RF TEST REPORT

GLOBAL TESTING & CERTIFICATIONS
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Report No.: 15071171-FCC-R

Supersede Report No.: N/A

Applicant	MeritPlusData(Beijing) Co.,Ltd
Product Name	Wireless Vehicle Detection Receiver
Model No.	MPD031A
Test Standard	FCC Part 15.249: 2015; C63.10: 2013
Test Date	January 27 to March 14, 2016
Issue Date	March 15, 2016
Test Result	☑ Pass ☐ Fail
Equipment complied with the specification	☑
Equipment did not comply with the specification	☐

Winnie Zhang	David Huang	
Winnie Zhang **Test Engineer**	**David Huang** **Checked By**	

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Test result presented in this test report is applicable to the tested sample only

Issued by:

SIEMIC (SHENZHEN-CHINA) LABORATORIES

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Laboratories Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.

In addition to testing and certification, SIEMIC provides initial design reviews and compliance management throughout a project. Our extensive experience with China, Asia Pacific, North America, European, and International compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

Accreditations for Conformity Assessment

Country/Region	Scope
USA	EMC, RF/Wireless, SAR, Telecom
Canada	EMC, RF/Wireless, SAR, Telecom
Taiwan	EMC, RF, Telecom, SAR, Safety
Hong Kong	RF/Wireless, SAR, Telecom
Australia	EMC, RF, Telecom, SAR, Safety
Korea	EMI, EMS, RF, SAR, Telecom, Safety
Japan	EMI, RF/Wireless, SAR, Telecom
Singapore	EMC, RF, SAR, Telecom
Europe	EMC, RF, SAR, Telecom, Safety

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1. Report Revision History

Report No.	Report Version	Description	Issue Date
15071171-FCC-R	NONE	Original	March 15, 2016

2. Customer information

Applicant Name	MeritPlusData(Beijing) Co.,Ltd
Applicant Add	NO.40,Beiyuan Road,Chaoyang District,Beijing,P.R.C
Manufacturer	MeritPlusData(Beijing) Co.,Ltd
Manufacturer Add	NO.40,Beiyuan Road,Chaoyang District,Beijing,P.R.C

3. Test site information

Lab performing tests	SIEMIC (Shenzhen-China) LABORATORIES
Lab Address	Zone A, Floor 1, Building 2 Wan Ye Long Technology Park South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China 518108
FCC Test Site No.	718246
IC Test Site No.	4842E-1
Test Software	Radiated Emission Program-To Shenzhen v2.0

4. Equipment under Test (EUT) Information

Description of EUT:	Wireless Vehicle Detection Receiver
Main Model:	MPD031A
Serial Model:	N/A
Date EUT received:	January 26, 2016
Test Date(s):	January 27 to March 14, 2016
Antenna Gain:	3dBi
Input Power:	48V
Trade Name :	MeritPlusData
FCC ID:	2AHRCMPD031A
Port:	Telecom (RJ45)Port
Channel number	16CH
Equipment Category :	DXT
Type of Modulation:	DSSS
RF Operating Frequency (ies):	2405-2480 MHz (TX/RX)

5. Test Summary

The product was tested in accordance with the following specifications.

All testing has been performed according to below product classification:

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliance
§15.207(a)	AC Line Conducted Emissions	Compliance
§15.205, §15.209, §15.249(a), §15.249(d)	Radiated Fundamental / Radiated Spurious Emissions	Compliance
§15.249(a)	Field Strength Measurement	Compliance
§15.249©	20 dB Bandwidth	Compliance
§15.249(d)	Band Edge	Compliance

Measurement Uncertainty

Emissions		
Test Item	**Description**	**Uncertainty**
Band Edge and Radiated Spurious Emissions	Confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2 (for EUTs < 0.5m X 0.5m X 0.5m)	+5.6dB/-4.5dB
-	-	-

6. MEASUREMENTS, EXAMINATION AND DERIVED RESULTS

6.1 Antenna Requirement

Standard Requirement:

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

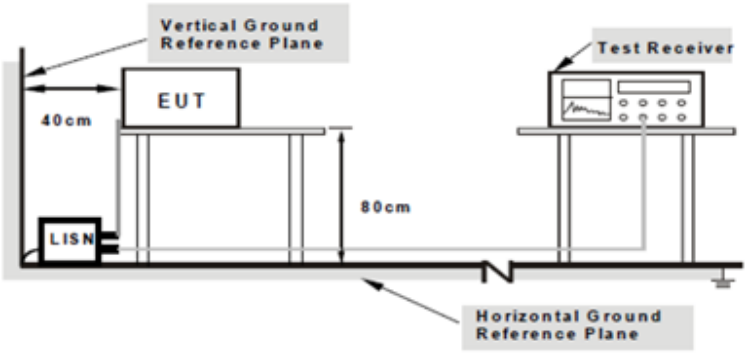
Antenna Connector Construction

A permanently attached flat patch antenna, the gain is 3 dBi.

Test Result: Pass

6.2 DC Line Conducted Emissions

Temperature	23°C
Relative Humidity	52%
Atmospheric Pressure	1010mbar
Test date :	March 10, 2016
Tested By :	Winnie Zhang

<table>
<tr><th>Spec</th><th>Item</th><th>Requirement</th><th>Applicable</th></tr>
<tr><td>§15.207</td><td>a)</td><td>For Low-power radio-frequency devices that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 [mu]H/50 ohms line impedance stabilization network (LISN). The lower limit applies at the boundary between the frequencies ranges.
<table>
<tr><th rowspan="2">Frequency ranges (MHz)</th><th colspan="2">Limit (dBµV)</th></tr>
<tr><th>QP</th><th>Average</th></tr>
<tr><td>0.15 ~ 0.5</td><td>66 – 56</td><td>56 – 46</td></tr>
<tr><td>0.5 ~ 5</td><td>56</td><td>46</td></tr>
<tr><td>5 ~ 30</td><td>60</td><td>50</td></tr>
</table></td><td>☑</td></tr>
<tr><td>Test Setup</td><td colspan="3"> 

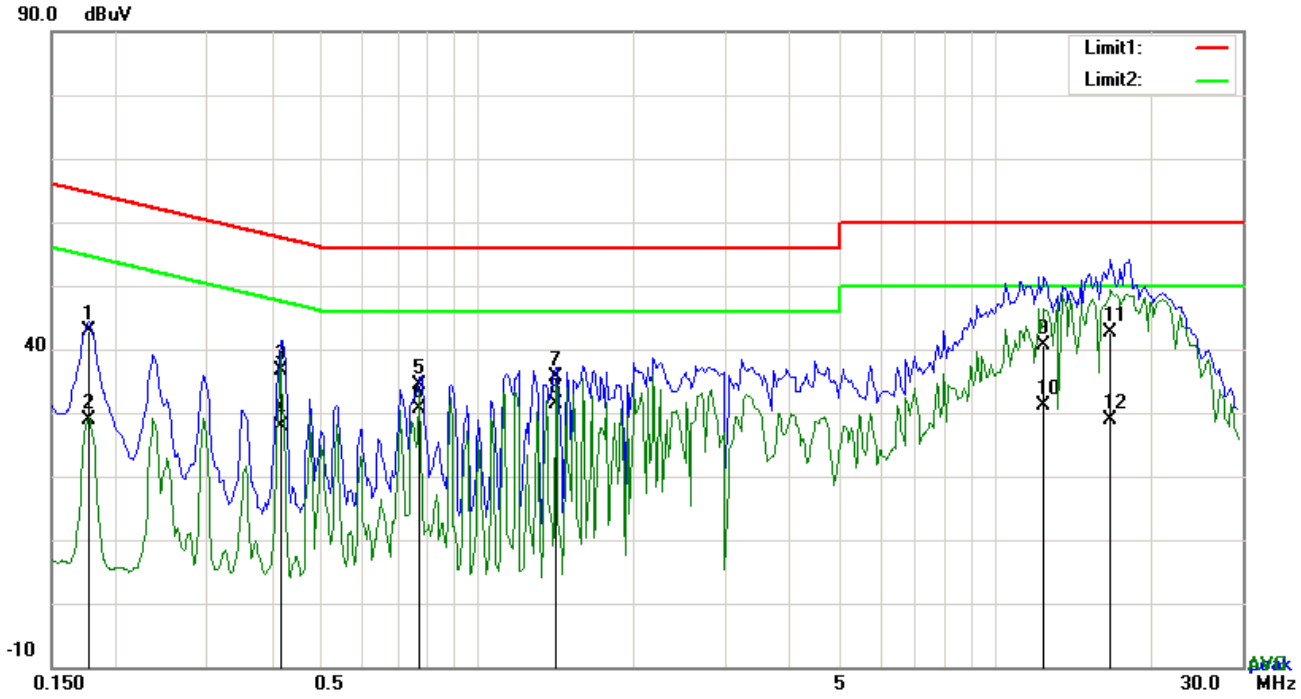
Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80cm from EUT and at least 80cm from other units and other metal planes support units.</td></tr>
<tr><td>Procedure</td><td colspan="3">1. The EUT and supporting equipment were set up in accordance with the requirements of the standard on top of a 1.5m x 1m x 0.8m high, non-metallic table.
2. The power supply for the EUT was fed through a 50W/50mH EUT LISN, connected to filtered mains.
3. The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss coaxial cable.</td></tr>
</table>

	4. All other supporting equipment were powered separately from another main supply. 5. The EUT was switched on and allowed to warm up to its normal operating condition. 6. A scan was made on the NEUTRAL line (for AC mains) or Earth line (for DC power) over the required frequency range using an EMI test receiver. 7. High peaks, relative to the limit line, The EMI test receiver was then tuned to the selected frequencies and the necessary measurements made with a receiver bandwidth setting of 10 kHz. 8. Step 7 was then repeated for the LIVE line (for AC mains) or DC line (for DC power).
Remark	
Result	☑ Pass ☐ Fail

Test Data ☑ Yes ☐ N/A

Test Plot ☑ Yes (See below) ☐ N/A

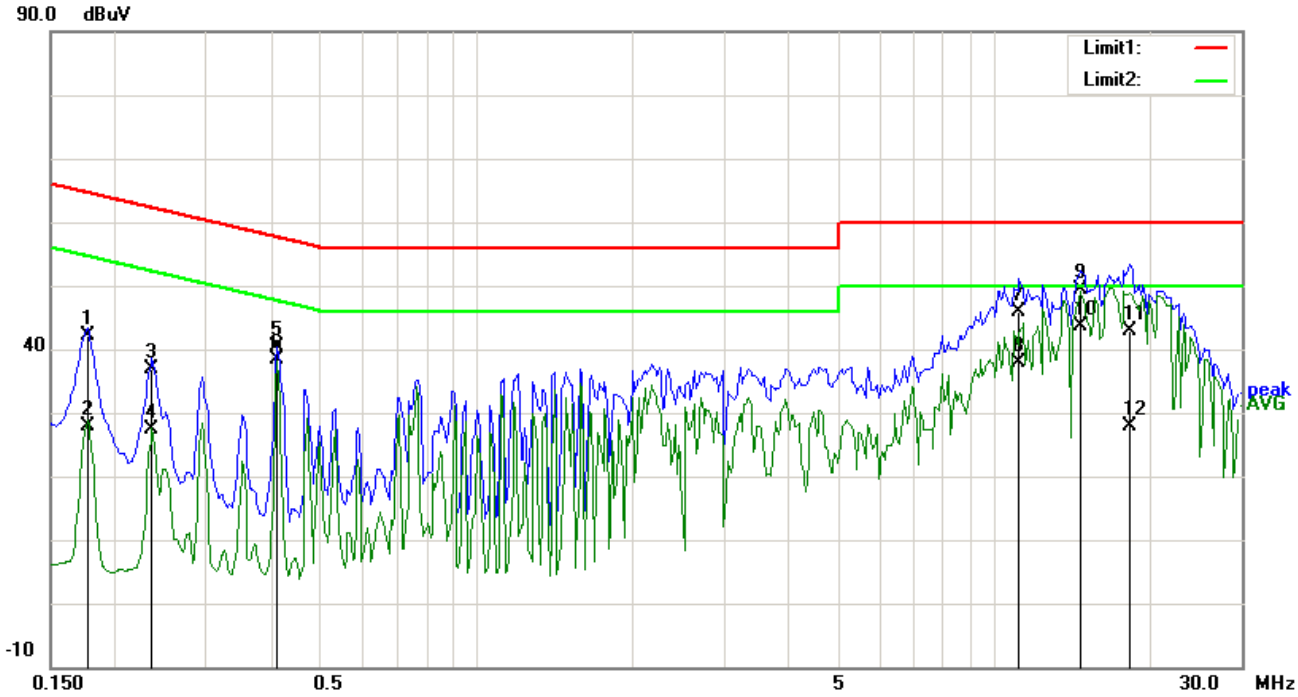
Test Mode:	DC Power Supply



Test Data

Line1 Plot at 48Vdc

No.	P/L	Frequency (MHz)	Reading (dBµV/m)	Detector	Corrected (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
1	L1	0.1773	32.79	QP	10.03	42.82	64.61	-21.79
2	L1	0.1773	18.91	AVG	10.03	28.94	54.61	-25.67
3	L1	0.4191	26.67	QP	10.03	36.70	57.47	-20.77
4	L1	0.4191	17.80	AVG	10.03	27.83	47.47	-19.64
5	L1	0.7701	24.46	QP	10.03	34.49	56.00	-21.51
6	L1	0.7701	20.57	AVG	10.03	30.60	46.00	-15.40
7	L1	1.4175	25.51	QP	10.04	35.55	56.00	-20.45
8	L1	1.4175	21.43	AVG	10.04	31.47	46.00	-14.53
9	L1	12.4263	30.42	QP	10.19	40.61	60.00	-19.39
10	L1	12.4263	20.93	AVG	10.19	31.12	50.00	-18.88
11	L1	16.6617	32.29	QP	10.25	42.54	60.00	-17.46
12	L1	16.6617	18.56	AVG	10.25	28.81	50.00	-21.19



Test Data

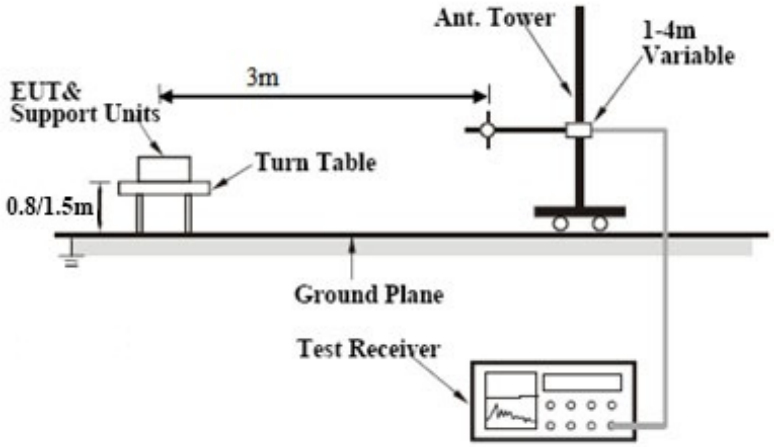
Line 2 Plot at 48Vdc

No.	P/L	Frequency (MHz)	Reading (dBµV/m)	Detector	Corrected (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)
1	L2	0.1773	32.20	QP	10.02	42.22	64.61	-22.39
2	L2	0.1773	17.75	AVG	10.02	27.77	54.61	-26.84
3	L2	0.2358	26.92	QP	10.02	36.94	62.24	-25.30
4	L2	0.2358	17.34	AVG	10.02	27.36	52.24	-24.88
5	L2	0.4113	30.32	QP	10.02	40.34	57.62	-17.28
6	L2	0.4113	28.31	AVG	10.02	38.33	47.62	-9.29
7	L2	11.1432	35.74	QP	10.15	45.89	60.00	-14.11
8	L2	11.1432	27.67	AVG	10.15	37.82	50.00	-12.18
9	L2	14.6142	39.20	QP	10.20	49.40	60.00	-10.60
10	L2	14.6142	33.53	AVG	10.20	43.73	50.00	-6.27
11	L2	18.2997	32.71	QP	10.24	42.95	60.00	-17.05
12	L2	18.2997	17.68	AVG	10.24	27.92	50.00	-22.08

6.3 Radiated Spurious Emissions

Temperature	23°C
Relative Humidity	52%
Atmospheric Pressure	1010mbar
Test date :	March 10, 2016
Tested By :	Winnie Zhang

Requirement(s):

<table>
<tr><th>Spec</th><th>Requirement</th><th>Applicable</th></tr>
<tr><td>§15.209, §15.205, §15.249(a) & §15.249(d)</td><td>The emissions from the Low-power radio-frequency devices shall not exceed the field strength levels specified in the following table and the level of any unwanted emissions shall not exceed the level of the fundamental emission. The tighter limit applies at the band edges.
The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:
<table>
<tr><th>Fundamental frequency</th><th>Field strength of fundamental (millivolts/meter)</th><th>Field strength of harmonics (microvolts/meter)</th></tr>
<tr><td>902– 928 MHz</td><td>50</td><td>500</td></tr>
<tr><td>2400– 2483.5 MHz</td><td>50</td><td>500</td></tr>
<tr><td>5725– 5875 MHz</td><td>50</td><td>500</td></tr>
<tr><td>24.0– 24.25 GHz</td><td>250</td><td>2500</td></tr>
</table></td><td>☑</td></tr>
<tr><td>Test Setup</td><td> 
</td><td></td></tr>
<tr><td>Procedure</td><td>- Setup the configuration according to figure 1. Turn on EUT and make sure that it is in normal function
- For emission frequencies measured below 1GHz, a pre-scan is performed in a</td><td></td></tr>
</table>

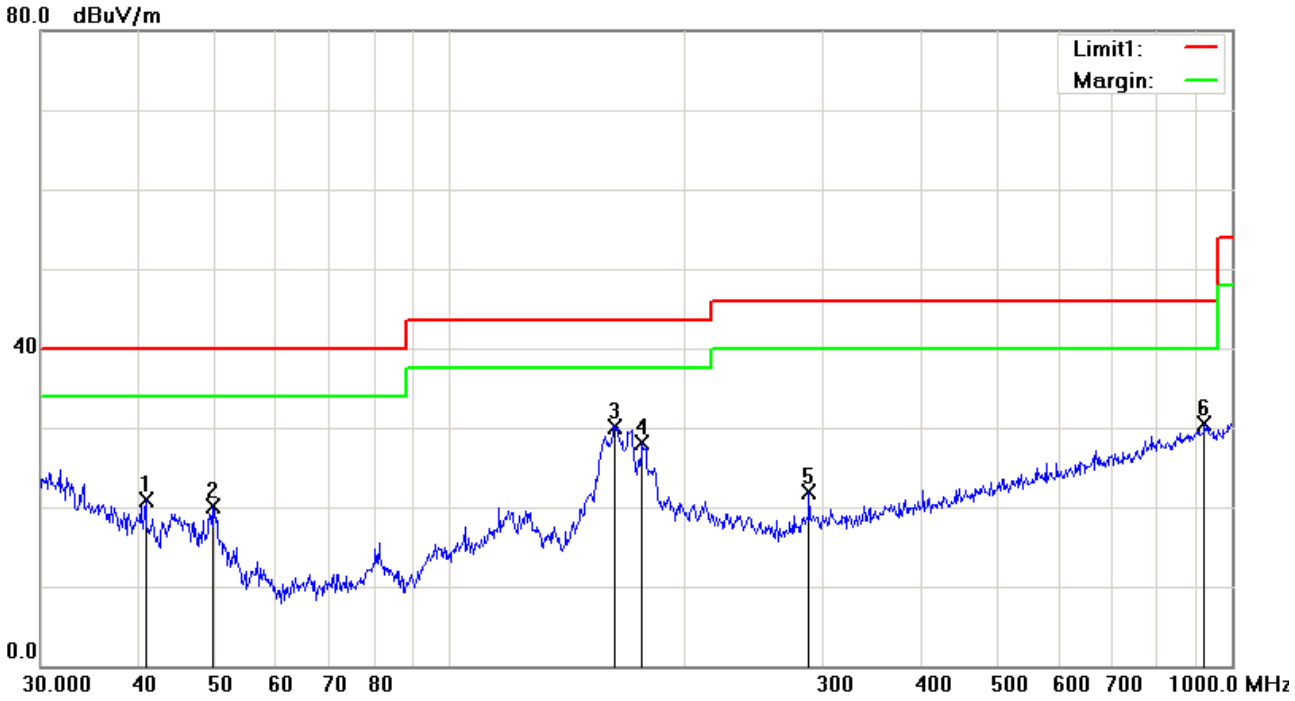
	shielded chamber to determine the accurate frequencies of higher emissions will be checked on a open test site. As the same purpose, for emission frequencies measured above 1GHZ, a pre-scan also be performed with a meter measuring distance before final test. - For emission frequencies measured below and above 1GHz, set the spectrum analyzer on a 100kHz and 1MHz resolution bandwidth respectively for each frequency measured in step 2. - The search antenna is to be raised and lowered over a range from 1 to 4m in horizontally polarized orientation. Position the highness when the highest value is indicated on spectrum analyzer, the change the orientation of EUT on the test table over a range from 0 to 360°. With a speed as slow as possible, and keep the azimuth that highest emission is indicated on the spectrum analyzer. Vary the antenna position again and record the highest value as a final reading. - Repeat step 4 until all frequencies need to be measured was complete. - Repeat step5 with search antenna in vertical polarized orientations.
Remark	
Result	☑ Pass ☐ Fail

Test Data ☑ Yes ☐ N/A

Test Plot ☑ Yes (See below) ☐ N/A

Below 1GHz

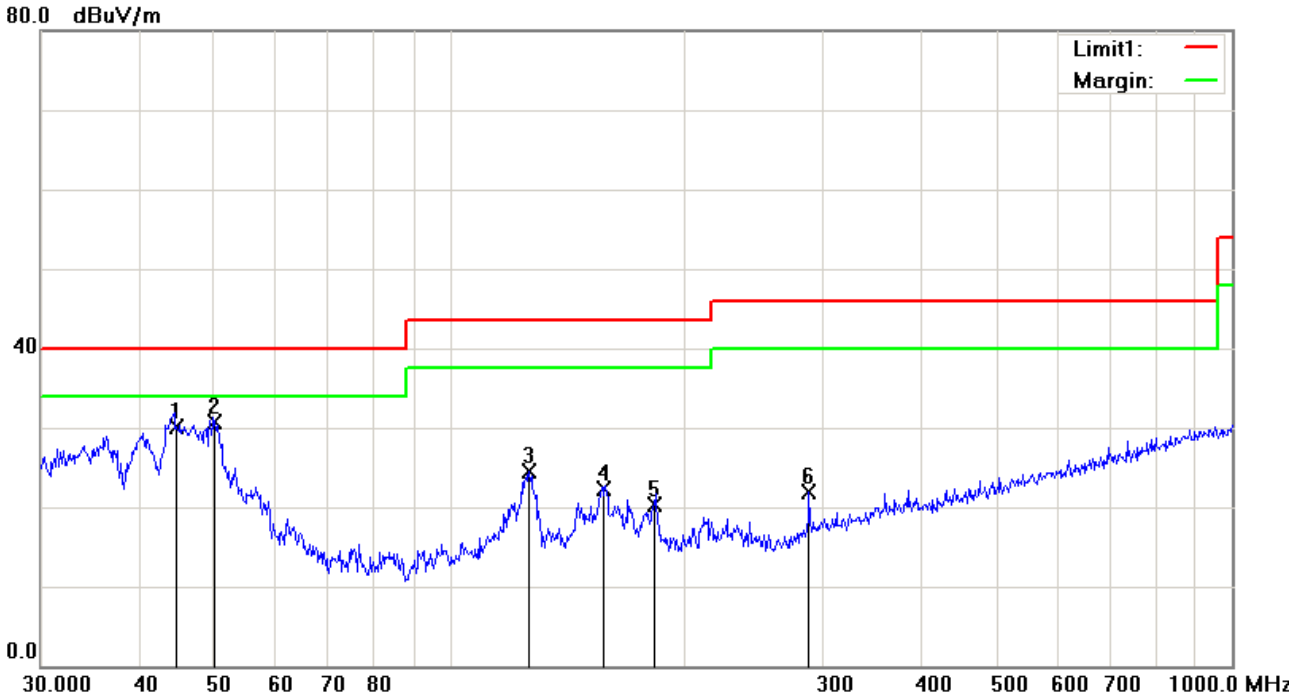
Test Mode 1:	Transmitting 2405 Mode



Test Data

Horizontal Polarity Plot @3m

No.	P/L	Frequency (MHz)	Reading (dBμV/m)	Detector	Corrected (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Degree (°)
1	H	40.8446	29.00	peak	-8.16	20.84	40.00	-19.16	100	274
2	H	49.7068	33.19	peak	-13.04	20.15	40.00	-19.85	100	230
3	H	162.6106	38.57	peak	-8.50	30.07	43.50	-13.43	100	239
4	H	176.2686	37.66	peak	-9.59	28.07	43.50	-15.43	100	243
5	H	287.9904	29.43	peak	-7.45	21.98	46.00	-24.02	100	129
6	H	922.5157	25.67	peak	4.89	30.56	46.00	-15.44	100	213

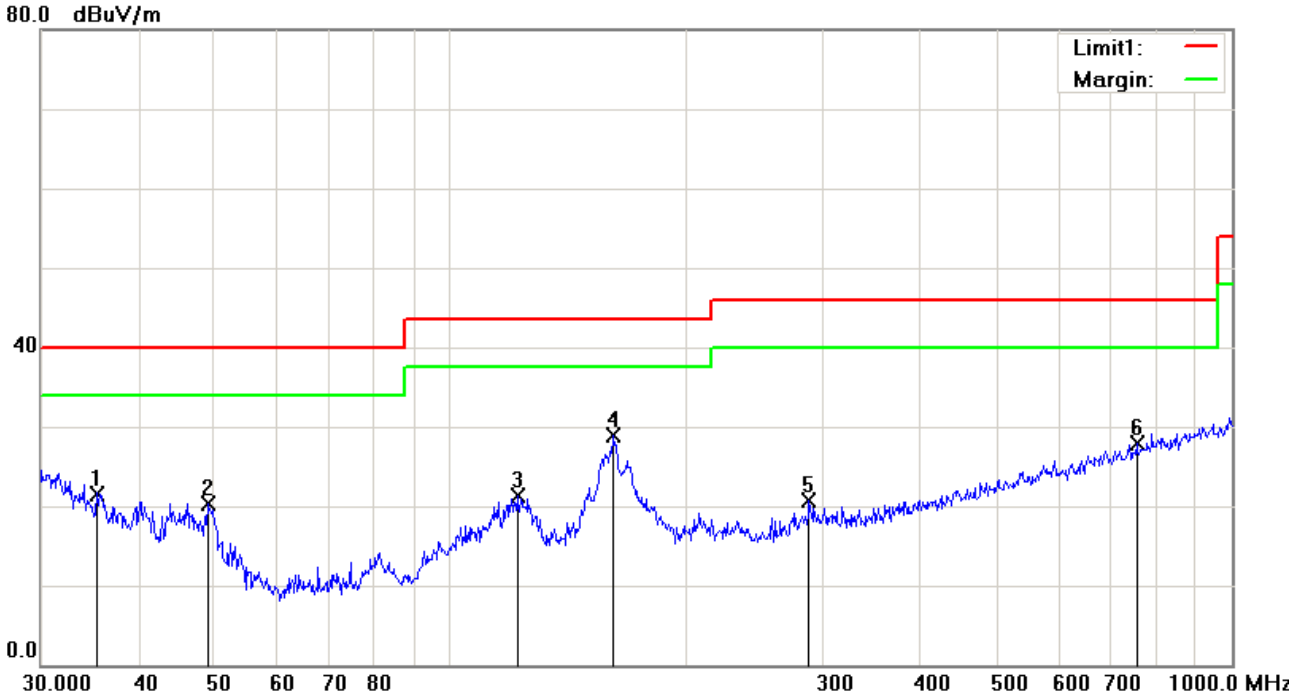


Test Data

Vertical Polarity Plot @3m

No.	P/L	Frequency (MHz)	Reading (dBµV/m)	Detector	Corrected (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (°)
1	V	44.7434	40.79	peak	-10.77	30.02	40.00	-9.98	100	223
2	V	50.0566	43.99	peak	-13.19	30.80	40.00	-9.20	100	341
3	V	126.3286	32.27	peak	-7.70	24.57	43.50	-18.93	100	175
4	V	157.5589	30.70	peak	-8.31	22.39	43.50	-21.11	100	336
5	V	182.5592	30.02	peak	-9.72	20.30	43.50	-23.20	100	179
6	V	287.9904	29.38	peak	-7.45	21.93	46.00	-24.07	100	196

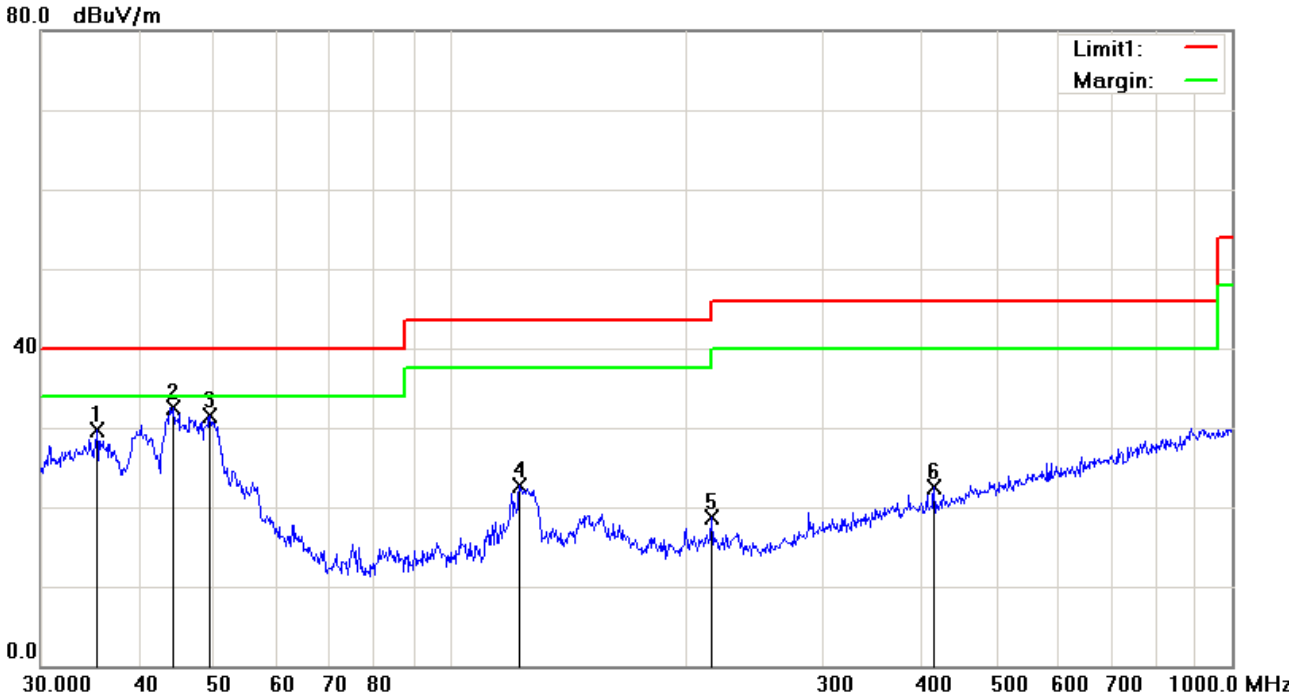
Test Mode 2:	Transmitting 2450 Mode



Test Data

Horizontal Polarity Plot @3m

No.	P/L	Frequency (MHz)	Reading (dBμV/m)	Detector	Corrected (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Degree (°)
1	H	35.3750	25.81	peak	-4.21	21.60	40.00	-18.40	100	359
2	H	49.0145	33.06	peak	-12.74	20.32	40.00	-19.68	100	263
3	H	121.9755	28.76	peak	-7.42	21.34	43.50	-22.16	100	224
4	H	162.0414	37.37	peak	-8.45	28.92	43.50	-14.58	100	233
5	H	287.9904	28.20	peak	-7.45	20.75	46.00	-25.25	100	111
6	H	755.3873	25.37	peak	2.50	27.87	46.00	-18.13	100	180

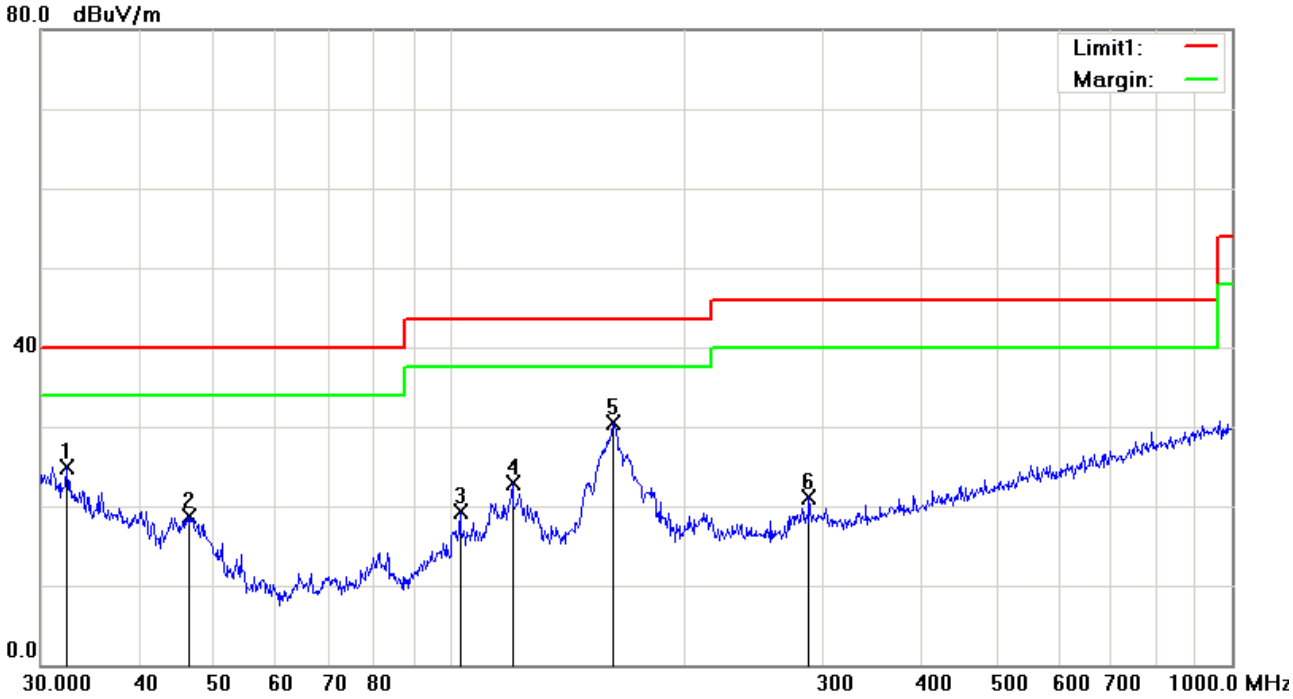


Test Data

Vertical Polarity Plot @3m

No.	P/L	Frequency (MHz)	Reading (dBµV/m)	Detector	Corrected (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (°)
1	V	35.3750	33.96	peak	-4.21	29.75	40.00	-10.25	100	17
2	V	44.2752	42.97	peak	-10.45	32.52	40.00	-7.48	100	266
3	V	49.3594	44.35	peak	-12.90	31.45	40.00	-8.55	100	296
4	V	122.8340	30.22	peak	-7.48	22.74	43.50	-20.76	100	152
5	V	216.0240	27.52	peak	-8.88	18.64	46.00	-27.36	100	183
6	V	416.1791	26.32	peak	-3.91	22.41	46.00	-23.59	100	359

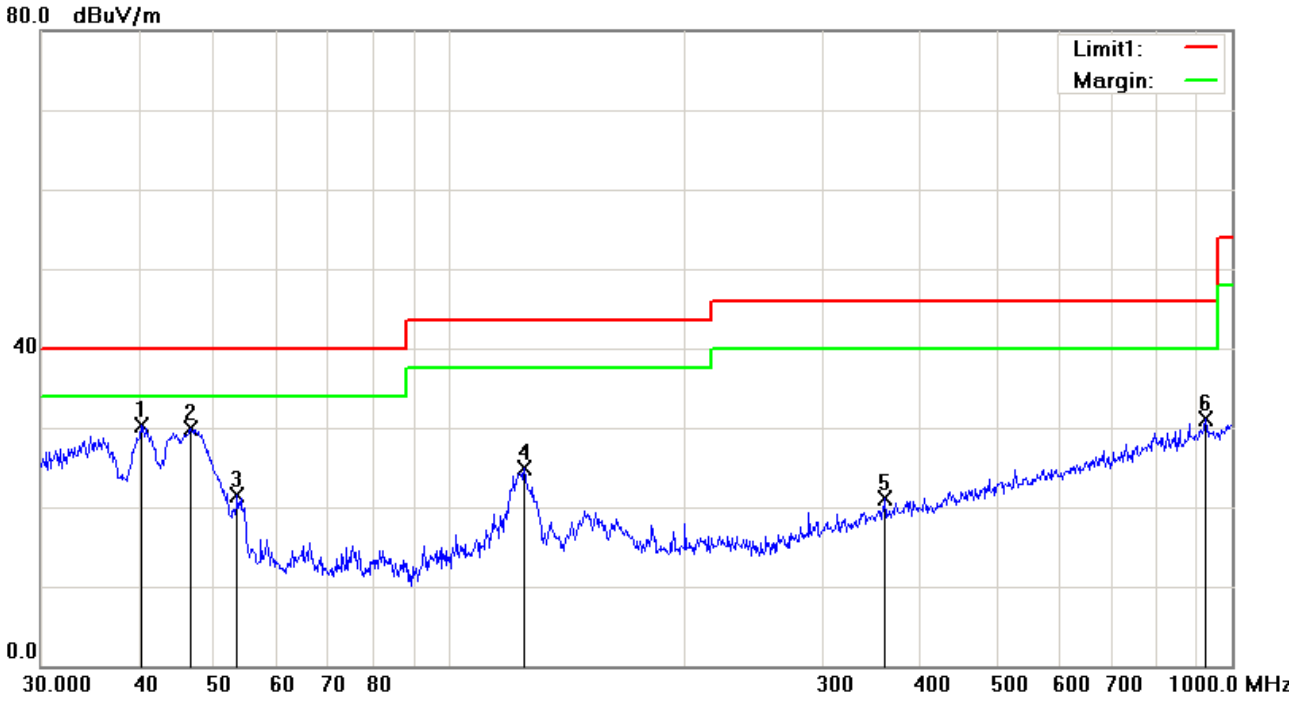
Test Mode 3:	Transmitting 2480 Mode



Test Data

Horizontal Polarity Plot @3m

No.	P/L	Frequency (MHz)	Reading (dBμV/m)	Detector	Corrected (dB/m)	Result (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Degree (°)
1	H	32.4059	26.87	peak	-2.03	24.84	40.00	-15.16	100	299
2	H	46.5030	30.27	peak	-11.61	18.66	40.00	-21.34	100	229
3	H	103.0800	29.59	peak	-10.25	19.34	43.50	-24.16	100	250
4	H	120.2766	30.31	peak	-7.32	22.99	43.50	-20.51	100	224
5	H	162.0414	39.00	peak	-8.45	30.55	43.50	-12.95	100	233
6	H	287.9904	28.61	peak	-7.45	21.16	46.00	-24.84	100	132



Test Data

Vertical Polarity Plot @3m

No.	P/L	Frequency (MHz)	Reading (dBµV/m)	Detector	Corrected (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Degree (°)
1	V	40.2757	38.16	peak	-7.77	30.39	40.00	-9.61	100	322
2	V	46.6664	41.67	peak	-11.68	29.99	40.00	-10.01	100	61
3	V	53.5052	35.15	peak	-13.59	21.56	40.00	-18.44	100	340
4	V	124.5690	32.41	peak	-7.59	24.82	43.50	-18.68	100	170
5	V	360.4477	26.28	peak	-5.22	21.06	46.00	-24.94	100	139
6	V	925.7563	26.20	peak	4.92	31.12	46.00	-14.88	100	296

Above 1GHz

Channel (2405 MHz)

Frequency (MHz)	SA Reading (dBμV)	Detector (PK/AV)	Polarity (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre-Amp Gain (dB)	Cord. Amp. (dBμV/m)	Limit (dBμV/m)	Margin (dB)
4810	34.88	AV	V	34.4	6.42	31.14	44.56	54	-9.44
4810	34.98	AV	H	34.4	6.42	31.14	44.66	54	-9.34
4810	48.17	PK	V	34.4	6.42	31.14	57.85	74	-16.15
4810	48.55	PK	H	34.4	6.42	31.14	58.23	74	-15.77

Channel (2450 MHz)

Frequency (MHz)	SA Reading (dBμV)	Detector (PK/AV)	Polarity (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre-Amp Gain (dB)	Cord. Amp. (dBμV/m)	Limit (dBμV/m)	Margin (dB)
4900	35.66	AV	V	34.6	6.51	31.86	44.91	54	-9.09
4900	36.41	AV	H	34.6	6.51	31.86	45.66	54	-8.34
4900	45.78	PK	V	34.6	6.51	31.86	55.03	74	-18.97
4900	46.12	PK	H	34.6	6.51	31.86	55.37	74	-18.63

Channel (2480 MHz)

Frequency (MHz)	SA Reading (dBμV)	Detector (PK/AV)	Polarity (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre-Amp Gain (dB)	Cord. Amp. (dBμV/m)	Limit (dBμV/m)	Margin (dB)
4960	37.15	AV	V	34.9	6.63	31.95	46.73	54	-7.27
4960	38.01	AV	H	34.9	6.63	31.95	47.59	54	-6.41
4960	46.55	PK	V	34.9	6.63	31.95	56.13	74	-17.87
4960	47.21	PK	H	34.9	6.63	31.95	56.79	74	-17.21

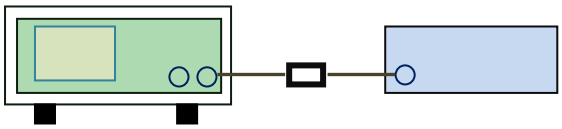
Note:

*1, The testing has been conformed to 10*2480MHz=24,800MHz*
2, All other emissions more than 30 dB below the limit

6.4 Field Strength Measurement

Temperature	23°C
Relative Humidity	52%
Atmospheric Pressure	1010mbar
Test date :	March 10, 2016
Tested By :	Winnie Zhang

Requirement(s):

Spec	Requirement	Applicable
§15.249(a)	Fundamental frequency / Field strength of fundamental (millivolts/meter) / Field strength of harmonics (microvolts/meter) 902–928 MHz ..... 50 500 2400–2483.5 MHz ..... 50 500 5725–5875 MHz ..... 50 500 24.0–24.25 GHz 250 2500	☑
Test Setup		
Test Procedure	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 § 15.209, whichever is the lesser attenuation.	
Remark		
Result	☑ Pass ☐ Fail	

Test Data ☑ Yes ☐ N/A

Test Plot ☑ Yes (See below) ☐ N/A

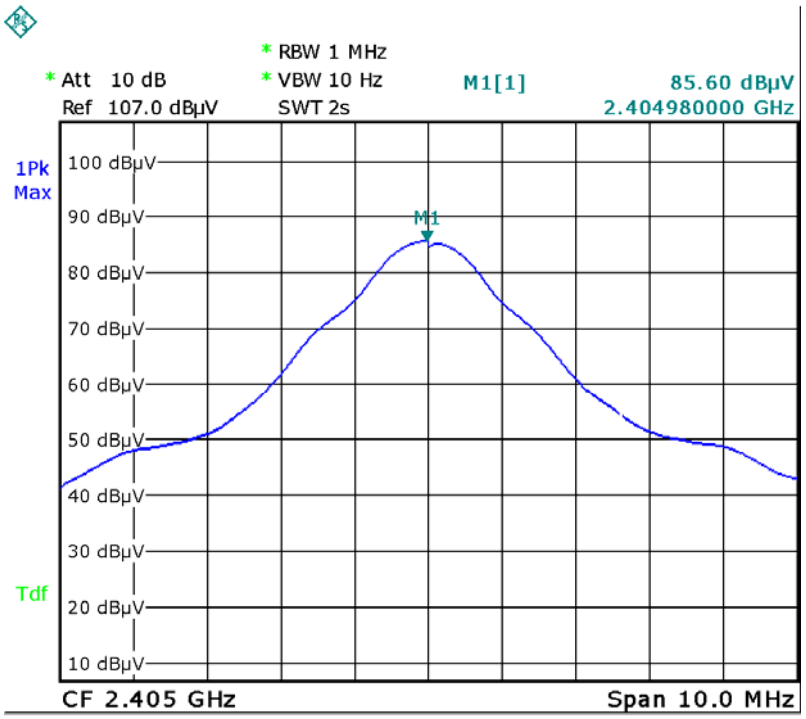
Test Data:

Operating Frequency(MHz)	Testing Result		Limit		Result
	Pk(dBμV/m)	AV(dBμV/m)	Pk(dBμV/m)	AV(dBμV/m)	
2405	88.34	85.60	94	114	Pass
2450	87.63	85.05	94	114	Pass
2480	87.99	85.34	94	114	Pass

Test Plot :

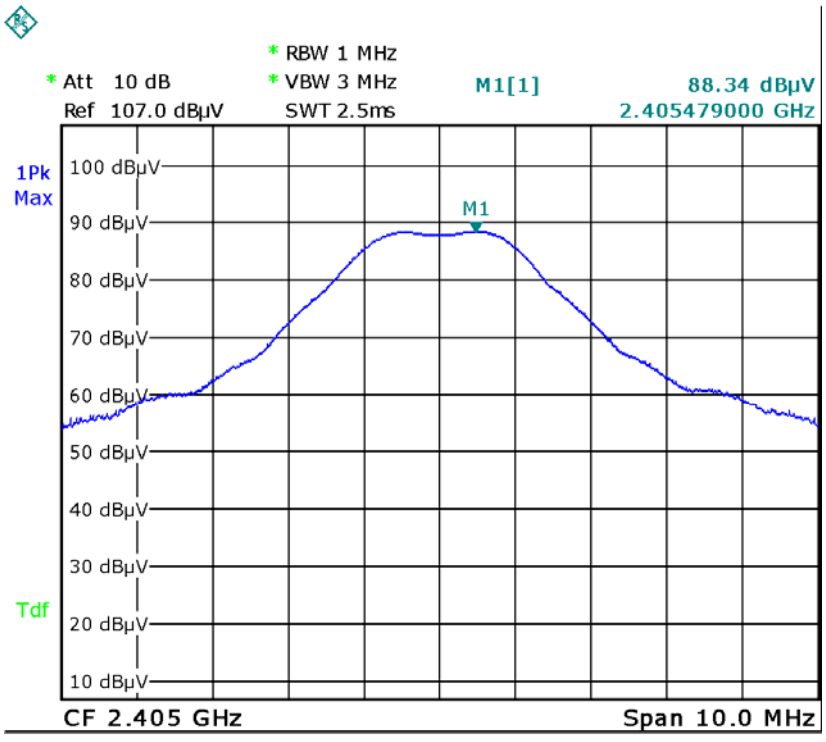
Field Strength Measurement

Average (2405MHz) :



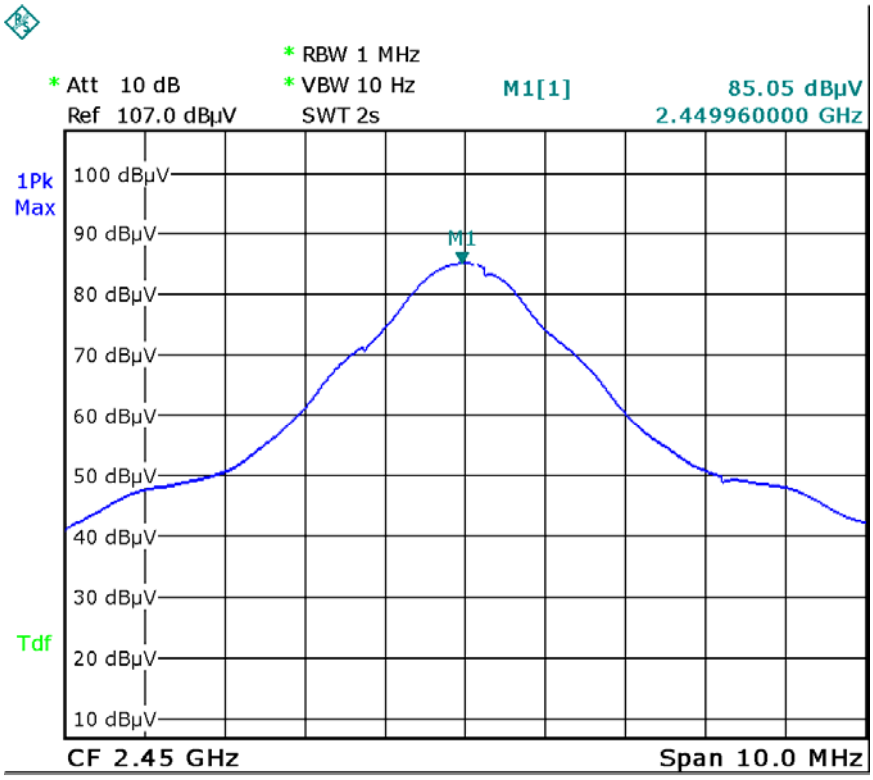
Date: 10.MAR.2016 10:27:31

Peak (2405MHz) :



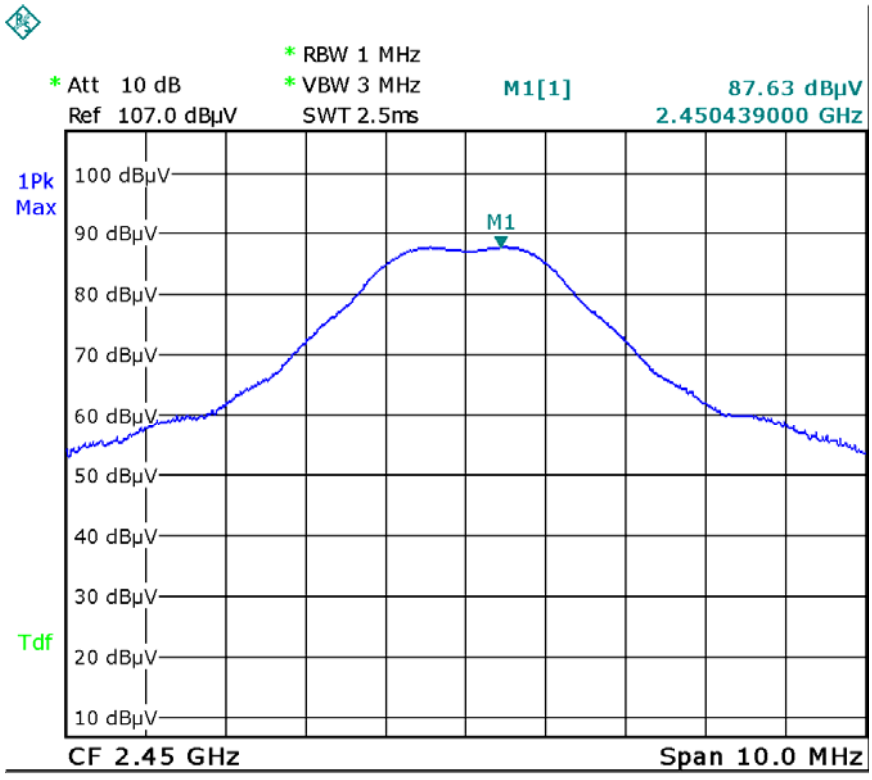
Date: 10.MAR.2016 10:27:16

Average (2450MHz) :



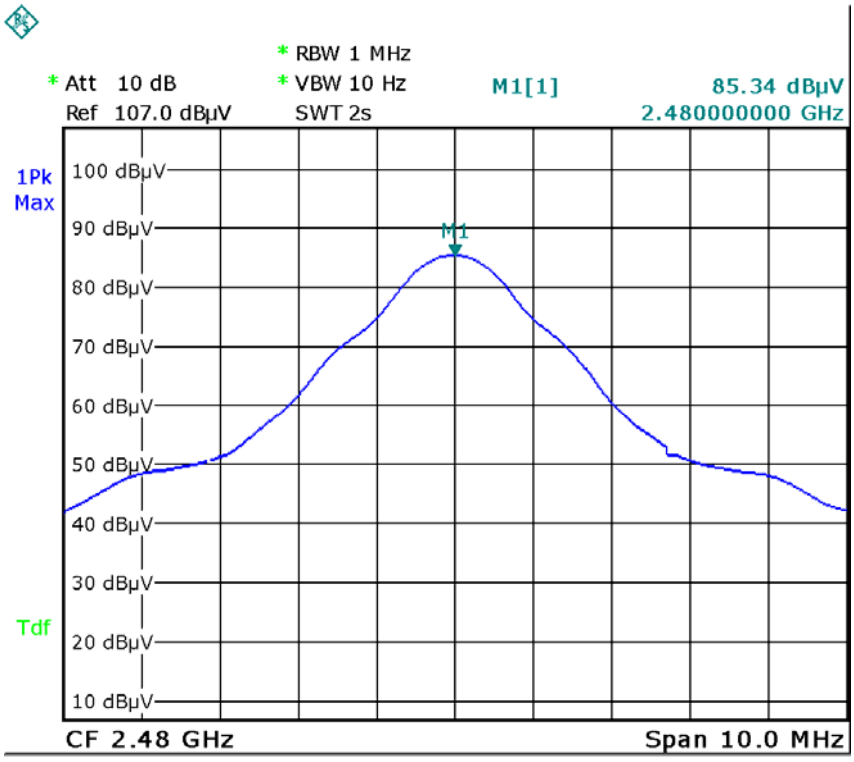
Date: 10.MAR.2016 10:20:49

Peak (2450MHz) :



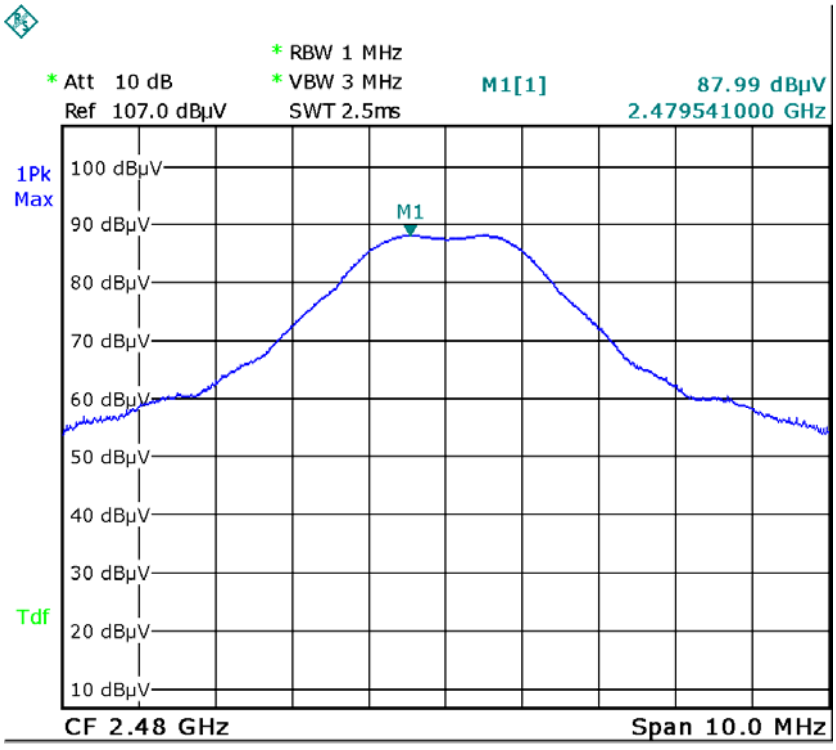
Date: 10.MAR.2016 10:20:33

Average (2480MHz) :



Date: 10.MAR.2016 10:07:53

Peak (2480MHz) :

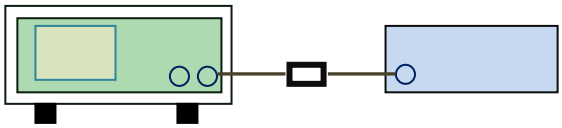


Date: 10.MAR.2016 10:08:04

6.5 20dB Bandwidth Testing

Temperature	23°C
Relative Humidity	52%
Atmospheric Pressure	1010mbar
Test date :	March 10, 2016
Tested By :	Winnie Zhang

Requirement(s):

Spec	Item	Requirement	Applicable
§15.215(c)	a)	Radiated Emissions Measurement Uncertainty All test measurements carried out are traceable to national standards. The uncertainty of the measurement at a confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2, in the range 30MHz – 1GHz (3m & 10m) & 1GHz above (3m) is +5.6/-4.5dB.	☑
Test Setup			
Test Procedure	- -Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator. - Position the EUT on the test table without connection to measurement instrument. Turn on the EUT. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value. - Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Record the frequency difference as the emission bandwidth. - Repeat above procedures until all frequencies measured were complete.		
Remark			

Result	☑ Pass	☐ Fail

Test Data ☑ Yes ☐ N/A

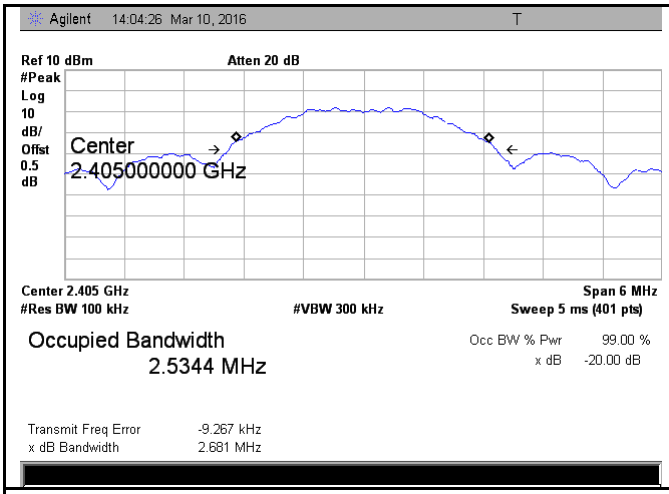
Test Plot ☑ Yes (See below) ☐ N/A

20dB Bandwidth measurement result

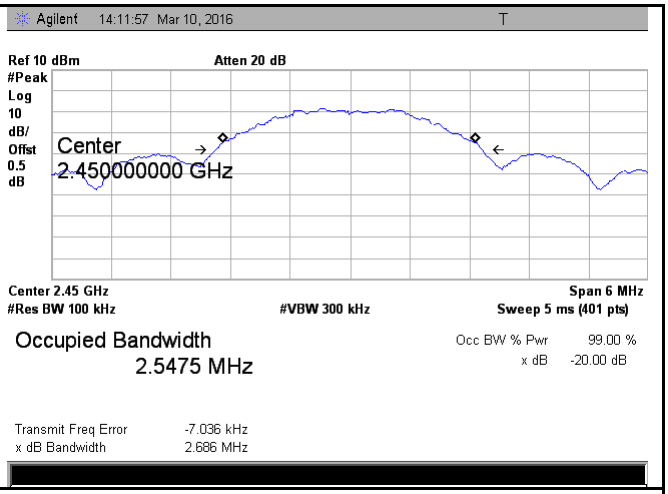
Fundamental Frequency (MHz)	20dB Bandwidth (MHz)	Result
2405	2.681	Pass
2450	2.686	Pass
2480	2.669	Pass

Test Plots

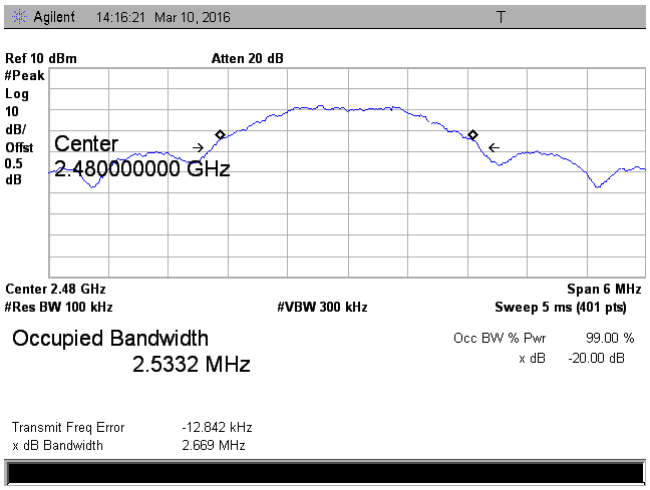
20dB Bandwidth measurement result



20dB Bandwidth-Low Mode



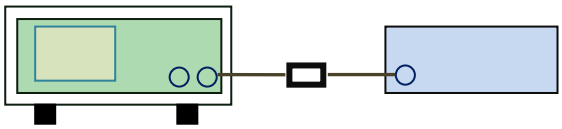
2405MHz -20dB Bandwidth -Middle Mode



20dB Bandwidth-High Mode

6.6 Band Edge

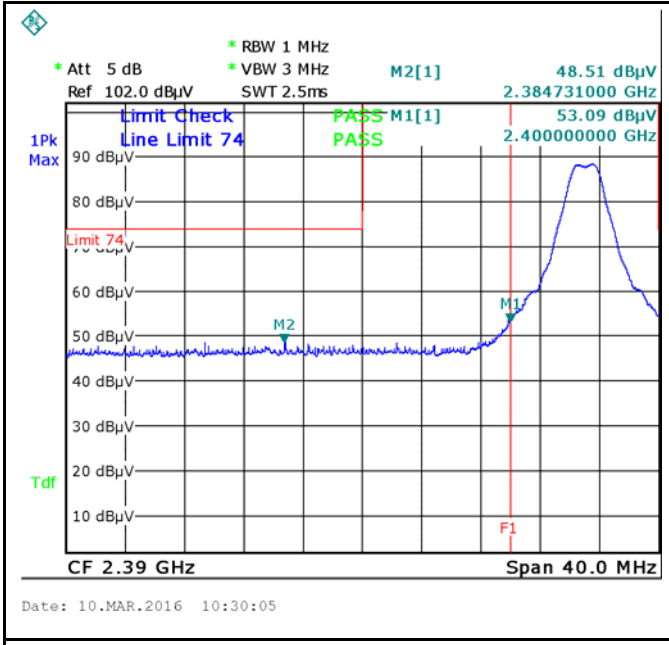
Temperature	23°C
Relative Humidity	52%
Atmospheric Pressure	1010mbar
Test date :	March 10, 2016
Tested By :	Winnie Zhang

Spec	Item	Requirement	Applicable
§15.249(d)	a)	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 §15.209, whichever is the lesser attenuation.	☑
Test Setup			
Test Procedure	- Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator. - Position the EUT without connection to measurement instrument. Put it on the Rotated table and turn on the EUT and make it operate in transmitting mode. Then set it to Low Channel and High Channel within its operating range, and make sure the instrument is operated in its linear range. - Set both RBW and VBW of spectrum analyzer to 1MHz. - 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. - Repeat above procedures until all measured frequencies were complete.		
Remark			
Result	☑ Pass ☐ Fail		

Test Data ☑ Yes ☐ N/A

Test Plot ☑ Yes (See below) ☐ N/A

Test Plots

<table>
<tr>
<td> 
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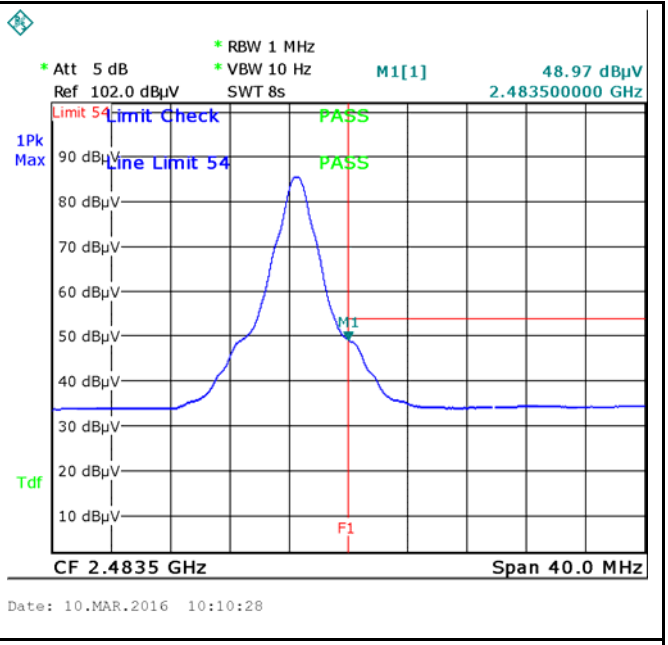
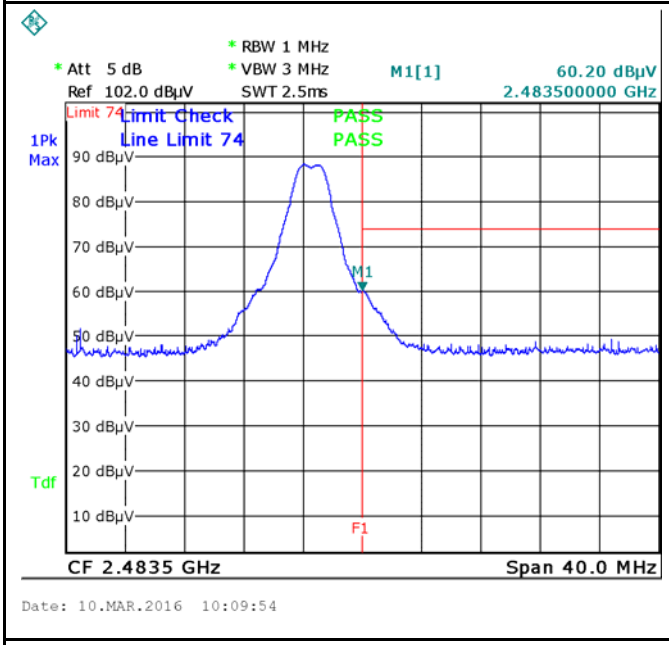
<td> 
</td>
</tr>
<tr>
<td>Peak - Right Side</td>
<td>AV - Left Side</td>
</tr>
<tr>
<td>Note: F1 is frequency 2390MHz</td>
<td>Note: F1 is frequency 2483.5MHz</td>
</tr>
<tr>
<td> 
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<td></td>
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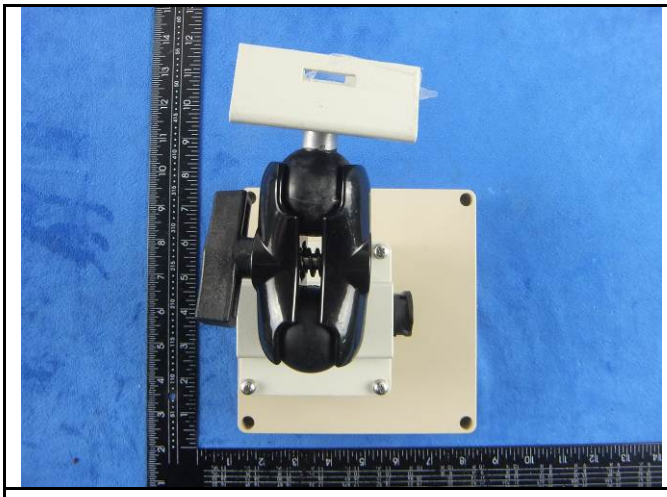
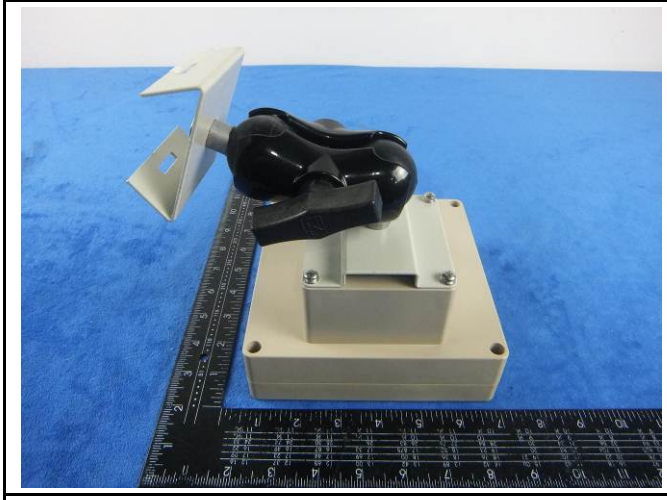
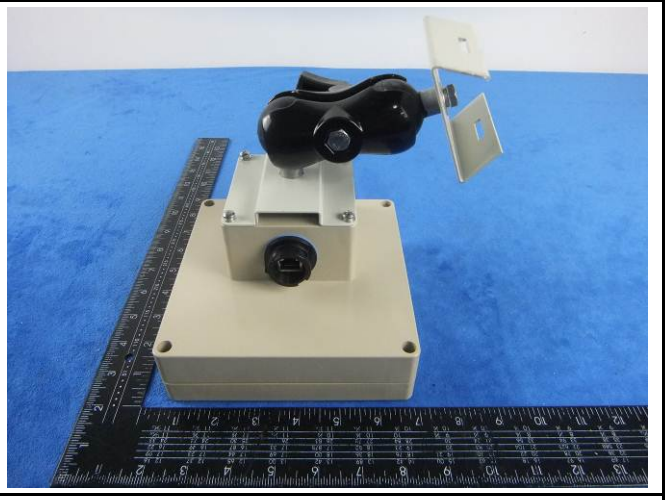
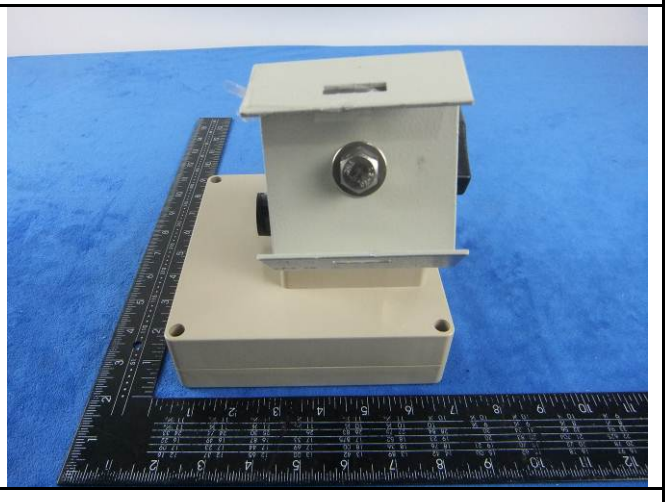
<tr>
<td>Peak - Left Side</td>
<td></td>
</tr>
<tr>
<td>Note: F1 is frequency 2483.5MHz</td>
<td></td>
</tr>
</table>

Annex A. TEST INSTRUMENT

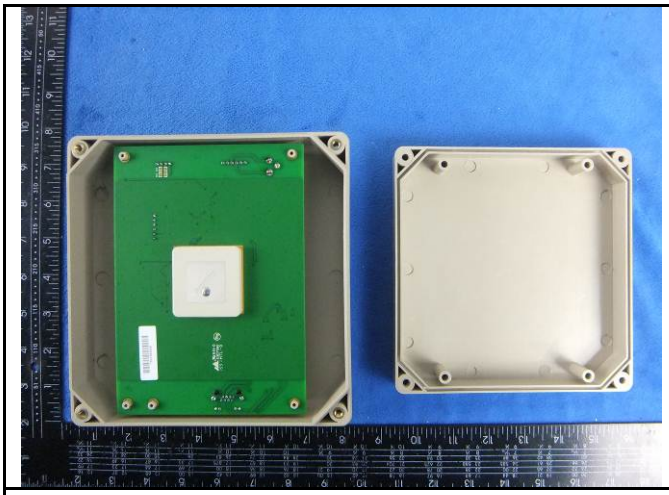
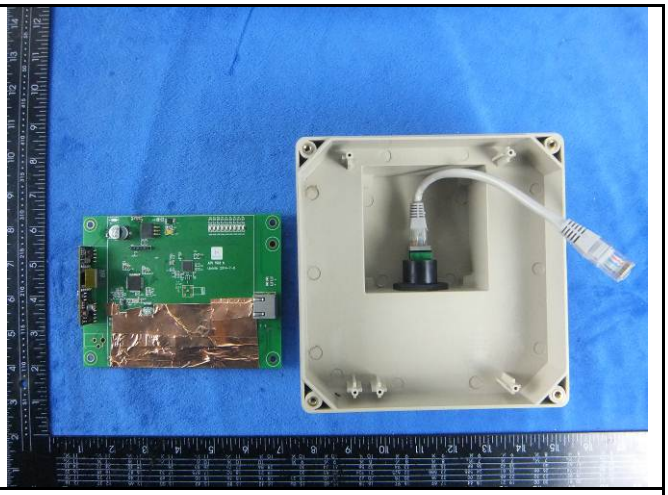
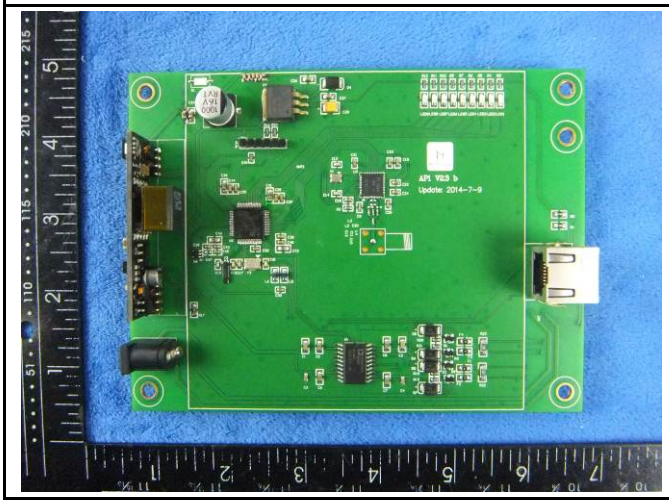
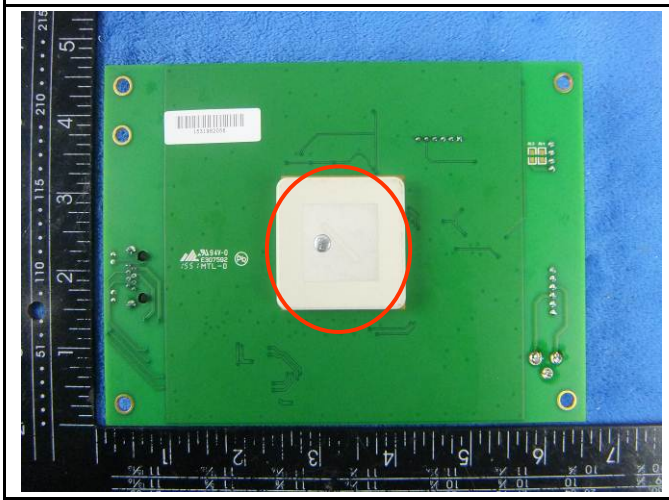
Instrument	Model	Serial #	Cal Date	Cal Due	In use
AC Line Conducted					
EMI test receiver	ESCS30	8471241027	09/17/2015	09/16/2016	☑
Line Impedance	LI-125A	191106	09/25/2015	09/24/2016	☑
Line Impedance	LI-125A	191107	09/25/2015	09/24/2016	☑
LISN	ISN T800	34373	09/25/2015	09/24/2016	☑
Double Ridge Horn Antenna (1 ~18GHz)	AH-118	71283	09/24/2015	09/23/2016	☑
Transient Limiter	LIT-153	531118	09/01/2015	08/31/2016	☑
RF conducted test					
Agilent ESA-E SERIES	E4407B	MY45108319	09/17/2015	09/16/2016	☑
Power Splitter	1#	1#	09/01/2015	08/31/2016	☑
DC Power Supply	E3640A	MY40004013	09/17/2015	09/16/2016	☑
Radiated Emissions					
EMI test receiver	ESL6	100262	09/17/2015	09/16/2016	☑
Positioning Controller	UC3000	MF780208282	11/19/2015	11/18/2016	☑
OPT 010 AMPLIFIER (0.1-1300MHz)	8447E	2727A02430	09/01/2015	08/31/2016	☑
Microwave Preamplifier (1 ~ 26.5GHz)	8449B	3008A02402	03/25/2015	03/24/2016	☑
Bilog Antenna (30MHz~6GHz)	JB6	A110712	09/21/2015	09/20/2016	☑
Double Ridge Horn Antenna (1 ~18GHz)	AH-118	71283	09/24/2015	09/23/2016	☑
Universal Radio Communication Tester	CMU200	121393	09/25/2015	09/24/2016	☑

Annex B. EUT And Test Setup Photographs

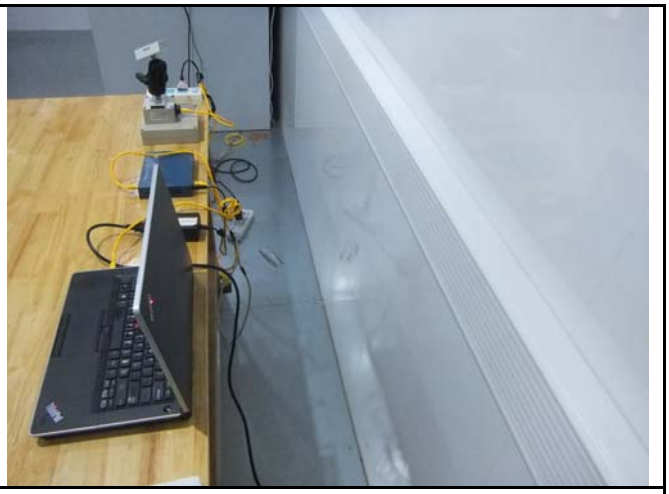
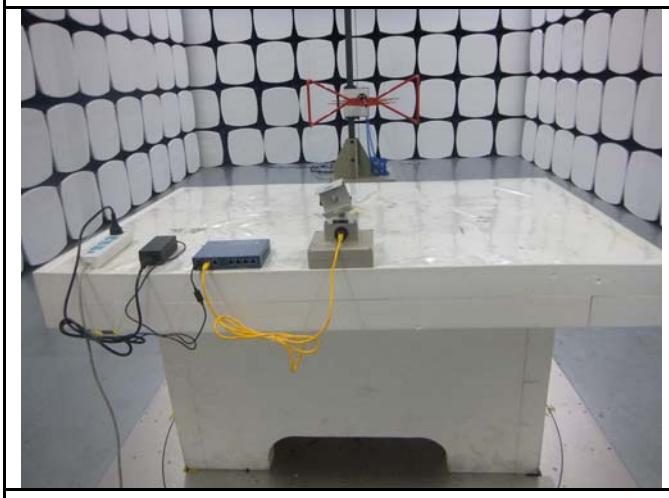
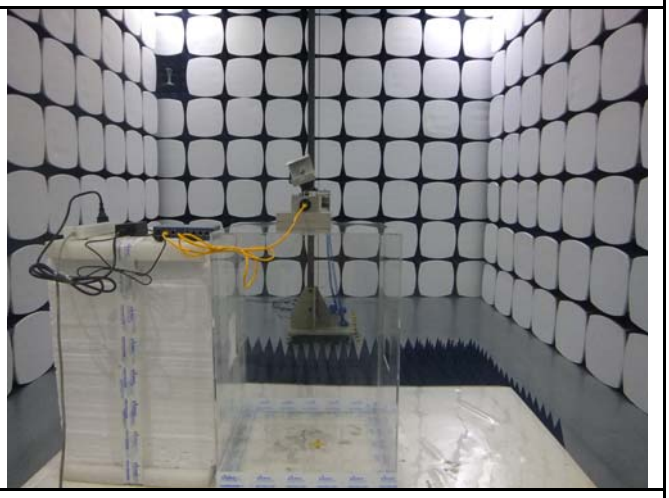
Annex B.i. Photograph: EUT External Photo

	
EUT - Front View	EUT - Rear View
	
EUT - Right View	EUT - Left View
	
EUT - Bottom View	EUT - Top View

Annex B.ii. Photograph: EUT Internal Photo

	
Cover Off - Top View 1	Cover Off - Top View 2
	
Mainbard - Front View	Mainbard - Rear View
	
Antenna View	

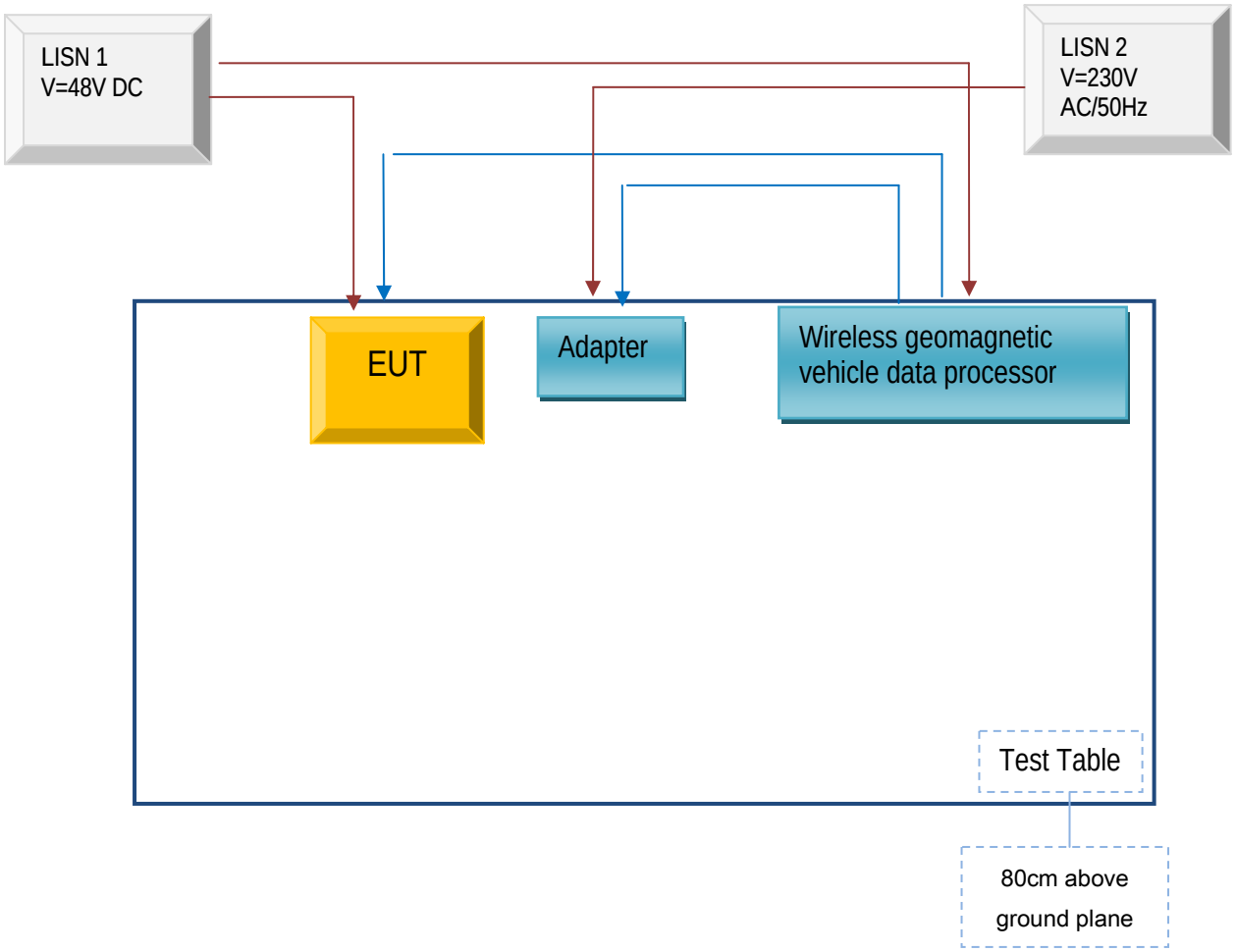
Annex B.iii. Photograph: Test Setup Photo

	
Conducted Emissions Test Setup Front View	Conducted Emissions Test Setup Side View
	
Radiated Spurious Emissions Test Setup Below 1GHz	Radiated Spurious Emissions Test Setup Above 1GHz

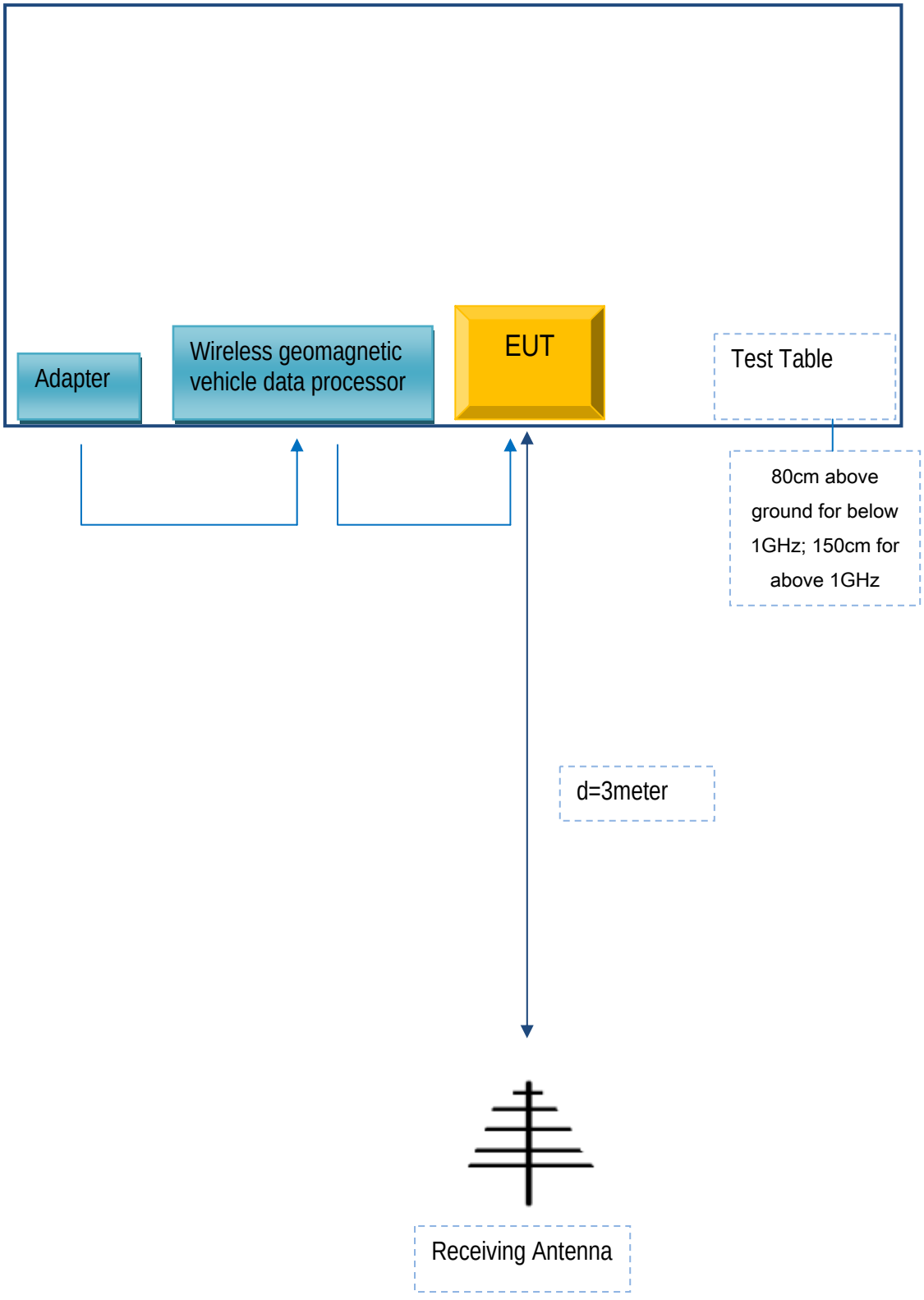
Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

Annex C.ii. TEST SET UP BLOCK

Block Configuration Diagram for AC Line Conducted Emissions



Block Configuration Diagram for Radiated Emissions



Annex C. il. SUPPORTING EQUIPMENT DESCRIPTION

The following is a description of supporting equipment and details of cables used with the EUT.

Supporting Equipment:

Manufacturer	Equipment Description	Model	Serial No
MeritPlusData(Beijing) Co.,Ltd	Wireless geomagnetic vehicle data processor	MPD031N1	A20150324
Lenovo	Lenovo Laptop	E40	LR-1EHRX

Supporting Cable:

Cable type	Shield Type	Ferrite Core	Length	Serial No
Power cable	Un-shielding	No	0.8m	ST22100
RJ45 Cable	Un-shielding	No	2m	KX156327541

Annex D. User Manual / Block Diagram / Schematics / Partlist

N/A

Annex E. DECLARATION OF SIMILARITY

N/A