Test Report

Product Name	Wireless Headset (HS1-15W)
Model No.	HS1-GDT
FCC ID.	BJM-HS1GDT

Applicant	TATUNG CO.
Address	22, Chungshan N. Rd., 3rd Sec. Taipei, Taiwan, 104, R.O.C.

Date of Receipt	Mar. 17, 2009
Issued Date	Apr. 06, 2009
Report No.	093272R-RFUSP07V01
Version	V1.0

Test Report Certification

Issued Date: Apr. 06, 2009
Report No. : 093272R-RFUSP07V01

Product Name	Wireless Headset (HS1-15W)
Applicant	TATUNG CO.
Address	22, Chungshan N. Rd., 3rd Sec. Taipei, Taiwan, 104, R.O.C.
Manufacturer	TATUNG CO.
Model No.	HS1-GDT
FCC ID.	BJM-HS1GDT
Rated Voltage	AC 120V/60Hz
Working Voltage	AC 100-240V, 50-60Hz
Trade Name	GE
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2007
	ANSI C63.4: 2003
Test Result	Complied

NVLAP Lab Code: 200533-0

The Test Results relate only to the samples tested.
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Documented By : Rita Huang
(Engineering Adm. Specialist / Rita Huang)

Tested By : Molin huang
(Engineer / Molin Huang)

Approved By :
(Manager / Vincent Lin)

Testing Laboratory
0914

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Wireless Headset (HS1-15W)
Trade Name	GE
FCC ID.	BJM-HS1GDT
Model No.	HS1-GDT
Frequency Range	2405 – 2477MHz
Type of Modulation	π/4 DQPSK (Differential Quadrature Phase Shift Keying)
Number of Channels	37
Channel Control	Auto
Antenna Type	Printed on PCB
Antenna Gain	Refer to the table "Antenna List"
Power Adapter (1)	MFR: KINGS,M/N:KSS05-050-1000U Input: AC 100-240V,50-60Hz,150mA Output: DC 5V,1000mA Cable Out: Non-Shielded,1.9m
Power Adapter (2)	MFR: PHIHONG,M/N:PSAA05A-050 Input: AC 100-240V,50-60Hz,200mA Output: DC 5V,1A Cable Out: Non-Shielded,1.8m

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	TATUNG	N/A	Printed on PCB	2.0 dBi for 2.4 GHz

Center Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 2:	2405 MHz	Channel 3:	2407 MHz	Channel 4:	2409 MHz
Channel 5:	2411 MHz	Channel 6:	2413 MHz	Channel 7:	2415 MHz
Channel 8:	2417 MHz	Channel 9:	2419 MHz	Channel 10:	2421 MHz
Channel 11:	2423 MHz	Channel 12:	2425 MHz	Channel 13:	2427 MHz
Channel 14:	2429 MHz	Channel 15:	2431 MHz	Channel 16:	2433 MHz
Channel 17:	2435 MHz	Channel 18:	2437 MHz	Channel 19:	2439 MHz
Channel 20:	2441 MHz	Channel 21:	2443 MHz	Channel 22:	2445 MHz
Channel 23:	2447 MHz	Channel 24:	2449 MHz	Channel 25:	2451 MHz
Channel 26:	2453 MHz	Channel 27:	2455 MHz	Channel 28:	2457 MHz
Channel 29:	2459 MHz	Channel 30:	2461 MHz	Channel 31:	2463 MHz
Channel 32:	2465 MHz	Channel 33:	2467 MHz	Channel 34:	2469 MHz
Channel 35:	2471 MHz	Channel 36:	2473 MHz	Channel 37:	2475 MHz
Channel 38:	2477 MHz				

Note:

1. The EUT is a Wireless Headset (HS1-15W) with a built-in 2.4GHz transceiver
2. These tests are conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.249.
3. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
4. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

EMI Test Mode	Mode 1: Transmitter - Adapter 1 (KINGS) Mode 2: Transmitter - Adapter 2 (PHIHONG)

1.2. Operation Description

The EUT is a Wireless Headset (HS1-15W) with a built-in 2.4GHz transceiver. The EUT operation frequency is 2.405GHz-2.477GHz. The signals modulated byπ/4 DQPSK (Differential Quadrature Phase Shift Keying) are transmitted from the Printed on the PCB of the EUT.

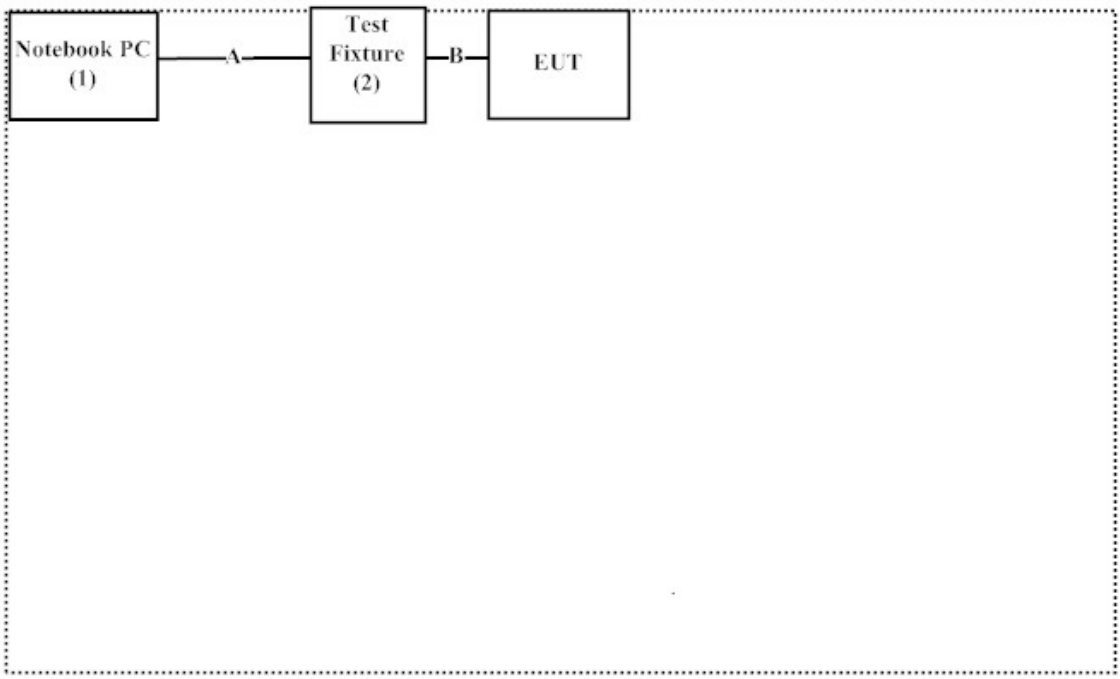
1.3. Tested System Details

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

Product		Manufacturer	Model No.	Serial No.	Power Cord
1.	Notebook PC	DELL	PPT	N/A	Non-Shielded, 0.8m
2.	Test Fixture	TATUNG	N/A	N/A	N/A

Signal Cable Type		Signal Cable Description
A	USB Cable	Shielded, 1.8m with one ferrite core bonded
B	Controller Cable	Non-Shielded, 0.1m

1.4. Configuration of Test System



1.5. EUT Exercise Software

(1) Setup the EUT as shown in section 1.4.
(2) Connect the EUT to a notebook via a USB.
(3) Execute “AMD2Debug.exe(V1.37.001)” on the notebook.
(4) Setup the test channel.
(5) Presses “Apply” to start the continuous transmit.
(6) Verify that the EUT works correctly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

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

Site Description: File on
Federal Communications Commission
FCC Engineering Laboratory
7435 Oakland Mills Road
Columbia, MD 21046
Registration Number: 92195

Accreditation on NVLAP
NVLAP Lab Code: 200533-0

Site Name: Quietek Corporation

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

FCC Accreditation Number: TW1014

Testing Laboratory
0914

2. Conducted Emission

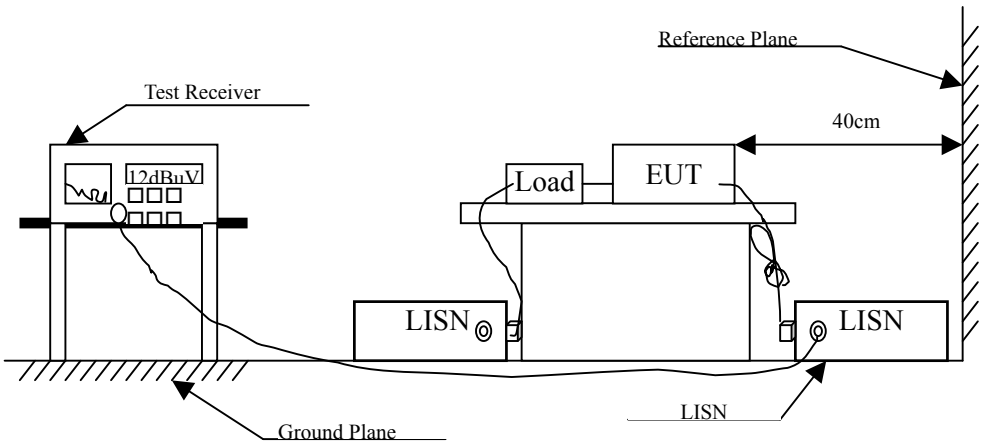
2.1. Test Equipment

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

Item	Instrument	Manufacturer	Type No./Serial No	Last Cal.	Remark
1	Test Receiver	R & S	ESCS 30/825442/17	May, 2008	
2	L.I.S.N.	R & S	ESH3-Z5/825016/6	May, 2008	EUT
3	L.I.S.N.	Kyoritsu	KNW-407/8-1420-3	May, 2008	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2	May, 2008	
5	No.1 Shielded Room			N/A	

Note: All instruments are calibrated every one year.

2.2. Test Setup



2.3. Limits

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

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

2.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)
Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2003 on conducted measurement.
Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

2.5. Uncertainty

± 2.26 dB

2.6. Test Result of Conducted Emission

Product : Wireless Headset (HS1-15W)
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 1: Transmitter - Adapter 1 (KINGS) (2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 1					
Quasi-Peak					
0.240	9.830	26.850	36.680	-26.749	63.429
0.365	9.821	32.450	42.271	-17.586	59.857
0.420	9.820	36.450	46.270	-12.016	58.286
0.724	9.830	34.450	44.280	-11.720	56.000
0.947	9.830	34.220	44.050	-11.950	56.000
4.900	9.870	37.190	47.060	-8.940	56.000
5.779	9.880	38.210	48.090	-11.910	60.000
Average					
0.240	9.830	12.150	21.980	-31.449	53.429
0.365	9.821	18.880	28.701	-21.156	49.857
0.420	9.820	22.430	32.250	-16.036	48.286
0.724	9.830	20.830	30.660	-15.340	46.000
0.947	9.830	20.690	30.520	-15.480	46.000
4.900	9.870	23.130	33.000	-13.000	46.000
5.779	9.880	24.400	34.280	-15.720	50.000

Note:

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

Product : Wireless Headset (HS1-15W)
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 1: Transmitter - Adapter 1 (KINGS) (2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 2					
Quasi-Peak					
0.627	9.830	31.420	41.250	-14.750	56.000
0.880	9.830	30.530	40.360	-15.640	56.000
1.220	9.830	30.780	40.610	-15.390	56.000
3.576	9.860	30.190	40.050	-15.950	56.000
4.752	9.870	30.270	40.140	-15.860	56.000
6.142	9.890	32.080	41.970	-18.030	60.000
Average					
0.627	9.830	18.840	28.670	-17.330	46.000
0.880	9.830	15.870	25.700	-20.300	46.000
1.220	9.830	14.810	24.640	-21.360	46.000
3.576	9.860	16.430	26.290	-19.710	46.000
4.752	9.870	18.460	28.330	-17.670	46.000
6.142	9.890	18.650	28.540	-21.460	50.000

Note:

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

Product : Wireless Headset (HS1-15W)
Test Item : Conducted Emission Test
Power Line : Line 1
Test Mode : Mode 2: Transmitter - Adapter 2 (PHIHONG) (2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 1					
Quasi-Peak					
0.201	9.706	23.940	33.646	-30.897	64.543
0.275	9.659	27.780	37.439	-24.990	62.429
0.439	9.640	28.240	37.880	-19.863	57.743
0.990	9.670	26.430	36.100	-19.900	56.000
1.552	9.680	21.230	30.910	-25.090	56.000
8.158	9.780	21.560	31.340	-28.660	60.000
Average					
0.201	9.706	16.530	26.236	-28.307	54.543
0.275	9.659	17.580	27.239	-25.190	52.429
0.439	9.640	18.900	28.540	-19.203	47.743
0.990	9.670	17.570	27.240	-18.760	46.000
1.552	9.680	13.430	23.110	-22.890	46.000
8.158	9.780	13.280	23.060	-26.940	50.000

Note:

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

Product : Wireless Headset (HS1-15W)
Test Item : Conducted Emission Test
Power Line : Line 2
Test Mode : Mode 2: Transmitter - Adapter 2 (PHIHONG) (2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV	dB	dBuV
LINE 2					
Quasi-Peak					
0.271	9.672	21.180	30.852	-31.691	62.543
0.338	9.660	21.350	31.010	-29.619	60.629
0.451	9.643	22.290	31.933	-25.467	57.400
0.943	9.670	24.420	34.090	-21.910	56.000
1.224	9.670	18.030	27.700	-28.300	56.000
2.064	9.680	15.280	24.960	-31.040	56.000
Average					
0.271	9.672	19.860	29.532	-23.011	52.543
0.338	9.660	11.840	21.500	-29.129	50.629
0.451	9.643	11.350	20.993	-26.407	47.400
0.943	9.670	15.450	25.120	-20.880	46.000
1.224	9.670	11.950	21.620	-24.380	46.000
2.064	9.680	7.010	16.690	-29.310	46.000

Note:

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

3. Radiated Emission

3.1. Test Equipment

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

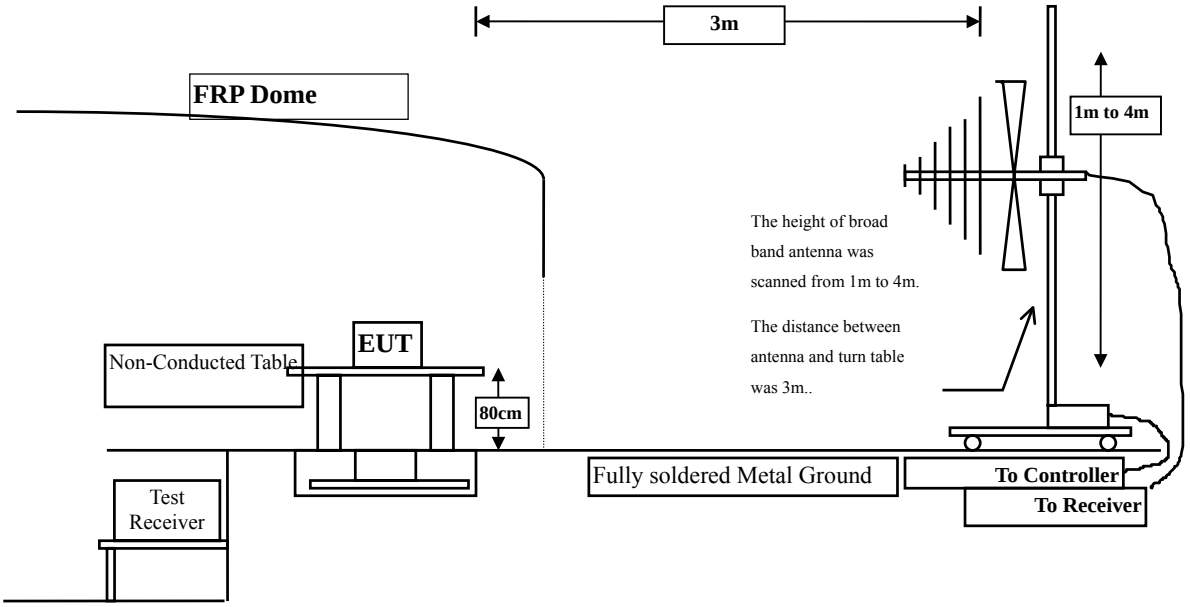
Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒Site # 3	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2008
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2008
	X	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2008
	X	Pre-Amplifier	AGILENT	8447D/2944A09549	Sep., 2008
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2008
	X	Spectrum Analyzer	Advantest	R3162/91700283	Oct., 2008
	X	Coaxial Cable	QuieTek	QTK-CABLE/ CAB5	Feb., 2009
	X	Controller	QuieTek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

Note: 1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

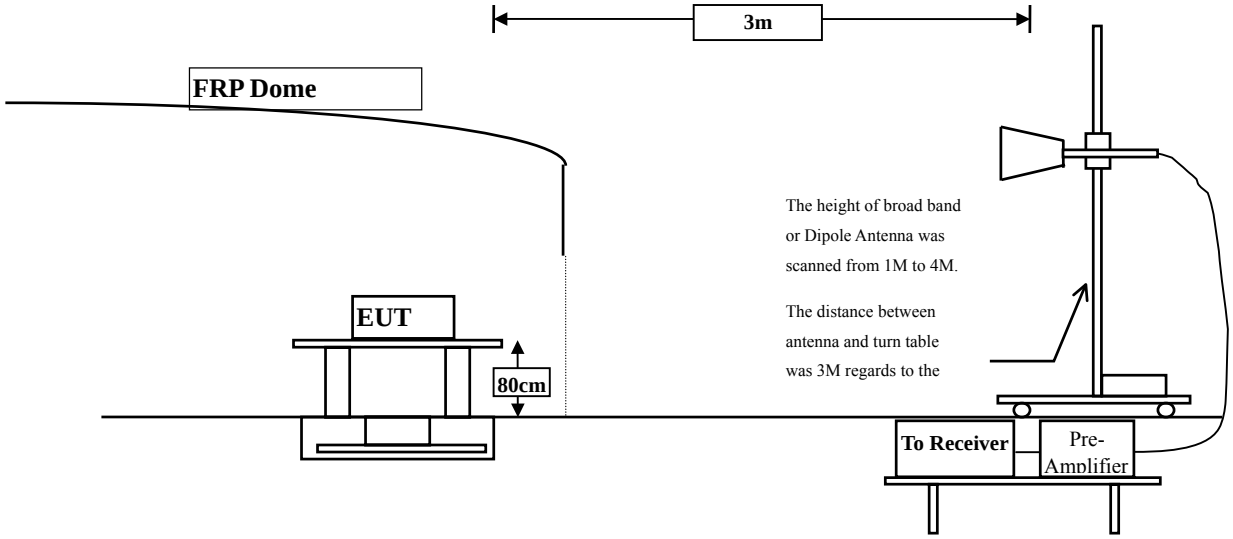
2. The test instruments marked with "X" are used to measure the final test results.

3.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



3.3. Limits

➢ **Fundamental and Harmonics Emission Limits**

FCC Part 15 Subpart C Paragraph 15.249 Limits				
Frequency MHz	Field Strength of Fundamental		Field Strength of Harmonics	
	(mV/m @3m)	(dBuV/m @3m)	(uV/m @3m)	(dBuV/m @3m)
902-928	50	94	500	54
2400-2483.5	50	94	500	54
5725-5875	50	94	500	54

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

➢ **General Radiated Emission Limits**

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

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

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

3.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4: 2003 on radiated measurement.
The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.
Radiated emission measurements below 1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.
The measurement is divided into the Preliminary Measurement and the Final Measurement.
The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB beamwidth of the antenna.
The worst radiated emission is measured on the Final Measurement.
The frequency range from 30MHz to 10th harminics is checked.

3.5. Uncertainty

± 3.9 dB above 1GHz
± 3.8 dB below 1GHz

3.6. Test Result of Radiated Emission

Product : Wireless Headset (HS1-15W)
Test Item : Fundamental Radiated Emission
Test Site : No.3OATS
Test Mode : Mode 1: Transmitter - Adapter 1 (KINGS) (2405 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector					
Channel 02					
2405.000	-1.561	94.110	92.549	-21.451	114.000
Average Detector					
Channel 02					
2405.000	-1.561	83.502	81.941	-12.059	94.000
Vertical					
Peak Detector					
Channel 02					
2405.000	-2.335	94.700	92.365	-21.635	114.000
Average Detector					
Channel 02					
2405.000	-2.335	89.423	87.088	-6.912	94.000

Note:

1. Measurement Level = Reading Level + Correct Factor.
2. Correct Factor = Antenna Factor + Cable Loss – PreAMP.

Product : Wireless Headset (HS1-15W)
Test Item : Fundamental Radiated Emission
Test Site : No.3OATS
Test Mode : Mode 1: Transmitter - Adapter 1 (KINGS) (2441 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector					
Channel 20					
2441.000	-1.362	93.600	92.238	-21.762	114.000
Average Detector					
Channel 20					
2441.000	-1.362	85.851	84.489	-9.511	94.000
Vertical					
Peak Detector					
Channel 20					
2441.000	-1.928	94.000	92.072	-21.928	114.000
Average Detector					
Channel 20					
2441.000	-1.362	85.851	84.489	-9.511	94.000

Note:

1. Measurement Level = Reading Level + Correct Factor.
2. Correct Factor = Antenna Factor + Cable Loss – PreAMP.

Product : Wireless Headset (HS1-15W)
Test Item : Fundamental Radiated Emission
Test Site : No.3OATS
Test Mode : Mode 1: Transmitter - Adapter 1 (KINGS) (2477 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector					
Channel 38					
2477.000	-1.061	93.990	92.929	-21.071	114.000
Average Detector					
Channel 38					
2477.000	-1.061	86.633	85.572	-8.428	94.000
Vertical					
Peak Detector					
Channel 38					
2477.000	-1.394	94.560	93.166	-20.834	114.000
Average Detector					
Channel 38					
2477.000	-1.394	88.051	86.657	-7.343	94.000

Note:

1. Measurement Level = Reading Level + Correct Factor.
2. Correct Factor = Antenna Factor + Cable Loss – PreAMP.

Product : Wireless Headset (HS1-15W)
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter - Adapter 1 (KINGS) (2405 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Peak Limit dBuV/m
Horizontal					
Peak Detector:					
4810.000	3.582	44.260	47.843	-26.157	74.000
7215.000	8.012	51.940	59.952	-14.048	74.000
9620.000	13.134	39.490	52.624	-21.376	74.000
Average Detector					
7215.000	8.012	39.010	47.022	-6.978	54.000
Vertical					
Peak Detector:					
4810.000	3.567	44.380	47.947	-26.053	74.000
7215.000	8.994	49.898	58.892	-15.108	74.000
9620.000	13.717	38.200	51.917	-22.083	74.000
Average Detector					
7215.000	8.994	37.150	46.144	-7.856	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz。
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:10Hz; Span:20MHz。
4. Emission Level = Reading Level + Correct Factor.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : Wireless Headset (HS1-15W)
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter - Adapter 1 (KINGS) (2441 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Peak Limit dBuV/m
Horizontal					
Peak Detector:					
4882.000	3.072	42.820	45.892	-28.108	74.000
7323.000	7.263	48.480	55.742	-18.258	74.000
9764.000	13.376	39.090	52.466	-21.534	74.000
Average Detector					
7323.000	7.263	36.410	43.672	-10.328	54.000
Vertical					
Peak Detector:					
4882.000	3.608	44.080	47.688	-26.312	74.000
7323.000	8.052	46.800	54.852	-19.148	74.000
9764.000	13.421	38.200	51.621	-22.379	74.000
Average Detector					
7323.000	8.052	38.200	46.252	-7.748	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz。
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:10Hz; Span:20MHz。
4. Emission Level = Reading Level + Correct Factor.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : Wireless Headset (HS1-15W)
Test Item : Harmonic Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter - Adapter 1 (KINGS) (2477 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Peak Limit dBuV/m
Horizontal					
Peak Detector:					
4954.000	3.692	38.200	41.892	-32.108	74.000
7431.000	7.109	46.250	53.359	-20.641	74.000
9908.000	13.598	39.800	53.398	-20.602	74.000
Average Detector					
--					
Vertical					
Peak Detector:					
4954.000	4.777	41.810	46.587	-27.413	74.000
7431.000	7.665	44.900	52.565	-21.435	74.000
9908.000	13.650	38.500	52.150	-21.850	74.000
Average Detector					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz。
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:10Hz; Span:20MHz。
4. Emission Level = Reading Level + Correct Factor.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : Wireless Headset (HS1-15W)
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter - Adapter 1 (KINGS) (2441 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
404.420	0.762	22.840	23.602	-22.398	46.000
518.880	2.987	24.607	27.594	-18.406	46.000
610.060	3.434	25.770	29.204	-16.796	46.000
724.520	3.668	25.410	29.078	-16.922	46.000
825.400	7.243	27.773	35.016	-10.984	46.000
941.800	6.559	27.252	33.811	-12.189	46.000
Vertical					
379.200	0.616	22.121	22.737	-23.263	46.000
538.280	1.774	24.813	26.587	-19.413	46.000
623.640	0.188	25.702	25.890	-20.110	46.000
691.540	1.962	24.355	26.318	-19.682	46.000
753.620	2.549	24.856	27.405	-18.595	46.000
930.160	3.590	27.707	31.297	-14.703	46.000

Note:

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

Product : Wireless Headset (HS1-15W)
Test Item : General Radiated Emission Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmitter - Adapter 2 (PHIHONG) (2441 MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBuV	dBuV/m	dB	dBuV/m
Horizontal					
462.620	0.712	23.658	24.370	-21.630	46.000
608.120	3.877	25.456	29.333	-16.667	46.000
691.540	3.235	23.734	26.969	-19.031	46.000
796.300	4.783	24.854	29.637	-16.363	46.000
860.320	5.263	25.909	31.173	-14.827	46.000
957.320	5.727	23.076	28.803	-17.197	46.000
Vertical					
344.280	-3.485	24.266	20.781	-25.219	46.000
466.500	-5.245	24.699	19.454	-26.546	46.000
530.520	-1.043	24.950	23.907	-22.093	46.000
637.220	-4.155	23.518	19.363	-26.637	46.000
683.780	1.529	25.493	27.023	-18.977	46.000
957.320	6.257	24.874	31.131	-14.869	46.000

Note:

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

4. Band Edge

4.1. Test Equipment

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

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Test Receiver	R & S	ESI 26 / 838786/004	May, 2008
X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008
X	Bilog Antenna	SCHAFFNER	CBL6112B / 2697	May, 2008
X	Horn Antenna	Schwarzbeck	BBHA9120D / 305, 306	July, 2008
X	Horn Antenna	Schwarzbeck	BBHA9170 / 208, 209	July, 2008
X	Pre-Amplifier	QTK	QTK-AMP-01 / 0001	July, 2008
X	Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2008
X	Pre-Amplifier	HP	8449B / 3008A01123	July, 2008

OATS No.3

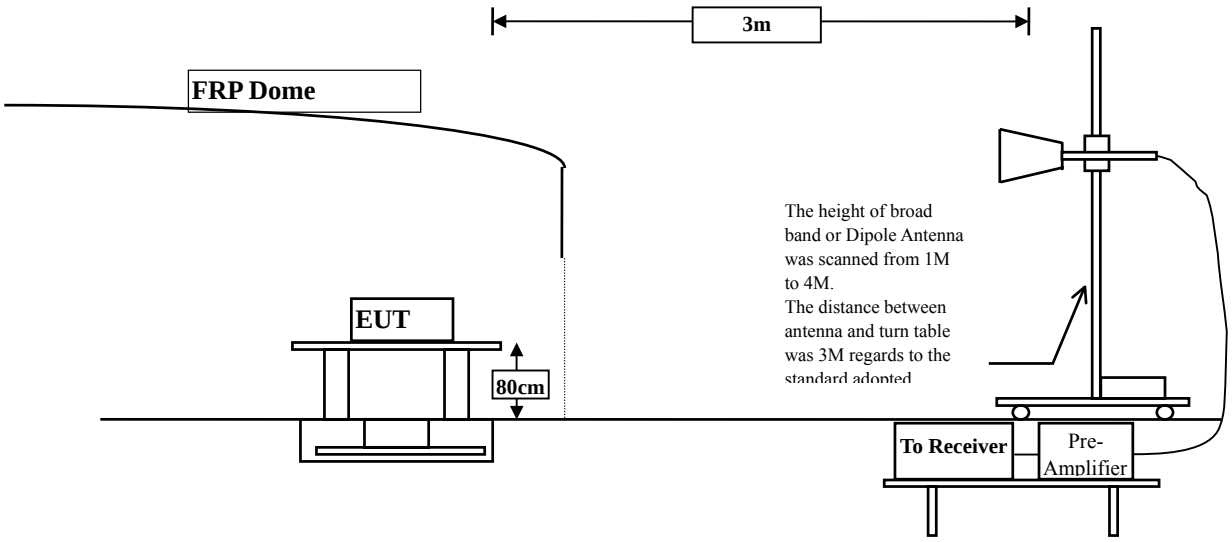
Note: 1. All equipments are calibrated every one year.

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

4.2. Test Setup

RF Radiated Measurement:

Above 1GHz



4.3. Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 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)).

4.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4:2003 on radiated measurement.
The bandwidth below 1GHz setting on the field strength meter (R&S Test Receiver ESCS 30)is 120 kHz, above 1GHz are 1 MHz.

4.5. Uncertainty

Conducted is ± 1.27 dB
Radiated is ± 3.9 dB.

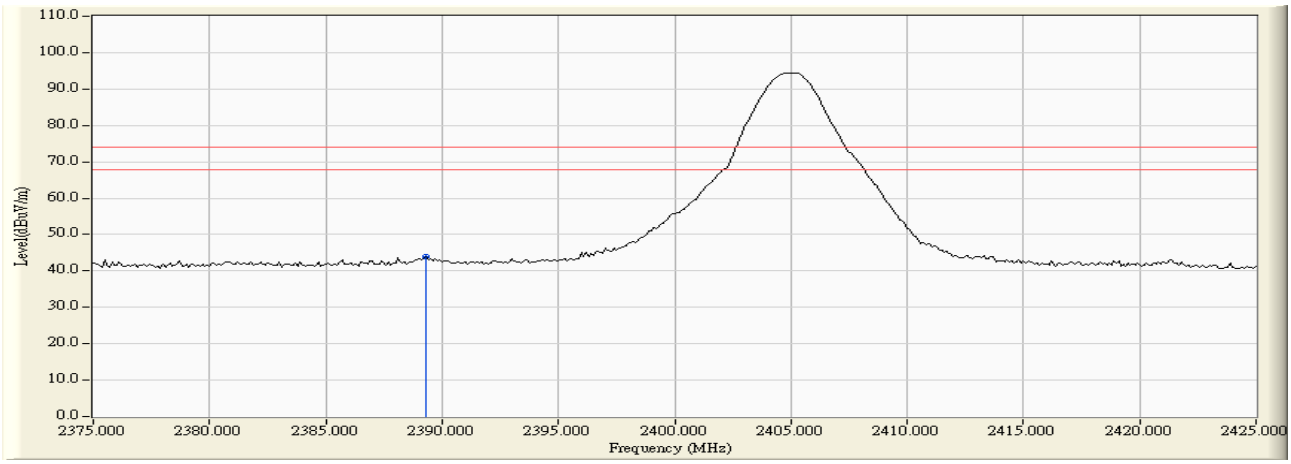
4.6. Test Result of Band Edge

Product : Wireless Headset (HS1-15W)
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter - Adapter 1 (KINGS) (2405 MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
02(Peak)	2389.300	-1.615	45.697	44.082	74.000	54.000	Pass
02(Average)	--	--	--	--	74.000	54.000	Pass

Figure Channel 02: Horizontal (Peak)



Note:

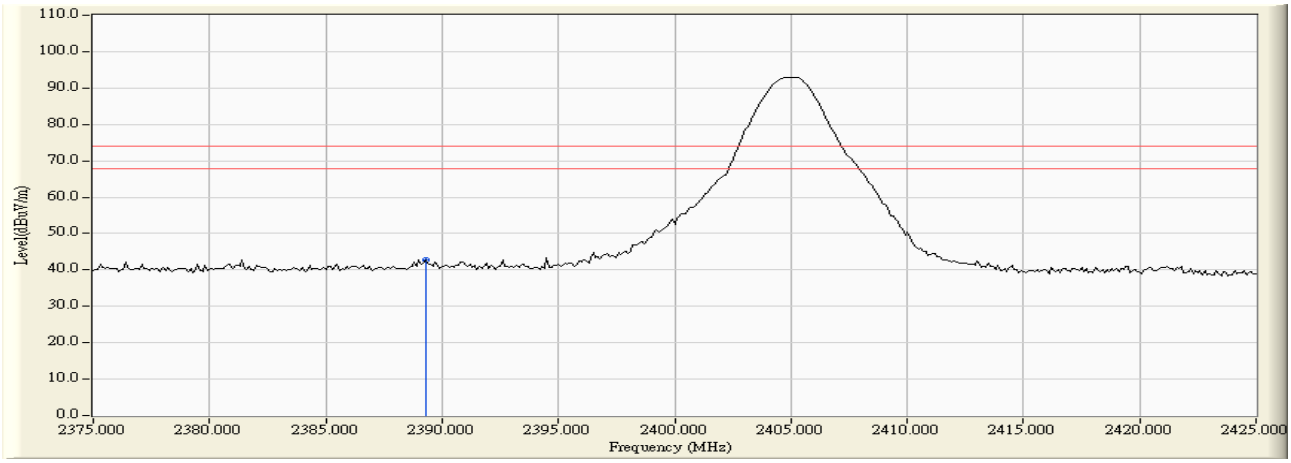
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless Headset (HS1-15W)
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter - Adapter 1 (KINGS) (2405 MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
02(Peak)	2389.300	-2.382	45.249	42.867	74.000	54.000	Pass
02(Average)	--	--	--	--	74.000	54.000	Pass

Figure Channel 02: Vertical (Peak)



Note:

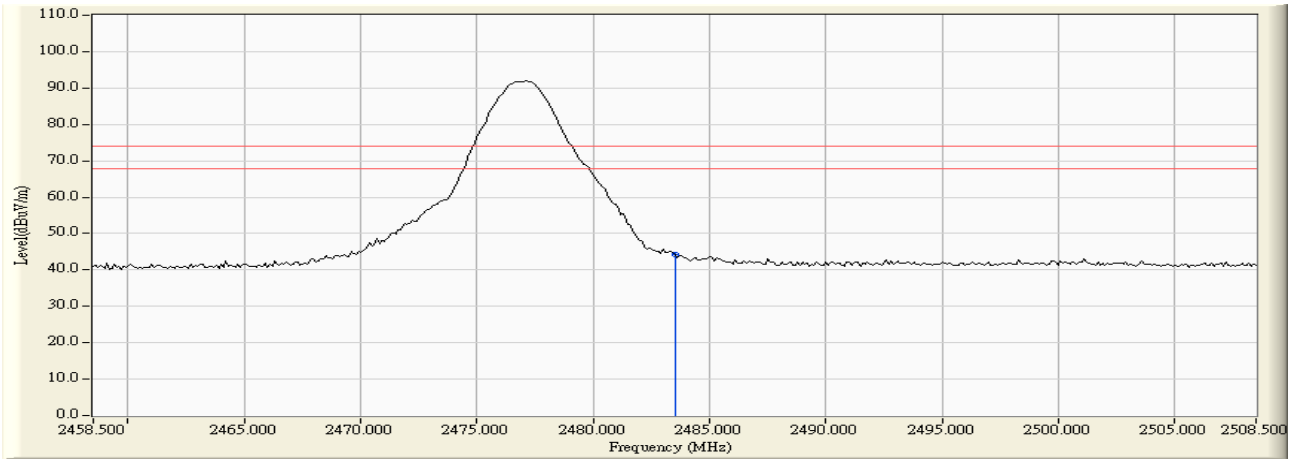
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless Headset (HS1-15W)
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter - Adapter 1 (KINGS) (2477 MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
38(Peak)	2483.500	-1.022	45.298	44.276	74.000	54.000	Pass
38(Average)	--	--	--	--	74.000	54.000	Pass

Figure Channel 38: Horizontal (Peak)



Note:

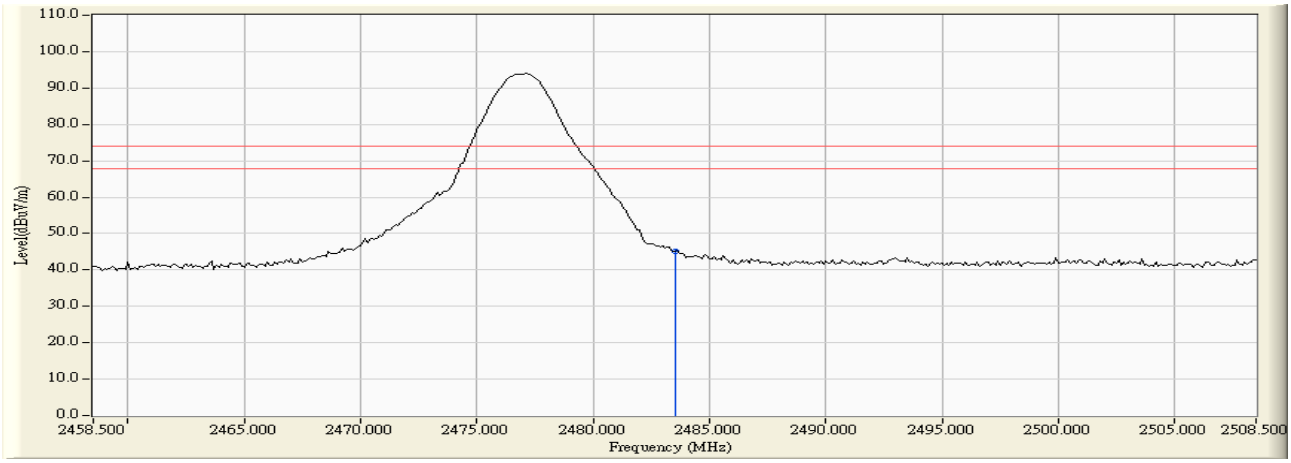
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Wireless Headset (HS1-15W)
Test Item : Band Edge Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmitter - Adapter 1 (KINGS) (2477 MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
38(Peak)	2483.500	-1.312	46.437	45.125	74.000	54.000	Pass
38(Average)	--	--	--	--	74.000	54.000	Pass

Figure Channel 38: Vertical (Peak)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

5. EMI Reduction Method During Compliance Testing

No modification was made during testing.