

ETSI EN 301 783 V2.1.1 (2016-01)

## TEST REPORT


For

### Quanzhou Wouxun Electronics Co., Ltd.

No.928 Nanhuan Road, Jiangnan High Technology Industry Park, Quanzhou, Fujian, China

**Tested Model: KG-UV9D**

**Multiple Model: KG-UVD1P, KG-UV2D, KG-UV3D, KG-UV5D, KG-UV6D, KG-UV6D V2, KG-UVA1, KG-UV8D, KG-UV8D(Plus), KG-UV9D(Plus), KG-UV8E, KG-UV66, KG-UV899, KG-UV8T, KG-UVN1, KG-UV8Q, KG-UV8H, KG-UV9T, KG-UV9P, KG-UV9K**

<b>Report Type:</b> Original Report	<b>Product Type:</b> Two-Way Radio
<b>Report Number:</b> RXM161028057-22	
<b>Report Date:</b> 2017-02-21	
<b>Reviewed By:</b> Dean Liu RF Engineer	
<b>Test Laboratory:</b> Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industrial Zone, Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 <a href="http://www.baclcorp.com.cn">www.baclcorp.com.cn</a>	

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**

<b>GENERAL INFORMATION.....</b>	<b>4</b>
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT) .....	4
OBJECTIVE .....	4
RELATED SUBMITTAL(S)/GRANT(S).....	4
TEST METHODOLOGY .....	4
TEST FACILITY .....	5
<b>SYSTEM TEST CONFIGURATION.....</b>	<b>6</b>
DESCRIPTION OF TEST CONFIGURATION .....	6
SUPPORT EQUIPMENT LIST AND DETAILS .....	6
EXTERNAL CABLE.....	6
BLOCK DIAGRAM OF TEST SETUP .....	6
<b>SUMMARY OF TEST RESULTS .....</b>	<b>7</b>
<b>ETSI EN 301 783 V2.1.1 (2016-01) §5.1 –MAXIMUM POWER (PX) (CONDUCTED) .....</b>	<b>8</b>
DEFINITION .....	8
METHOD OF MEASUREMENT.....	8
TEST EQUIPMENT LIST AND DETAILS.....	8
TEST DATA .....	8
<b>ETSI EN 301 783 V2.1.1 (2016-01) §5.2 –UNWANTED EMISSIONS IN THE SPURIOUS DOMAIN.....</b>	<b>10</b>
DEFINITION .....	10
LIMITS.....	10
METHOD OF MEASUREMENT.....	10
TEST EQUIPMENT LIST AND DETAILS.....	11
TEST DATA .....	11
<b>ETSI EN 301 783 V2.1.1 (2016-01) §5.3 –SPURIOUS RADIATIONS.....</b>	<b>18</b>
DEFINITION .....	18
LIMITS.....	18
METHOD OF MEASUREMENT.....	18
TEST EQUIPMENT LIST AND DETAILS.....	19
TEST DATA .....	19
<b>ETSI EN 301 783 V2.1.1 (2016-01) §6.1 – MAMIMUM USABLE SENSITIVITY .....</b>	<b>25</b>
DEFINITION .....	25
METHOD OF MEASUREMENT .....	25
TEST EQUIPMENT LIST AND DETAILS.....	25
TEST DATA .....	25
<b>ETSI EN 301 783 V2.1.1 (2016-01) §6.2 – ADJACENT CHANNEL SELECTIVITY .....</b>	<b>27</b>
DEFINITION .....	27
METHOD OF MEASUREMENT .....	27
TEST EQUIPMENT LIST AND DETAILS.....	27
TEST DATA .....	27
<b>ETSI EN 301 783 V2.1.1 (2016-01) §6.3 - CONDUCTED RF IMMUNITY .....</b>	<b>29</b>
DEFINITION .....	29
METHOD OF MEASUREMENT.....	29
TEST EQUIPMENT LIST AND DETAILS.....	29
TEST DATA .....	29

<b>EXHIBIT A - EUT PHOTOGRAPHS</b>	<b>31</b>
EUT – ALL VIEW	31
EUT – TOP VIEW	31
EUT – BOTTOM VIEW	32
EUT – SIDE VIEW	32
EUT – SIDE VIEW	33
EUT – SIDE VIEW	33
EUT – SIDE VIEW	34
EUT – PORT VIEW	34
EUT – ANTENNA 1 VIEW	35
EUT – ANTENNA 2 VIEW	35
EUT – CHARGER TOP VIEW	36
EUT – CHARGER BOTTOM VIEW	36
EUT – CHARGER LABEL VIEW	37
EUT – ADAPTER VIEW	37
EUT – ADAPTER LABEL VIEW	38
EUT – UNCOVER VIEW	38
EUT – UNCOVER VIEW	39
EUT – UNCOVER VIEW	39
EUT – UNCOVER VIEW	40
EUT – SUB BOARD TOP UNCOVER VIEW	40
EUT – SUB BOARD TOP UNCOVER VIEW	41
EUT – SUB BOARD BOTTOM VIEW	41
EUT –SUB BOARD BOTTOM UNSHIELDED VIEW	42
EUT –MAINBOARD TOP VIEW	42
EUT – MAIN BOARD BOTTOM VIEW	43
EUT – MAIN BOARD TOP UNCOVER VIEW	43
EUT –SUB BOARD TOP VIEW	44
EUT –SUB BOARD BOTTOM VIEW	44
EUT – BATTERY TOP VIEW	45
EUT – BATTERY BOTTOM VIEW	45
EUT – BATTERY LABEL VIEW	46
<b>EXHIBIT B - TEST SETUP PHOTOGRAPHS</b>	<b>47</b>
RADIATED EMISSIONS VIEW (BELOW 1GHz)	47
RADIATED EMISSION VIEW (ABOVE 1 GHz)	47
<b>DECLARATION LETTER</b>	<b>48</b>

## GENERAL INFORMATION

### Product Description for Equipment Under Test (EUT)

The *Quanzhou Wouxun Electronics Co., Ltd.* 's product, model: *KG-UV9D* (the "EUT") in this report is a *Two-Way Radio*, which was measured approximately: 12.45 cm (L) x 6.15 cm (W) x 3.34 cm (H), rated input voltage: DC 7.4V from battery or DC12V from adapter.

Adapter Information:

MODEL: CG-D120050

INPUT: 100-240VAC, 50/60Hz, 0.3A Max

OUTPUT: DC12V, 500mA

*Note: The series product, model KG-UV9D, KG-UV9D1P, KG-UV2D, KG-UV3D, KG-UV5D, KG-UV6D, KG-UV6D V2, KG-UVA1, KG-UV8D, KG-UV8D(Plus), KG-UV9D(Plus), KG-UV8E, KG-UV66, KG-UV899, KG-UV8T, KG-UVN1, KG-UV8Q, KG-UV8H, KG-UV9T, KG-UV9P, KG-UV9K are electrically identical, the difference between them just is the model name, we selected KG-UV9D for fully testing, the details was explained in the attached declaration letter.*

*\* All measurement and test data in this report was gathered from production sample serial number: 161028057 (Assigned by BACL, Dongguan). The EUT was received on 2016-10-31.*

### Objective

This Type approval report is prepared on behalf of *Quanzhou Wouxun Electronics Co., Ltd.* in accordance with ETSI EN 301 783 V2.1.1 (2016-01) Commercially available amateur radio equipment; Harmonized Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU.

The objective is to determine the compliance of the EUT with ETSI EN 301 783 V2.1.1 (2016-01).

### Related Submittal(s)/Grant(s)

No related submittal(s).

### Test Methodology

All measurements contained in this report were conducted with ETSI EN 301 783 V2.1.1 (2016-01).

### **Test Facility**

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxihu 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 Communication 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 a test mode.

Specification:

Frequency Band	144-146MHz/430-440MHz
Modulation Mode	FM
Channel Spacing	12.5kHz/25kHz
Output Power	144-146MHz :High: 5W, Middle: 2W, Low: 1W 430-440MHz: High: 4W, Middle:2W, Low: 1W

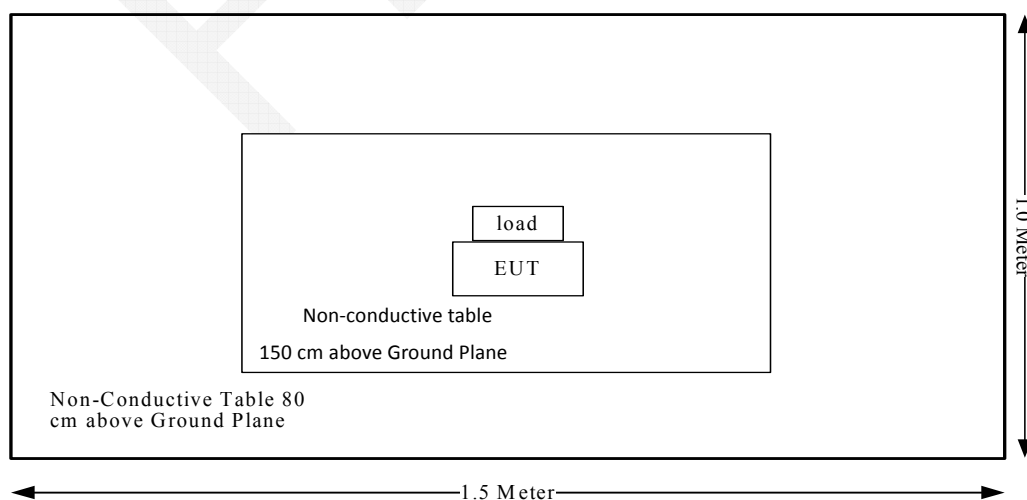
### Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
N/A	Load(50Ω)	N/A	N/A

### External Cable

Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
/	/	/	/	/	/

### Block Diagram of Test Setup



**SUMMARY OF TEST RESULTS**

<b>ETSI EN 301 783 V2.1.1 (2016-01)</b>	<b>Description of Test</b>	<b>Test Result</b>
§ 5.1	Maximum power(PX)(Conducted)	Compliance
§ 5.2	Unwanted emissions in the spurious domain	Compliance
§ 5.3	Spurious radiations	Compliance
§ 6.1	Maximum usable sensitivity	Compliance
§ 6.2	Adjacent channel selectivity	Compliance
§ 6.2	Conducted RF immunity	Compliance

Test time: 2017-02-16

**ETSI EN 301 783 V2.1.1 (2016-01) §5.1 –MAXIMUM POWER (PX)  
(CONDUCTED)****Definition**

The PX of the transmitter is the maximum value of the output PEP for any condition of modulation. The rated maximum power of the transmitter is that declared by the manufacturer.

**Method of measurement**

For non-constant envelope modulation equipment, the appropriate test modulation as specified in clause 4.11 shall be applied at the transmitter. For constant envelope modulation schemes it is not required to apply modulation. The modulation used, if any, shall be recorded in the test report.

The transmitter shall be connected to a 50  $\Omega$  power attenuator, and the PEP delivered shall be measured. The measuring instrument shall have a measurement bandwidth not less than sixteen times the CBW.

The power measured is recorded as the value PX.

**Test Equipment List and Details**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU 26	N/A	2016-12-08	2017-12-08

\* **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:	23.3° C
Relative Humidity:	38%
ATM Pressure:	101.4kPa

*The testing was performed by Costa Dong on 2017-02-16.*

Test mode: Transmitting



Modulation Mode	Channel separation	$f_c$	Reading (dBm)		
	kHz	MHz	High Power Level	Middle Power Level	Low Power Level
FM	12.5	145	36.54	33.02	30.01
FM		435	35.62	33.08	30.11
FM	25	145	36.89	32.99	30.05
FM		435	35.37	32.96	30.08

Note: For 144-146MHz Band: The rated output power: high: 5W, middle: 2W, low: 1W

For 430-440MHz Band: The rated output power: high: 4W, middle: 2W, low: 1W

## ETSI EN 301 783 V2.1.1 (2016-01) §5.2 –UNWANTED EMISSIONS IN THE SPURIOUS DOMAIN

### Definition

Spurious emissions are emissions on a frequency, or frequencies, which are outside the necessary bandwidth and the level of which may be reduced without affecting the corresponding transmission of information. Spurious emissions include harmonic emissions, parasitic emissions, intermodulation products and frequency conversion products but exclude out of band emissions.

For the purpose of the present document the transition point between spurious emissions domain and the out of band emissions domain is taken as 250 % of the CSP (see ITU-R Recommendation SM.329-10 [i.1]). Furthermore, the minimum necessary bandwidths applicable to amateur radio are given by CEPT/ERC/Recommendation 74-01 [i.2] (see clause 4.13).

### Limits

The power of any spurious emission, occurring outside the exclusion band centred on the frequency on which the transmitter is intended to operate, shall not exceed the values given in tables 1 with the transmitter operating and tables 2 with the transmitter in standby mode mode.

Table 1: Antenna port limits in transmit mode

Frequency range of operating mode	Test Limits	Remarks
Mobile SSB equipment	-43 dBc	
Below 30 MHz	$-(43 + 10 \times \log(\text{PEP}))$ or -50 dBc whichever is higher	
Above 30 MHz	$-(43 + 10 \times \log(\text{PEP}))$ or -70 dBc whichever is higher	(see note)
NOTE: For measurement at frequencies greater than 40 GHz no test limits are specified.		

Table 2: Antenna port limits in transmit standby mode or receive mode

Frequency range	Test Limits	Remarks
0,15 MHz to 1 000 MHz	-57 dBm	
> 1 000 MHz	-47 dBm	(see note)
NOTE: For measurement at frequencies greater than 40 GHz no test limits are specified.		

Where limits are stated using dBc, the reference level is PX.

### Method of measurement

According to ETSI EN 301 783 V2.1.1 (2016-01) §5.2.2.

**Test Equipment List and Details**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU 26	N/A	2016-12-08	2017-12-08
R&S	EMI Test Receiver	ESCI	100035	2016-07-11	2017-07-11
Sunol Sciences	Antenna	JB3	A060611-3	2014-07-28	2017-07-27
HP	Amplifier	8447D	2727A05902	2016-09-01	2017-09-01
HP	Amplifier	8447F	2443A01912	2016-09-01	2017-09-01
N/A	Coaxial Cable	0.75m	N/A	2016-09-01	2017-09-01
Agilent	Signal Generator	E8247C	MY43321350	2016-09-23	2017-09-22
Mini-Circuit	Amplifier	ZVA-213-S+	SN054201245	2016-02-19	2017-02-19
TDK RF	Horn Antenna	HRN-0118	130 084	2016-01-05	2019-01-04
ETS-Lindgren	Horn Antenna	3115	000 527 35	2016-01-05	2019-01-04
N/A	Coaxial Cable	4m	N/A	2016-09-01	2017-09-01
N/A	Coaxial Cable	8m	N/A	2016-09-01	2017-09-01

**\* 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**

<b>Temperature:</b>	23.3° C
<b>Relative Humidity:</b>	38%
<b>ATM Pressure:</b>	101.4kPa

*The testing was performed by Costa Dong on 2017-02-16.*

Note1: For radiated emission & conducted spurious emissions were tested at high rated power, which was the worst case.

Note2: For conducted spurious emissions, there was a band reject filter between the EUT and test equipment when testing.

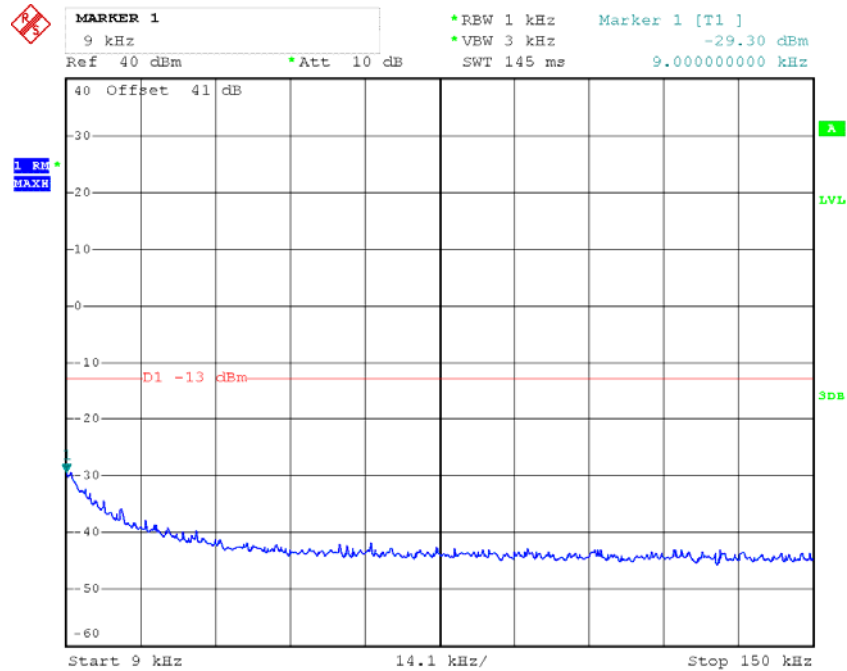
Note3: 12.5kHz is the worst case.

Note4: For standby mode, please see the following section 5.4 test results because the standby mode is receiver mode.

Test mode: Transmitting

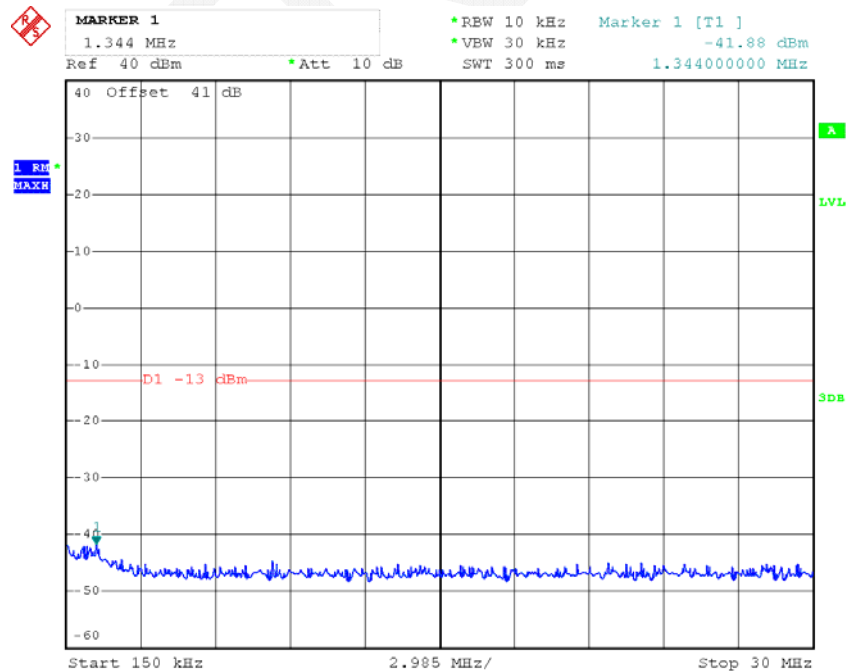
Operating channel-145MHz

9kHz~150kHz



Date: 16.FEB.2017 21:11:49

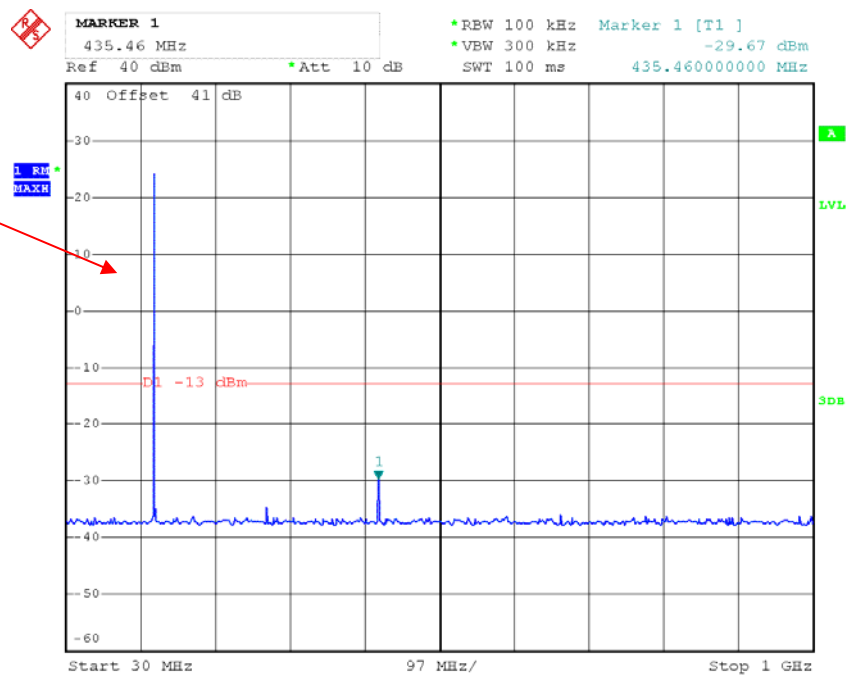
150kHz~30MHz



Date: 16.FEB.2017 21:15:15

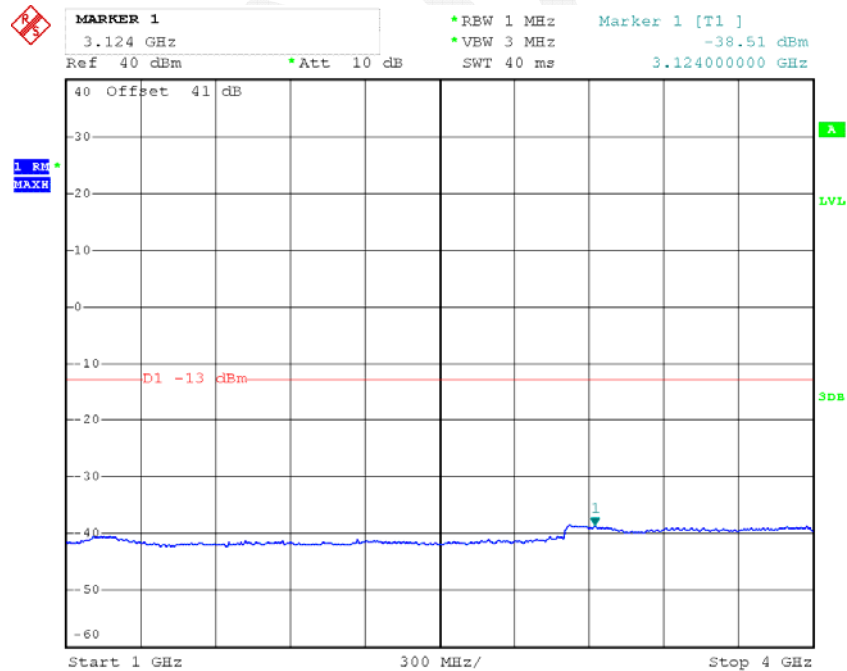
### 30MHz~1GHz

Fundament with band rejection filter



Date: 16.FEB.2017 22:04:33

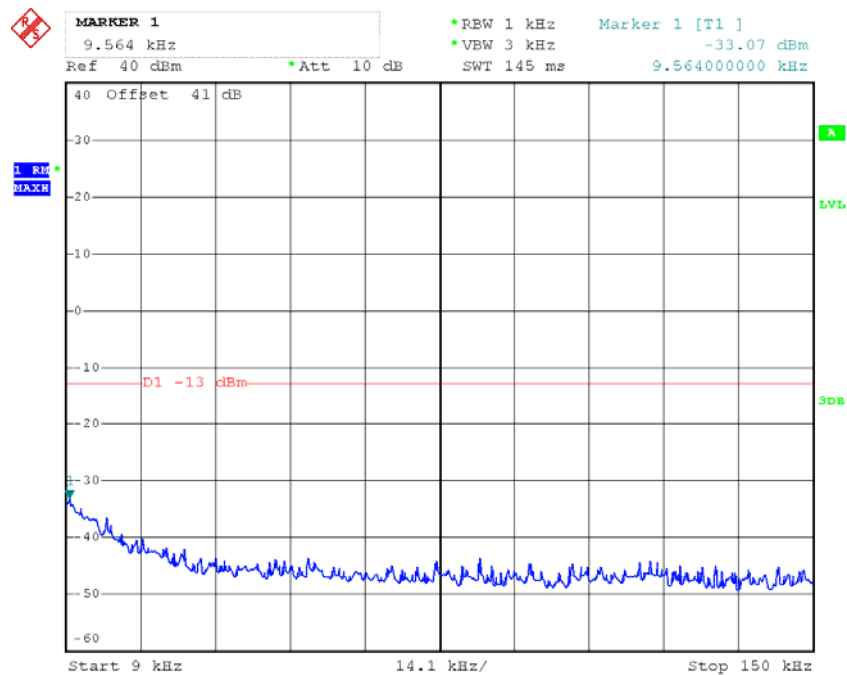
### 1GHz~4GHz



Date: 16.FEB.2017 21:31:21

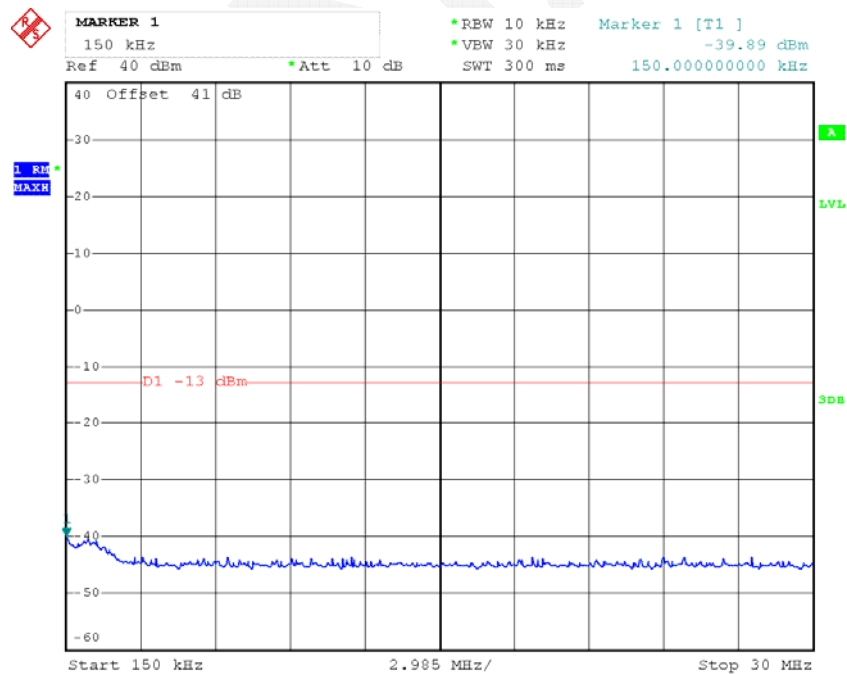
## Operating channel-435MHz

9kHz~150kHz



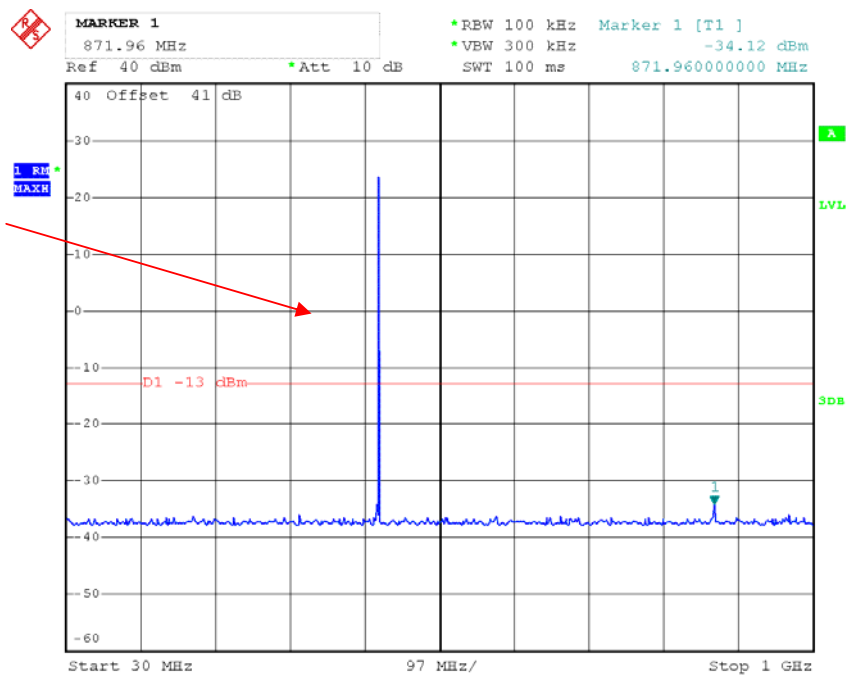
Date: 16.FEB.2017 21:12:20

150kHz~30MHz



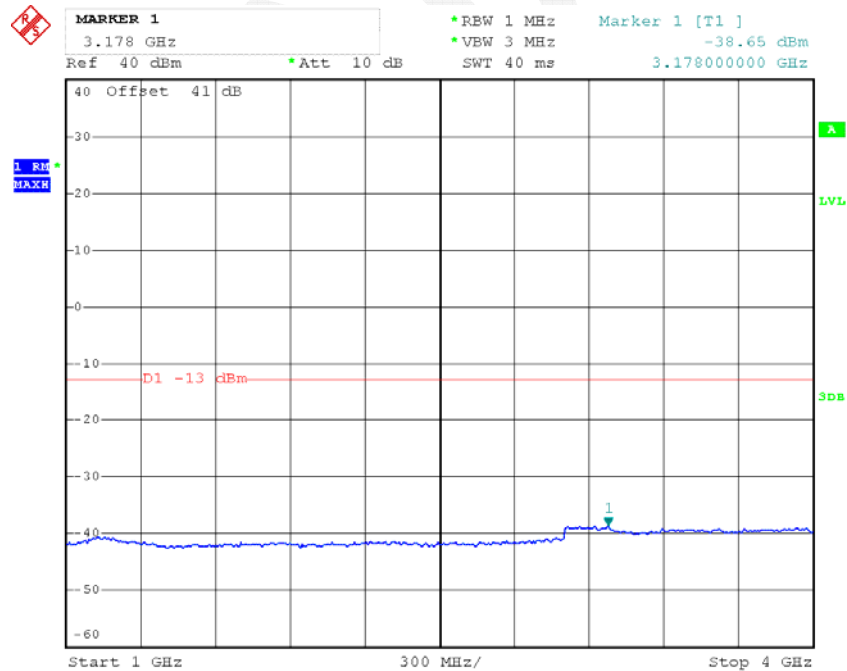
Date: 16.FEB.2017 21:27:38

## 30MHz~1GHz

Fundament with band  
rejection filter

Date: 16.FEB.2017 22:05:31

## 1GHz~4GHz



Date: 16.FEB.2017 21:31:34

Test mode: Transmitting

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted antenna			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.A. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
145.000 MHz								
1015.000	H	33.24	-67.5	7.8	1	-60.7	-13.0	47.7
1015.000	V	35.48	-65	7.8	1	-58.2	-13.0	45.2
1160.000	H	33.86	-66.5	7.4	1.3	-60.4	-13.0	47.4
1160.000	V	35.15	-65.2	7.4	1.3	-59.1	-13.0	46.1
1305.000	H	40.25	-59.6	8.3	1.3	-52.6	-13.0	39.6
1305.000	V	41.03	-59.3	8.3	1.3	-52.3	-13.0	39.3
1450.000	H	37.20	-63.9	9.2	1.4	-56.1	-13.0	43.1
1450.000	V	38.19	-62.9	9.2	1.4	-55.1	-13.0	42.1
1595.000	H	35.82	-65.4	10.1	1.2	-56.5	-13.0	43.5
1595.000	V	36.19	-65.8	10.1	1.2	-56.9	-13.0	43.9
1740.000	H	34.65	-66	10.9	1.4	-56.5	-13.0	43.5
1740.000	V	36.20	-64.7	10.9	1.4	-55.2	-13.0	42.2
1885.000	H	35.59	-63.7	11.7	1.4	-53.4	-13.0	40.4
1885.000	V	37.44	-61.5	11.7	1.4	-51.2	-13.0	38.2
290.000	H	36.32	-41.8	0.0	0.3	-42.1	-13.0	29.1
290.000	V	37.58	-38.8	0.0	0.3	-39.1	-13.0	26.1
435.000	H	33.82	-41.6	0.0	0.4	-42.0	-13.0	29.0
435.000	V	34.25	-38.7	0.0	0.4	-39.1	-13.0	26.1
580.000	H	32.86	-38.8	0.0	0.4	-39.2	-13.0	26.2
580.000	V	33.87	-36.3	0.0	0.4	-36.7	-13.0	23.7
725.000	H	32.77	-37.4	0.0	0.4	-37.8	-13.0	24.8
725.000	V	33.02	-34.3	0.0	0.4	-34.7	-13.0	21.7
870.000	H	32.15	-35.2	0.0	0.5	-35.7	-13.0	22.7
870.000	V	33.64	-30.6	0.0	0.5	-31.1	-13.0	18.1



Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted antenna			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.A. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
435 MHz								
1305.000	H	53.14	-46.7	8.3	1.3	-39.7	-13.0	26.7
1305.000	V	55.67	-44.7	8.3	1.3	-37.7	-13.0	24.7
1740.000	H	42.17	-58.5	10.9	1.4	-49.0	-13.0	36.0
1740.000	V	43.58	-57.4	10.9	1.4	-47.9	-13.0	34.9
2175.000	H	52.04	-43.7	10.9	1.9	-34.7	-13.0	21.7
2175.000	V	53.58	-41.8	10.9	1.9	-32.8	-13.0	19.8
2610.000	H	38.14	-56.5	13.2	2.5	-45.8	-13.0	32.8
2610.000	V	39.57	-57.6	13.2	2.5	-46.9	-13.0	33.9
3045.000	H	45.35	-52.3	13.6	2.4	-41.1	-13.0	28.1
3045.000	V	46.58	-51.1	13.6	2.4	-39.9	-13.0	26.9
3480.000	H	44.69	-52.1	13.8	2.1	-40.4	-13.0	27.4
3480.000	V	45.71	-50.2	13.8	2.1	-38.5	-13.0	25.5
3915.000	H	41.15	-52	13.5	3.2	-41.7	-13.0	28.7
3915.000	V	43.69	-48.5	13.5	3.2	-38.2	-13.0	25.2
870.000	H	35.85	-31.5	0.0	0.5	-32.0	-13.0	19.0
870.000	V	36.23	-28	0.0	0.5	-28.5	-13.0	15.5

**ETSI EN 301 783 V2.1.1 (2016-01) §5.3 –SPURIOUS RADIATIONS****Definition**

Spurious radiations from the receiver are components at any frequency, radiated by the equipment and antenna.

For equipment with an external 50 antenna connector, the levels of spurious radiations are considered to be either:

- a) their power level in a specified load (conducted spurious emission); and
- b) their effective radiated power when radiated by the cabinet and structure of the equipment (cabinet radiation).

For equipment without an external antenna connector, spurious radiations are considered to be: their effective radiated power when radiated by the cabinet and the integral antenna, in the case of handportable equipment fitted with such an antenna and no external RF connector.

**Limits**

The power of any spurious radiations shall not exceed the values given in table 10.

Table 10: Antenna port limits in transmit standby mode or receive mode

Frequency range	Test Limits	Remarks
0,15 MHz to 1 000 MHz	-57 dBm	
> 1 000 MHz	-47 dBm	(see note)
NOTE: For measurement at frequencies greater than 40 GHz no test limits are specified.		

**Method of measurement**

According to ETSI EN 301 783 V2.1.1 (2016-01) §5.3.2.

**Test Equipment List and Details**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSU 26	N/A	2016-12-08	2017-12-08
R&S	EMI Test Receiver	ESCI	100035	2016-07-11	2017-07-11
Sunol Sciences	Antenna	JB3	A060611-3	2014-07-28	2017-07-27
HP	Amplifier	8447D	2727A05902	2016-09-01	2017-09-01
HP	Amplifier	8447F	2443A01912	2016-09-01	2017-09-01
N/A	Coaxial Cable	0.75m	N/A	2016-09-01	2017-09-01
Agilent	Signal Generator	E8247C	MY43321350	2016-09-23	2017-09-22
Mini-Circuit	Amplifier	ZVA-213-S+	SN054201245	2016-02-19	2017-02-19
TDK RF	Horn Antenna	HRN-0118	130 084	2016-01-05	2019-01-04
ETS-Lindgren	Horn Antenna	3115	000 527 35	2016-01-05	2019-01-04
N/A	Coaxial Cable	4m	N/A	2016-09-01	2017-09-01
N/A	Coaxial Cable	8m	N/A	2016-09-01	2017-09-01

\* **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**

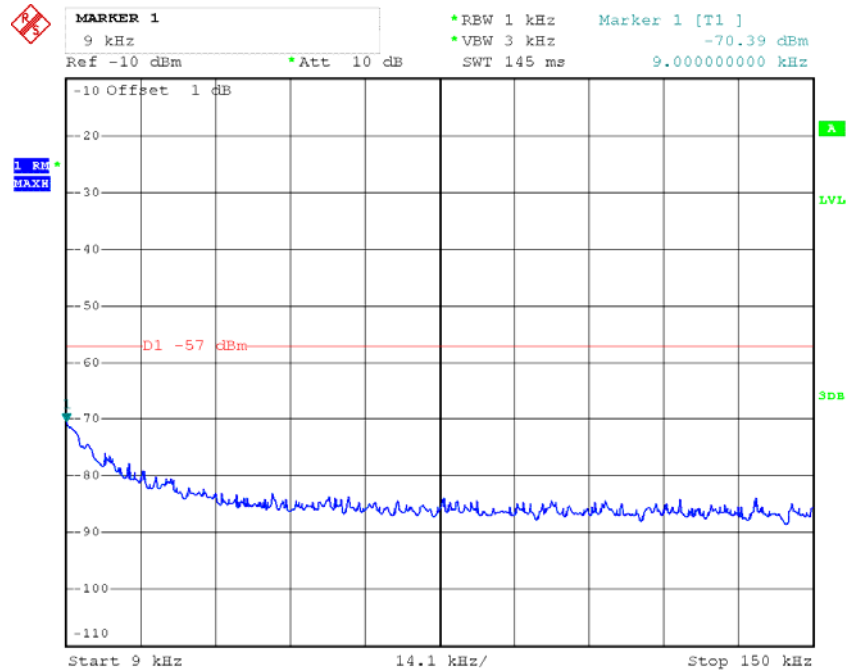
<b>Temperature:</b>	23.3° C
<b>Relative Humidity:</b>	38%
<b>ATM Pressure:</b>	101.4kPa

*The testing was performed by Costa Dong on 2017-02-16.*

Test mode: Receiving

Operating channel-145MHz

9kHz~150kHz



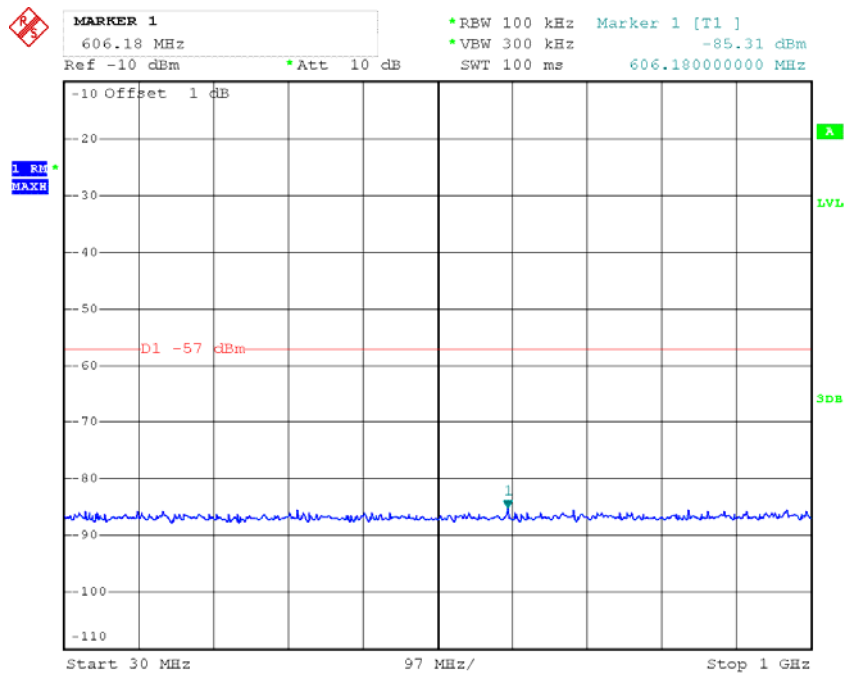
Date: 16.FEB.2017 22:08:28

150kHz~30MHz



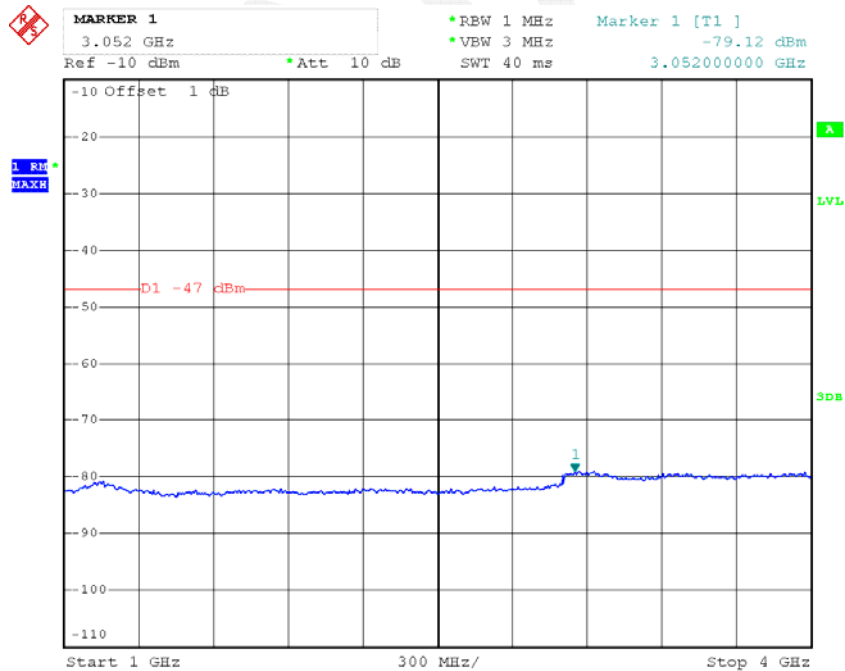
Date: 16.FEB.2017 22:10:17

30MHz~1GHz



Date: 16.FEB.2017 22:11:22

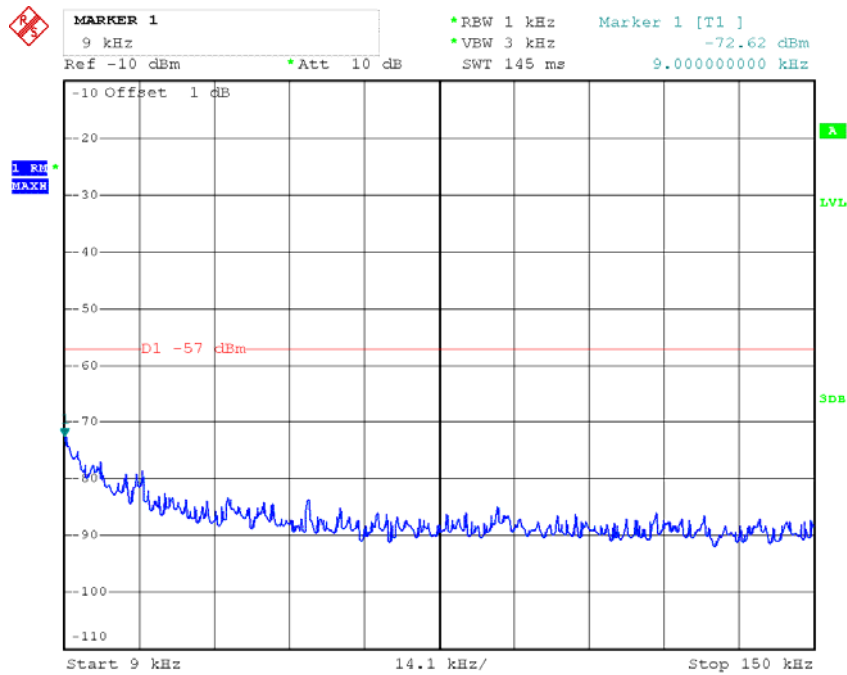
1GHz~4GHz



Date: 16.FEB.2017 22:13:00

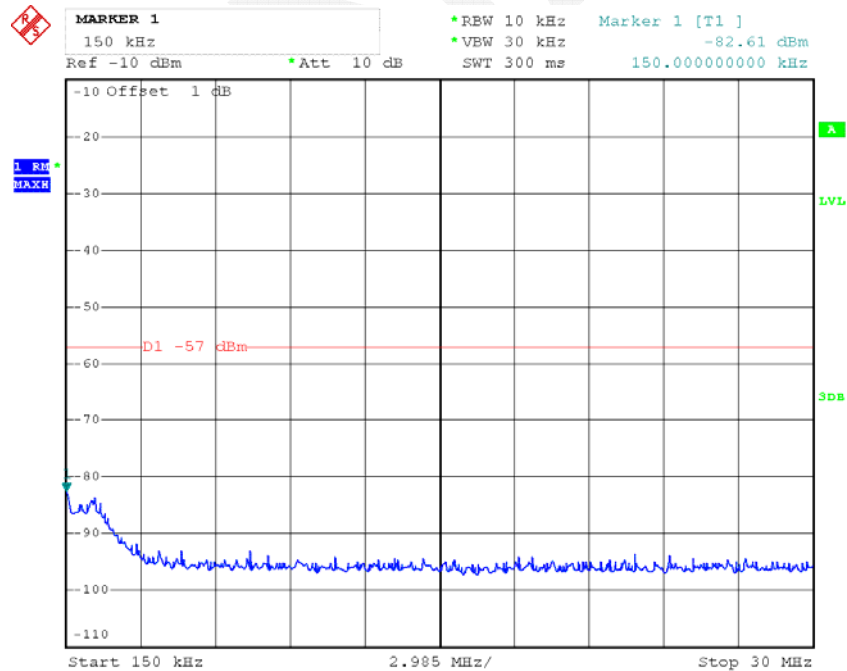
Operating channel-435MHz

9kHz~150kHz



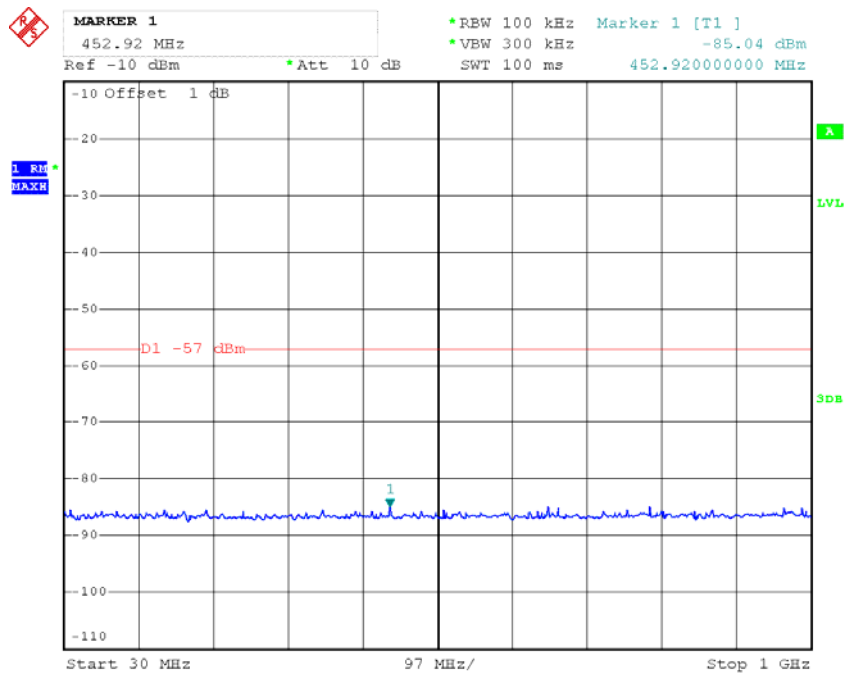
Date: 16.FEB.2017 22:08:39

150kHz~30MHz



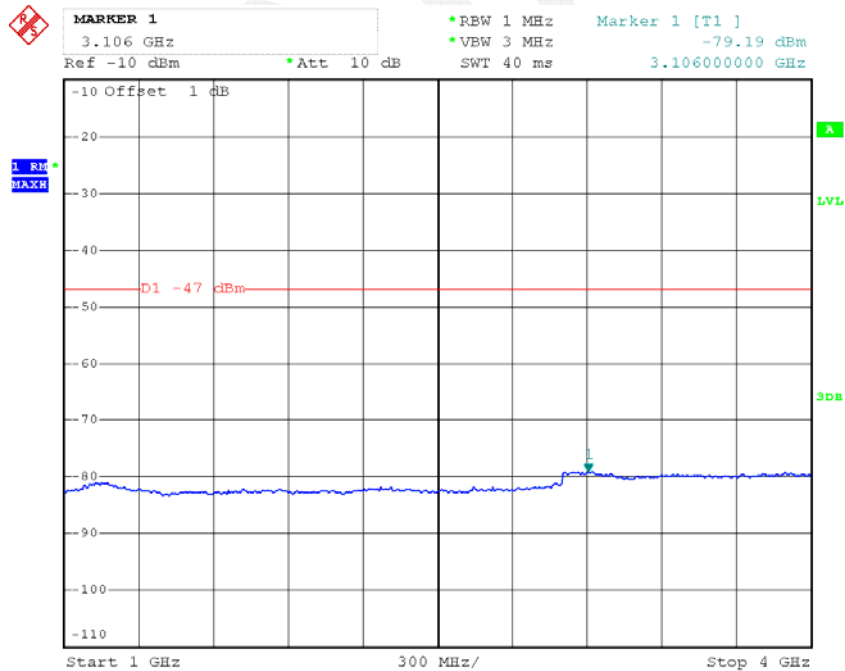
Date: 16.FEB.2017 22:10:39

30MHz~1GHz



Date: 16.FEB.2017 22:11:45

1GHz~4GHz



Date: 16.FEB.2017 22:12:47

Test mode: Receiving

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted antenna			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			S.A. Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
145.000 MHz								
1475.000	H	32.25	-69	9.4	1.3	-60.9	-47.0	13.9
2015.000	V	35.14	-61.4	11.9	1.5	-51.0	-47.0	4.0
243.400	H	30.42	-74.3	0.0	0.5	-74.8	-57.0	17.8
419.940	V	32.69	-70.7	0.0	0.6	-71.3	-57.0	14.3
435 MHz								
1532.000	H	33.58	-67.8	9.7	1.2	-59.3	-47.0	12.3
2214.000	V	34.27	-61.5	10.8	2	-52.7	-47.0	5.7
745.860	H	31.69	-63.6	0.0	0.9	-64.5	-57.0	7.5
875.840	V	32.44	-63.2	0.0	1	-64.2	-57.0	7.2



## ETSI EN 301 783 V2.1.1 (2016-01) §6.1 – MAXIMUM USABLE SENSITIVITY

### Definition

The maximum usable sensitivity is the minimum level of a radio frequency input signal with specified modulation which will produce at the receiver analogue outputs a chosen value of Signal plus Noise plus Distortion to Noise plus Distortion (SINAD) ratio.

In the case of digital outputs it is the minimum level of a radio frequency input signal with specified modulation which will produce a chosen value of bit error ratio.

### Limit:

The maximum usable sensitivity shall be equal or greater the values given in table 11.

**Table 11: Maximum usable sensitivity**

Frequency range	AM	SSB	FM	Other
Up to 3 MHz	+16 dBμV	+10 dBμV	n/a	As declared by manufacturer
3 MHz to 30 MHz	+6 dBμV	+0 dBμV	+0 dBμV	As declared by manufacturer
30 MHz to 1 GHz	0 dBμV	-6 dBμV	-6 dBμV	As declared by manufacturer
Above 1 GHz	0 dBμV	-6 dBμV	-6 dBμV	As declared by manufacturer

### Method of Measurement

According to ETSI EN 301 783 V2.1.1 (2016-01) §6.1.2.

### Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	RF Communications Test Set	8920A	00 235	2016-07-11	2017-07-11

\* **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:	23.3° C
Relative Humidity:	38%
ATM Pressure:	101.4kPa

*The testing was performed by Costa Dong on 2017-02-16.*

**Test Result:** Compliant

Modulation Mode	Channel separation	$f_c$	Reading	Limit
	kHz	MHz	dBuV	dBuV
FM	12.5	145	-7.9	-6
FM		435	-8.4	-6
FM	25	145	-8.1	-6
FM		435	-7.8	-6

## ETSI EN 301 783 V2.1.1 (2016-01) §6.2 – ADJACENT CHANNEL SELECTIVITY

### Definition

Adjacent signal selectivity is defined as the ability of the receiver to discriminate between a wanted signal (to which the receiver is tuned) and unwanted signals existing simultaneously in channels adjacent to that of the wanted signal.

### Limit:

**Table 12: Adjacent channel selectivity**

Equipment type	AM	SSB	FM	Other
Base station/Mobile	60 dB	60 dB	60 dB	60 dB
Handheld	55 dB	55 dB	55 dB	55 dB

### Method of Measurement

According to ETSI EN 301 783 V2.1.1 (2016-01) §6.2.2.

### Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	RF Communications Test Set	8920A	00 235	2016-07-11	2017-07-11
Agilent	MXG Vector Signal Generator	N5182B	MY51350142	2016-05-10	2017-05-10

\* **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:	23.3° C
Relative Humidity:	38%
ATM Pressure:	101.4kPa

*The testing was performed by Costa Dong on 2017-02-16.*

**Test Result:** Compliant

Modulation Mode	Channel separation	$f_c$	Reading	Limit
	kHz	MHz	dB	dB
FM	12.5	145	63	55
FM		435	64	55
FM	25	145	63	55
FM		435	62	55

**ETSI EN 301 783 V2.1.1 (2016-01) §6.3 - CONDUCTED RF IMMUNITY****Definition**

This is a measure of the capability of the receiver to receive a wanted modulated signal without exceeding a given degradation due to the presence of an unwanted input signal at any frequencies other than those of the spurious responses or the adjacent channels.

In normal use, amateur radio transmitting equipment is not collocated with other radio transmitters operating within 10 % of its own carrier frequency, so that inter-transmitter intermodulation will not occur. Therefore immunity testing of the transmitter antenna port is not justified and is not included in the present document.

**Limit:**

Application of the test signal shall not cause the demodulated receiver output to:

- be reduced to less than 12 dB SINAD for analogue speech equipment; or
- be reduced to less than 80 % of the original data throughput for non-speech equipment; or
- be degraded

**Method of Measurement**

According to ETSI EN 301 783 V2.1.1 (2016-01) §6.3.2.

**Test Equipment List and Details**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	RF Communications Test Set	8920A	00 235	2016-07-11	2017-07-11
Agilent	MXG Vector Signal Generator	N5182B	MY51350142	2016-05-10	2017-05-10

\* **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:	23.3° C
Relative Humidity:	38%
ATM Pressure:	101.4kPa

*The testing was performed by Costa Dong on 2017-02-16.*

**Test Result:** Compliant

Modulation Mode	Channel separation	$f_c$	Reading	Limit
	kHz	MHz	dB	dB
FM	12.5	145	14.28	12
FM		435	14.18	12
FM	25	145	14.37	12
FM		435	14.29	12

## EXHIBIT A - EUT PHOTOGRAPHS

**EUT – All View**



**EUT – Top View**



**EUT – Bottom View**



**EUT – Side View**





**EUT – Side View**



**EUT – Side View**



**EUT – Side View**



**EUT – Port View**



### EUT – Antenna 1 View



### EUT – Antenna 2 View





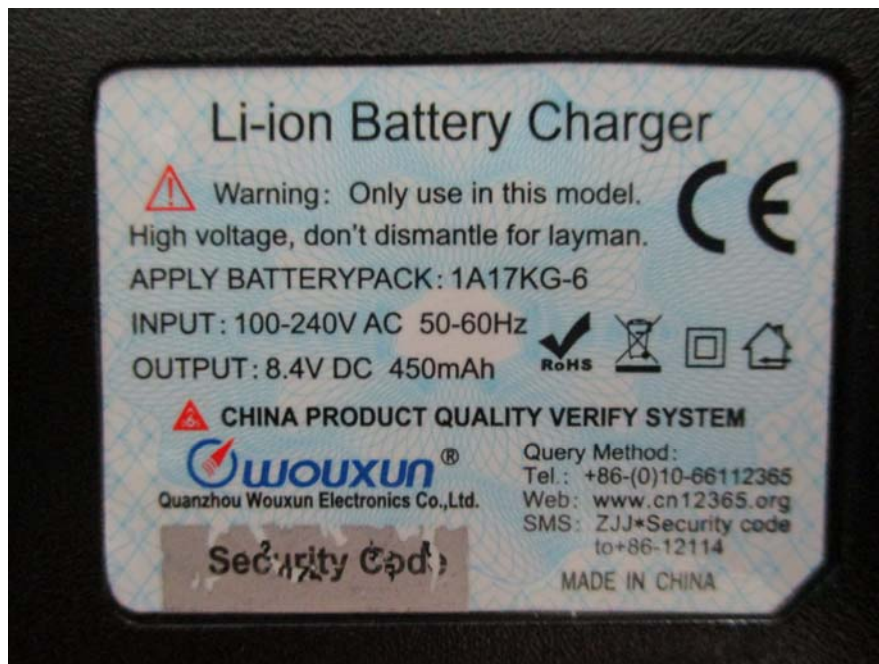
### EUT – Charger Top View



### EUT – Charger Bottom View



### EUT – Charger Label View



### EUT – Adapter View



### EUT – Adapter Label View



### EUT – Uncover View





**EUT – Uncover View**



**EUT – Uncover View**



**EUT – Uncover View**

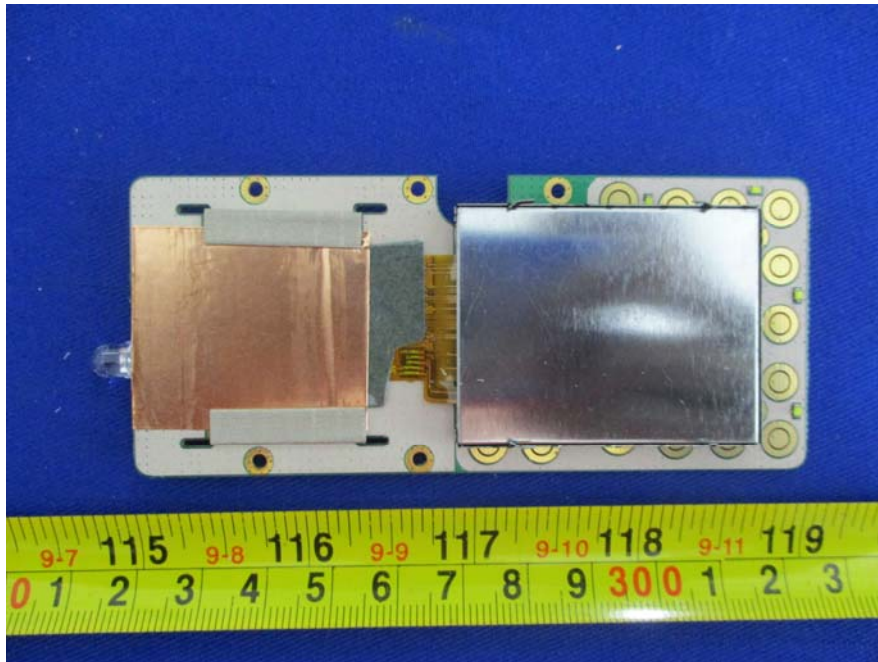


**EUT – Sub Board Top Uncover View**

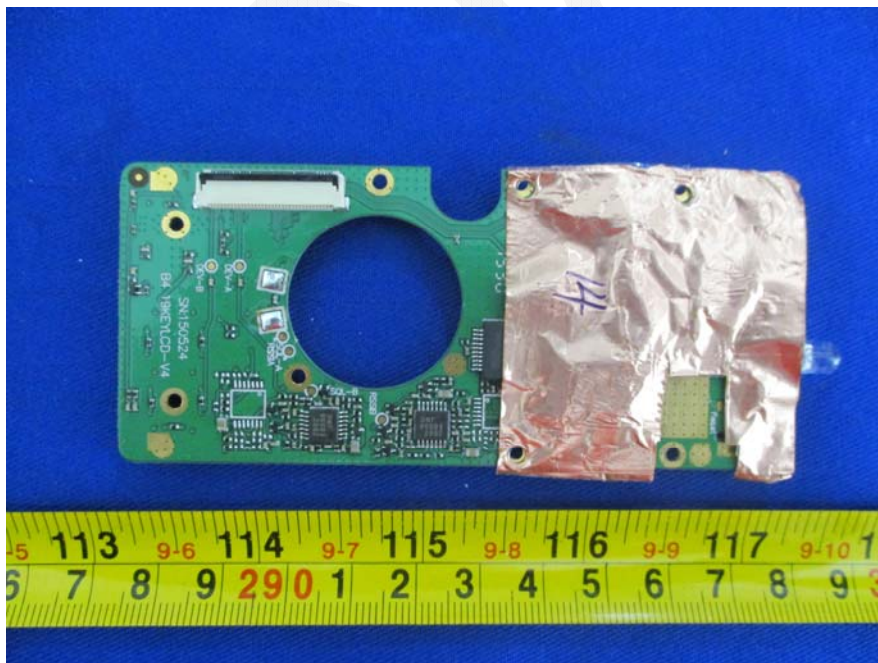




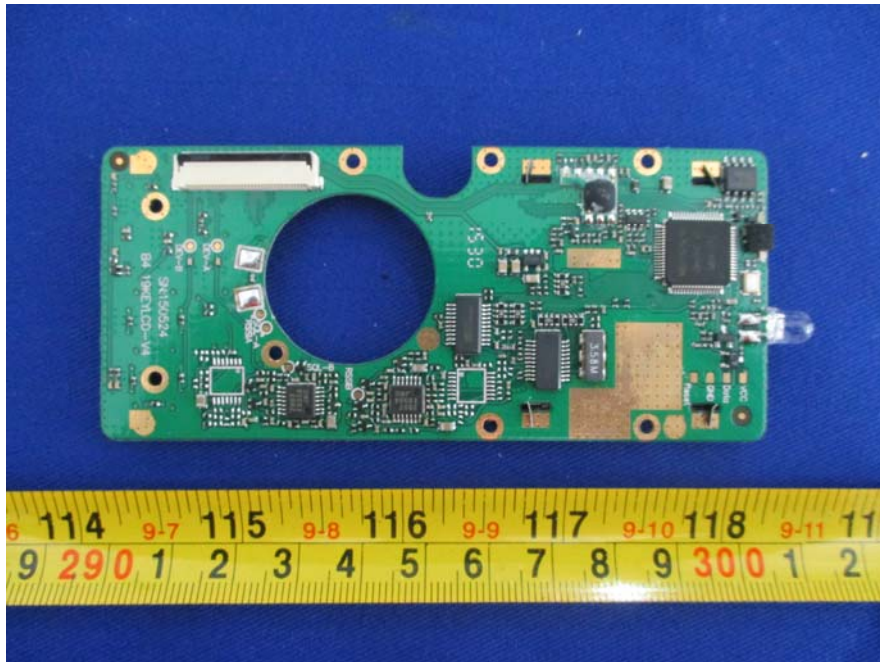
**EUT – Sub Board Top Uncover View**



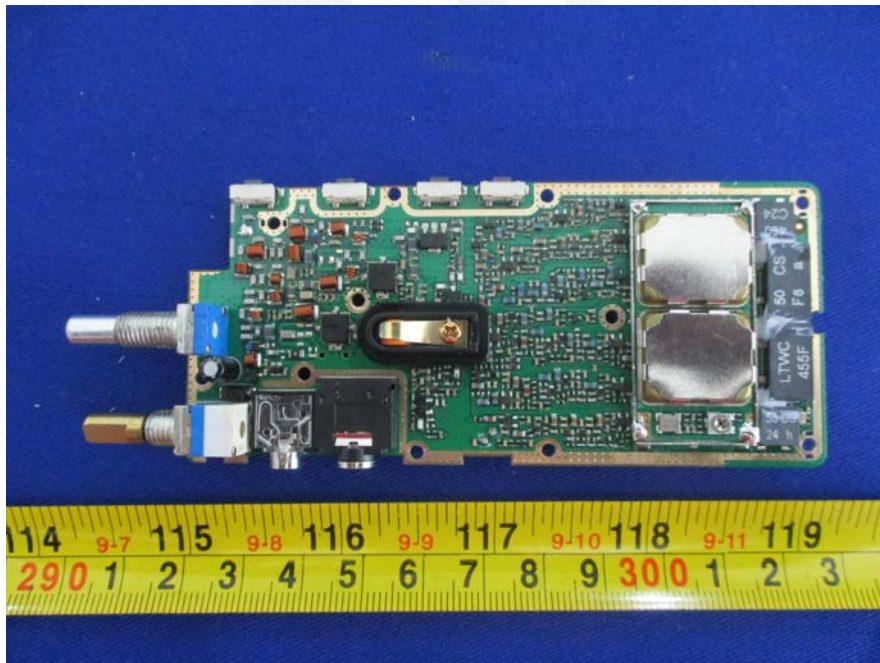
**EUT – Sub Board Bottom View**



**EUT –Sub Board Bottom Unshielded View**

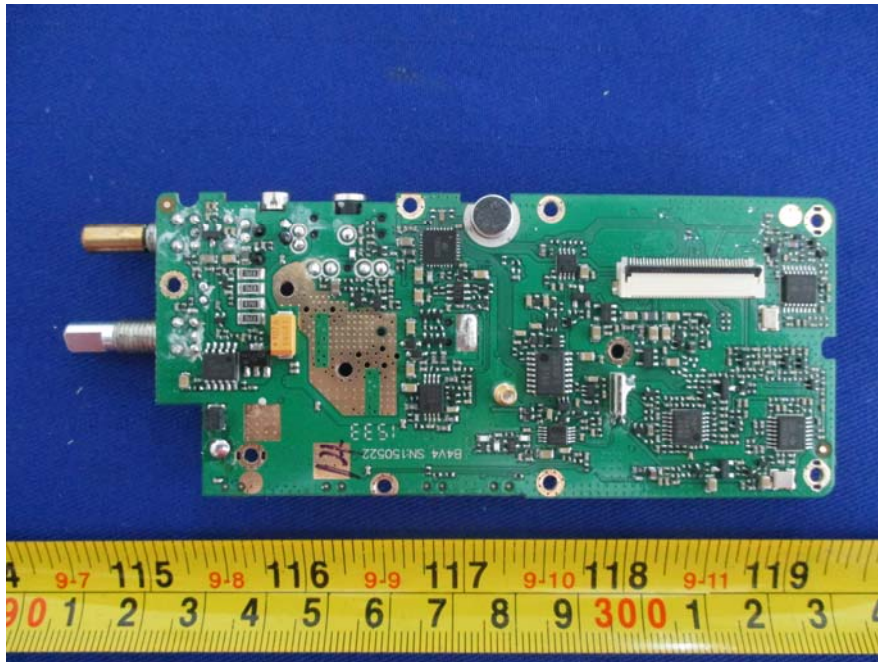


**EUT –Mainboard Top View**

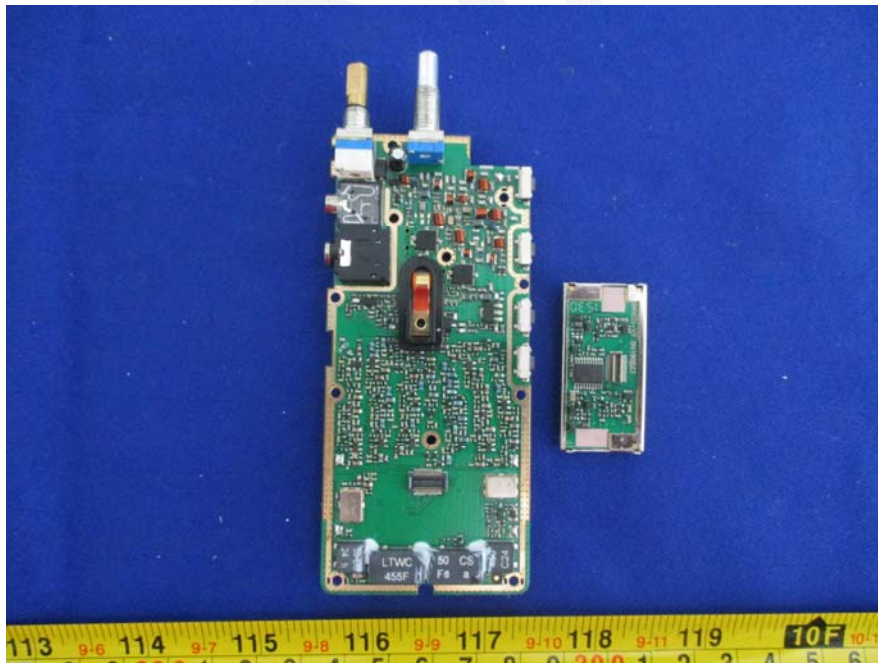




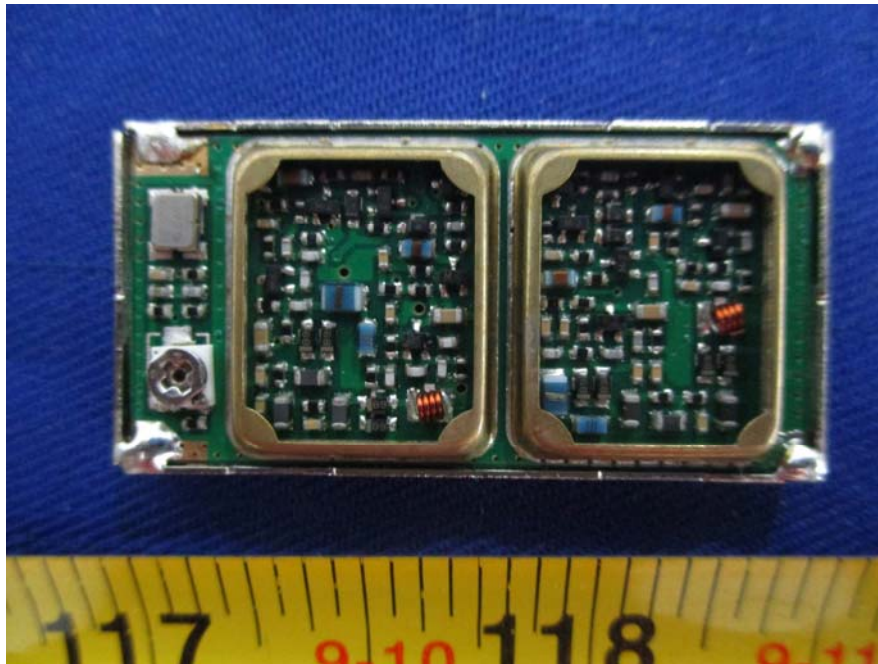
### EUT – Main Board Bottom View



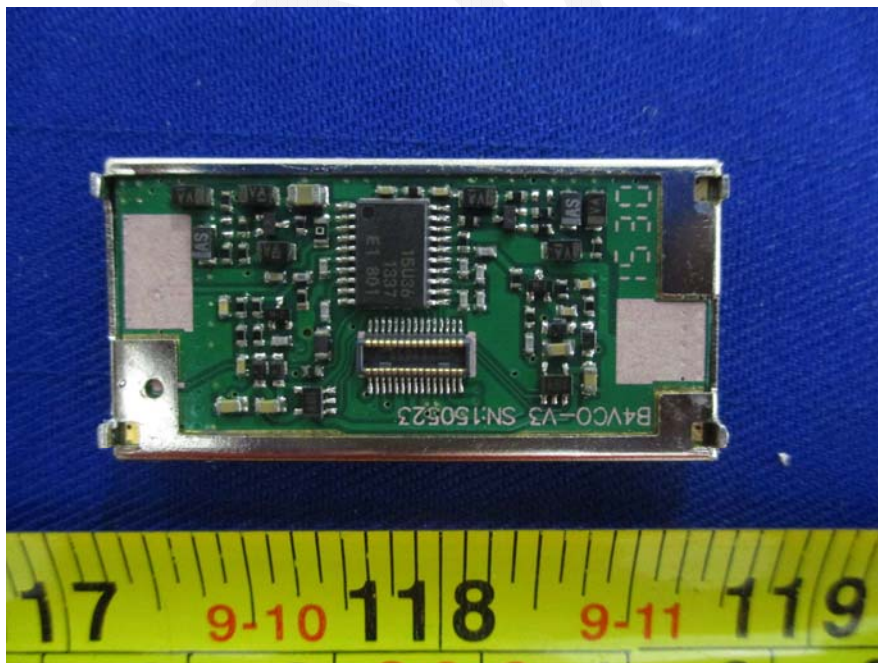
### EUT – Main Board Top Uncover View



**EUT –Sub Board Top View**



**EUT –Sub Board Bottom View**





### EUT – Battery Top View



### EUT – Battery Bottom View

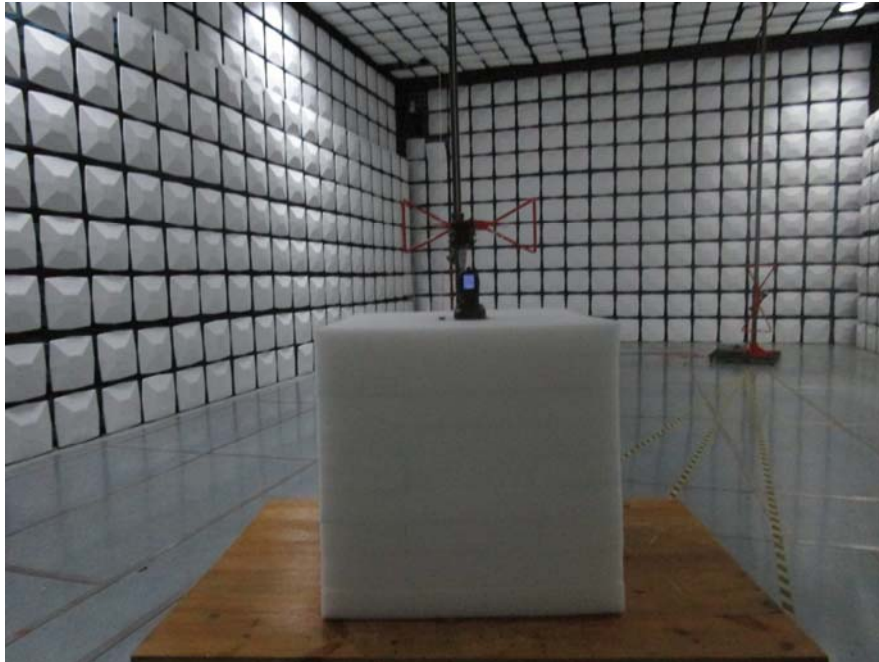


### EUT – Battery Label View



## **EXHIBIT B - TEST SETUP PHOTOGRAPHS**

### **Radiated Emissions View (Below 1GHz)**



### **Radiated Emission View (Above 1 GHz)**



**DECLARATION LETTER**

Quanzhou Wouxun Electronics Co., Ltd.

ADD: No.928 Nanhuan Road, Jiangnan High Technology Industry Park, Quanzhou, Fujian, China

TEL: 086-0595-28051265

FAX: 086-0595-28051267

### Declaration of Similarity

(Current Date:2017-2-21)

To Whom it may Concern,

We Quanzhou Wouxun Electronics Co., Ltd., here declare that there are some differences between our multiple models and testing products. Details as below,

Products Description	Name	Two-Way Radio	
	Brand	WOUXUN	
	Manufacturer	Quanzhou Wouxun Electronics Co., Ltd	
Difference Description			
Testing Products	Multiple Models	Differences Items	Details
KG-UV9D	KG-UVD1P, KG-UV2D, KG-UV3D, KG-UV5D, KG-UV6D, KG-UV6D V2, KG-UVA1, KG-UV8D, KG-UV8D(Plus), KG-UV9D(Plus), KG-UV8E, KG-UV66, KG-UV899, KG-UV8T, KG-UVN1, KG-UV8Q, KG-UV8H, KG-UV9T, KG-UV9P, KG-UV9K	Model names	All are the Same except Model names

Besides the differences in the table above, we declare the products are identical. We guarantee all the information provided above is true, and notice that we'll bear all the consequences caused by any false information or concealing.

Sincerely Yours,

Signature:

Typed or Printed Name: Danny chen

Title: manager

E-mail: wouxun@wouxun.com

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