

FCC 47 CFR PART 15 SUBPART C TEST REPORT

For

Applicant : ATI Electronics (Shenzhen) Co.,Ltd

- Address : 2/F, A Tower, Tangyanshan Industrial Park Tangker Village, Shiyan Town, Shenzhen, China
- Product Name : Bluetooth Headset
 - Model Name : H900
 - Brand Name : N/A
 - FCC ID: SF4-ATIH900
 - Report No.: MOST100408F1
 - Date of Issue : April. 26, 2010
 - Issued by : Most Technology Service Co., Ltd.
 - Address : No.5, 2nd Langshan Road, North District, Hi-tech Industrial Park, Nanshan, Shenzhen, Guangdong, China
 - Tel: 86-755-8617 0306
 - Fax : 86-755-8617 0310

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1. VERIFICATION OF CONFORMITY

Equipment Under Test:	Bluetooth Headset
Brand Name:	N/A
Model Number:	H900
FCC ID:	SF4-ATIH900
Applicant:	ATI Electronics (Shenzhen) Co.,Ltd
	2/F, A Tower, Tangyanshan Industrial Park Tangkeng Village, Shiyan Town, Shenzhen, China
Manufacturer:	ATI Electronics (Shenzhen) Co.,Ltd
	2/F, A Tower, Tangyanshan Industrial Park Tangkeng Village, Shiyan Town, Shenzhen, China
Technical Standards:	47 CFR Part 15 Subpart C
File Number:	MOST100408F1
Date of test:	April 10,2010 ~ April 26,2010
Deviation:	None
Condition of Test Sample:	Normal
Test Result:	PASS

The above equipment was tested by MOST for compliance with the requirements set forth in FCC rules and the Technical Standards mentioned above. This said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment and the level of the immunity endurance of the equipment are within the compliance requirements.

The test results of this report relate only to the tested sample identified in this report.

Tested by (+ signature):	Pette	Ping Stallogy SERVICE	
Review by (+ signature):	Petter Ping	April 26 20PPROVED	
	July Wen	April 26,2010	
Approved by (+ signature):	Teny	King	
	Terry Yang	April 26,2010	

2. GENERAL INFORMATION

2.1 Product Information

Product	Bluetooth Headset	
Trade Name	N/A	
Model Number	H900	
Power Supply	DC 3.7V by Battery or Charged by USB port	
Frequency Range	2402 MHz -2480MHz	
Modulation Type	GFSK	
Antenna Type:	Internal	
Channel Number	79	
Temperature Range	-20°C ~ 55°C	

NOTE:

1. Please refer to Appendix I for the photographs of the EUT. For a more detailed features description about the EUT, please refer to User's Manual.

FCC ID: SF4-ATIH900

2.2 Objective

The objective of the report is to perform tests according to 47 CFR Part 15 Subpart C for the EUT FCC ID Certification:

No.	Identity	Document Title
	47 CFR Part 15 (10-1-05 Edition)	Radio Frequency Devices

2.3 Test Standards and Results

Test items and the results are as bellow:

No.	Section	Description	Result	Date of Test
1	15.249(a)	Spurious Emission	PASS	April 20,2010
2	15.249(a)	Band Edge	PASS	April 20,2010
3	15.207	Power Line Conducted Emission Test	PASS	April 13,2010

Note: 1. The test result judgment is decided by the limit of measurement standard 2. The information of measurement uncertainty is available upon the customer's request.

2.4 Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

- Temperature: 15-35°C
- Humidity: 30-60 %
- Atmospheric pressure: 86-106 kPa

3. TEST FACILITY 3.1TEST FACILITY

Test Site:	Most Technology Service Co., Itd
	No.5, Langshan 2nd Rd., North Hi-Tech Industrial park , Nanshan
Location:	Shenzhen, Guangdong ,China
Description:	There is one 3m semi-anechoic an area test sites and two line conducted labs for final
	test. The Open Area Test Sites and the Line Conducted labs are constructed and
	calibrated to meet the FCC requirements in documents ANSI C63.4:2003 and CISPR
	16 requirements.
	The FCC Registration Number is 490827.
	The IC Registration Number is 46405-7103.
	The CNAS Registration Number is CNAS L3573.
Site Filing:	The site description is on file with the Federal Communications
	Commission, 7435 Oakland Mills Road, Columbia, MD 21046.
Instrument Tolerance:	All measuring equipment is in accord with ANSI C63.4:2003 and CISPR 16
	requirements that meet industry regulatory agency and accreditation agency
	requirement.
Ground Plane:	Two conductive reference ground planes were used during the Line Conducted
	Emission, one in vertical and the other in horizontal. The dimensions of these ground
	planes are as below. The vertical ground plane was placed distancing 40 cm to the
	rear of the wooden test table on where the EUT and the support equipment were
	placed during test. The horizontal ground plane projected 50 cm beyond the footprint
	of the EUT system and distanced 80 cm to the wooden test table. For Radiated
	Emission Test, one horizontal conductive ground plane extended at least 1m beyond
	the periphery of the EUT and the largest measuring antenna, and covered the entire
	area between the EUT and the antenna.

3.2 GENERAL TEST PROCEDURES

EUT Function and Test Mode

The EUT has been tested under normal operating (TX) and standby (RX) condition.

The field strength of radiation emission was measured in the following position: EUT stand-up position (Y axis), lie-down position (X, Z axis).

The following data show only with the worst case setup.

The worst case of Y axis was reported.

Based on client request, all normal using modes of the normal function were tested but only the worst test data of the worst mode is reported by this report.

FCC ID: SF4-ATIH900

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4:2003,Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.4:2003.

3.3 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
$\begin{array}{c} 0.090 - 0.110 \\ {}^{1}0.495 - 0.505 \\ 2.1735 - 2.1905 \\ 4.125 - 4.128 \\ 4.17725 - 4.17775 \\ 4.20725 - 4.20775 \\ 6.215 - 6.218 \\ 6.26775 - 6.26825 \\ 6.31175 - 6.31225 \\ 8.291 - 8.294 \\ 8.362 - 8.366 \\ 8.37625 - 8.38675 \\ 8.41425 - 8.41475 \\ 12.29 - 12.293 \\ 12.51975 - 12.52025 \\ 12.57675 - 12.57725 \\ 13.36 - 13.41 \end{array}$	$\begin{array}{c} 16.42 - 16.423 \\ 16.69475 - 16.69525 \\ 16.80425 - 16.80475 \\ 25.5 - 25.67 \\ 37.5 - 38.25 \\ 73 - 74.6 \\ 74.8 - 75.2 \\ 108 - 121.94 \\ 123 - 138 \\ 149.9 - 150.05 \\ 156.52475 - 156.52525 \\ 156.7 - 156.9 \\ 162.0125 - 167.17 \\ 167.72 - 173.2 \\ 240 - 285 \\ 322 - 335.4 \end{array}$	$\begin{array}{c} 399.9 - 410 \\ 608 - 614 \\ 960 - 1240 \\ 1300 - 1427 \\ 1435 - 1626.5 \\ 1645.5 - 1646.5 \\ 1660 - 1710 \\ 1718.8 - 1722.2 \\ 2200 - 2300 \\ 2310 - 2390 \\ 2483.5 - 2500 \\ 2655 - 2900 \\ 3260 - 3267 \\ 3332 - 3339 \\ 3345.8 - 3358 \\ 3600 - 4400 \end{array}$	$\begin{array}{c} 4.5 - 5.15 \\ 5.35 - 5.46 \\ 7.25 - 7.75 \\ 8.025 - 8.5 \\ 9.0 - 9.2 \\ 9.3 - 9.5 \\ 10.6 - 12.7 \\ 13.25 - 13.4 \\ 14.47 - 14.5 \\ 15.35 - 16.2 \\ 17.7 - 21.4 \\ 22.01 - 23.12 \\ 23.6 - 24.0 \\ 31.2 - 31.8 \\ 36.43 - 36.5 \\ \binom{2}{} \end{array}$

¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

² Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

4. SETUP OF EQUIPMENT UNDER TEST 4.1 SUPPORT EQUIPMENT

Device Type	Brand	Model	FCC ID	Series No.	Data Cable	Power Cord
Power Adapter	Lenovo	92P1158	N/A	N/A	2.0 M	N/A
Notebook	Lenovo	X200		L3-ATL1Z09/06	N/A	N/A

Remark:

All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

4.2 TEST EQUIPMENT LIST

Instrumentation: The following list contains equipment used at Most for testing. The equipment conforms to the CISPR 16-1 / ANSI C63.2 Specifications for Electromagnetic Interference and Field Strength Instrumentation from 10 kHz to 1.0 GHz or above.

			Madalala	0/11	Calculator
No.	Equipment	Manufacturer	Model No.	S/N	due date
1	Test Receiver	Rohde & Schwarz	ESCI	100492	2011/03/14
2	L.I.S.N.	Rohde & Schwarz	ENV216	100093	2011/03/14
3	Coaxial Switch	Anritsu Corp	MP59B	6200283933	2011/03/14
4	Terminator	Hubersuhner	50Ω	No.1	2011/03/14
5	RF Cable	SchwarzBeck	N/A	No.1	2011/03/14
6	Test Receiver	Rohde & Schwarz	ESPI	101202	2011/03/14
7	Bilog Antenna	SCHWARZBECK	BBHA9120D	D69250	2011/03/14
8	Cable	Resenberger	N/A	NO.1	2011/03/14
9	Cable	SchwarzBeck	N/A	NO.2	2011/03/14
10	Cable	SchwarzBeck	N/A	NO.3	2011/03/14
11	DC Power Filter	DuoJi	DL2×30B	N/A	2011/03/14
12	Single Phase Power Line Filter	DuoJi	FNF 202B30	N/A	2011/03/14
13	3 Phase Power Line Filter	DuoJi	FNF 402B30	N/A	2011/03/14
14	Test Receiver	Rohde & Schwarz	ESCI	100492	2011/03/14
15	Absorbing Clamp	Luthi	MDS21	3635	2011/03/14
16	Coaxial Switch	Anritsu Corp	MP59B	6200283933	2011/03/14
17	AC Power Source	Kikusui	AC40MA	LM003232	2011/03/14
18	Test Analyzer	Kikusui	KHA1000	LM003720	2011/03/14
19	Line Impendence Network	Kikusui	LIN40MA- PCR-L	LM002352	2011/03/14
20	ESD Tester	Kikusui	KES4021	LM003537	2011/03/14
21	EMCPRO System	EM Test	UCS-500-M4	V0648102026	2011/03/14
22	Signal Generator	IFR	2032	203002/100	2011/03/14
23	Amplifier	A&R	150W1000	301584	2011/03/14
24	CDN	FCC	FCC-801-M2-25	47	2011/03/14
25	CDN	FCC	FCC-801-M3-25	107	2011/03/14
26	EM Injection Clamp	FCC	F-203I-23mm	403	2011/03/14
27	RF Cable	MIYAZAKI	N/A	No.1/No.2	2011/03/14
28	Universal Radio Communication Tester	ROHDE&SCHWARZ	CMU200	0304789	2011/03/14
29	Telecommunication Antenna	European Antennas	PSA 75301R/170	0304213	2011/03/14
30	Telecommunication Test Equipment	R&S	CMU200	N/A	2011/03/14
31	Loop Antenna	SCHWARZBECK	BBHA9120D	D69250	2011/03/14

NOTE: Equipments listed above have been calibrated and are in the period of validation.

5. 47 CFR Part 15C 15.249 Requirements 5.1 Spurious Emission Test 5.1.1 Requirement

According to FCC section 15.249(a):

Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental Frequency (MHz)	Field Strength of Fundamental (mV/m)	Field Strength of Harmonics (µV/m)
902-928	50	500
2400-2483.5	50	500
5725-5875	50	500
24000-24250	250	2500

According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (µV/m)	Measurement Distance (m)
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

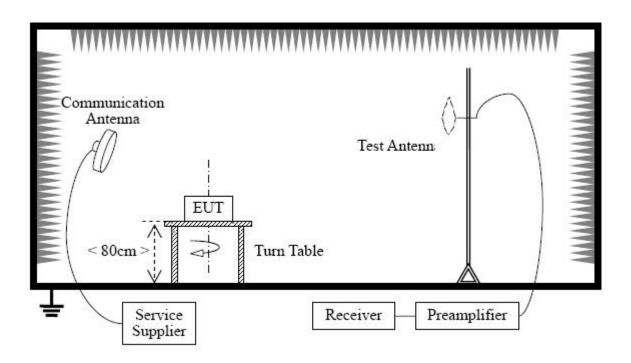
Remark: Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

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

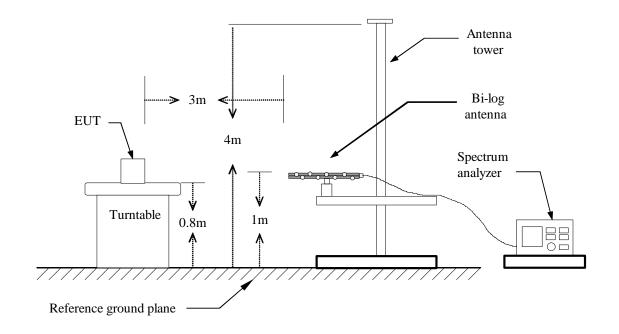
Frequency (MHz)	Field Strength (µV/m)	Measurement Distance (m)
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

5.1.2 Test Description

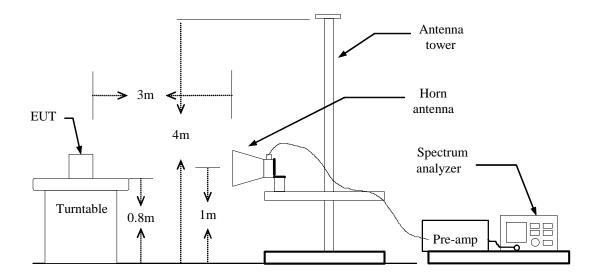
Test Setup:



Blow 1GHz:



Above 1GHz:



5.1.3 Test Description

- 1. The EUT is placed on a turntable, which is 0.8m above ground plane.
- 2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
- 3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
- 4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 6. Set the spectrum analyzer in the following setting as:

Below 1GHz: RBW=100 kHz / VBW=300 kHz / Sweep=AUTO

Above 1GHz :(a) PEAK: RBW=VBW=1MHz / Sweep=AUTO (b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO

7. Repeat above procedures until the measurements for all frequencies are complete.

5.1.4 Test Result

Below 1 GHz

Test Mode:	Operating Mode/ CH Low	Test Date:	March 20, 2010
Temperature:	20°C	Tested by:	Petter Ping
Humidity:	70 % RH	Polarity:	Ver. / Hor.

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit 3m (dBuV/m)	Safe Margin (dB)
							> 20
N/A							
							> 20
N/A							

- 1. Measuring frequencies from 30 MHz to the 1GHz.
- 2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak detector mode.
- 3. Data of measurement within this frequency range shown "----" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4. The IF bandwidth of SPA between 30MHz to 1GHz was 100 kHz.

Test Mode:	Operating Mode/ CH Middle	Test Date:	March 20, 2010
Temperature:	20°C	Tested by:	Petter Ping
Humidity:	70 % RH	Polarity:	Ver. / Hor.

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit 3m (dBuV/m)	Safe Margin (dB)
							> 20
N/A							
							> 20
N/A							

- 1. Measuring frequencies from 30 MHz to the 1GHz.
- 2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak detector mode.
- 3. Data of measurement within this frequency range shown "----" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4. The IF bandwidth of SPA between 30MHz to 1GHz was 100 kHz.

Test Mode:	Operating Mode/ CH High	Test Date:	March 20, 2010
Temperature:	20°C	Tested by:	Petter Ping
Humidity:	70 % RH	Polarity:	Ver. / Hor.

Freq. (MHz)	Ant.Pol. H/V	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limit 3m (dBuV/m)	Safe Margin (dB)
							> 20
N/A							
							> 20
N/A							

- 1. Measuring frequencies from 30 MHz to the 1GHz.
- 2. Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using Peak detector mode.
- 3. Data of measurement within this frequency range shown "----" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4. The IF bandwidth of SPA between 30MHz to 1GHz was 100 kHz.

Above 1 GHz

Operation Mode:	CH Low	Test Date:	March 20, 2010
Temperature:	20°C	Tested by:	Petter Ping
Humidity:	70 % RH	Polarity:	Ver. / Hor.

	Ant.	Peak	AV	Ant. /	Actu	al Fs	Peak	AV		
Freq. (MHz)	Pol H/V		Reading (dBuV)	CL CF (dB)	Peak (dBuV/m)	AV (dBuV/m)	Limit (dBuV/m)	Limit	Margin (dB)	Remark
2402.02	Н	76.80		6.14	82.94		94.00		-11.06	Peak
4804.03	Н	30.23		8.20	38.43		74.00	54.00	-15.57	Peak
N/A									>20	
2402.02	V	81.42		6.14	87.56		94.00		-6.44	Peak
4804.03	V	36.56		8.20	44.76		74.00	54.00	-9.24	Peak
N/A									>20	

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. Spectrum setting:
 - a. Peak Setting 1GHz 26GHz, RBW = 1MHz, VBW = 1MHz, Sweep time = 200 ms.
 - b. AV Setting 1GH z- 26GHz, RBW = 1MHz, VBW = 10Hz, Sweep time = 200 ms.

Operation Mode:	CH Mid	Test Date:	March 20, 2010
Temperature:	20°C	Tested by:	Petter Ping
Humidity:	70 % RH	Polarity:	Ver. / Hor.

	Ant.	Peak	AV	Ant. /	Actu	al Fs	Peak	AV		
Freq. (MHz)	Pol H/V		Reading (dBuV)	CL CF (dB)	Peak (dBuV/m)	AV (dBuV/m)	Limit	Limit (dBuV/m)	Margin (dB)	Remark
2440.01	Н	78.17		6.89	85.06		94.00		-8.94	Peak
4880.02	Н	30.01		8.35	38.36		74.00	54.00	-15.64	Peak
N/A									>20	
2440.01	V	80.63		6.89	87.52		94.00		-6.48	Peak
		1 1	i		r	r	r	r	i	
4880.02	V	32.69		8.35	41.04		74.00	54.00	-12.96	Peak
N/A									>20	

Notes:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. Spectrum setting:

a. Peak Setting 1GHz - 26GHz, RBW = 1MHz, VBW = 1MHz, Sweep time = 200 ms.

b. AV Setting 1GH z- 26GHz, RBW = 1MHz, VBW = 10Hz, Sweep time = 200 ms.

Operation Mode:	CH High	Test Date:	March 20, 2010
Temperature:	20°C	Tested by:	Petter Ping
Humidity:	70 % RH	Polarity:	Ver. / Hor.

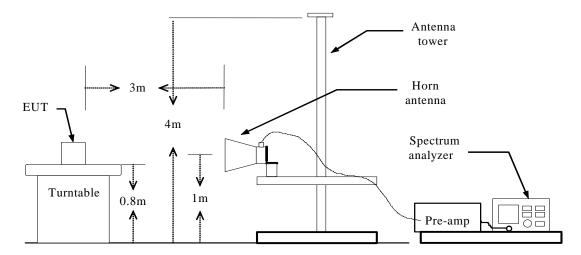
Freq. (MHz)	Ant. Pol		AV Reading	Ant. / CL CF	Actu Peak	AV	Peak Limit	AV Limit	Margin (dB)	Remark
	H/V	(dBuV)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(aBuv/m)	(dBuV/m)	. ,	
2480.01	Н	78.86		7.21	86.07		94.00		-7.93	
		1	· · · · · · · · · · · · · · · · · · ·		1			1		
4960.02	Н	31.22		8.39	39.61		74.00	54.00	-14.39	Peak
N/A										>20
N/A										
						_				
2480.01	V	81.38		7.21	88.59		94.00		-5.41	
4960.02	V	34.50		8.39	42.89		74.00	54.00	-11.11	Peak
N/A										>20
N/A										

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. Spectrum setting:
 - a. Peak Setting 1GHz 26GHz, RBW = 1MHz, VBW = 1MHz, Sweep time = 200 ms.
 - b. AV Setting 1GH z- 26GHz, RBW = 1MHz, VBW = 10Hz, Sweep time = 200 ms.

5.2 Band Edge 5.2.1 Requirement

According to FCC section 15.249(d), Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

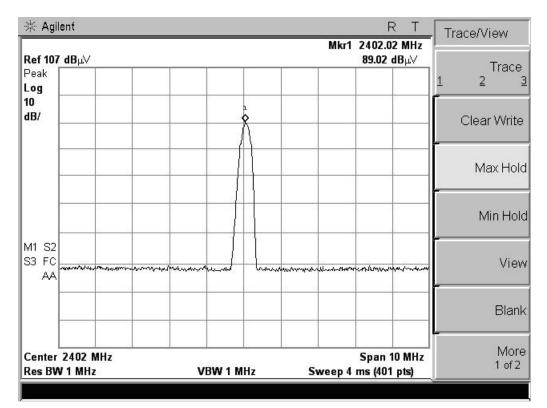
5.2.2 Test Description



5.2.3Test Result

The EUT operates at hopping-off test mode. The lowest and highest channels are tested to verify the band edge emissions.

Test Plot:



🔆 Agi	lent								F		Peak Search
Ref 107 Peak Log	dBμ∨								kr1 2480.0 89.06		Meas Tools
10 dB/											Next Peak
		2								<u></u>	Next Pk Right
							2.	-			Next Pk Left
M1 S2 S3 FC AA								_			Min Search
	~~~~~~	nam	htt-a-M-h	www	www		www	- Marin	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	vernerte bleve	Pk-Pk Search
	2480 M V 1 MHz		1	v	BW 1 1	//Hz		Swee	Span 1 p 4 ms (401		More 1 of 2

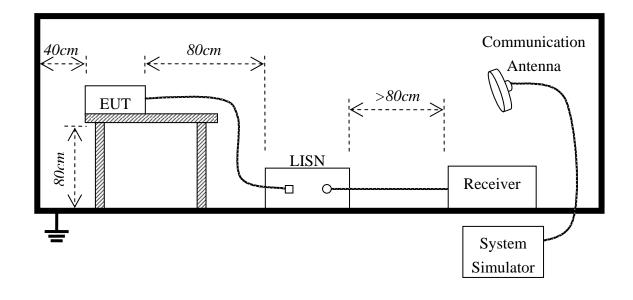
# 5.3 Power Line Conducted Emission Test 5.3.1 Limits of Line Conducted Emission Test

Fraguanay	Maximum RF Line Voltage						
Frequency	Q.P.( dBuV)	Average( dBuV)					
150kHz-500kHz	66-56	56-46					
500kHz-5MHz	56	46					
5MHz-30MHz	60	50					

**Note: 1. the lower limit shall apply at the transition frequency.

2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz

## 5.3.2 BLOCK DIAGRAM OF TEST SETUP



#### 5.3.3 PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

- 1) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per FCC Part 15 (see Test Facility for the dimensions of the ground plane used). When the EUT is floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- 2) Support equipment, if needed, was placed as per FCC Part 15.
- 3) All I/O cables were positioned to simulate typical actual usage as per FCC Part 15.
- 4) The EUT received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5) All support equipments received power from a second LISN supplying power of AC 120V/60Hz, if any.
- 6) The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7) Analyzer / Receiver scanned from 150 kHz to 30 MHz for emissions in each of the test modes.
- 8) During the above scans, the emissions were maximized by cable manipulation.
- 9) The following test mode(s) were scanned during the preliminary test:

Preliminary Conducted Emission Test											
Frequency Range I	nvestigated	150KHz TO 30 MHz									
Mode of operation	Date	Report No.	Data#	Worst Mode							
Charging Mode	2010-04-13	MOST100408F1	1_(L,N)								
Bluetooth Mode	2010-04-13	MOST100408F1	2_(L,N)								

Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

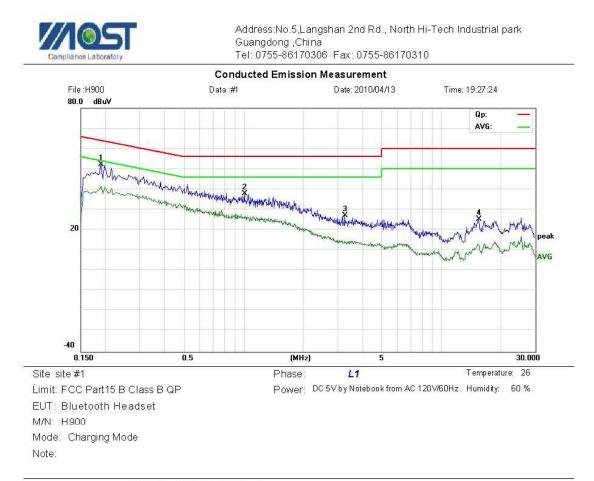
#### 5.3.4 FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

EUT and support equipment was set up on the test bench as per step 9 of the preliminary test.

A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less –2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.

The test data of the worst case condition(s) was reported on the Summary Data page.

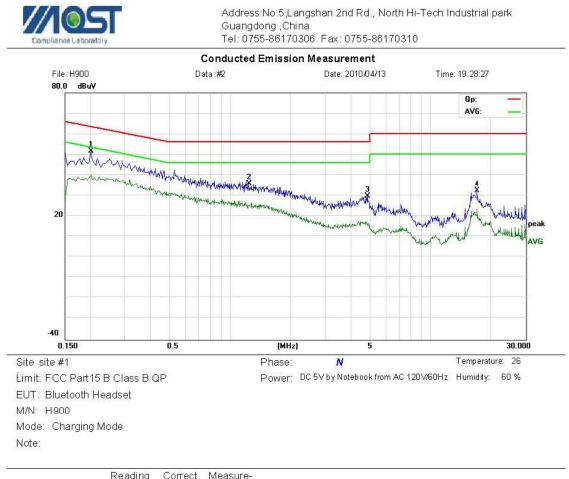
# 5.3.5 TEST RESULT OF LINE CONDUCTED EMISSION TEST



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
		MHz	dBu∨	dB	dBuV	dBuV	dB	Detector	Comment	
1	*	0.1900	41.00	11.40	52.40	64.04	-11.64	peak		
2		1.0140	27.98	9.99	37.97	56.00	-18.03	peak		
3		3.2660	16.75	10.27	27,02	56.00	-28.98	peak		
4	1	15.4060	16.12	9.00	25.12	60.00	-34.88	peak		

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

Engineer Signature:



No.	Mk.	Freq.	Level	Factor	measure- ment	Limit	Over			
		MHz	dBu∨	dB	dBu∀	dBu∨	dB	Detector	Comment	
1	*	0.2020	39.76	11.99	51.75	63.53	-11.78	peak		
2		1.2380	26.10	9.76	35.86	56.00	-20.14	peak		
3		4.8500	17.90	11.85	29.75	56.00	-26.25	peak		
4	2	17.0260	23.45	9.00	32.45	60.00	-27.55	peak		

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

Engineer Signature:

# APPENDIX 1 PHOTOGRAPHS OF TEST SETUP



Radiated Emission Test Setup

Conducted Emission Test Setup



# APPENDIX 2 PHOTOGRAPHS OF EUT

#### FRONT VIEW OF SAMPLE



#### BACK VIEW OF SAMPLE





DOWN VIEW OF SAMPLE



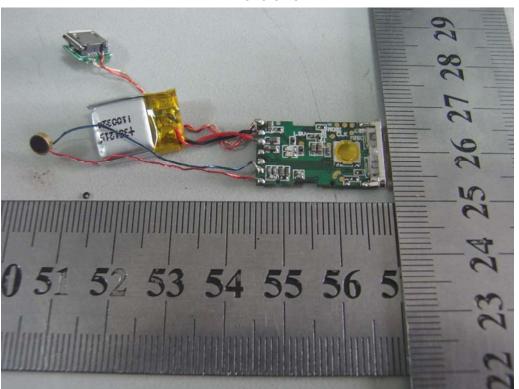
UP VIEW OF SAMPLE

#### PHOTO OF USB CABLE



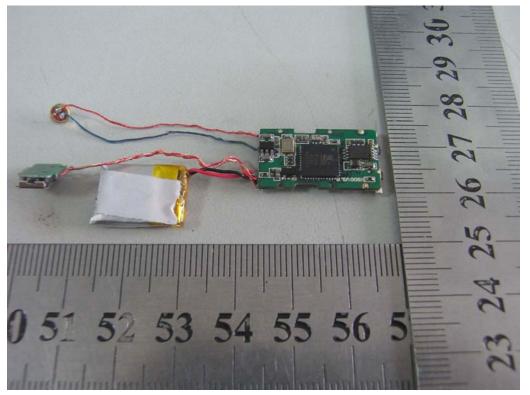
PHOTO OF THE ENTIRE SAMPLE





INTERNAL PHOTO OF SAMPLE-1

INTERNAL PHOTO OF SAMPLE-2



-----END OF REPORT-----