicant

High Tech Computer Corp.
1F, No. 6-3, BoqiangRd., Xindian City, Taipei Country, Taiwan

1.2 Manufacturer

High Tech Computer Corp.
1F, No. 6-3, BoqiangRd., Xindian City, Taipei Country, Taiwan

1.3 Feature of Equipment under Test

Product Feature & Specification				
DUT Type :	Pocket PC Phone			
Trade Name :	NIL			
Model Name :	NEON400			
FCC ID :	NM8NEON400			
Tx Frequency :	2400 MHz ~ 2483.5 MHz			
Rx Frequency :	2400 MHz ~ 2483.5 MHz			
Number of Channels :	79			
Carrier Frequency of Each Channel :	2402+n*1 MHz; n=0~78			
Channel Spacing :	1 MHz			
Maximum Output Power to Antenna :	2.26dBm			
Antenna Type :	PIFA Antenna			
Antenna Gain :	1 dBi			
Type of Modulation :	Bluetooth (1Mbps) : GFSK Bluetooth EDR (2Mbps) : π/4-DQPSK Bluetooth EDR (3Mbps) : 8-DPSK			
Function Type :	Transmitter		Transceiver	V
DUT Stage :	Production Unit			

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, 2Mbps, 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	0.90 dBm	1.82 dBm	1.53 dBm
Ch39	2441MHz	1.38 dBm	**2.26 dBm**	1.93 dBm
Ch78	2480MHz	0.93 dBm	1.65 dBm	1.39 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 25000 MHz.

2.2 Test Mode

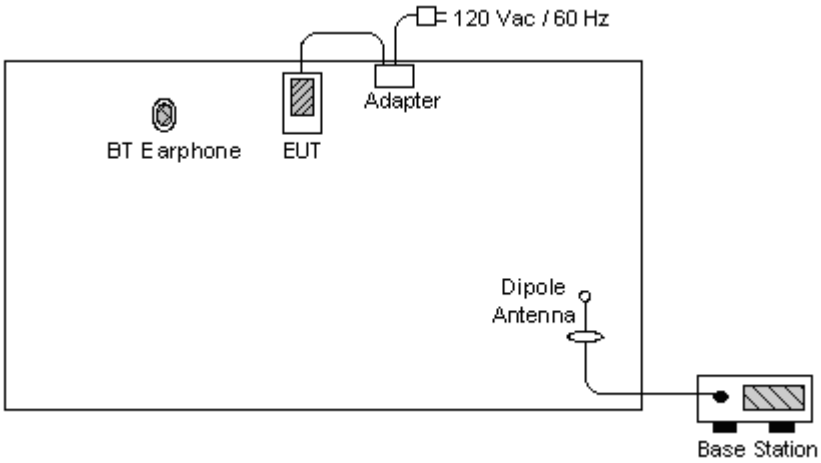
Application	Test Mode		
	BT Tx	BT Tx (EDR 2Mbps)	BT Tx (EDR 3Mbps)
Radiated Emission / RF Conducted	Mode 1: CH00_2402 MHz	Mode 4: CH00_2402 MHz	Mode 7: CH00_2402 MHz
	Mode 2: CH39_2441 MHz	Mode 5: CH39_2441 MHz	Mode 8: CH39_2441 MHz
	Mode 3: CH78_2480 MHz	Mode 6: CH78_2480 MHz	Mode 9: CH78_2480 MHz
Conducted Emission	Mode 1: BT Link + CDMA2000 Idle + Adapter		

2.3 Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	BT Base Station	Anritus	8852A	N/A	N/A	Unshielded, 1.8 m
2.	Base Station	R&S	CMU200	N/A	N/A	Unshielded, 1.8 m
3.	Bluetooth Earphone	Engotech	ET-BH111	PQY471087	N/A	N/A

2.4 Connection Diagram of Test System

<Conducted Emission>



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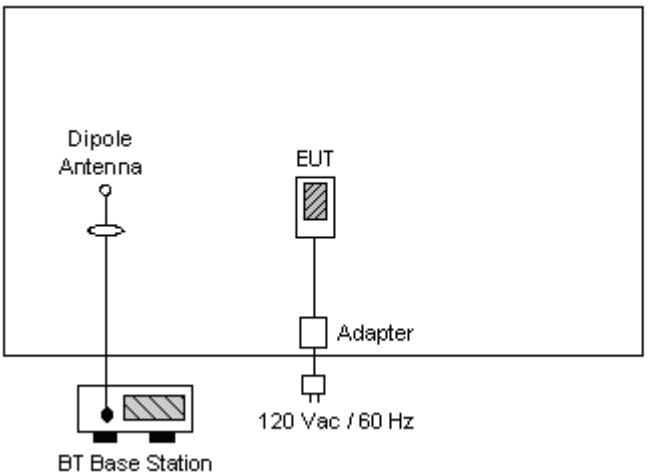


3. RF Utility

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
FCC Designation No	:	TW1022

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 100 KHz 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 : 25~26℃
- Relative Humidity : 52~54%
- Test Engineer : C.K.C

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(2Mbps)**

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
2346.86	44.14	-29.86	74.00	44.22	31.76	3.82	35.67	100	0	Peak
2346.86	30.75	-23.25	54.00	30.78	31.78	3.86	35.67	134	330	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
2371.37	43.66	-30.34	74300	43.56	31.86	3.92	35.68	100	0	Peak
2371.37	30.54	-23.46	54.00	30.50	31.83	3.89	35.68	100	322	Average

CH78 (Horizontal)

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.50	59.01	-14.99	74.00	58.68	31.98	4.05	35.70	100	0	Peak
2483.50	46.57	-7.43	54.00	46.24	31.98	4.05	35.70	102	12	Average

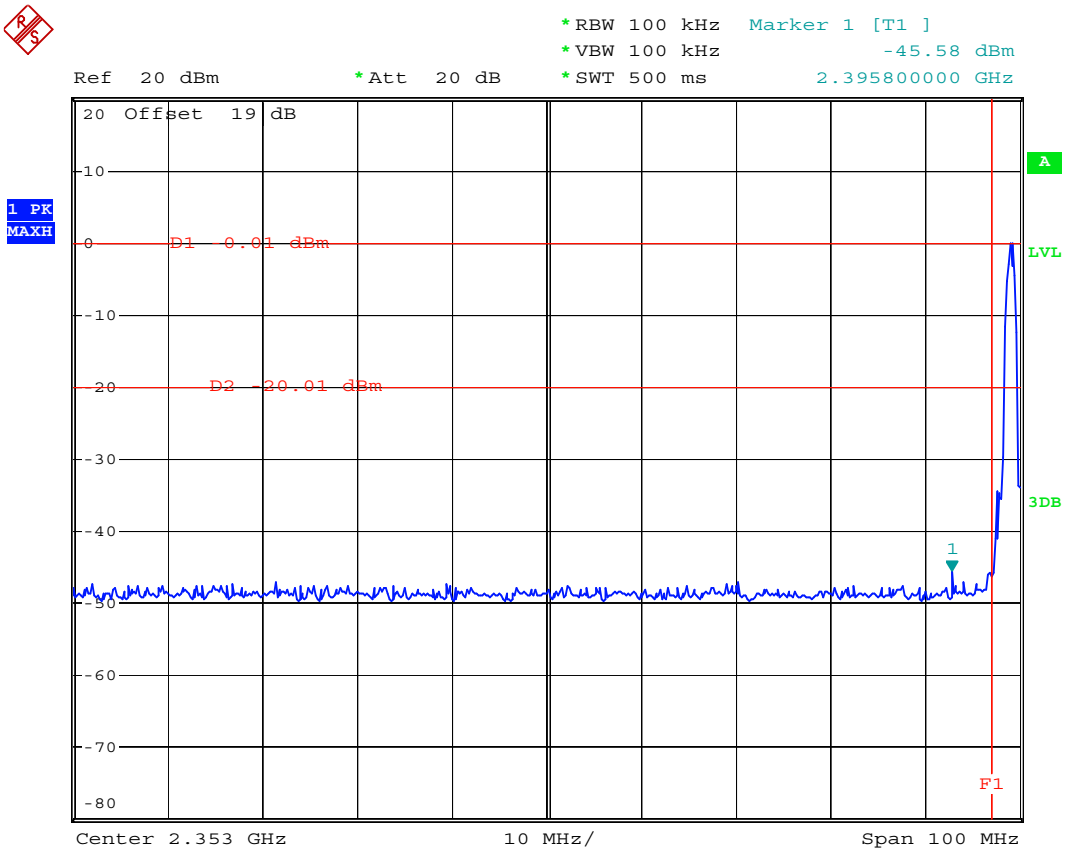
CH78 (Vertical)

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
2483.50	88.77	47.77	74.00	88.44	31.98	4.05	35.7	100	0	Peak
2483.50	46.16	-7.84	54.00	45.83	31.98	4.05	35.70	128	306	Average

5.2.5 20dB Band Edge

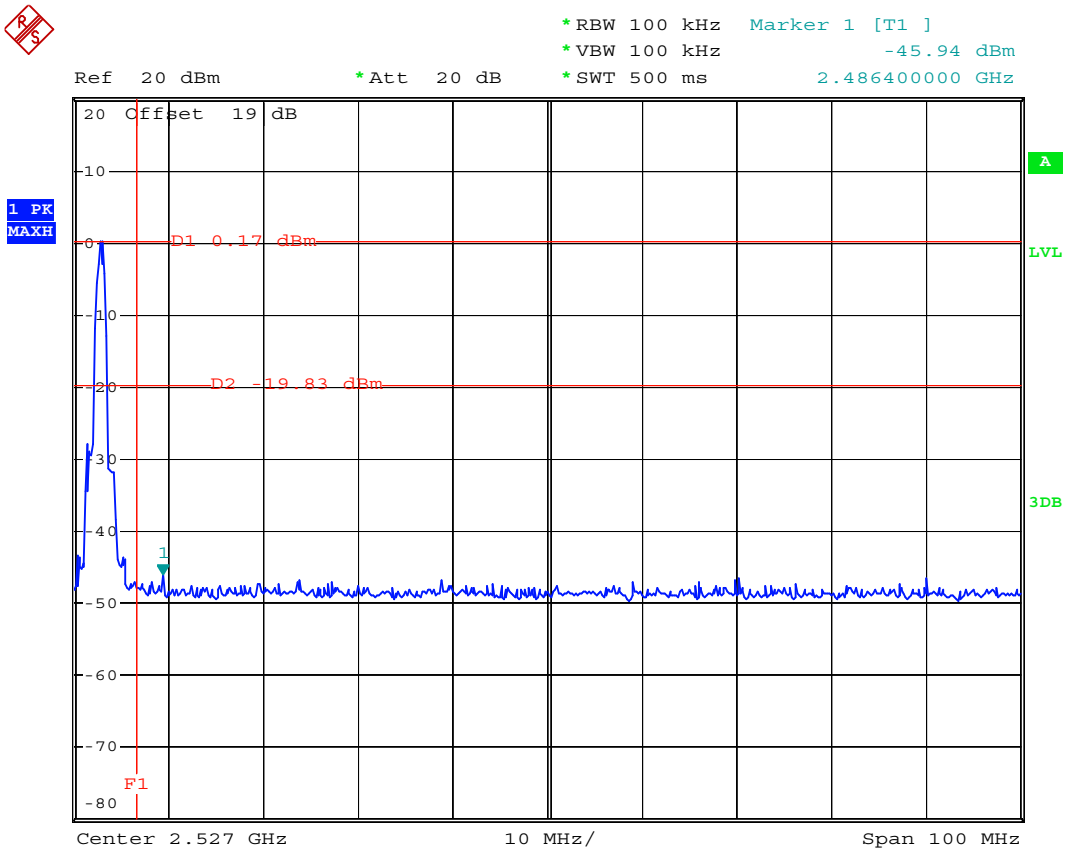
BT EDR(2Mbps)

CH00



Date: 11.JUN.2008 22:54:48

CH78



Date: 11.JUN.2008 22:54:07

5.3 Hopping Channel Separation

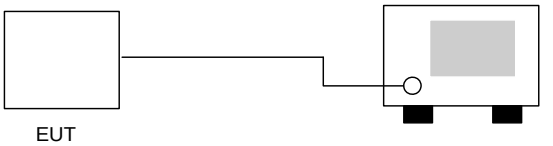
5.3.1 Measuring Instruments

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 30 KHz and VBW to 100 KHz.
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 : 25~26℃
- Relative Humidity : 52~54%
- Test Engineer : C.K.C

Channel	Frequency (MHz)	Carrier Frequency Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.004	0.513	Mode 1
39	2441	1.000	0.513	Mode 2
78	2480	1.000	0.514	Mode 3

Remark: Hopping Channel Separation shall be greater 2/3 of 20dB bandwidth.

- Application Type : BT EDR(2Mbps)
- Temperature : 25~26℃
- Relative Humidity : 52~54%
- Test Engineer : C.K.C

Channel	Frequency (MHz)	Carrier Frequency Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.000	0.851	Mode 4
39	2441	1.000	0.851	Mode 5
78	2480	1.000	0.848	Mode 6

Remark: Hopping Channel Separation shall be greater 2/3 of 20dB bandwidth.

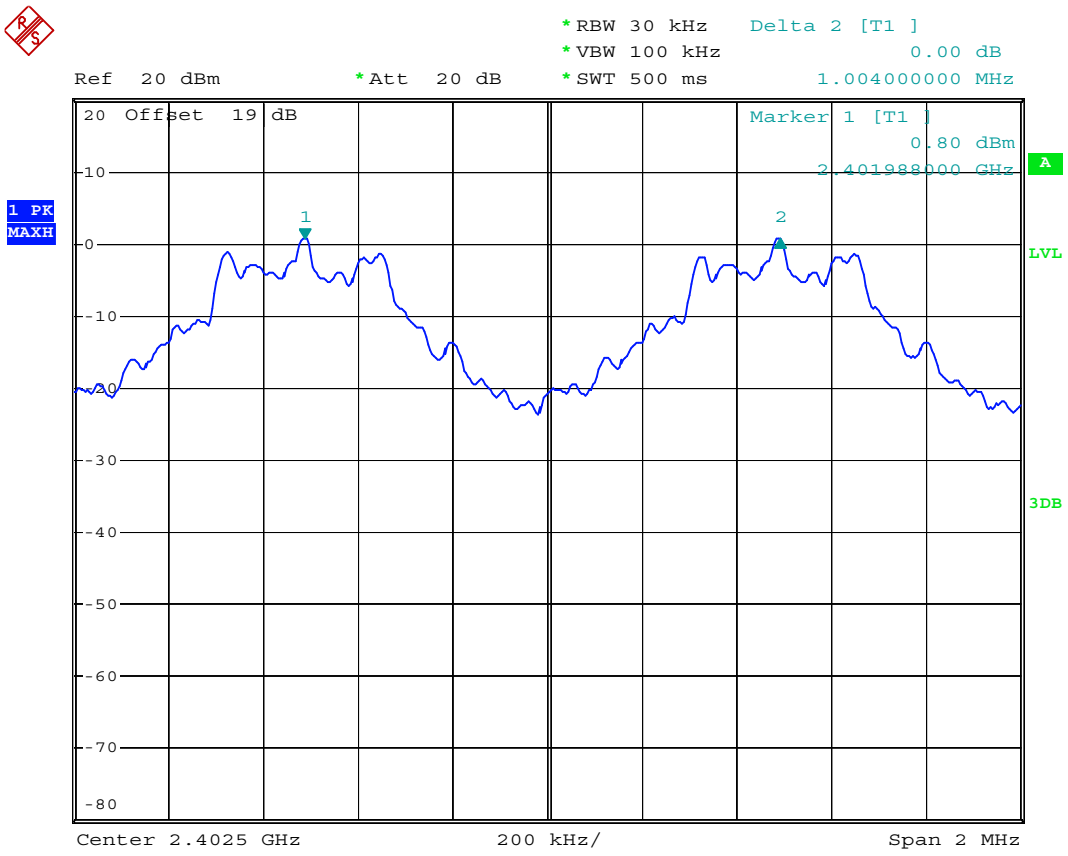
- Application Type : BT EDR(3Mbps)
- Temperature : 25~26℃
- Relative Humidity : 52~54%
- Test Engineer : C.K.C

Channel	Frequency (MHz)	Carrier Frequency Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.000	0.837	Mode 7
39	2441	1.000	0.840	Mode 8
78	2480	1.000	0.840	Mode 9

Remark: Hopping Channel Separation shall be greater 2/3 of 20dB bandwidth.

5.3.5 Hopping Channel Seperation

Mode 1



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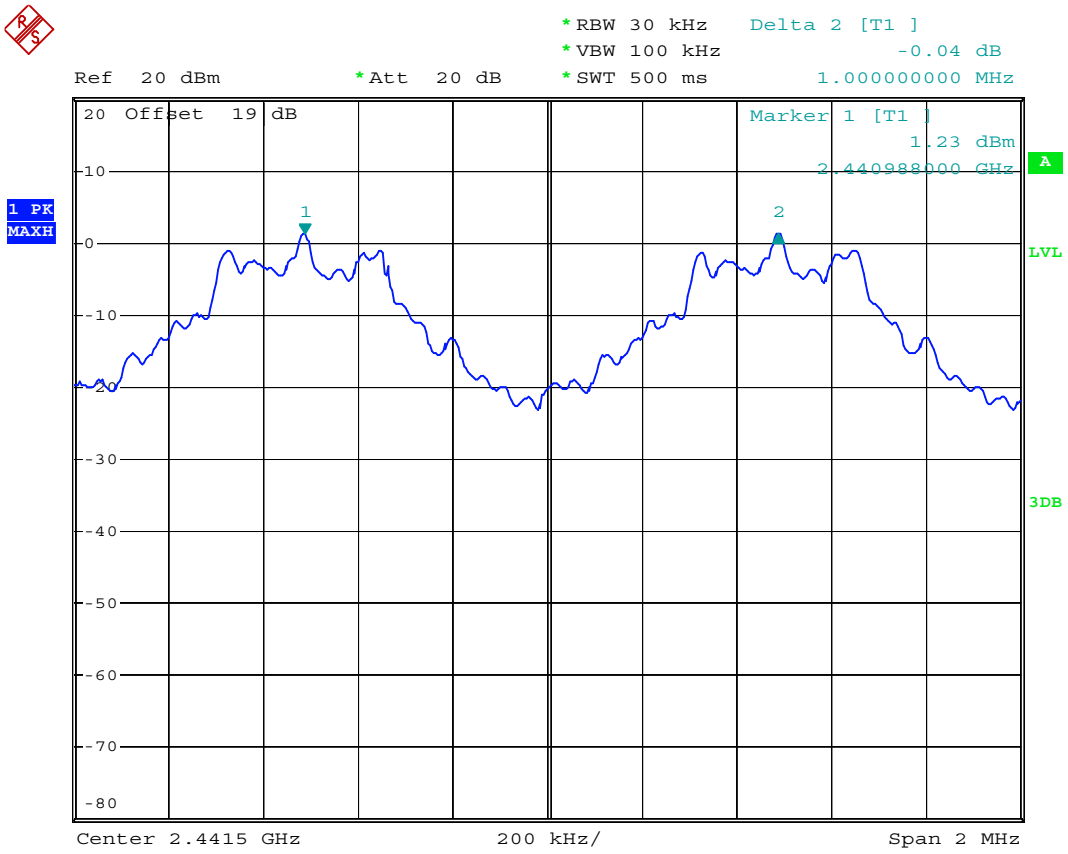
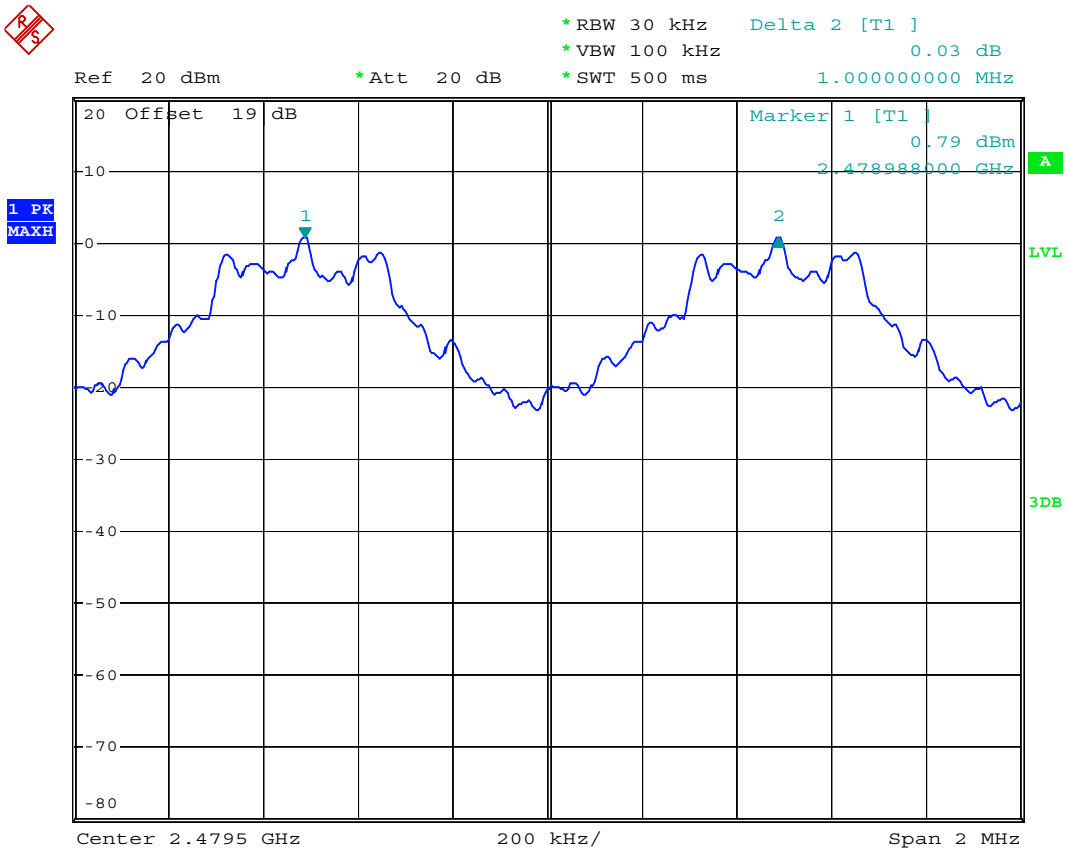
Mode 2



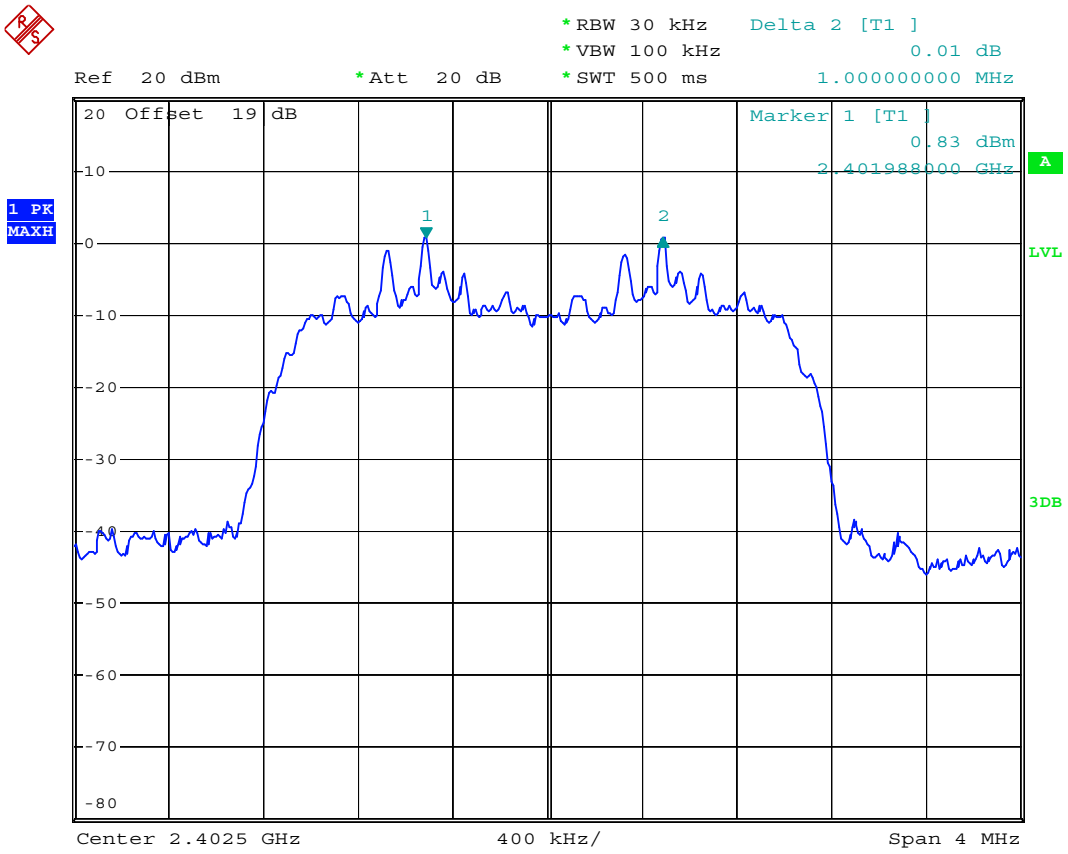
Date: 11.JUN.2008 22:24:13

Mode 3



Date: 11.JUN.2008 22:25:13

Mode 4



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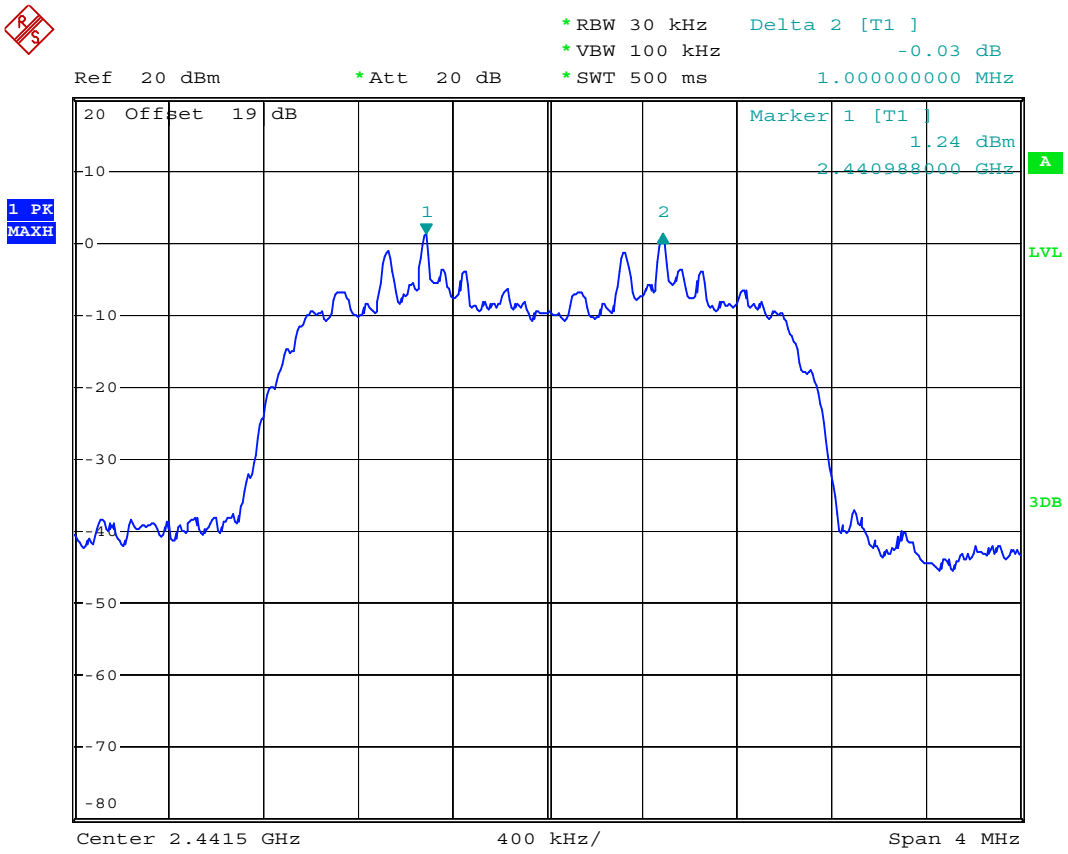
Mode 5



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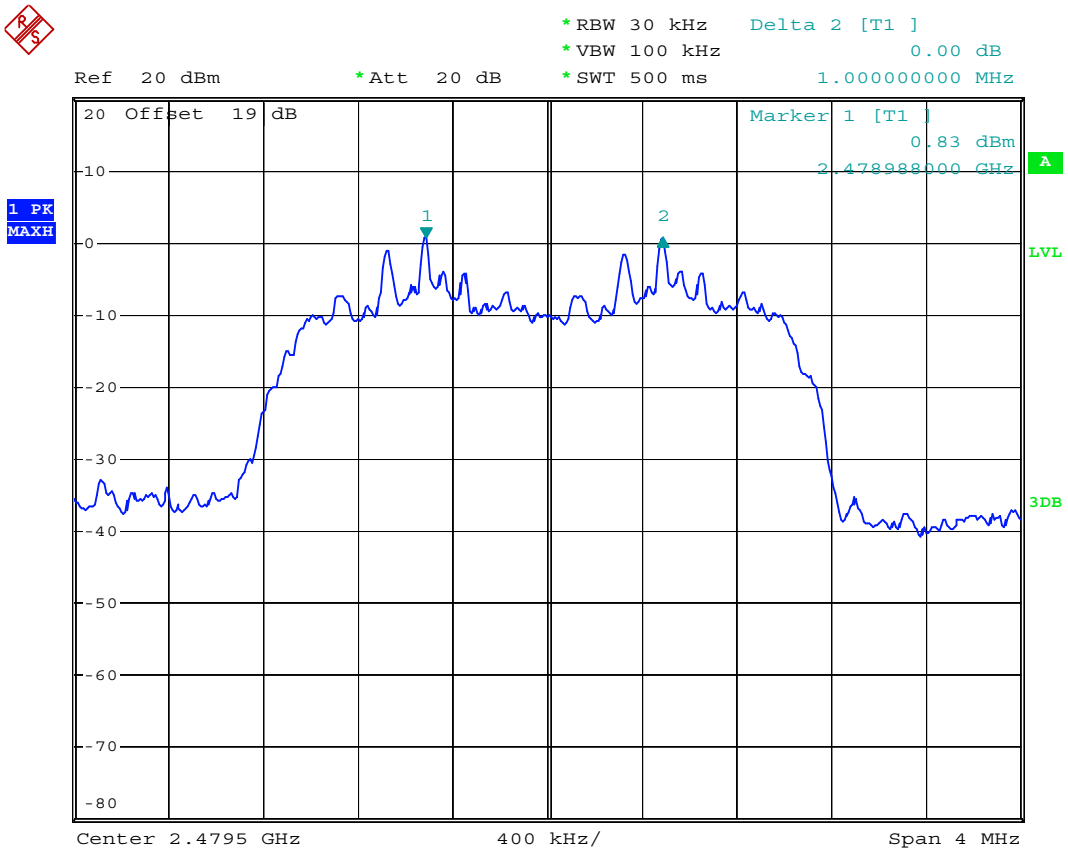
Mode 6



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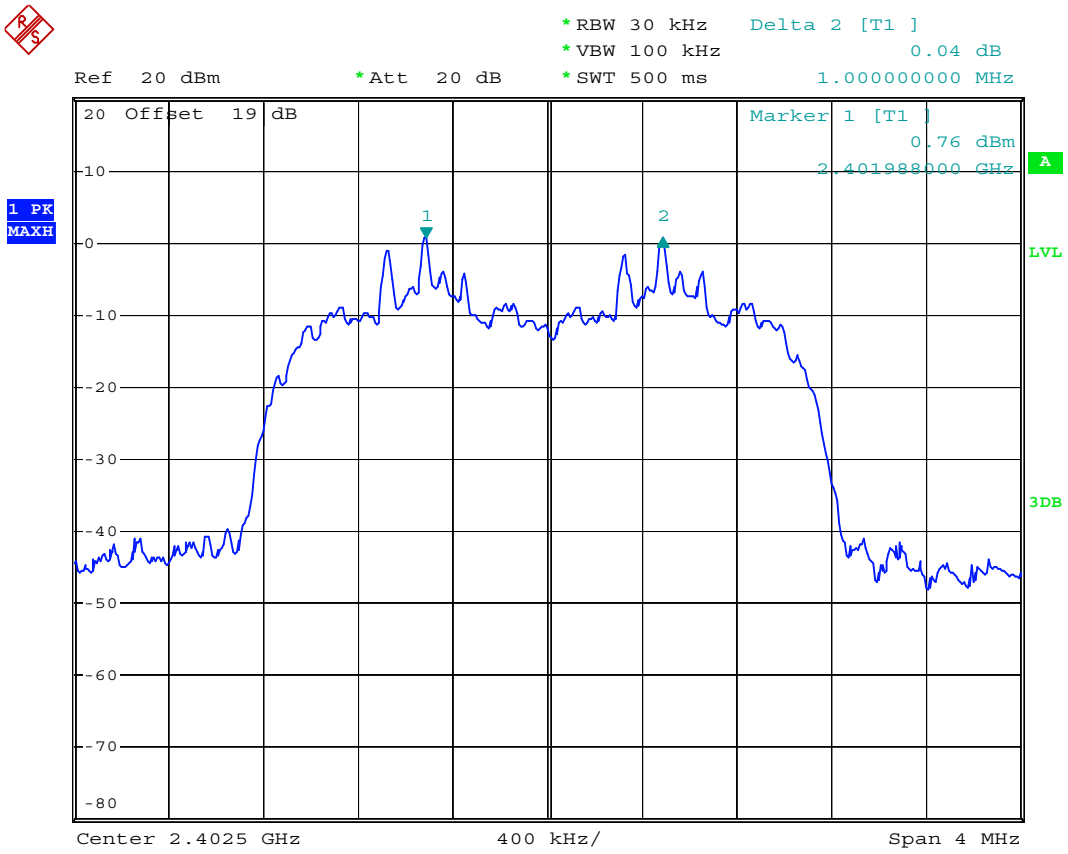
Mode 7



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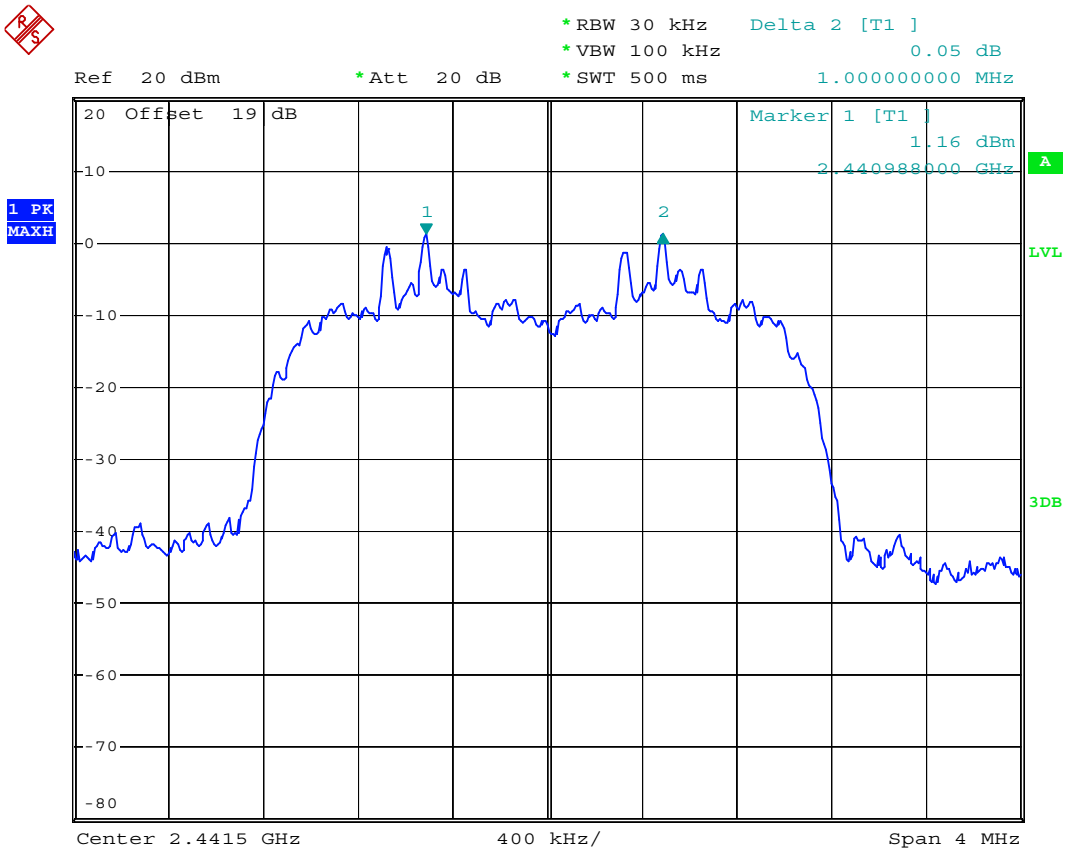
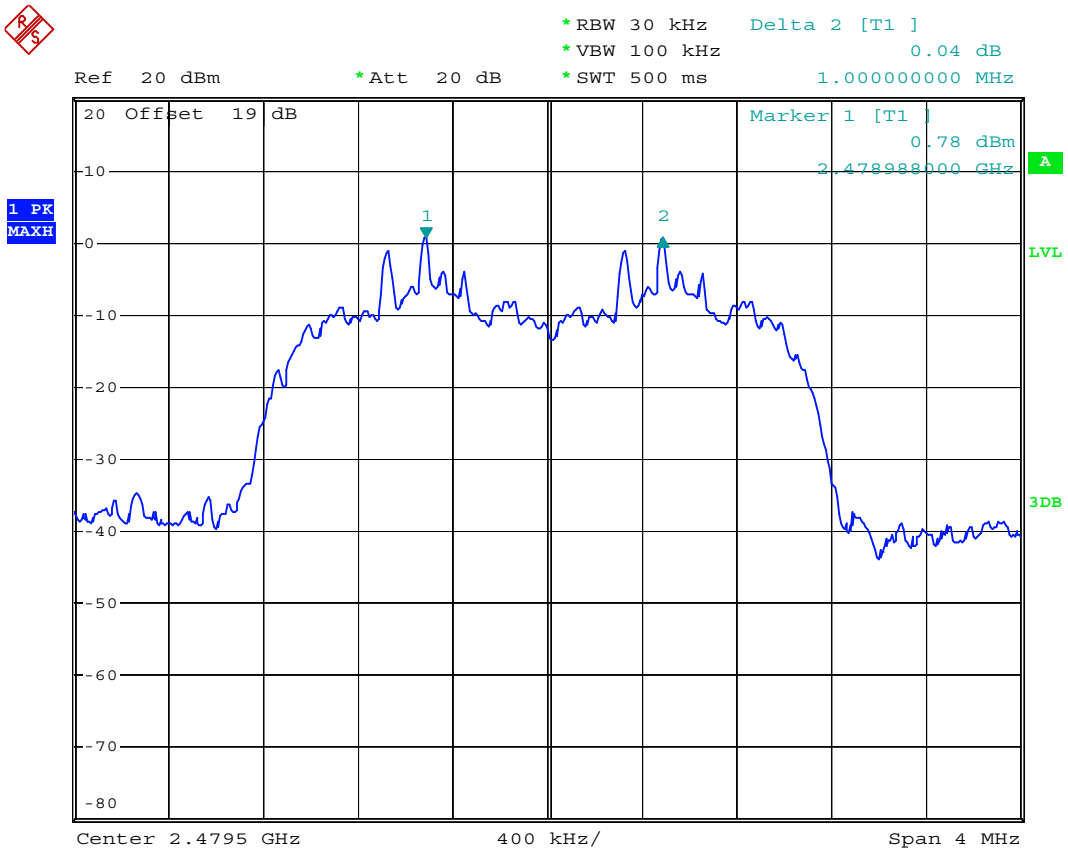
Mode 8



Date: 11.JUN.2008 23:15:28

Mode 9



Date: 11.JUN.2008 23:16:11

5.4 Number of Hopping Frequency

5.4.1 Measuring Instruments

As described in chapter 9 of this test report.

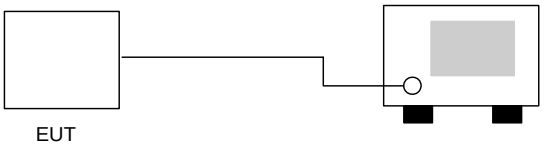
5.4.2 Test Procedure

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

b. Set RBW of spectrum analyzer to 100 KHz and VBW to 100 KHz.

c. The number of hopping frequency used is defined as the device has the numbers of total channel.

5.4.3 Test Setup Layout



5.4.4 Test Result：See spectrum analyzer plots below

- Application Type : BT
- Temperature : 25~26℃
- Relative Humidity : 52~54%
- Test Engineer : C.K.C

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

- Application Type : BT EDR(2Mbps)
- Temperature : 25~26℃
- Relative Humidity : 52~54%
- Test Engineer : C.K.C

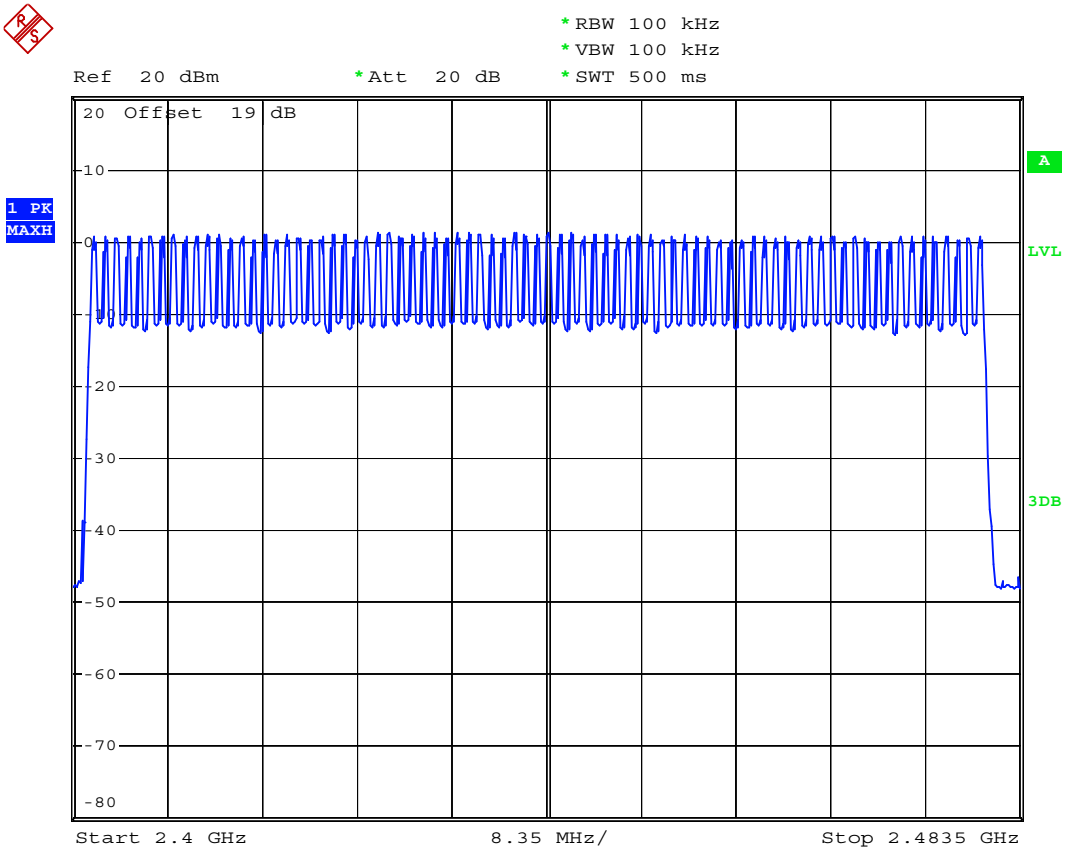
Number of Hopping Frequency (Channel)	Limits (Channel)
79	15

- Application Type : BT EDR(3Mbps)
- Temperature : 25~26℃
- Relative Humidity : 52~54%
- Test Engineer : C.K.C

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

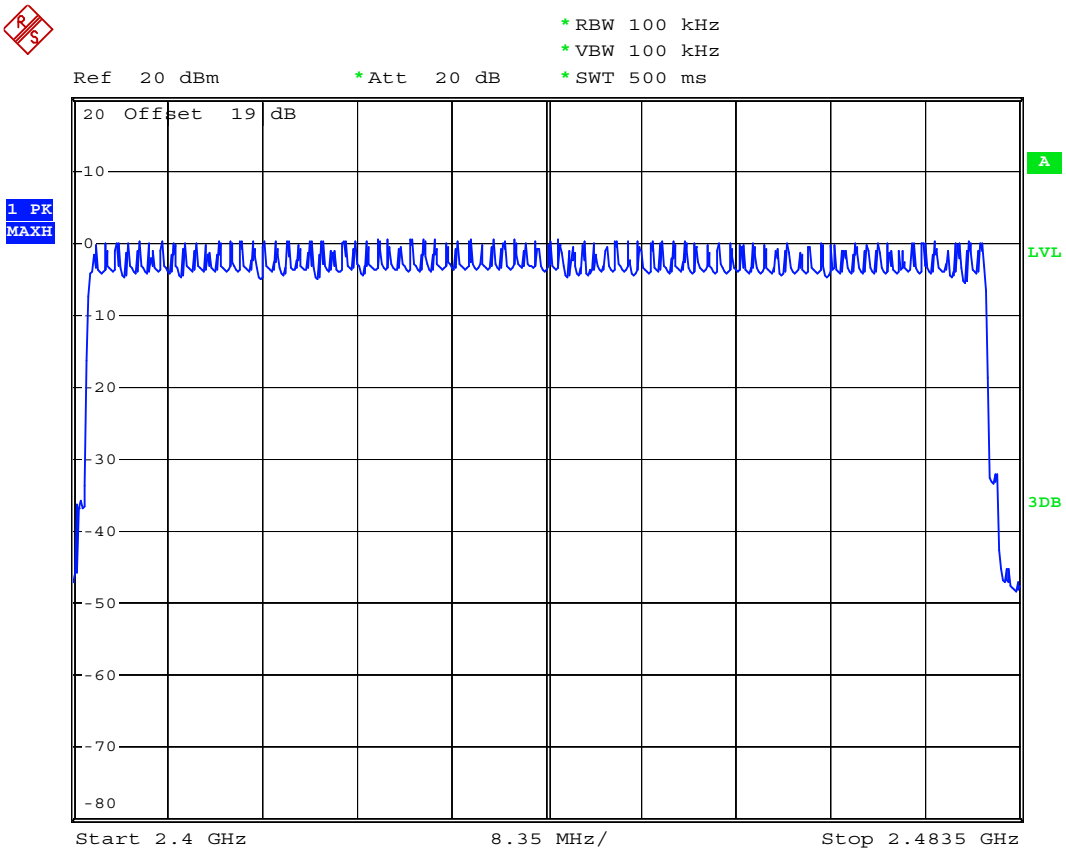
5.4.5 Number of Hopping Frequency

BT



Date: 11.JUN.2008 22:36:07

BT EDR(2Mbps)



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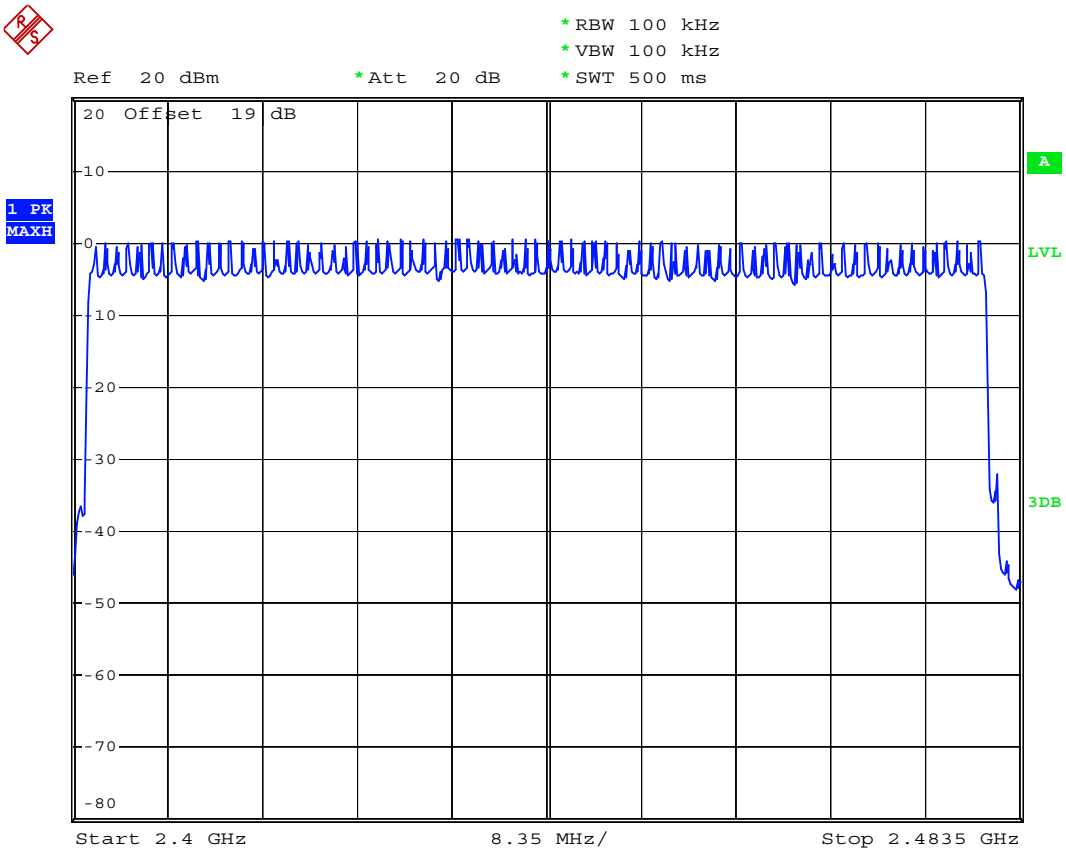
BT EDR(3Mbps)



Date: 11.JUN.2008 22:49:37

5.5 Hopping Channel Bandwidth

5.5.1 Measuring Instruments

As described in chapter 9 of this test report.

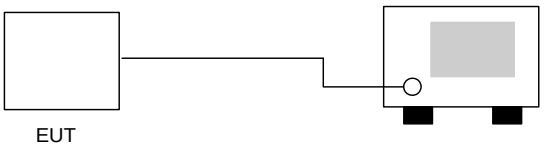
5.5.2 Test Procedure

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

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

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

5.5.3 Test Setup Layout



5.5.4 Test Result：See spectrum analyzer plots below

- Application Type : BT
- Temperature : 25~26℃
- Relative Humidity : 52~54%
- Test Engineer : C.K.C

Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Plot Ref. No.
00	2402	0.770	Mode 1
39	2441	0.770	Mode 2
78	2480	0.772	Mode 3

- Application Type : BT EDR(2Mbps)
- Temperature : 25~26℃
- Relative Humidity : 52~54%
- Test Engineer : C.K.C

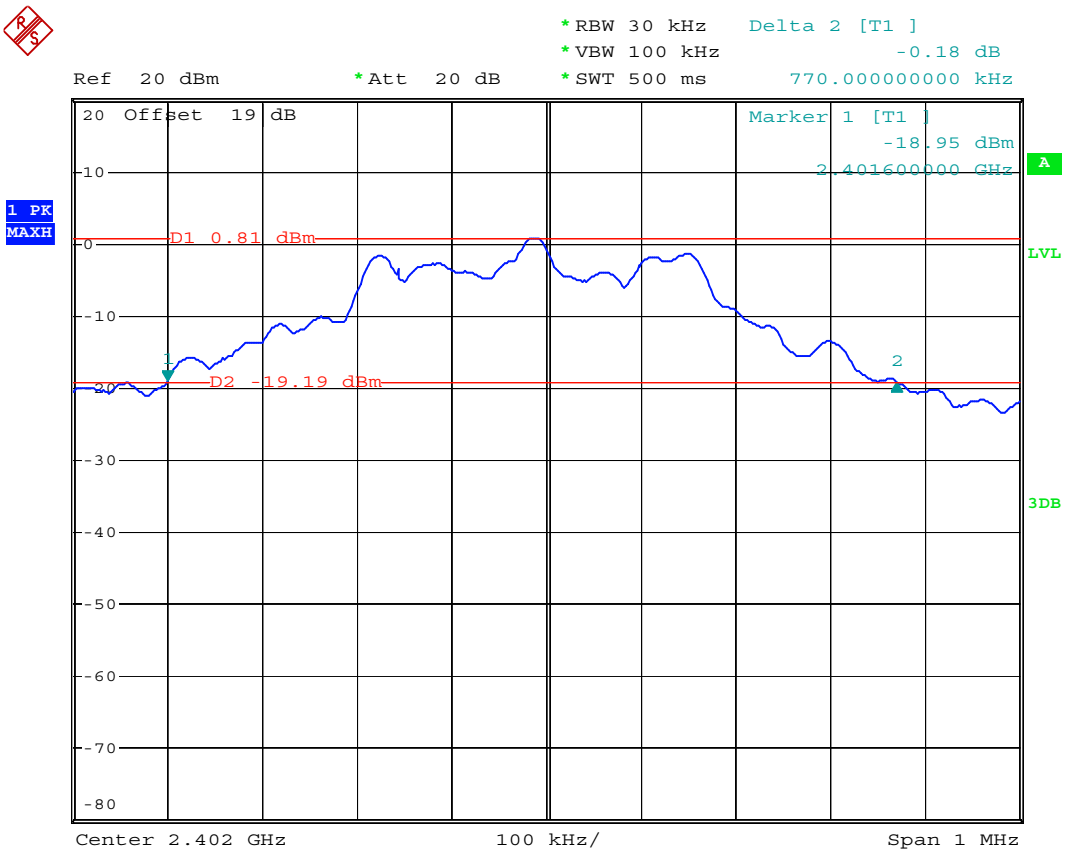
Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Plot Ref. No.
00	2402	1.276	Mode 4
39	2441	1.276	Mode 5
78	2480	1.272	Mode 6

- Application Type : BT EDR(3Mbps)
- Temperature : 25~26℃
- Relative Humidity : 52~54%
- Test Engineer : C.K.C

Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Plot Ref. No.
00	2402	1.256	Mode 7
39	2441	1.260	Mode 8
78	2480	1.260	Mode 9

5.5.5 Hopping Channel Bandwidth

Mode 1



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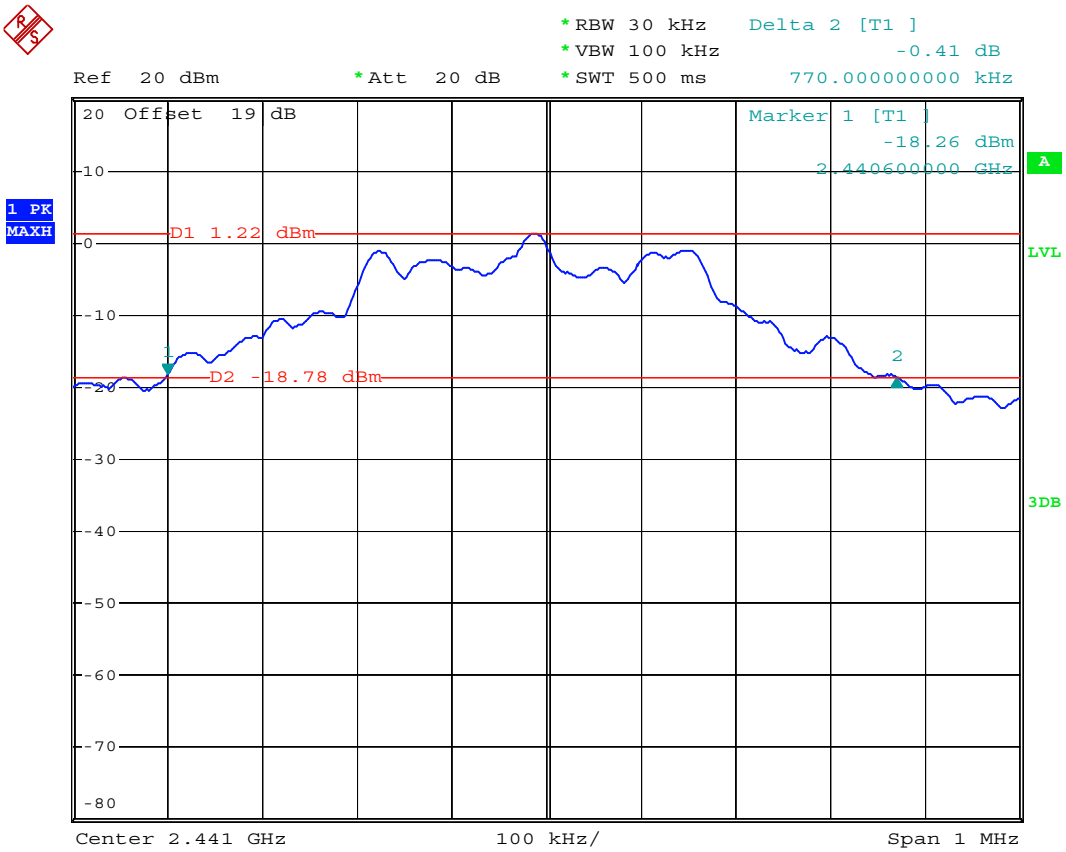
Mode 2



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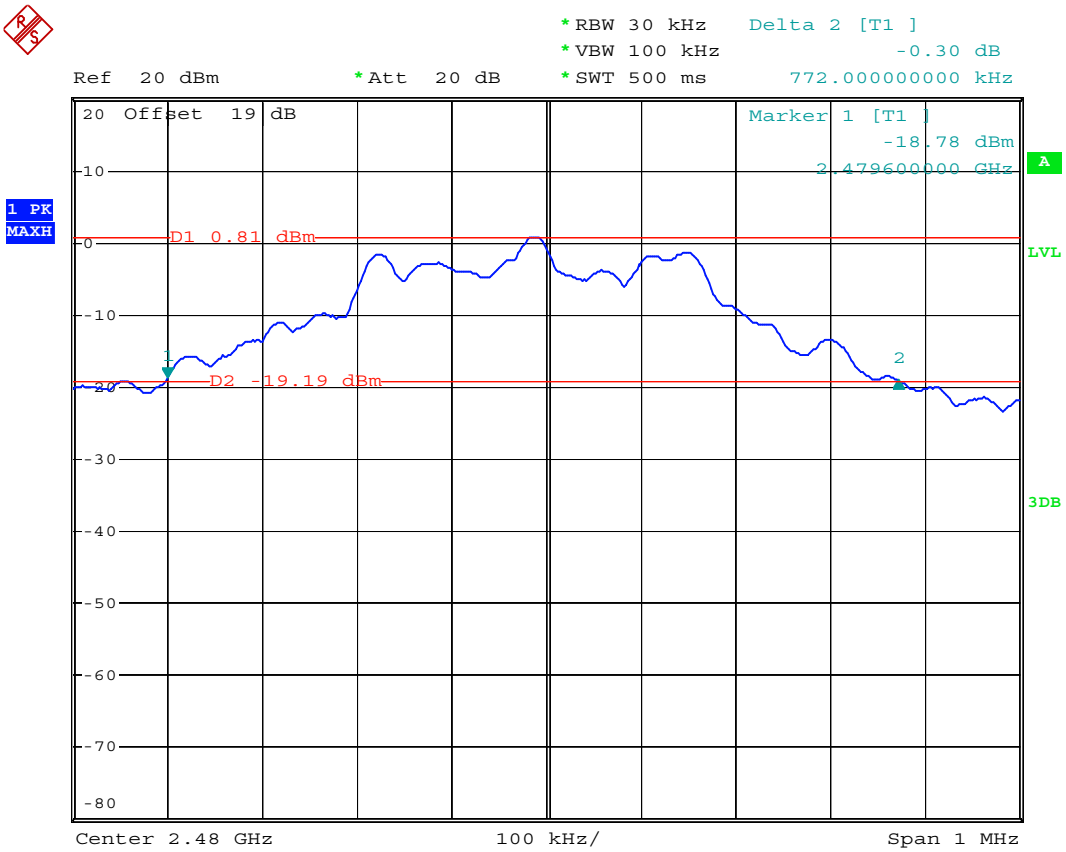

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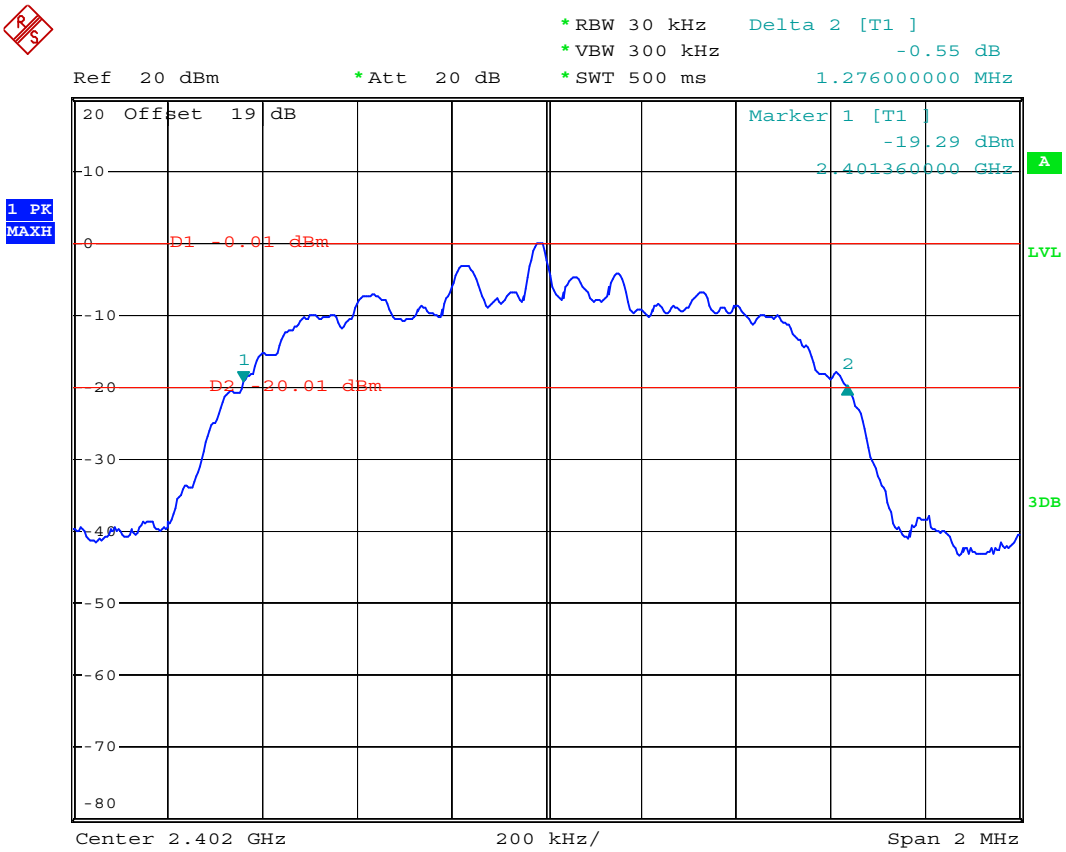
Mode 4



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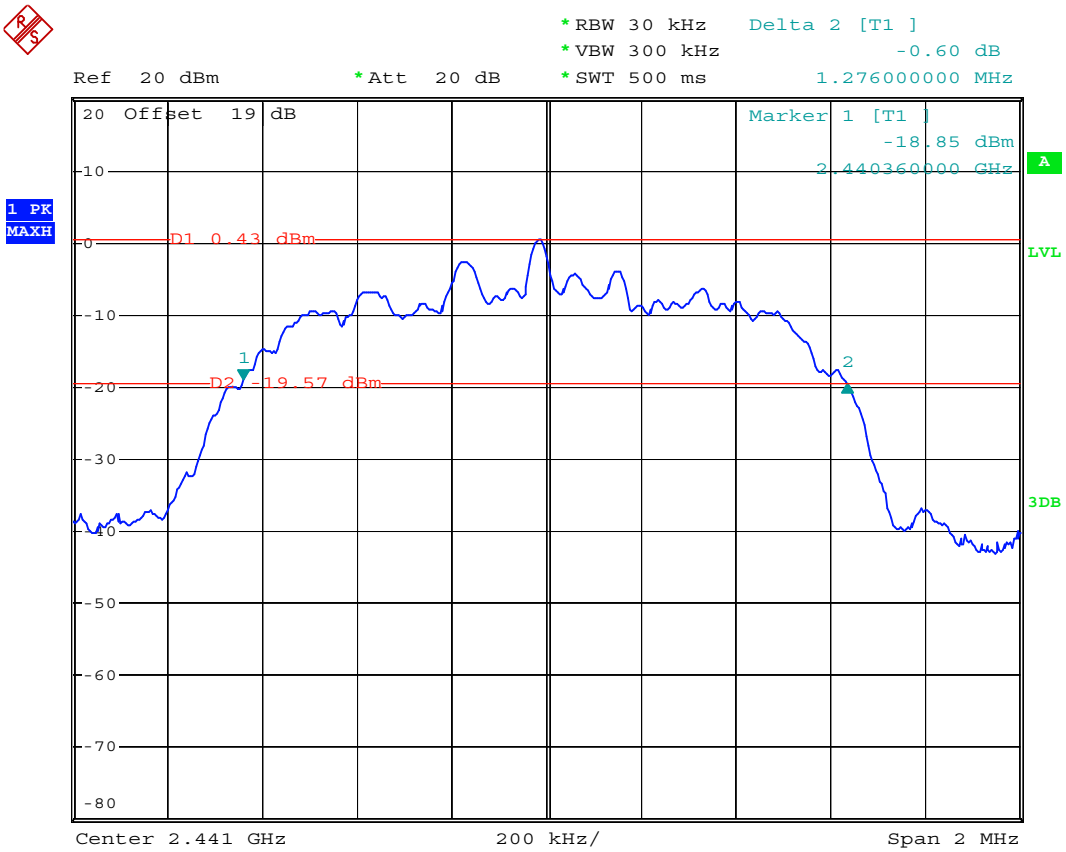
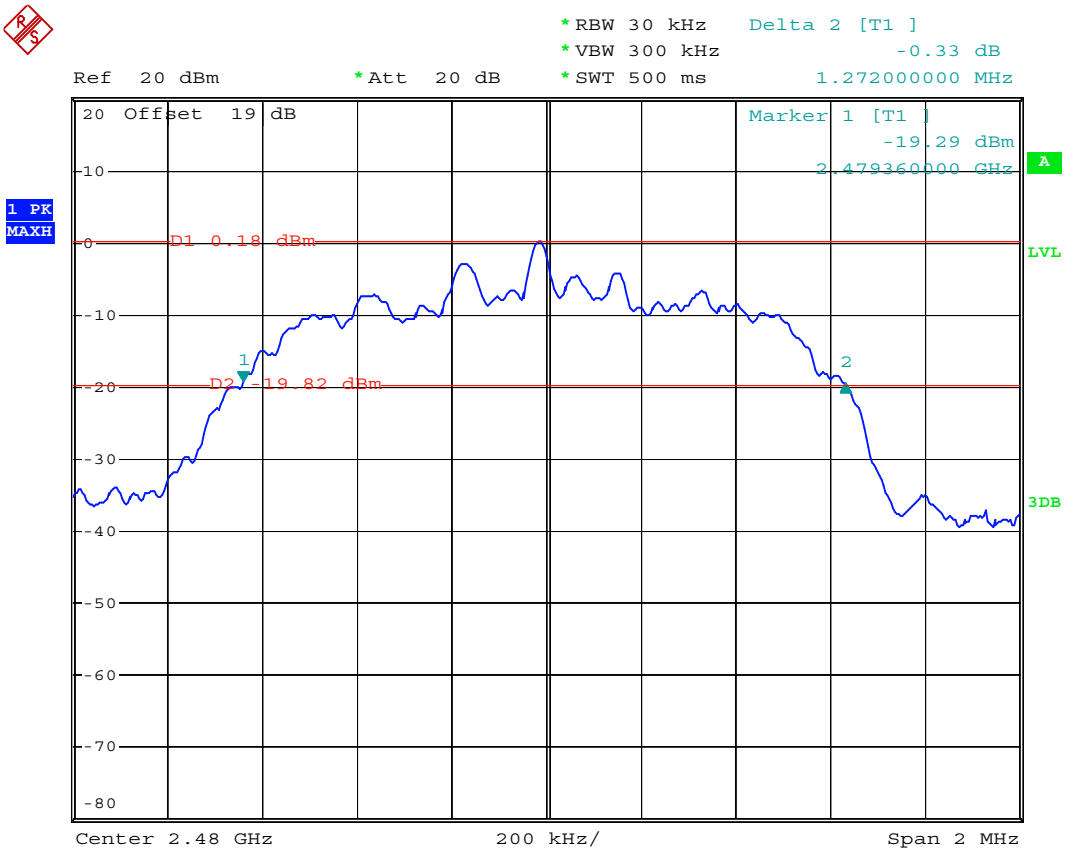
Mode 5



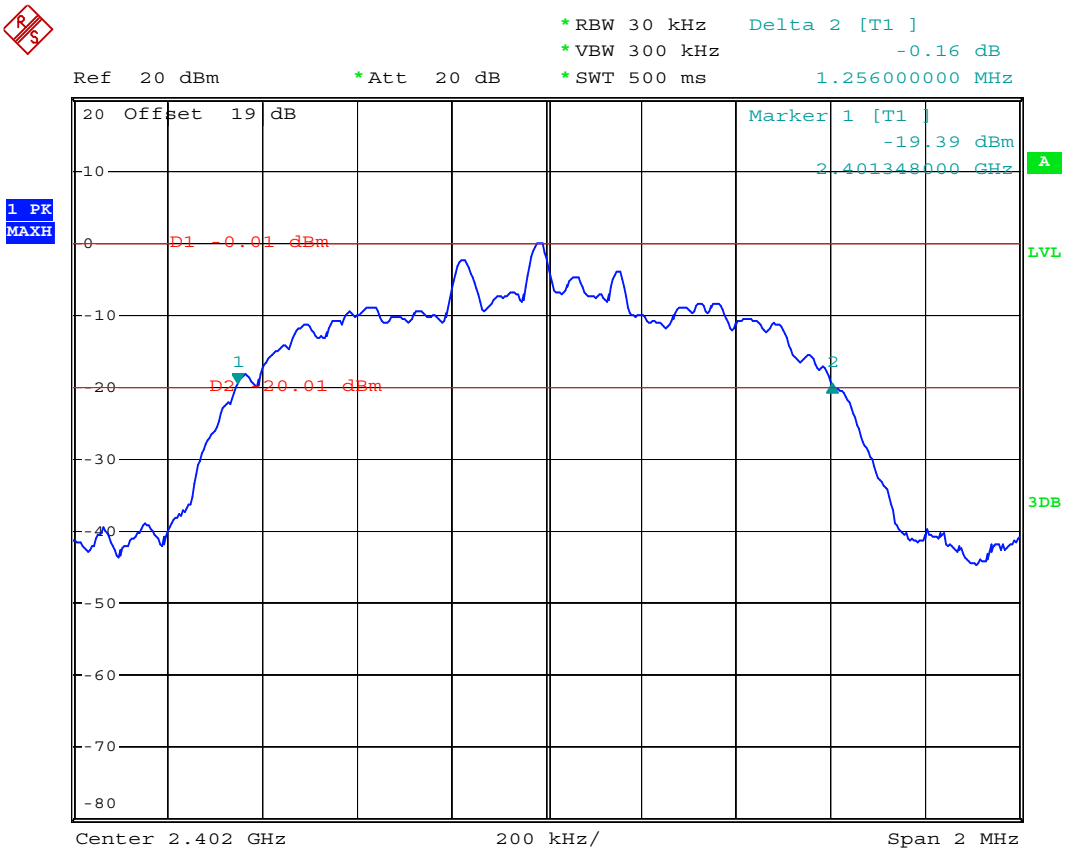
Date: 11.JUN.2008 22:51:51

Mode 6



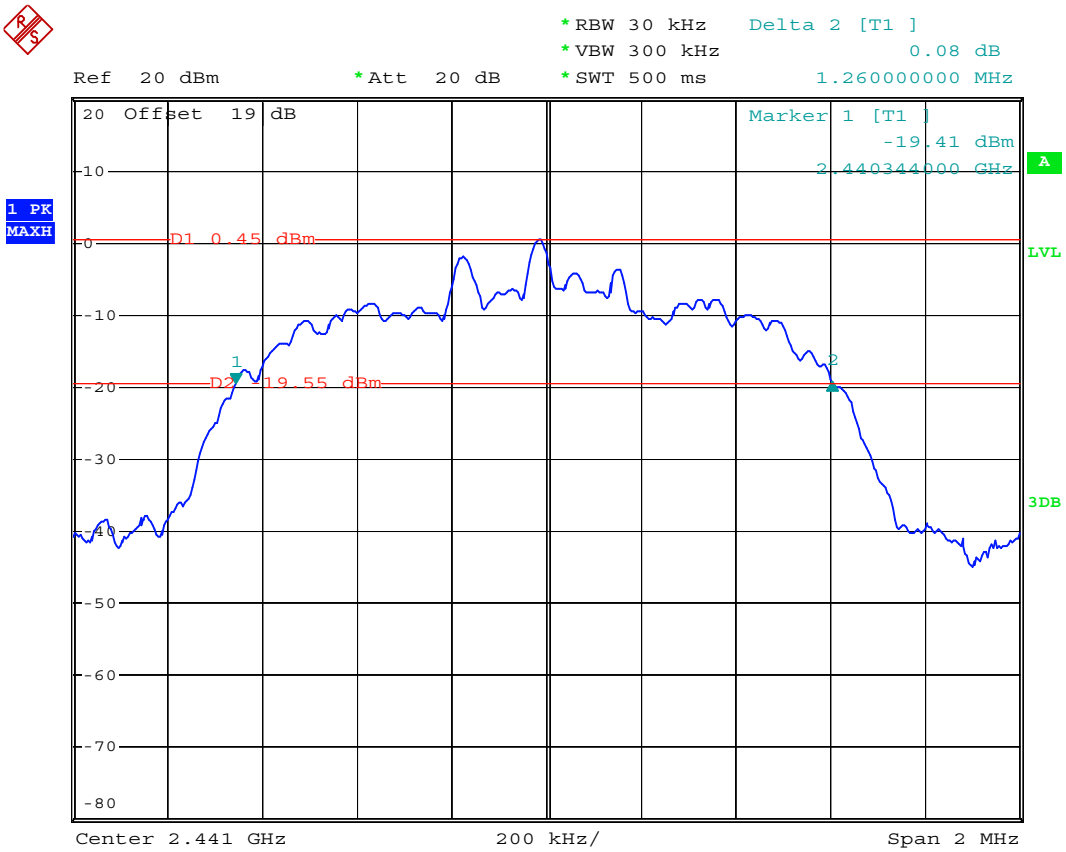
Date: 11.JUN.2008 22:53:11

Mode 7



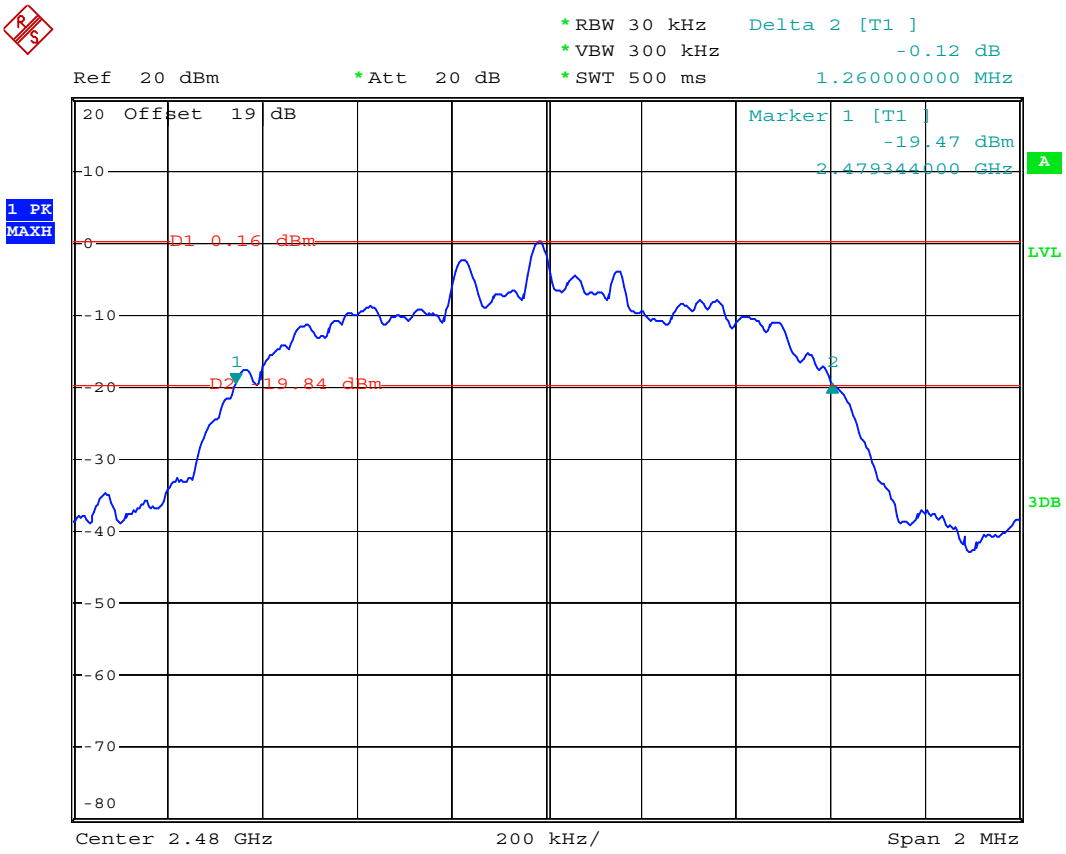
Date: 11.JUN.2008 23:10:02

Mode 8



Date: 11.JUN.2008 23:11:03

Mode 9



Date: 11.JUN.2008 23:12:09

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

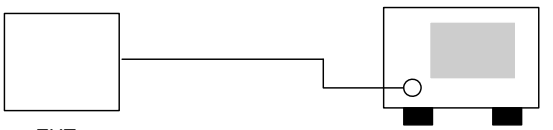
a. The transmitter output was connected to the spectrum analyzer by a low loss cable.

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

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

d. The calculate =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 : 25~26℃
- Relative Humidity : 52~54%
- Test Engineer : C.K.C

CH39

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	8.7	448	0.123	0.4
DH3	5.2	1720	0.283	0.4
DH5	3.7	3000	0.351	0.4

- Application Type : BT EDR(2Mbps)
- Temperature : 25~26℃
- Relative Humidity : 52~54%
- Test Engineer : C.K.C

CH39

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	9.2	460	0.134	0.4
DH3	4.6	1720	0.250	0.4
DH5	3.4	3040	0.327	0.4

- Application Type : BT EDR(3Mbps)
- Temperature : 25~26℃
- Relative Humidity : 52~54%
- Test Engineer : C.K.C

CH39

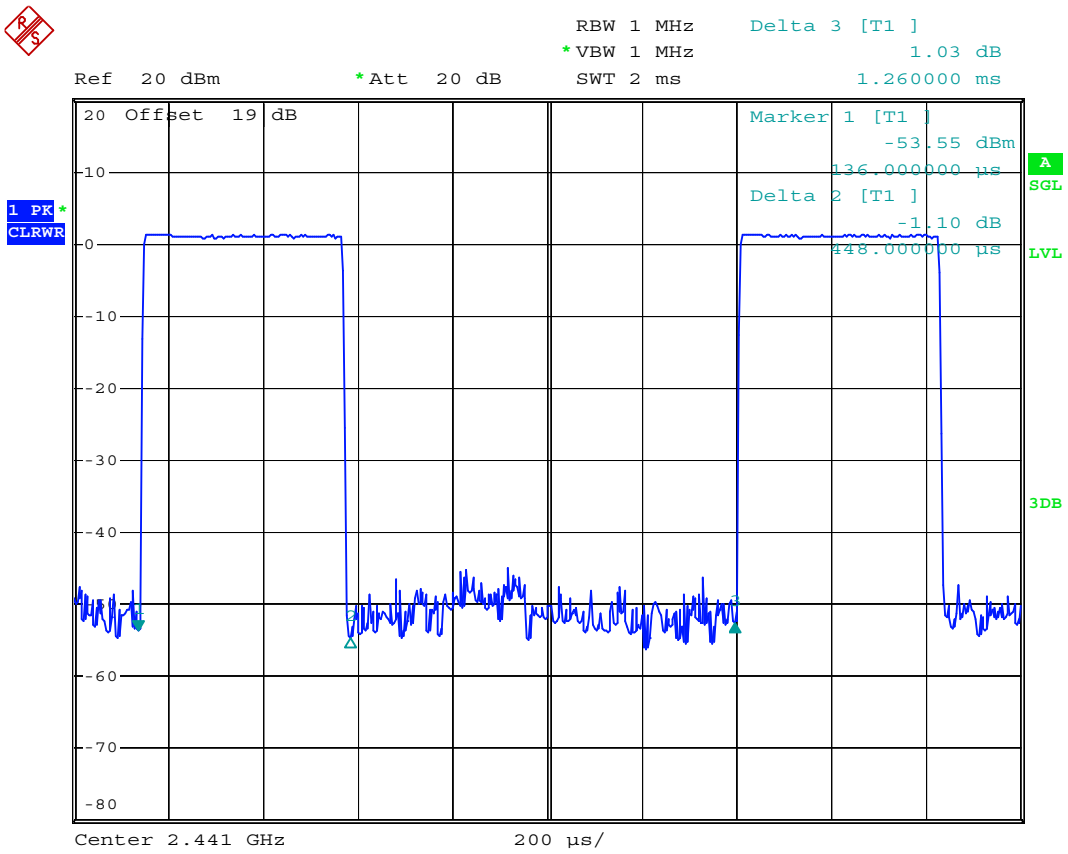
Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	9.1	448	0.129	0.4
DH3	5	1710	0.270	0.4
DH5	3.4	3020	0.324	0.4

※ Remark:

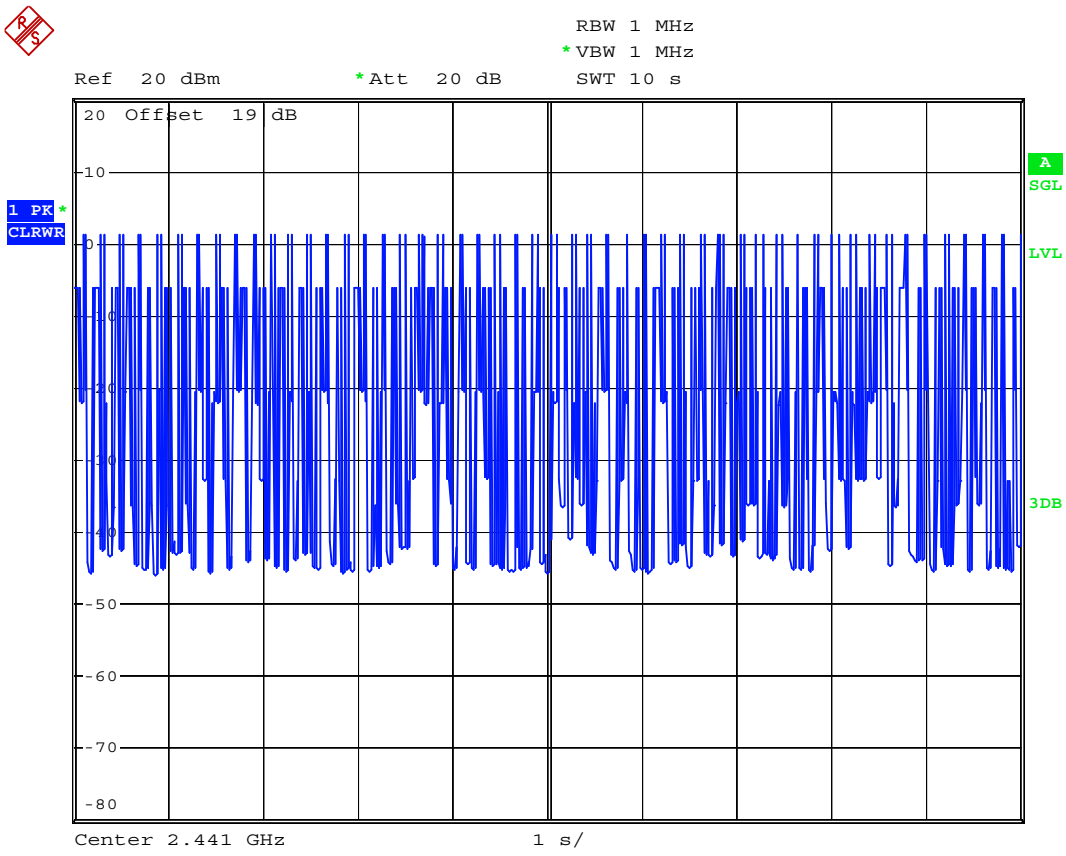
1. Dwell Time=79(channels) x 0.4(s) x average hopping channel x package transfer time
2. 79 channels come from the Hopping Channel number.
3. Average Hopping Channel = hops/sweep time
4. t: Package Transfer Time(us)

5.6.5 Dwell Time

DH1 (CH39)

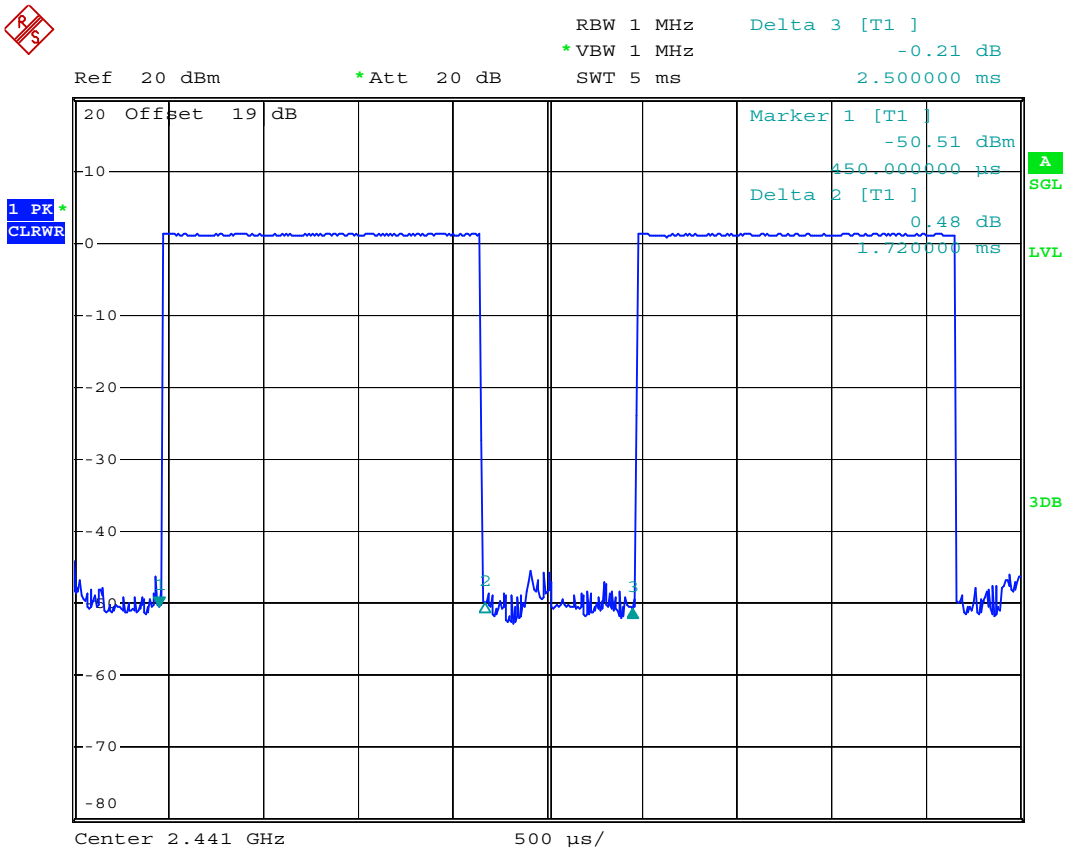


Date: 11.JUN.2008 22:26:41

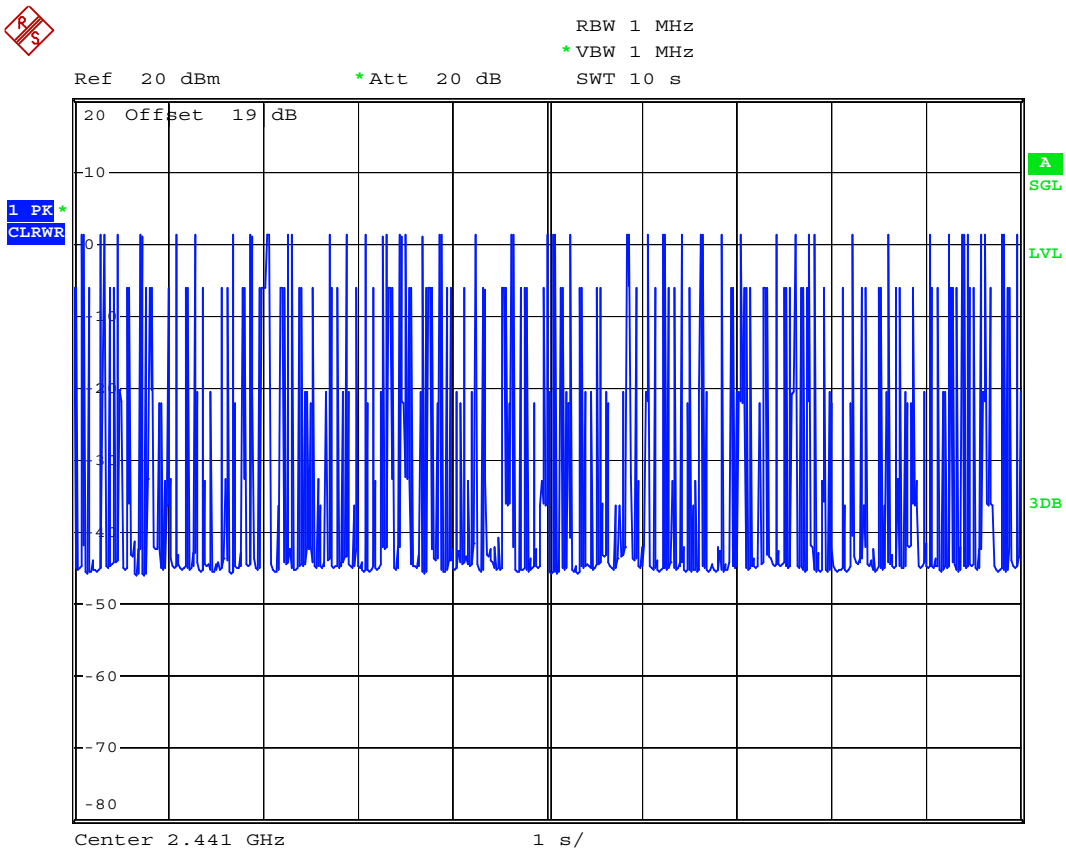


Date: 11.JUN.2008 22:30:03

DH3 (CH39)

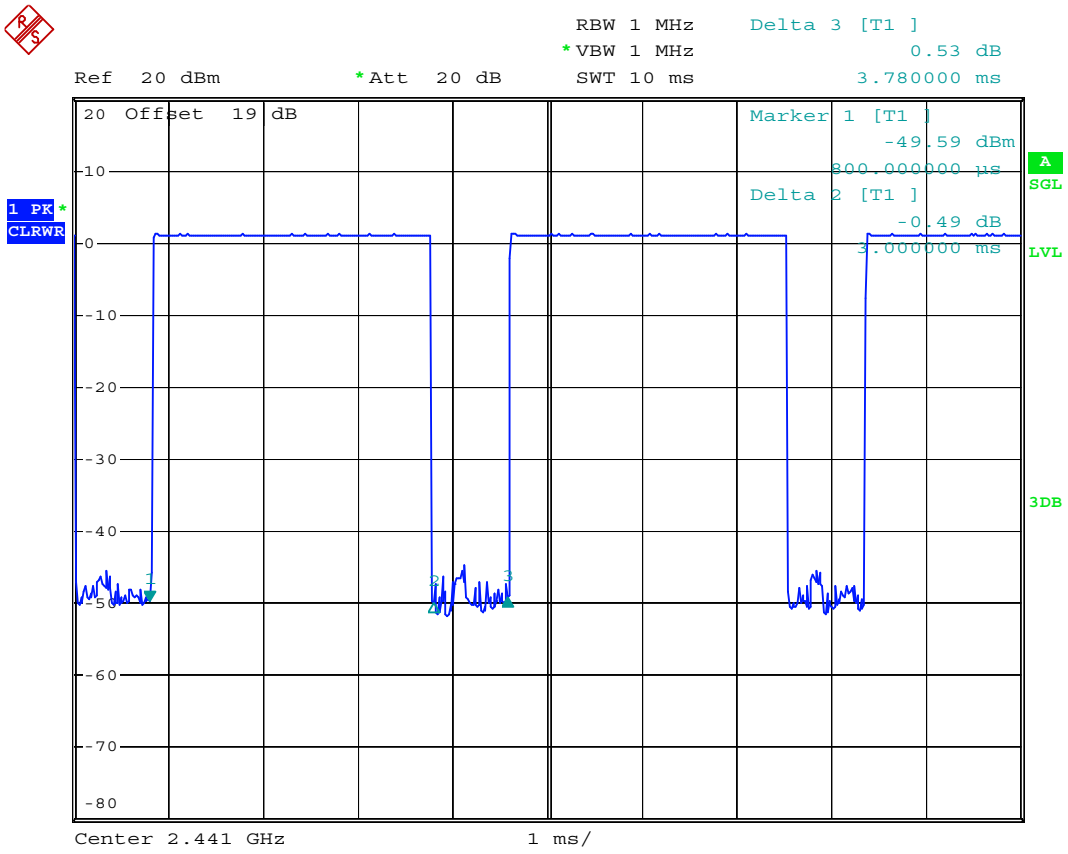


Date: 11.JUN.2008 22:27:32

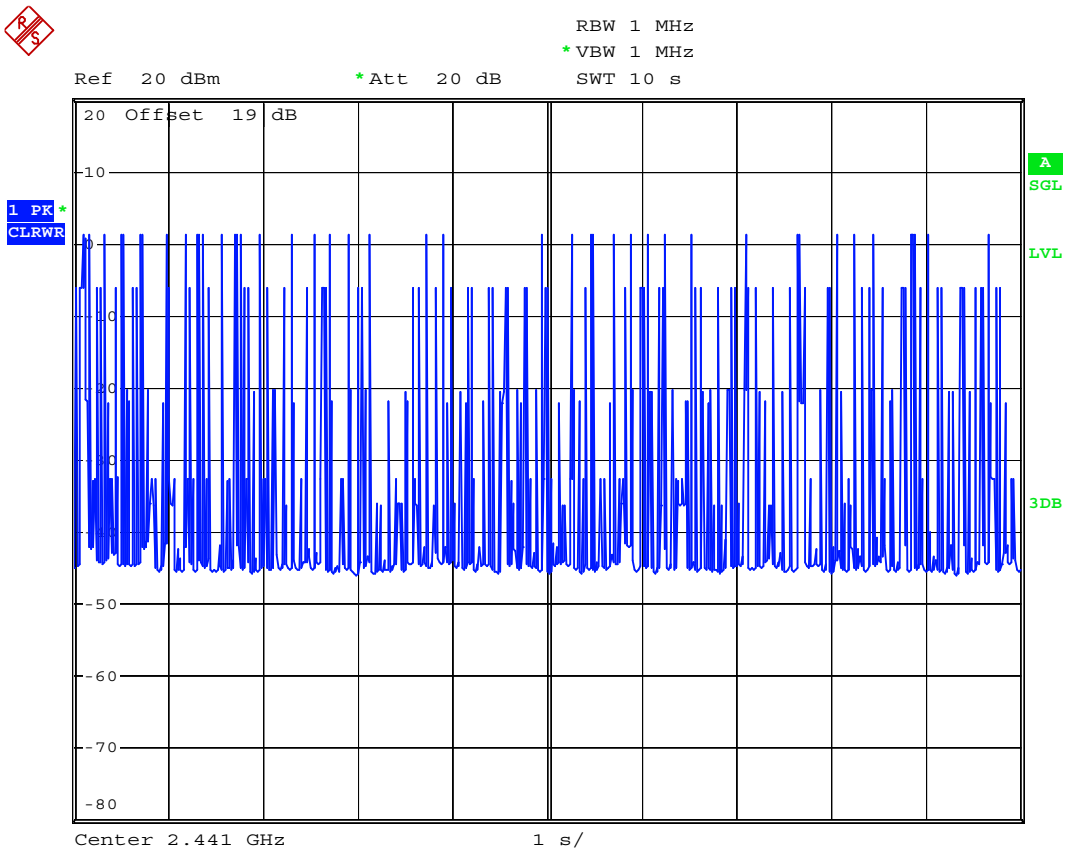


Date: 11.JUN.2008 22:30:24

DH5 (CH39)

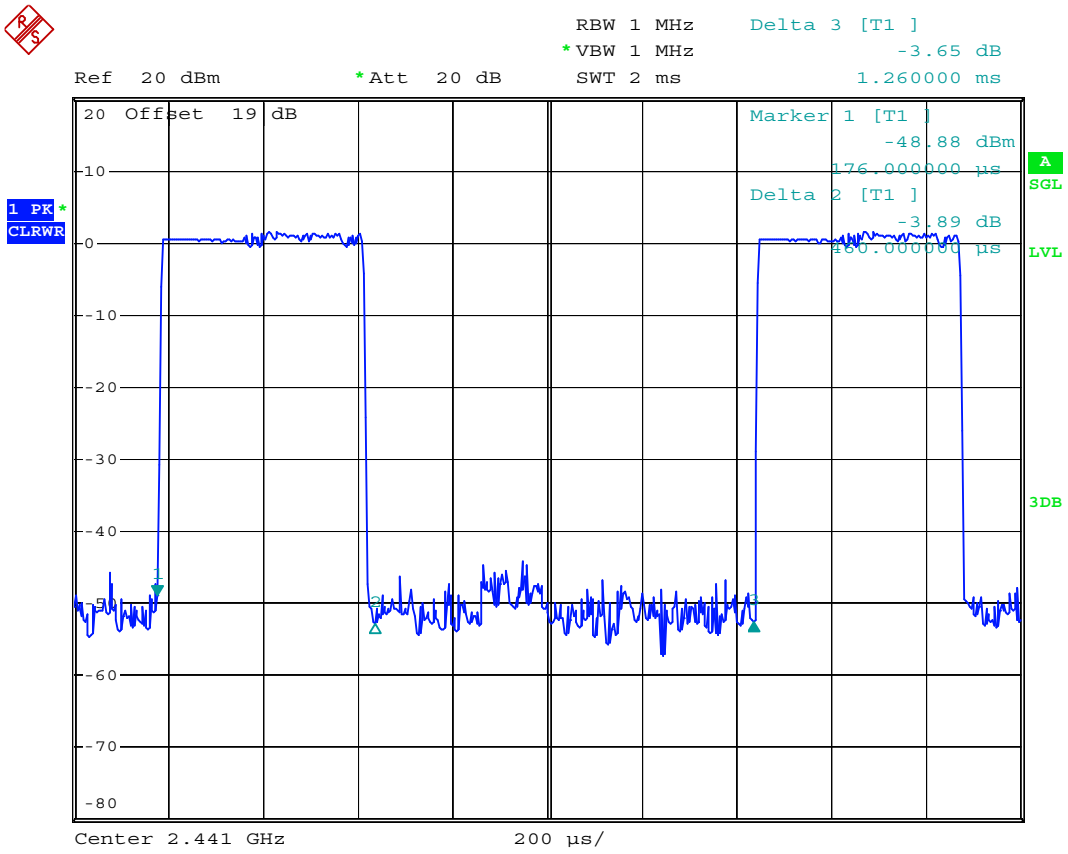


Date: 11.JUN.2008 22:28:10

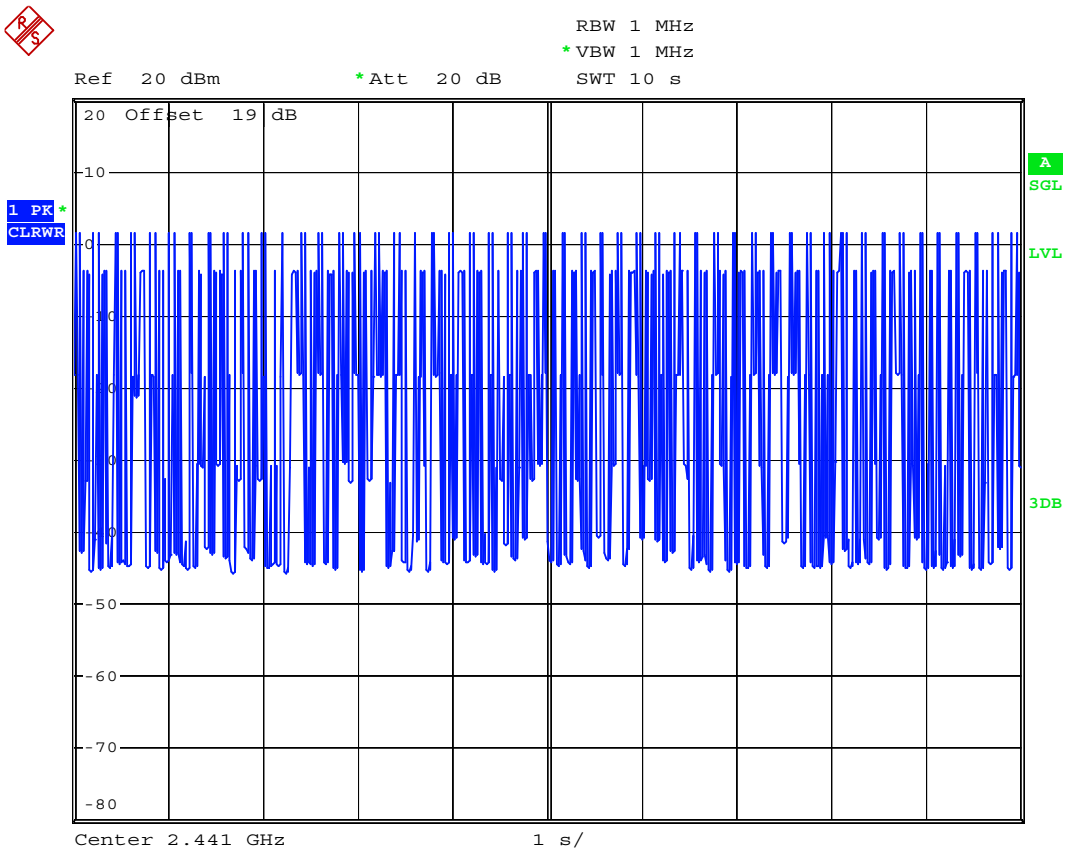


Date: 11.JUN.2008 22:29:22

2DH1 (CH39)

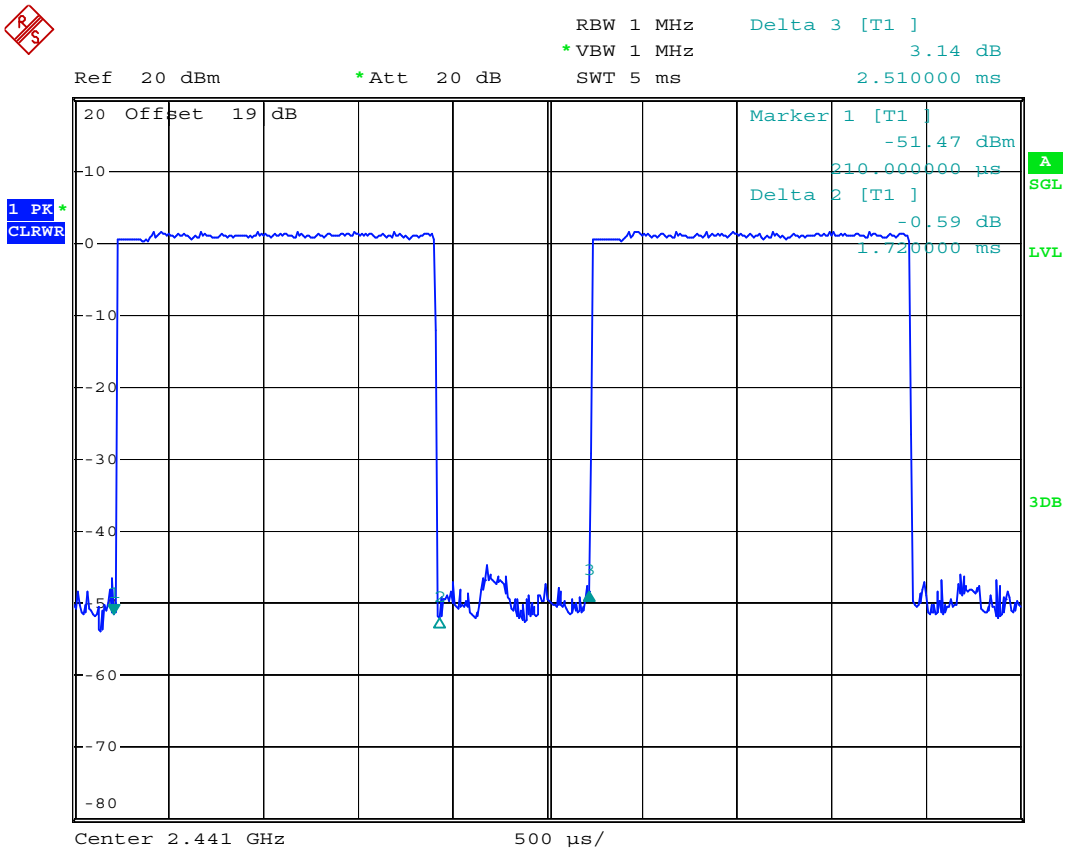


Date: 11.JUN.2008 23:00:10

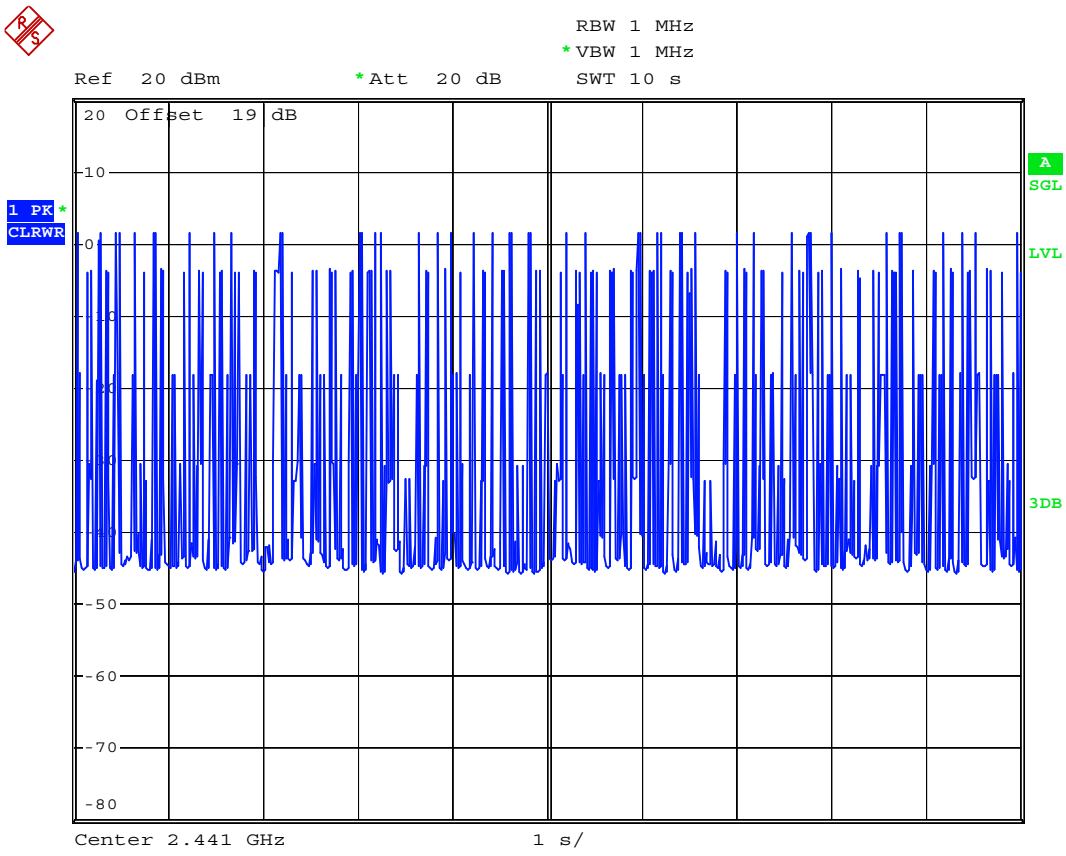


Date: 11.JUN.2008 23:04:38

2 DH3 (CH39)

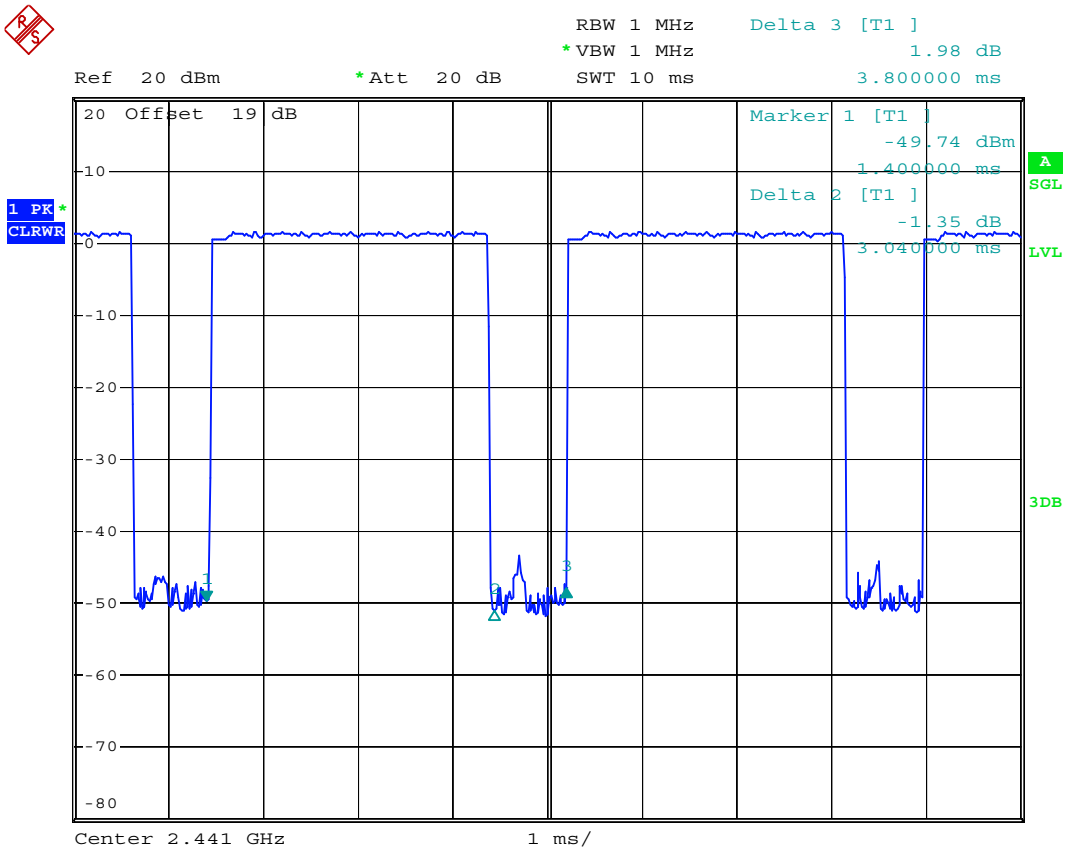


Date: 11.JUN.2008 23:00:44



Date: 11.JUN.2008 23:05:01

2 DH5 (CH39)



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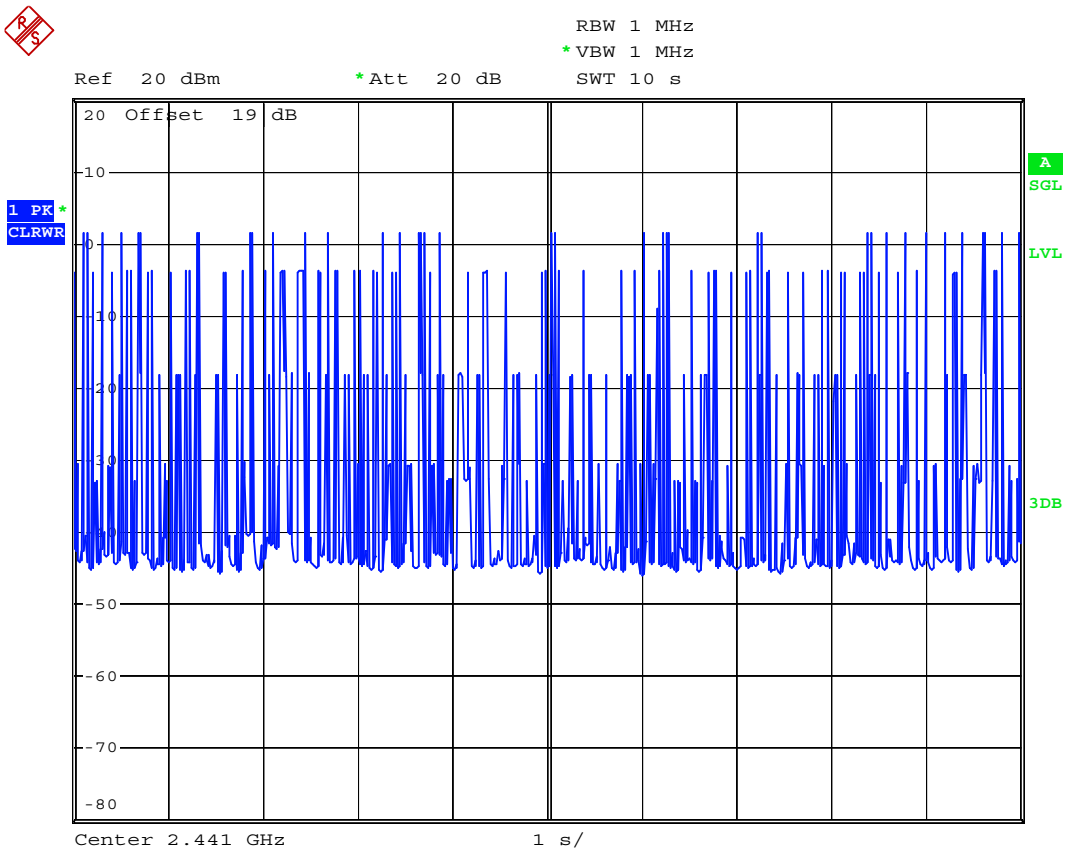
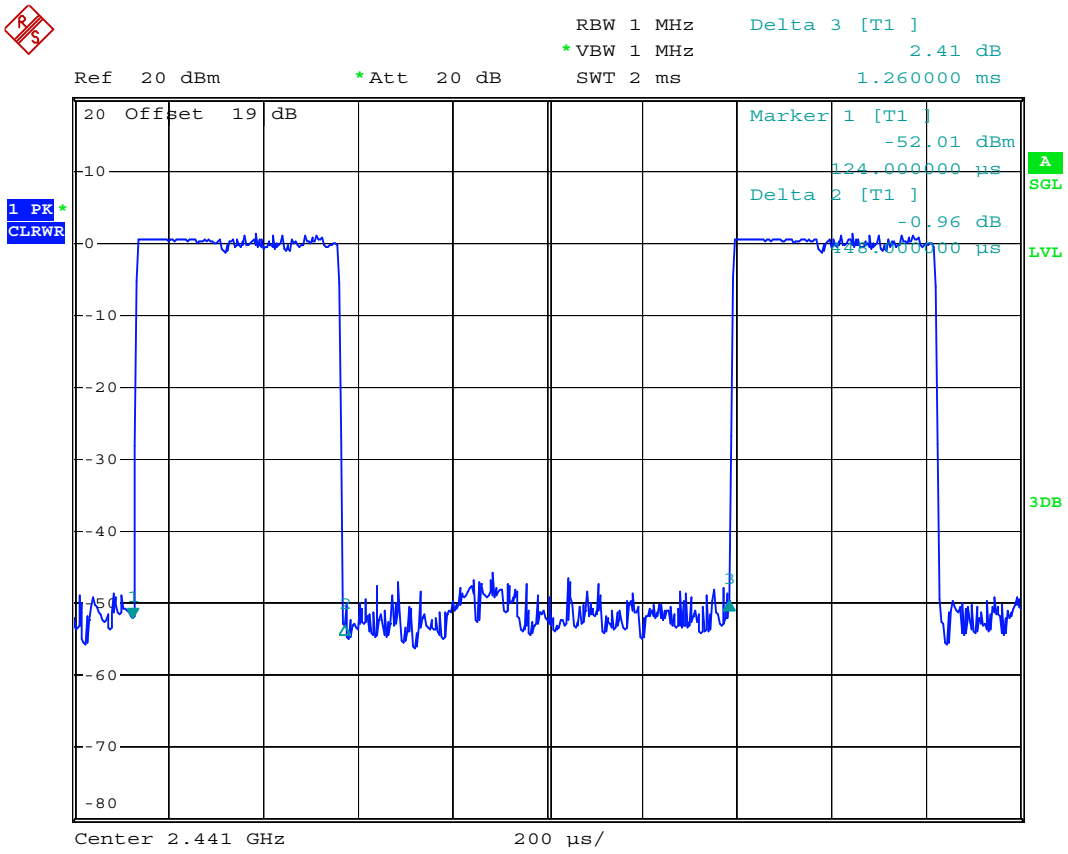
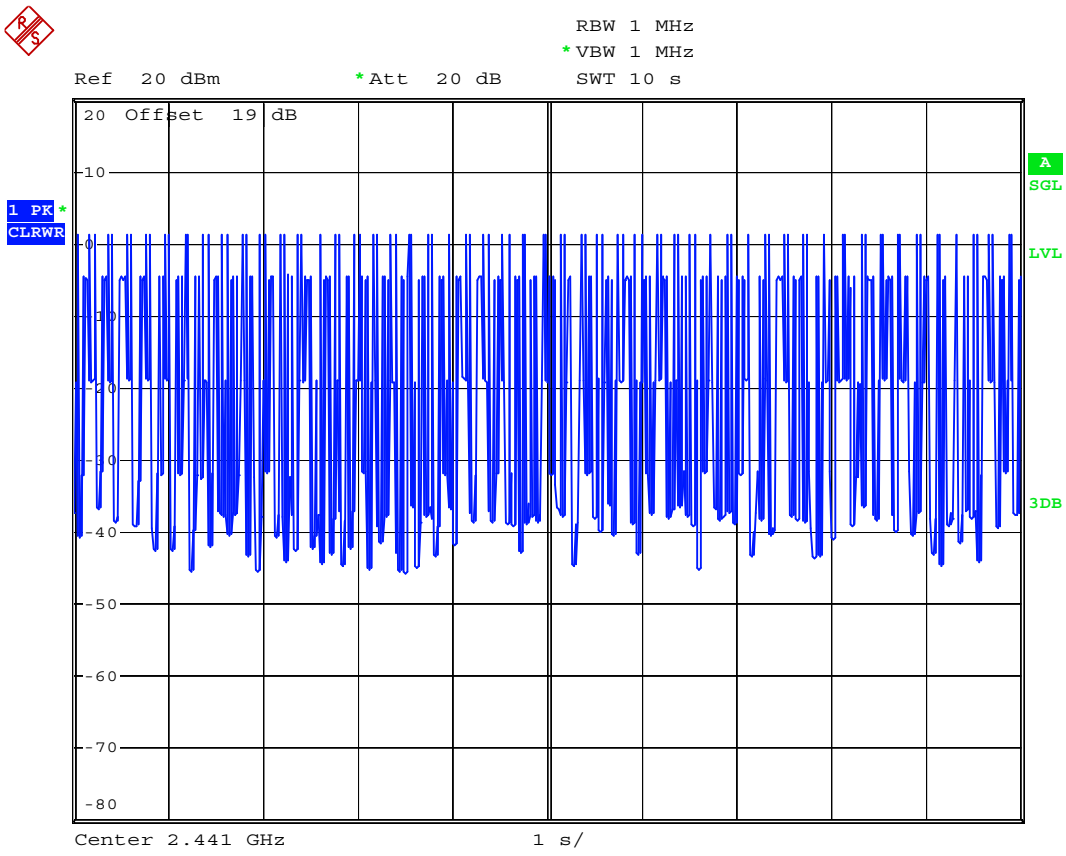


Date: 11.JUN.2008 23:04:02

3DH1 (CH39)

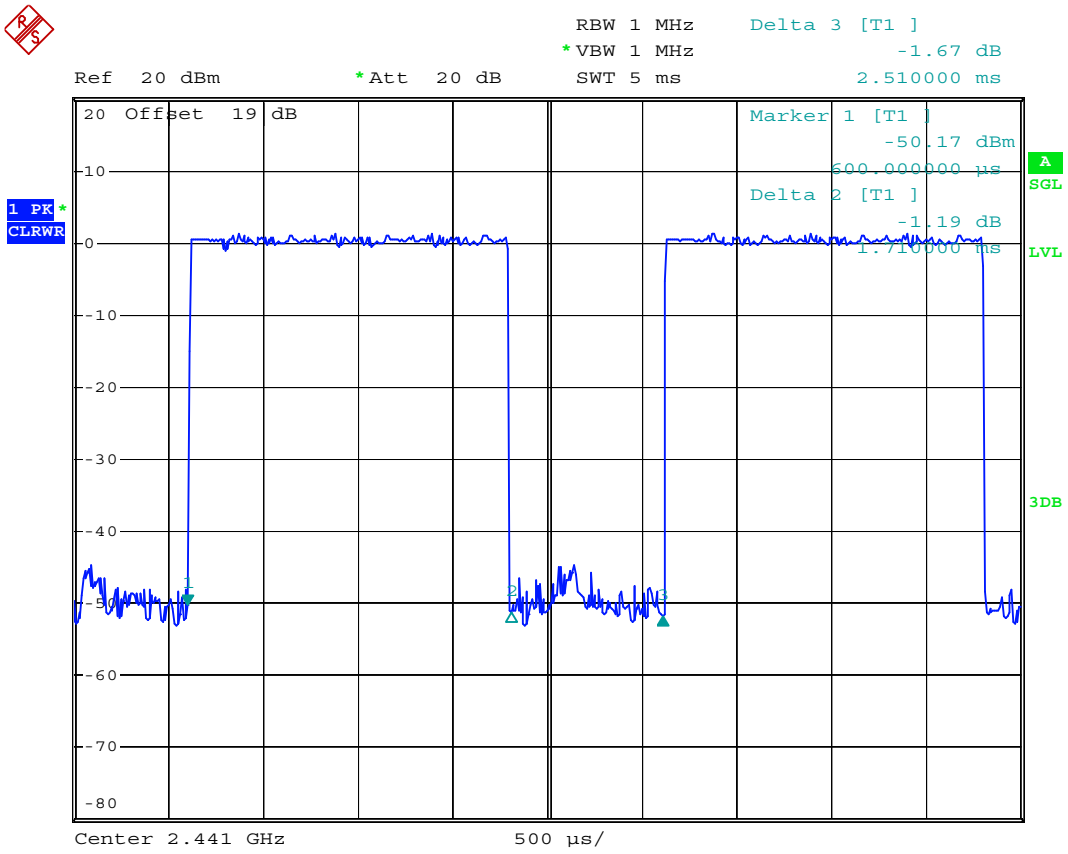


Date: 11.JUN.2008 23:07:42

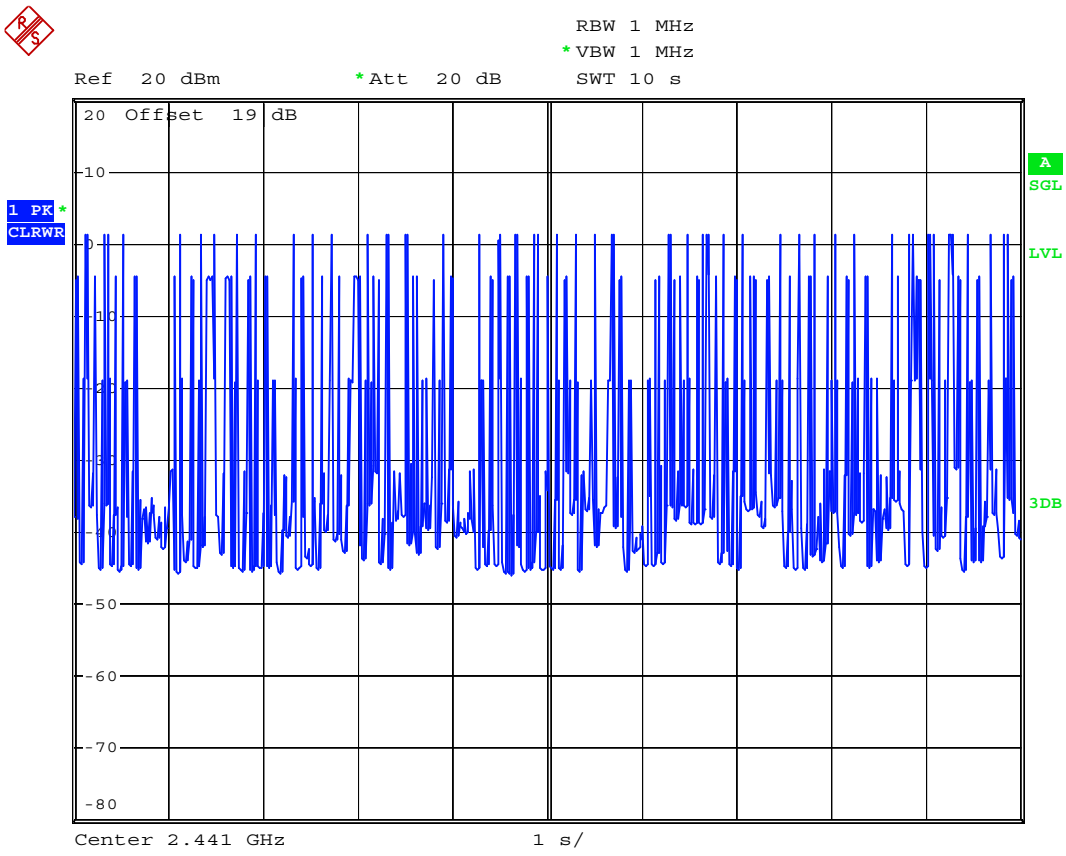


Date: 11.JUN.2008 23:05:31

3DH3 (CH39)

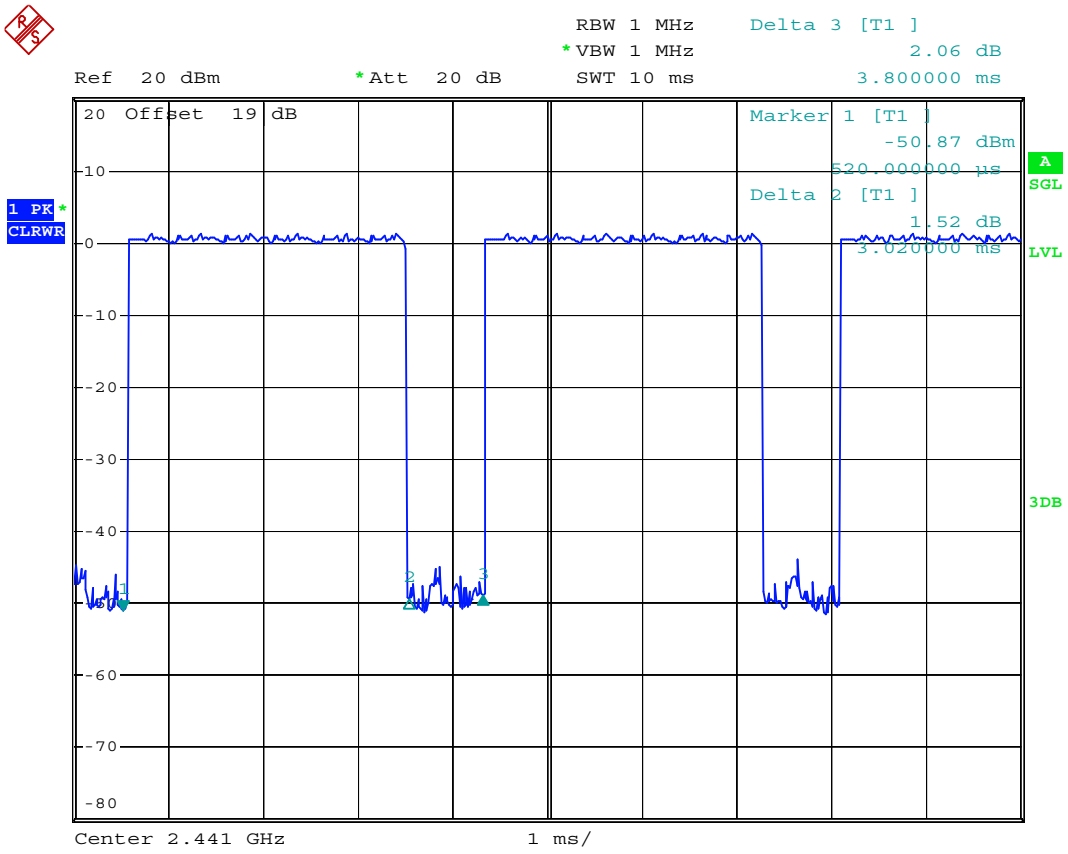


Date: 11.JUN.2008 23:08:17

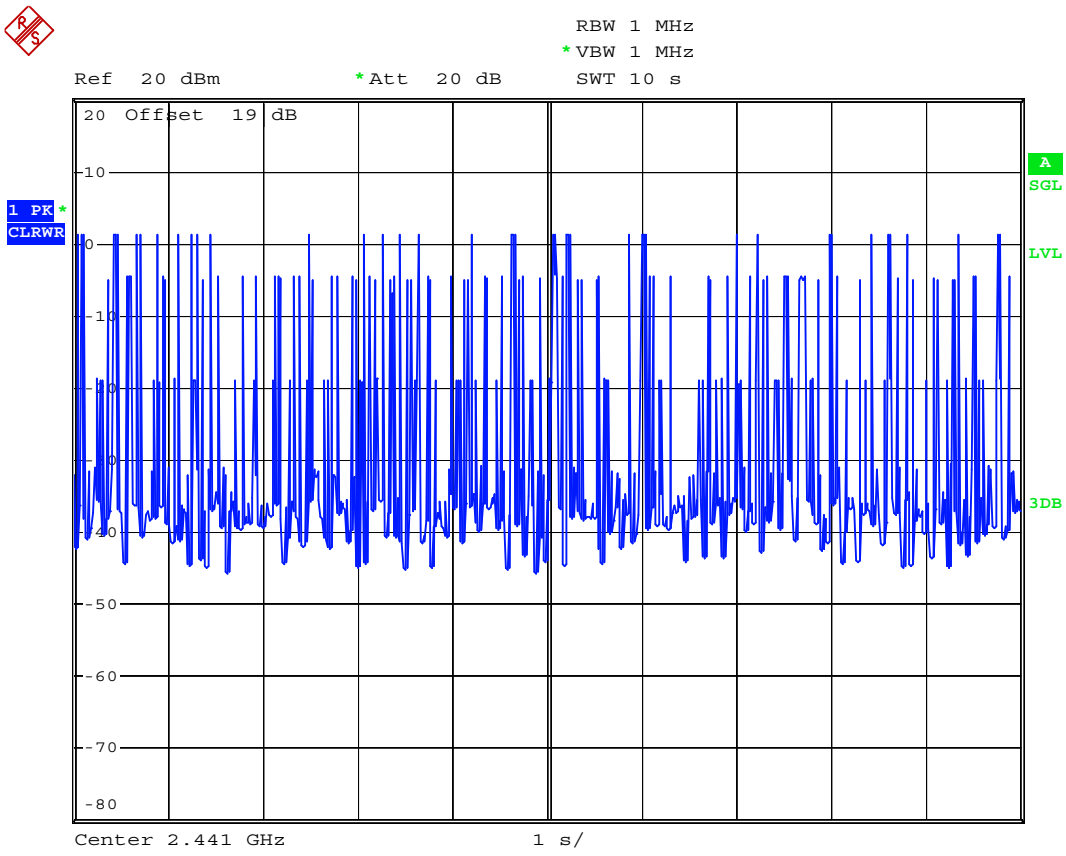


Date: 11.JUN.2008 23:05:53

3DH5 (CH39)



Date: 11.JUN.2008 23:06:59



Date: 11.JUN.2008 23:06:20

5.7 Peak Output Power Measurement

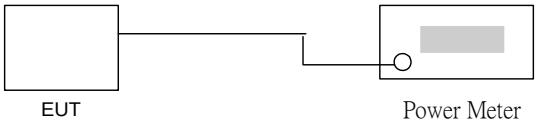
5.7.1 Measuring Instruments

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 : 25~26℃
- Relative Humidity : 52~54%
- Test Engineer : C.K.C

- **BT(1Mbps)**

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
00	2402	0.90	1W/30dBm
39	2441	1.38	1W/30dBm
78	2480	0.93	1W/30dBm

- **BT EDR(2Mbps)**

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
00	2402	1.82	1W/30dBm
39	2441	2.26	1W/30dBm
78	2480	1.65	1W/30dBm

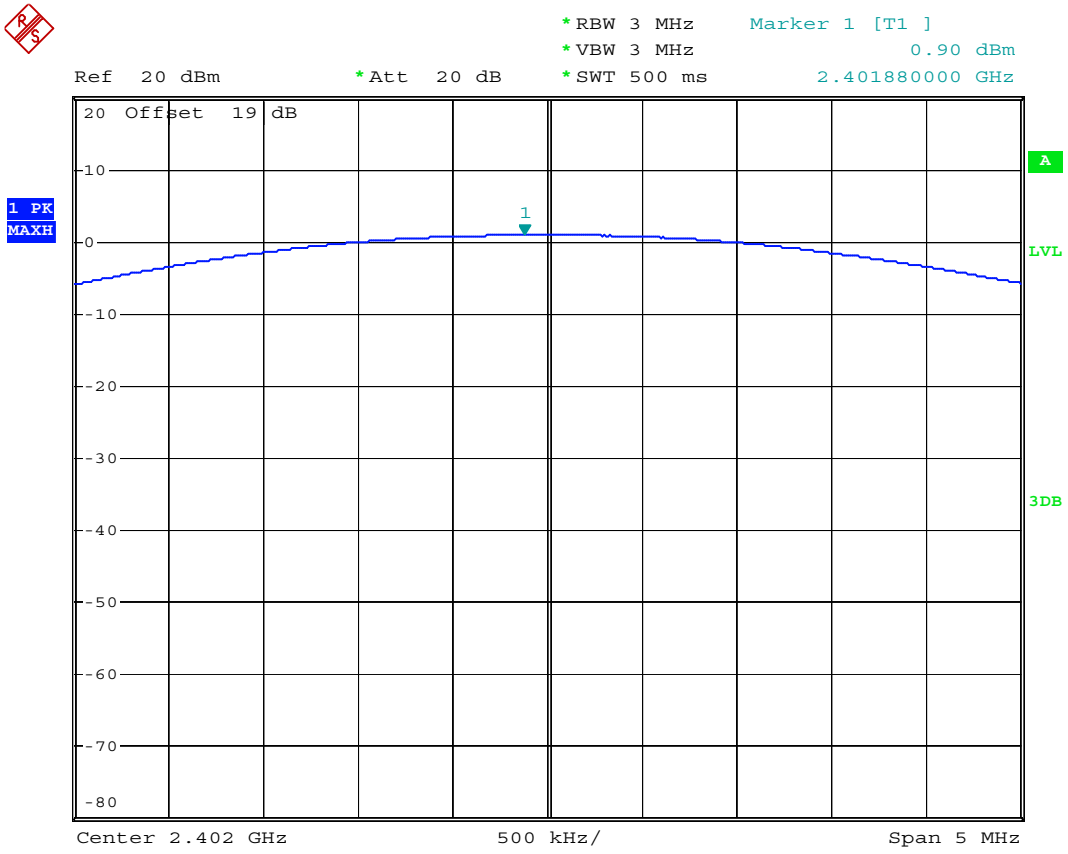
- **BT EDR(3Mbps)**

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)
00	2402	1.53	1W/30dBm
39	2441	1.93	1W/30dBm
78	2480	1.39	1W/30dBm

5.7.5 Output Power

BT(1Mbps)

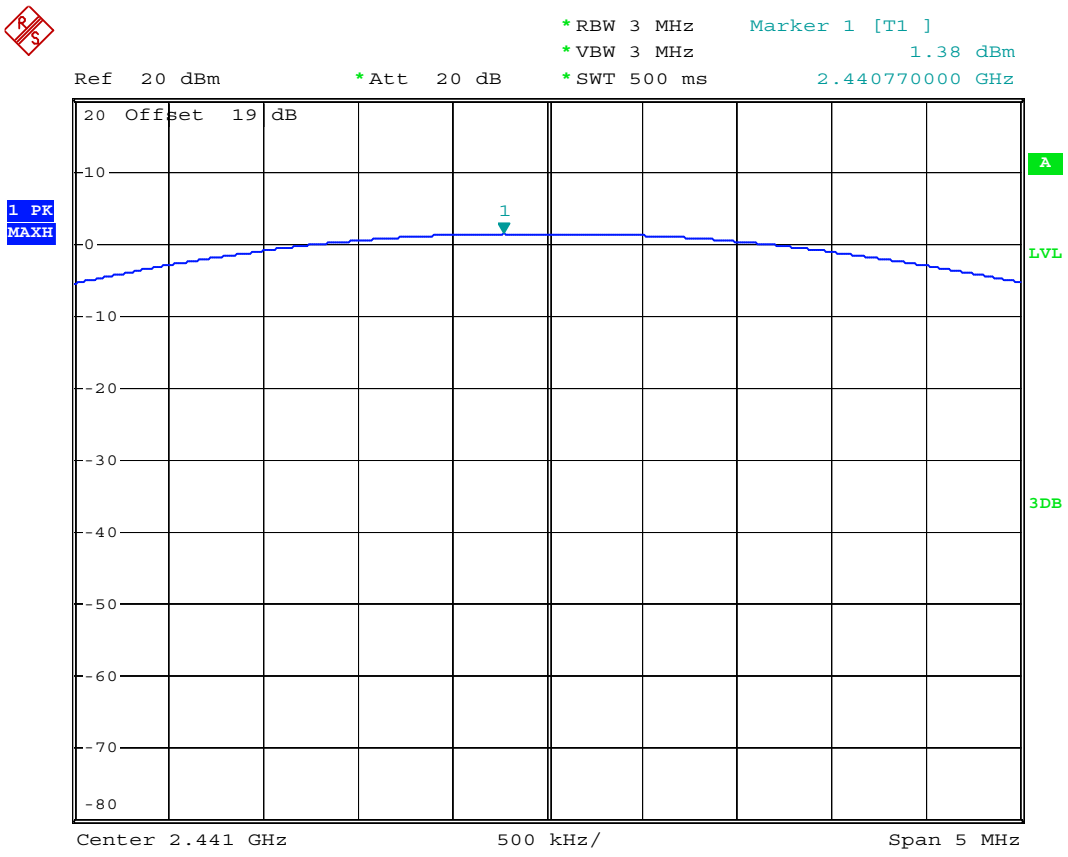
Mode : CH00 (2402MHz)



Date: 11.JUN.2008 21:53:38

BT(1Mbps)

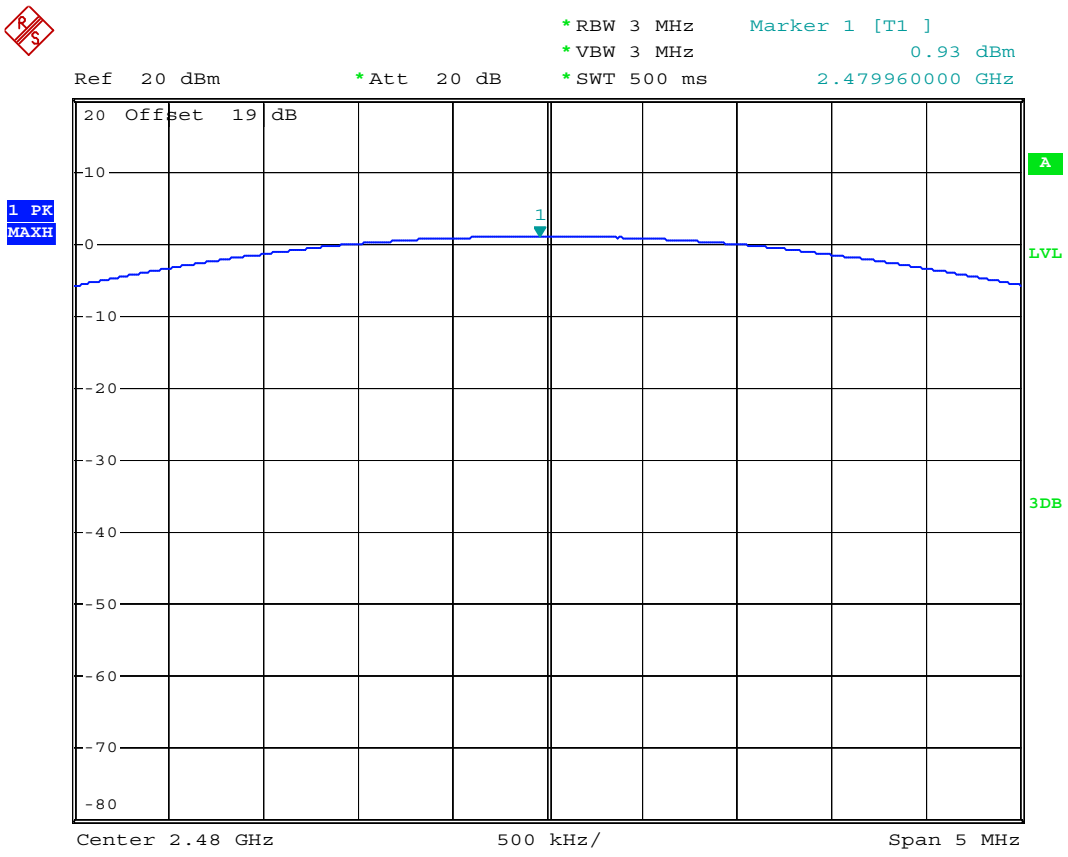
Mode : CH39 (2441MHz)



Date: 11.JUN.2008 22:07:00

Bluetooth(1Mbps)

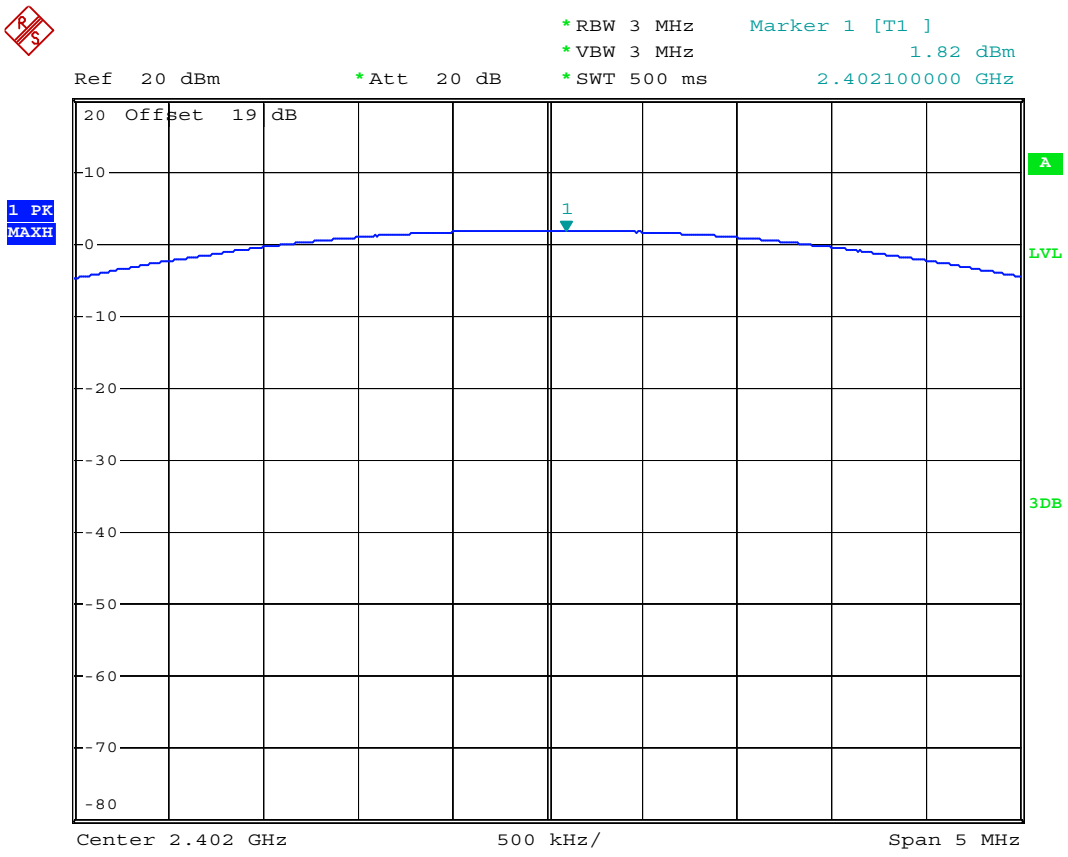
Mode : CH78 (2480MHz)



Date: 11.JUN.2008 21:54:25

Bluetooth(2Mbps)

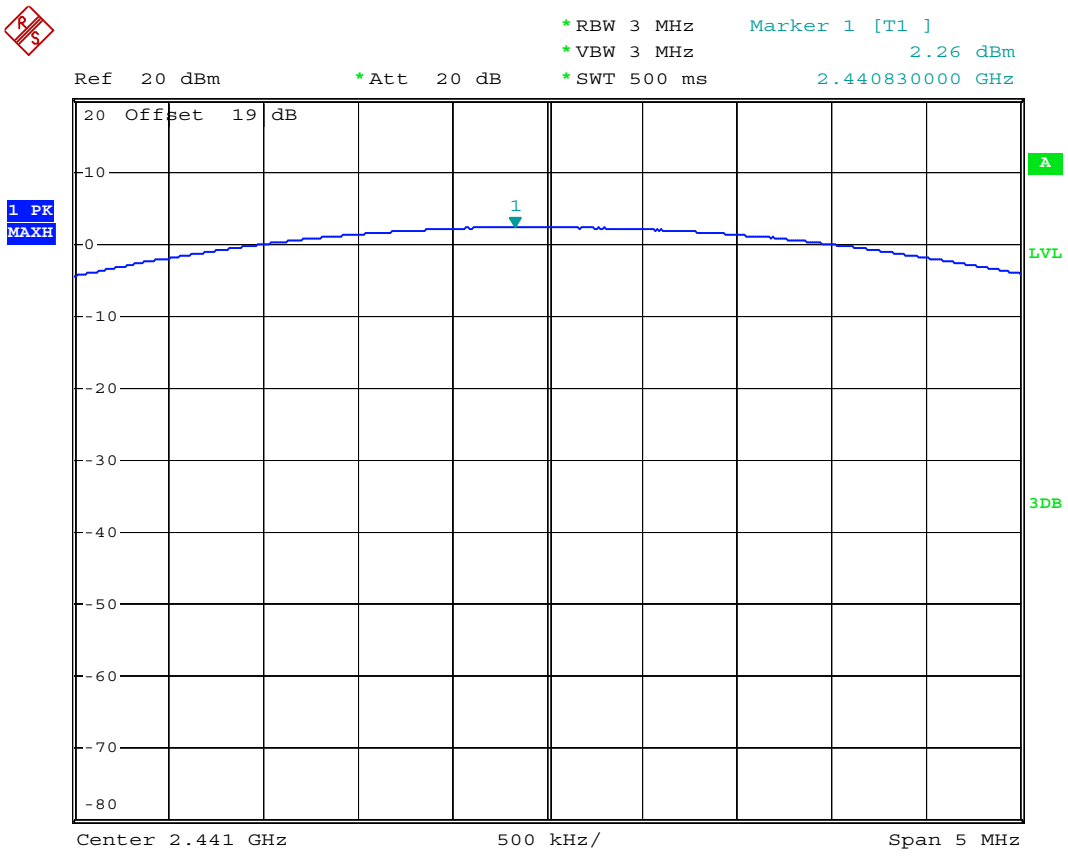
Mode : CH00 (2402MHz)



Date: 11.JUN.2008 21:58:48

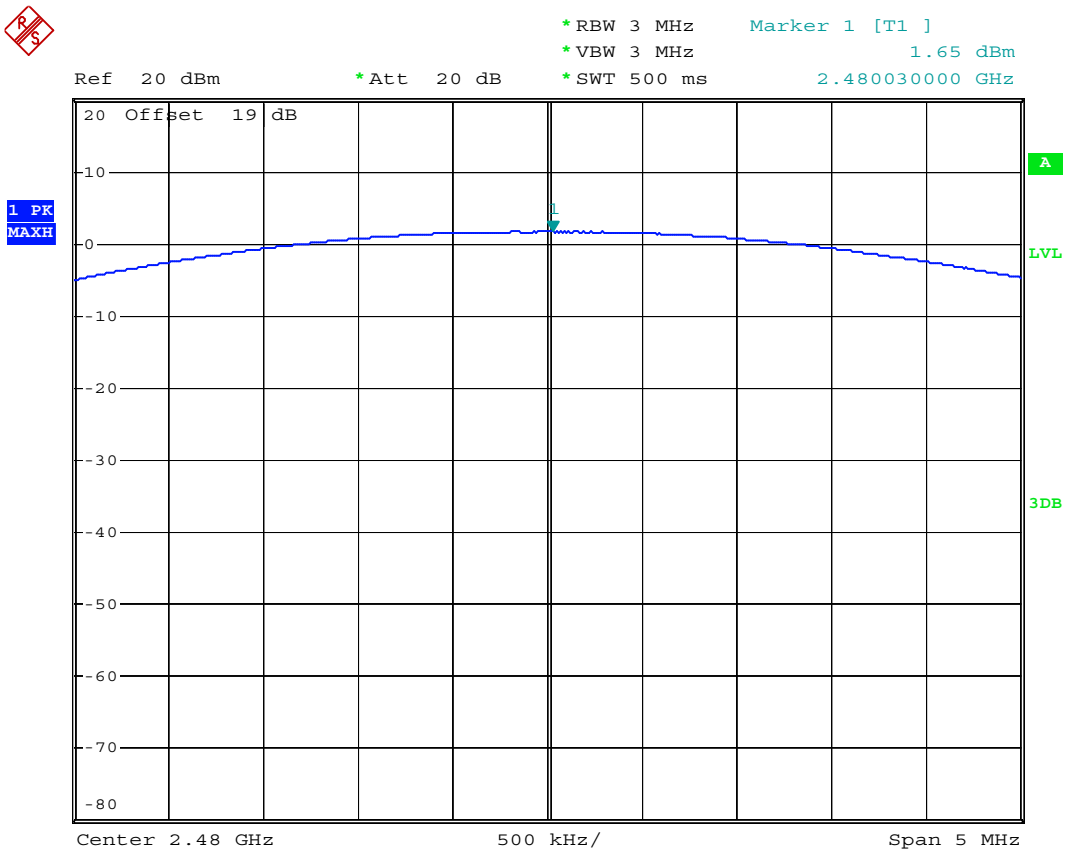
Bluetooth(2Mbps)

Mode : CH39 (2441MHz)



Bluetooth(2Mbps)

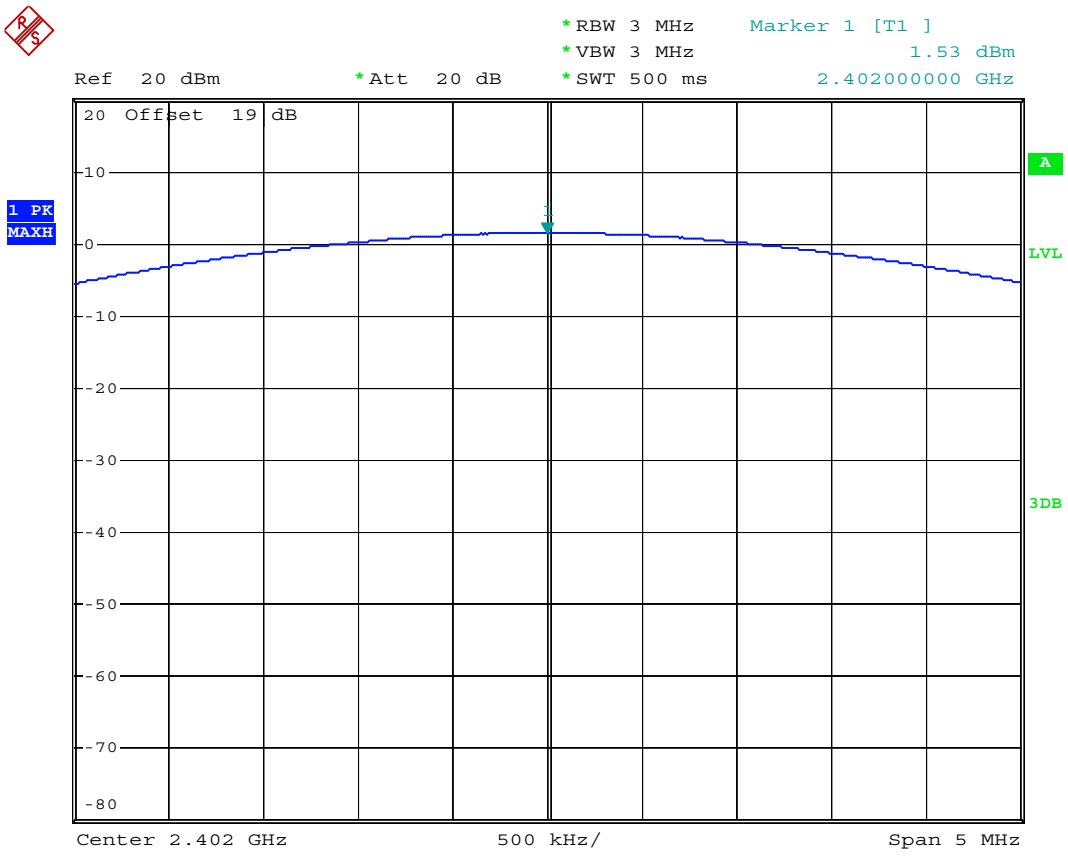
Mode : CH78 (2480MHz)



Date: 11.JUN.2008 21:59:30

Bluetooth(3Mbps)

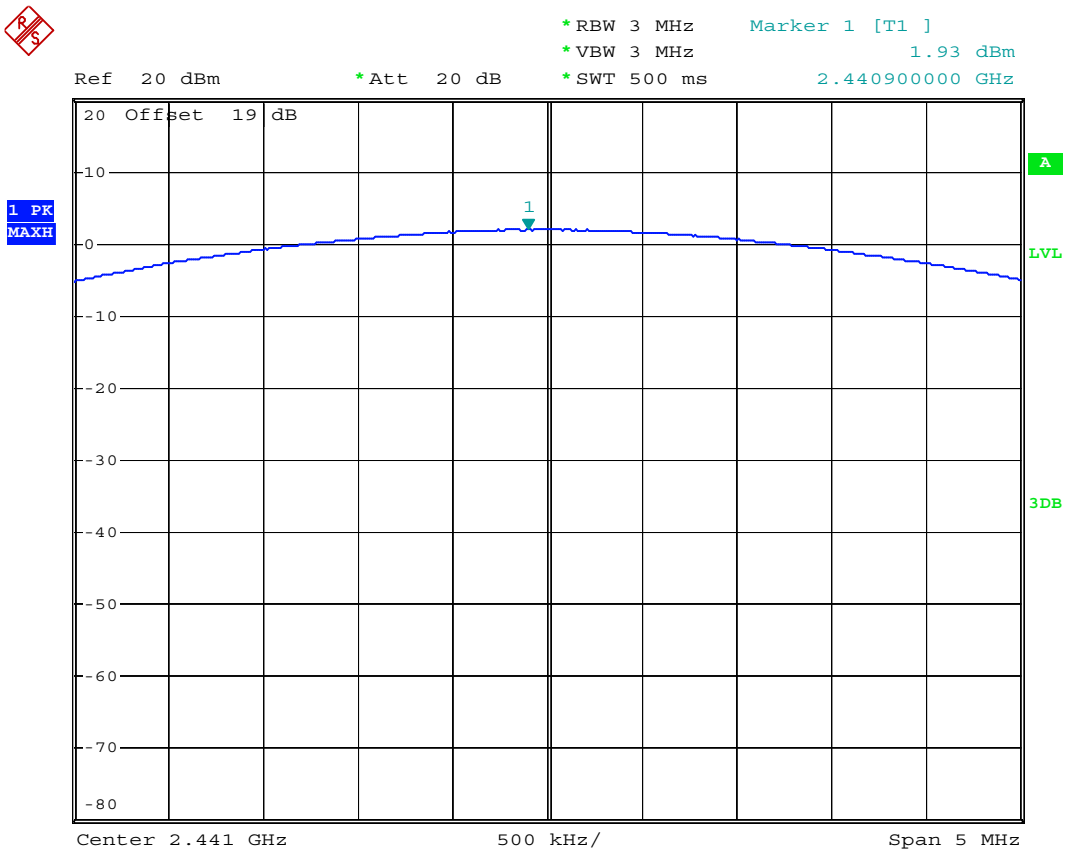
Mode : CH00 (2402MHz)



Date: 11.JUN.2008 22:01:59

Bluetooth(3Mbps)

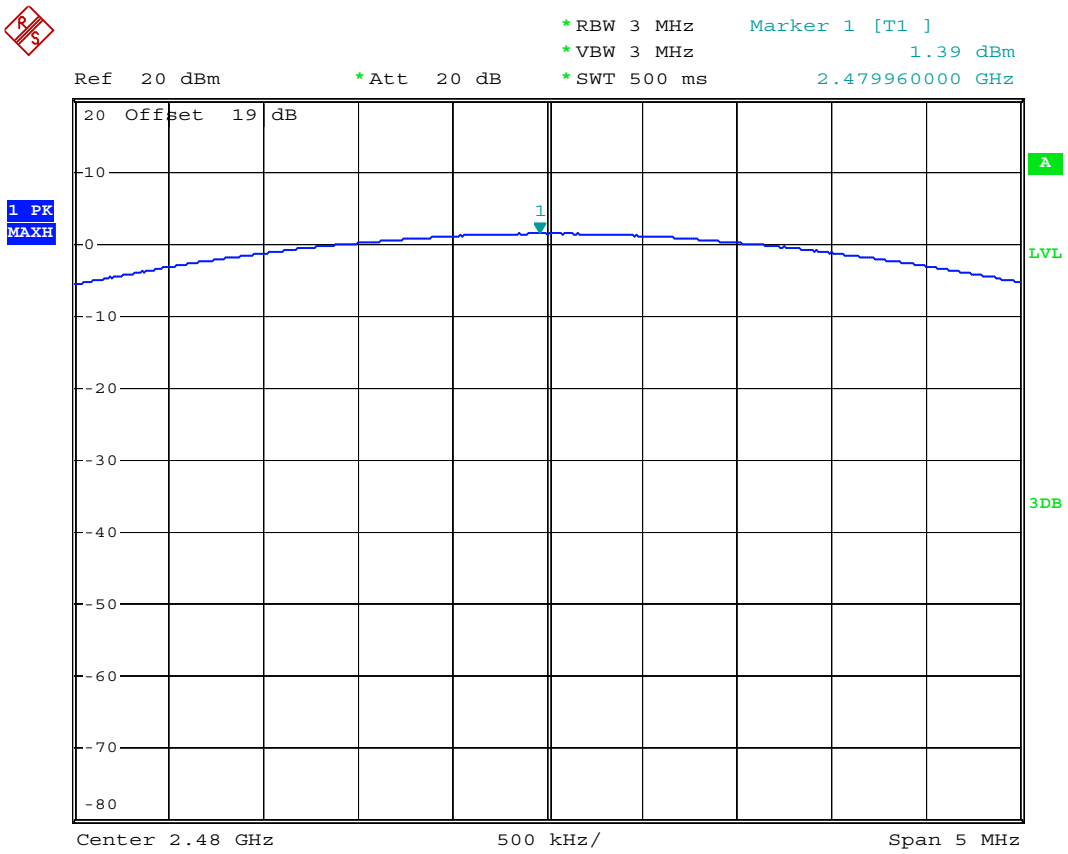
Mode : CH39 (2441MHz)



Date: 11.JUN.2008 22:02:21

Bluetooth(3Mbps)

Mode : CH78 (2480MHz)



Date: 11.JUN.2008 22:02:40

5.8 Conducted Emission

5.8.1 Measuring Instruments

As described in chapter 6 of this test Report.

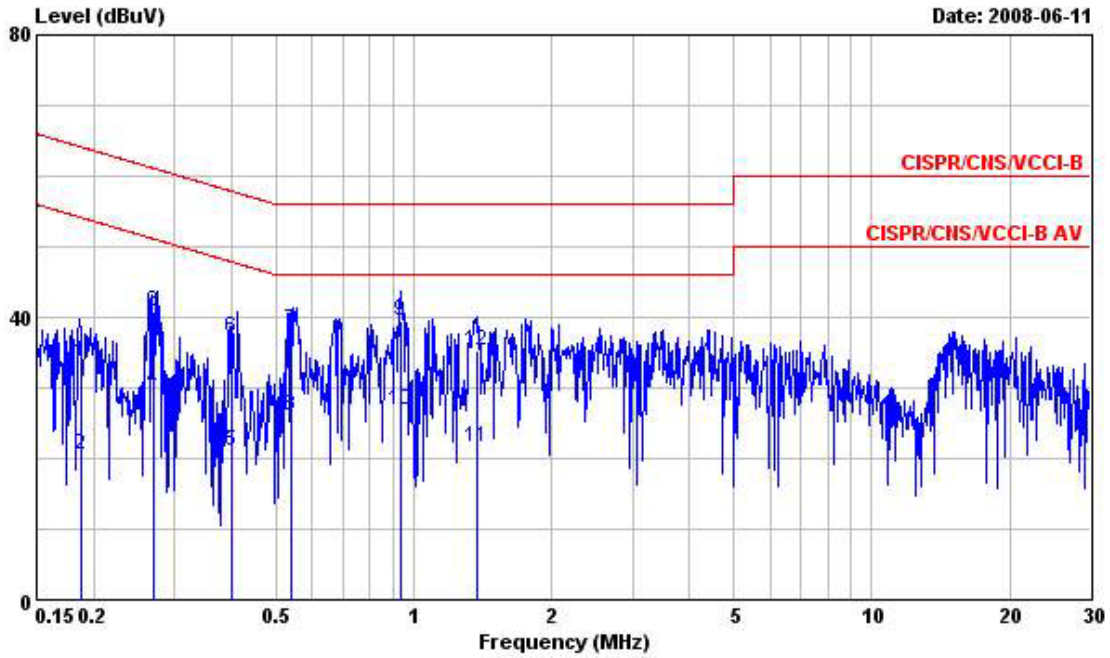
5.8.2 Test Procedures

1. 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.
2. Connect EUT to the power port of a line impedance stabilization network (LISN).
3. All the support units are connected to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 KHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

5.8.3 Test Data

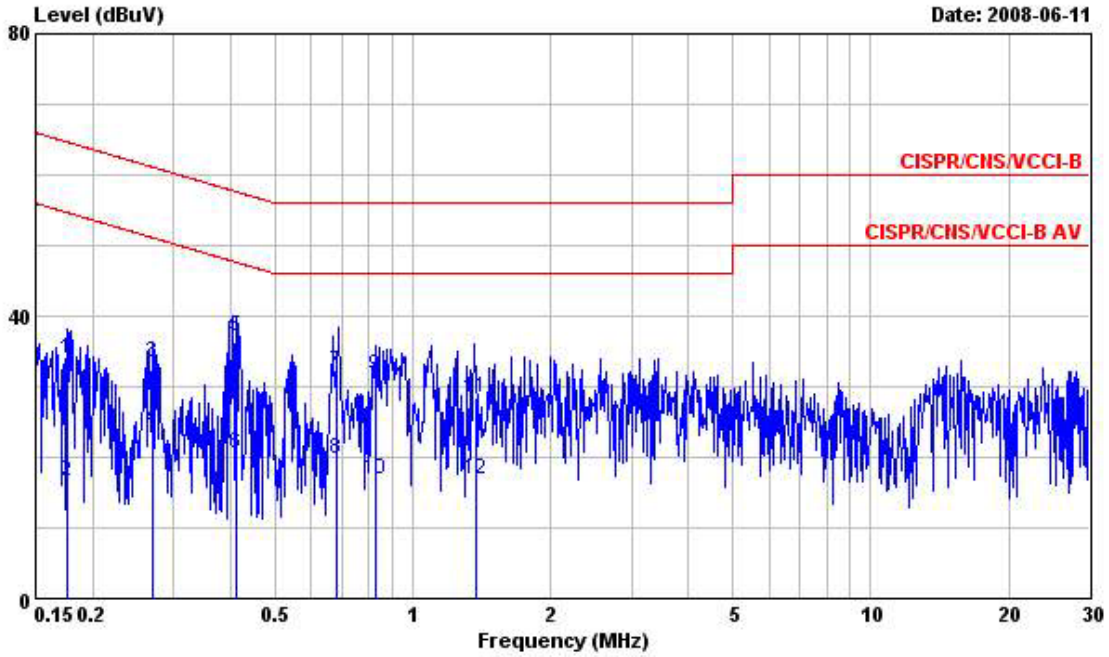
- Temperature : 25~26℃
- Relative Humidity : 52~54%
- Test Engineer : Darren
- Test Mode : Mode 1

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



Site : CO04-HY
Condition : CISPR/CNS/VCCI-B LISN 2008 0416 99041 LINE
EUT : Samrt Phone
POWER: 120V/60Hz
Model : (FR) 860909
Memo : Model

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1884100	33.69	-30.42	64.11	33.58	0.09	0.02	QP
2	0.1884100	20.62	-33.49	54.11	20.51	0.09	0.02	Average
3	@0.2708730	40.78	-20.31	61.09	40.65	0.09	0.04	QP
4	0.2708730	29.66	-21.43	51.09	29.53	0.09	0.04	Average
5	0.4001560	21.17	-26.68	47.85	21.01	0.10	0.06	Average
6	0.4001560	37.04	-20.81	57.85	36.88	0.10	0.06	QP
7	@0.5406900	38.17	-17.83	56.00	38.02	0.10	0.05	QP
8	@0.5406900	26.13	-19.87	46.00	25.98	0.10	0.05	Average
9	@0.9331400	39.34	-16.66	56.00	39.21	0.11	0.02	QP
10	@0.9331400	26.75	-19.25	46.00	26.62	0.11	0.02	Average
11	1.370	21.65	-24.35	46.00	21.50	0.12	0.03	Average
12	1.370	35.25	-20.75	56.00	35.10	0.12	0.03	QP



Site : CO04-HY
Condition : CISPR/CNS/VCCI-B LISN 2008 0416 99041 NEUTRAL
EUT : Samrt Phone
POWER: 120V/60Hz
Model : (FR) 860909
Memo : Model

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.1758420	34.01	-30.67	64.68	33.91	0.08	0.02	QP
2	0.1758420	16.68	-38.00	54.68	16.58	0.08	0.02	Average
3	0.2700880	33.40	-27.72	61.12	33.28	0.08	0.04	QP
4	0.2700880	24.04	-27.08	51.12	23.92	0.08	0.04	Average
5	0.4104750	36.98	-20.66	57.64	36.83	0.09	0.06	QP
6	0.4104750	20.48	-27.16	47.64	20.33	0.09	0.06	Average
7	0.6814030	32.08	-23.92	56.00	31.94	0.10	0.04	QP
8	0.6814030	19.65	-26.35	46.00	19.51	0.10	0.04	Average
9	0.8304700	31.45	-24.55	56.00	31.31	0.11	0.03	QP
10	0.8304700	16.95	-29.05	46.00	16.81	0.11	0.03	Average
11	1.370	28.52	-27.48	56.00	28.38	0.11	0.03	QP
12	1.370	16.73	-29.27	46.00	16.59	0.11	0.03	Average

5.9 Radiated Emission Measurement

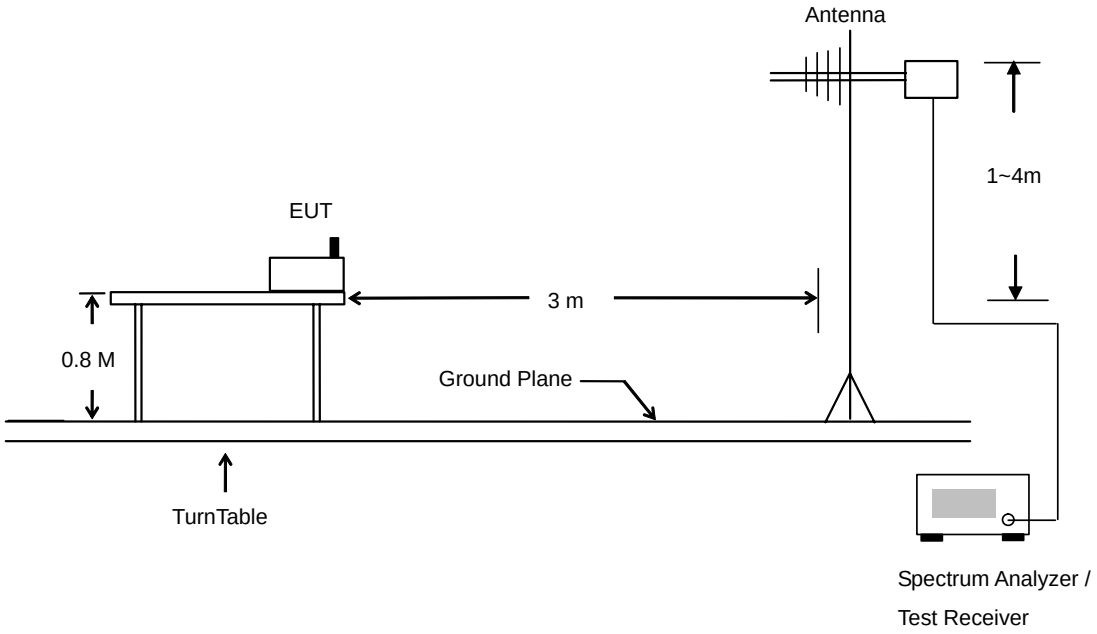
5.9.1 Measuring Instruments

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.

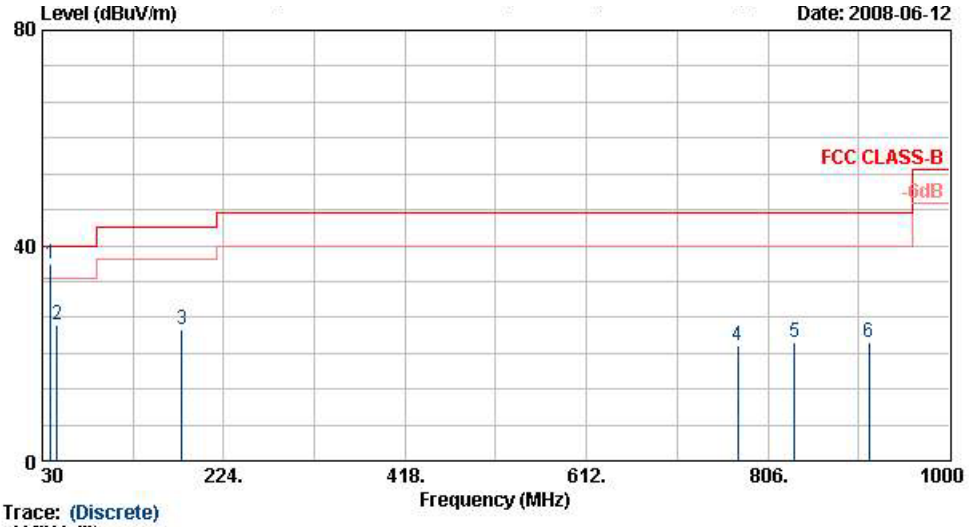
5.9.3 Typical Test Setup Layout of Radiated Emission



5.9.4 Test Data

- Temperature : 22~26℃
- Relating Humidity : 49~57%
- Test Engineer : Sun
- Test Mode : Mode 1
- Polarization : Horizontal (30MHz-1GHz)

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

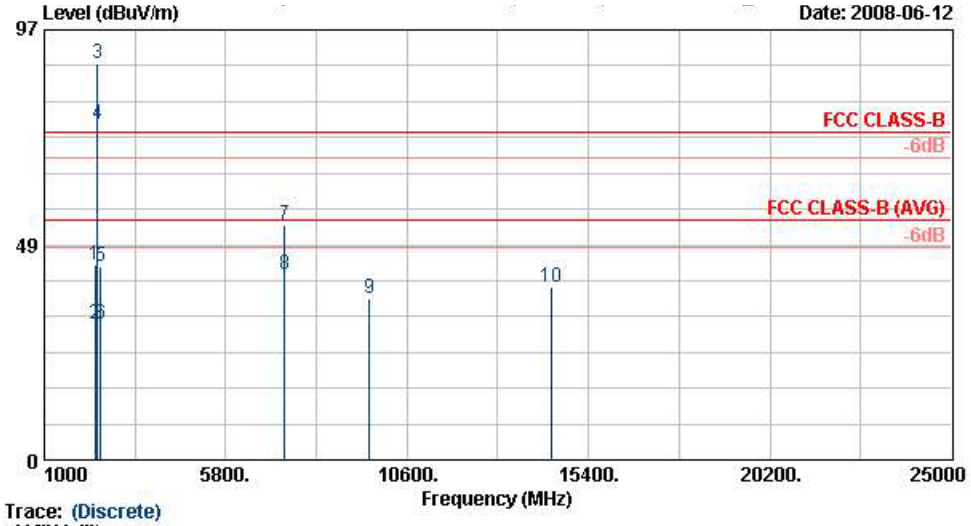


Site : 03CH06-HY
Condition : FCC CLASS-B 3m LF-ANT(9511121) HORIZONTAL
EUT : CDMA2000/1XRTT/EVDO 800/1900
: with BT Samrt phone_Slide Type
Power : 120Vac/60Hz
Model : FR 860909
Memo : Mode 1
Data Rate : 2DH5
Plane : H (slide on)

	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 !	38.64	36.47	-3.53	40.00	55.35	14.03	0.30	33.22	100	143	Peak
2	45.93	25.22	-14.78	40.00	47.51	10.53	0.30	33.12	---	---	Peak
3	179.04	24.49	-19.01	43.50	47.69	9.50	0.60	33.30	---	---	Peak
4	773.90	21.41	-24.59	46.00	33.42	19.58	1.14	32.72	---	---	Peak
5	834.80	21.94	-24.06	46.00	33.32	20.07	1.20	32.64	---	---	Peak
6	913.90	22.13	-23.87	46.00	32.94	20.63	1.26	32.70	---	---	Peak

- Polarization : Horizontal (1GHz-25GHz)

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



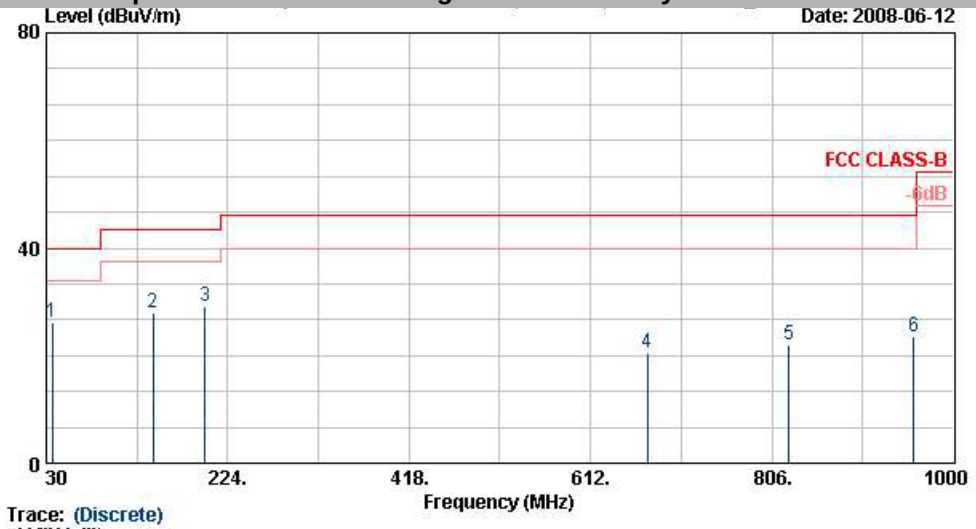
Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
EUT : CDMA2000/1XRTT/EVDO 800/1900
: with BT Samrt phone_Slide Type
Power : 120Vac/60Hz
Model : FR 860909
Memo : Mode 1
Data Rate : 2DH5
Plane : H (slide on)

		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		2346.86	44.14	-29.86	74.00	44.22	31.76	3.82	35.67	100	0	Peak
2		2346.86	30.75	-23.25	54.00	30.78	31.78	3.86	35.67	134	330	Average
3	X	2402.00	89.28			89.17	31.88	3.92	35.68	100	0	Peak
4	@	2402.00	75.74			75.64	31.86	3.92	35.68	134	330	Average
5		2500.00	43.62	-30.38	74.00	43.27	32.00	4.05	35.70	100	0	Peak
6		2500.00	30.56	-23.44	54.00	30.21	32.00	4.05	35.70	134	330	Average
7		7362.00	53.08	-20.92	74.00	46.35	35.66	7.22	36.14	100	0	Peak
8		7362.00	41.90	-12.10	54.00	35.17	35.66	7.22	36.14	100	129	Average
9		9606.00	36.57	-37.43	74.00	75.51	-10.16	7.93	36.72	100	0	Peak
10		14412.00	39.10	-34.90	74.00	70.98	-6.51	9.72	35.09	100	0	Peak

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.



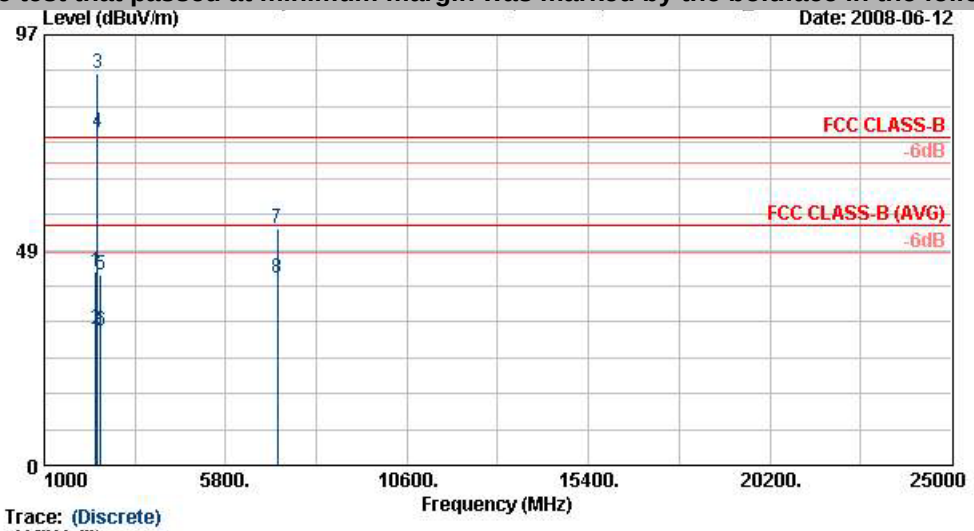
Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m LF-ANT(95112I) VERTICAL
EUT : CDMA2000/1XRTT/EVDO 800/1900
: with BT Samrt phone_Slide Type
Power : 120Vac/60Hz
Model : FR 860909
Memo : Mode 1
Data Rate : 2DH5
Plane : H (slide on)

	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	36.48	26.32	-13.68	40.00	44.20	15.08	0.30	33.26	100	246	Peak
2	144.48	27.83	-15.67	43.50	50.55	10.32	0.55	33.58	---	---	Peak
3	199.83	29.15	-14.35	43.50	52.78	9.30	0.60	33.53	---	---	Peak
4	672.40	20.41	-25.59	46.00	33.70	18.77	1.02	33.08	---	---	Peak
5	824.30	21.92	-24.08	46.00	33.34	19.99	1.20	32.62	---	---	Peak
6	957.30	23.61	-22.39	46.00	33.78	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.



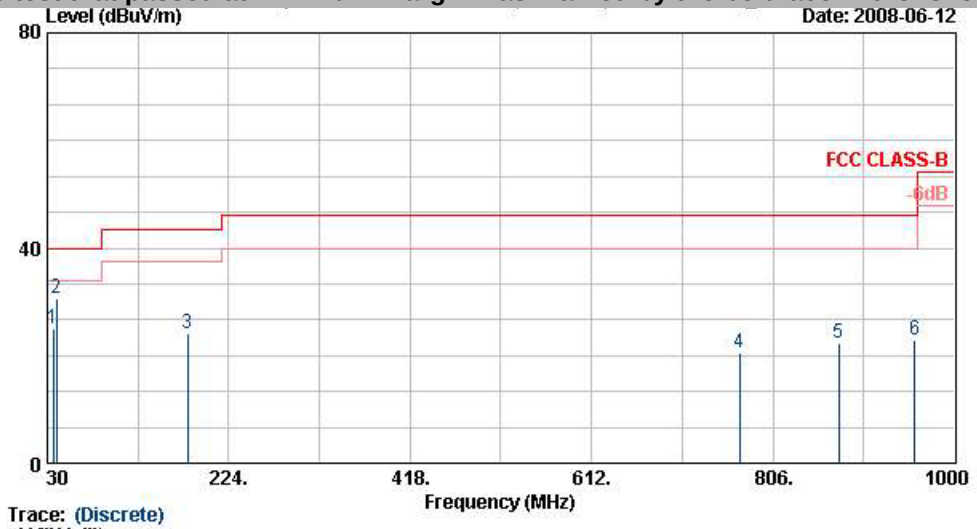
Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
EUT : CDMA2000/1XRTT/EVDO 800/1900
: with BT Samrt phone_Slide Type
Power : 120Vac/60Hz
Model : FR 860909
Memo : Mode 1
Data Rate : 2DH5
Plane : H (slide on)

		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		2371.37	43.66	-30.34	74.00	43.56	31.86	3.92	35.68	100	0	Peak
2		2371.37	30.54	-23.46	54.00	30.50	31.83	3.89	35.68	100	322	Average
3	X	2402.00	88.27			88.15	31.88	3.92	35.68	100	0	Peak
4	@	2402.00	74.95			74.85	31.86	3.92	35.68	100	322	Average
5		2494.00	42.88	-31.12	74.00	42.53	32.00	4.05	35.70	100	0	Peak
6		2494.00	30.38	-23.62	54.00	30.03	32.00	4.05	35.70	100	322	Average
7		7161.00	53.28	-20.72	74.00	46.47	35.74	7.15	36.07	100	0	Peak
8		7161.00	42.09	-11.91	54.00	35.27	35.74	7.15	36.07	100	321	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.



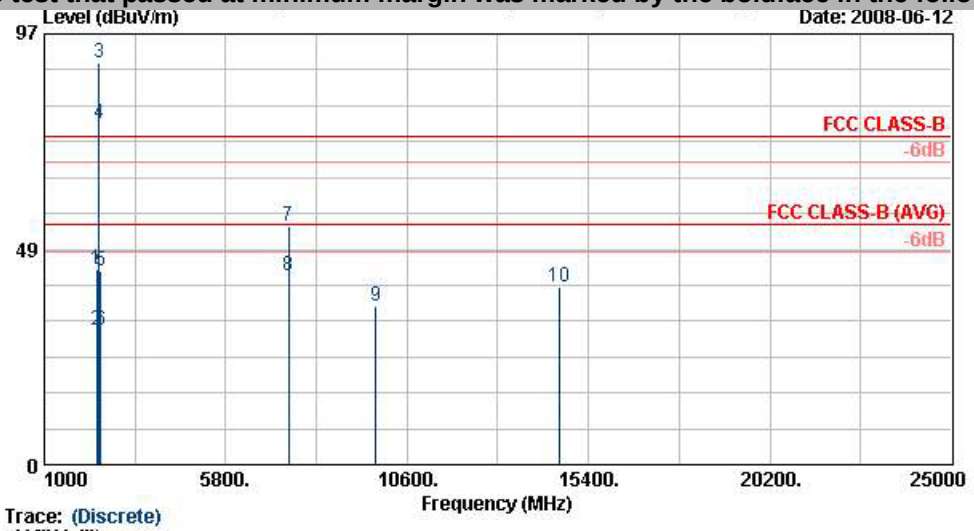
Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m LF-ANT(9511121) HORIZONTAL
EUT : CDMA2000/1XRTT/EVDO 800/1900
: with BT Samrt phone_Slide Type
Power : 120Vac/60Hz
Model : FR 860909
Memo : Mode 2
Data Rate : 2DH5
Plane : H (slide on)

	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	36.48	24.93	-15.07	40.00	42.81	15.08	0.30	33.26	---	---	Peak
2 @	39.99	30.68	-9.32	40.00	50.07	13.51	0.30	33.20	100	151	Peak
3	180.39	23.95	-19.55	43.50	47.20	9.44	0.60	33.29	---	---	Peak
4	770.40	20.66	-25.34	46.00	32.77	19.54	1.10	32.74	---	---	Peak
5	876.80	22.18	-23.82	46.00	33.25	20.36	1.30	32.74	---	---	Peak
6	957.30	22.80	-23.20	46.00	32.97	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.



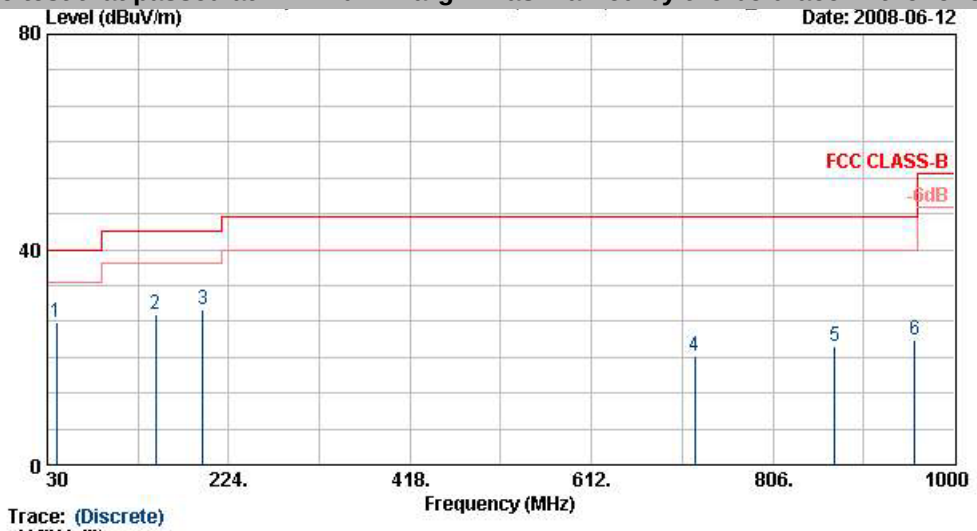
Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
EUT : CDMA2000/1XRTT/EVDO 800/1900
: with BT Samrt phone_Slide Type
Power : 120Vac/60Hz
Model : FR 860909
Memo : Mode 2
Data Rate : 2DH5
Plane : H (slide on)

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2390.00	43.85	-30.15	74.00	43.75	31.86	3.92	35.68	100	0	Peak
2	2390.00	30.32	-23.68	54.00	30.22	31.86	3.92	35.68	193	14	Average
3 @	2441.00	90.50			90.28	31.93	3.99	35.69	100	0	Peak
4 @	2441.00	76.97			76.75	31.93	3.99	35.69	193	14	Average
5	2492.00	43.49	-30.51	74.00	43.14	32.00	4.05	35.70	100	0	Peak
6	2492.00	30.35	-23.65	54.00	30.00	32.00	4.05	35.70	193	14	Average
7	7461.00	53.82	-20.18	74.00	47.13	35.61	7.25	36.18	100	0	Peak
8	7461.00	42.73	-11.27	54.00	36.04	35.61	7.25	36.18	100	113	Average
9	9762.00	35.78	-38.22	74.00	74.37	-9.83	8.00	36.76	100	0	Peak
10	14646.00	39.87	-34.13	74.00	72.18	-6.48	9.52	35.35	100	0	Peak

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.



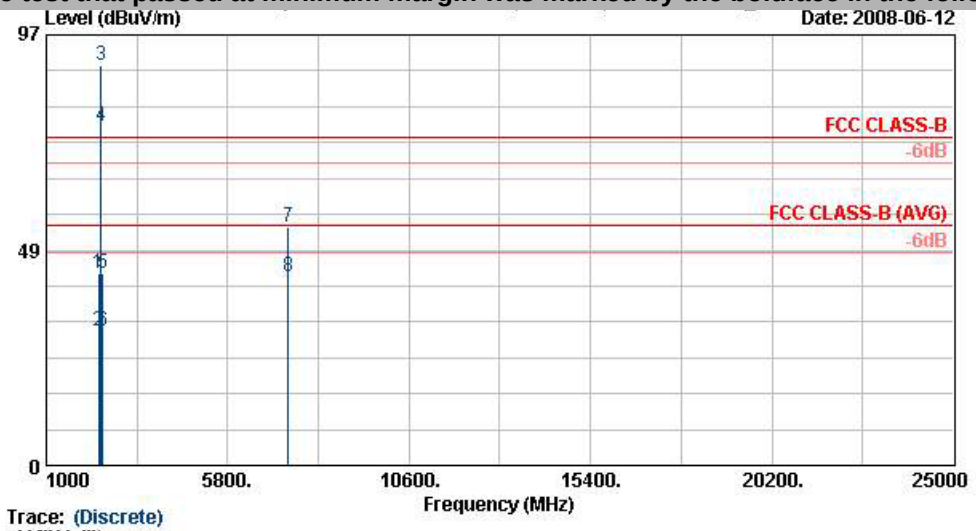
Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m LF-ANT(95112I) VERTICAL
EUT : CDMA2000/1XRTT/EVDO 800/1900
: with BT Samrt phone_Slide Type
Power : 120Vac/60Hz
Model : FR 860909
Memo : Mode 2
Data Rate : 2DH5
Plane : H (slide on)

	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	39.99	26.52	-13.48	40.00	45.91	13.51	0.30	33.20	100	226	Peak
2	145.83	27.90	-15.60	43.50	50.59	10.33	0.55	33.58	---	---	Peak
3	196.59	28.71	-14.79	43.50	52.33	9.32	0.60	33.55	---	---	Peak
4	722.80	20.24	-25.76	46.00	33.00	19.10	1.17	33.03	---	---	Peak
5	871.90	21.90	-24.10	46.00	33.01	20.33	1.30	32.73	---	---	Peak
6	957.30	23.12	-22.88	46.00	33.29	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.



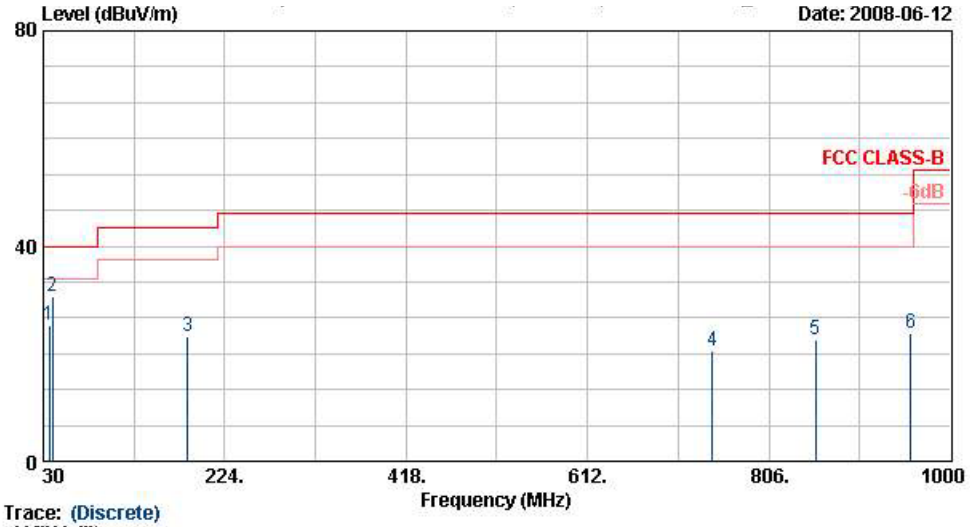
Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN VERTICAL
EUT : CDMA2000/1XRTT/EVDO 800/1900
: with BT Samrt phone_Slide Type
Power : 120Vac/60Hz
Model : FR 860909
Memo : Mode 2
Data Rate : 2DH5
Plane : H (slide on)

	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	2382.00	43.26	-30.74	74.00	43.18	31.83	3.92	35.68	100	0	Peak
2	2382.00	30.31	-23.69	54.00	30.23	31.83	3.92	35.68	100	325	Average
3 @	2441.00	90.21			89.99	31.93	3.99	35.69	100	0	Peak
4 @	2441.00	76.53			76.31	31.93	3.99	35.69	100	325	Average
5	2492.00	43.28	-30.72	74.00	42.93	32.00	4.05	35.70	100	0	Peak
6	2492.00	30.34	-23.66	54.00	29.99	32.00	4.05	35.70	100	325	Average
7	7392.00	53.69	-20.31	74.00	46.98	35.64	7.23	36.16	100	0	Peak
8	7392.00	42.45	-11.55	54.00	35.74	35.64	7.23	36.16	100	124	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.



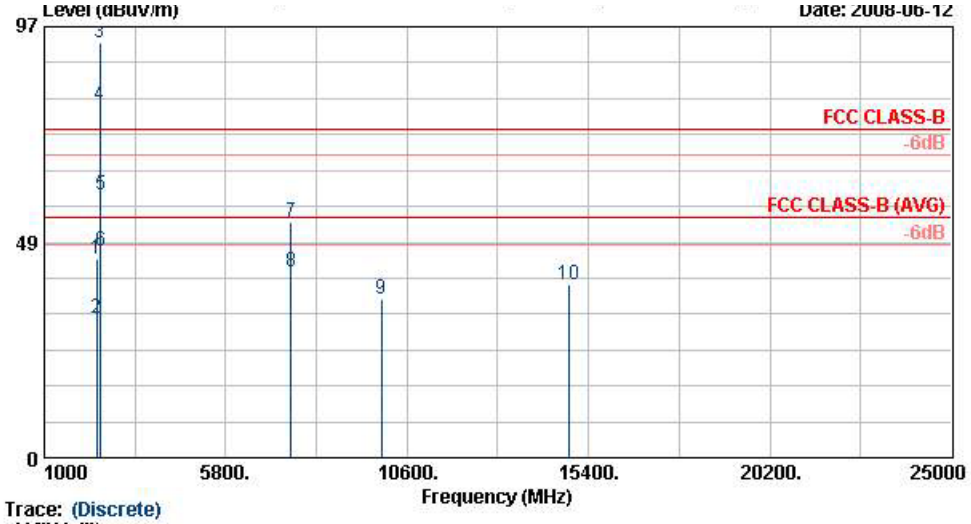
Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m LF-ANT(951121) HORIZONTAL
EUT : CDMA2000/1XRTT/EVDO 800/1900
: with BT Samrt phone_Slide Type
Power : 120Vac/60Hz
Model : FR 860909
Memo : Mode 3
Data Rate : 2DH5
Plane : H (slide on)

	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	36.48	25.26	-14.74	40.00	43.14	15.08	0.30	33.26	---	---	Peak
2	39.99	30.55	-9.45	40.00	49.94	13.51	0.30	33.20	100	115	Peak
3	184.44	23.19	-20.31	43.50	46.58	9.41	0.60	33.41	---	---	Peak
4	745.90	20.54	-25.46	46.00	33.02	19.31	1.10	32.89	---	---	Peak
5	855.80	22.60	-23.40	46.00	33.88	20.21	1.20	32.69	---	---	Peak
6	957.30	23.79	-22.21	46.00	33.97	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.



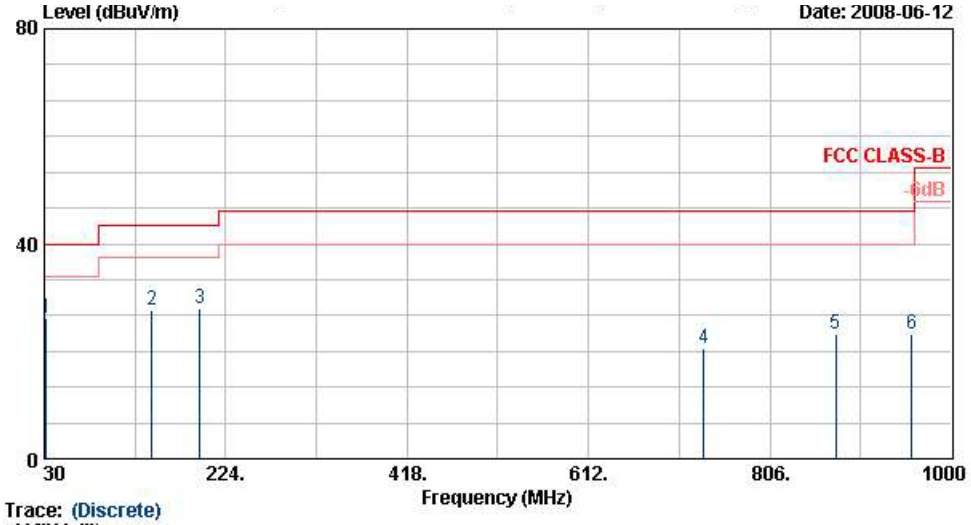
Site : 03CH06-HY
Condition : FCC CLASS-B 3m SHF-EHF HORN HORIZONTAL
EUT : CDMA2000/1XRTT/EVDO 800/1900
: with BT Samrt phone_Slide Type
Power : 120Vac/60Hz
Model : FR 860909
Memo : Mode 3
Data Rate : 2DH5
Plane : H (slide on)

	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	44.74	-29.26	74.00	44.64	31.86	3.92	35.68	100	0	Peak
2	2388.00	31.44	-22.56	54.00	31.34	31.86	3.92	35.68	102	12	Average
3 X	2480.00	93.27			92.94	31.98	4.05	35.70	100	0	Peak
4 @	2480.00	79.44			79.11	31.98	4.05	35.70	102	12	Average
5	2483.50	59.01	-14.99	74.00	58.68	31.98	4.05	35.70	100	0	Peak
6	2483.50	46.57	-7.43	54.00	46.24	31.98	4.05	35.70	102	12	Average
7	7536.00	53.15	-20.85	74.00	46.47	35.61	7.28	36.21	100	0	Peak
8	7536.00	41.99	-12.01	54.00	35.31	35.61	7.28	36.21	100	217	Average
9	9921.00	35.53	-38.47	74.00	73.72	-9.48	8.07	36.79	100	0	Peak
10	14877.00	39.02	-34.98	74.00	71.63	-6.30	9.26	35.58	100	0	Peak

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.



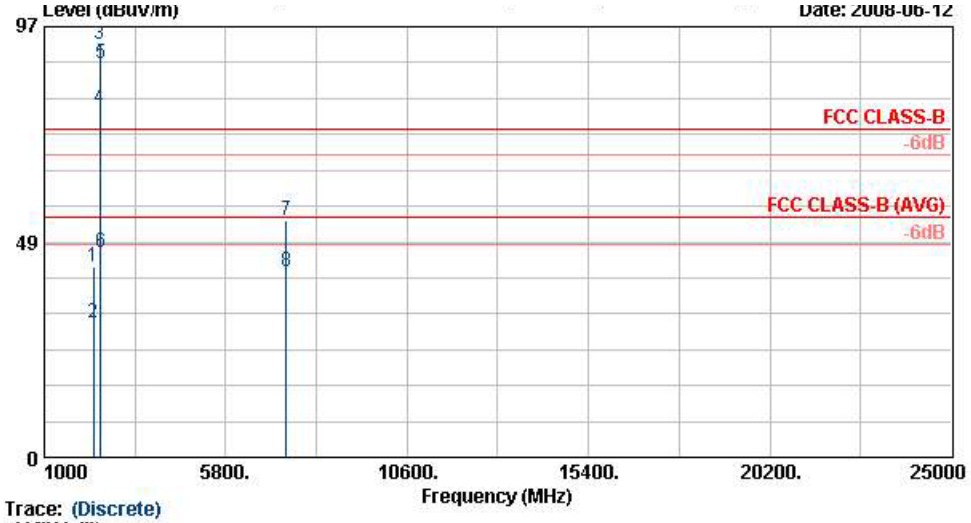
Trace: (Discrete)

Site : 03CH06-HY
Condition : FCC CLASS-B 3m LF-ANT(9511121) VERTICAL
EUT : CDMA2000/1XRTT/EVDO 800/1900
: with BT Samrt phone_Slide Type
Power : 120Vac/60Hz
Model : FR 860909
Memo : Mode 3
Data Rate : 2DH5
Plane : H (slide on)

	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	26.22	-13.78	40.00	41.76	17.54	0.30	33.38	100	289	Peak
2	145.29	27.52	-15.98	43.50	50.21	10.33	0.55	33.58	---	---	Peak
3	196.59	27.97	-15.53	43.50	51.60	9.32	0.60	33.55	---	---	Peak
4	735.40	20.61	-25.39	46.00	33.25	19.22	1.10	32.96	---	---	Peak
5	876.80	23.07	-22.93	46.00	34.15	20.36	1.30	32.74	---	---	Peak
6	957.30	23.16	-22.84	46.00	33.33	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 : CDMA2000/1XRTT/EVDO 800/1900
: with BT Samrt phone_Slide Type
Power : 120Vac/60Hz
Model : FR 860909
Memo : Mode 3
Data Rate : 2DH5
Plane : H (slide on)

	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	2310.00	43.03	-30.97	74.00	43.13	31.73	3.82	35.66	100	0	Peak
2	2310.00	30.21	-23.79	54.00	30.31	31.73	3.82	35.66	128	306	Average
3 X	2480.00	92.96			92.63	31.98	4.05	35.70	100	0	Peak
4 @	2480.00	78.70			78.37	31.98	4.05	35.70	128	306	Average
5 X	2483.50	88.77	14.77	74.00	88.44	31.98	4.05	35.70	100	0	Peak
6	2483.50	46.16	-7.84	54.00	45.83	31.98	4.05	35.70	128	306	Average
7	7401.00	53.33	-20.67	74.00	46.62	35.63	7.24	36.16	100	0	Peak
8	7401.00	41.88	-12.12	54.00	35.17	35.63	7.24	36.16	100	291	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 PIFA Antenna for BT and it is considered to meet antenna requirement of FCC.

5.10.3 Antenna Gain

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

6. List of Measuring Equipments

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
EMC Receiver	R&S	ESCS 30	100359	9kHz – 2.75GHz	Mar. 03, 2008	Mar. 02, 2009	Conduction (CO04-HY)
LISN	MessTec	NNB-2/16Z	99079	9kHz – 30MHz	Mar. 31, 2008	Mar. 29, 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, 2008	Apr. 19, 2009	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)
Bilog Antenna	SCHAFFNER	CBL6112B	2885	30MHz -2GHz	Dec. 01, 2007	Nov. 30, 2008	Radiation (03CH06-HY)
Double Ridge Horn Antenna	EMCO	3117	000666583	1G~18G	Aug. 29, 2007	Aug. 28, 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)

7. Uncertainty Evaluation

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

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 (30 MHz ~ 1000 MHz)

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 (1 GHz ~ 40 GHz)

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)

Appendix A. Photographs of EUT

Please refer to Sporton report number EP860909 as below.