FCC PART 15.249

EMI MEASUREMENT AND TEST REPORT

For

Shenzhen Go-on Electronics Co., Ltd.

5F, Building 5, YuSheng Industrial Zone, Xixiang, Baoan District, Shenzhen, Guangdong, China

FCC ID: UTK-GD241PT

September 16, 2011

This Report Concerns: Original Report	Equipment Type: 2.4G Wireless Headphone
Test Engineer:	Eric Li
Report No.:	BST11080314Y-1ER-3
Receive EUT Date/Test Date:	September 6, 2011/ September 7-15, 2011
Reviewed By:	Christina
Prepared By:	**Shenzhen BST Technology Co.,Ltd.** 3F,Weames Technology Building, No. 10 Kefa Road, Science Park, Nanshan District,Shenzhen,Guangdong,China Tel: 0755-26747751～3 Fax: 0755-26747751～3 ext.826

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1. GENERAL INFORMATION

1.1. Report information

1.1.1.This report is not a certificate of quality; it only applies to the sample of the specific product/equipment given at the time of its testing. The results are not used to indicate or imply that they are application to the similar items. In addition, such results must not be used to indicate or imply that BST approves recommends or endorses the manufacture, supplier or use of such product/equipment, or that BST in any way guarantees the later performance of the product/equipment.

1.1.2.The sample/s mentioned in this report is/are supplied by Applicant, BST therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture or any information supplied.

Additional copies of the report are available to the Applicant at an additional fee. No third part can obtain a copy of this report through BST, unless the applicant has authorized BST in writing to do so.

Test Facility -
The test site used to collect the radiated data is located on the address of
SinTek Laboratory Co.,Ltd.
(FCC Registered Test Site Number: 963441) on
No.7, Xinshidai Industrial, Guantian Village, Shiyan Town, Baoan District, Shenzhen, Guangdong 518108, China
The Test Site is constructed and calibrated to meet the FCC requirements.

1.2. Measurement Uncertainty

Available upon request.

2. PRODUCT DESCRIPTION

2.1. EUT Description

Description	:	2.4G Wireless Headphone
Applicant	:	Shenzhen Go-on Electronics Co., Ltd. 5F, Building 5, YuSheng Industrial Zone, Xixiang, Baoan District, Shenzhen, Guangdong, China
Model Number	:	GD241(PT), GD240(PT), GD242(PT), GD243(PT), GD244(PT), GD245(PT), GD246(PT), GD247(PT), GD248(PT), GD249(PT), GA281M, GA282M, GA283M, GA284M, GA285M, GA286M, GA287M, GA288M, GA289M, GA280M
Trade Name	:	N/A
Frequency	:	2406-2472MHz
Power Supply	:	DC 5V (Powered by Adaptor)

2.2. Block Diagram of EUT Configuration

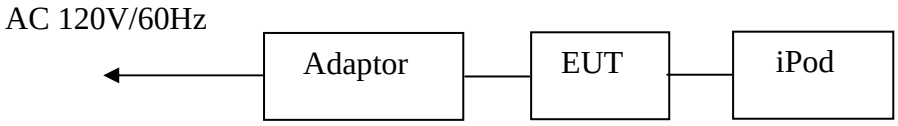


Figure 1 EUT Setup

2.3. Support Equipment List

Name	Model No	S/N	Manufacturer	Used "√"
Adaptor Input: AC 100-240V, 50/60Hz Output: DC 5V, 500mA	S04-003-0050-00500	N/A	Keen Ocean	√
iPod	iPod Touch	N/A	Apple	√

2.4. Test Conditions

Temperature: 20~25℃
Relative Humidity: 50~63 %

3. FCC ID LABEL

FCC ID: UTK-GD241PT

This device complies with Part 15 of the FCC Rules.Operation is subject to the following two conditions: 1. This device may not cause harmful interference, and 2. This device must accept any interference received, including interference that may cause undesired operation.

Label Location on EUT

EUT View/ FCC ID Label Location

4. TEST RESULTS SUMMARY

FCC 15 Subpart C, Paragraph 15.249

FCC Rules	Description of Test	Result
Section 15.207	Conducted Emission	Compliant
Section 15.249(a)	The fundamental field strength and the harmonics	Compliant
Section 15.209 Section 15.249(d)	Radiated Emission	Compliant
Section 15.249(d)	Band Edge	Compliant
Section 15.203	Antenna Requirement	Compliant

Remark: “N/A” means “Not applicable”.

Statement: All testing was performed using the test procedures found in ANSI C63.4 20003.

Modifications

No modification was made.

5. TEST EQUIPMENT USED

Equipment/Facilities	Manufacturer	Model #	Serial no.	Date of Cal.	Cal. Interval
Cable	Resenberger	N/A	NO.1	Mar 10，2011	1 Year
Cable	SCHWARZBECK	N/A	NO.2	Mar 10，2011	1 Year
Cable	SCHWARZBECK	N/A	NO.3	Mar 10，2011	1 Year
LISN	Rohde＆Schwarz	ESH3-Z5	100305	Mar 10，2011	1 Year
50Ω Coaxial Switch	ANRITSU CORP	MP59B	6200283933	Mar 10，2011	1 Year
EMI Test Receiver	Rohde＆Schwarz	ESP13	100180	Oct.11,2010	1 Year
Spectrum Analyzer	Rohde＆Schwarz	FSP40	100273	Sep.10,2011	1 Year
3m Semi-Anechoic Chamber	Albatross Projects	9m×6m×6m	N/A	Feb.20,2011	1 Year
Signal Generator	FLUKE	PM5418 + Y/C	LO747012	Feb.20,2011	1 Year
Signal Generator	FLUKE	PM5418TX	LO738007	Feb.20,2011	1 Year
Loop Antenna	SCHWARZBECK	FMZB1516	113	Jan.30,2011	1 Year
Trilog-Super Broadband Antenna	SCHWARZBECK	VULB9161	9161-4079	Sep.22,2010	1 Year
Broad-Band Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-564	Sep.22,2010	1 Year
Ultra Broadband Antenna	Rohde＆Schwarz	HL-562	100110	June.15,2011	1 Year
AMN	Rohde＆Schwarz	ESH3-Z5	100196	Oct.11,2010	1 Year
AMN	Rohde＆Schwarz	ESH3-Z5	100197	Oct.11,2010	1 Year
Pulse Limiter	Rohde＆Schwarz	ESH3-Z2	N/A	N/A	N/A
Power Meter	Rohde＆Schwarz	NRVD	100041	Feb.20,2011	1 Year
EMI Test Receiver	Rohde＆Schwarz	ESCS30	100003	Feb.20,2011	1 Year
Coaxial Cable with N-connectors	SCHWARZBECK	AK9515H	95549	Sep.22,2010	1 Year
Radio Communication Test Set	Rohde＆Schwarz	CMS 54	846621/024	Feb.20,2011	1 Year
Modulation Analyzer	Hewlett-Packard	8901B	2303A00362	Feb.20,2011	1 Year
Absorbing clamp	Rohde＆Schwarz	MDS-21	N/A	Oct.11,2010	1 Year

6. ANTENNA REQUIREMENT

6.1. STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 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.

6.2. ANTENNA CONNECTED CONSTRUCTION

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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

The antenna used in this product is PCB antenna. The antenna is permanently attached. Refer to the product photo.

6.3. Result

Compliance

7. CONDUCTED POWER LINE TEST

7.1. Test Equipment

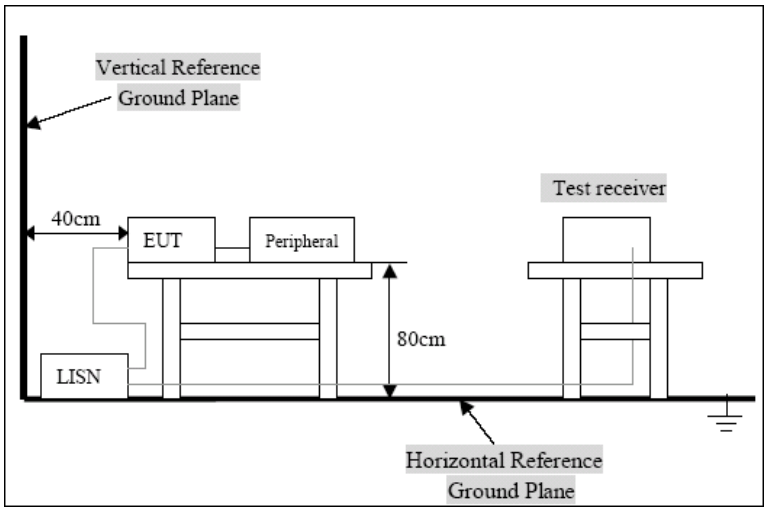
Please refer to section 5 this report.

7.2. 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 50ohm/50uh coupling inpedance for the measuring equipment.The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uh coupling inpedance with 50ohm termination.

Both sides of A.C. Line are check for maximum conducted interference.In order to find the maximum emission,the relative positions of equipment and al of the interface cables must be changed according to ASIN C63.4:2003 on conducted measurement .Conducted emissions were invested over the frequency range from 0.15MHz to 30MH z using a receiver bandwidth of 9Khz.

7.3. Test Setup



For the actual test configuration,Please refer to the related items-Photos of testing

7.4. Conducted Power line Emission Limits

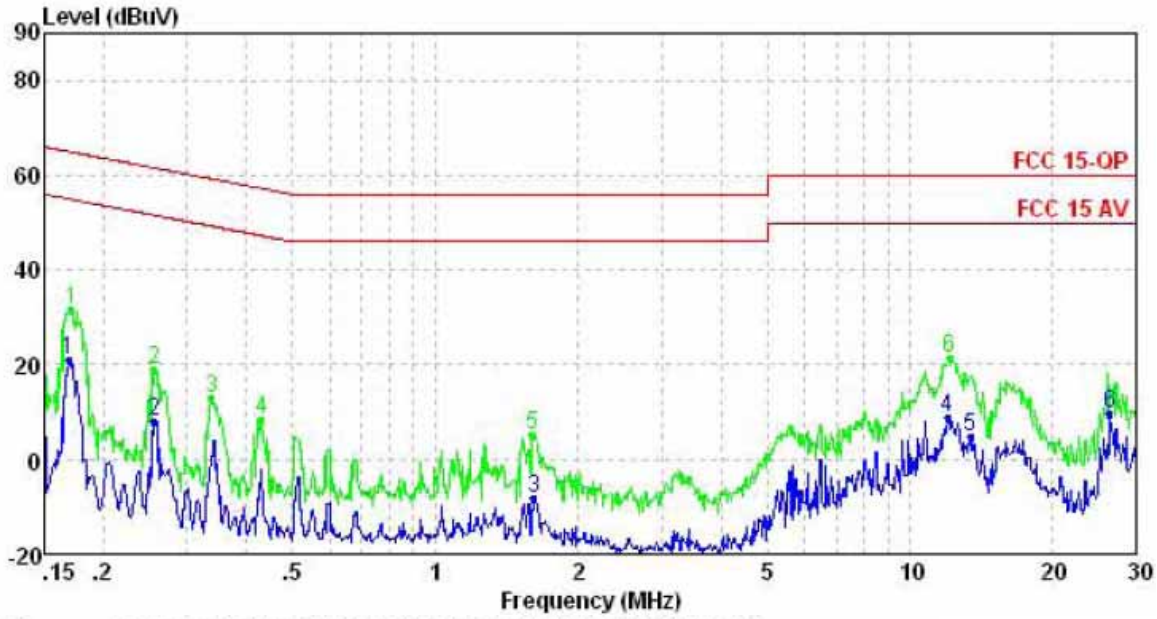
FCC Part 15 Paragraph 15.207 (dBuV)		
Frequency Range (MHZ)	Class A QP/AV	Class B QP/AV
0.15-0.5	79/66	65-56/56-46
0.5-5.0	73/60	56-46
5.0-3.0	73/60	60-50

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

7.5. Conducted Power Line Test Result

Pass

The worst test mode: TX Low CH 2406MHz

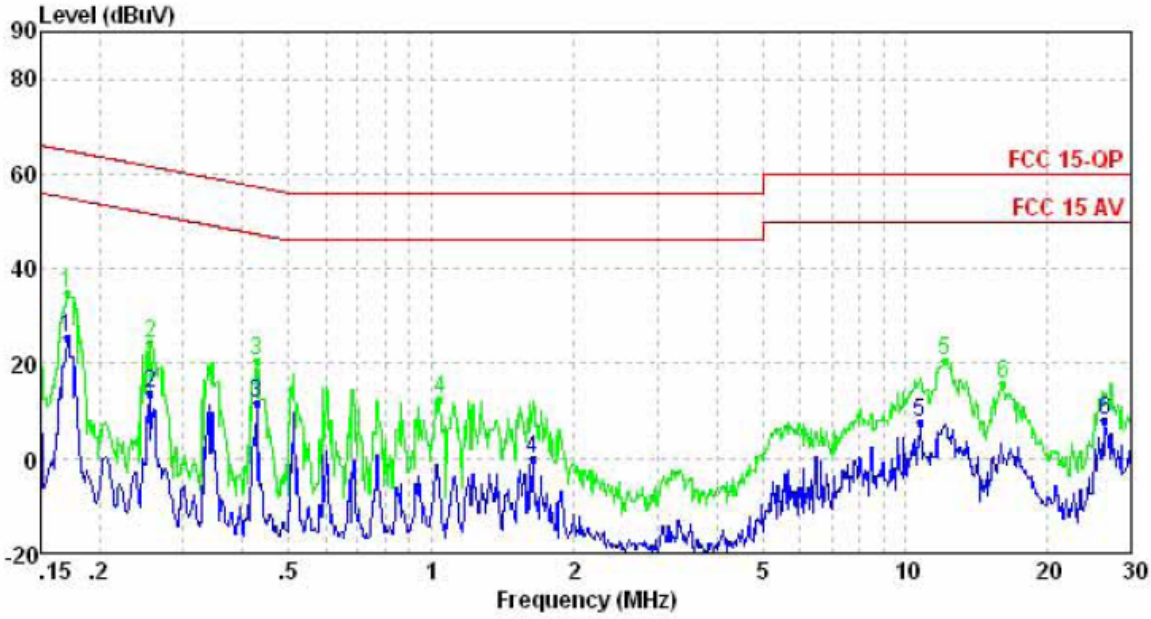


Condition:
: RBW:9.000KHz VBW:30.000KHz

	Freq	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB		
1 Max	0.17	20.82	55.03	-34.21	Average	LINE
2	0.26	8.09	51.56	-43.47	Average	LINE
3	1.62	-8.34	46.00	-54.34	Average	LINE
4	12.00	9.00	50.00	-41.00	Average	LINE
5	13.41	4.72	50.00	-45.28	Average	LINE
6	26.42	9.47	50.00	-40.53	Average	LINE

Condition:
: RBW:9.000KHz VBW:30.000KHz

	Freq	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB		
1 Max	0.17	31.51	64.90	-33.39	Peak	LINE
2	0.26	19.09	61.56	-42.47	Peak	LINE
3	0.34	12.76	59.27	-46.51	Peak	LINE
4	0.43	8.61	57.24	-48.63	Peak	LINE
5	1.60	5.37	56.00	-50.63	Peak	LINE
6	12.12	21.46	60.00	-38.54	Peak	LINE



Condition:
: RBW:9.000KHz VBW:30.000KHz

	Freq	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB		
1 Max	0.17	25.31	54.94	-29.63	Average	NEUTRAL
2	0.26	13.77	51.56	-37.79	Average	NEUTRAL
3	0.43	11.64	47.29	-35.65	Average	NEUTRAL
4	1.64	-0.17	46.00	-46.17	Average	NEUTRAL
5	10.73	7.44	50.00	-42.56	Average	NEUTRAL
6	26.42	7.93	50.00	-42.07	Average	NEUTRAL

Condition:
: RBW:9.000KHz VBW:30.000KHz

	Freq	Level	Limit Line	Over Limit	Remark	Pol/Phase
	MHz	dBuV	dBuV	dB		
1 Max	0.17	34.83	64.94	-30.11	Peak	NEUTRAL
2	0.26	24.05	61.56	-37.51	Peak	NEUTRAL
3	0.43	20.73	57.29	-36.56	Peak	NEUTRAL
4	1.04	12.50	56.00	-43.50	Peak	NEUTRAL
5	12.12	20.71	60.00	-39.29	Peak	NEUTRAL
6	16.14	15.55	60.00	-44.45	Peak	NEUTRAL

8. RADIATED EMISSION TEST

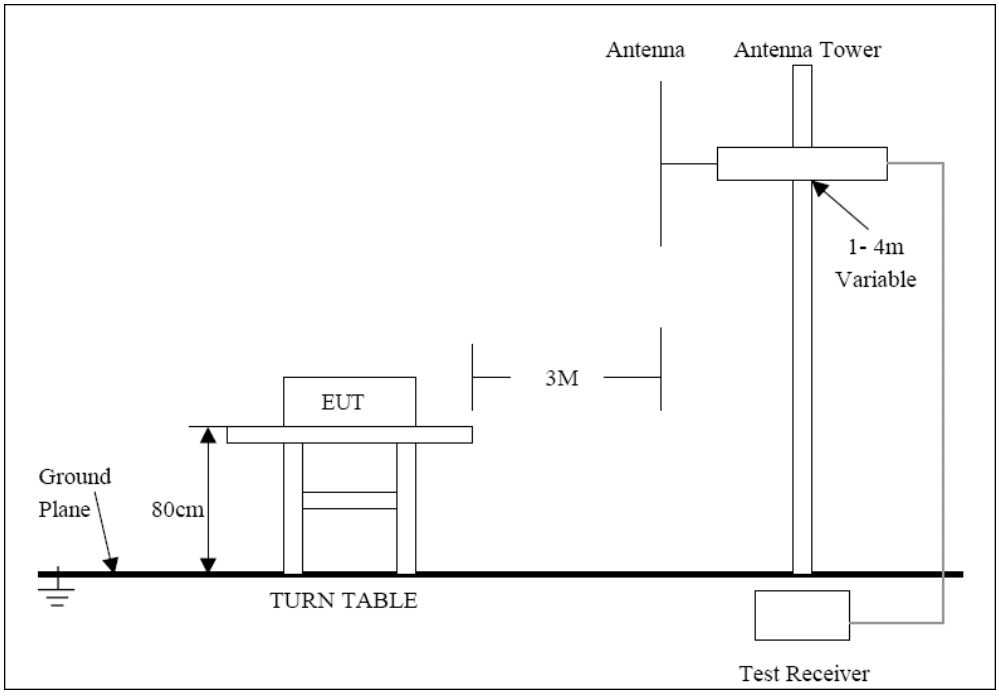
8.1. Test Equipment

Please refer to section 5 this report.

8.2. Test Procedure

1. The EUT was tested according C63.4-2003.The radiated test was performed at FCC Registration laboratory .
2. The EUT,peripherals were put on the turntable which table size od 1m×1.5m,table high 0.8m.All set up is according to ANSI C63.4-2003.
3. The frequency spectrum from 30MHZ to 1 GHZ was investigated.All readings from 30MHZ to 1 GHZ are quasi-peak values with a resolution bandwidth of 120 KHZ. All readings are above 1GHZ ,prak values with a resolution bandwidth of 1 MHZ.Measurements were made at 3 merers.
4. The antenna high is varied from 1m to 4m high to find the maximum emission for each frequency.
5. Maximizing procedure was performed on the six(6)highest emissions to ensure EUT compliance is with all installation combinations.All data was recorded in the peak detection mode.Quasi-peak readings was performed only when an emission was found to be marginal (within -4 Db of specification
limit),and are distinguished with a “QP”in the data table.
6. The antenna polarization:Vertical polarization and Horizontal polarization.
7. Through three orthogonal axes to determine which attitude and equipment arrangement produces the highest emission relative to the limit.

8.3. Radiated Test Setup



For the accrual test configuration,pleas refer to the related items-photos of Testing.

8.4. Radiated Emission Limit

All emission from a digital device,including any network of conductors and apparatus connected thereto,shall not exceed the level of field strength specified below :

A. FCC Part 15 Subpart C Paragraph 15.249(a) Limit

Frequency (MHZ)	Distance (m)	Field Strength (dBuV/m)
30-88	3	40.0
88-*216	3	43.5
216-960	3	46.0
ABOVE 960	3	54.0

Note: (1) RF Voltage (dBuV)=20 log Voltage(uV)
(2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
(3) The emission limit in this paragraph os based on measurement instrumentation employing an average detector.Measurement using instrumentation with a peak detector function,corresponding to 20dB above the maximum permitted average limit.

B.Frequencies in restricted band are complied to limit on Paragraph 15.209.

Fundamental Frequency (MHZ)	Field as trength of Fundamental(3m)			Field as trength of Harmonics(3m)		
	mV/m	dBuV/m		uV/m	dBuV/m	
902~928	50	94(AV)	114(Peak)	500	54(AV)	74(Peak)
2400~2483.5	50	94(AV)	114(Peak)	500	54(AV)	74(Peak)

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

8.5. Radiated Emission Test Result

Pass

A. Fundamental Radiated Emissions Data

TX Low CH 2406MHz

Frequency MHz	Detector	Meter Reading dBuV	Direction Degree	Polar H / V	Antenna Loss dB	Cable loss dB	Amplifier dB	Correction Amplitude dBuV/m	Limit dBuV/m	Margin dB
2406.0	AV	82.4	60	V	29.1	3.7	34.0	81.2	94	-11.6
2406.0	AV	80.9	270	H	29.1	3.7	34.0	79.7	94	-13.1
2406.0	PK	85.6	45	V	29.1	3.7	34.0	84.4	114	-29.6
2406.0	PK	83.4	90	H	29.1	3.7	34.0	82.2	114	-31.8

TX Middle CH 2440MHz

Frequency MHz	Detector	Meter Reading dBuV	Direction Degree	Polar H / V	Antenna Loss dB	Cable loss dB	Amplifier dB	Correction Amplitude dBuV/m	Limit dBuV/m	Margin dB
2440	AV	80.8	45	V	29.1	3.7	34.0	79.6	94	-14.4
2440	AV	78.6	90	H	29.1	3.7	34.0	77.4	94	-16.6
2440	PK	85.7	90	V	29.1	3.7	34.0	84.5	114	-29.5
2440	PK	83.9	60	H	29.1	3.7	34.0	82.7	114	-31.3

TX High CH 2472MHz

Frequency MHz	Detector	Meter Reading dBuV	Direction Degree	Polar H / V	Antenna Loss dB	Cable loss dB	Amplifier dB	Correction Amplitude dBuV/m	Limit dBuV/m	Margin dB
2472	AV	79.8	45	V	29.1	3.7	34.0	78.6	94	-15.4
2472	AV	76.7	90	H	29.1	3.7	34.0	75.5	94	-18.5
2472	PK	82.7	90	V	29.1	3.7	34.0	81.5	114	-32.5
2472	PK	80.3	90	H	29.1	3.7	34.0	79.1	114	-34.9

Note:
1. Corr. Ampl. = Indicated Reading + Ant. Factor + Cable Loss – Amplifier
2. Margin = Corr. Ampl. – Limit

B.Harmonics Radiated Emissions Data

TX Low CH 2406MHz

Frequency MHz	Detector	Meter Reading dBuV	Direction Degree	Polar H / V	Antenna Loss dB	Cable loss dB	Amplifier dB	Correction Amplitude dBuV/m	Limit dBuV/m	Margin dB
Low Channel (1G to 25GHz)										
4812.0	AV	37.5	270	V	34.1	5.2	33.0	43.8	54	-10.2
4812.0	AV	34.3	270	H	34.1	5.2	33.0	40.6	54	-13.4
4812.0	PK	40.3	270	V	34.1	5.2	33.0	46.6	74	-27.4
4812.0	PK	38.2	270	H	34.1	5.2	33.0	44.5	74	-29.5
7218.0	AV	32.1	90	V	37.4	6.1	33.5	42.1	54	-11.9
7218.0	AV	31.6	45	H	37.4	6.1	33.5	41.6	54	-12.4
7218.0	PK	35.8	270	V	37.4	6.1	33.5	45.8	74	-28.2
7218.0	PK	33.2	180	H	37.4	6.1	33.5	43.2	74	-30.8

TX Middle CH 2440MHz

Frequency MHz	Detector	Meter Reading dBuV	Direction Degree	Polar H / V	Antenna Loss dB	Cable loss dB	Amplifier dB	Correction Amplitude dBuV/m	Limit dBuV/m	Margin dB
4880	AV	36.2	90	V	34.1	5.2	33.0	42.5	54	-11.5
4880	AV	33.8	270	H	34.1	5.2	33.0	40.1	54	-13.9
4880	PK	39.1	45	V	34.1	5.2	33.0	45.4	74	-28.6
4880	PK	35.6	60	H	34.1	5.2	33.0	41.9	74	-32.1
7320	AV	32.8	270	V	37.4	6.1	33.5	42.8	54	-11.2
7320	AV	30.2	45	H	37.4	6.1	33.5	40.2	54	-13.8
7320	PK	35.2	180	V	37.4	6.1	33.5	45.2	74	-28.8
7320	PK	32.1	45	H	37.4	6.1	33.5	42.1	74	-31.9

TX High CH 2472MHz

Frequency MHz	Detector	Meter Reading dBuV	Direction Degree	Polar H / V	Antenna Loss dB	Cable loss dB	Amplifier dB	Correction Amplitude dBuV/m	Limit dBuV/m	Margin dB
4944	AV	35.6	90	V	34.1	5.2	33.0	41.9	54	-12.1
4944	AV	33.5	270	H	34.1	5.2	33.0	39.8	54	-14.2
4944	PK	37.8	60	V	34.1	5.2	33.0	44.1	74	-29.9
4944	PK	35.5	60	H	34.1	5.2	33.0	41.8	74	-32.2
7416	AV	34.9	270	V	37.4	6.1	33.5	44.9	54	-9.1
7416	AV	32.2	180	H	37.4	6.1	33.5	42.2	54	-11.8
7416	PK	38.0	45	V	37.4	6.1	33.5	48.0	74	-26.0
7416	PK	37.3	45	H	37.4	6.1	33.5	47.3	74	-26.7

Note:
1. Corr. Ampl. = Indicated Reading + Ant. Factor + Cable Loss – Amplifier
2. Margin = Corr. Ampl. – Limit
3. Emissions attenuated more than 20 dB below the permissible value are not reported.

C. General Radiated Emissions Data

The Worst test mode: TX Low CH 2406MHz

Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(・)	(cm)	
1	309.2710	19.71	8.73	28.44	46.00	-17.56	115	100	peak
2	384.5447	16.18	9.96	26.14	46.00	-19.86	37	100	peak
3	893.6557	20.36	14.72	35.08	46.00	-10.92	99	100	peak

Vertical

No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(・)	(cm)	
1	54.9011	14.84	7.46	22.30	40.00	-17.70	25	100	peak

Note:
1. Result = Reading + Correct Factor.
2. Margin = Result – Limit
3. Emissions attenuated more than 20 dB below the permissible value are not reported.

9. BAND EDGE

9.1. Test Equipment

Please refer to Section 5 this report.

9.2. Test Procedure

1. The EUT was tested according C63.4-2003.The radiated test was performed at FCC Registration laboratory .
2. The transmitter output was connected to the spectrum analyzer via a low lose cable.
Set both RBW and VBW of spectrum analyzer to 100 kHz with suitable frequency
span including 100 MHz bandwidth from band edge. The band edges was measured
and recorded.
3.As the radiation test ,set the Lowest and Highest Transmitting Channel,observed the outside band of 902MHz to 928MHz,than mark the higher-level emission for comparing with the FCC rules.

9.3. Band Edge FCC 15.249(d) Limit

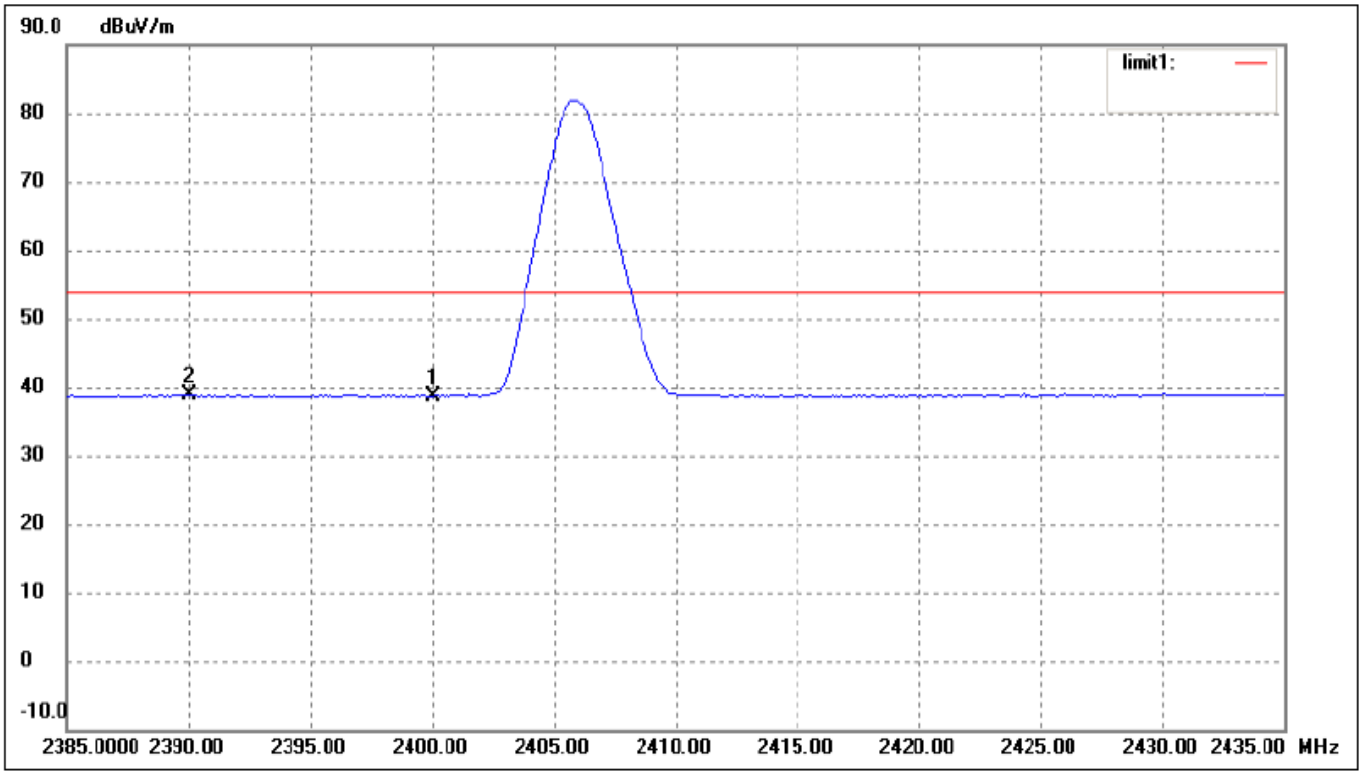
In any 100kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating,the radio frequency power that is produced by the intentional radiator shall be at least
50dB
below that in the 100kHz bandwidth within the band that contains the desired power,based on either an RF conducted or a radited 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 specitfied in Section 15.209(a) (see Section 15.205(c)).

9.4. Band Edge Test Result

Pass

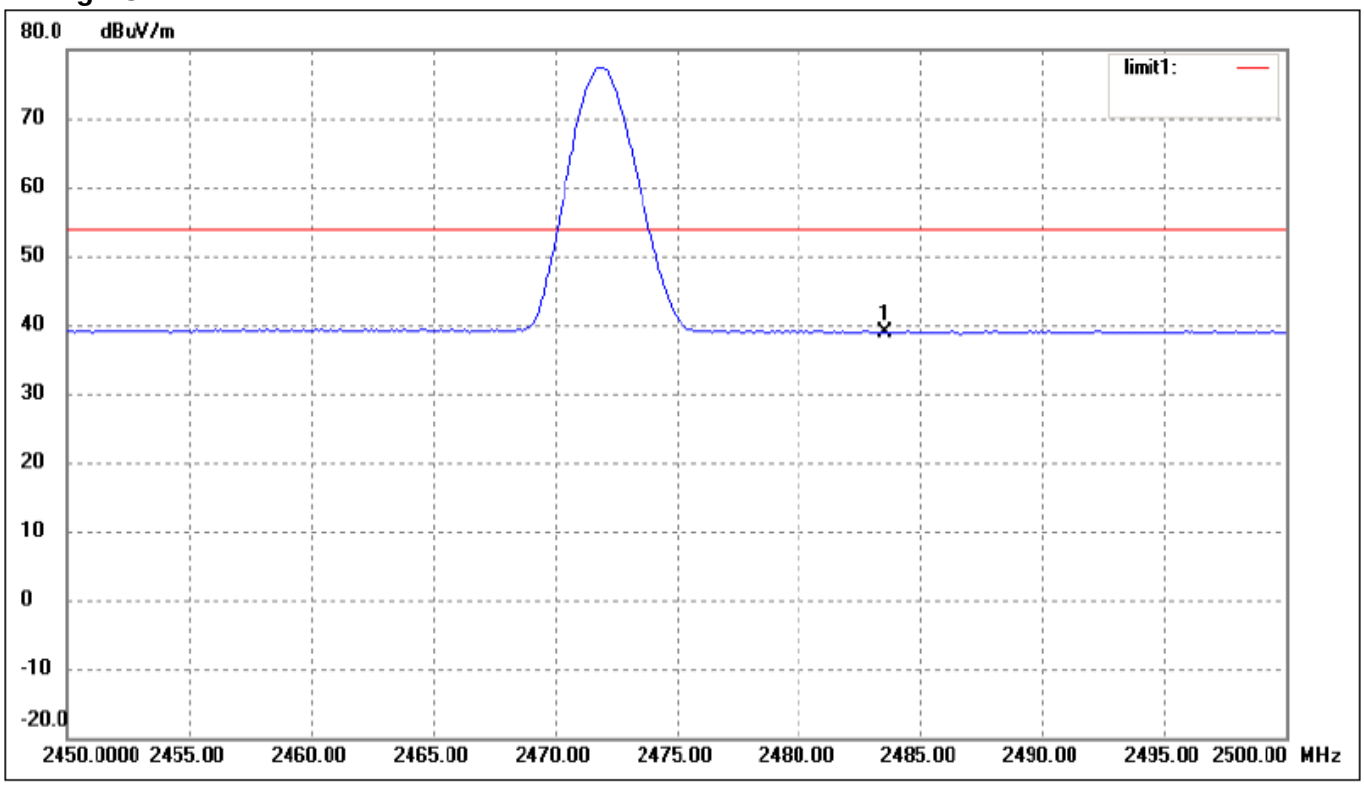
The field strength of any emissions which appear outside of this band shall not exceed the general radiated emission limits in Section 15.209. The average measurement was not performed when the
peak
measured data under the limit of average detection.

TX Low CH 2406MHz



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	2400.000	6.06	32.68	38.74	54.00	-15.26	AVG Detector
2	2390.000	6.17	32.59	38.76	54.00	-15.24	AVG Detector
	2400.000	16.27	32.68	48.95	74.00	-25.05	Peak Detector
	2390.000	16.34	32.59	48.93	74.00	-25.07	Peak Detector

TX High CH 2472MHz



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	2483.500	5.94	32.97	38.91	54.00	-15.09	AVG Detector
	2483.500	15.54	32.97	48.51	74.00	-25.49	Peak Detector