Test Report

Product Name ： Heart Rate Monitor
Model No. ： HRM
FCC ID. ： RJIHRM01

Applicant ： Holux Technology, Inc
Address ： No,1-1, Innovation Road I, Science-Based Industrial Park, Hsinchu 300, Taiwan, R.O.C.

Date of Receipt ： 2010/07/12
Issued Date ： 2010/08/05
Report No. ： 107297R-RFUSP30V01
Report Version ： V1.0

Test Report Certification

Issued Date : 2010/08/05
Report No. : 107297R-RFUSP30V01

QuieTek

Product Name	:	Heart Rate Monitor
Applicant	:	Holux Technology, Inc
Address	:	No,1-1, Innovation Road I, Science-Based Industrial Park, Hsinchu 300, Taiwan, R.O.C.
Manufacturer	:	Holux Technology, Inc
Model No.	:	HRM
Trade Name	:	HOLUX
FCC ID.	:	RJIHRM01
EUT Voltage	:	DC 3V
Applicable Standard	:	FCC CFR Title 47 Part 15 Subpart C Section 15.249: 2009
Test Result	:	Complied

The test results relate only to the samples tested.

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

Documented By : Sandy Chuang
(Sandy Chuang / Engineering Adm. Specialist)

Reviewed By : Lucia Lu
(Lucia Lu / Engineer)

Approved By : Roy Wang
(Roy Wang / Manager)

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1. General Information

1.1. EUT Description

Product Name	Heart Rate Monitor
Trade Name	HOLUX
Model No.	HRM
Frequency Range	2403~2480MHz
Antenna Gain	2dBi
Channel Number	78
Type of Modulation	GFSK
Channel Control	Manual
Antenna Type	Chip Antenna

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
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		
Channel 20	2422 MHz	Channel 40	2442 MHz	Channel 60	2462 MHz		

Note:

1. This device is a Heart Rate Monitor included only 2.4GHz transmitting function.
2. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.249.
3. Regards to the frequency band operation; the lowest、middle and highest frequency of channel were selected to perform the test, and then shown on this report.

1.3. Test Mode

QuieTek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Pre-Test Mode	
EMI	Mode 1: Transmit
Final Test Mode	
TX	Mode 1: Transmit

Emission	
Performed Item	Test
Conducted Emission	No
Radiated Emission	Yes
Band Edge	Yes

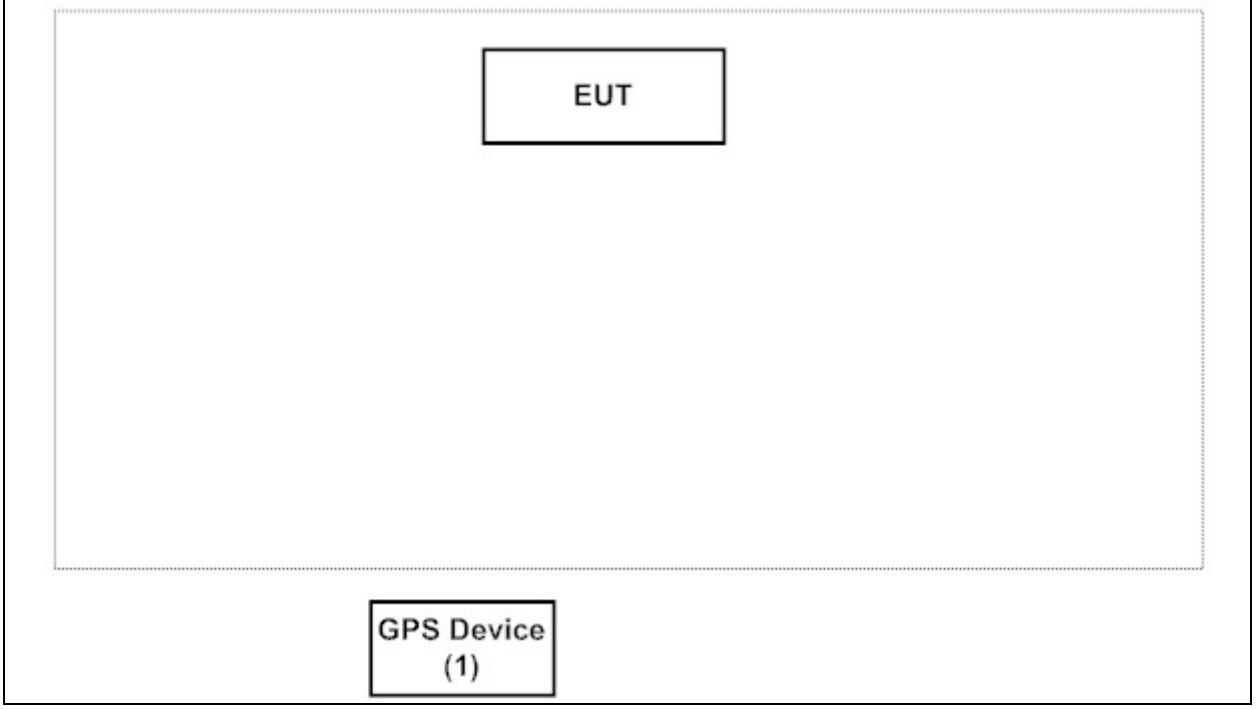
1.4. Tested System Details

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

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	GPS Device	Holux	FunTrek	N/A	--

1.5. Configuration of tested System

Connection Diagram



1.6. EUT Exercise Software

1	Setup the EUT and simulators as shown on 1.5
2	Turn on the power.
3	The RF signal's status will continue transmit through EUT.
4	Repeat the above procedure (3)

1.7. Test Facility

Ambient conditions in the laboratory:

Items	Test Item	Required (IEC 68-1)	Actual
Temperature (°C)	FCC PART 15 C 15.207 Conducted Emission	15 - 35	25
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.249 Band Edge	15 - 35	25
Humidity (%RH)		25 - 75	65
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.209 Radiated Emission	15 - 35	25
Humidity (%RH)		25 - 75	65
Barometric pressure (mbar)		860 - 1060	950-1000

Site Description:

January 24, 2005 File on
Federal Communications Commission
Laboratory Division
7435 Oakland Mills Road
Columbia, MD 21046
Registration Number: 365520

Accredited by TAF
Accreditation Number: 1313

Testing Laboratory 1313

Accredited by NVLAP
NVLAP Lab Code: 200347-0
Effective through: September 30, 2010

NVLAP Lab Code : 200347-0

Site Name: Quietek Corporation

Site Address: No.75-1, Wang-Yeh Valley, Yung-Hsing,
Chiung-Lin, Hsin-Chu County,
Taiwan, R.O.C.
TEL : 886-3-592-8858 / FAX : 886-3-592-8859
E-Mail : service@quietek.com

2. Radiated Emission

2.1. Test Equipment

The following test equipment are used during the test:

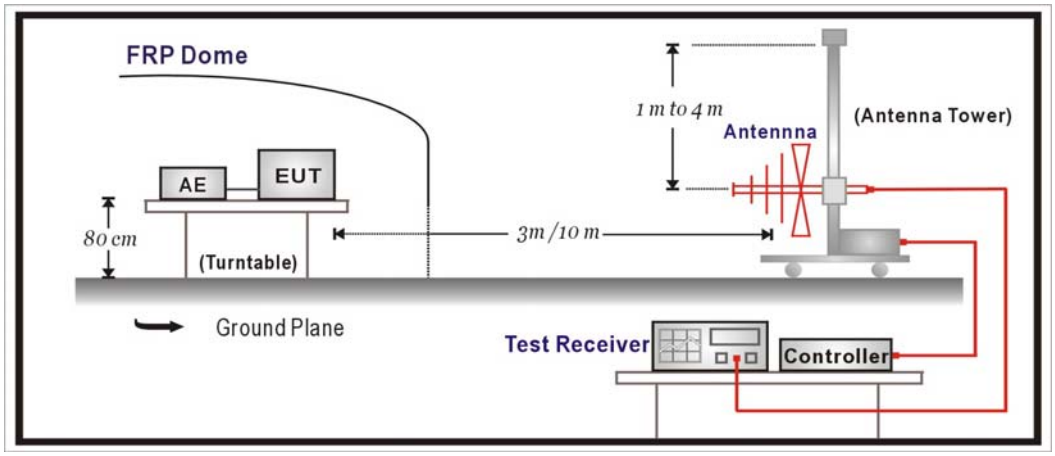
Radiated Emission/ CB1 (Above 1G)

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Coaxial Cable	Huber+Suhner AG	Sucoflex 102	25623/2	2011/04/07
Horn Antenna	Schwarzback	BBHA 9120D	743	2011/03/14
Pre-Amplifier	MITEQ	AMF-4D-005180-24-10P	888003	2010/12/03
Spectrum Analyzer	Agilent	E4440A	MY46187335	2011/01/14

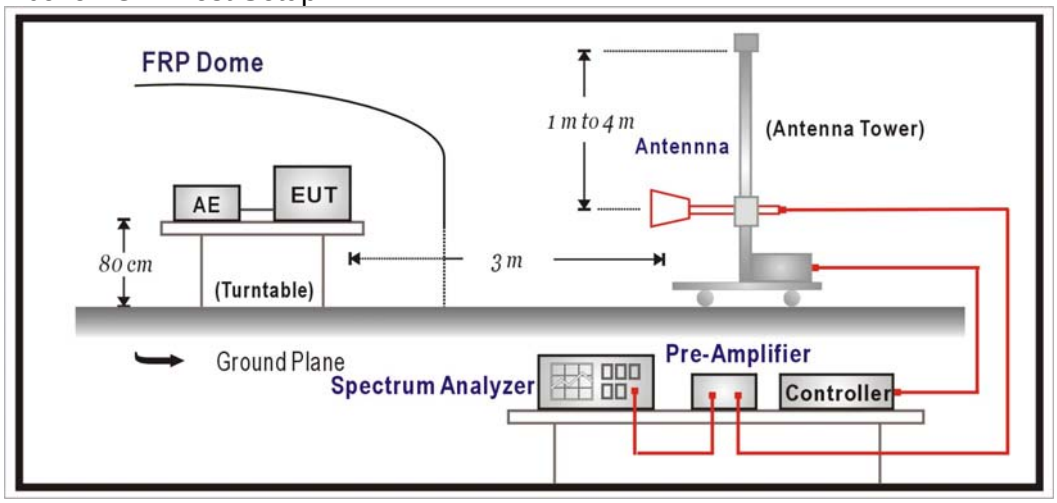
Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

2.2. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



2.3. Limits

➢ Fundamental and Harmonics Emission Limits

FCC Part 15 Subpart C Paragraph 15.249 Limits				
Fundamental Frequency MHz	Field Strength of Fundamental		Field Strength of Harmonics	
	mV/m	dBuV/m	uV/m	dBuV/m
902-928	50	94	500	54
2400-2483.5	50	94	500	54
5725-5875	50	94	500	54

Remarks : 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)

2. 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. The emission limit in this paragraph is based on measurement instrumentation employing an average detector.

➢ Spurious electric field strength limits

FCC Part 15 Subpart C Paragraph 15.209 Limits			
Frequency MHz	uV/m	dBuV/m	Measurement distance (meter)
1.705-30	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

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.

2.4. 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 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.

On any frequency or frequencies below or equal to 1000 MHz, the limits shown are based on measuring equipment employing a quasi-peak detector function and on any frequency or frequencies above 1000 MHz the radiated limits shown are based upon the use of measurement instrumentation employing an average detector function. When average radiated emission measurement are included emission measurement below 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit. The bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

2.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.209 and Paragraph 15.249: 2009

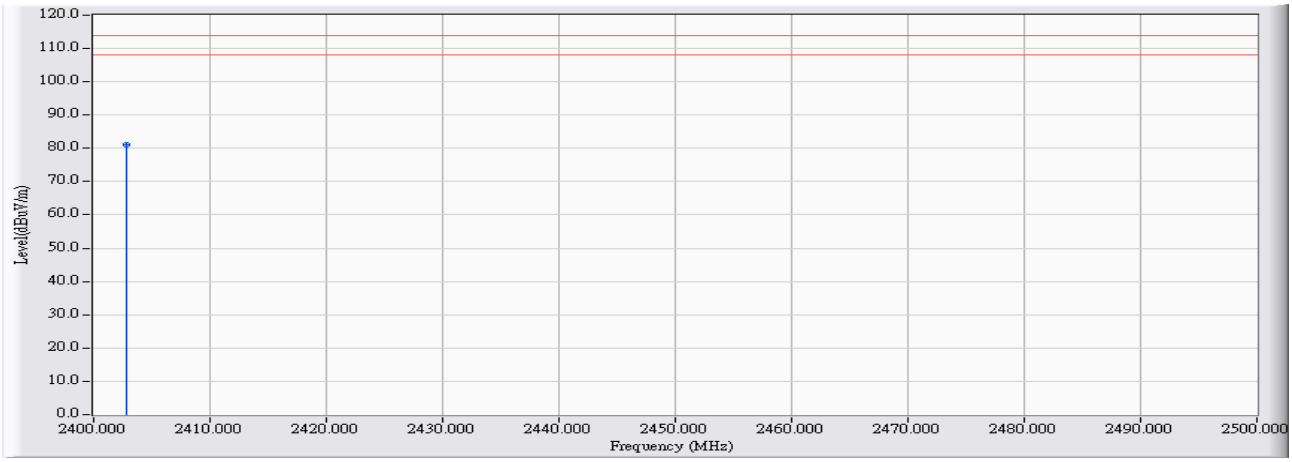
2.6. Uncertainty

The measurement uncertainty
30MHz～1GHz as ±3.19dB
1GHz～26.5GHz as ±3.9dB

2.7. Test Result

Fundamental：

Site : CB1	Time : 2010/07/19 - 19:41
Limit : FCC_SpartC_15.249_F_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-07) - HORIZONTAL	Power : DC 3V
EUT : Heart Rate Monitor	Note : 2403MHz

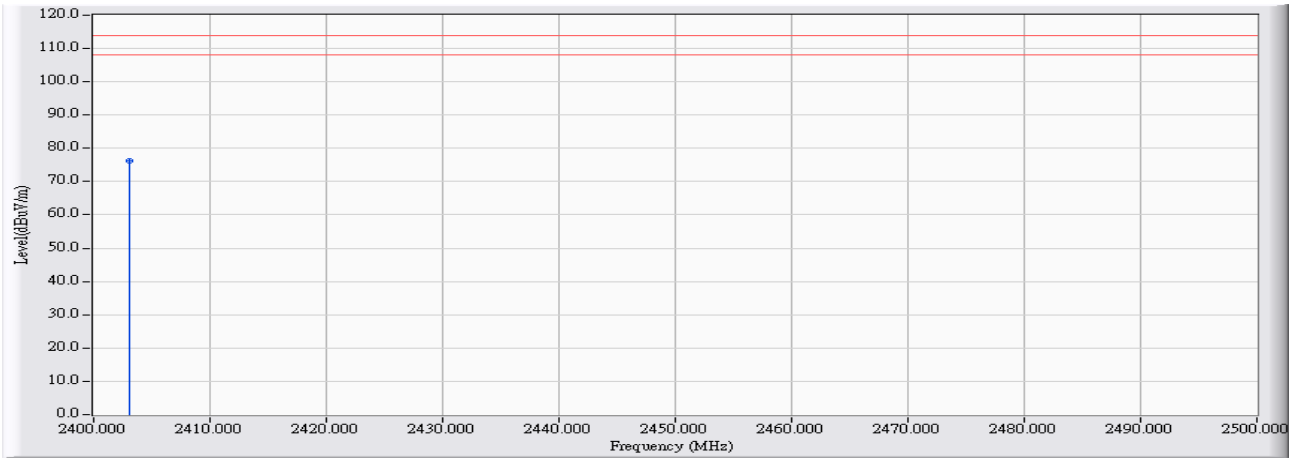


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2402.880	29.369	51.830	81.200	-32.800	114.000	PEAK

Note:

1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. 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.

Site : CB1	Time : 2010/07/19 - 19:47
Limit : FCC_SpartC_15.249_F_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-07) - VERTICAL	Power : DC 3V
EUT : Heart Rate Monitor	Note : 2403 MHz

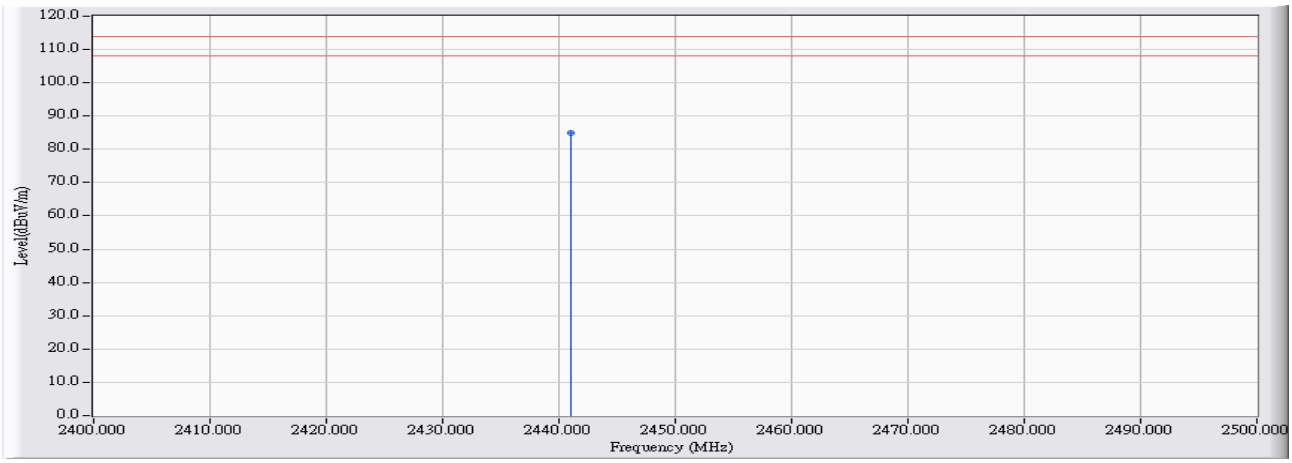


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2403.120	27.915	48.360	76.275	-37.725	114.000	PEAK

Note:

1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. 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.

Site : CB1	Time : 2010/07/19 - 19:52
Limit : FCC_SpartC_15.249_F_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-07) - HORIZONTAL	Power : DC 3V
EUT : Heart Rate Monitor	Note : 2441MHz

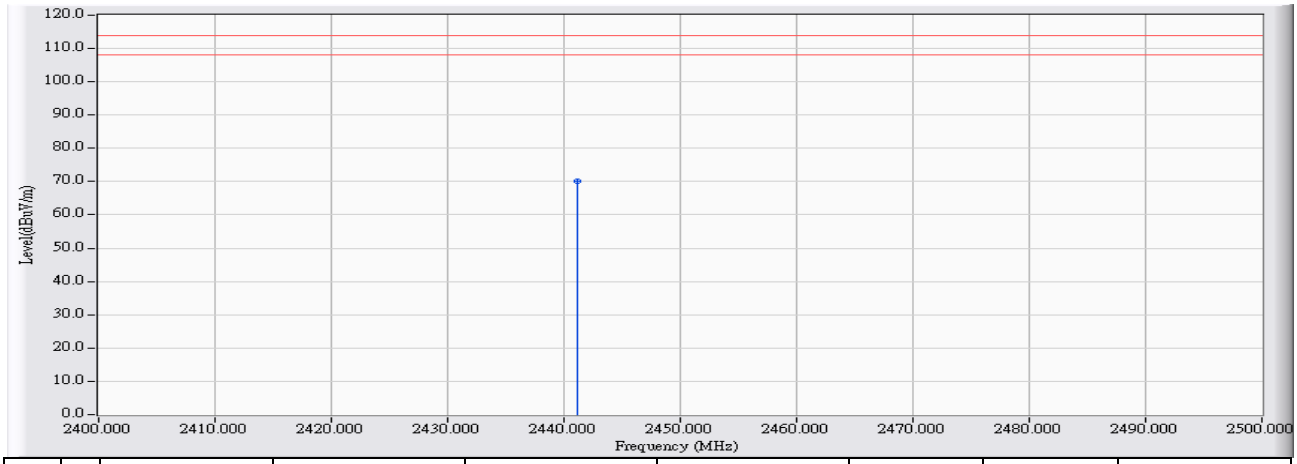


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2441.050	29.504	55.300	84.804	-29.196	114.000	PEAK

Note:

1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. 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.

Site : CB1	Time : 2010/07/19 - 20:02
Limit : FCC_SpartC_15.249_F_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-07) - VERTICAL	Power : DC 3V
EUT : Heart Rate Monitor	Note : 2441MHz

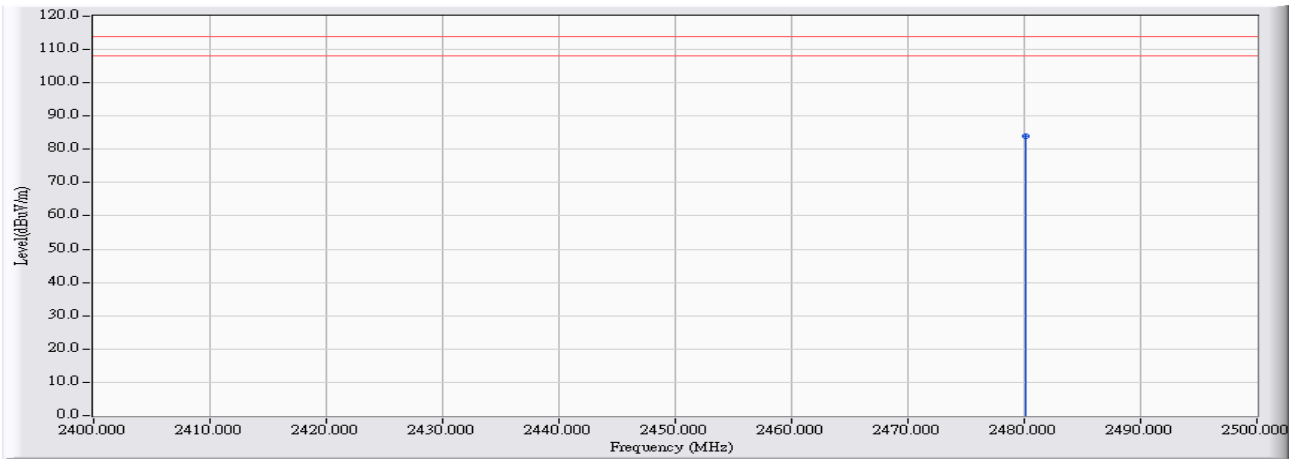


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2441.160	27.556	42.570	70.126	-43.874	114.000	PEAK

Note:

1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. 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.

Site : CB1	Time : 2010/07/19 - 20:12
Limit : FCC_SpartC_15.249_F_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-07) - HORIZONTAL	Power : DC 3V
EUT : Heart Rate Monitor	Note : 2480MHz

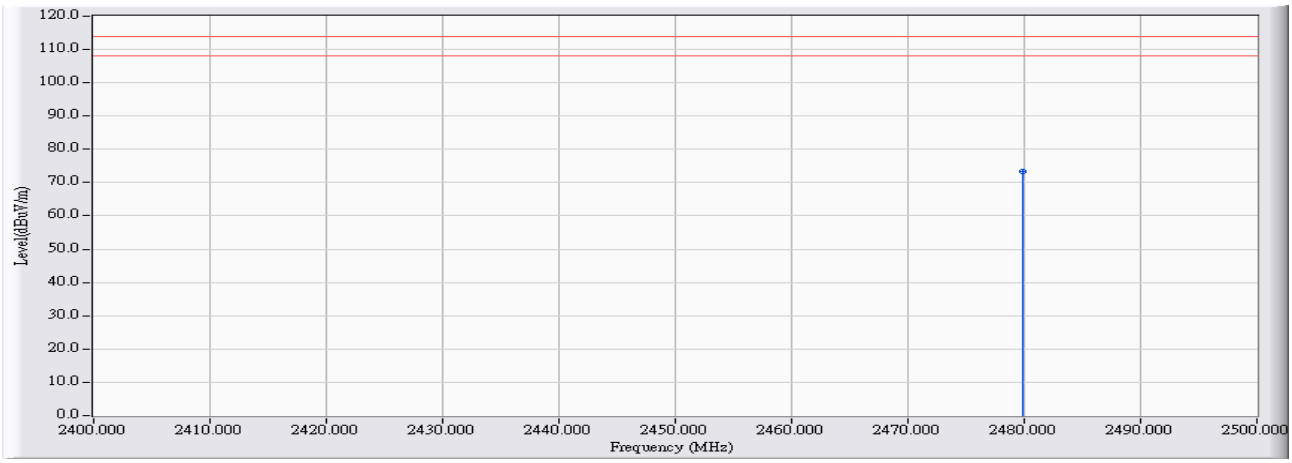


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2480.080	29.656	54.270	83.925	-30.075	114.000	PEAK

Note:

1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. 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.

Site : CB1	Time : 2010/07/19 - 20:18
Limit : FCC_SpartC_15.249_F_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-07) - VERTICAL	Power : DC 3V
EUT : Heart Rate Monitor	Note : 2480MHz



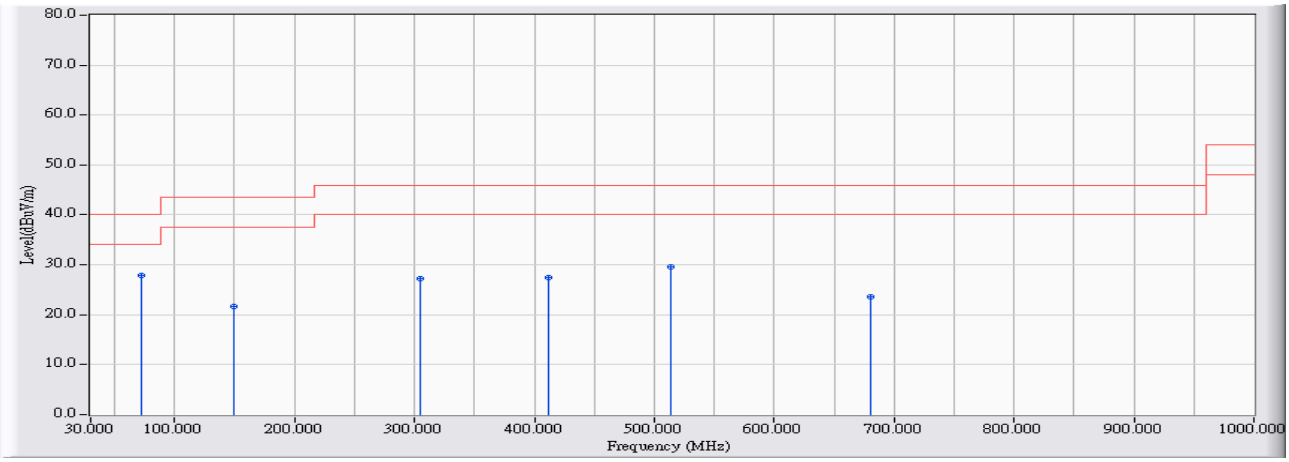
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2479.910	27.151	46.160	73.311	-40.689	114.000	PEAK

Note:

1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. 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.

30 MHz-1 GHz Spurious:

Site : Site 1	Time : 2010/07/21 - 21:31
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB3_FCC_30-1G(2009) - HORIZONTAL	Power : DC 3V
EUT : Heart Rate Monitor	Note : 2441MHz

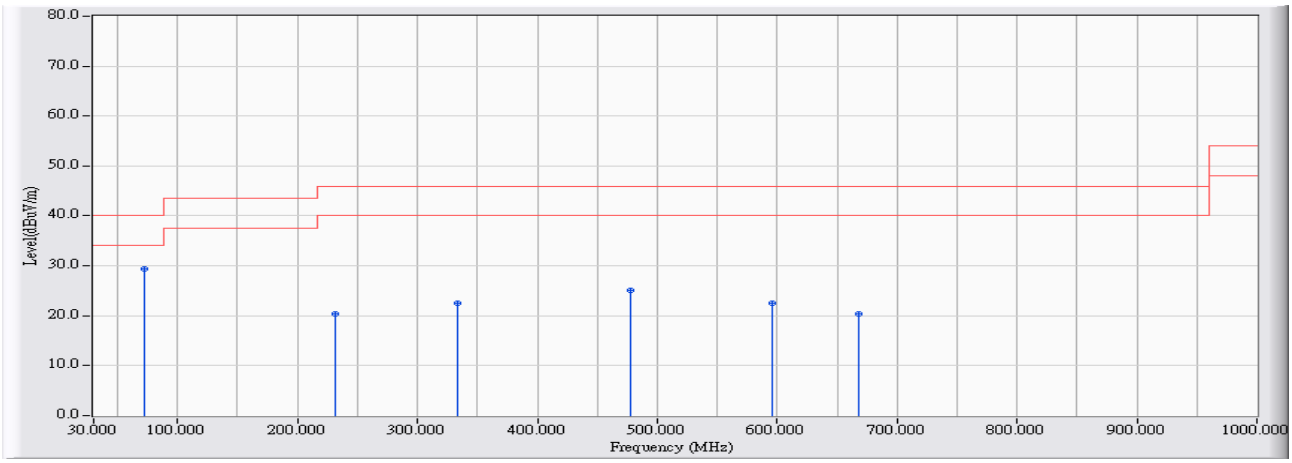


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	72.033	-15.385	43.289	27.904	-12.096	40.000	QUASIPEAK
2		149.633	-19.655	41.213	21.557	-21.943	43.500	QUASIPEAK
3		304.833	-8.474	35.753	27.279	-18.721	46.000	QUASIPEAK
4		411.533	-5.898	33.379	27.480	-18.520	46.000	QUASIPEAK
5		513.383	-7.257	36.956	29.699	-16.301	46.000	QUASIPEAK
6		679.900	-2.620	26.184	23.565	-22.435	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : Site 1	Time : 2010/07/21 - 21:36
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB3_FCC_30-1G(2009) - VERTICAL	Power : DC 3V
EUT : Heart Rate Monitor	Note : 2441MHz



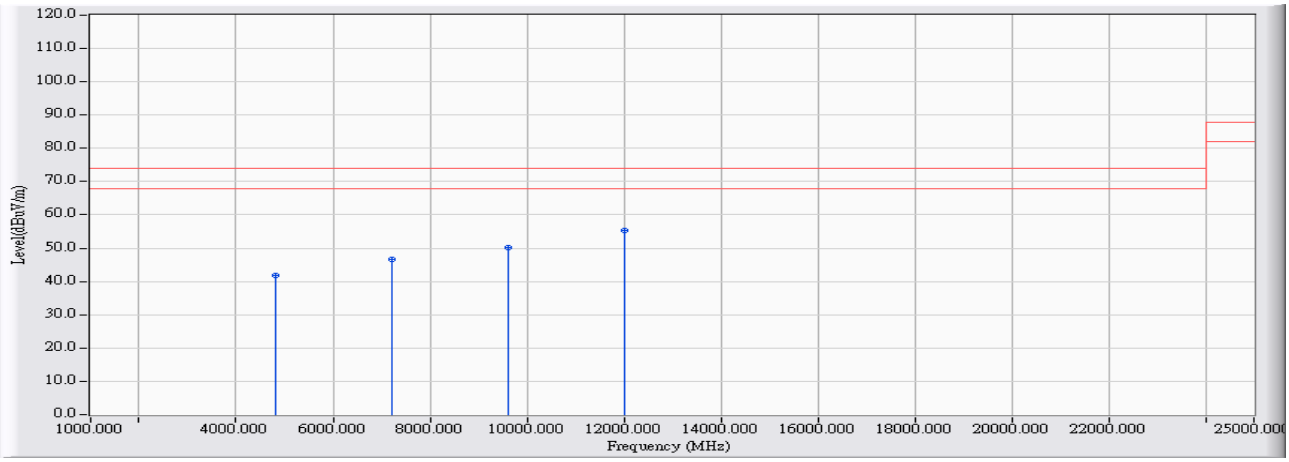
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	72.033	-15.507	44.819	29.312	-10.688	40.000	QUASIPEAK
2		232.083	-12.645	32.945	20.300	-25.700	46.000	QUASIPEAK
3		333.933	-11.690	34.309	22.619	-23.381	46.000	QUASIPEAK
4		477.817	-4.361	29.540	25.179	-20.821	46.000	QUASIPEAK
5		595.833	-4.225	26.737	22.513	-23.487	46.000	QUASIPEAK
6		668.583	-3.350	23.698	20.347	-25.653	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Above 1GHz Spurious：

Site : CB1	Time : 2010/07/21 - 11:56
Limit : FCC_SpartC_15.249_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-07) - HORIZONTAL	Power : DC 3V
EUT : Heart Rate Monitor	Note : 2403MHz

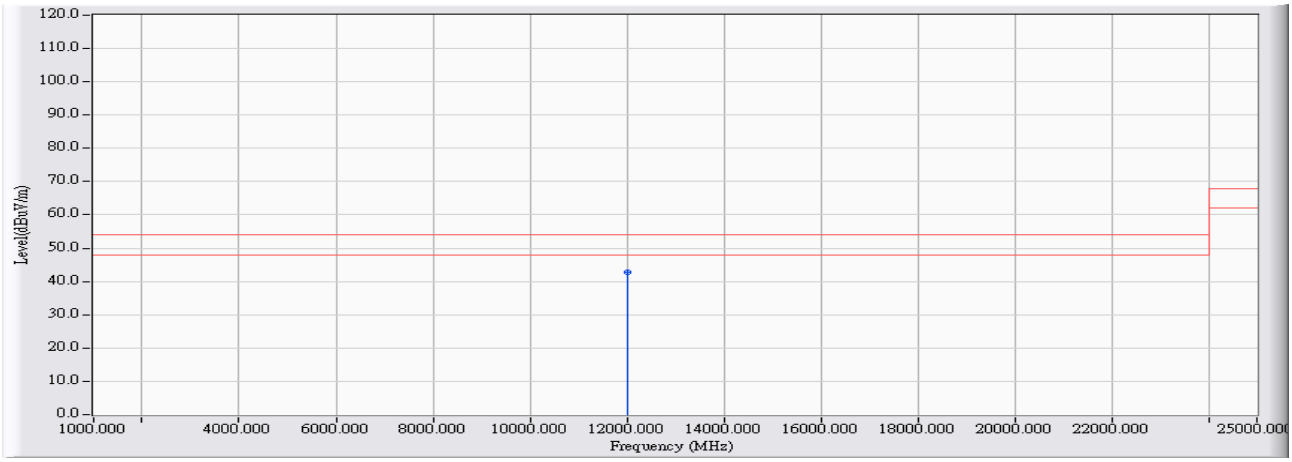


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4806.020	2.004	39.852	41.855	-32.115	73.970	PEAK
2		7212.520	9.773	36.739	46.512	-27.458	73.970	PEAK
3		9616.110	13.681	36.535	50.216	-23.754	73.970	PEAK
4	*	12018.400	18.783	36.560	55.343	-18.627	73.970	PEAK

Note:

1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. 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.

Site : CB1	Time : 2010/07/21 - 11:58
Limit : FCC_SpartC_15.249_H_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-07) - HORIZONTAL	Power : DC 3V
EUT : Heart Rate Monitor	Note : 2403MHz

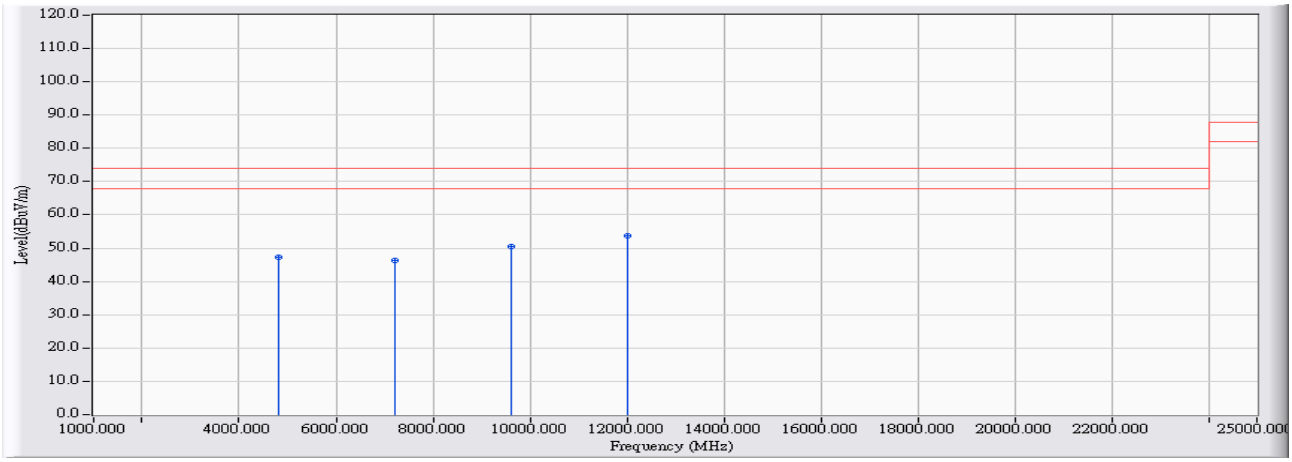


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12018.840	18.780	23.932	42.713	-11.257	53.970	AVERAGE

Note:

1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. 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.

Site : CB1	Time : 2010/07/21 - 12:04
Limit : FCC_SpartC_15.249_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-07) - VERTICAL	Power : DC 3V
EUT : Heart Rate Monitor	Note : 2403MHz

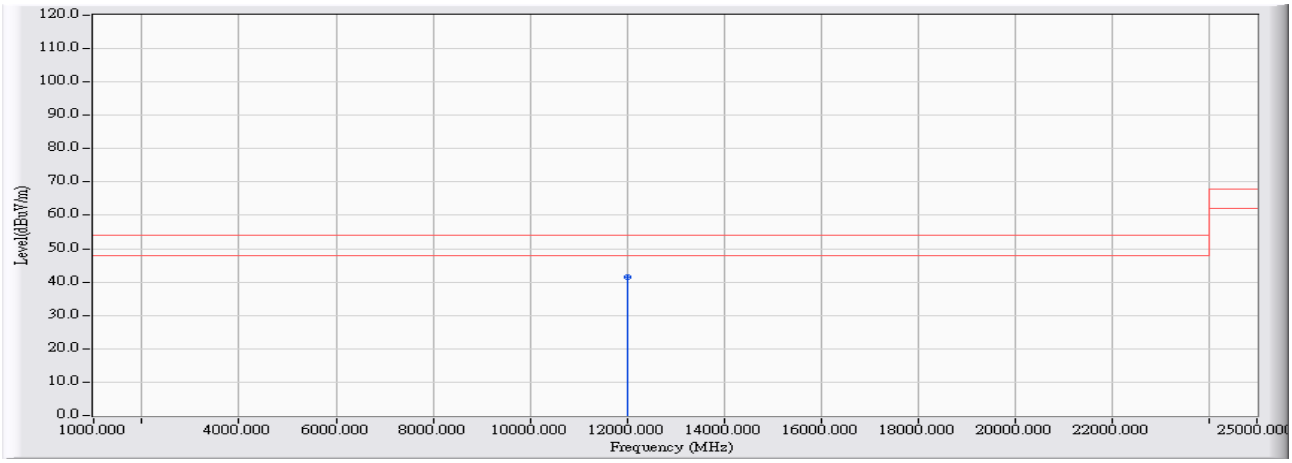


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4806.510	3.637	43.786	47.423	-26.547	73.970	PEAK
2		7206.240	9.398	37.011	46.409	-27.561	73.970	PEAK
3		9612.000	13.735	36.718	50.453	-23.517	73.970	PEAK
4	*	12011.750	17.436	36.404	53.839	-20.131	73.970	PEAK

Note:

1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. 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.

Site : CB1	Time : 2010/07/21 - 12:05
Limit : FCC_SpartC_15.249_H_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-07) - VERTICAL	Power : DC 3V
EUT : Heart Rate Monitor	Note : 2403MHz

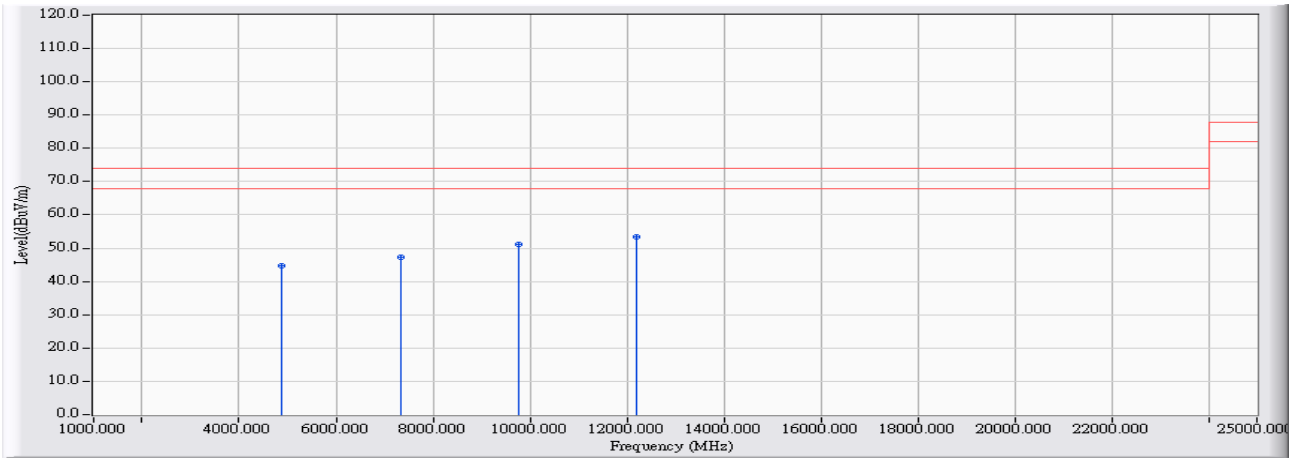


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12015.350	17.432	23.947	41.380	-12.590	53.970	AVERAGE

Note:

1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. 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.

Site : CB1	Time : 2010/07/23 - 11:31
Limit : FCC_SpartC_15.249_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-07) - HORIZONTAL	Power : DC 3V
EUT : Heart Rate Monitor	Note : 2441MHz

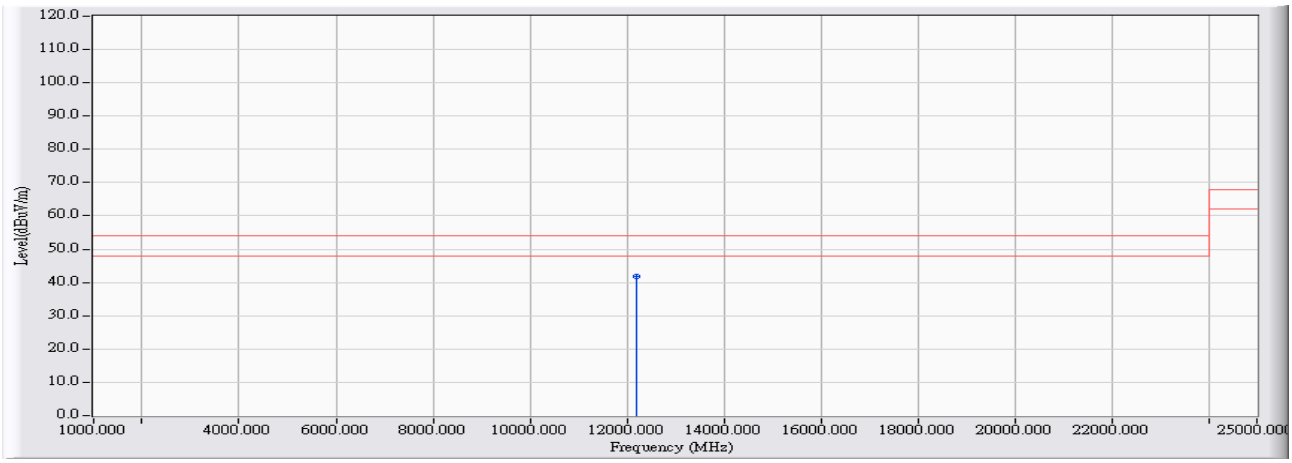


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4882.600	2.389	42.468	44.857	-29.113	73.970	PEAK
2		7324.080	10.287	36.896	47.183	-26.787	73.970	PEAK
3		9763.360	14.279	36.873	51.152	-22.818	73.970	PEAK
4	*	12214.280	18.006	35.510	53.517	-20.453	73.970	PEAK

Note:

1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. 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.

Site : CB1	Time : 2010/07/23 - 11:33
Limit : FCC_SpartC_15.249_H_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-07) - HORIZONTAL	Power : DC 3V
EUT : Heart Rate Monitor	Note : 2441MHz

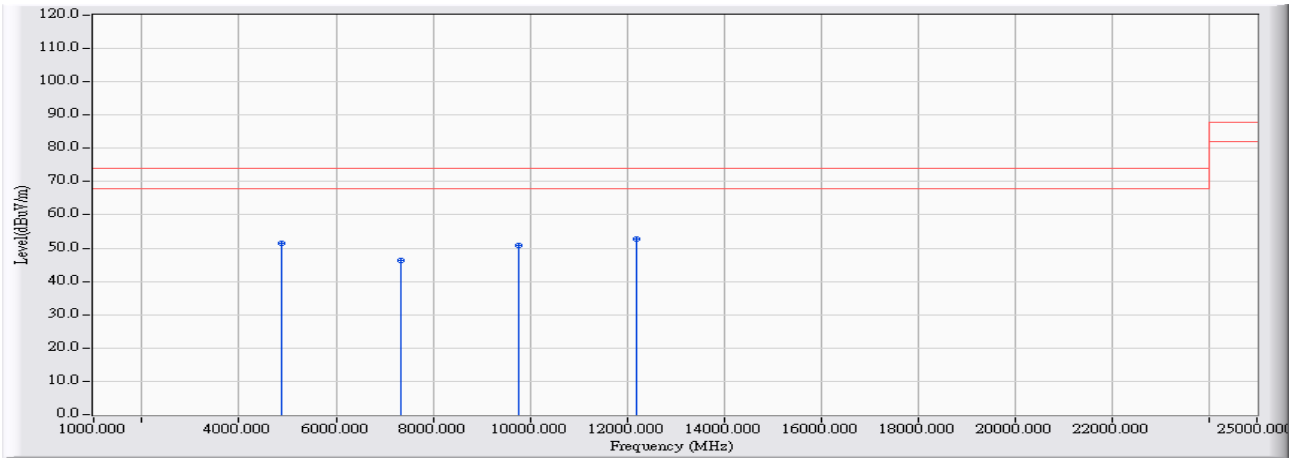


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12213.760	18.009	23.685	41.694	-12.276	53.970	AVERAGE

Note:

1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. 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.

Site : CB1	Time : 2010/07/23 - 11:40
Limit : FCC_SpartC_15.249_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-07) - VERTICAL	Power : DC 3V
EUT : Heart Rate Monitor	Note : 2441MHz

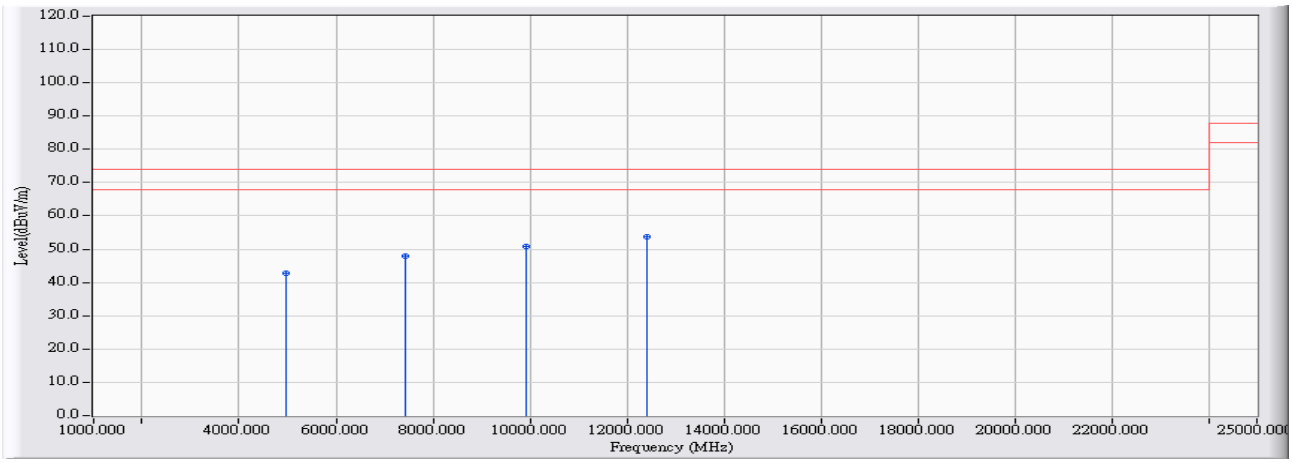


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4882.080	4.796	46.656	51.452	-22.518	73.970	PEAK
2		7325.780	9.633	36.740	46.373	-27.597	73.970	PEAK
3		9759.160	14.474	36.339	50.813	-23.157	73.970	PEAK
4	*	12201.250	17.093	35.709	52.802	-21.168	73.970	PEAK

Note:

1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. 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.

Site : CB1	Time : 2010/07/23 - 11:48
Limit : FCC_SpartC_15.249_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-07) - HORIZONTAL	Power : DC 3V
EUT : Heart Rate Monitor	Note : 2480MHz

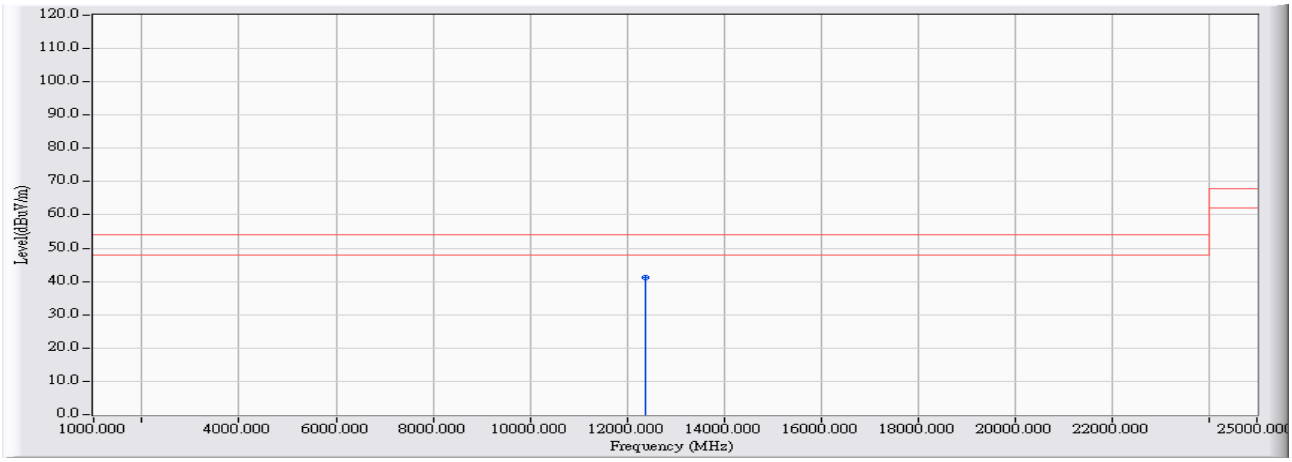


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4960.260	2.863	39.814	42.676	-31.294	73.970	PEAK
2		7441.640	10.840	37.161	48.001	-25.969	73.970	PEAK
3		9918.930	14.904	35.825	50.729	-23.241	73.970	PEAK
4	*	12403.910	17.253	36.383	53.636	-20.334	73.970	PEAK

Note:

1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. 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.

Site : CB1	Time : 2010/07/23 - 11:49
Limit : FCC_SpartC_15.249_H_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-07) - HORIZONTAL	Power : DC 3V
EUT : Heart Rate Monitor	Note : 2480MHz

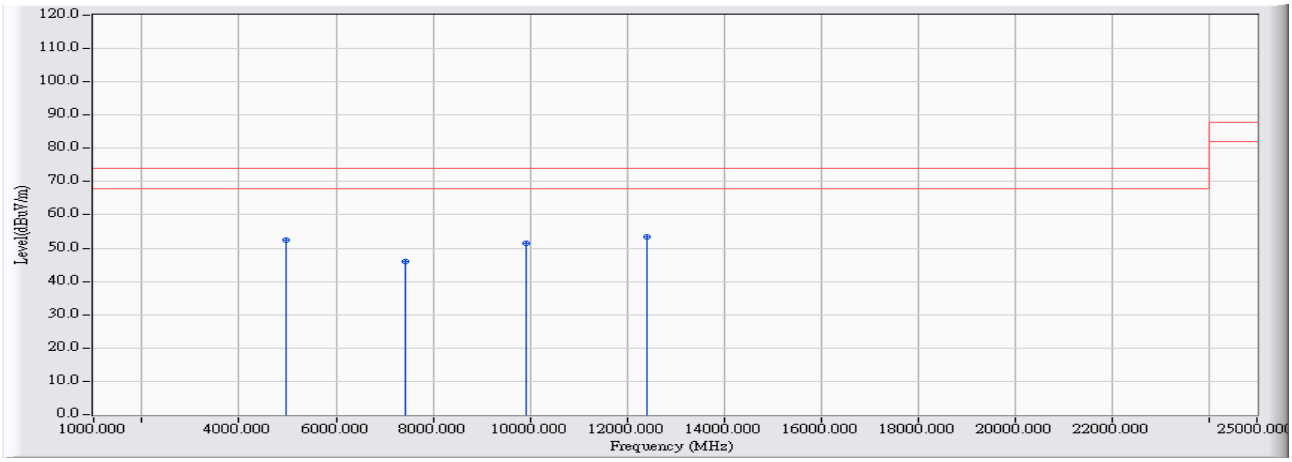


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12397.030	17.282	24.046	41.328	-12.642	53.970	AVERAGE

Note:

1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. 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.

Site : CB1	Time : 2010/07/23 - 11:53
Limit : FCC_SpartC_15.249_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-07) - VERTICAL	Power : DC 3V
EUT : Heart Rate Monitor	Note : 2480MHz

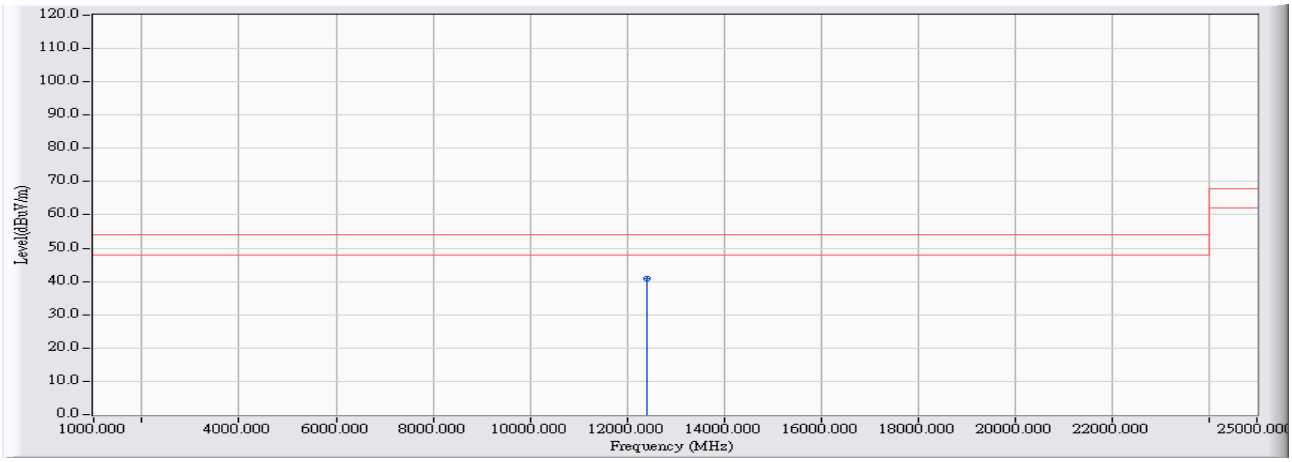


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		4959.900	5.257	47.194	52.451	-21.519	73.970	PEAK
2		7432.300	9.851	36.279	46.130	-27.840	73.970	PEAK
3		9919.640	15.277	36.176	51.453	-22.517	73.970	PEAK
4	*	12408.440	16.709	36.566	53.274	-20.696	73.970	PEAK

Note:

1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. 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.

Site : CB1	Time : 2010/07/23 - 11:55
Limit : FCC_SpartC_15.249_H_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-07) - VERTICAL	Power : DC 3V
EUT : Heart Rate Monitor	Note : 2480MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	12408.420	16.709	24.055	40.763	-13.207	53.970	AVERAGE

Note:

1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor
4. 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.

3. Band Edge

3.1. Test Equipment

The following test equipment are used during the test:

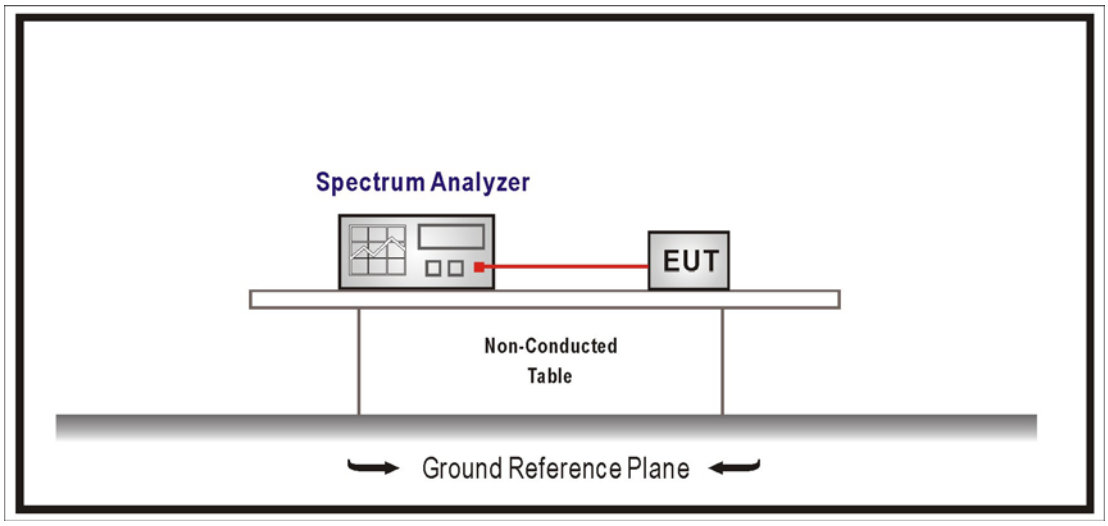
Band Edge / CB1

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Horn Antenna	Schwarzback	BBHA 9120D	743	2011/03/14
Spectrum Analyzer	Agilent	E4440A	MY46187335	2011/01/14
Coaxial Cable	Huber+Suhner AG	Sucoflex 102	25623/2	2011/04/07

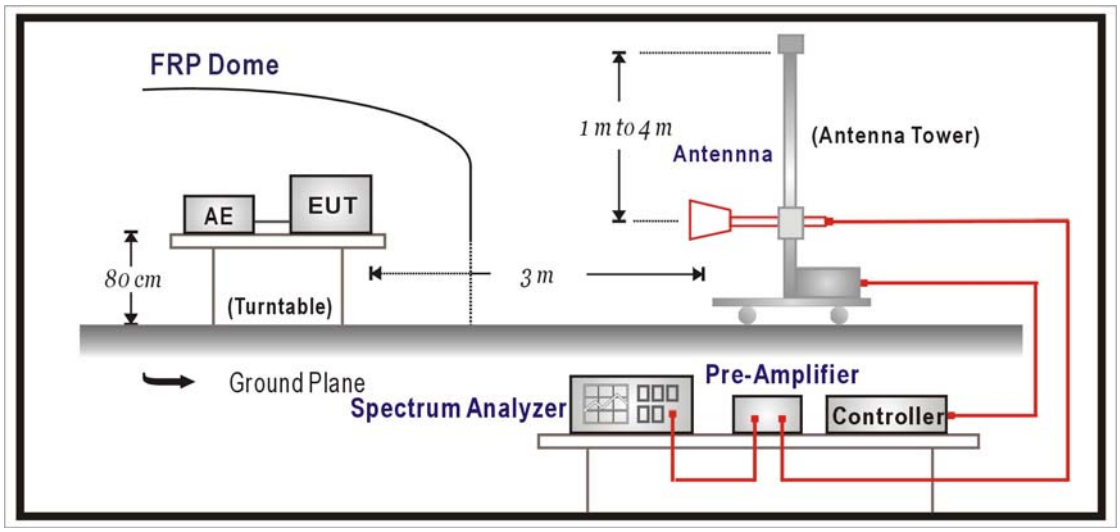
Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

3.2. Test Setup

RF Conducted Measurement:



RF Radiated Measurement:



3.3. Limits

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 50 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)).

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

3.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.249: 2009

3.6. Uncertainty

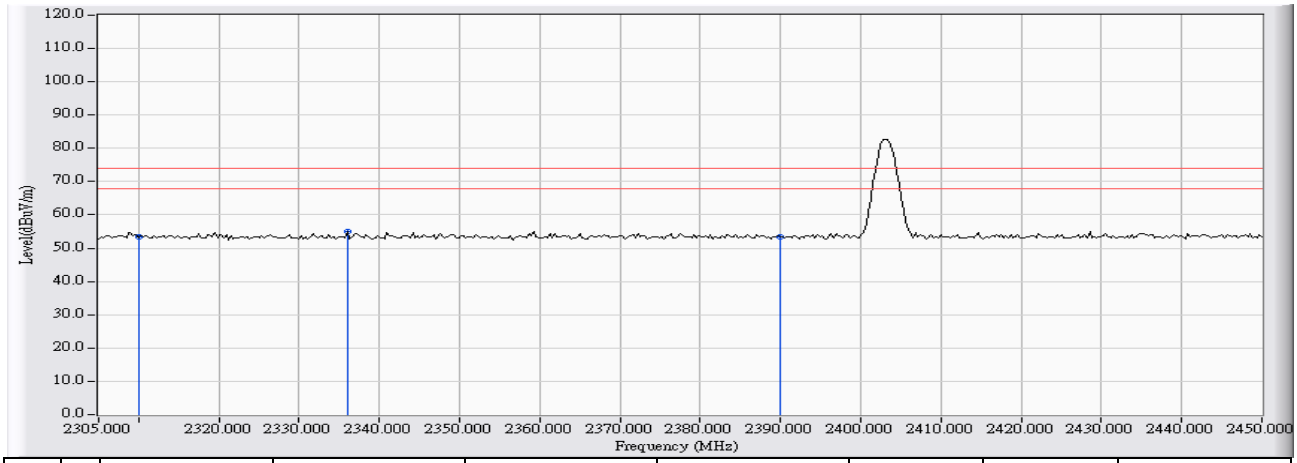
The measurement uncertainty

Conducted is defined as ± 1.27dB

Radiated is defined as ± 3.9dB

3.7. Test Result

Site : CB1	Time : 2010/07/20 - 13:43
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-07) - HORIZONTAL	Power : DC 3V
EUT : Heart Rate Monitor	Note : 2403MHz

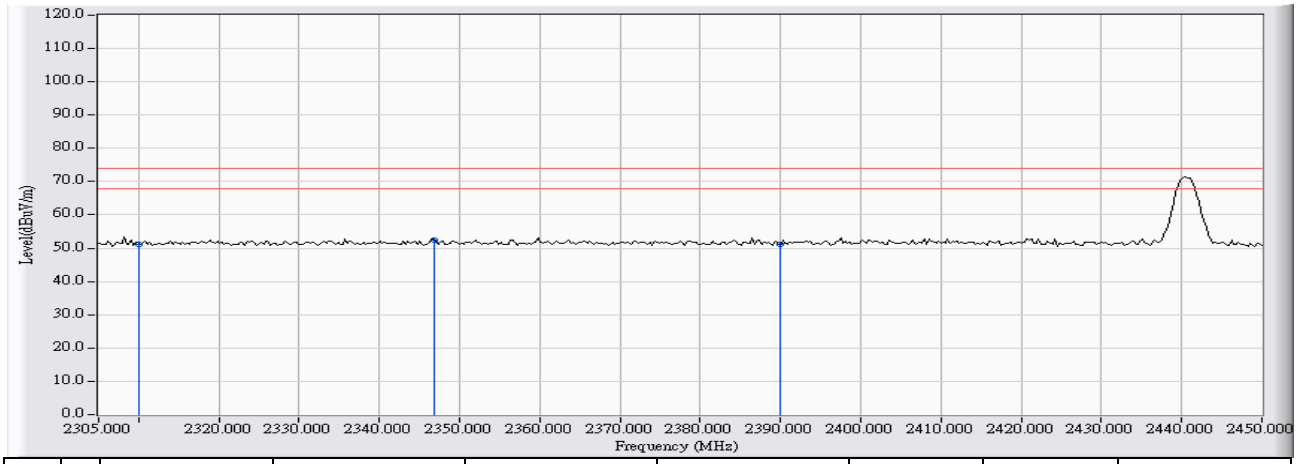


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	29.291	24.036	53.327	-20.673	74.000	PEAK
2	*	2336.030	29.305	25.567	54.872	-19.128	74.000	PEAK
3		2390.000	29.342	24.169	53.511	-20.489	74.000	PEAK

Note:

1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. 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.

Site : CB1	Time : 2010/07/20 - 13:51
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-07) - VERTICAL	Power : DC 3V
EUT : Heart Rate Monitor	Note : 2403MHz

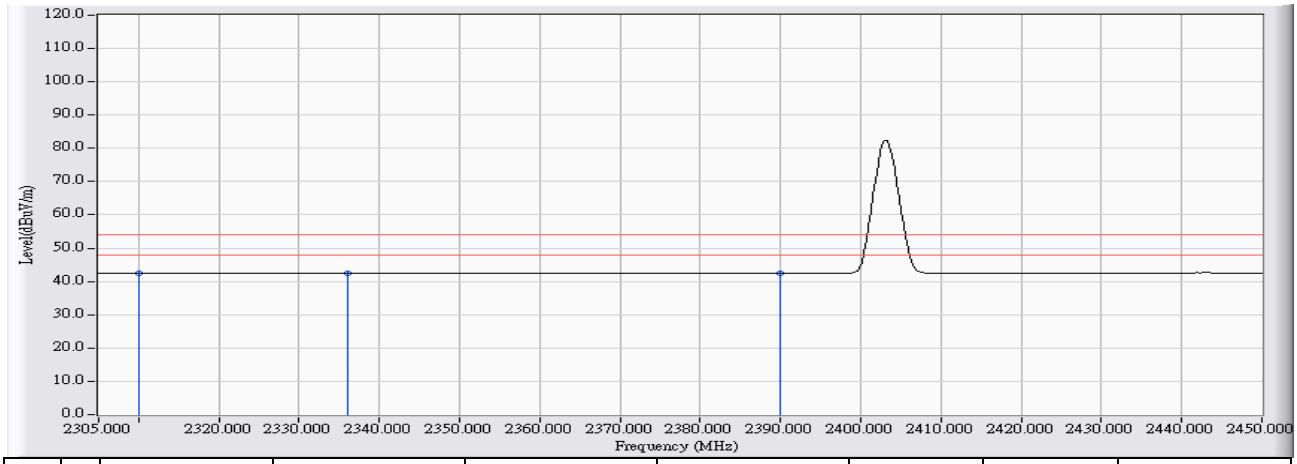


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.561	23.752	51.312	-22.688	74.000	PEAK
2	*	2346.760	27.732	24.596	52.328	-21.672	74.000	PEAK
3		2390.000	27.946	23.053	50.999	-23.001	74.000	PEAK

Note:

1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. 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.

Site : CB1	Time : 2010/07/20 - 13:45
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-07) - HORIZONTAL	Power : DC 3V
EUT : Heart Rate Monitor	Note : 2403MHz

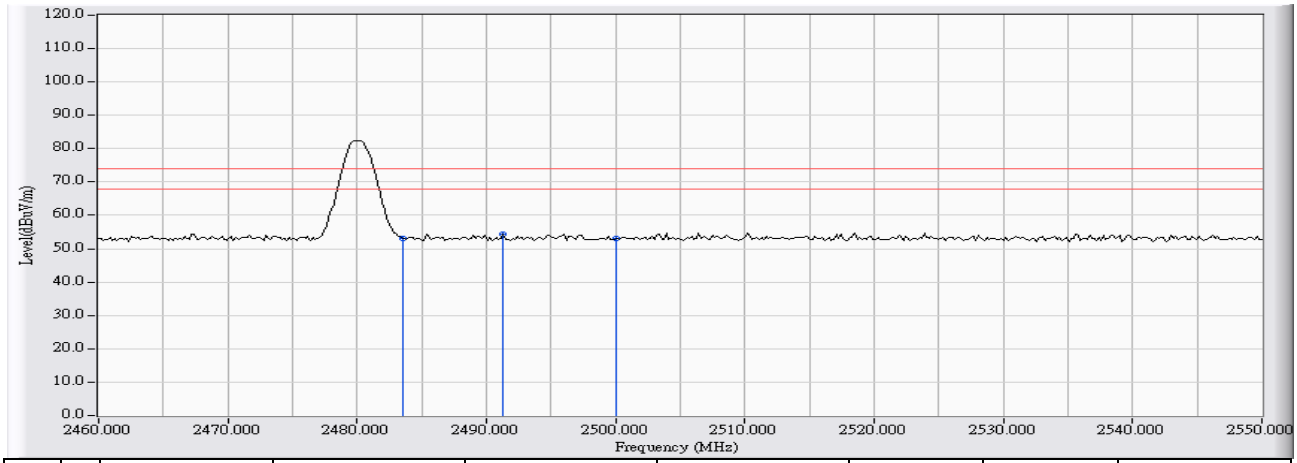


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2310.000	29.291	13.151	42.442	-11.558	54.000	AVERAGE
2		2336.030	29.305	13.119	42.424	-11.576	54.000	AVERAGE
3		2390.000	29.342	13.077	42.419	-11.581	54.000	AVERAGE

Note:

1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. 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.

Site : CB1	Time : 2010/07/20 - 14:00
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-07) - HORIZONTAL	Power : DC 3V
EUT : Heart Rate Monitor	Note : 2480MHz

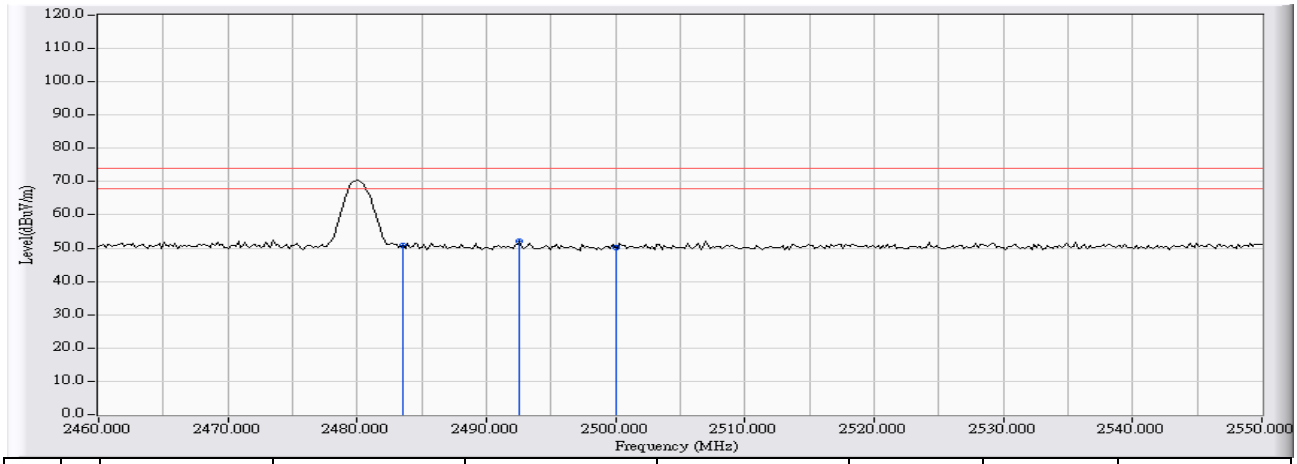


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2483.500	29.669	23.444	53.113	-20.887	74.000	PEAK
2	*	2491.320	29.699	24.575	54.274	-19.726	74.000	PEAK
3		2500.000	29.719	23.204	52.924	-21.076	74.000	PEAK

Note:

1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. 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.

Site : CB1	Time : 2010/07/20 - 14:09
Limit : FCC_SpartC_15.209_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-07) - VERTICAL	Power : DC 3V
EUT : Heart Rate Monitor	Note : 2480MHz

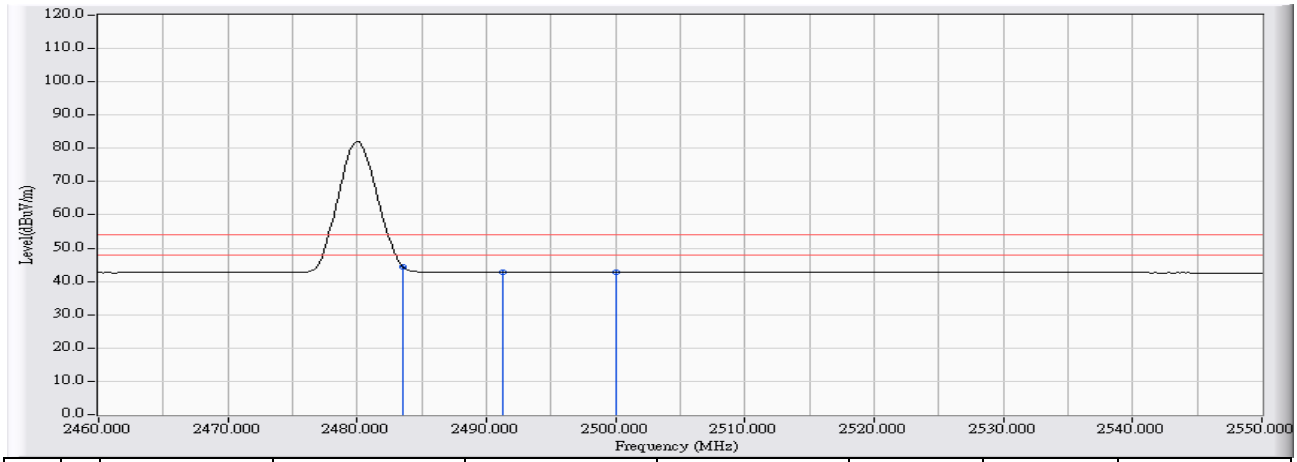


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2483.500	27.112	23.610	50.721	-23.279	74.000	PEAK
2	*	2492.580	27.011	25.068	52.079	-21.921	74.000	PEAK
3		2500.000	26.992	23.042	50.034	-23.966	74.000	PEAK

Note:

1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. 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.

Site : CB1	Time : 2010/07/20 - 14:02
Limit : FCC_SpartC_15.209_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2010-07) - HORIZONTAL	Power : DC 3V
EUT : Heart Rate Monitor	Note : 2480MHz



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	29.669	14.850	44.519	-9.481	54.000	AVERAGE
2		2491.320	29.699	13.028	42.727	-11.273	54.000	AVERAGE
3		2500.000	29.719	13.025	42.745	-11.255	54.000	AVERAGE

Note:

1. All Readings below 1GHz are Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. 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.