

FCC TEST REPORT

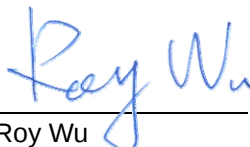
for

47 CFR Part 15 Subpart C

Equipment : GSM/GPRS/Bluetooth mobile phone
Trade Name : Philips
Model No. : CT9A9R
FCC ID : RXSCT9A9R
Filing Type : Certification
Applicant : CEC Wireless R&D Ltd.

P.O.Box 707-27 West M5 Building, No. 1 East Road JiuXianQiao Chao Yang
District, Beijing, CHINA, 100016

- The test result refers exclusively to the test presented test model / sample.
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- **Certificate or Test Report must not be used by the applicant to claim the product in this test report endorsement by NVLAP or any agency of U.S. government.**
- The data shown in this test report were carried out on Nov. 21, 2006 at **Sporton International Inc. LAB.**
- Report No.: FR6N1301, Report Version: Rev. 01.



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Rev. 01



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History of this test report

Report Issue Date: Nov. 22, 2006

Report No.	Description



1. General Description of Equipment under Test

1.1. Applicant

CEC Wireless R&D Ltd.

P.O.Box 707-27 West M5 Building, No. 1 East Road JiuXianQiao Chao Yang District, Beijing, CHINA, 100016

1.2. Manufacturer

CEC Wireless R&D Ltd.

P.O.Box 707-27 West M5 Building, No. 1 East Road JiuXianQiao Chao Yang District, Beijing, CHINA, 100016

1.3. Basic Description of Equipment under Test

Equipment : GSM/GPRS/Bluetooth mobile phone
Trade Name : Philips
Model No. : CT9A9R
FCC ID : RXSCT9A9R
Power Supply Type : Switching, From Battery 3.7V
AC Power Cord : AC120V, Wall-mount, 1.3 meter, 2 pin
Adapter : Philips, DSA-0051-05C FUS
Battery : Philips, A20XDB/OZP
Earphone : Philips, ME-840B1

1.4. Feature of Equipment under Test

Product Feature & Specification			
1. Modulation Type/Data Rate	GFSK		
2. Frequency Range.	2400 MHz ~ 2483.5 MHz		
Number of Channels	79		
3. Carrier Frequency of each channel	2402+ n*1 MHz, n= 0~78		
4. Channel Spacing	1 MHz		
5. Maximum Output Power to Antenna (Normal condition)	1.73 dBm		
6. Type of Antenna Connector	N/A		
7. Antenna Type	Fixed Internal		
8. Antenna Gain	-4 dBi		
9. HW Version	PR2		
10. SW Version	C2132-PR2-DV17-T015		
11. Function Type	Transmitter		Transceiver V
12. Power Rating (DC/AC , Voltage)	1.5W(3.7V)		
13. DUT Stage	Production Unit		



2. Test Configuration of Equipment under Test

2.1. Test Manner

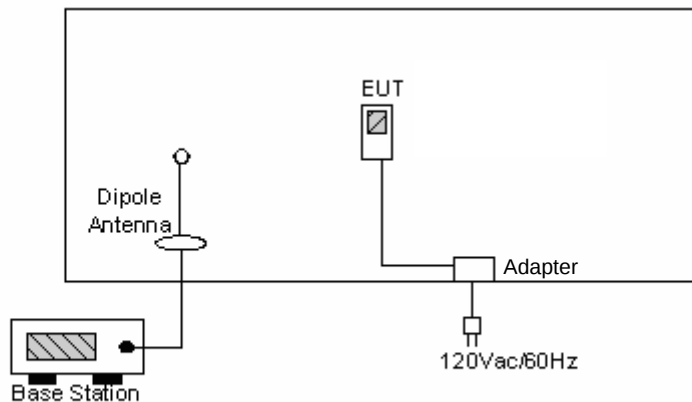
- a. The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.
- b. For spurious emission below 1GHz, only one channel of each application was tested because it is not related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

2.2. Test Mode

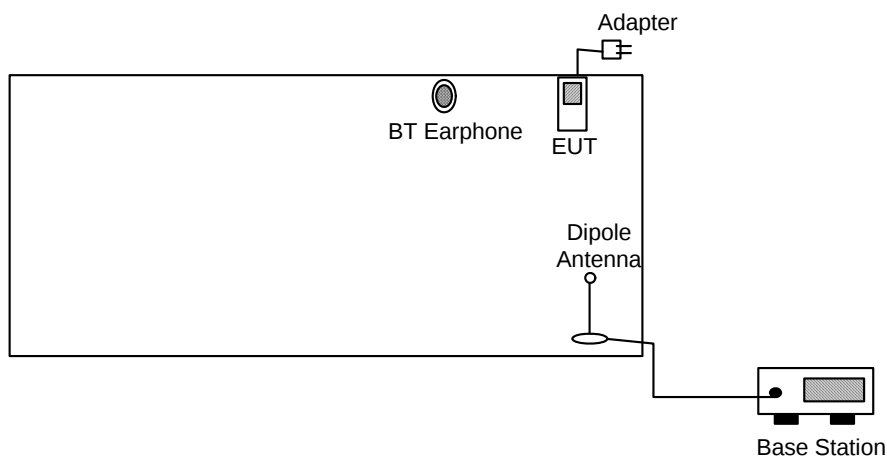
Application	Bluetooth
Radiated Emission	Mode 1: Tx_CH00_2402 MHz Mode 2: Tx_CH39_2441 MHz Mode 3: Tx_CH78_2480 MHz
Conducted Emission	Mode 1: PCS Idle Mode + BT Link + Camera + Adapter Mode 2: PCS Idle Mode + BT Link + MPEG 4 + Adapter

2.3. Connection Diagram of Test System

<Radiation Emission>



<Conducted Emission>



2.4. Ancillary Equipment List

Item	Equipment	Model No.	Serial No.
1.	Base Station (R&S)	CMU200	105513
2.	Notebook (DELL)	D400	N/A
3.	Bluetooth Earphone(Free Style)	JD-100	N/A
4.	Dipole Antenna (Sporton)	SP0001	N/A
5.	Adapter (Philips)	DSA-0051-05C FUS	N/A



3. RF Utility

The executive program, EUT under WINXP installed in notebook generates a complete line of continuously repeating " AT Command " were used as the test software.

The EUT is in BT Link mode with BT earphone 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

4.4. Frequency Range Investigated

Conduction: from 150 kHz to 30 MHz

Radiation: from 30 MHz to 25000MHz

4.5. Test Distance

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



5. Report of Measurements and Examinations

5.1. List of Measurements and Examinations

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

5.2. Hopping Channel Separation

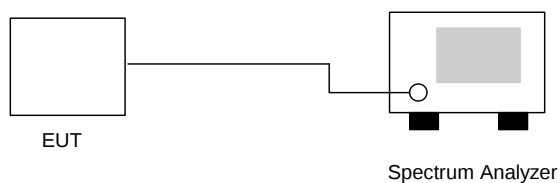
5.2.1. Measuring Instruments :

As described in chapter 6 of this test report.

5.2.2. Test Procedure :

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

5.2.3. Test Setup Layout :



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

- Temperature: 27°C
- Relative Humidity: 50%
- Test Engineer : Jay

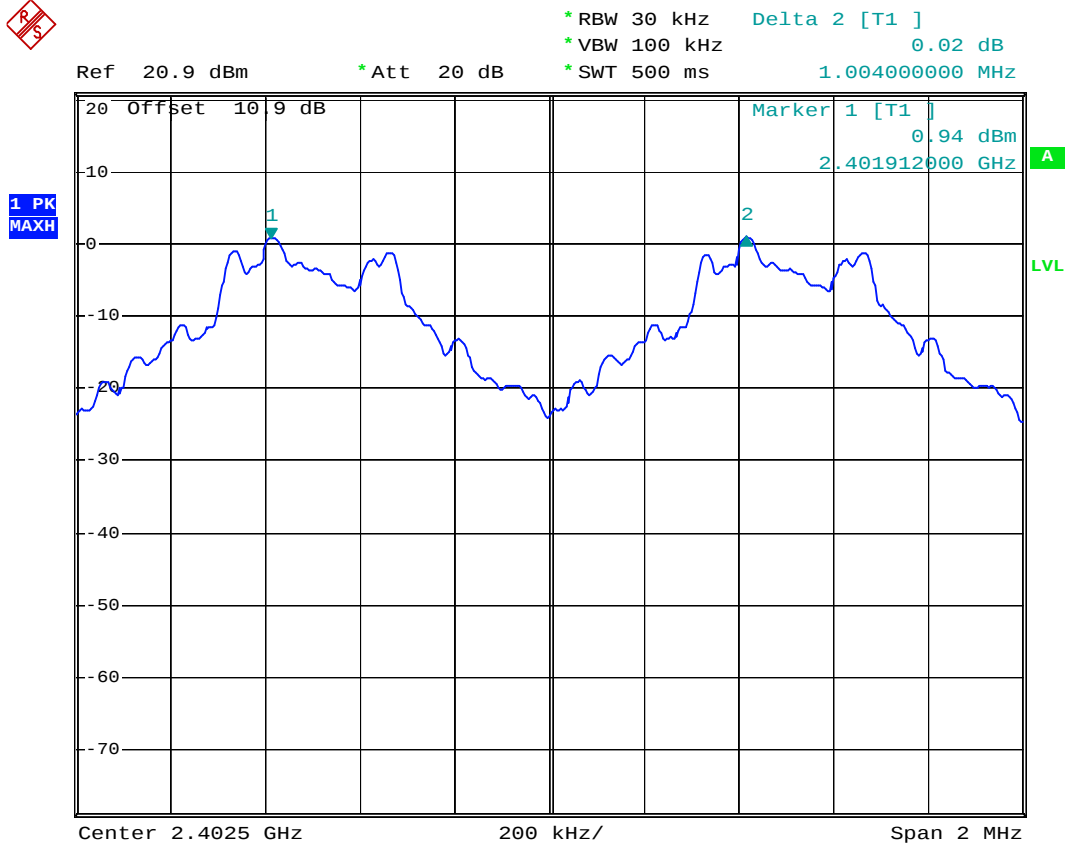
Channel	Frequency (MHz)	Hopping Channel Separation (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	1.004	0.772	Mode 1
39	2441	1.000	0.830	Mode 2
78	2480	1.004	0.820	Mode 3

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



5.2.5 Hopping Channel Separation

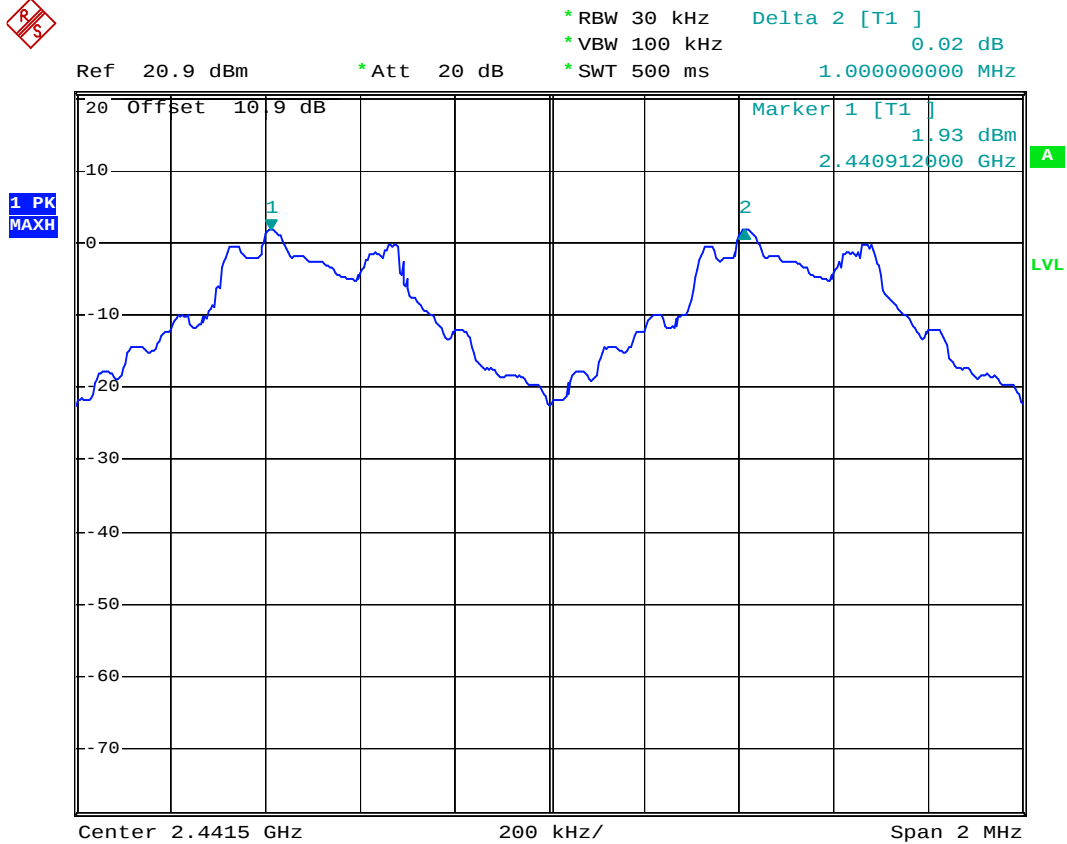
Mode 1: CH00 (2402MHz)



Date: 20.NOV.2006 15:45:39



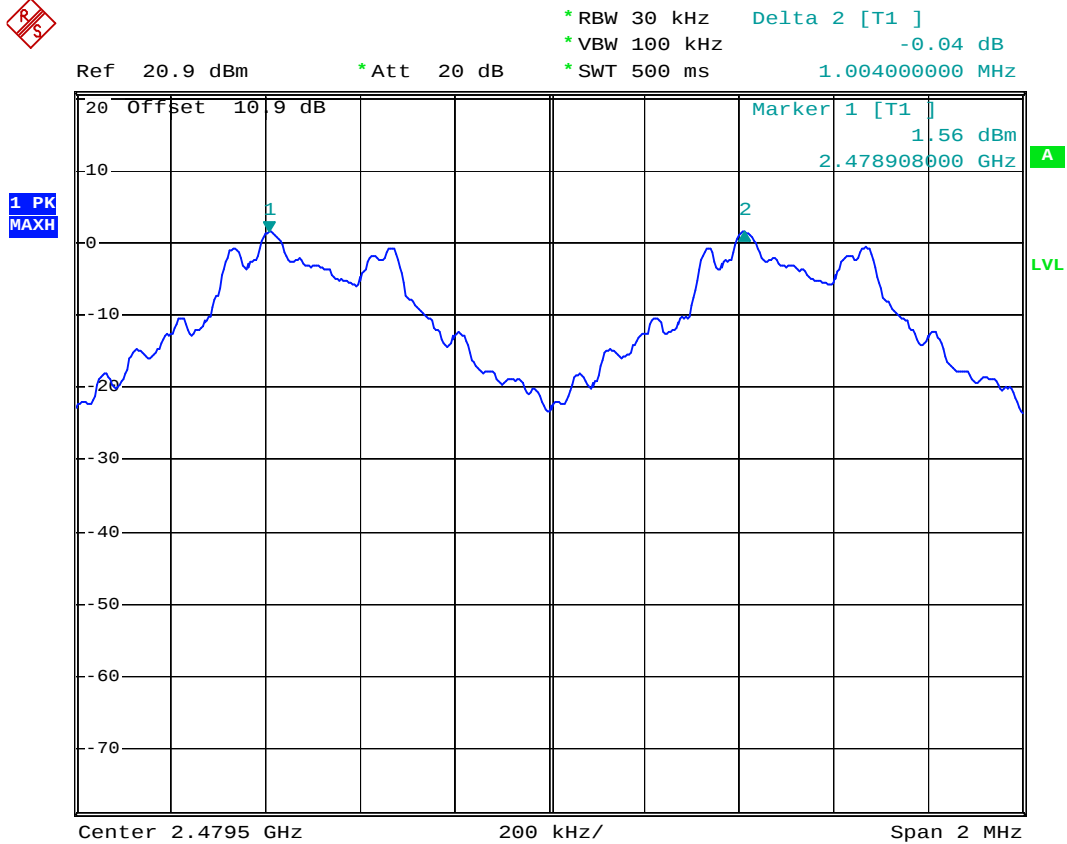
Mode 2: CH39 (2441MHz)



Date: 20.NOV.2006 15:47:22



Mode 3: CH78 (2480MHz)



Date: 20.NOV.2006 15:57:13

5.3. Number of Hopping Frequency

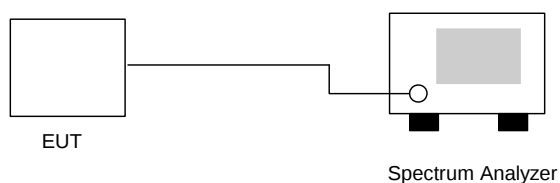
5.3.1. Measuring Instruments :

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 :



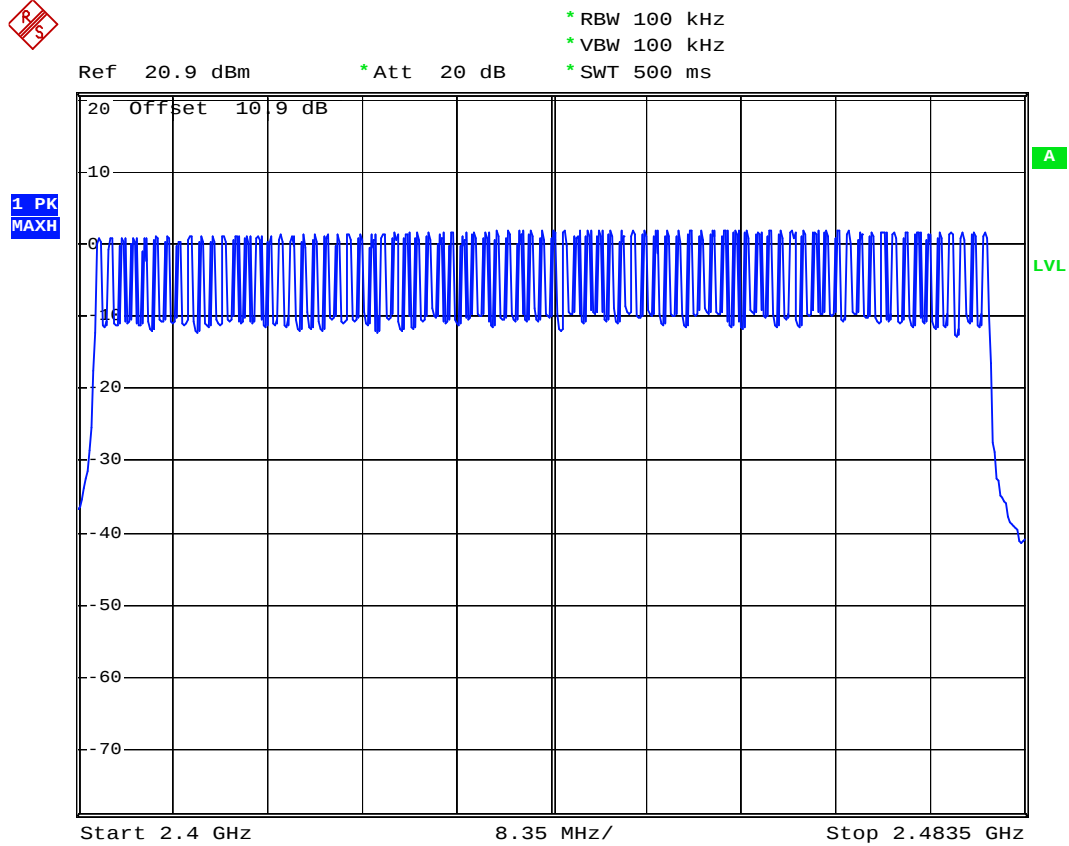
5.3.4. Test Result : See spectrum analyzer plots below

- Temperature: 27°C
- Relative Humidity: 50%
- Test Engineer : Jay

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



5.3.5 Number of Hopping Frequency



Date: 20.NOV.2006 16:15:58

5.4 Hopping Channel Bandwidth

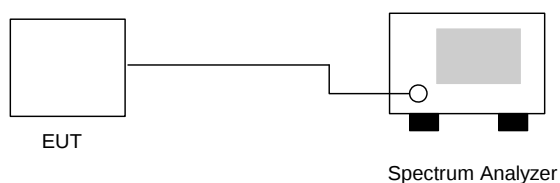
5.4.1 Measuring Instruments :

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

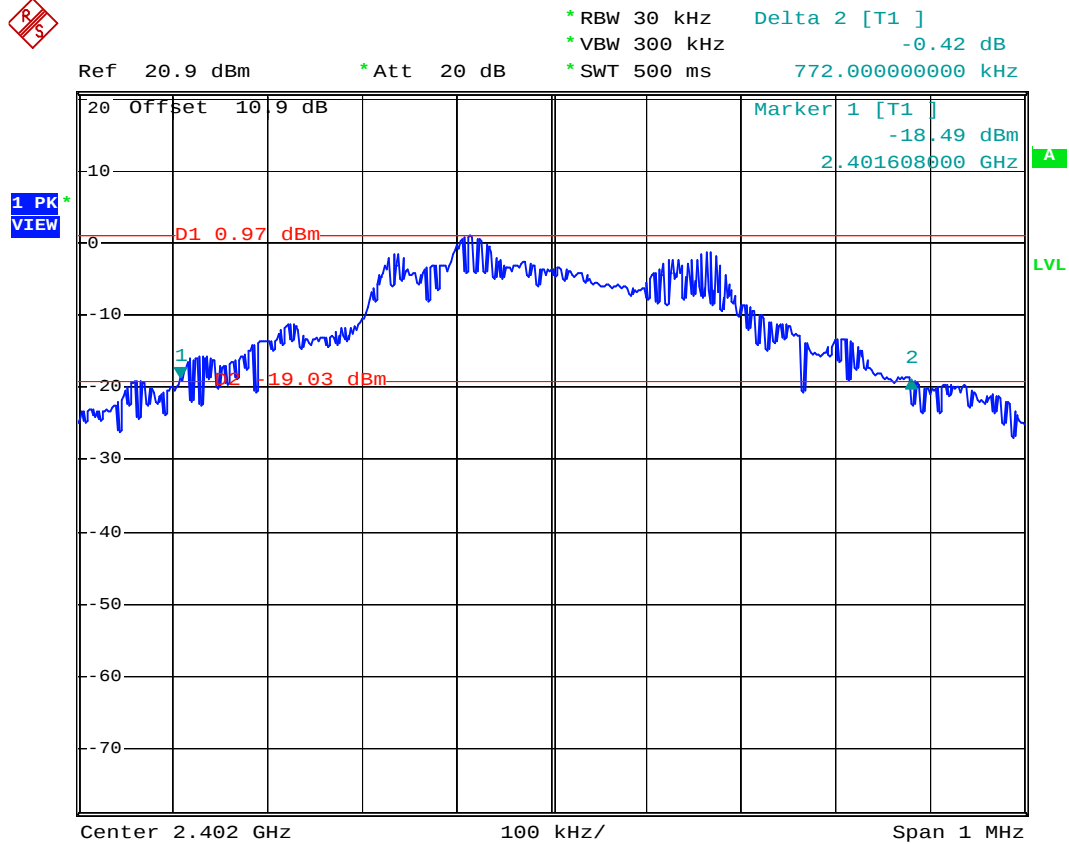
- Temperature: 27°C
- Relative Humidity: 50%
- Test Engineer : Jay

Channel	Frequency (MHz)	Hopping Channel Bandwidth (MHz)	Limits (MHz)	Plot Ref. No.
00	2402	0.772	1.0	Mode 1
39	2441	0.830	1.0	Mode 2
78	2480	0.820	1.0	Mode 3



5.4.5 Hopping Channel Bandwidth

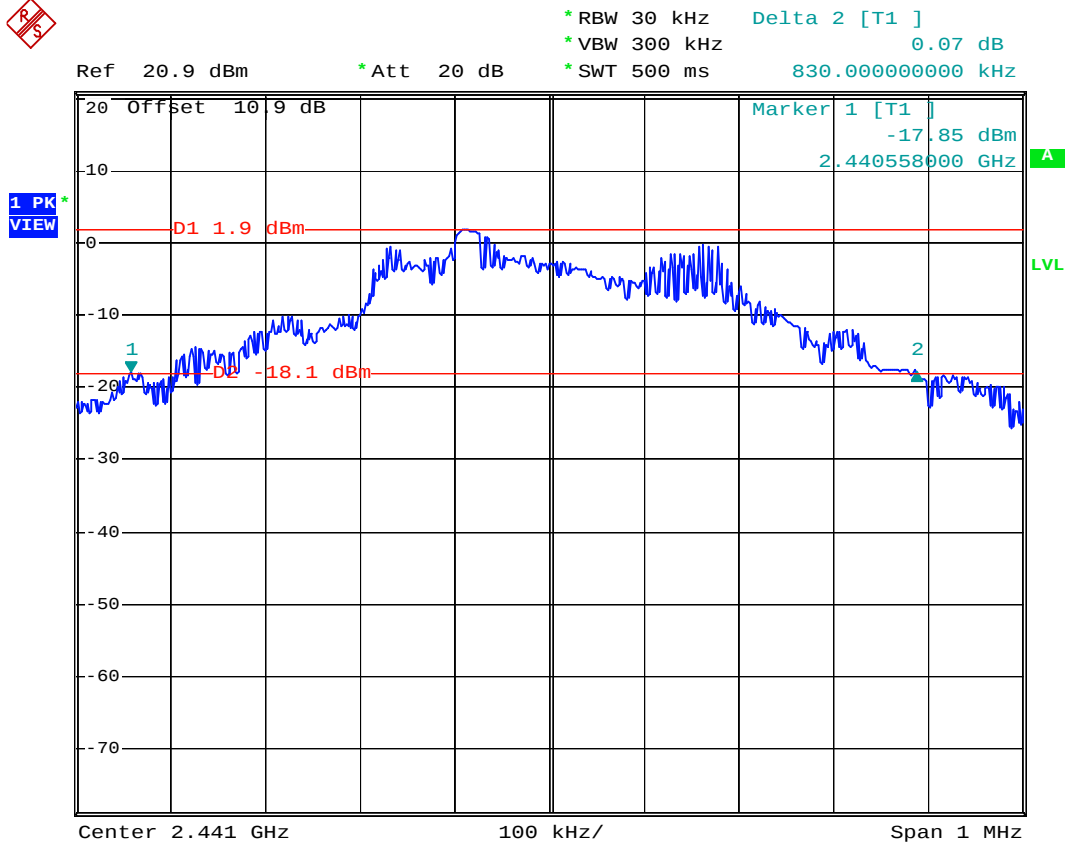
Mode 1: CH00 (2402MHz)



Date: 20.NOV.2006 15:43:41



Mode 2: CH39 (2441MHz)



Date: 20.NOV.2006 15:48:20



Mode 3: CH78 (2480MHz)

**SPORTON International Inc.**

FCC ID.: RXSCT9A9R

Report Version : Rev. 01

5.5 Dwell Time of Each Frequency within a 30 Seconds Period

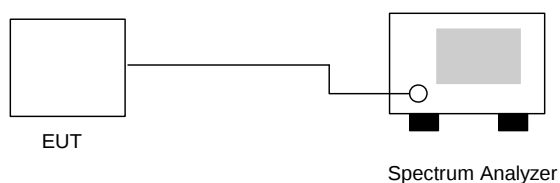
5.5.1 Measuring Instruments :

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: 27°C
- Relative Humidity: 50%
- Test Engineer : Jay

Ch00

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	8.4	464	0.123	0.4
DH3	4.3	1730	0.235	0.4
DH5	3.3	3010	0.314	0.4

**CH39**

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	8.6	464	0.126	0.4
DH3	5.1	1730	0.279	0.4
DH5	3.5	2994	0.331	0.4

CH78

Package Mode	Average Hopping Channel	Package Transfer Time (us)	Dwell Time (s)	Limit (s)
DH1	8.8	464	0.129	0.4
DH3	4.7	1734	0.258	0.4
DH5	3.4	2994	0.322	0.4

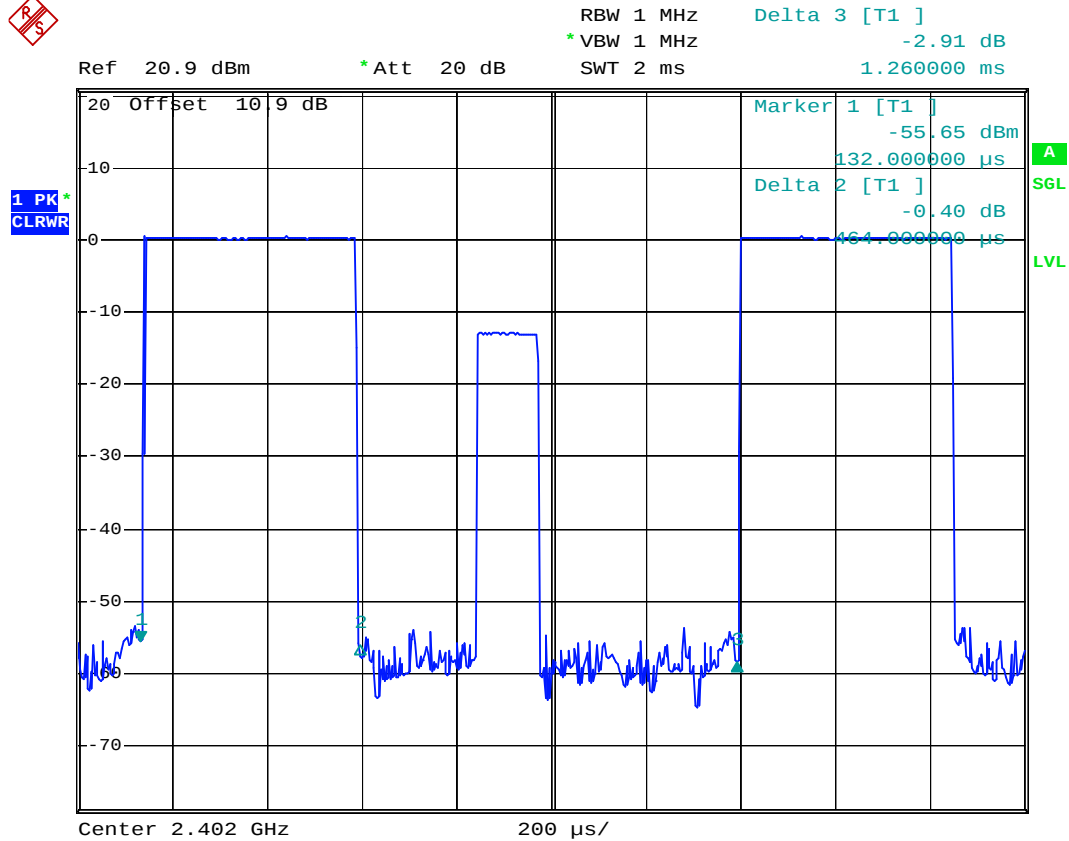
※ Remark:

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)

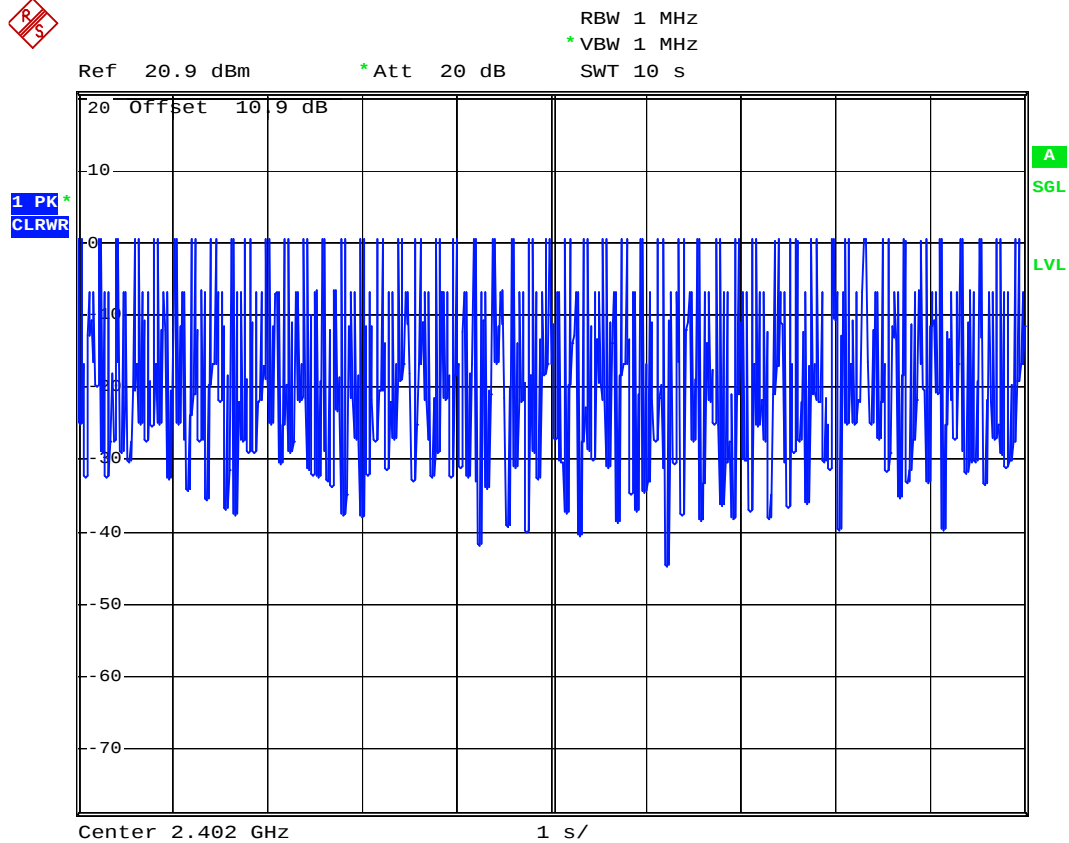


5.5.5 Dwell Time

DH1 (CH00)



Date: 20.NOV.2006 16:02:32



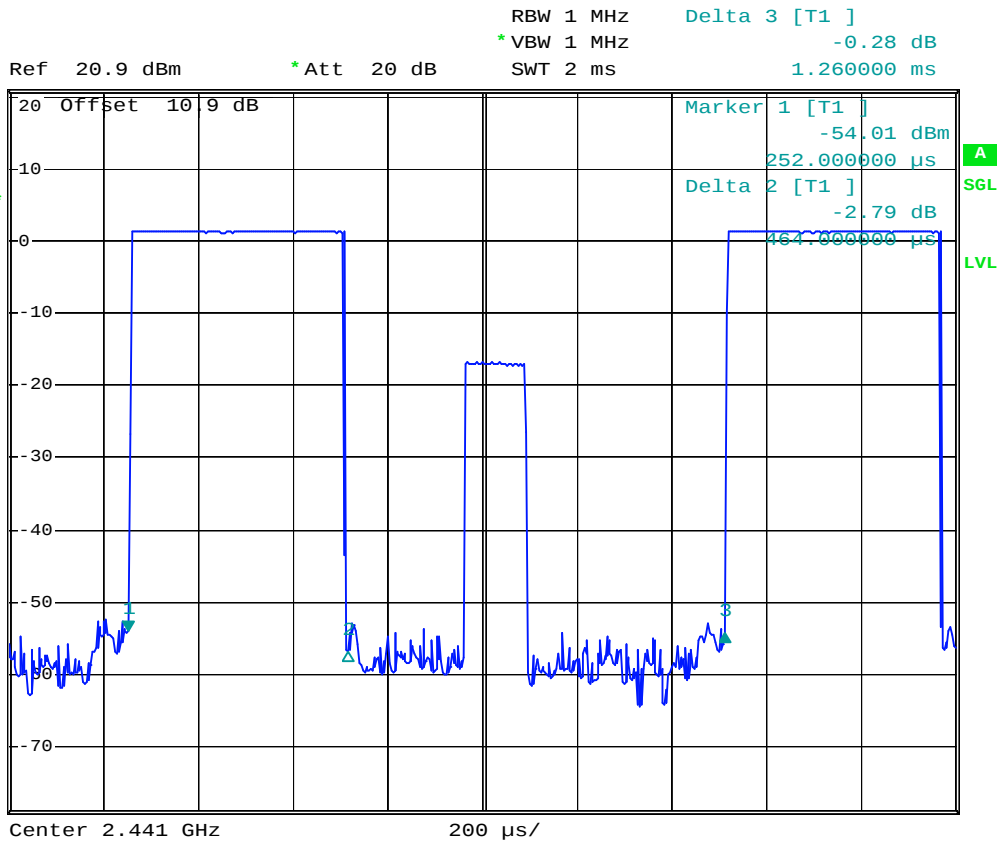
Date: 20.NOV.2006 16:06:35



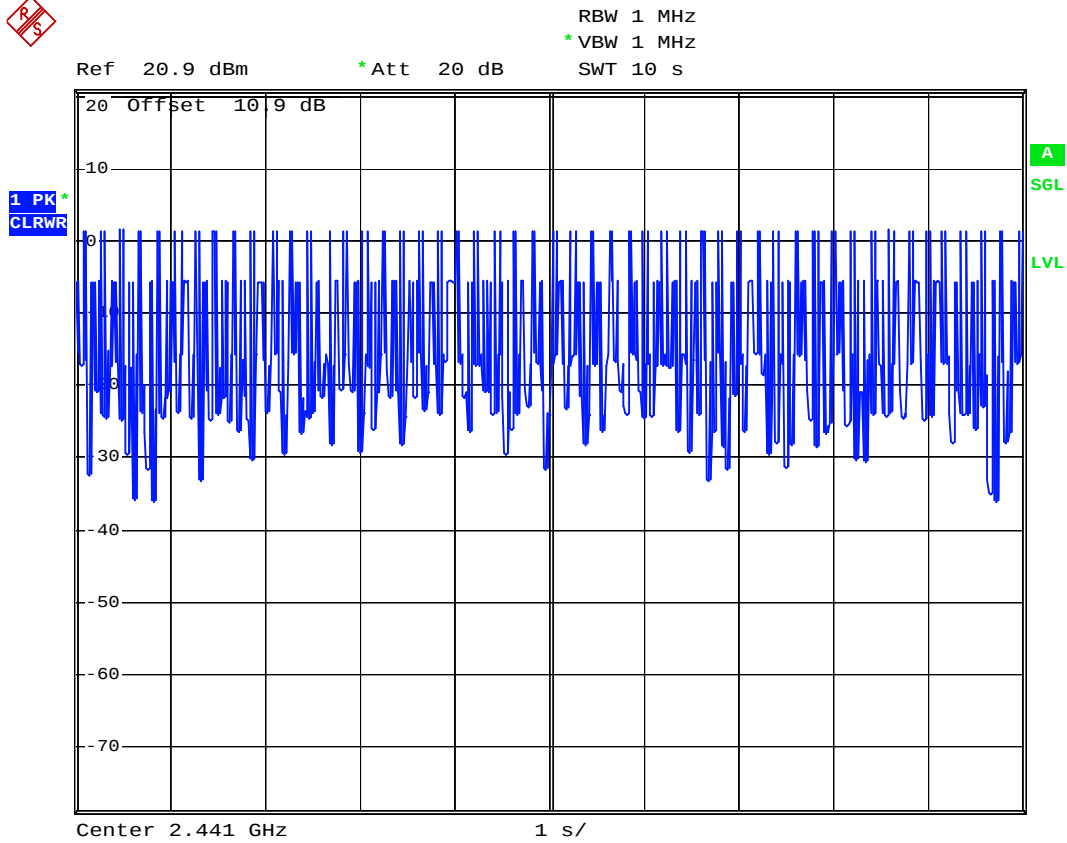
DH1 (CH39)



1 PK*
CLRWR



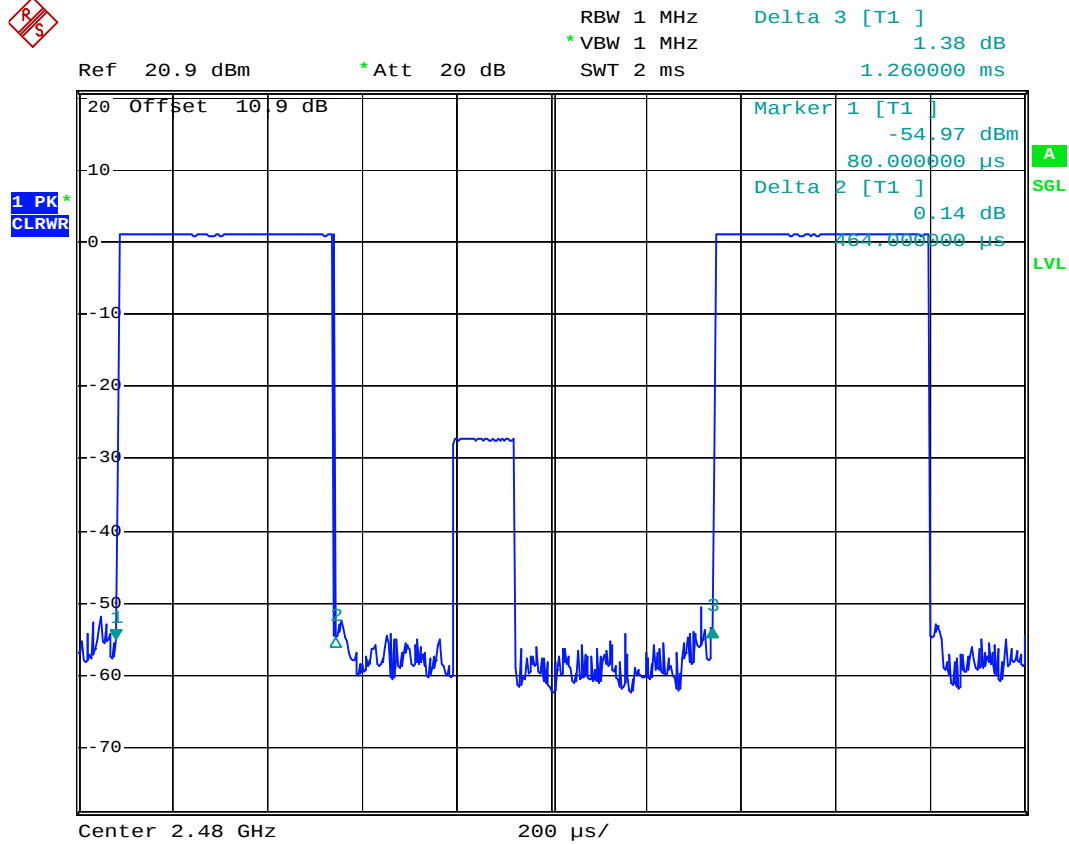
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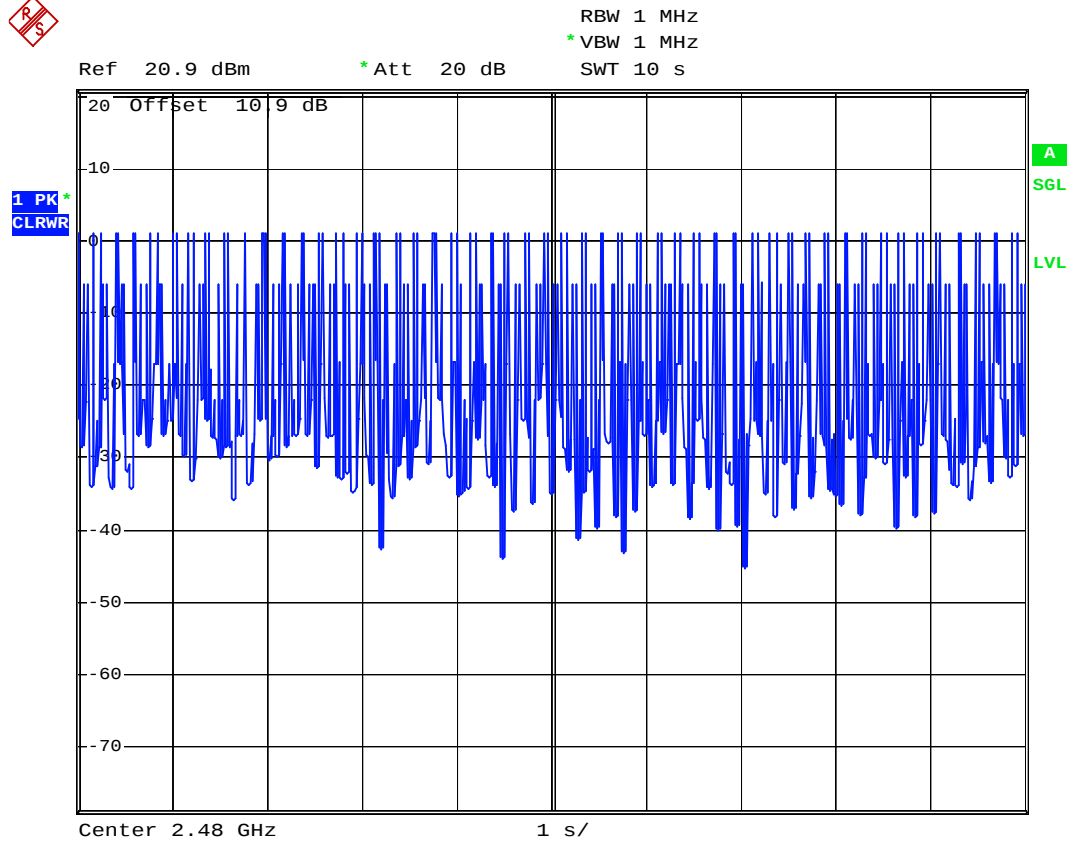
Date: 20.NOV.2006 16:06:07



DH1 (CH78)



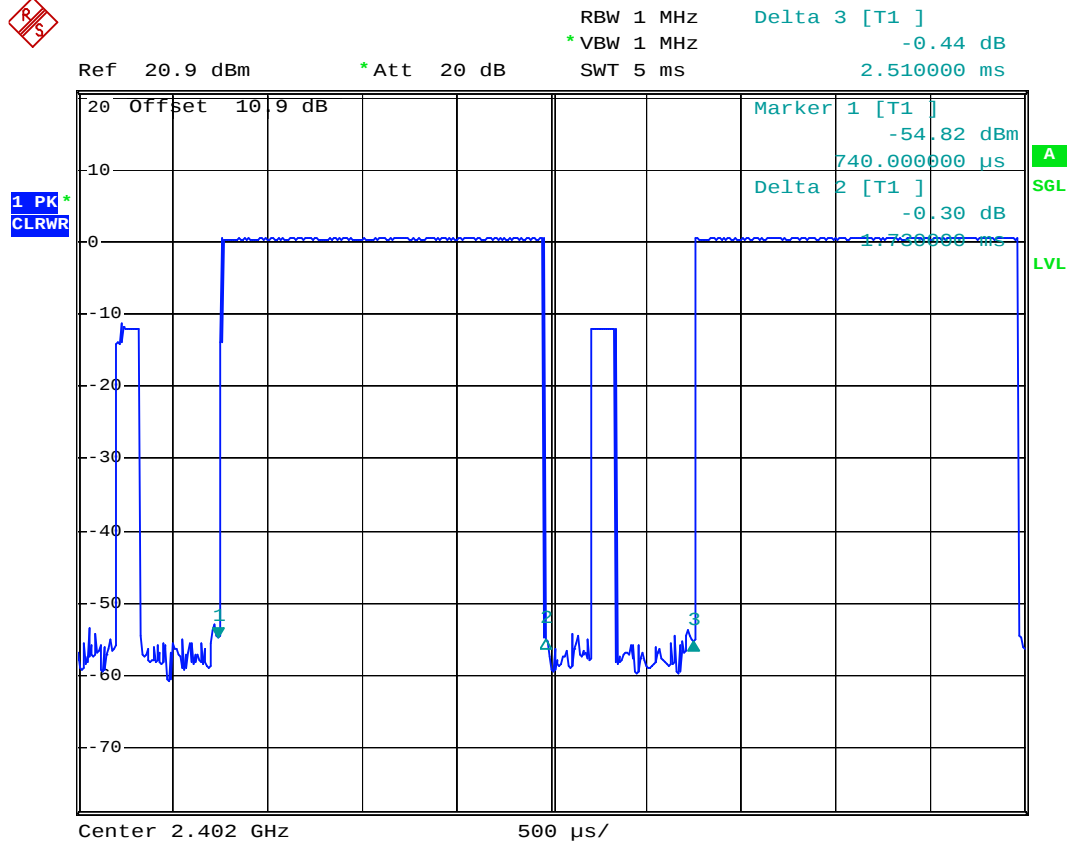
Date: 20.NOV.2006 15:58:13



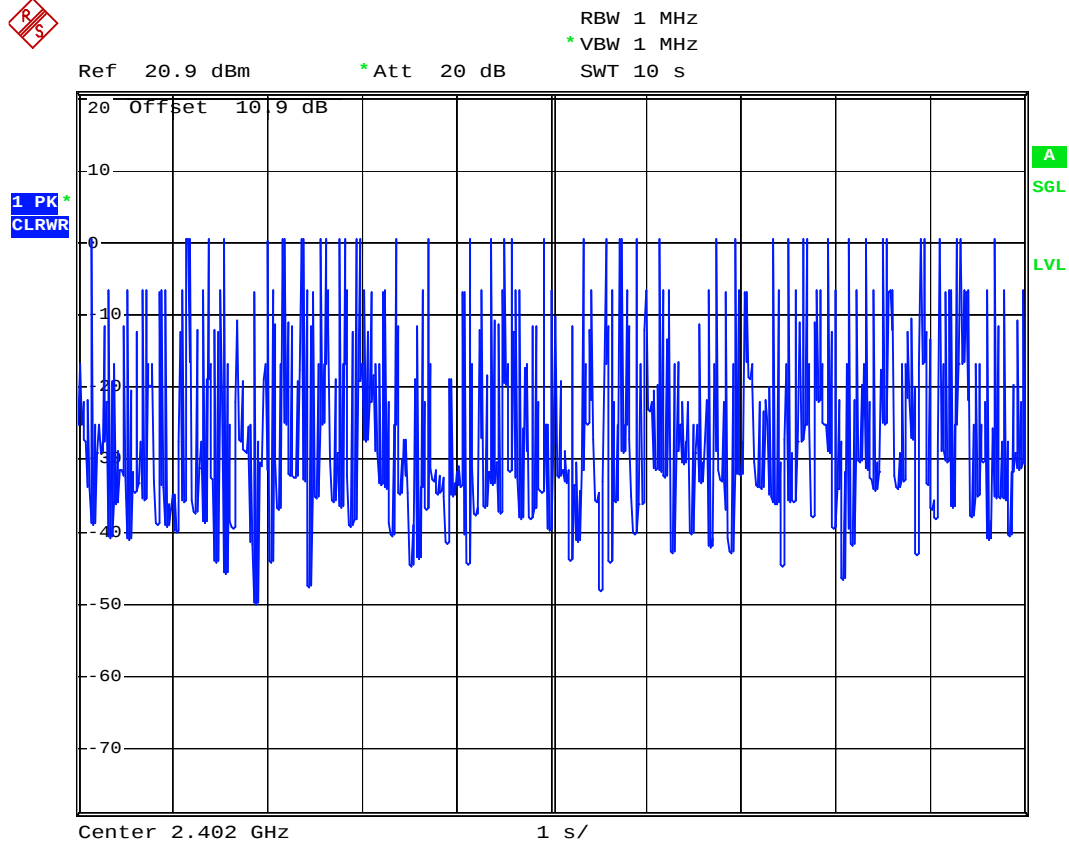
Date: 20.NOV.2006 16:05:46



DH3 (CH00)



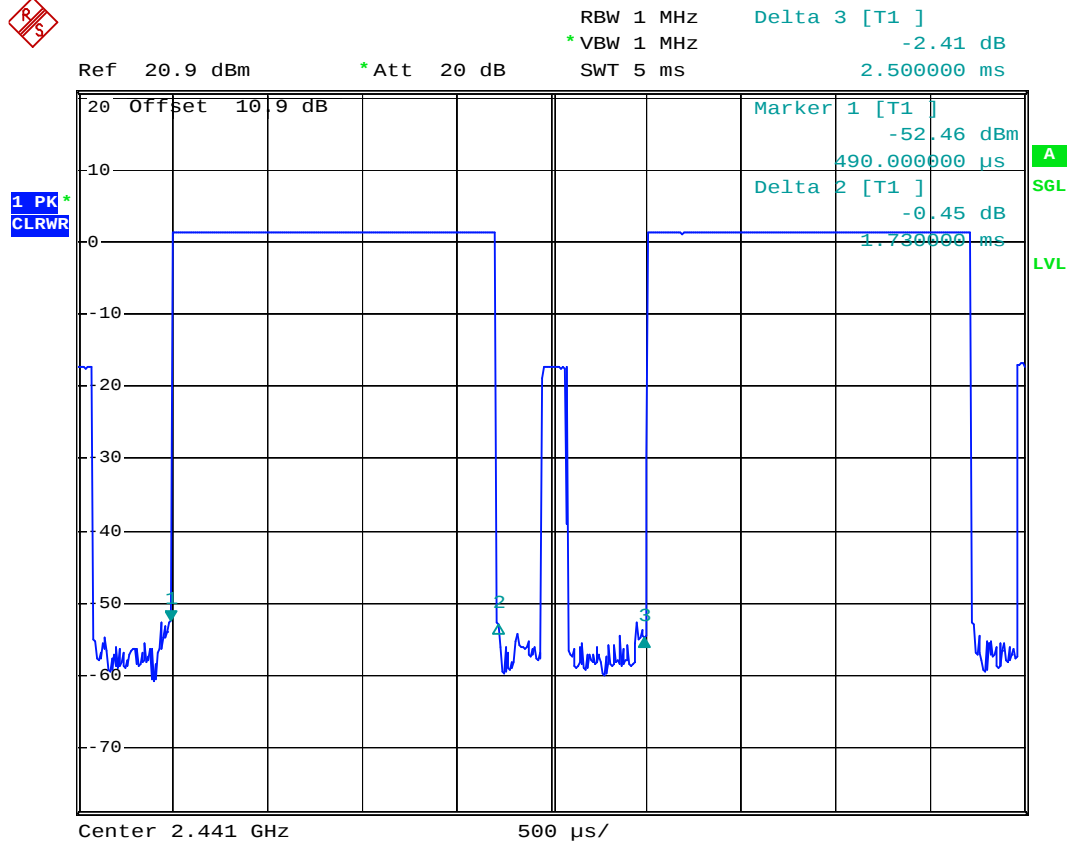
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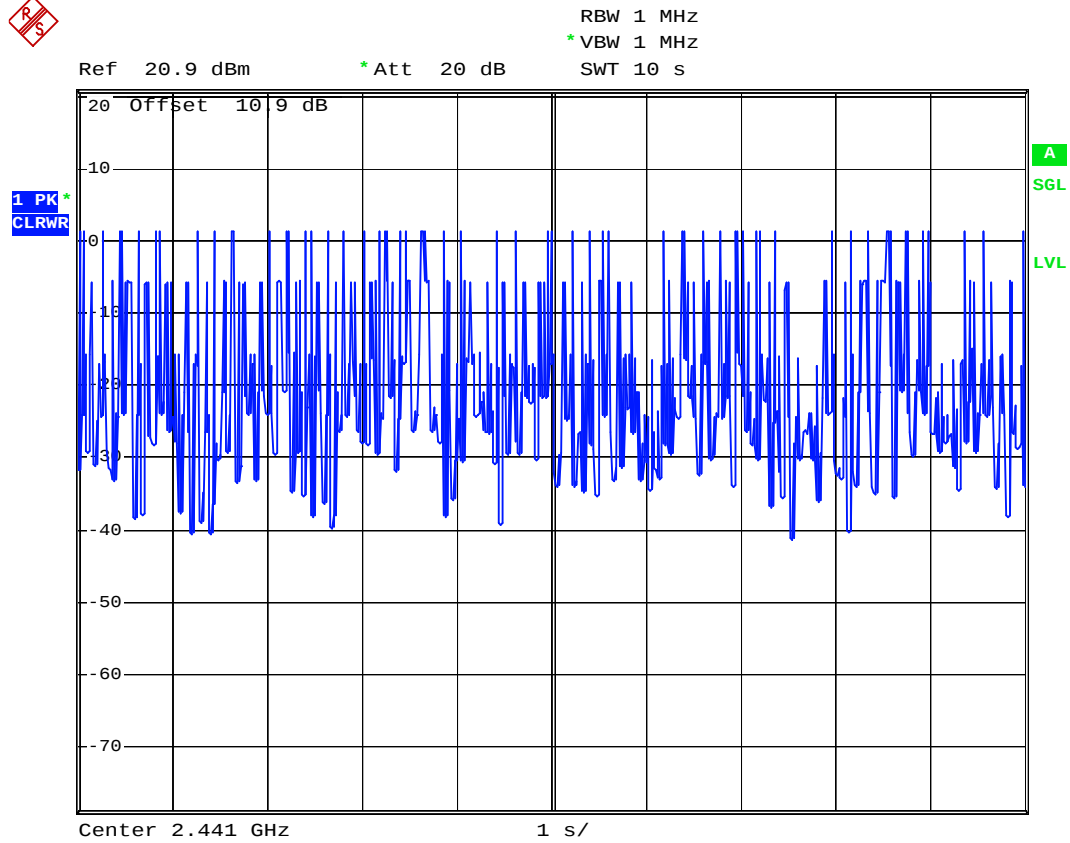
Date: 20.NOV.2006 16:07:12



DH3 (CH39)



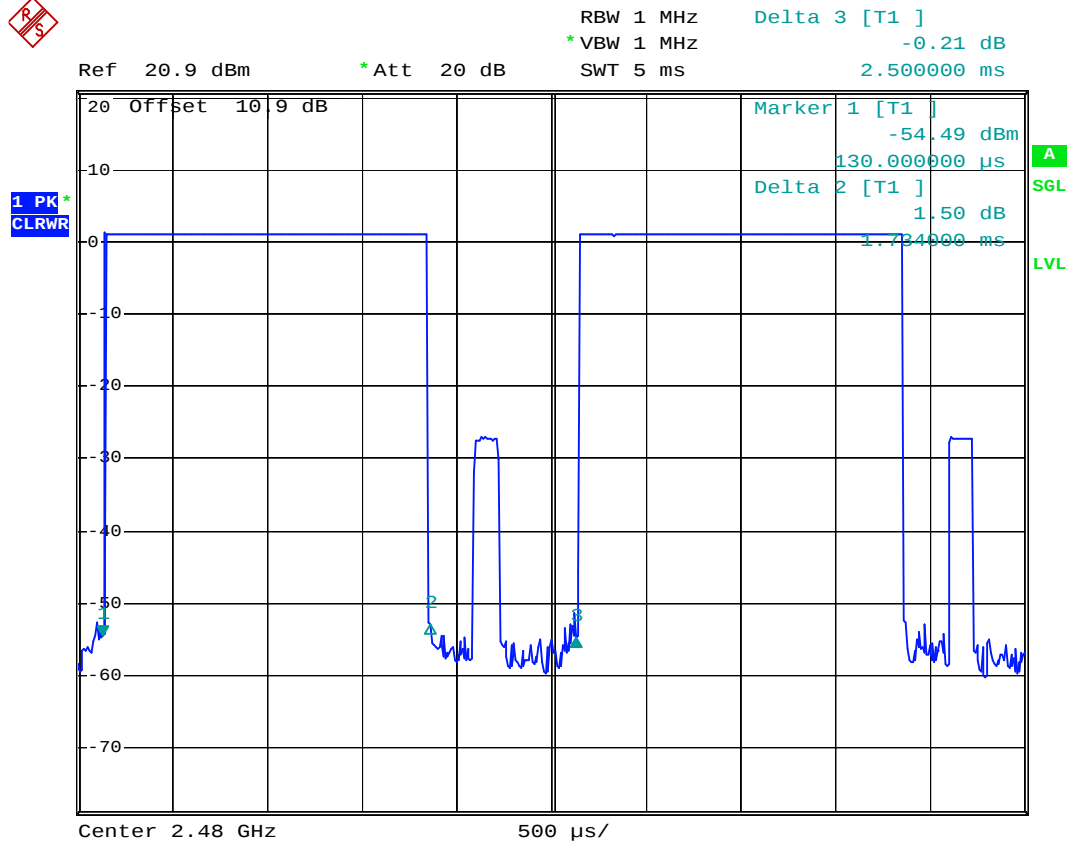
Date: 20.NOV.2006 16:01:11



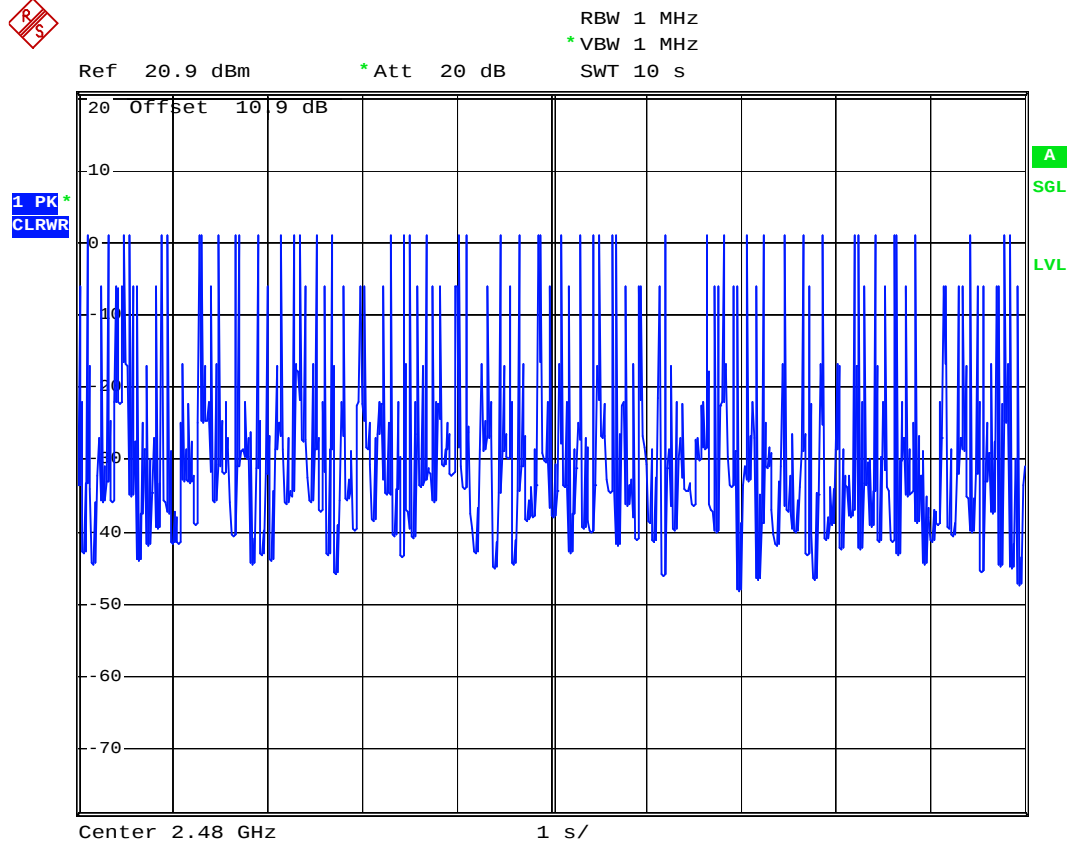
Date: 20.NOV.2006 16:07:45



DH3 (CH78)



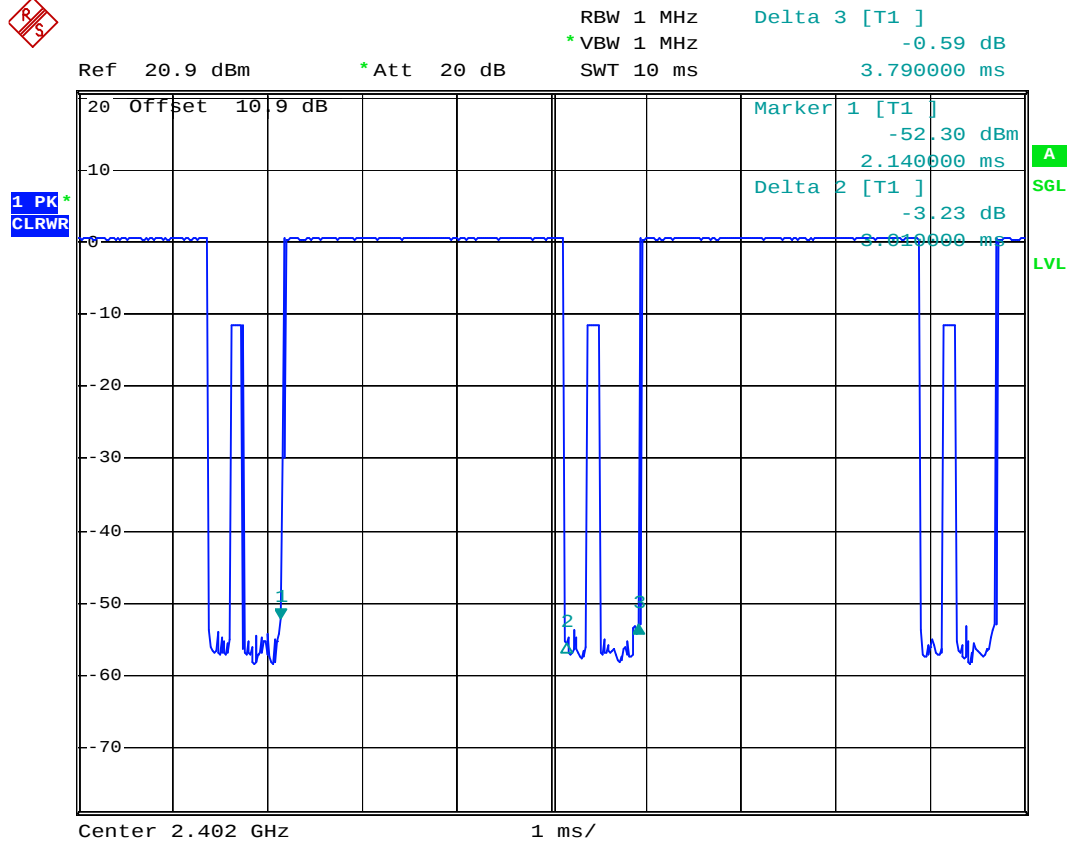
Date: 20.NOV.2006 15:58:57



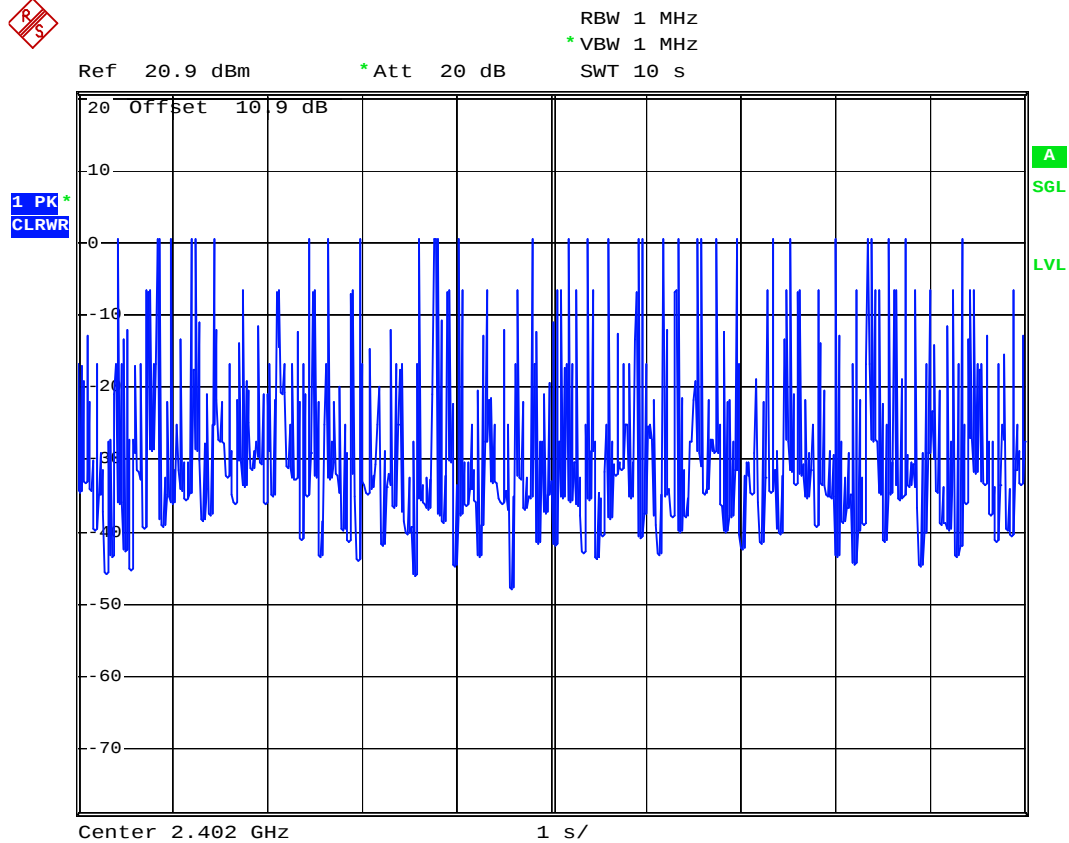
Date: 20.NOV.2006 16:08:12



DH5 (CH00)



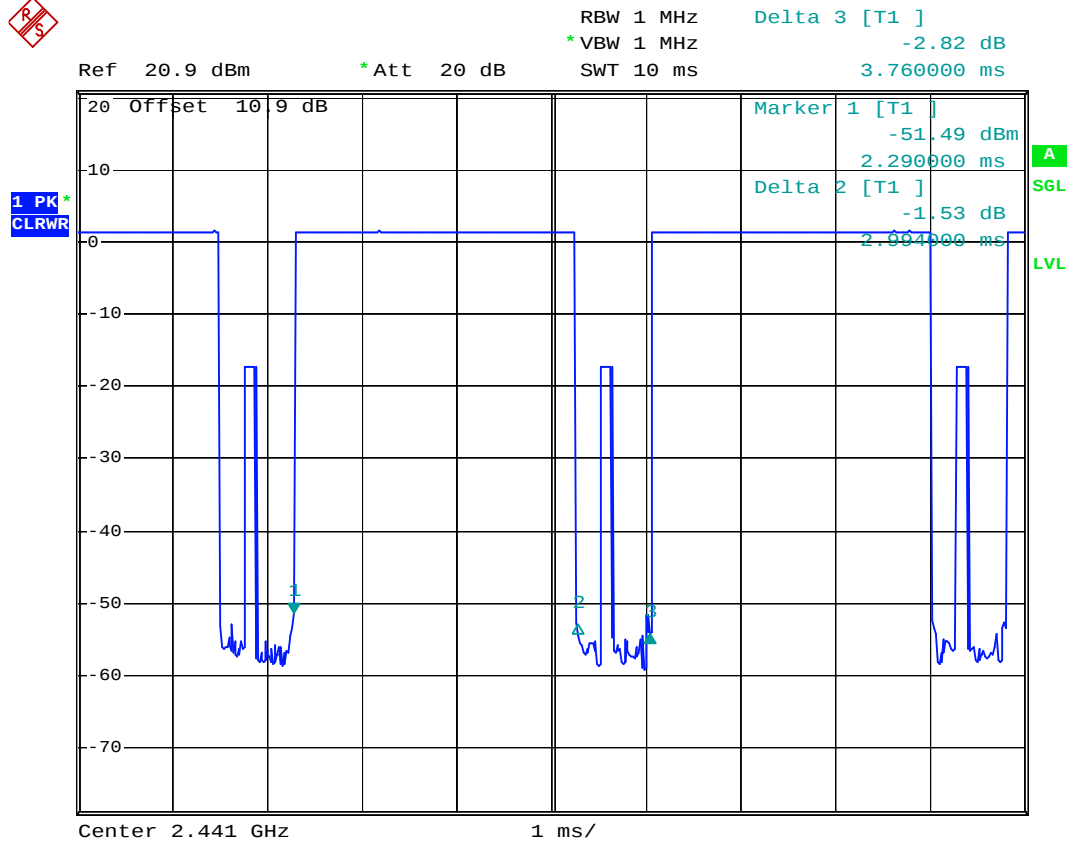
Date: 20.NOV.2006 16:03:39



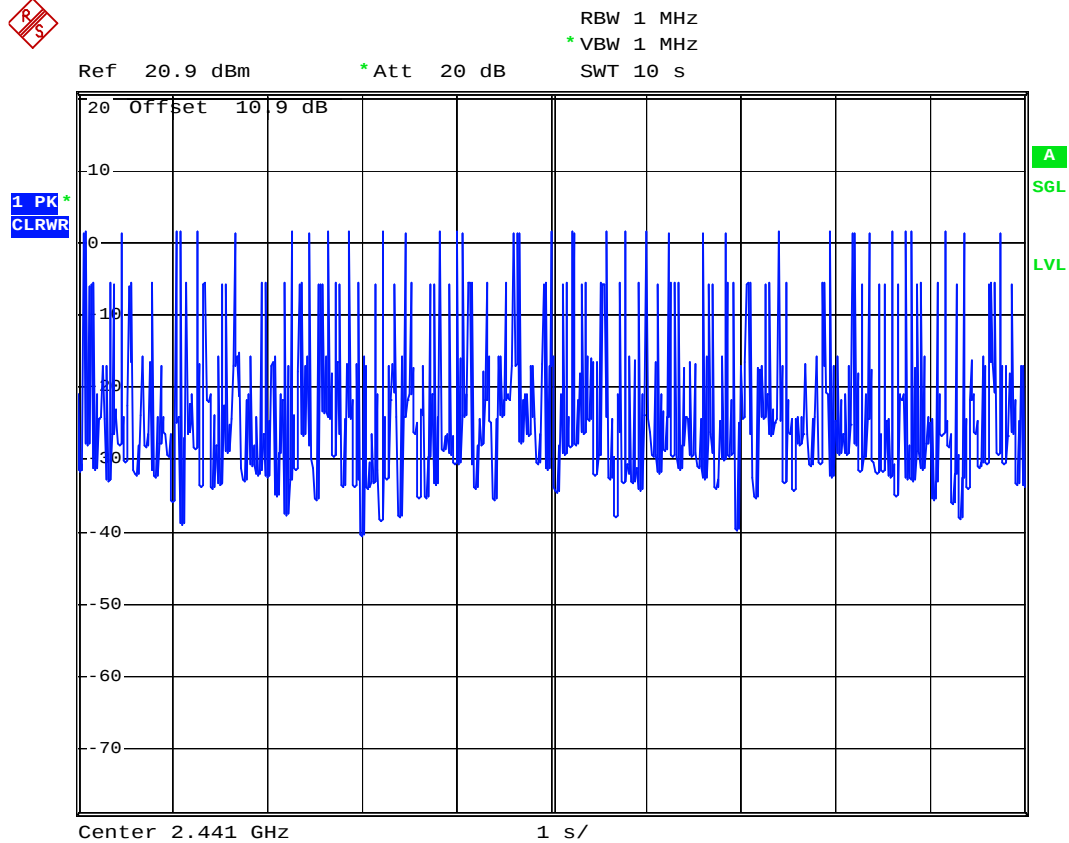
Date: 20.NOV.2006 16:04:37



DH5 (CH39)



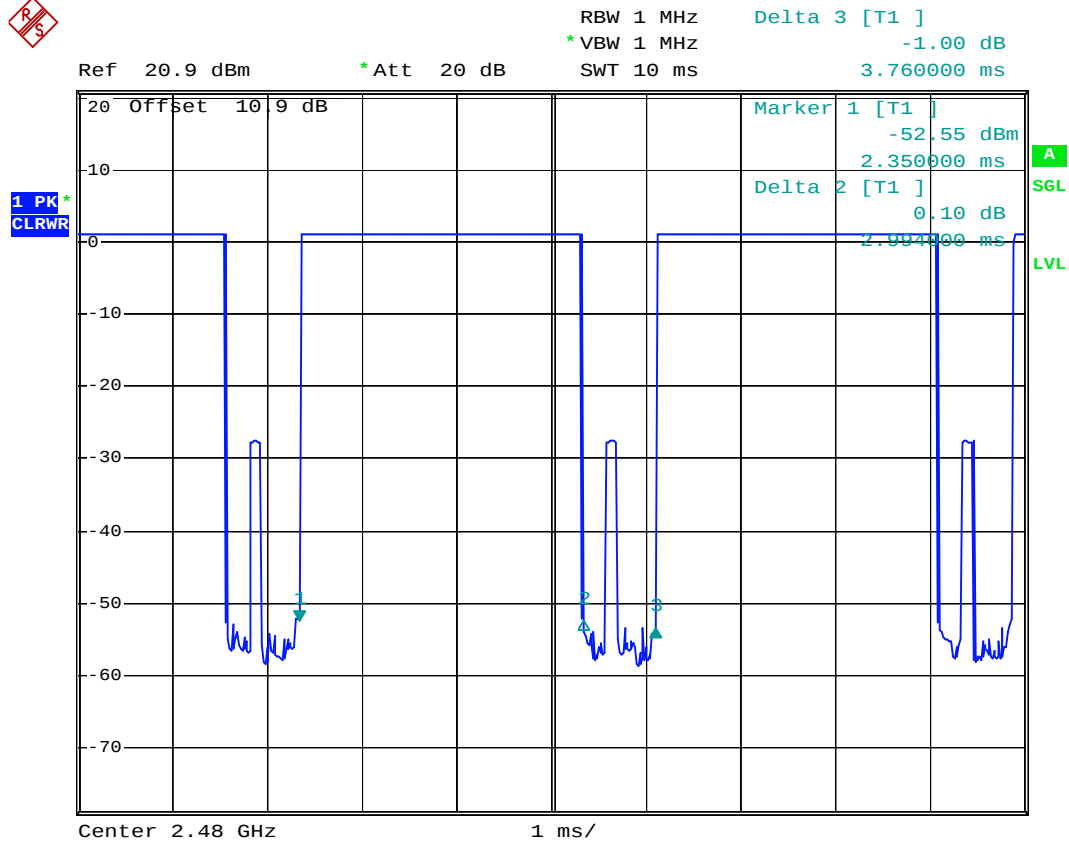
Date: 20.NOV.2006 16:00:29



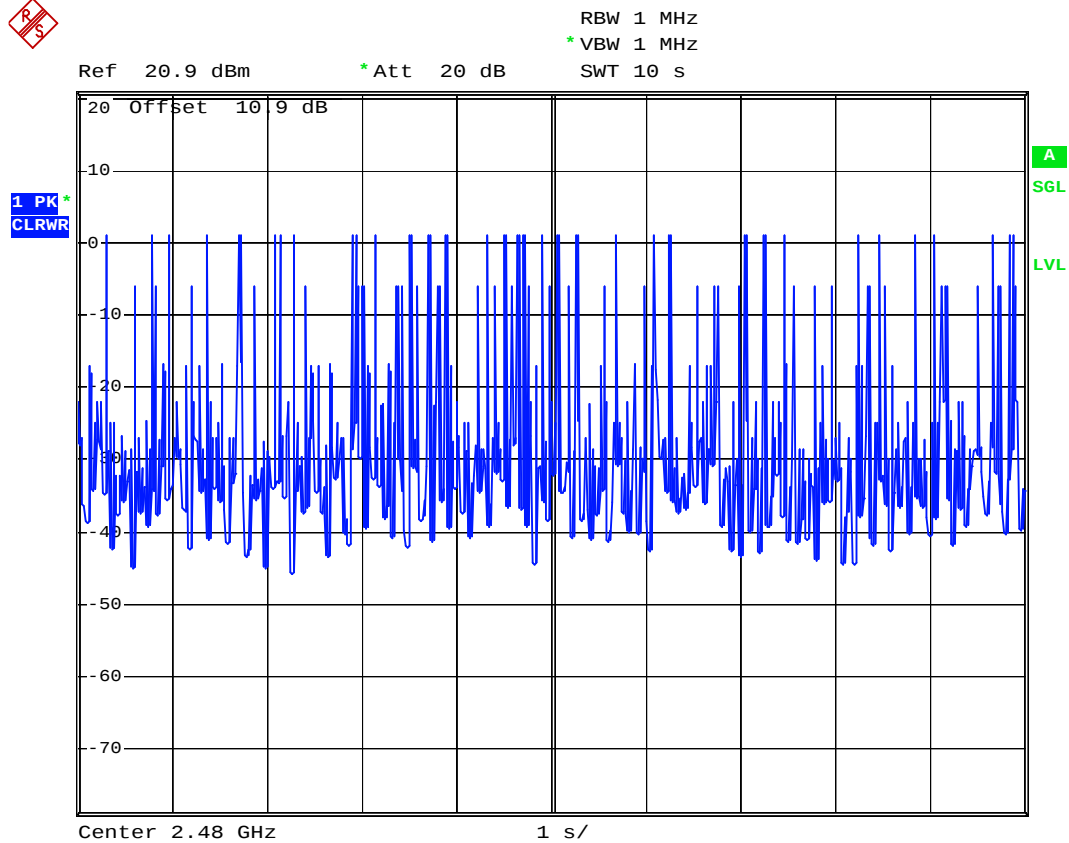
Date: 20.NOV.2006 16:05:00



DH5 (CH78)



Date: 20.NOV.2006 15:59:30



Date: 20.NOV.2006 16:05:20

5.6 Output Power

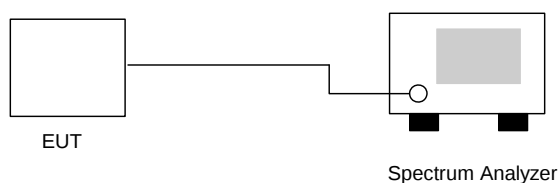
5.6.1 Measuring Instruments :

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

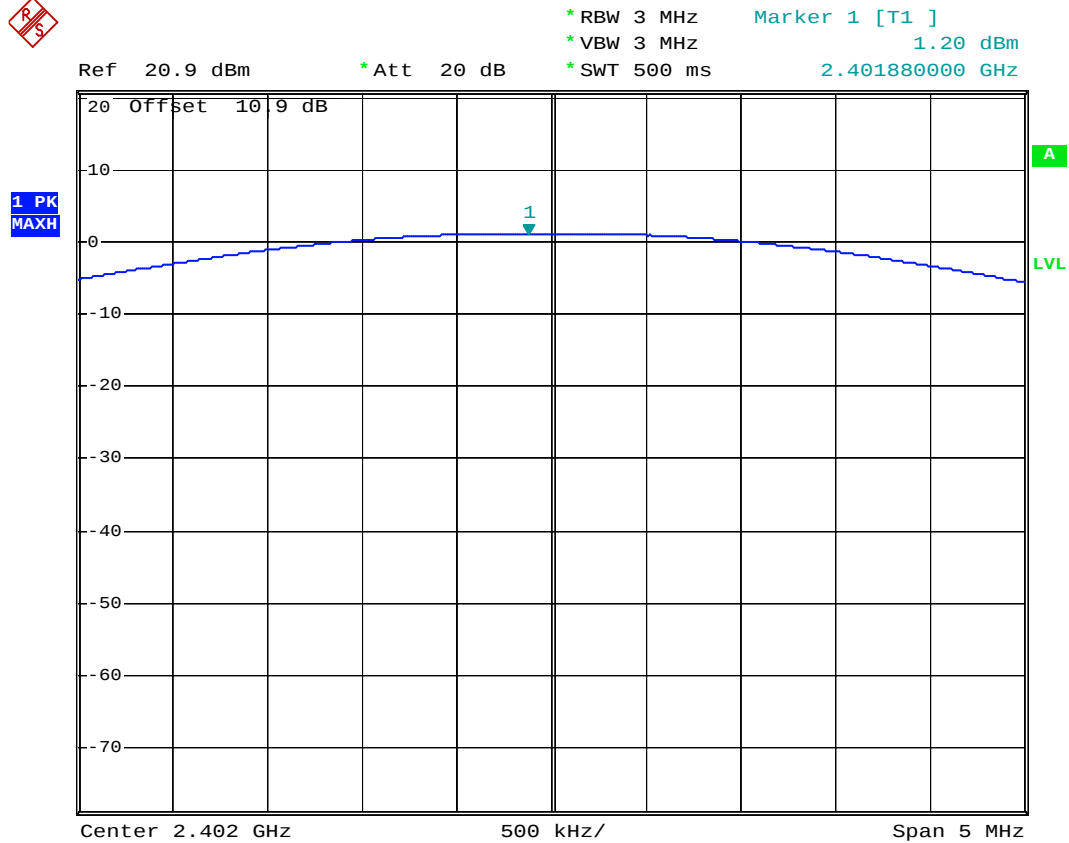
- Temperature: 27°C
- Relative Humidity: 50%
- Test Engineer : Jay

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (Watt/dBm)	Plot Ref. No.
00	2402	1.20	1W/30 dBm	Mode 1
39	2441	1.73	1W/30 dBm	Mode 2
78	2480	1.41	1W/30 dBm	Mode 3



5.6.5 Output Power

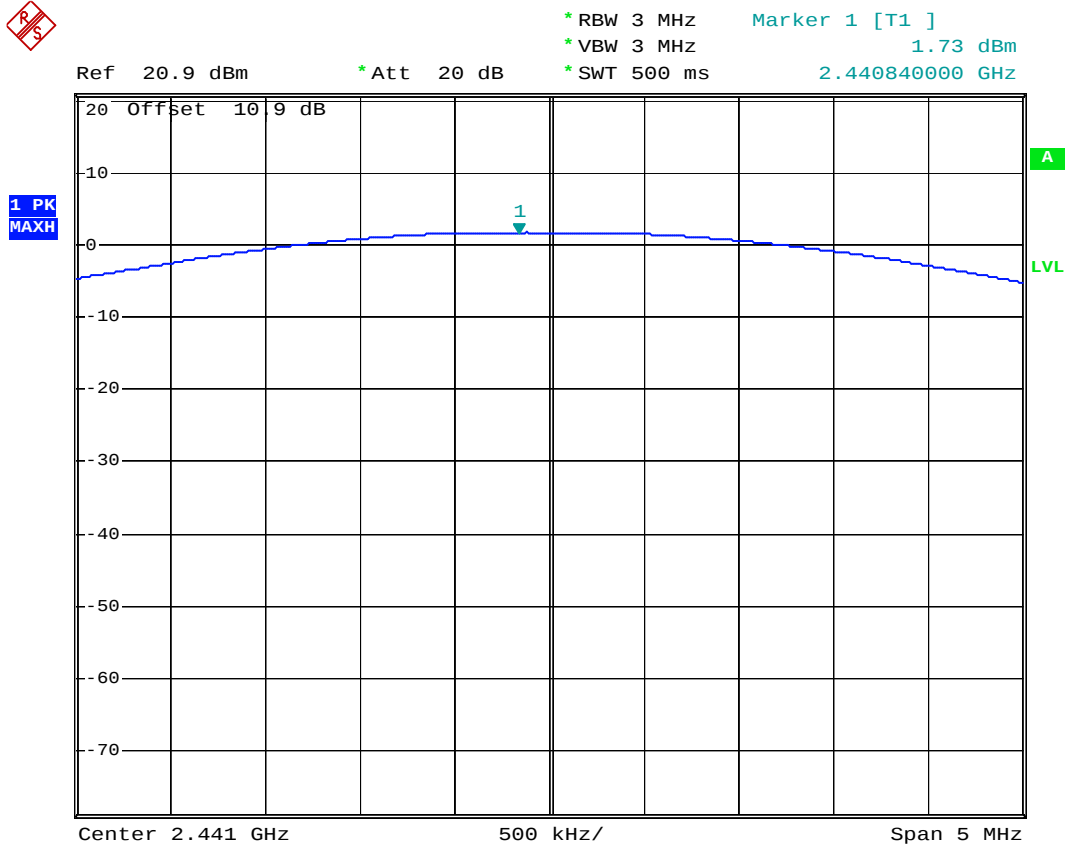
Mode 1: CH00 (2402MHz)



Date: 20.NOV.2006 15:42:46



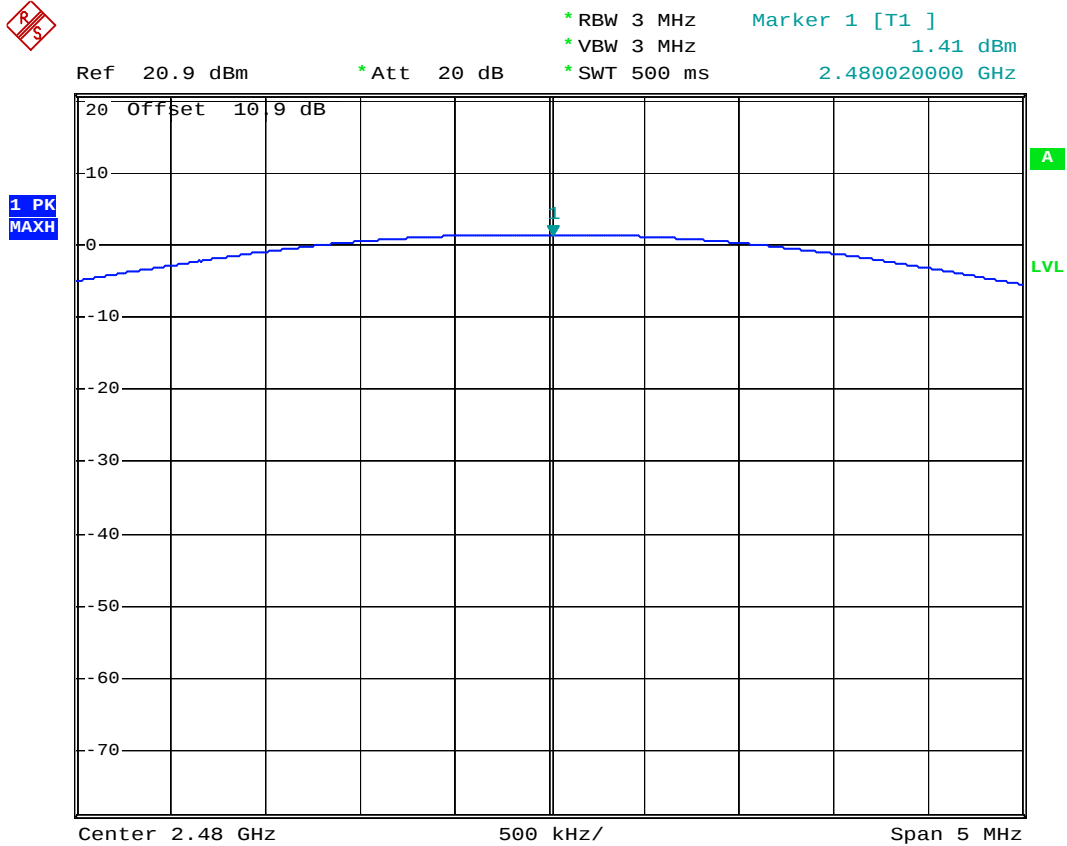
Mode 2: CH39 (2441MHz)



Date: 20.NOV.2006 15:48:43



Mode 3: CH78 (2480MHz)



Date: 20.NOV.2006 15:49:13



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: 27°C
- Relative Humidity: 50%
- Test Engineer : Jay

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
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	Mode
2390.00	65.47	-8.53	74.00	66.92	30.26	3.75	35.46	100	0	Peak
2390.00	38.82	-15.18	54.00	40.27	30.26	3.75	35.46	113	141	Average

CH00 (Vertical)

Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Detect
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	Mode
2390.00	64.06	-9.94	74.00	65.51	30.26	3.75	35.46	100	0	Peak
2390.00	38.79	-15.21	54.00	40.24	30.26	3.75	35.46	100	205	Average

**CH78 (Horizontal)**

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Detect
(MHz)	(dBuV/m)	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Mode
		(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2483.50	68.18	-5.82	74.00	69.54	30.29	3.86	35.51	100	0	Peak
2483.50	44.57	-9.43	54.00	45.93	30.29	3.86	35.51	100	238	Average

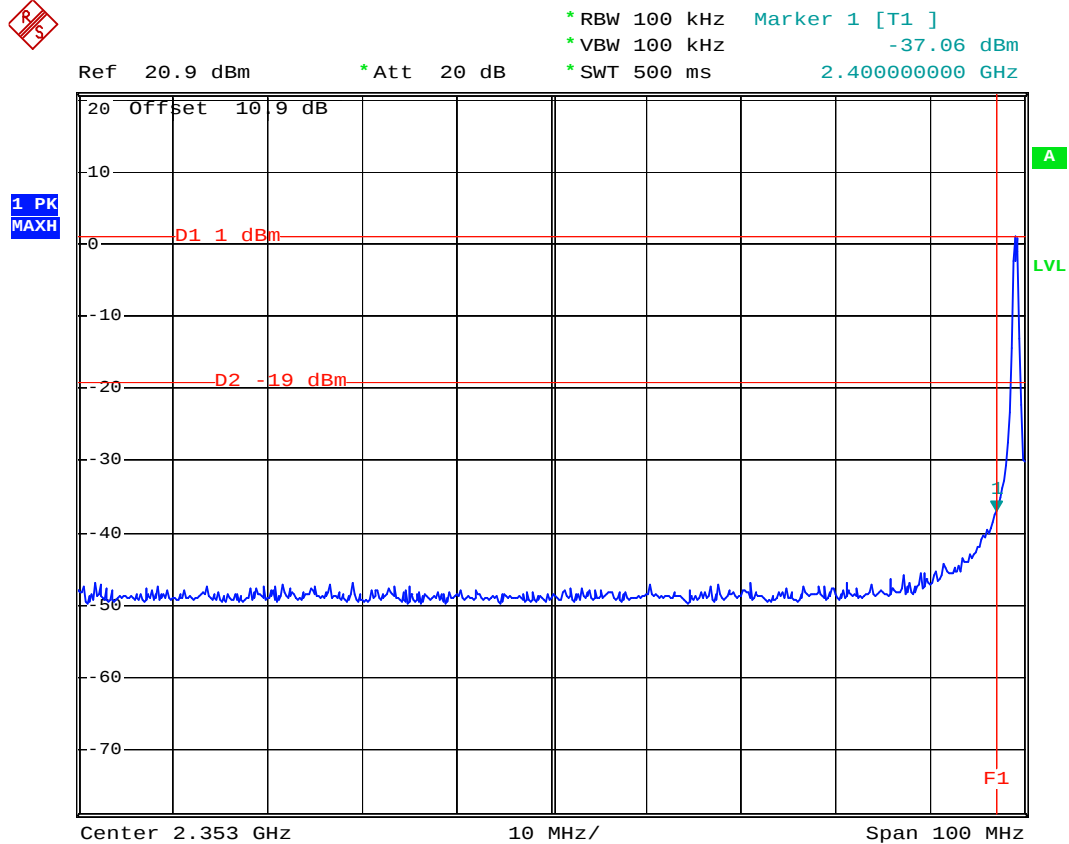
CH78 (Vertical)

Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Detect
(MHz)	(dBuV/m)	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Mode
		(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2483.50	70.14	-3.86	74.00	71.50	30.29	3.86	35.51	100	0	Peak
2483.50	45.58	-8.42	54.00	46.94	30.29	3.86	35.51	120	183	Average



5.7.5 Frequency Band Edge

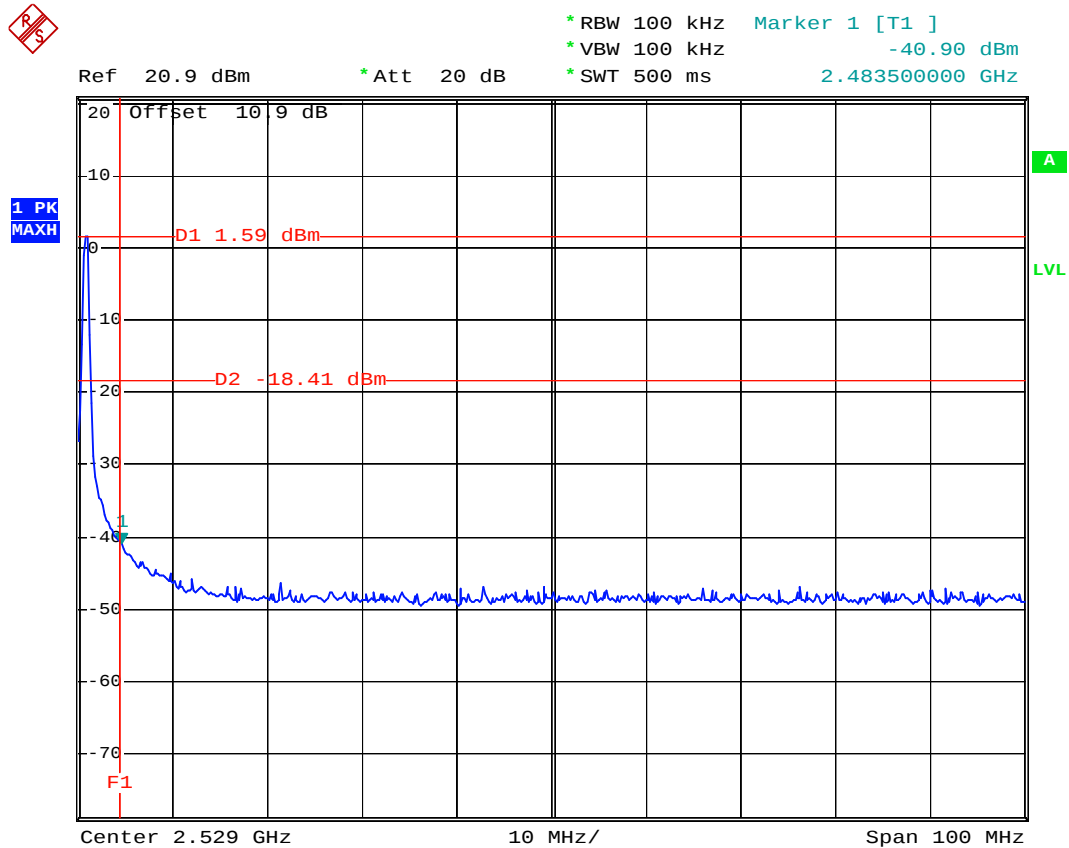
Mode 1: CH00 (2402 MHz)



Date: 20.NOV.2006 15:44:35



Mode 3: CH78 (2480 MHz)



Date: 20.NOV.2006 15:56:09



5.8 Conducted Emission

5.8.1 Measuring Instruments

As described in chapter 6 of this test Report.

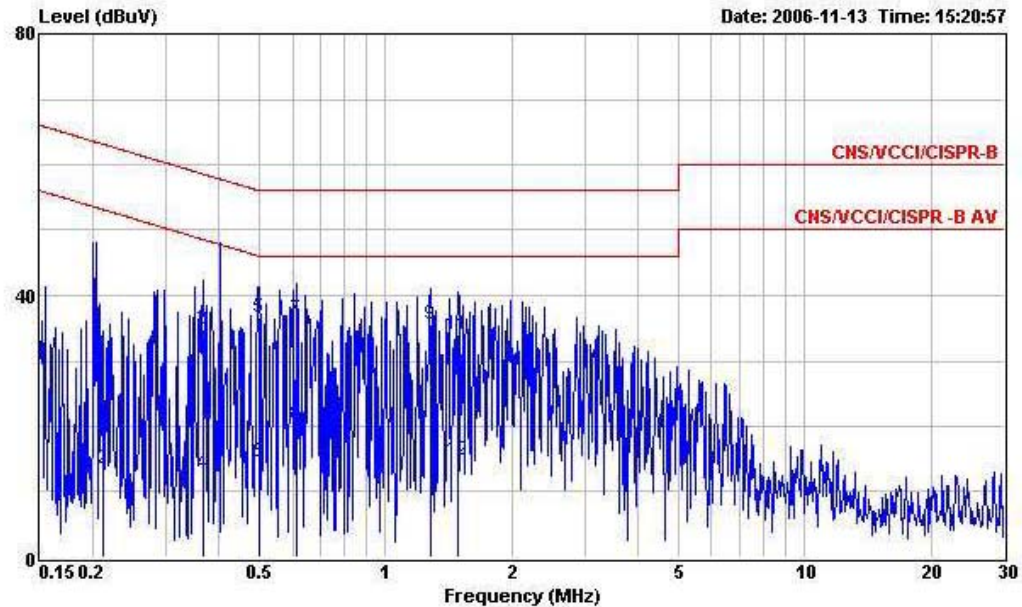
5.8.2 Test Procedures :

- 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

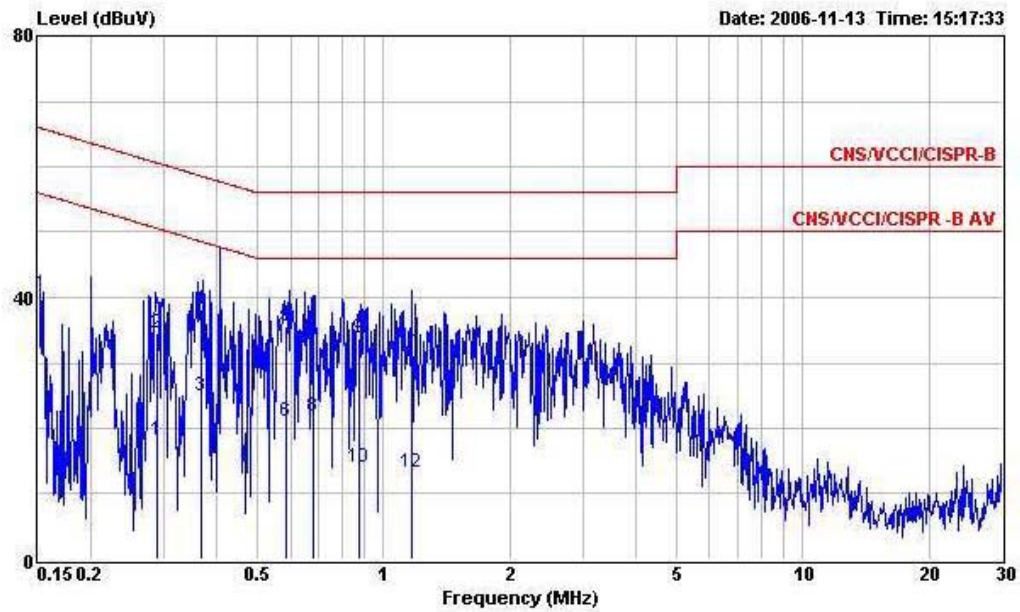
- Temperature: 27°C
- Relative Humidity: 50%
- Test Engineer : Jay

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



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 LINE
 EUT : Mobile Phone
 Power : 120V/60Hz
 Model : FD6N1301
 Memo : PCS1900 IDLE+BT LINK+CAMERA+ADAPTOR
 Memo :
 Memo :

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.212	30.87	-32.24	63.11	30.69	0.10	0.08	QP
2	0.212	13.51	-39.60	53.11	13.33	0.10	0.08	Average
3	0.366	34.88	-23.72	58.60	34.77	0.10	0.01	QP
4	0.366	12.68	-35.92	48.60	12.57	0.10	0.01	Average
5	0.499	36.71	-19.31	56.02	36.60	0.10	0.01	QP
6	0.499	14.65	-31.37	46.02	14.54	0.10	0.01	Average
7	0.612	36.27	-19.73	56.00	36.15	0.10	0.02	QP
8	0.612	20.31	-25.69	46.00	20.19	0.10	0.02	Average
9	1.280	35.51	-20.49	56.00	35.36	0.10	0.05	QP
10	1.280	19.52	-26.48	46.00	19.37	0.10	0.05	Average
11	1.490	34.03	-21.97	56.00	33.88	0.10	0.05	QP
12	1.490	14.71	-31.29	46.00	14.56	0.10	0.05	Average



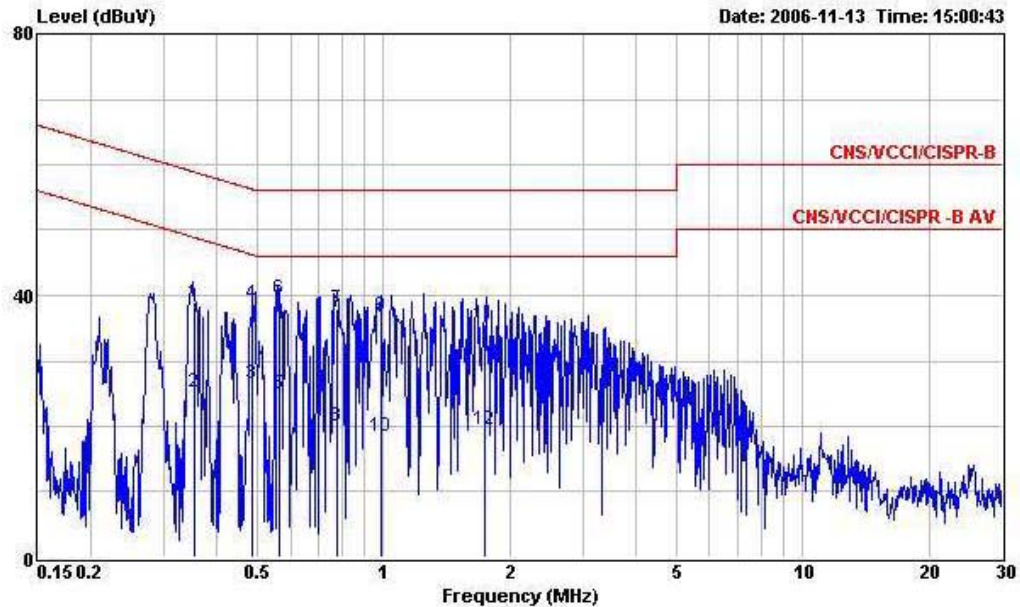
Site : CO01-HY
Condition : CNS/VCCI/CISPR-B 2001/004 200604 NEUTRAL
EUT : Mobile Phone
Power : 120V/60Hz
Model : FD6N1301
Memo : PCS1900 IDLE+BT LINK+CAMERA+ADAPTOR
Memo :
Memo :

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV		dBuV	dBuV	dB	dB	
1	0.287	18.11	-32.49	50.60	17.97	0.10	0.04	Average
2	0.287	34.67	-25.93	60.60	34.53	0.10	0.04	QP
3	0.366	24.91	-23.67	48.58	24.80	0.10	0.01	Average
4	0.366	38.29	-20.29	58.58	38.18	0.10	0.01	QP
5	0.584	35.53	-20.47	56.00	35.41	0.10	0.02	QP
6	0.584	21.05	-24.95	46.00	20.93	0.10	0.02	Average
7	0.681	32.75	-23.25	56.00	32.63	0.10	0.02	QP
8	0.681	21.84	-24.16	46.00	21.72	0.10	0.02	Average
9	0.877	33.81	-22.19	56.00	33.68	0.10	0.03	QP
10	0.877	14.02	-31.98	46.00	13.89	0.10	0.03	Average
11	1.170	31.70	-24.30	56.00	31.56	0.10	0.04	QP
12	1.170	13.34	-32.66	46.00	13.20	0.10	0.04	Average

5.8.4 Test Data Test Mode 2

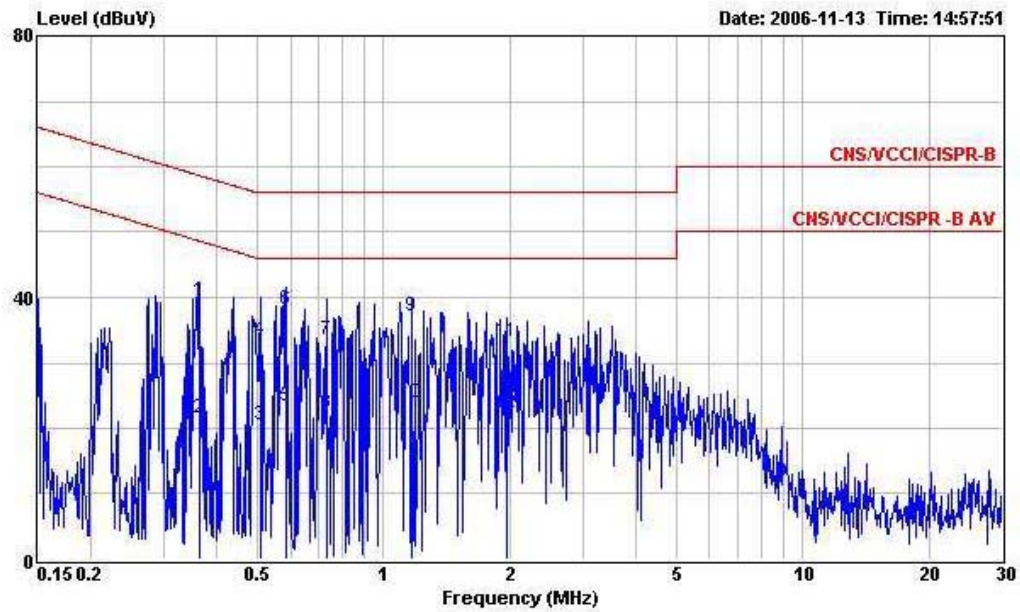
- Temperature: 27°C
- Relative Humidity: 50%
- Test Engineer : Jay

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



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 LINE
 EUT : Mobile Phone
 Power : 120V/60Hz
 Model : FD6N1301
 Memo : PCS1900 IDLE+BT LINK+MPEG4+ADAPTOR
 Memo :
 Memo :

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.353	38.96	-19.94	58.90	38.84	0.10	0.02	QP
2	0.353	25.17	-23.73	48.90	25.05	0.10	0.02	Average
3	0.487	26.40	-19.81	46.21	26.29	0.10	0.01	Average
4	0.487	38.81	-17.40	56.21	38.70	0.10	0.01	QP
5	0.562	24.84	-21.16	46.00	24.73	0.10	0.01	Average
6	0.562	39.54	-16.46	56.00	39.43	0.10	0.01	QP
7	0.774	37.85	-18.15	56.00	37.72	0.10	0.03	QP
8	0.774	20.01	-25.99	46.00	19.88	0.10	0.03	Average
9	0.983	36.85	-19.15	56.00	36.71	0.10	0.04	QP
10	0.983	18.34	-27.66	46.00	18.20	0.10	0.04	Average
11	1.750	35.71	-20.29	56.00	35.55	0.10	0.06	QP
12	1.750	19.36	-26.64	46.00	19.20	0.10	0.06	Average



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B 2001/004 200604 NEUTRAL
 EUT : Mobile Phone
 Power : 120V/60Hz
 Model : FD6N1301
 Memo : PCS1900 IDLE+BT LINK+MPEG4+ADAPTOR
 Memo :
 Memo :

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.363	39.47	-19.19	58.66	39.36	0.10	0.01	QP
2	0.363	21.59	-27.07	48.66	21.48	0.10	0.01	Average
3	0.510	20.60	-25.40	46.00	20.49	0.10	0.01	Average
4	0.510	33.58	-22.42	56.00	33.47	0.10	0.01	QP
5	0.585	23.43	-22.57	46.00	23.31	0.10	0.02	Average
6	0.585	38.11	-17.89	56.00	37.99	0.10	0.02	QP
7	0.731	33.56	-22.44	56.00	33.43	0.10	0.03	QP
8	0.731	22.31	-23.69	46.00	22.18	0.10	0.03	Average
9	1.167	37.21	-18.79	56.00	37.07	0.10	0.04	QP
10	1.167	23.81	-22.19	46.00	23.67	0.10	0.04	Average
11	1.970	33.20	-22.80	56.00	33.04	0.10	0.06	QP
12	1.970	22.29	-23.71	46.00	22.13	0.10	0.06	Average

5.9 Radiated Emission Measurement

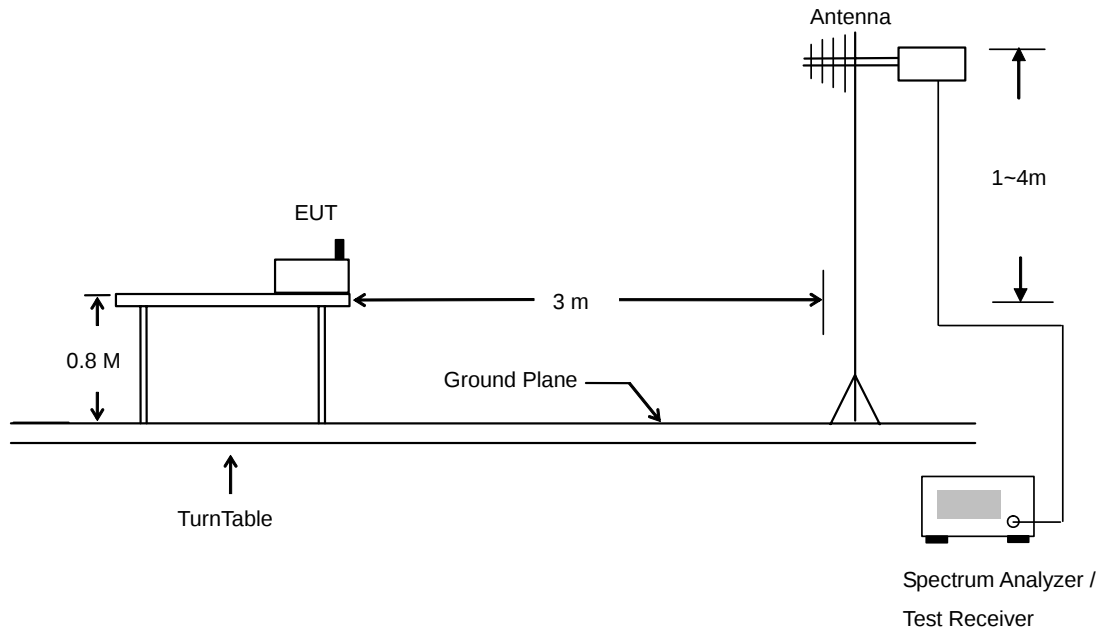
5.9.1 Measuring Instruments

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

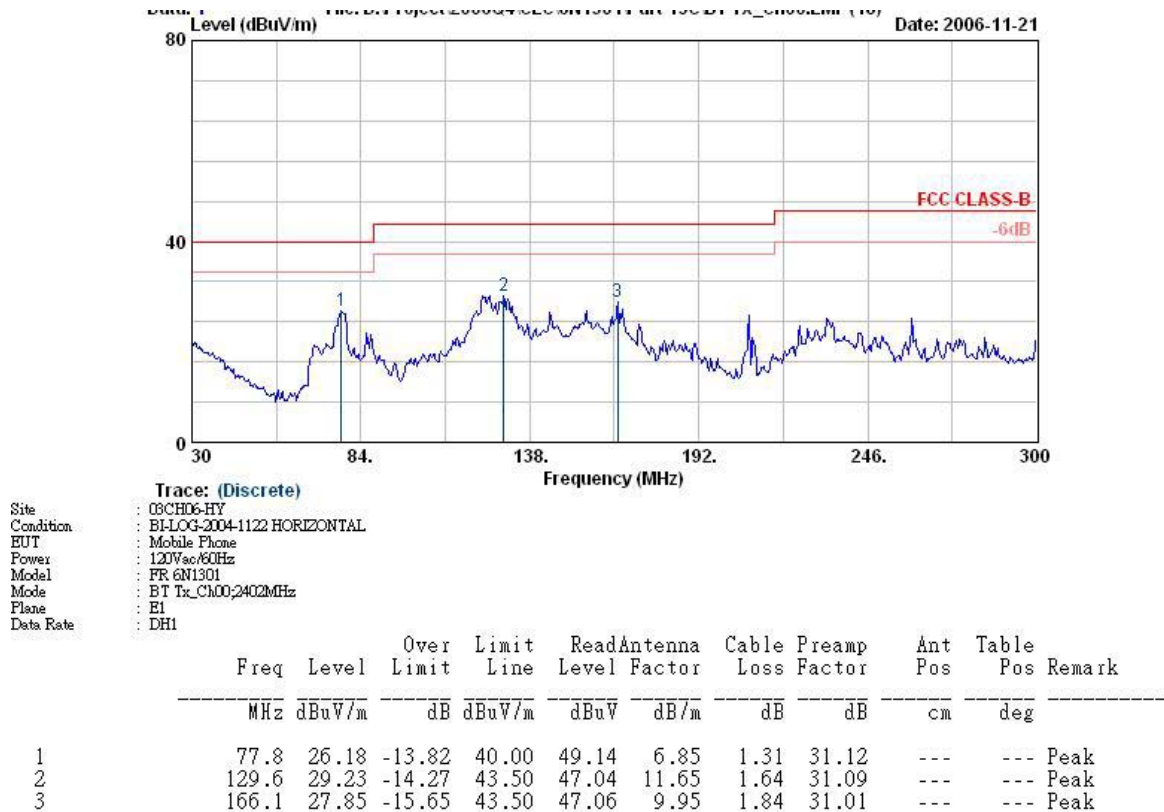


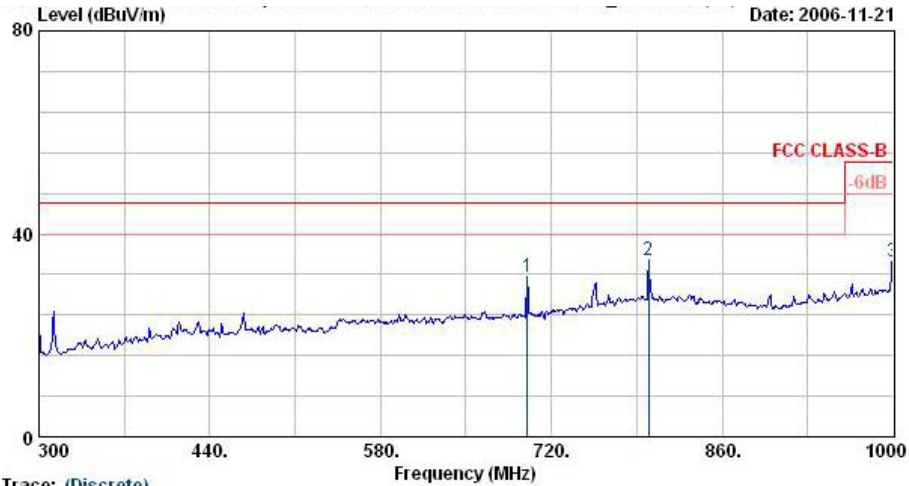


5.9.4 Test Data

- Temperature : 27°C
- Relative Humidity : 50 %
- Test Engineer : Andrew
- Test Mode : Mode 1
- Polarization : Horizontal

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

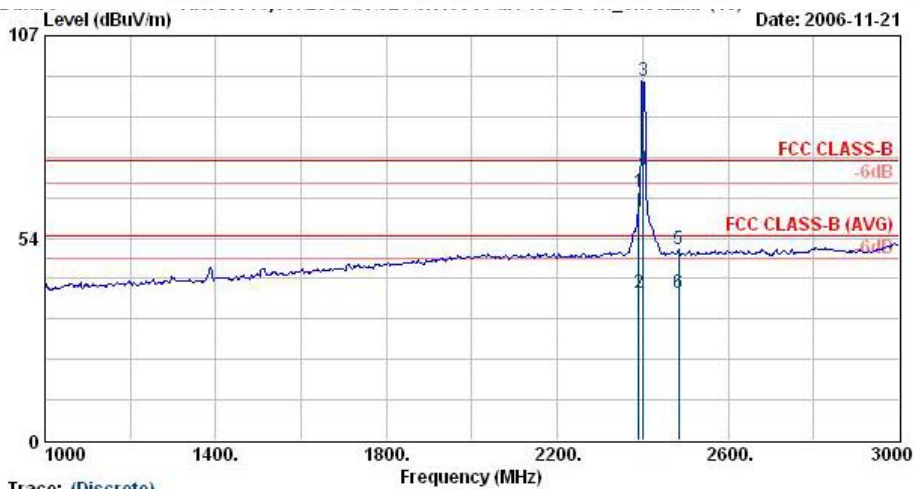




Trace: (Discrete)

Site : 08CH06-HY
 Condition : BI-LOG-2004-1122 HORIZONTAL
 EUT : Mobile Phone
 Power : 120Wac/60Hz
 Model : FR 6N1301
 Mode : BT Tx Ch00:2402MHz
 Plane : E1
 Data Rate : DH1

	Freq	Level	Over Limit	Limit Line	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	700.4	31.38	-14.62	46.00	38.67	19.04	4.25	30.59	---	---
2 @	799.8	34.83	-11.17	46.00	38.79	21.90	4.63	30.49	100	204
3	1000.0	34.38	-19.62	54.00	36.54	22.97	5.14	30.27	---	---

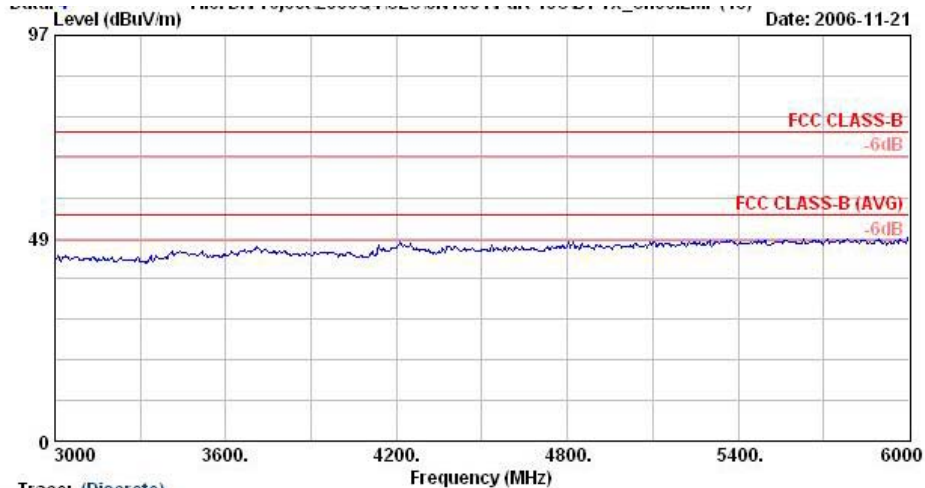


Trace: (Discrete)

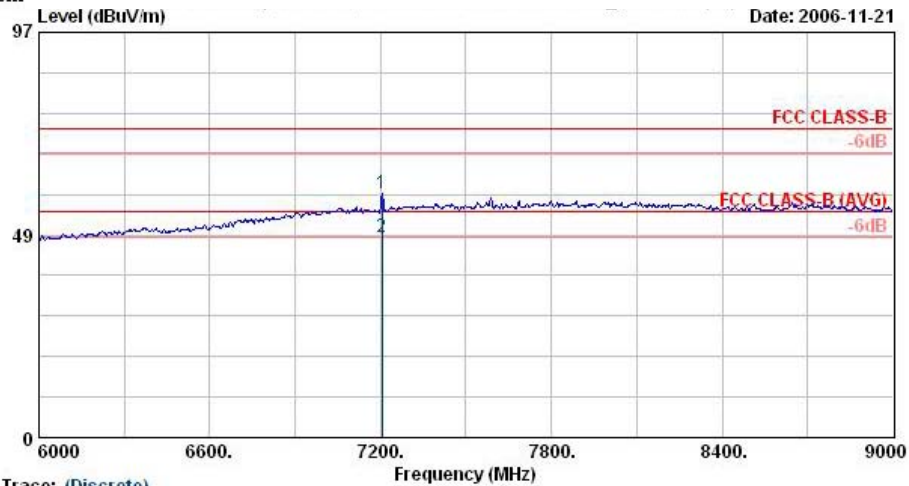
Site : 08CH06-HY
 Condition : HF-ANT-060410 HORIZONTAL
 EUT : Mobile Phone
 Power : 120Wac/60Hz
 Model : FR 6N1301
 Mode : BT Tx Ch00:2402MHz
 Plane : E1
 Data Rate : DH1

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 @	2390.0	65.47	-8.53	74.00	66.92	30.26	3.75	35.46	100	0 Peak
2	2390.0	38.82	-15.18	54.00	40.27	30.26	3.75	35.46	113	141 Average
3 @	2402.0	94.99	--	--	96.42	30.26	3.77	35.46	100	0 Peak
4 @	2402.0	71.69	--	--	73.12	30.26	3.77	35.46	113	141 Average
5	2484.0	50.44	-23.56	74.00	51.80	30.29	3.86	35.51	100	0 Peak
6	2484.0	38.80	-15.20	54.00	40.16	30.29	3.86	35.51	113	141 Average

Remark: #3 and #4 Fundamental Signal

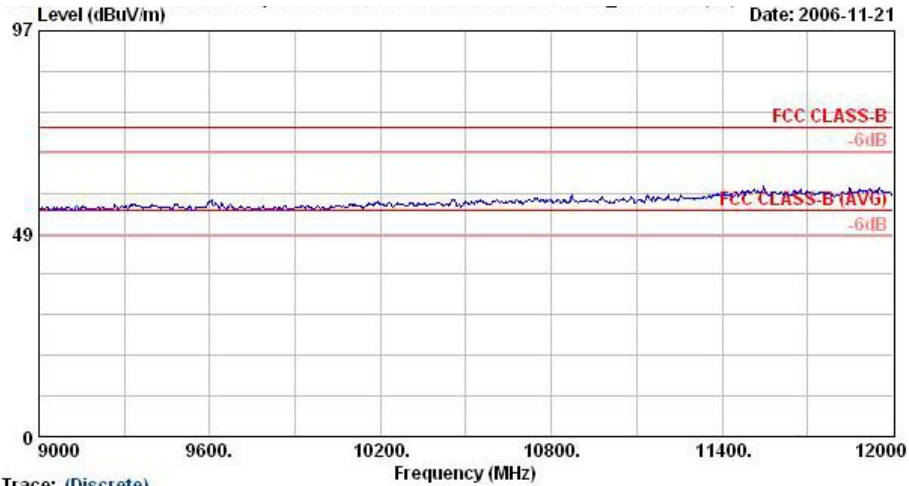
**Trace: (Discrete)**

Site : 03CH06-HY
Condition : HF-ANT-060410 HORIZONTAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx, CN00,2402MHz
Plane : E1
Data Rate : DH1

**Trace: (Discrete)**

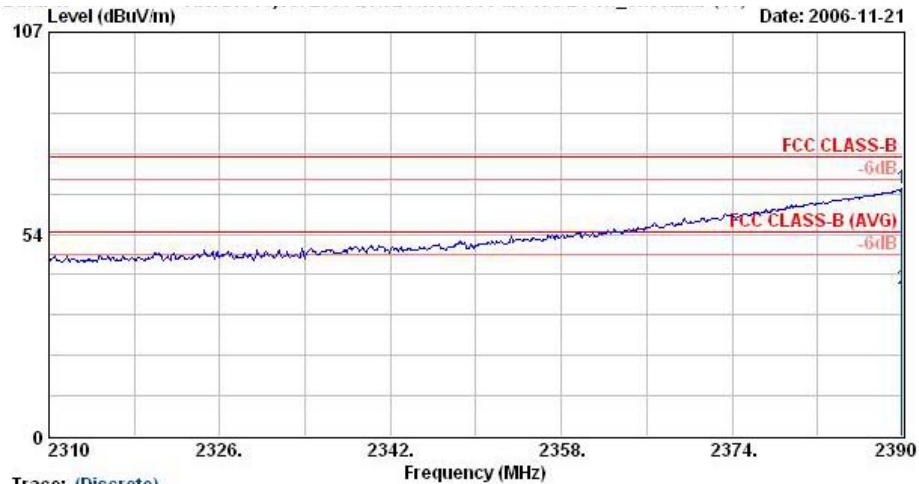
Site : 03CH06-HY
Condition : HF-ANT-060410 HORIZONTAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx, CN00,2402MHz
Plane : E1
Data Rate : DH1

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level Factor	Loss	Factor	Pos	Pos	Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	7206.0	58.41	-15.59	74.00	48.24	38.26	7.79	35.88	100	0 Peak
2 @	7206.0	48.03	-5.97	54.00	37.87	38.26	7.79	35.88	167	160 Average



Trace: (Discrete)

Site : 03CH06-HY
Condition : HF-ANT-060410 HORIZONTAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx_CH00;2402MHz
Plane : E1
Data Rate : DH1



Trace: (Discrete)

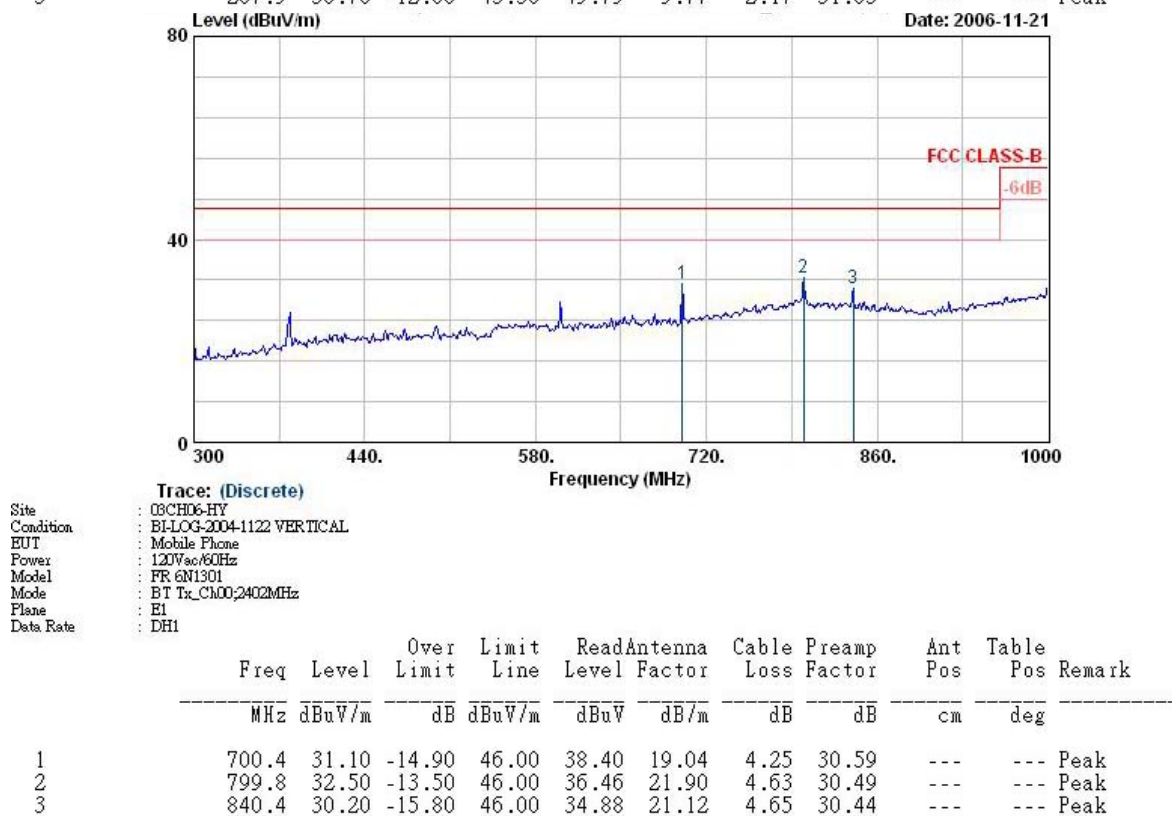
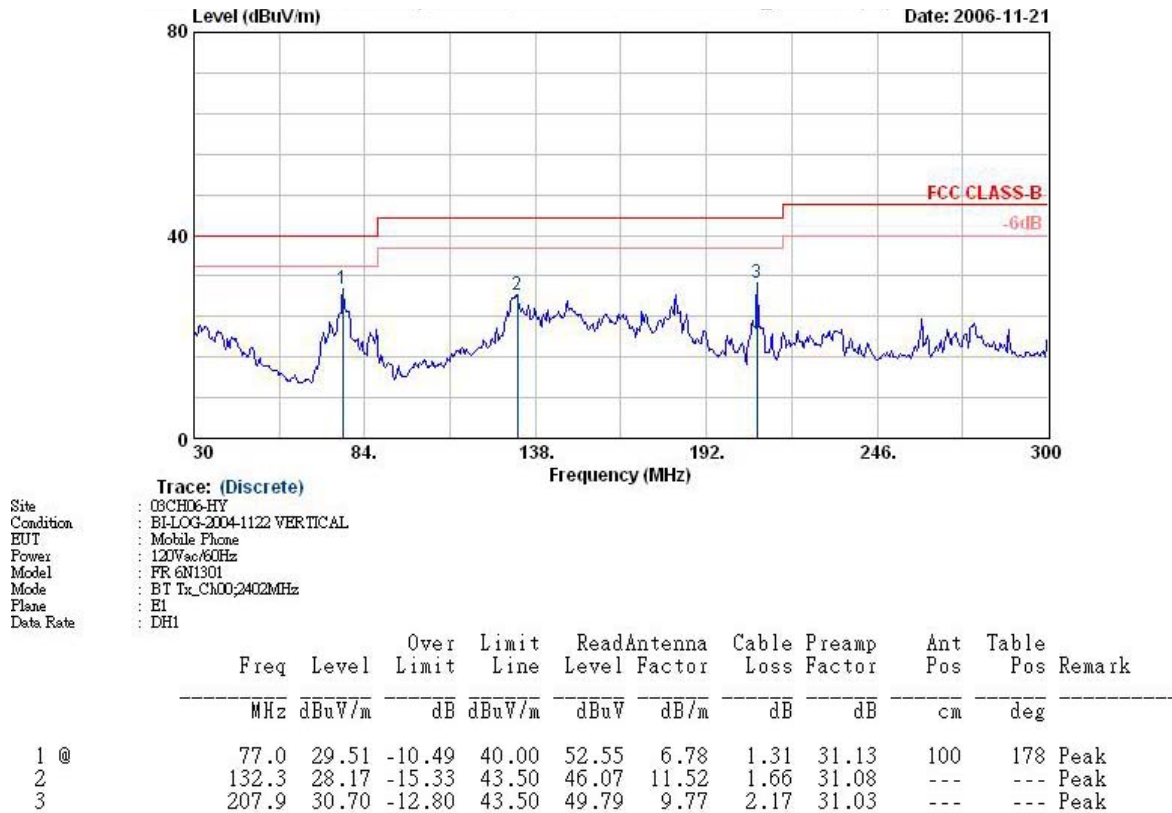
Site : 03CH06-HY
Condition : HF-ANT-060410 HORIZONTAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx_CH00;2402MHz
Plane : E1
Data Rate : DH1

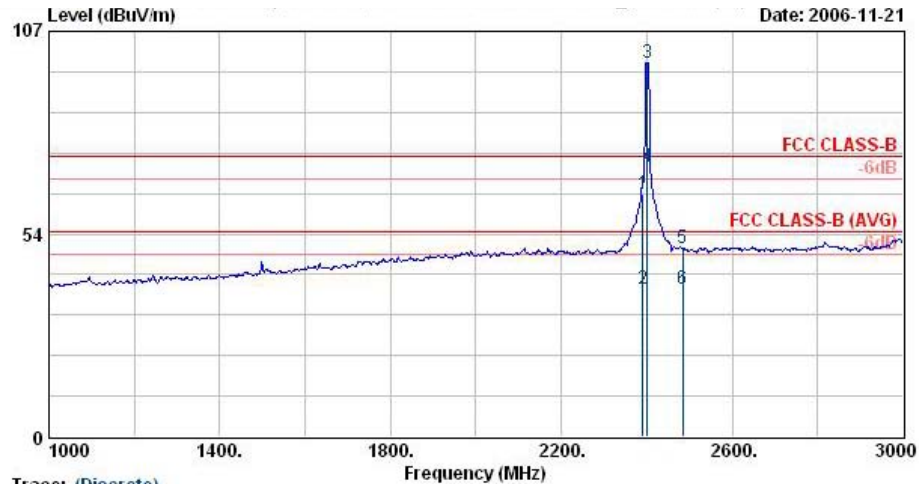
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 @	2389.9	65.47	-8.53	74.00	66.92	30.26	3.75	35.46	100	0 Peak
2	2389.9	38.82	-15.18	54.00	40.27	30.26	3.75	35.46	113	141 Average



- Test Mode : Mode 1
- Polarization : Vertical

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

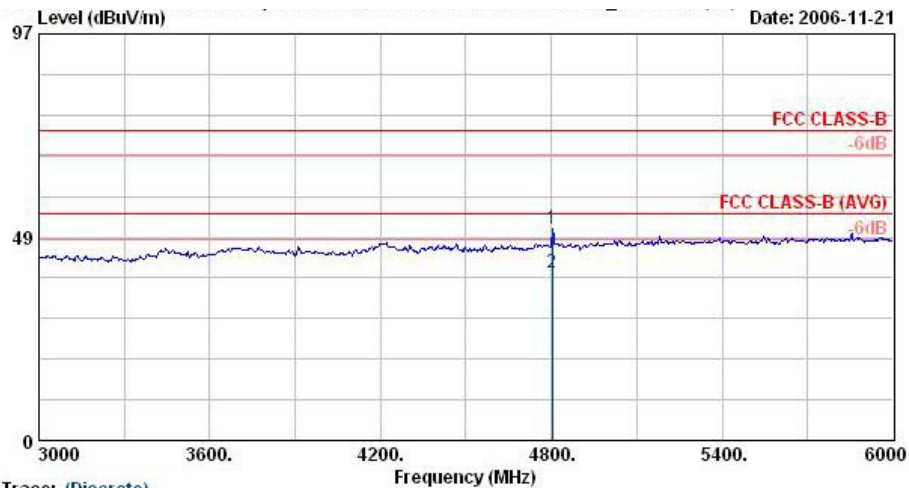




Site : 08CH06-HY
Condition : HF-ANT-060410 VERTICAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx, Ch00, 2402MHz
Plane : E1
Data Rate : DH1

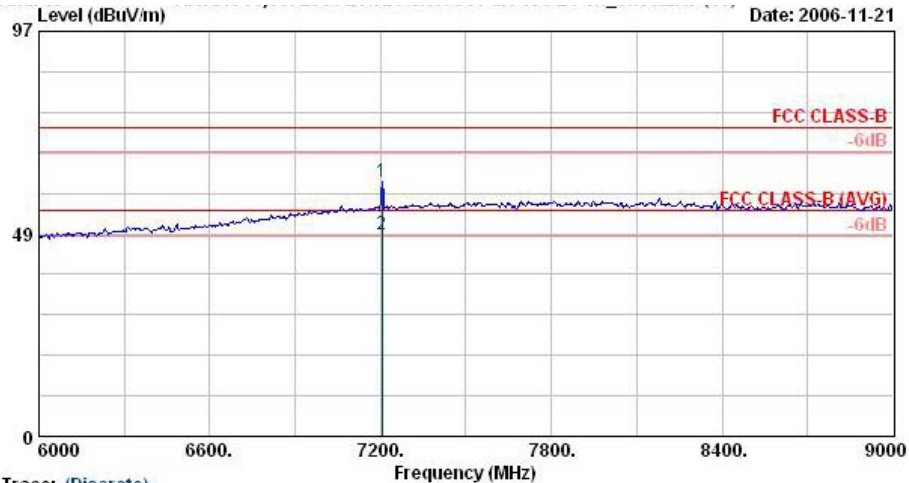
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	
			dB	dBuV/m	dBuV	dB	dB	cm	deg	
1 @	2390.0	64.06	-9.94	74.00	65.51	30.26	3.75	35.46	100	0 Peak
2	2390.0	38.79	-15.21	54.00	40.24	30.26	3.75	35.46	100	205 Average
3 @	2402.0	98.81			100.23	30.27	3.77	35.46	100	0 Peak
4 @	2402.0	71.30			72.73	30.26	3.77	35.46	100	205 Average
5	2484.0	49.75	-24.25	74.00	51.11	30.29	3.86	35.51	100	0 Peak
6	2484.0	38.80	-15.20	54.00	40.16	30.29	3.86	35.51	100	205 Average

Remark: #3 and #4 Fundamental Signal



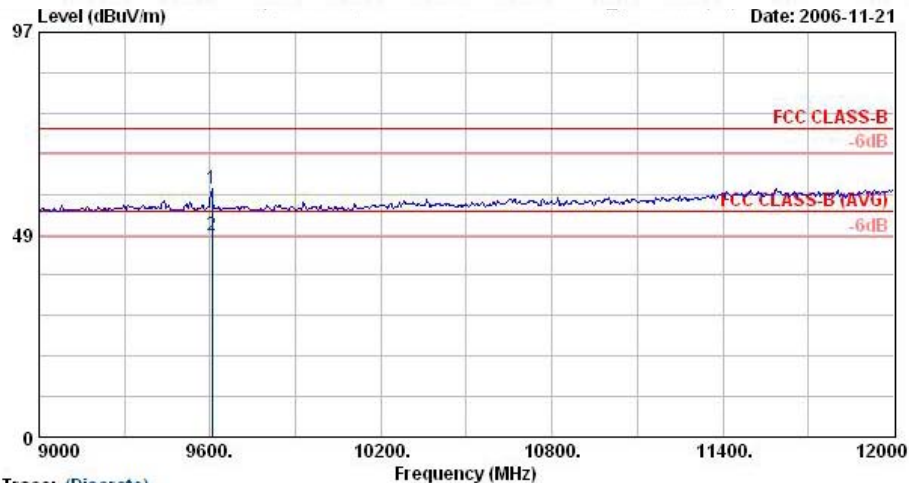
Site : 08CH06-HY
Condition : HF-ANT-060410 VERTICAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx, Ch00, 2402MHz
Plane : E1
Data Rate : DH1

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	
			dB	dBuV/m	dBuV	dB	dB	cm	deg	
1	4804.0	50.39	-23.61	74.00	47.78	32.88	5.83	36.10	100	0 Peak
2	4804.0	39.85	-14.15	54.00	37.24	32.88	5.83	36.10	132	48 Average



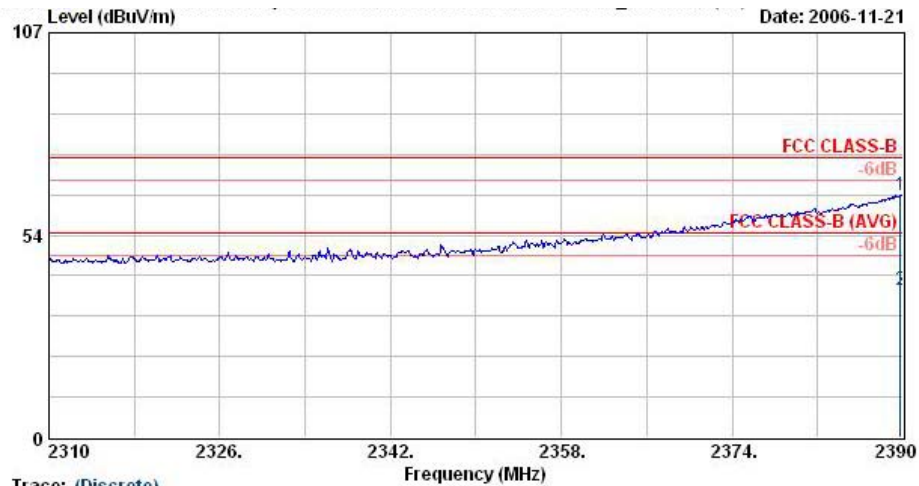
Trace: (Discrete)
Site : 03CH06-HY
Condition : HF-ANT-060410 VERTICAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx, CH00, 2402MHz
Plane : E1
Data Rate : DH1

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	7206.0	60.84	-13.16	74.00	50.68	38.26	7.79	35.88	100	0 Peak
2 @	7206.0	48.41	-5.59	54.00	38.25	38.26	7.79	35.88	172	278 Average



Trace: (Discrete)
Site : 03CH06-HY
Condition : HF-ANT-060410 VERTICAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx, CH00, 2402MHz
Plane : E1
Data Rate : DH1

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	9608.0	59.33	-14.67	74.00	48.14	38.80	9.11	36.72	100	0 Peak
2 @	9608.0	48.41	-5.59	54.00	37.20	38.80	9.11	36.70	164	88 Average



Trace: (Discrete)

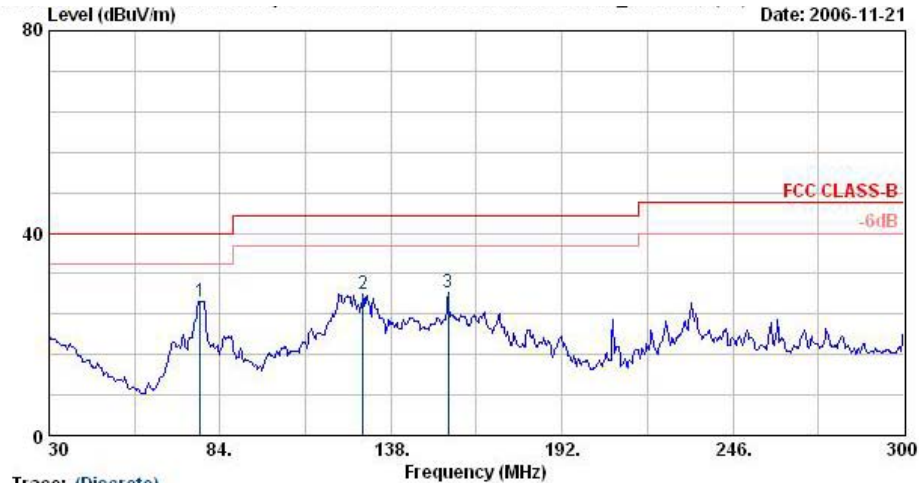
Site : 08CH06-HY
Condition : HF-ANT-060410 VERTICAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx, Cn002, 2402MHz
Plane : E1
Data Rate : DH1

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 @	2389.8	64.06	-9.94	74.00	65.51	30.26	3.75	35.46	100	0 Peak
2	2389.8	38.79	-15.21	54.00	40.24	30.26	3.75	35.46	100	205 Average



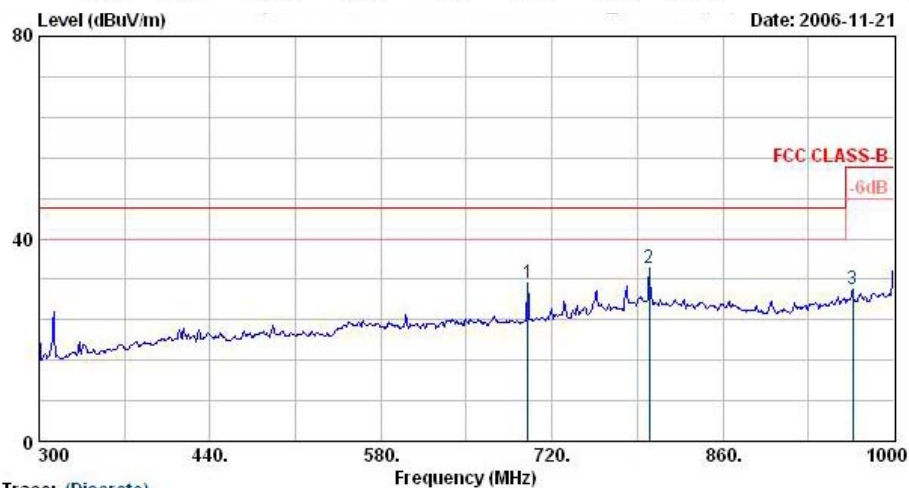
- Test Mode : Mode 2
- Polarization : Horizontal

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



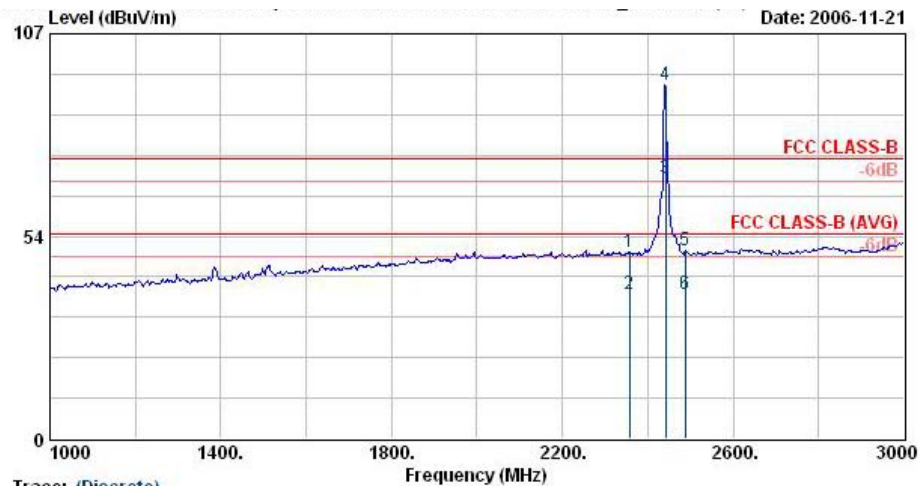
Trace: (Discrete)
 Site : 03CH06-HY
 Condition : BI-LOG-2004-1122 HORIZONTAL
 EUT : Mobile Phone
 Power : 120Wac/60Hz
 Model : FR 6N1301
 Mode : BT Tx_CK39;2441MHz
 Plane : E1
 Data Rate : DH1

	Freq	Level	Over Limit	Limit Line	ReadAntenna	Cable	Preamp	Ant	Table	Remark	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	77.8	26.58	-13.42	40.00	49.53	6.85	1.31	31.12	---	---	Peak
2	129.1	27.99	-15.51	43.50	45.72	11.71	1.64	31.09	---	---	Peak
3	156.1	28.14	-15.36	43.50	47.56	9.78	1.85	31.05	---	---	Peak



Trace: (Discrete)
 Site : 03CH06-HY
 Condition : BI-LOG-2004-1122 HORIZONTAL
 EUT : Mobile Phone
 Power : 120Wac/60Hz
 Model : FR 6N1301
 Mode : BT Tx_CK39;2441MHz
 Plane : E1
 Data Rate : DH1

	Freq	Level	Over Limit	Limit Line	ReadAntenna	Cable	Preamp	Ant	Table	Remark	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	700.4	31.13	-14.87	46.00	38.42	19.04	4.25	30.59	---	---	Peak
2 @	799.8	34.16	-11.84	46.00	38.12	21.90	4.63	30.49	100	288	Peak
3	966.4	29.96	-24.04	54.00	33.28	21.94	5.02	30.28	---	---	Peak

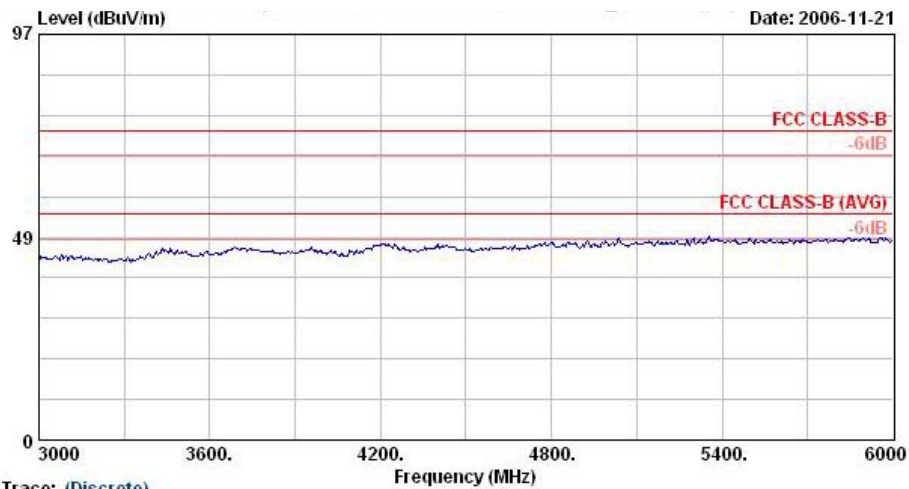


Trace: (Discrete)

Site : 08CH06-HY
Condition : HF-ANT-060410 HORIZONTAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx_C139;2441MHz
Plane : E1
Data Rate : DH1

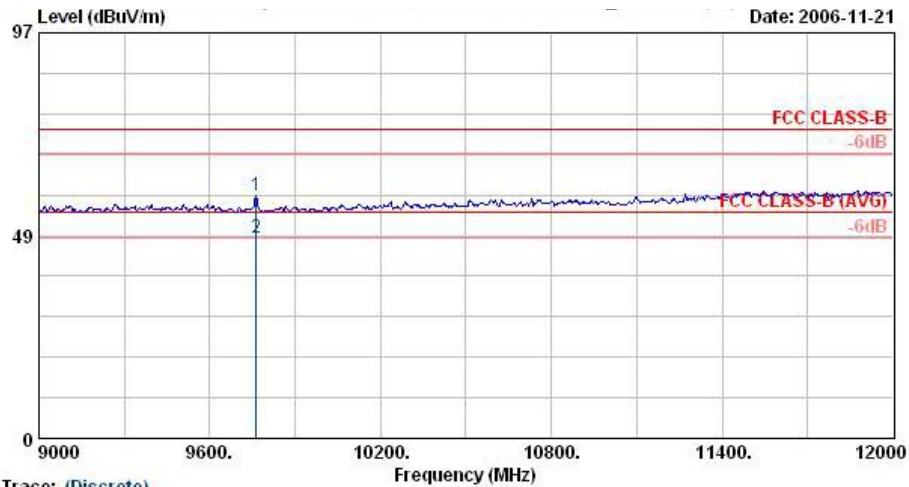
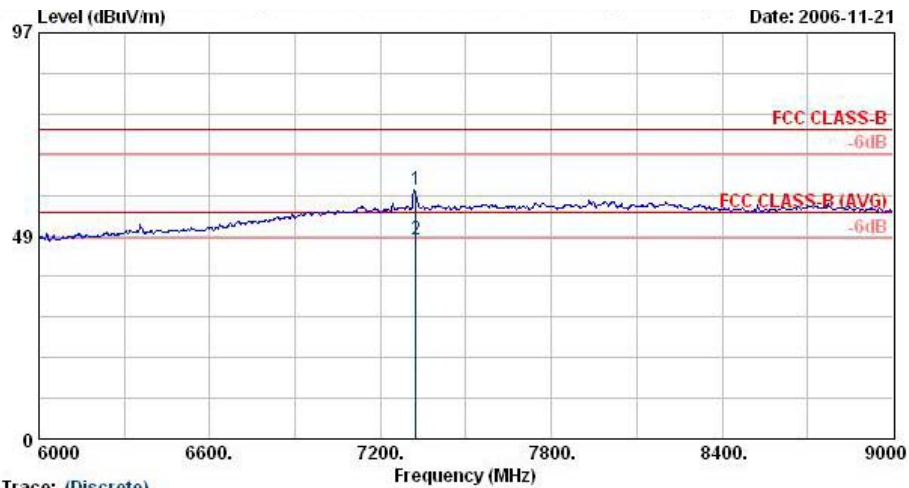
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	2358.0	49.36	-24.64	74.00	50.83	30.24	3.71	35.42	100	0
2	2358.0	38.38	-15.62	54.00	39.85	30.24	3.71	35.42	100	238
3 @	2441.0	68.98			70.38	30.28	3.82	35.49	100	238
4 @	2441.0	93.34			94.72	30.28	3.82	35.47	100	0
5	2488.0	49.63	-24.37	74.00	50.98	30.30	3.86	35.51	100	0
6	2488.0	38.38	-15.62	54.00	39.73	30.30	3.86	35.51	100	238

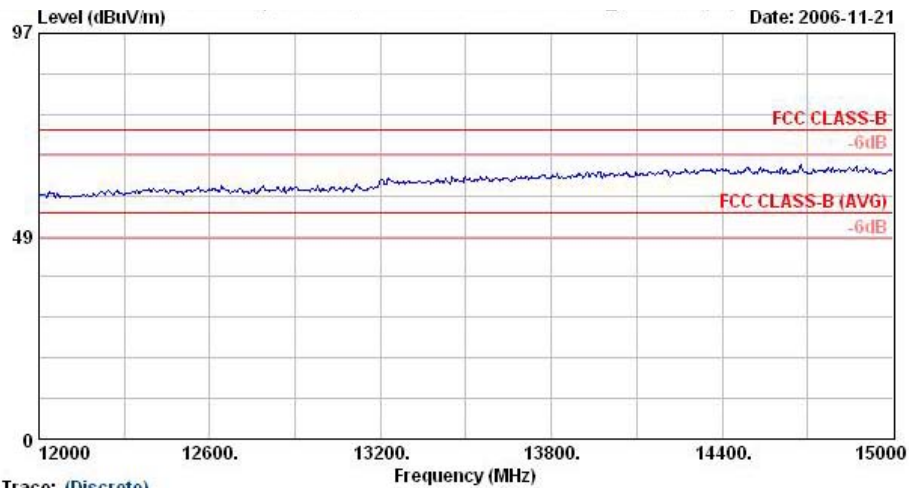
Remark: #3 and #4 Fundamental Signal



Trace: (Discrete)

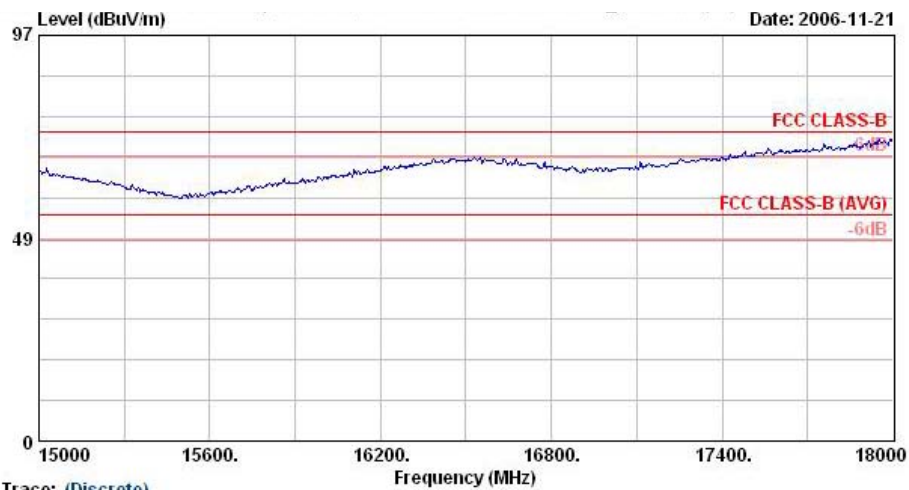
Site : 08CH06-HY
Condition : HF-ANT-060410 HORIZONTAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx_C139;2441MHz
Plane : E1
Data Rate : DH1





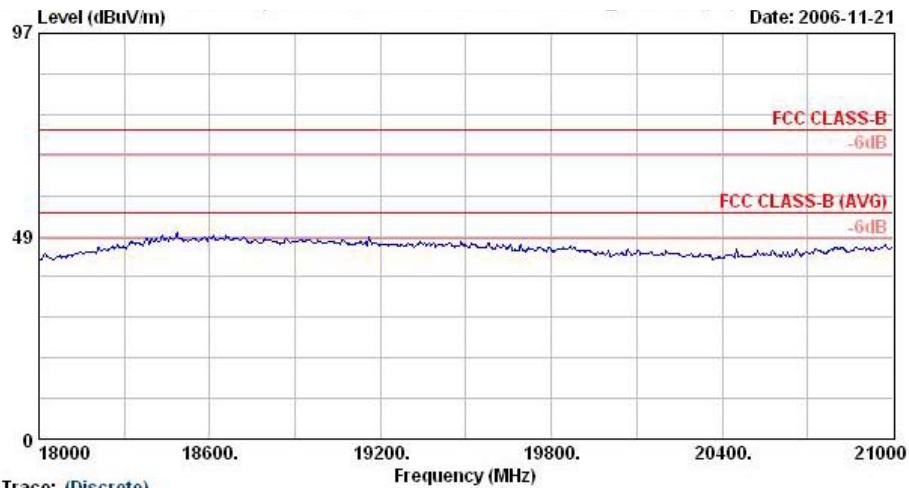
Trace: (Discrete)

Site : 03CH06-HY
Condition : HF-ANT-060410 HORIZONTAL
EUT : Mobile Phone
Power : 120W_{ac}/60Hz
Model : FR 6N1301
Mode : BT Tx_CK39;2441MHz
Plane : E1
Data Rate : DH1



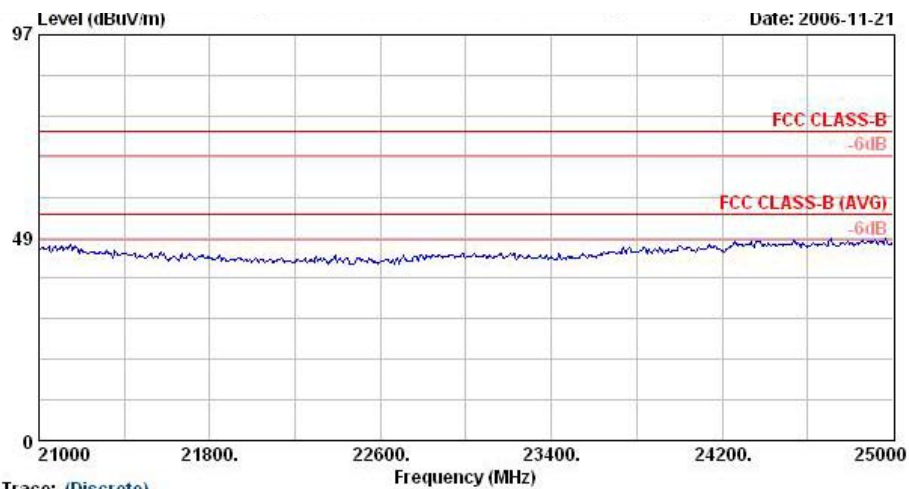
Trace: (Discrete)

Site : 03CH06-HY
Condition : HF-ANT-060410 HORIZONTAL
EUT : Mobile Phone
Power : 120W_{ac}/60Hz
Model : FR 6N1301
Mode : BT Tx_CK39;2441MHz
Plane : E1
Data Rate : DH1



Trace: (Discrete)

Site : 03CH06-HY
Condition : SHF-EHF HORN HORIZONTAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx_CK39;2441MHz
Plane : E1
Data Rate : DH1

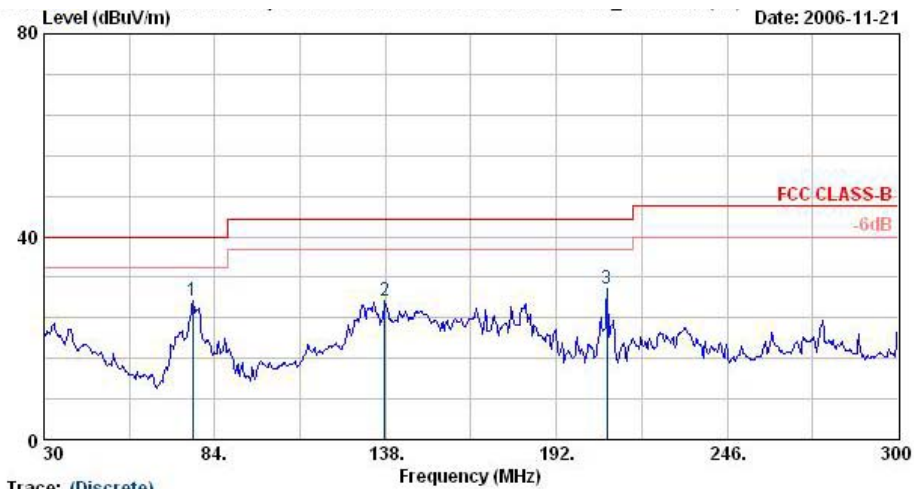


Trace: (Discrete)

Site : 03CH06-HY
Condition : SHF-EHF HORN HORIZONTAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx_CK39;2441MHz
Plane : E1
Data Rate : DH1

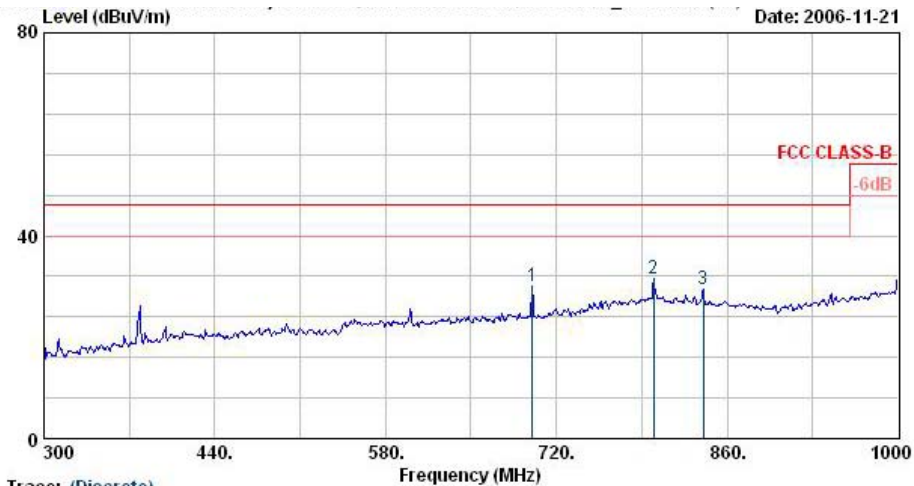
- Test Mode : Mode 2
- Polarization : Vertical

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



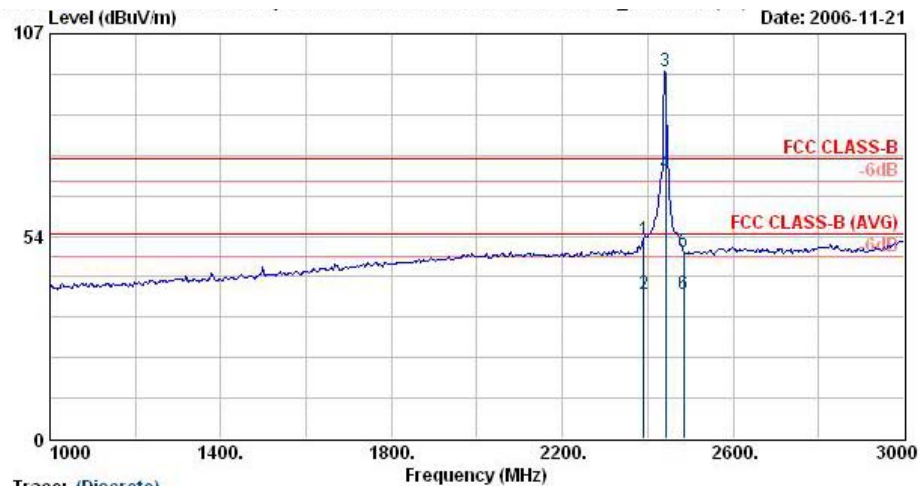
Site : 03CH06-HY
Condition : BI-LOG-2004-1122 VERTICAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx_Ck39;2441MHz
Plane : E1
Data Rate : DH1

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	77.0	27.51	-12.49	40.00	50.55	6.78	1.31	31.13	100	89 Peak
2	137.7	27.27	-16.23	43.50	45.47	11.13	1.72	31.05	---	---
3	207.9	29.79	-13.71	43.50	48.88	9.77	2.17	31.03	---	---



Site : 03CH06-HY
Condition : BI-LOG-2004-1122 VERTICAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx_Ck39;2441MHz
Plane : E1
Data Rate : DH1

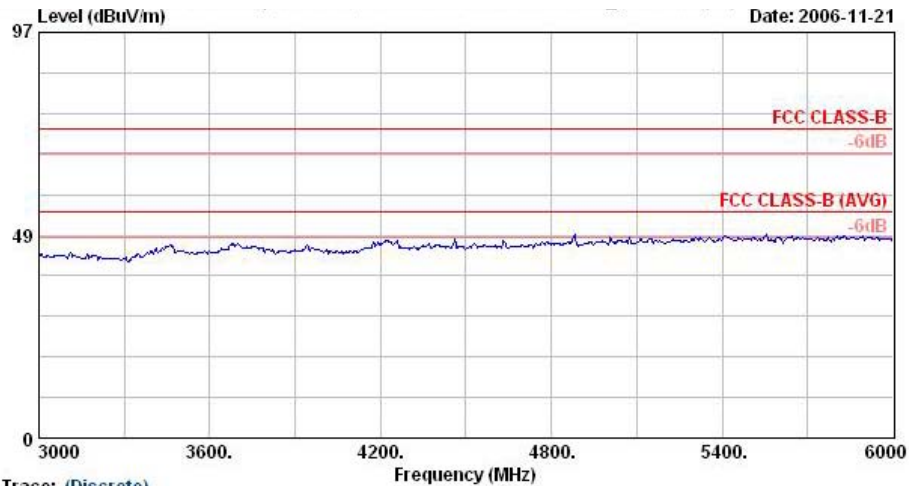
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	700.4	29.89	-16.11	46.00	37.19	19.04	4.25	30.59	---	---
2	799.8	31.58	-14.42	46.00	35.54	21.90	4.63	30.49	---	---
3	840.4	29.46	-16.54	46.00	34.13	21.12	4.65	30.44	---	---



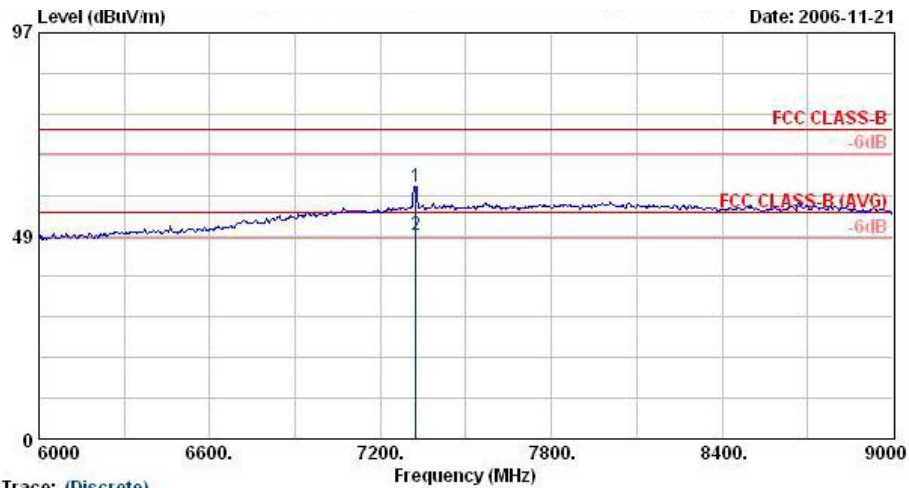
Trace: (Discrete)
Site : 08CH06-HY
Condition : HF-ANT-060410 VERTICAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx_CK39;2441MHz
Plane : E1
Data Rate : DH1

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	
			dB	dBuV/m	dBuV	dB	dB	cm	deg	
1	2390.0	52.70	-21.30	74.00	54.14	30.26	3.75	35.46	100	0 Peak
2	2390.0	38.25	-15.75	54.00	39.70	30.26	3.75	35.46	100	183 Average
3 @	2441.0	96.97			98.35	30.28	3.82	35.47	100	0 Peak
4 @	2441.0	70.17			71.57	30.28	3.82	35.49	100	183 Average
5	2484.0	49.45	-24.55	74.00	50.81	30.29	3.86	35.51	100	0 Peak
6	2484.0	38.37	-15.63	54.00	39.73	30.29	3.86	35.51	100	183 Average

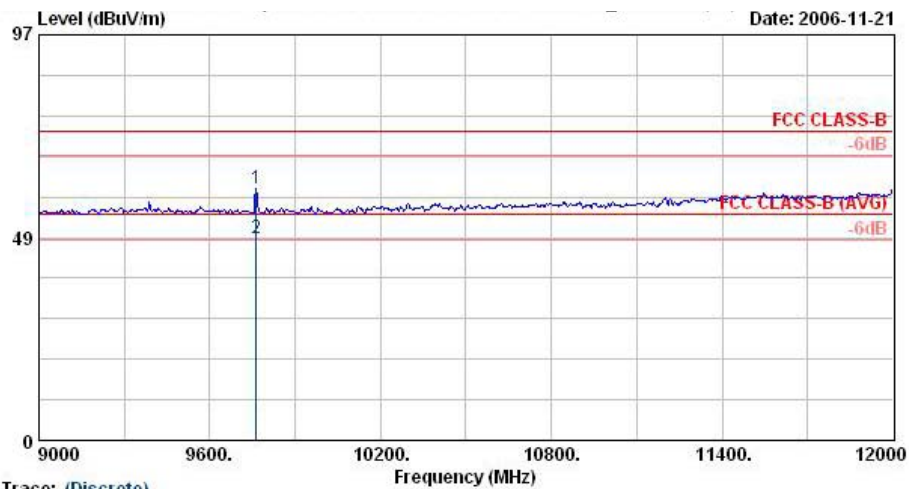
Remark: #3 and #4 Fundamental Signal



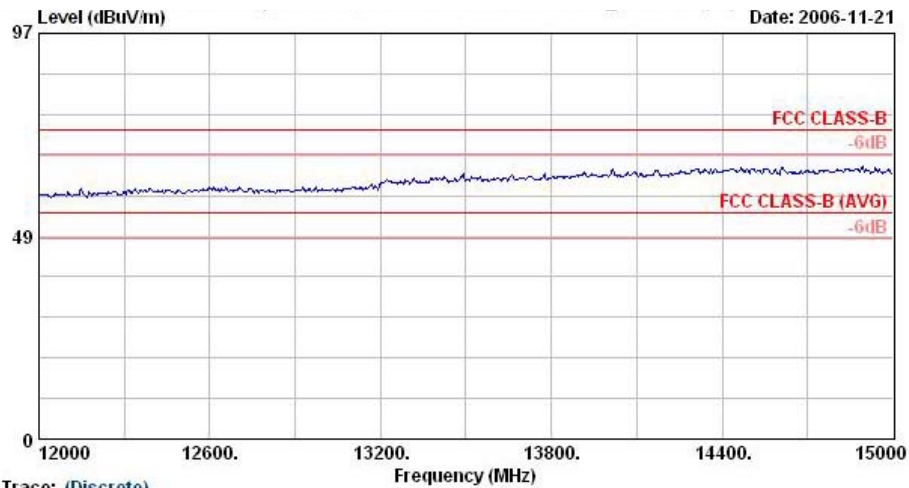
Trace: (Discrete)
Site : 08CH06-HY
Condition : HF-ANT-060410 VERTICAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx_CK39;2441MHz
Plane : E1
Data Rate : DH1



	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	Remark
			dB	dBuV/m	dBuV	dB/m	dB	cm	deg	
1	7323.0	60.13	-13.87	74.00	49.85	38.52	7.73	35.97	100	0 Peak
2 @	7323.0	48.59	-5.41	54.00	38.32	38.52	7.72	35.97	100	179 Average

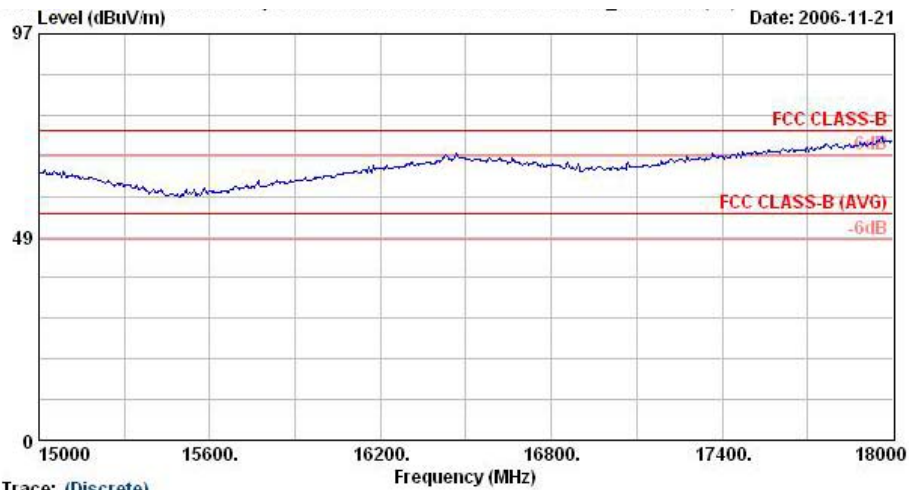


	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	Remark
			dB	dBuV/m	dBuV	dB/m	dB	cm	deg	
1	9764.0	60.12	-13.88	74.00	48.75	38.80	9.15	36.59	100	0 Peak
2 @	9764.0	48.32	-5.68	54.00	36.96	38.80	9.15	36.59	152	99 Average



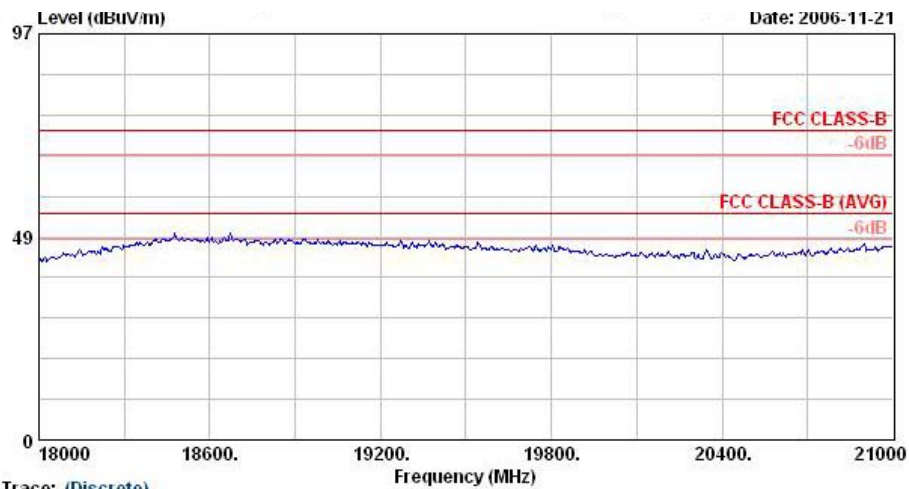
Trace: (Discrete)

Site : 03CH06-HY
Condition : HF-ANT-060410 VERTICAL
EUT : Mobile Phone
Power : 120W_{ac}/60Hz
Model : FR 6N1301
Mode : BT Tx_Ck39;2441MHz
Plane : E1
Data Rate : DH1

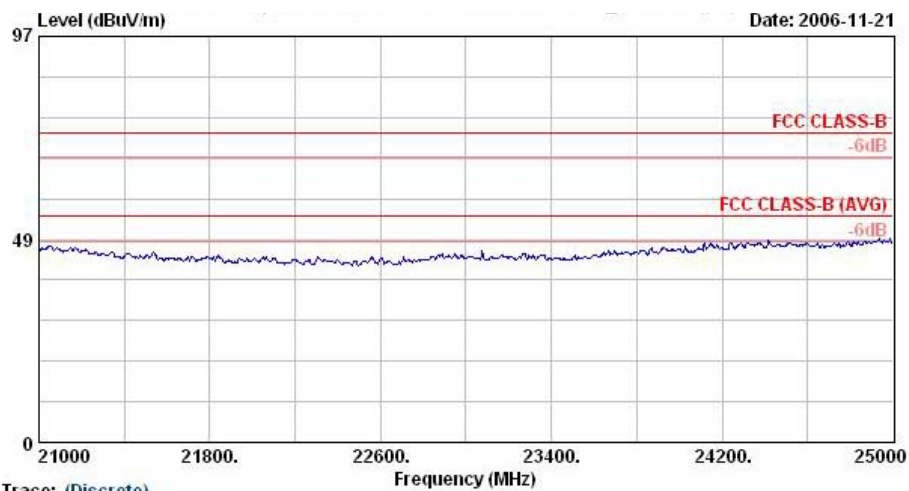


Trace: (Discrete)

Site : 03CH06-HY
Condition : HF-ANT-060410 VERTICAL
EUT : Mobile Phone
Power : 120W_{ac}/60Hz
Model : FR 6N1301
Mode : BT Tx_Ck39;2441MHz
Plane : E1
Data Rate : DH1

**Trace: (Discrete)**

Site : 08CH06-HY
Condition : SHF-EHF HORN VERTICAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx_C139;2441MHz
Plane : E1
Data Rate : DH1

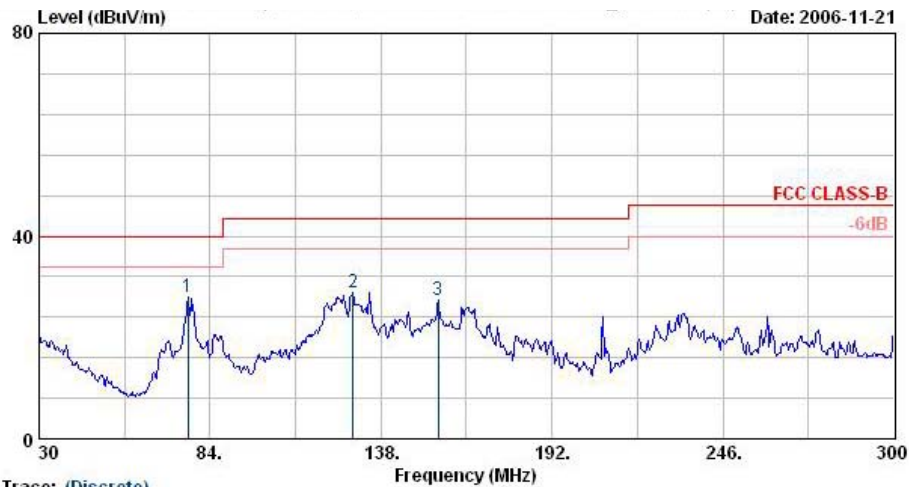
**Trace: (Discrete)**

Site : 08CH06-HY
Condition : SHF-EHF HORN VERTICAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx_C139;2441MHz
Plane : E1
Data Rate : DH1



- Test Mode : Mode 3
- Polarization : Horizontal

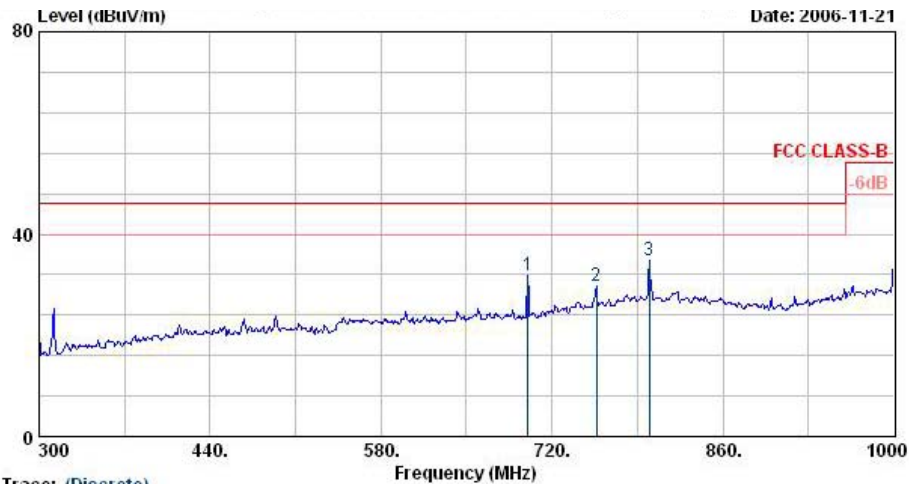
■ The test that passed at minimum margin was marked by the frame in the following table.



Site
Condition
EUT
Power
Model
Mode
Plane
Data Rate

: 03CH06-HY
: BI-LOG-2004-1122 HORIZONTAL
: Mobile Phone
: 120Wac/60Hz
: FR 6N1301
: BT Tx_CK78,2480MHz
: E1
: DH1

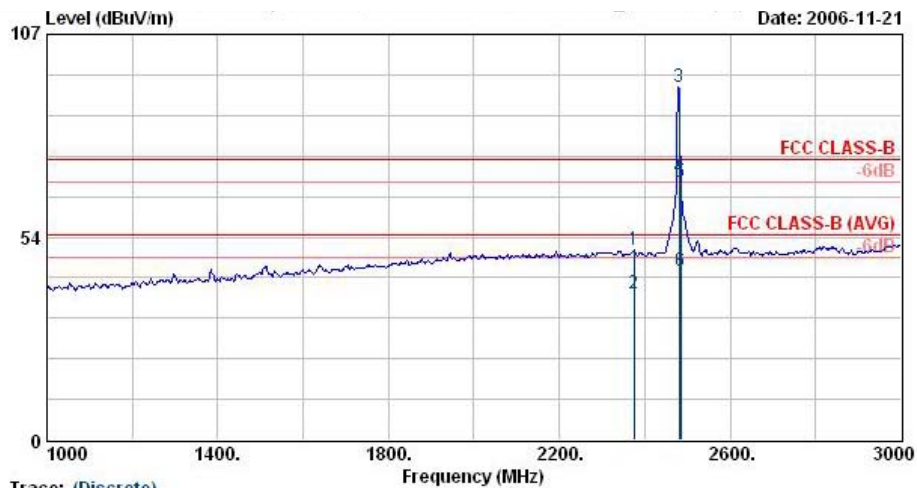
	Freq	Level	Over Limit	Limit Line	ReadAntenna	Cable	Preamp	Ant	Table	Remark	
	MHz	dBuV/m	dB	dBuV/m	Level	Factor	Loss	Factor	Pos	Pos	
					dBuV	dB/m	dB	dB	cm	deg	
1	77.0	27.82	-12.18	40.00	50.86	6.78	1.31	31.13	---	---	Peak
2	129.1	28.99	-14.51	43.50	46.73	11.71	1.64	31.09	---	---	Peak
3	156.1	27.42	-16.08	43.50	46.84	9.78	1.85	31.05	---	---	Peak



Site
Condition
EUT
Power
Model
Mode
Plane
Data Rate

: 03CH06-HY
: BI-LOG-2004-1122 HORIZONTAL
: Mobile Phone
: 120Wac/60Hz
: FR 6N1301
: BT Tx_CK78,2480MHz
: E1
: DH1

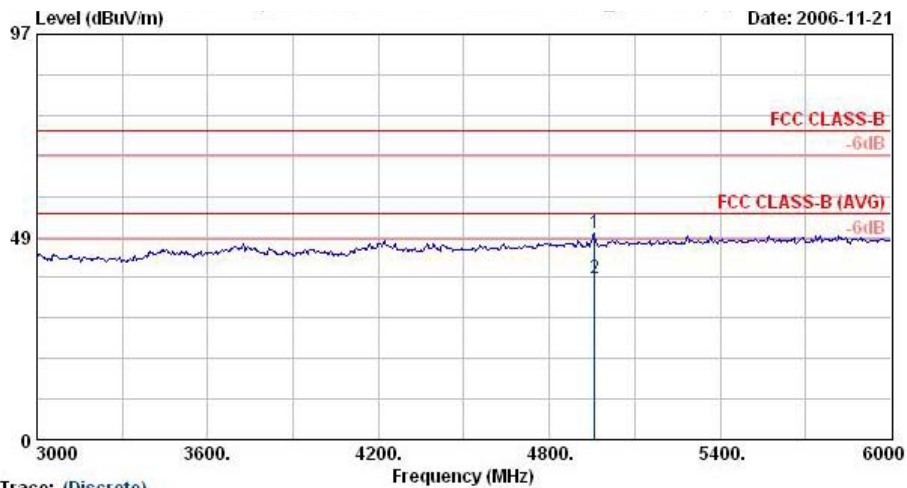
	Freq	Level	Over Limit	Limit Line	ReadAntenna	Cable	Preamp	Ant	Table		
	MHz	dBuV/m	dB	dBuV/m	Level	Loss	Factor	Pos	Pos	Remark	
					dBuV	dB/m	dB	dB	cm	deg	
1	700.4	31.90	-14.10	46.00	39.20	19.04	4.25	30.59	---	---	Peak
2	756.4	29.62	-16.38	46.00	35.09	20.65	4.41	30.53	---	---	Peak
3 @	799.8	34.90	-11.10	46.00	38.86	21.90	4.63	30.49	100	244	Peak



Trace: (Discrete)

Site : 08CH06-HY
Condition : HF-ANT-060410 HORIZONTAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx, Ch78, 2480MHz
Plane : E1
Data Rate : DH1

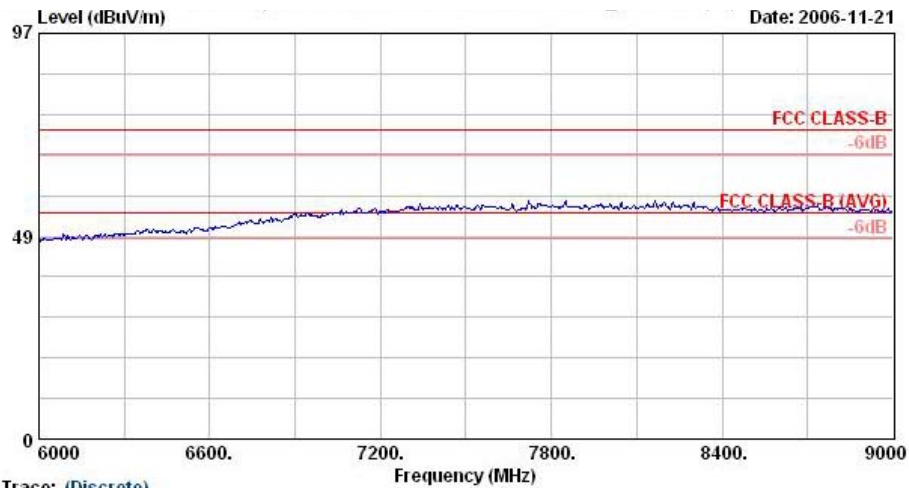
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	2374.0	50.02	-23.98	74.00	51.47	30.25	3.73	35.44	100	0 Peak
2	2374.0	38.57	-15.43	54.00	40.03	30.25	3.73	35.44	100	238 Average
3 @	2480.0	93.11			94.47	30.29	3.86	35.51	100	0 Peak
4 @	2480.0	69.05			70.41	30.29	3.86	35.51	100	238 Average
5 @	2483.5	68.18	-5.82	74.00	69.54	30.29	3.86	35.51	100	0 Peak
6 @	2483.5	44.57	-9.43	54.00	45.93	30.29	3.86	35.51	100	238 Average



Trace: (Discrete)

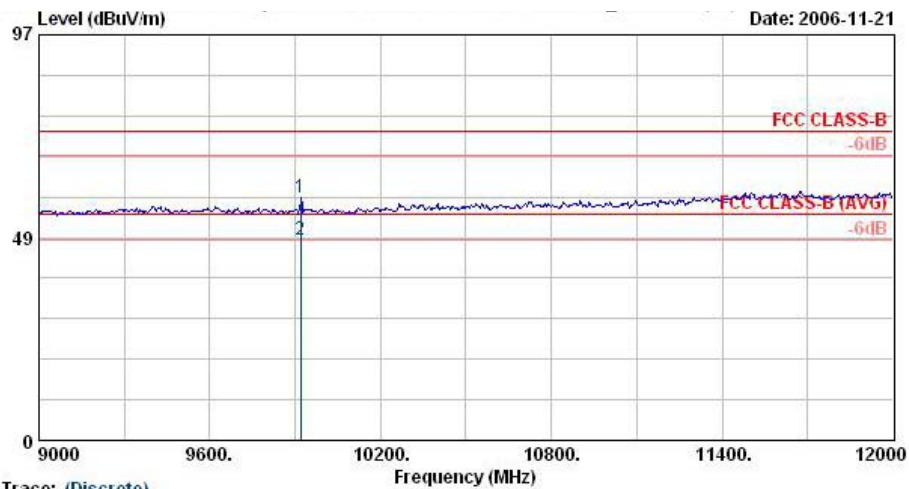
Site : 08CH06-HY
Condition : HF-ANT-060410 HORIZONTAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx, Ch78, 2480MHz
Plane : E1
Data Rate : DH1

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	4960.0	49.23	-24.77	74.00	46.06	33.47	5.93	36.23	100	0 Peak
2	4960.0	38.58	-15.42	54.00	35.41	33.47	5.93	36.23	167	194 Average



Trace: (Discrete)

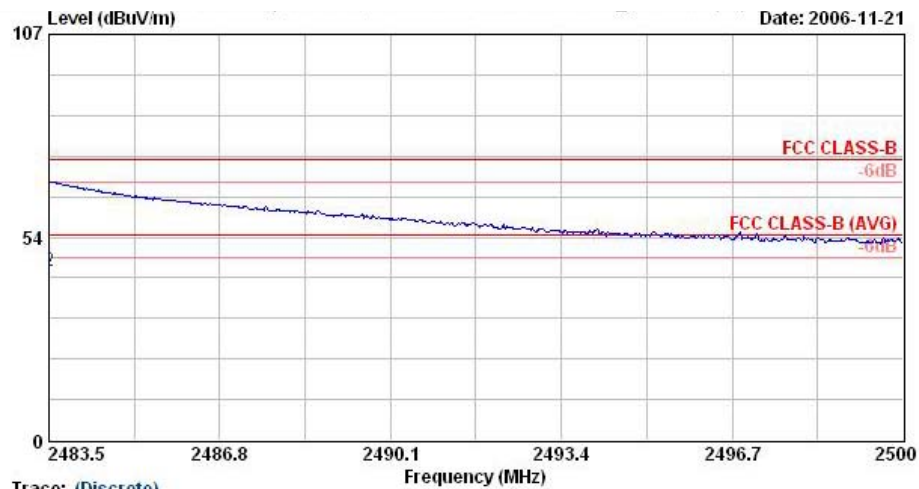
Site : 03CH06-HY
Condition : HF-ANT-060410 HORIZONTAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx_CK78;2480MHz
Plane : E1
Data Rate : DH1



Trace: (Discrete)

Site : 03CH06-HY
Condition : HF-ANT-060410 HORIZONTAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx_CK78;2480MHz
Plane : E1
Data Rate : DH1

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level Factor	Loss	Factor	Pos	Pos	Remark
			dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	9920.0	58.23	-15.77	74.00	46.72	38.80	9.19	36.48	100	0 Peak
2 @	9920.0	47.96	-6.04	54.00	36.45	38.80	9.19	36.48	161	356 Average



Trace: (Discrete)

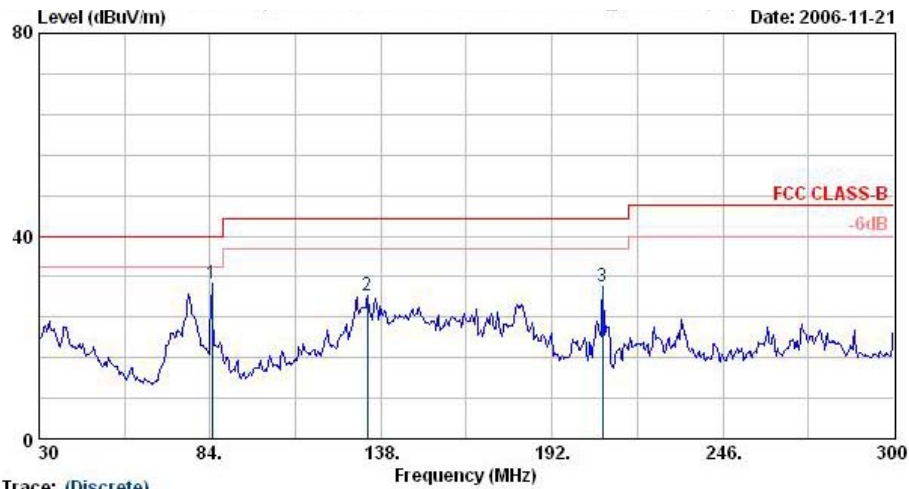
Site : 08CH06-HY
Condition : HF-ANT-080410 HORIZONTAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx_CK78;2480MHz
Plane : E1
Data Rate : DH1

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 @	2483.5	68.18	-5.82	74.00	69.54	30.29	3.86	35.51	100	0 Peak
2 @	2483.5	44.57	-9.43	54.00	45.93	30.29	3.86	35.51	100	238 Average



- Test Mode : Mode 3
- Polarization : Vertical

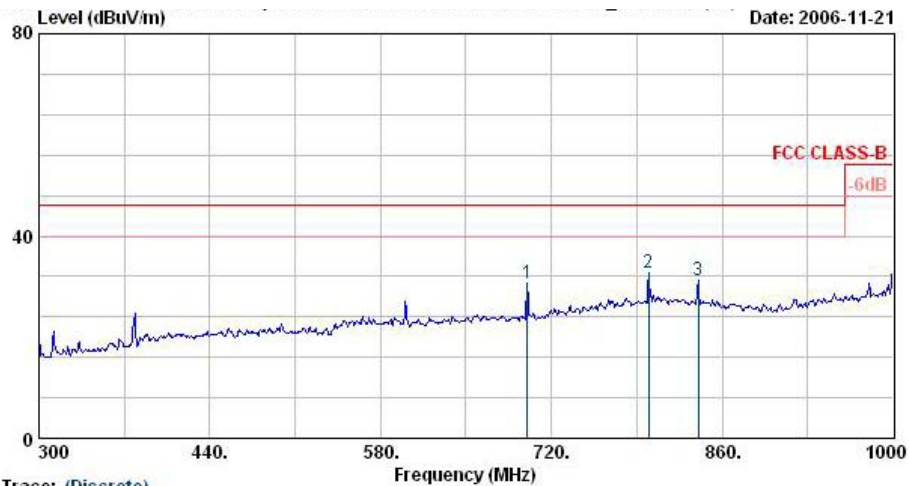
■ The test that passed at minimum margin was marked by the frame in the following table.



Trace: (Discrete)

Site : 03CH06-HY
Condition : BI-LOG-2004-1122 VERTICAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx_CK78,2480MHz
Plane : E1
Data Rate : DH1

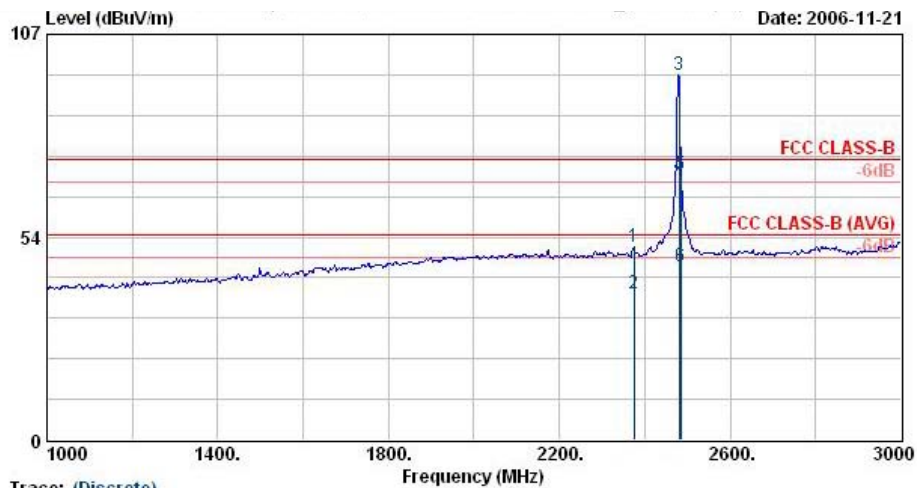
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1 @	84.5	30.64	-9.36	40.00	52.56	7.86	1.31	31.10	100	265
2	133.7	28.25	-15.25	43.50	46.26	11.39	1.68	31.08	---	---
3	207.9	30.06	-13.44	43.50	49.15	9.77	2.17	31.03	---	---



Trace: (Discrete)

Site : 03CH06-HY
Condition : BI-LOG-2004-1122 VERTICAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx_CK78,2480MHz
Plane : E1
Data Rate : DH1

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg
1	700.4	30.64	-15.36	46.00	37.94	19.04	4.25	30.59	---	---
2	799.8	32.65	-13.35	46.00	36.61	21.90	4.63	30.49	---	---
3	840.4	31.28	-14.72	46.00	35.96	21.12	4.65	30.44	---	---

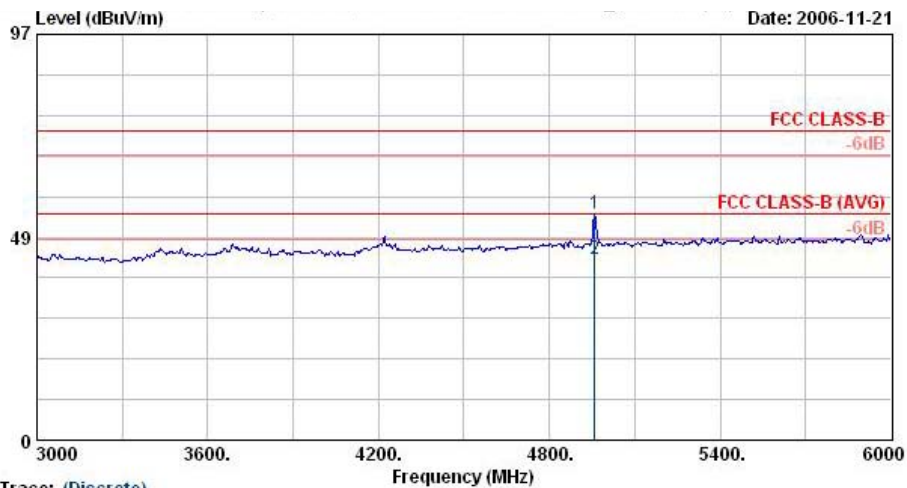


Trace: (Discrete)

Site : 08CH06-HY
Condition : HF-ANT-060410 VERTICAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx_CK78;2480MHz
Plane : E1
Data Rate : DH1

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	
			dB	dBuV/m	dBuV	dB	dB	cm	deg	
1	2374.0	50.83	-23.17	74.00	52.29	30.25	3.73	35.44	100	0 Peak
2	2374.0	38.58	-15.42	54.00	40.04	30.25	3.73	35.44	120	183 Average
3 @	2480.0	96.17			97.53	30.29	3.86	35.51	100	0 Peak
4 @	2480.0	69.75			71.11	30.29	3.86	35.51	120	183 Average
5 @	2483.5	70.14	-3.86	74.00	71.50	30.29	3.86	35.51	100	0 Peak
6 @	2483.5	45.58	-8.42	54.00	46.94	30.29	3.86	35.51	120	183 Average

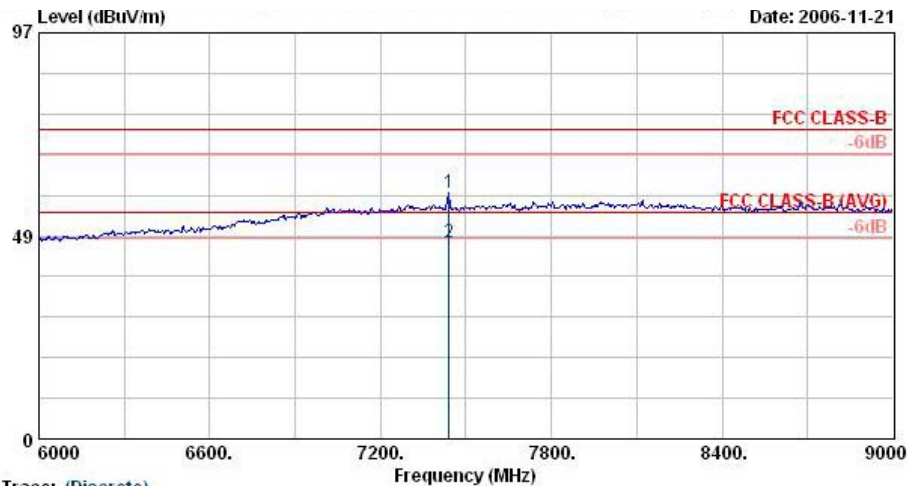
Remark: #3 and #4 Fundamental Signal



Trace: (Discrete)

Site : 08CH06-HY
Condition : HF-ANT-060410 VERTICAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx_CK78;2480MHz
Plane : E1
Data Rate : DH1

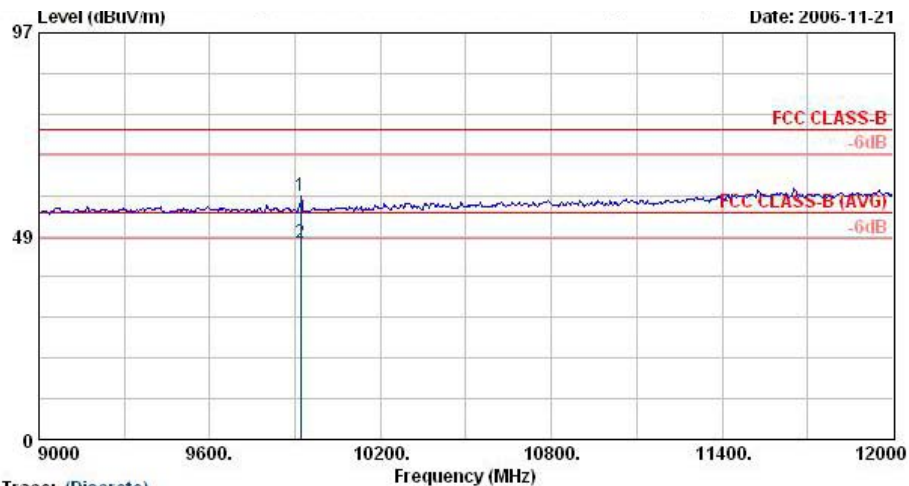
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	
			dB	dBuV/m	dBuV	dB	dB	cm	deg	
1	4960.0	54.15	-19.85	74.00	50.98	33.47	5.93	36.23	100	0 Peak
2 @	4960.0	43.14	-10.86	54.00	39.97	33.47	5.93	36.23	103	80 Average



Trace: (Discrete)

Site : 08CH06-HY
Condition : HF-ANT-060410 VERTICAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx_CK78,2480MHz
Plane : E1
Data Rate : DH1

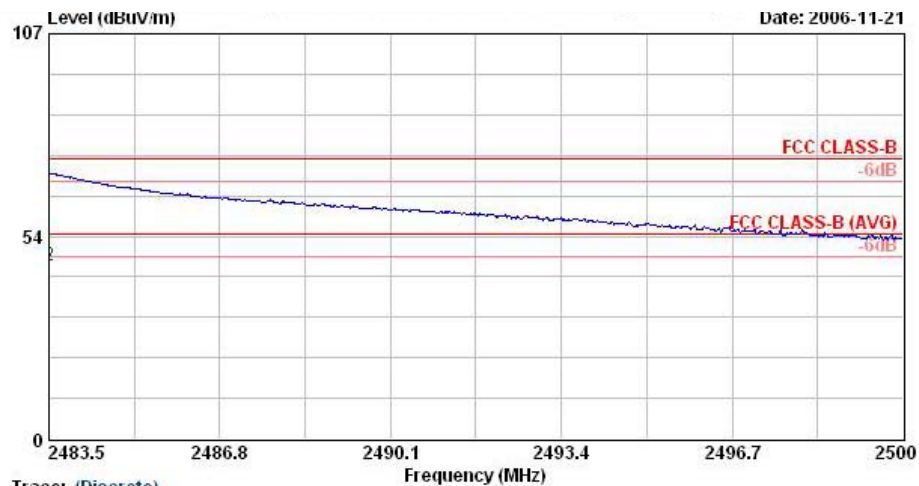
	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	Level	Loss	Factor	Pos	Pos	
					dBuV	dB	dB	cm	deg	
1	7440.0	58.78	-15.22	74.00	48.38	38.79	7.65	36.04	100	0 Peak
2 @	7440.0	46.79	-7.21	54.00	36.41	38.79	7.65	36.05	155	314 Average



Trace: (Discrete)

Site : 08CH06-HY
Condition : HF-ANT-060410 VERTICAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx_CK78,2480MHz
Plane : E1
Data Rate : DH1

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	Remark
	MHz	dBuV/m	dB	dBuV/m	Level	Loss	Factor	Pos	Pos	
					dBuV	dB	dB	cm	deg	
1	9920.0	58.17	-15.83	74.00	46.65	38.80	9.20	36.48	100	0 Peak
2 @	9920.0	46.71	-7.29	54.00	35.20	38.80	9.19	36.48	154	245 Average



Trace: (Discrete)

Site : 03CH06-HY
Condition : HF-ANT-060410 VERTICAL
EUT : Mobile Phone
Power : 120Wac/60Hz
Model : FR 6N1301
Mode : BT Tx_Ch78;2480MHz
Plane : E1
Data Rate : DH1

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	Ant	Table	
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	Pos	Pos	Remark
			dB	dBuV/m	dBuV	dB/m	dB	cm	deg	
1 @	2483.5	70.14	-3.86	74.00	71.50	30.29	3.86	35.51	100	0 Peak
2 @	2483.5	45.58	-8.42	54.00	46.94	30.29	3.86	35.51	120	183 Average



5.10 Antenna Requirements

5.10.1 Standard Applicable

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

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

5.10.2 Antenna Connected Construction

The antenna used in this product is a Printed 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 6dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

6. List of Measuring Equipments Used

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
EMC Receiver	R&S	ESCS 30	100132	9kHz – 2.75GHz	Jun. 28, 2006	Jun. 28, 2007	Conduction (CO01-HY)
LISN	MessTec	NNB-2/16Z	2001/008	9kHz – 30MHz	Mar. 29, 2006	Mar. 29, 2007	Conduction (CO01-HY)
LISN (Support Unit)	MessTec	NNB-2/16Z	2001/009	9kHz – 30MHz	Apr. 19, 2006	Apr. 19, 2007	Conduction (CO01-HY)
EMI Filter	LINDGREN	LRE-2060	1004	< 450Hz	N/A	N/A	Conduction (CO01-HY)
EMI Filter	LINDGREN	N6006	201052	0 – 60Hz	N/A	N/A	Conduction (CO01-HY)
RF Cable-CON	Suhner Switzerland	RG223/U	CB029	9kHz – 30MHz	Dec. 22, 2005	Dec. 22, 2006	Conduction (CO01-HY)
Spectrum analyzer	Agilent	E4408B	MY44211030	9KHz-26.5GHz	Dec. 22, 2005	Dec. 22, 2006	Radiation (03CH06-HY)
Receiver	R&S	ESCS30	100356	9KHz-2.75GHz	Jul. 25, 2006	Jul. 24, 2007	Radiation (03CH06-HY)
Controller	CT	SC100	N/A	N/A	Jun. 28, 2006	Jun. 27, 2007	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2885	30MHz -2GHz	N/A	N/A	Radiation (03CH06-HY)
Horn Antenna	Com-Power	AH118	071025	1G-18G	Nov. 22, 2004	Nov. 22, 2006	Radiation (03CH06-HY)
SHF-EHF Horn	SCHWARZBEC K	BBHA 9170	9170-249	14G - 40G	Feb. 1, 2005	Feb. 1, 2007	Radiation (03CH06-HY)
HF Amplifier	MITEQ	AFS44	973248	0.1G - 26.5G	Jul. 21, 2006	Jul. 20, 2007	Radiation (03CH06-HY)
Amplifier	MITEQ	AMF-6F	997165	26G - 40G	Jul. 21, 2006	Jul. 20, 2007	Radiation (03CH06-HY)
Turn Table	HD	DS 420	420/650/00	0 ~ 360 degree	N/A	N/A	Radiation (03CH06-HY)
Antenna Mast	HD	MA 240	240/560/00	1 m - 4 m	N/A	N/A	Radiation (03CH06-HY)

7. Uncertainty Evaluation

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

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

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

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

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

Contribution	Uncertainty of x_i		$u(x_i)$	C_i	$C_i * u(x_i)$
	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 $\Gamma_1 = 0.197$ Antenna VSWR $\Gamma_2 = 0.194$ Uncertainty = $20 \log(1 - \Gamma_1 \Gamma_2 \Gamma_3)$	+0.34/-0.35	U-shaped	0.244	1	0.244
Combined standard uncertainty $U_c(y)$	2.36				
Measuring uncertainty for a level of confidence of 95% $U = 2U_c(y)$	4.72				