



A Test Lab Techno Corp.

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Part 15 C Measurement Report



Report No.	: 0902FR11
Applicant	: Applied Wireless Identifications Group Inc
Product Type	: RFID Handheld Terminal
Trade Mark	: AWID
Model No	: HH-6600
FCC ID	: OGS HH6600
Dates of Test	: Jan. 16 ~ Feb. 24, 2009
Test Specification	: Part 15 Subpart C (15.247)
	PUBLIC NOTICE :DA 00-705 Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems
Location of Test Lab.	: Chang-an Lab.

1. The test operations have to be performed with cautious behavior, the test results are as attached.
2. The test results are under chamber environment of A Test Lab Techno Corp. A Test Lab Techno Corp. does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples.
3. The measurement report has to be written approval of A Test Lab Techno Corp. It may only be reproduced or published in full.


Country Huang 20090225
Measurement Center Manager


John Cheng 20090225
Testing Engineer



CERTIFICATION

We here by verify that:

The test data, data evaluation, test procedures and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4:2003. All test were conducted by *A Test Lab Techno Corp. No.140-1, Chang-an St., Bade City, Tao-Yuan County 334, Taiwan (R.O.C.)* Also, we attest to the accuracy of each.

We further submit that the energy emitted by the sample EUT tested as described in the report is in compliance with Class B radiated and conducted emission limit of FCC Rules Part 15 Subpart C (15.247).

EUT : RFID Handheld Terminal
Applicant : Applied Wireless Identifications Group Inc
18300 Sutter Blvd, Morgan Hill, CA 95037 USA
Trade Mark : AWID
Model No : HH-6600
FCC ID : OGSHH6600

Approved by : 
Country Huang 2009/02/25

Prepared by : 
John Cheng 2009/02/25

A Test Lab Techno Corp.

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1. GENERAL

1.1 Description of Equipment under Test (EUT)

Applicant :

Applied Wireless Identifications Group Inc
18300 Sutter Blvd, Morgan Hill, CA 95037 USA

Manufacturer : Applied Wireless Identifications Group Inc
Manufacturer Address : 18300 Sutter Blvd, Morgan Hill, CA 95037 USA
Trade Mark : AWID
Product Model : HH-6600
Product Type : RFID Handheld Terminal
FCC ID : OGSHH6600
Antenna Gain : 2.5dBi
Battery Type : Li-ion 7.4V / 1850 mAh
Frequency of Channel : See Table 1
Type of Modulation : Frequency Hopping Spread Spectrum
Type of Antenna : Small circular polarized patch antenna

During testing the EUT was operated at Tx or Rx mode for each emission measured. This was done in order to ensure that maximum emission levels were attained.

CH No.	Freq.	CH No.	Freq.	CH No.	Freq.	CH No.	Freq.
0	2402.00	20	2422.00	40	2442.00	60	2462.00
1	2403.00	21	2423.00	41	2443.00	61	2463.00
2	2404.00	22	2424.00	42	2444.00	62	2464.00
3	2405.00	23	2425.00	43	2445.00	63	2465.00
4	2406.00	24	2426.00	44	2446.00	64	2466.00
5	2407.00	25	2427.00	45	2447.00	65	2467.00
6	2408.00	26	2428.00	46	2448.00	66	2468.00
7	2409.00	27	2429.00	47	2449.00	67	2469.00
8	2410.00	28	2430.00	48	2450.00	68	2470.00
9	2411.00	29	2431.00	49	2451.00	69	2471.00
10	2412.00	30	2432.00	50	2452.00	70	2472.00
11	2413.00	31	2433.00	51	2453.00	71	2473.00
12	2414.00	32	2434.00	52	2454.00	72	2474.00
13	2415.00	33	2435.00	53	2455.00	73	2475.00
14	2416.00	34	2436.00	54	2456.00	74	2476.00
15	2417.00	35	2437.00	55	2457.00	75	2477.00
16	2418.00	36	2438.00	56	2458.00	76	2478.00
17	2419.00	37	2439.00	57	2459.00	77	2479.00
18	2420.00	38	2440.00	58	2460.00	78	2480.00
19	2421.00	39	2441.00	59	2461.00		

Table 1. Bluetooth Frequency of Each Channel (Working Frequency)



1.2 Introduction

The following measurement report is submitted on behalf of **Applied Wireless Identifications Group Inc.** In support of a Class B Digital Device certification in accordance with Part2 Subpart J and Part 15 Subpart A And B&C of the Commission's and Regulations.

1.3 Description of Test Modes

Preliminary tests were performed in different data mode to find the worst case. The data mode shown in the table below is the worst-case rate (Blue color). Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

Bands	Channel	Frequency (MHz)		Conducted Power (dBm)
Bluetooth 1.2	00	Low	2412	-3.960
	39	Mid	2441	-3.926
	78	High	2480	-5.830
Bluetooth 2.0	00	Low	2412	-2.268
	39	Mid	2441	-3.776
	78	High	2480	-5.664

1.4 Summary of Tests

47 CFR Part 15 Subpart C			
Reference	Test	Results	Note
15.107	AC Power Conducted Emission	PASS	
15.247(c)	Transmitter Radiated Emissions	PASS	
15.247(b)	Max. Output Power	PASS	
15.247(a)(1)	20dB RF Bandwidth	PASS	
15.247(a)(1)(ii)	Carrier Frequency Separation	PASS	
15.247(a)(1)(i)	Number of Hopping	PASS	
15.247(a)(1)(i)	Time of Occupancy (Dwell Time)	PASS	
15.247(c)	Out of Band Conducted Spurious Emission	PASS	
15.247(c)	Band Edge Measurement	PASS	
15.203	Antenna Requirement	PASS	



1.5 Description of Support Equipment

Computer	: DELL
Model No.	: PP49L
Serial No.	: UF230 A03
FCC ID	: E2KWM3945ABC
Keyboard	: DELL
Model No.	: SK-8115
Serial No.	: MY-0DJ325-71619-7113-1366
FCC ID	: FCC DOC
Monitor	: DELL
Model No.	: E177FPc
Serial No.	: CN-0FJ179-64180-6BT-4LYS
FCC ID	: FCC DOC
Mouse	: DELL
Model No.	: M056U0A
Serial No.	: F1F026E1
FCC ID	: FCC DOC
Printer	: EPSON
Model No.	: C60
Serial No.	: DR3K041323
FCC ID	: FCC DOC

1.6 Configuration of System under Test

PC USB Link

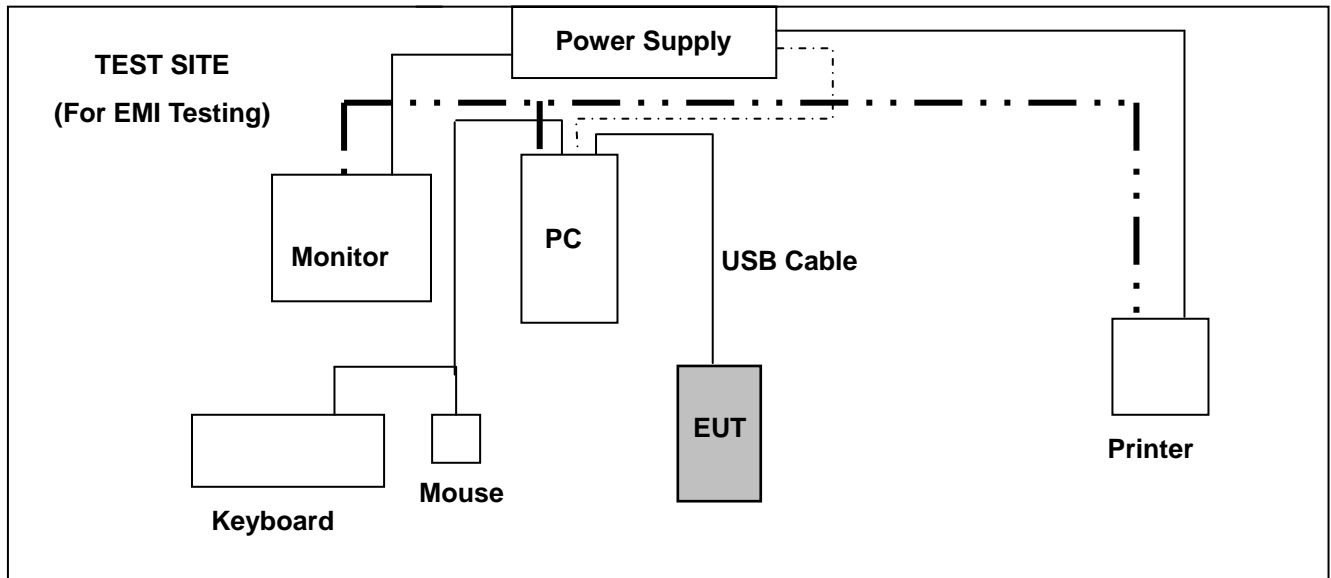


Figure 1. Configuration of System Under Test for PC USB Link

During EMI testing the EUT (RFID Handheld Terminal)'s USB port connected to the USB port of AE PC. A mouse was connected to the mouse port of IBM PC. And a keyboard was connected to the mouse port of IBM PC. And a printer was connected to the parallel port.

AC Adapter Link

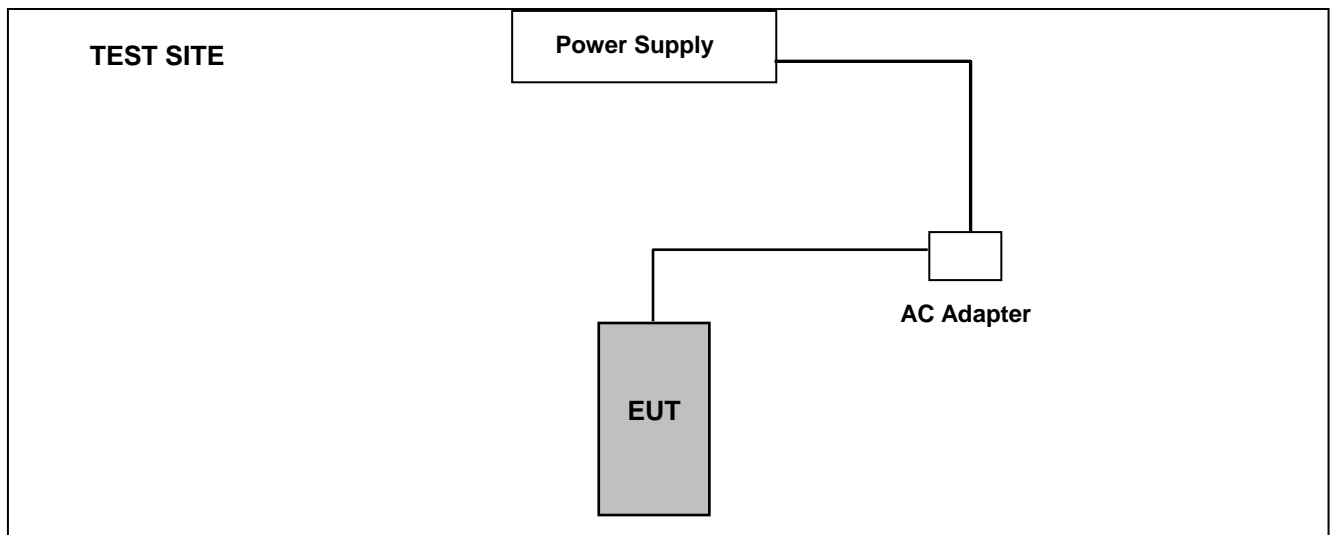


Figure 2. Configuration of System Under Test

During EMI testing (LINK) the EUT (RFID Handheld Terminal)'s Power port was connected to AC Adapter.



1.7 Test Procedure

All measurements contained in this report were performed according to the techniques described in Measurement procedure ANSI C63.4-2003 "Measurement of un-Intentional Radiators."

1.8 General Test Condition

The conditions under which the EUT operates were varied to determine their effect on the equipment's emission characteristics. The final configuration of the test system and the mode of operation used during these tests were chosen as that which produced the highest emission levels. However, only those conditions which the EUT was considered likely to encounter in normal use were investigated. The systems radiated and conducted emissions were investigated while the computer alternately transferred data to the EUT as well as to the monitor and printer. Using a test program which sent a continuous data and transferred data to and from the EUT was proven to worst case emissions. The system's physical layout and cabling was randomly arranged to ensure that maximum emission levels were attained.



2. Conducted Emissions Requirements

2.1 General & Setup:

The power line conducted emission measurements were performed in a shielded enclosure. The EUT was assembled on a wooden table which is 80 centimeters high, was placed 40 centimeters from the back wall and at least 1 meter from the sidewall.

Power was fed to the EUT from the public utility power grid through a line filter and EMCO Model 3162/2 SH Line Impedance Stabilization Networks (LISN). The LISN housing, measuring instrumentation case, ground plane, etc., were electrically bonded together at the same RF potential. The Spectrum analyzer was connected to the AC line through an isolation transformer. The 50-ohm output of the LISN was connected to the spectrum analyzer directly. Conducted emission levels were in the CISPR quasi-peak detection mode. The analyzer's 6 dB bandwidth was set to 9 KHz. No post-detector video filter was used.

The spectrum was scanned from 150 KHz to 30 MHz. The physical arrangement of the test system and associated cabling was varied (within the scope of arrangements likely to be encountered in actual use) to determine the effect on the unit's emanations in amplitude and frequency. All spurious emission frequencies were observed. The highest emission amplitudes relative to the appropriate limit were measured and have been recorded in paragraph 2.6.

2.2 Test Equipment List:

Describe	Manufacturer	Model	Serial Number	Calibration	
				Cal. Date	Due Date
Spectrum Analyzer	Advantest	R3132	160300103	Mar. 06, 2008	Mar. 06, 2009
Test Receiver	R&S	ESCI	100367	Jun. 05, 2008	Jun. 05, 2009
LISN	EMCO	3816/2 SH	00060110	Jun. 03, 2008	Jun. 03, 2009
LISN	EMCO	3816/2 SH	00060111	Jun. 30, 2008	Jun. 30, 2009
Transient Limiter	ELECTRO-METRICS	EM-7600	777	Jun. 26, 2008	Jun. 26, 2009

2.3 Test Configuration:



Figure 3. Front View of the Test Configuration



Figure 4. Rear View of the Test Configuration



2.4 Test condition:

EUT tested in accordance with the specifications given by the Manufacturer, and exercised in the most unfavorable manner.

2.5 Conducted Emissions Limits:

Frequency range (MHz)	Limits (dBuV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5.0	56	46
5.0 to 30	60	50



2.6 Measurement Data of Conducted Emissions:

2.6.1 Conducted Emissions (Subpart C)

The following table show a summary of the highest emissions of power line conducted emissions to the HOT and NATURAL conductor of the EUT power.

Applicant : Applied Wireless Identifications Group Inc
Model No : HH-6600
EUT : RFID Handheld Terminal
Test Mode : Stand By
Test Date : 01/16/2009

Please refer to next pager of detail testing data.

Notes:

1. L1: One end & Ground L2: The other end & Ground
2. Height of table on which the EUT was placed: 0.8 m.
3. The Quasi-Peak Value have already met the Average Value Limit showed on above limits.
4. The above test results are obtained under the normal condition.

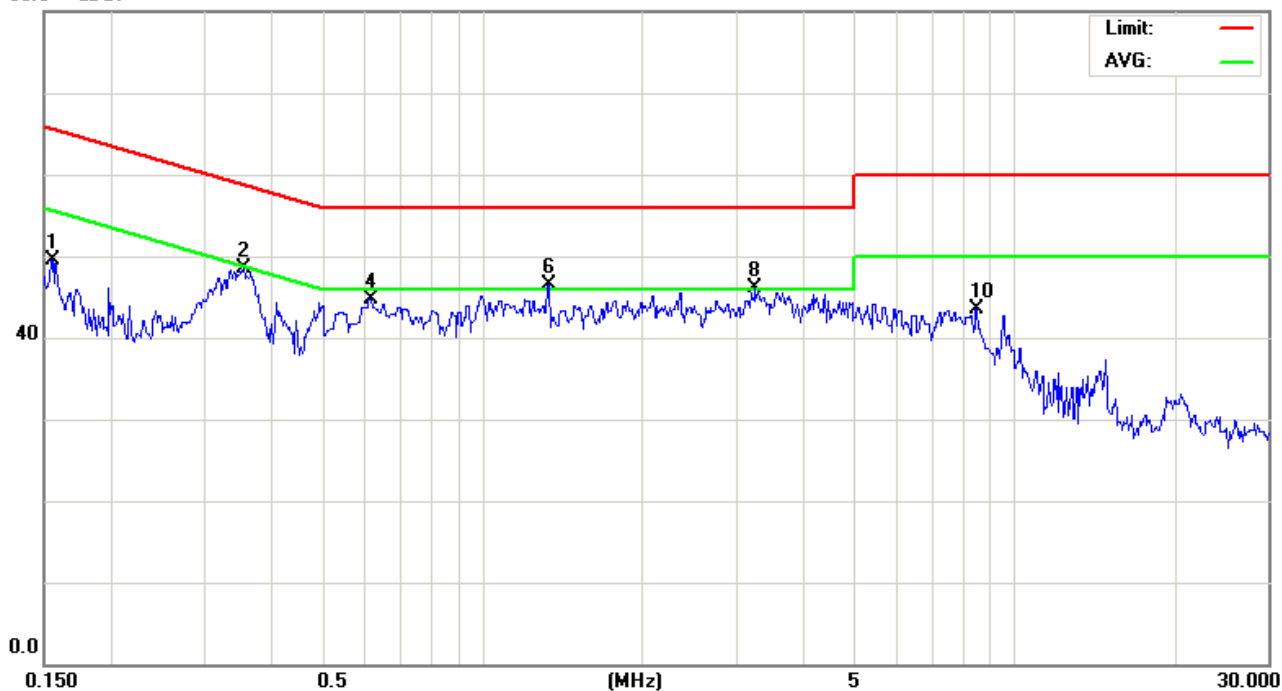


Data :#1

Date: 2009/1/16

Time: 上午 03:43:52

80.0 dBuV



Site site#1

Phase: **L1**

Temperature: 26 °C

Limit: CISPR22 Class B Conduction(QP)

Power: AC 110V/60Hz

Humidity: 55 %

EUT:

M/N: 09-0020-E

Mode: IDLE

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1549	39.86	9.73	49.59	65.73	-16.14	peak	
2		0.3551	38.74	9.78	48.52	58.84	-10.32	peak	
3		0.3551	29.32	9.78	39.10	48.84	-9.74	AVG	
4		0.6170	34.88	9.79	44.67	56.00	-11.33	peak	
5		0.6170	21.51	9.79	31.30	46.00	-14.70	AVG	
6	*	1.3280	36.76	9.82	46.58	56.00	-9.42	peak	
7		1.3280	23.48	9.82	33.30	46.00	-12.70	AVG	
8		3.2540	36.26	9.91	46.17	56.00	-9.83	peak	
9		3.2540	21.19	9.91	31.10	46.00	-14.90	AVG	
10		8.5000	33.39	10.09	43.48	60.00	-16.52	peak	

*:Maximum data x:Over limit !:over margin

●Reference Only

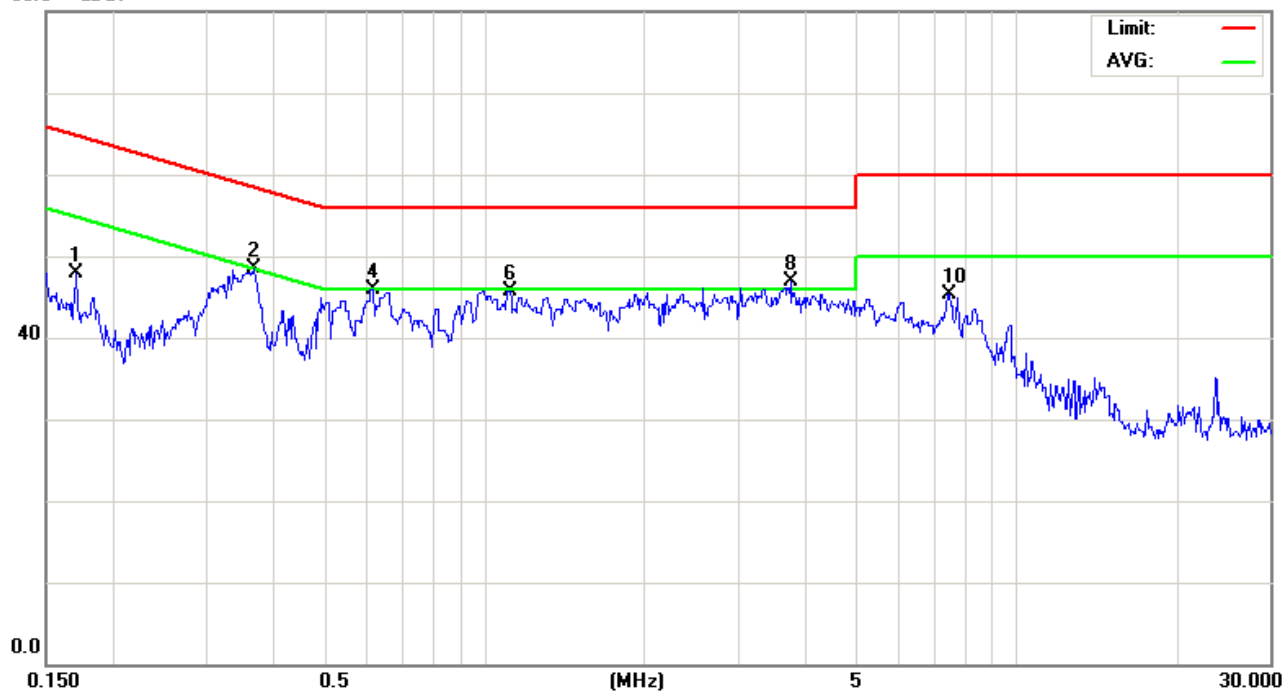


Data :#2

Date: 2009/1/16

Time: 上午 03:51:58

80.0 dBuV



Site site#1

Phase: **L2**

Temperature: 26 °C

Limit: CISPR22 Class B Conduction(QP)

Power: AC 110V/60Hz

Humidity: 55 %

EUT:

M/N: 09-0020-E

Mode: IDLE

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1710	38.15	9.73	47.88	64.91	-17.03	peak	
2		0.3691	38.75	9.78	48.53	58.52	-9.99	peak	
3	*	0.3691	30.62	9.78	40.40	48.52	-8.12	AVG	
4		0.6170	36.11	9.79	45.90	56.00	-10.10	peak	
5		0.6170	25.11	9.79	34.90	46.00	-11.10	AVG	
6		1.1119	35.97	9.80	45.77	56.00	-10.23	peak	
7		1.1119	23.90	9.80	33.70	46.00	-12.30	AVG	
8		3.7580	36.89	9.95	46.84	56.00	-9.16	peak	
9		3.7580	23.05	9.95	33.00	46.00	-13.00	AVG	
10		7.4500	35.22	10.09	45.31	60.00	-14.69	peak	

*:Maximum data x:Over limit !:over margin

●Reference Only



2.6.2 Conducted Emissions (Subpart C)

The following table show a summary of the highest emissions of power line conducted emissions to the HOT and NATURAL conductor of the EUT power.

Applicant : Applied Wireless Identifications Group Inc
Model No : HH-6600
EUT : RFID Handheld Terminal
Test Mode : Link Mode _ Bluetooth 2.0
Test Date : 01/16/2009

Please refer to next pager of detail testing data.

Notes:

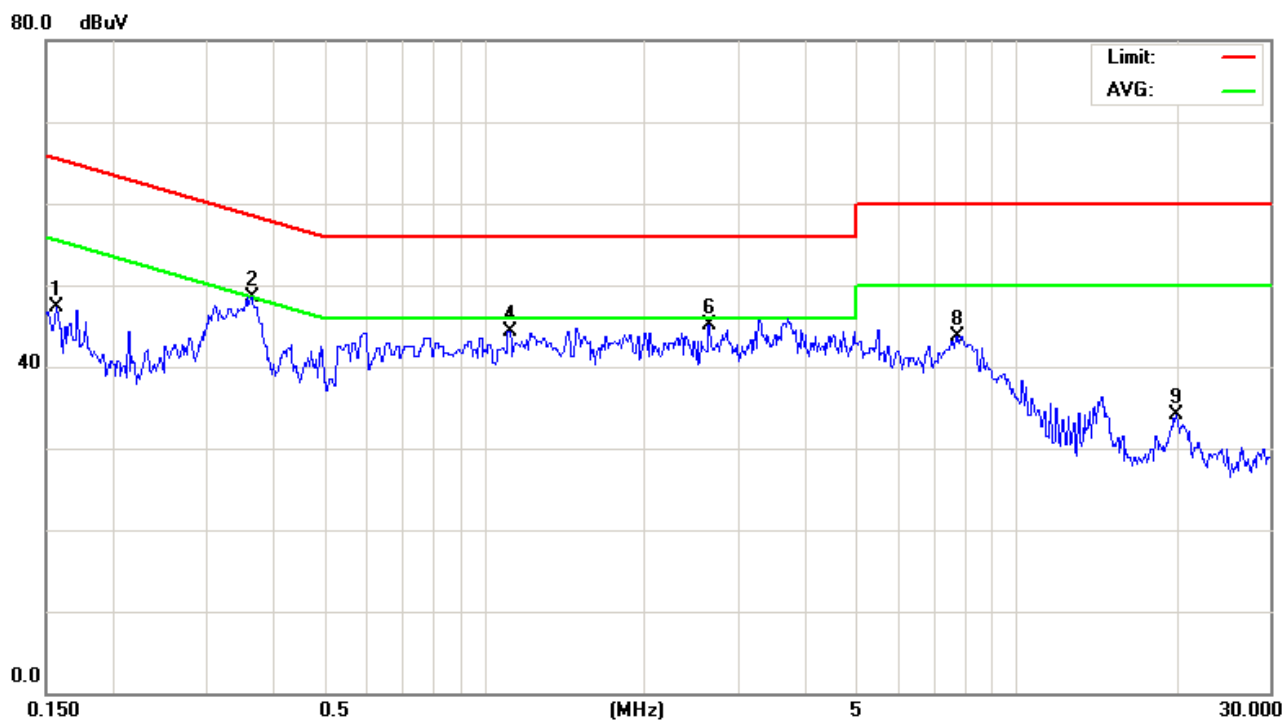
1. L1: One end & Ground L2: The other end & Ground
2. Height of table on which the EUT was placed: 0.8 m.
3. The Quasi-Peak Value have already met the Average Value Limit showed on above limits.
4. The above test results are obtained under the normal condition.



Data :#1

Date: 2009/1/16

Time: 上午 01:26:19



Site site#1

Phase: **L1**

Temperature: 26 °C

Limit: CISPR22 Class B Conduction(QP)

Power: AC 110V/60Hz

Humidity: 55 %

EUT:

M/N: 09-0020-E

Mode: BT

Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1570	37.48	9.73	47.21	65.62	-18.41	peak	
2	*	0.3641	38.78	9.78	48.56	58.63	-10.07	peak	
3		0.3642	26.72	9.78	36.50	48.63	-12.13	AVG	
4		1.1119	34.43	9.80	44.23	56.00	-11.77	peak	
5		1.1119	22.50	9.80	32.30	46.00	-13.70	AVG	
6		2.6419	35.20	9.93	45.13	56.00	-10.87	peak	
7		2.6420	19.77	9.93	29.70	46.00	-16.30	AVG	
8		7.7000	33.62	10.09	43.71	60.00	-16.29	peak	
9		19.9000	23.82	10.24	34.06	60.00	-25.94	peak	

*:Maximum data x:Over limit !:over margin

●Reference Only

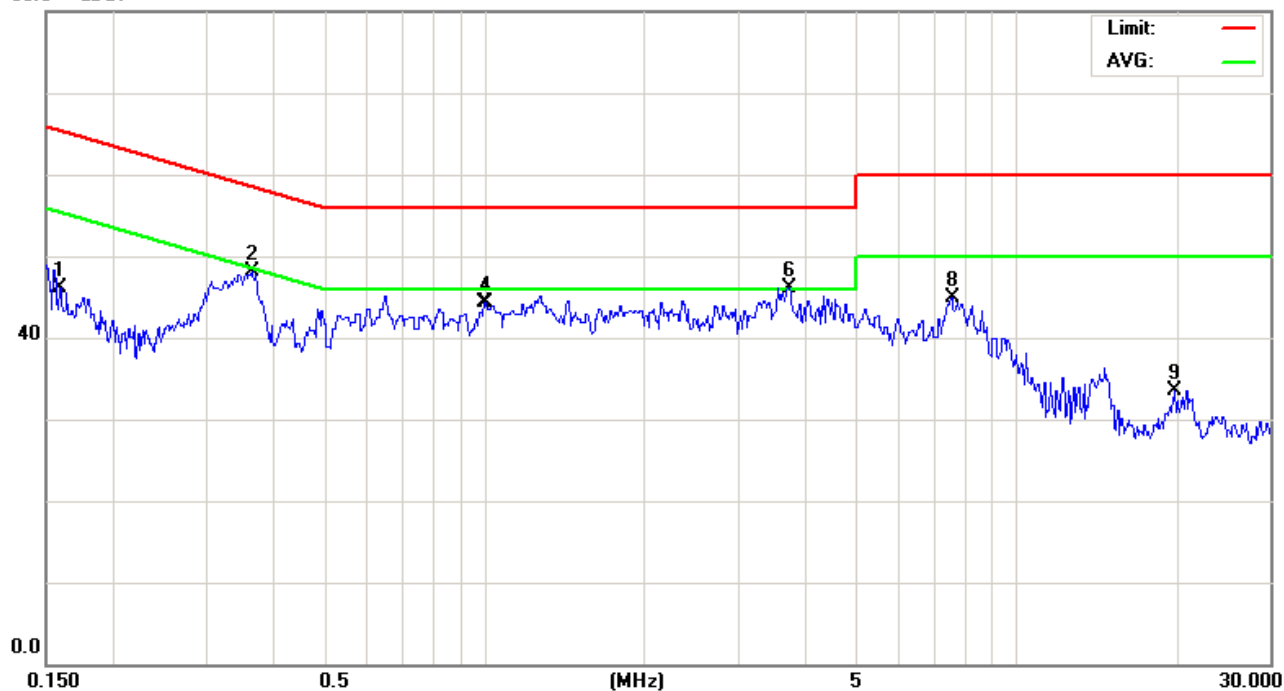


Data :#2

Date: 2009/1/16

Time: 上午 01:28:03

80.0 dBuV



Site site#1

Phase: L2

Temperature: 26 °C

Limit: CISPR22 Class B Conduction(QP)

Power: AC 110V/60Hz

Humidity: 55 %

EUT:

M/N: 09-0020-E

Mode: BT

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1590	36.41	9.73	46.14	65.51	-19.37	peak	
2		0.3642	38.25	9.78	48.03	58.63	-10.60	peak	
3		0.3642	27.82	9.78	37.60	48.63	-11.03	AVG	
4		1.0040	34.58	9.80	44.38	56.00	-11.62	peak	
5		1.0040	20.40	9.80	30.20	46.00	-15.80	AVG	
6	*	3.7219	36.24	9.94	46.18	56.00	-9.82	peak	
7		3.7220	22.56	9.94	32.50	46.00	-13.50	AVG	
8		7.5500	34.72	10.09	44.81	60.00	-15.19	peak	
9		19.8000	23.21	10.25	33.46	60.00	-26.54	peak	

*:Maximum data x:Over limit !:over margin

●Reference Only



3. Radiated Emissions Requirements

3.1 Final radiation measurements were made on a three-meter:

Final radiation measurements were made on a three-meter, Semi Anechoic Chamber. The EUT system was placed on a nonconductive turntable which is 0.8 meters height, top surface 1.0 x 1.5 meter. The spectrum was examined from 250 MHz to 2.5 GHz in order to cover the whole spectrum below 10th harmonic which could generate from the EUT. During the test, EUT was set to transmit continuously & Measurements spectrum range from 30 MHz to 26.5 GHz is investigated.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak. For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

A nonconductive material surrounded the EUT to supporting the EUT for standing on three orthogonal planes. At each condition, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.

SCHWARZBECK MESS-ELEKTRONIK Biconilog Antenna (model VULB9163) at 3 Meter and the SCHWARZBECK Double Ridged Guide Antenna (model BBHA9120D&9170) was used in frequencies 1 – 26.5 GHz at a distance of 1 meter. All test results were extrapolated to equivalent signal at 3 meters utilizing an inverse linear distance extrapolation Factor (20dB/decade).



For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid overloading or desensitizing the spectrum analyzer. No post – detector video filters were used in the test.

The spectrum analyzer's 6 dB bandwidth was set to 1 MHz, and the analyzer was operated in the peak detection mode, for frequencies both below and up 1 GHz. The average levels were obtained by subtracting the duty cycle correction factor from the peak readings.

The following procedures were used to convert the emission levels measured in decibels referenced to 1 microvolt (dBuV) into field intensity in micro volts per meter (uV/m).

The actual field intensity in decibels referenced to 1 microvolt in to field intensity in micro volts per meter (dBuV/m).

The actual field intensity in referenced to 1 microvolt per meter (dBuV/m) is determined by algebraically adding the measured reading in dBuV, the antenna factor (dB), and cable loss (dB) and Subtracting the gain of preamplifier (dB) is auto calculate in spectrum analyzer.

$$(1) \text{ Amplitude (dBuV/m) = FI (dBuV) + AF (dBuV) + CL (dBuV) - Gain (dB)}$$

FI= Reading of the field intensity.

AF= Antenna factor.

CL= Cable loss.

P.S Amplitude is auto calculate in spectrum analyzer.

$$(2) \text{ Actual Amplitude (dBuV/m) = Amplitude (dBuV) - Dis(dB)}$$

The FCC specified emission limits were calculated according the EUT operating frequency and by following linear interpolation equations:

(a) For fundamental frequency :

Transmitter Output < +30dBm

(b) For spurious frequency :

Spurious emission limits = fundamental emission limit /10



3.2 Test Equipment List:

Describe	Manufacturer	Model	Serial Number	Calibration	
				Cal. Date	Due Date
Spectrum Analyzer	Agilent	E4408B	MY45107753	Jun. 05, 2008	Jun. 05, 2009
Pre Amplifier	Agilent	8449B	3008A02237	Jun. 03, 2008	Jun. 03, 2009
Pre Amplifier	Agilent	8447D	2944A10961	Jun. 10, 2008	Jun. 10, 2009
Test Receiver	R&S	ESCI	100367	Jun. 05, 2008	Jun. 05, 2009
Biconilog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	9163-270	Jun. 26, 2008	Jun. 26, 2009
Horn Antenna	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	Jun. 26, 2008	Jun. 26, 2009
Horn Antenna	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	Jun. 09, 2008	Jun. 09, 2009
Horn Antenna	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120E	0899	Jun. 26, 2008	Jun. 26, 2009

3.3 Test Configuration:

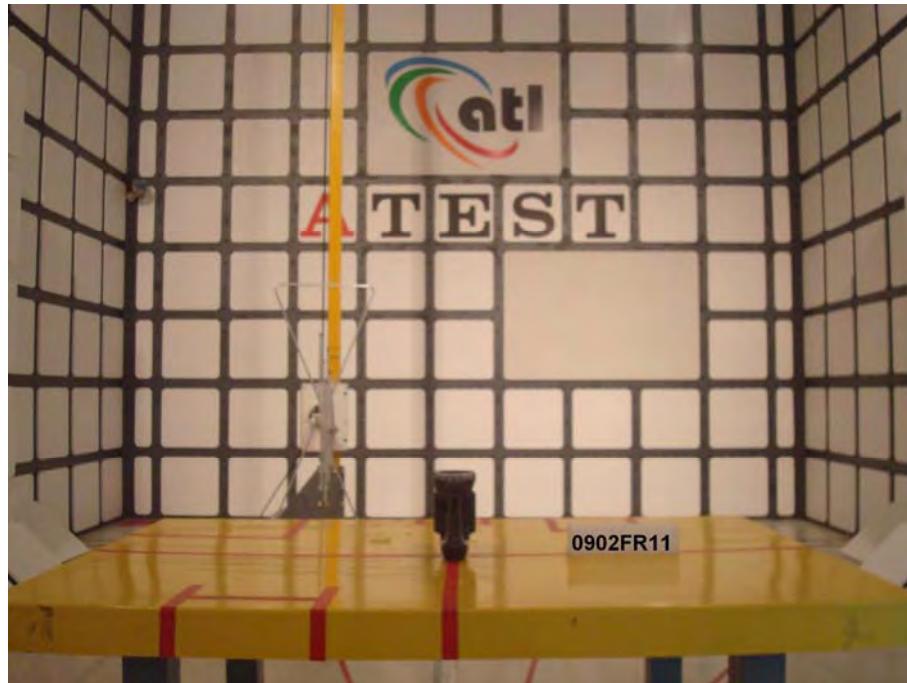


Figure 5. Front View of the Test Configuration



Figure 6. Rear View of the Test Configuration

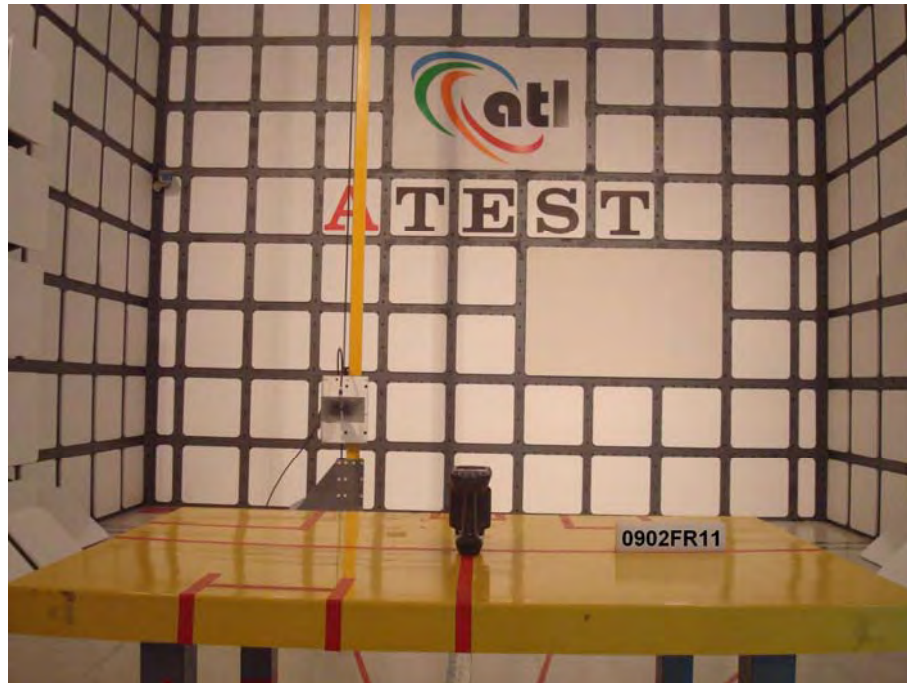


Figure 7. Front View of the Test Configuration

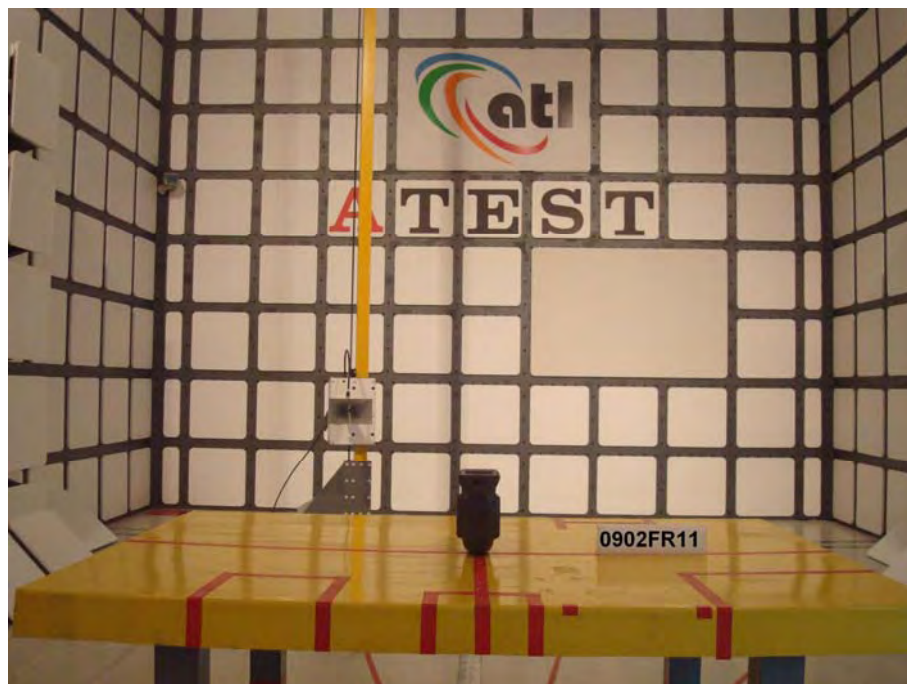


Figure 8. Rear View of the Test Configuration



3.4 Test condition:

EUT tested in accordance with the specifications given by the manufacturer, and exercised in the most unfavorable manner.

3.5 Radiated Emissions Limits:

Frequency range (MHz)	Peak(dBuV)
30 to 88	40
88 to 216	43.5
216 to 960	46
Above 960	54



3.6 Measurement Data of Radiated Emissions:

3.6.1 Open Field Radiated Emissions (Subpart C)

The highest peak values of radiated emissions from the EUT at various antenna heights, antenna polarization, EUT orientation, etc. are recorded on the following.

Applicant : Applied Wireless Identifications Group Inc
Model No : HH-6600
EUT : RFID Handheld Terminal
Test Mode : Link Mode_Bluetooth 2.0 CH00 2402.000 (Local Frequency: 2402.000 MHz)
Test Date : 02/06 ~ 02/24/2009

Please refer to next pager of detail testing data.

Notes:

1. Margin= Amplitude - Limits
2. Distance of Measurement: 3 Meter (30-1000MHz) & (1-10GHz), 1 Meter (10-26.5GHz)
3. Height of table for EUT placed: 0.8 Meter.
4. ANT= Antenna height.
5. Amplitude= Reading Amplitude – Amplifier gain + Cable loss + Antenna factor
(Auto calculate in spectrum analyzer)
6. The EUT was worst case on X axis after pretest on X & Y & Z axis setting.
7. The testing data only show below 18GHz's data because measure data above 18GHz was only ambient noise.
8. All frequencies from 30MHz to 26.5GHz have been tested



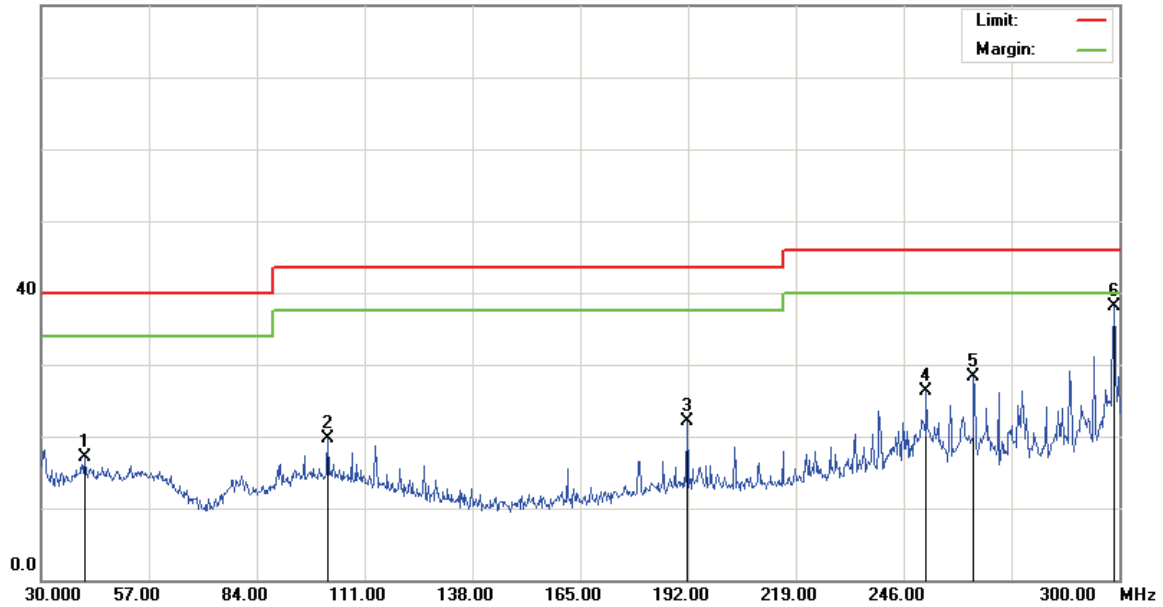
File:RH767(BT)

Data :#1

Date: 2009/2/24

Time: 下午 06:39:46

80.0 dBuV



Site

Polarization: *Vertical*

Temperature: 22 °C

Limit: FCC Class B 3M Radiation

Power:

Humidity: 60 %

EUT:

Distance: 3m

M/N: 09-0020-E

Mode: BT

Note: CH00

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Antenna Height cm	Table Degree degree	Comment
1		40.8000	28.93	-11.88	17.05	40.00	-22.95	peak		
2		101.8200	31.68	-11.88	19.80	43.50	-23.70	peak		
3		191.7300	35.36	-13.28	22.08	43.50	-21.42	peak		
4		251.6700	37.30	-10.93	26.37	46.00	-19.63	peak		
5		263.5500	39.30	-11.09	28.21	46.00	-17.79	peak		
6	*	298.6500	48.19	-10.04	38.15	46.00	-7.85	peak		

*:Maximum data x:Over limit !:over margin

●Reference Only

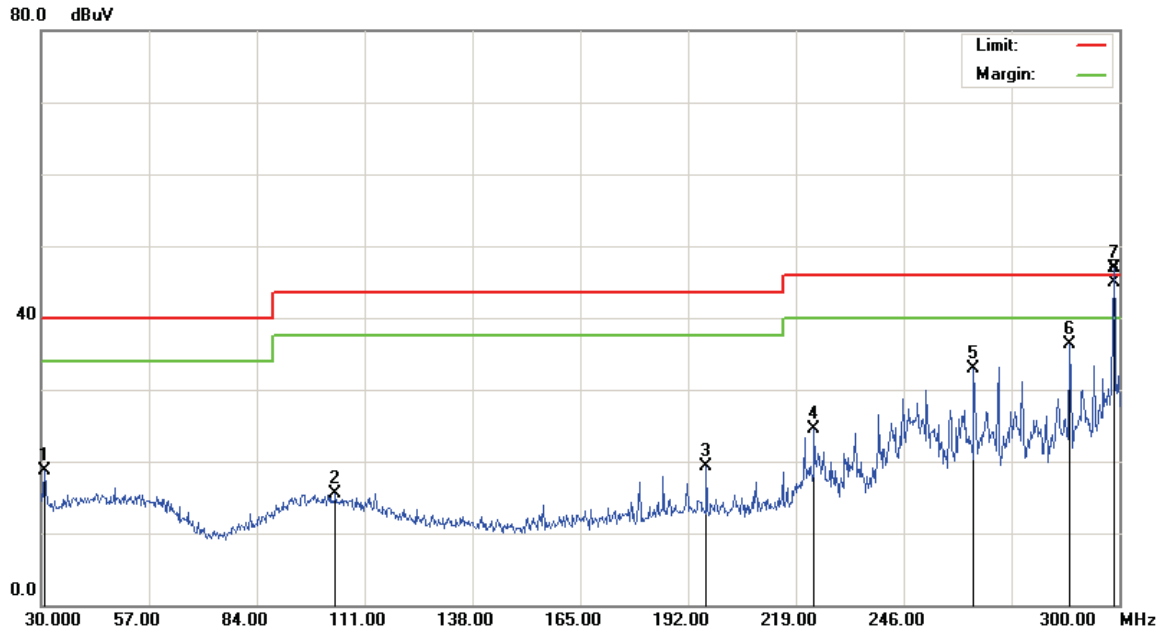


File:RH767(BT)

Data :#3

Date: 2009/2/24

Time: 下午 07:05:13



Site

Polarization: Horizontal

Temperature: 22 °C

Limit: FCC Class B 3M Radiation

Power:

Humidity: 60 %

EUT:

Distance: 3m

M/N: 09-0020-E

Mode: BT

Note: CH00

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Antenna Height cm	Table Degree degree	Comment
1		30.8100	32.06	-13.30	18.76	40.00	-21.24	peak		
2		103.7100	27.43	-12.00	15.43	43.50	-28.07	peak		
3		196.5900	32.45	-13.12	19.33	43.50	-24.17	peak		
4		223.5900	36.63	-12.21	24.42	46.00	-21.58	peak		
5		263.5500	44.00	-11.09	32.91	46.00	-13.09	peak		
6		287.5799	46.36	-10.15	36.21	46.00	-9.79	peak		
7	*	298.6500	56.91	-10.04	46.87	46.00	0.87	peak		
8	!	298.6500	55.01	-10.04	44.97	46.00	-1.03	QP	102	260

*:Maximum data x:Over limit !:over margin

●Reference Only



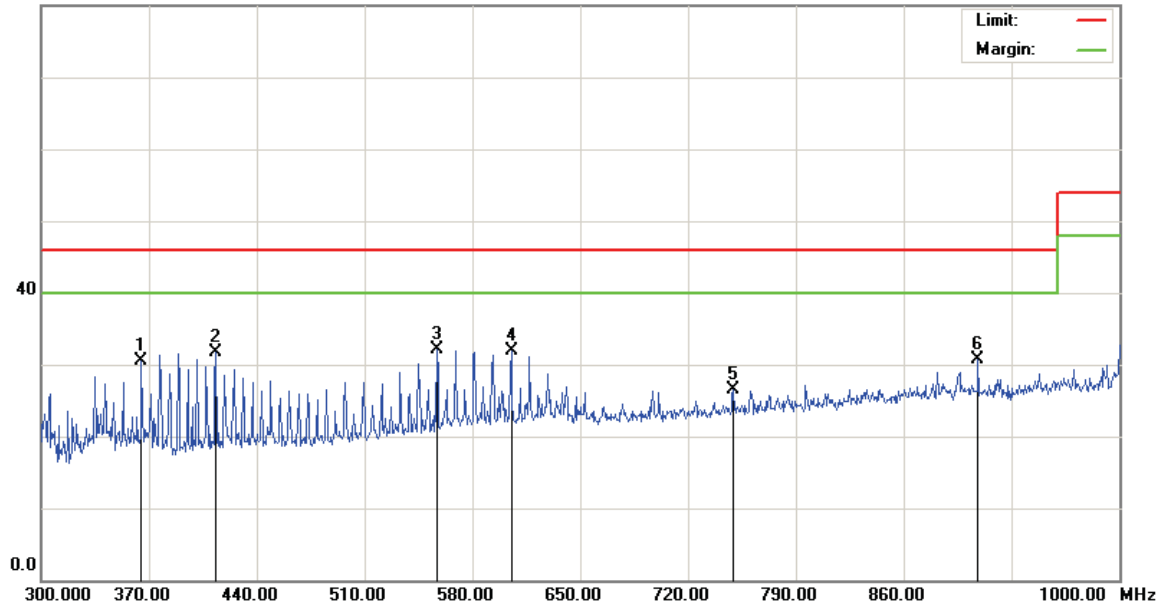
File:RH767(BT)

Data :#2

Date: 2009/2/24

Time: 下午 06:59:30

80.0 dBuV



Site

Polarization: **Vertical**

Temperature: 22 °C

Limit: FCC Class B 3M Radiation

Power:

Humidity: 60 %

EUT:

Distance: 3m

M/N: 09-0020-E

Mode: BT

Note: CH00

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB	dBuV	dBuV	dB	Detector	cm	degree
1		365.1000	39.07	-8.61	30.46	46.00	-15.54	peak		Comment
2		413.4000	39.89	-8.24	31.65	46.00	-14.35	peak		
3	*	556.9000	37.90	-5.76	32.14	46.00	-13.86	peak		
4		605.2000	36.44	-4.58	31.86	46.00	-14.14	peak		
5		749.4000	29.52	-3.11	26.41	46.00	-19.59	peak		
6		908.3000	30.84	-0.08	30.76	46.00	-15.24	peak		

*:Maximum data x:Over limit !:over margin

●Reference Only



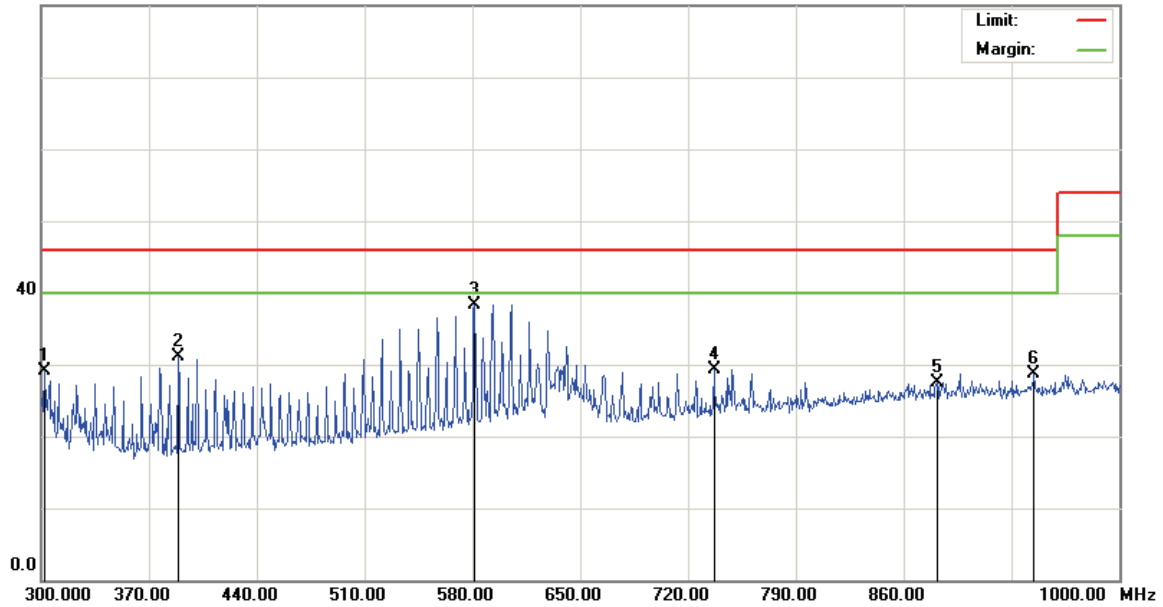
File:RH767(BT)

Data :#4

Date: 2009/2/24

Time: 下午 07:19:50

80.0 dBuV



Site

Polarization: **Horizontal**

Temperature: 22 °C

Limit: FCC Class B 3M Radiation

Power:

Humidity: 60 %

EUT:

Distance: 3m

M/N: 09-0020-E

Mode: BT

Note: CH00

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Antenna Height cm	Table Degree degree	Comment
1		302.1000	39.16	-10.04	29.12	46.00	-16.88	peak		
2		388.9000	39.65	-8.51	31.14	46.00	-14.86	peak		
3	*	581.4000	43.52	-5.22	38.30	46.00	-7.70	peak		
4		736.8000	32.60	-3.29	29.31	46.00	-16.69	peak		
5		881.7000	28.00	-0.50	27.50	46.00	-18.50	peak		
6		944.7000	28.53	0.26	28.79	46.00	-17.21	peak		

*:Maximum data x:Over limit !:over margin

●Reference Only

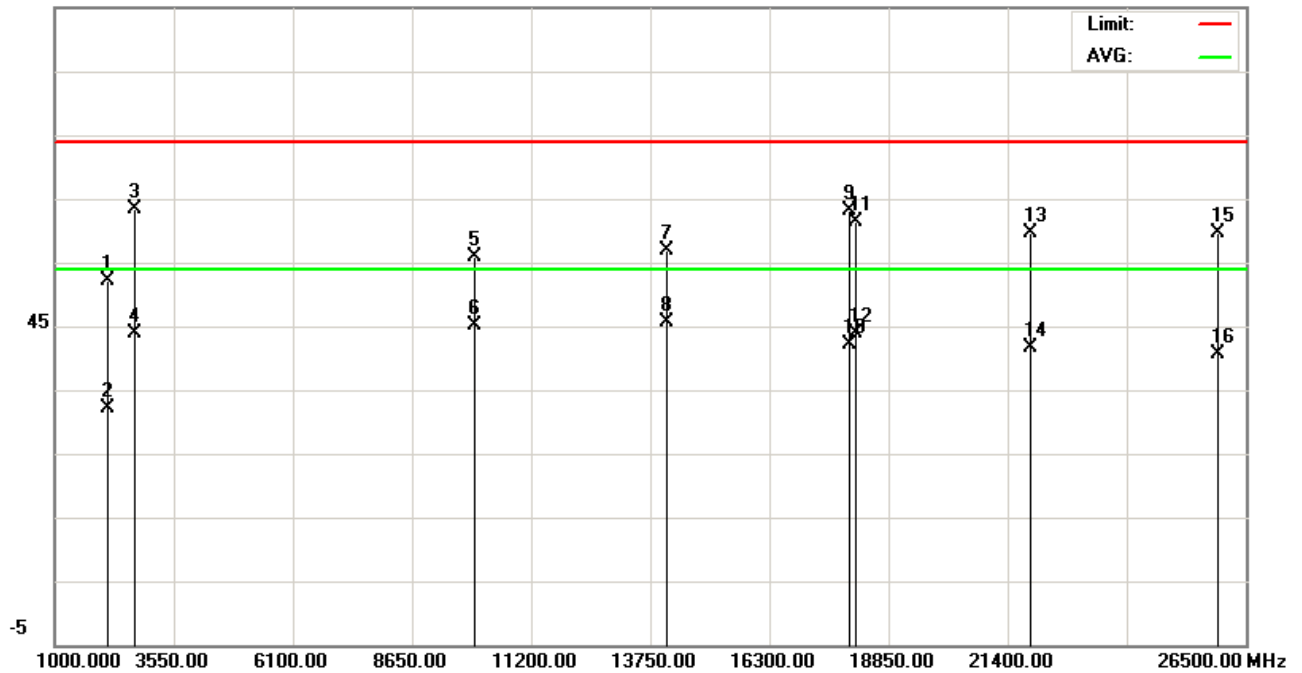


Data :#14

Date: 2009/2/6

Time: 上午 03:00:29

95.0 dBuV



Site site#1

Polarization: **Vertical**

Temperature: 22 °C

Limit: FCC part 15 (PK)

Power:

Humidity: 60 %

EUT:

Distance:

M/N: 09-0020-E

Mode: BT

Note: 2402MHz , Antenna 100cm , NB01

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Antenna Height cm	Table Degree degree	Comment
1		2125.400	52.46	-0.28	52.18	74.00	-21.82	peak		
2		2125.400	32.48	-0.28	32.20	54.00	-21.80	AVG		
3		2700.000	40.75	22.58	63.33	74.00	-10.67	peak		
4		2700.000	21.23	22.58	43.81	54.00	-10.19	AVG		
5		10000.00	38.05	17.94	55.99	74.00	-18.01	peak		
6		10000.00	27.15	17.94	45.09	54.00	-8.91	AVG		
7		14100.00	38.00	18.90	56.90	74.00	-17.10	peak		
8	*	14100.00	26.82	18.90	45.72	54.00	-8.28	AVG		
9		18000.00	37.57	25.57	63.14	74.00	-10.86	peak		
10		18000.00	16.68	25.57	42.25	54.00	-11.75	AVG		
11		18127.50	38.21	23.23	61.44	74.00	-12.56	peak		
12		18127.50	20.65	23.23	43.88	54.00	-10.12	AVG		
13		21867.50	38.44	21.19	59.63	74.00	-14.37	peak		

*:Maximum data x:Over limit !:over margin

●Reference Only



Site site#1

Limit: FCC part 15 (PK)

EUT:

M/N: 09-0020-E

Mode: BT

Note: 2402MHz , Antenna 100cm , NB01

Polarization: **Vertical**

Power:

Distance:

Temperature: 22 °C

Humidity: 60 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	cm	degree
14		21867.50	20.48	21.19	41.67	54.00	-12.33	AVG		
15		25905.00	41.01	18.63	59.64	74.00	-14.36	peak		
16		25905.00	21.95	18.63	40.58	54.00	-13.42	AVG		

*:Maximum data x:Over limit !:over margin

●Reference Only

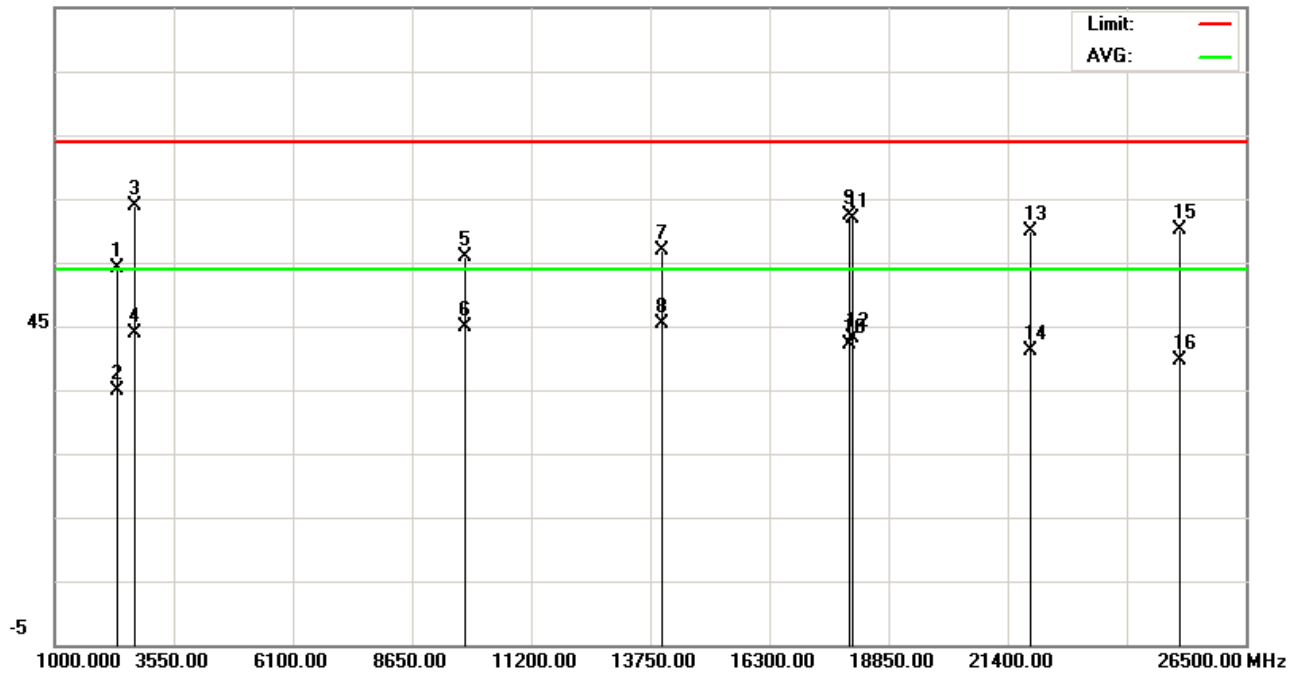


Data :#16

Date: 2009/2/6

Time: 上午 03:22:50

95.0 dBuV



Site site#1

Polarization: **Horizontal**

Temperature: 22 °C

Limit: FCC part 15 (PK)

Power:

Humidity: 60 %

EUT:

Distance:

M/N: 09-0020-E

Mode: BT

Note: 2402MHz , Antenna 100cm , NB01

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Antenna Height cm	Table Degree degree	Comment
1		2326.000	53.91	0.28	54.19	74.00	-19.81	peak		
2		2326.000	34.53	0.28	34.81	54.00	-19.19	AVG		
3		2700.000	41.32	22.58	63.90	74.00	-10.10	peak		
4		2700.000	21.22	22.58	43.80	54.00	-10.20	AVG		
5		9781.000	38.28	17.69	55.97	74.00	-18.03	peak		
6		9781.000	27.11	17.69	44.80	54.00	-9.20	AVG		
7		13980.00	38.21	18.62	56.83	74.00	-17.17	peak		
8	*	13980.00	26.77	18.62	45.39	54.00	-8.61	AVG		
9		18000.00	36.88	25.57	62.45	74.00	-11.55	peak		
10		18000.00	16.68	25.57	42.25	54.00	-11.75	AVG		
11		18085.00	38.59	23.25	61.84	74.00	-12.16	peak		
12		18085.00	19.95	23.25	43.20	54.00	-10.80	AVG		
13		21867.50	38.66	21.19	59.85	74.00	-14.15	peak		

*:Maximum data x:Over limit !:over margin

●Reference Only



Site site#1

Limit: FCC part 15 (PK)

EUT:

M/N: 09-0020-E

Mode: BT

Note: 2402MHz , Antenna 100cm , NB01

Polarization: **Horizontal**

Power:

Distance:

Temperature: 22 °C

Humidity: 60 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	cm	degree
14		21867.50	19.94	21.19	41.13	54.00	-12.87	AVG		
15		25076.25	40.80	19.31	60.11	74.00	-13.89	peak		
16		25076.25	20.20	19.31	39.51	54.00	-14.49	AVG		

*:Maximum data x:Over limit !:over margin

●Reference Only



3.6.2 Open Field Radiated Emissions (Subpart C) _ Above 1GHz

The highest peak values of radiated emissions from the EUT at various antenna heights, antenna polarization, EUT orientation, etc. are recorded on the following

Applicant : Applied Wireless Identifications Group Inc
Model No : HH-6600
EUT : RFID Handheld Terminal
Test Mode : Link Mode_Bluetooth 2.0 CH39 2441.000 (Local Frequency: 2441.000 MHz)
Test Date : 02/06 ~ 02/24/2009

Please refer to next pager of detail testing data.

Notes:

1. Margin= Amplitude - Limits
2. Distance of Measurement: 3 Meter (30-1000MHz) & (1-10GHz), 1 Meter (10-26.5GHz)
3. Height of table for EUT placed: 0.8 Meter.
4. ANT= Antenna height.
5. Amplitude= Reading Amplitude – Amplifier gain + Cable loss + Antenna factor
(Auto calculate in spectrum analyzer)
6. The EUT was worst case on X axis after pretest on X & Y & Z axis setting.
7. The testing data only show below 18GHz's data because measure data above 18GHz was only ambient noise.
8. All frequencies from 30MHz to 26.5GHz have been tested



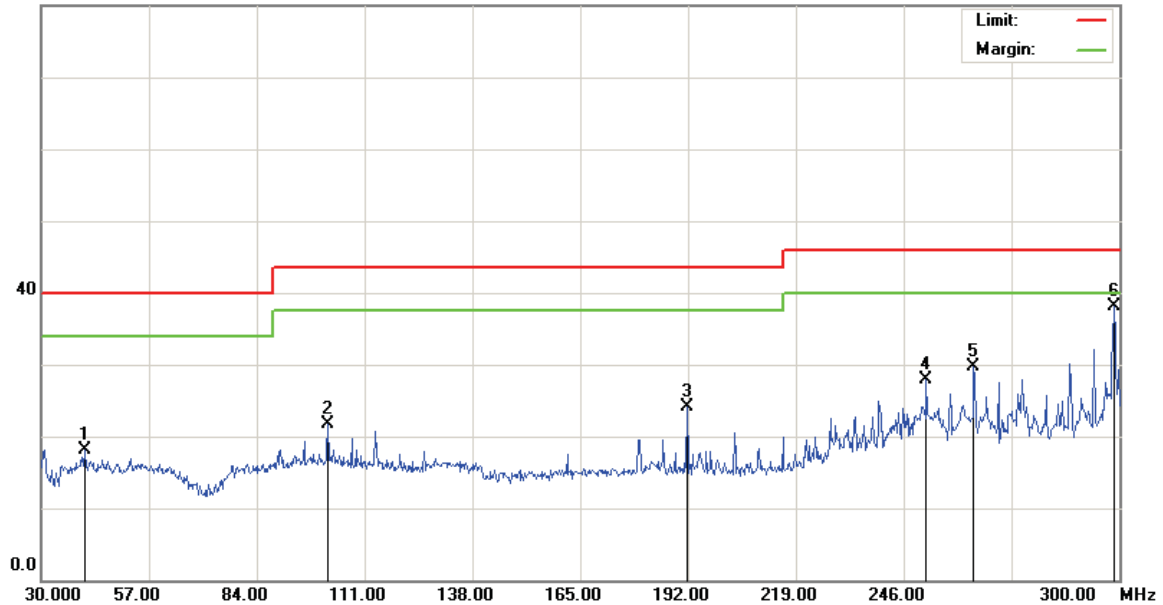
File:RH767(BT)

Data :#5

Date: 2009/2/24

Time: 下午 06:39:46

80.0 dBuV



Site

Polarization: **Vertical**

Temperature: 22 °C

Limit: FCC Class B 3M Radiation

Power:

Humidity: 60 %

EUT:

Distance: 3m

M/N: 09-0020-E

Mode: BT

Note: CH39

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Antenna Height cm	Table Degree degree	Comment
1		40.8000	29.93	-11.88	18.05	40.00	-21.95	peak		
2		101.8200	33.68	-11.88	21.80	43.50	-21.70	peak		
3		191.7300	37.36	-13.28	24.08	43.50	-19.42	peak		
4		251.6700	38.80	-10.93	27.87	46.00	-18.13	peak		
5		263.5500	40.80	-11.09	29.71	46.00	-16.29	peak		
6	*	298.6500	48.19	-10.04	38.15	46.00	-7.85	peak		

*:Maximum data x:Over limit !:over margin

●Reference Only



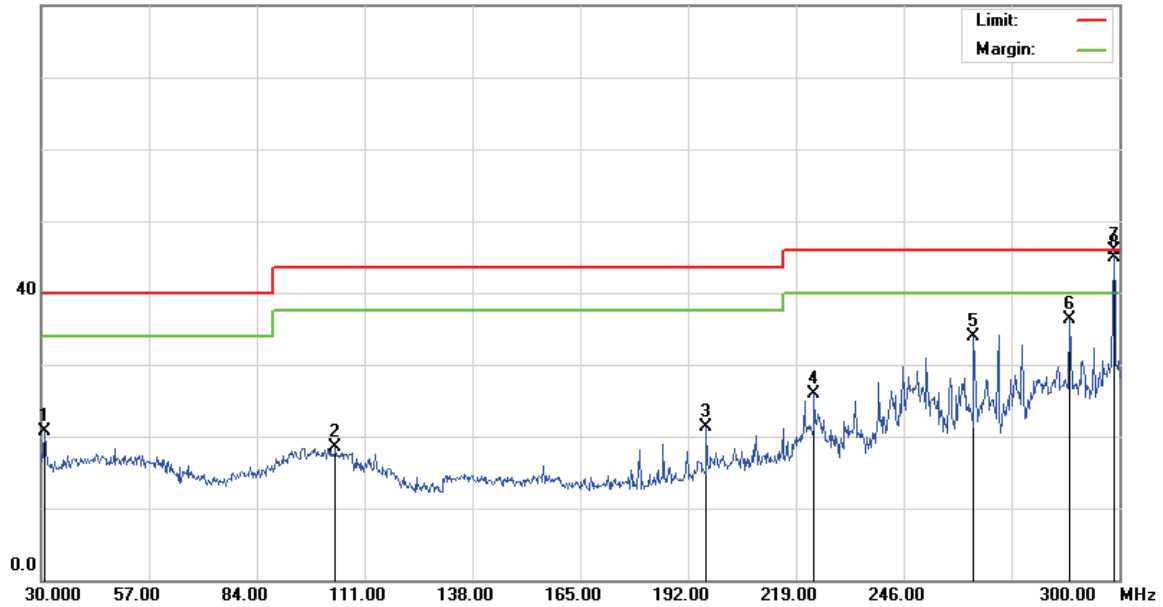
File:RH767(BT)

Data :#7

Date: 2009/2/24

Time: 下午 07:05:13

80.0 dBuV



Site

Polarization: **Horizontal**

Temperature: 22 °C

Limit: FCC Class B 3M Radiation

Power:

Humidity: 60 %

EUT:

Distance: 3m

M/N: 09-0020-E

Mode: BT

Note: CH39

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Antenna Height cm	Table Degree degree	Comment
1		30.8100	34.06	-13.30	20.76	40.00	-19.24	peak		
2		103.7100	30.43	-12.00	18.43	43.50	-25.07	peak		
3		196.5900	34.45	-13.12	21.33	43.50	-22.17	peak		
4		223.5900	38.13	-12.21	25.92	46.00	-20.08	peak		
5		263.5500	45.00	-11.09	33.91	46.00	-12.09	peak		
6		287.5799	46.36	-10.15	36.21	46.00	-9.79	peak		
7	*	298.6500	55.91	-10.04	45.87	46.00	-0.13	peak		
8	!	298.6500	54.97	-10.04	44.93	46.00	-1.07	QP		

*:Maximum data x:Over limit !:over margin

●Reference Only



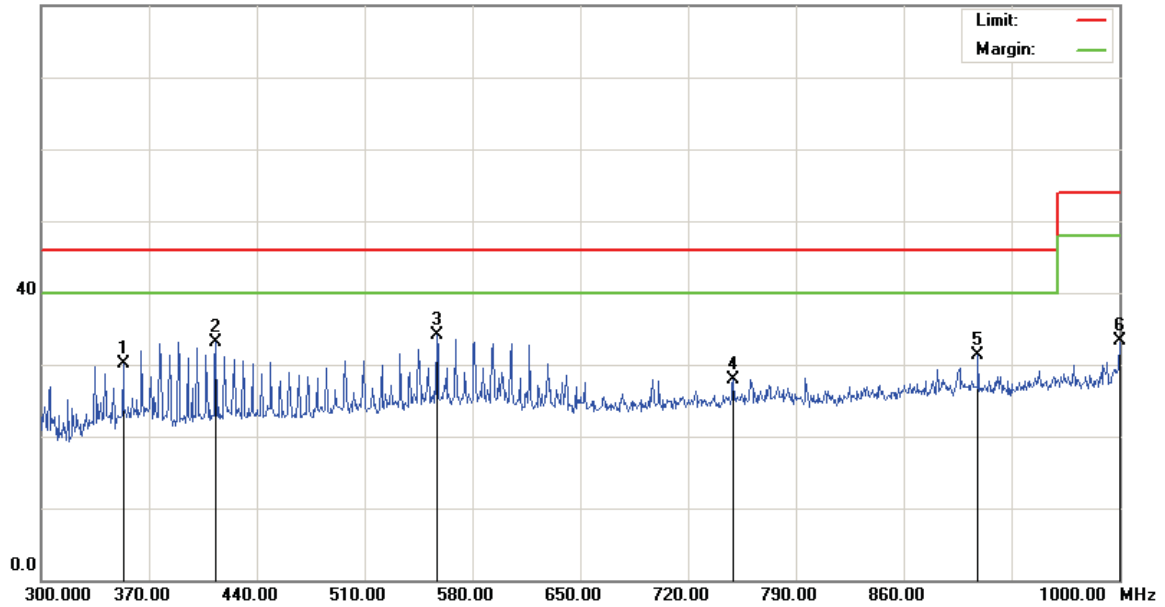
File:RH767(BT)

Data :#6

Date: 2009/2/24

Time: 下午 06:59:30

80.0 dBuV



Site

Polarization: **Vertical**

Temperature: 22 °C

Limit: FCC Class B 3M Radiation

Power:

Humidity: 60 %

EUT:

Distance: 3m

M/N: 09-0020-E

Mode: BT

Note: CH39

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Antenna Height cm	Table Degree degree	Comment
1		353.2000	38.94	-8.87	30.07	46.00	-15.93	peak		
2		413.4000	41.39	-8.24	33.15	46.00	-12.85	peak		
3	*	556.9000	39.90	-5.76	34.14	46.00	-11.86	peak		
4		749.4000	31.02	-3.11	27.91	46.00	-18.09	peak		
5		908.3000	31.34	-0.08	31.26	46.00	-14.74	peak		
6		1000.000	32.74	0.62	33.36	54.00	-20.64	peak		

*:Maximum data x:Over limit !:over margin

●Reference Only



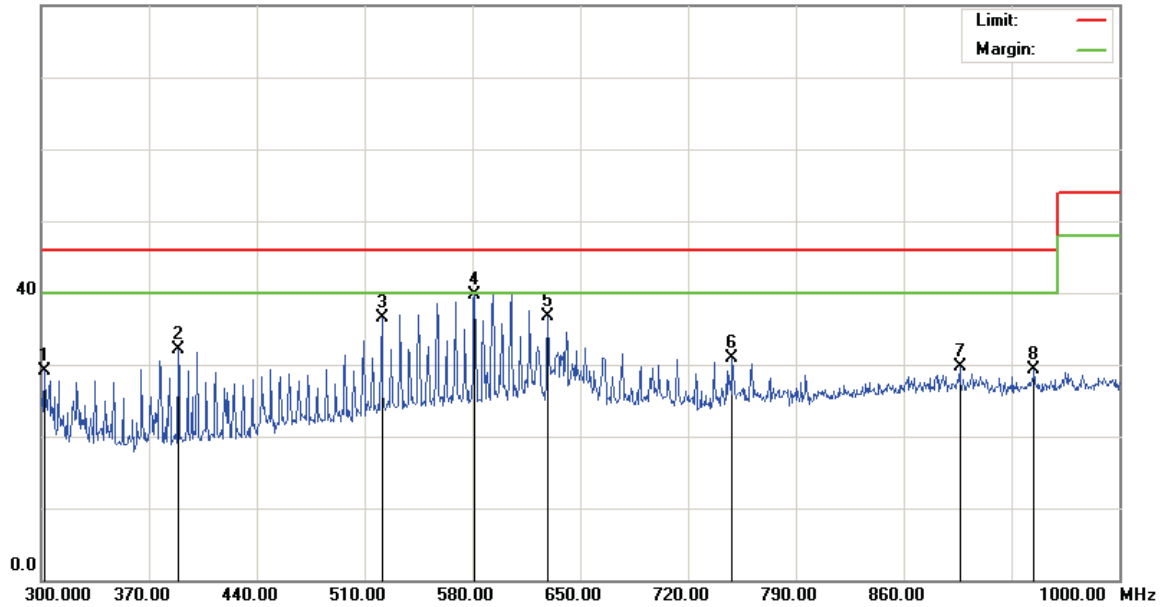
File:RH767(BT)

Data :#8

Date: 2009/2/24

Time: 下午 07:19:50

80.0 dBuV



Site

Polarization: **Horizontal**

Temperature: 22 °C

Limit: FCC Class B 3M Radiation

Power:

Humidity: 60 %

EUT:

Distance: 3m

M/N: 09-0020-E

Mode: BT

Note: CH39

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Antenna Height cm	Table Degree degree	Comment
1		302.1000	39.16	-10.04	29.12	46.00	-16.88	peak		
2		388.9000	40.65	-8.51	32.14	46.00	-13.86	peak		
3		521.2000	42.99	-6.56	36.43	46.00	-9.57	peak		
4	*	581.4000	45.02	-5.22	39.80	46.00	-6.20	peak		
5		629.0000	41.05	-4.42	36.63	46.00	-9.37	peak		
6		748.7000	33.92	-3.11	30.81	46.00	-15.19	peak		
7		896.4000	30.20	-0.47	29.73	46.00	-16.27	peak		
8		944.7000	29.03	0.26	29.29	46.00	-16.71	peak		

*:Maximum data x:Over limit !:over margin

●Reference Only

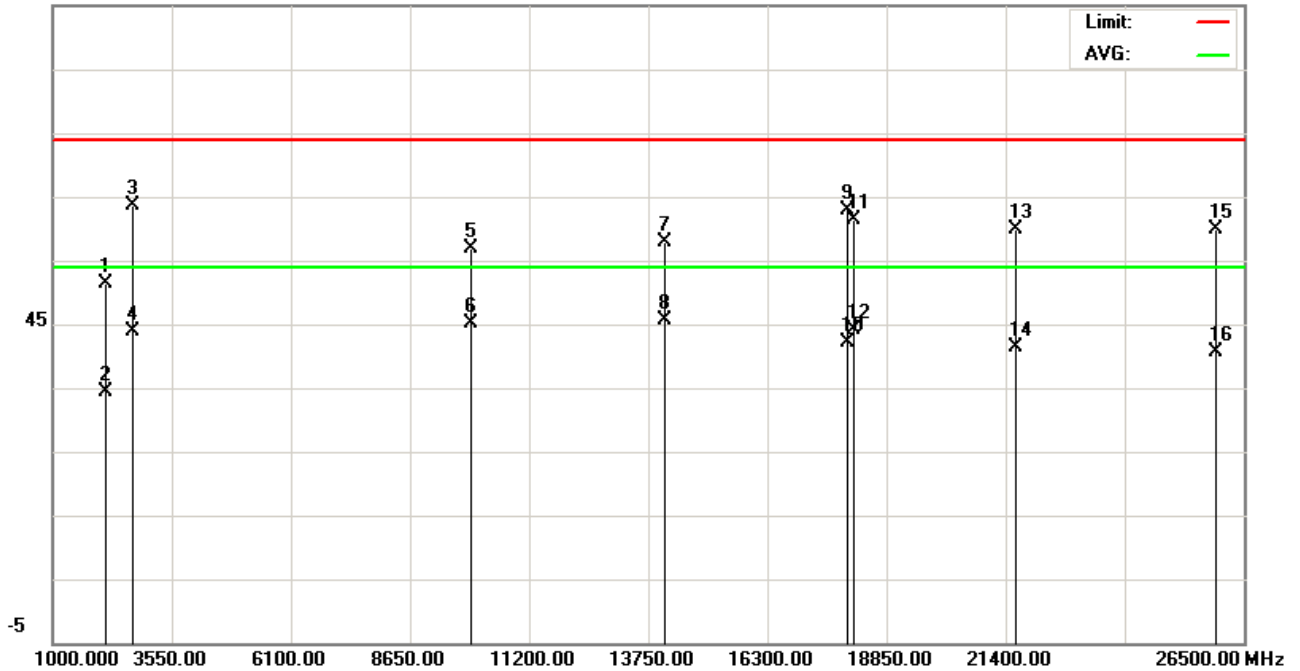


Data :#14

Date: 2009/2/6

Time: 上午 03:04:41

95.0 dBuV



Site site#1

Polarization: **Vertical**

Temperature: 22 °C

Limit: FCC part 15 (PK)

Power:

Humidity: 60 %

EUT:

Distance:

M/N: 09-0020-E

Mode: BT

Note: 2441MHz,Antenna 100cm , NB01

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Antenna Height cm	Table Degree degree	Comment
1		2128.800	51.57	-0.24	51.33	74.00	-22.67	peak		
2		2128.800	34.58	-0.24	34.34	54.00	-19.66	AVG		
3		2700.000	41.14	22.58	63.72	74.00	-10.28	peak		
4		2700.000	21.40	22.58	43.98	54.00	-10.02	AVG		
5		9927.000	39.10	17.78	56.88	74.00	-17.12	peak		
6		9927.000	27.35	17.78	45.13	54.00	-8.87	AVG		
7		14100.00	38.86	18.90	57.76	74.00	-16.24	peak		
8	*	14100.00	26.78	18.90	45.68	54.00	-8.32	AVG		
9		18000.00	37.33	25.57	62.90	74.00	-11.10	peak		
10		18000.00	16.67	25.57	42.24	54.00	-11.76	AVG		
11		18127.50	38.24	23.23	61.47	74.00	-12.53	peak		
12		18127.50	20.92	23.23	44.15	54.00	-9.85	AVG		
13		21591.25	38.52	21.30	59.82	74.00	-14.18	peak		

*:Maximum data x:Over limit !:over margin

●Reference Only



Site site#1

Limit: FCC part 15 (PK)

EUT:

M/N: 09-0020-E

Mode: BT

Note: 2441MHz,Antenna 100cm , NB01

Polarization: **Vertical**

Power:

Distance:

Temperature: 22 °C

Humidity: 60 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	cm	degree
14		21591.25	20.00	21.30	41.30	54.00	-12.70	AVG		
15		25883.75	41.34	18.65	59.99	74.00	-14.01	peak		
16		25883.75	21.89	18.65	40.54	54.00	-13.46	AVG		

*:Maximum data x:Over limit !:over margin

●Reference Only

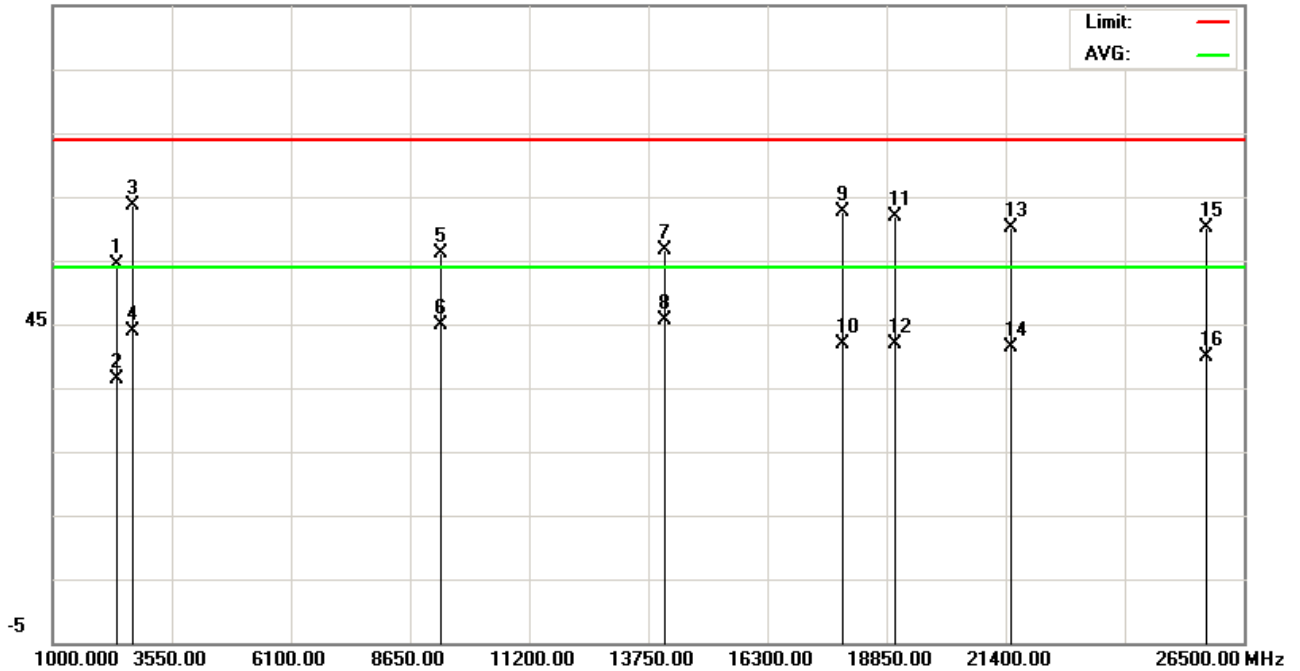


Data :#16

Date: 2009/2/6

Time: 上午 03:15:43

95.0 dBuV



Site site#1

Polarization: **Horizontal**

Temperature: 22 °C

Limit: FCC part 15 (PK)

Power:

Humidity: 60 %

EUT:

Distance:

M/N: 09-0020-E

Mode: BT

Note: 2441MHz,Antenna 100cm , NB01

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Antenna Height cm	Table Degree degree	Comment
1		2356.600	54.15	0.19	54.34	74.00	-19.66	peak		
2		2356.600	36.22	0.19	36.41	54.00	-17.59	AVG		
3		2700.000	40.99	22.58	63.57	74.00	-10.43	peak		
4		2700.000	21.30	22.58	43.88	54.00	-10.12	AVG		
5		9306.500	39.19	16.89	56.08	74.00	-17.92	peak		
6		9306.500	27.87	16.89	44.76	54.00	-9.24	AVG		
7		14100.00	37.85	18.90	56.75	74.00	-17.25	peak		
8	*	14100.00	26.77	18.90	45.67	54.00	-8.33	AVG		
9		17900.00	37.75	24.96	62.71	74.00	-11.29	peak		
10		17900.00	16.83	24.96	41.79	54.00	-12.21	AVG		
11		19020.00	38.87	23.07	61.94	74.00	-12.06	peak		
12		19020.00	18.77	23.07	41.84	54.00	-12.16	AVG		
13		21506.25	38.70	21.35	60.05	74.00	-13.95	peak		

*:Maximum data x:Over limit !:over margin

●Reference Only



Site site#1

Limit: FCC part 15 (PK)

EUT:

M/N: 09-0020-E

Mode: BT

Note: 2441MHz, Antenna 100cm , NB01

Polarization: **Horizontal**

Power:

Distance:

Temperature: 22 °C

Humidity: 60 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	cm	degree
14		21506.25	20.13	21.35	41.48	54.00	-12.52	AVG		
15		25692.50	41.30	18.83	60.13	74.00	-13.87	peak		
16		25692.50	21.01	18.83	39.84	54.00	-14.16	AVG		

*:Maximum data x:Over limit !:over margin

●Reference Only



3.6.3 Open Field Radiated Emissions (Subpart C)

The highest peak values of radiated emissions from the EUT at various antenna heights, antenna polarization, EUT orientation, etc. are recorded on the following.

Applicant : Applied Wireless Identifications Group Inc
Model No : HH-6600
EUT : RFID Handheld Terminal
Test Mode : Link Mode_Bluetooth 2.0 CH78 2480.000 (Local Frequency: 2480.000 MHz)
Test Date : 02/06 ~ 02/24/2009

Please refer to next pager of detail testing data.

Notes:

1. Margin= Amplitude - Limits
2. Distance of Measurement: 3 Meter (30-1000MHz) & (1-10GHz), 1 Meter (10-26.5GHz)
3. Height of table for EUT placed: 0.8 Meter.
4. ANT= Antenna height.
5. Amplitude= Reading Amplitude – Amplifier gain + Cable loss + Antenna factor
(Auto calculate in spectrum analyzer)
6. The EUT was worst case on X axis after pretest on X & Y & Z axis setting.
7. The testing data only show below 18GHz's data because measure data above 18GHz was only ambient noise.
8. All frequencies from 30MHz to 26.5GHz have been tested



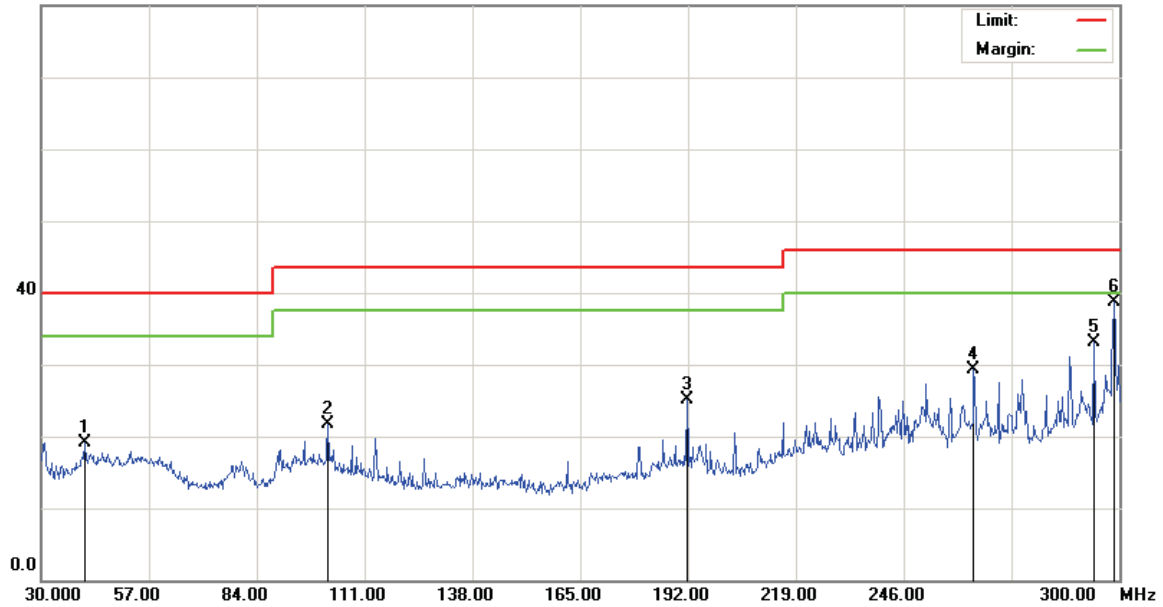
File:RH767(BT)

Data :#9

Date: 2009/2/24

Time: 下午 06:39:46

80.0 dBuV



Site

Polarization: **Vertical**

Temperature: 22 °C

Limit: FCC Class B 3M Radiation

Power:

Humidity: 60 %

EUT:

Distance: 3m

M/N: 09-0020-E

Mode: BT

Note: CH78

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Antenna Height cm	Table Degree degree	Comment
1		40.8000	30.93	-11.88	19.05	40.00	-20.95	peak		
2		101.8200	33.68	-11.88	21.80	43.50	-21.70	peak		
3		191.7300	38.36	-13.28	25.08	43.50	-18.42	peak		
4		263.5500	40.30	-11.09	29.21	46.00	-16.79	peak		
5		293.5200	43.30	-10.15	33.15	46.00	-12.85	peak		
6	*	298.6500	48.69	-10.04	38.65	46.00	-7.35	peak		

*:Maximum data x:Over limit !:over margin

●Reference Only



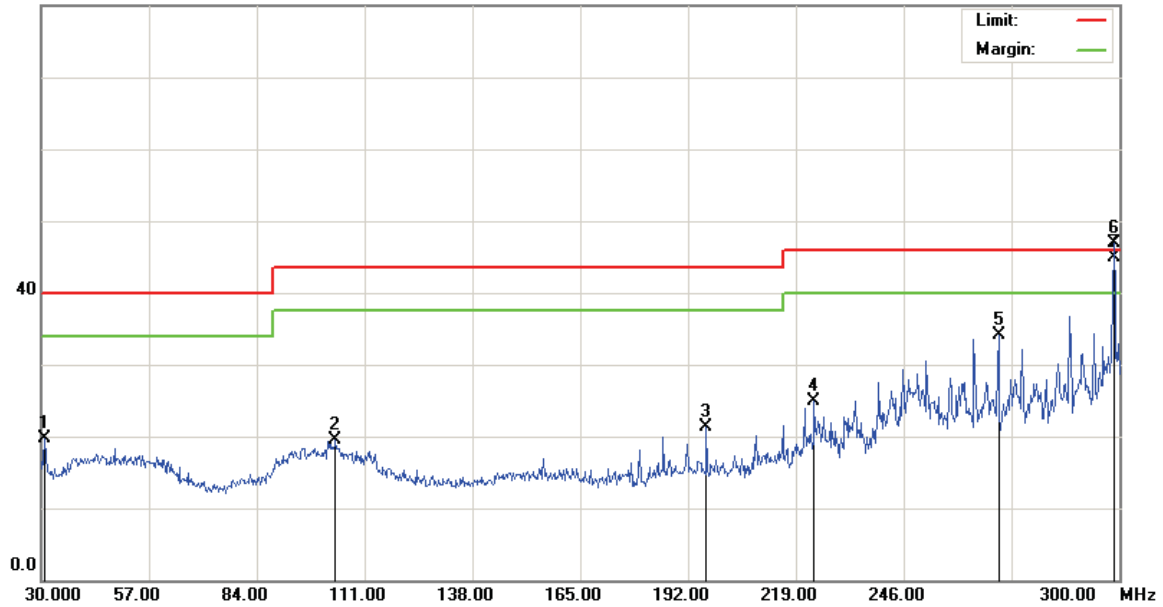
File:RH767(BT)

Data :#11

Date: 2009/2/24

Time: 下午 07:05:13

80.0 dBuV



Site

Polarization: *Horizontal*

Temperature: 22 °C

Limit: FCC Class B 3M Radiation

Power:

Humidity: 60 %

EUT:

Distance: 3m

M/N: 09-0020-E

Mode: BT

Note: CH78

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV	dBuV	dB	cm	degree	Comment
1		30.8100	33.06	-13.30	19.76	40.00	-20.24	peak		
2		103.7100	31.43	-12.00	19.43	43.50	-24.07	peak		
3		196.5900	34.45	-13.12	21.33	43.50	-22.17	peak		
4		223.5900	37.13	-12.21	24.92	46.00	-21.08	peak		
5		269.7600	45.13	-10.94	34.19	46.00	-11.81	peak		
6	*	298.6500	56.91	-10.04	46.87	46.00	0.87	peak		
7	!	298.6500	54.89	-10.04	44.85	46.00	-1.15	QP		

*:Maximum data x:Over limit !:over margin

●Reference Only



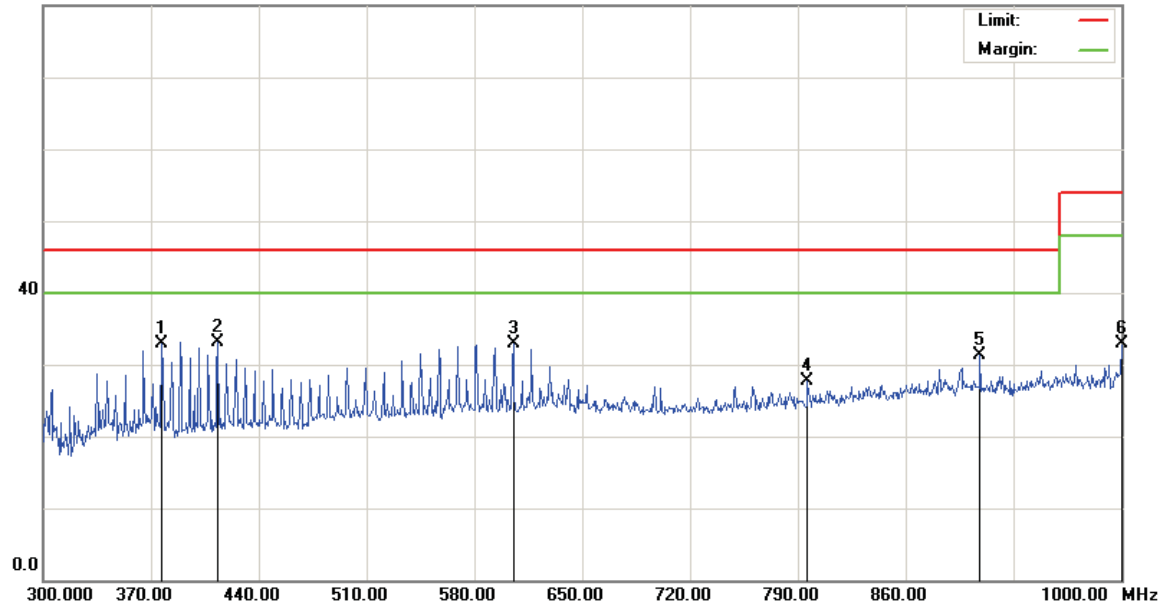
File: RH767(BT)

Data: #10

Date: 2009/2/24

Time: 下午 06:59:30

80.0 dBuV



Site

Polarization: **Vertical**

Temperature: 22 °C

Limit: FCC Class B 3M Radiation

Power:

Humidity: 60 %

EUT:

Distance: 3m

M/N: 09-0020-E

Mode: BT

Note: CH78

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Antenna Height cm	Table Degree degree	Comment
1		377.0000	41.77	-8.91	32.86	46.00	-13.14	peak		
2	*	413.4000	41.39	-8.24	33.15	46.00	-12.85	peak		
3		605.2000	37.44	-4.58	32.86	46.00	-13.14	peak		
4		796.3000	29.97	-2.35	27.62	46.00	-18.38	peak		
5		908.3000	31.34	-0.08	31.26	46.00	-14.74	peak		
6		1000.000	32.24	0.62	32.86	54.00	-21.14	peak		

*:Maximum data x:Over limit !:over margin

●Reference Only



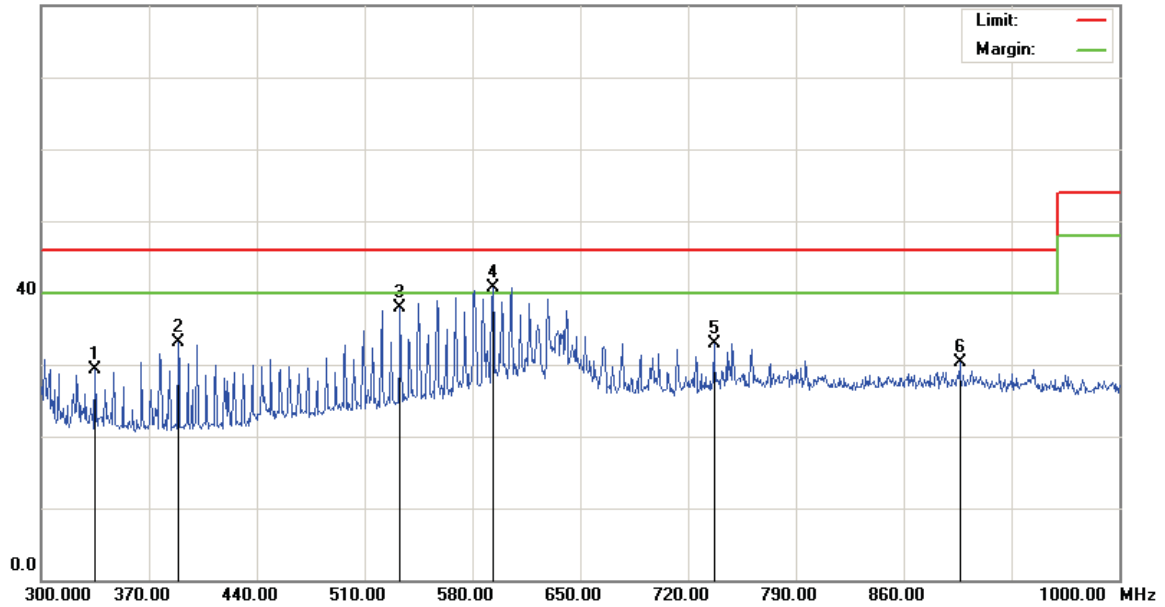
File:RH767(BT)

Data :#12

Date: 2009/2/24

Time: 下午 07:19:50

80.0 dBuV



Site

Polarization: **Horizontal**

Temperature: 22 °C

Limit: FCC Class B 3M Radiation

Power:

Humidity: 60 %

EUT:

Distance: 3m

M/N: 09-0020-E

Mode: BT

Note: CH78

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Antenna Height cm	Table Degree degree	Comment
1		335.0000	38.50	-9.27	29.23	46.00	-16.77	peak		
2		388.9000	41.65	-8.51	33.14	46.00	-12.86	peak		
3		533.1000	44.24	-6.36	37.88	46.00	-8.12	peak		
4	*	593.3000	45.75	-4.98	40.77	46.00	-5.23	peak		
5		736.8000	36.10	-3.29	32.81	46.00	-13.19	peak		
6		896.4000	30.70	-0.47	30.23	46.00	-15.77	peak		

*:Maximum data x:Over limit !:over margin

●Reference Only



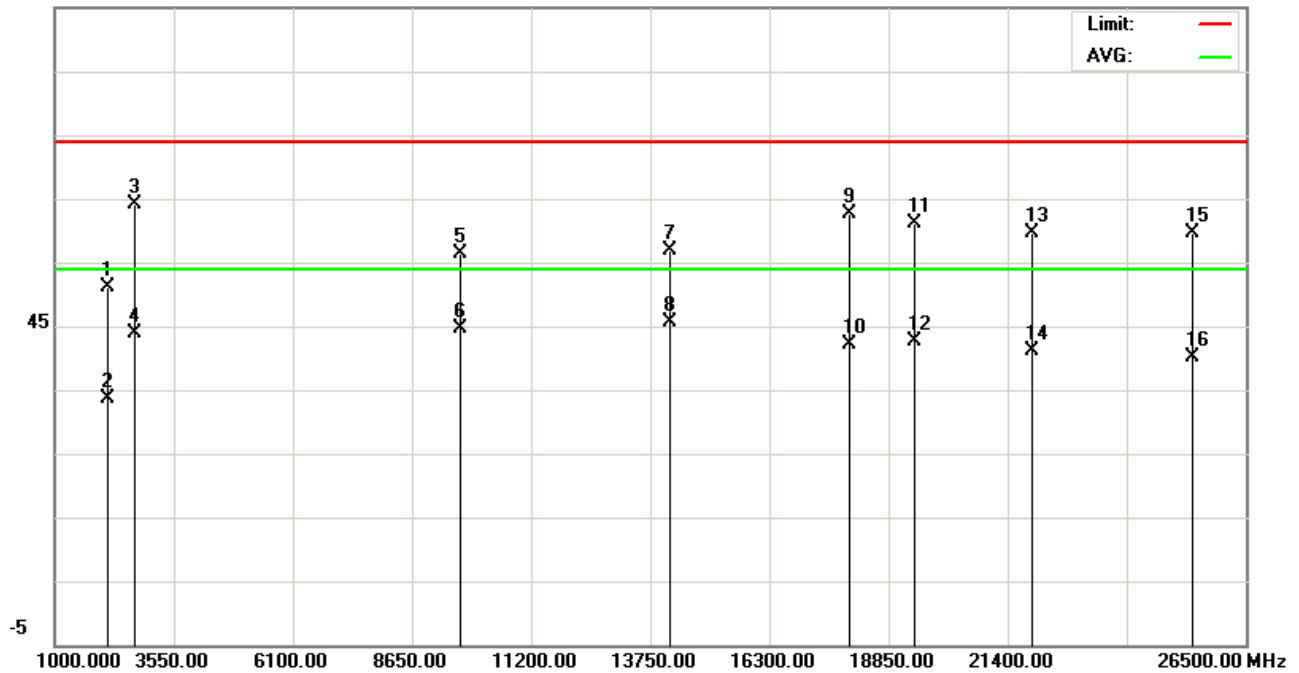
File :RH767(2480MHz)

Data :#14

Date: 2009/2/6

Time: 上午 03:08:33

95.0 dBuV



Site site#1

Polarization: **Vertical**

Temperature: 22 °C

Limit: FCC part 15 (PK)

Power:

Humidity: 60 %

EUT:

Distance:

M/N: 09-0020-E

Mode: BT

Note: 2480MHz , Antenna 100cm , NB01

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Antenna Height cm	Table Degree degree	Comment
1		2132.200	51.41	-0.21	51.20	74.00	-22.80	peak		
2		2132.200	33.89	-0.21	33.68	54.00	-20.32	AVG		
3		2700.000	41.65	22.58	64.23	74.00	-9.77	peak		
4		2700.000	21.33	22.58	43.91	54.00	-10.09	AVG		
5		9689.750	39.01	17.35	56.36	74.00	-17.64	peak		
6		9689.750	27.39	17.35	44.74	54.00	-9.26	AVG		
7		14160.00	38.04	18.83	56.87	74.00	-17.13	peak		
8	*	14160.00	26.82	18.83	45.65	54.00	-8.35	AVG		
9		18000.00	37.18	25.57	62.75	74.00	-11.25	peak		
10		18000.00	16.67	25.57	42.24	54.00	-11.76	AVG		
11		19402.50	38.44	22.80	61.24	74.00	-12.76	peak		
12		19402.50	19.73	22.80	42.53	54.00	-11.47	AVG		
13		21910.00	38.46	21.16	59.62	74.00	-14.38	peak		

*:Maximum data x:Over limit !:over margin

●Reference Only



Site site#1

Limit: FCC part 15 (PK)

EUT:

M/N: 09-0020-E

Mode: BT

Note: 2480MHz , Antenna 100cm , NB01

Polarization: **Vertical**

Power:

Distance:

Temperature: 22 °C

Humidity: 60 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	cm	degree
14		21910.00	19.88	21.16	41.04	54.00	-12.96	AVG		
15		25331.25	40.52	19.09	59.61	74.00	-14.39	peak		
16		25331.25	21.16	19.09	40.25	54.00	-13.75	AVG		

*:Maximum data x:Over limit !:over margin

●Reference Only



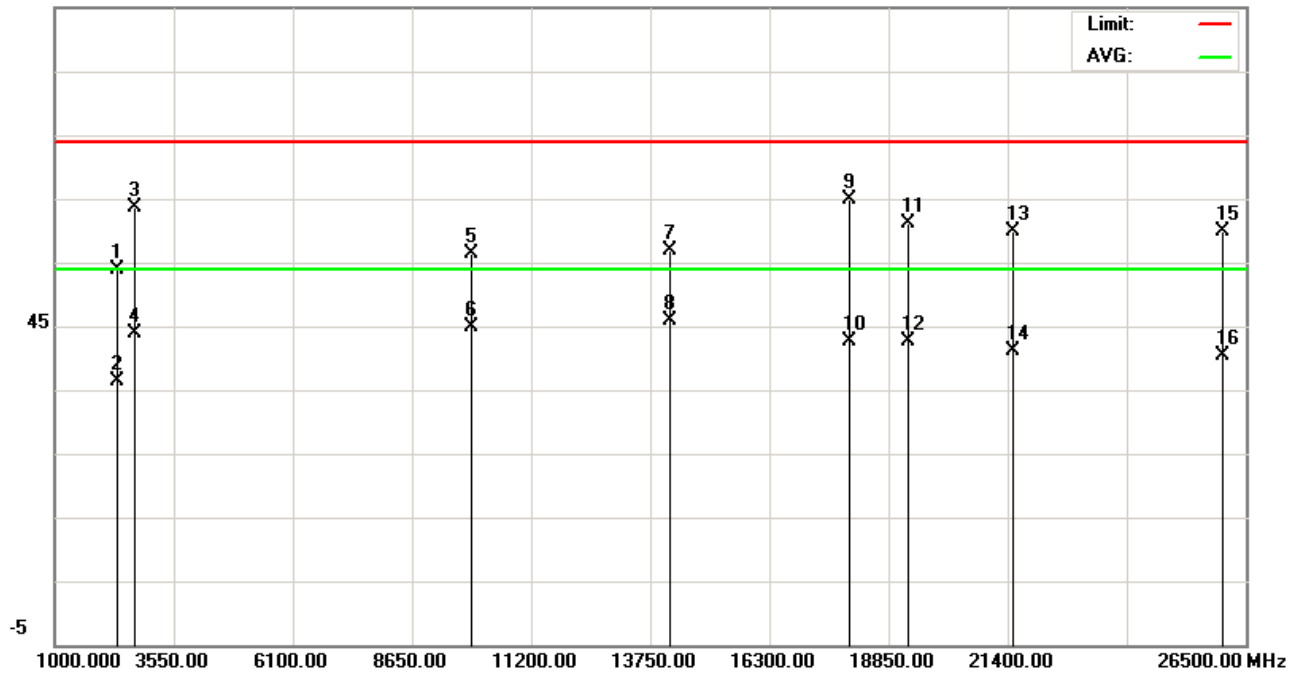
File :RH767(2480MHz)

Data :#16

Date: 2009/2/6

Time: 上午 03:12:18

95.0 dBuV



Site site#1

Polarization: **Horizontal**

Temperature: 22 °C

Limit: FCC part 15 (PK)

Power:

Humidity: 60 %

EUT:

Distance:

M/N: 09-0020-E

Mode: BT

Note: 2480MHz , Antenna 100cm , NB01

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Antenna Height cm	Table Degree degree	Comment
1		2336.200	53.59	0.27	53.86	74.00	-20.14	peak		
2		2336.200	36.15	0.27	36.42	54.00	-17.58	AVG		
3		2700.000	41.01	22.58	63.59	74.00	-10.41	peak		
4		2700.000	21.22	22.58	43.80	54.00	-10.20	AVG		
5		9908.750	38.70	17.78	56.48	74.00	-17.52	peak		
6		9908.750	27.22	17.78	45.00	54.00	-9.00	AVG		
7		14180.00	38.11	18.85	56.96	74.00	-17.04	peak		
8	*	14180.00	27.00	18.85	45.85	54.00	-8.15	AVG		
9		18000.00	39.21	25.57	64.78	74.00	-9.22	peak		
10		18000.00	17.09	25.57	42.66	54.00	-11.34	AVG		
11		19253.75	38.31	22.92	61.23	74.00	-12.77	peak		
12		19253.75	19.77	22.92	42.69	54.00	-11.31	AVG		
13		21527.50	38.59	21.35	59.94	74.00	-14.06	peak		

*:Maximum data x:Over limit !:over margin

●Reference Only



Site site#1

Limit: FCC part 15 (PK)

EUT:

M/N: 09-0020-E

Mode: BT

Note: 2480MHz , Antenna 100cm , NB01

Polarization: **Horizontal**

Power:

Distance:

Temperature: 22 °C

Humidity: 60 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	cm	degree
14		21527.50	19.75	21.35	41.10	54.00	-12.90	AVG		
15		26011.25	41.38	18.54	59.92	74.00	-14.08	peak		
16		26011.25	21.89	18.54	40.43	54.00	-13.57	AVG		

*:Maximum data x:Over limit !:over margin

●Reference Only

4. Maximum Conducted Output Power Requirements

4.1 Test Condition & Setup:

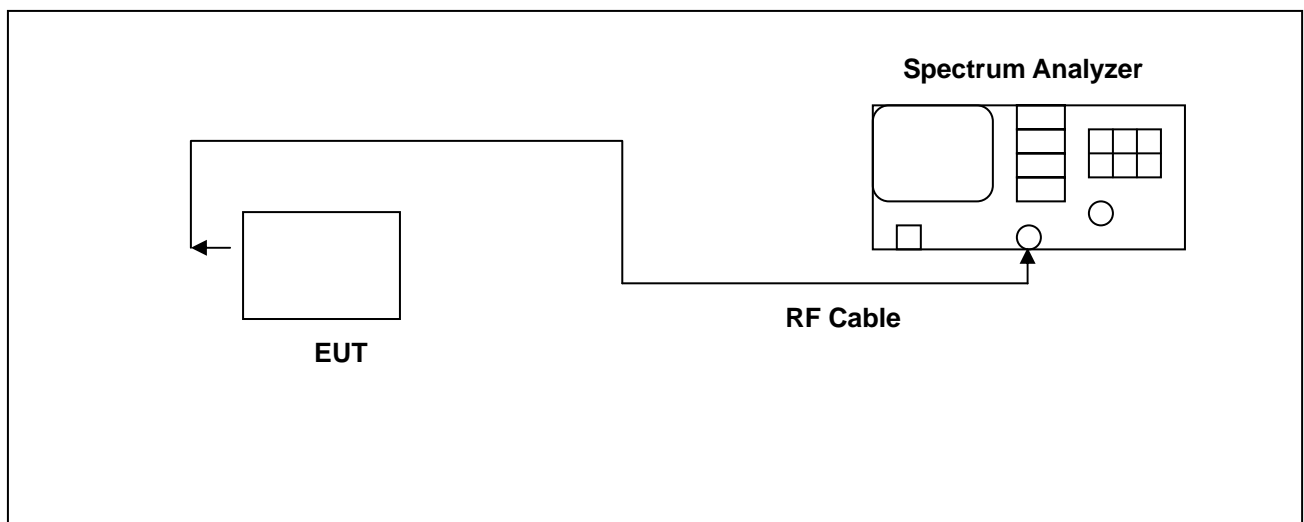
The tests below are run with the EUT's transmitter set at high power in TX mode. The EUT is needed to force selection of output power level and channel number. While testing, EUT was set to transmit continuously. Remove the Subjective device's antenna and connect the RF output port to spectrum analyzer. The maximum peak output power shall not exceed 1 watt.

Use a direct connection between the antenna port of transmitter and the spectrum Analyzer, for prevent the spectrum analyzer input attenuation 40-50 dB. Set the RBW Bandwidth of the emission or use a channel power meter mode.

For antennas with gains of 6 dBi or less, maximum allowed transmitter output is 1 watt (+30 dBm). For antennas with gains greater than 6 dBi, transmitter output level must be decreased by an amount equal to $(\text{GAIN} - 6)/3$ dBm.

The antenna port of the EUT was connected to the input of a power meter. Power was read directly and cable loss correction was added to the reading to obtain power at the EUT antenna terminals.

4.2 Test Instruments Configuration:





4.3 Test Equipment List:

Describe	Manufacturer	Model	Serial Number	Calibration	
				Cal. Date	Due Date
Spectrum Analyzer	Agilent	E4445A	MY45300744	Dec. 22, 2008	Dec. 22, 2009

4.4 Test Result

Bluetooth 2.0

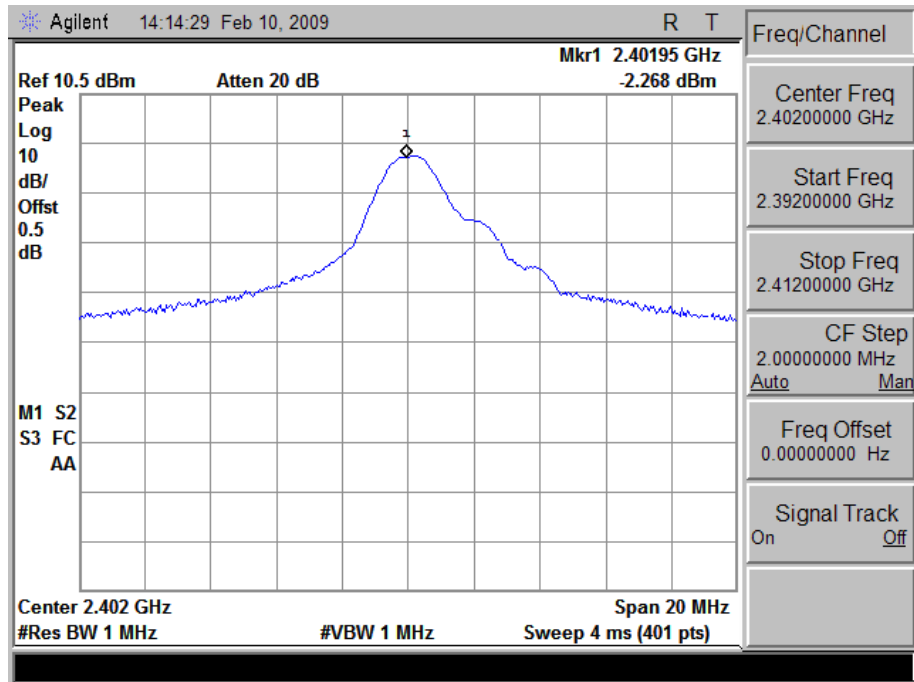
Frequency (MHz)	Output (dBm)	Required Limit
2402	-2.268	<30dBm
2441	-3.776	<30dBm
2480	-5.664	<30dBm

Note: Test Graphs See next page.

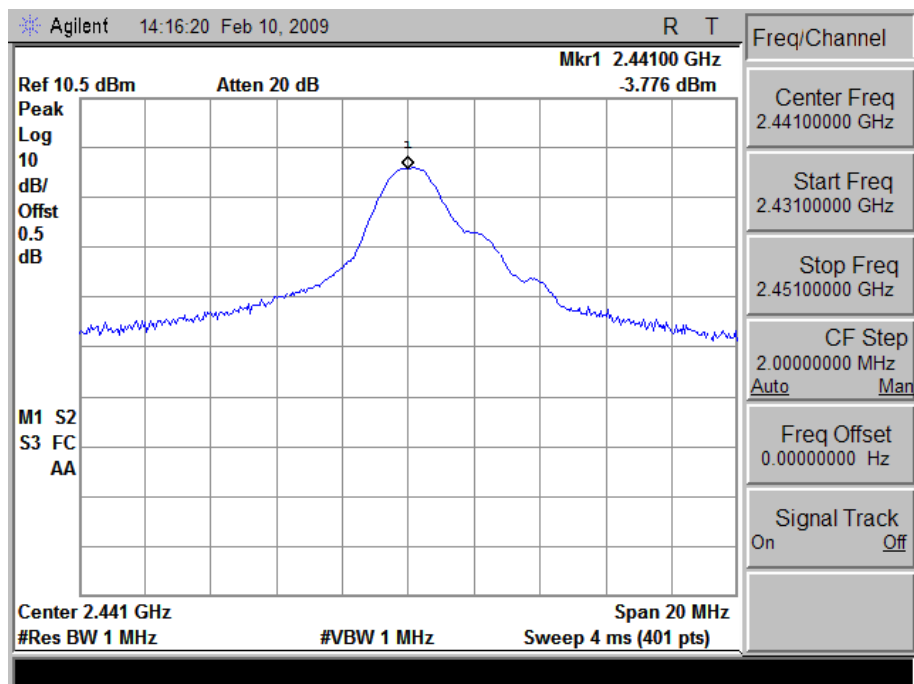


4.5 Test Graphs

Bluetooth 2.0 CH00 (2402MHz)

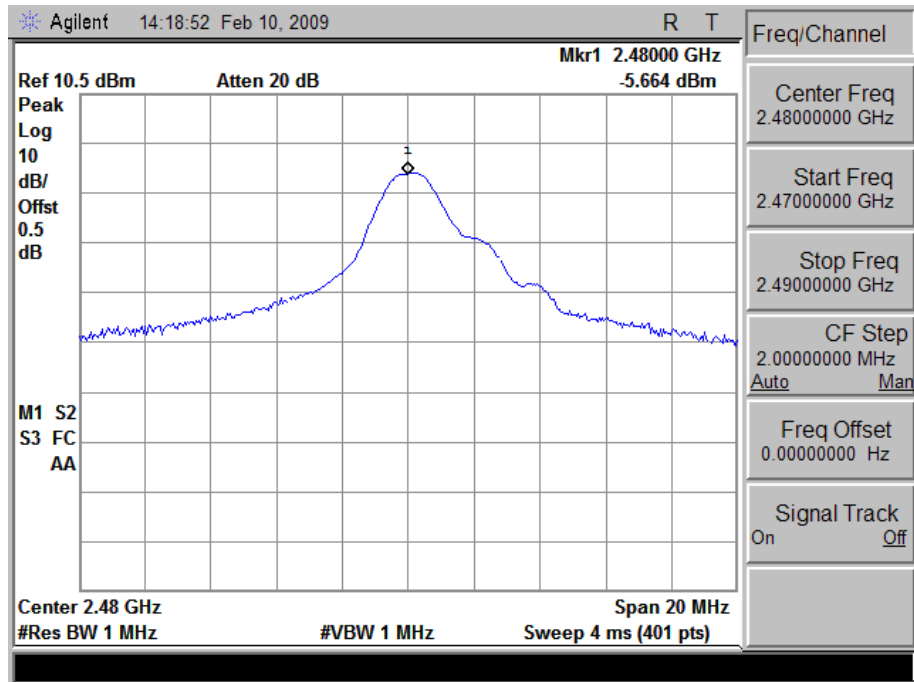


Bluetooth 2.0 CH39 (2441MHz)





Bluetooth 2.0 CH78 (2480MHz)



5. Minimum 20dB RF Bandwidth Requirements

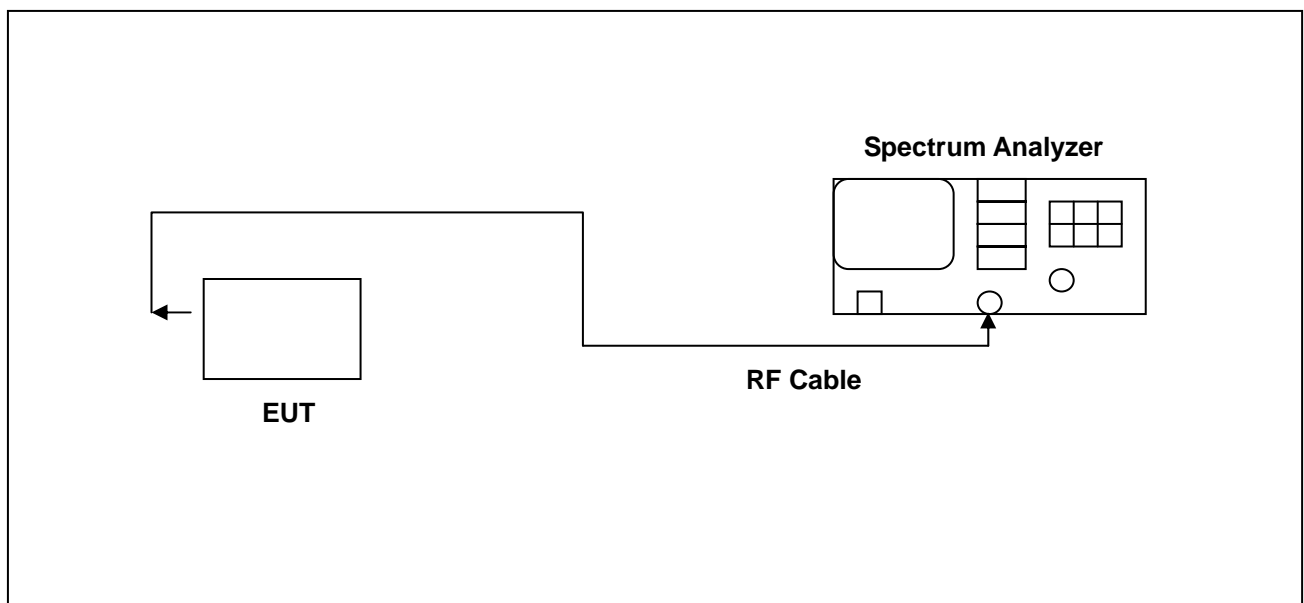
5.1 Test Condition & Setup:

The RF output port of the Equipment-Under-Test is directly coupled to the input of the EMC analyzer through a specialized RF connector and a 10dB passive attenuator. A fully charged battery was used for the supply voltage. The Bluetooth frequency hopping function of the EUT was enabled. The spectrum analyzer used the following settings:

1. Span = approx. 2 to 3 times the 20dB bandwidth, centered on a hopping frequency
2. RBW \geq 1% of the 20dB span
3. VBW \geq RBW
4. Sweep = auto
5. Detector function = peak
6. Trace = max hold

The trace was allowed to stabilize. The EUT was transmitting at its maximum data rate. The marker-to-peak function was used to set the marker to the peak of the emission. The marker-delta function was used to measure 20dB down one side of the emission. The marker-delta function and marker was moved to the other side of the emission until it was even with the reference marker. The marker-delta reading at this point was the 20dB bandwidth of the emission.

5.2 Test Instruments Configuration:





5.3 Test Equipment List:

Describe	Manufacturer	Model	Serial Number	Calibration	
				Cal. Date	Due Date
Spectrum Analyzer	Agilent	E4445A	MY45300744	Nov. 22, 2008	Nov. 22, 2009

5.4 Test Result

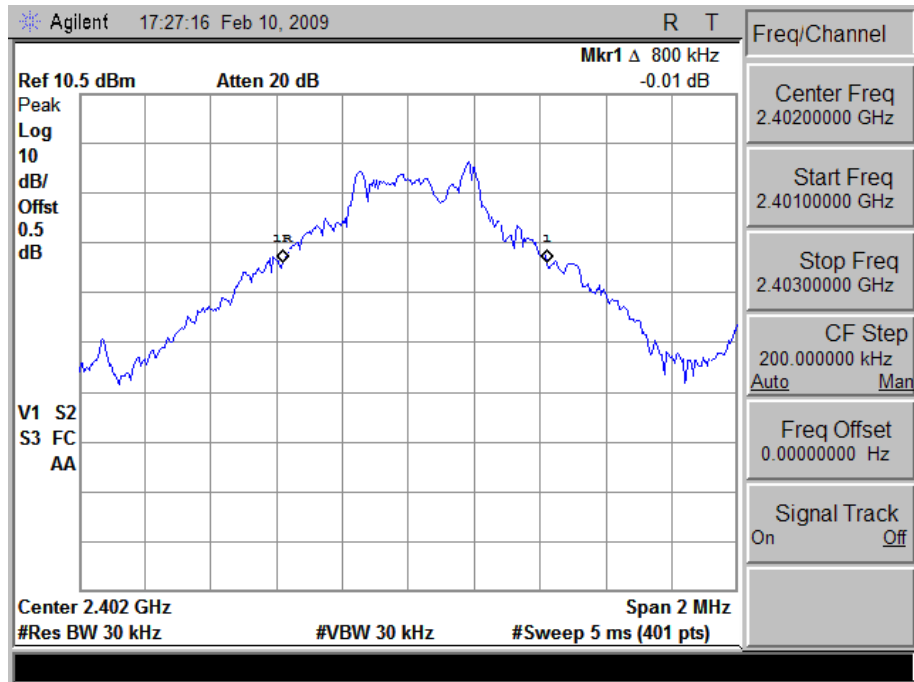
Bluetooth 2.0

Frequency (MHz)	Max 20dB Bandwidth (MHz)	Required Limit
2402	0.800	<1MHz
2441	0.985	<1MHz
2480	0.990	<1MHz

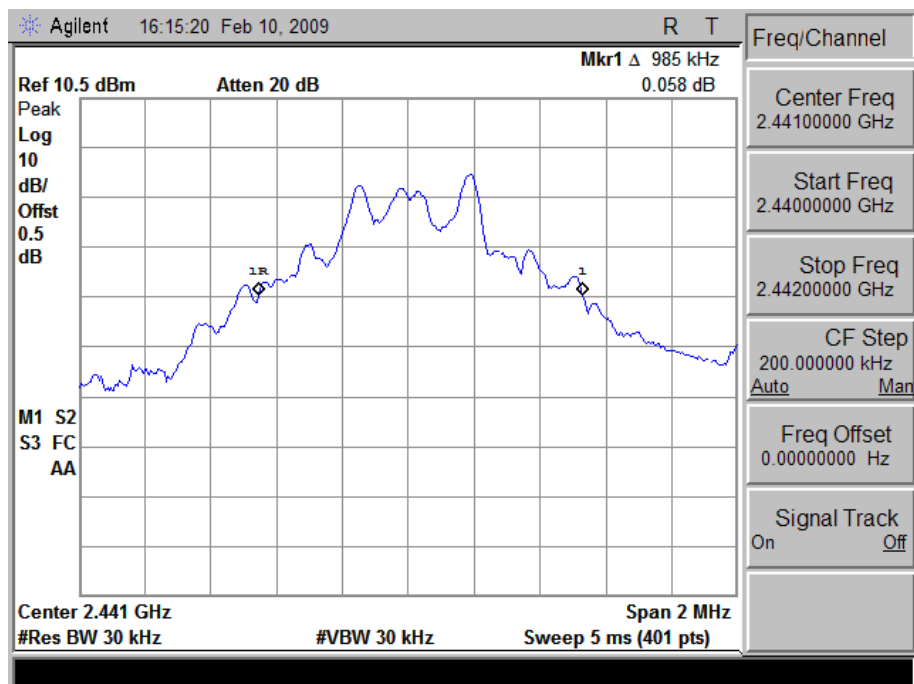


5.5 Test Graphs

Bluetooth 2.0 CH00 (2412MHz)

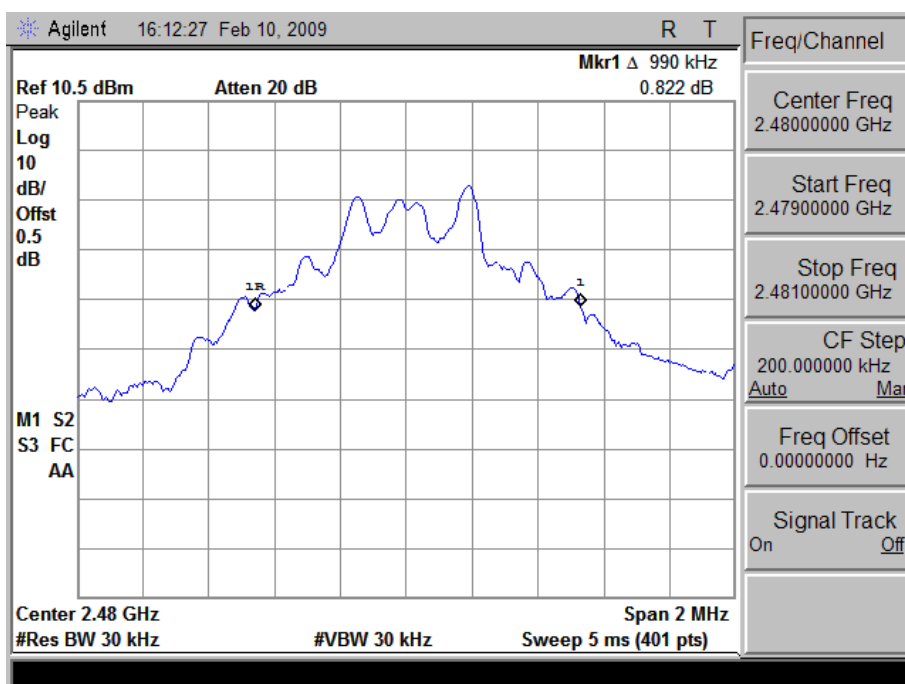


Bluetooth 2.0 CH39 (2441MHz)





Bluetooth 2.0 CH78 (2480MHz)



6. Carrier Frequency Separation Requirements

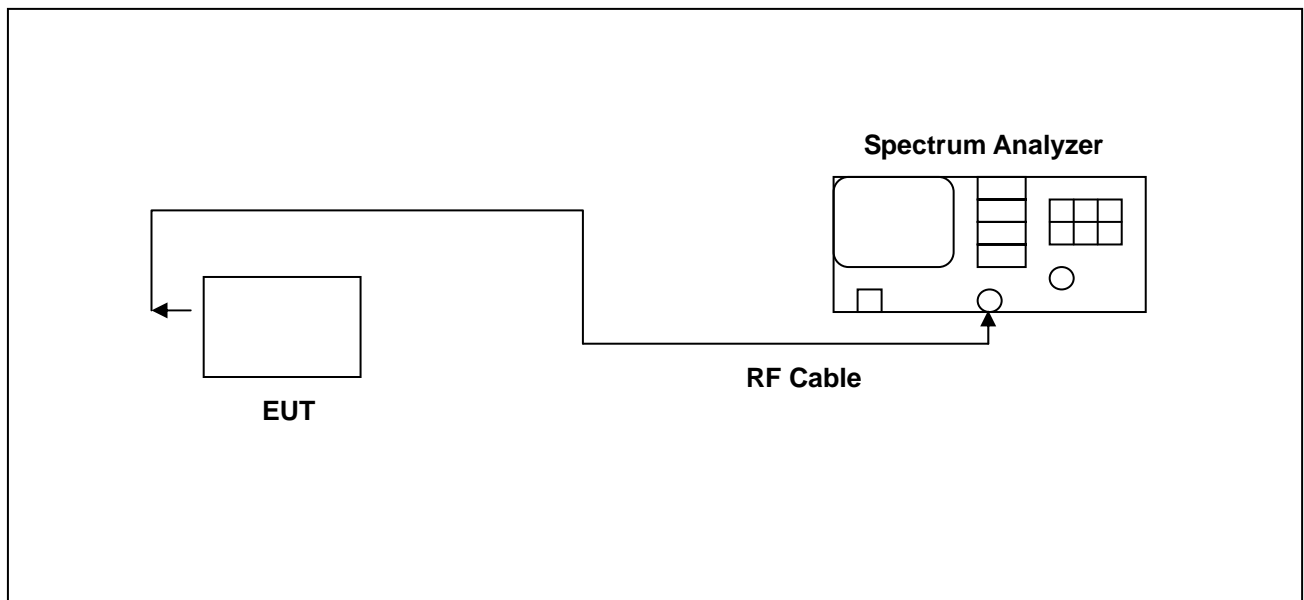
6.1 Test Condition & Setup:

The RF output port of the Equipment-Under-Test is directly coupled to the input of the EMC analyzer through a specialized RF connector and a 10dB passive attenuator. A fully charged battery was used for the supply voltage. The Bluetooth transmitter of the V6 had its hopping function enabled. The following spectrum analyzer settings were used:

1. Span = wide enough to capture the peaks of two adjacent channels
2. Resolution (or IF) Bandwidth (RBW) \geq 1% of the span
3. Video (or Average) Bandwidth (VBW) \geq RBW
4. Sweep = auto
5. Detector function = peak
6. Trace = max hold

The trace was allowed to stabilize. The marker-delta function was used to determine the separation between the peaks of the adjacent channels.

6.2 Test Instruments Configuration:





6.3 Test Equipment List:

Describe	Manufacturer	Model	Serial Number	Calibration	
				Cal. Date	Due Date
Spectrum Analyzer	Agilent	E4445A	MY45300744	Dec. 22, 2008	Dec. 22, 2009
Attenuator	RADIALL	R41572000	0603033073	NA	NA

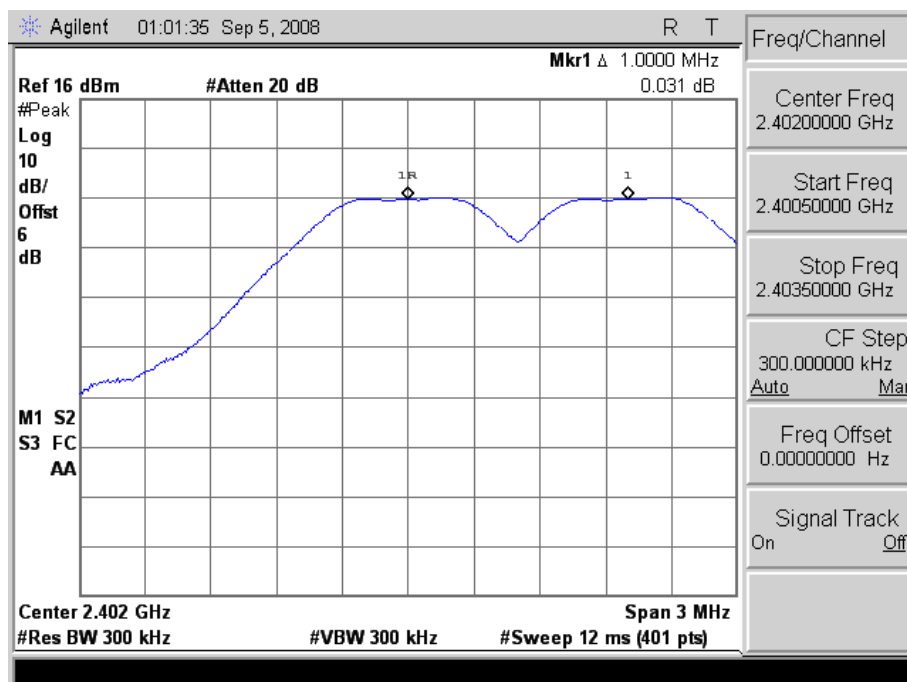
6.4 Test Result:

Carrier Frequency Separation Measure:	1 MHz
---------------------------------------	-------

6.5 Test Graphs

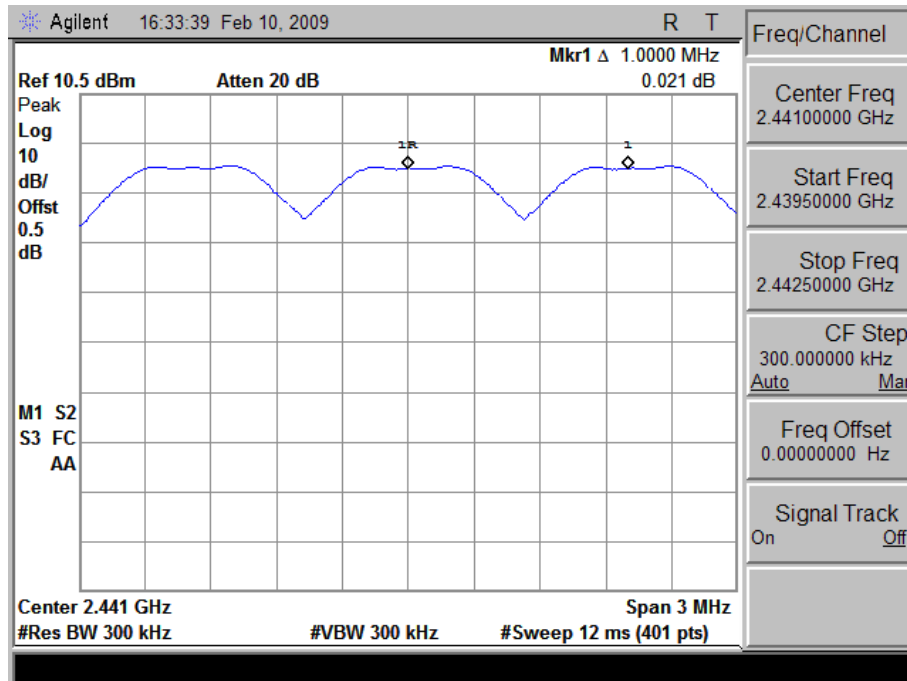
6.5.1 Bluetooth 2.0 Mode:

Bluetooth 2.0 CH00 (2412MHz)

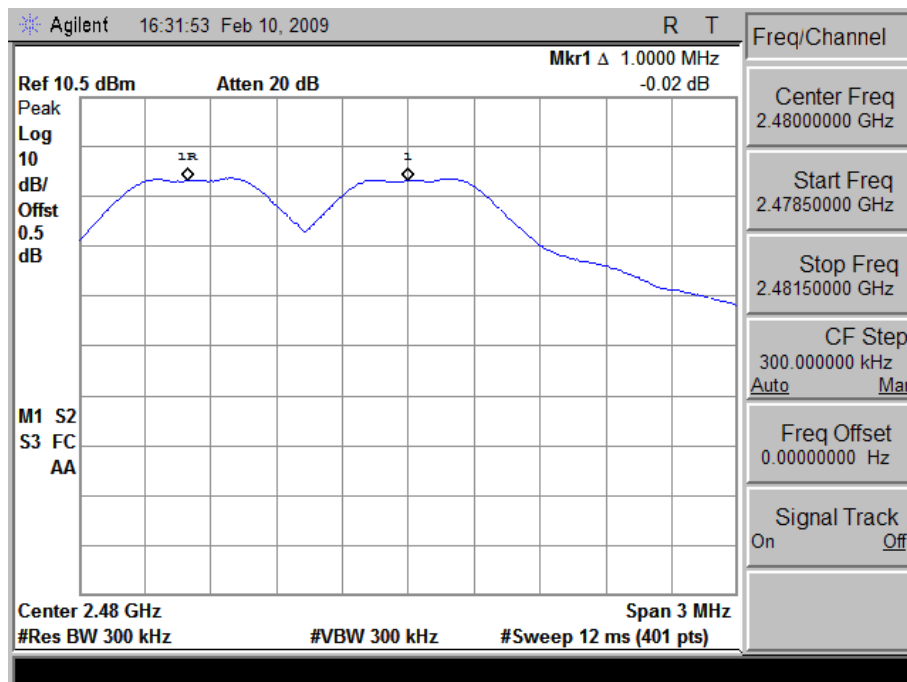




Bluetooth 2.0 CH39 (2441MHz)



Bluetooth 2.0 CH78 (2480MHz)



7. Number of Hopping Requirements

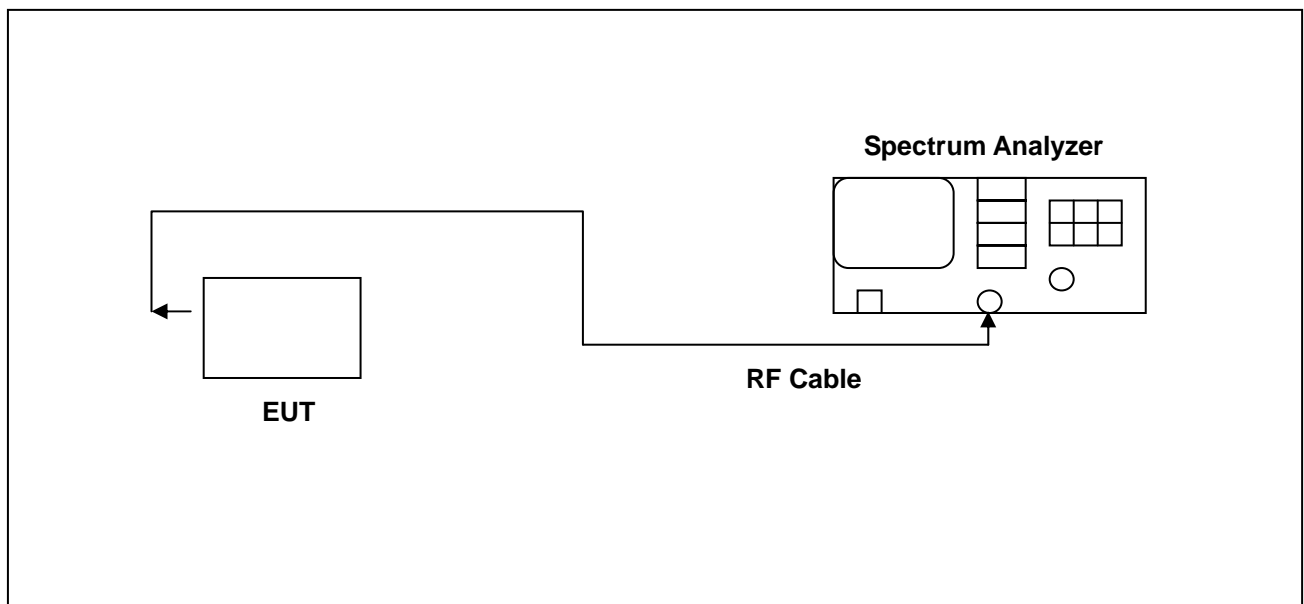
7.1 Test Condition & Setup:

The RF output port of the Equipment-Under-Test is directly coupled to the input of the EMC analyzer through a specialized RF connector and a 10dB passive attenuator. A fully charged battery was used for the supply voltage. The Bluetooth frequency hopping function of the EUT was enabled. The spectrum analyzer used the following settings:

1. Span = the frequency band of operation
2. RBW \geq 1% of the span
3. VBW \geq RBW
4. Sweep = auto
5. Detector function = peak
6. Trace = max hold

The trace was allowed to stabilize.

7.2 Test Instruments Configuration:





7.3 Test Equipment List:

Describe	Manufacturer	Model	Serial Number	Calibration	
				Cal. Date	Due Date
Spectrum Analyzer	Agilent	E4445A	MY45300744	Dec. 22, 2008	Dec. 22, 2009
Attenuator	RADIALL	R41572000	0603033073	NA	NA

7.4 Test Result:

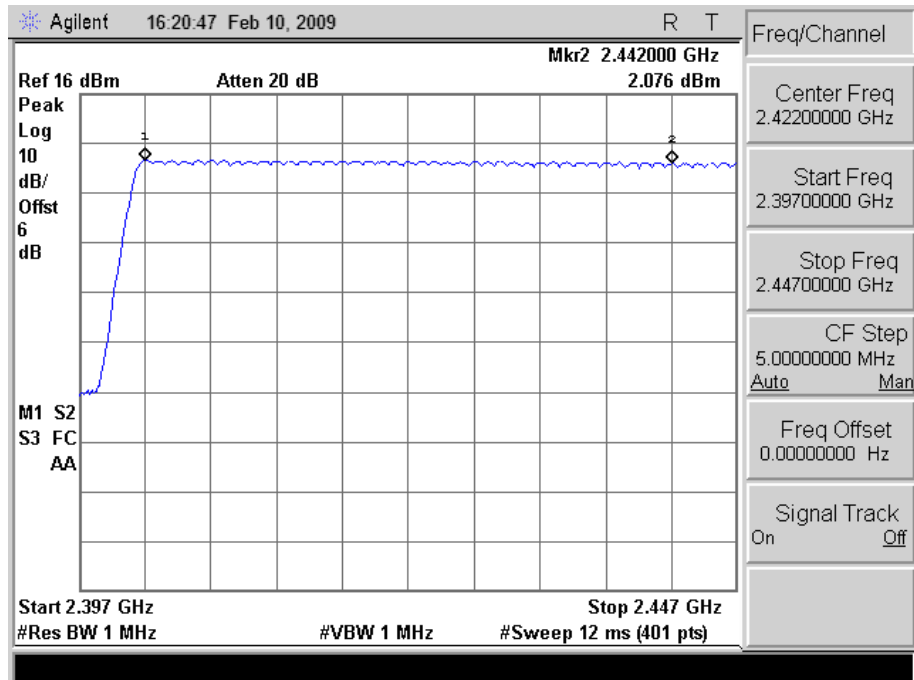
Number of Hopping Measure:	79 CH
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Note: Test Graphs See next page.

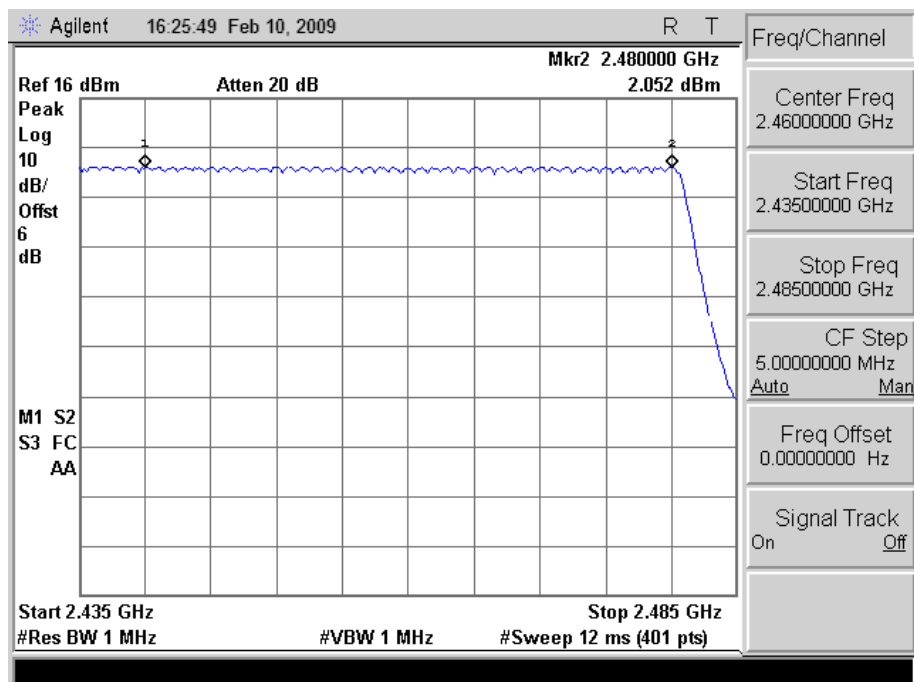


7.5 Test Graphs

Bluetooth 2.0 Mode CH0~CH39



Bluetooth 2.0 Mode CH40~CH78



8. Time of Occupancy (Dwell Time) Requirements

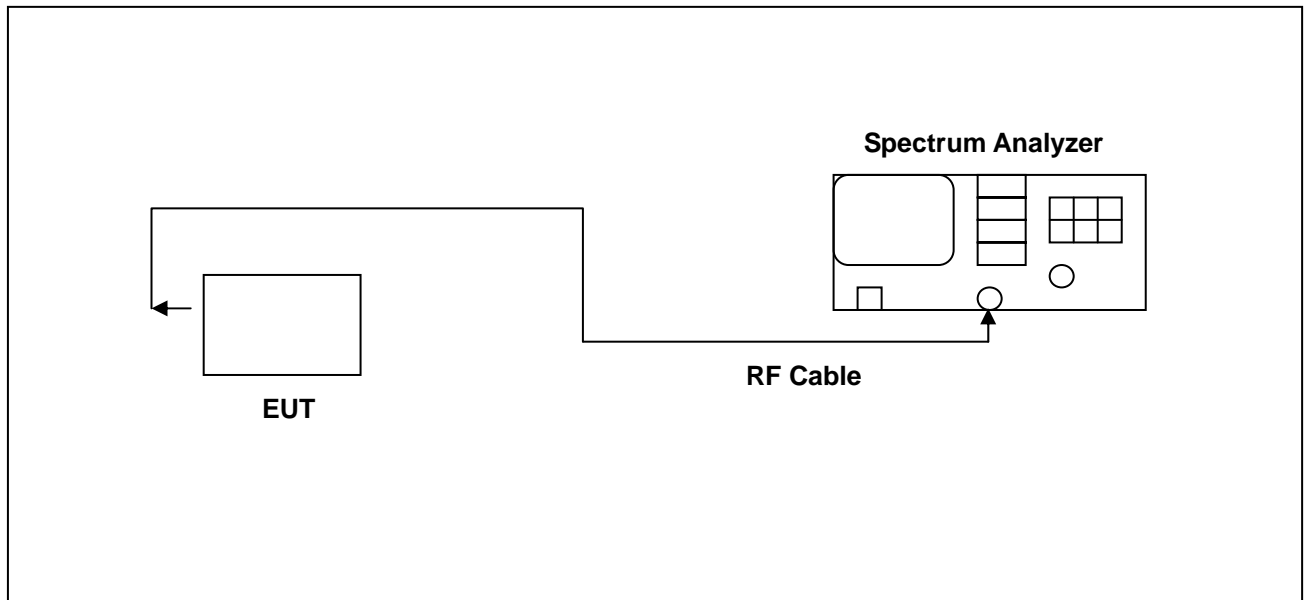
8.1 Test Condition & Setup:

The RF output port of the Equipment-Under-Test is directly coupled to the input of the EMC analyzer through a specialized RF connector and a 10dB passive attenuator. A fully charged battery was used for the supply voltage. The Bluetooth hopping function of the EUT was enabled. The following spectrum analyzer settings were used:

1. Span = zero span, centered on a hopping channel
2. RBW = 1 MHz
3. VBW \geq RBW
4. Sweep = as necessary to capture the entire dwell time per hopping channel
5. Detector function = peak
6. Trace = max hold

The marker-delta function was used to determine the dwell time.

8.2 Test Instruments Configuration:





8.3 Test Equipment List:

Describe	Manufacturer	Model	Serial Number	Calibration	
				Cal. Date	Due Date
Spectrum Analyzer	Agilent	E4445A	MY45300744	Dec. 22, 2008	Dec. 22, 2009
Attenuator	RADIALL	R41572000	0603033073	NA	NA



8.4 Test Result

Bluetooth 2.0 DH1 Mode

Cycle Calculate	$79\text{CH} * 0.4 = 31.6 \text{ (sec)}$
The EUT Hopping Number per Sec	1600 times/sec
Each Channel Dwell Times per Sec	$800/79\text{CH} = 10.13(\text{times/sec})$
Each Channel Dwell Times (1)	0.125 ms (sec)
Each Channel Dwell Times on Cycle(2)	$31.6 * 10.13 = 320.108(\text{times})$
Dwell Times on Cycle (1) * (2)	40.0135 ms (sec)
LIMIT(msec)	≤ 400

Bluetooth 2.0 DH3 Mode

Cycle Calculate	$79\text{CH} * 0.4 = 31.6 \text{ (sec)}$
The EUT Hopping Number per Sec	1600 times/sec
Each Channel Dwell Times per Sec	$400/79\text{CH}=5.1(\text{times/sec})$
Each Channel Dwell Times (1)	1.64 ms (sec)
Each Channel Dwell Times on Cycle(2)	$31.6*5.1=161.16(\text{times})$
Dwell Times on Cycle (1) * (2)	264.3024 ms (sec)
LIMIT(msec)	≤ 400

Bluetooth 2.0 DH5 Mode

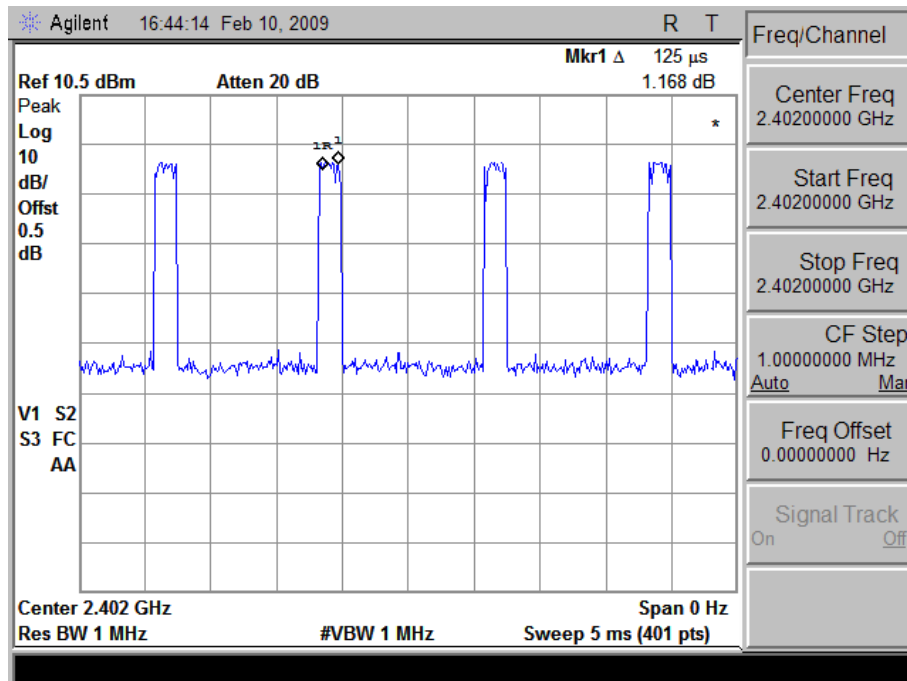
Cycle Calculate	$79\text{CH} * 0.4 = 31.6 \text{ (sec)}$
The EUT Hopping Number per Sec	1600 times/sec
Each Channel Dwell Times per Sec	$266.7/79\text{CH}=3.37 \text{ (times/sec)}$
Each Channel Dwell Times (1)	2.88 ms (sec)
Each Channel Dwell Times on Cycle(2)	$31.6*2.82=106.492 \text{ (times)}$
Dwell Times on Cycle (1) * (2)	306.69696 ms (sec)
LIMIT(msec)	≤ 400

Note: RB=1MHz; VB=1MHz; SPAN=0MHz; Sweep Time=20msec

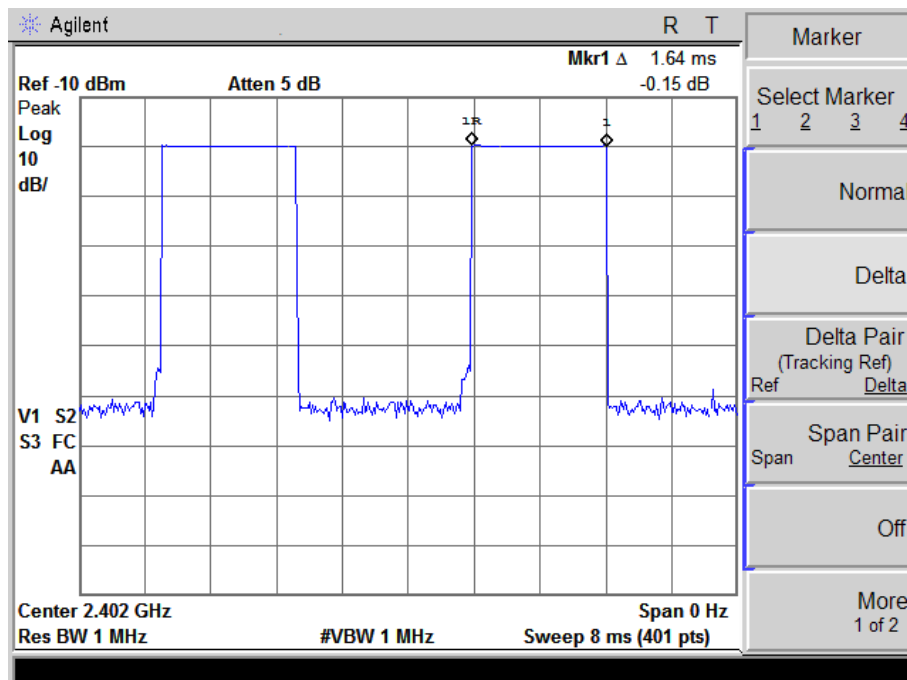


8.5 Test Graphs

DH1

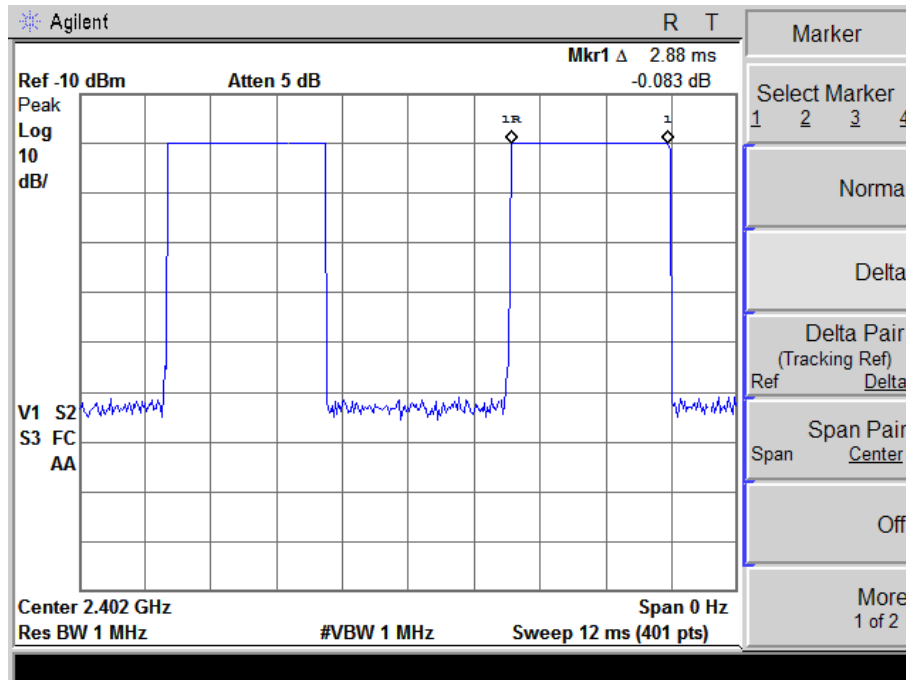


DH3





DH5



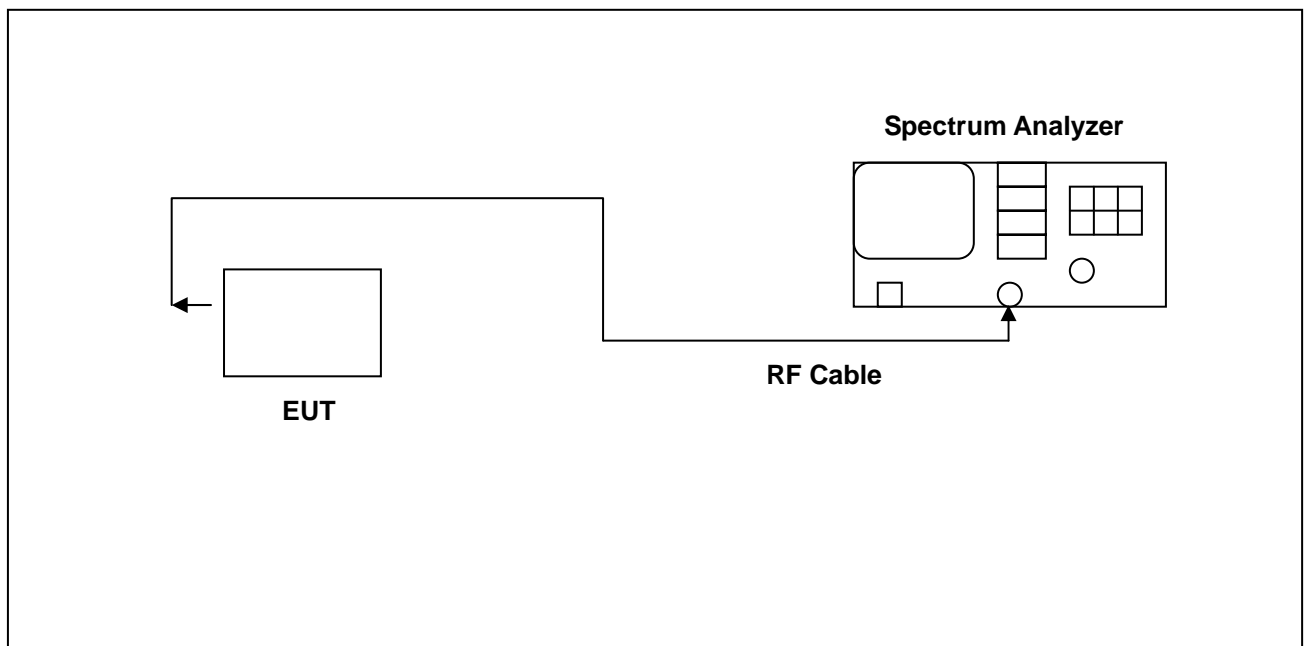
9. Out of Band Conducted Emissions Requirements

9.1 Test Condition & Setup:

In any 100 kHz bandwidth outside the EUT pass band, the RF power produced by the modulation products of the spreading sequence, the information sequence, and the carrier frequency shall be at least 20 dB below that of the maximum in-band 100 kHz emission, antenna output of the EUT was coupled directly to spectrum analyzer; if an external attenuator and/or cable was used, these losses are compensated for with the analyzer OFFSET function.

All other types of emissions from the EUT shall meet the general limits for radiated frequencies outside the pass band. The test was performed at 3 channels (Channel 1, 6, 11)

9.2 Test Instruments Configuration:





9.3 Test Equipment List:

Describe	Manufacturer	Model	Serial Number	Calibration	
				Cal. Date	Due Date
Spectrum Analyzer	Agilent	E4445A	MY45300744	Dec. 22, 2008	Dec. 22, 2009

9.4 Test Result:

Refer to attached data sheets. Data shows out of band emissions are suppressed well below the -20 dBc minimum required by the Rules.

9.5 Test Graphs

Bluetooth 2.0 Mode:

Applicant : Applied Wireless Identifications Group Inc
Model No : HH-6600
EUT : RFID Handheld Terminal
Test Mode : Bluetooth 2.0
Test Date : 02/05/2009
Please refer to next pager of detail testing data.



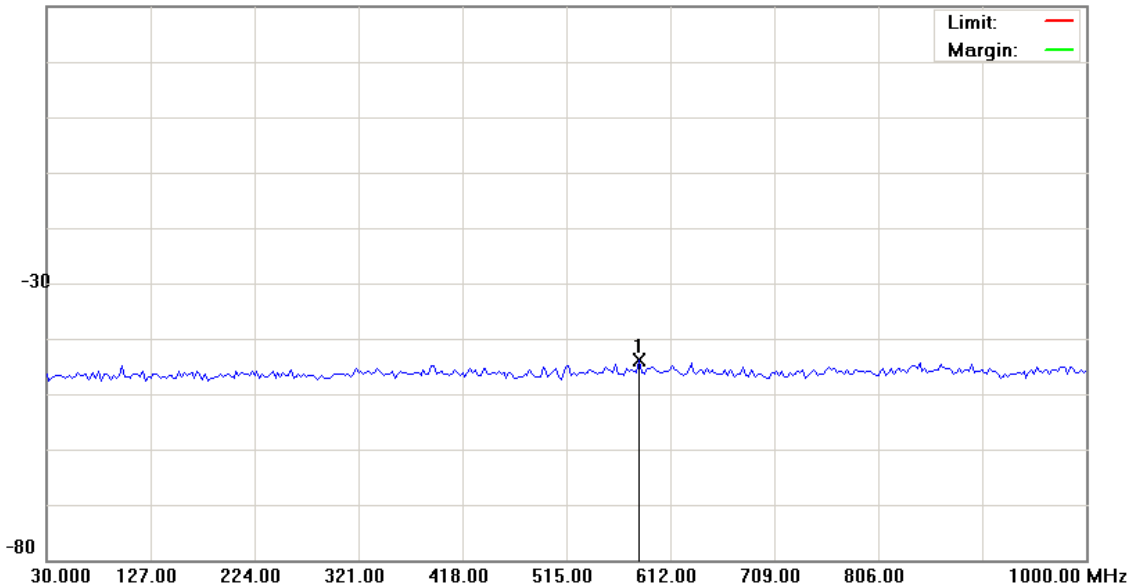
File :BT

Data :#1

Date:2009/2/5

Time: 下午 02:44:00

20.0 dBm



Site: site #1

Polarization:

Temperature: 26 °C

Limit:

Power: AC 110V/60Hz

Humidity: 55 %

EUT:

Distance:

M/N: 09-0020-E

Mode: BT

Note: 2402MHz

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Antenna	Table
		MHz	Level	Factor	ment			Height	Degree
			dBm	dB	dBm	dBm	dB	cm	degree
1	*	582.9000	-44.87	1.00	-43.87			peak	

*:Maximum data x:Over limit !:over margin



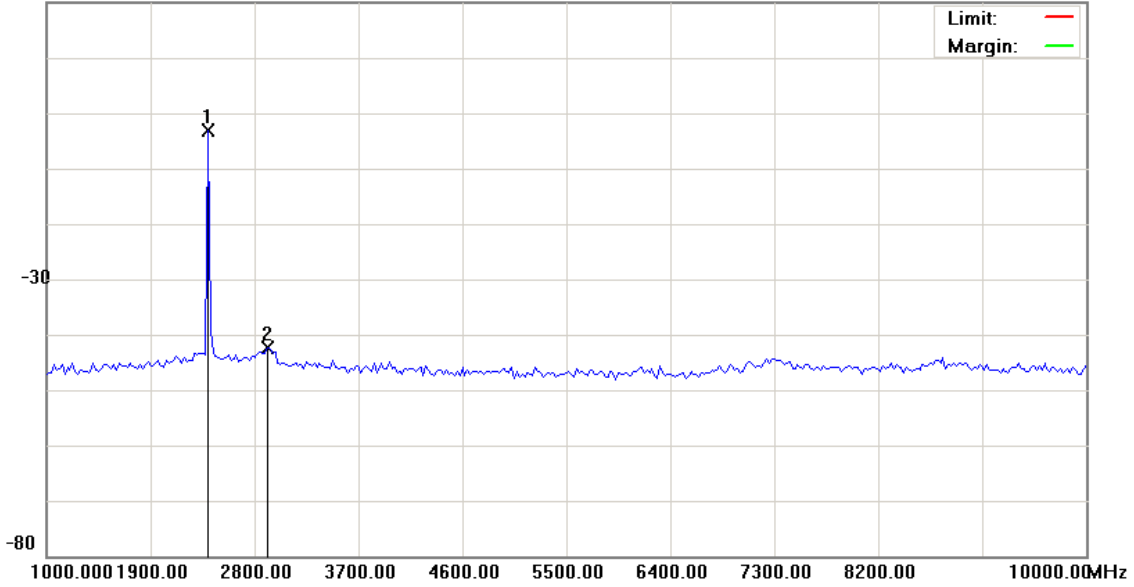
File :BT

Data :#2

Date:2009/2/5

Time: 下午 02:44:14

20.0 dBm



Site: site #1

Polarization:

Temperature: 26 °C

Limit:

Power: AC 110V/60Hz

Humidity: 55 %

EUT:

Distance:

M/N: 09-0020-E

Mode: BT

Note: 2402MHz

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree degree	Comment
1	*	2395.000	-4.11	1.00	-3.11			peak		
2		2912.500	-43.38	1.00	-42.38			peak		

*:Maximum data x:Over limit !:over margin



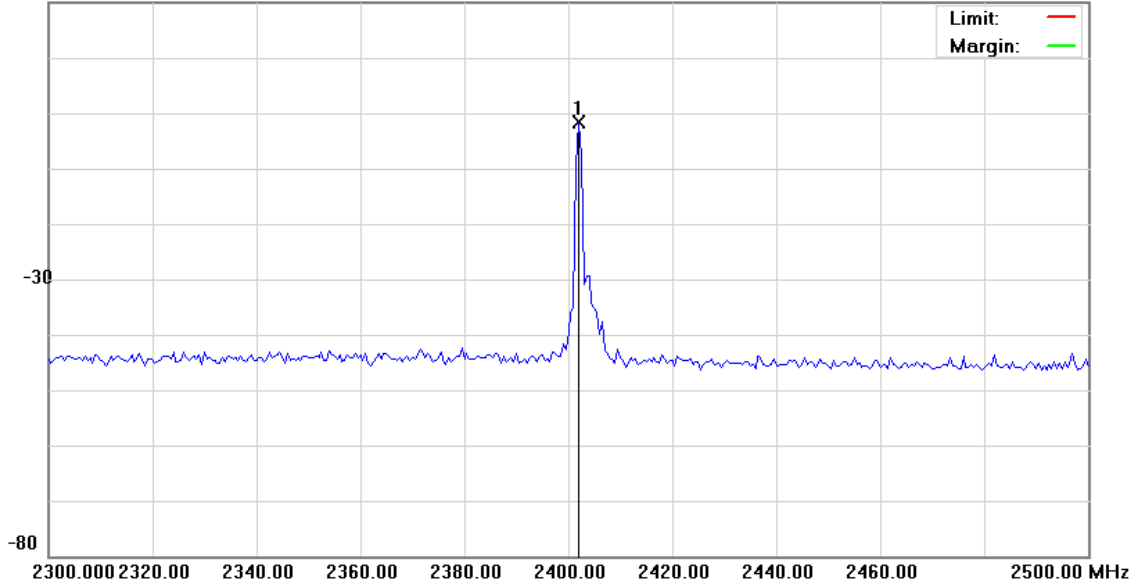
File :BT

Data :#3

Date: 2009/2/5

Time: 下午 02:44:28

20.0 dBm



Site: site #1

Polarization:

Temperature: 26 °C

Limit:

Power: AC 110V/60Hz

Humidity: 55 %

EUT:

Distance:

M/N: 09-0020-E

Mode: BT

Note: 2402MHz

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree degree	Comment
1	*	2402.000	-2.73	1.00	-1.73			peak		

*:Maximum data x:Over limit !:over margin



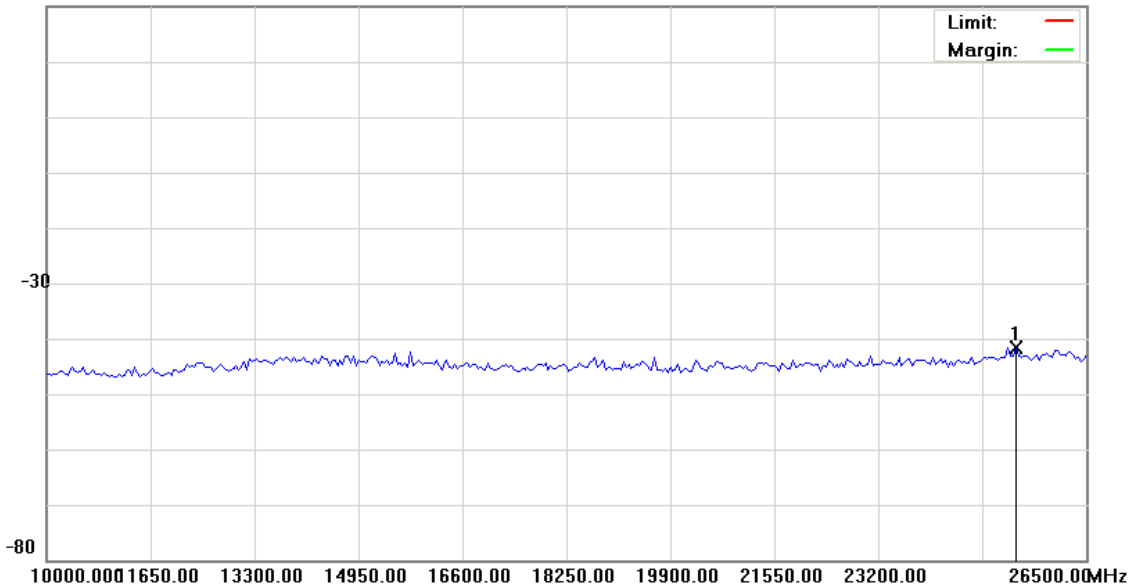
File :BT

Data :#4

Date:2009/2/5

Time: 下午 02:44:42

20.0 dBm



Site: site #1

Polarization:

Temperature: 26 °C

Limit:

Power: AC 110V/60Hz

Humidity: 55 %

EUT:

Distance:

M/N: 09-0020-E

Mode: BT

Note: 2402MHz

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree degree	Comment
1	*	25386.250	-42.56	1.00	-41.56			peak		

*:Maximum data x:Over limit !:over margin



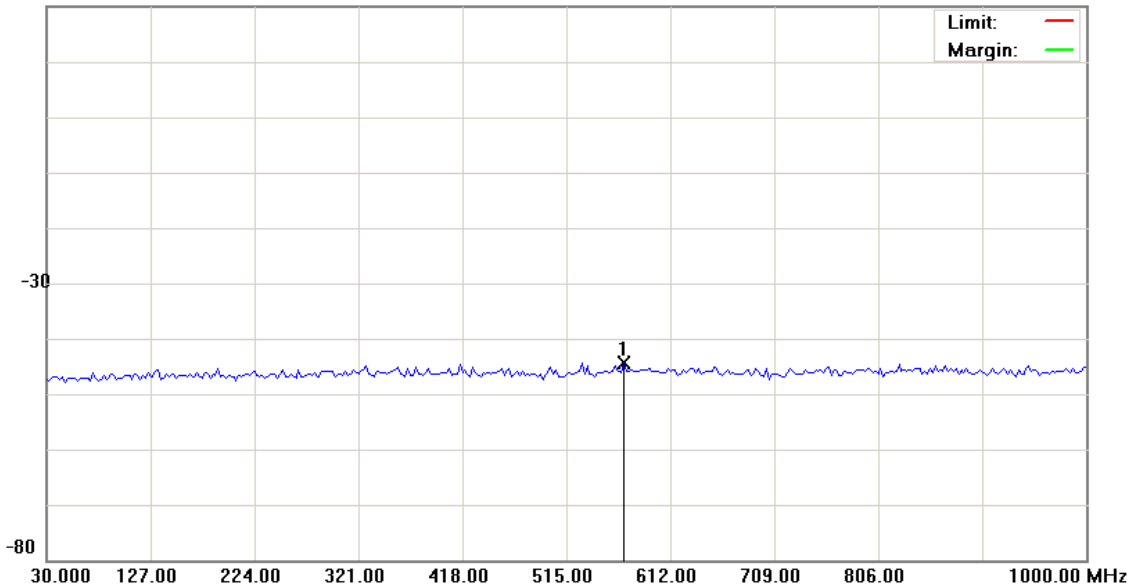
File :BT

Data :#5

Date:2009/2/5

Time: 下午 02:46:22

20.0 dBm



Site: site #1

Polarization:

Temperature: 26 °C

Limit:

Power: AC 110V/60Hz

Humidity: 55 %

EUT:

Distance:

M/N: 09-0020-E

Mode: BT

Note: 2441MHz

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree degree	Comment
1	*	568.3500	-45.44	1.00	-44.44			peak		

*:Maximum data x:Over limit !:over margin



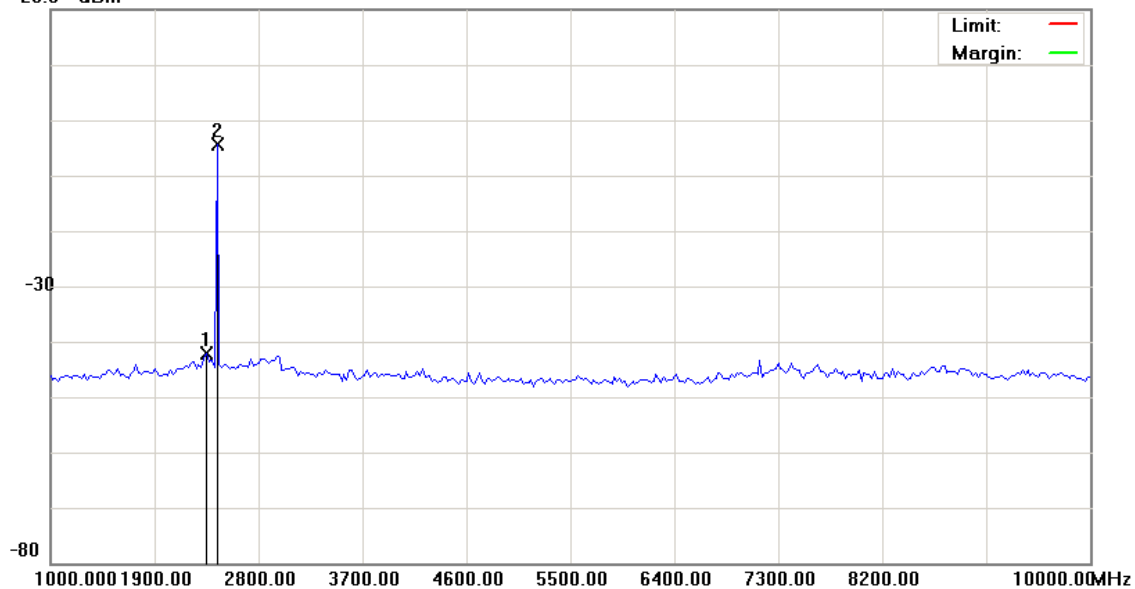
File :BT

Data :#6

Date: 2009/2/5

Time: 下午 02:46:36

20.0 dBm



Site: site #1

Limit:

EUT:

M/N: 09-0020-E

Mode: BT

Note: 2441MHz

Polarization:

Power: AC 110V/60Hz

Distance:

Temperature: 26 °C

Humidity: 55 %

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Antenna	Table
		MHz	dBm	Factor	ment			Height	Degree
1		2350.000	-43.14	1.00	-42.14				
2	*	2440.000	-5.36	1.00	-4.36				

*:Maximum data x:Over limit !:over margin



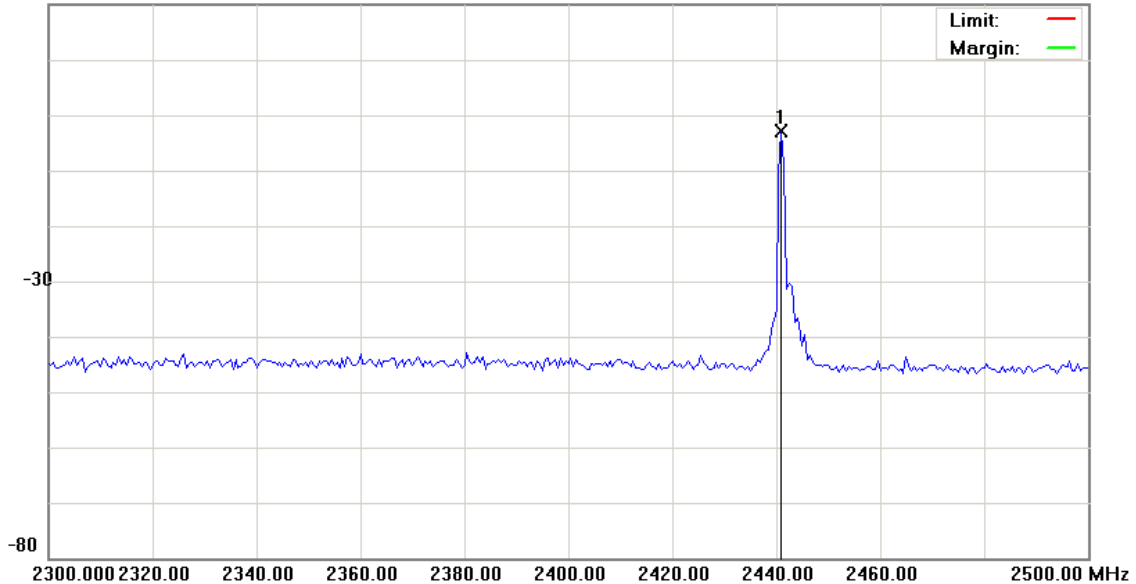
File :BT

Data :#7

Date:2009/2/5

Time: 下午 02:46:50

20.0 dBm



Site: site #1

Limit:

EUT:

M/N: 09-0020-E

Mode: BT

Note: 2441MHz

Polarization:

Power: AC 110V/60Hz

Distance:

Temperature: 26 °C

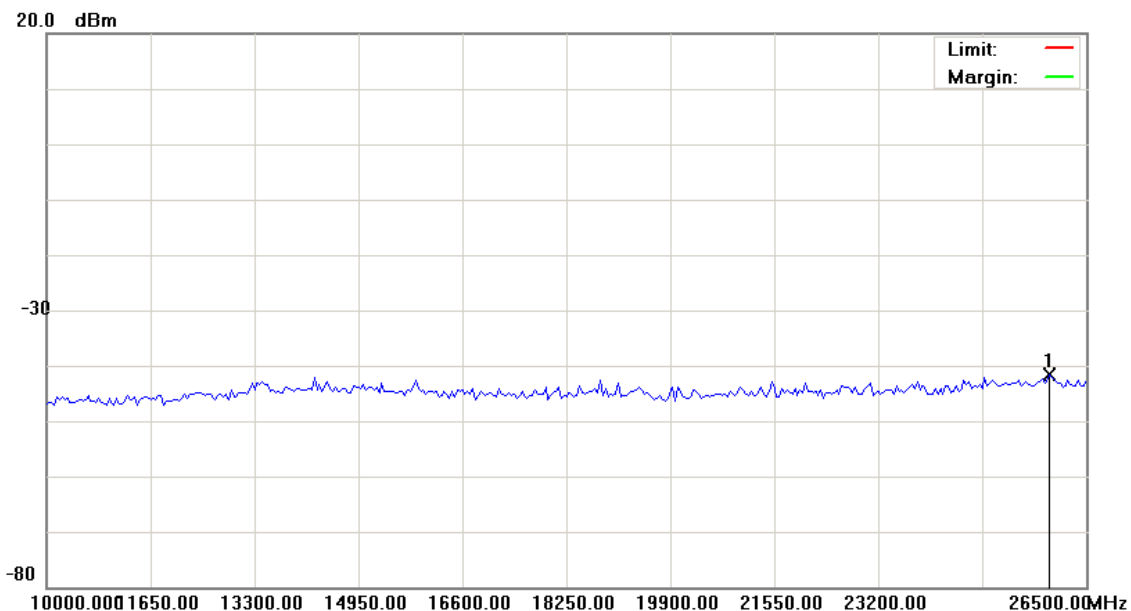
Humidity: 55 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	Antenna Height	Table Degree	
		MHz	dBm	dB	dBm	dBm	dB	cm	degree	Comment
1	*	2441.000	-3.99	1.00	-2.99			peak		

*:Maximum data x:Over limit !:over margin



File :BT Data :#8 Date:2009/2/5 Time: 下午 02:47:04



Site: site #1	Polarization:	Temperature: 26 °C
Limit:	Power: AC 110V/60Hz	Humidity: 55 %
EUT:	Distance:	
M/N: 09-0020-E		
Mode: BT		
Note: 2441MHz		

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree degree	Comment
1	*	25922.500	-42.64	1.00	-41.64			peak		

*:Maximum data x:Over limit !:over margin



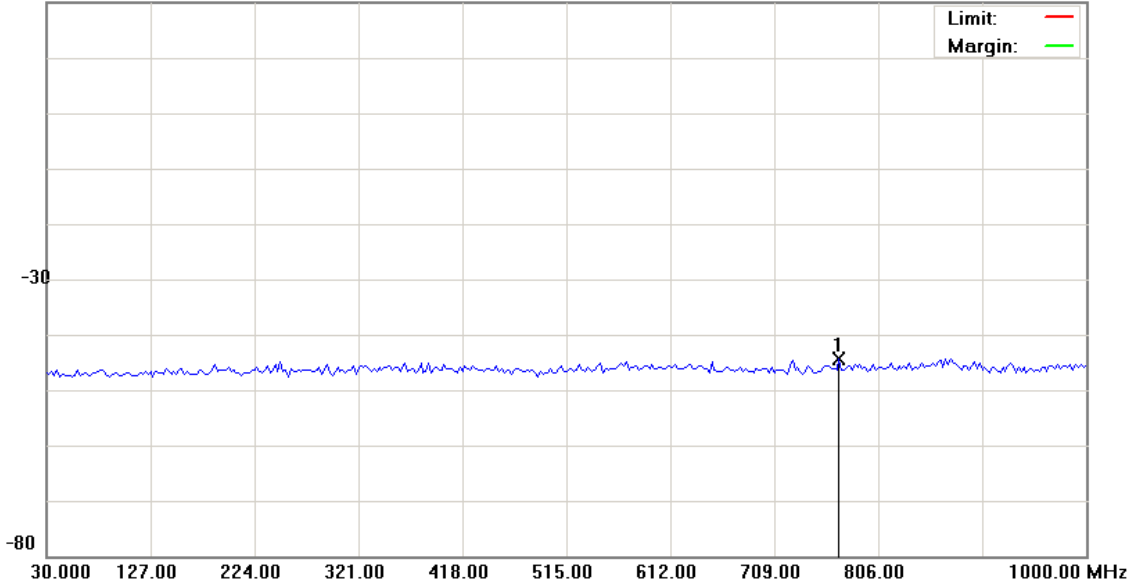
File :BT

Data :#9

Date:2009/2/5

Time: 下午 02:48:16

20.0 dBm



Site: site #1

Limit:

EUT:

M/N: 09-0020-E

Mode: BT

Note: 2480MHz

Polarization:

Power: AC 110V/60Hz

Distance:

Temperature: 26 °C

Humidity: 55 %

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree degree	Comment
1	*	769.6250	-45.26	1.00	-44.26			peak		

*:Maximum data x:Over limit !:over margin



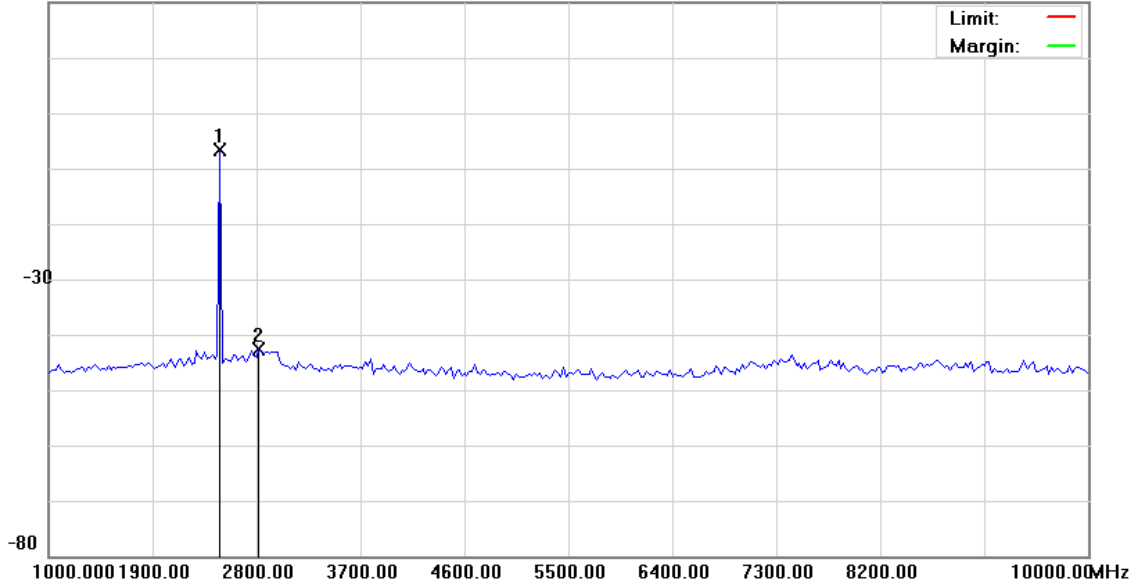
File :BT

Data :#10

Date:2009/2/5

Time: 下午 02:48:30

20.0 dBm



Site: site #1

Limit:

EUT:

M/N: 09-0020-E

Mode: BT

Note: 2480MHz

Polarization:

Power: AC 110V/60Hz

Distance:

Temperature: 26 °C

Humidity: 55 %

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree degree	Comment
1	*	2485.000	-7.61	1.00	-6.61					peak
2		2822.500	-43.59	1.00	-42.59					peak

*:Maximum data x:Over limit !:over margin



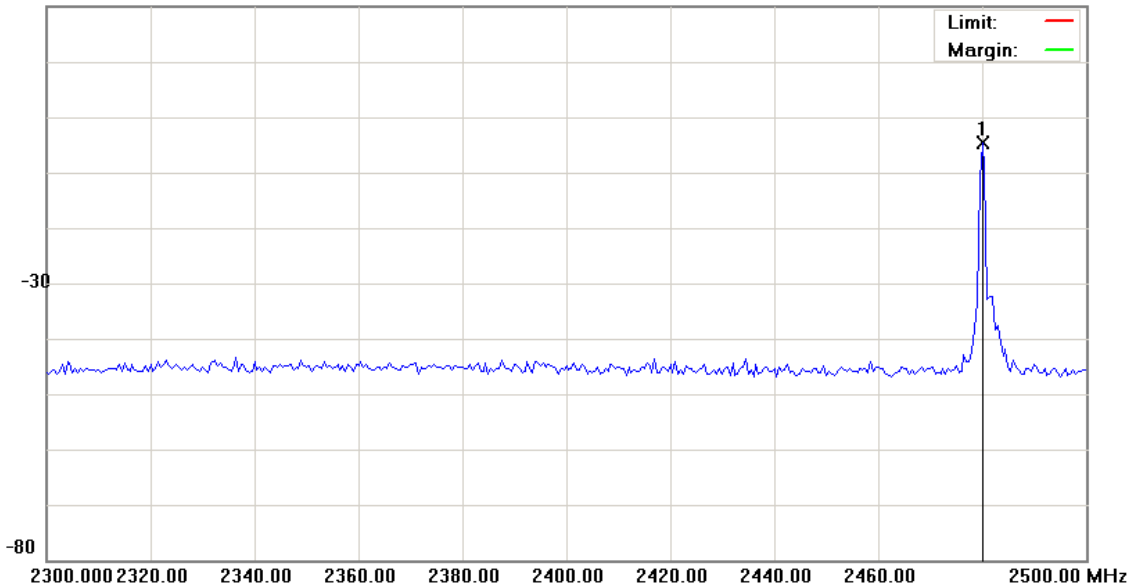
File :BT

Data :#11

Date:2009/2/5

Time: 下午 02:48:43

20.0 dBm



Site: site #1

Limit:

EUT:

M/N: 09-0020-E

Mode: BT

Note: 2480MHz

Polarization:

Power: AC 110V/60Hz

Distance:

Temperature: 26 °C

Humidity: 55 %

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree degree	Comment
1	*	2480.000	-5.57	1.00	-4.57			peak		

*:Maximum data x:Over limit !:over margin



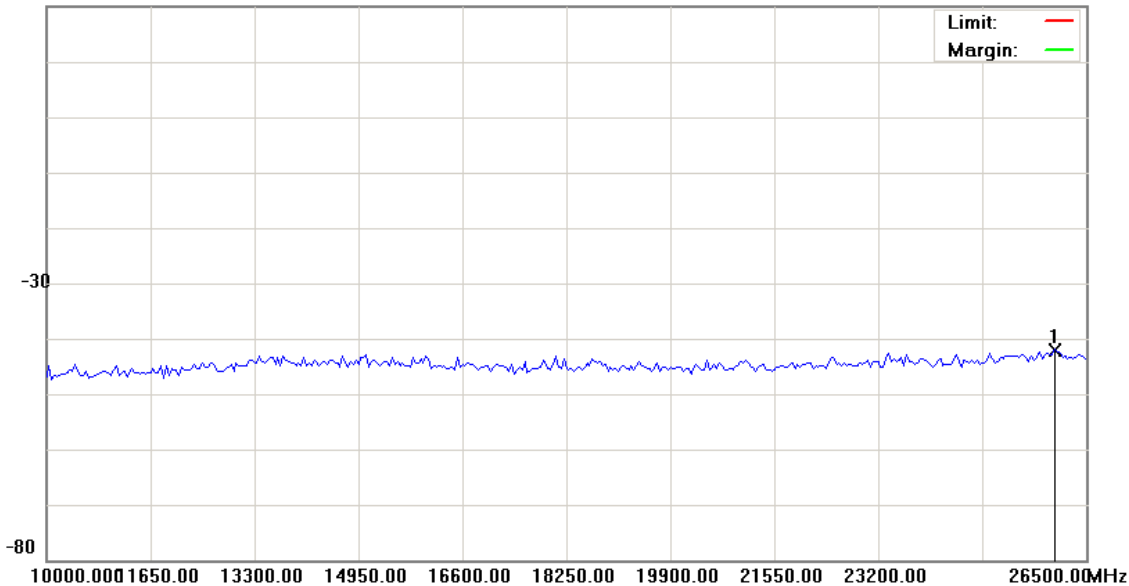
File :BT

Data :#12

Date:2009/2/5

Time: 下午 02:48:57

20.0 dBm



Site: site #1

Polarization:

Temperature: 26 °C

Limit:

Power: AC 110V/60Hz

Humidity: 55 %

EUT:

Distance:

M/N: 09-0020-E

Mode: BT

Note: 2480MHz

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Over dB	Antenna Height cm	Table Degree degree	Comment
1	*	26005.000	-43.00	1.00	-42.00			peak		

*:Maximum data x:Over limit !:over margin

10. Band Edges Requirements

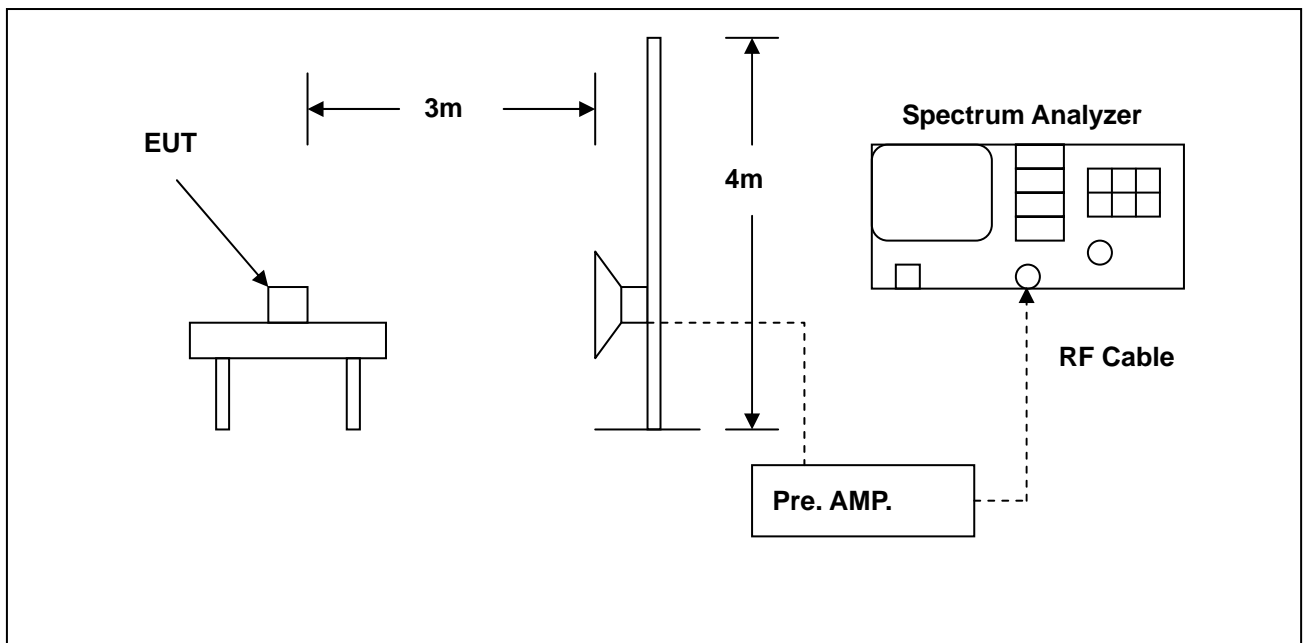
10.1 Test Condition & Setup:

The emissions on the harmonics frequencies, the limits, and the margin of compliance are presented. These tests were made when the transmitter was in full radiated power. The additional test was performed to show compliance with the requirement at the band-edge frequency 2483.5 MHz and up to 2500 MHz and at 2390.0 MHz.

The transmitter was configured with the worst case antenna and setup to transmit at the highest channel. Then the field strength was measured at 2483.5 MHz.

The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel. Then the field strength was measured at 2390.0 MHz. These tests were performed at 4 different bit rates.

10.2 Test Instruments Configuration:





10.3 Test Equipment List:

Describe	Manufacturer	Model	Serial Number	Calibration	
				Cal. Date	Due Date
Spectrum Analyzer	Agilent	E4408B	MY45107753	Jun. 05, 2008	Jun. 05, 2009
Pre Amplifier	Agilent	8449B	3008A02237	Jun. 03, 2008	Jun. 03, 2009
Horn Antenna	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	Jun. 26, 2008	Jun. 26, 2009

10.4 Test Result

Bluetooth 2.0 Mode:

Applicant : Applied Wireless Identifications Group Inc
Model No : HH-6600
EUT : RFID Handheld Terminal
Test Mode : Low CH & High CH
Test Date : 01/23/2009

Test Graphs See next page.

Notes:

1. Margin= Amplitude - Limits
2. Height of table for EUT placed: 0.8 Meter.
3. ANT= Antenna height.
4. Duty= Duty cycle correction factor.
5. Dis= Distance extrapolation factor.
6. Amplitude= Reading Amplitude – Amplifier gain + Cable loss + Antenna factor
(Auto calculate in spectrum analyzer)
7. Actual Amp= Amplitude – Duty – Dis.

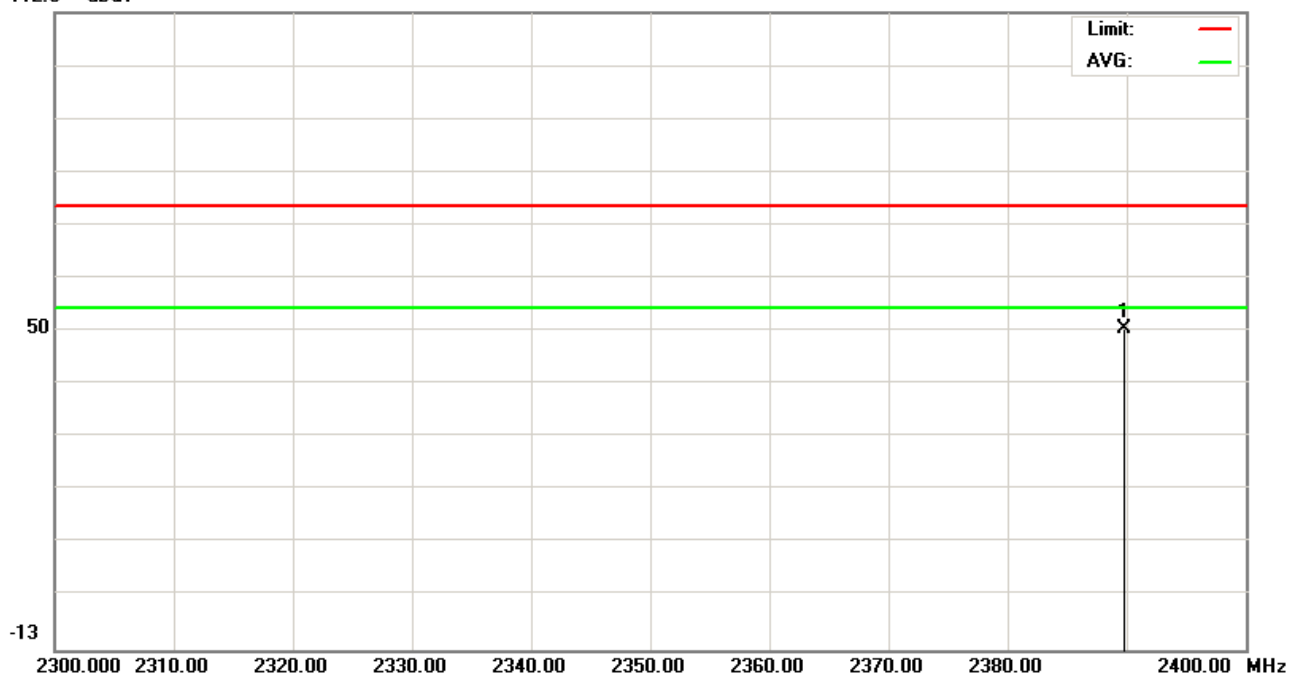


Data :#1

Date: 2009/01/23

Time: 上午 02:15:30

112.0 dBuV



Site site#1

Polarization: **Vertical**

Temperature: 22 °C

Limit: FCC part 15 (PK)

Power:

Humidity: 60 %

EUT:

Distance: 3m

M/N: 09-0020-E

Mode: BAND EDGE(BT)

Note: 2402MHz , Antenna 100cm

2.7G-10G AV Scan

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	cm	degree
1	*	2389.800	49.66	0.19	49.85	74.00	-24.15	peak		Comment

*:Maximum data x:Over limit !:over margin

●Reference Only

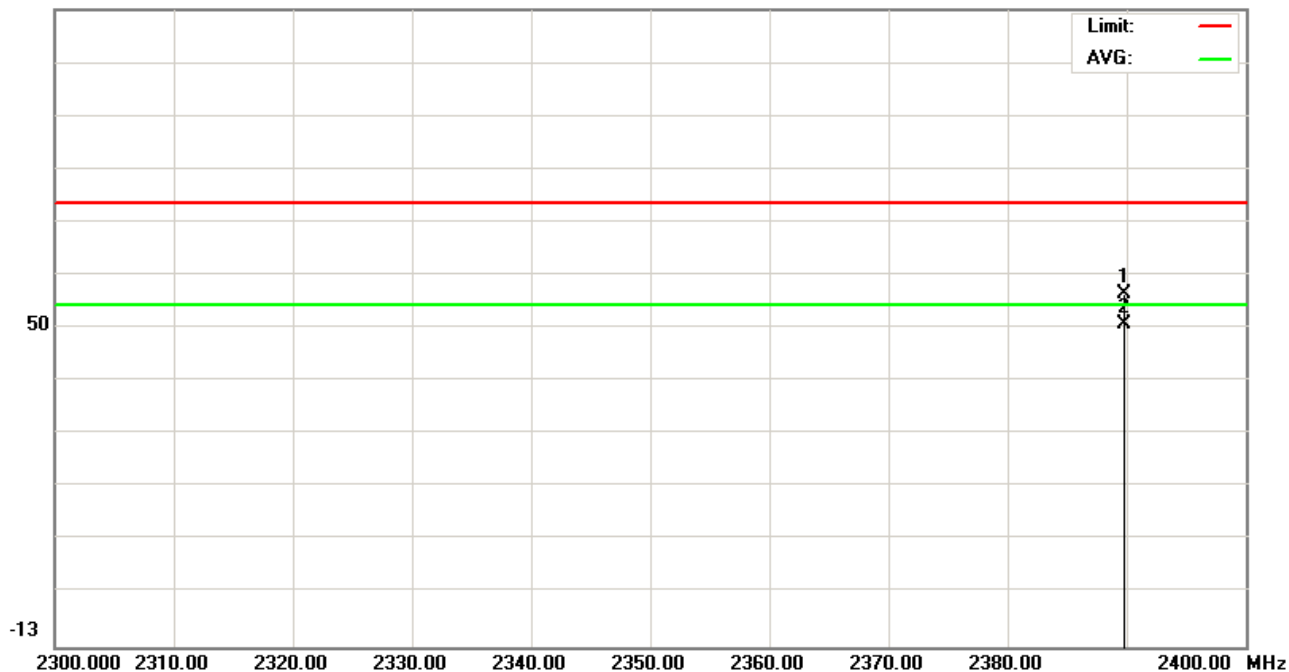


Data :#5

Date: 2009/01/23

Time: 上午 02:36:25

112.0 dBuV



Site site#1

Polarization: **Horizontal**

Temperature: 22 °C

Limit: FCC part 15 (PK)

Power:

Humidity: 60 %

EUT:

Distance: 3m

M/N: 09-0020-E

Mode: BAND EDGE(BT)

Note: 2402MHz , Antenna 100cm

2.7G-10G AV Scan

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Antenna Height cm	Table Degree degree	Comment
1		2389.800	55.95	0.19	56.14	74.00	-17.86	peak		
2	*	2389.800	50.00	0.19	50.19	54.00	-3.81	AVG		

*:Maximum data x:Over limit !:over margin

●Reference Only

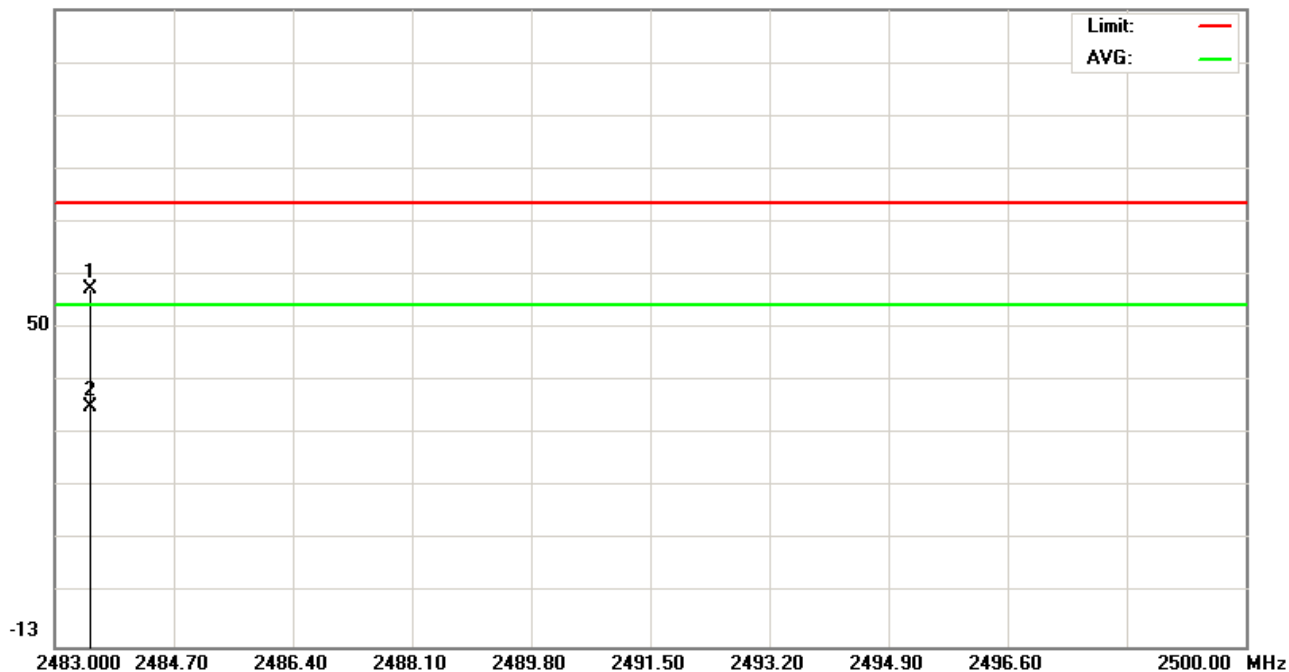


Data :#3

Date: 2009/01/23

Time: 上午 02:25:24

112.0 dBuV



Site site#1

Polarization: **Vertical**

Temperature: 22 °C

Limit: FCC part 15 (PK)

Power:

Humidity: 60 %

EUT:

Distance: 3m

M/N: 09-0020-E

Mode: BAND EDGE(BT)

Note: 2480MHz , Antenna 100cm

2.7G-10G AV Scan

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Antenna Height cm	Table Degree degree	Comment
1	*	2483.510	56.98	0.25	57.23	74.00	-16.77	peak		
2		2483.510	33.86	0.25	34.11	54.00	-19.89	AVG		

*:Maximum data x:Over limit !:over margin

●Reference Only

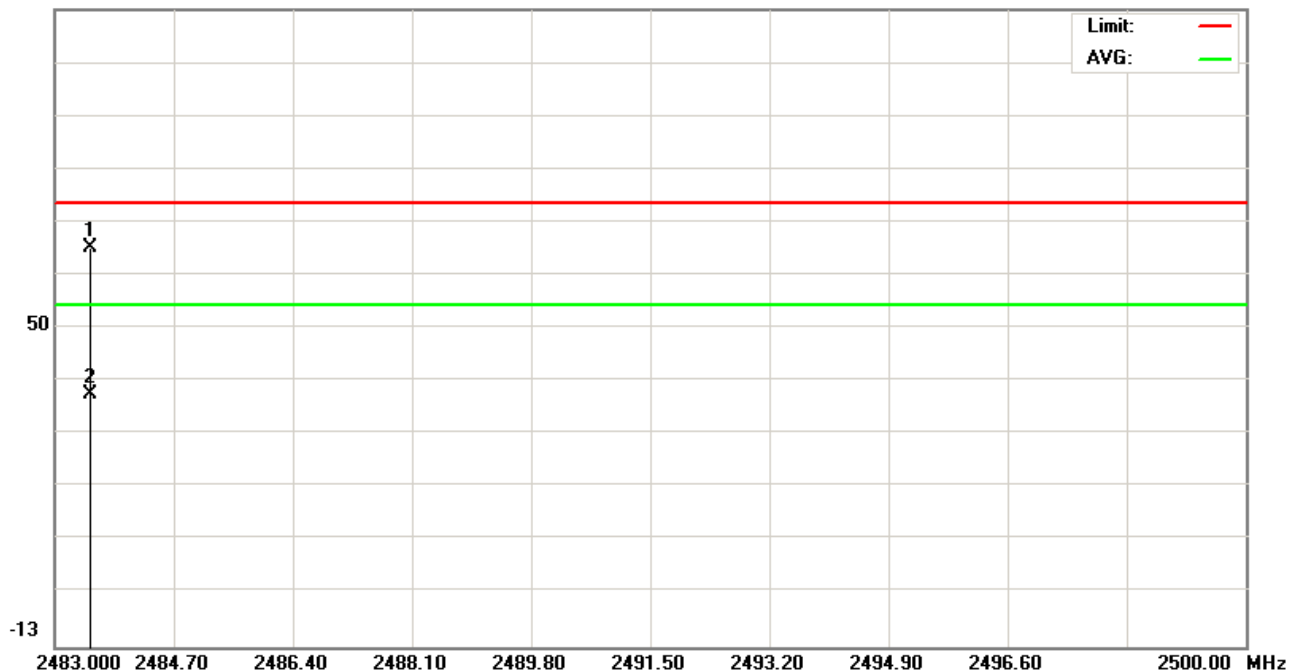


Data :#7

Date: 2009/01/23

Time: 上午 02:48:50

112.0 dBuV



Site site#1

Polarization: **Horizontal**

Temperature: 22 °C

Limit: FCC part 15 (PK)

Power:

Humidity: 60 %

EUT:

Distance: 3m

M/N: 09-0020-E

Mode: BAND EDGE(BT)

Note: 2480MHz , Antenna 149.5cm

2.7G-10G AV Scan

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Antenna Height cm	Table Degree degree	Comment
1	*	2483.510	64.91	0.25	65.16	74.00	-8.84	peak		
2		2483.510	36.16	0.25	36.41	54.00	-17.59	AVG		

*:Maximum data x:Over limit !:over margin

●Reference Only



11. Antenna Requirements

11.1 Standard Applicable:

For intentional device, according to 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

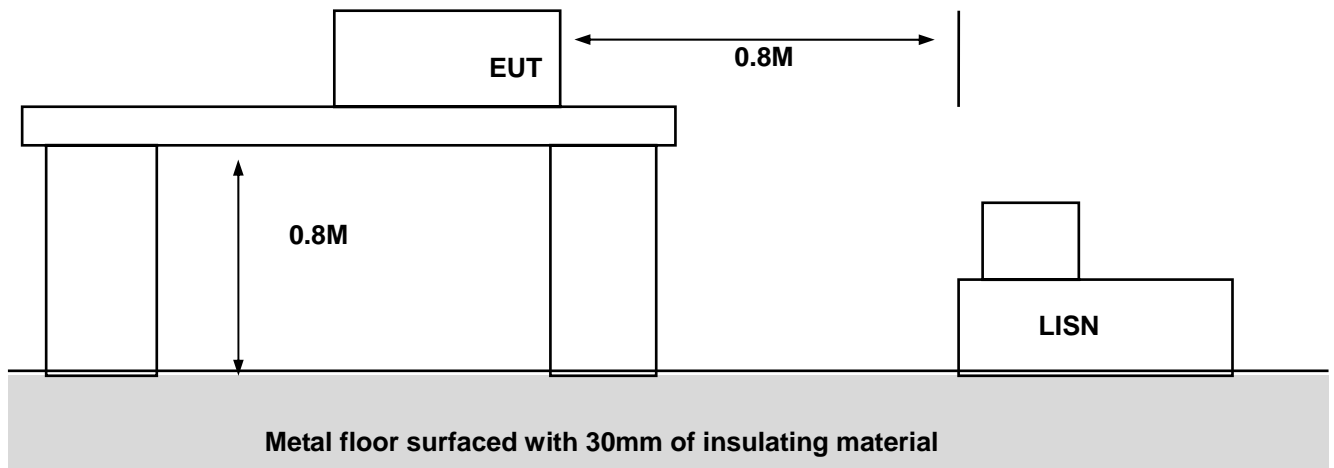
And According to 15.247 (b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

11.2 Antenna Connector Construction

The antenna used in this product is internal antenna. And the maximum Gain of this antenna is only 2.5dBi.

Appendix A - EUT Test SETUP

MEASUREMENT OF POWER LINE CONDUCTED RFI VOLTAGE



MEASUREMENT OF RADIATED EMISSION

