EMC TEST REPORT

Report No.: 17070245-FCC-E V3

Supersede Report No: N/A

Applicant	Obihai Technology, Inc.
Product Name	VOIP Gateway
Model No.	OBi212
Serial No.	OBi212、OBi312
Test Standard	FCC Part 15 Subpart B Class B:2016, ANSI C63.4: 2014
Test Date	April 01 to 12, 2017
Issue Date	July 11, 2017
Test Result	☑ Pass ☐ Fail
Equipment complied with the specification	☑
Equipment did not comply with the specification	☐

Evans He	David Huang	
Test Engineer	Checked By	

This test report may be reproduced in full only

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

Issued by:

SIEMIC (SHENZHEN-CHINA) LABORATORIES

Zone A, Floor 1, Building 2 Wan Ye Long Technology Park

South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China 518108

Phone: +86 0755 2601 4629801 Email: China@siemic.com.cn

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

This page has been left blank intentionally.

CONTENTS

1. Report Revision History

Report No.	Report Version	Description	Issue Date
17070245-FCC-E	NONE	Original	April 13, 2017
17070245-FCC-E V1	V1	Updated the applicant address	June 27, 2017
17070245-FCC-E V2	V2	Updated the product name	June 28, 2017
17070245-FCC-E V3	V3	Updated the EUT rear photo	July 11, 2017

2. Customer information

Applicant Name	Obihai Technology, Inc.
Applicant Add	2105 S. Bascom Ave. Campbell, California, United States, 95008
Manufacturer	Hopeful Electric CO.LTD
Manufacturer Add	148 Ronggui Road (mid) Ronggui Town Shunde District FoshanCity Gangdong.Prov China

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 of Radiated Emission	Radiated Emission Program-To Shenzhen v2.0
Test Software of Conducted Emission	EZ-EMC(ver.Icp-03A1)

4. Equipment under Test (EUT) Information

Description of EUT:	VOIP Gateway
Main Model:	OBi212
Serial Model:	OBi212、OBi312
Input Power:	Adapter : Model: SA1210D1-NA Input: AC100-240V~50/60Hz,0.3A Output: DC 12V,1A Max
Equipment Category：	Class B
Port:	Power Port, USB Port, RJ 45 Port, RJ11 Port
Trade Name :	OBIHAI
FCC ID:	2ADXF-OBI212
Date EUT received:	March 31, 2017
Test Date(s):	April 01 to 12, 2017

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
§15.107; ANSI C63.4: 2014	AC Power Line Conducted Emissions	Compliance
§15.109; ANSI C63.4: 2014	Radiated Emissions	Compliance

Measurement Uncertainty

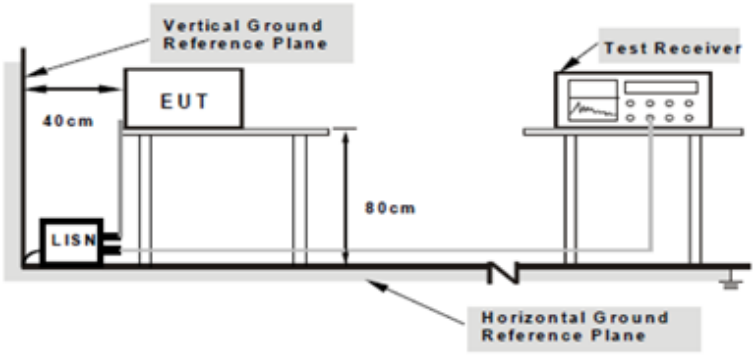
Parameter	Uncertainty
AC Power Line Conducted Emissions (150kHz~30MHz)	±3.11dB
Radiated Emission(30MHz~1GHz)	±5.12dB
Radiated Emission(1GHz~6GHz)	±5.34dB

6. Measurements, Examination And Derived Results

6.1 AC Power Line Conducted Emissions

Temperature	22℃
Relative Humidity	53%
Atmospheric Pressure	1010mbar
Test date :	April 13, 2017
Tested By :	Evans He

Requirement(s):

<table>
<tr><th>Spec</th><th>Item</th><th>Requirement</th><th>Applicable</th></tr>
<tr><td>47CFR§15.107</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 50Ω /50mH EUT LISN, connected to filtered mains.</td></tr>
</table>

	3. The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss coaxial cable. 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

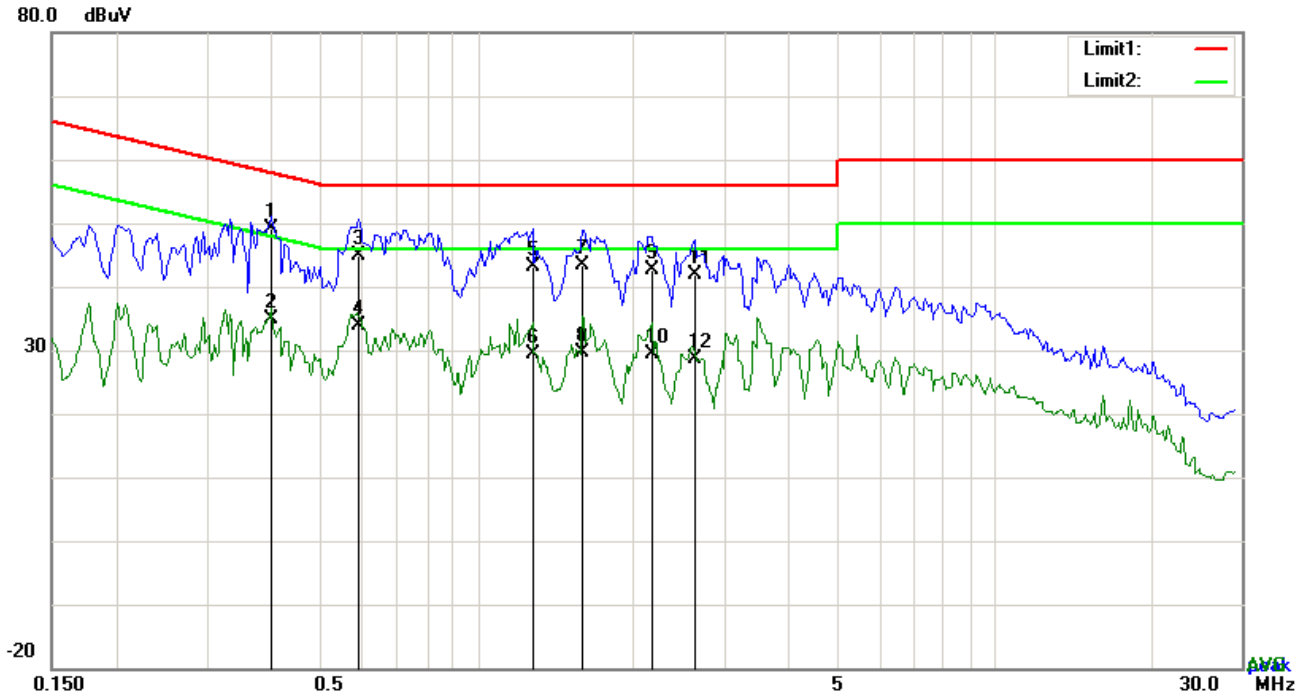
Test Data ☑ Yes ☐ N/A

Test Plot ☑ Yes (See below) ☐ N/A

Test Mode 1 :	RJ45 Mode

Test Mode 2 :	RJ11 Mode

Test Mode 1 :	RJ45 Mode

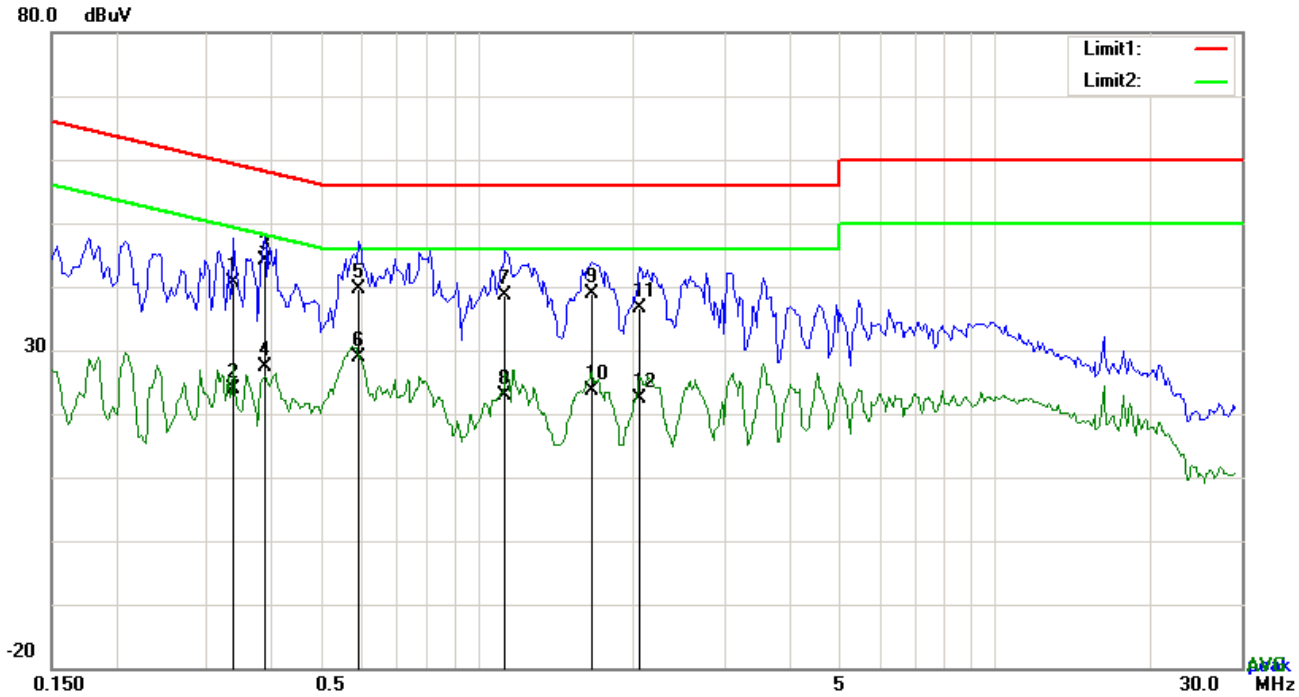


Test Data

Phase Line Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	L1	0.3996	38.98	QP	10.03	49.01	57.86	-8.85
2	L1	0.3996	24.92	AVG	10.03	34.95	47.86	-12.91
3	L1	0.5907	34.74	QP	10.03	44.77	56.00	-11.23
4	L1	0.5907	23.88	AVG	10.03	33.91	46.00	-12.09
5	L1	1.2810	32.98	QP	10.03	43.01	56.00	-12.99
6	L1	1.2810	19.40	AVG	10.03	29.43	46.00	-16.57
7	L1	1.6008	33.29	QP	10.04	43.33	56.00	-12.67
8	L1	1.6008	19.55	AVG	10.04	29.59	46.00	-16.41
9	L1	2.1741	32.71	QP	10.04	42.75	56.00	-13.25
10	L1	2.1741	19.31	AVG	10.04	29.35	46.00	-16.65
11	L1	2.6304	31.72	QP	10.05	41.77	56.00	-14.23
12	L1	2.6304	18.57	AVG	10.05	28.62	46.00	-17.38

Test Mode 1 :	RJ45 Mode

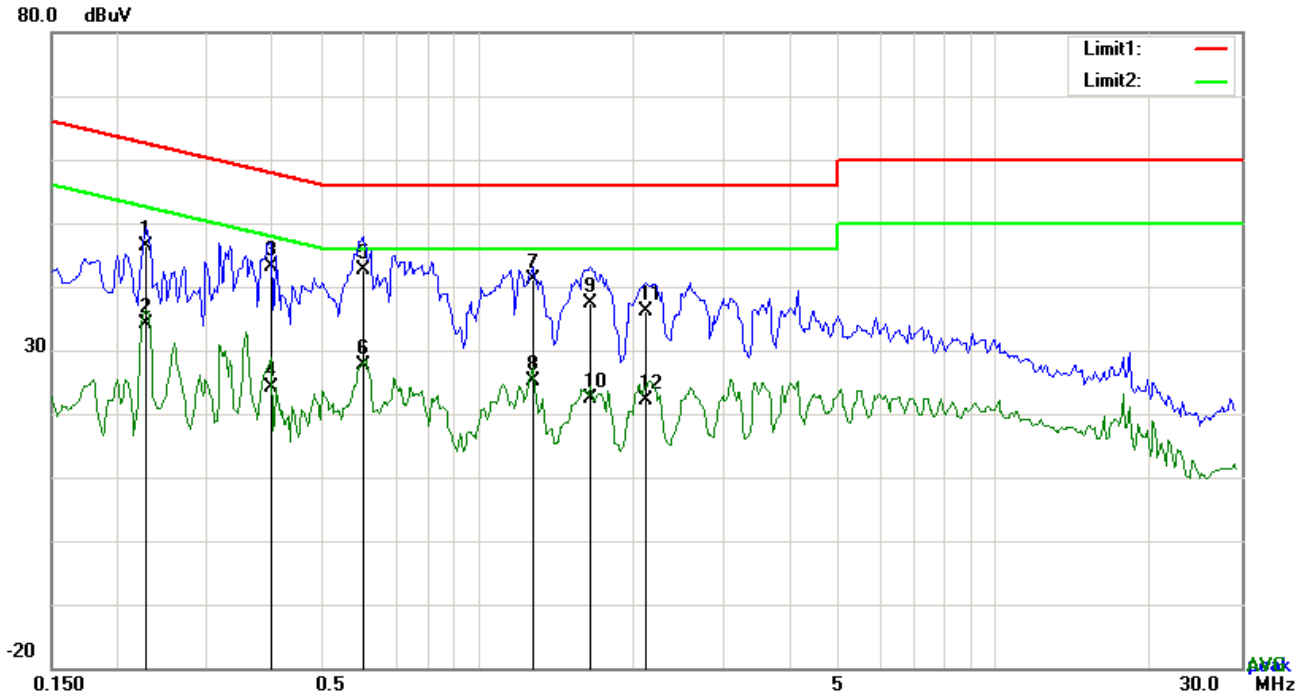


Test Data

Phase Neutral Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	N	0.3372	30.66	QP	10.02	40.68	59.27	-18.59
2	N	0.3372	13.74	AVG	10.02	23.76	49.27	-25.51
3	N	0.3879	34.07	QP	10.02	44.09	58.11	-14.02
4	N	0.3879	17.25	AVG	10.02	27.27	48.11	-20.84
5	N	0.5907	29.51	QP	10.02	39.53	56.00	-16.47
6	N	0.5907	18.82	AVG	10.02	28.84	46.00	-17.16
7	N	1.1328	28.69	QP	10.03	38.72	56.00	-17.28
8	N	1.1328	12.94	AVG	10.03	22.97	46.00	-23.03
9	N	1.6632	28.82	QP	10.04	38.86	56.00	-17.14
10	N	1.6632	13.59	AVG	10.04	23.63	46.00	-22.37
11	N	2.0610	26.50	QP	10.04	36.54	56.00	-19.46
12	N	2.0610	12.46	AVG	10.04	22.50	46.00	-23.50

Test Mode 1 :	RJ45 Mode

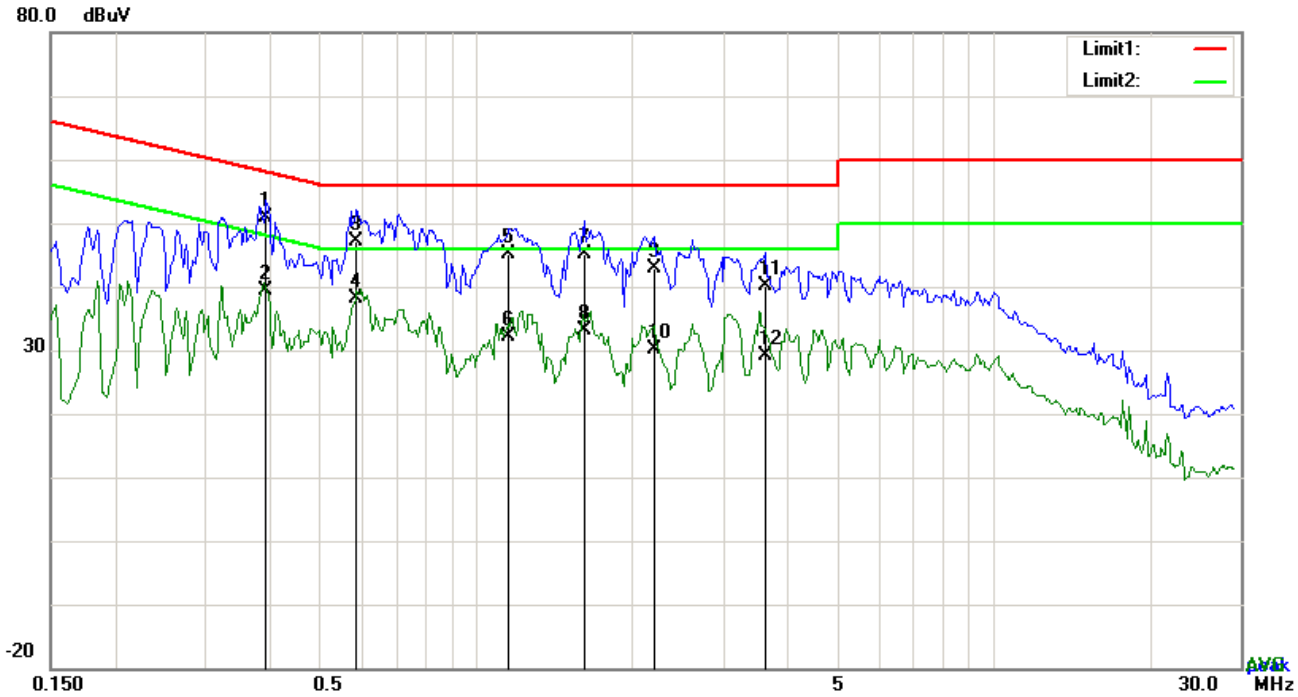


Test Data

Phase Line Plot at 240Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	L1	0.2280	36.47	QP	10.03	46.50	62.52	-16.02
2	L1	0.2280	24.13	AVG	10.03	34.16	52.52	-18.36
3	L1	0.3996	33.03	QP	10.03	43.06	57.86	-14.80
4	L1	0.3996	14.05	AVG	10.03	24.08	47.86	-23.78
5	L1	0.6024	32.58	QP	10.03	42.61	56.00	-13.39
6	L1	0.6024	17.60	AVG	10.03	27.63	46.00	-18.37
7	L1	1.2810	31.18	QP	10.03	41.21	56.00	-14.79
8	L1	1.2810	14.99	AVG	10.03	25.02	46.00	-20.98
9	L1	1.6515	27.30	QP	10.04	37.34	56.00	-18.66
10	L1	1.6515	12.28	AVG	10.04	22.32	46.00	-23.68
11	L1	2.1156	26.15	QP	10.04	36.19	56.00	-19.81
12	L1	2.1156	12.03	AVG	10.04	22.07	46.00	-23.93

Test Mode 1 :	RJ45 Mode

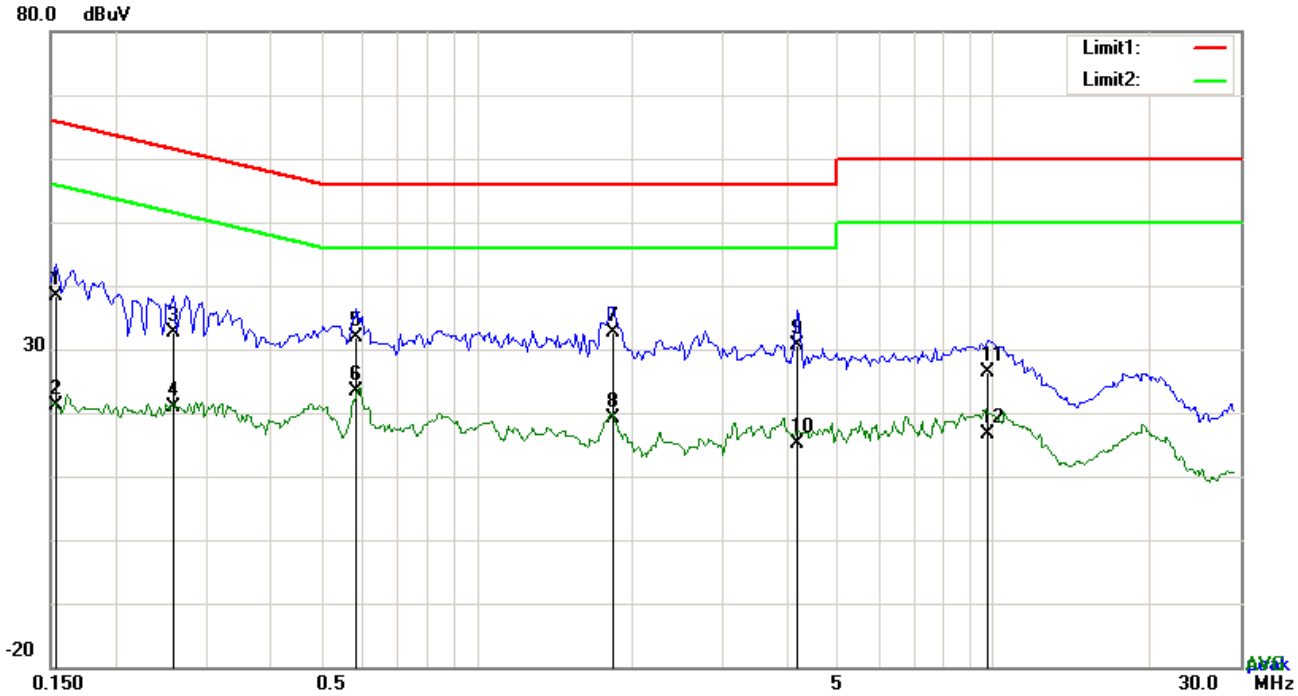


Test Data

Phase Neutral Plot at 240Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	N	0.3918	40.82	QP	10.02	50.84	58.03	-7.19
2	N	0.3918	29.24	AVG	10.02	39.26	48.03	-8.77
3	N	0.5868	37.22	QP	10.02	47.24	56.00	-8.76
4	N	0.5868	28.00	AVG	10.02	38.02	46.00	-7.98
5	N	1.1562	35.06	QP	10.03	45.09	56.00	-10.91
6	N	1.1562	22.14	AVG	10.03	32.17	46.00	-13.83
7	N	1.6125	35.13	QP	10.04	45.17	56.00	-10.83
8	N	1.6125	23.21	AVG	10.04	33.25	46.00	-12.75
9	N	2.2053	32.82	QP	10.04	42.86	56.00	-13.14
10	N	2.2053	20.06	AVG	10.04	30.10	46.00	-15.90
11	N	3.6240	30.02	QP	10.06	40.08	56.00	-15.92
12	N	3.6240	19.07	AVG	10.06	29.13	46.00	-16.87

Test Mode 2 :	RJ11 Mode

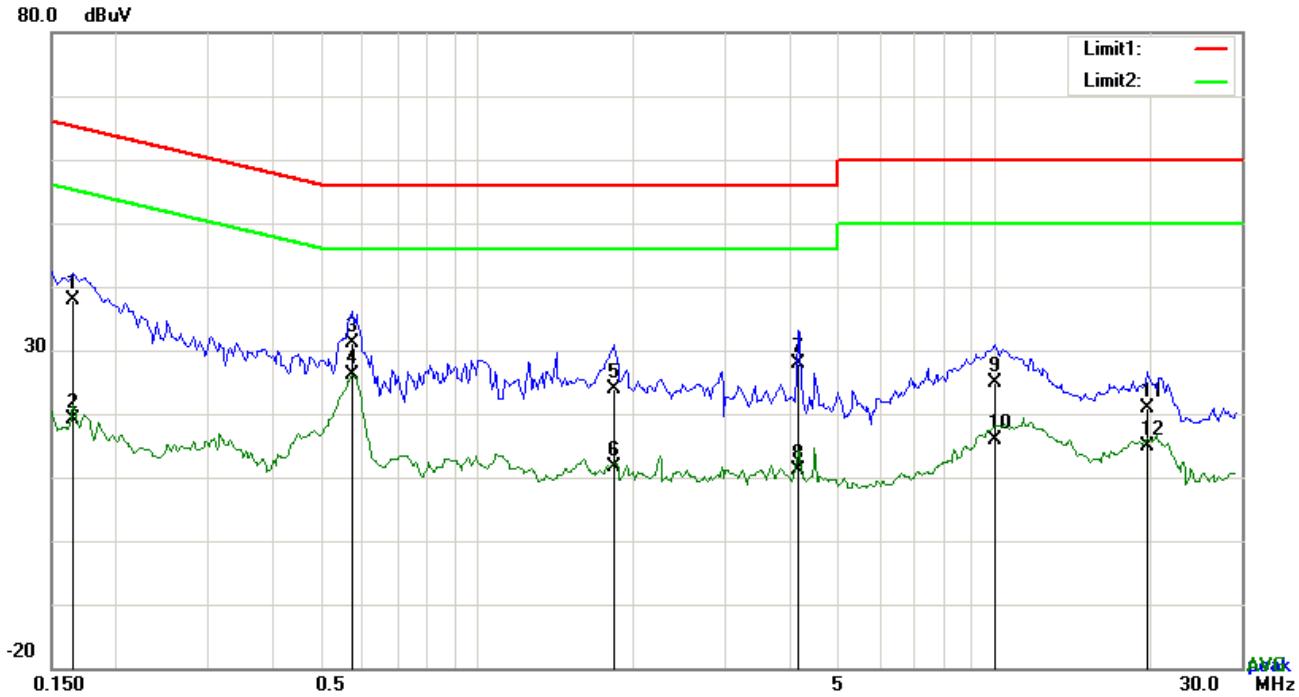


Test Data

Phase Line Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	L1	0.1539	28.44	QP	10.03	38.47	65.79	-27.32
2	L1	0.1539	11.14	AVG	10.03	21.17	55.79	-34.62
3	L1	0.2592	22.64	QP	10.03	32.67	61.46	-28.79
4	L1	0.2592	10.76	AVG	10.03	20.79	51.46	-30.67
5	L1	0.5868	21.87	QP	10.03	31.90	56.00	-24.10
6	L1	0.5868	13.41	AVG	10.03	23.44	46.00	-22.56
7	L1	1.8348	22.52	QP	10.04	32.56	56.00	-23.44
8	L1	1.8348	9.09	AVG	10.04	19.13	46.00	-26.87
9	L1	4.1739	20.53	QP	10.07	30.60	56.00	-25.40
10	L1	4.1739	5.13	AVG	10.07	15.20	46.00	-30.80
11	L1	9.7548	16.13	QP	10.15	26.28	60.00	-33.72
12	L1	9.7548	6.58	AVG	10.15	16.73	50.00	-33.27

Test Mode 2 :	RJ11 Mode

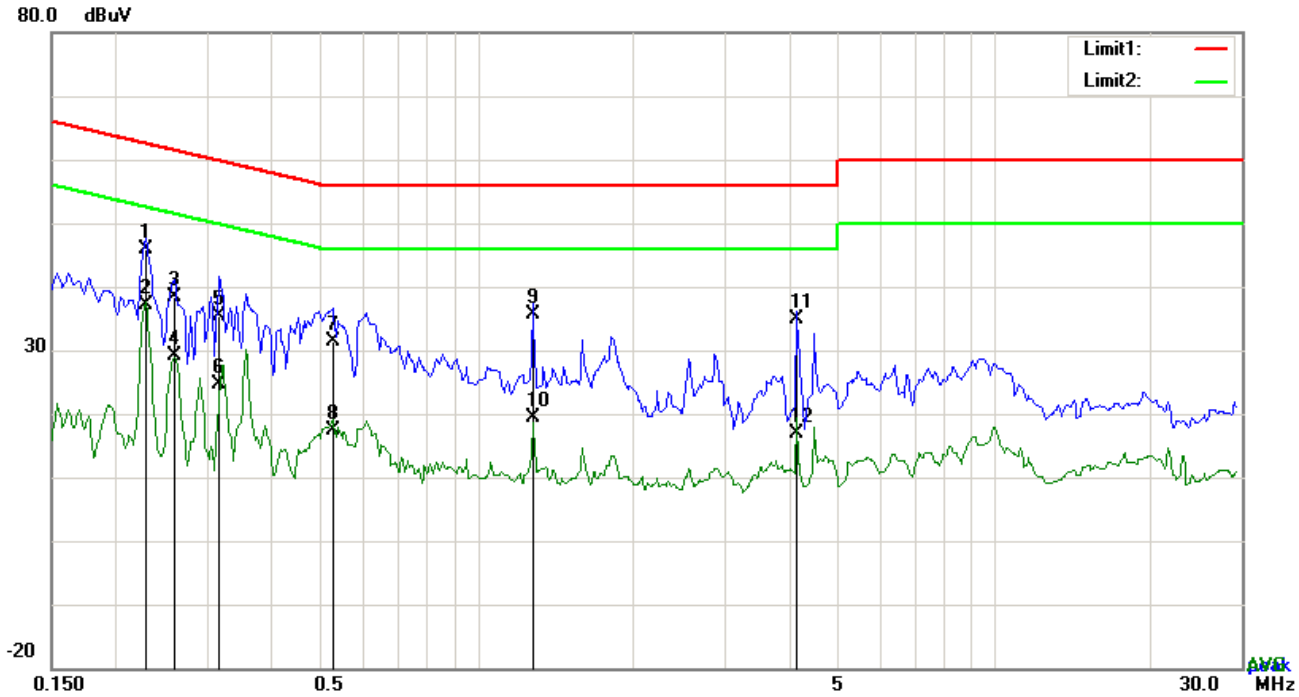


Test Data

Phase Neutral Plot at 120Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	N	0.1656	27.92	QP	10.02	37.94	65.18	-27.24
2	N	0.1656	9.18	AVG	10.02	19.20	55.18	-35.98
3	N	0.5712	21.21	QP	10.02	31.23	56.00	-24.77
4	N	0.5712	16.02	AVG	10.02	26.04	46.00	-19.96
5	N	1.8348	13.72	QP	10.04	23.76	56.00	-32.24
6	N	1.8348	1.69	AVG	10.04	11.73	46.00	-34.27
7	N	4.1778	17.76	QP	10.06	27.82	56.00	-28.18
8	N	4.1778	1.08	AVG	10.06	11.14	46.00	-34.86
9	N	10.0044	14.75	QP	10.14	24.89	60.00	-35.11
10	N	10.0044	5.80	AVG	10.14	15.94	50.00	-34.06
11	N	19.7115	10.69	QP	10.26	20.95	60.00	-39.05
12	N	19.7115	4.67	AVG	10.26	14.93	50.00	-35.07

Test Mode 2 :	RJ11 Mode

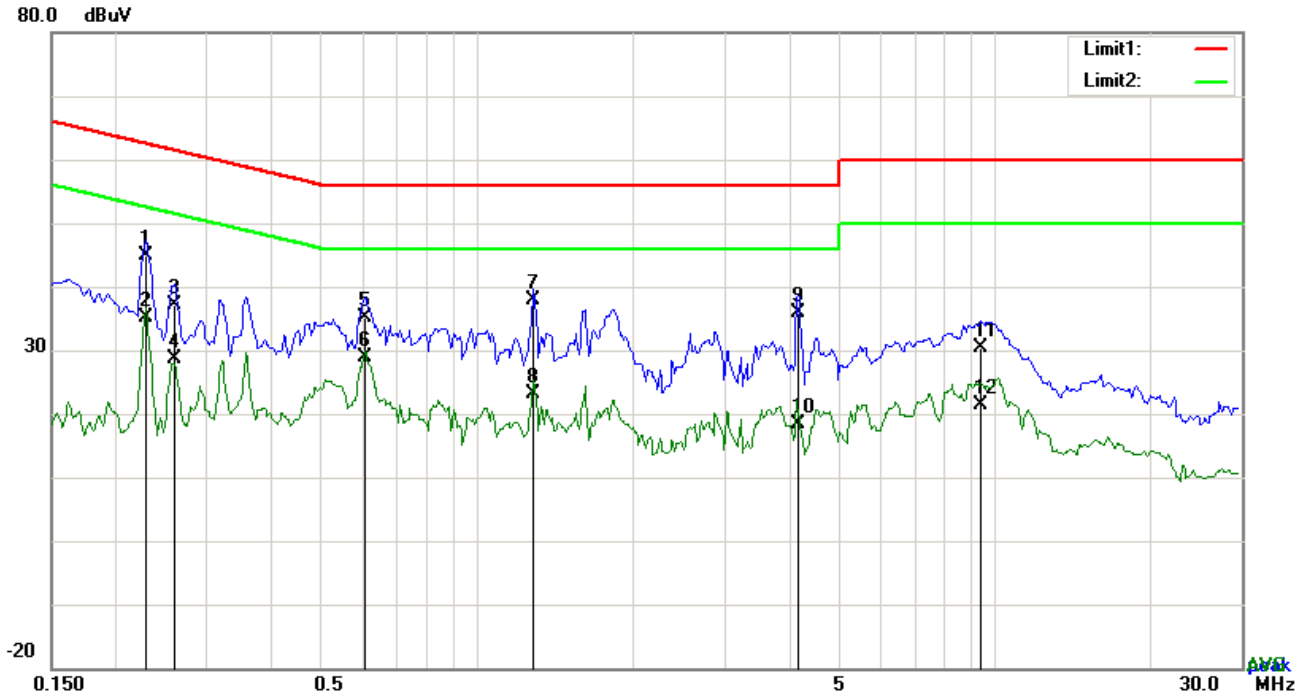


Test Data

Phase Line Plot at 240Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	L1	0.2280	35.74	QP	10.03	45.77	62.52	-16.75
2	L1	0.2280	27.02	AVG	10.03	37.05	52.52	-15.47
3	L1	0.2592	28.40	QP	10.03	38.43	61.46	-23.03
4	L1	0.2592	19.02	AVG	10.03	29.05	51.46	-22.41
5	L1	0.3177	25.39	QP	10.03	35.42	59.77	-24.35
6	L1	0.3177	14.72	AVG	10.03	24.75	49.77	-25.02
7	L1	0.5244	21.26	QP	10.03	31.29	56.00	-24.71
8	L1	0.5244	7.40	AVG	10.03	17.43	46.00	-28.57
9	L1	1.2771	25.68	QP	10.03	35.71	56.00	-20.29
10	L1	1.2771	9.24	AVG	10.03	19.27	46.00	-26.73
11	L1	4.1505	24.75	QP	10.07	34.82	56.00	-21.18
12	L1	4.1505	6.82	AVG	10.07	16.89	46.00	-29.11

Test Mode 2 :	RJ11 Mode



Test Data

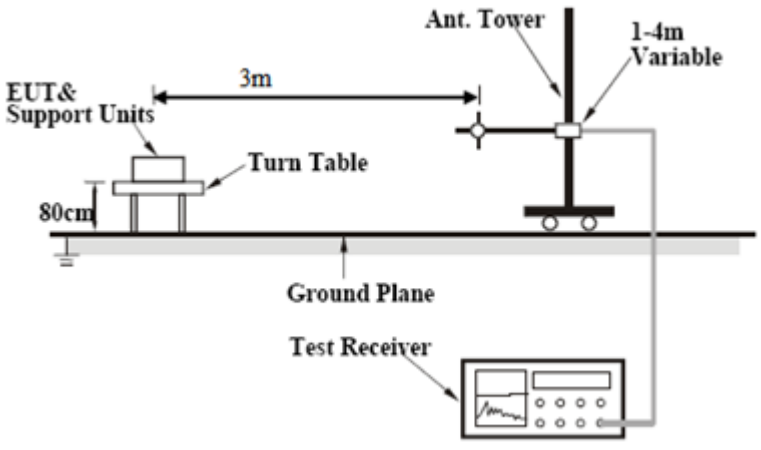
Phase Neutral Plot at 240Vac, 60Hz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	N	0.2280	34.83	QP	10.02	44.85	62.52	-17.67
2	N	0.2280	25.19	AVG	10.02	35.21	52.52	-17.31
3	N	0.2592	27.23	QP	10.02	37.25	61.46	-24.21
4	N	0.2592	18.52	AVG	10.02	28.54	51.46	-22.92
5	N	0.6063	25.18	QP	10.02	35.20	56.00	-20.80
6	N	0.6063	18.74	AVG	10.02	28.76	46.00	-17.24
7	N	1.2849	27.74	QP	10.03	37.77	56.00	-18.23
8	N	1.2849	13.13	AVG	10.03	23.16	46.00	-22.84
9	N	4.1778	25.81	QP	10.06	35.87	56.00	-20.13
10	N	4.1778	8.38	AVG	10.06	18.44	46.00	-27.56
11	N	9.3843	20.18	QP	10.13	30.31	60.00	-29.69
12	N	9.3843	11.16	AVG	10.13	21.29	50.00	-28.71

6.2 Radiated Emissions

Temperature	22℃
Relative Humidity	53%
Atmospheric Pressure	1010mbar
Test date :	April 13, 2017
Tested By :	Evans He

Requirement(s):

<table>
<tr><th>Spec</th><th>Item</th><th>Requirement</th><th>Applicable</th></tr>
<tr><td>47CFR§15.
109(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>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</td></tr>
</table>

	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. 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 with Peak detection for Average Measurement as below at frequency above 1GHz. ■ 1 kHz (Duty cycle < 98%) □ 10 Hz (Duty cycle > 98%) 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

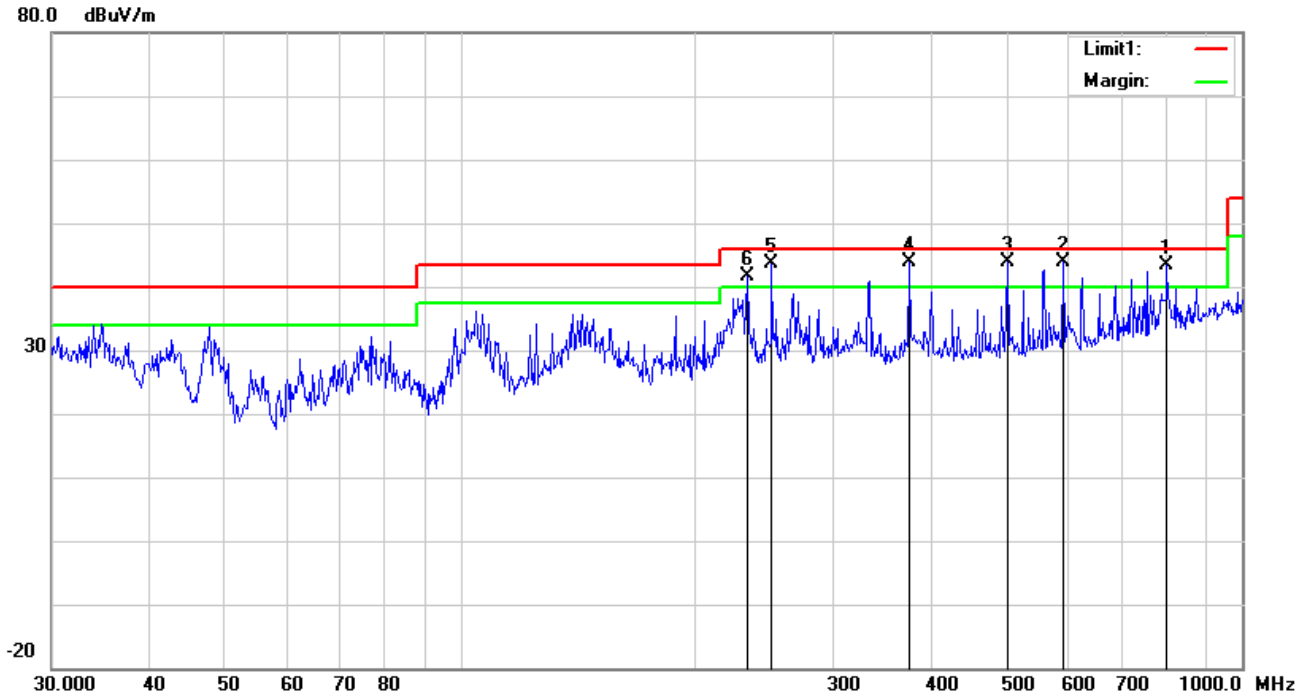
Test Plot ☑ Yes (See below) ☐ N/A

Test Mode 1 :	RJ45 Mode

Test Mode 2 :	RJ11 Mode

Test Mode 1 :	RJ45 Mode

Below 1GHz

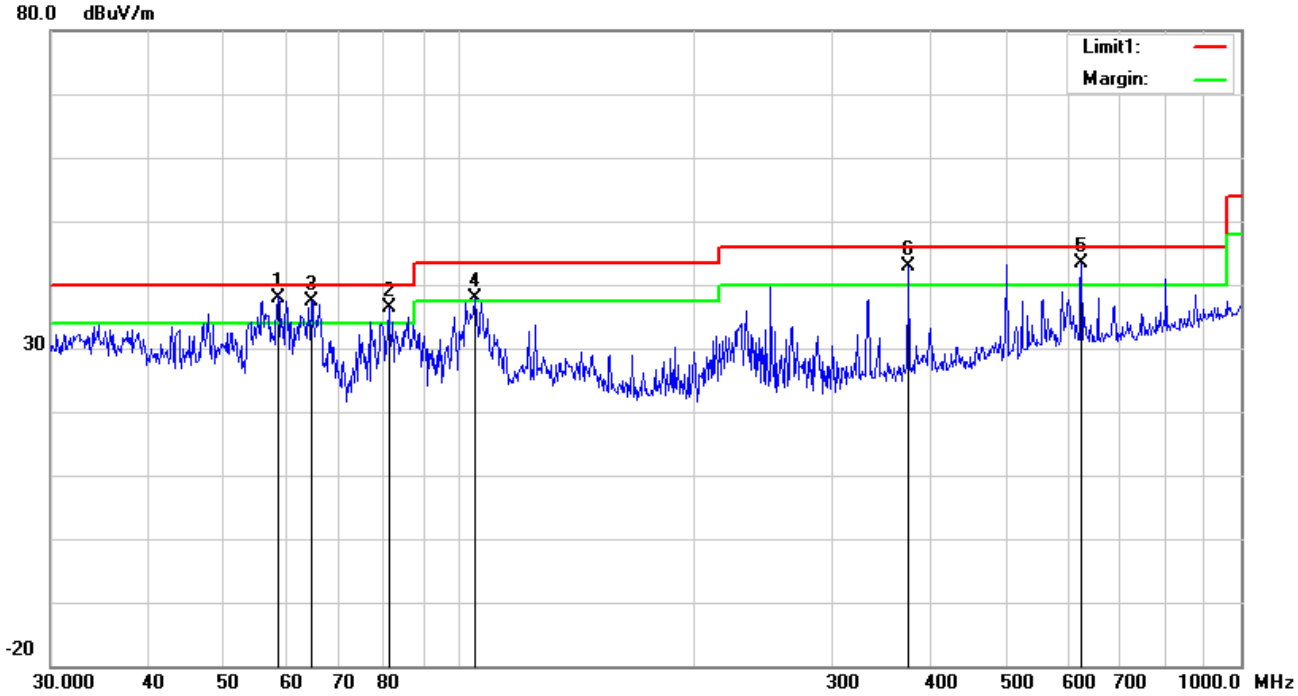


Test Data

Horizontal Polarity Plot @3m

No.	P/L	Frequency	Reading	Detector	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degree
		(MHz)	(dBuV/m)		(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	( )
1	H	801.7863	40.22	QP	21.42	21.15	2.96	43.45	46.00	-2.55	100	106
2	H	590.9737	43.97	QP	18.97	21.60	2.49	43.83	46.00	-2.17	100	120
3	H	501.1790	45.64	QP	17.72	21.81	2.42	43.97	46.00	-2.03	100	248
4	H	375.9385	48.79	QP	15.19	22.08	2.02	43.92	46.00	-2.08	100	1
5	H	250.3012	52.87	QP	11.41	22.29	1.70	43.69	46.00	-2.31	100	119
6	H	233.3487	50.76	QP	11.63	22.32	1.65	41.72	46.00	-4.28	100	58

Below 1GHz



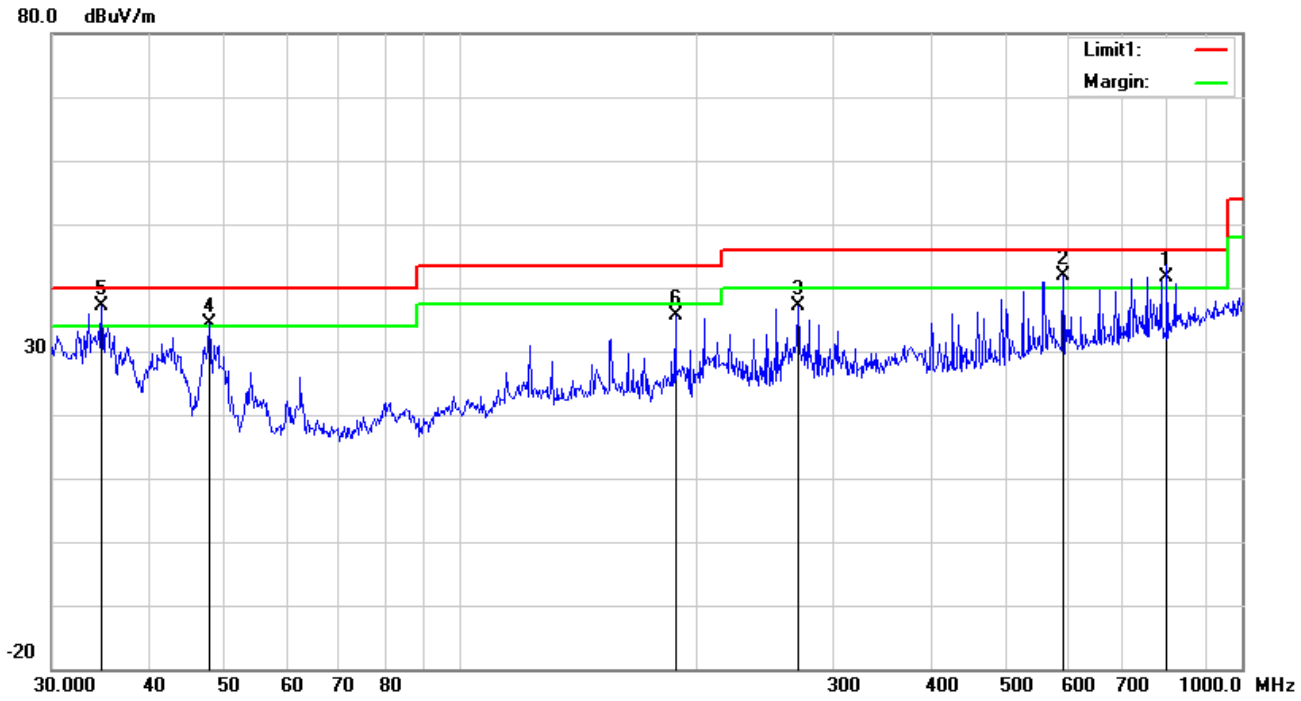
Test Data

Vertical Polarity Plot @3m

No.	P/L	Frequency	Reading	Detector	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degree
		(MHz)	(dBuV/m)		(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	( )
1	V	58.6126	52.06	QP	7.45	22.41	0.76	37.86	40.00	-2.14	100	51
2	V	81.2117	49.99	QP	7.65	22.41	1.05	36.28	40.00	-3.72	100	328
3	V	64.6594	51.42	QP	7.53	22.40	0.87	37.42	40.00	-2.58	100	334
4	V	104.5361	47.98	QP	11.19	22.33	1.14	37.98	43.50	-5.52	100	98
5	V	625.0780	43.05	QP	19.38	21.52	2.56	43.47	46.00	-2.53	100	65
6	V	375.9385	47.70	QP	15.19	22.08	2.02	42.83	46.00	-3.17	100	318

Test Mode 2 :	RJ11 Mode

Below 1GHz

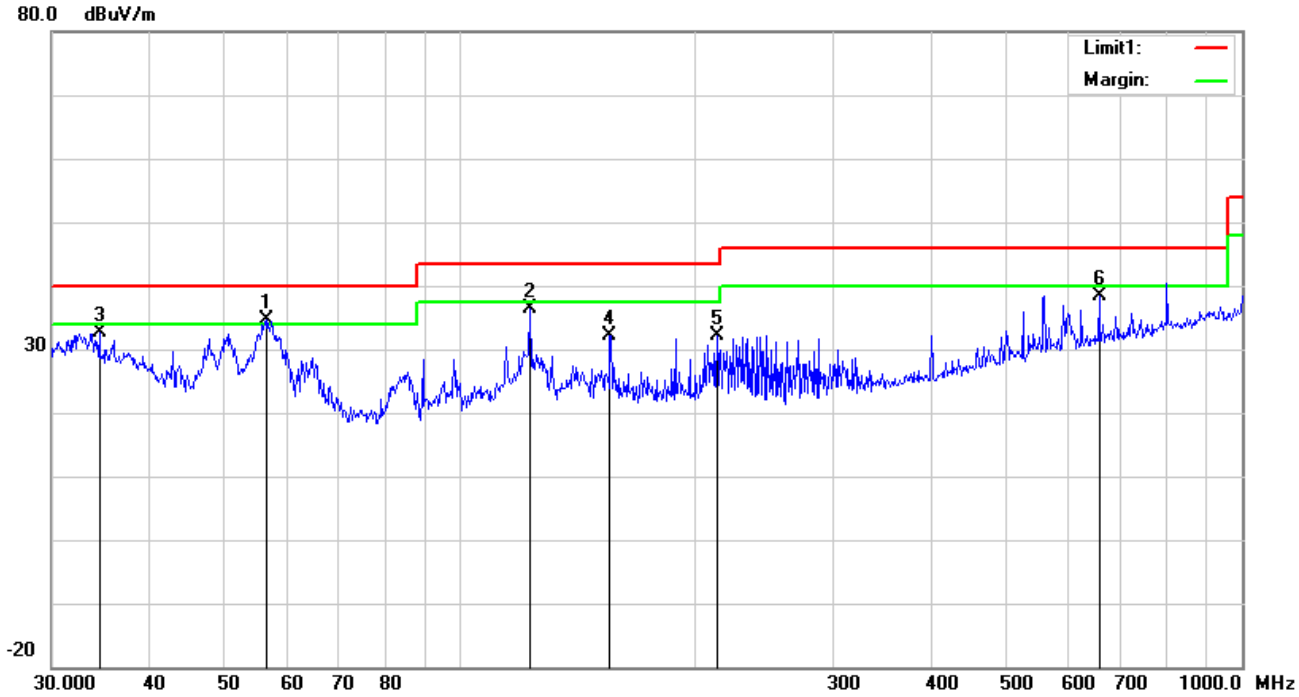


Test Data

Horizontal Polarity Plot @3m

No.	P/L	Frequency	Reading	Detector	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degree
		(MHz)	(dBuV/m)		(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	( )
1	H	801.7863	38.47	QP	21.42	21.15	2.96	41.70	46.00	-4.30	100	149
2	H	590.9737	42.05	QP	18.97	21.60	2.49	41.91	46.00	-4.09	100	210
3	H	270.3748	45.31	peak	12.30	22.29	1.74	37.06	46.00	-8.94	100	140
4	H	47.8260	46.66	QP	9.36	22.34	0.78	34.46	40.00	-5.54	200	266
5	H	34.7602	40.86	QP	17.73	22.25	0.75	37.09	40.00	-2.91	100	70
6	H	188.4125	44.95	peak	11.46	22.30	1.51	35.62	43.50	-7.88	100	178

Below 1GHz



Test Data

Vertical Polarity Plot @3m

No.	P/L	Frequency	Reading	Detector	Ant_F	PA_G	Cab_L	Result	Limit	Margin	Height	Degree
		(MHz)	(dBuV/m)		(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	( )
1	V	56.5929	48.50	QP	7.67	22.40	0.77	34.54	40.00	-5.46	100	80
2	V	122.8340	43.80	peak	13.72	22.37	1.17	36.32	43.50	-7.18	200	264
3	V	34.5173	36.27	peak	17.92	22.25	0.75	32.69	40.00	-7.31	100	253
4	V	155.3644	40.53	peak	12.60	22.30	1.37	32.20	43.50	-11.30	100	346
5	V	213.0151	40.87	peak	11.92	22.36	1.58	32.01	43.50	-11.49	100	353
6	V	656.5300	37.41	peak	19.72	21.46	2.62	38.29	46.00	-7.71	100	141

Test Mode 1 :	RJ45 Mode

Above 1GHz

Frequency (MHz)	Read_level (dBμV/m)	Azimuth	Height (cm)	Polarity (H/V)	Level (dBμV/m)	Factors (dB)	Limit (dBμV/m)	Margin (dB)	Detector (PK/AV)
1052.34	70.68	122	100	V	50.33	-20.35	74	-23.67	PK
1624.85	73.46	90	100	V	55.71	-17.75	74	-18.29	PK
1991.11	73.35	115	100	V	58.36	-14.99	74	-15.64	PK
1098.42	71.81	205	100	H	51.58	-20.23	74	-22.42	PK
1431.59	76.86	184	200	H	57.94	-18.92	74	-16.06	PK
1863.73	73.11	281	100	H	57.13	-15.98	74	-16.87	PK

Note1: The highest frequency of the EUT is 400 MHz, so the testing has been conformed to 2000MHz.

Note2: The AV measurement performed, more than 20dB below limit so AV test data was not presented.

Test Mode 2 :	RJ11 Mode

Above 1GHz

Frequency (MHz)	Read_level (dBμV/m)	Azimuth	Height (cm)	Polarity (H/V)	Level (dBμV/m)	Factors (dB)	Limit (dBμV/m)	Margin (dB)	Detector (PK/AV)
1003.56	70.72	122	100	V	50.15	-20.57	74	-23.85	PK
1563.21	76.01	51	200	V	57.81	-18.2	74	-16.19	PK
1982.35	73.49	108	100	V	58.26	-15.23	74	-15.74	PK
1025.68	72.04	237	100	H	51.53	-20.51	74	-22.47	PK
1458.42	77.31	66	100	H	58.39	-18.92	74	-15.61	PK
1923.53	70.56	301	100	H	54.91	-15.65	74	-19.09	PK

Note1: The highest frequency of the EUT is 400 MHz, so the testing has been conformed to 2000MHz.

Note2: The AV measurement performed, more than 20dB below limit so AV test data was not presented.

Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Due	In use
AC Line Conducted Emissions					
EMI test receiver	ESCS30	8471241027	09/16/2016	09/15/2017	☑
Line Impedance Stabilization Network	LI-125A	191106	09/24/2016	09/23/2017	☑
Line Impedance Stabilization Network	LI-125A	191107	09/24/2016	09/23/2017	☑
LISN	ISN T800	34373	09/24/2016	09/23/2017	☑
Transient Limiter	LIT-153	531118	08/31/2016	08/30/2017	☑
Radiated Emissions					
EMI test receiver	ESL6	100262	09/16/2016	09/15/2017	☑
OPT 010 AMPLIFIER (0.1-1300MHz)	8447E	2727A02430	08/31/2016	08/30/2017	☑
Microwave Preamplifier (1 ~ 26.5GHz)	8449B	3008A02402	03/23/2017	03/22/2018	☑
Bilog Antenna (30MHz~6GHz)	JB6	A110712	09/20/2016	09/19/2017	☑
Double Ridge Horn Antenna	AH-118	71259	09/23/2016	09/22/2017	☑

Annex B. EUT And Test Setup Photographs

Annex B.i. Photograph: EUT External Photo

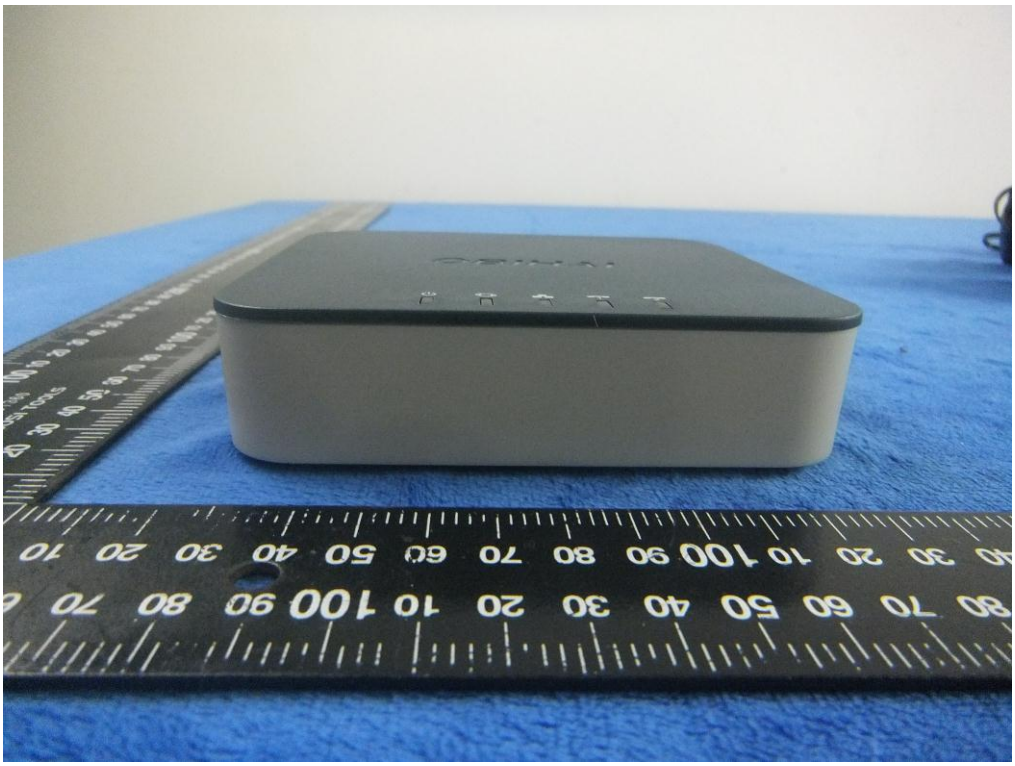
Whole Package View

Adapter - Lable View

EUT - Front View

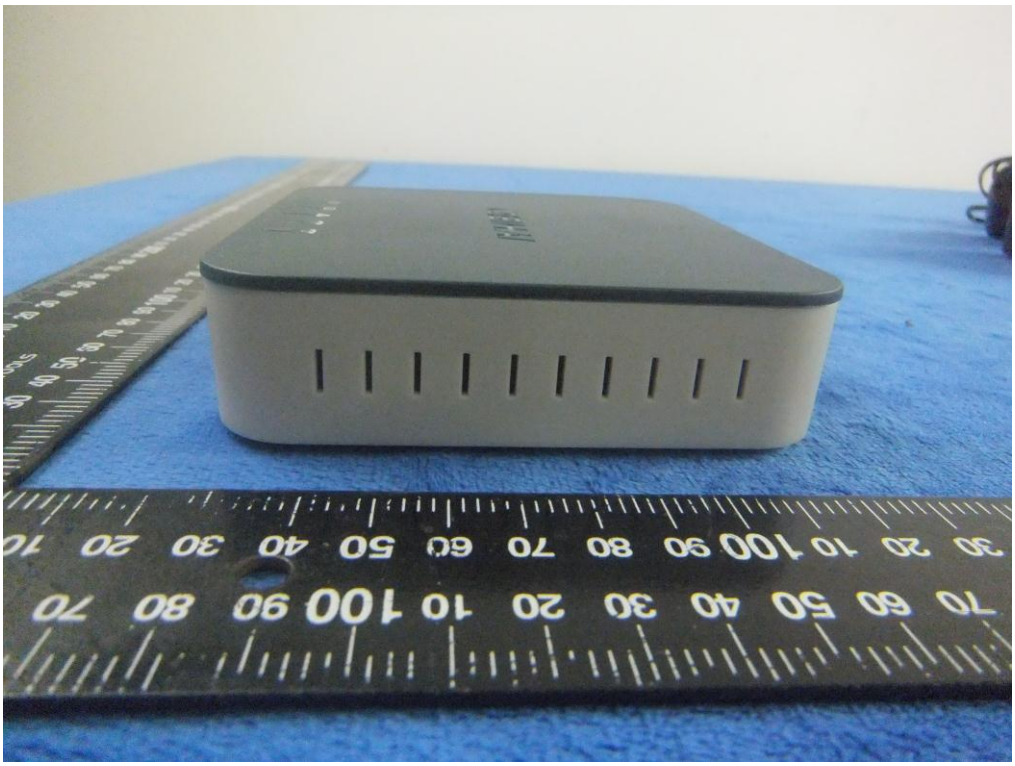
EUT - Rear View

EUT - Top View



EUT - Bottom View

EUT - Left View

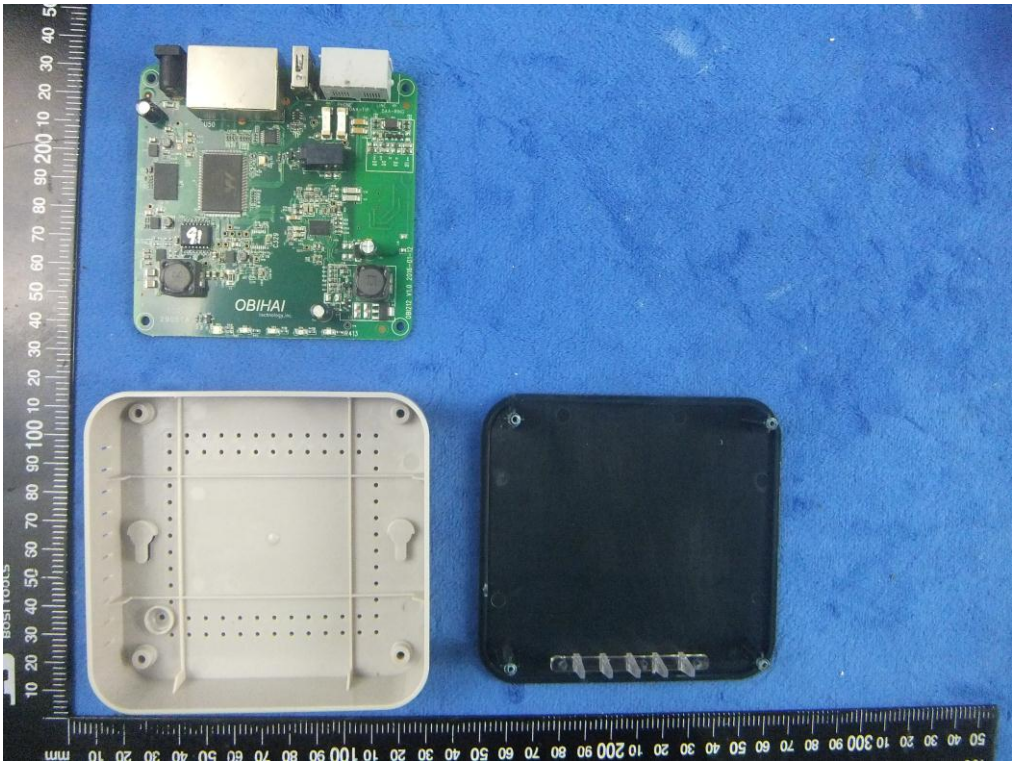


EUT - Right View

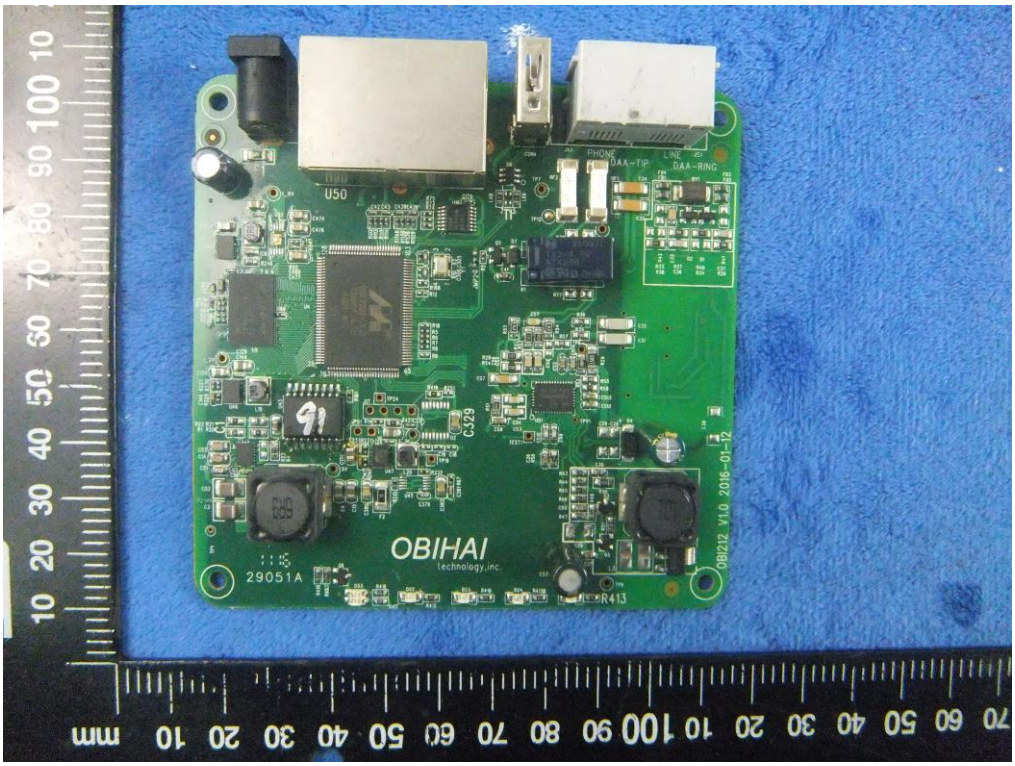
Annex B.ii. Photograph: EUT Internal Photo

Cover Off - Top View 1

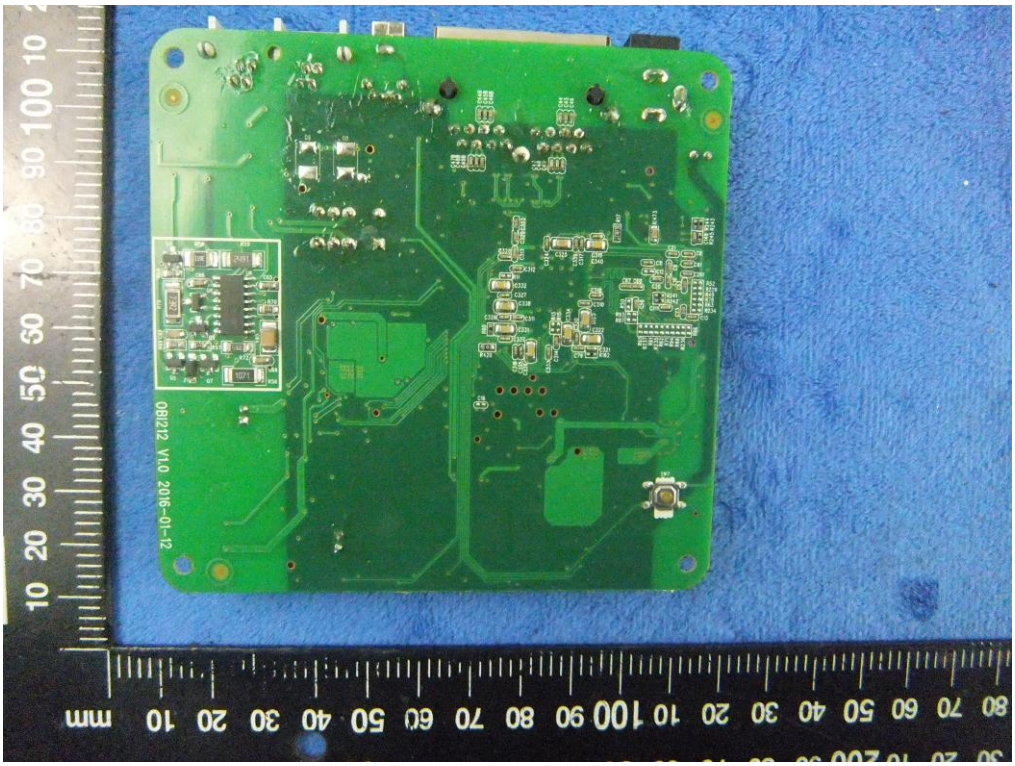
Cover Off - Top View 2



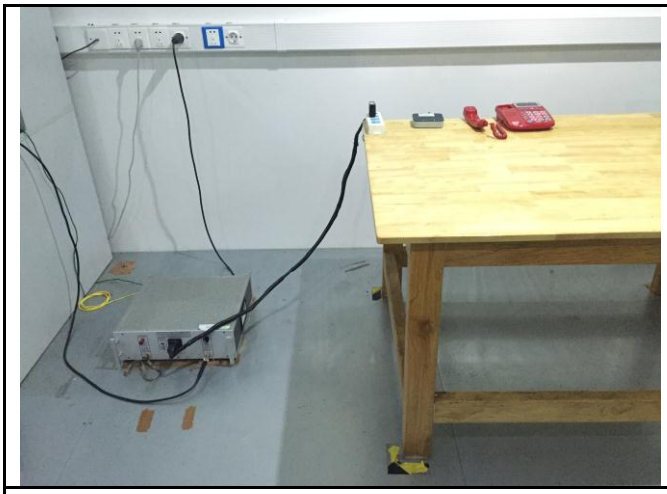
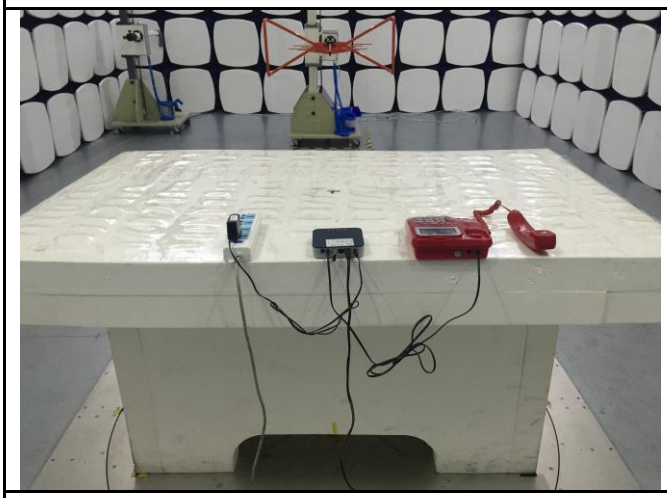
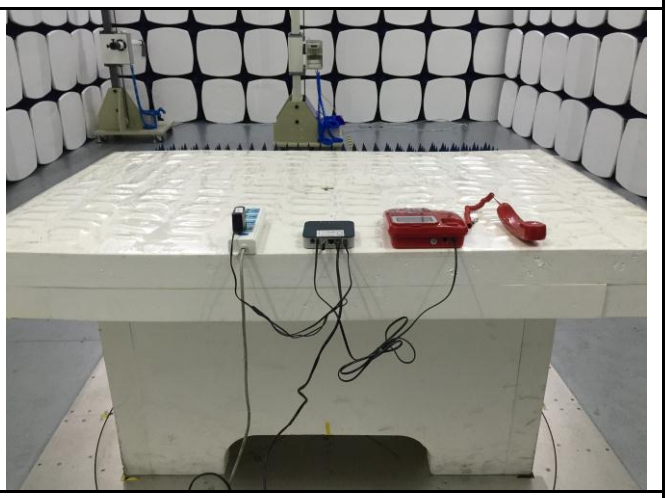
Mainboard - Front View



Mainboard – Rear View



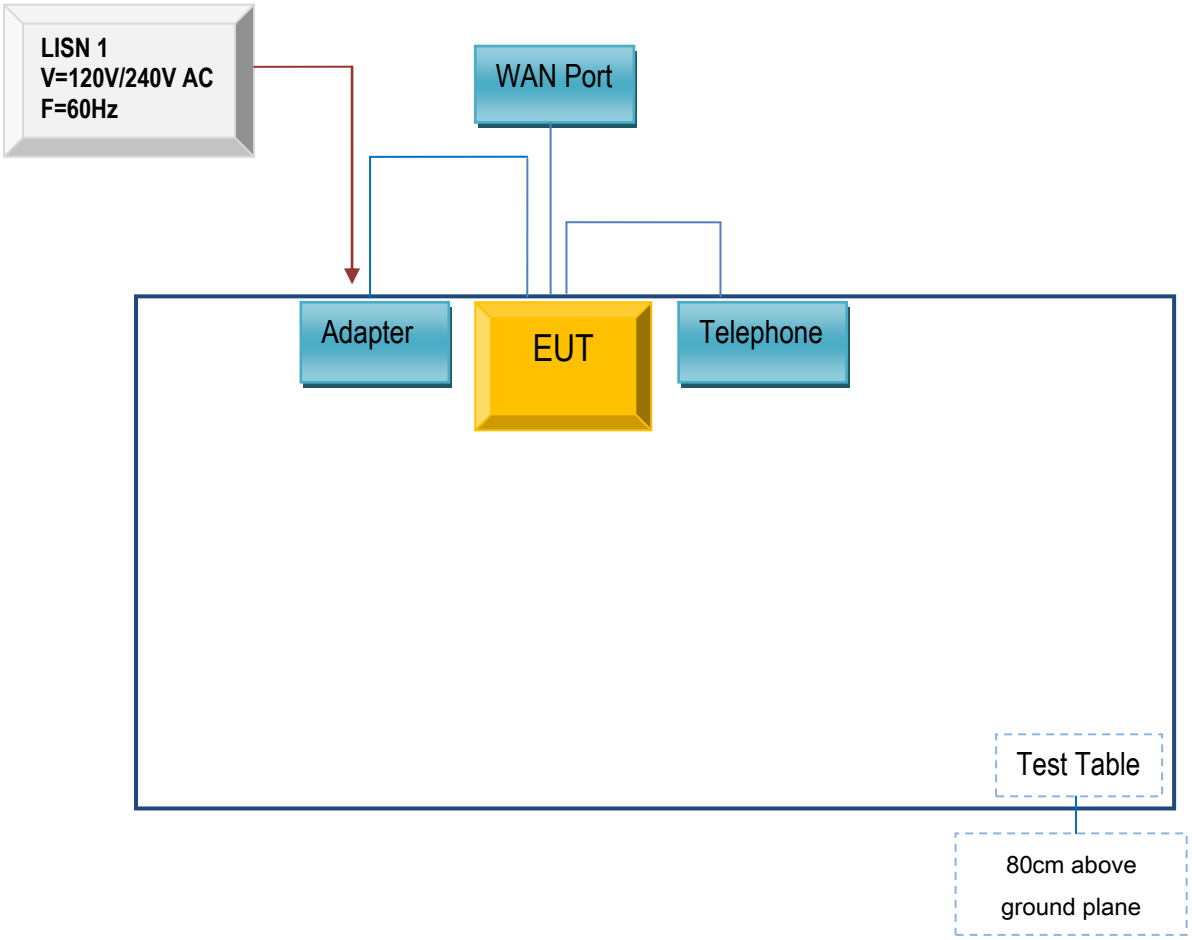
Annex B.iii. Photograph: Test Setup Photo

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

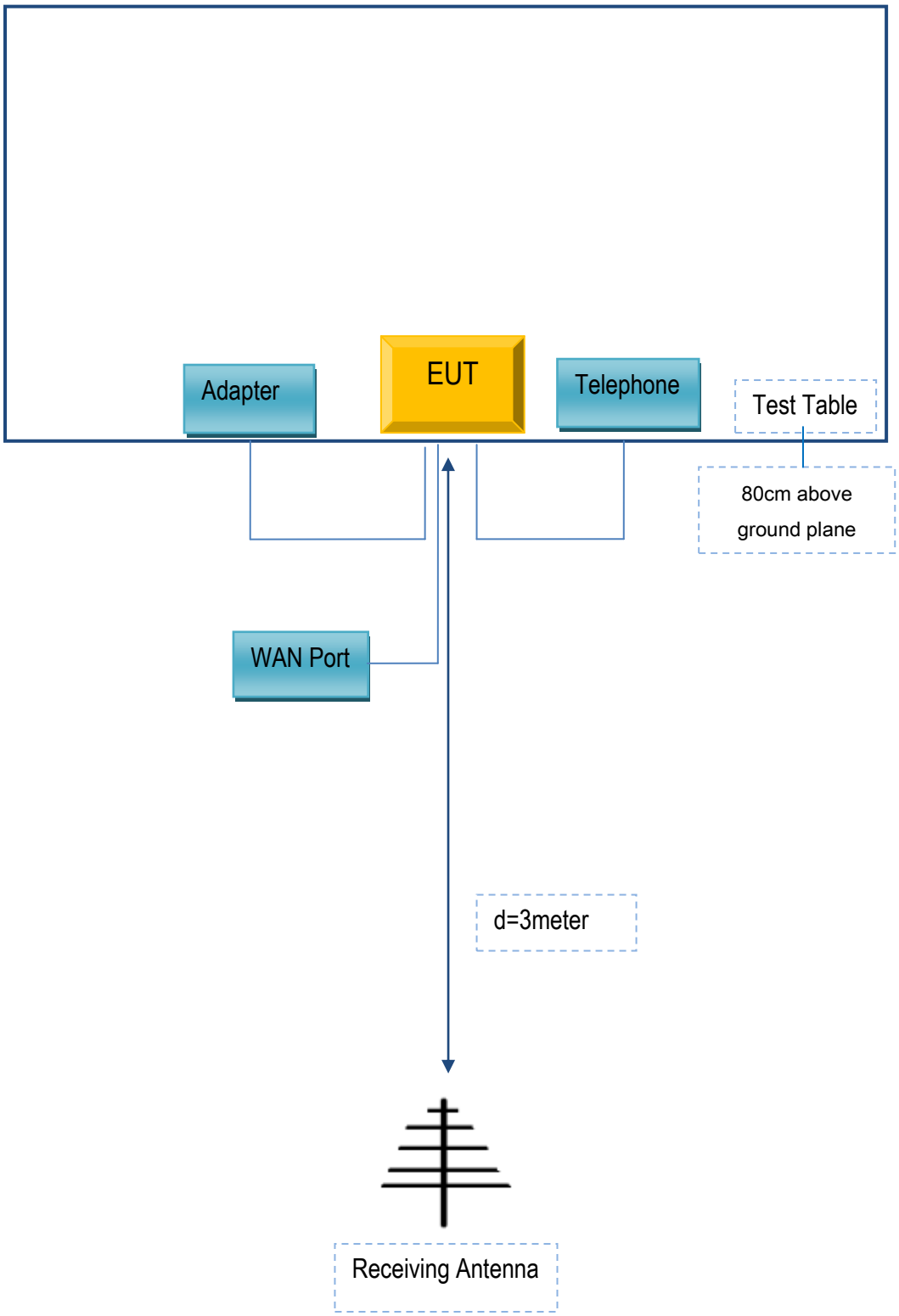
Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

Annex C.ii. TEST SET UP BLOCK

Block Configuration Diagram for Conducted Emissions



Block Configuration Diagram for Radiated 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
Obihai Technology, Inc.	Adapter	SA1210D1-NA	T02435
GOLDWEB	Telephone	TCL03	C30215

Supporting Cable:

Cable type	Shield Type	Ferrite Core	Length	Serial No
RJ11 Cable	Un-shielding	No	2m	D03356
RJ45 Cable	Un-shielding	No	2m	KX156327541
Power Cable	Un-shielding	No	0.8m	GT211032

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

Please see the attachment

Annex E. DECLARATION OF SIMILARITY

OBIHAI
technology, inc.

51 East Campbell Ave.
Campbell, CA 95008, USA
Phone# 408-890-6000

Date: 4/22/2017

Declaration of Similarity

We, **Obihai Technology, Inc.,** hereby declare that our product "VOIP Gateway", model OBi212 and OBi312 are electrically and mechanically identical, share the same PB Layout and components. And the differences between them are the product name and model number.

Sincerely,

Signature: Denis Mak
Title: Product Manager