



Test Report

Product Name	Ultra Mobile PC
Model No.	R50A
FCC ID.	MSQ-R50AWI22

Applicant	ASUSTeK COMPUTER INC.
Address	4FL., No. 150, Li-Te Rd., Peitou, Taipei, Taiwan, R.O.C.

Date of Receipt	Mar 27, 2008
Issued Date	June 20, 2008
Report No.	084025R-RFUSP06V01
Version	V1.0

The Test Results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of Quietek Corporation.

This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Test Report Certification

Issued Date: June 20, 2008

Report No.: 084025R-RFUSP06V01



Accredited by NIST (NVLAP)
NVLAP Lab Code: 200533-0

Product Name	Ultra Mobile PC
Applicant	ASUSTeK COMPUTER INC.
Address	4FL., No. 150, Li-Te Rd., Peitou, Taipei, Taiwan, R.O.C.
Manufacturer	PEGATRON CORPORATION
Model No.	R50A
FCC ID.	MSQ-R50AWI22
Rated Voltage	AC 120V/60Hz
Working Voltage	DC 3.3V
Trade Name	ASUS
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2007 ANSI C63.4: 2003
Test Result	Complied



The Test Results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of Quietek Corporation.

This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Documented By : Rita Huang
(Engineering Adm. Specialist /
Rita Huang)



Tested By : Johnson Liao
(Engineer / Johnson Liao)



Testing Laboratory

0914

Approved By : Vincent Lin
(Deputy Manager /Vincent Lin)

TABLE OF CONTENTS

Description	Page
1. GENERAL INFORMATION.....	5
1.1. EUT Description	5
1.2. Operational Description.....	7
1.3. Tested System Details.....	8
1.4. Configuration of Tested System	8
1.5. EUT Exercise Software	9
1.6. Test Facility.....	10
2. CONDUCTED EMISSION.....	11
2.1. Test Equipment.....	11
2.2. Test Setup.....	11
2.3. Limits.....	12
2.4. Test Procedure.....	12
2.5. Uncertainty.....	12
2.6. Test Result of Conducted Emission.....	13
3. PEAK POWER OUTPUT.....	17
3.1. Test Equipment.....	17
3.2. Test Setup.....	17
3.3. Limit	17
3.4. Test Procedure.....	17
3.5. Uncertainty.....	17
3.6. Test Result of Peak Power Output.....	18
4. RADIATED EMISSION	20
4.1. Test Equipment.....	20
4.2. Test Setup.....	20
4.3. Limits.....	20
4.4. Test Procedure.....	22
4.5. Uncertainty.....	22
4.6. Test Result of Radiated Emission.....	23
5. RF ANTENNA CONDUCTED TEST	31
5.1. Test Equipment.....	31
5.2. Test Setup.....	31
5.3. Limits.....	31
5.4. Test Procedure.....	31
5.5. Uncertainty.....	31
5.6. Test Result of RF Antenna Conducted Test	32
6. BAND EDGE.....	38

6.1.	Test Equipment.....	38
6.2.	Test Setup.....	38
6.3.	Limit	39
6.4.	Test Procedure.....	39
6.5.	Uncertainty.....	39
6.6.	Test Result of Band Edge.....	40
7.	CHANNEL NUMBER.....	48
7.1.	Test Equipment.....	48
7.2.	Test Setup.....	48
7.3.	Limit	48
7.4.	Test Procedure.....	48
7.5.	Uncertainty.....	48
7.6.	Test Result of Channel Number	49
8.	CHANNEL SEPARATION	51
8.1.	Test Equipment.....	51
8.2.	Test Setup.....	51
8.3.	Limit	51
8.4.	Test Procedure.....	51
8.5.	Uncertainty.....	51
8.6.	Test Result of Channel Separation	52
9.	DWELL TIME.....	54
9.1.	Test Equipment.....	54
9.2.	Test Setup.....	54
9.3.	Limit	54
9.4.	Test Procedure.....	54
9.5.	Uncertainty.....	54
9.6.	Test Result of Dwell Time	55
10.	OCCUPIED BANDWIDTH.....	59
10.1.	Test Equipment.....	59
10.2.	Test Setup.....	59
10.3.	Limits.....	59
10.4.	Test Procedure.....	59
10.5.	Uncertainty.....	59
10.6.	Test Result of Occupied Bandwidth	60
11.	EMI REDUCTION METHOD DURING COMPLIANCE TESTING.....	66

Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Ultra Mobile PC
Trade Name	ASUS
FCC ID.	MSQ-R50AWI22
Model No.	R50A
Frequency Range	2402 – 2480MHz
Channel Number	79
Type of Modulation	GFSK(1Mbps)/ /4DQPSK(2Mbps) / 8DPSK(3Mbps)
Antenna Type	PIFA
Channel Control	Auto
Antenna Gain	Refer to the table “Antenna List”
Power Adapter	MFR: PHIHONG, M/N: PSC11R-050 Cable out: Shielded, 1.8m with one ferrite core bonded.

Antenna List

No.	Manufacturer	Part No.	Peak Gain
1	ACON	N/A	-3.43dBi in 2.4 GHz

Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 00:	2402 MHz	Channel 20:	2422 MHz	Channel 40:	2442 MHz	Channel 60:	2462 MHz
Channel 01:	2403 MHz	Channel 21:	2423 MHz	Channel 41:	2443 MHz	Channel 61:	2463 MHz
Channel 02:	2404 MHz	Channel 22:	2424 MHz	Channel 42:	2444 MHz	Channel 62:	2464 MHz
Channel 03:	2405 MHz	Channel 23:	2425 MHz	Channel 43:	2445 MHz	Channel 63:	2465 MHz
Channel 04:	2406 MHz	Channel 24:	2426 MHz	Channel 44:	2446 MHz	Channel 64:	2466 MHz
Channel 05:	2407 MHz	Channel 25:	2427 MHz	Channel 45:	2447 MHz	Channel 65:	2467 MHz
Channel 06:	2408 MHz	Channel 26:	2428 MHz	Channel 46:	2448 MHz	Channel 66:	2468 MHz
Channel 07:	2409 MHz	Channel 27:	2429 MHz	Channel 47:	2449 MHz	Channel 67:	2469 MHz
Channel 08:	2410 MHz	Channel 28:	2430 MHz	Channel 48:	2450 MHz	Channel 68:	2470 MHz
Channel 09:	2411 MHz	Channel 29:	2431 MHz	Channel 49:	2451 MHz	Channel 69:	2471 MHz
Channel 10:	2412 MHz	Channel 30:	2432 MHz	Channel 50:	2452 MHz	Channel 70:	2472 MHz
Channel 11:	2413 MHz	Channel 31:	2433 MHz	Channel 51:	2453 MHz	Channel 71:	2473 MHz
Channel 12:	2414 MHz	Channel 32:	2434 MHz	Channel 52:	2454 MHz	Channel 72:	2474 MHz
Channel 13:	2415 MHz	Channel 33:	2435 MHz	Channel 53:	2455 MHz	Channel 73:	2475 MHz
Channel 14:	2416 MHz	Channel 34:	2436 MHz	Channel 54:	2456 MHz	Channel 74:	2476 MHz
Channel 15:	2417 MHz	Channel 35:	2437 MHz	Channel 55:	2457 MHz	Channel 75:	2477 MHz
Channel 16:	2418 MHz	Channel 36:	2438 MHz	Channel 56:	2458 MHz	Channel 76:	2478 MHz
Channel 17:	2419 MHz	Channel 37:	2439 MHz	Channel 57:	2459 MHz	Channel 77:	2479 MHz
Channel 18:	2420 MHz	Channel 38:	2440 MHz	Channel 58:	2460 MHz	Channel 78:	2480 MHz
Channel 19:	2421 MHz	Channel 39:	2441 MHz	Channel 59:	2461 MHz		

The system receivers have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shift frequencies in synchronization with the transmitted signals

Frequency hopping spread spectrum systems are not required to employ all available hopping channels during each transmission. The transmitter is presented with a continuous data stream. In addition, a system employing short transmission bursts must comply with the definition of a frequency hopping system and must distribute its 79 channels and over the minimum number of hopping channels (75 channels).

The incorporation of intelligence within a frequency hopping spread spectrum system that permits the system to recognize other users within the spectrum band so that it individually and independently chooses and adapts its hopsets to avoid hopping on occupied channels is permitted. The coordination of frequency hopping systems in any other manner for the express purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters is not permitted.

Note:

1. This device is an Ultra Mobile PC with a built-in 2.4GHz BluetoothVer.2.0+EDR transceiver.
2. These tests were conducted on a sample for the purpose of demonstrating compliance of bluetooth transmitter with Part 15 Subpart C Paragraph 15.247 for spread spectrum devices.
3. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
4. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

1.2. Operational Description

The EUT is an Ultra Mobile PC with built-in 2.4GHz BluetoothVer.2.0+EDR transceiver. The number of the channels is 79 in 2402-2480MHz. The device adapts the frequency hopping spread spectrum modulation. The antenna is PIFA and provides diversity function to improve the receiving function.

This device provides wireless technology that revolutionizes personal connectivity. It is the solution for the seamless integration of Bluetooth technology into personal computer enabling short-range wireless connections between desktop/laptop computers, Bluetooth-enabled peripherals, and portable handheld devices.

Test Mode	Mode 1: Transmitter - 1Mbps (GFSK) Mode 2: Transmitter - 3Mbps (8DPSK)
-----------	---

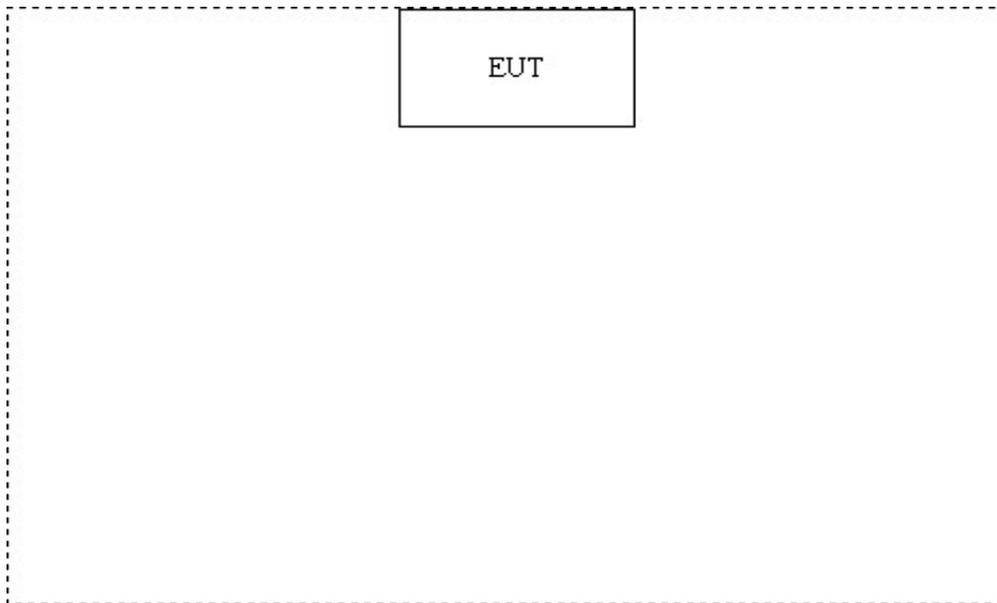
1.3. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

	Product	Manufacturer	Model No.	Serial No.	Power Cord
1.	N/A	N/A	N/A	N/A	N/A

	Signal Cable Type	Signal cable Description
A	N/A	N/A

1.4. Configuration of Tested System



1.5. EUT Exercise Software

- (1) Setup the EUT as shown in Section 1.3
- (2) Execute “Bluesuite.exe” on the EUT.
- (3) Configure the test mode, the test channel, and the data rate.
- (4) Press “OK” to start the continuous Receiver.
- (5) Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	30-65
Barometric pressure (mbar)	860-1060	950-1000

The related certificate for our laboratories about the test site and management system can be downloaded from Quietek Corporation's Web Site : <http://tw.quietek.com/modules/myalbum/>
 The address and introduction of Quietek Corporation's laboratories can be founded in our Web site : <http://www.quietek.com/>

Site Description:

File on
 Federal Communications Commission
 Laboratory Division
 7435 Oakland Mills Road
 Columbia, MD 21046
 Registration Number: 92195



Accreditation on NVLAP
 NVLAP Lab Code: 200533-0



Site Name: Quietek Corporation
 Site Address: No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen,
 Lin-Kou Shiang, Taipei,
 Taiwan, R.O.C.
 TEL: 886-2-8601-3788 / FAX : 886-2-8601-3789
 E-Mail : service@quietek.com

FCC Accreditation Number: TW1014



2. Conducted Emission

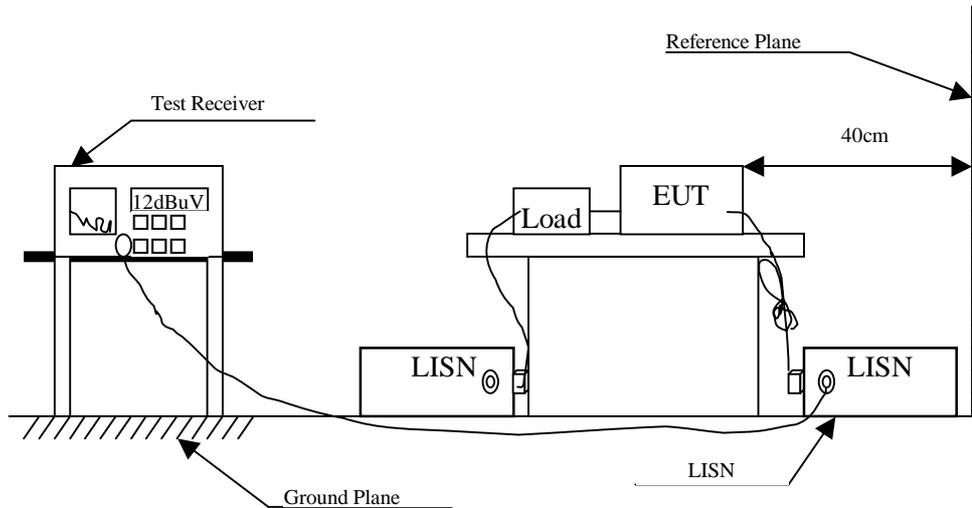
2.1. Test Equipment

The following test equipment are used during the conducted emission test:

Item	Instrument	Manufacturer	Type No./Serial No	Last Cal.	Remark
1	Test Receiver	R & S	ESCS 30/825442/014	Feb., 2008	
2	L.I.S.N.	R & S	ESH3-Z5/825562/002	Feb., 2008	EUT
3	L.I.S.N.	R & S	ENV4200/848411/010	Feb., 2008	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2/100410	July, 2007	
5	No.1 Shielded Room			N/A	

Note: All instruments are calibrated every one year.

2.2. Test Setup



2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBuV) Limit		
Frequency MHz	Limits	
	QP	AV
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

Remarks: In the above table, the tighter limit applies at the band edges.

2.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all the interface cables must be changed according to ANSI C63.4: 2003 on conducted measurement.

Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

The EUT was setup to ANSI C63.4, 2003; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

2.5. Uncertainty

± 2.26 dB

2.6. Test Result of Conducted Emission

Product : Ultra Mobile PC
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Mode : Mode 1: Transmitter - 1Mbps (GFSK) (2441MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
LINE 1					
Quasi-Peak					
0.205	0.615	40.200	40.815	-23.614	64.429
0.271	0.300	37.850	38.150	-24.393	62.543
0.943	0.310	22.420	22.730	-33.270	56.000
2.369	0.350	26.000	26.350	-29.650	56.000
9.072	0.570	30.540	31.110	-28.890	60.000
17.209	1.040	30.440	31.480	-28.520	60.000
Average					
0.205	0.615	33.910	34.525	-19.904	54.429
0.271	0.300	35.780	36.080	-16.463	52.543
0.943	0.310	20.830	21.140	-24.860	46.000
2.369	0.350	14.090	14.440	-31.560	46.000
9.072	0.570	22.440	23.010	-26.990	50.000
17.209	1.040	25.270	26.310	-23.690	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. "■" means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : Ultra Mobile PC
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Mode : Mode 1: Transmitter - 1Mbps (GFSK) (2441MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
LINE 2					
Quasi-Peak					
0.267	0.300	38.680	38.980	-23.677	62.657
0.338	0.303	36.200	36.503	-24.126	60.629
0.673	0.310	26.820	27.130	-28.870	56.000
2.705	0.370	27.240	27.610	-28.390	56.000
9.275	0.490	27.180	27.670	-32.330	60.000
18.209	0.900	21.450	22.350	-37.650	60.000
Average					
0.267	0.300	36.690	36.990	-15.667	52.657
0.338	0.303	35.950	36.253	-14.376	50.629
0.673	0.310	23.210	23.520	-22.480	46.000
2.705	0.370	16.190	16.560	-29.440	46.000
9.275	0.490	18.910	19.400	-30.600	50.000
18.209	0.900	15.690	16.590	-33.410	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. "■" means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : Ultra Mobile PC
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK) (2441MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
LINE 1					
Quasi-Peak					
0.201	0.643	41.440	42.083	-22.460	64.543
0.271	0.300	38.050	38.350	-24.193	62.543
0.404	0.300	27.790	28.090	-30.653	58.743
0.877	0.310	23.810	24.120	-31.880	56.000
1.755	0.340	27.020	27.360	-28.640	56.000
2.841	0.370	30.470	30.840	-25.160	56.000
Average					
0.201	0.643	34.860	35.503	-19.040	54.543
0.271	0.300	35.980	36.280	-16.263	52.543
0.404	0.300	26.760	27.060	-21.683	48.743
0.877	0.310	22.430	22.740	-23.260	46.000
1.755	0.340	23.800	24.140	-21.860	46.000
2.841	0.370	22.430	22.800	-23.200	46.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. "■" means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : Ultra Mobile PC
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK) (2441MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
LINE 2					
Quasi-Peak					
0.205	0.300	39.950	40.250	-24.179	64.429
0.267	0.300	38.050	38.350	-24.307	62.657
0.404	0.310	31.630	31.940	-26.803	58.743
0.677	0.310	25.580	25.890	-30.110	56.000
1.896	0.345	23.720	24.065	-31.935	56.000
9.072	0.480	32.430	32.910	-27.090	60.000
Average					
0.205	0.300	31.120	31.420	-23.009	54.429
0.267	0.300	35.780	36.080	-16.577	52.657
0.404	0.310	30.820	31.130	-17.613	48.743
0.677	0.310	21.590	21.900	-24.100	46.000
1.896	0.345	16.500	16.845	-29.155	46.000
9.072	0.480	28.050	28.530	-21.470	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. "■" means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

3. Peak Power Output

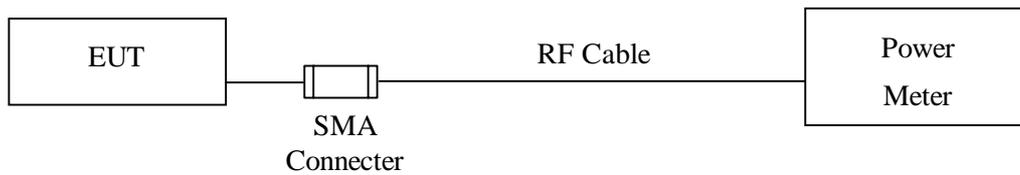
3.1. Test Equipment

The following test equipments are used during the radiated emission tests:

Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X Power Meter	Anritsu	ML2495A/6K00003357	May, 2008
X Power Sensor	Anritsu	MA2491A/034457	May, 2008

Note: 1. All equipments are calibrated every one year.
 2. The test instruments marked by “X” are used to measure the final test results.

3.2. Test Setup



3.3. Limit

The maximum peak power shall be less 1Watt.

3.4. Test Procedure

The EUT was setup to ANSI C63.4, 2003; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

3.5. Uncertainty

± 1.27 dB

3.6. Test Result of Peak Power Output

Product : Ultra Mobile PC
Test Item : Peak Power Output
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter - 1Mbps (GFSK)

Cable loss: 0.5dB				
Channel No.	Frequency (MHz)	Measurement	Required Limit	Result
Channel 00	2402.00	3.44dBm	1 Watt= 30 dBm	Pass
Channel 39	2441.00	3.00dBm	1 Watt= 30 dBm	Pass
Channel 78	2480.00	2.24dBm	1 Watt= 30 dBm	Pass

Product : Ultra Mobile PC
Test Item : Peak Power Output
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK)

Cable loss: 0.5dB				
Channel No.	Frequency (MHz)	Measurement	Required Limit	Result
Channel 00	2402.00	4.36dBm	1 Watt= 30 dBm	Pass
Channel 39	2441.00	3.92dBm	1 Watt= 30 dBm	Pass
Channel 78	2480.00	3.26dBm	1 Watt= 30 dBm	Pass

4. Radiated Emission

4.1. Test Equipment

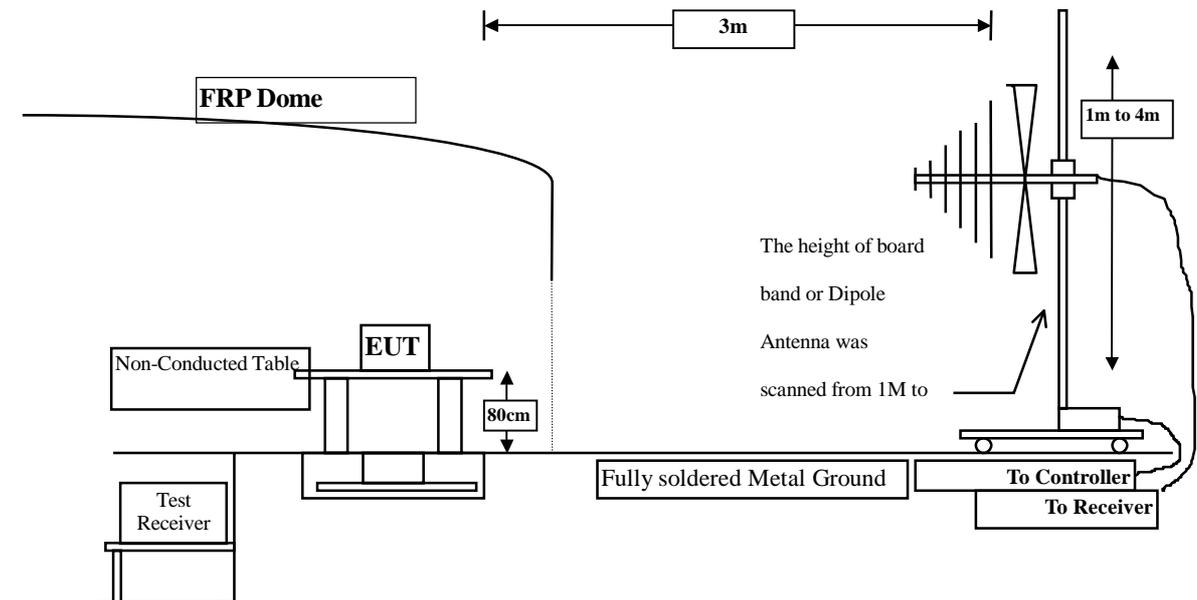
The following test equipments are used during the radiated emission test:

Test Site	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Site # 3	X Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2007
	X Pre-Amplifier	HP	8447D/2944A09549	Sep., 2007
	X Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2007
	X Spectrum Analyzer	HP	E4407B / US39440758	May, 2008
	X Coaxial Cable	Quietek	QTK-CABLE/ CAB5	Feb., 2008
	X Controller	Quietek	QTK-CONTROLLER/ CTRL3	N/A
	X Coaxial Switch	Anritsu	MP59B/6200265729	N/A

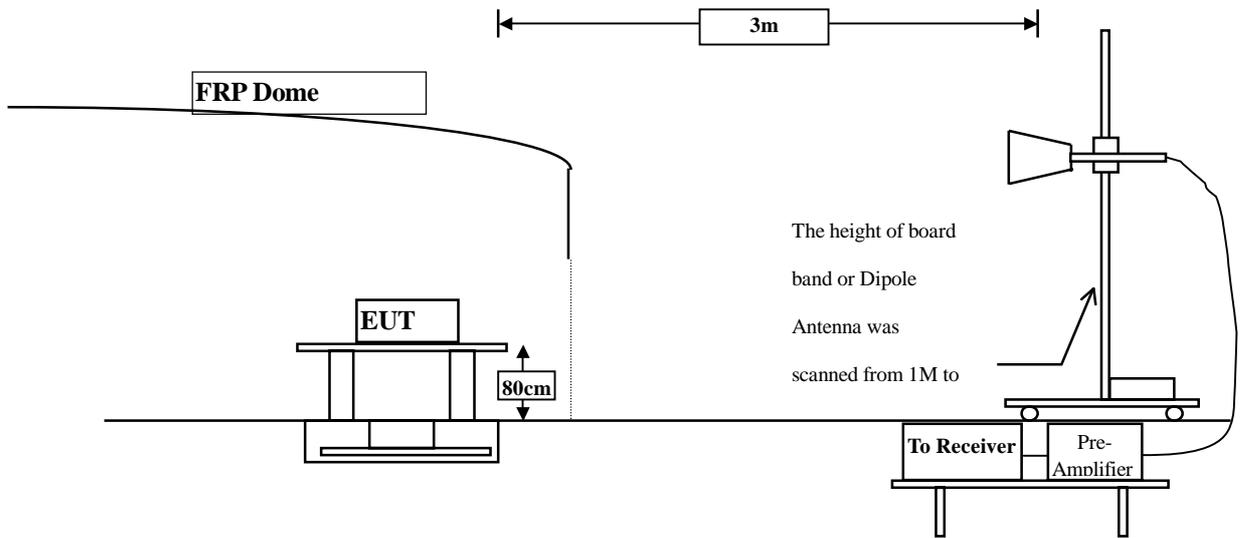
- Note:
1. All equipments are calibrated every one year.
 2. The test instruments marked by "X" are used to measure the final test results.

4.2. Test Setup

Below 1GHz



Above 1GHz



4.3. Limits

➤ **General Radiated Emission Limits**

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	uV/m @3m	dBuV/m@3m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

- Remarks:
1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
 2. In the Above Table, the tighter limit applies at the band edges.
 3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

4.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003 and tested according to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4:2003 on radiated measurement.

The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

Radiated emission measurements below 1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB beamwidth of the antenna.

The worst radiated emission is measured on the Final Measurement.

The frequency range from 30MHz to 10th harmonics is checked.

4.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

4.6. Test Result of Radiated Emission

Product : Ultra Mobile PC
 Test Item : Harmonic Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter - 1Mbps (GFSK)(2402MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
4804.000	-0.205	43.920	43.715	-30.285	74.000
7206.000	3.294	43.190	46.484	-27.516	74.000
9608.000	5.696	41.660	47.356	-26.644	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4804.000	-0.205	51.950	51.745	-22.255	74.000
7206.000	3.294	43.840	47.134	-26.866	74.000
9608.000	5.696	42.130	47.826	-26.174	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz.
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz.
4. Emission Level = Reading Level + Correct Factor.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : Ultra Mobile PC
 Test Item : Harmonic Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter - 1Mbps (GFSK)(2441MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
4882.000	-0.276	47.120	46.844	-27.156	74.000
7323.000	3.330	42.510	45.839	-28.161	74.000
9764.000	6.262	41.130	47.393	-26.607	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4882.000	-0.276	52.320	52.044	-21.956	74.000
7323.000	3.330	42.290	45.619	-28.381	74.000
9764.000	6.262	42.250	48.513	-25.487	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz.
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz.
4. Emission Level = Reading Level + Correct Factor.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : Ultra Mobile PC
 Test Item : Harmonic Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter - 1Mbps (GFSK)(2480MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
4960.000	0.591	45.410	46.001	-27.999	74.000
7440.000	3.924	42.680	46.604	-27.396	74.000
9920.000	6.468	40.950	47.418	-26.582	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4960.000	0.591	51.870	52.461	-21.539	74.000
7440.000	3.924	42.070	45.994	-28.006	74.000
9920.000	6.468	40.620	47.088	-26.912	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz.
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz.
4. Emission Level = Reading Level + Correct Factor.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : Ultra Mobile PC
 Test Item : Harmonic Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK)(2402MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
4804.000	-0.205	43.060	42.855	-31.145	74.000
7206.000	3.294	41.830	45.124	-28.876	74.000
9608.000	5.696	42.440	48.136	-25.864	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4804.000	-0.205	46.650	46.445	-27.555	74.000
7206.000	3.294	42.370	45.664	-28.336	74.000
9608.000	5.696	41.270	46.966	-27.034	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz.
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz.
4. Emission Level = Reading Level + Correct Factor.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : Ultra Mobile PC
 Test Item : Harmonic Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK) (2441MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
4882.000	-0.276	43.310	43.034	-30.966	74.000
7323.000	3.330	42.470	45.799	-28.201	74.000
9764.000	6.262	41.390	47.653	-26.347	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4882.000	-0.276	47.830	47.554	-26.446	74.000
7323.000	3.330	42.130	45.459	-28.541	74.000
9764.000	6.262	41.160	47.423	-26.577	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz.
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz.
4. Emission Level = Reading Level + Correct Factor.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : Ultra Mobile PC
 Test Item : Harmonic Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK) (2480MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
4960.000	0.591	43.390	43.981	-30.019	74.000
7440.000	3.924	41.790	45.714	-28.286	74.000
9920.000	6.468	41.170	47.638	-26.362	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4960.000	0.591	46.630	47.221	-26.779	74.000
7440.000	3.924	41.540	45.464	-28.536	74.000
9920.000	6.468	41.220	47.688	-26.312	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz.
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz.
4. Emission Level = Reading Level + Correct Factor.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : Ultra Mobile PC
 Test Item : General Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter - 1Mbps (GFSK)(2441MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
35.820	18.830	12.307	31.137	-8.863	40.000
396.600	17.138	11.764	28.902	-17.098	46.000
596.480	20.454	5.643	26.097	-19.903	46.000
821.520	21.983	7.986	29.969	-16.031	46.000
930.160	22.860	7.485	30.345	-15.655	46.000
947.620	22.730	6.444	29.174	-16.826	46.000
Vertical					
88.200	10.682	22.500	33.182	-10.318	43.500
466.500	19.165	9.303	28.468	-17.532	46.000
602.300	22.402	1.516	23.918	-22.082	46.000
674.080	20.428	3.224	23.652	-22.348	46.000
769.000	22.879	2.027	24.906	-21.094	46.000
965.089	22.800	2.605	25.405	-28.595	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. "█" means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The radiated emissions below 1GHz of the lowest, middle, highest frequency are pretested. Only the worst case is shown on the report.

Product : Ultra Mobile PC
 Test Item : General Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK) (2441MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
35.820	18.830	11.775	30.605	-9.395	40.000
59.100	8.456	21.373	29.829	-10.171	40.000
398.600	17.363	10.569	27.932	-18.068	46.000
499.480	18.877	8.553	27.430	-18.570	46.000
567.380	19.792	6.760	26.552	-19.448	46.000
932.100	22.768	5.519	28.287	-17.713	46.000
Vertical					
84.320	10.401	21.128	31.529	-8.471	40.000
398.600	18.871	6.444	25.315	-20.685	46.000
499.480	19.078	5.440	24.518	-21.482	46.000
608.120	22.136	1.495	23.631	-22.369	46.000
842.860	21.512	2.793	24.305	-21.695	46.000
965.080	22.800	2.565	25.365	-28.635	54.000

Note:

1. The reading levels below 1GHz are quasi-peak values.
2. "█" means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The radiated emissions below 1GHz of the lowest, middle, highest frequency are pretested. Only the worst case is shown on the report.

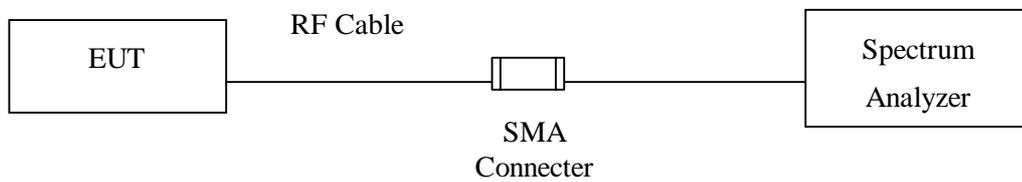
5. RF Antenna Conducted Test

5.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Spectrum Analyzer	R & S	FSP40 / 100170	Nov, 2007

- Note:
1. All equipments are calibrated every one year.
 2. The test instruments Marked “X” are used to measure the final test results.

5.2. Test Setup



5.3. Limits

According to FCC Section 15.247(d). In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

5.4. Test Procedure

The EUT was setup to ANSI C63.4, 2003; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

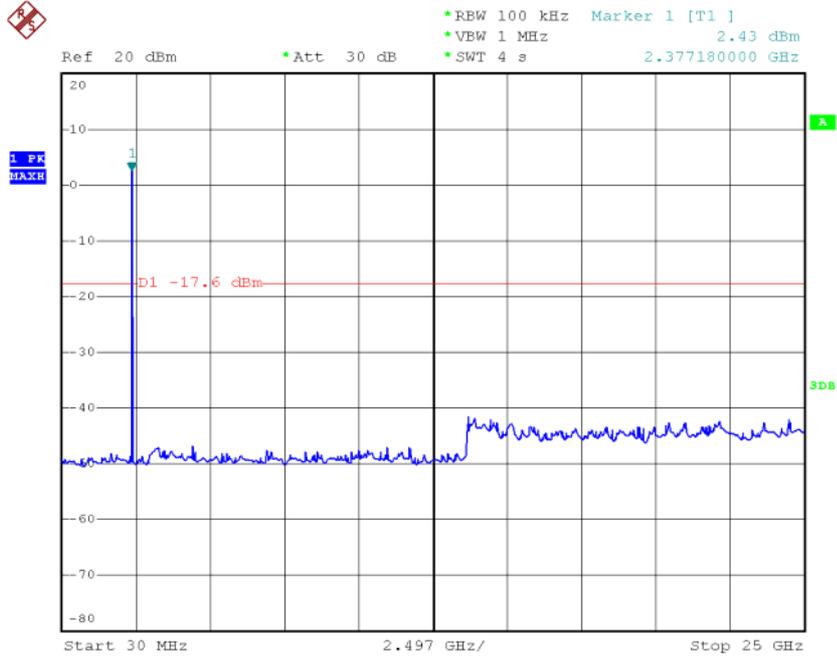
5.5. Uncertainty

± 150Hz

5.6. Test Result of RF Antenna Conducted Test

Product : Ultra Mobile PC
Test Item : RF Antenna Conducted Test
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter - 1Mbps (GFSK)

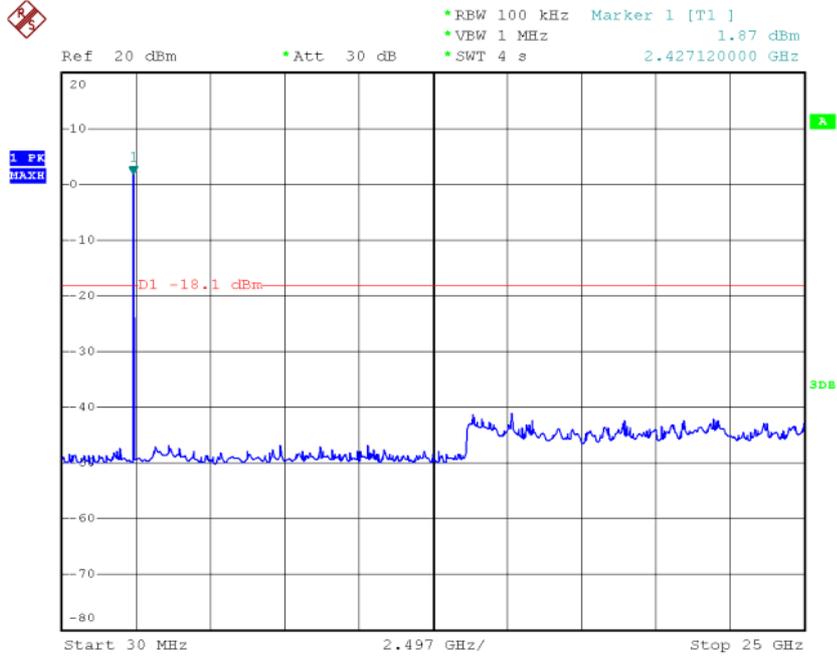
Figure Channel 00: 30MHz-25GHz



Date: 10.JUN.2008 18:32:45

Product : Ultra Mobile PC
Test Item : RF Antenna Conducted Test
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter - 1Mbps (GFSK)

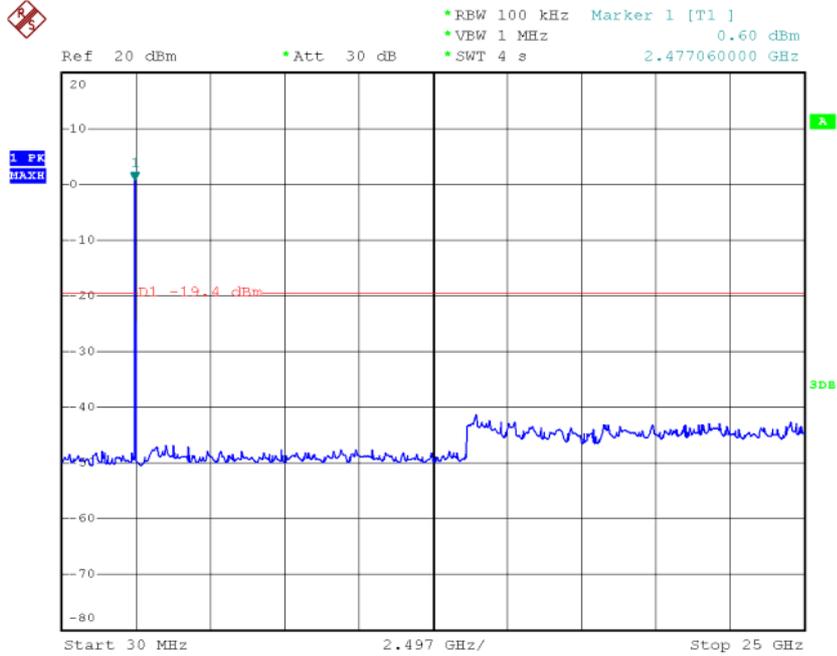
Figure Channel 39: 30MHz-25GHz



Date: 10.JUN.2008 18:33:21

Product : Ultra Mobile PC
Test Item : RF Antenna Conducted Test
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter - 1Mbps (GFSK)

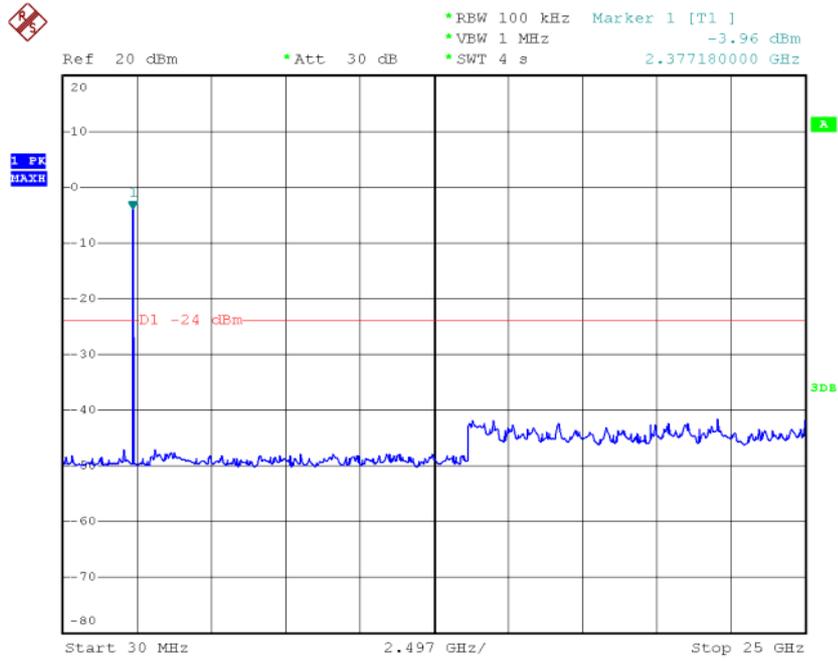
Figure Channel 78: 30MHz-25GHz



Date: 10.JUN.2008 18:34:50

Product : Ultra Mobile PC
Test Item : RF Antenna Conducted Test
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK)

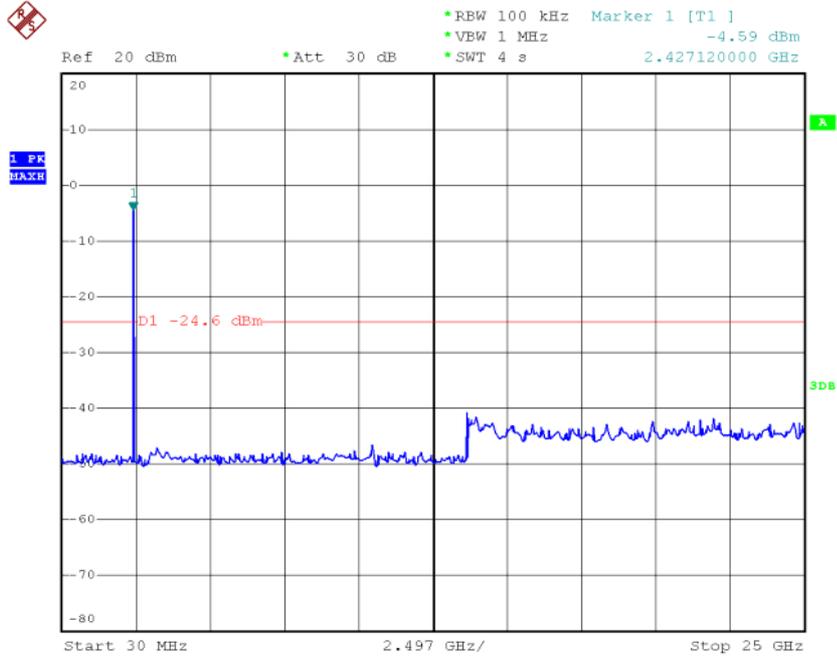
Figure Channel 00: 30MHz-25GHz



Date: 10.JUN.2008 18:35:52

Product : Ultra Mobile PC
Test Item : RF Antenna Conducted Test
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK)

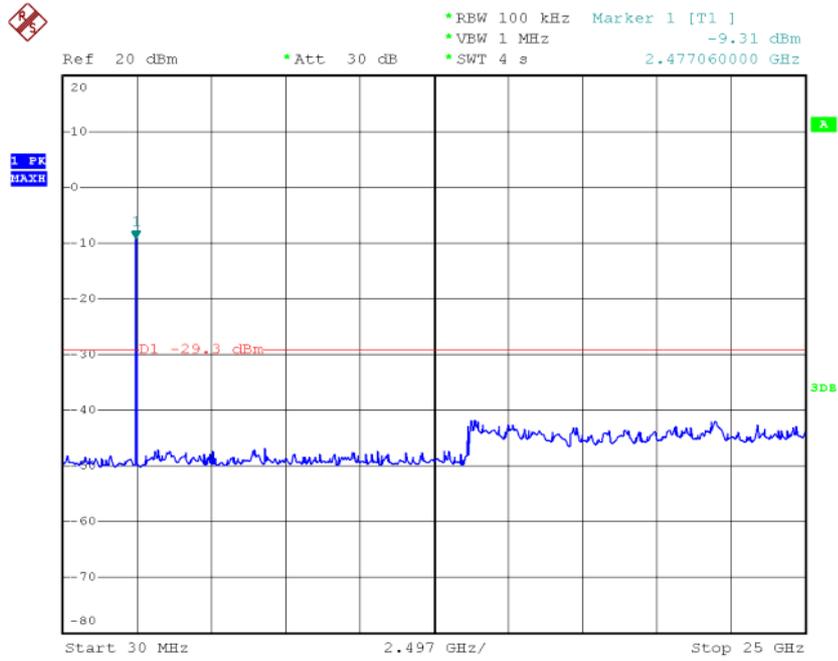
Figure Channel 39: 30MHz-25GHz



Date: 10.JUN.2008 18:36:40

Product : Ultra Mobile PC
Test Item : RF Antenna Conducted Test
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK)

Figure Channel 78: 30MHz-25GHz



Date: 10.JUN.2008 18:37:10

6. Band Edge

6.1. Test Equipment

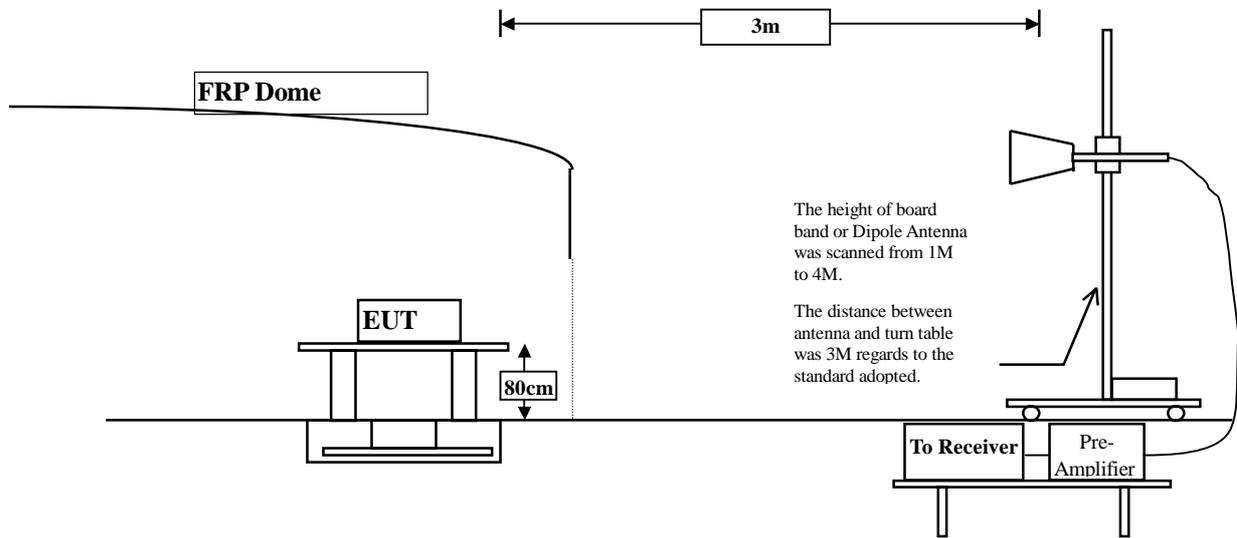
The following test equipments are used during the band edge tests:

Test Site	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ Site # 3	X Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2007
	X Pre-Amplifier	HP	8447D/2944A09549	Sep., 2007
	X Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2007
	X Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008
	X Coaxial Cable	Quietek	QTK-CABLE/ CAB5	Feb., 2008
	X Controller	Quietek	QTK-CONTROLLER/ CTRL3	N/A
	X Coaxial Switch	Anritsu	MP59B/6200265729	N/A

- Note:
1. All equipments are calibrated every one year.
 2. The test instruments marked by “X” are used to measure the final test results.

6.2. Test Setup

RF Radiated Measurement:



6.3. Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

6.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4:2003 on radiated measurement.

The bandwidth below 1GHz setting on the field strength meter is 120 kHz, above 1GHz are 1 MHz. The EUT was setup to ANSI C63.4, 2003; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

6.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

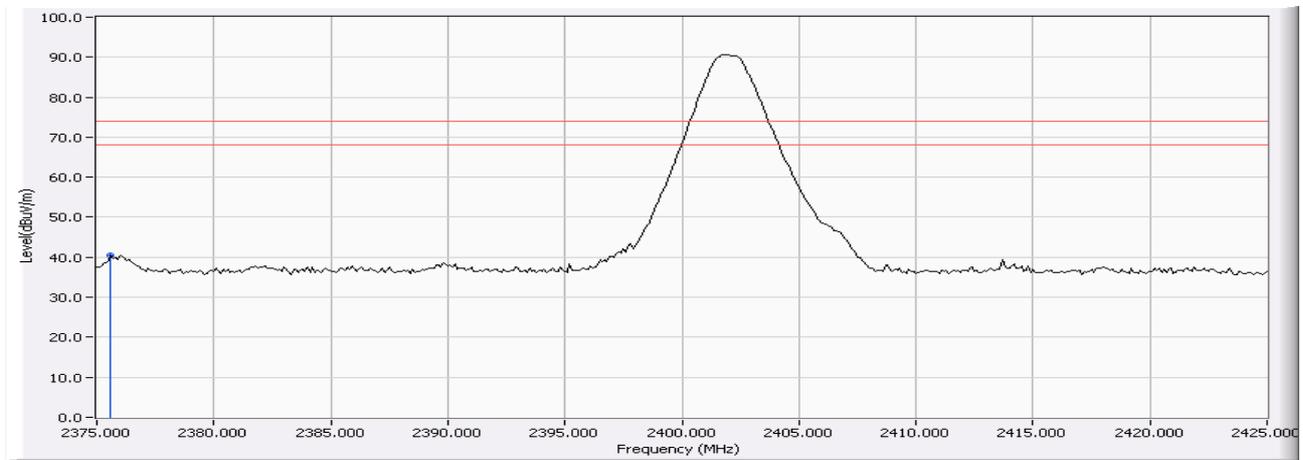
6.6. Test Result of Band Edge

Product : Ultra Mobile PC
 Test Item : Band Edge
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter - 1Mbps (GFSK)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
00 (Peak)	2375.600	-6.825	47.258	40.433	74.00	54.00	Pass

Figure Channel 00: Horizontal (Peak)



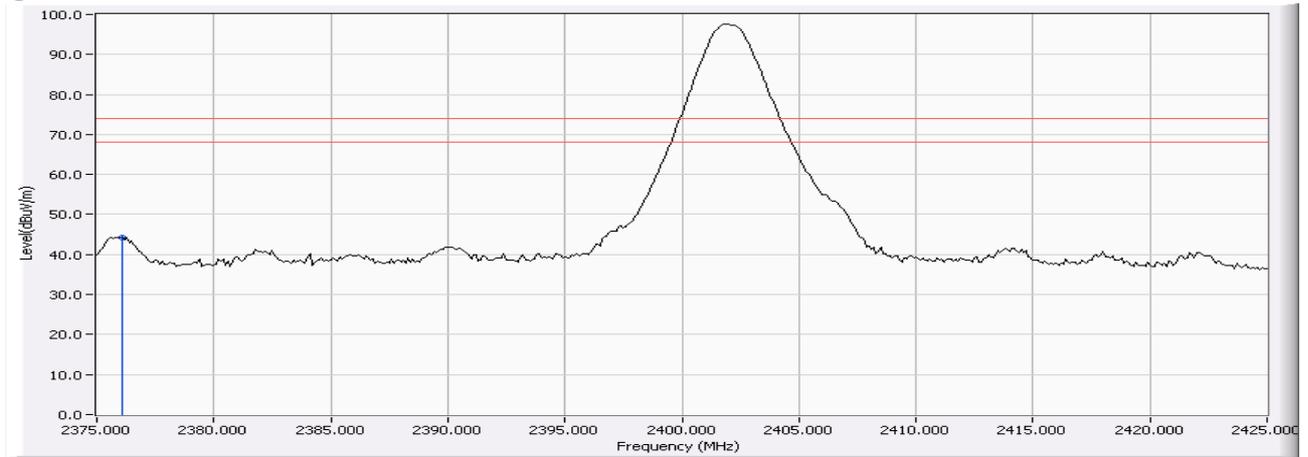
Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Product : Ultra Mobile PC
 Test Item : Band Edge
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter - 1Mbps (GFSK)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
00 (Peak)	2376.100	-6.823	51.108	44.285	74.00	54.00	Pass

Figure Channel 00: Vertical (Peak)



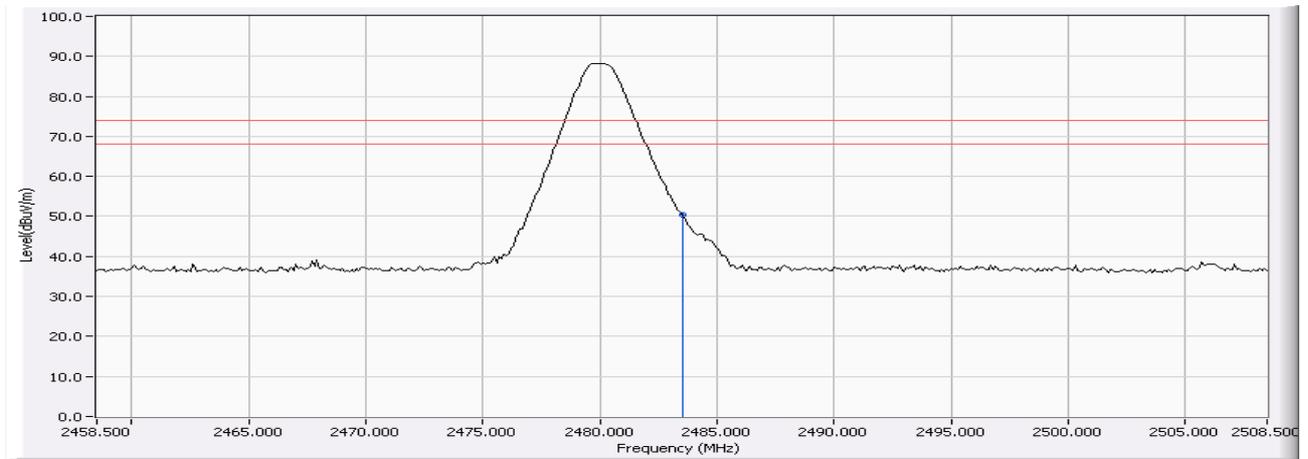
Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Product : Ultra Mobile PC
 Test Item : Band Edge
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter - 1Mbps (GFSK)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
78 (Peak)	2483.500	-6.469	56.849	50.381	74.00	54.00	Pass

Figure Channel 78: Horizontal (Peak)



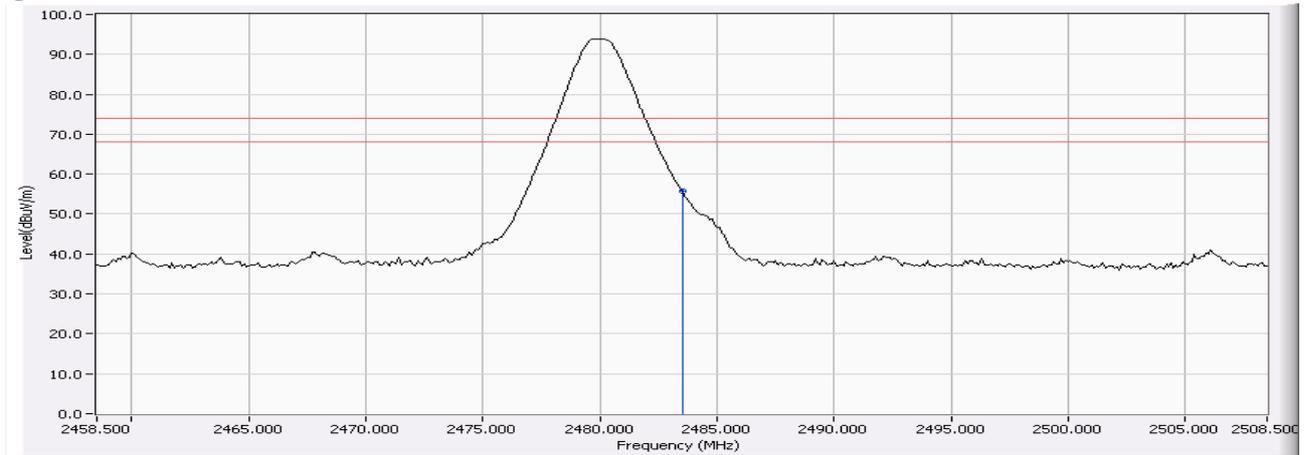
Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Product : Ultra Mobile PC
 Test Item : Band Edge
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter - 1Mbps (GFSK)

RF Radiated Measurement (Vertical):

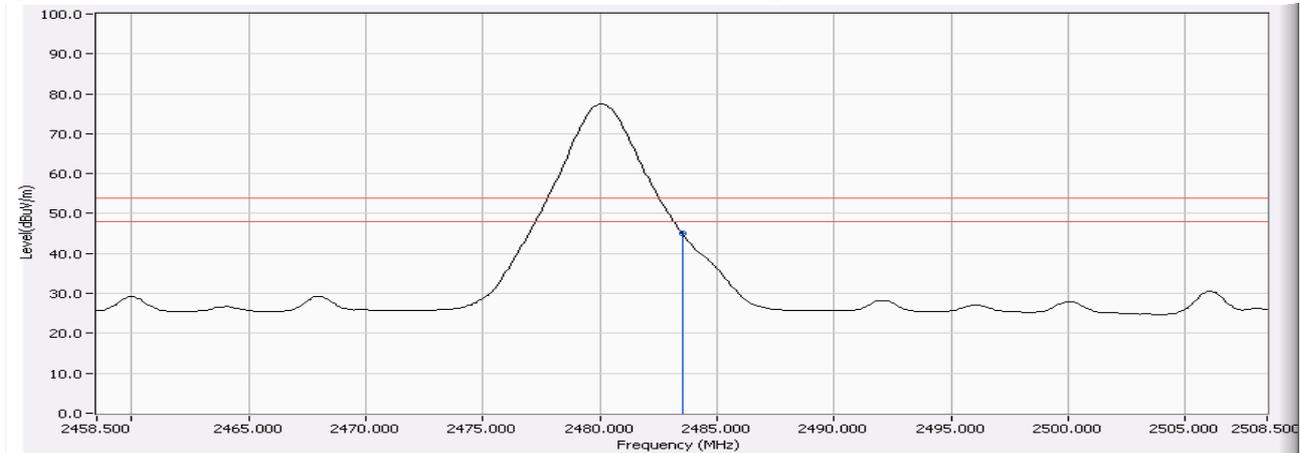
Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
78 (Peak)	2483.500	-6.469	62.291	55.823	74.00	54.00	Pass
78 (Average)	2483.500	-6.469	51.577	45.109	74.00	54.00	Pass

Figure Channel 78: Vertical (Peak)



Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Figure Channel 78: Vertical (Average)



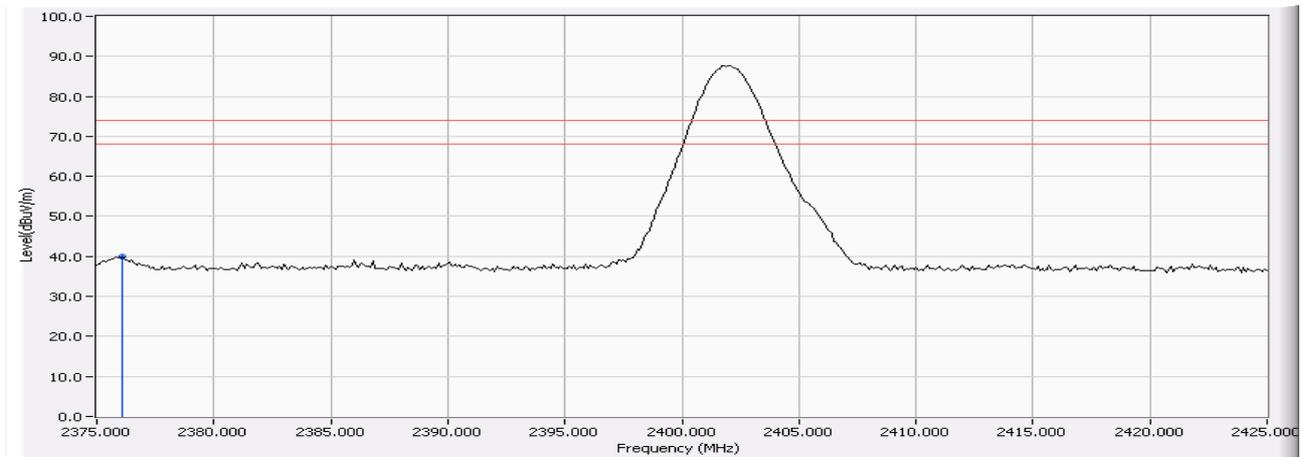
Note: RBW=1MHz, VBW=30Hz, Sweep=500ms

Product : Ultra Mobile PC
 Test Item : Band Edge
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
00 (Peak)	2376.100	-6.823	46.824	40.001	74.00	54.00	Pass

Figure Channel 00: Horizontal (Peak)



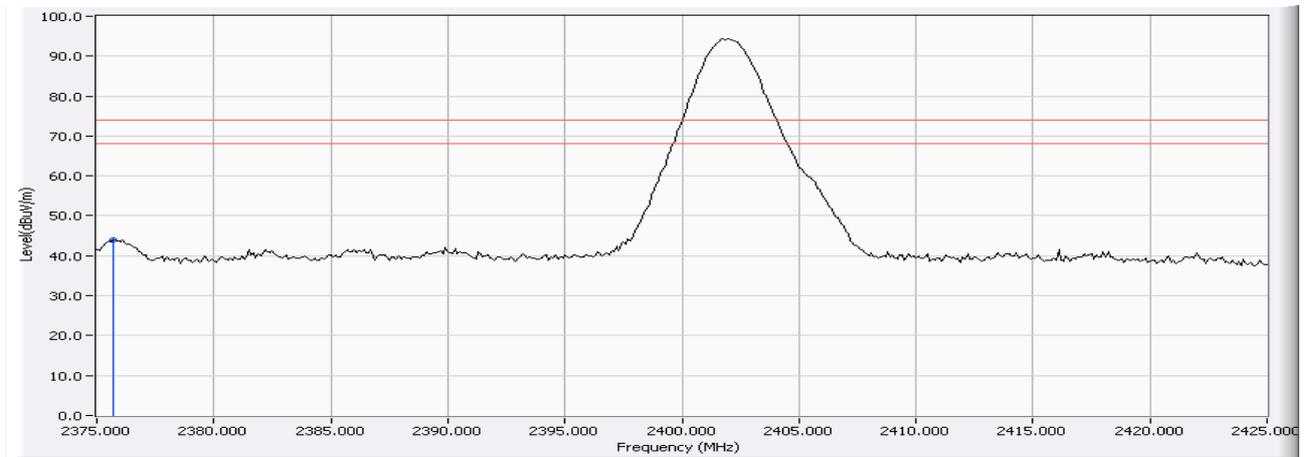
Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Product : Ultra Mobile PC
 Test Item : Band Edge
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
00 (Peak)	2375.700	-6.824	50.868	44.044	74.00	54.00	Pass

Figure Channel 00: Vertical (Peak)



Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

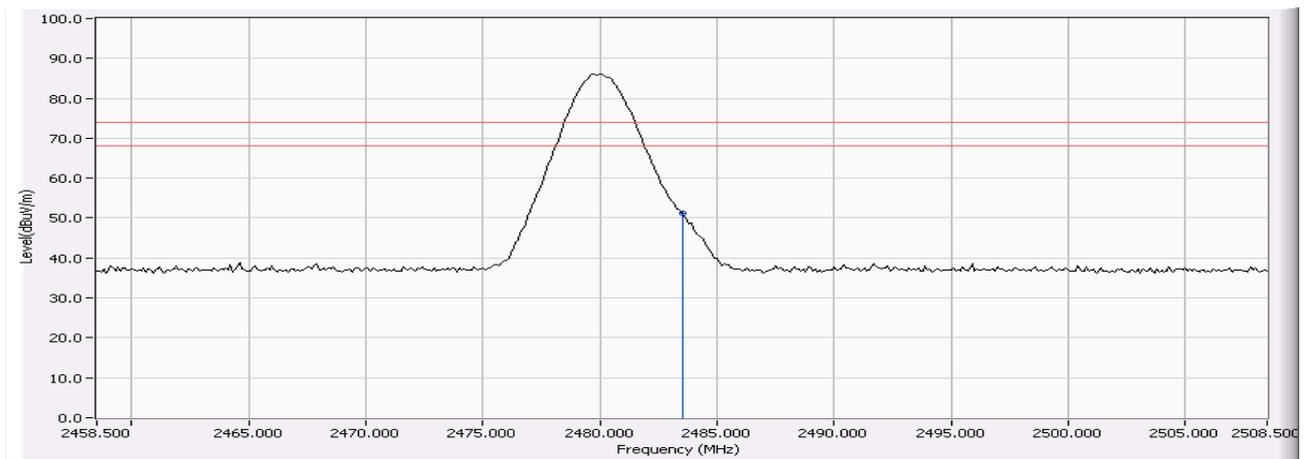
Product : Ultra Mobile PC
 Test Item : Band Edge
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
78 (Peak)	2483.500	-6.469	57.644	51.176	74.00	54.00	Pass

Figure Channel 78:

Horizontal (Peak)



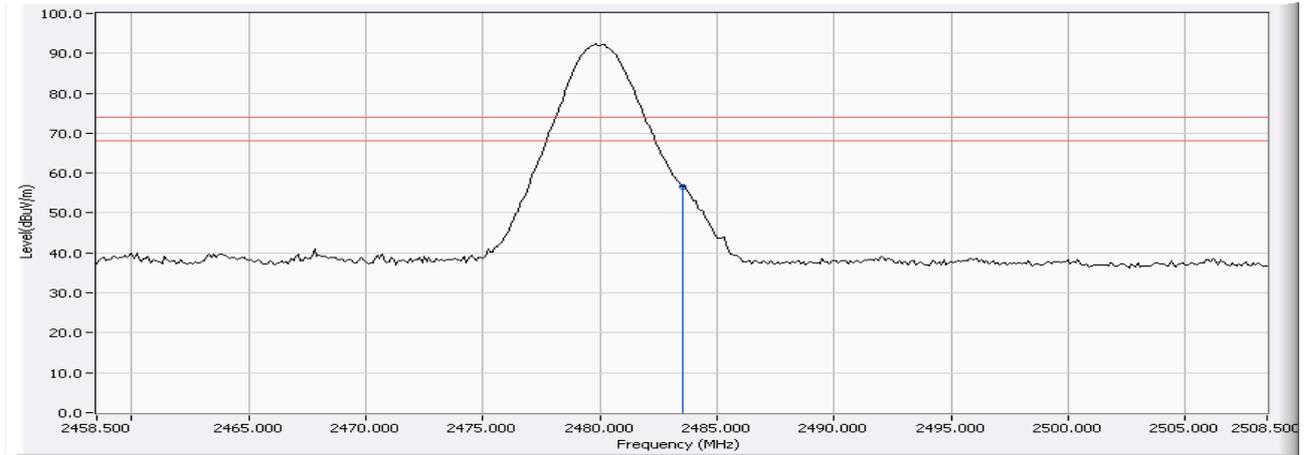
Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Product : Ultra Mobile PC
 Test Item : Band Edge
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK)

RF Radiated Measurement (Vertical):

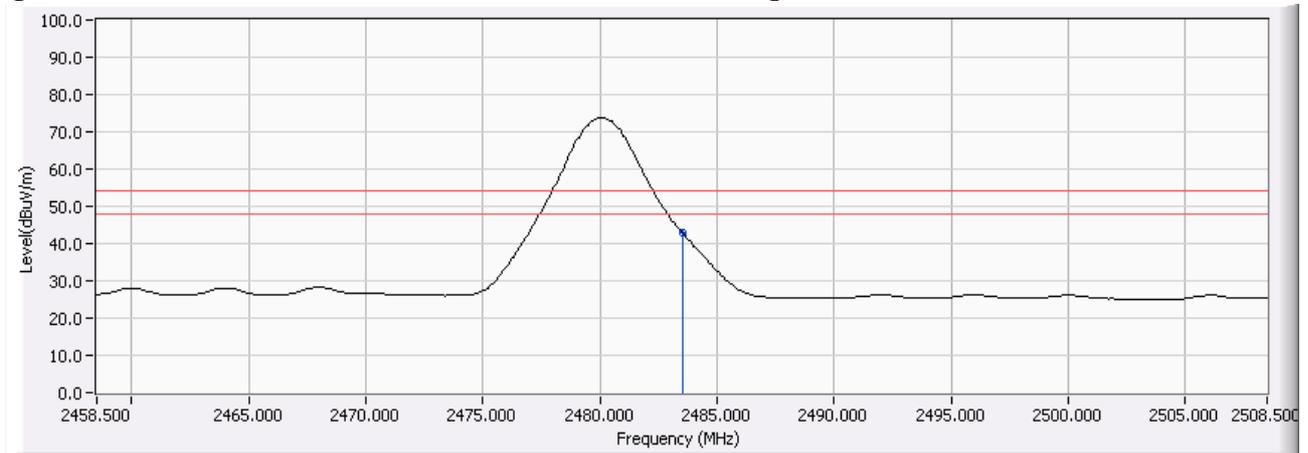
Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
78 (Peak)	2483.500	-6.469	63.122	56.654	74.00	54.00	Pass
78 (Average)	2483.500	-6.469	49.522	43.054	74.00	54.00	Pass

Figure Channel 78: Vertical (Peak)



Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Figure Channel 78: Vertical (Average)



Note: RBW=1MHz, VBW=30Hz, Sweep=500ms

7. Channel Number

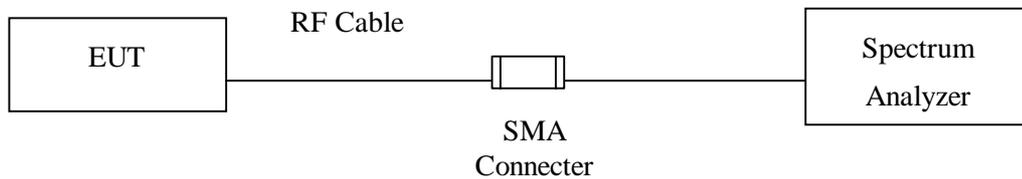
7.1. Test Equipment

The following test equipments are used during the radiated emission tests:

Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Spectrum Analyzer	R & S	FSP40 / 100170	Nov, 2007
X Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008

Note: 1. All equipments are calibrated every one year.
 2. The test instruments marked by “X” are used to measure the final test results.

7.2. Test Setup



7.3. Limit

Frequency hopping systems operating in the 2400-2483.5 MHz bands shall use at least 75 hopping frequencies.

7.4. Test Procedure

The EUT was setup to ANSI C63.4, 2003; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

7.5. Uncertainty

N/A

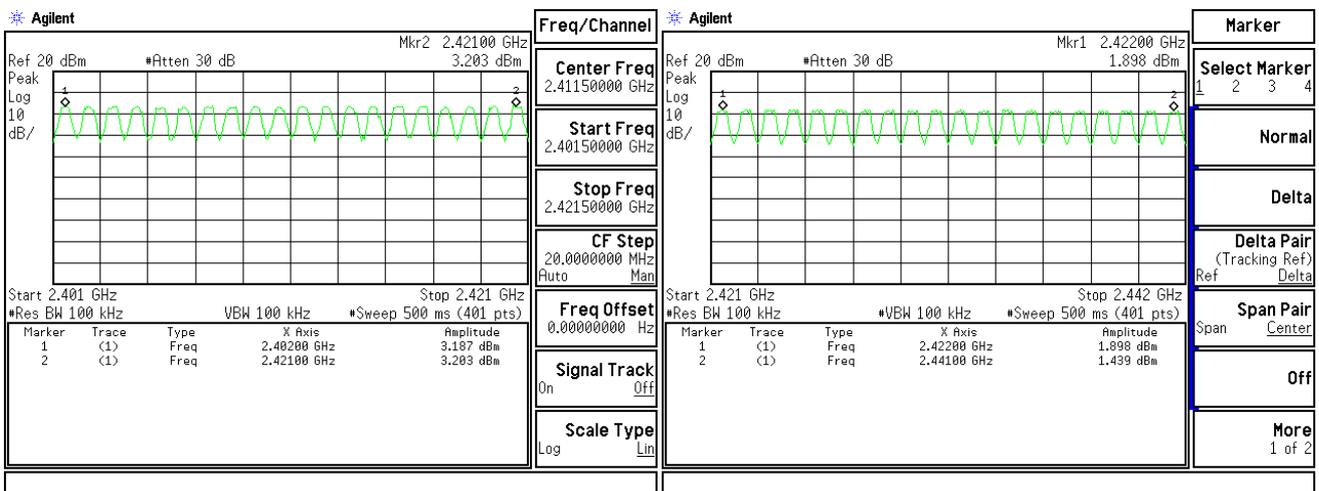
7.6. Test Result of Channel Number

Product : Ultra Mobile PC
 Test Item : Channel Number
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter - 1Mbps (GFSK)

Frequency Range (MHz)	Measurement (Hopping Channel)	Required Limit (Hopping Channel)	Result
2402 ~ 2480	79	>75	Pass

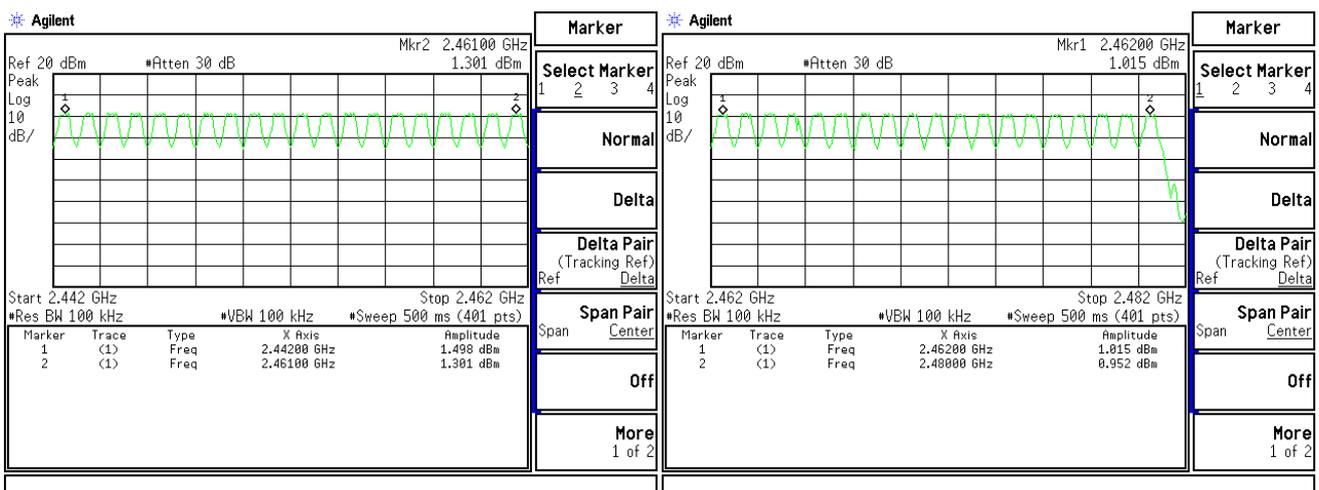
2402-2421MHz

2422-2441MHz



2442-2461MHz

2462-2480MHz

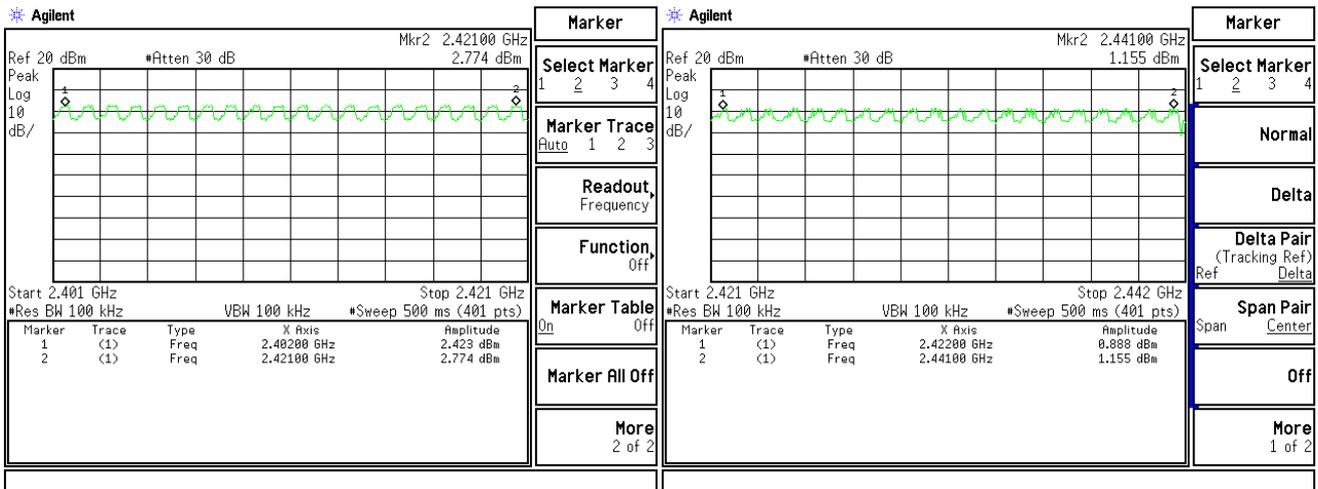


Product : Ultra Mobile PC
 Test Item : Channel Number
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK)

Frequency Range (MHz)	Measurement (Hopping Channel)	Required Limit (Hopping Channel)	Result
2402 ~ 2480	79	>75	Pass

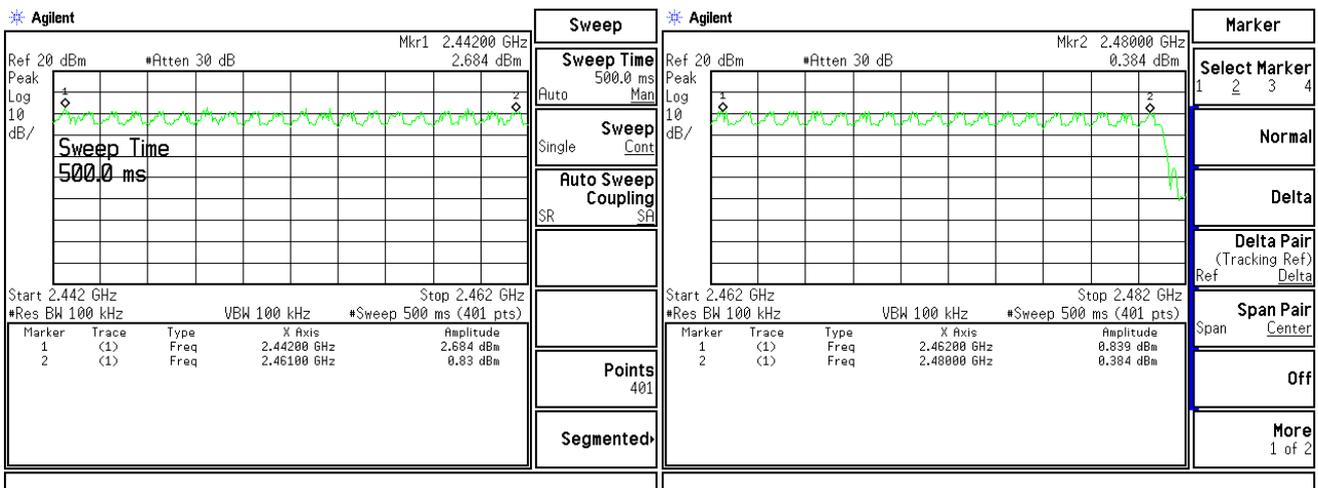
2402-2421MHz

2422-2441MHz



2442-2461MHz

2462-2480MHz



8. Channel Separation

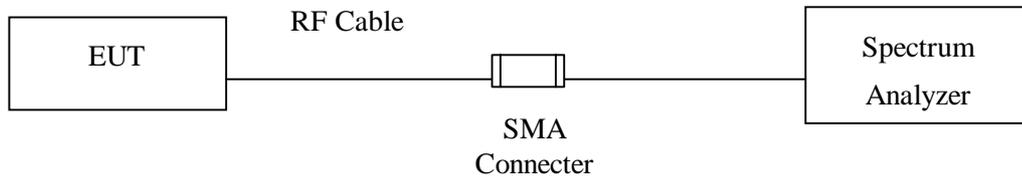
8.1. Test Equipment

The following test equipments are used during the radiated emission tests:

Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Spectrum Analyzer	R & S	FSP40 / 100170	Nov, 2007
X Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008

- Note: 1. All equipments are calibrated every one year.
 2. The test instruments mark by “X” are used to measure the final test results.

8.2. Test Setup



8.3. Limit

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

8.4. Test Procedure

The EUT was setup to ANSI C63.4, 2003; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

8.5. Uncertainty

± 150Hz

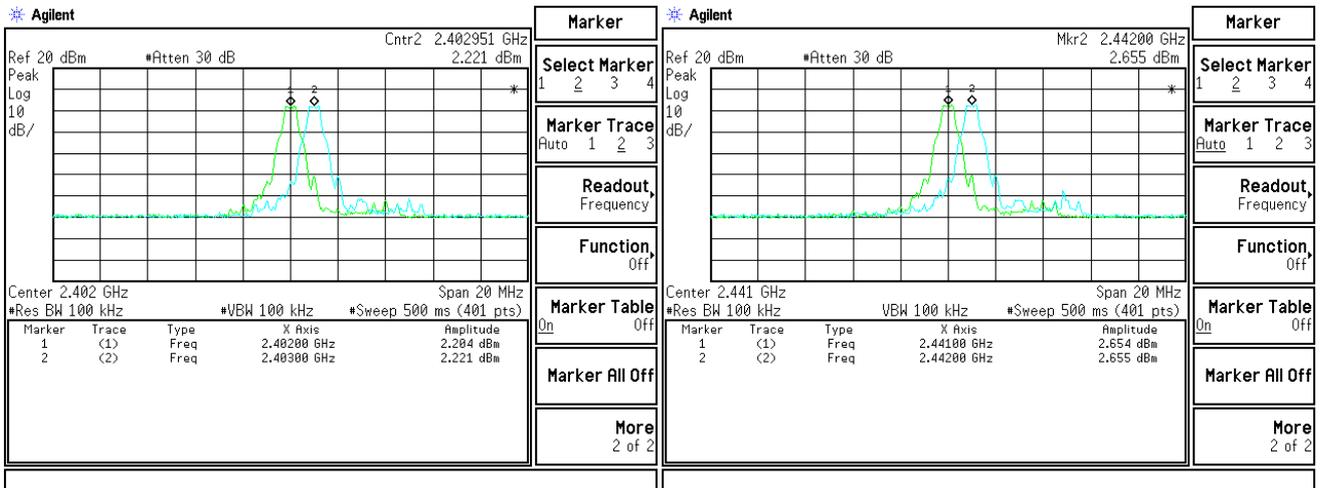
8.6. Test Result of Channel Separation

Product : Ultra Mobile PC
 Test Item : Channel Separation
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter - 1Mbps (GFSK)

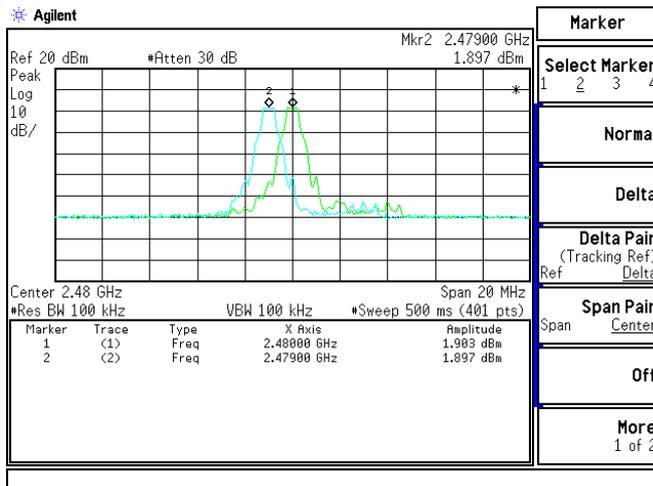
Frequency (MHz)	Measurement Level (MHz)	Required Limit	Result
2402	1.00	>25 kHz or 2/3 * 20 dB BW	Pass
2441	1.00	>25 kHz or 2/3 * 20 dB BW	Pass
2480	1.00	>25 kHz or 2/3 * 20 dB BW	Pass

Channel 00 2402MHz

Channel 39 2441MHz



Channel 78 2480 MHz

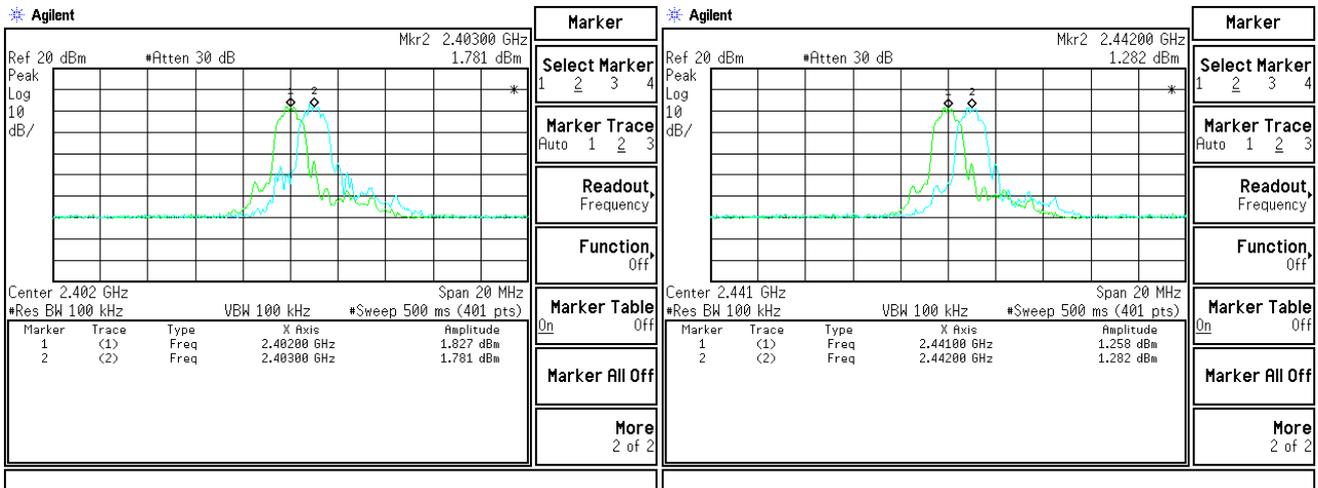


Product : Ultra Mobile PC
 Test Item : Channel Separation
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK)

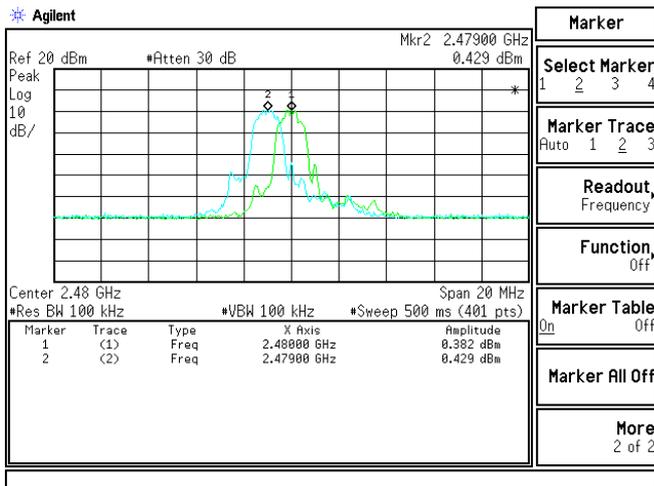
Frequency (MHz)	Measurement Level (MHz)	Required Limit	Result
2402	1.00	>25 kHz or 2/3 * 20 dB BW	Pass
2441	1.00	>25 kHz or 2/3 * 20 dB BW	Pass
2480	1.00	>25 kHz or 2/3 * 20 dB BW	Pass

Channel 00 2402MHz

Channel 39 2441MHz



Channel 78 2480 MHz



9. Dwell Time

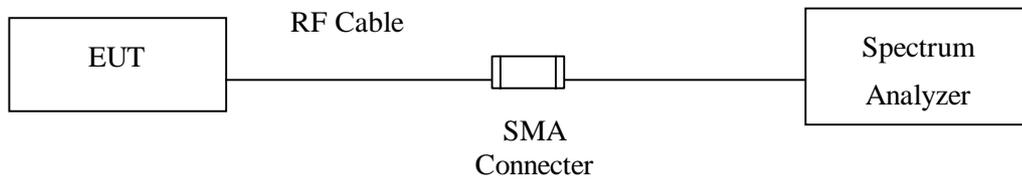
9.1. Test Equipment

The following test equipments are used during the radiated emission tests:

Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Spectrum Analyzer	R & S	FSP40 / 100170	Nov, 2007
X Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008

- Note: 1. All equipments are calibrated every one year.
 2. The test instruments marked by "X" are used to measure the final test results.

9.2. Test Setup



9.3. Limit

The dwell time shall be the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 30 second period.

9.4. Test Procedure

The EUT was setup to ANSI C63.4, 2003; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

9.5. Uncertainty

± 25msec

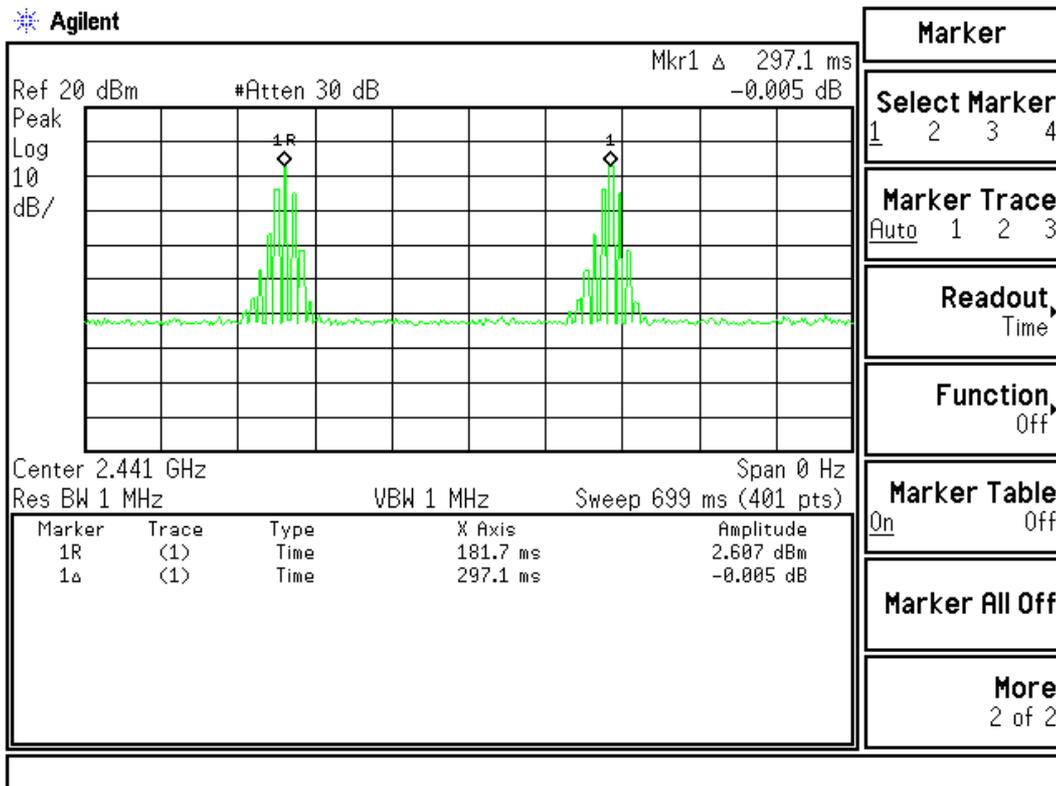
9.6. Test Result of Dwell Time

Product : Ultra Mobile PC
 Test Item : Dwell Time
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter - 1Mbps (GFSK)(DH5)

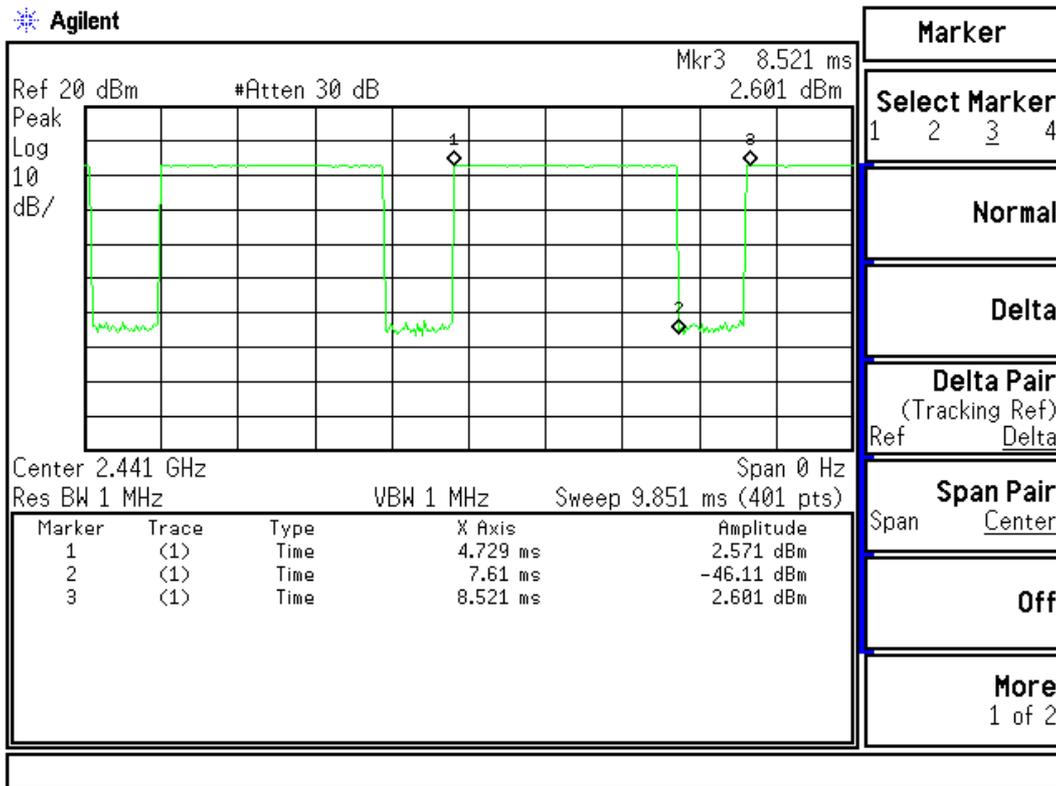
Channel No.	Frequency (MHz)	Time Interval between hops (ms)	Transmission Time (us)	Dwell Time (ms)	Limit (ms)	Result
39	2441	297.1	2881	306.4274655	400	Pass

Note: Dwell Time = 79 * 400 / Time Interval Between Hops * Transmission Time / 1000

CH39 Time Interval between hops



CH39 Transmission Time



Note:

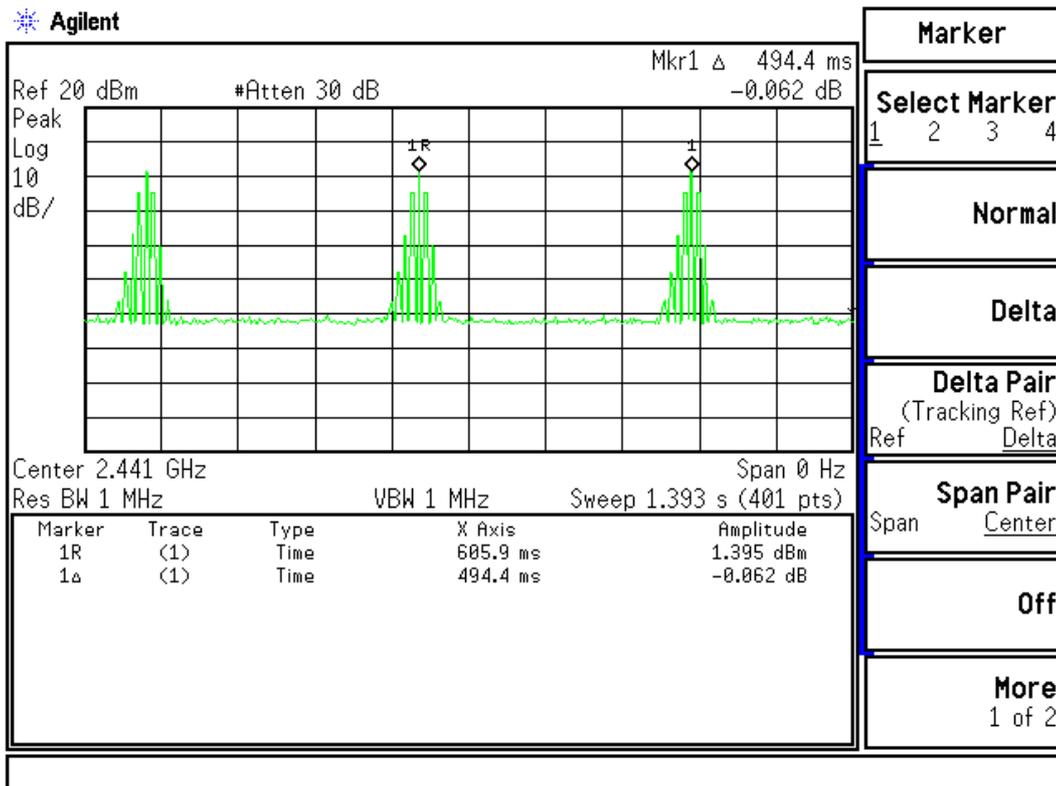
The dwell times of the packet type of DH1, DH3, and DH5 are tested. Only the worst case DH5 is shown on the report.

Product : Ultra Mobile PC
 Test Item : Dwell Time
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK)(DH5)

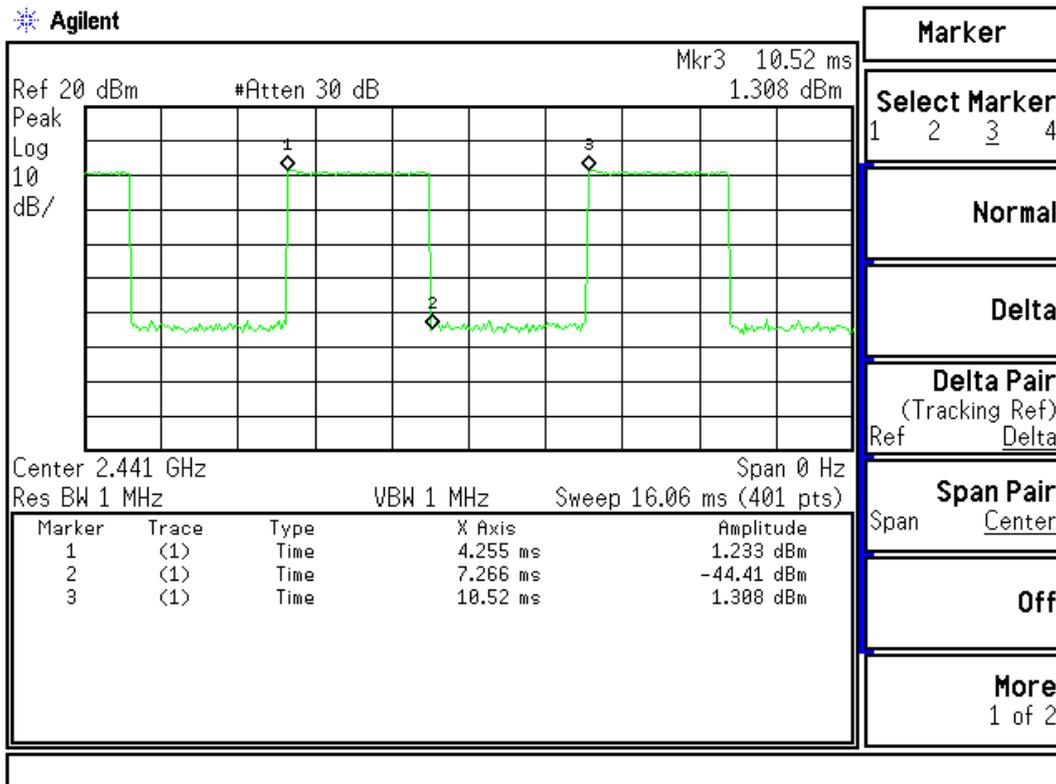
Channel No.	Frequency (MHz)	Time Interval between hops (ms)	Transmission Time (us)	Dwell Time (ms)	Limit (ms)	Result
39	2441	494.4	3011	192.4506472	400	Pass

Note: Dwell Time = 79 * 400 / Time Interval Between Hops * Transmission Time / 1000

CH39 Time Interval between hops



CH39 Transmission Time



Note:

The dwell times of the packet type of DH1, DH3, and DH5 are tested. Only the worst case DH5 is shown on the report.

10. Occupied Bandwidth

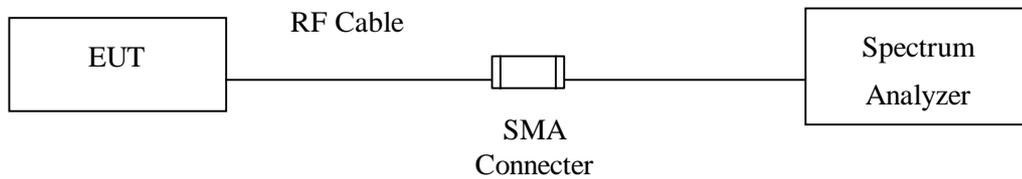
10.1. Test Equipment

The following test equipments are used during the radiated emission tests:

Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Spectrum Analyzer	R & S	FSP40 / 100170	Nov, 2007
X Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008

- Note: 1. All equipments are calibrated every one year.
 2. The test instruments marked by “X” are used to measure the final test results.

10.2. Test Setup



10.3. Limits

N/A

10.4. Test Procedure

The EUT was setup to ANSI C63.4, 2003; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

10.5. Uncertainty

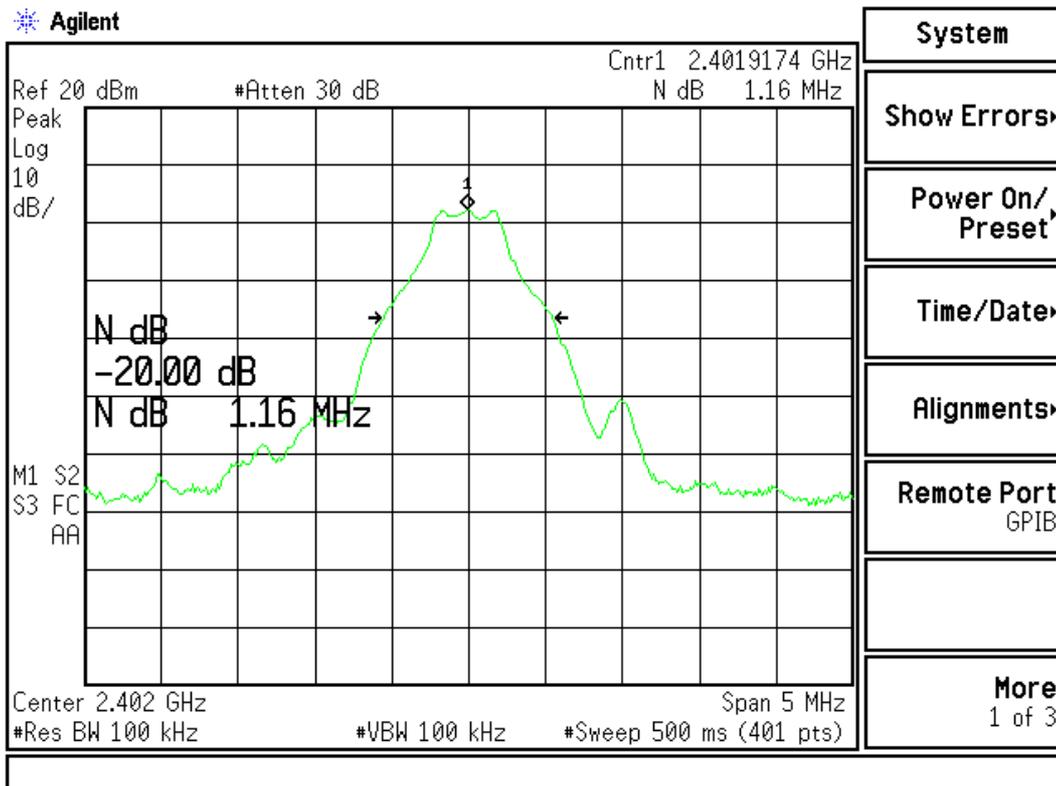
± 150Hz

10.6. Test Result of Occupied Bandwidth

Product : Ultra Mobile PC
 Test Item : Occupied Bandwidth Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter - 1Mbps (GFSK)(2402MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
00	2402	1160	--	NA

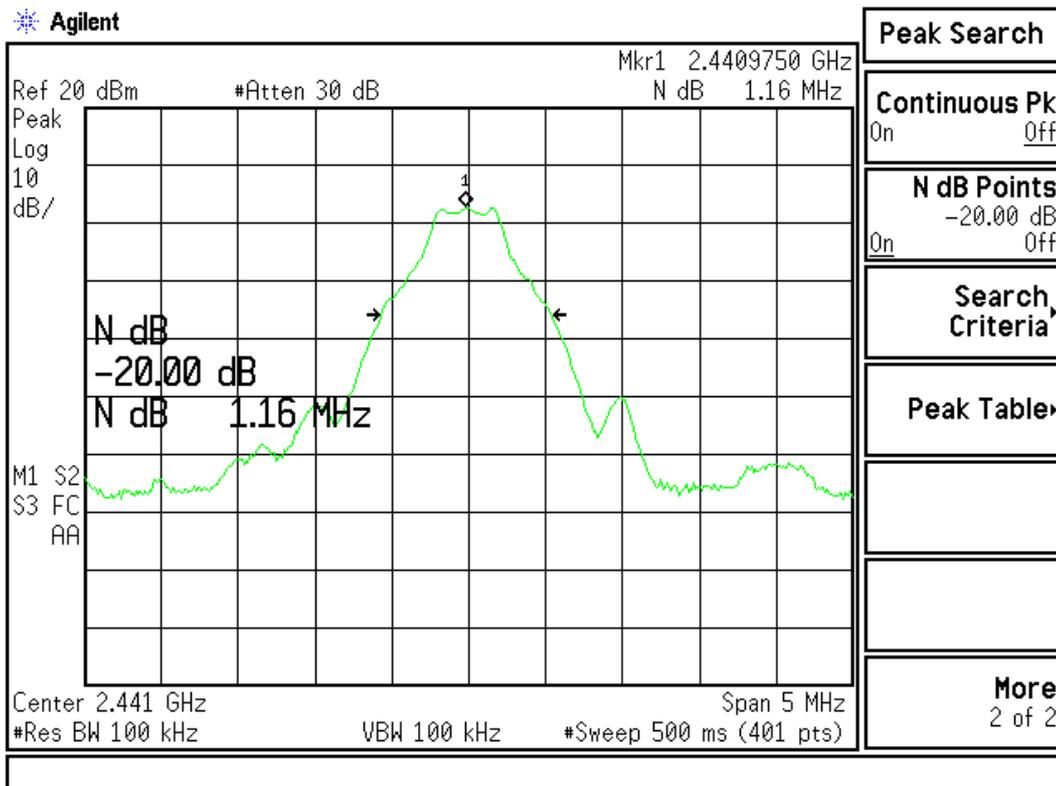
Figure Channel 00:



Product : Ultra Mobile PC
 Test Item : Occupied Bandwidth Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter - 1Mbps (GFSK)(2441MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
39	2441	1160	--	NA

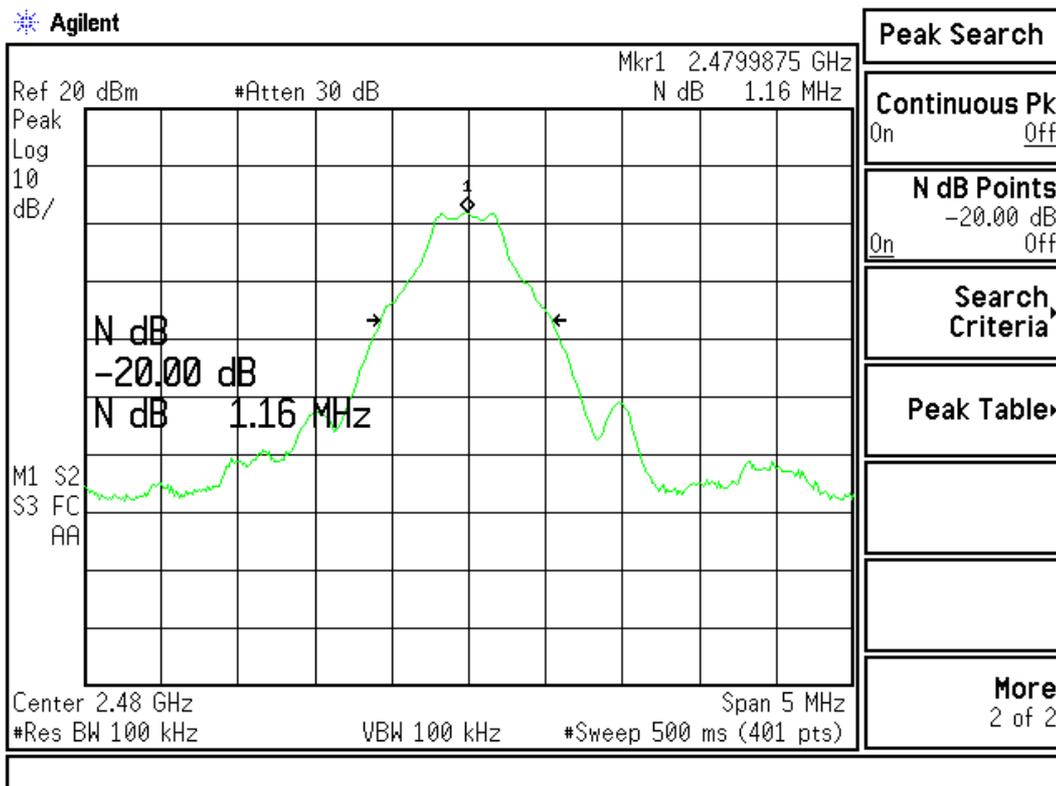
Figure Channel 39:



Product : Ultra Mobile PC
 Test Item : Occupied Bandwidth Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter - 1Mbps (GFSK)(2480MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
78	2480	1160	--	NA

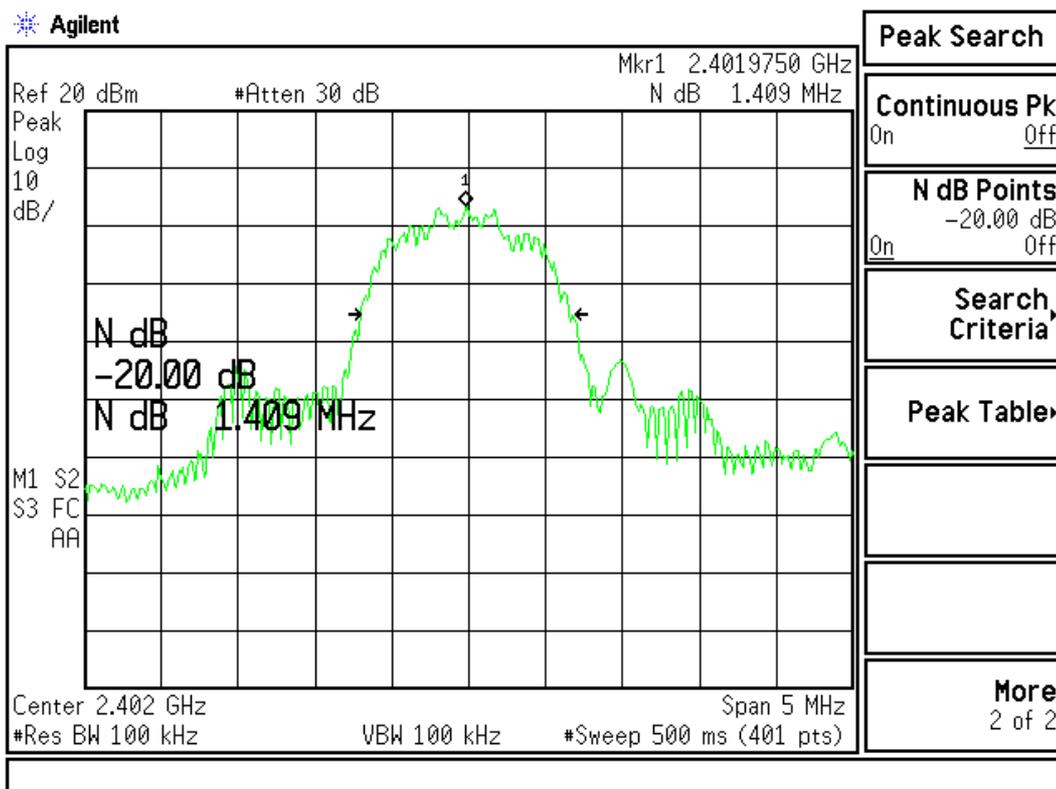
Figure Channel 78:



Product : Ultra Mobile PC
 Test Item : Occupied Bandwidth Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK) (2402MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
00	2402	1409	--	NA

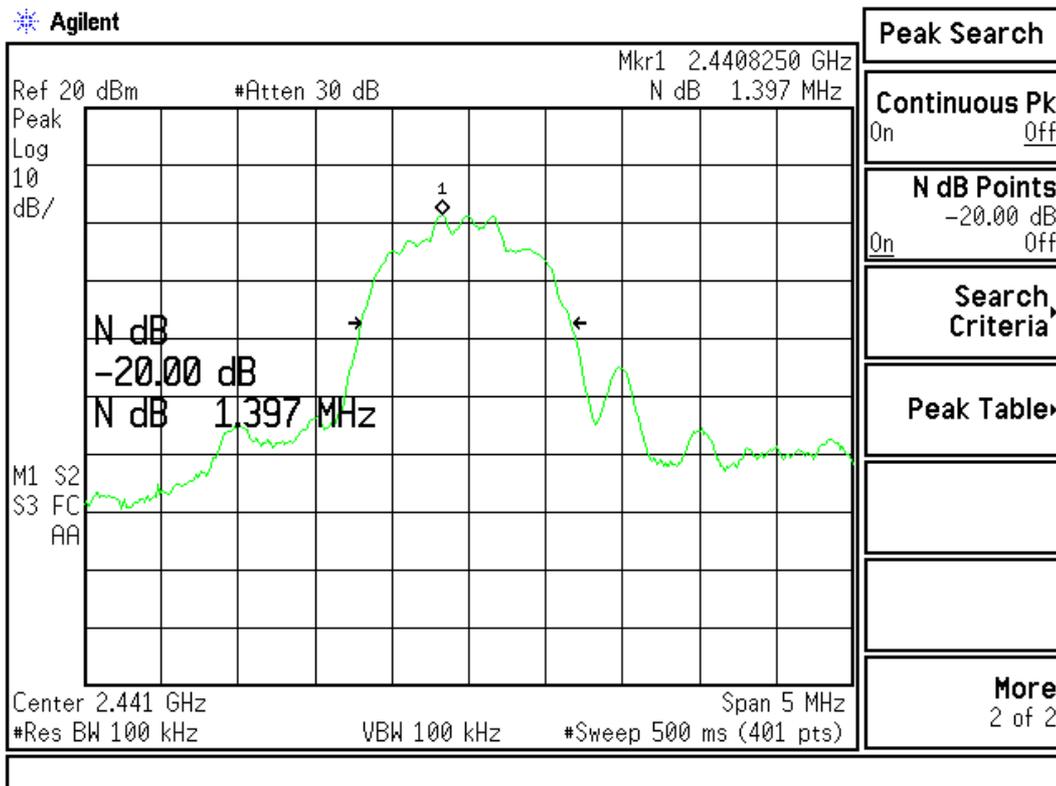
Figure Channel 00:



Product : Ultra Mobile PC
 Test Item : Occupied Bandwidth Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK) (2441MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
39	2441	1397	--	NA

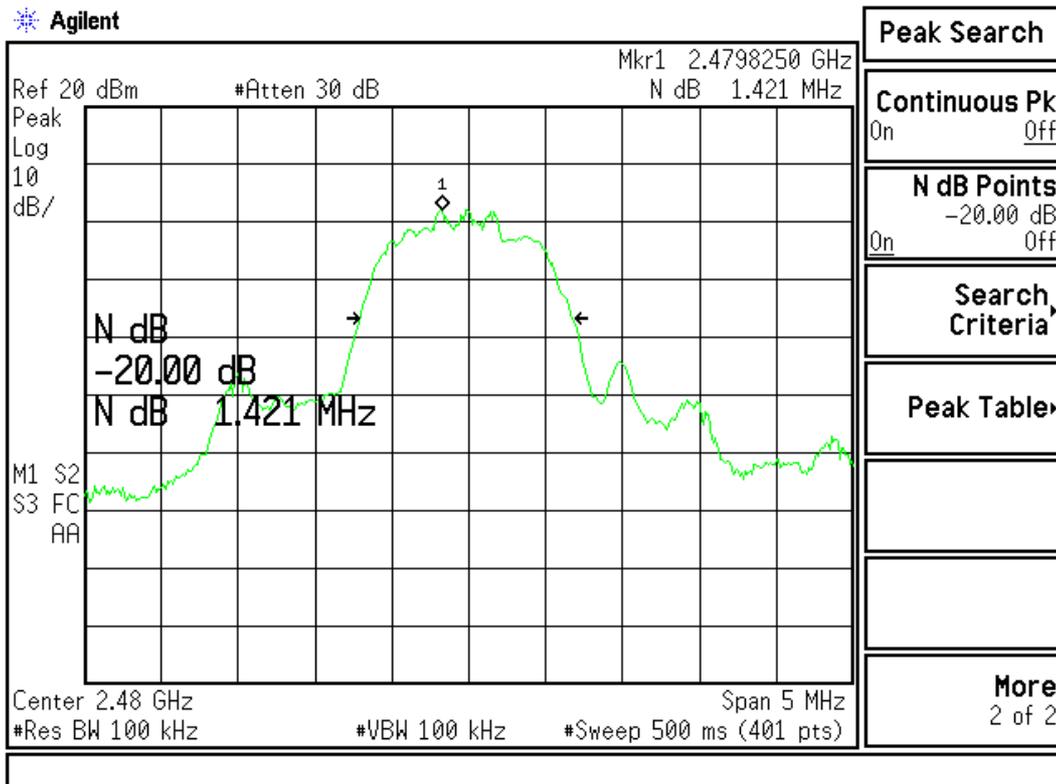
Figure Channel 39:



Product : Ultra Mobile PC
 Test Item : Occupied Bandwidth Data
 Test Site : No.3 OATS
 Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK)(2480MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
78	2480	1421	--	NA

Figure Channel 78:



11. EMI Reduction Method During Compliance Testing

No modification was made during testing.