

FCC/IC TEST REPORT

for

47 CFR Part 15 Subpart C and IC RSS-210

Equipment : GSM EGPRS Quad-Band Messaging Device
Trade Name : Ogo
Model No. : CT-25E
FCC ID : SOW-OGOCT25E
IC ID : 5621A-OGOCT25E
Filing Type : Certification
Applicant : IXI Mobile (R&D) Ltd.
17 Hatidhar St. Ra'anana, 43665 Israel

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- The data shown in this test report were carried out on Apr. 24, 2007 at **Sporton International Inc. LAB.**
- Report No.: FR741220, Report Version: Rev. 01.



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Rev. 01



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History of this test report

Report Issue Date: May 28, 2007

Report No.	Description



1. General Description of Equipment under Test

1.1. Applicant

IXI Mobile (R&D) Ltd.

17 Hatidhar St. Ra'anana, 43665 Israel

1.2. Manufacturer

FIH CO., LTD.

6F, North 2A, No. 7, Sec. 2, Sianmin Blvd., Banciao City, Taipei 22041, Taiwan

1.3. Basic Description of Equipment under Test

Equipment : GSM EGPRS Quad-Band Messaging Device

Trade Name : Ogo

Model No. : CT-25E

FCC ID : SOW-OG OCT25E

IC ID : 5621A-OG OCT25E

Power Supply Type : Switching, From Battery 3.7V

AC Power Cord : AC 120V, Wall-mount, 1.6 meter, 2 pin

1.4. Feature of Equipment under Test

Product Feature & Specification				
1. Modulation Type/Data Rate	GFSK			
2. Frequency Range.	2400 MHz ~ 2483.5 MHz			
3. Number of Channels	79			
4. Carrier Frequency of each channel	2402+ n*1 MHz, n= 0~78			
5. Channel Spacing	1 MHz			
6. Maximum Output Power to Antenna (Normal condition)	0.98 dBm			
7. Type of Antenna Connector	N/A			
8. Antenna Type	Chip Antenna			
9. Antenna Gain	0 dBi			
10. Function Type	Transmitter		Transceiver	V
11. DUT Stage	Identical Prototype			

2. Test Configuration of Equipment under Test

2.1. Test Manner

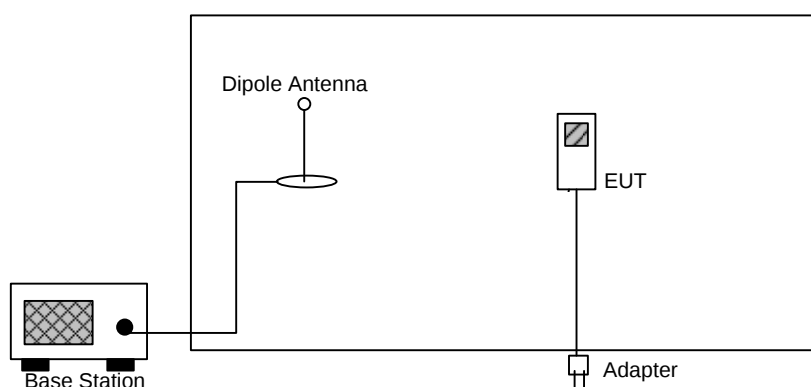
- The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.
- For spurious emission below 1GHz, only one channel of each application was tested because it is not related to channel selection.
- The EUT is programmed to transmit signal continuously for all testings.
- Frequency range investigated: conduction 150 kHz to 30 MHz, radiation 30 MHz to 25000MHz.

2.2. Test Mode

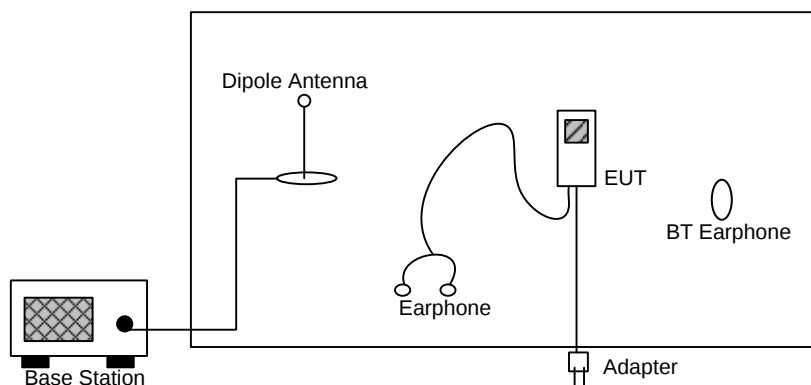
Application	Bluetooth
Radiated Emission	Mode 1: Tx_CH00_2402 MHz
	Mode 2: Tx_CH39_2441 MHz
	Mode 3: Tx_CH78_2480 MHz
Conducted Emission	Mode 1: GSM Idle Mode + BT Link + Earphone + Adapter

2.3. Connection Diagram of Test System

<Radiated Emission>



<Conducted Emission>



2.4. Ancillary Equipment List

Item	Equipment	Model No.	Serial No.
1.	BT Base Station (Anritus)	8852A	N/A



3. RF Utility

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



4. General Information of Test

Test Site Location : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park,
Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.
TEL : 886-3-327-3456
FAX : 886-3-318-0055
Test Site No : CO01-HY, 03CH06-HY

4.1. Test Voltage

AC 120V

4.2. Standard for Methods of Measurement

ANSI C63.4-2003

4.3. Test in Compliance with

47 CFR Part 15 Subpart C and IC RSS-210 Issued 6

4.4. Frequency Range Investigated

Conduction: from 150 kHz to 30 MHz

Radiation: from 30 MHz to 25000MHz

4.5. Test Distance

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

5. Report of Measurements and Examinations

5.1. List of Measurements and Examinations

FCC Rule	IC Rule	Description of Test	Result	Section
15.247(a)(1)	A8.1 (2)	Hopping Channel Separation	Pass	5.2
15.247(a)(1)(iii)	A8.1 (4)	Number of Hopping Frequency Used	Pass	5.3
15.247(a)(1)	A8.1 (1)	Hopping Channel Bandwidth	Pass	5.4
15.247(a)(1)(iii)	A8.1 (4)	Dwell Time of Each Frequency	Pass	5.5
15.247(b)(1)	A8.4 (2)	Output Power	Pass	5.6
15.247(c)	A8.5	100kHz Bandwidth of Frequency Band Edges	Pass	5.7
15.207	RSS-Gen 7.2.2	Conducted Emission	Pass	5.8
15.209	2.6	Radiated Emission	Pass	5.9
15.203	A8.4 (6)	Antenna Requirement	Pass	5.10

5.2. Hopping Channel Separation

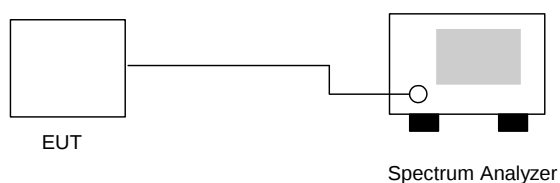
5.2.1. Measuring Instruments :

As described in chapter 6 of this test report.

5.2.2. Test Procedure :

1. The transmitter output was connected to the spectrum analyzer directly.
2. Set RBW of spectrum analyzer to 30kHz and VBW to 100kHz.
3. The Hopping Channel Separation is defined as the channel is separated with the next channel.

5.2.3. Test Setup Layout :



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

- Temperature: 24°C
- Relative Humidity: 52%
- Test Engineer : Tony

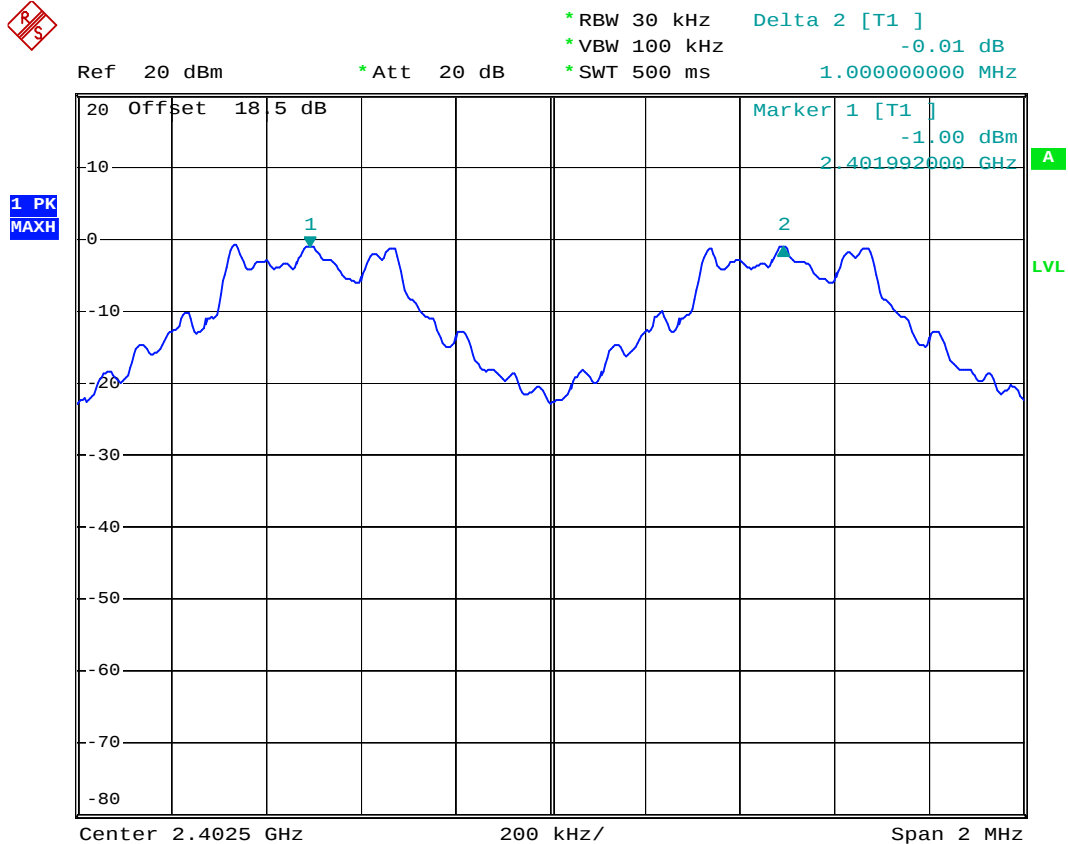
Channel	Frequency (MHz)	Hopping Channel Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.000	0.942	Mode 1
39	2441	1.000	0.942	Mode 2
78	2480	1.000	0.936	Mode 3

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



5.2.5 Hopping Channel Separation

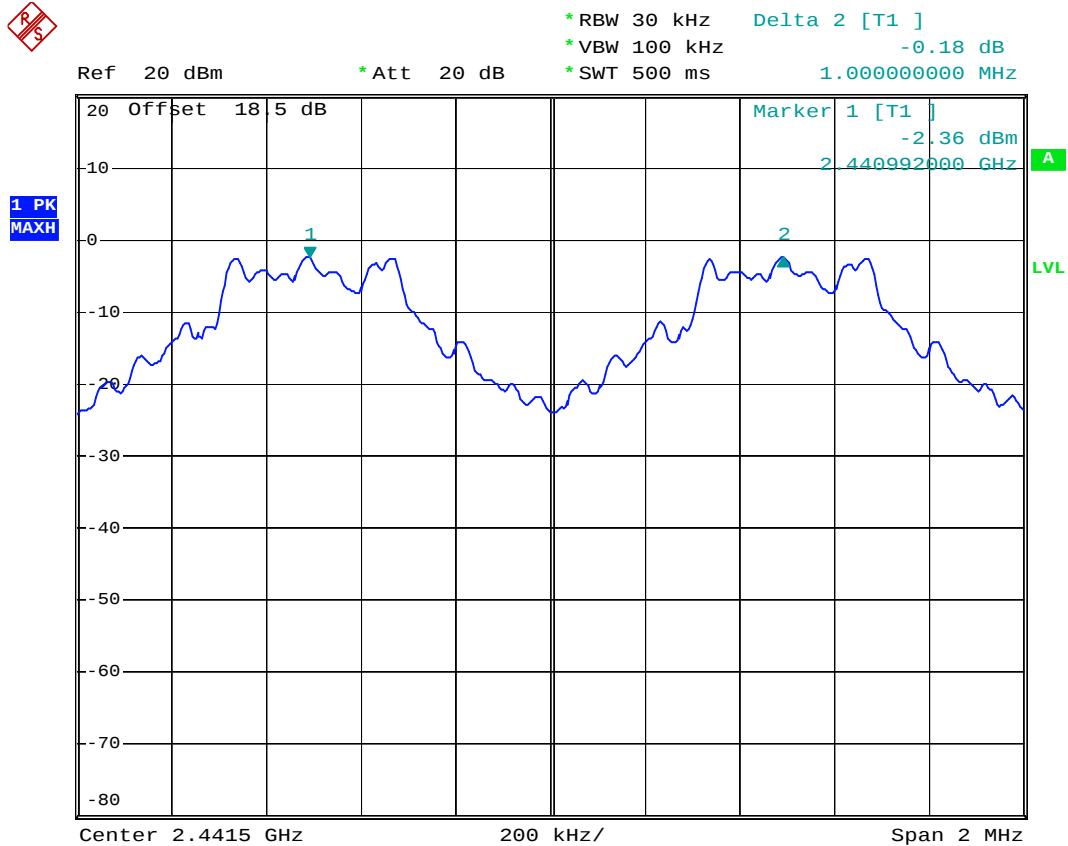
Mode 1: CH00 (2402MHz)



Date: 23.APR.2007 18:17:58



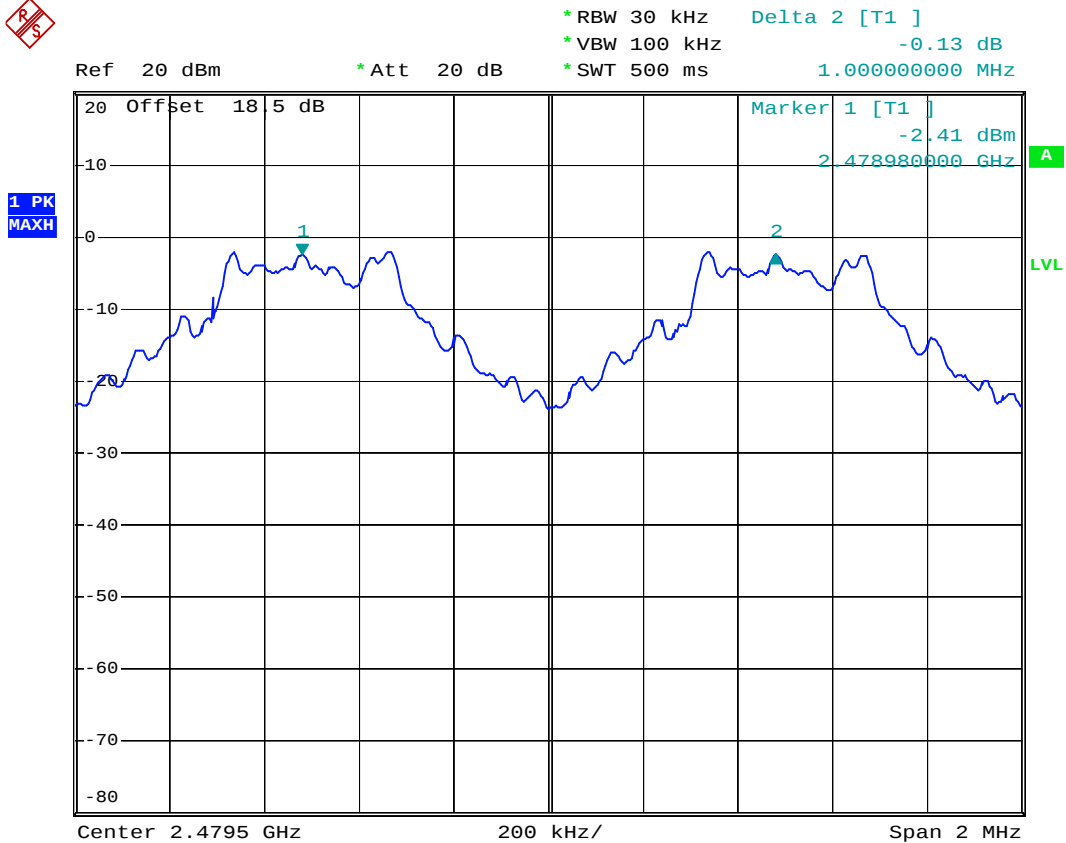
Mode 2: CH39 (2441MHz)



Date: 23.APR.2007 18:53:13



Mode 3: CH78 (2480MHz)



Date: 23.APR.2007 18:56:28

5.3. Number of Hopping Frequency

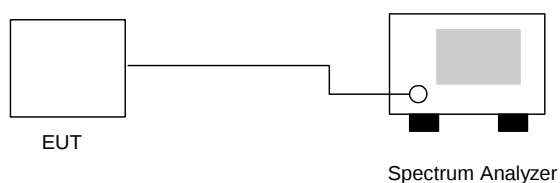
5.3.1. Measuring Instruments :

As described in chapter 6 of this test report.

5.3.2. Test Procedure :

1. The transmitter output was connected to the spectrum analyzer directly.
2. Set RBW of spectrum analyzer to 100kHz and VBW to 100kHz.
3. The number of hopping frequency used is defined as the device has the numbers of total channel.

5.3.3. Test Setup Layout :



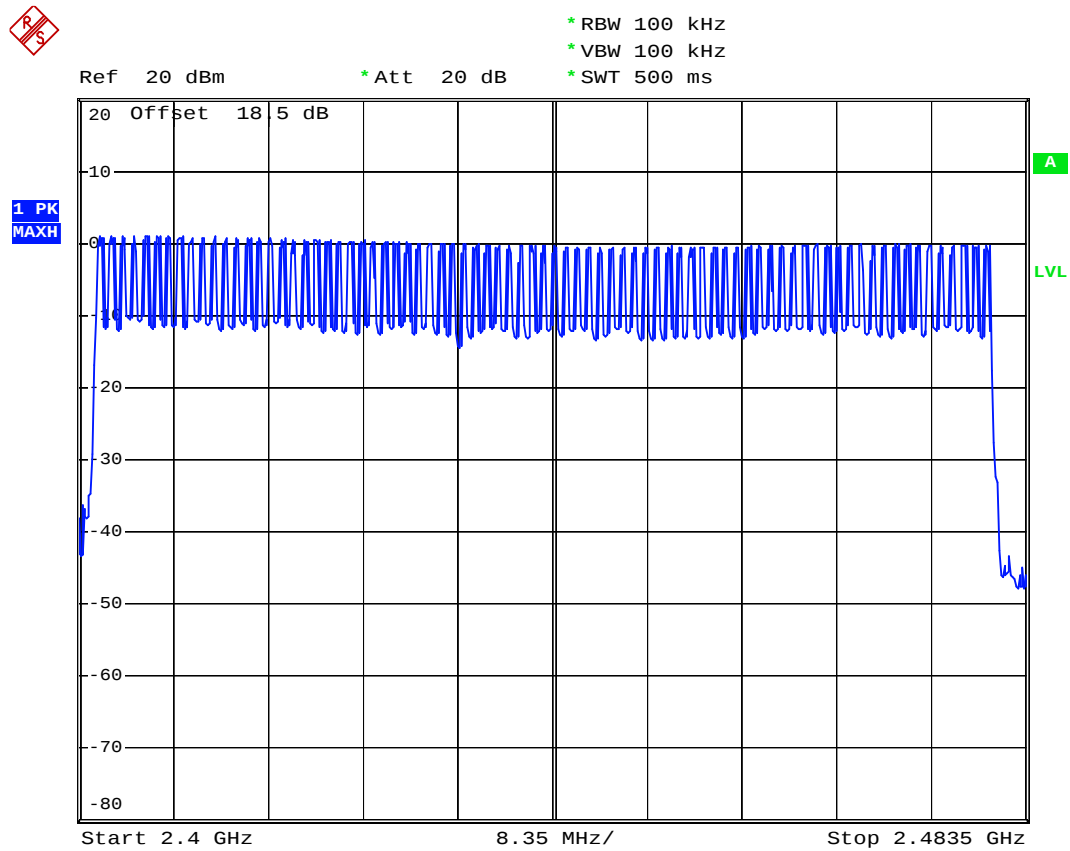
5.3.4. Test Result : See spectrum analyzer plots below

- Temperature: 24°C
- Relative Humidity: 52%
- Test Engineer : Tony

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



5.3.5 Number of Hopping Frequency



Date: 23.APR.2007 20:42:30

5.4 Hopping Channel Bandwidth

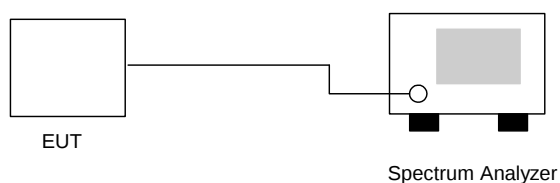
5.4.1 Measuring Instruments :

As described in chapter 6 of this test report.

5.4.2 Test Procedure :

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

5.4.3 Test Setup Layout :



5.4.4 Test Result : See spectrum analyzer plots below

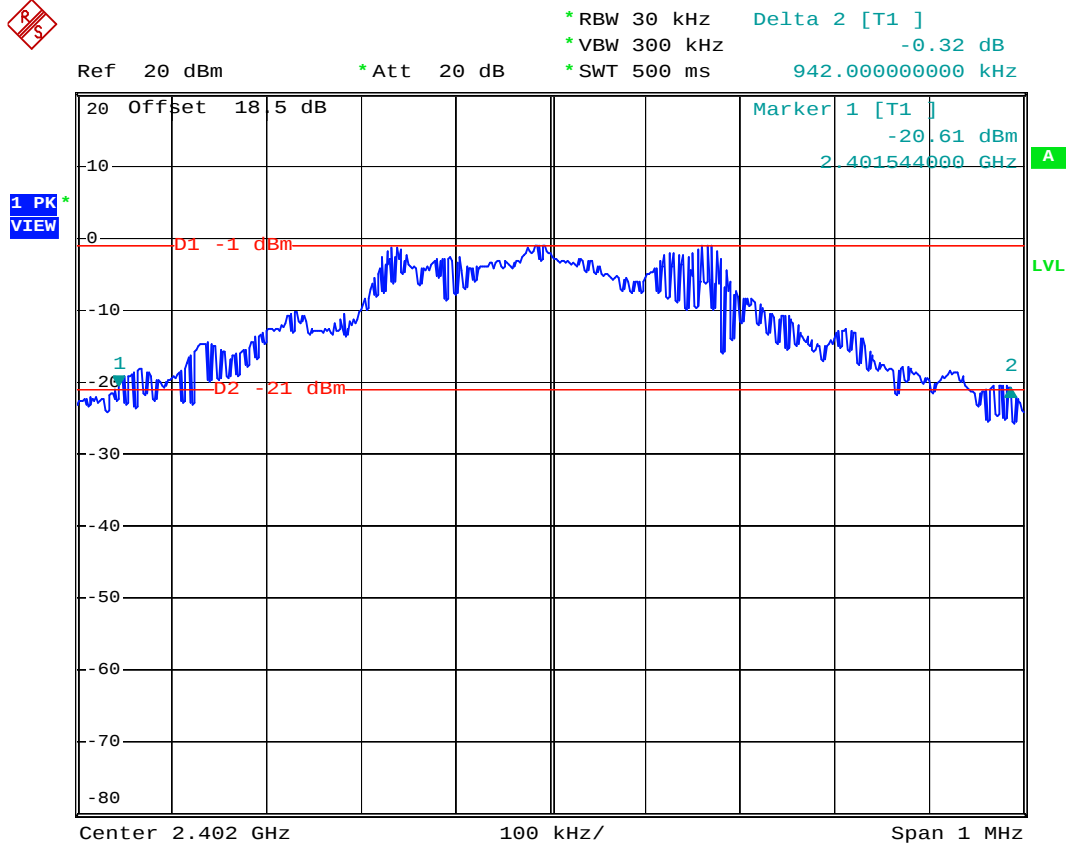
- Temperature: 24°C
- Relative Humidity: 52%
- Test Engineer : Tony

Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	0.942	1.0	Mode 1
39	2441	0.942	1.0	Mode 2
78	2480	0.936	1.0	Mode 3



5.4.5 Hopping Channel Bandwidth

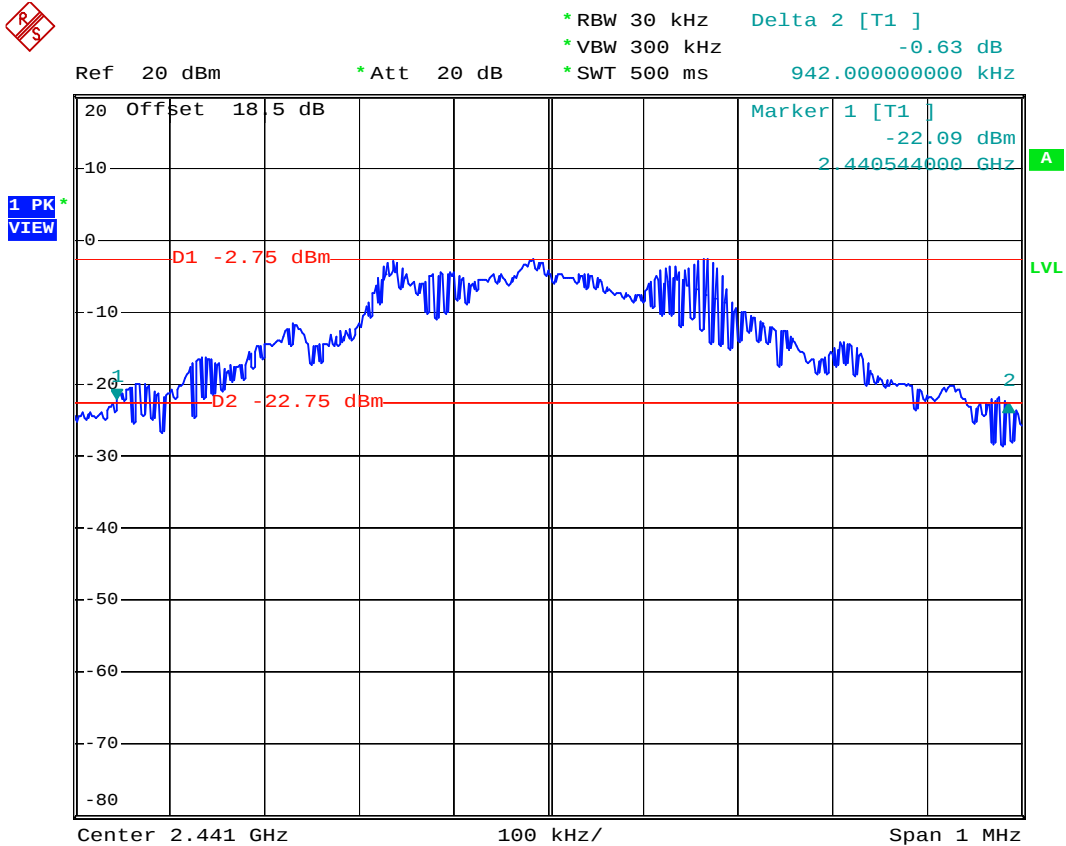
Mode 1: CH00 (2402MHz)



Date: 23.APR.2007 18:06:54



Mode 2: CH39 (2441MHz)



Date: 23.APR.2007 18:08:44



Mode 3: CH78 (2480MHz)



Date: 23.APR.2007 18:11:18

5.5 Dwell Time of Each Frequency within a 30 Seconds Period

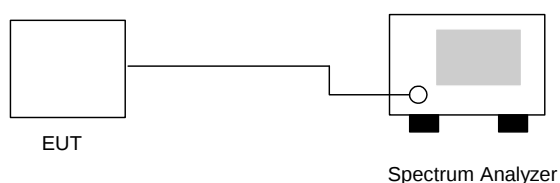
5.5.1 Measuring Instruments :

As described in chapter 6 of this test report.

5.5.2 Test Procedure :

1. The transmitter output was connected to the spectrum analyzer directly.
2. Set RBW of spectrum analyzer to 1MHz and VBW to 1MHz.
3. Set the center frequency on any frequency would be measured and set the frequency span to zero span.
4. The equation = $30 \times (1600/79) \times t$ (t = the time duration of one single pulse)

5.5.3 Test Setup Layout :



5.5.4 Test Result : See spectrum analyzer plots below

- Temperature: 24°C
- Relative Humidity: 52%
- Test Engineer : Tony

Ch00

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	9.3	440	0.129	0.4
DH3	5.3	1720	0.288	0.4
DH5	3.5	3000	0.332	0.4

**CH39**

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	9	440	0.125	0.4
DH3	5.1	1710	0.276	0.4
DH5	3.2	3000	0.303	0.4

CH78

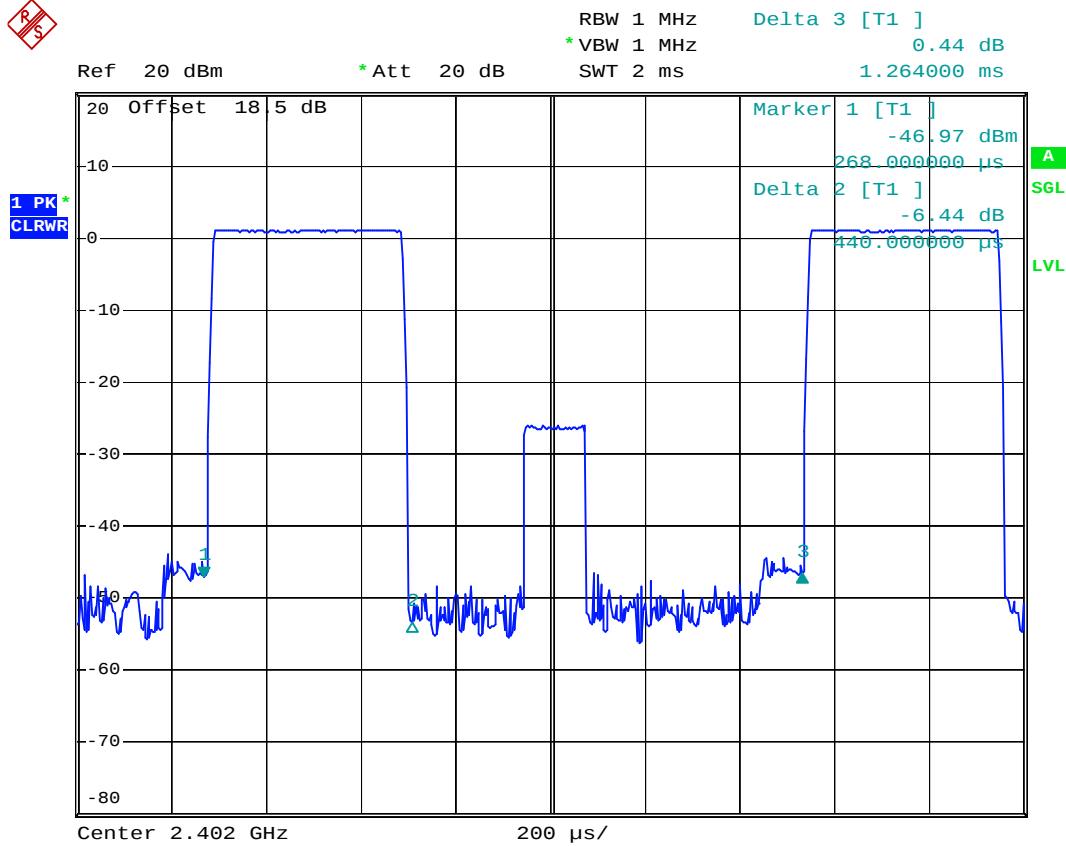
Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	9.3	440	0.129	0.4
DH3	5.2	1730	0.284	0.4
DH5	3.1	3020	0.296	0.4

Remark:

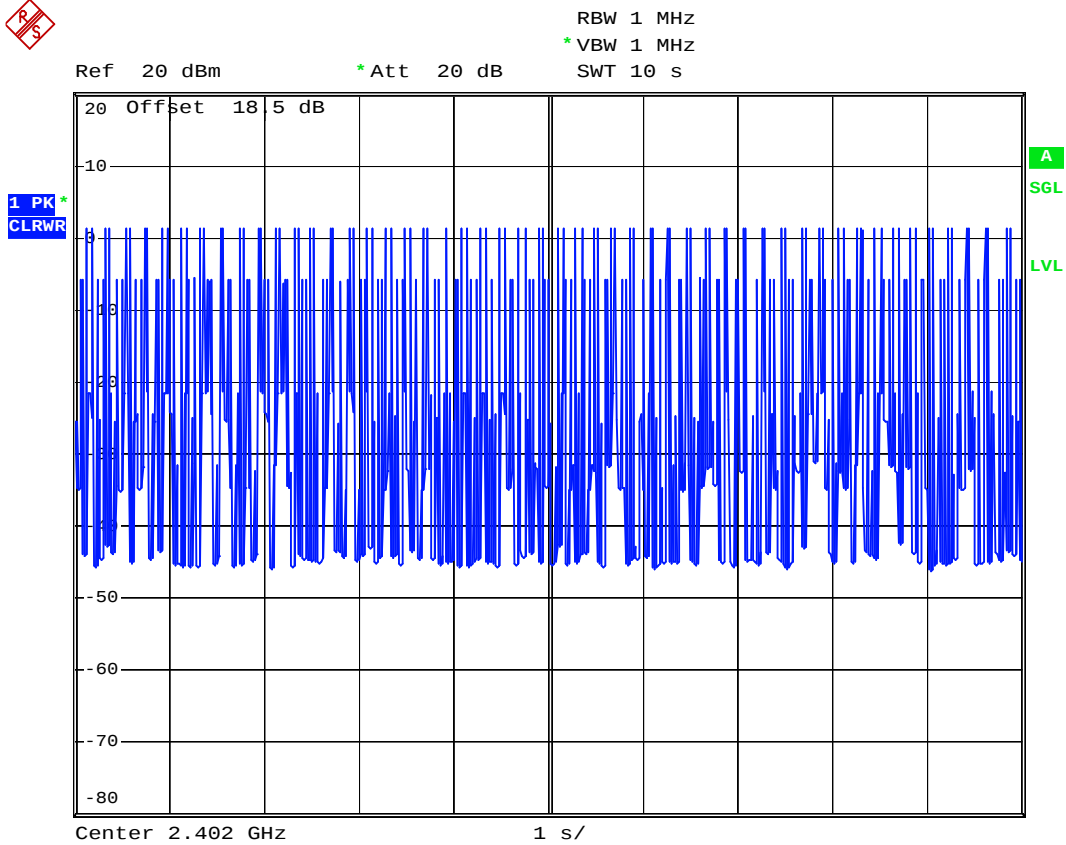
1. Dwell Time=79(channels) x 0.4(s) x average hopping channel x package transfer time
2. 79channels come from the Hopping Channel number.
3. Average Hopping Channel = hops/sweep time
4. t: Package Transfer Time(us)

**5.5.5 Dwell Time**

DH1 (CH00)



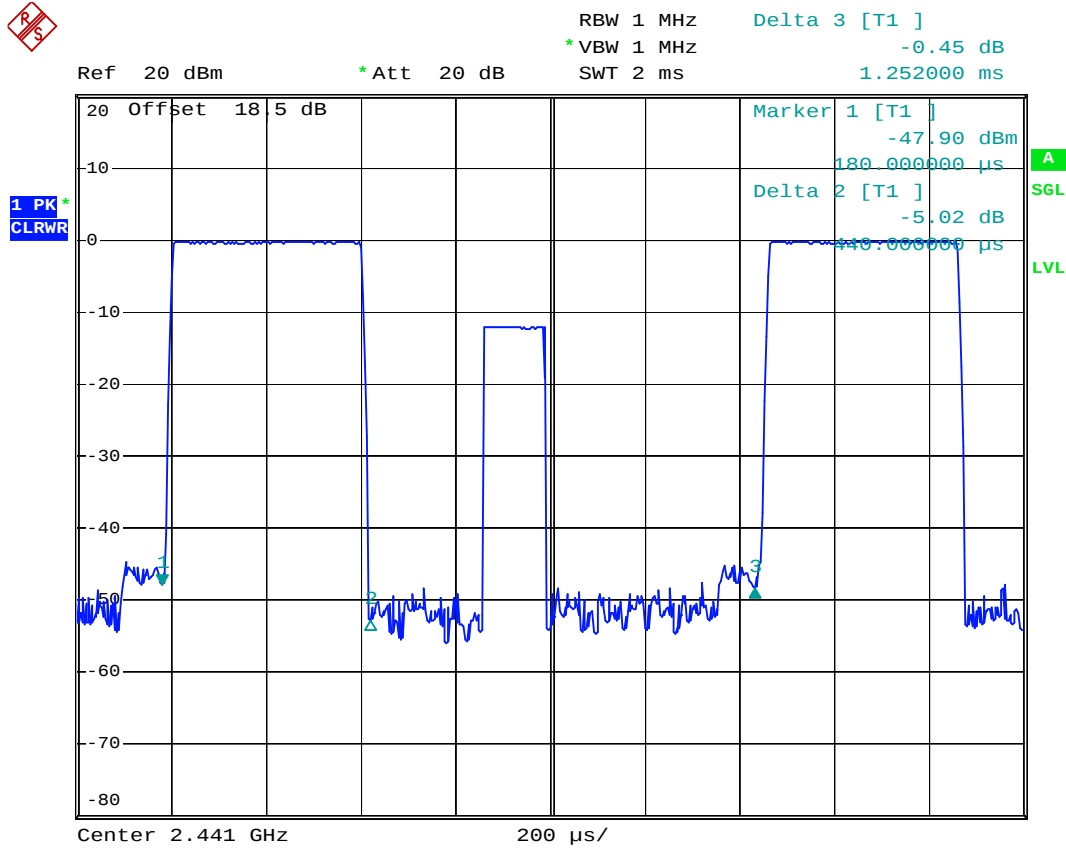
Date: 23.APR.2007 19:01:51



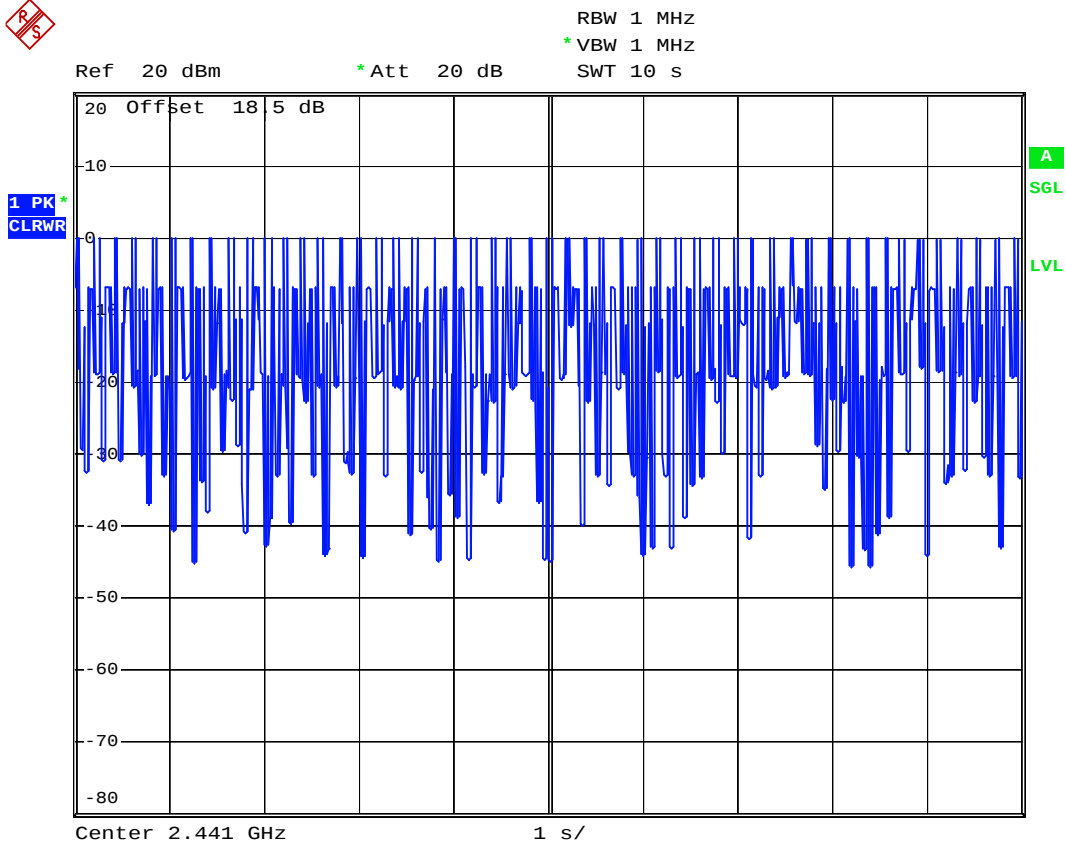
Date: 23.APR.2007 19:37:05



DH1 (CH39)

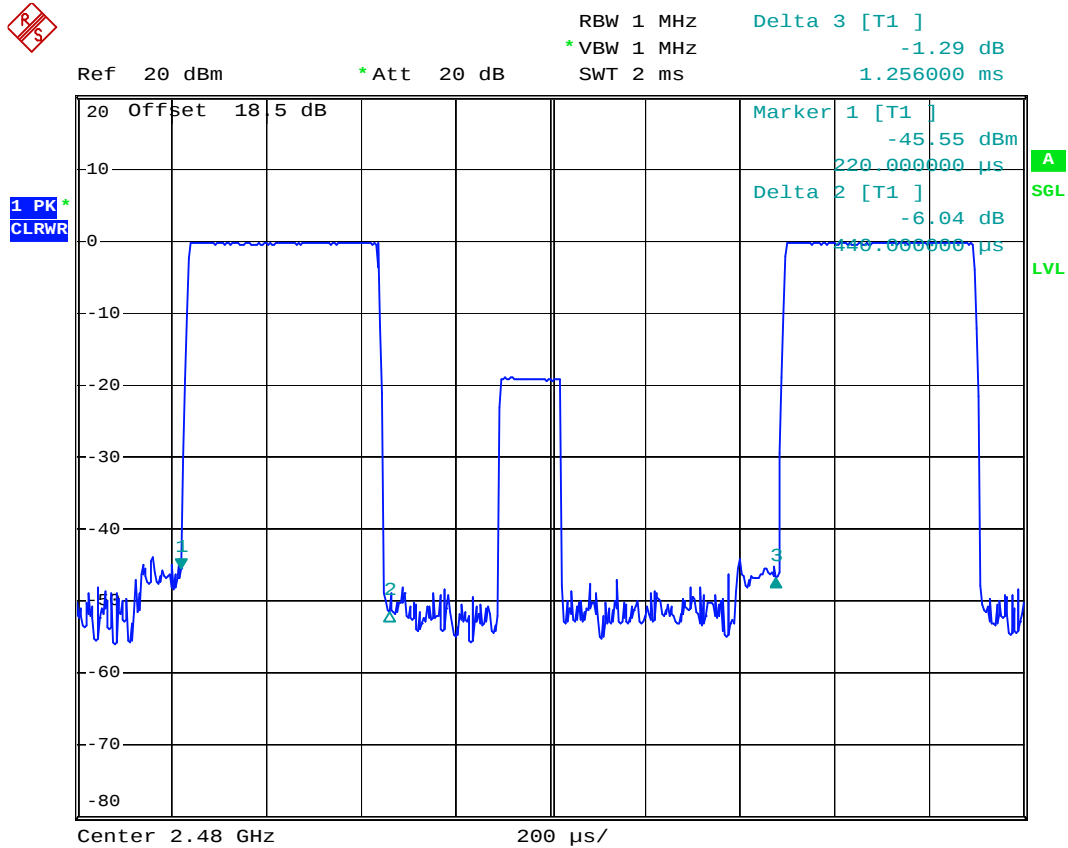


Date: 23.APR.2007 19:02:48

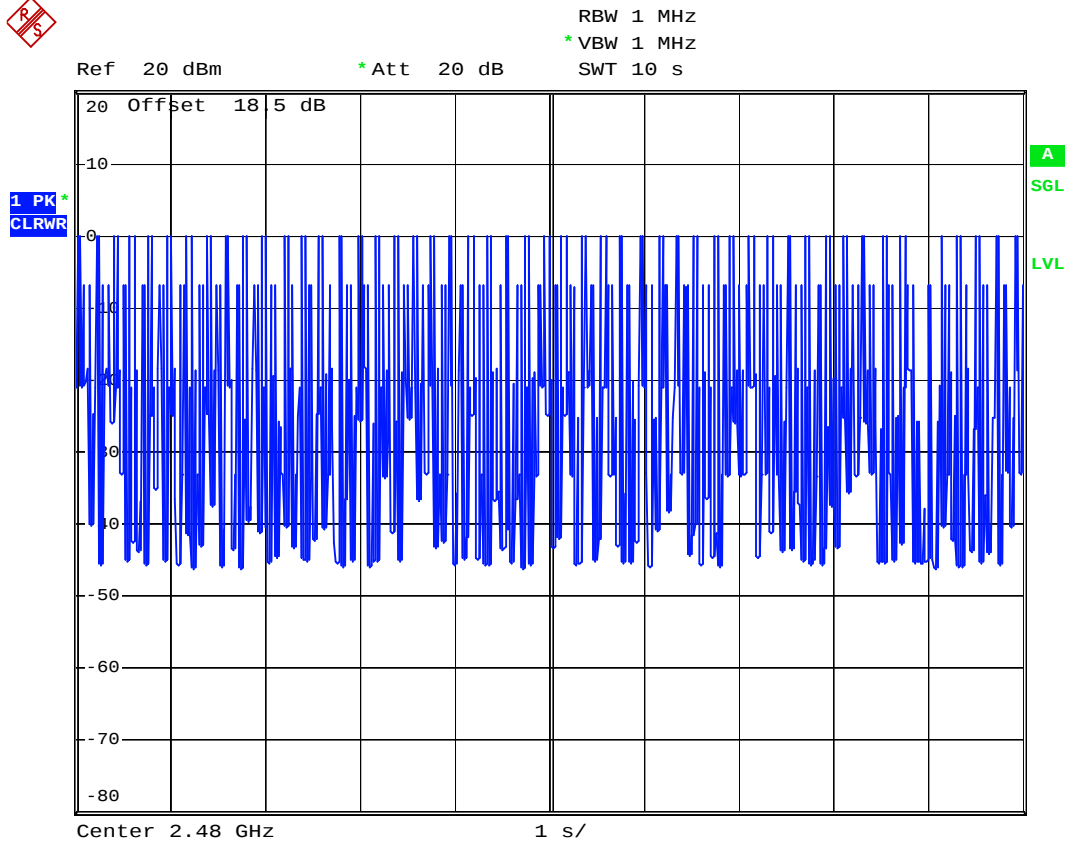


Date: 23.APR.2007 20:14:45

DH1 (CH78)



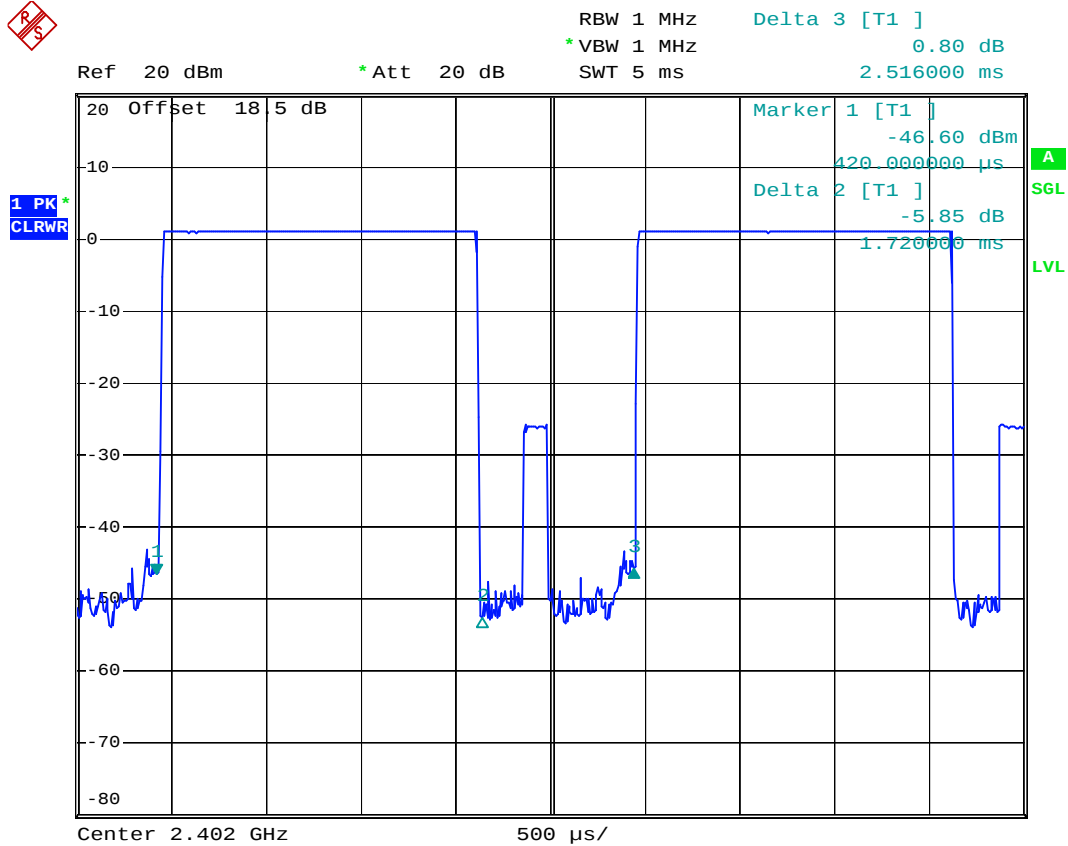
Date: 23.APR.2007 19:03:38



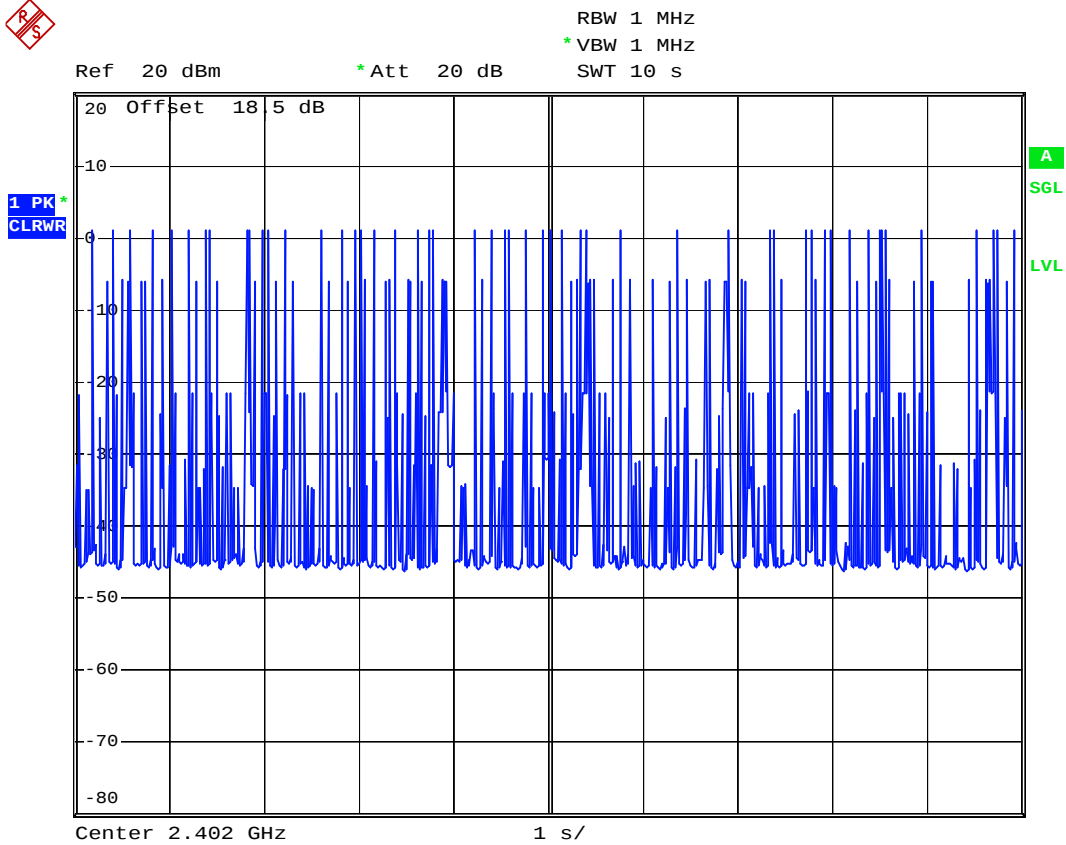
Date: 23.APR.2007 20:15:18



DH3 (CH00)



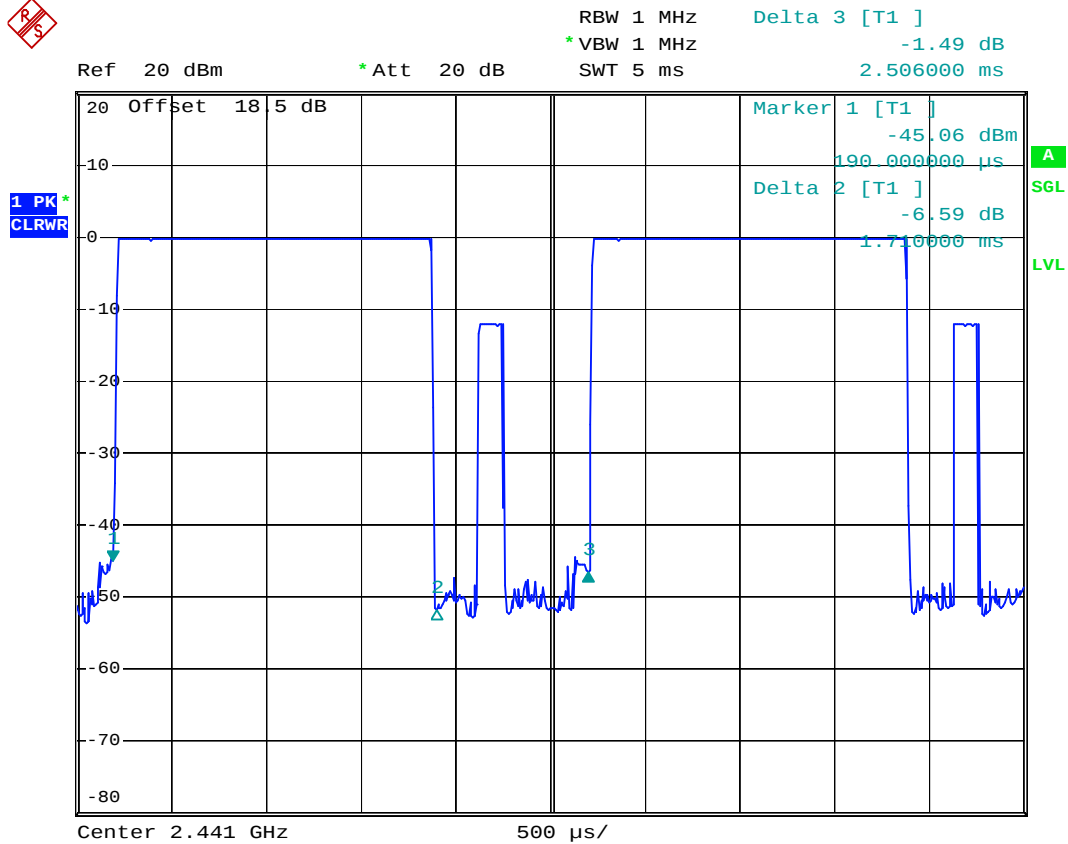
Date: 23.APR.2007 19:04:38



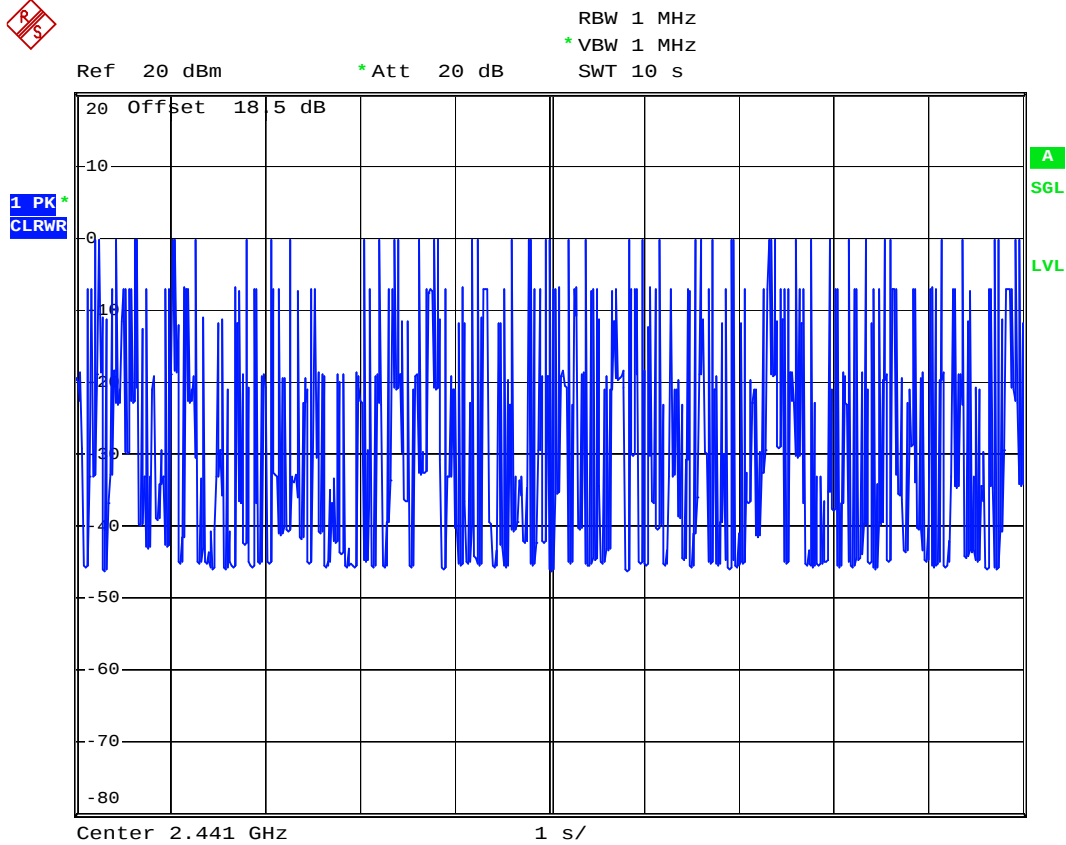
Date: 23.APR.2007 20:18:26



DH3 (CH39)



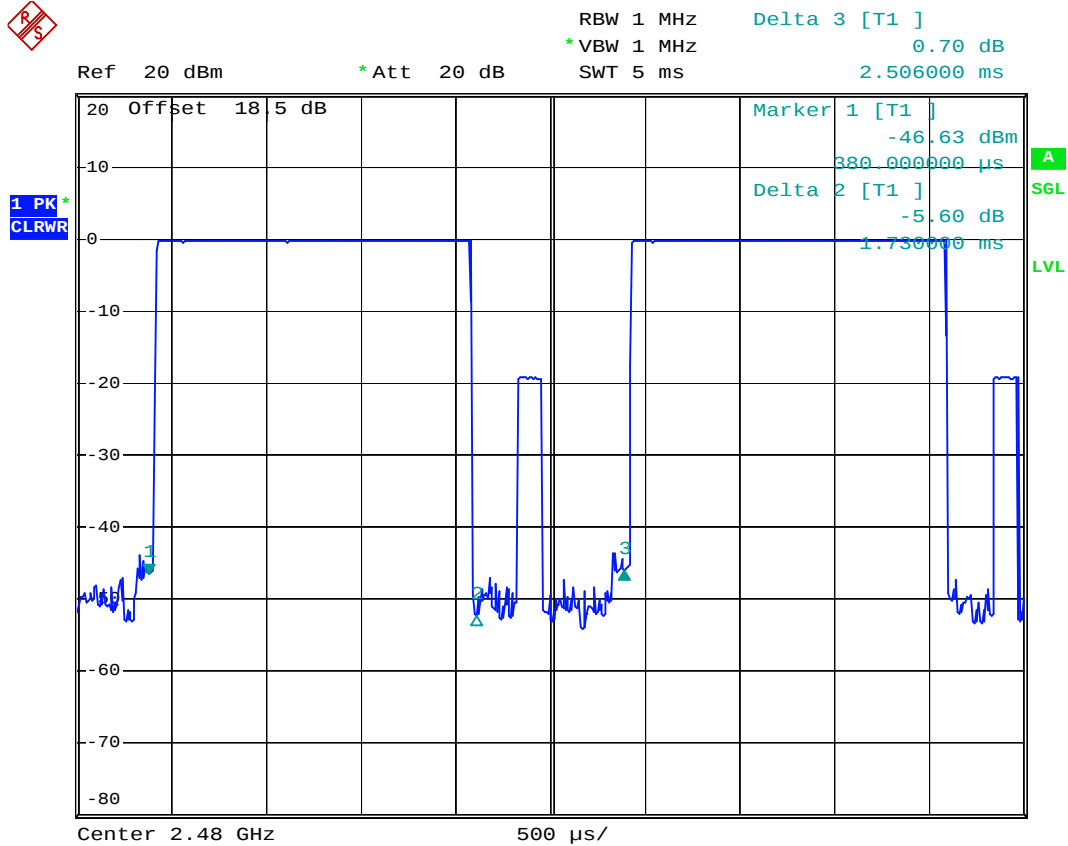
Date: 23.APR.2007 19:05:26



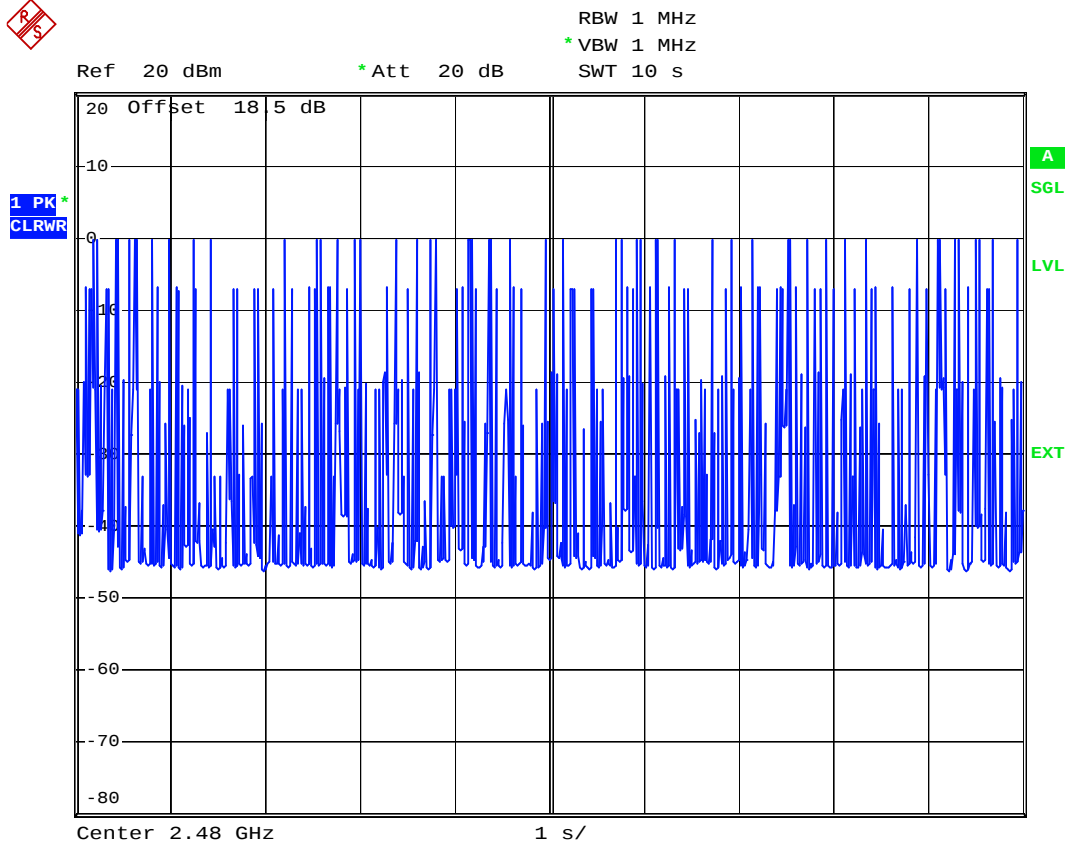
Date: 23.APR.2007 20:19:00



DH3 (CH78)



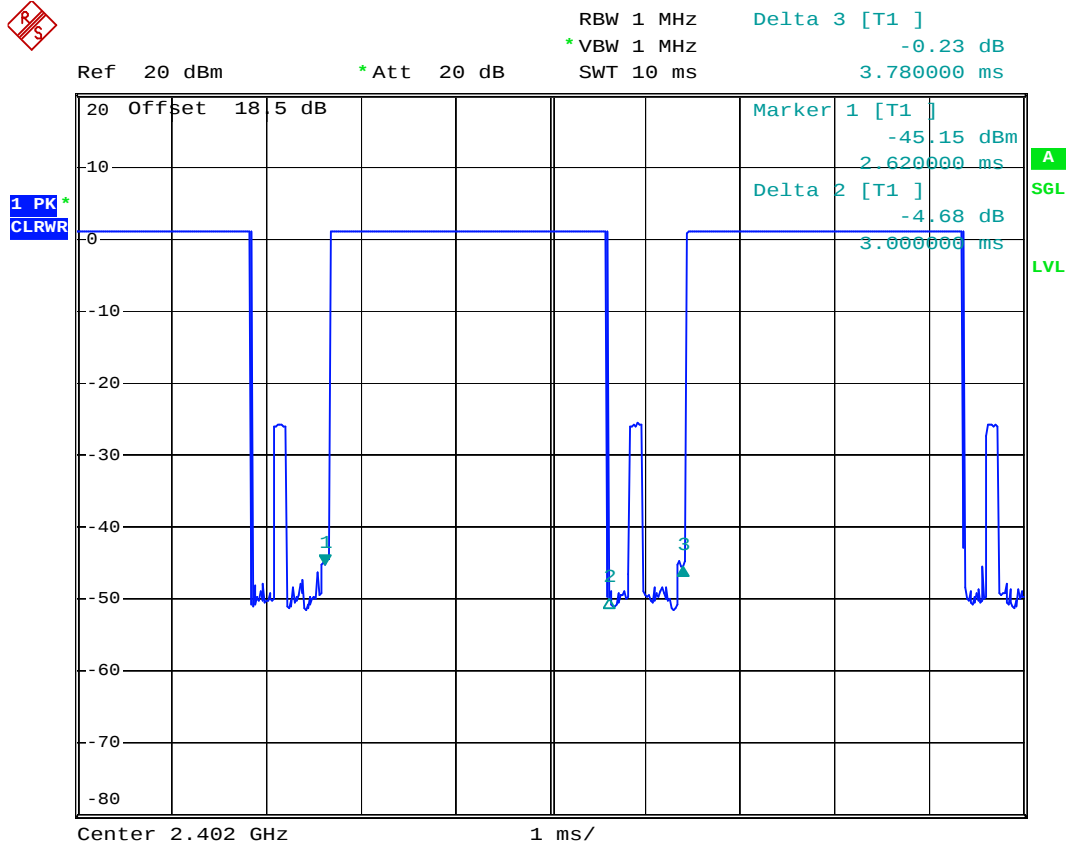
Date: 23.APR.2007 19:06:15



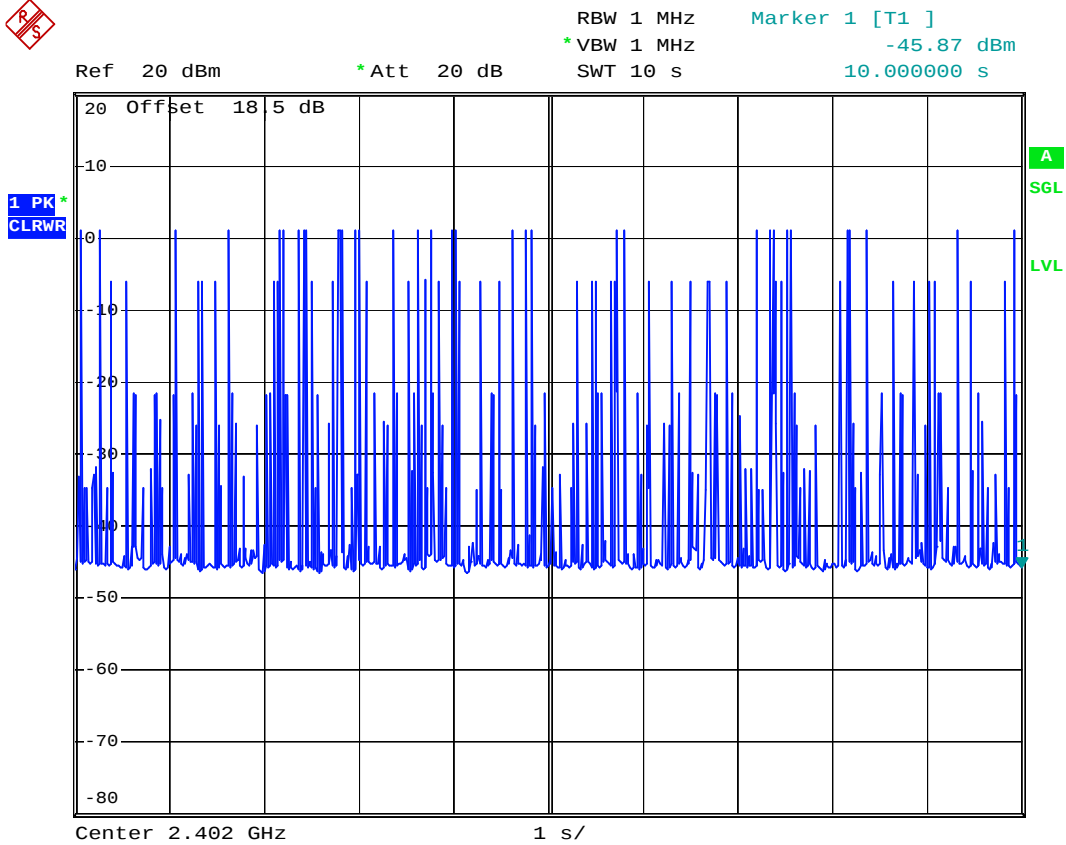
Date: 23.APR.2007 20:19:32



DH5 (CH00)



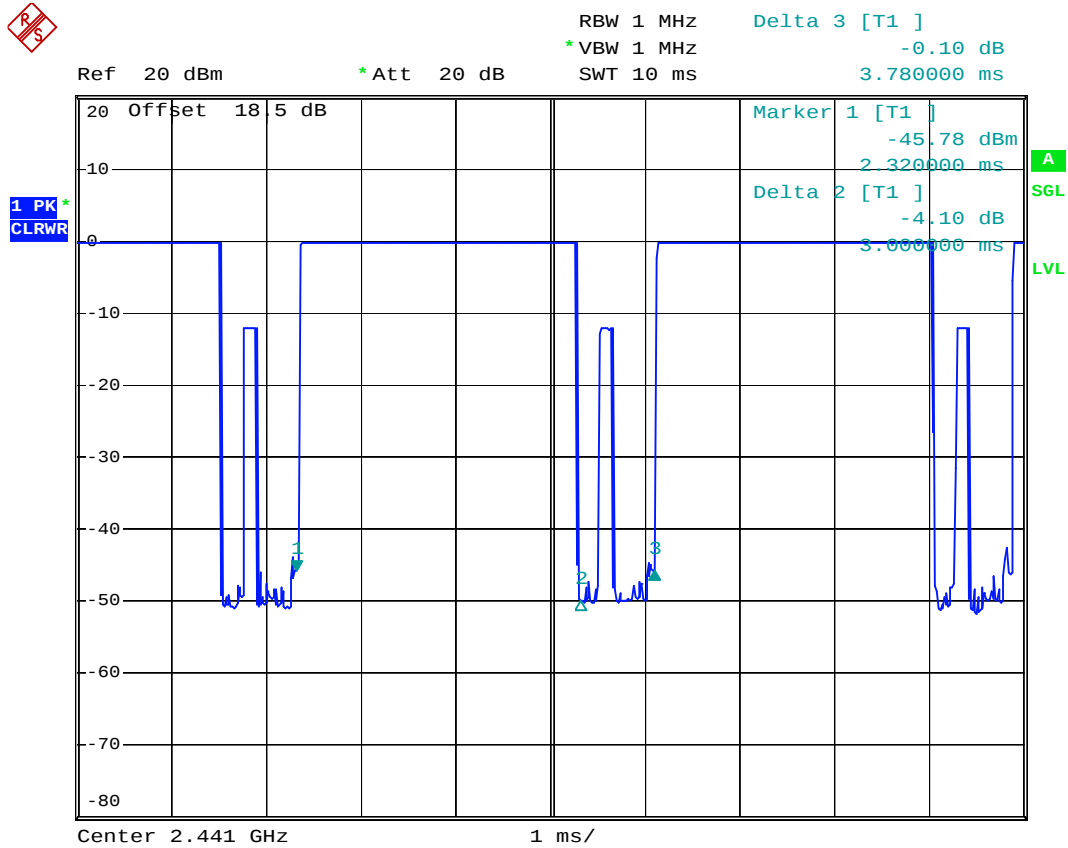
Date: 23.APR.2007 19:31:26



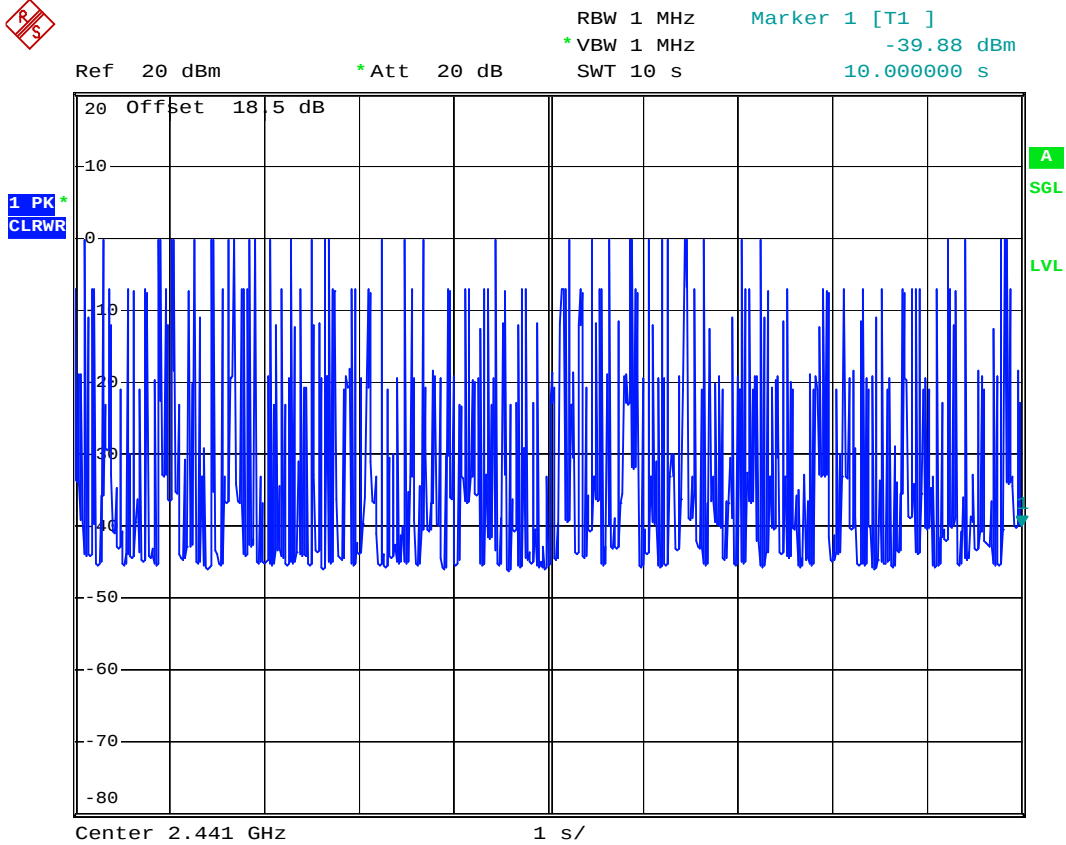
Date: 23.APR.2007 21:42:47



DH5 (CH39)



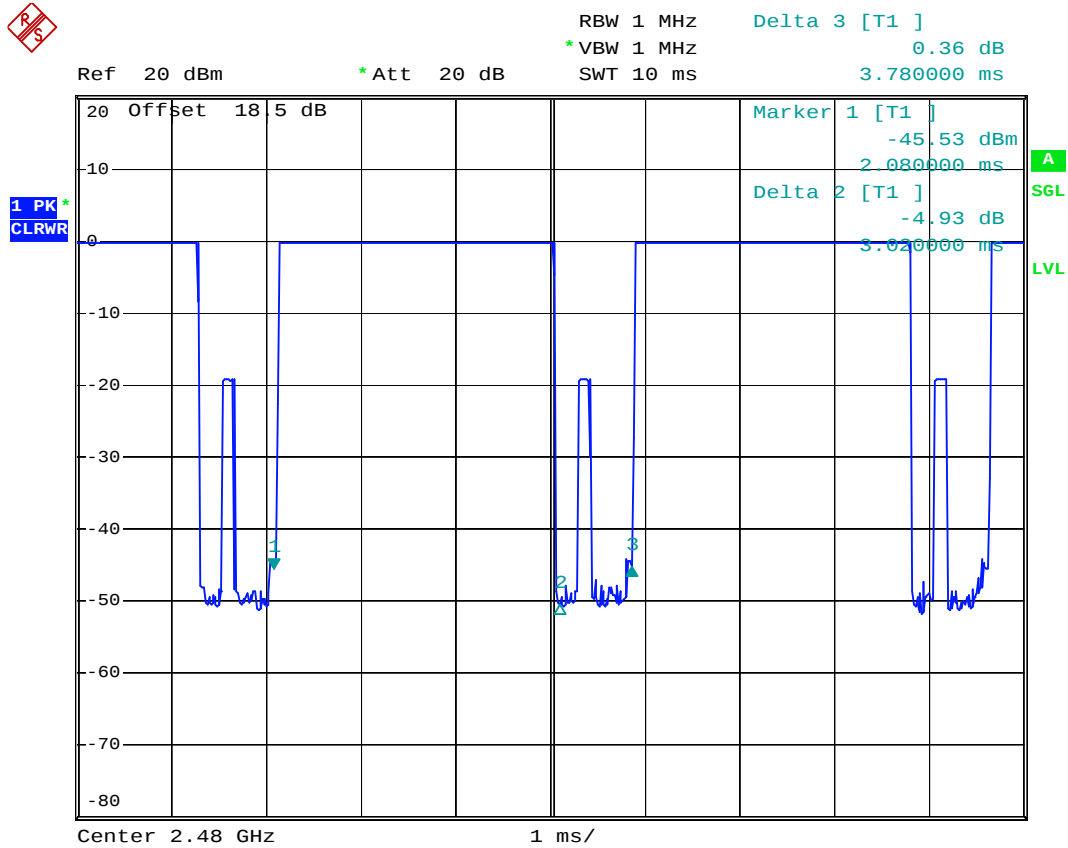
Date: 23.APR.2007 19:32:21



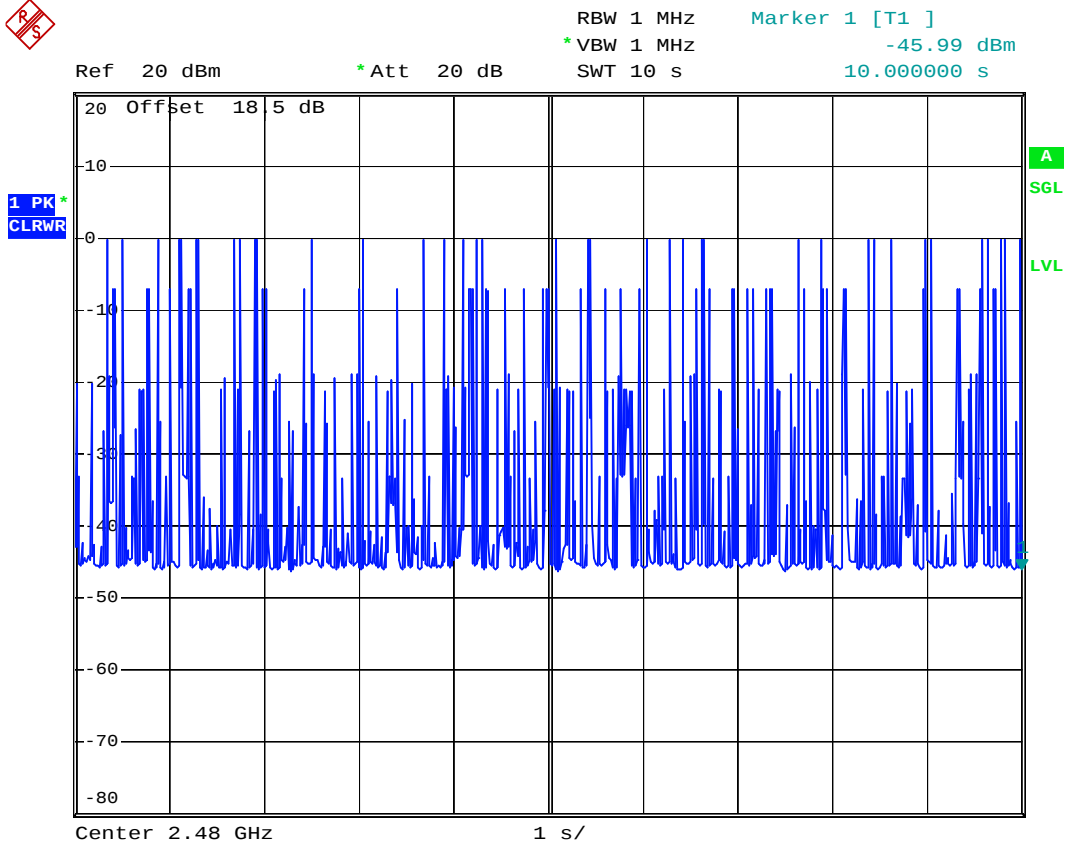
Date: 23.APR.2007 21:43:14



DH5 (CH78)



Date: 23.APR.2007 19:33:18



Date: 23.APR.2007 21:43:35

5.6 Output Power

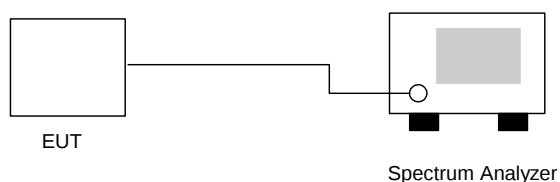
5.6.1 Measuring Instruments :

As described in chapter 6 of this test report.

5.6.2 Test Procedure :

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

5.6.3 Test Setup Layout :



5.6.4 Test Result : See spectrum analyzer plots below

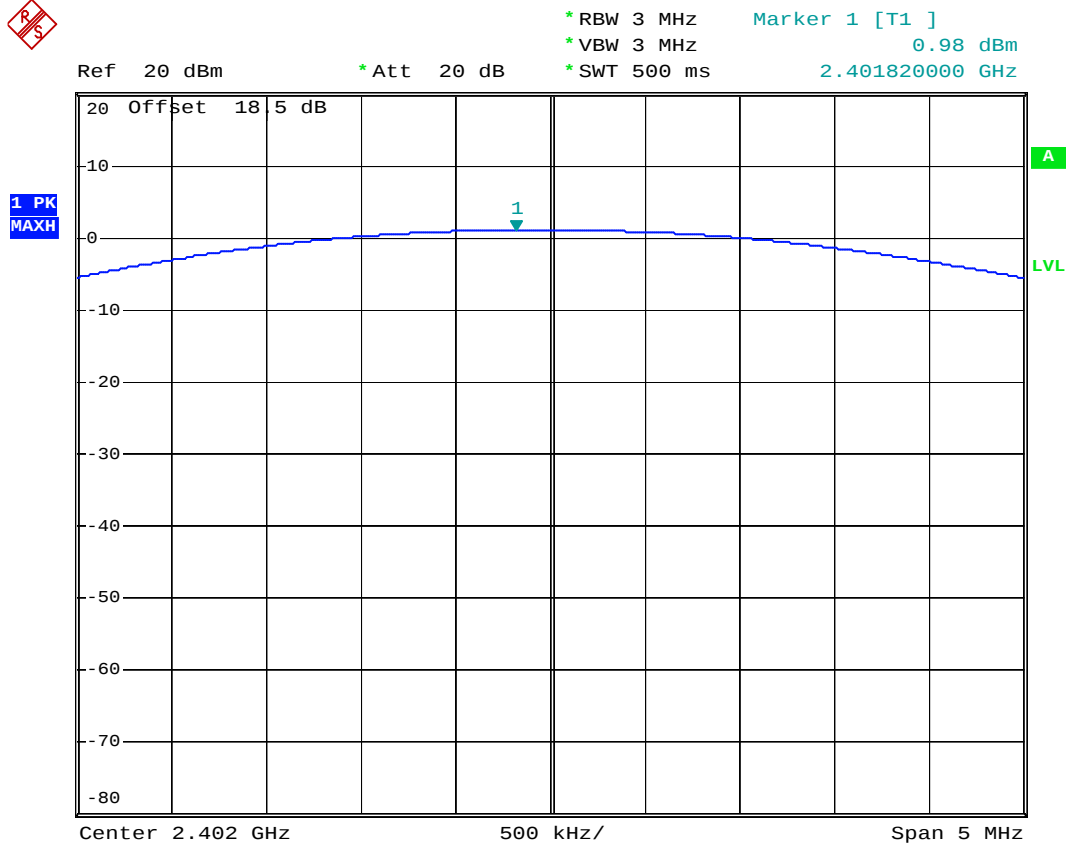
- Temperature: 24°C
- Relative Humidity: 52%
- Test Engineer : Tony

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)	Plot Ref. No.
00	2402	0.98	1W/30 dBm	Mode 1
39	2441	-0.36	1W/30 dBm	Mode 2
78	2480	-0.35	1W/30 dBm	Mode 3



5.6.5 Output Power

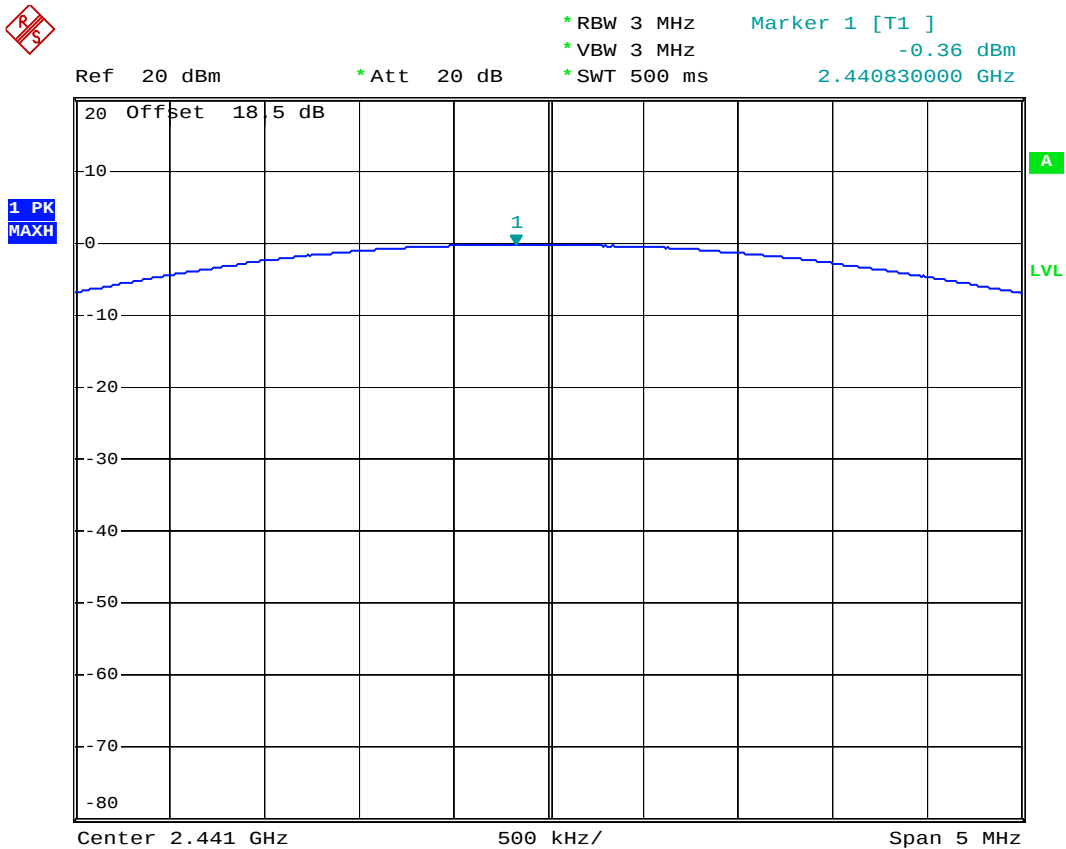
Mode 1: CH00 (2402MHz)



Date: 23.APR.2007 18:00:21



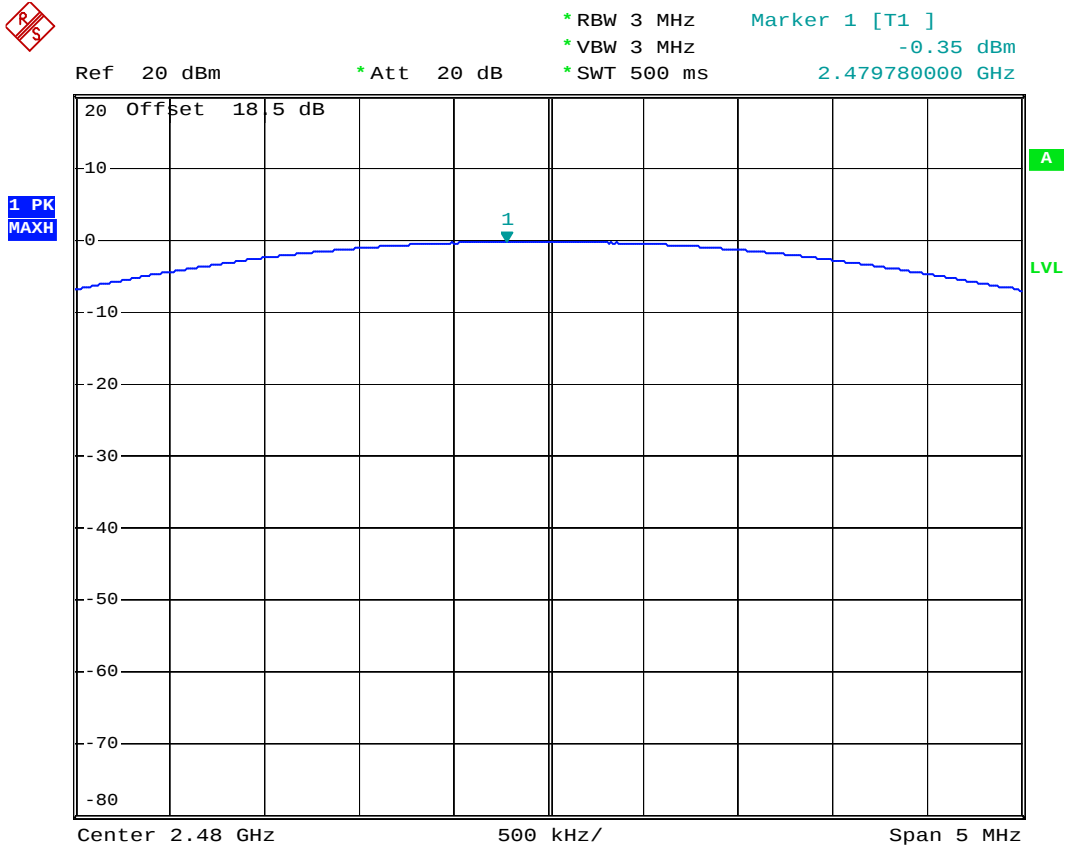
Mode 2: CH39 (2441MHz)



Date: 23.APR.2007 18:00:39



Mode 3: CH78 (2480MHz)



Date: 23.APR.2007 18:01:43

5.7 100kHz Bandwidth of Frequency Band Edges

5.7.1 Measuring Instruments :

As described in chapter 6 of this test report.

5.7.2 Test Procedure :

1. The transmitter output was connected to the spectrum analyzer via a low lose cable.
2. Set both RBW and VBW of spectrum analyzer to 100kHz with suitable frequency span for the conducted measurement, and RBW/VBW=1MHz/1MHz for peak measurement and RBW/VBW=1MHz/300Hz for average measurement in the radiated measurement.
3. The band edges was measured and recorded.

5.7.3 Test Result :

- Temperature: 24°C
- Relative Humidity: 52%
- Test Engineer : Tony

Test Result in lower band (Channel 00) : PASS

Test Result in higher band(Channel 78) : PASS

5.7.4 Note on Band edge Emission

CH00 (Horizontal)

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Detect Mode
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2389.92	50.61	-23.39	74.00	52.06	30.26	3.75	35.46	100	0	Peak
2389.92	39.49	-14.51	54.00	40.94	30.26	3.75	35.46	100	329	Average

CH00 (Vertical)

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Detect Mode
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2378.96	48.60	-25.40	74.00	50.05	30.24	3.73	35.42	100	0	Peak
2378.96	38.40	-15.60	54.00	39.84	30.25	3.75	35.44	106	12	Average

**CH78 (Horizontal)**

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Detect
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	Mode
2483.5	64.98	-9.02	74.00	66.34	30.29	3.86	35.51	100	0	Peak
2483.5	48.28	-5.72	54.00	49.64	30.29	3.86	35.51	100	330	Average

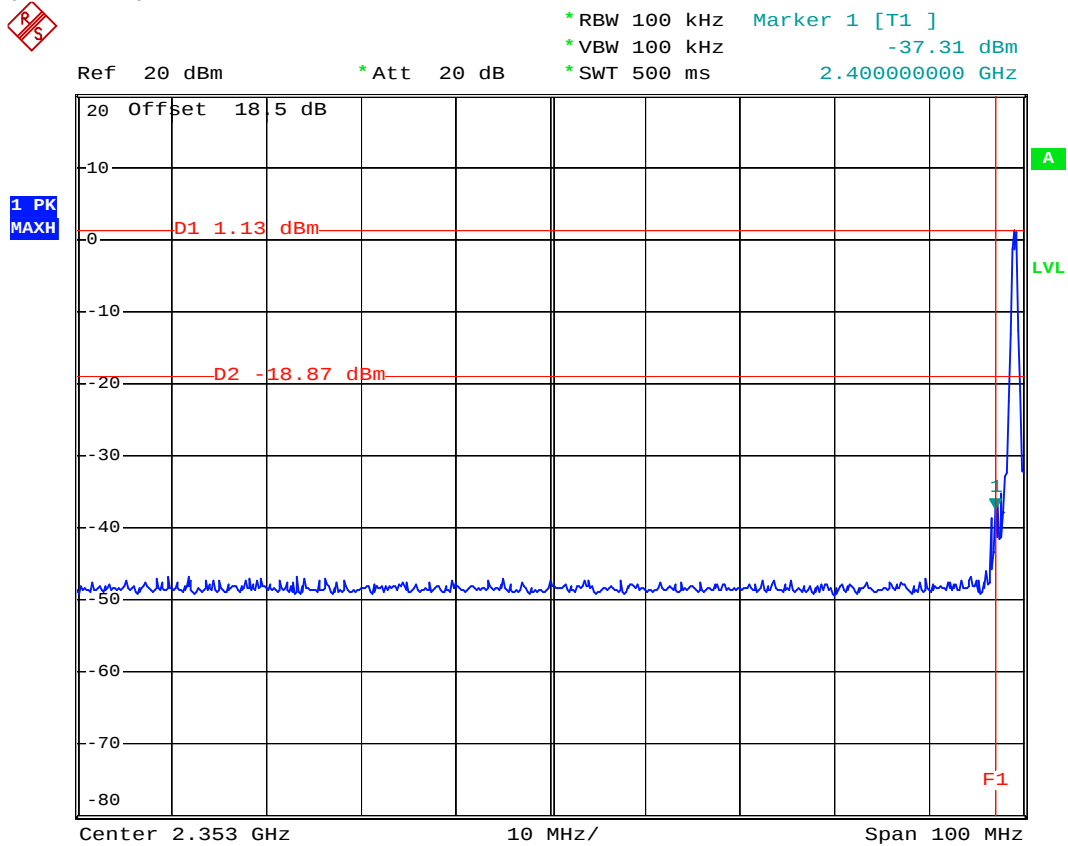
CH78 (Vertical)

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Detect
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	Mode
2483.5	58.04	-15.96	74.00	59.40	30.29	3.86	35.51	100	0	Peak
2483.5	44.27	-9.73	54.00	45.63	30.29	3.86	35.51	100	12	Average



5.7.5 Frequency Band Edge

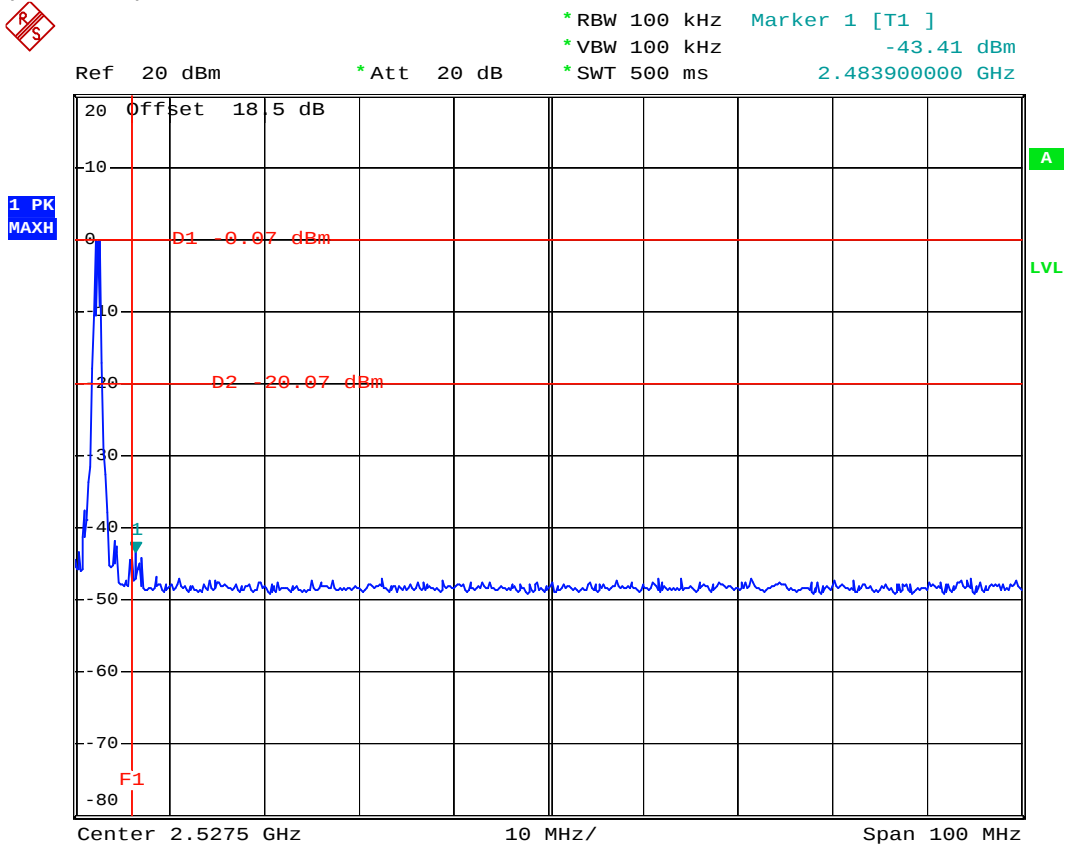
CH00 (2402 MHz)



Date: 23.APR.2007 18:13:08



CH78 (2480 MHz)



Date: 23.APR.2007 18:15:15



5.8 Conducted Emission

5.8.1 Measuring Instruments

As described in chapter 6 of this test Report.

5.8.2 Test Procedures :

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

5.8.3 Test Data Test Mode 1

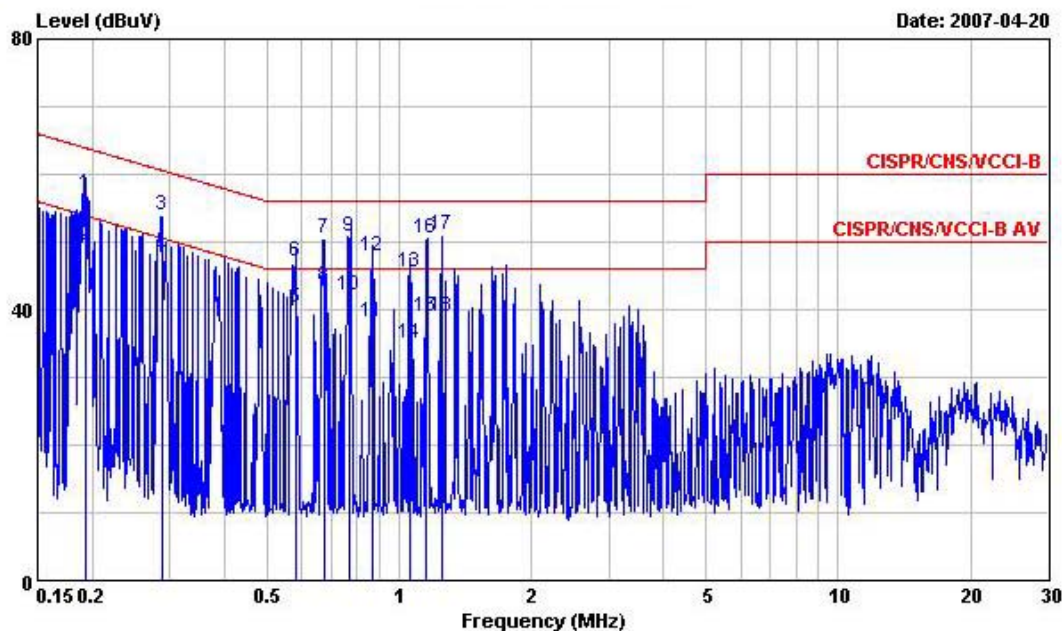
- Temperature: 24°C
- Relative Humidity: 52%
- Test Engineer : James

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

Data#: **8**

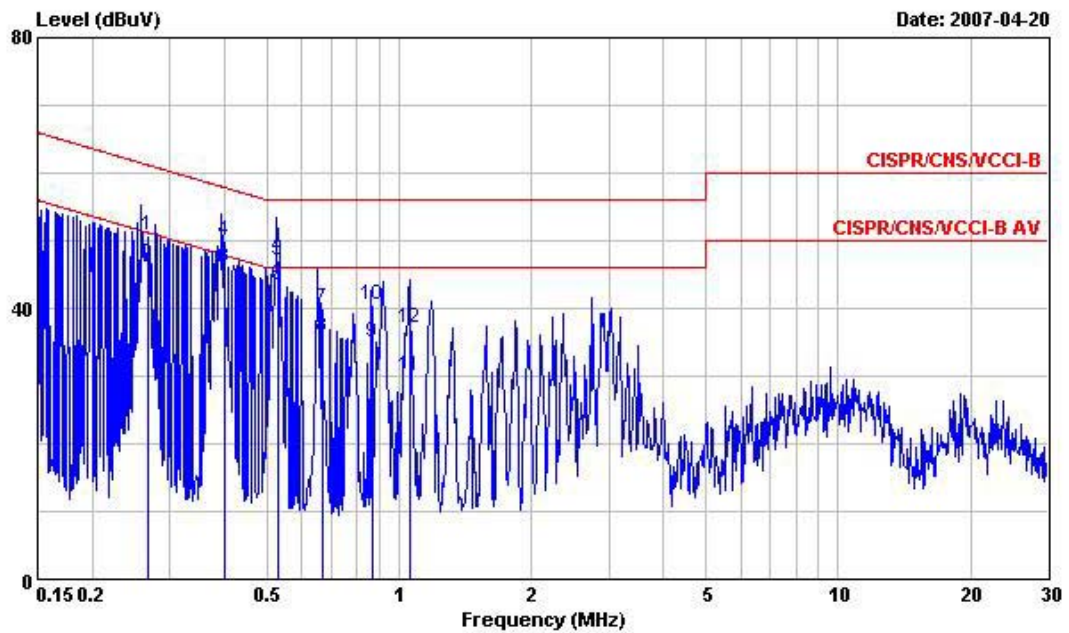
File#: D:\EMIDATA\2007案件\認證五部\富士康\741220.EMI

Date: 2007-04-20



Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 200604 99041 LINE
 EUT : GSM/GPRS/EDGE Mobile Phone
 POWER: AC 230V/50Hz
 Model : EW 741220
 Memo : GSM 850 Idle + BT Link + Earphone
 : + Adapter

	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.1924150	57.15	-6.78	63.93	56.53	0.10	0.52	QP
2	0.1924150	49.47	-4.46	53.93	48.85	0.10	0.52	Average
3	0.2888470	53.96	-6.60	60.56	53.44	0.10	0.42	QP
4	0.2888470	47.90	-2.66	50.56	47.38	0.10	0.42	Average
5	0.5792340	40.39	-5.61	46.00	39.85	0.10	0.44	Average
6	0.5792340	47.08	-8.92	56.00	46.54	0.10	0.44	QP
7	0.6734060	50.54	-5.46	56.00	50.04	0.10	0.40	QP
8	0.6734060	43.32	-2.68	46.00	42.82	0.10	0.40	Average
9	0.7713740	50.70	-5.30	56.00	50.15	0.10	0.45	QP
10	0.7713740	42.08	-3.92	46.00	41.53	0.10	0.45	Average
11	0.8689050	38.13	-7.87	46.00	37.53	0.10	0.50	Average
12	0.8689050	47.80	-8.20	56.00	47.20	0.10	0.50	QP
13	1.060	45.63	-10.37	56.00	45.03	0.10	0.50	QP
14	1.060	35.13	-10.87	46.00	34.53	0.10	0.50	Average
15	1.156	38.89	-7.11	46.00	38.29	0.10	0.50	Average
16	1.156	50.45	-5.55	56.00	49.85	0.10	0.50	QP
17	1.250	51.02	-4.98	56.00	50.42	0.10	0.50	QP
18	1.250	38.90	-7.10	46.00	38.30	0.10	0.50	Average



Site : CO04-HY
 Condition : CISPR/CNS/VCCI-B LISN 200604 99041 NEUTRAL
 EUT : GSM/GPRS/EDGE Mobile Phone
 POWER: AC 230V/50Hz
 Model : EW 741220
 Memo : GSM 850 Idle + BT Link + Earphone
 : + Adapter

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.2682540	50.78	-10.39	61.17	50.22	0.10	0.46	QP
2	0.2682540	46.48	-4.69	51.17	45.92	0.10	0.46	Average
3	0.4004700	46.10	-1.74	47.84	45.60	0.10	0.40	Average
4	0.4004700	49.99	-7.85	57.84	49.49	0.10	0.40	QP
5	0.5316350	47.16	-8.84	56.00	46.60	0.10	0.46	QP
6	0.5316350	43.37	-2.63	46.00	42.81	0.10	0.46	Average
7	0.6717190	40.09	-15.91	56.00	39.59	0.10	0.40	QP
8	0.6717190	35.91	-10.09	46.00	35.41	0.10	0.40	Average
9	0.8658040	35.08	-10.92	46.00	34.48	0.10	0.50	Average
10	0.8658040	40.49	-15.51	56.00	39.89	0.10	0.50	QP
11	1.055	30.10	-15.90	46.00	29.50	0.10	0.50	Average
12	1.055	37.23	-18.77	56.00	36.63	0.10	0.50	QP