Test Report

Product Name	Bluetooth/GPS Handheld PDA
Model No.	HSTNH-F15C
FCC ID.	UCVHSTNH-F15C

Applicant	Hon Hai Precision Industry Co., Ltd.
Address	No.66, Jhongshan Rd., Tucheng City, Taipei County 236, Taiwan (R.O.C.)

Date of Receipt	Aug 01, 2007
Issued Date	Aug 27, 2007
Report No.	078077R-RFUSP14V01

Test Report Certification

Issued Date: Aug 27, 2007
Report No.: 078077R-RFUSP14V01

Product Name	Bluetooth/GPS Handheld PDA
Applicant	Hon Hai Precision Industry Co., Ltd.
Address	No.66, Jhongshan Rd., Tucheng City, Taipei County 236, Taiwan (R.O.C.)
Manufacturer	Foxconn Technology Group
Model No.	HSTNH-F15C
FCC ID.	UCVHSTNH-F15C
Rated Voltage	AC 120V/60Hz
Working Voltage	DC 3.7V
Trade Name	HP
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2006 ANSI C63.4: 2003
Test Result	Complied

NVLAP Lab Code: 200533-0

The Test Results relate only to the samples tested.
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This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

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(Engineering Adm. Assistant / Nicole Huang)

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(Senior Engineer / Shine Hsu)

Approved By :
(Deputy Manager /Vincent Lin)

CNLA 0914

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Bluetooth/GPS Handheld PDA
Trade Name	HP
FCC ID.	UCVHSTNH-F15C
Model No.	HSTNH-F15C
Frequency Range	2402 - 2480MHz
Channel Number	79
Type of Modulation	GFSK (1Mbps)、$\pi/4$ DQPSK (2Mbps) and 8DPSK (3Mbps)
Antenna type	Chip Antenna
Channel Control	Auto
Antenna Gain	Refer to the table “Antenna List”

Antenna List

No.	Manufacturer	Part No.	Peak Gain
1	antenova	R10138.099.1v2	0.6 dBi for 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		

Note:

1. This device is a Bluetooth/GPS Handheld PDA with a built-in 2.4GHz Bluetooth 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 Bluetooth/GPS Handheld PDA with a built-in 2.4GHz Bluetooth transceiver. The number of the channels is 79 in 2402-2480MHz. The device adapts the frequency hopping spread spectrum modulation. The antenna is connector-type 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: Transmit 1Mbps Mode 2: Transmit 3Mbps (EDR) Mode 3: Receiver 1Mbps Mode 4: Receiver 3Mbp (EDR)

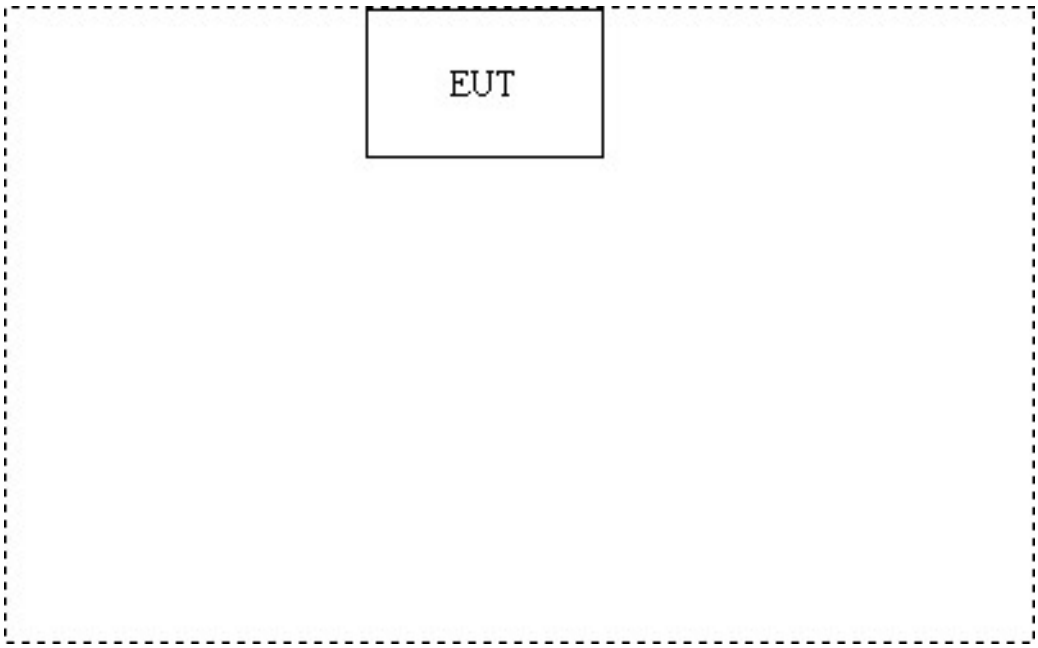
1.3. Tested System Details

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 1.4.

(2) Execute the CSR program Via MT8852B continuous transmission on the EUT.

(3) Setup the test mode, the test channel, and the data rate.

(4) Press OK to start the transmission.

(5) Verify that the EUT works correctly.

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

Site Description: File on
Federal Communications Commission
FCC Engineering Laboratory
7435 Oakland Mills Road
Columbia, MD 21046
Reference 31040/SIT1300F2

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

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2. Peak Power Output

2.1. Test Equipment

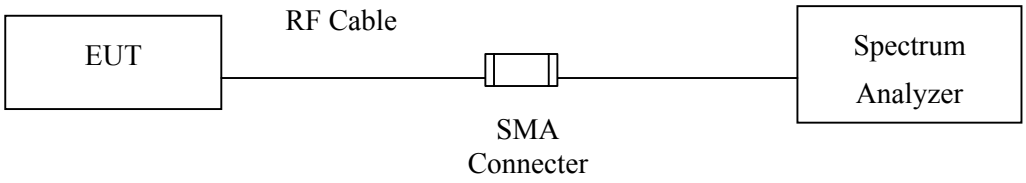
The following test equipments are used during the radiated emission tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Test Receiver	R & S	ESI 26 / 838786 / 004	May, 2007
X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2007

Note: 1. All equipments are calibrated every one year.

2. The test instruments marked by "X" are used to measure the final test results.

2.2. Test Setup



2.3. Limit

The maximum peak power shall be less 1Watt.

2.4. Uncertainty

± 1.27 dB

2.5. Test Result of Peak Power Output

Product : Bluetooth/GPS Handheld PDA
Test Item : Peak Power Output
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit 1Mbps

Cable Loss: 1.0dB

Channel No.	Frequency (MHz)	Reading Level	Measurement Level	Required Limit	Result
Channel 00	2402.00	-0.56dBm	0.44dBm	1 Watt= 30 dBm	Pass
Channel 39	2441.00	-0.14dBm	0.86dBm	1 Watt= 30 dBm	Pass
Channel 78	2480.00	-1.62dBm	-0.62dBm	1 Watt= 30 dBm	Pass

Product : Bluetooth/GPS Handheld PDA
Test Item : Peak Power Output
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit 3Mbps (EDR)

Cable Loss: 1.0dB

Channel No.	Frequency (MHz)	Reading Level	Measurement Level	Required Limit	Result
Channel 00	2402.00	-0.32dBm	0.68dBm	1 Watt= 30 dBm	Pass
Channel 39	2441.00	-0.73dBm	0.27dBm	1 Watt= 30 dBm	Pass
Channel 78	2480.00	-1.50dBm	-0.50dBm	1 Watt= 30 dBm	Pass

3. Radiated Emission

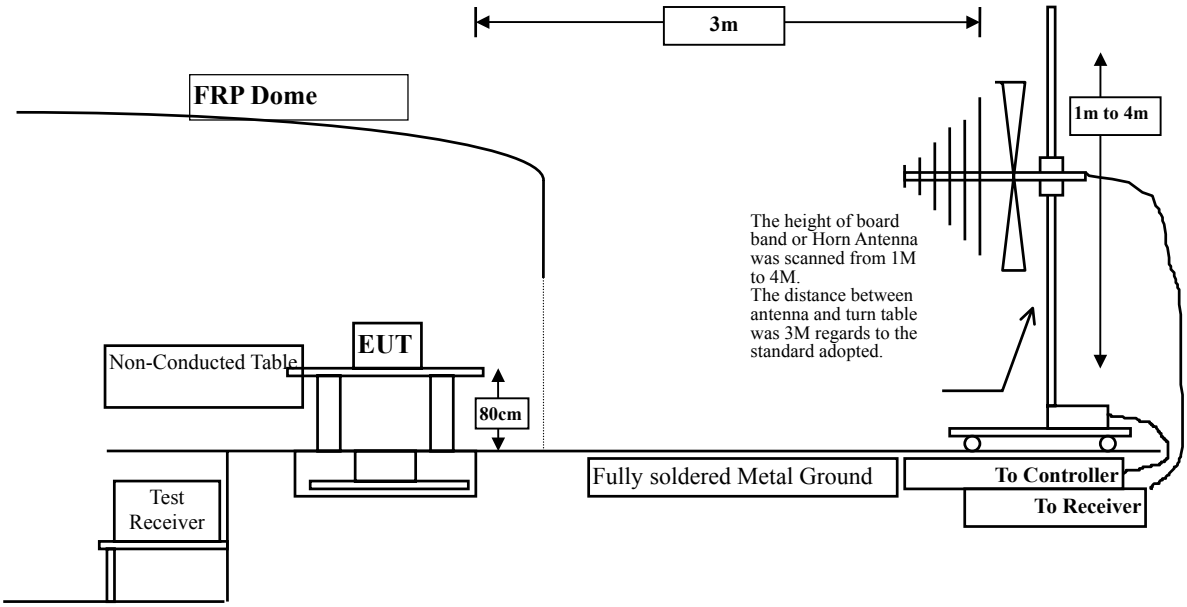
3.1. Test Equipment

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

Test Site	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☐Site # 1	Test Receiver	R & S	ESVS 10 / 834468/003	May, 2007
	Spectrum Analyzer	Advantest	R3162/ 00803480	May, 2007
	Pre-Amplifier	Advantest	BB525C/ 3307A01812	May, 2007
	Bilog Antenna	SCHAFFNER	CBL6112B / 2697	Sep., 2006
☐Site # 2	Test Receiver	R & S	ESCS 30 / 836858 / 022	May, 2007
	Spectrum Analyzer	Advantest	R3162 / 100803466	May, 2007
	Pre-Amplifier	Advantest	BB525C/3307A01814	May, 2007
	Bilog Antenna	SCHAFFNER	CBL6112B / 2705	May, 2007
	Horn Antenna	ETS	3115 / 0005-6160	Sep., 2006
	Pre-Amplifier	QTK	QTK-AMP-01/ 0001	May, 2007
☒Site # 3	Test Receiver	R & S	ESI 26 / 838786 / 004	May, 2007
	Spectrum Analyzer	HP	E4407B / US39440758	May, 2007
	Bilog Antenna	SCHAFFNER	CBL6112B / 2697	May, 2007
	Horn Antenna	Schwarzbeck	BBHA9120D / 305, 306	July, 2007
	Horn Antenna	Schwarzbeck	BBHA9170 / 208, 209	July, 2007
	Pre-Amplifier	QTK	QTK-AMP-01 / 0001	July, 2007
	Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2007
	Pre-Amplifier	HP	8449B / 3008A01123	July, 2007

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. 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.

3.4. 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 additional latch filter below 1GHz was used to measure the level of harmonics radiated emission during field dtrength of harmonics measurement.

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

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

3.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

3.6. Test Result of Radiated Emission

Product : Bluetooth/GPS Handheld PDA
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit 1Mbps (2402MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4804.000	3.563	42.622	46.184	-27.816	74.000
7206.000	9.107	34.008	43.114	-30.886	74.000
9608.000	11.693	33.510	45.203	-28.797	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4804.000	3.563	39.238	42.800	-31.200	74.000
7206.000	9.107	34.780	43.886	-30.114	74.000
9608.000	11.693	34.156	45.849	-28.151	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:10Hz; 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 : Bluetooth/GPS Handheld PDA
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit 1Mbps (2441MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
4882.000	3.831	43.680	47.511	-26.489	74.000
7323.000	9.417	35.519	44.936	-29.064	74.000
9764.000	11.668	33.339	45.007	-28.993	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4882.000	3.831	38.265	42.096	-31.904	74.000
7323.000	9.417	35.609	45.026	-28.974	74.000
9764.000	11.668	34.469	46.137	-27.863	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:10Hz; 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 : Bluetooth/GPS Handheld PDA
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit 1Mbps (2480MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4960.000	4.117	44.094	48.210	-25.790	74.000
7440.000	9.714	35.074	44.788	-29.212	74.000
9920.000	11.742	33.562	45.303	-28.697	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4960.000	4.117	38.397	42.513	-31.487	74.000
7440.000	9.714	34.939	44.653	-29.347	74.000
9920.000	11.742	32.602	44.343	-29.657	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:10Hz; 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 : Bluetooth/GPS Handheld PDA
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit 3Mbps (EDR) (2402MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4804.000	3.563	37.250	40.812	-33.188	74.000
7206.000	9.107	34.323	43.429	-30.571	74.000
9608.000	11.693	33.696	45.389	-28.611	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4804.000	3.563	33.888	37.450	-36.550	74.000
7206.000	9.107	34.220	43.326	-30.674	74.000
9608.000	11.693	33.185	44.878	-29.122	74.000
Average Detector:					
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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:10Hz; 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 : Bluetooth/GPS Handheld PDA
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit 3Mbps (EDR) (2441MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
4882.000	3.831	38.682	42.513	-31.487	74.000
7323.000	9.417	34.185	43.602	-30.398	74.000
9764.000	11.668	34.804	46.472	-27.528	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4882.000	3.831	34.987	38.818	-35.182	74.000
7323.000	9.417	34.347	43.764	-30.236	74.000
9764.000	11.668	32.769	44.437	-29.563	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:10Hz; 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 : Bluetooth/GPS Handheld PDA
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit 3Mbps (EDR) (2480MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4960.000	4.117	38.366	42.482	-31.518	74.000
7440.000	9.714	34.226	43.940	-30.060	74.000
9920.000	11.742	33.555	45.296	-28.704	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4960.000	4.117	35.674	39.790	-34.210	74.000
7440.000	9.714	33.711	43.425	-30.575	74.000
9920.000	11.742	33.018	44.759	-29.241	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:10Hz; 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 : Bluetooth/GPS Handheld PDA
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 3: Receiver 1Mbps (2402MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
2402.000	-2.318	36.754	34.436	-39.534	73.970
4804.000	3.563	33.652	37.214	-36.756	73.970
7206.000	9.107	34.178	43.284	-30.686	73.970
9608.000	11.693	33.614	45.307	-28.663	73.970
Average					
Detector:					
--					
Vertical					
Peak Detector:					
2402.000	-2.318	36.850	34.532	-39.438	73.970
4804.000	3.563	34.159	37.721	-36.249	73.970
7206.000	9.107	34.493	43.599	-30.371	73.970
9608.000	11.693	34.158	45.851	-28.119	73.970
Average					
Detector:					
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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:10Hz; 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 : Bluetooth/GPS Handheld PDA
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 3: Receiver 1Mbps (2441MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
2441.000	-2.128	36.493	34.364	-39.606	73.970
4882.000	3.831	34.307	38.138	-35.832	73.970
7323.000	9.417	32.987	42.404	-31.566	73.970
9764.000	11.668	32.341	44.009	-29.961	73.970
Average Detector:					
--					
Vertical					
Peak Detector:					
2441.000	-2.128	37.112	34.983	-38.987	73.970
4882.000	3.831	35.873	39.704	-34.266	73.970
7323.000	9.417	35.429	44.846	-29.124	73.970
9764.000	11.668	33.730	45.398	-28.572	73.970
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:10Hz; 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 : Bluetooth/GPS Handheld PDA
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 3: Receiver 1Mbps (2480MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
2480.000	-1.952	37.309	35.357	-38.613	73.970
4960.000	4.117	34.008	38.124	-35.846	73.970
7440.000	9.714	33.373	43.087	-30.883	73.970
9920.000	11.742	33.242	44.983	-28.987	73.970
Average Detector:					
--					
Vertical					
Peak Detector:					
2480.000	-1.952	36.484	34.532	-39.438	73.970
4960.000	4.117	34.758	38.874	-35.096	73.970
7440.000	9.714	33.207	42.921	-31.049	73.970
9920.000	11.742	32.722	44.463	-29.507	73.970
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:10Hz; 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 : Bluetooth/GPS Handheld PDA
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 4: Receiver 3Mbp (EDR) (2402MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
2402.000	-2.318	36.700	34.382	-39.588	73.970
4804.000	3.563	33.992	37.554	-36.416	73.970
7206.000	9.107	34.001	43.107	-30.863	73.970
9608.000	11.693	33.973	45.666	-28.304	73.970
Average Detector:					
--					
Vertical					
Peak Detector:					
2402.000	-2.318	36.483	34.165	-39.805	73.970
4804.000	3.563	34.460	38.022	-35.948	73.970
7206.000	9.107	34.315	43.421	-30.549	73.970
9608.000	11.693	33.109	44.802	-29.168	73.970
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:10Hz; 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 : Bluetooth/GPS Handheld PDA
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 4: Receiver 3Mbp (EDR) (2441MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
2441.000	-2.128	36.573	34.444	-39.526	73.970
4882.000	3.831	34.845	38.676	-35.294	73.970
7323.000	9.417	33.857	43.274	-30.696	73.970
9764.000	11.668	33.011	44.679	-29.291	73.970
Average Detector:					
--					
Vertical					
Peak Detector:					
2441.000	-2.128	36.561	34.432	-39.538	73.970
4882.000	3.831	34.423	38.254	-35.716	73.970
7323.000	9.417	34.276	43.693	-30.277	73.970
9764.000	11.668	32.805	44.473	-29.497	73.970
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:10Hz; 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 : Bluetooth/GPS Handheld PDA
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 4: Receiver 3Mbp (EDR) (2480MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
2480.000	-1.952	36.464	34.512	-39.458	73.970
4960.000	4.117	34.483	38.599	-35.371	73.970
7440.000	9.714	33.893	43.607	-30.363	73.970
9920.000	11.742	34.747	46.488	-27.482	73.970
Average Detector:					
--					
Vertical					
Peak Detector:					
2480.000	-1.952	35.845	33.893	-40.077	73.970
4960.000	4.117	33.507	37.623	-36.347	73.970
7440.000	9.714	34.238	43.952	-30.018	73.970
9920.000	11.742	32.881	44.622	-29.348	73.970
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:10Hz; 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 : Bluetooth/GPS Handheld PDA
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit 1Mbps (2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
39.700	-4.010	36.603	32.593	-7.407	40.000
265.225	-5.416	30.392	24.976	-21.024	46.000
531.975	1.403	28.836	30.239	-15.761	46.000
599.875	3.458	26.967	30.425	-15.575	46.000
675.050	2.467	30.571	33.037	-12.963	46.000
750.225	2.884	30.136	33.020	-12.980	46.000
Vertical					
42.125	-2.501	35.093	32.593	-7.407	40.000
531.975	-1.077	27.707	26.630	-19.370	46.000
675.050	-0.653	35.033	34.379	-11.621	46.000
750.225	2.079	32.724	34.803	-11.197	46.000
825.400	3.125	29.257	32.381	-13.619	46.000
900.575	2.906	29.074	31.980	-14.020	46.000

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 : Bluetooth/GPS Handheld PDA
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit 3Mbps (EDR) (2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
44.550	-6.503	37.675	31.172	-8.828	40.000
265.225	-5.416	29.971	24.555	-21.445	46.000
531.975	1.403	29.285	30.688	-15.312	46.000
599.875	3.458	28.327	31.785	-14.215	46.000
675.050	2.467	31.374	33.840	-12.160	46.000
750.225	2.884	28.352	31.236	-14.764	46.000
Vertical					
39.700	-1.450	34.701	33.251	-6.749	40.000
675.050	-0.653	34.149	33.495	-12.505	46.000
750.225	2.079	33.133	35.212	-10.788	46.000
825.400	3.125	29.280	32.404	-13.596	46.000
900.575	2.906	28.574	31.480	-14.520	46.000
968.475	7.630	25.071	32.701	-21.299	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 : Bluetooth/GPS Handheld PDA
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 3: Receiver 1Mbps (2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
42.125	-4.451	34.538	30.088	-9.912	40.000
265.225	-5.416	30.652	25.236	-20.764	46.000
531.975	1.403	28.795	30.198	-15.802	46.000
599.875	3.458	27.847	31.305	-14.695	46.000
675.050	2.467	31.825	34.291	-11.709	46.000
750.225	2.884	28.939	31.823	-14.177	46.000
Vertical					
42.125	-2.501	34.436	31.936	-8.064	40.000
531.975	-1.077	26.660	25.583	-20.417	46.000
675.050	-0.653	35.225	34.571	-11.429	46.000
750.225	2.079	32.821	34.900	-11.100	46.000
825.400	3.125	28.702	31.826	-14.174	46.000
900.575	2.906	28.654	31.560	-14.440	46.000

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 : Bluetooth/GPS Handheld PDA
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 4: Receiver 3Mbp (EDR) (2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
42.125	-4.451	39.309	34.859	-5.141	40.000
265.225	-5.416	30.816	25.400	-20.600	46.000
531.975	1.403	27.164	28.567	-17.433	46.000
599.875	3.458	28.084	31.542	-14.458	46.000
675.050	2.467	32.221	34.687	-11.313	46.000
750.225	2.884	30.313	33.197	-12.803	46.000
Vertical					
42.125	-2.501	36.298	33.798	-6.202	40.000
544.100	-1.208	27.031	25.823	-20.177	46.000
675.050	-0.653	35.487	34.833	-11.167	46.000
750.225	2.079	31.893	33.972	-12.028	46.000
801.150	2.576	30.266	32.842	-13.158	46.000
936.950	5.393	28.016	33.409	-12.591	46.000

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.

4. Band Edge

4.1. Test Equipment

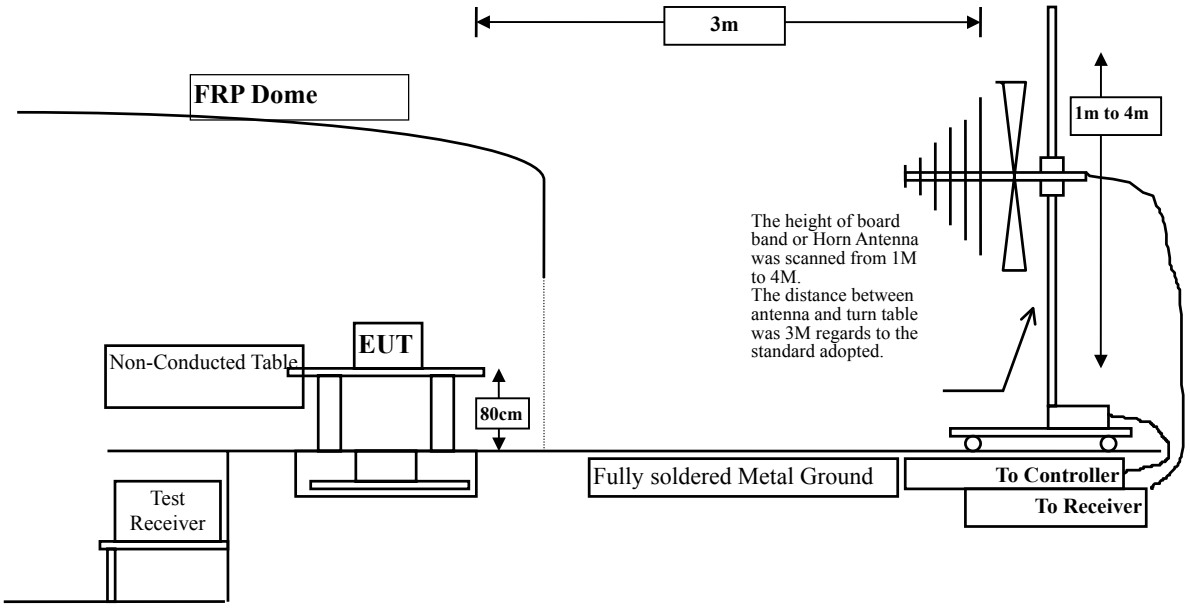
The following test equipments are used during the band edge tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Test Receiver	R & S	ESI 26 / 838786 / 004	May, 2007
X	Spectrum Analyzer	HP	E4407B / US39440758	May, 2007
X	Bilog Antenna	SCHAFFNER	CBL6112B / 2697	May, 2007
X	Horn Antenna	Schwarzbeck	BBHA9120D / 305, 306	July, 2007
X	Horn Antenna	Schwarzbeck	BBHA9170 / 208, 209	July, 2007
X	Pre-Amplifier	QTK	QTK-AMP-01 / 0001	July, 2007
X	Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2007
X	Pre-Amplifier	HP	8449B / 3008A01123	July, 2007
Test Site		Site 3		

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

RF Radiated Measurement:



4.3. 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)).

4.4. 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.

4.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

4.6. Test Result of Band Edge

Product : Bluetooth/GPS Handheld PDA
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit 1Mbps (2402MHz)

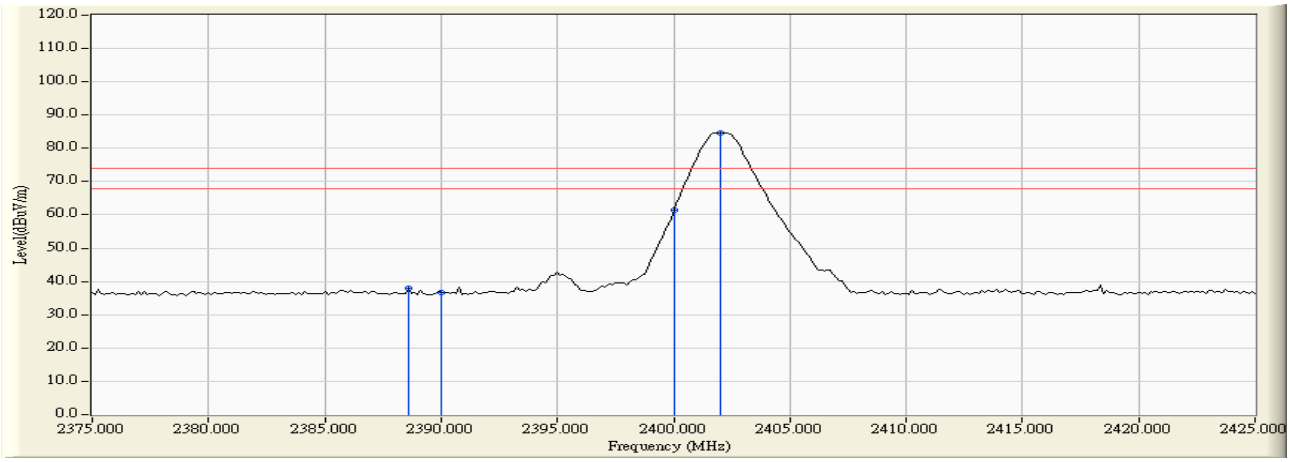
RF Radiated Measurement:

Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
00	<2400	>20	Pass

RF Radiated Measurement (Horizontal):

Channel	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
00 (Peak)	2388.625	-2.384	40.264	37.880	74.00	54.00	Pass
00 (Peak)	2390.000	-2.378	38.900	36.523	74.00	54.00	Pass
00 (Peak)	2400.000	-2.328	63.652	61.324	74.00	54.00	Pass
00 (Peak)	2402.000	-2.318	86.968	84.650	74.00	54.00	Pass
00 (Average)	--	--	--	--	74.00	54.00	Pass

Figure Channel 00: (Horizontal)



Note:

RBW=1MHz, VBW=1MHz, Sweep Time=500ms.

Product : Bluetooth/GPS Handheld PDA
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit 1Mbps (2402MHz)

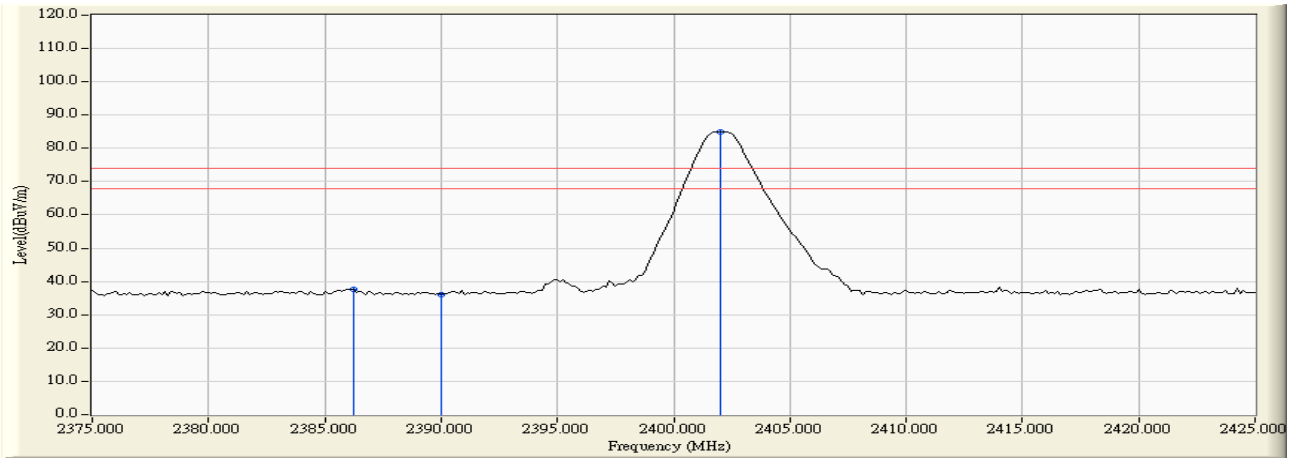
RF Radiated Measurement:

Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
00	<2400	>20	Pass

RF Radiated Measurement (Vertical):

Channel	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
00 (Peak)	2386.250	-2.395	40.099	37.703	74.00	54.00	Pass
00 (Peak)	2390.000	-2.378	38.487	36.110	74.00	54.00	Pass
00 (Peak)	2402.000	-2.318	87.337	85.019	74.00	54.00	Pass
00 (Peak)	2386.250	-2.395	40.099	37.703	74.00	54.00	Pass
00(Average)	--	--	--	--	74.00	54.00	Pass

Figure Channel 00: (Vertical)



Note:

RBW=1MHz, VBW=1MHz, Sweep Time=500ms.

Product : Bluetooth/GPS Handheld PDA
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit 1Mbps (2480MHz)

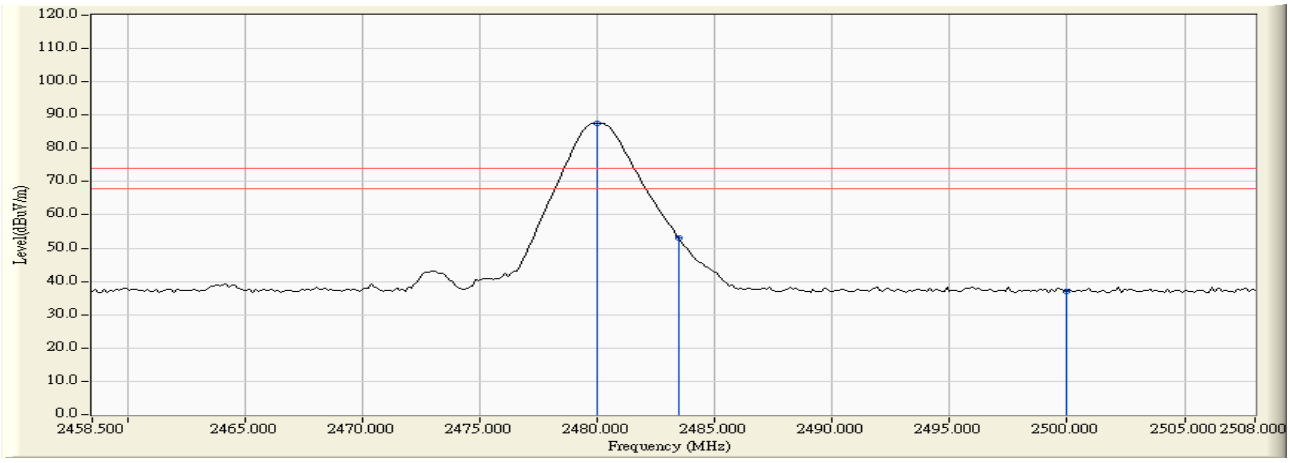
RF Radiated Measurement:

Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
78	>2483.5	>20	Pass

RF Radiated Measurement (Horizontal):

Channel	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
78(Peak)	2480.000	-1.952	89.497	87.546	74.00	54.00	Pass
78(Peak)	2483.500	-1.937	55.021	53.084	74.00	54.00	Pass
78(Peak)	2500.000	-1.886	39.020	37.134	74.00	54.00	Pass
78(Average)	--	--	--	--	74.00	54.00	Pass

Figure Channel 78: (Horizontal)



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

Product : Bluetooth/GPS Handheld PDA
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit 1Mbps (2480MHz)

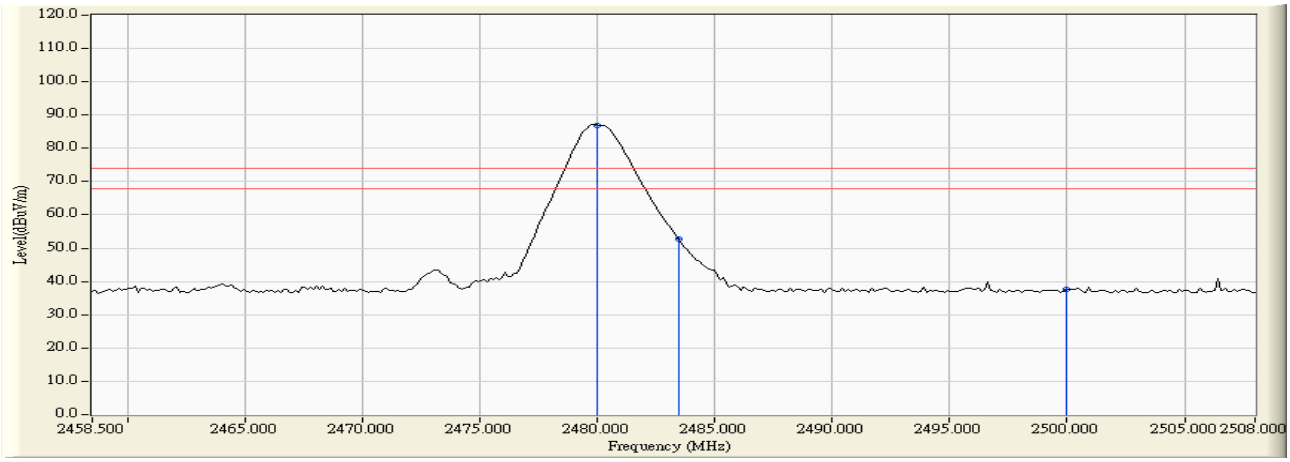
RF Radiated Measurement:

Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
78	>2483.5	>20	Pass

RF Radiated Measurement (Vertical):

Channel	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
78(Peak)	2480.000	-1.952	88.950	86.999	74.00	54.00	Pass
78(Peak)	2483.500	-1.937	54.644	52.707	74.00	54.00	Pass
78(Peak)	2500.000	-1.886	39.376	37.490	74.00	54.00	Pass
78(Average)	--	--	--	--	74.00	54.00	Pass

Figure Channel 78: **(Vertical)**



Note:

RBW=1MHz, VBW=1MHz, Sweep Time=500ms.

Note: 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 : Bluetooth/GPS Handheld PDA
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit 3Mbps (EDR) (2402MHz)

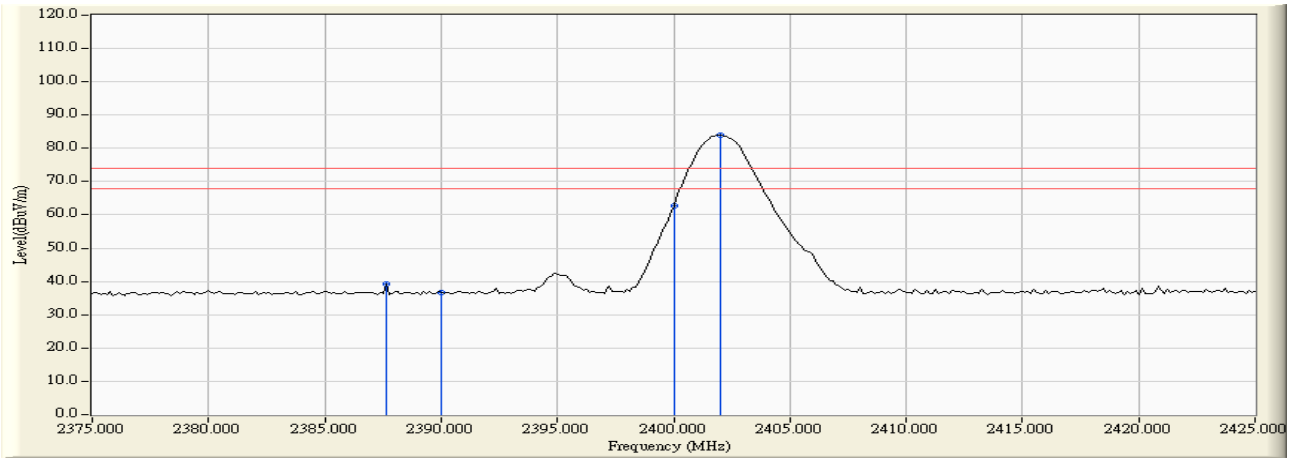
RF Radiated Measurement:

Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
00	<2400	>20	Pass

RF Radiated Measurement (Horizontal):

Channel	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
00 (Peak)	2387.625	-2.390	41.532	39.143	74.00	54.00	Pass
00 (Peak)	2390.000	-2.378	39.025	36.648	74.00	54.00	Pass
00 (Peak)	2400.000	-2.328	65.214	62.886	74.00	54.00	Pass
00 (Peak)	2402.000	-2.318	86.134	83.816	74.00	54.00	Pass
00 (Average)	--	--	--	--	74.00	54.00	Pass

Figure Channel 00: (Horizontal)



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

Product : Bluetooth/GPS Handheld PDA
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit 3Mbps (EDR) (2402MHz)

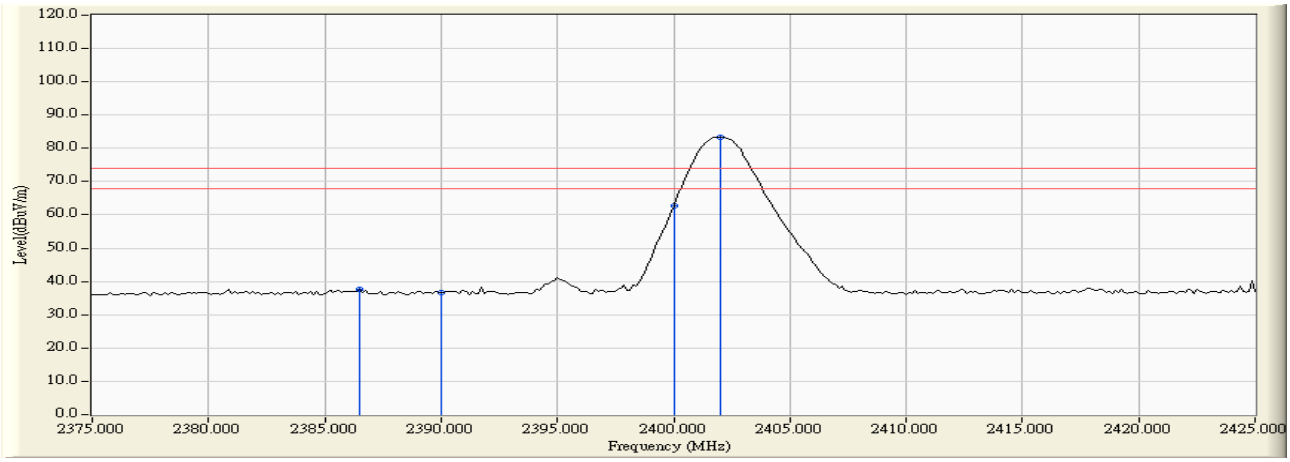
RF Radiated Measurement:

Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
00	<2400	>20	Pass

RF Radiated Measurement (Vertical):

Channel	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
00 (Peak)	2386.500	-2.394	39.908	37.514	74.00	54.00	Pass
00 (Peak)	2390.000	-2.378	39.032	36.655	74.00	54.00	Pass
00 (Peak)	2400.000	-2.328	65.027	62.699	74.00	54.00	Pass
00 (Peak)	2402.000	-2.318	85.531	83.213	74.00	54.00	Pass
00(Average)	--	--	--	--	74.00	54.00	Pass

Figure Channel 00: (Vertical)



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

Product : Bluetooth/GPS Handheld PDA
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit 3Mbps (EDR) (2480MHz)

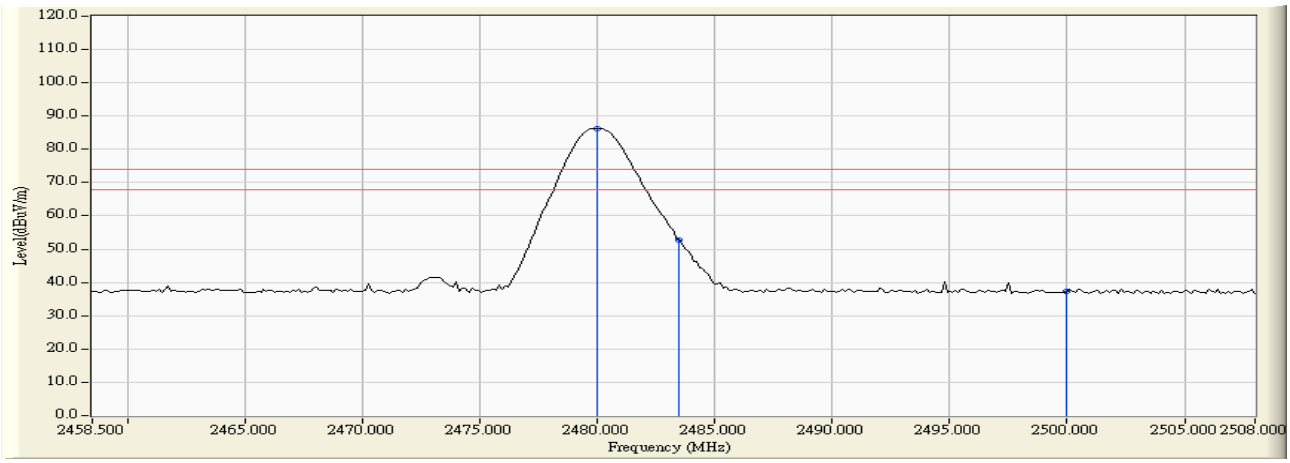
RF Radiated Measurement:

Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
78	>2483.5	>20	Pass

RF Radiated Measurement (Horizontal):

Channel	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
78(Peak)	2480.000	-1.952	88.304	86.353	74.00	54.00	Pass
78(Peak)	2483.500	-1.937	54.738	52.801	74.00	54.00	Pass
78(Peak)	2500.000	-1.886	39.149	37.263	74.00	54.00	Pass
78(Average)	--	--	--	--	74.00	54.00	Pass

Figure Channel 78: (Horizontal)



Note:

RBW=1MHz, VBW=1MHz, Sweep Time=500ms.

Product : Bluetooth/GPS Handheld PDA
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit 3Mbps (EDR) (2480MHz)

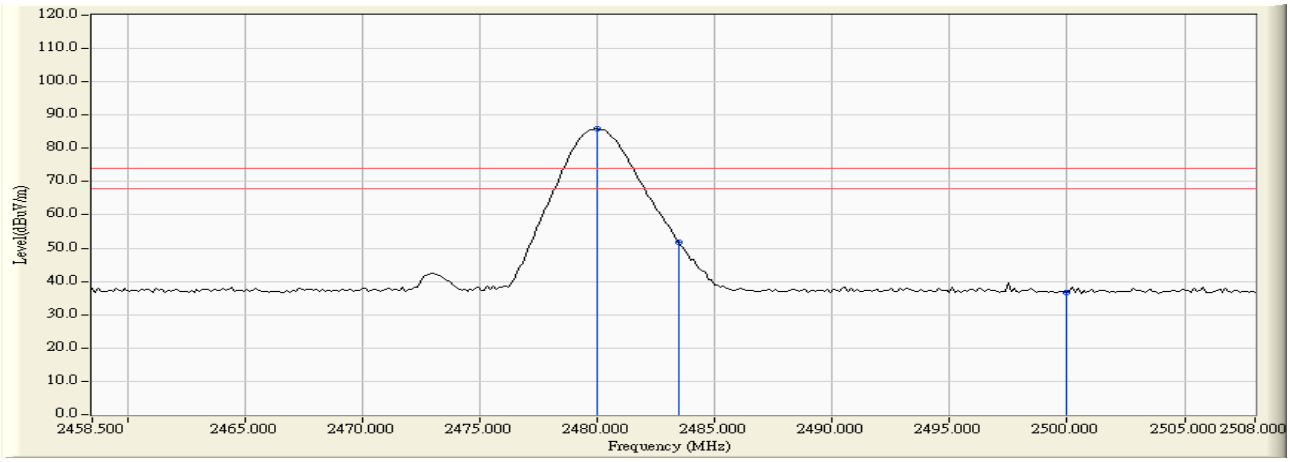
RF Radiated Measurement:

Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
78	>2483.5	>20	Pass

RF Radiated Measurement (Vertical):

Channel	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
78(Peak)	2480.000	-1.952	87.701	85.750	74.00	54.00	Pass
78(Peak)	2483.500	-1.937	53.847	51.910	74.00	54.00	Pass
78(Peak)	2500.000	-1.886	38.653	36.767	74.00	54.00	Pass
78(Average)	--	--	--	--	74.00	54.00	Pass

Figure Channel 78: (**Vertical**)



Note:

RBW=1MHz, VBW=1MHz, Sweep Time=500ms.

Note: 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.

5. Channel Number

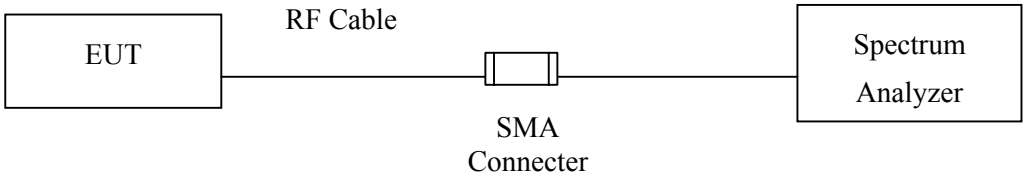
5.1. Test Equipment

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

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Test Receiver	R & S	ESI 26 / 838786 / 004	May, 2007
X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2007

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

5.2. Test Setup



5.3. Limit

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

5.4. Uncertainty

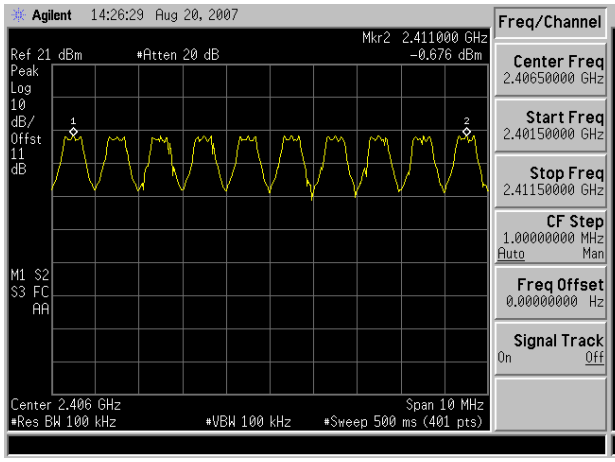
N/A

5.5. Test Result of Channel Number

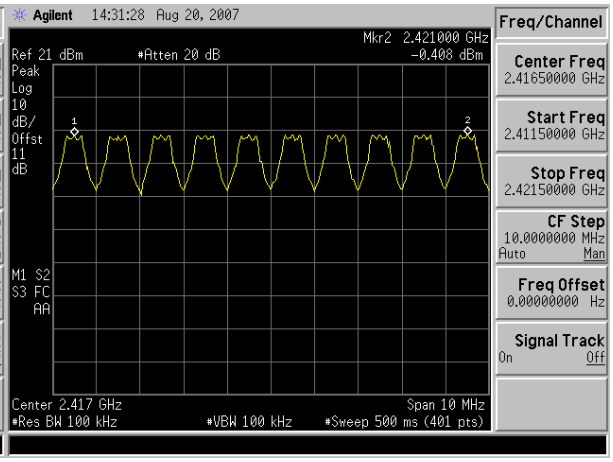
Product : Bluetooth/GPS Handheld PDA
Test Item : Channel Number
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit 1Mbps

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

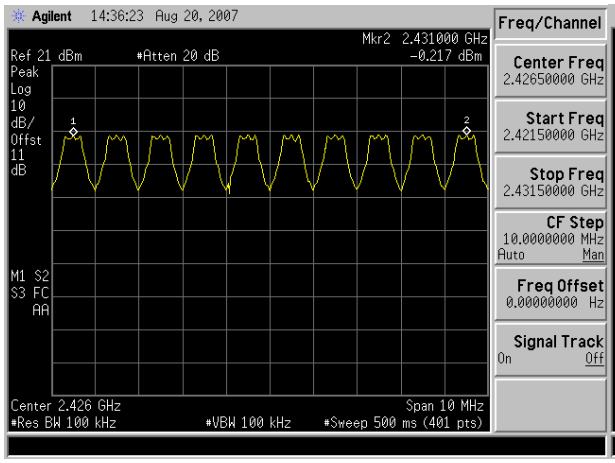
2402-2411MHz



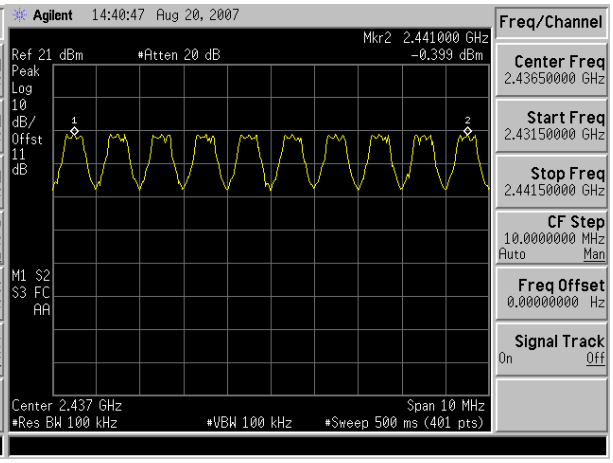
2412-2421MHz



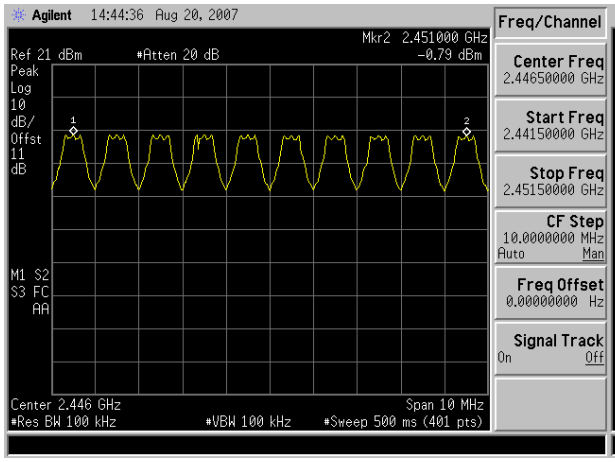
2422-2431MHz



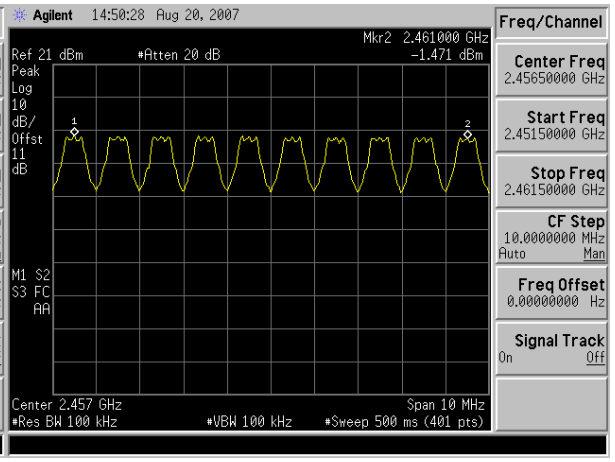
2432-2441MHz



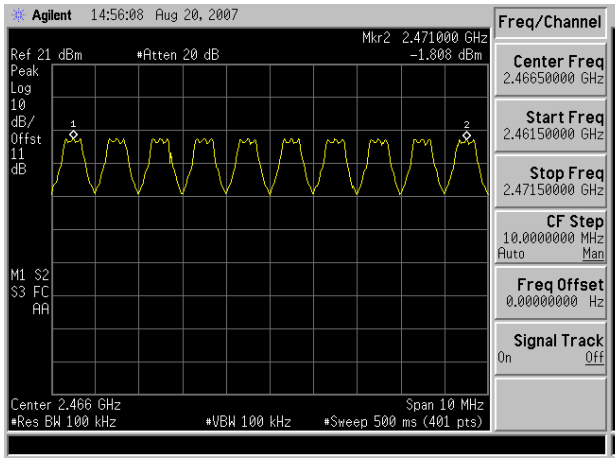
2442-2451MHz



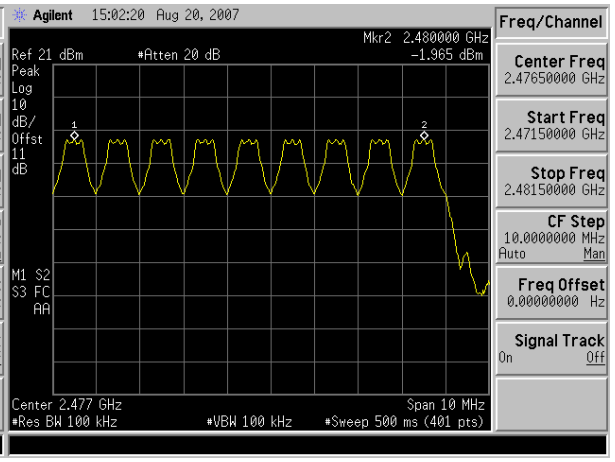
2452-2461MHz



2462-2471MHz



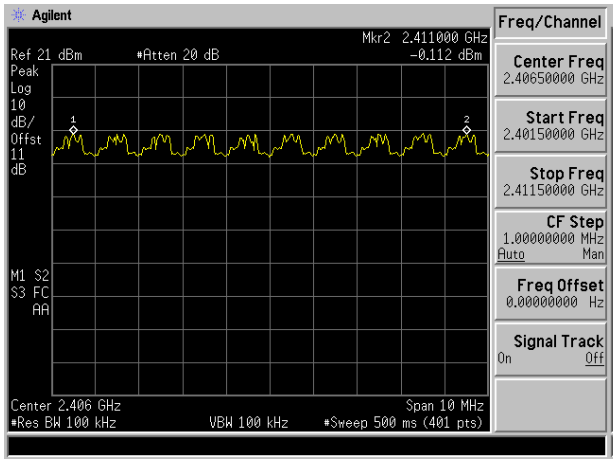
2472-2481MH



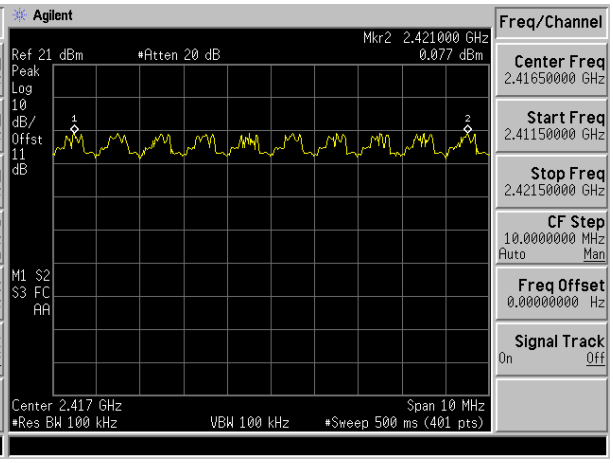
Product : Bluetooth/GPS Handheld PDA
Test Item : Channel Number
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit 3Mbps (EDR)

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

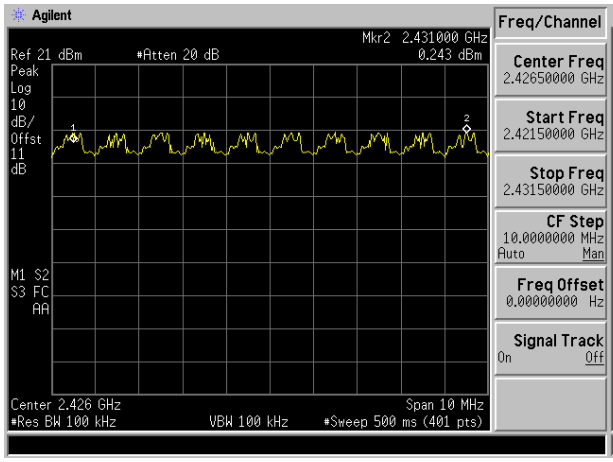
2402-2411MHz



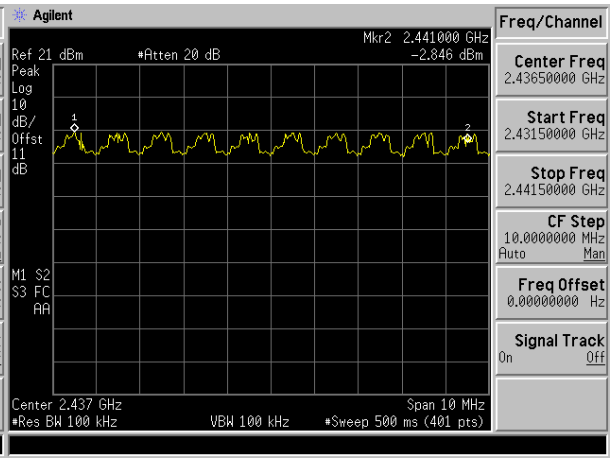
2412-2421MHz



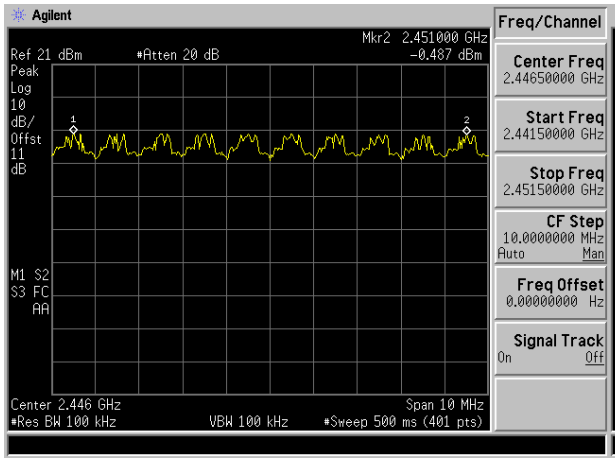
2422-2431MHz



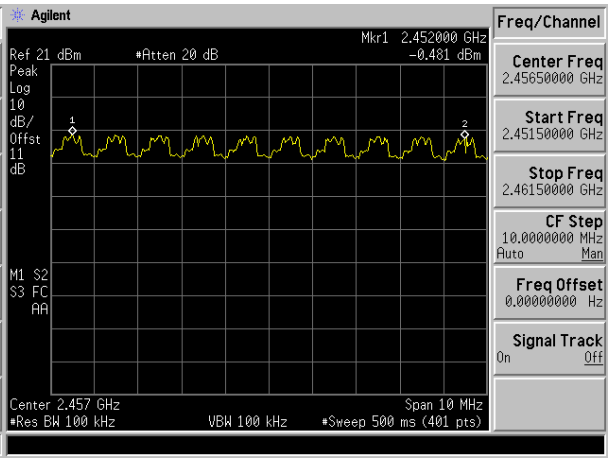
2432-2441MHz



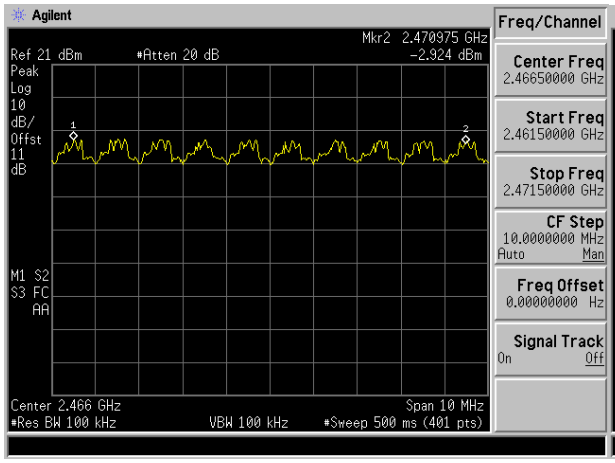
2442-2451MHz



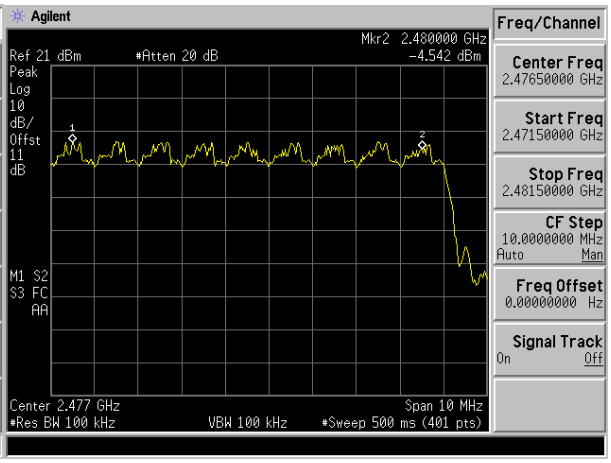
2452-2461MHz



2462-2471MHz



2472-2481MH



6. Channel Separation

6.1. Test Equipment

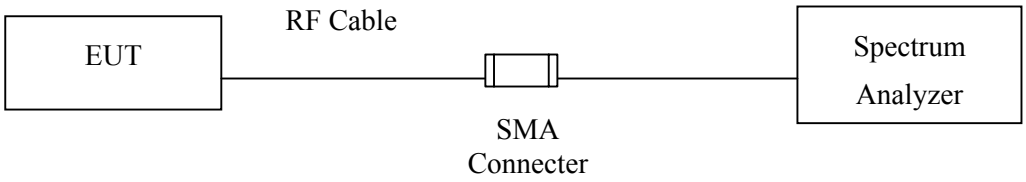
The following test equipments are used during the radiated emission tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Test Receiver	R & S	ESI 26 / 838786 / 004	May, 2007
X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2007

Note: 1. All equipments are calibrated every one year.

2. The test instruments mark by "X" are used to measure the final test results.

6.2. Test Setup



6.3. 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.

6.4. Uncertainty

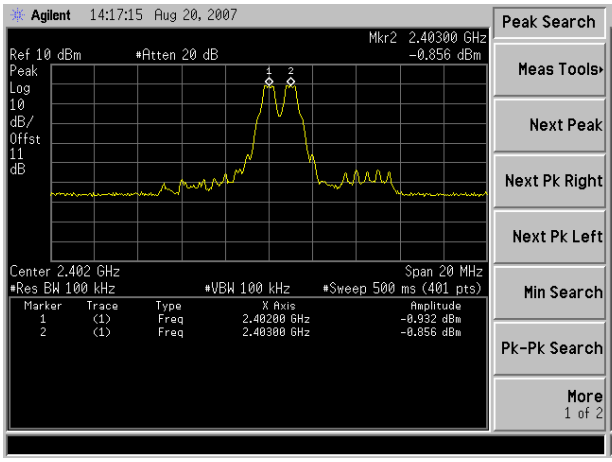
± 150Hz

6.5. Test Result of Channel Separation

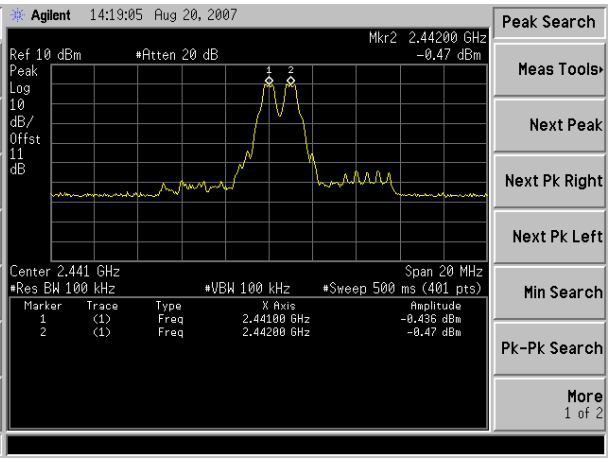
Product : Bluetooth/GPS Handheld PDA
Test Item : Channel Separation
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit 1Mbps

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

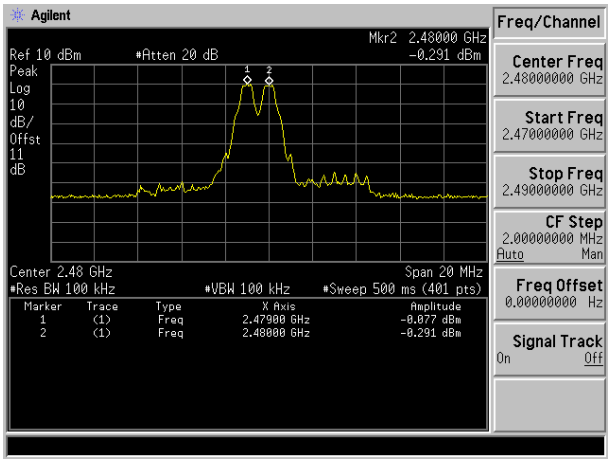
Channel 00 2402MHz



Channel 39 2441MHz



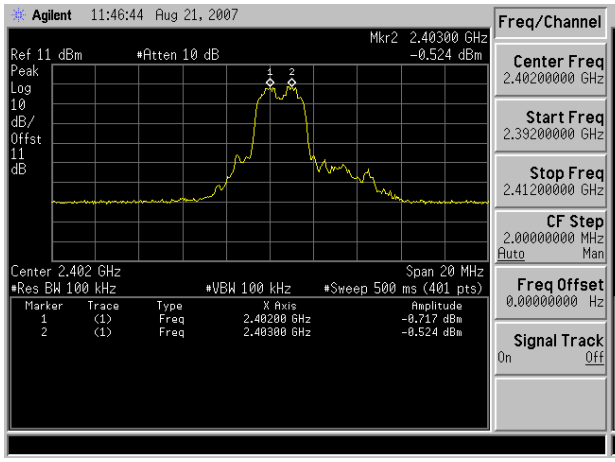
Channel 78 2480 MHz



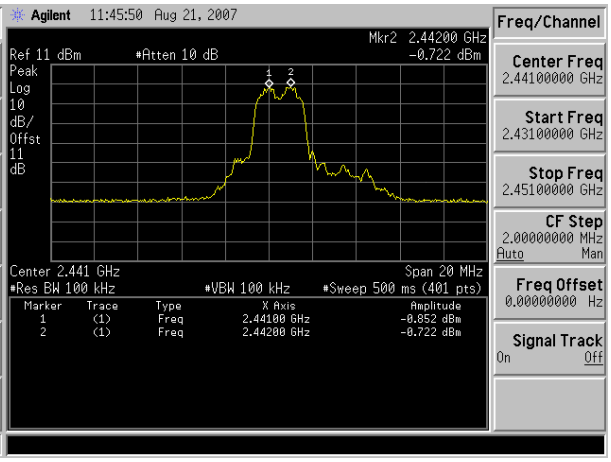
Product : Bluetooth/GPS Handheld PDA
Test Item : Channel Separation
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit 3Mbps (EDR)

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

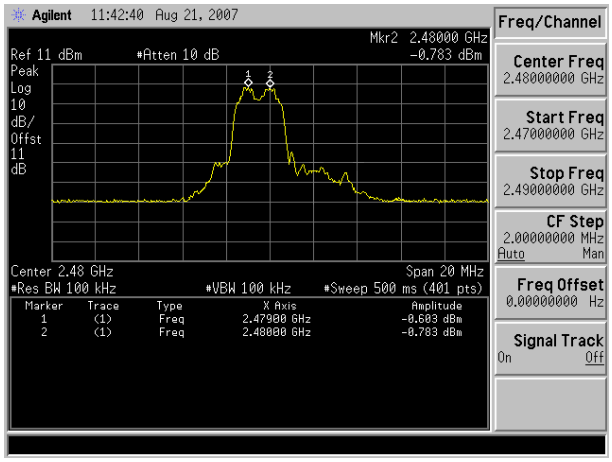
Channel 00 2402MHz



Channel 39 2441MHz



Channel 78 2480 MHz



7. Dwell Time

7.1. Test Equipment

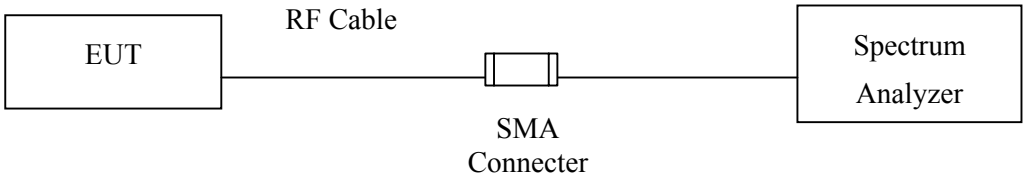
The following test equipments are used during the radiated emission tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Test Receiver	R & S	ESI 26 / 838786 / 004	May, 2007
X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2007

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

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.

7.4. Uncertainty

± 25msec

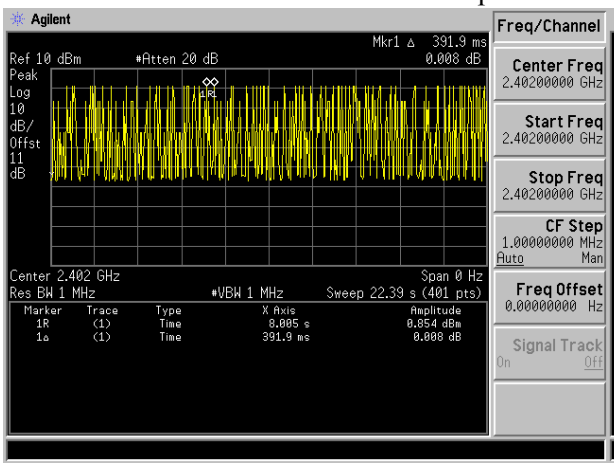
7.5. Test Result of Dwell Time

Product : Bluetooth/GPS Handheld PDA
Test Item : Dwell Time
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit 1Mbps(Channel 00,39,78 –DH5)

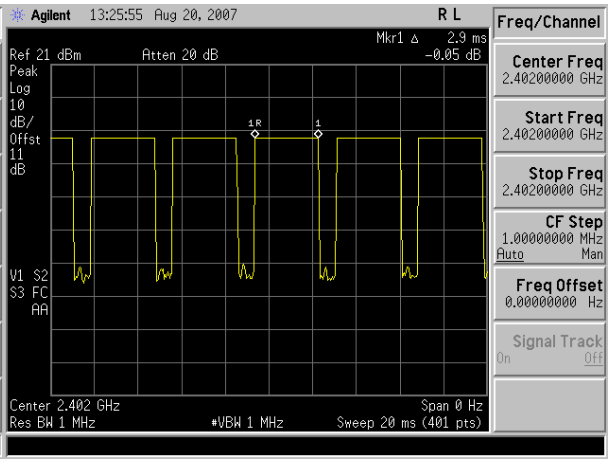
Channel No.	Frequency (MHz)	Time Interval between hops (ms)	Transmission Time (us)	Dwell Time (ms)	Limit (ms)	Result
00	2402	391.9	2900	233.835162	400	Pass
39	2441	559.8	2900	163.7013219	400	Pass
78	2480	335.9	2900	272.8192915	400	Pass

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

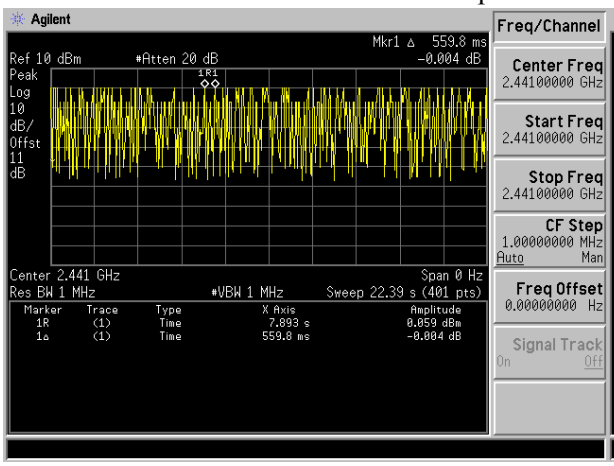
CH 2402MHz Time Interval between hops



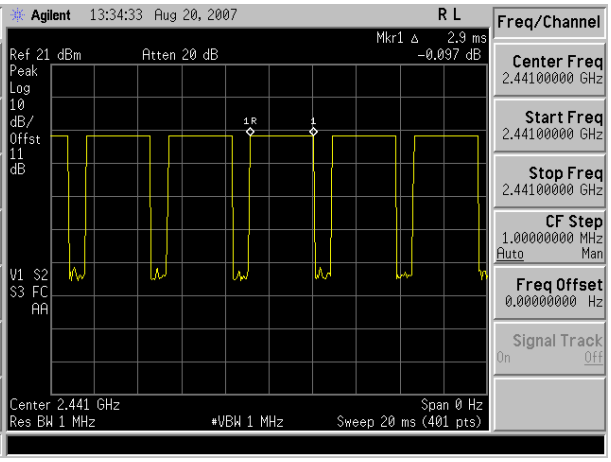
Transmission Time



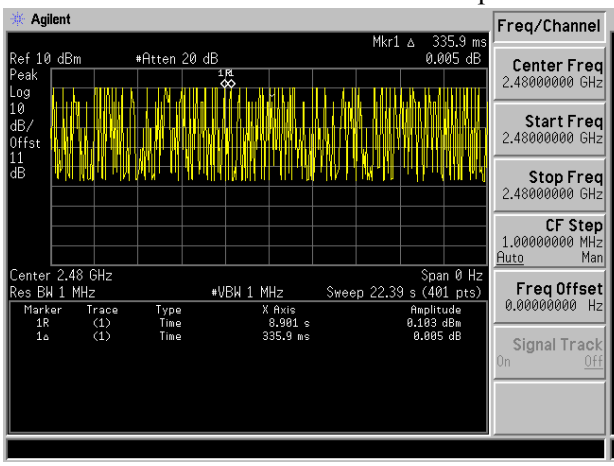
CH 2441MHz Time Interval between hops



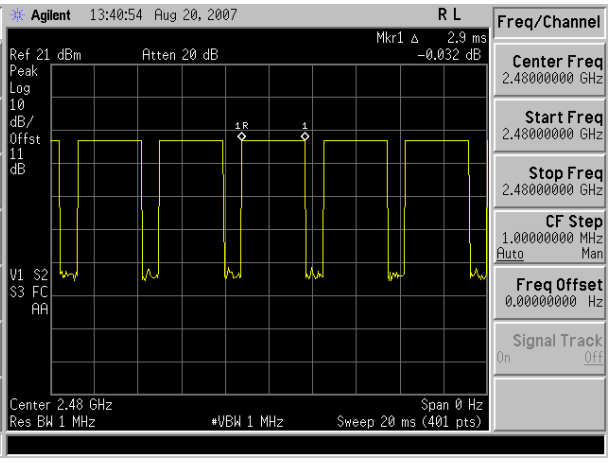
Transmission Time



CH 2480MHz Time Interval between hops



Transmission Time



Note:

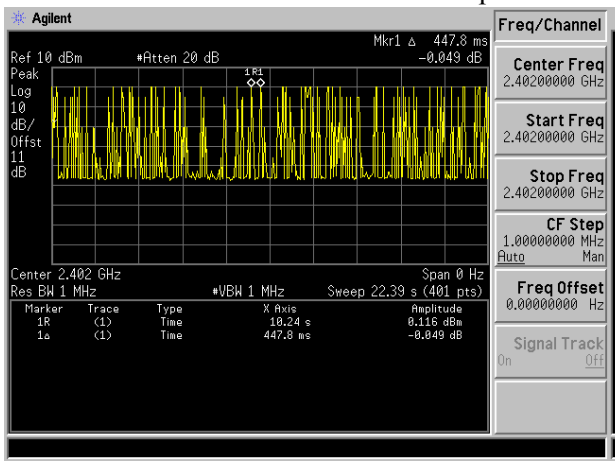
The dwell times of the packet type of DH1, DH3, and DH5 are tested. Only the worst case is shown on the report.

Product : Bluetooth/GPS Handheld PDA
Test Item : Dwell Time
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit 3Mbps (EDR) (Channel 00,39,78 –DH5)

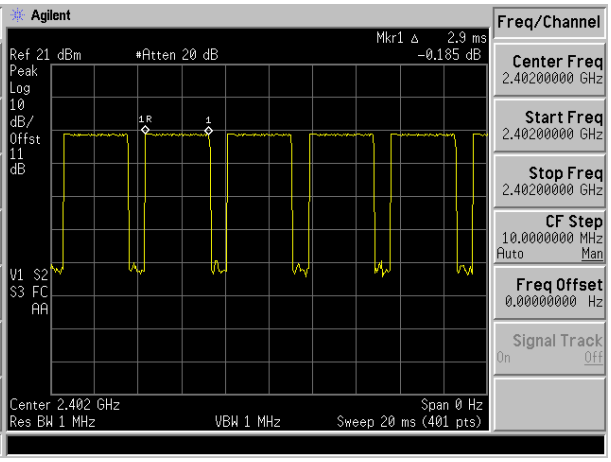
Channel No.	Frequency (MHz)	Time Interval between hops (ms)	Transmission Time (us)	Dwell Time (ms)	Limit (ms)	Result
00	2402	447.8	2900	204.6449308	400	Pass
39	2441	391.9	2900	233.835162	400	Pass
78	2480	381.9	2900	239.9581042	400	Pass

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

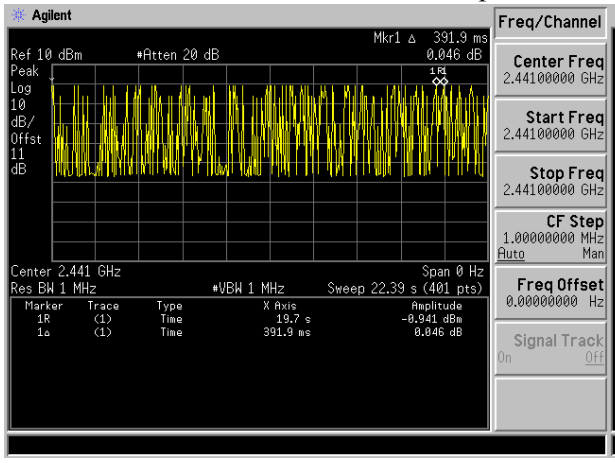
CH 2402MHz Time Interval between hops



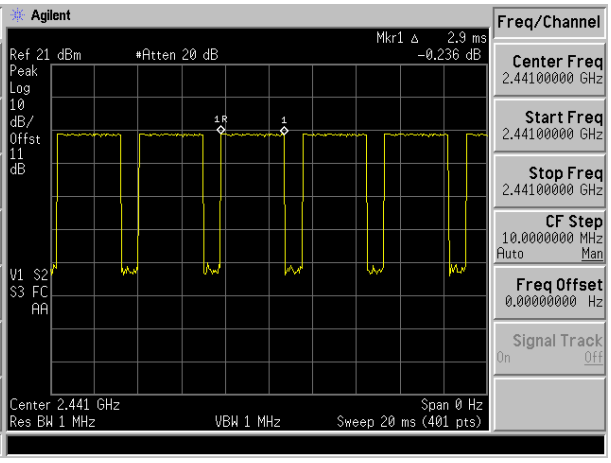
Transmission Time



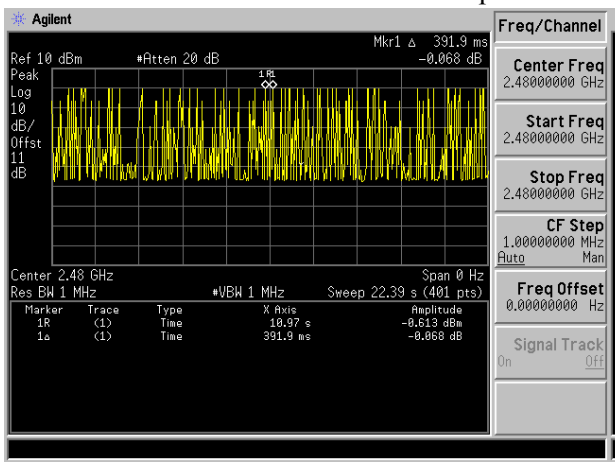
CH 2441MHz Time Interval between hops



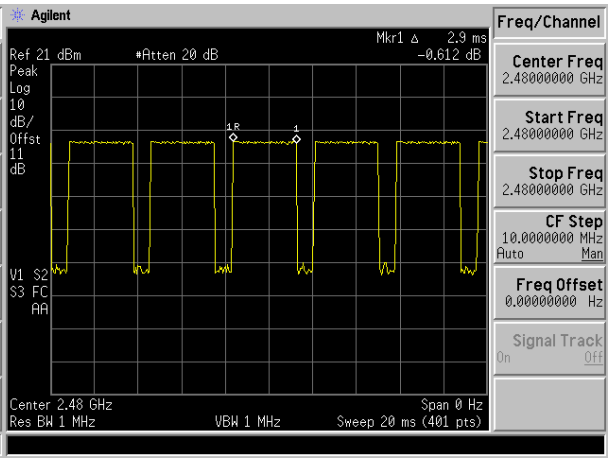
Transmission Time



CH 2480MHz Time Interval between hops



Transmission Time



Note:

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

8. Occupied Bandwidth

8.1. Test Equipment

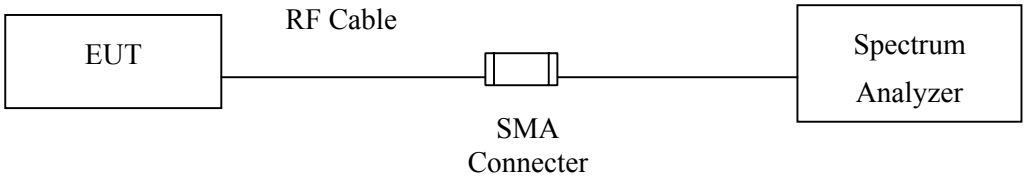
The following test equipments are used during the radiated emission tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Test Receiver	R & S	ESI 26 / 838786 / 004	May, 2007
X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2007

Note: 1. All equipments are calibrated every one year.

2. The test instruments marked by "X" are used to measure the final test results.

8.2. Test Setup



8.3. Limits

N/A

8.4. Uncertainty

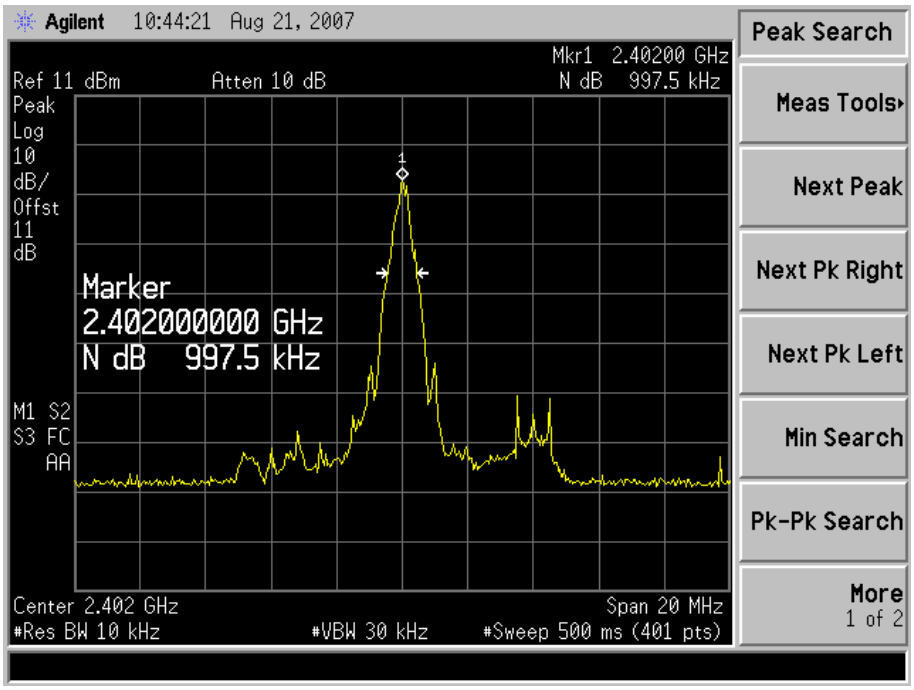
± 150Hz

8.5. Test Result of Occupied Bandwidth

Product : Bluetooth/GPS Handheld PDA
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit 1Mbps (2402MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
00	2402	997.5	--	NA

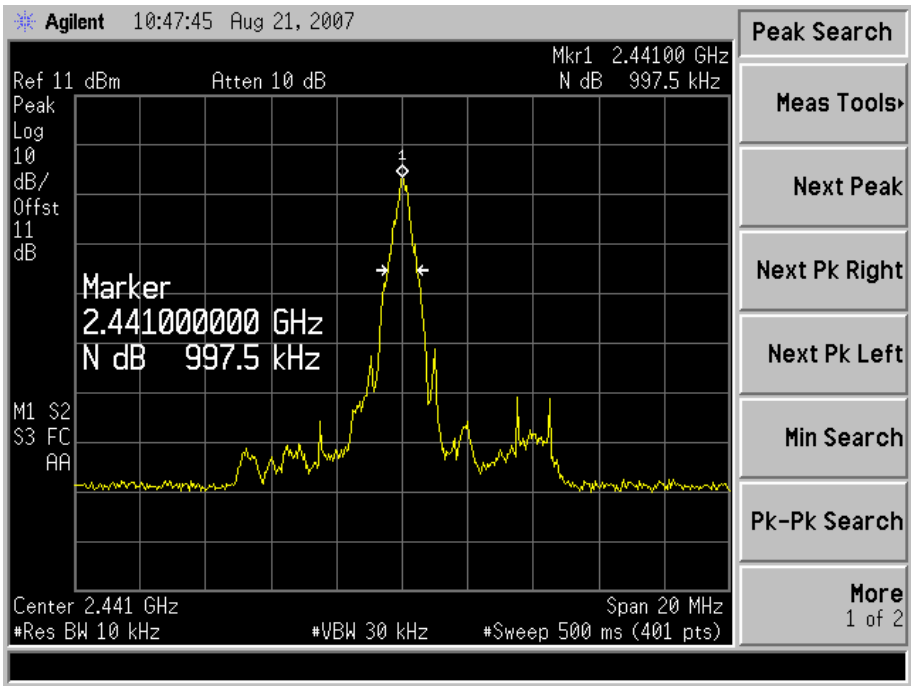
Figure Channel 00:



Product : Bluetooth/GPS Handheld PDA
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit 1Mbps (2441MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
39	2441	997.5	--	NA

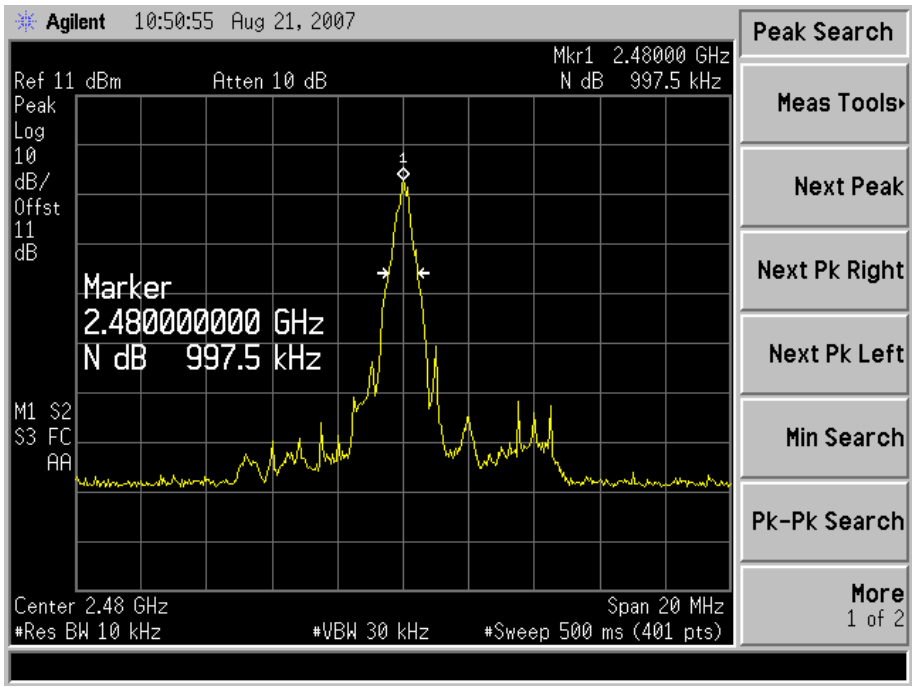
Figure Channel 39:



Product : Bluetooth/GPS Handheld PDA
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit 1Mbps (2480MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
78	2480	997.5	--	NA

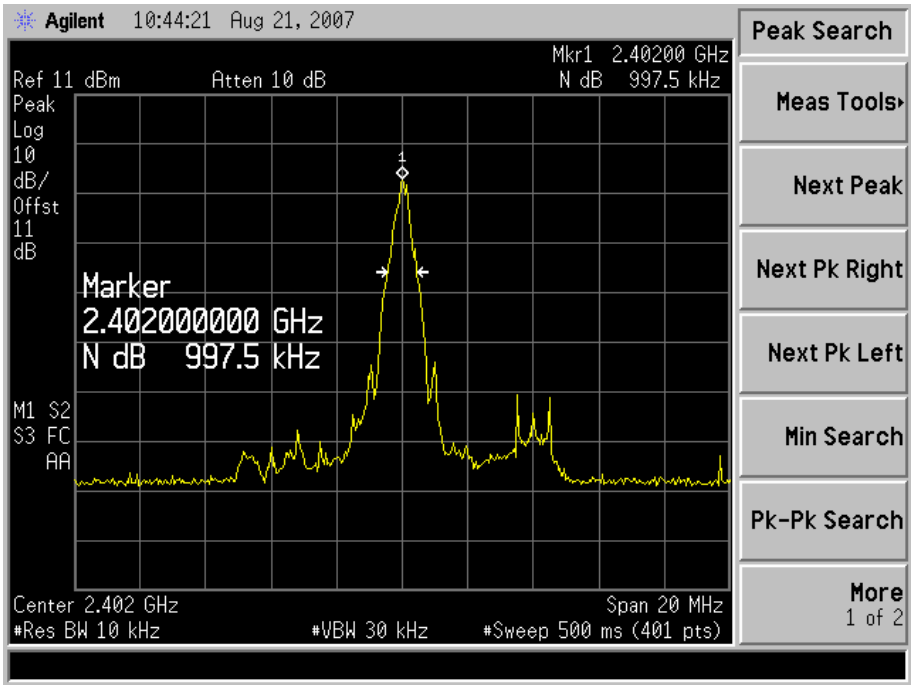
Figure Channel 78:



Product : Bluetooth/GPS Handheld PDA
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit 3Mbps (EDR) (2402MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
00	2402	997.5	--	NA

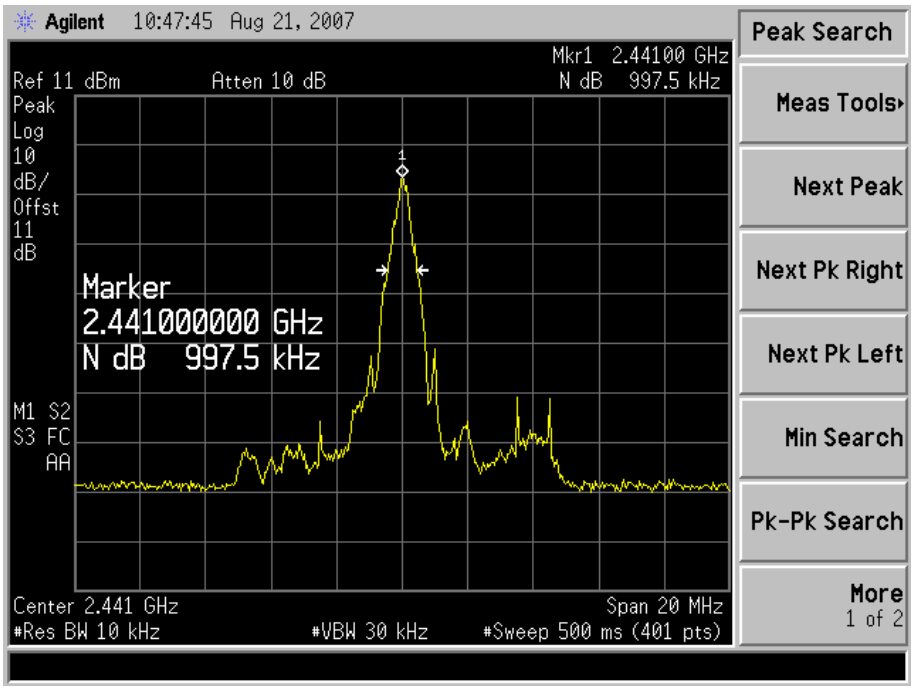
Figure Channel 00:



Product : Bluetooth/GPS Handheld PDA
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit 3Mbps (EDR) (2441MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
39	2441	997.5	--	NA

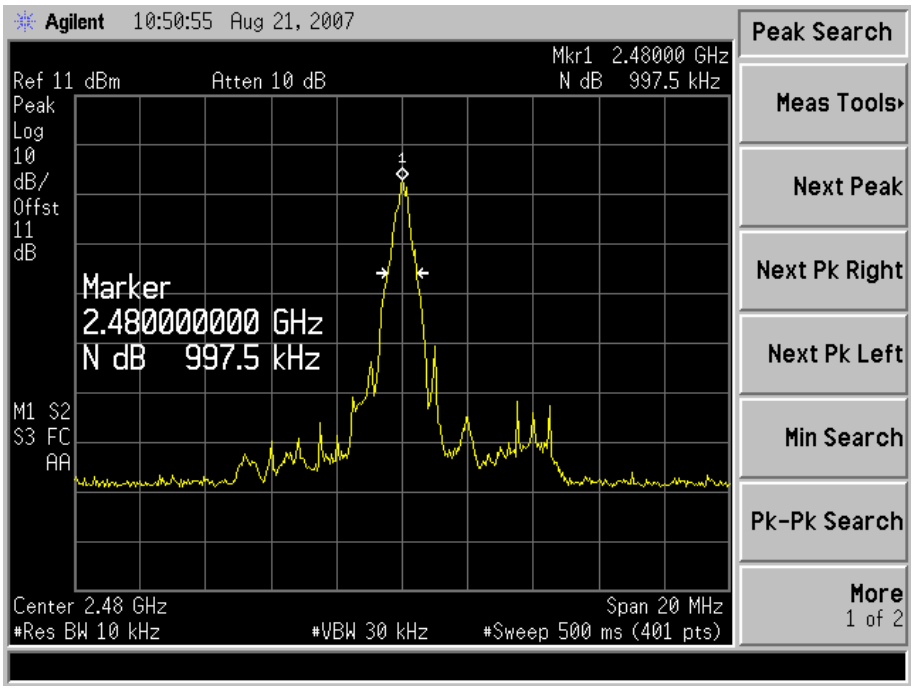
Figure Channel 39:



Product : Bluetooth/GPS Handheld PDA
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit 3Mbps (EDR) (2480MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
78	2480	997.5	--	NA

Figure Channel 78:



9. EMI Reduction Method During Compliance Testing

No modification was made during testing.