FCC PART 15.247

TEST REPORT

For

MAIXIN GROUP (CHINA) CO., LIMITED

Room 1223,NanGuangJieJia Building,Shennan Middle Road,Futian District,Shenzhen, China

FCC ID: 2ACAEMAPANWATCH

Report Type:	**Product Type:**
Original Report	Smart Watch Phone

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Report Number:	RDG160408801-00A
Report Date:	2016-04-19
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Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Dongguan).

TABLE OF CONTENTS

GENERAL INFORMATION **4**
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT) 4
OBJECTIVE 4
RELATED SUBMITTAL(S)/GRANT(S) 4
TEST METHODOLOGY 4
TEST FACILITY 4
SYSTEM TEST CONFIGURATION **5**
DESCRIPTION OF TEST CONFIGURATION 5
EQUIPMENT MODIFICATIONS 5
EUT EXERCISE SOFTWARE 5
SUPPORT EQUIPMENT LIST AND DETAILS 5
EXTERNAL CABLE 5
BLOCK DIAGRAM OF TEST SETUP 6
SUMMARY OF TEST RESULTS **7**
FCC §15.247 (i) & §1.1310 & §2.1093- RF EXPOSURE **8**
APPLICABLE STANDARD 8
FCC §15.203 - ANTENNA REQUIREMENT **9**
APPLICABLE STANDARD 9
ANTENNA CONNECTOR CONSTRUCTION 9
FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS **10**
APPLICABLE STANDARD 10
MEASUREMENT UNCERTAINTY 10
EUT SETUP 10
EMI TEST RECEIVER SETUP 11
TEST PROCEDURE 11
CORRECTED AMPLITUDE & MARGIN CALCULATION 11
TEST EQUIPMENT LIST AND DETAILS 12
TEST RESULTS SUMMARY 12
TEST DATA 12
FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS **15**
APPLICABLE STANDARD 15
MEASUREMENT UNCERTAINTY 15
EUT SETUP 15
EMI TEST RECEIVER & SPECTRUM ANALYZER SETUP 16
TEST PROCEDURE 16
CORRECTED AMPLITUDE & MARGIN CALCULATION 17
TEST EQUIPMENT LIST AND DETAILS 17
TEST RESULTS SUMMARY 17
TEST DATA 17
FCC §15.247(a) (2) – 6 dB EMISSION BANDWIDTH **21**
APPLICABLE STANDARD 21
TEST PROCEDURE 21
TEST EQUIPMENT LIST AND DETAILS 21
TEST DATA 21
FCC §15.247(b) (3) - MAXIMUM CONDUCTED OUTPUT POWER **24**

APPLICABLE STANDARD 24
TEST PROCEDURE 24
TEST EQUIPMENT LIST AND DETAILS 24
TEST DATA 24

FCC §15.247(d) – 100 kHz BANDWIDTH OF FREQUENCY BAND EDGE 26

APPLICABLE STANDARD 26
TEST PROCEDURE 26
TEST EQUIPMENT LIST AND DETAILS 26
TEST DATA 26

FCC §15.247(e) - POWER SPECTRAL DENSITY 28

APPLICABLE STANDARD 28
TEST PROCEDURE 28
TEST EQUIPMENT LIST AND DETAILS 28
TEST DATA 28

DECLARATION LETTER 31

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *MAIXIN GROUP (CHINA) CO., LIMITED*'s product, model number: *MW09 (FCC ID: 2ACAEMAPANWATCH)* (the "EUT") in this report was a *Smart Watch Phone*, which was measured approximately: 26.5cm (L) x 4.1cm (W) x 1.2cm (H), rated input voltage: DC3.7V rechargeable Li-ion battery.

Note: The series product, model MW09 and MW01, MW02, MW03, MW04, MW08, MW05, MW06, MW07, MW10 are electrically identical, the difference between them was explained in the attached declaration letter, we selected MW09 for fully testing.

All measurement and test data in this report was gathered from production sample serial number: 160408801 (Assigned by BACL, Dongguan). The EUT was received on 2016-04-11.

Objective

This report is prepared on behalf of *MAIXIN GROUP (CHINA) CO., LIMITED* in accordance with Part 2, Subpart J, Part 15, Subparts A, B and C of the Federal Communications Commission's rules

The tests were performed in order to determine the compliance of the EUT with FCC Part 15-Subpart C, section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

Related Submittal(s)/Grant(s)

FCC Part 15C DSS submissions with FCC ID: 2ACAEMAPANWATCH.
FCC Part 22H, 24E PCE submissions with FCC ID: 2ACAEMAPANWATCH.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

All emissions measurement was performed and Bay Area Compliance Laboratories Corp. (Dongguan).

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industrial Zone, Tangxia, Dongguan, Guangdong, China

Test site at Bay Area Compliance Laboratories Corp. (Dongguan) has been fully described in reports submitted to the Federal Communications Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 06, 2015.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 273710. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in testing mode, which was provided by manufacturer.
For Bluetooth LE mode, 40 channels are provided for testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	20	2442
1	2404	…	…
…	…	…	…
…	…	…	…
..	…	38	2478
19	2440	39	2480

EUT was tested with channel 0, 19 and 39.

Equipment Modifications

No modification was made to the EUT tested.

EUT Exercise Software

The engineering mode configured the maximum power as default setting.

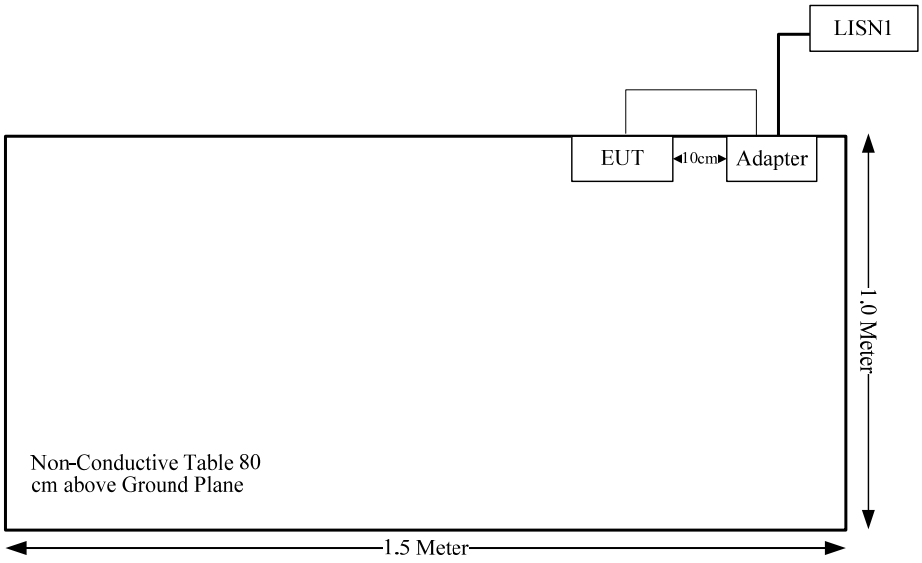
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
MAX	Adapter	LPL-A005050100Z	N/A

External Cable

Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
USB Cable	No	No	1.0	adapter	EUT

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
FCC §15.247 (i) & §1.1310 & §2.1093	RF Exposure	Compliance
§15.203	Antenna Requirement	Compliance
§15.207 (a)	AC Line Conducted Emissions	Compliance
§15.247(d)	Spurious Emissions at Antenna Port	Compliance
§15.205, §15.209, §15.247(d)	Spurious Emissions	Compliance
§15.247 (a)(2)	6 dB Emission Bandwidth	Compliance
§15.247(b)(3)	Maximum conducted output power	Compliance
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Compliance
§15.247(e)	Power Spectral Density	Compliance

FCC §15.247 (i) & §1.1310 & §2.1093- RF EXPOSURE

Applicable Standard

According to§15.247(i) and §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

According to KDB447498 D01 General RF Exposure Guidance v06:

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

Measurement Result

The Max tune-up power is 1.9 dBm (1.55mW).
[(max. power of channel, mW)/(min. test separation distance, mm)][√f(GHz)]
= 1.55/5*(√2.48) = 0.5 < 3.0

So the stand-alone SAR evaluation is not necessary.

FCC §15.203 - ANTENNA REQUIREMENT

Applicable Standard

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 user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

a. Antenna must be permanently attached to the unit.
b. Antenna must use a unique type of connector to attach to the EUT.

Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

Antenna Connector Construction

The EUT has one integral antenna arrangement for buletooth and the antenna gain is 2.0 dBi, fulfill the requirement of this section. Please refer to the EUT photos.

Result: Compliance.

FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC§15.207

Measurement Uncertainty

Compliance or non- compliance with a disturbance limit shall be determined in the following manner:

If U_{lab} is less than or equal to U_{cispr} of Table 1, then:
- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non - compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

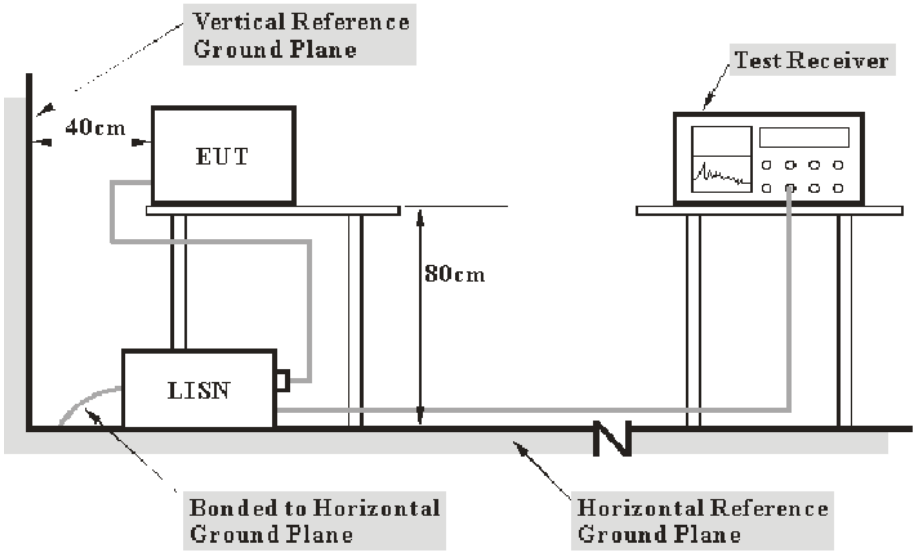
If U_{lab} is greater than U_{cispr} of Table 1, then:
- compliance is deemed to occur if no measured disturbance level, increased by ($U_{lab} - U_{cispr}$), exceeds the disturbance limit;
- non - compliance is deemed to occur if any measured disturbance level, increased by ($U_{lab} - U_{cispr}$), exceeds the disturbance limit.

Based on CISPR 16-4-2-2011, measurement uncertainty of conducted disturbance at mains port using AMN at Bay Area Compliance Laboratories Corp. (Dongguan) is 3.12 dB (150 kHz to 30 MHz).

Table 1 – Values of U_{cispr}

Measurement	U_{cispr}
Conducted disturbance at mains port using AMN (150 kHz to 30 MHz)	3.4 dB

EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

The adapter was connected to a 120 VAC/60 Hz power source

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

Test Procedure

During the conducted emission test, the adapter was connected to the first LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

Corrected Amplitude & Margin Calculation

The basic equation is as follows:

$V_C = V_R + A_C + VDF$
$C_f = A_C + VDF$

Herein,
V_C (cord. Reading): corrected voltage amplitude
V_R: reading voltage amplitude
A_c: attenuation caused by cable loss
VDF: voltage division factor of AMN
C_f: Correction Factor

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of 7dB means the emission is 7dB below the maximum limit. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCS 30	830245/006	2015-10-20	2016-10-20
R&S	L.I.S.N	ESH2-Z5	892107/021	2015-06-09	2016-06-09
R&S	Two-line V-network	ENV 216	3560.6550.12	2015-11-26	2016-11-25
N/A	Coaxial Cable	1.8m	N/A	2015-05-06	2016-05-06
R&S	Test Software	EMC32	Version8.53.0	N/A	N/A

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.207, with the worst margin reading of:

22.1 dB at **0.528270 MHz** in the **Neutral** conducted mode

Test Data

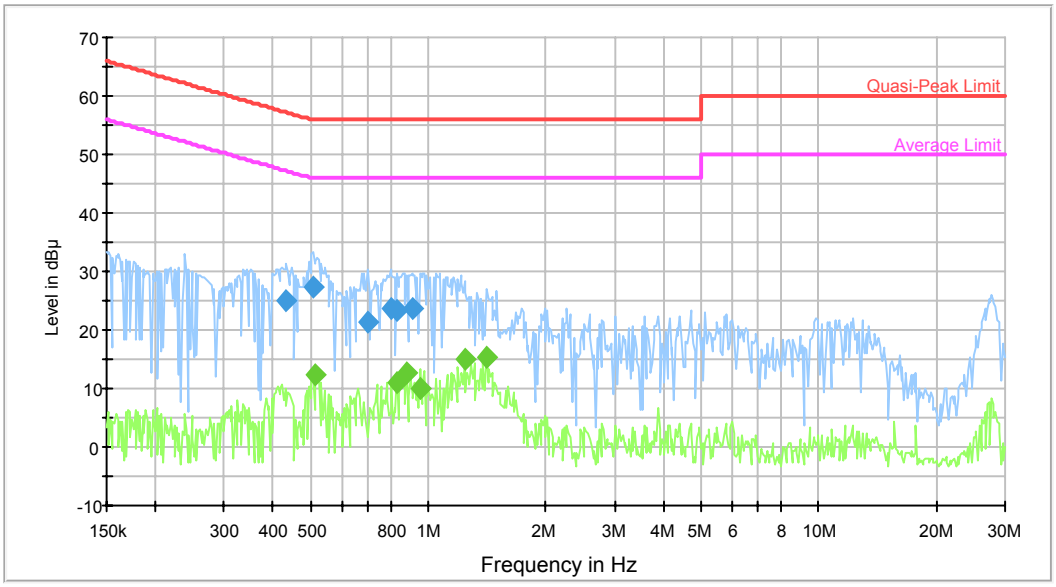
Environmental Conditions

Temperature:	27.8°C
Relative Humidity:	49 %
ATM Pressure:	100.7kPa

The testing was performed by Robin Zheng on 2016-04-12.

Test Mode: Transmitting

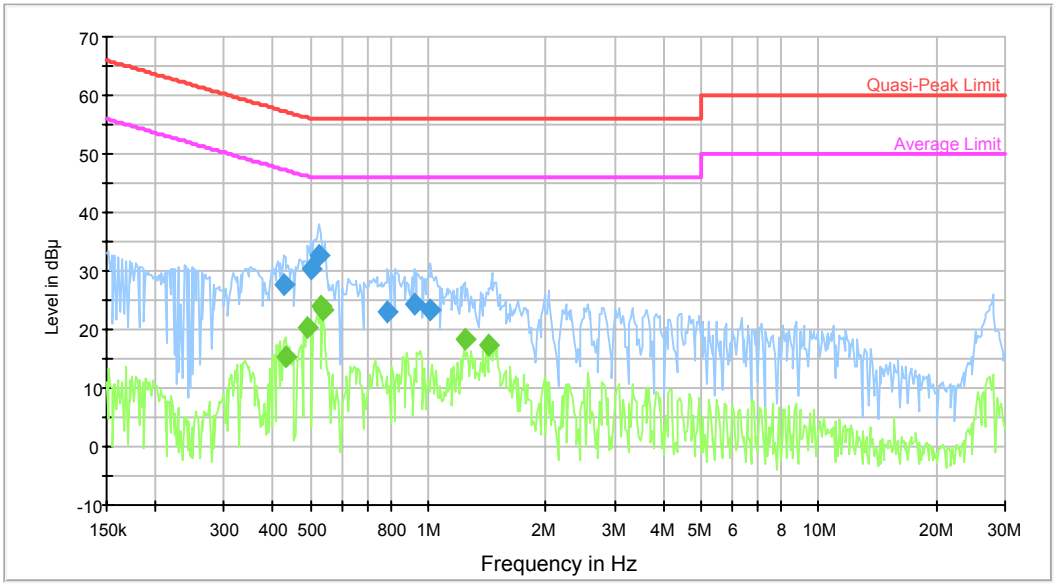
AC120 V, 60 Hz, Line:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.432855	25.1	9.000	L1	9.8	32.1	57.2	Compliance
0.507637	27.5	9.000	L1	9.8	28.5	56.0	Compliance
0.698191	21.4	9.000	L1	9.8	34.6	56.0	Compliance
0.799472	23.8	9.000	L1	9.8	32.2	56.0	Compliance
0.831967	23.4	9.000	L1	9.8	32.6	56.0	Compliance
0.908180	23.8	9.000	L1	9.8	32.2	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.515791	12.3	9.000	L1	9.8	33.7	46.0	Compliance
0.831967	11.2	9.000	L1	9.8	34.8	46.0	Compliance
0.879690	12.7	9.000	L1	9.8	33.3	46.0	Compliance
0.952654	10.0	9.000	L1	9.8	36.0	46.0	Compliance
1.239175	15.0	9.000	L1	9.8	31.0	46.0	Compliance
1.407671	15.5	9.000	L1	9.8	30.5	46.0	Compliance

AC120 V, 60 Hz, Neutral:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.426011	27.7	9.000	N	9.7	29.6	57.3	Compliance
0.499611	30.2	9.000	N	9.7	25.8	56.0	Compliance
0.524077	32.6	9.000	N	9.7	23.4	56.0	Compliance
0.786832	23.1	9.000	N	9.7	32.9	56.0	Compliance
0.922769	24.2	9.000	N	9.8	31.8	56.0	Compliance
1.015358	23.4	9.000	N	9.8	32.6	56.0	Compliance

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.429420	15.3	9.000	N	9.7	32.0	47.3	Compliance
0.487810	20.2	9.000	N	9.7	26.0	46.2	Compliance
0.528270	23.9	9.000	N	9.7	**22.1**	46.0	Compliance
0.536756	23.3	9.000	N	9.7	22.7	46.0	Compliance
1.239175	18.3	9.000	N	9.8	27.7	46.0	Compliance
1.430284	17.3	9.000	N	9.8	28.7	46.0	Compliance

FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

Applicable Standard

FCC §15.247 (d); §15.209; §15.205;

Measurement Uncertainty

Compliance or non- compliance with a disturbance limit shall be determined in the following manner:

If U_{lab} is less than or equal to U_{cispr} of Table 2, then:
- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non - compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

If U_{lab} is greater than U_{cispr} of Table 2, then:
- compliance is deemed to occur if no measured disturbance level, increased by ($U_{lab} - U_{cispr}$), exceeds the disturbance limit;
- non - compliance is deemed to occur if any measured disturbance level, increased by ($U_{lab} - U_{cispr}$), exceeds the disturbance limit.

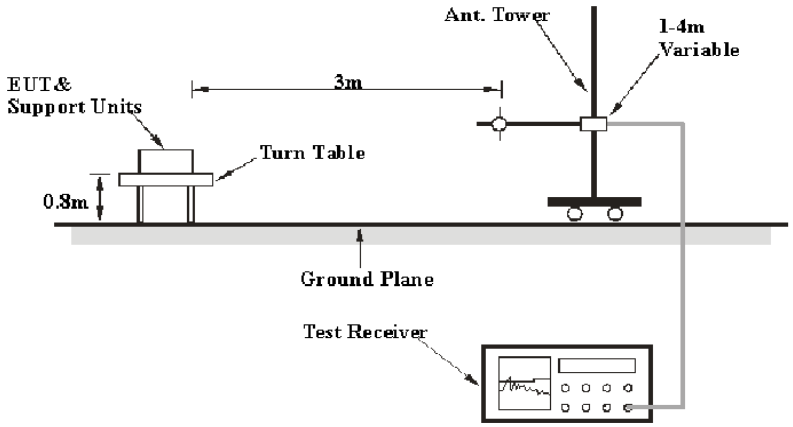
Based on CISPR 16-4-2-2011, measurement uncertainty of radiated emission at a distance of 3m at Bay Area Compliance Laboratories Corp. (Dongguan) is:30M~200MHz: 4.58 dB for Horizontal, 4.59 dB for Vertical; 200M~1GHz: 4.83 dB for Horizontal, 5.85 dB for Vertical; 1G~6GHz: 4.45 dB, 6G~18GHz: 5.23 dB

Table 2 – Values of U_{cispr}

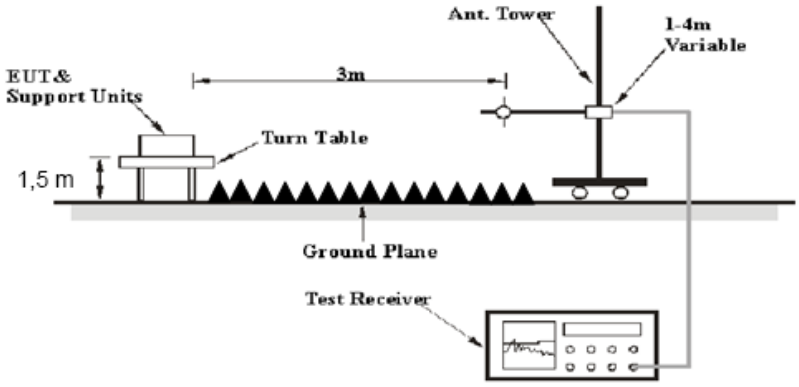
Measurement	U_{cispr}
Radiated disturbance (electric field strength at an OATS or in a SAC) (30 MHz to 1000 MHz)	6.3 dB
Radiated disturbance (electric field strength in a FAR) (1 GHz to 6 GHz)	5.2 dB
Radiated disturbance (electric field strength in a FAR) (6 GHz to 18 GHz)	5.5 dB

EUT Setup

Below 1GHz:



Above 1GHz:



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209, and FCC 15.247 limits.
The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 25 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Detector
30 MHz – 1000 MHz	120 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1MHz	3 MHz	/	PK
	1MHz	10 Hz	/	AV

Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz-1 GHz, peak and Average detection modes for frequencies above 1 GHz.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Loss and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude = Meter Reading + Antenna Loss + Cable Loss - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin = Limit –Corrected Amplitude

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCI	100224	2015-08-03	2016-08-02
Sunol Sciences	Antenna	JB3	A060611-3	2014-11-06	2017-11-05
HP	Amplifier	8447E	2434A02181	2015-09-01	2016-09-01
Agilent	Spectrum Analyzer	E4440A	SG43360054	2015-11-23	2016-11-22
ETS-Lindgren	Horn Antenna	3115	9808-5557	2015-09-06	2018-09-06
Mini-Circuit	Amplifier	ZVA-213-S+	054201245	2016-02-19	2017-02-19
R&S	Spectrum Analyzer	FSP 38	100478	2015-11-23	2016-11-22
Ducommun Technolagies	Horn Antenna	ARH-4223-02	1007726-01 1304	2014-06-16	2017-06-15
Quinstar	Amplifier	QLW-18405536-JO	15964001001	2015-09-06	2016-09-06
N/A	Coaxial Cable	14m	N/A	2015-05-06	2016-05-06
N/A	Coaxial Cable	8m	N/A	2015-05-06	2016-05-06
N/A	Coaxial Cable	0.1m	N/A	2015-05-06	2016-05-06
E-Microwave	DC Blocking	EMDCB-00036	0E01201047	2015-05-06	2016-05-06

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Title 47, Part 15, Section 15.205, 15.209 and 15.247, with the worst margin reading of:

2.20 dB at **2400 MHz** in the **Horizontal** polarization

Test Data

Environmental Conditions

Temperature:	26.4 °C
Relative Humidity:	58 %
ATM Pressure:	101.2kPa

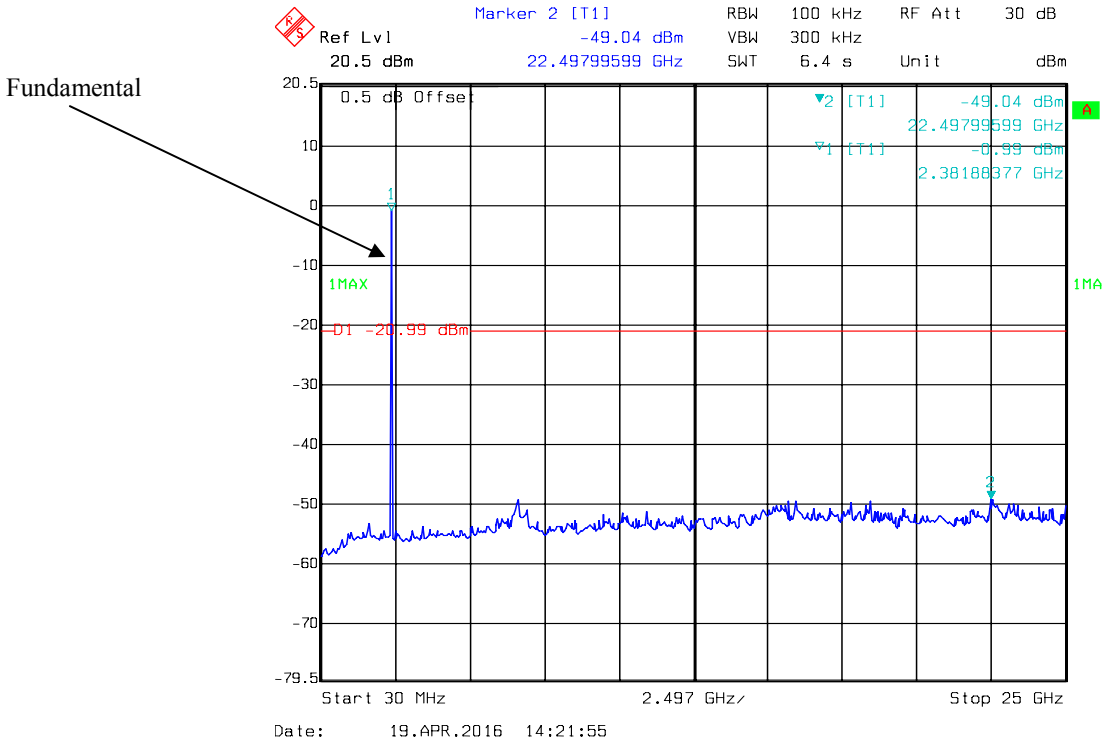
** The testing was performed by Robin Zheng on 2016-04-19.*

Test Mode: Transmitting
BLE Mode

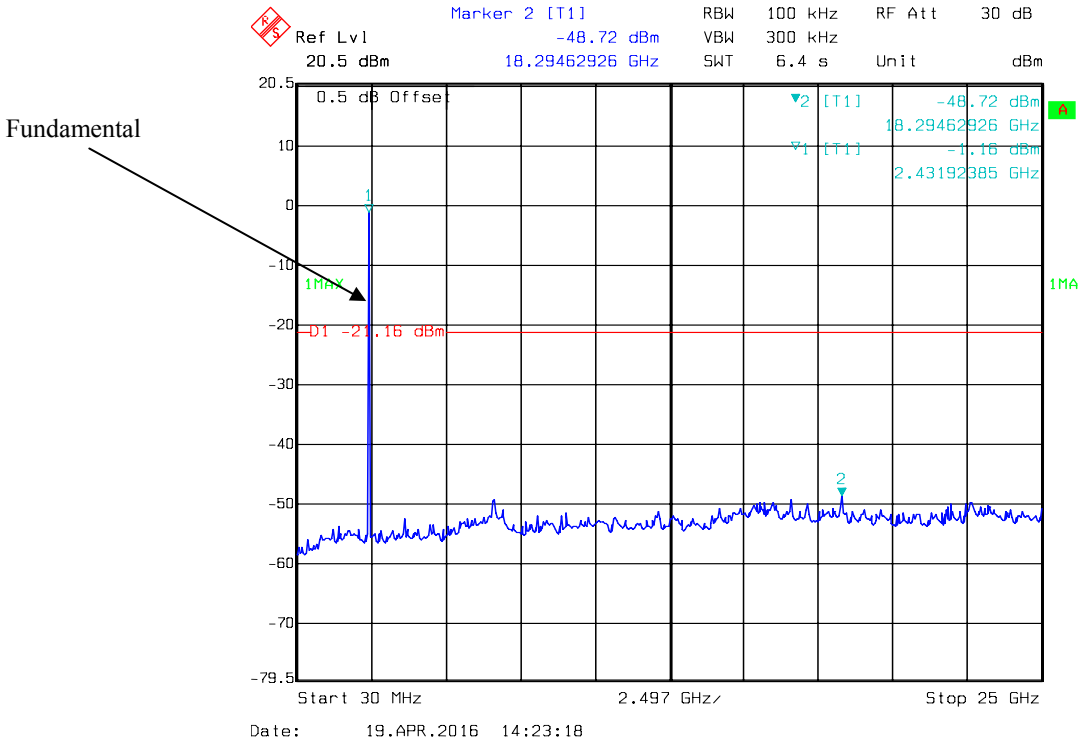
Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBµV/m)	Limit (dBµV/m)	Margin (dB)
	Reading (dBµV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Low Channel: 2402 MHz									
2402	64.79	PK	H	25.65	3.66	0.00	94.10	N/A	N/A
2402	59.74	AV	H	25.65	3.66	0.00	89.05	N/A	N/A
2402	63.52	PK	V	25.65	3.66	0.00	92.83	N/A	N/A
2402	58.48	AV	V	25.65	3.66	0.00	87.79	N/A	N/A
2400	42.51	PK	H	25.64	3.65	0.00	71.80	74.00	2.20
2400	20.09	AV	H	25.64	3.65	0.00	49.38	54.00	4.62
4804	41.53	PK	H	30.59	5.06	27.41	49.77	74.00	24.23
4804	31.47	AV	H	30.59	5.06	27.41	39.71	54.00	14.29
7206	30.71	PK	H	34.09	6.61	25.91	45.50	74.00	28.50
7206	18.28	AV	H	34.09	6.61	25.91	33.07	54.00	20.93
9608	29.67	PK	H	35.96	8.53	27.55	46.61	74.00	27.39
9608	16.72	AV	H	35.96	8.53	27.55	33.66	54.00	20.34
4200	41.16	PK	H	29.86	4.98	27.07	48.93	74.00	25.07
4200	38.23	AV	H	29.86	4.98	27.07	46.00	54.00	8.00
261.5	29.1	QP	H	13.00	1.95	21.50	22.55	46.00	23.45
Middle Channel: 2440 MHz									
2440	65.18	PK	H	25.74	3.76	0.00	94.68	N/A	N/A
2440	60.26	AV	H	25.74	3.76	0.00	89.76	N/A	N/A
2440	63.93	PK	V	25.74	3.76	0.00	93.43	N/A	N/A
2440	59.03	AV	V	25.74	3.76	0.00	88.53	N/A	N/A
4880	42.31	PK	H	30.79	5.18	27.42	50.86	74.00	23.14
4880	32.2	AV	H	30.79	5.18	27.42	40.75	54.00	13.25
7320	30.82	PK	H	34.37	6.75	25.88	46.06	74.00	27.94
7320	18.46	AV	H	34.37	6.75	25.88	33.70	54.00	20.30
9760	29.82	PK	H	36.32	8.62	27.21	47.55	74.00	26.45
9760	16.89	AV	H	36.32	8.62	27.21	34.62	54.00	19.38
4200	40.65	PK	H	29.86	4.98	27.07	48.42	74.00	25.58
4200	37.79	AV	H	29.86	4.98	27.07	45.56	54.00	8.44
3280	33.47	PK	H	28.10	5.61	27.30	39.88	74.00	34.12
3280	20.89	AV	H	28.10	5.61	27.30	27.30	54.00	26.70
261.5	29.3	QP	H	13.00	1.95	21.50	22.75	46.00	23.25
High Channel: 2480 MHz									
2480	65.39	PK	H	25.85	3.68	0.00	94.92	N/A	N/A
2480	60.47	AV	H	25.85	3.68	0.00	90.00	N/A	N/A
2480	64.1	PK	V	25.85	3.68	0.00	93.63	N/A	N/A
2480	59.34	AV	V	25.85	3.68	0.00	88.87	N/A	N/A
2483.5	41.85	PK	H	25.86	3.67	0.00	71.38	74.00	2.62
2483.5	14.43	AV	H	25.86	3.67	0.00	43.96	54.00	10.04
4960	43.04	PK	H	31.00	5.34	27.43	51.95	74.00	22.05
4960	32.98	AV	H	31.00	5.34	27.43	41.89	54.00	12.11
7440	30.94	PK	H	34.66	6.89	25.97	46.52	74.00	27.48
7440	18.63	AV	H	34.66	6.89	25.97	34.21	54.00	19.79
9920	29.98	PK	H	36.71	8.71	26.66	48.74	74.00	25.26
9920	17.07	AV	H	36.71	8.71	26.66	35.83	54.00	18.17
4200	40.89	PK	H	29.86	4.98	27.07	48.66	74.00	25.34
4200	38.05	AV	H	29.86	4.98	27.07	45.82	54.00	8.18
261.5	29.1	QP	H	13.00	1.95	21.50	22.55	46.00	23.45

Conducted Spurious Emissions at Antenna Port

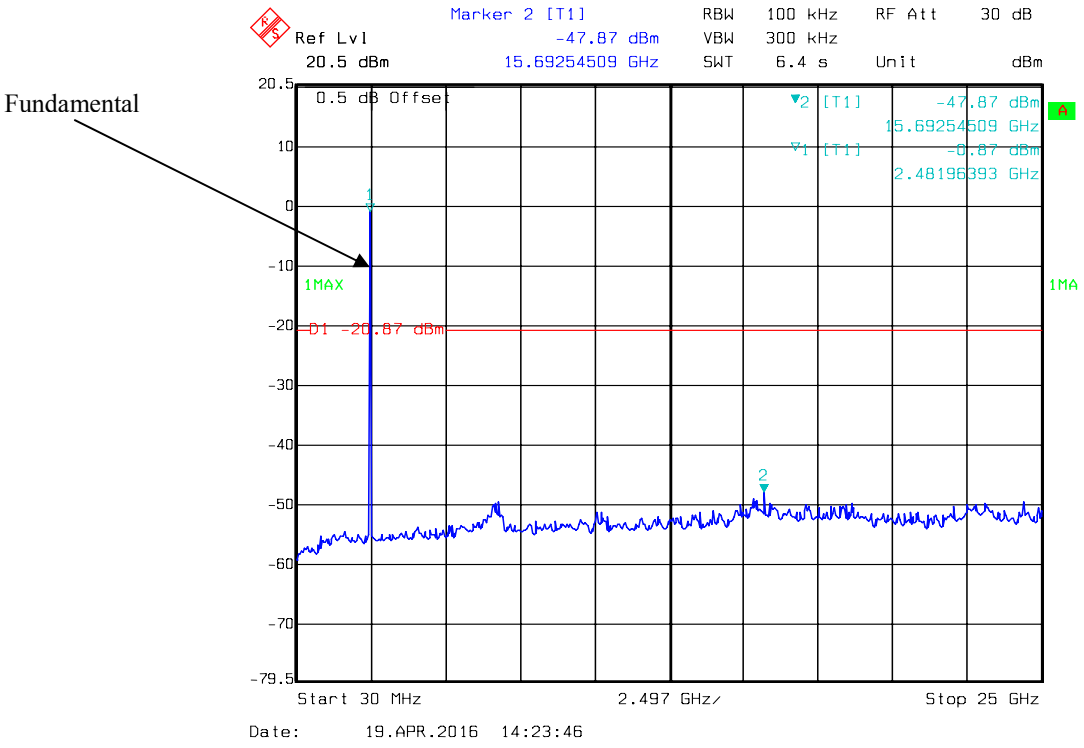
BLE Low Channel



BLE Middle Channel



BLE High Channel



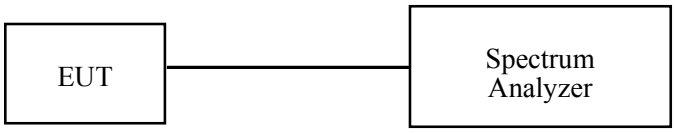
FCC §15.247(a) (2) – 6 dB EMISSION BANDWIDTH

Applicable Standard

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

Test Procedure

a) Set RBW = 100 kHz.
b) Set the video bandwidth (VBW) ≥ 3×RBW
c) Detector = Peak.
d) Trace mode = max hold.
e) Sweep = auto couple.
f) Allow the trace to stabilize.
g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSEM	DE31388	2015-05-09	2016-05-09
N/A	Coaxial Cable	0.1m	N/A	2015-05-06	2016-05-06
E-Microwave	DC Blocking	EMDCB-00036	0E01201047	2015-05-06	2016-05-06

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	26.5 °C
Relative Humidity:	58 %
ATM Pressure:	100.5 kPa

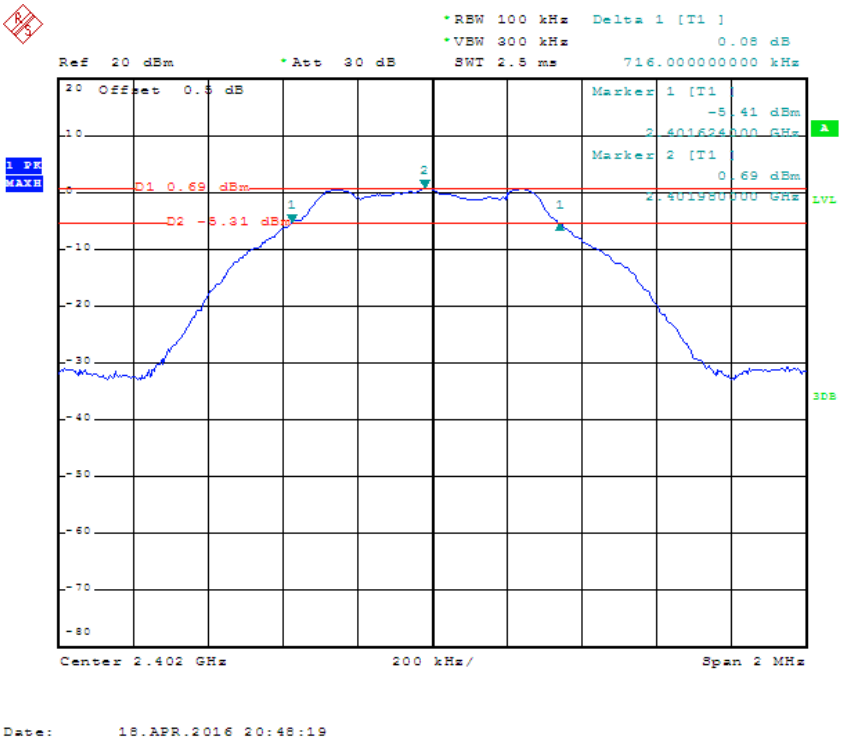
** The testing was performed by Robin Zheng on 2016-04-18*

Test Mode: Transmitting

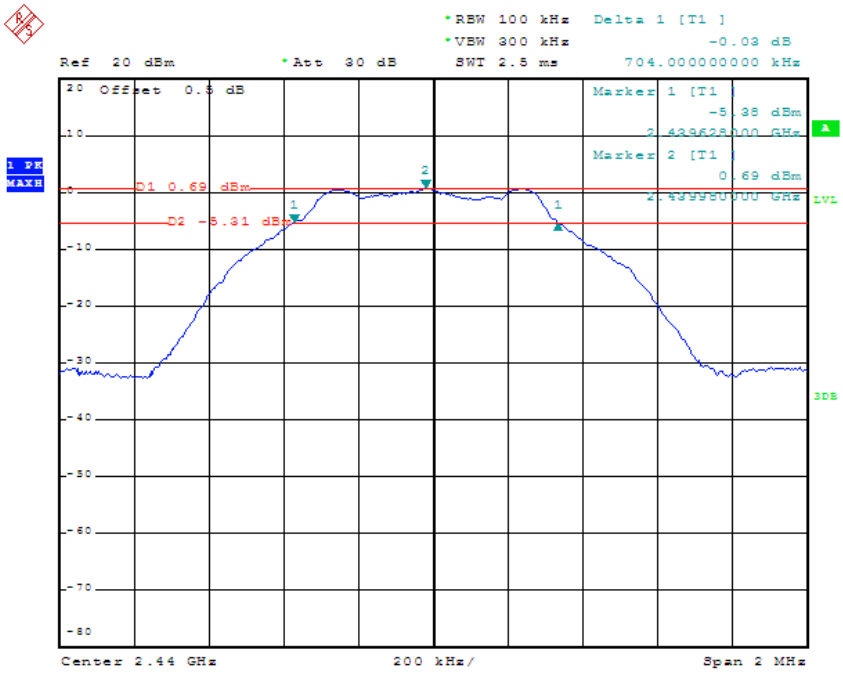
Test Result: Compliant. Please refer to the following table and plots.

Test mode	Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (MHz)
BLE	Low	2402	0.72	≥0.5
	Middle	2440	0.70	≥0.5
	High	2480	0.70	≥0.5

BLE Low Channel



BLE Middle Channel



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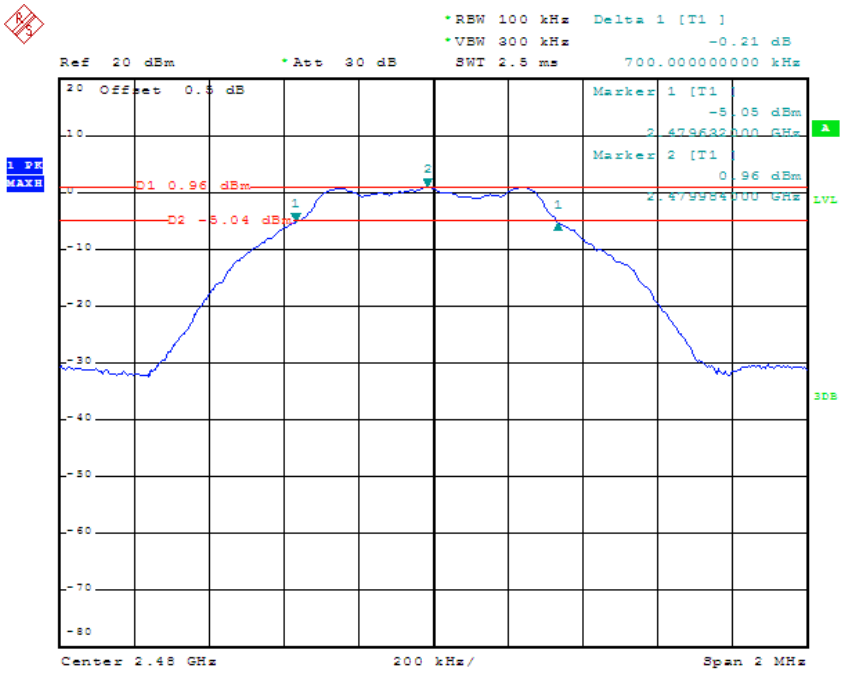
BLE High Channel



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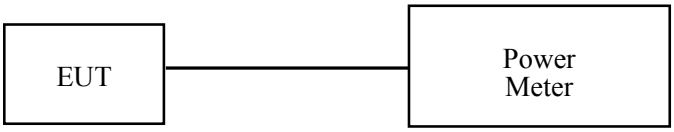
FCC §15.247(b) (3) - MAXIMUM CONDUCTED OUTPUT POWER

Applicable Standard

According to FCC §15.247(b) (3), for systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

Test Procedure

1. Place the EUT on a bench and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to test equipment.
3. Add a correction factor to the display.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Agilent	Wideband Power Sensor	N1921A	MY54210016	2015-11-03	2016-11-03
Agilent	Wideband Power Sensor	N1921A	MY54170013	2015-11-03	2016-11-03
Agilent	P-Series Power Meter	N1912A	MY5000448	2015-11-03	2016-11-03
N/A	Coaxial Cable	0.1m	N/A	2015-05-06	2016-05-06
E-Microwave	DC Blocking	EMDCB-00036	0E01201047	2015-05-06	2016-05-06

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	26.5 °C
Relative Humidity:	58 %
ATM Pressure:	100.5 kPa

** The testing was performed by Robin Zheng on 2016-04-18*

Test Mode: Transmitting

Test Result: Compliant. Please refer to the following table.

Test mode	Channel	Frequency (MHz)	Max Peak Conducted Output Power (dBm)	Limit (dBm)	Result
BLE	Low	2402	1.63	30	Compliance
	Middle	2440	1.6	30	Compliance
	High	2480	1.78	30	Compliance

FCC §15.247(d) – 100 kHz BANDWIDTH OF FREQUENCY BAND EDGE

Applicable Standard

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 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, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSEM	DE31388	2015-05-09	2016-05-09
N/A	Coaxial Cable	0.1m	N/A	2015-05-06	2016-05-06
E-Microwave	DC Blocking	EMDCB-00036	0E01201047	2015-05-06	2016-05-06

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

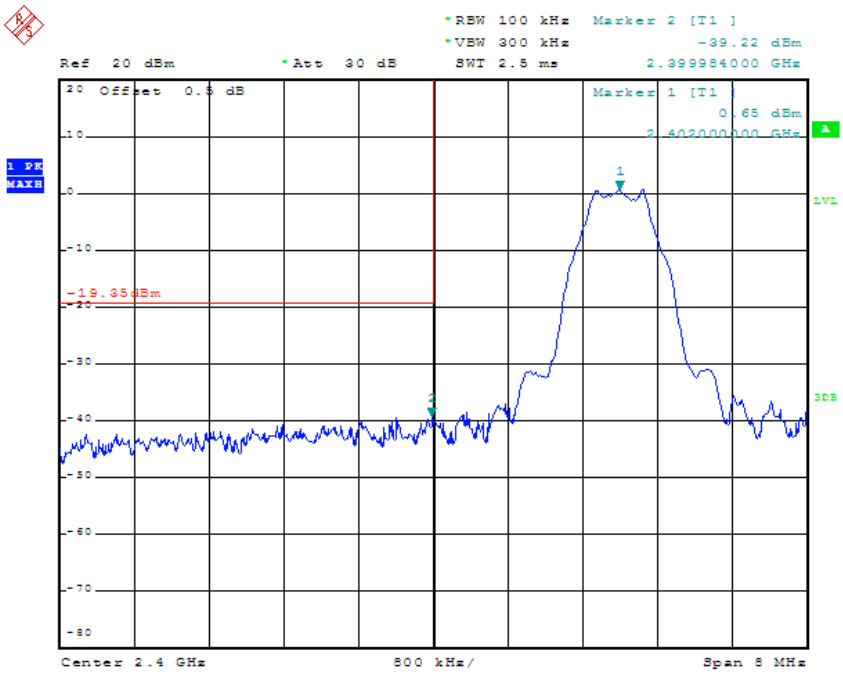
Environmental Conditions

Temperature:	26.5 °C
Relative Humidity:	58 %
ATM Pressure:	100.5 kPa

** The testing was performed by Robin Zheng on 2016-04-18*

Test mode: Transmitting
Test Result: Compliant. Please refer to following plots.

BLE Band Edge，Left Side



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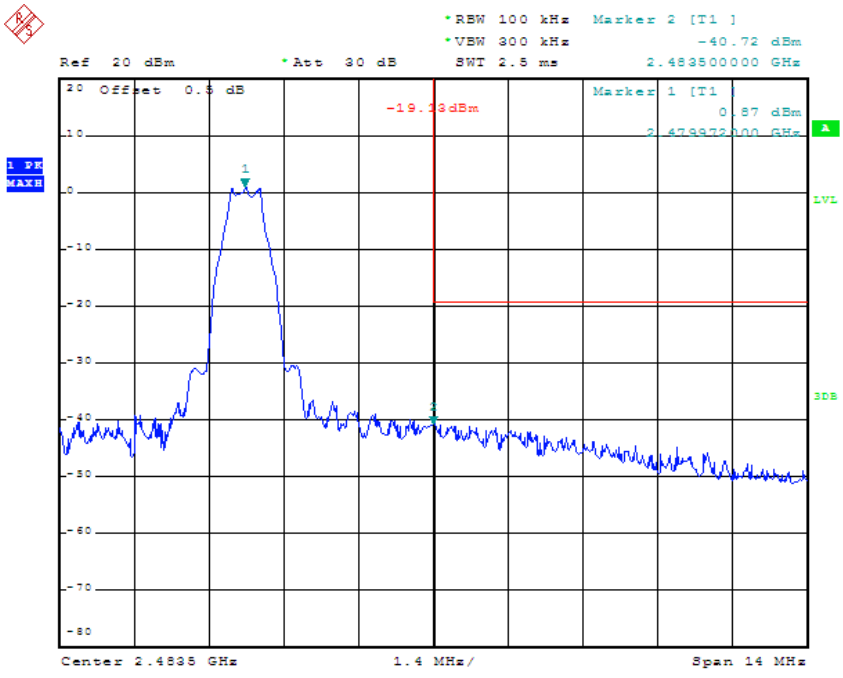
BLE Band Edge, Right Side



Date: 18.APR.2016 20:52:38

FCC §15.247(e) - POWER SPECTRAL DENSITY

Applicable Standard

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

Test Procedure

a) Set analyzer center frequency to DTS channel center frequency.
b) Set the span to 1.5 times the DTS bandwidth.
c) Set the RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
d) Set the VBW ≥ 3×RBW.
e) Detector = peak.
f) Sweep time = auto couple.
g) Trace mode = max hold.
h) Allow trace to fully stabilize.
i) Use the peak marker function to determine the maximum amplitude level within the RBW.
j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSEM	DE31388	2015-05-09	2016-05-09
N/A	Coaxial Cable	0.1m	N/A	2015-05-06	2016-05-06
E-Microwave	DC Blocking	EMDCB-00036	0E01201047	2015-05-06	2016-05-06

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	26.5 °C
Relative Humidity:	58 %
ATM Pressure:	100.5 kPa

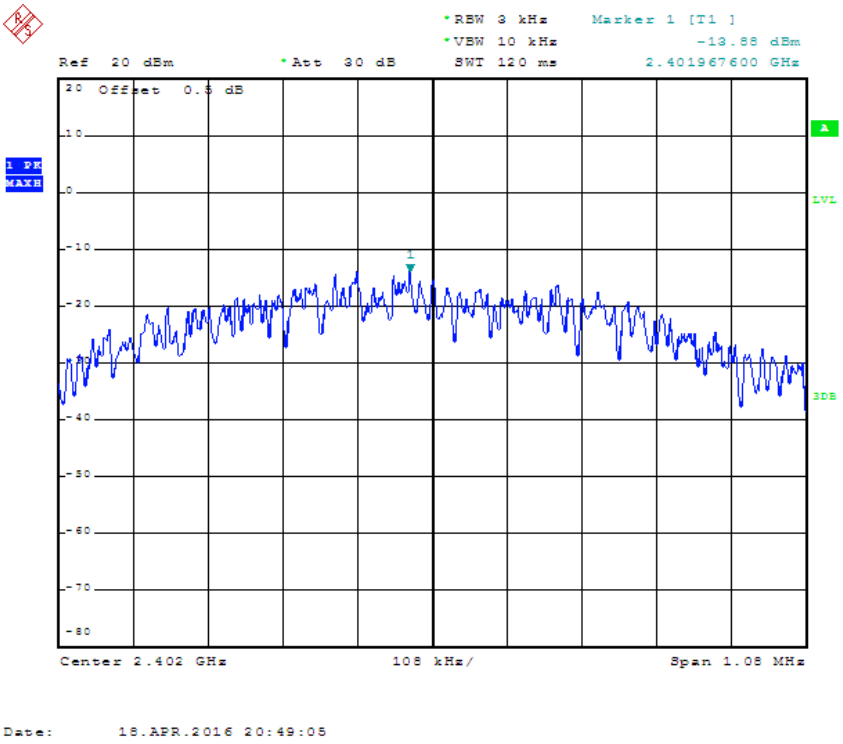
** The testing was performed by Robin Zheng on 2016-04-18*

Test Mode: Transmitting

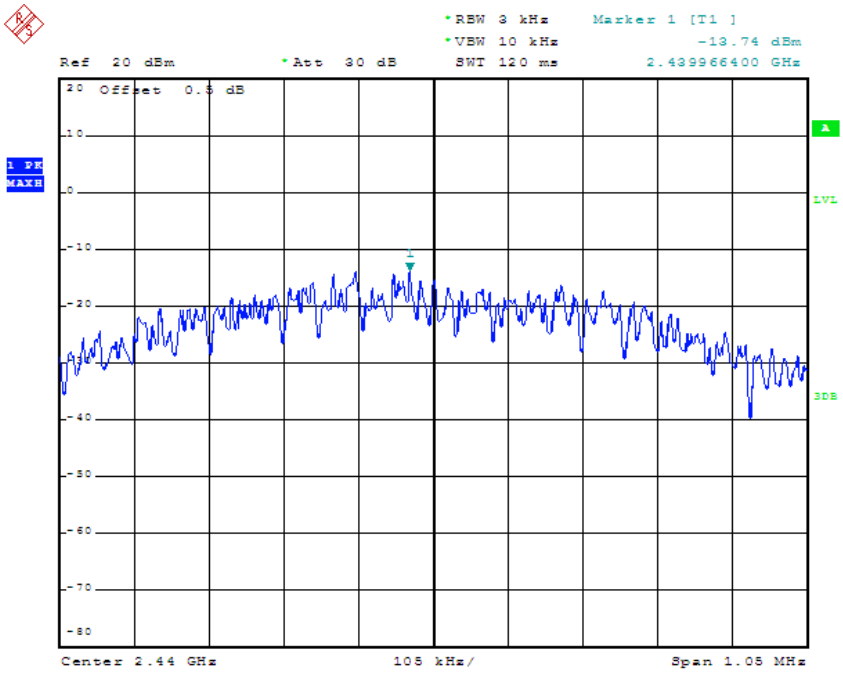
Test Result: Compliant. Please refer to the following table and plots

Test mode	Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)
BLE	Low	2402	-13.88	≤8
	Middle	2440	-13.74	≤8
	High	2480	-13.53	≤8

Power Spectral Density, BLE Low Channel



Power Spectral Density, BLE Middle Channel



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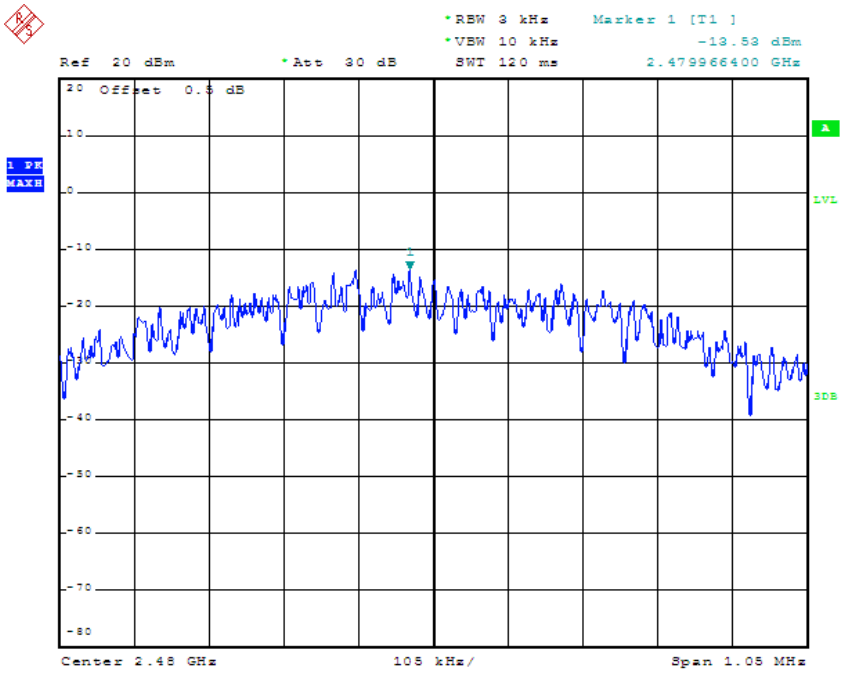
Power Spectral Density, BLE High Channel



Date: 18.APR.2016 20:52:17

DECLARATION LETTER

MaPan

MAIXIN GROUP (CHINA) CO., LIMITED
ADD: Room 1223, NanGuangJieJia Building, Shennan Middle Road, Futian District, Shenzhen,China
TEL: 86-755-88306860 E-mail: maixingroup@yahoo.com

DECLARATION OF SIMILARITY

Date: 2016-04-08
FEDERAL COMMUNICATIONS COMMISSION
Authorization and Evaluation Division
7435 Oakland Mills Road
Columbia, MD 21046

Subject: declaration of similarity for FCC ID: 2ACAEMAPANWATCH

We, MAIXIN GROUP (CHINA) CO., LIMITED, hereby declare that product: Smart Watch Phone, model: MW09, which was tested by BACL with additional models: MW01, MW02, MW03, MW04, MW08, MW05, MW06, MW07, MW10, which with the same FCC ID: 2ACAEMAPANWATCH. The tested model and additional models are different in model names and appearance colors, the rest is totally same.

Please contact me should there be need for any additional clarification or information.

Best Regards,

Sincerely

Signature:
Jack Lin
CEO

for and on behalf of
MAIXIN GROUP (CHINA) CO., LIMITED
麥星集團(中國)有限公司

Authorized Signature(s)

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******* END OF REPORT *******