Test Report

Product Name	Smart Handheld
Model No.	F900
FCC ID.	HLZSHF900

Applicant	Acer Incorporated
Address	8F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan

Date of Receipt	Feb. 20, 2009
Issued Date	Mar. 19, 2009
Report No.	092276R-RFUSP14V01
Version	V1.0

Test Report Certification

Issued Date: Mar. 19, 2009
Report No.: 092276R-RFUSP14V01

Product Name	Smart Handheld
Applicant	Acer Incorporated
Address	8F, 88, Sec. 1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan
Manufacturer	Arima Communication (JiangSu) Co.,Ltd
Model No.	F900
FCC ID.	HLZSHF900
Rated Voltage	AC 120V/60Hz
Working Voltage	DC 3.7V
Trade Name	acer & glofiish
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2007 ANSI C63.4: 2003
Test Result	Complied

NVLAP Lab Code: 200533-0

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

Documented By : Rita Huang

(Engineering Adm. Specialist / Rita Huang)

Tested By : Eason Hung

(Engineer / Eason Hung)

Approved By :

(Manager / Vincent Lin)

Testing Laboratory
0914

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Smart Handheld
Trade Name	acer & glofiish
Model No.	F900
FCC ID.	HLZSHF900
Frequency Range	2402 – 2480MHz
Channel Number	79
Type of Modulation	GFSK(1Mbps)/ π/4DQPSK(2Mbps) / 8DPSK(3Mbps)
Antenna Type	Chip
Channel Control	Auto
Antenna Gain	Refer to the table “Antenna List”
Power Adapter	MFR: PHIHONG, M/N: PSC05R-050 Input: AC 100-240V~0.2A, 50-60Hz 13-19VA Output: DC 5V, 1.0A Cable Out: Non-Shielded, 1.8m with one ferrite core bonded.

Antenna List

No.	Manufacturer	Part No.	Peak Gain
1	KYOCERA	KYBA100030040AF-L	0.77 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		

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 Smart Handheld 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 a Smart Handheld ,The EUT Contains functions and so on WiFi、Bluetooth、GPS、GSM/WCDMA, this report for Bluetooth. The number of the channels is 79 in 2402-2480MHz. The device adapts the frequency hopping spread spectrum modulation. The antenna is Chip type on PCB 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)

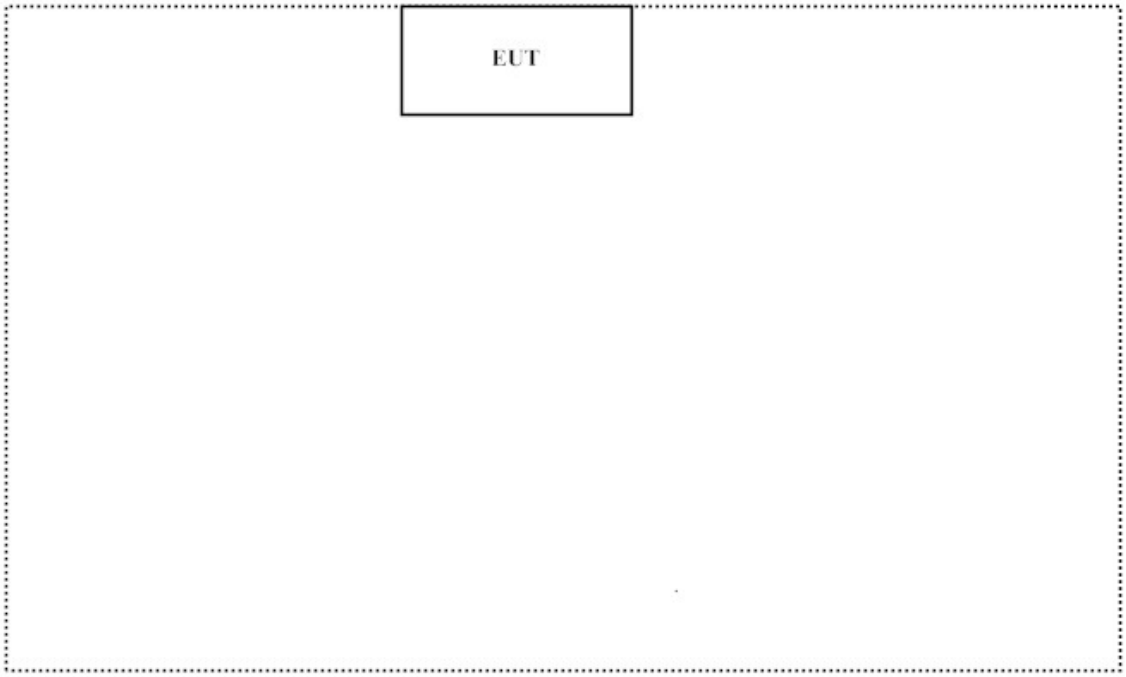
1.3. Tested System Details

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.	FCC ID	Power Cord
(1)	N/A	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) Power on the EUT.

(3) Execute “BT TX Power” Program

(4) Click on the test channel to transmit continuously.

(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
FCC Engineering Laboratory
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

Testing Laboratory
0914

2. Conducted Emission

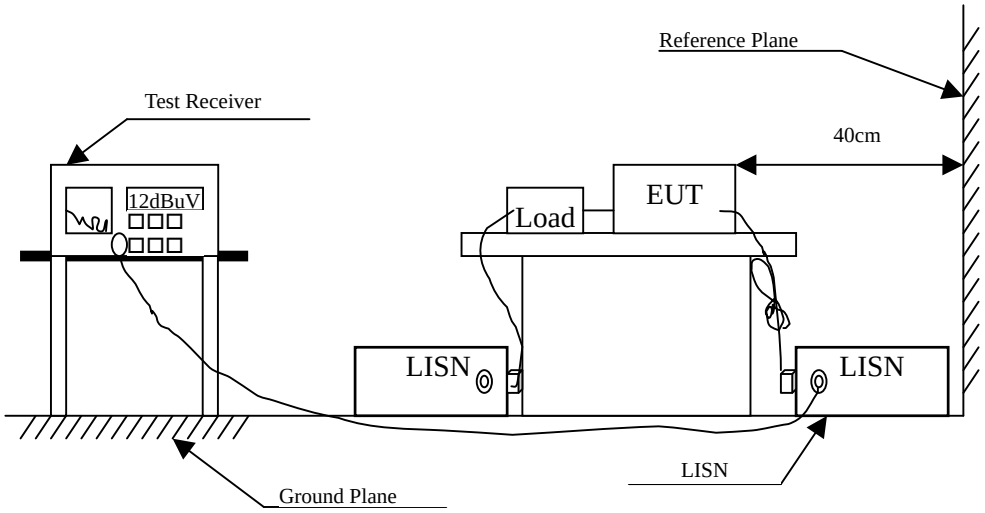
2.1. Test Equipment

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., 2009	
2	L.I.S.N.	R & S	ESH3-Z5/825562/002	Feb., 2009	EUT
3	L.I.S.N.	R & S	ENV4200/848411/010	Feb., 2009	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2/100410	July, 2008	
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 Peripherals 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 invested 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 : Smart Handheld
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 1: Transmitter - 1Mbps (GFSK) (2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 1					
Quasi-Peak					
0.173	9.734	30.860	40.595	-24.748	65.343
0.275	9.659	22.220	31.879	-30.550	62.429
0.466	9.640	24.070	33.710	-23.261	56.971
0.732	9.635	16.890	26.525	-29.475	56.000
1.947	9.680	12.390	22.070	-33.930	56.000
2.380	9.680	11.460	21.140	-34.860	56.000
Average					
0.173	9.734	22.170	31.905	-23.438	55.343
0.275	9.659	15.540	25.199	-27.230	52.429
0.466	9.640	19.580	29.220	-17.751	46.971
0.732	9.635	11.060	20.695	-25.305	46.000
1.947	9.680	6.780	16.460	-29.540	46.000
2.380	9.680	5.910	15.590	-30.410	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 : Smart Handheld
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 1: Transmitter - 1Mbps (GFSK) (2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 2					
Quasi-Peak					
0.185	9.727	29.030	38.758	-26.242	65.000
0.279	9.667	23.210	32.877	-29.437	62.314
0.498	9.640	26.000	35.640	-20.417	56.057
0.982	9.670	15.130	24.800	-31.200	56.000
2.935	9.690	14.870	24.560	-31.440	56.000
4.029	9.700	11.370	21.070	-34.930	56.000
Average					
0.185	9.727	20.910	30.638	-24.362	55.000
0.279	9.667	16.000	25.667	-26.647	52.314
0.498	9.640	21.130	30.770	-15.287	46.057
0.982	9.670	9.020	18.690	-27.310	46.000
2.935	9.690	9.630	19.320	-26.680	46.000
4.029	9.700	5.980	15.680	-30.320	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 : Smart Handheld
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK) (2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 1					
Quasi-Peak					
0.166	9.746	30.610	40.355	-25.188	65.543
0.197	9.709	25.120	34.829	-29.828	64.657
0.259	9.670	22.210	31.880	-31.006	62.886
0.470	9.640	22.410	32.050	-24.807	56.857
1.263	9.670	14.390	24.060	-31.940	56.000
2.697	9.690	13.600	23.290	-32.710	56.000
Average					
0.166	9.746	15.700	25.445	-30.098	55.543
0.197	9.709	12.890	22.599	-32.058	54.657
0.259	9.670	8.080	17.750	-35.136	52.886
0.470	9.640	15.450	25.090	-21.767	46.857
1.263	9.670	3.120	12.790	-33.210	46.000
2.697	9.690	4.690	14.380	-31.620	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 : Smart Handheld
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK) (2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 2					
Quasi-Peak					
0.181	9.732	25.790	35.522	-29.592	65.114
0.259	9.680	22.590	32.270	-30.616	62.886
0.423	9.650	20.540	30.190	-28.010	58.200
0.486	9.640	24.070	33.710	-22.690	56.400
0.697	9.650	19.610	29.260	-26.740	56.000
2.271	9.680	15.280	24.960	-31.040	56.000
Average					
0.181	9.732	13.520	23.252	-31.862	55.114
0.259	9.680	8.220	17.900	-34.986	52.886
0.423	9.650	8.840	18.490	-29.710	48.200
0.486	9.640	17.110	26.750	-19.650	46.400
0.697	9.650	10.170	19.820	-26.180	46.000
2.271	9.680	6.840	16.520	-29.480	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

3. Peak Power Output

3.1. Test Equipment

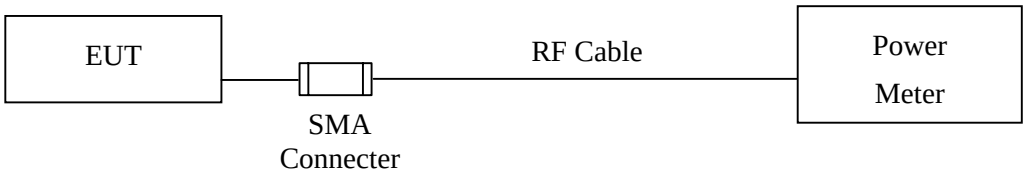
The following test equipments are used during the radiated emission tests:

	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 : Smart Handheld
Test Item : Peak Power Output
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter - 1Mbps (GFSK)

Channel No.	Frequency (MHz)	Measurement	Required Limit	Result
Channel 00	2402.00	-3.14dBm	1 Watt= 30 dBm	Pass
Channel 39	2441.00	-3.23dBm	1 Watt= 30 dBm	Pass
Channel 78	2480.00	-3.71dBm	1 Watt= 30 dBm	Pass

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

Channel No.	Frequency (MHz)	Measurement	Required Limit	Result
Channel 00	2402.00	2.14dBm	1 Watt= 30 dBm	Pass
Channel 39	2441.00	2.17dBm	1 Watt= 30 dBm	Pass
Channel 78	2480.00	1.69dBm	1 Watt= 30 dBm	Pass

4. Radiated Emission

4.1. Test Equipment

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

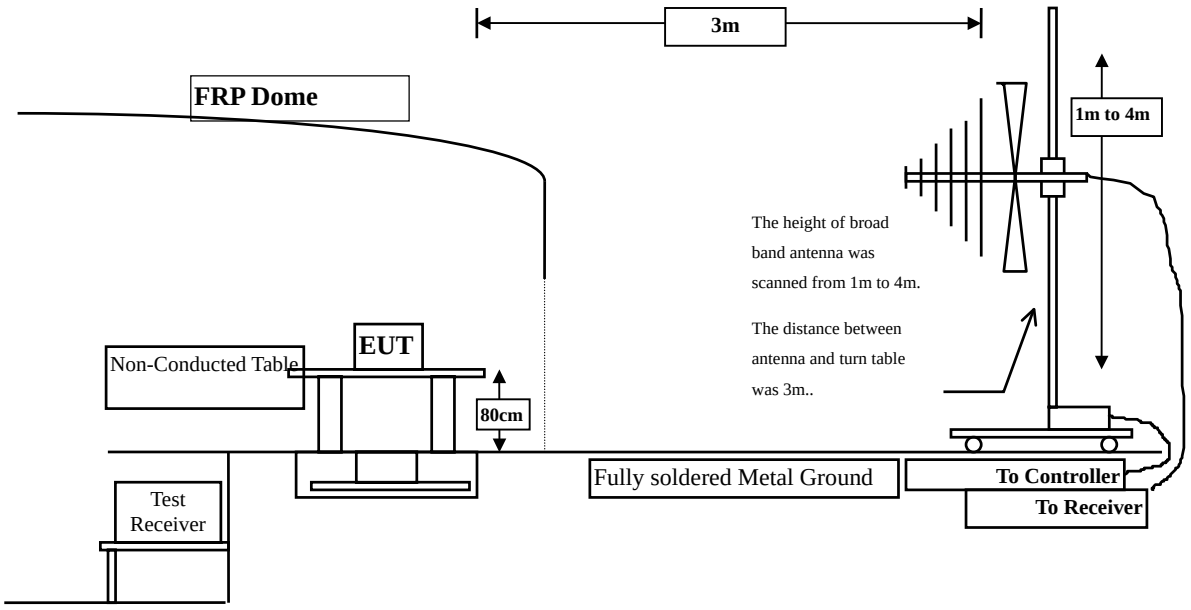
Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒Site # 3	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2008
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2008
	X	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2008
	X	Pre-Amplifier	AGILENT	8447D/2944A09549	Sep., 2008
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2008
	X	Spectrum Analyzer	Advantest	R3162/91700283	Oct., 2008
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2009
	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.

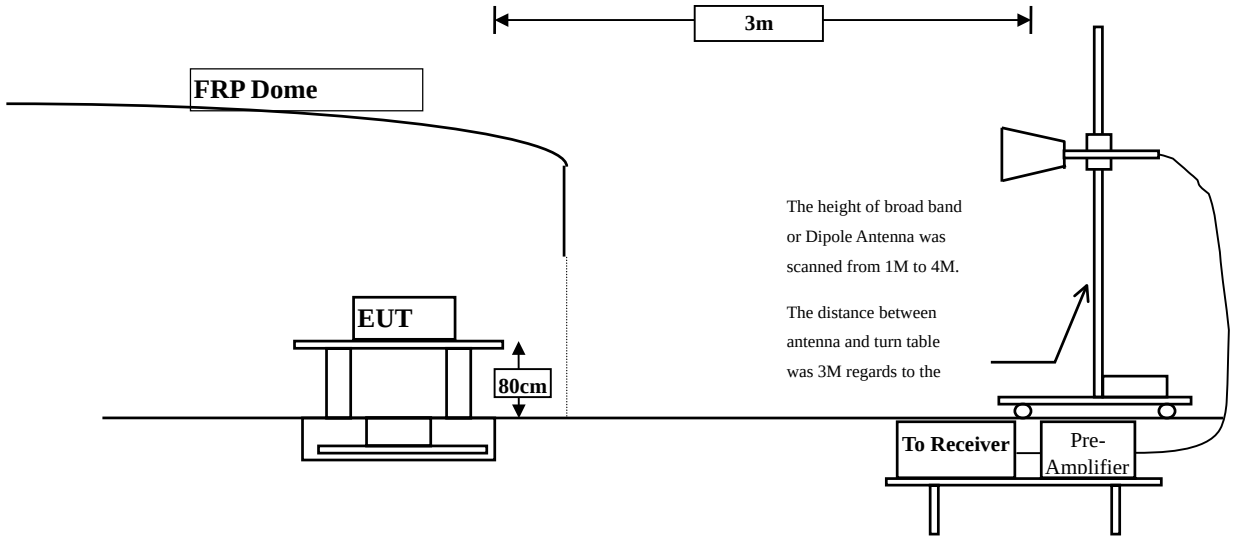
2. The test instruments marked by "X" are used to measure the final test results.

4.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission 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 harminics is checked.

4.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

4.6. Test Result of Radiated Emission

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

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4804.000	-0.205	45.190	44.985	-29.015	74.000
7206.000	3.294	44.130	47.424	-26.576	74.000
9608.000	5.696	44.850	50.546	-23.454	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4804.000	-0.205	44.630	44.425	-29.575	74.000
7206.000	3.294	44.350	47.644	-26.356	74.000
9608.000	5.696	44.770	50.466	-23.534	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 : Smart Handheld
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter - 1Mbps (GFSK)(2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
4882.000	-0.276	44.680	44.404	-29.596	74.000
7323.000	3.330	44.090	47.419	-26.581	74.000
9764.000	6.262	44.610	50.873	-23.127	74.000
Average Detector:					
--					
Vertical Peak Detector:					
4882.000	-0.276	45.980	45.704	-28.296	74.000
7323.000	3.330	43.730	47.059	-26.941	74.000
9764.000	6.262	45.420	51.683	-22.317	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 : Smart Handheld
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter - 1Mbps (GFSK)(2480MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
4960.000	0.591	44.240	44.831	-29.169	74.000
7440.000	3.924	44.190	48.114	-25.886	74.000
9920.000	6.468	44.410	50.878	-23.122	74.000
Average Detector:					
--					
Vertical Peak Detector:					
4960.000	0.591	44.600	45.191	-28.809	74.000
7440.000	3.924	44.540	48.464	-25.536	74.000
9920.000	6.468	44.070	50.538	-23.462	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 : Smart Handheld
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK) (2402MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
Peak Detector:					
4890.000	3.951	43.890	47.841	-26.159	74.000
7206.000	9.357	35.630	44.986	-29.014	74.000
9608.000	11.842	35.460	47.302	-26.698	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4790.000	3.622	46.220	49.841	-24.159	74.000
7206.000	9.357	35.670	45.026	-28.974	74.000
9608.000	11.842	36.040	47.882	-26.118	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 : Smart Handheld
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK) (2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
4868.000	3.870	45.480	49.350	-24.650	74.000
7323.000	9.657	34.550	44.207	-29.793	74.000
9764.000	11.798	35.460	47.258	-26.742	74.000
Average Detector:					
--					
Vertical Peak Detector:					
4868.000	3.870	46.610	50.480	-23.520	74.000
7323.000	9.657	35.160	44.817	-29.183	74.000
9764.000	11.798	36.390	48.188	-25.812	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 : Smart Handheld
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK)(2480MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal Peak Detector:					
4946.000	4.149	47.150	51.300	-22.700	74.000
7440.000	9.951	34.960	44.911	-29.089	74.000
9920.000	11.856	35.460	47.316	-26.684	74.000
Average Detector:					
--					
Vertical Peak Detector:					
4946.000	4.149	48.550	52.700	-21.300	74.000
7440.000	9.951	35.060	45.011	-28.989	74.000
9920.000	11.856	35.360	47.216	-26.784	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 : Smart Handheld
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter - 1Mbps (GFSK)(2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
544.100	2.992	29.186	32.178	-13.822	46.000
606.180	4.154	24.298	28.452	-17.548	46.000
693.480	3.121	29.239	32.360	-13.640	46.000
780.780	3.804	29.696	33.500	-12.500	46.000
831.220	5.779	29.520	35.300	-10.700	46.000
932.120	6.427	26.073	32.500	-13.500	46.000
Vertical					
365.620	-2.667	27.967	25.300	-20.700	46.000
540.220	-0.403	28.703	28.300	-17.700	46.000
693.480	1.721	28.579	30.300	-15.700	46.000
780.780	2.634	29.766	32.400	-13.600	46.000
932.120	5.656	29.444	35.100	-10.900	46.000
967.020	7.541	26.579	34.120	-19.880	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 : Smart Handheld
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK)(2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
546.040	3.052	28.249	31.300	-14.700	46.000
606.180	4.154	28.146	32.300	-13.700	46.000
693.480	3.121	28.379	31.500	-14.500	46.000
829.280	6.015	27.385	33.400	-12.600	46.000
871.960	4.770	28.890	33.660	-12.340	46.000
932.100	6.430	27.050	33.480	-12.520	46.000
Vertical					
365.620	-2.667	30.967	28.300	-17.700	46.000
540.220	-0.403	27.703	27.300	-18.700	46.000
693.480	1.721	29.874	31.595	-14.405	46.000
780.780	2.634	30.032	32.666	-13.334	46.000
932.100	5.660	28.540	34.200	-11.800	46.000
967.020	7.541	27.047	34.588	-19.412	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.

5. RF Antenna Conducted Test

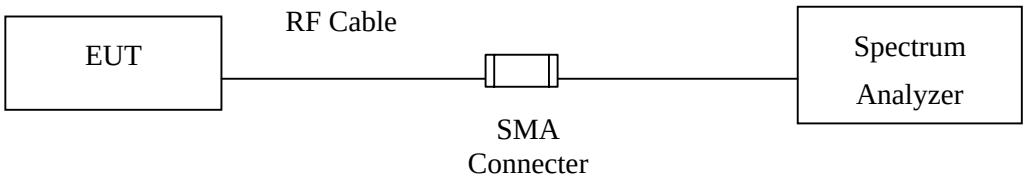
5.1. Test Equipment

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100339	Jun, 2008
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2008
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 2008

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 : Smart Handheld
Test Item : RF Antenna Conducted Test
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter - 1Mbps (GFSK)

Figure Channel 00: 30MHz-25GHz

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

Figure Channel 39: 30MHz-25GHz

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

Figure Channel 78: 30MHz-25GHz

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

Figure Channel 00: 30MHz-25GHz

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

Figure Channel 39: 30MHz-25GHz

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

Figure Channel 78: 30MHz-25GHz

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., 2008
	X	Pre-Amplifier	HP	8447D/2944A09549	Sep., 2008
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2008
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2009
	X	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

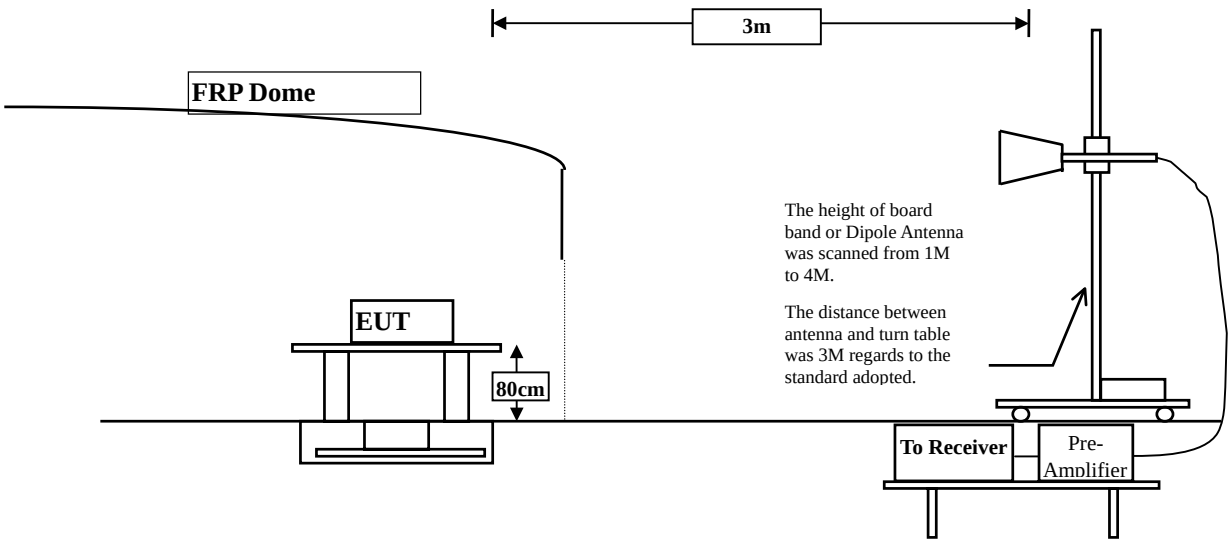
Note: 1. All equipments are calibrated every one year.

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

6.2. Test Setup

RF Radiated Measurement:

Above 1GHz



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

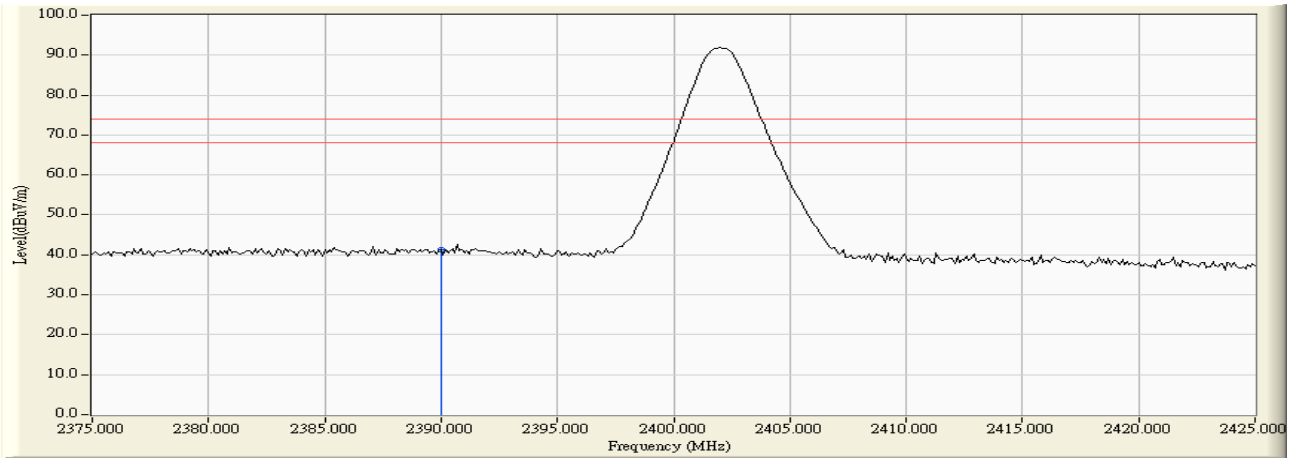
6.6. Test Result of Band Edge

Product : Smart Handheld
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)	Arerage Limit (dBuV/m)	Result
00 (Peak)	2390.000	-6.769	48.011	41.243	74.00	54.00	Pass

Figure Channel 00: Horizontal (Peak)



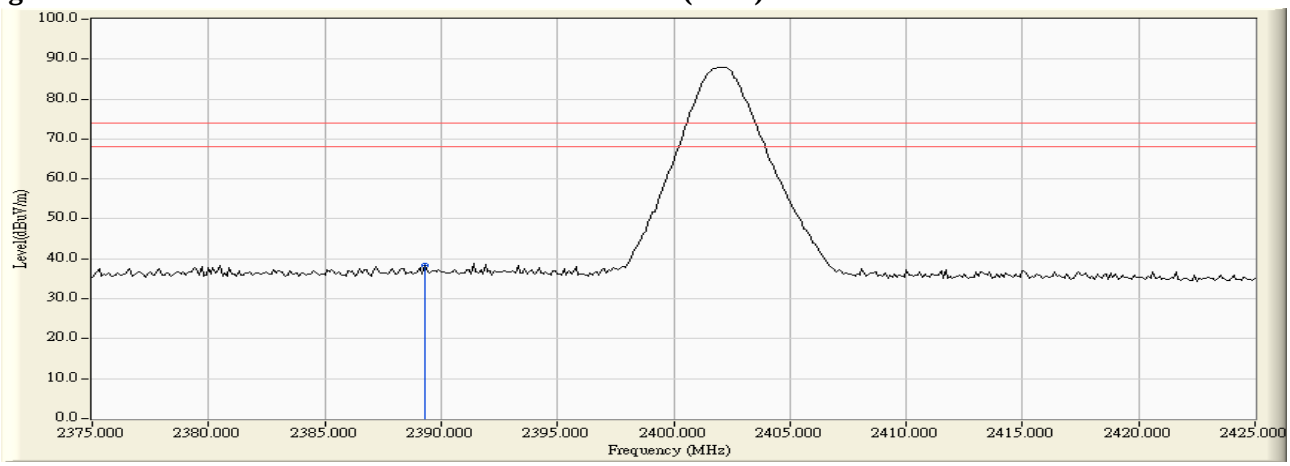
Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Product : Smart Handheld
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)	Arerage Limit (dBuV/m)	Result
00 (Peak)	2389.300	-6.770	45.194	38.424	74.00	54.00	Pass

Figure Channel 00: Vertical (Peak)



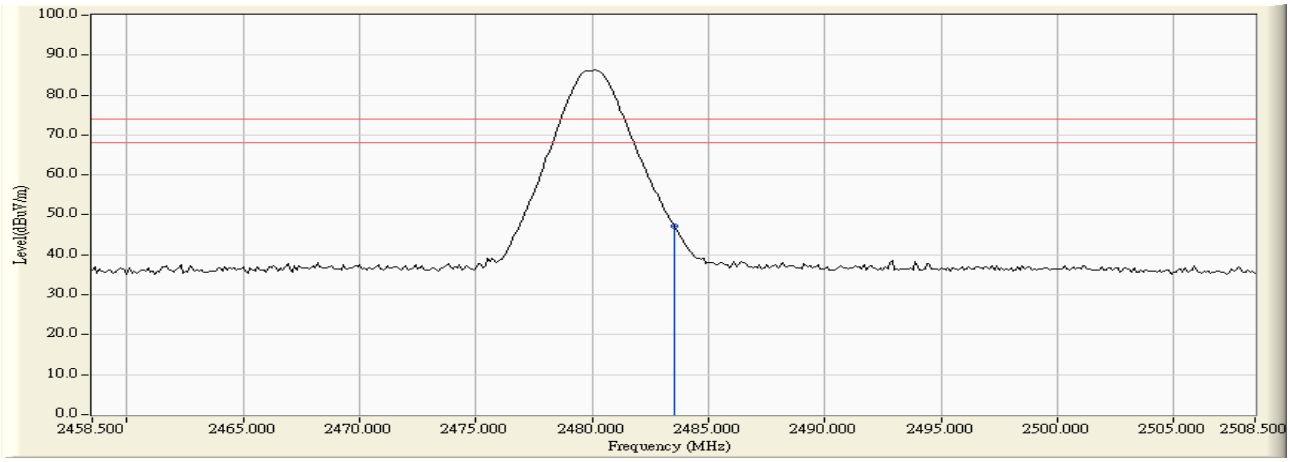
Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Product : Smart Handheld
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)	Arerage Limit (dBuV/m)	Result
78 (Peak)	2483.500	-6.469	53.567	47.099	74.00	54.00	Pass

Figure Channel 78: Horizontal (Peak)



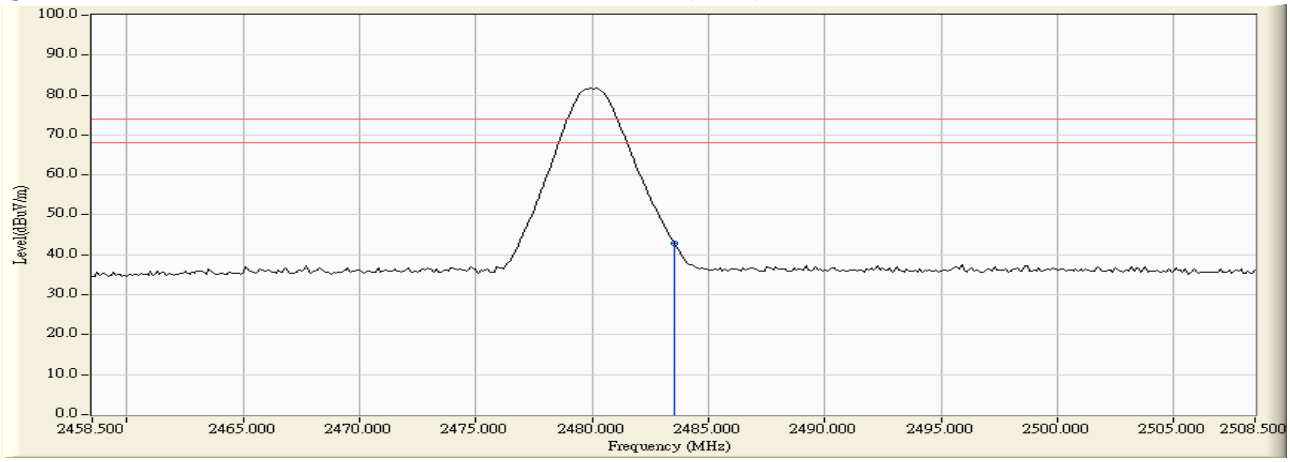
Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Product : Smart Handheld
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)	Arerage Limit (dBuV/m)	Result
78 (Peak)	2483.500	-6.469	49.474	43.006	74.00	54.00	Pass

Figure Channel 78: Vertical (Peak)



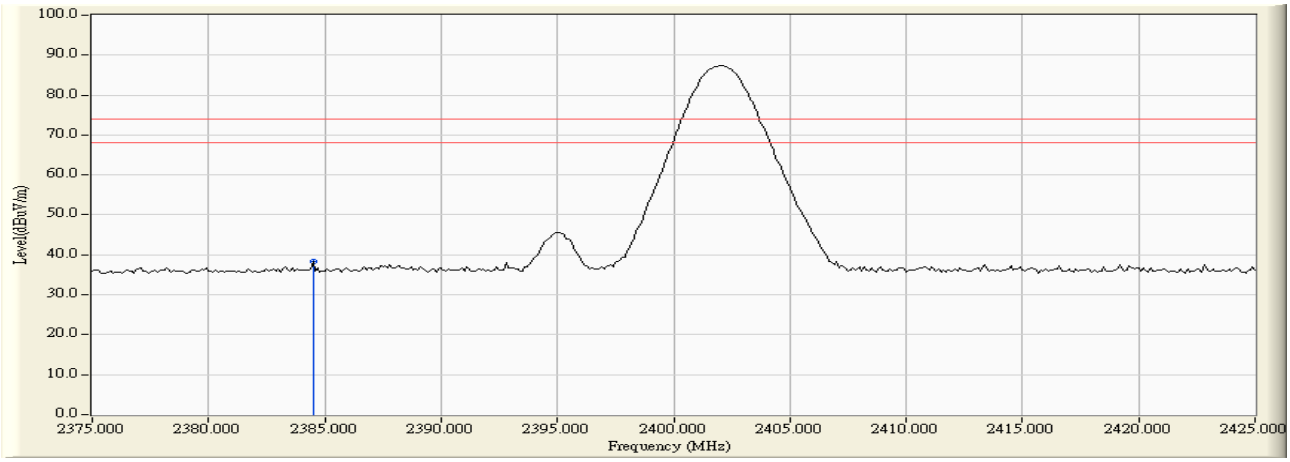
Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Product : Smart Handheld
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)	Arerage Limit (dBuV/m)	Result
00 (Peak)	2384.500	-2.404	40.874	38.470	74.00	54.00	Pass

Figure Channel 00: Horizontal (Peak)



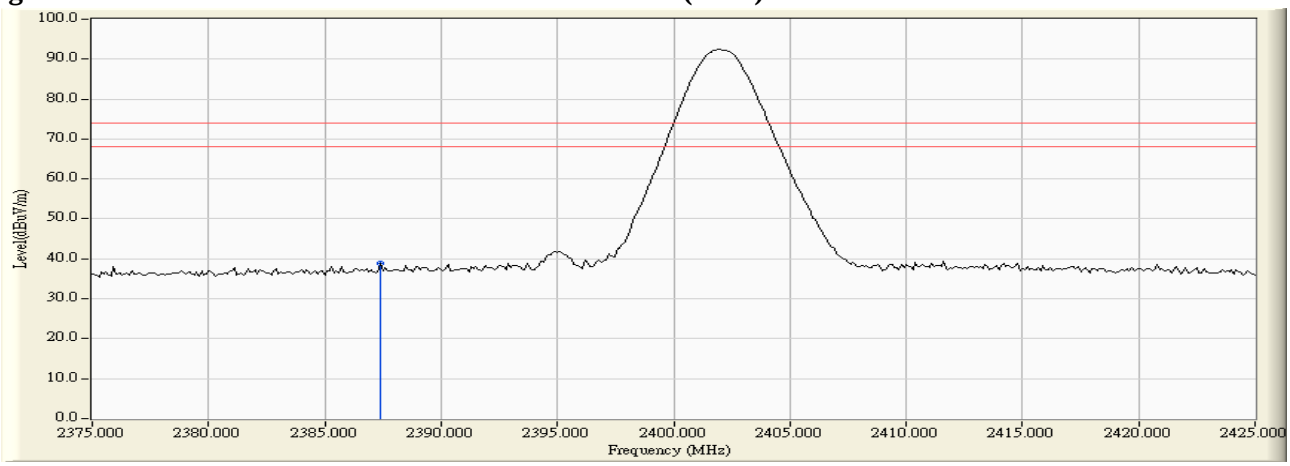
Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Product : Smart Handheld
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)	Arerage Limit (dBuV/m)	Result
00 (Peak)	2387.400	-2.390	41.217	38.827	74.00	54.00	Pass

Figure Channel 00: Vertical (Peak)



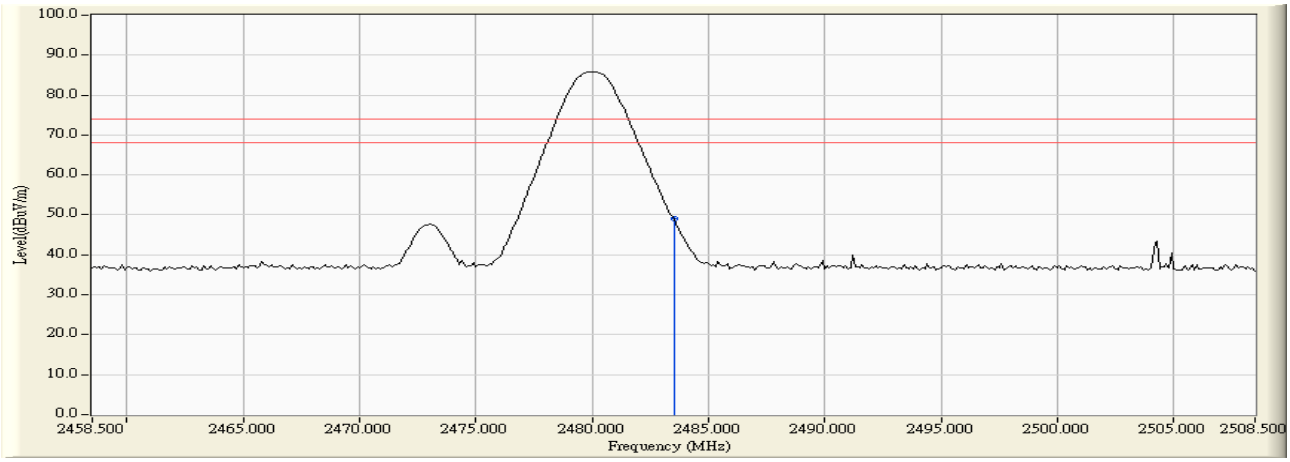
Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Product : Smart Handheld
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)	Arerage Limit (dBuV/m)	Result
78 (Peak)	2483.500	-1.937	50.870	48.933	74.00	54.00	Pass

Figure Channel 78: Horizontal (Peak)



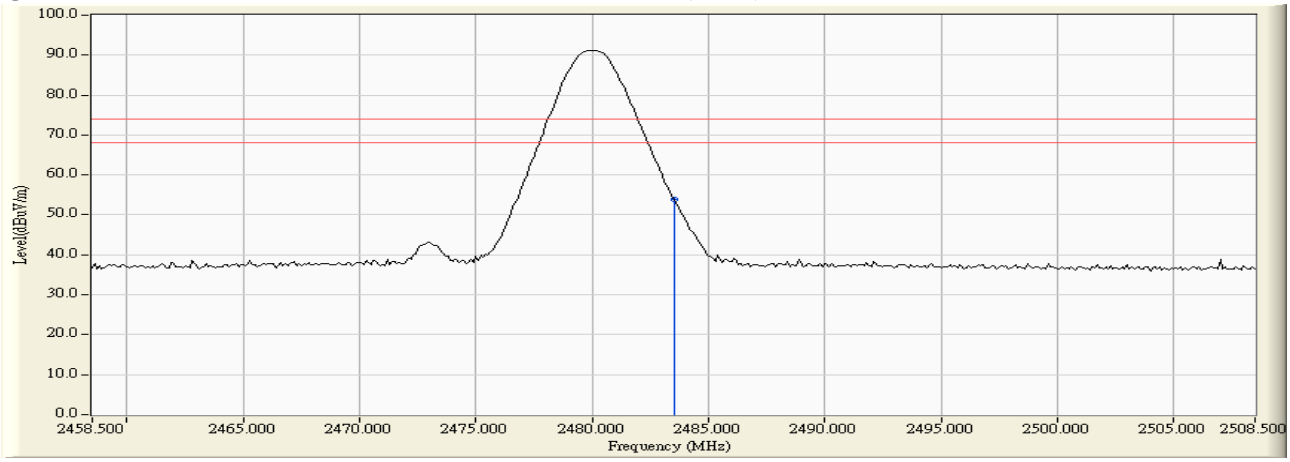
Note: RBW=1MHz, VBW=1MHz, Sweep=500ms

Product : Smart Handheld
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)	Arerage Limit (dBuV/m)	Result
78 (Peak)	2483.500	-1.937	55.856	53.919	74.00	54.00	Pass

Figure Channel 78: Vertical (Peak)



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

7. Channel Number

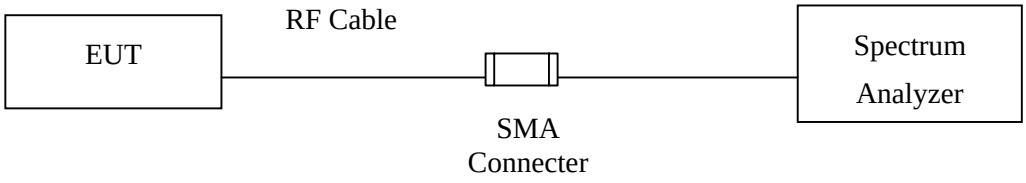
7.1. Test Equipment

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

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100339	Jun, 2008
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2008
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 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

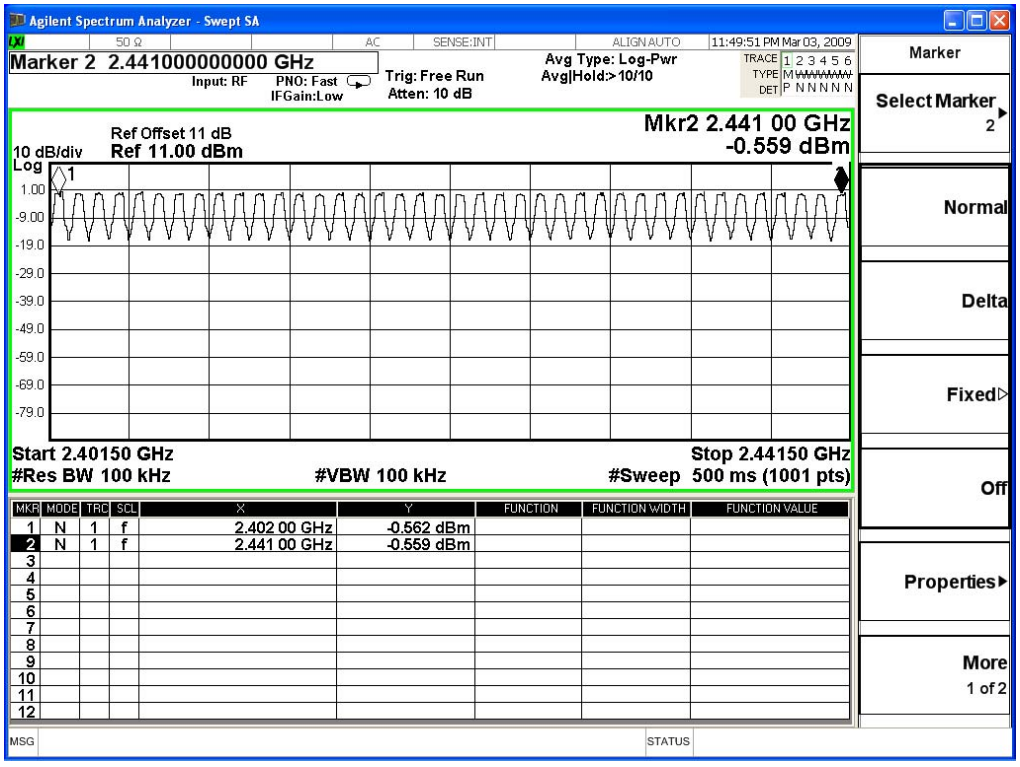
N/A

7.6. Test Result of Channel Number

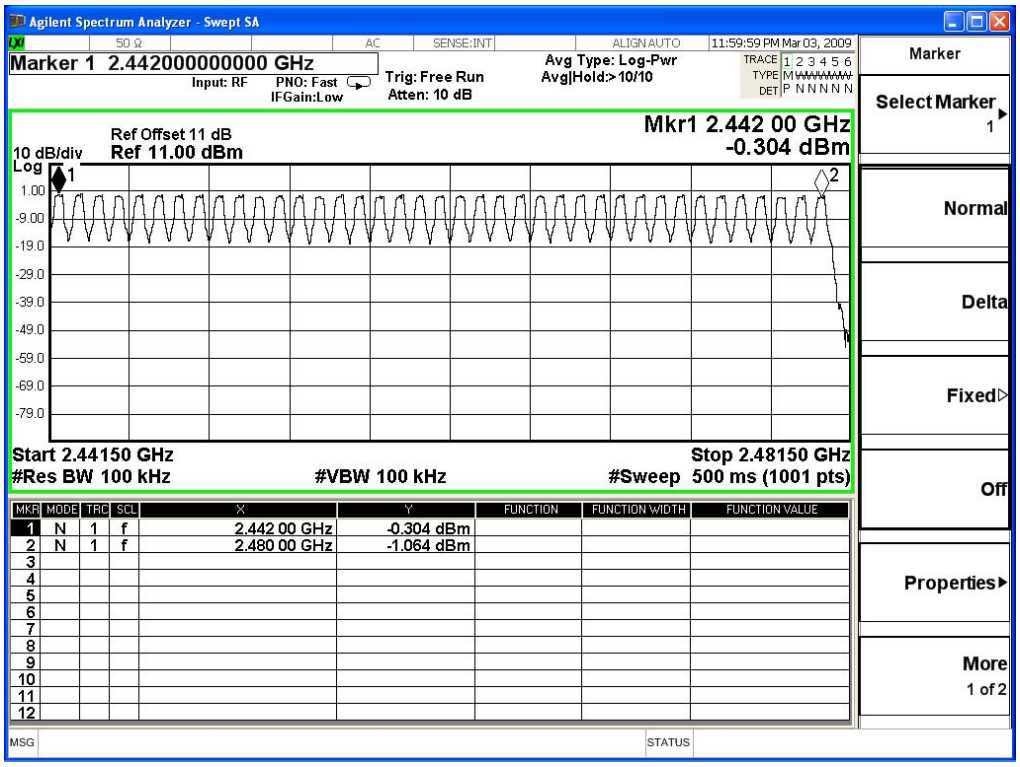
Product : Smart Handheld
Test Item : Channel Number
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter - 1Mbps (GFSK)

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

2402-2441MHz



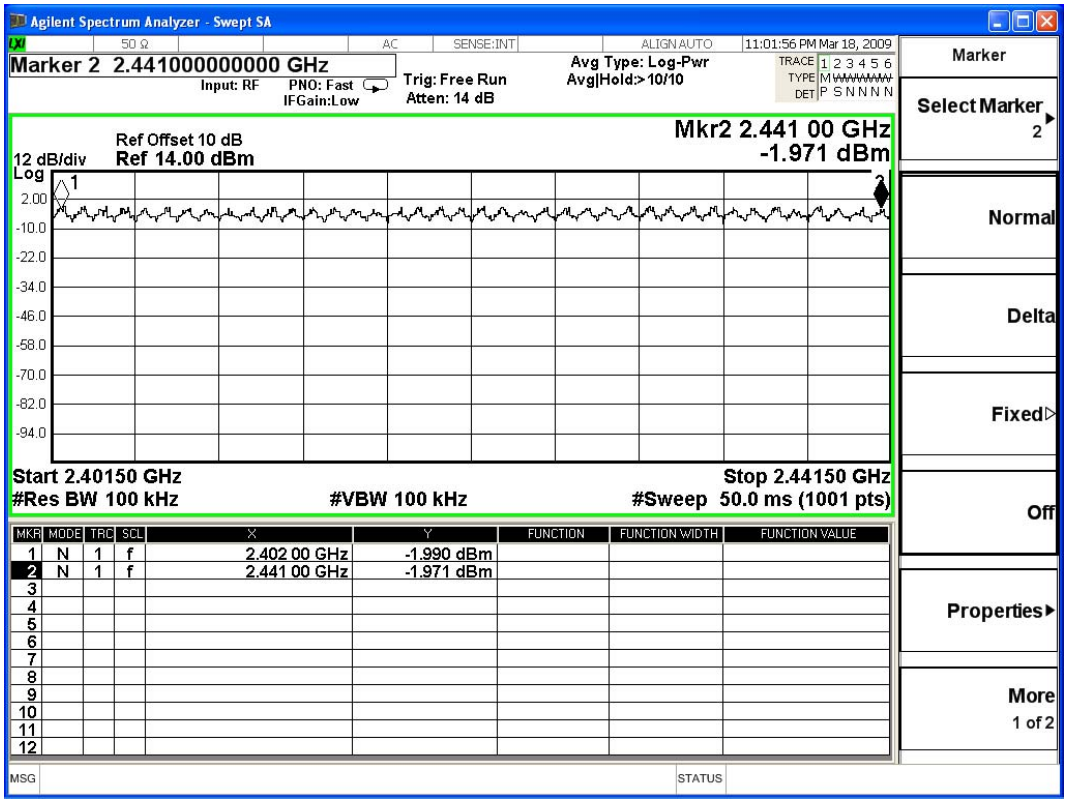
2442-2480MHz



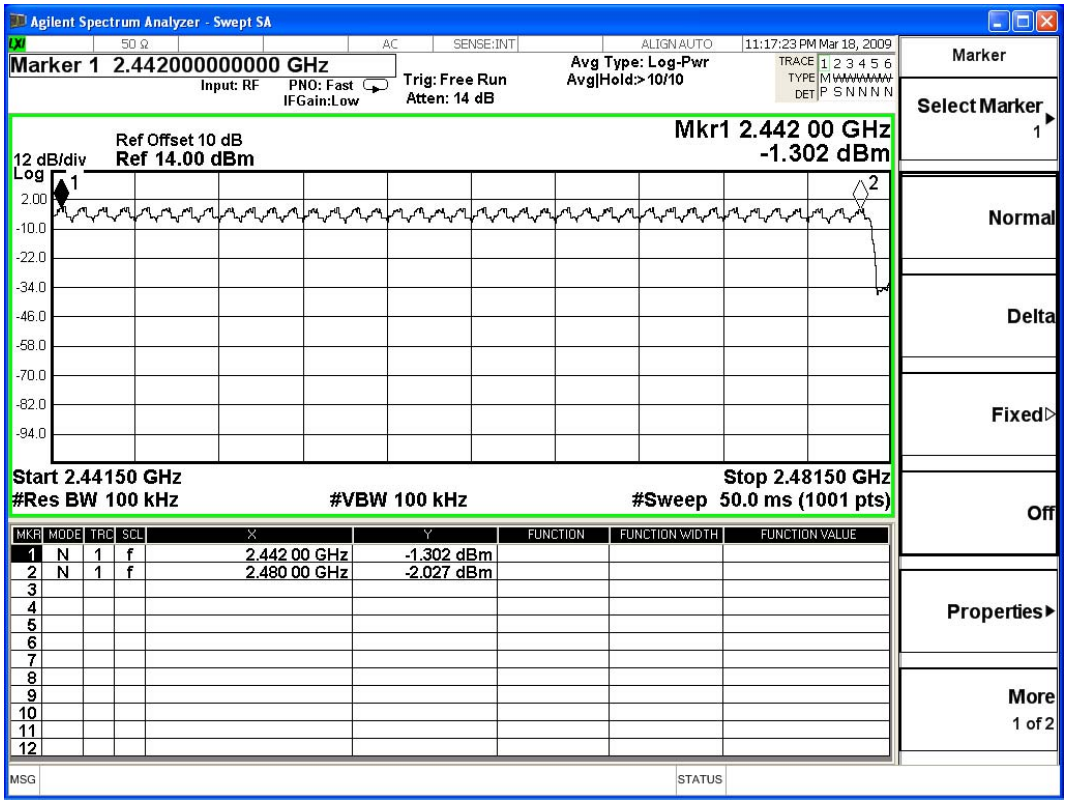
Product : Smart Handheld
Test Item : Channel Number
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK)

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

2402-2441MHz



2442-2480MHz



8. Channel Separation

8.1. Test Equipment

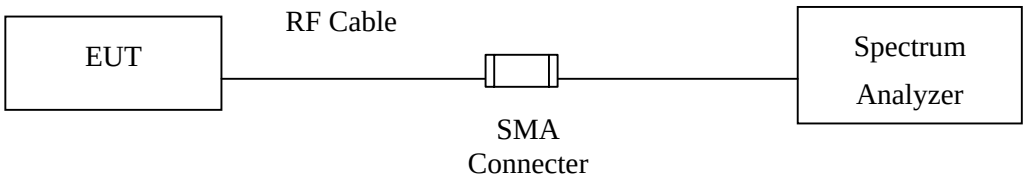
The following test equipments are used during the radiated emission tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100339	Jun, 2008
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2008
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 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 2/3*(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

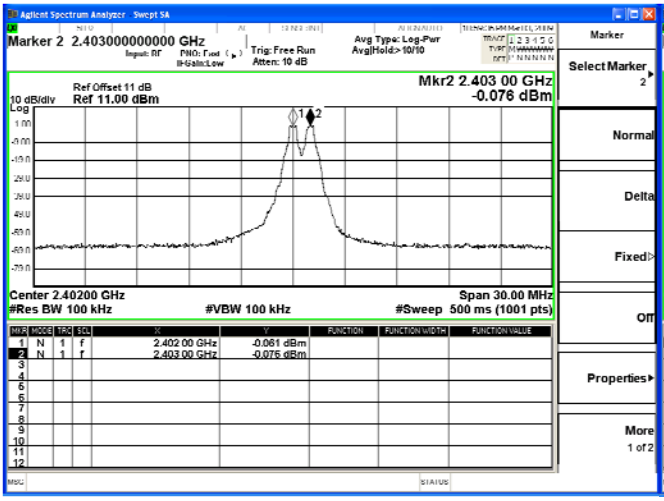
± 150Hz

8.6. Test Result of Channel Separation

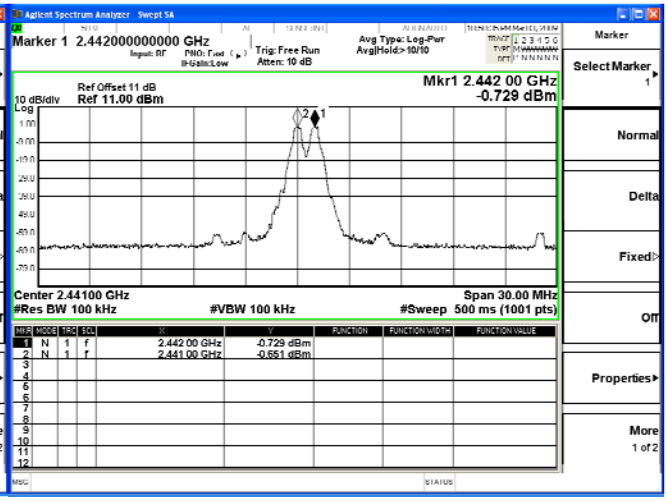
Product : Smart Handheld
Test Item : Channel Separation
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter - 1Mbps (GFSK)

Frequency (MHz)	Measurement Level (kHz)	Limit (kHz)	Limit of (2/3)*20dB Bandwidth (kHz)	Result
2402	1000	>25 kHz	760.0	Pass
2441	1000	>25 kHz	760.0	Pass
2480	1000	>25 kHz	760.0	Pass

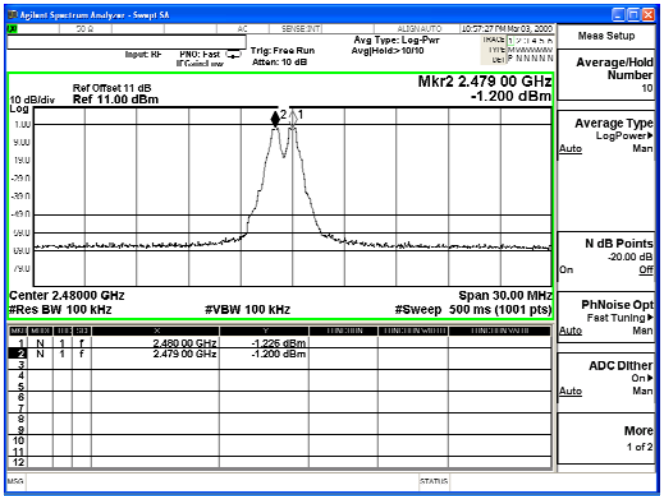
Channel 00 2402MHz



Channel 39 2441MHz



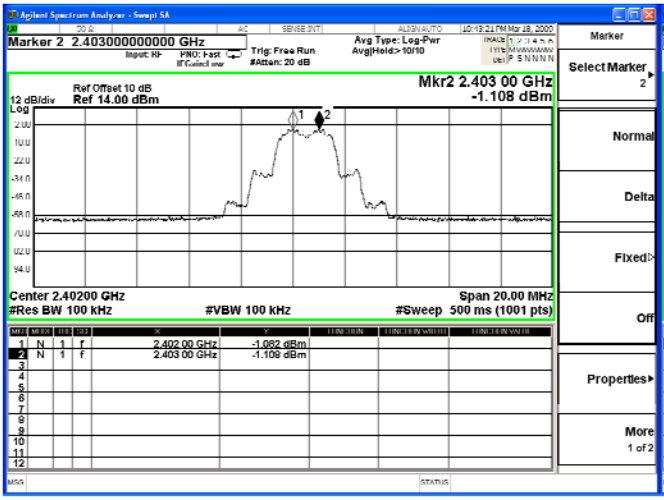
Channel 78 2480 MHz



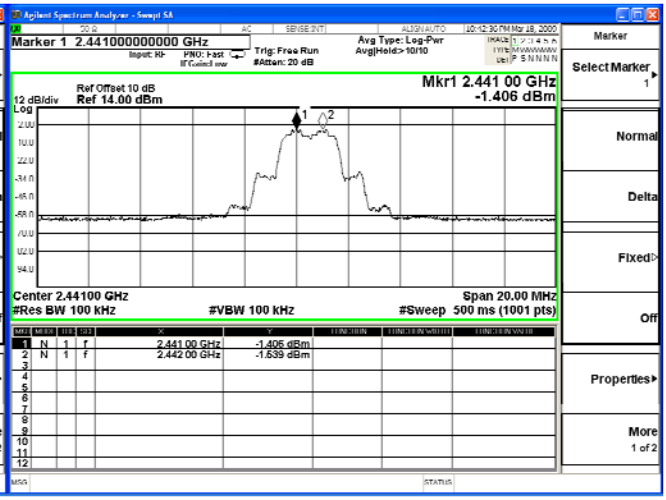
Product : Smart Handheld
Test Item : Channel Separation
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK)

Frequency (MHz)	Measurement Level (kHz)	Limit (kHz)	Limit of (2/3)*20dB Bandwidth (kHz)	Result
2402	1000	>25 kHz	946.7	Pass
2441	1000	>25 kHz	940.0	Pass
2480	1000	>25 kHz	933.3	Pass

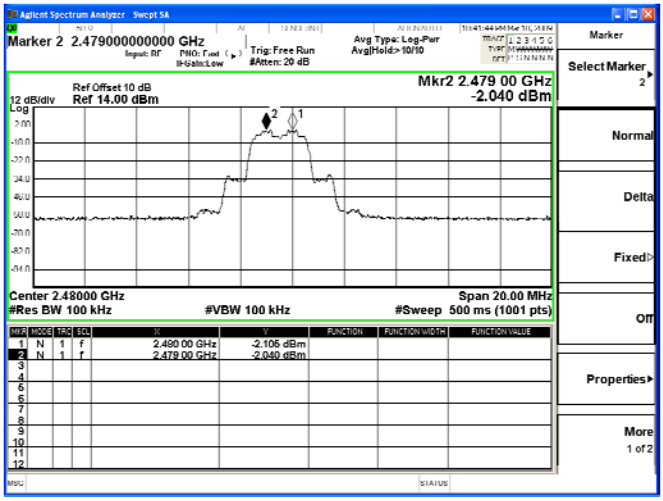
Channel 00 2402MHz



Channel 39 2441MHz



Channel 78 2480 MHz



9. Dwell Time

9.1. Test Equipment

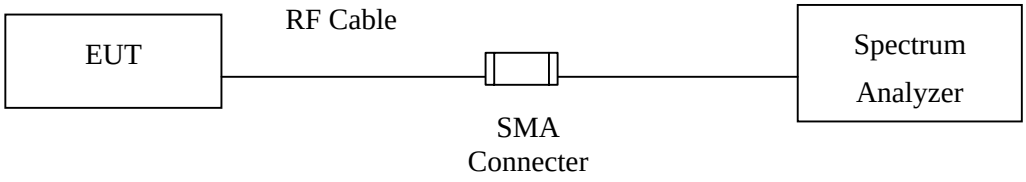
The following test equipments are used during the radiated emission tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100339	Jun, 2008
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2008
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 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

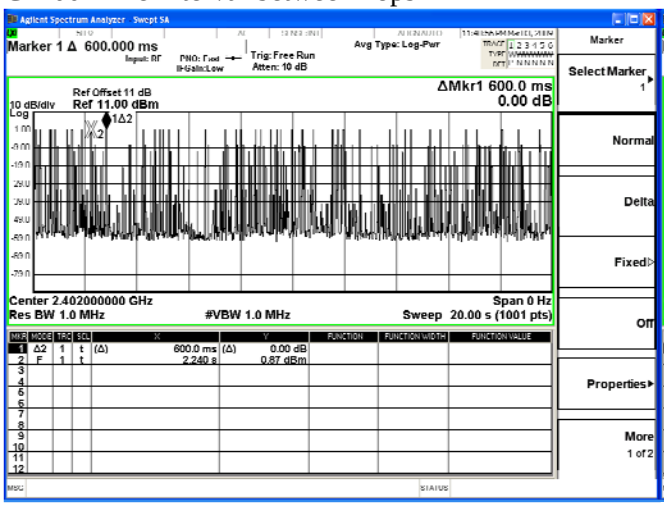
9.6. Test Result of Dwell Time

Product : Smart Handheld
Test Item : Dwell Time
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter - 1Mbps (GFSK) (Channel 00,39,78 –DH5)

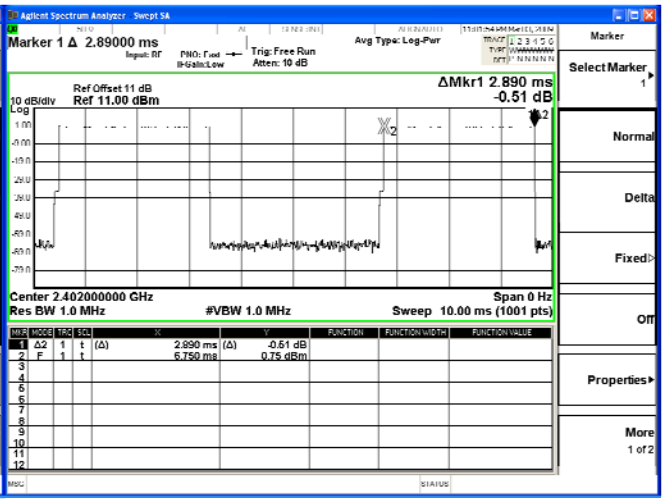
Channel No.	Frequency (MHz)	Time Interval between hops (ms)	Transmission Time (us)	Dwell Time (ms)	Limit (ms)	Result
00	2402	600	2890	152.2067	400	Pass
39	2441	580	2890	157.4552	400	Pass
78	2480	580	2890	157.4552	400	Pass

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

CH 00 Time Interval between hops

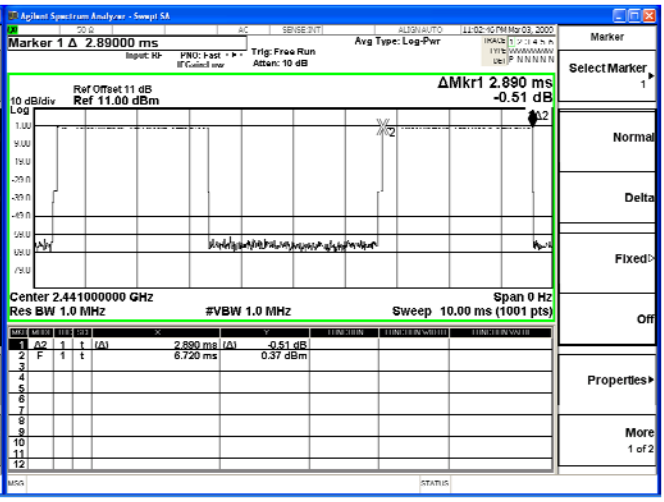


CH 00 Transmission Time

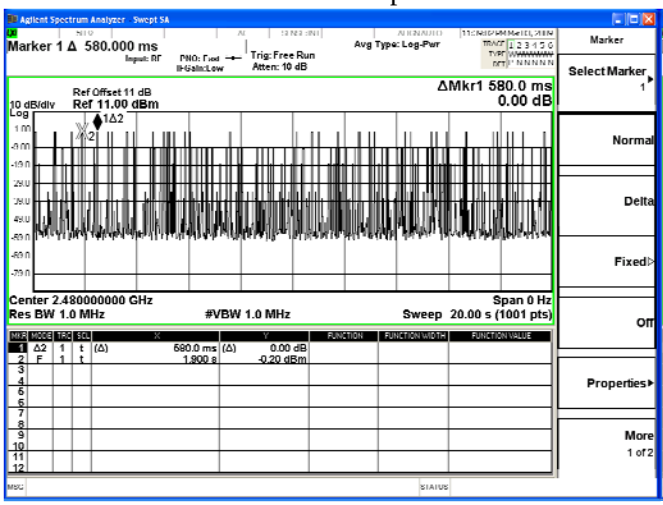


CH39 Time Interval between hops

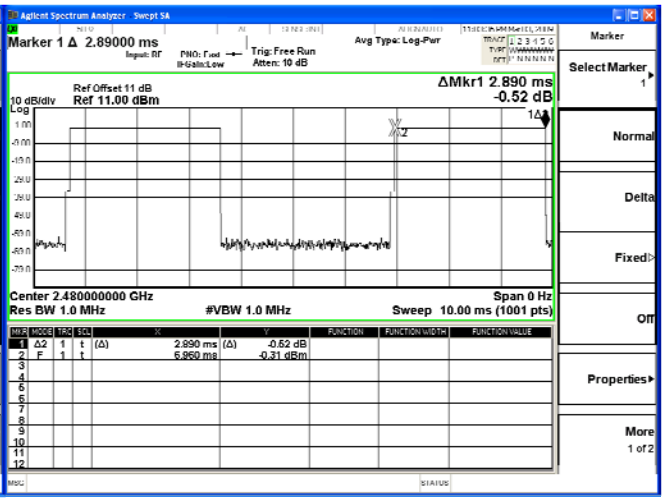
CH 39Transmission Time



CH 78 Time Interval between hops



CH 78 Transmission Time



Note:

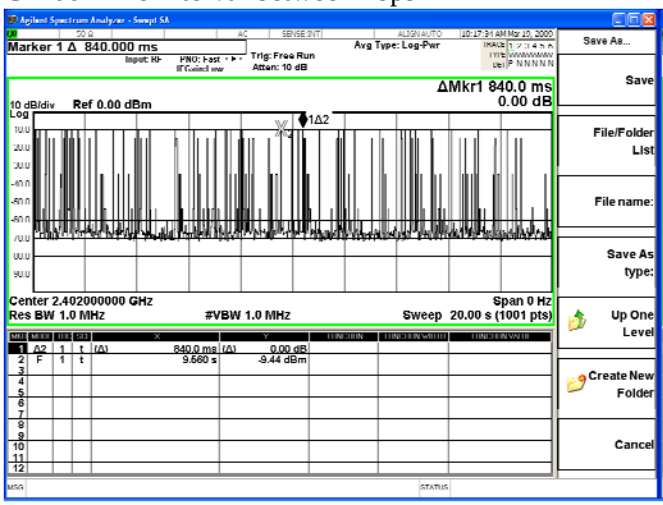
The dwell times of the packet type of DH1, DH3, and DH5 are tested. Only the worst case is shown on the report.

Product : Smart Handheld
Test Item : Dwell Time
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter - 3Mbps (8DPSK) (Channel 00,39,78 –DH5)

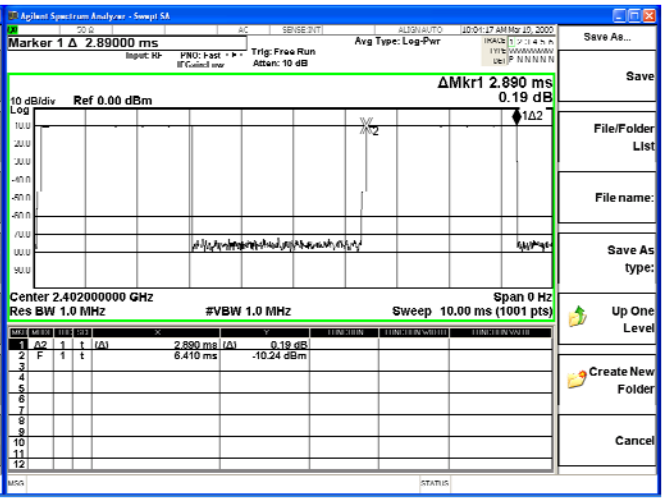
Channel No.	Frequency (MHz)	Time Interval between hops (ms)	Transmission Time (us)	Dwell Time (ms)	Limit (ms)	Result
00	2402	840	2890	108.7190	400	Pass
39	2441	840	2900	109.0952	400	Pass
78	2480	820	2890	111.3707	400	Pass

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

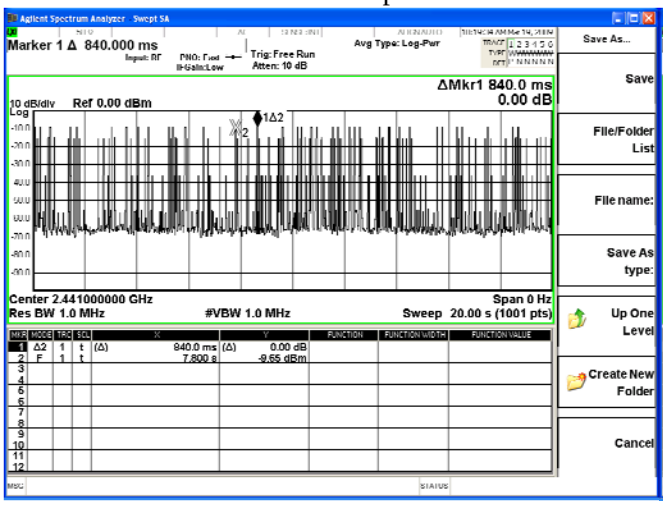
CH 00 Time Interval between hops



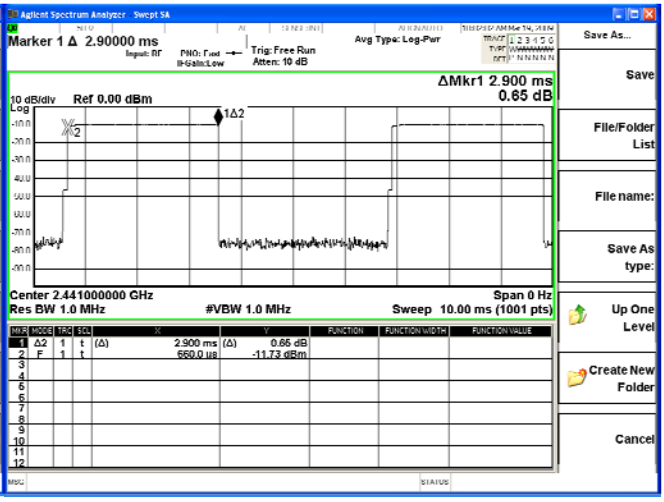
CH 00 Transmission Time



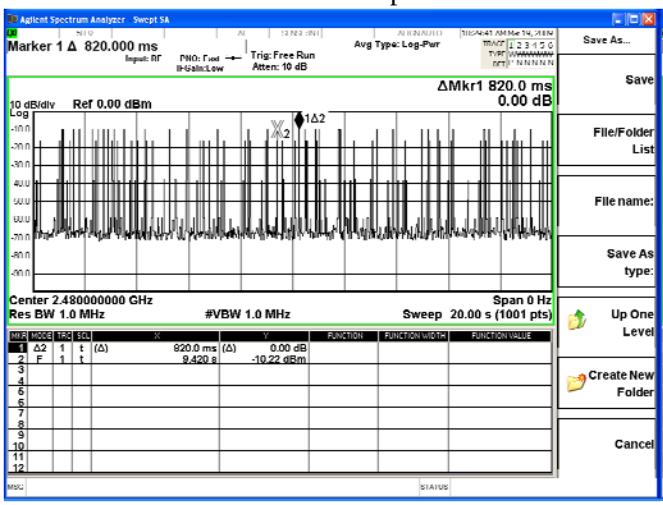
CH39 Time Interval between hops



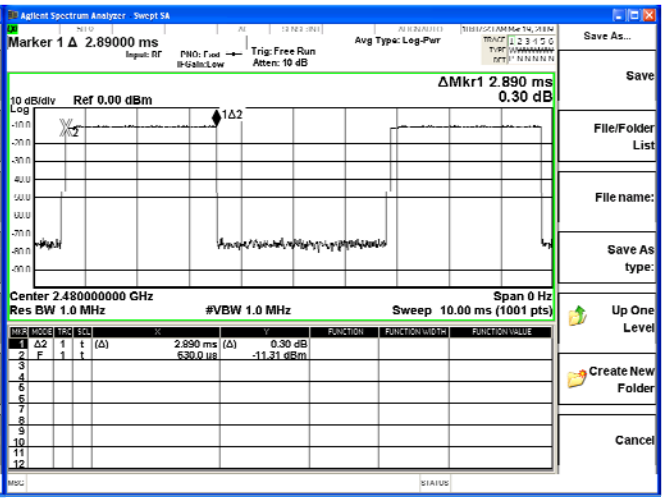
CH 39Transmission Time



CH 78 Time Interval between hops



CH 78 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.

10. Occupied Bandwidth

10.1. Test Equipment

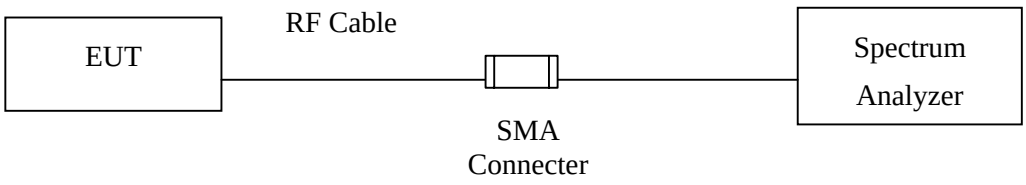
The following test equipments are used during the radiated emission tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
	Spectrum Analyzer	R&S	FSP40 / 100339	Jun, 2008
	Spectrum Analyzer	Agilent	E4407B / US39440758	Jun, 2008
X	Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr., 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

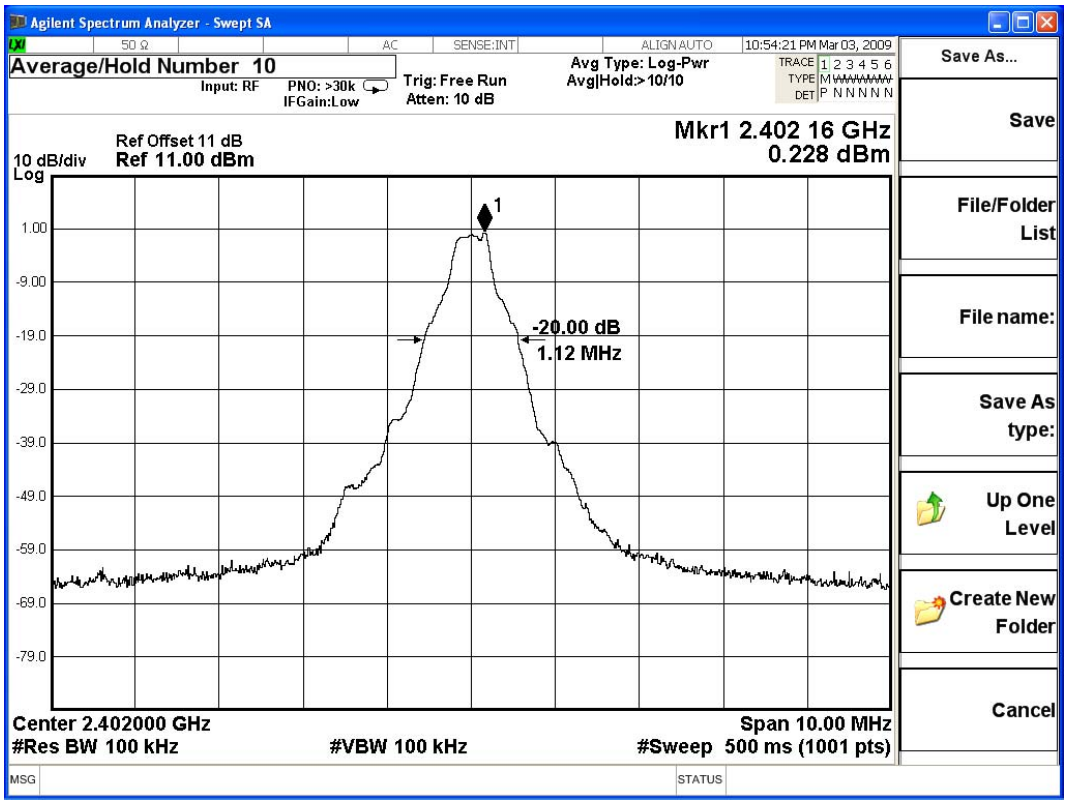
± 150Hz

10.6. Test Result of Occupied Bandwidth

Product : Smart Handheld
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	1120	--	NA

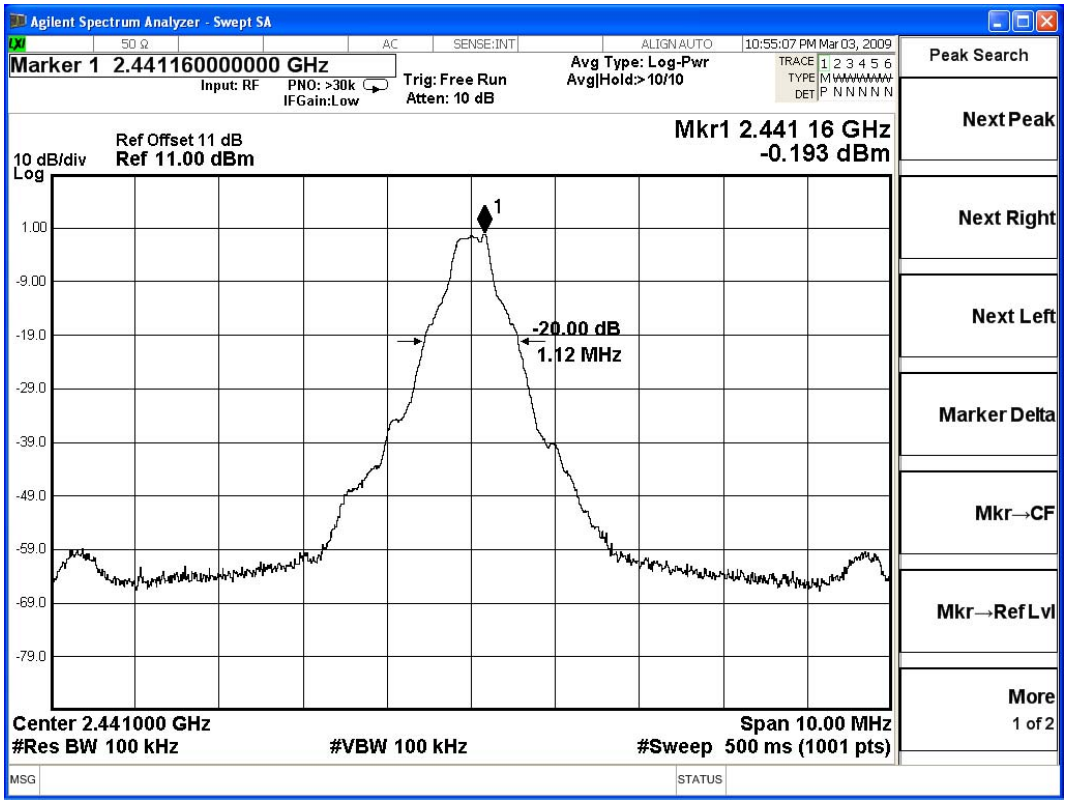
Figure Channel 00:



Product : Smart Handheld
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	1120	--	NA

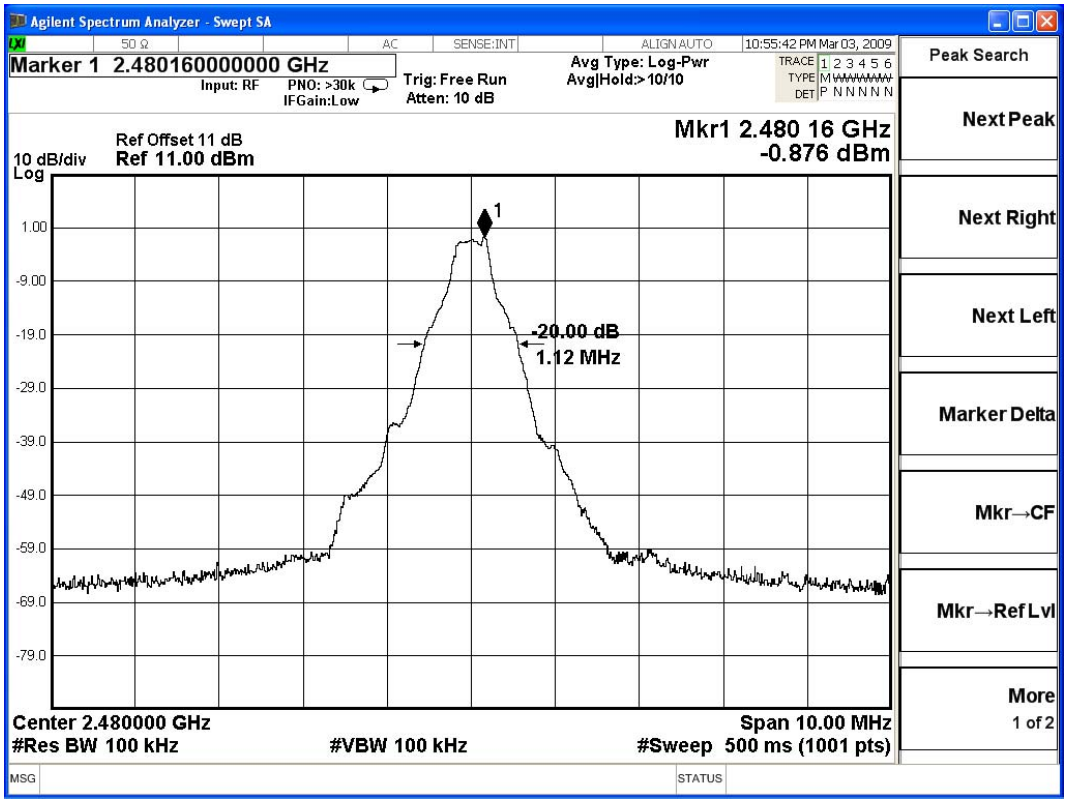
Figure Channel 39:



Product : Smart Handheld
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	1120	--	NA

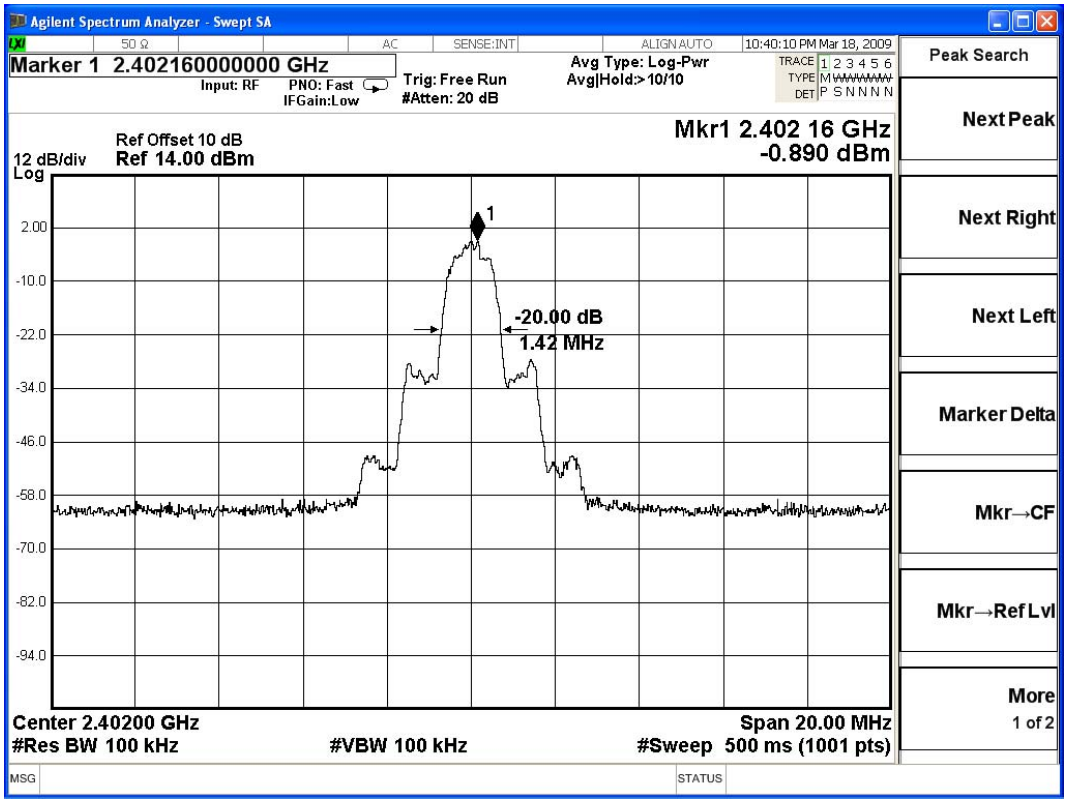
Figure Channel 78:



Product : Smart Handheld
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	1420	--	NA

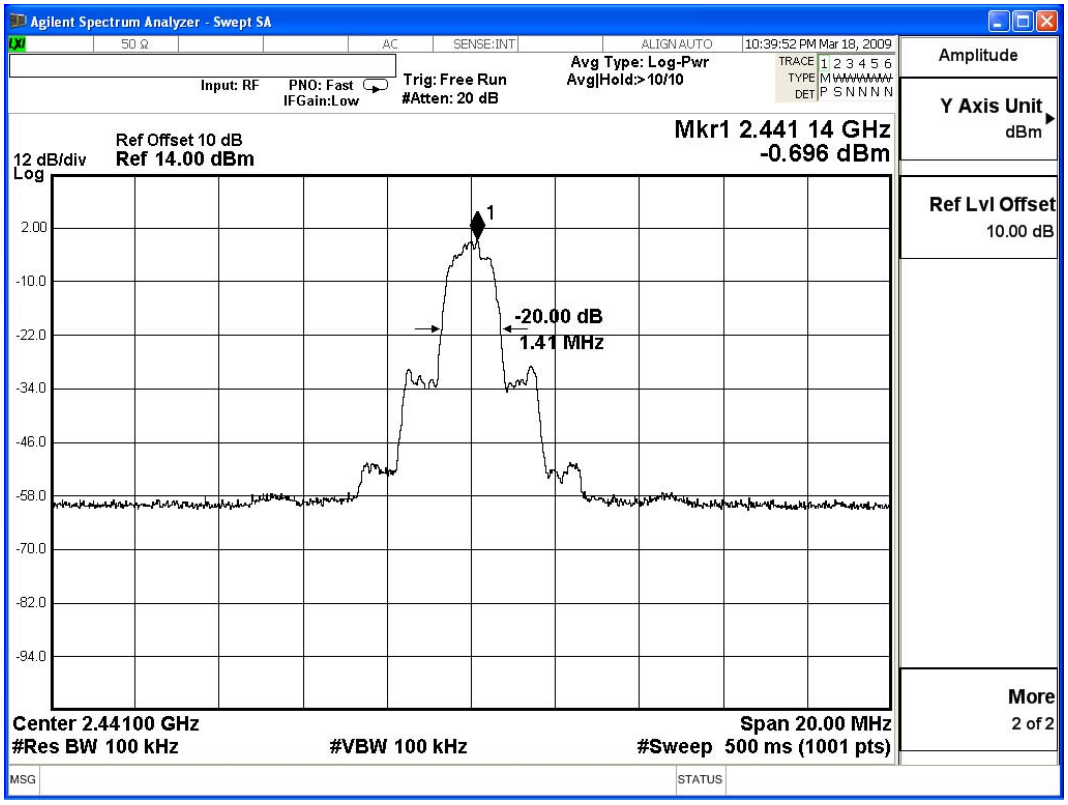
Figure Channel 00:



Product : Smart Handheld
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	1410	--	NA

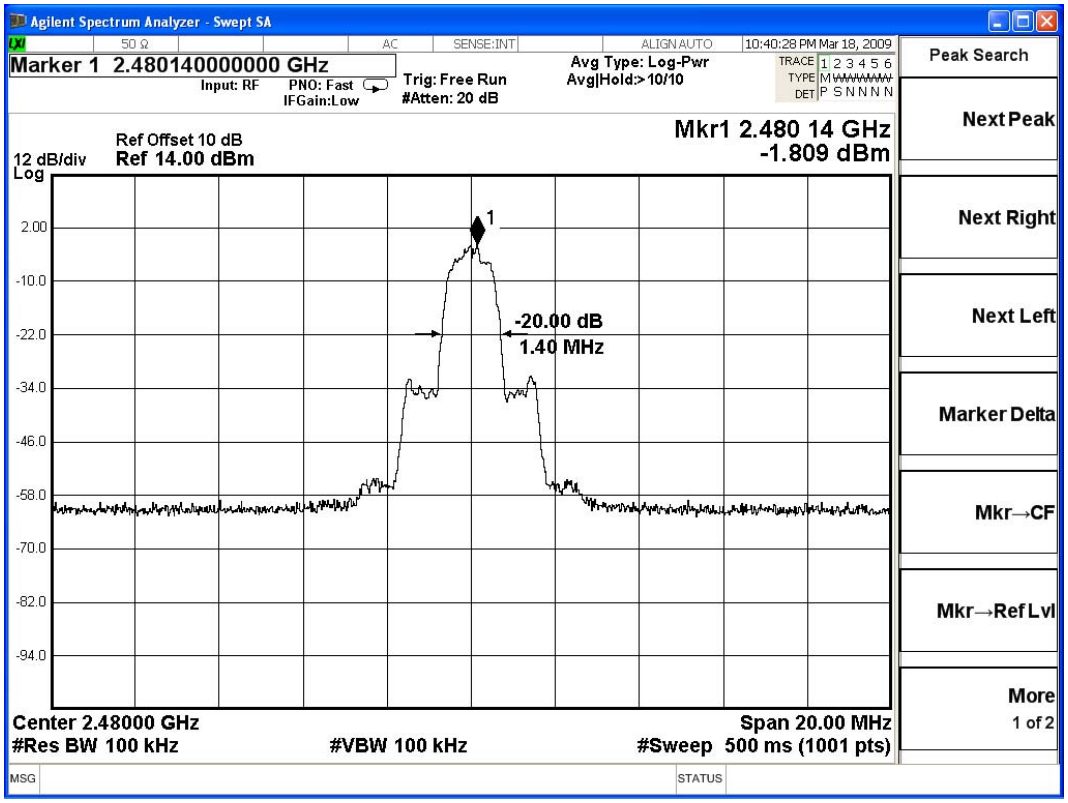
Figure Channel 39:



Product : Smart Handheld
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	1400	--	NA

Figure Channel 78:



11. EMI Reduction Method During Compliance Testing

No modification was made during testing.