RF TEST REPORT

Report No.: 16020248-FCC-R1
Supersede Report No.: N/A

Applicant	Rosgol-Rostech Technologies Inc
Product Name	2.4GHz Wireless Barn Camera
Model No.	RS2400
Serial No.	RS2400-2812, RS2400-2812HD, RS2400-550, RS2400-550HD
Test Standard	FCC Part 15.247: 2015, ANSI C63.10: 2013
Test Date	May 06 to May 09, 2016
Issue Date	May 13, 2016
Test Result	☑ Pass ☐ Fail
Equipment complied with the specification	☑
Equipment did not comply with the specification	☐

Deon Dai	Miro Bao	
Deon Dai Test Engineer	Miro Bao Checked By	

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

Issued by:
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Laboratories Introduction

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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
16020248-FCC-R1	NONE	Original	May 13, 2016

2. Customer information

Applicant Name	Rosgol-Rostech Technologies Inc
Applicant Add	346 Isabey Saint-Laurent QC H4T 1W1 Canada
Manufacturer	Shenzhen Sectronics Technology Co., Ltd
Manufacturer Add	A1001, F10, Tiangong Security Plaza, Minzhi, Longhua District, Shenzhen

3. Test site information

Lab performing tests	SIEMIC (Nanjing-China) Laboratories
Lab Address	2-1 Longcang Avenue Yuhua Economic and Technology Development Park, Nanjing, China
FCC Test Site No.	986914
IC Test Site No.	4842B-1
Test Software	Labview of SIEMIC Version 1.0

4. Equipment under Test (EUT) Information

Description of EUT:	2.4GHz Wireless Barn Camera
Main Model:	RS2400
Serial Model:	RS2400-2812, RS2400-2812HD, RS2400-550, RS2400-550HD
Date EUT received:	March 18, 2016
Test Date(s):	May 06 to May 09, 2016
Antenna Gain:	3 dBi
Type of Modulation:	FSK
RF Operating Frequency (ies):	2414–2468 MHz
Max. Output Power:	24.37 dBm
Number of Channels:	4CH
Port:	N/A
Input Power:	100-240V、1A
Trade Name :	N/A
FCC ID:	2AHRS-RS2400

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
§15.247 (a)(2)	DTS (6 dB&20 dB) CHANNEL BANDWIDTH	Compliance
§15.247(b)(3)	Conducted Maximum Output Power	Compliance
§15.247(e)	Power Spectral Density	Compliance
§15.247(d)	Band-Edge & Unwanted Emissions into Non-Restricted Frequency Bands	Compliance
§15.207 (a),	AC Power Line Conducted Emissions	Compliance
§15.205, §15.209, §15.247(d)	Radiated Spurious Emissions & Unwanted Emissions into Restricted Frequency Bands	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

Applicable Standard

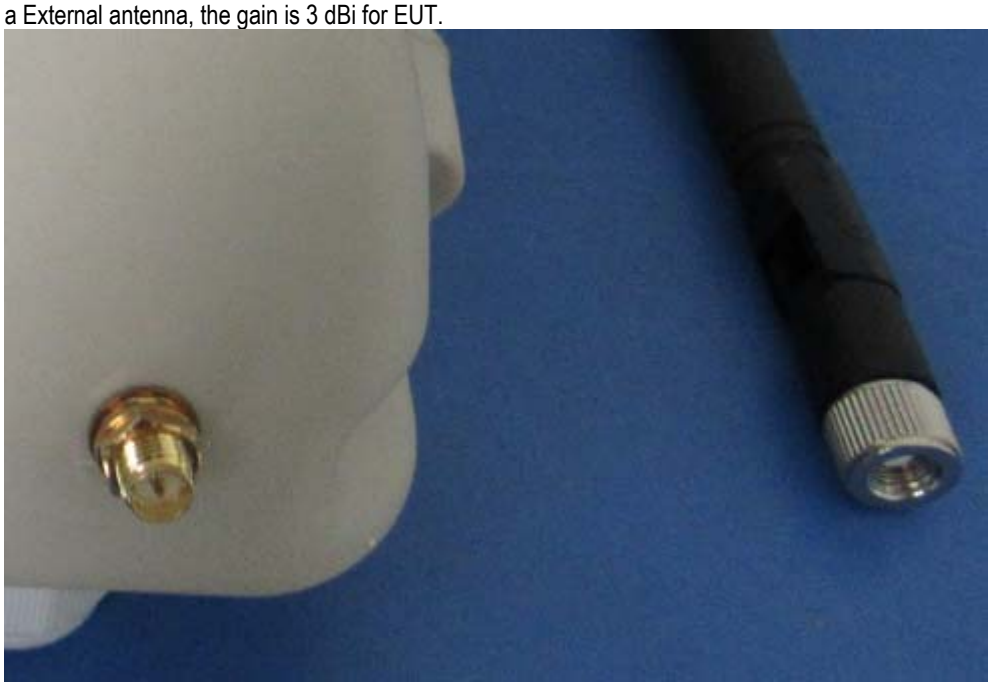
According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered 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. And according to FCC 47 CFR section 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connector Construction

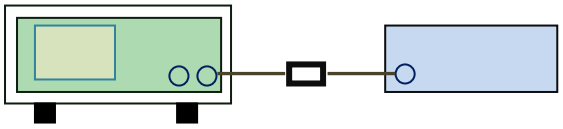
The EUT has 1 antennas:
a External antenna, the gain is 3 dBi for EUT.



The antenna meets up with the ANTENNA REQUIREMENT.
Result: Compliance.
This antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.It is a RP-SMA antenna.

6.2 DTS (6 dB&20 dB) Channel Bandwidth

Temperature	22℃
Relative Humidity	54%
Atmospheric Pressure	1021mbar
Test date :	May 06, 2016
Tested By :	Deon Dai

Spec	Item	Requirement	Applicable
§ 15.247(a)(2) RSS Gen(4.6.1)	a)	6dB BW≥500kHz;	☑
	b)	99% BW: For FCC reference only; required by IC.	N/A
Test Setup			
Test Procedure	558074 D01 DTS MEAS Guidance v03r05, 8.1 DTS bandwidth 6dB bandwidth 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 associate d 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. 20dB bandwidth C63.10 Occupied Bandwidth (OBW=20dB bandwidth) 1. Set RBW = 1%-5% OBW. 2. Set the video bandwidth (VBW) ≥ 3 x RBW. 3. Set the span range between 2 times and 5 times of the OBW. 4. Sweep time=Auto, Detector=PK, Trace=Max hold. 5. Once the reference level is established, the equipment is conditioned with typical modulatin g signals to produce the worst- case (i.e., the widest) bandwidth. Unless otherwise specified for an unlicensed wireless device, measure the bandwidth at the 20 dB levels with respect to the reference level.		
Remark			
Result	☑ Pass ☐ Fail		

Test Data ☑ Yes ☐ N/A

Test Plot ☑ Yes (See below) ☐ N/A

Measurement result

Test mode	CH	Freq (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
Transmit	1	2414	6.18	≥0.5
	2	2432	6.90	≥0.5
	3	2450	6.12	≥0.5
	4	2468	6.21	≥0.5

Test Plots

6dB Bandwidth measurement result

6dB Bandwidth - CH 2414

6dB Bandwidth - CH 2432

6dB Bandwidth - CH 2450

6dB Bandwidth - CH 2468

Measurement result

Test mode	CH	Freq (MHz)	20dB Bandwidth (MHz)
Transmit	1	2414	8.37
	2	2432	8.73
	3	2450	8.40
	4	2468	8.07

20 dB Bandwidth measurement result

20dB Bandwidth - CH 2414

20dB Bandwidth - CH 2432

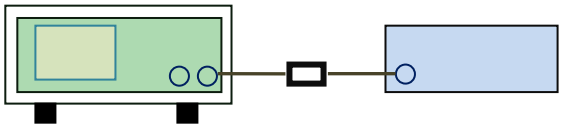
20dB Bandwidth - CH 2450

20dB Bandwidth - CH 2468

6.3 Maximum Output Power

Temperature	22℃
Relative Humidity	54%
Atmospheric Pressure	1021mbar
Test date :	May 06, 2016
Tested By :	Deon Dai

Requirement(s):

Spec	Item	Requirement	Applicable
§15.247(b) (3)	a)	FHSS in 2400-2483.5MHz with ≥ 75 channels: ≤1 Watt	☐
	b)	FHSS in 5725-5850MHz: ≤1 Watt	☐
	c)	For all other FHSS in the 2400-2483.5MHz band: ≤0.125 Watt.	☐
	d)	FHSS in 902-928MHz with ≥ 50 channels: ≤1 Watt	☐
	e)	FHSS in 902-928MHz with ≥ 25 & <50 channels: ≤0.25 Watt	☐
	f)	DTS in 902-928MHz, 2400-2483.5MHz: ≤1 Watt	☑
Test Setup	 Spectrum Analyzer EUT		
Test Procedure	558074 D01 DTS MEAS Guidance v03r05, 9.1.2 Integrated band power method Maximum output power measurement procedure - a) Set span to at least 1.5 times the OBW. - b) Set RBW = 1-5% of the OBW, not to exceed 1 MHz. - c) Set VBW ≥ 3 x RBW. - d) Number of points in sweep ≥ 2 × span / RBW. (This gives bin-to-bin spacing ≤ RBW/2, so that narrowband signals are not lost between frequency bins.) - e) Sweep time = auto. - f) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode. - g) If transmit duty cycle < 98 %, use a sweep trigger with the level set to enable triggering only on full power pulses. The transmitter shall operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle ≥ 98 %, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to "free run". - h) Trace average at least 100 traces in power averaging (i.e., RMS) mode. - i) Compute power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function, with band limits set equal to the OBW band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.		
Remark			
Result	☑ Pass ☐ Fail		

Test Data ☑ Yes ☐ N/A

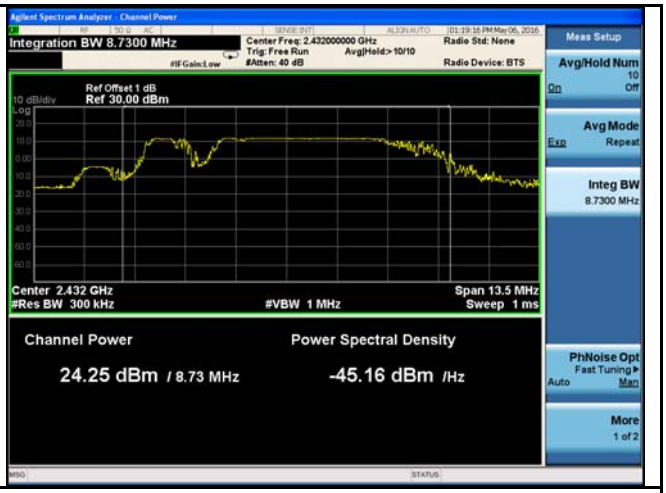
Test Plot ☑ Yes (See below) ☐ N/A

Output Power measurement result

Type	Test mode	CH	Freq (MHz)	Conducted Power (dBm)	Limit (dBm)	Result
Output power	Transmit	1	2414	24.18	30	Pass
		2	2432	24.25	30	Pass
		3	2450	24.37	30	Pass
		4	2468	23.92	30	Pass

Test Plots

Output power - CH 2414



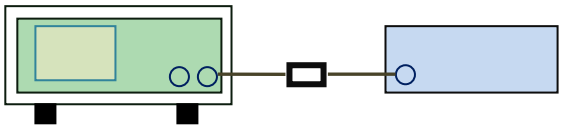
Output power - CH 2432

Output power - CH 2450

Output power - CH 2468

6.4 Power Spectral Density

Temperature	22℃
Relative Humidity	54%
Atmospheric Pressure	1021mbar
Test date :	May 06, 2016
Tested By :	Deon Dai

Spec	Item	Requirement	Applicable
§15.247(e)	a)	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.	☑
Test Setup			
Test Procedure	558074 D01 DTS MEAS Guidance v03r05, 10.2 power spectral density method power spectral density measurement 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.		
Remark			
Result	☑ Pass ☐ Fail		

Test Data ☑ Yes ☐ N/A

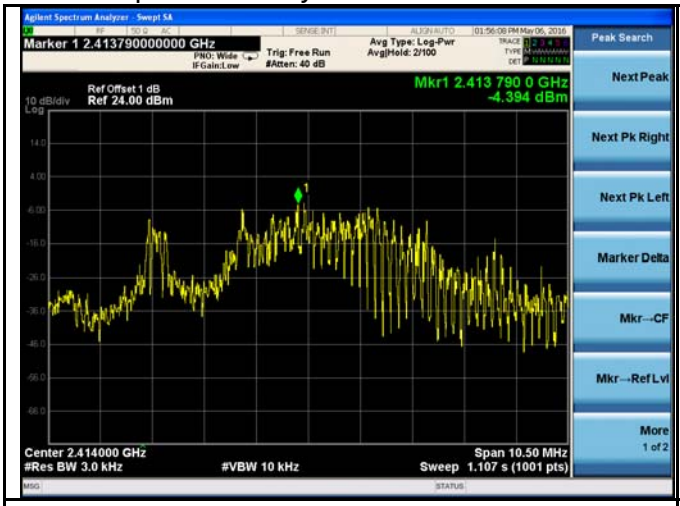
Test Plot ☑ Yes (See below) ☐ N/A

Power Spectral Density measurement result

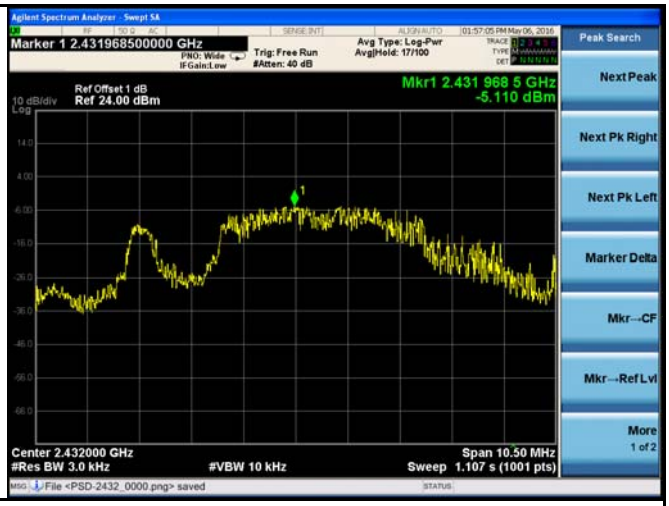
Type	Test mode	CH	Freq (MHz)	PSD (dBm)	Limit (dBm)	Result
PSD	Transmit	1	2414	-4.394	8	Pass
		2	2432	-5.110	8	Pass
		3	2450	-5.510	8	Pass
		4	2468	0.376	8	Pass

Test Plots

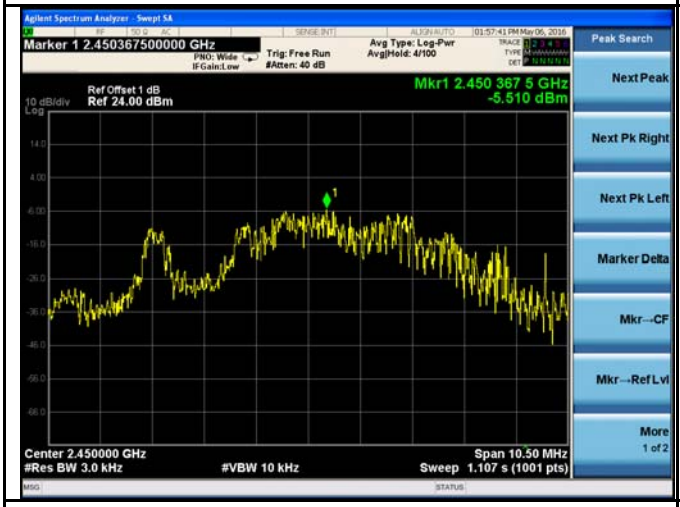
Power Spectral Density measurement result



PSD - CH 2414



PSD - CH 2432



PSD - CH 2450

PSD - CH 2468

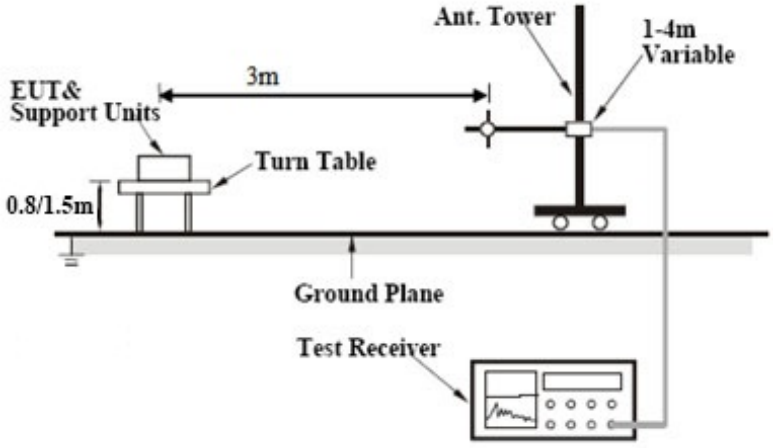
6.5 Band-Edge & Unwanted Emissions into Non-Restricted Frequency Bands

Temperature	24℃
Relative Humidity	52%
Atmospheric Pressure	1019mbar
Test date :	May 09, 2016
Tested By :	Deon Dai

Requirement(s):

Spec	Item	Requirement	Applicable
§15.247(d)	a)	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.	☑

Test Setup



Test Procedure

Radiated Method Only

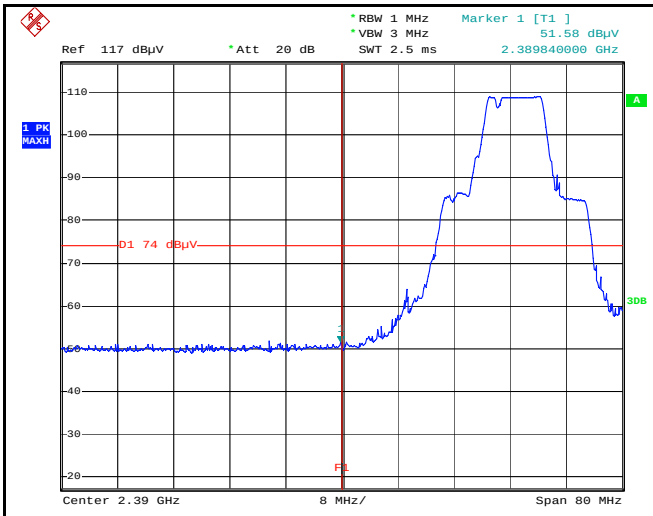
- 1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- 2. Position the EUT without connection to measurement instrument. Put it on the Rotated table and turn on the EUT and make it operate in transmitting mode. Then set it to Low Channel and High Channel within its operating range, and make sure the instrument is operated in its linear range.
- 3. First, set both RBW and VBW of spectrum analyzer to 100 kHz with a convenient frequency span including 100kHz bandwidth from band edge, check the emission of EUT, if pass then set Spectrum Analyzer as below:
  a. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasiy Peak detection at frequency below 1GHz.
  b. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz with Peak detection for Peak measurement at frequency above 1GHz.
  c. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz with Peak detection for Average Measurement as below at frequency above 1GHz.
- 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.

Remark	
Result	☑ Pass ☐ Fail

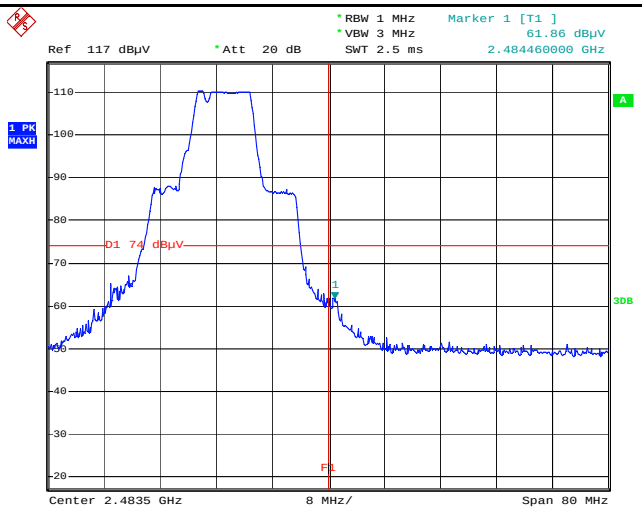
Test Data ☑ Yes ☐ N/A

Test Plot ☑ Yes (See below) ☐ N/A

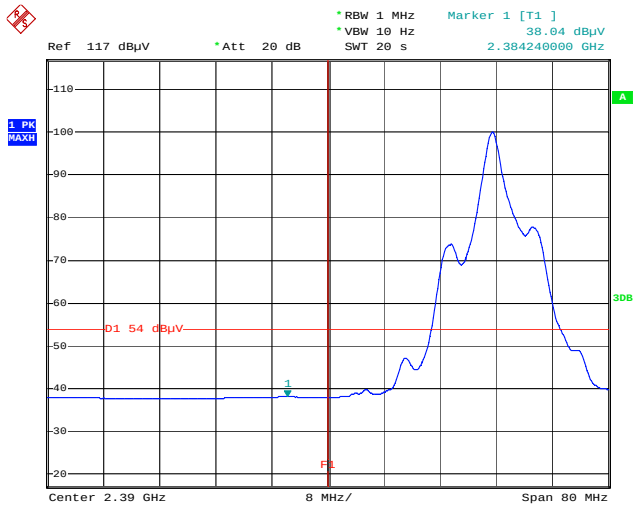
Test Plots
Band Edge measurement result



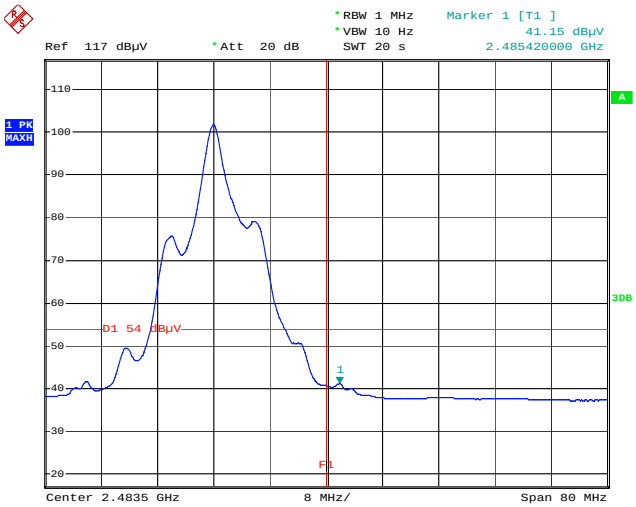
Band Edge, Left Side (Peak)



Band Edge, Right Side (Peak)



Band Edge, Left Side (Average)



Band Edge, Right Side (Average)

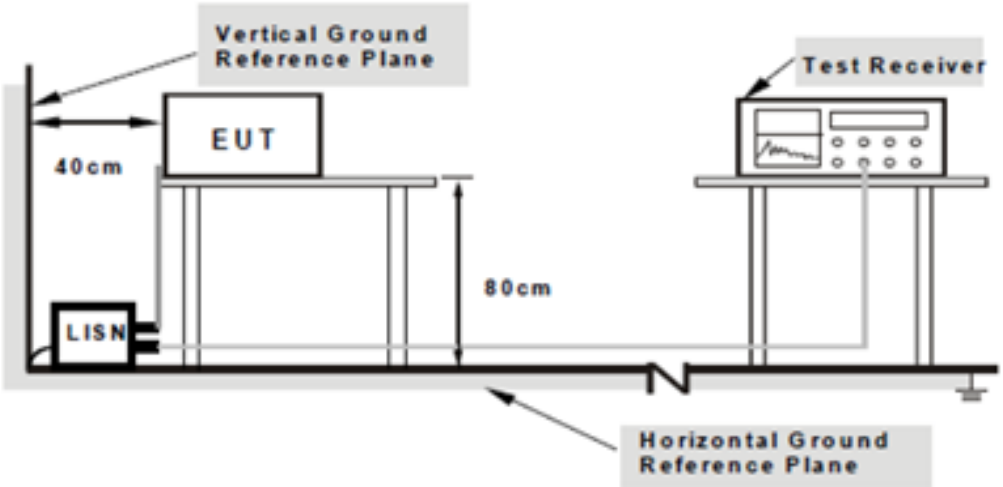
6.6 AC Power Line Conducted Emissions

Temperature	24℃
Relative Humidity	52%
Atmospheric Pressure	1019mbar
Test date :	May 09, 2016
Tested By :	Deon Dai

Conducted Emission Limit

FREQUENCY (MHz)	Class A (dBμV)		Class B (dBμV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

NOTE:
(1) The lower limit shall apply at the transition frequencies.
(2) The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.
(3) All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

Spec	Item	Requirement	Applicable
EN 55022 Class B	a)	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 frequency ranges.	☑
Test Setup	 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.		
Procedure	- 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, as shown in Annex B. - The power supply for the EUT was fed through a 50 [mu]H/50 EUT LISN, connected to filtered mains.		

	- The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss coaxial cable. - All other supporting equipment were powered separately from another main supply.
Remark	
Result	☑ Pass ☐ Fail

Test Data ☑ Yes ☐ N/A

Test Plot ☑ Yes (See below) ☐ N/A

Data sample

Frequency (MHz)	Quasi-Peak (dBμV)	Limit (dBμV)	Margin (dB)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Factors (dB)
xxx	56.21	66.00	-9.79	39.20	56.00	-16.80	12.22

Frequency (MHz) = Emission frequency in MHz

Quais-Peak/Average (dBμV)=Receiver Reading(dBμV)+ Factor(dB)

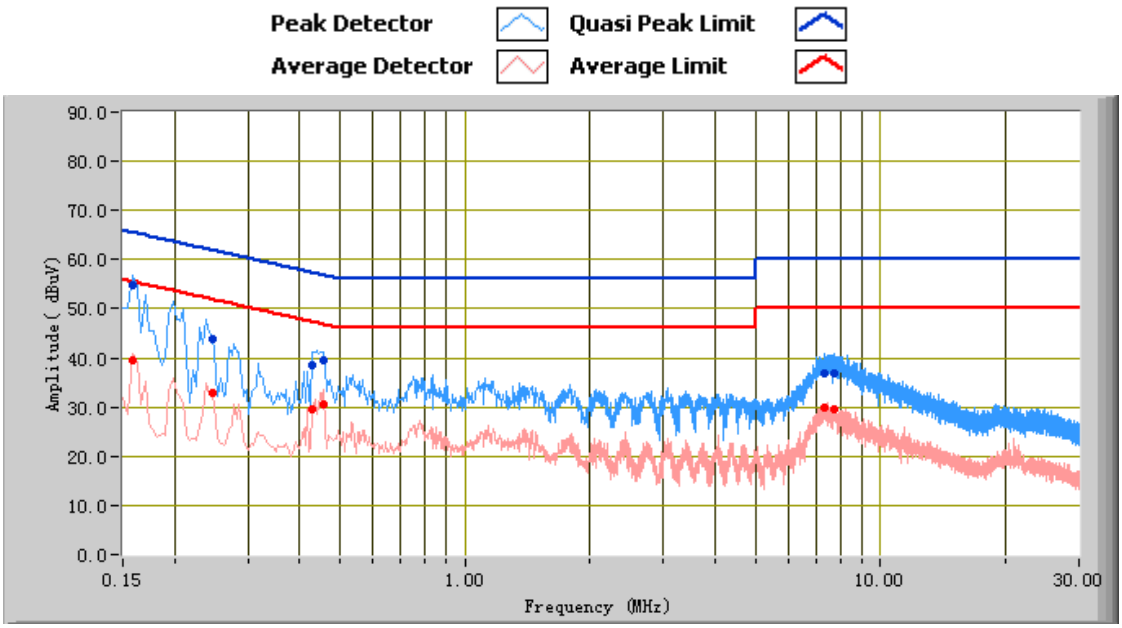
Limit(dBμV)=Limit stated in standard

Factor (dB)= cable loss+ Insertion loss of LISN+ Insertion loss of transient limiter (The transient limiter included 10dB attenuation)

Calculation Formula:

Margin (dB)=Quasi Peak / Average (dBμV) – limit (dBμV)

Test Mode :	Normal Working Mode

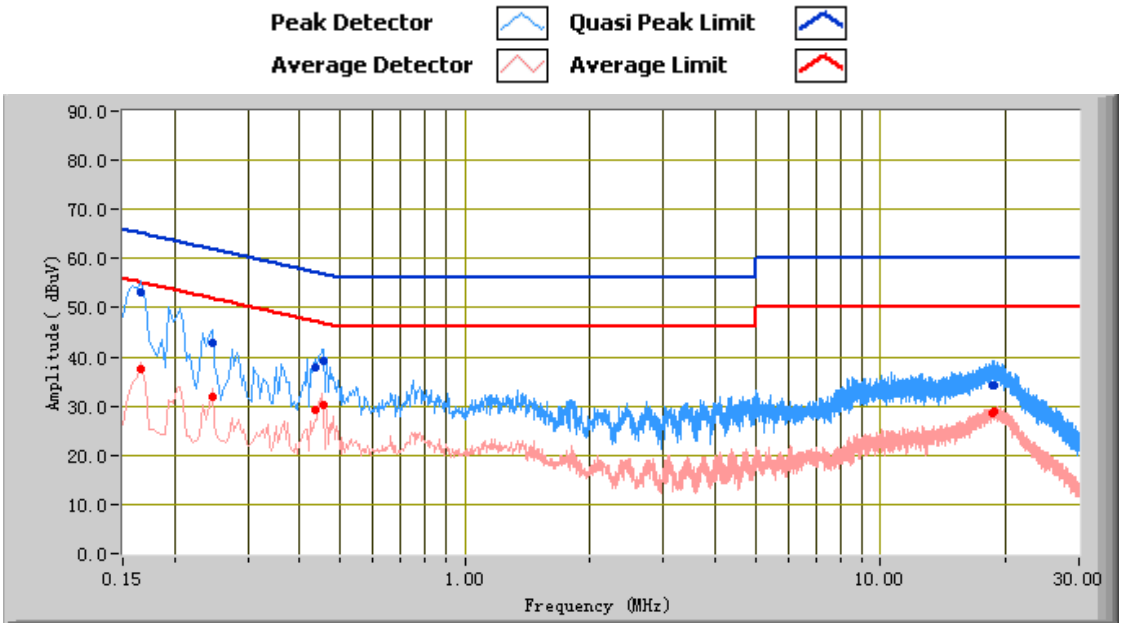


Test Data

Phase Line Plot at 120Vac, 60Hz

Frequency (MHz)	Quasi Peak (dBµV)	Limit (dBµV)	Margin (dB)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Factors (dB)
0.16	54.87	65.57	-10.70	39.48	55.57	-16.09	12.11
0.46	39.37	56.73	-17.36	30.51	46.73	-16.22	11.15
0.43	38.64	57.25	-18.61	29.41	47.25	-17.85	11.19
0.25	43.68	61.89	-18.21	33.02	51.89	-18.87	11.46
7.71	36.93	60.00	-23.07	29.56	50.00	-20.44	10.98
7.35	37.01	60.00	-22.99	29.83	50.00	-20.17	10.96

Test Mode :	Normal Working Mode

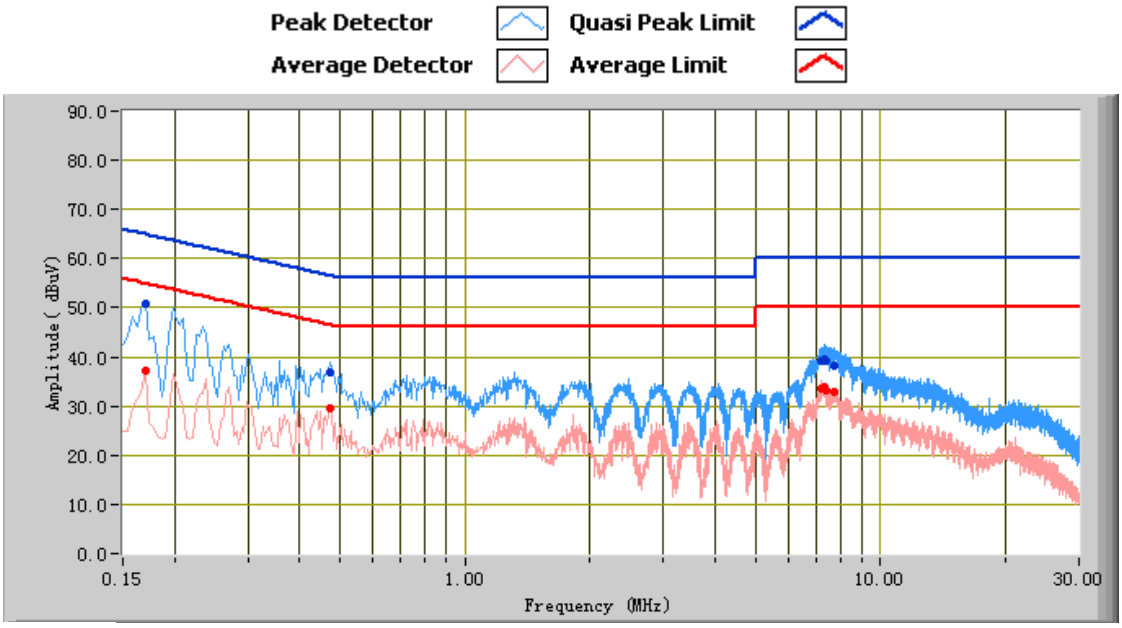


Test Data

Phase Neutral Plot at 120Vac, 60Hz

Frequency (MHz)	Quasi Peak (dBµV)	Limit (dBµV)	Margin (dB)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Factors (dB)
0.17	53.26	65.16	-11.90	37.47	55.16	-17.69	11.99
0.46	39.33	56.73	-17.40	30.21	46.73	-16.52	11.12
0.25	42.96	61.89	-18.93	31.73	51.89	-20.16	11.46
0.43	37.94	57.18	-19.24	29.38	47.18	-17.80	11.16
18.70	34.10	60.00	-25.90	28.73	50.00	-21.27	11.53
18.58	34.05	60.00	-25.95	28.70	50.00	-21.30	11.53

Test Mode :	Normal Working Mode

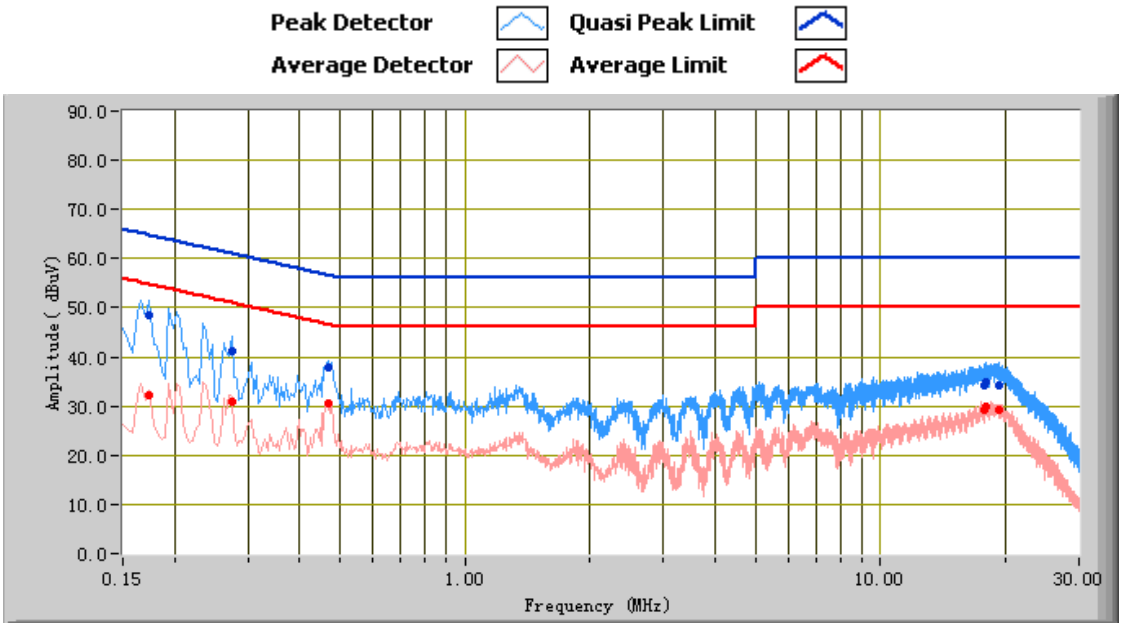


Test Data

Phase Line Plot at 240Vac, 50Hz

Frequency (MHz)	Quasi Peak (dBµV)	Limit (dBµV)	Margin (dB)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Factors (dB)
0.17	50.96	64.96	-14.00	37.29	54.96	-17.67	11.93
7.30	39.40	60.00	-20.60	33.98	50.00	-16.02	10.96
0.47	36.78	56.44	-19.67	29.64	46.44	-16.80	11.12
7.40	39.30	60.00	-20.70	33.27	50.00	-16.73	10.96
7.17	39.06	60.00	-20.94	33.40	50.00	-16.60	10.95
7.72	38.33	60.00	-21.67	32.72	50.00	-17.28	10.98

Test Mode :	Normal Working Mode



Test Data

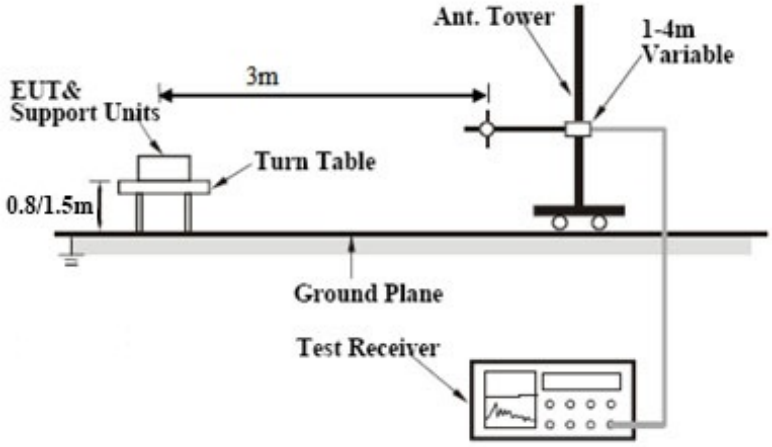
Phase Neutral Plot at 240Vac, 50Hz

Frequency (MHz)	Quasi Peak (dBµV)	Limit (dBµV)	Margin (dB)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Factors (dB)
0.17	48.42	64.77	-16.34	32.33	54.77	-22.43	11.87
0.27	41.11	61.00	-19.88	30.79	51.00	-20.20	11.42
0.47	38.00	56.51	-18.51	30.49	46.51	-16.03	11.11
17.97	34.85	60.00	-25.15	29.93	50.00	-20.07	11.50
19.22	34.24	60.00	-25.76	29.19	50.00	-20.81	11.55
17.78	34.35	60.00	-25.65	29.07	50.00	-20.93	11.50

6.7 Radiated Emissions

Temperature	24℃
Relative Humidity	52%
Atmospheric Pressure	1019mbar
Test date :	May 09, 2016
Tested By :	Deon Dai

Requirement(s):

<table>
<tr><th>Spec</th><th>Item</th><th>Requirement</th><th>Applicable</th></tr>
<tr><td rowspan="3">47CFR§15.247(d)</td><td>a)</td><td>Except higher limit as specified elsewhere in other section, 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
<table>
<tr><th>Frequency range (MHz)</th><th>Field Strength (μV/m)</th></tr>
<tr><td>30 – 88</td><td>100</td></tr>
<tr><td>88 – 216</td><td>150</td></tr>
<tr><td>216 960</td><td>200</td></tr>
<tr><td>Above 960</td><td>500</td></tr>
</table></td><td>☑</td></tr>
<tr><td>b)</td><td>For non-restricted band, 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 or 30dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, determined by the measurement method on output power to be used. Attenuation below the general limits specified in § 15.209(a) is not required
☒ 20 dB down ☐ 30 dB down</td><td>☑</td></tr>
<tr><td>c)</td><td>or restricted band, emission must also comply with the radiated emission limits specified in 15.209</td><td>☑</td></tr>
<tr><td>Test Setup</td><td colspan="3"> 
</td></tr>
<tr><td>Procedure</td><td colspan="3">1. The EUT was switched on and allowed to warm up to its normal operating condition.
2. The test was carried out at the selected frequency points obtained from the EUT characterization. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner:
a. Vertical or horizontal polarization (whichever gave the higher emission level over a full rotation of the EUT) was chosen.
b. The EUT was then rotated to the direction that gave the maximum emission.
c. Finally, the antenna height was adjusted to the height that gave the maximum emission.
3. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasiy Peak detection at frequency below 1GHz.</td></tr>
</table>

	4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz with Peak detection for Peak measurement at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz with Peak detection for Average Measurement as below at frequency above 1GHz. 5. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured.
Remark	
Result	☑ Pass ☐ Fail

Test Data ☑ Yes ☐ N/A

Test Plot ☑ Yes (See below) ☐ N/A

Data sample

Frequency (MHz)	Quasi Peak (dBμV/m)	Azimuth	Polarity (H/V)	Height (cm)	Factors (dB)	Limit (dBμV/m)	Margin (dB)
xxx	32.23	181.00	H	350.00	-38.23	40.00	-7.77

Frequency (MHz) = Emission frequency in MHz

Quais-Peak (dBμV/m)= Receiver Reading(dBμV/m)+ Factor(dB)

Azimuth=Position of turn table

Polarity=Polarity of Receiver antenna

Height(cm)= Height of Receiver antenna

Factor (dB)=Antenna factor + cable loss- antenna gain

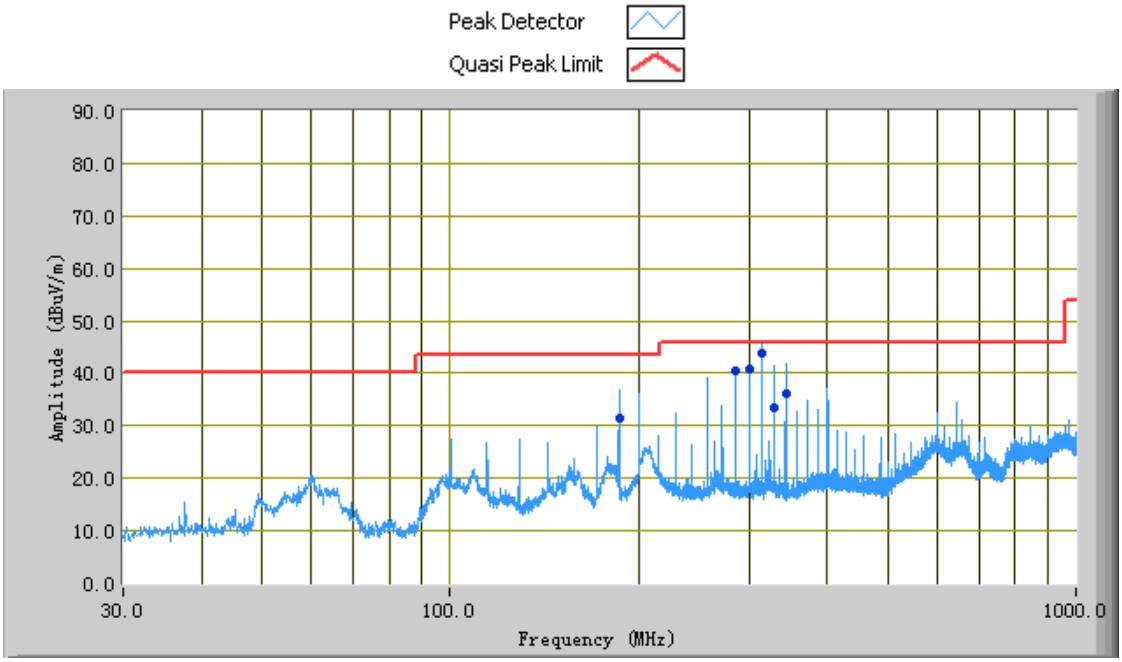
Limit (dBμV/m)=Limit stated in standard

Calculation Formula:

Margin (dB)=Quasi Peak (dBμV/m) – limit (dBμV/m)

Test Mode:	Normal Working Mode

(Below 1GHz)



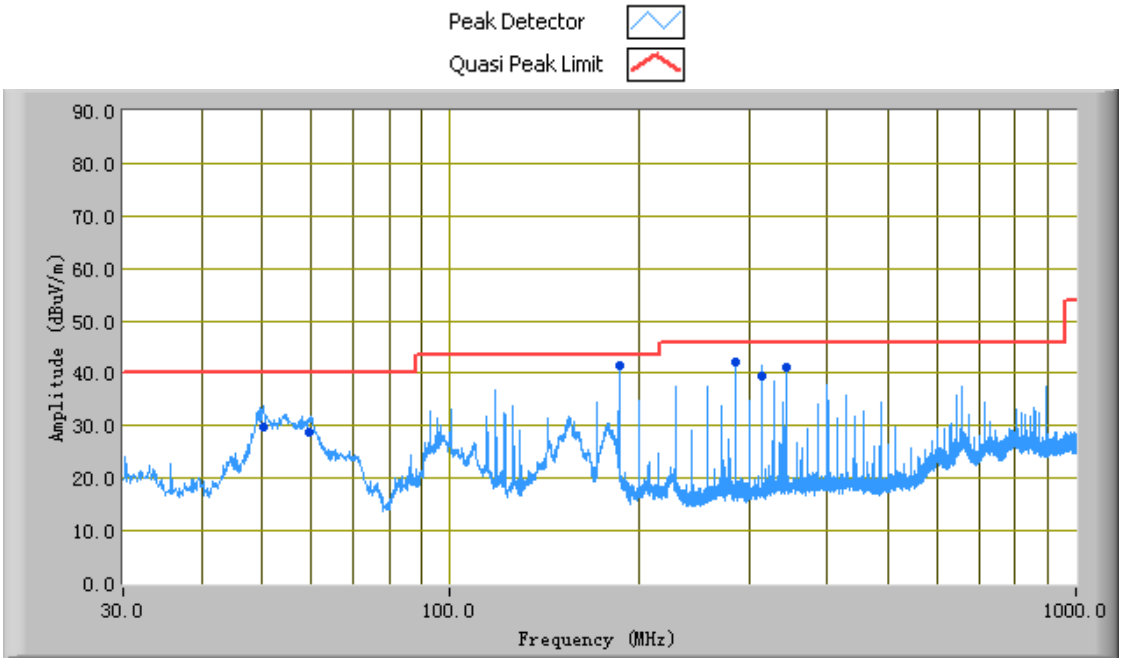
Test Data

Horizontal Polarity Plot @3m

Frequency (MHz)	Quasi Peak (dBµV/m)	Azimuth	Polarity (H/V)	Height (cm)	Factors (dB)	Limit (dBµV/m)	Margin (dB)
314.99	44.92	246.00	H	106.00	-29.48	46.00	-1.08
343.65	36.03	231.00	H	254.00	-29.92	46.00	-9.97
329.32	33.37	241.00	H	99.00	-29.81	46.00	-12.63
300.68	40.95	241.00	H	100.00	-29.14	46.00	-5.05
286.36	40.38	260.00	H	105.00	-28.99	46.00	-5.62
186.13	31.47	296.00	H	250.00	-31.52	43.50	-12.03

Test Mode:	Normal Working Mode

(Below 1GHz)



Test Data

Vertical Polarity Plot @3m

Frequency (MHz)	Quasi Peak (dBµV/m)	Azimuth	Polarity (H/V)	Height (cm)	Factors (dB)	Limit (dBµV/m)	Margin (dB)
59.28	28.86	117.00	V	131.00	-37.25	40.00	-11.14
186.12	41.42	91.00	V	101.00	-31.81	43.50	-2.08
286.37	42.16	147.00	V	133.00	-29.69	46.00	-3.84
315.00	39.92	359.00	V	150.00	-29.19	46.00	-6.08
343.63	41.15	214.00	V	138.00	-28.45	46.00	-4.85
50.36	29.82	149.00	V	139.00	-34.57	40.00	-10.18

Above 1GHz

Test Mode:	Transmitting Mode

1 Channel (2414MHz)

Frequency (MHz)	S.A. 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)
4829.50	83.88	AV	V	11.1	9.83	55	49.81	54	-4.19
4829.50	85.62	AV	H	11.1	9.83	55	51.55	54	-2.45
4829.50	95.33	PK	V	11.1	9.83	55	61.26	74	-12.74
4829.50	97.63	PK	H	11.1	9.83	55	63.56	74	-10.44
7344.00	81.88	AV	V	11.7	12.65	55	51.23	54	-2.77
7344.00	82.93	AV	H	11.7	12.65	55	52.28	54	-1.72
7344.00	95.33	PK	V	11.7	12.65	55	64.68	74	-9.32
7344.00	97.63	PK	H	11.7	12.65	55	66.98	74	-7.02

2 Channel (2434 MHz)

Frequency (MHz)	S.A. 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)
4865.00	82.54	AV	V	11.1	9.83	55	48.47	54	-5.53
4865.00	83.28	AV	H	11.1	9.83	55	49.21	54	-4.79
4865.00	94.99	PK	V	11.1	9.83	55	60.92	74	-13.08
4865.00	97.29	PK	H	11.1	9.83	55	63.22	74	-10.78
7297.50	82.54	AV	V	11.7	12.65	55	51.89	54	-2.11
7297.50	80.59	AV	H	11.7	12.65	55	49.94	54	-4.06
7297.50	94.99	PK	V	11.7	12.65	55	64.34	74	-9.66
7297.50	94.29	PK	H	11.7	12.65	55	63.64	74	-10.36

3 Channel (2450 MHz)

Frequency (MHz)	S.A. 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)
4902.00	85.12	AV	V	11.1	9.83	55	51.05	54	-2.95
4902.00	84.86	AV	H	11.1	9.83	55	50.79	54	-3.21
4902.00	94.57	PK	V	11.1	9.83	55	60.5	74	-13.5
4902.00	96.87	PK	H	11.1	9.83	55	62.8	74	-11.2
7355.00	83.12	AV	V	11.7	12.65	55	52.47	54	-1.53
7355.00	82.17	AV	H	11.7	12.65	55	51.52	54	-2.48
7355.00	97.57	PK	V	11.7	12.65	55	66.92	74	-7.08
7355.00	95.87	PK	H	11.7	12.65	55	65.22	74	-8.78

4 Channel (2468 MHz)

Frequency (MHz)	S.A. 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)
4935.50	82.45	AV	V	11.1	9.83	55	48.38	54	-5.62
4935.50	85.19	AV	H	11.1	9.83	55	51.12	54	-2.88
4935.50	93.91	PK	V	11.1	9.83	55	59.84	74	-14.16
4935.50	95.25	PK	H	11.1	9.83	55	61.18	74	-12.82
7405.50	81.46	AV	V	11.7	12.65	55	50.81	54	-3.19
7405.50	82.56	AV	H	11.7	12.65	55	51.91	54	-2.09
7405.50	94.93	PK	V	11.7	12.65	55	64.28	74	-9.72
7405.50	97.28	PK	H	11.7	12.65	55	66.63	74	-7.37

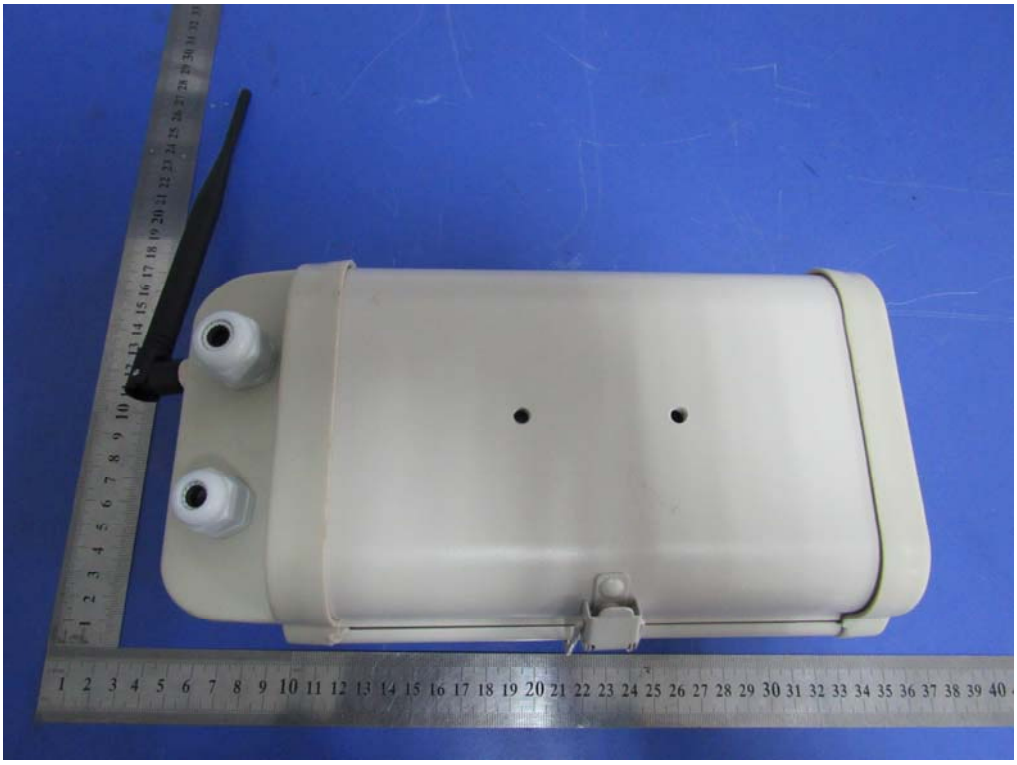
Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Due	In use
AC Line Conducted Emissions					
R&S EMI Test Receiver	ESPI3	101216	11/04/2015	11/03/2016	☑
V-LISN	ESH3-Z5	838979/005	09/27/2015	09/26/2016	☑
INFOMW Antenna (1 ~18GHz)	JXTXLB-10180	J2031081120092	10/09/2015	10/08/2016	☑
SIEMIC Labview Conducted Emissions software	V1.0	N/A	N/A	N/A	☑
RF conducted test					
R&S EMI Receiver	ESPI3	101216	11/04/2015	11/03/2016	☑
Power Splitter	1#	1#	02/02/2016	02/01/2017	☑
Spectrum Analyzer	N9010A	MY47191130	10/09/2015	10/08/2016	☑
Radiated Emissions					
Spectrum Analyzer	N9010A	MY47191130	10/09/2015	10/08/2016	☑
R&S EMI Receiver	ESPI3	101216	11/04/2015	11/03/2016	☑
Antenna (30MHz~6GHz)	JB6	A121411	04/15/2016	04/14/2017	☑
EMCO Horn Antenna (1 ~18GHz)	3115	N/A	11/15/2015	11/14/2016	☑
INFOMW Antenna (1 ~18GHz)	JXTXLB-10180	J2031081120092	10/09/2015	10/08/2016	☑
Hp Agilent Pre-Amplifier	8447F	1937A01160	10/27/2015	10/26/2016	☑
MITEQ Pre-Amplifier (0.1 ~ 18GHz)	AMF-7D-00101800-30-10P	1451709	10/27/2015	10/26/2016	☑
SIEMIC Labview Radiated Emissions software	V1.0	N/A	N/A	N/A	☑

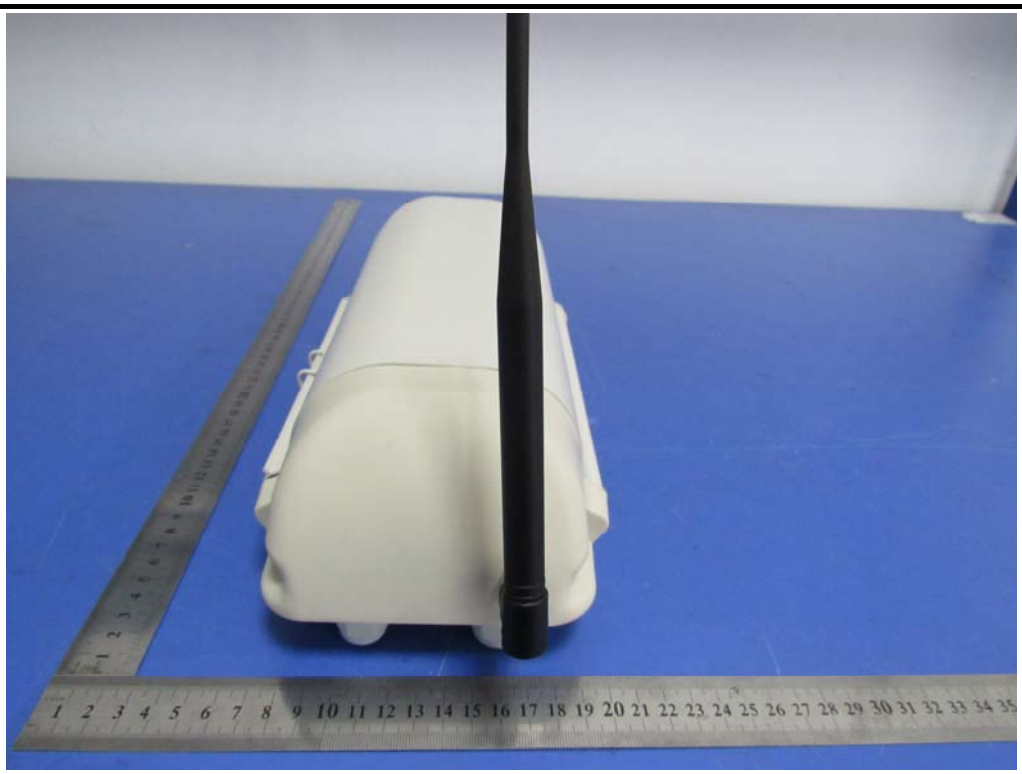
Annex B. EUT and Test Setup Photographs

Annex B.i. Photograph: EUT External Photo

EUT – The Whole Front View



EUT - Rear View



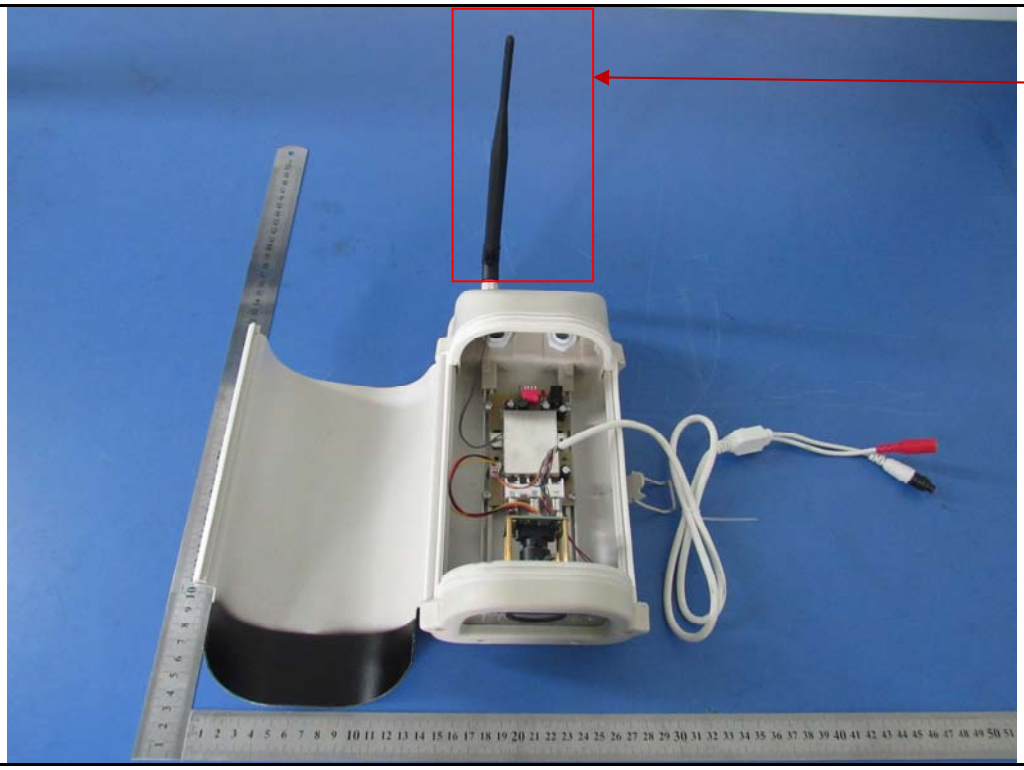
EUT - Top View

EUT - Bottom View

EUT – Left View

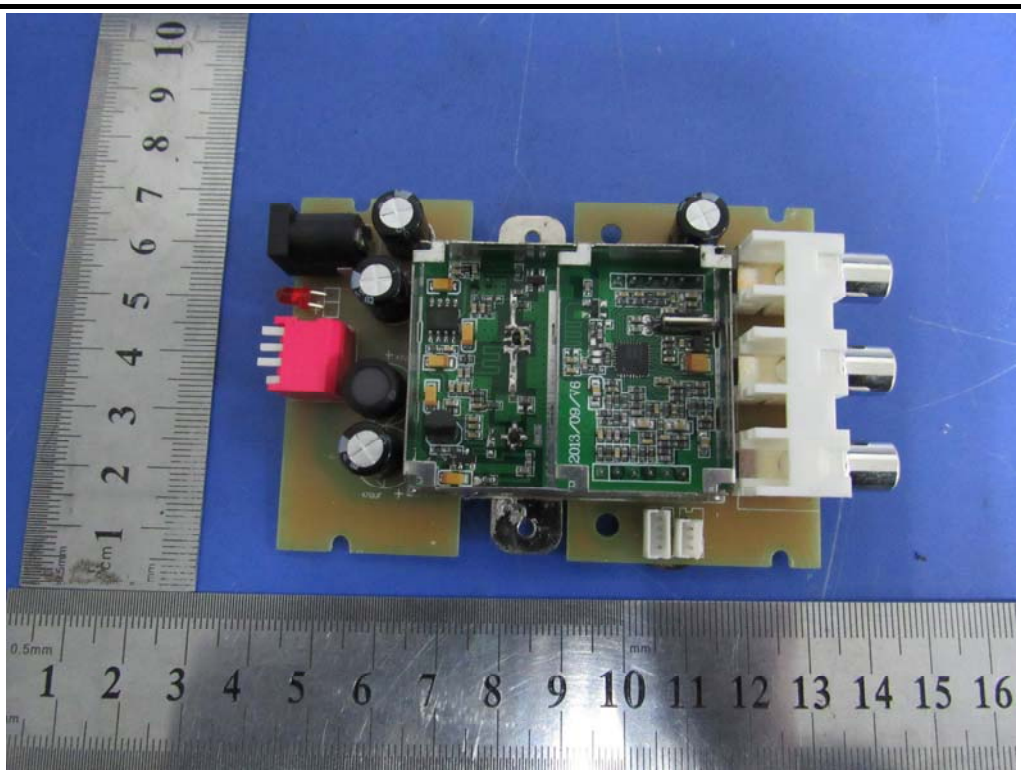
EUT – Right View

Annex B.ii. Photograph: EUT Internal Photo

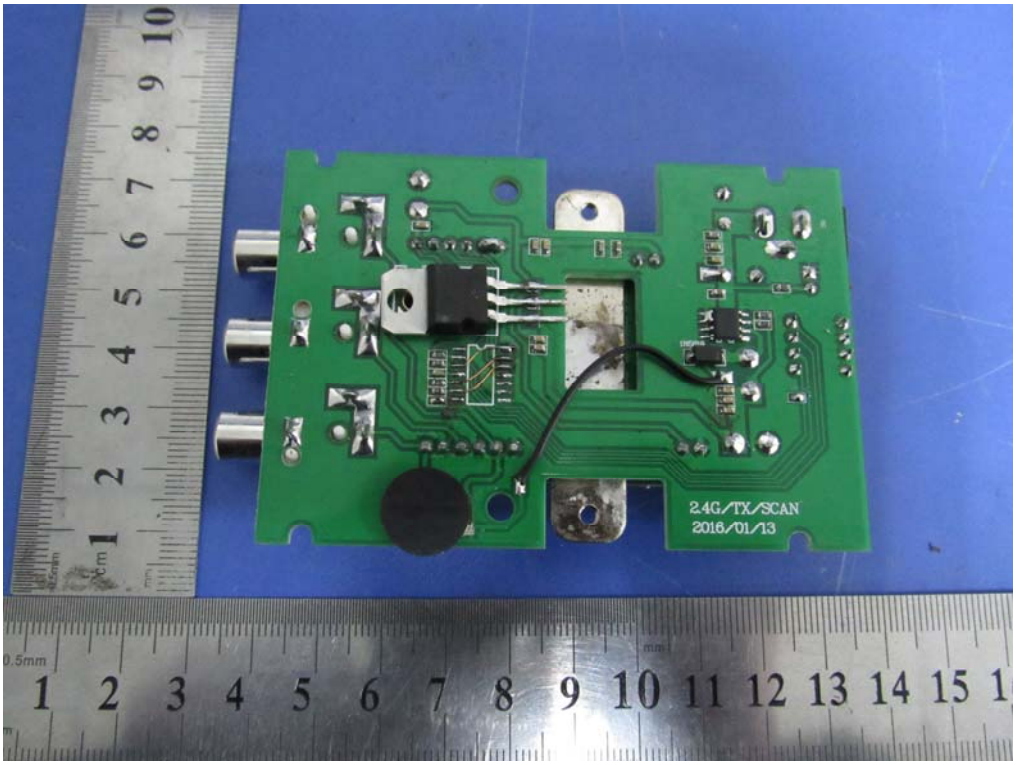


EUT – Uncover Front View

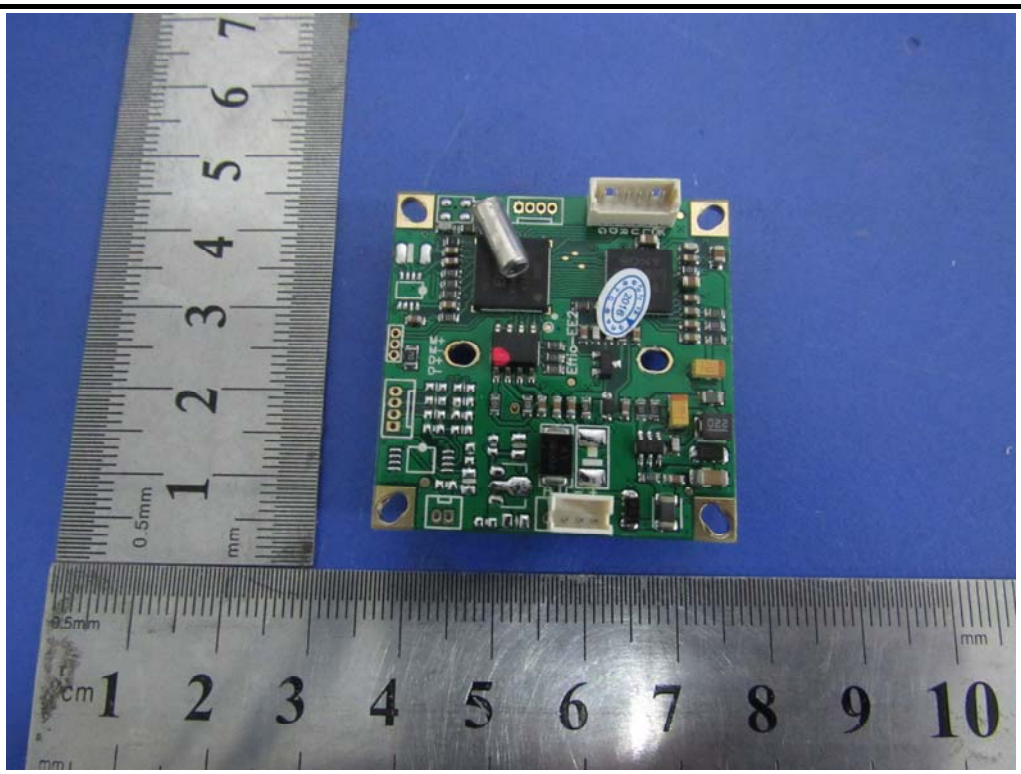
EUT – Adapter Front View



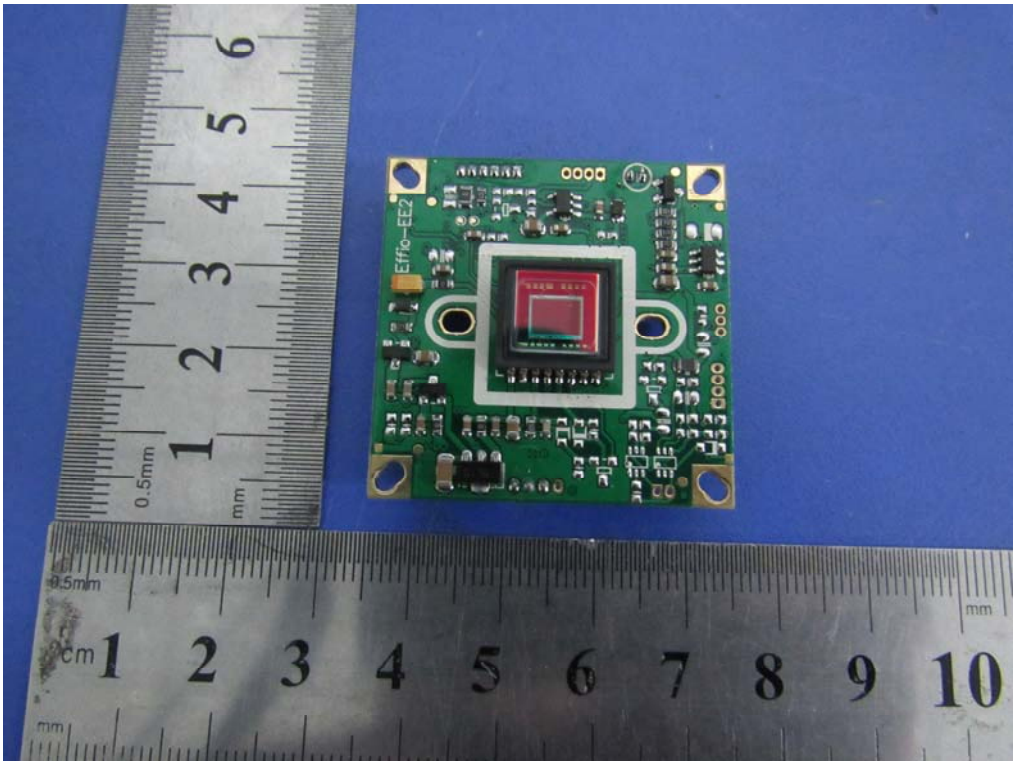
EUT PCB1 - Front View



EUT PCB1 - Rear View

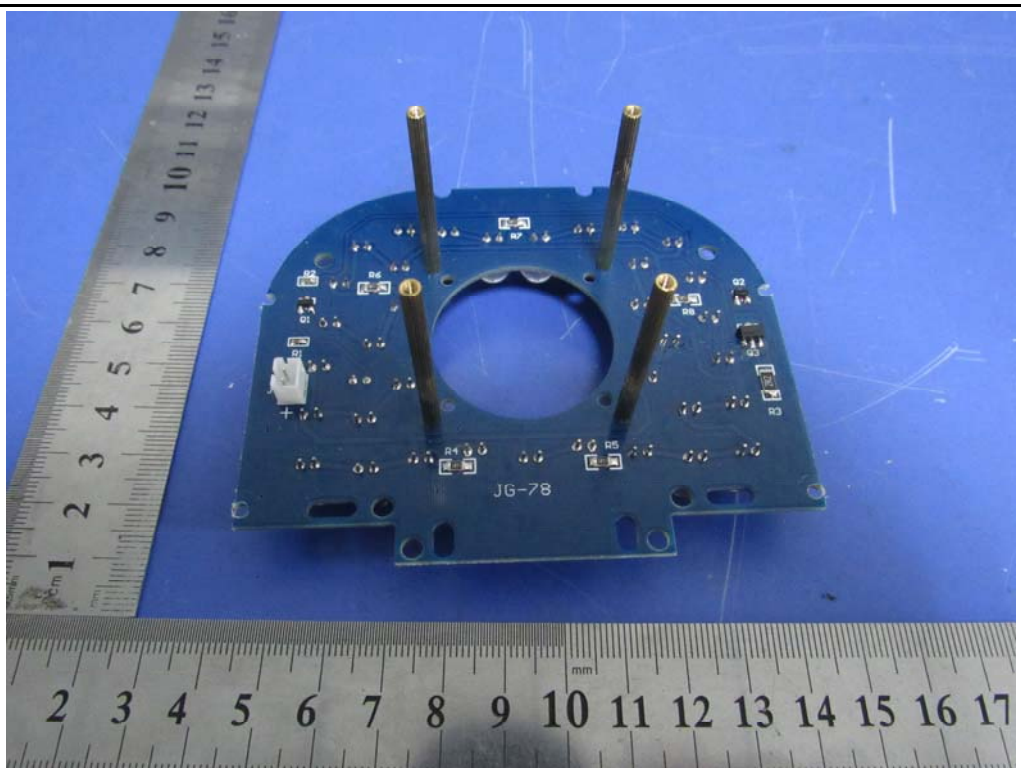


EUT PCB2 - Front View

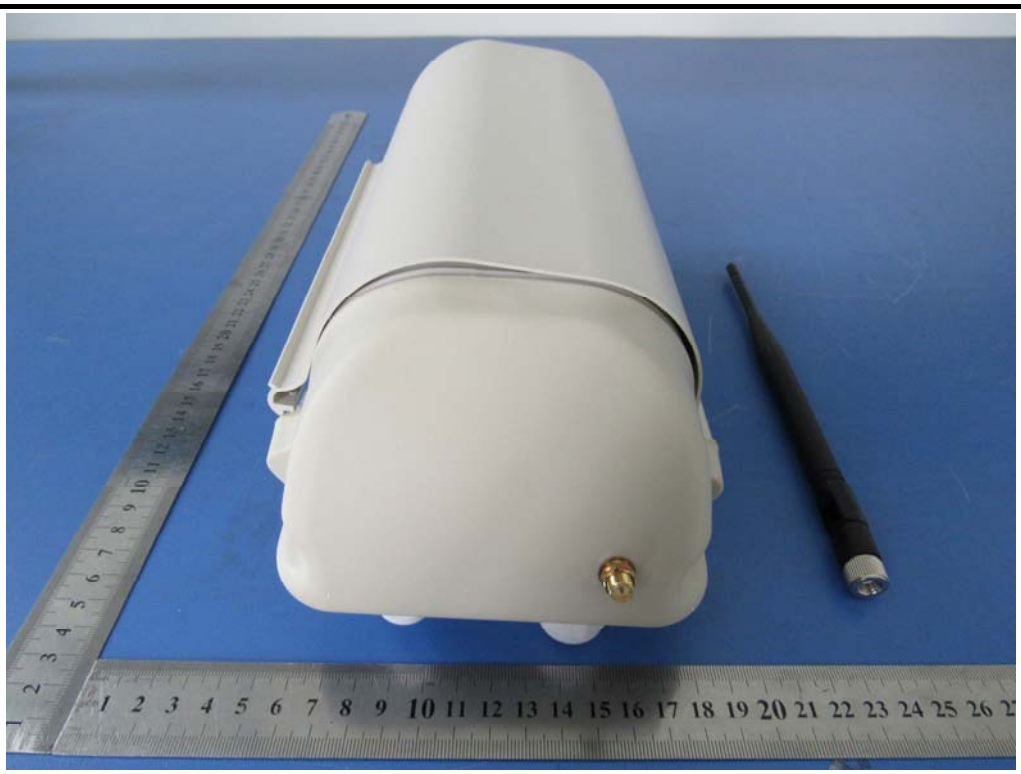


EUT PCB2 - Rear View

EUT LED Light - Front View



EUT LED Light - Rear View

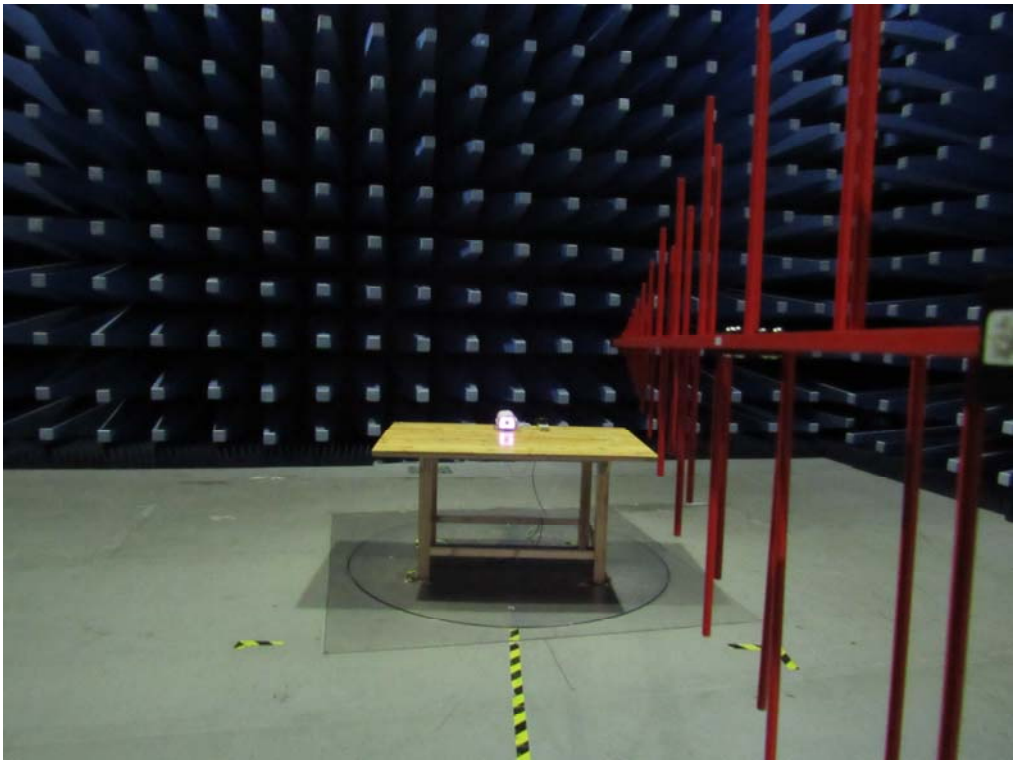


EUT Antenna - Front View

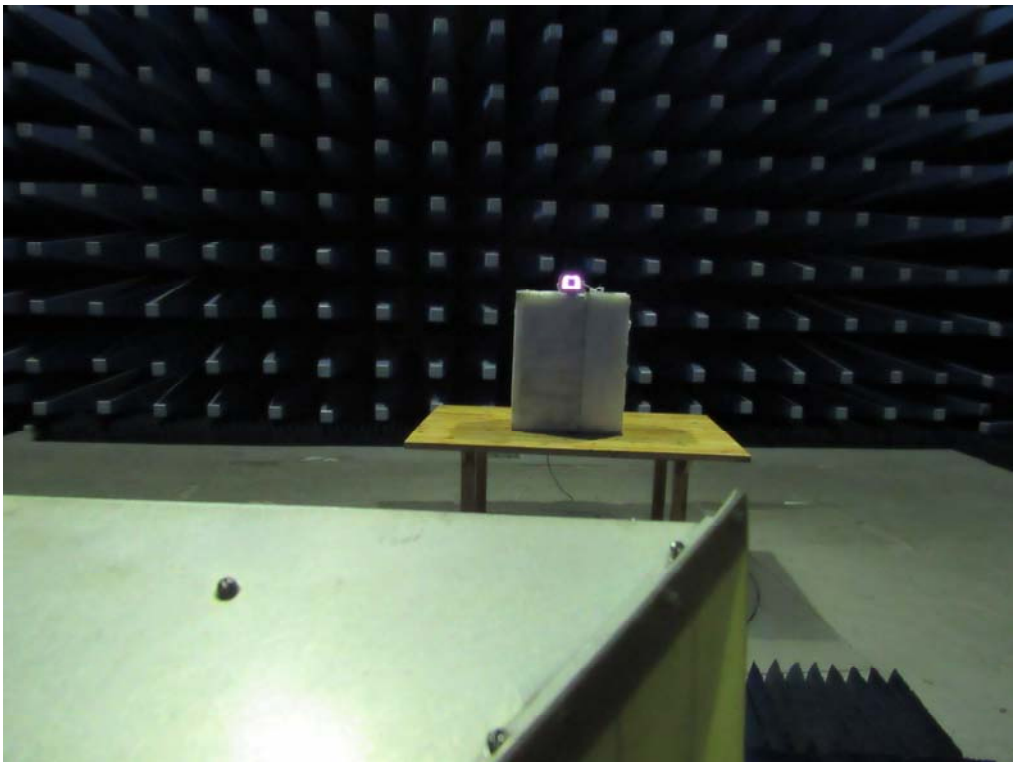
Annex B.iii. Photograph: Test Setup Photo

Conducted Emissions Setup Front View

Conducted Emissions Setup Side View



Radiated Spurious Emissions Test Setup Below 1GHz

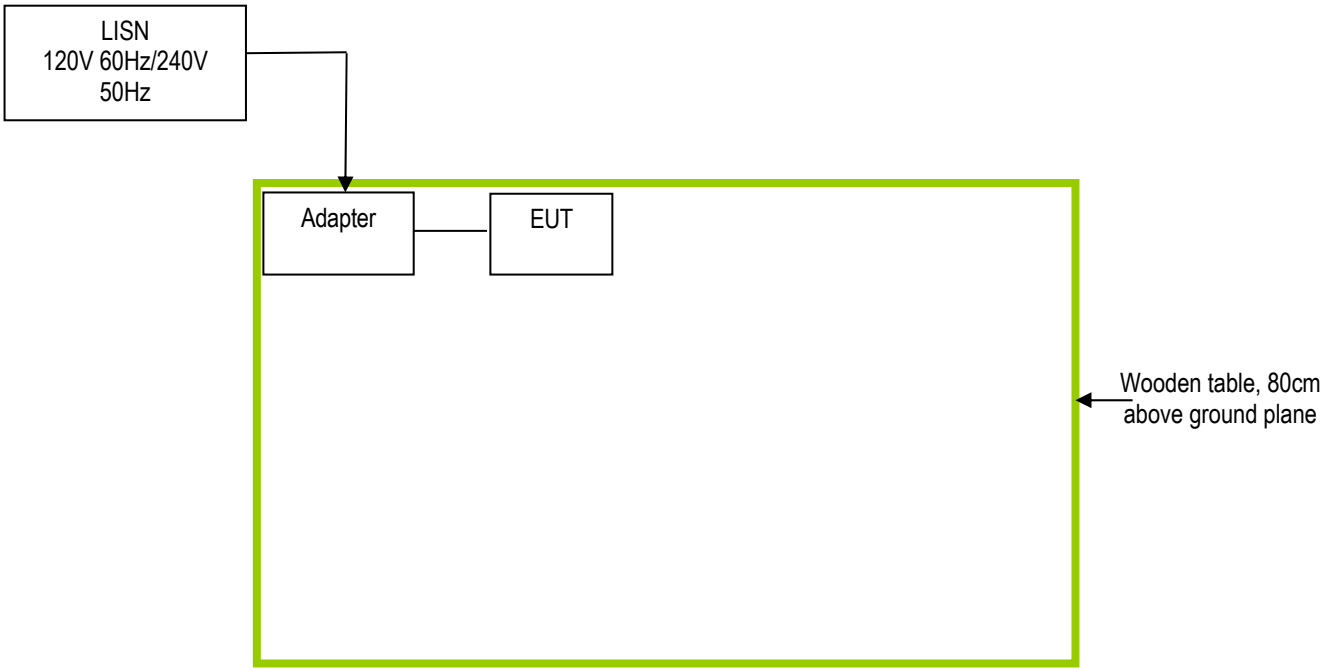


Radiated Spurious Emissions Test Setup Above 1GHz

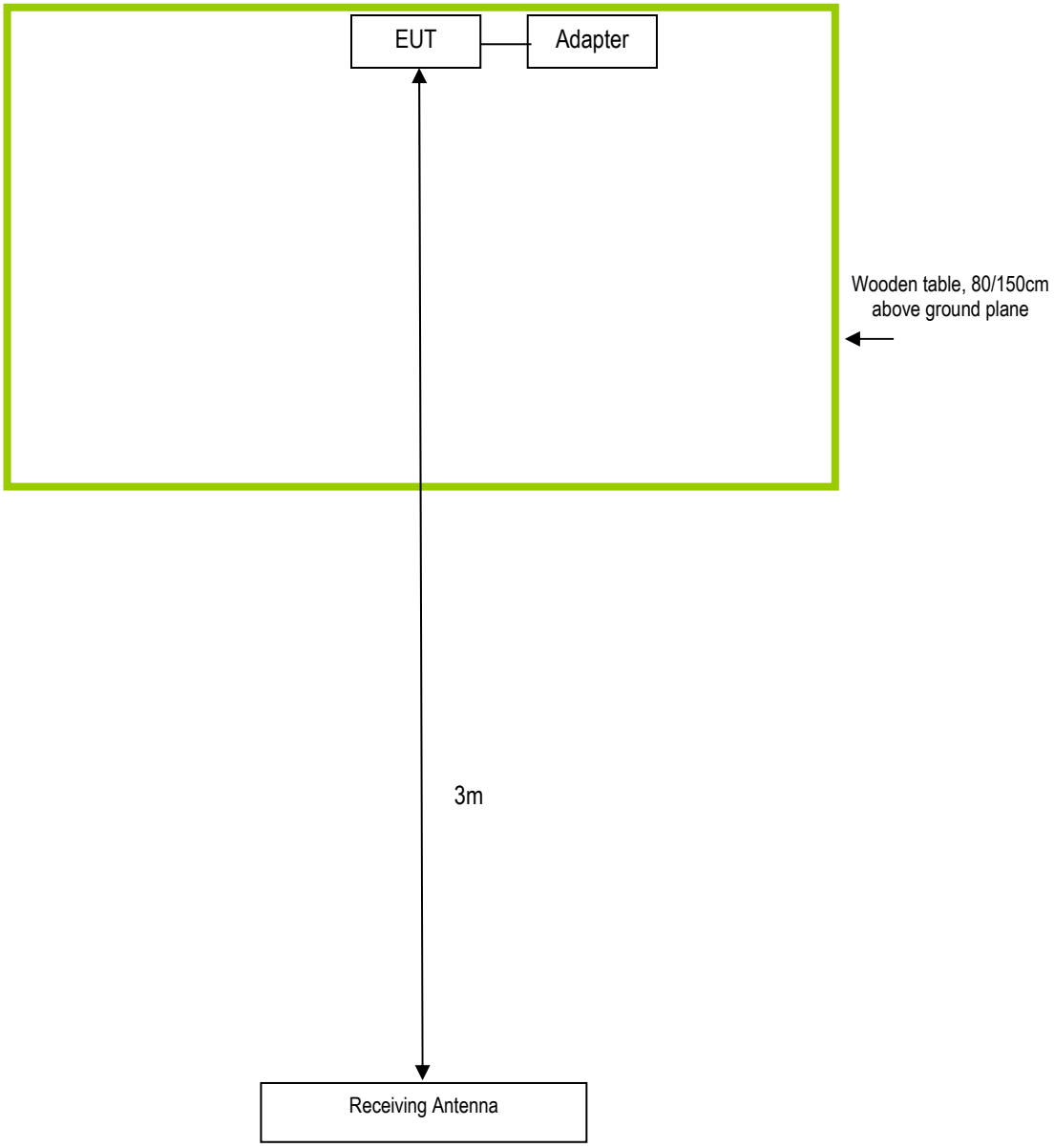
Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

Annex C.ii. TEST SET UP BLOCK

Block Configuration Diagram for Conducted Emissions



Block Configuration Diagram for Radiated Spurious Emissions



Annex C. iI. SUPPORTING EQUIPMENT DESCRIPTION

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

Manufacturer	Equipment Description	Model	Calibration Date	Calibration Due Date
N/A	N/A	N/A	N/A	N/A

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

Please see attachment

Annex E. DECLARATION OF SIMILARITY

Rosgol-Rostech Technologies Inc.

346 Isabey Saint-Laurent QC H4T 1W1 Canada

Statement

We, Rosgol-Rostech Technologies Inc.

Product: 2.4GHz Wireless Barn Camera

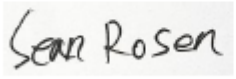
FCC ID: 2AHRS-RS2400

IC: 21282-RS2400

Model: RS2400, RS2400-2812, RS2400-2812HD, RS2400-550, RS2400-550HD are all identical in interior structure, electrical circuits and components, and just model name is different for the marketing requirement.

Your assistance on this matter is highly appreciated.

Yours sincerely,

Client's signature: 

Client's name / title: Sean Rosen/Manager

Contact information / address: 346 Isabey Saint-Laurent QC H4T 1W1 Canada