




# RF TEST REPORT



Report No.: 15070358-FCC-R

Applicant	Shenzhen omimo Technology Co.,Ltd.	
Product Name	WiFi camera	
Model No.	S510;S520	
Serial No.		
Test Standard	FCC Part 15.247: 2014, ANSI C63.10: 2013	
Test Date	May 21 to June 17,2015	
Issue Date	Juen 18, 2015	
Test Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	
Equipment complied with the specification <input checked="" type="checkbox"/>		
Equipment did not comply with the specification <input type="checkbox"/>		
		
Wiky.Jam Test Engineer	David Huang 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](mailto: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

Test Report No.	15070358-FCC-R
Page	3 of 58

This page has been left blank intentionally.

## CONTENTS

1. REPORT REVISION HISTORY .....	5
2. CUSTOMER INFORMATION .....	5
3. TEST SITE INFORMATION .....	5
4. EQUIPMENT UNDER TEST (EUT) INFORMATION .....	6
5. TEST SUMMARY .....	8
6. MEASUREMENTS, EXAMINATION AND DERIVED RESULTS .....	9
6.1 ANTENNA REQUIREMENT .....	9
6.2 DTS (6 DB&20 DB) CHANNEL BANDWIDTH .....	10
6.3 MAXIMUM OUTPUT POWER .....	16
6.4 POWER SPECTRAL DENSITY .....	20
6.5 BAND-EDGE & UNWANTED EMISSIONS INTO NON-RESTRICTED FREQUENCY BANDS .....	24
6.6 AC POWER LINE CONDUCTED EMISSIONS .....	30
6.7 RADIATED SPURIOUS EMISSIONS .....	40
ANNEX A. TEST INSTRUMENT .....	47
ANNEX B. EUT AND TEST SETUP PHOTOGRAPHS .....	48
ANNEX C. TEST SETUP AND SUPPORTING EQUIPMENT .....	54
ANNEX D. USER MANUAL / BLOCK DIAGRAM / SCHEMATICS / PARTLIST .....	57
ANNEX E. DECLARATION OF SIMILARITY .....	58

## 1. Report Revision History

Report No.	Report Version	Description	Issue Date
15070358-FCC-R	NONE	Original	Juen 18, 2015

## 2. Customer information

Applicant Name	Shenzhen omimo Technology Co.,Ltd.
Applicant Add	Room1212,Chuangjian Building, No.6023, Shennan Boulevard, Futian District, Shenzhen,China
Manufacturer	Sharetronic Data Technology Co., Ltd.
Manufacturer Add	Weiqiang Technology Park, Yinhe Industrial Estate, Qingxi Town, Dongguan, 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	Radiated Emission Program-To Shenzhen v2.0

#### 4. Equipment under Test (EUT) Information

Description of EUT:	WiFi camera
Main Model:	S510;S520
Serial Model:	
Equipment Category :	DTS
Antenna Gain:	WIFI: 2.73 dBi
Input Power:	<p>Adapte 1:</p> <p>Model: TEKA006-0501000UKU</p> <p>Input: AC 100-240V; 50/60Hz 0.15A Max</p> <p>Output: DC 5.0V; 0.5A</p> <p>Adapte 2:</p> <p>Model: A31-3762-501000</p> <p>Input: AC 100-240V; 50/60Hz 0.2A</p> <p>Output: DC 5.0V; 1.0A</p>
Trade Name :	omimo
GPRS/EGPRS Multi-slot class	8/10/12
FCC ID:	2AE6WS510

Test Report No.	15070358-FCC-R
Page	7 of 58

Max. Output Power:	802.11b: 11.30dBm
	802.11g: 13.55dBm
	802.11n(20M): 12.56dBm
	802.11n(40M): 8.55dBm
Type of Modulation:	802.11b/g/n: DSSS, OFDM
RF Operating Frequency (ies):	WIFI:802.11b/g/n(20M): 2412-2462 MHz
	WIFI:802.11n(40M): 2422-2452 MHz
Number of Channels:	WIFI :802.11b/g/n(20M): 11CH
	WIFI :802.11n(40M): 7CH
Port:	Power Port, Earphone Port, USB Port
GPRS/EGPRS Multi-slot class	8/10/12

## 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:

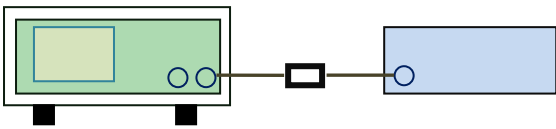
A permanently attached PIFA antenna for WIFI, the gain is 2.73dBi for WIFI.

**The antenna meets up with the ANTENNA REQUIREMENT.**

**Result:** Compliance.

## 6.2 DTS (6 dB&20 dB) Channel Bandwidth

Temperature	20°C
Relative Humidity	54%
Atmospheric Pressure	1012mbar
Test date :	June 12, 2015
Tested By :	Wiki.Jam

Spec	Item	Requirement	Applicable
§ 15.247(a)(2)	a)	6dB BW $\geq$ 500kHz; 20dB BW $\geq$ 500kHz;	<input checked="" type="checkbox"/>
	b)	99% BW: For FCC reference only; required by IC.	<input checked="" type="checkbox"/>
Test Setup	 <p style="text-align: center;">Spectrum Analyzer                      EUT</p>		
Test Procedure	<p>558074 D01 DTS MEAS Guidance v03r02, 8.1 DTS bandwidth</p> <p><u>6dB bandwidth</u></p> <ol style="list-style-type: none"> <li>Set RBW = 100 kHz.</li> <li>Set the video bandwidth (VBW) <math>\geq 3 \times</math> RBW.</li> <li>Detector = Peak.</li> <li>Trace mode = max hold.</li> <li>Sweep = auto couple.</li> <li>Allow the trace to stabilize.</li> <li>Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.</li> </ol> <p><u>20dB bandwidth</u></p> <p>C63.10 Occupied Bandwidth (OBW=20dB bandwidth)</p> <ol style="list-style-type: none"> <li>Set RBW = 1%-5% OBW.</li> <li>Set the video bandwidth (VBW) <math>\geq 3 \times</math> RBW.</li> <li>Set the span range between 2 times and 5 times of the OBW.</li> <li>Sweep time=Auto, Detector=PK, Trace=Max hold.</li> <li>Once the reference level is established, the equipment is conditioned with typical modulating signals to produce the worst-</li> </ol>		

Test Report No.	15070358-FCC-R
Page	11 of 58

	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	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

Test Data ☒ Yes ☐ N/A

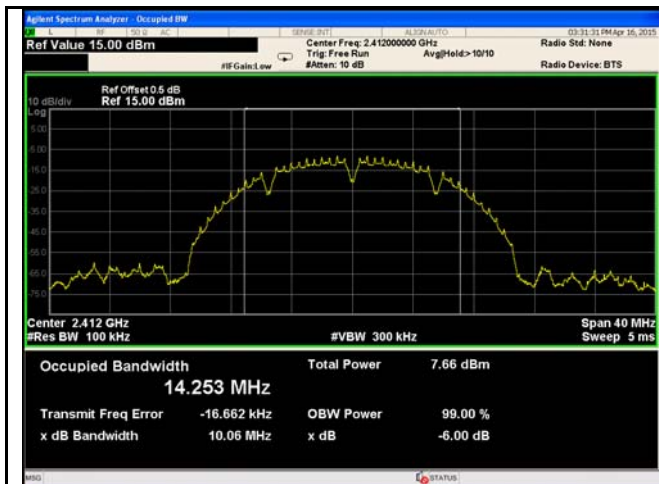
Test Plot ☒ Yes (See below) ☐ N/A

### Measurement result

Test mode	CH	Freq (MHz)	6dB Bandwidth (MHz)	20dB Bandwidth (MHz)	Limit (MHz)
802.11b	Low	2412	10.06	17.26	$\geq 0.5$
	Mid	2437	9.11	17.24	$\geq 0.5$
	High	2462	10.04	17.25	$\geq 0.5$
802.11g	Low	2412	16.42	20.79	$\geq 0.5$
	Mid	2437	16.42	20.49	$\geq 0.5$
	High	2462	16.45	20.65	$\geq 0.5$
802.11n (20M)	Low	2412	17.63	21.53	$\geq 0.5$
	Mid	2437	17.61	21.40	$\geq 0.5$
	High	2462	17.64	21.73	$\geq 0.5$
802.11n (40M)	Low	2422	36.28	39.08	$\geq 0.5$
	Mid	2437	35.72	38.75	$\geq 0.5$
	High	2452	36.27	38.65	$\geq 0.5$

## Test Plots

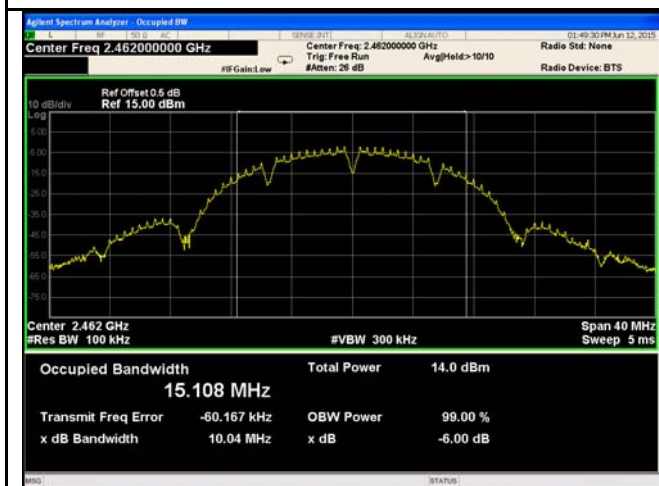
### 6dB Bandwidth measurement result



802.11b 6dB Bandwidth - Low CH 2412



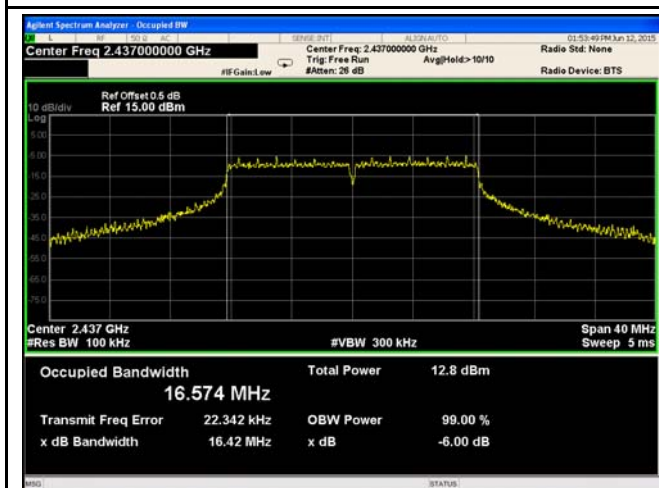
802.11b 6dB Bandwidth - Mid CH 2437



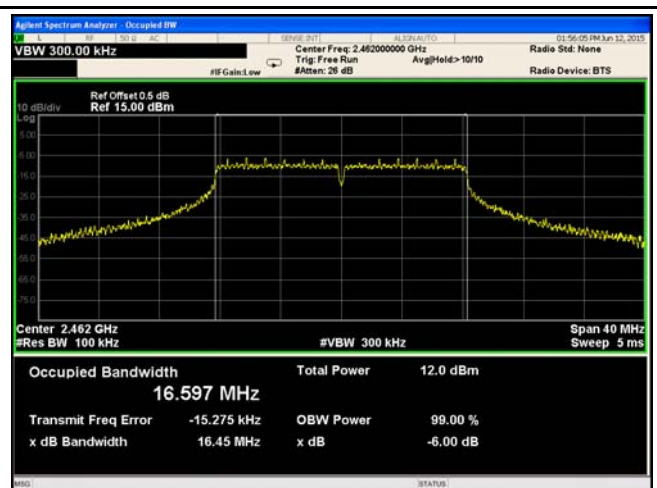
802.11b 6dB Bandwidth - High CH 2462



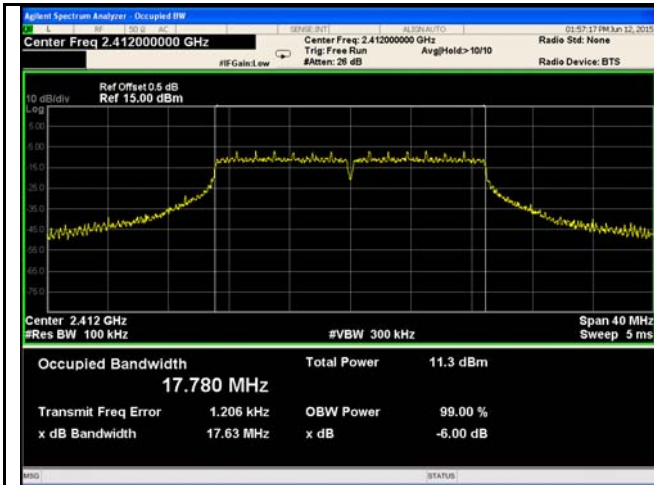
802.11g 6dB Bandwidth - Low CH 2412



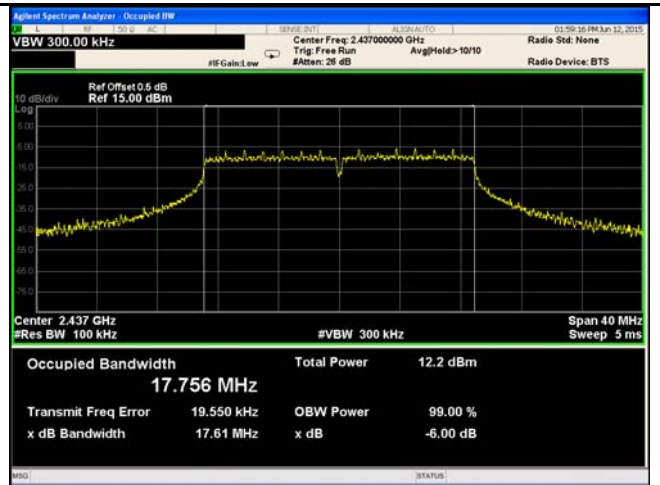
802.11g 6dB Bandwidth - Mid CH 2437



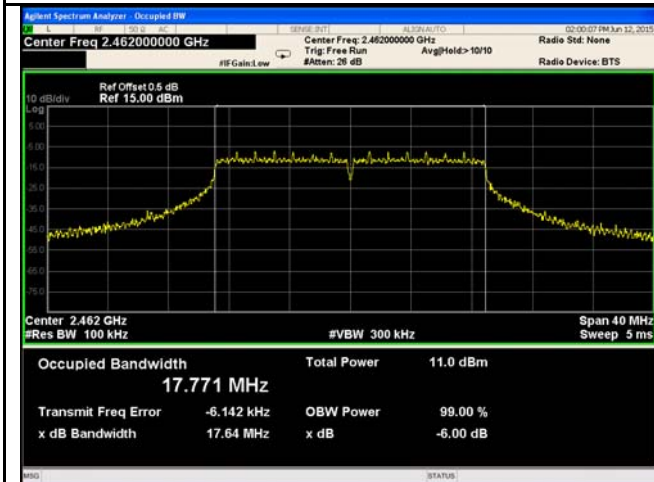
802.11g 6dB Bandwidth - High CH 2462



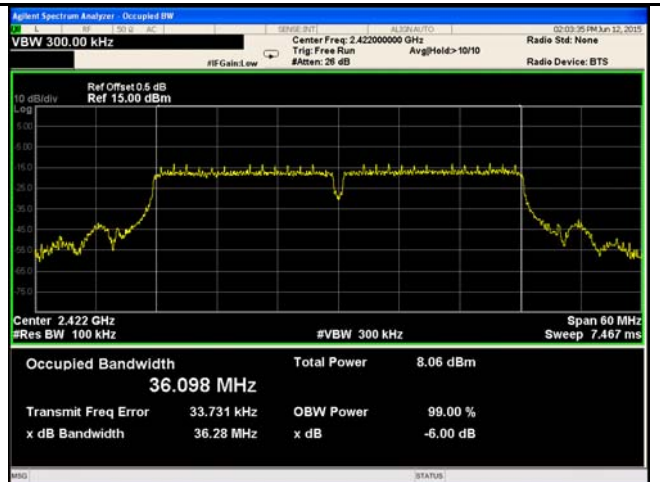
802.11n20 6dB Bandwidth - Low CH 2412



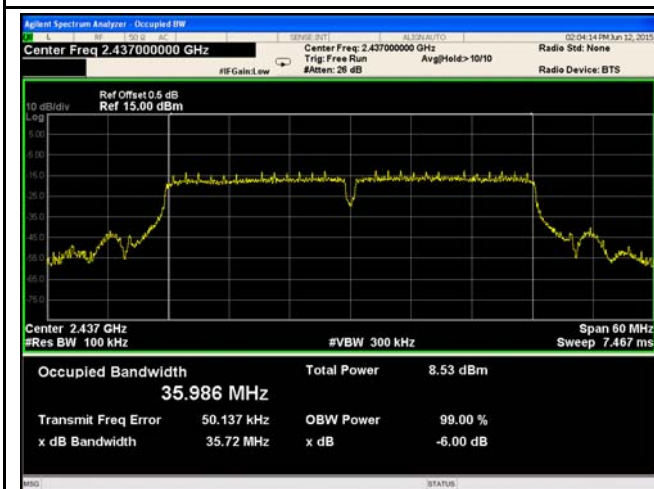
802.11n20 6dB Bandwidth - Mid CH 2437



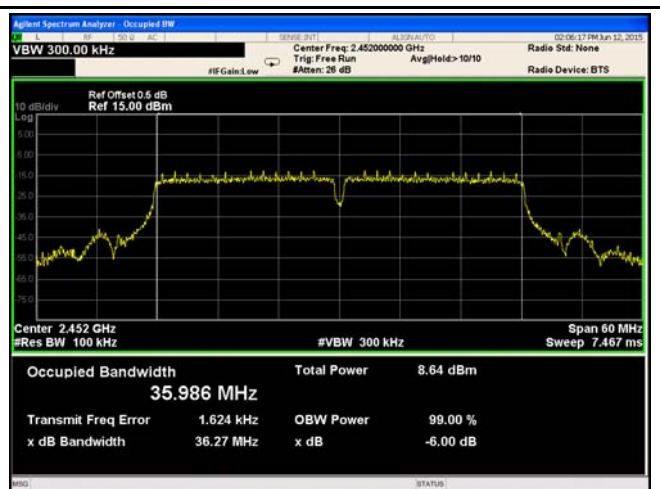
802.11n20 6dB Bandwidth - High CH 2462



802.11n40 6dB Bandwidth - Low CH 2422

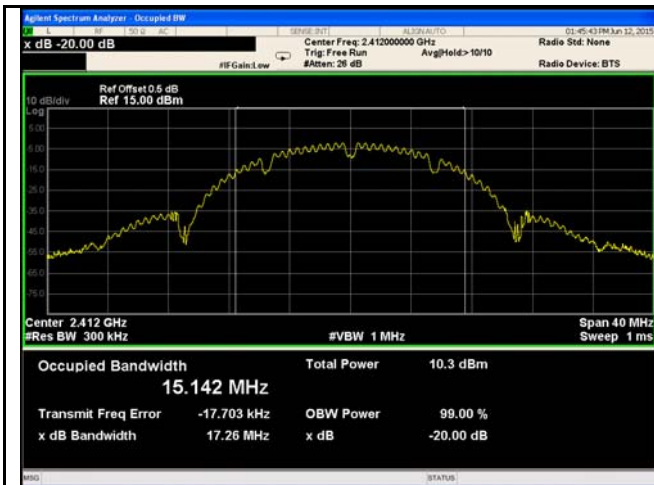


802.11n40 6dB Bandwidth - Mid CH 2437



802.11n40 6dB Bandwidth - High CH 2452

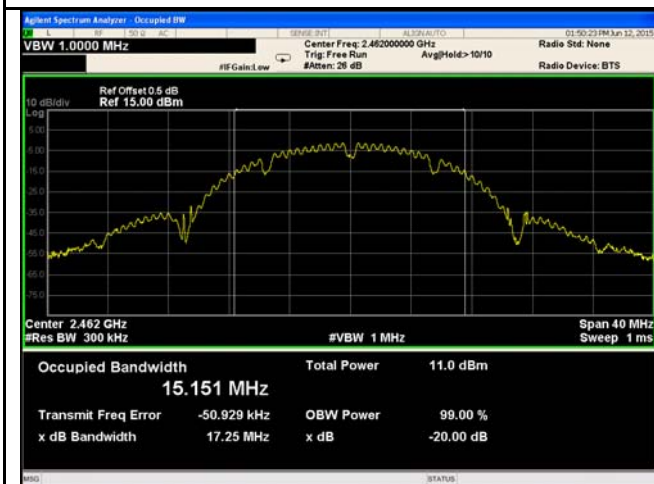
## 20 dB Bandwidth measurement result



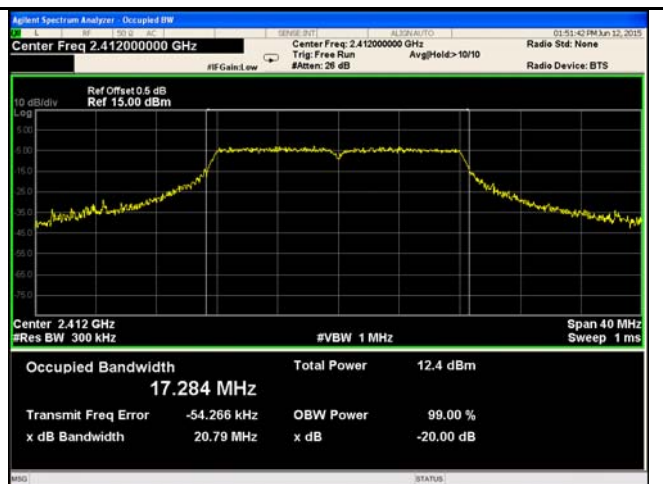
802.11b 20dB Bandwidth - Low CH 2412



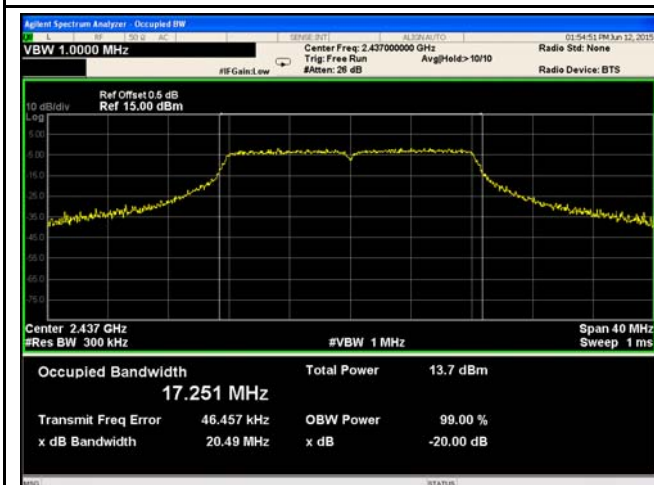
802.11b 20dB Bandwidth - Mid CH 2437



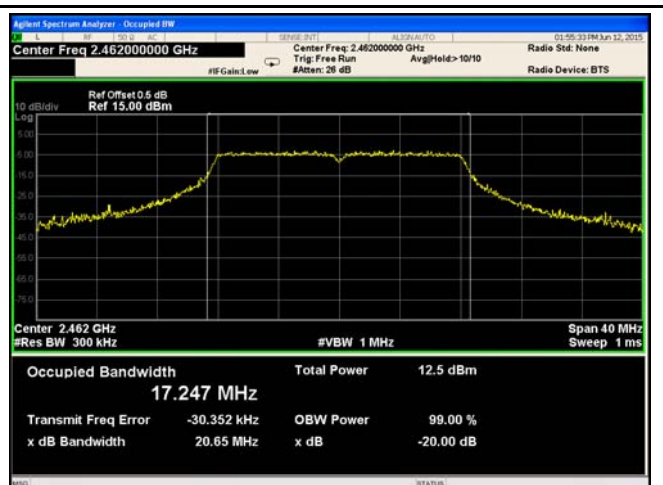
802.11b 20dB Bandwidth - High CH 2462



802.11g 20dB Bandwidth - Low CH 2412

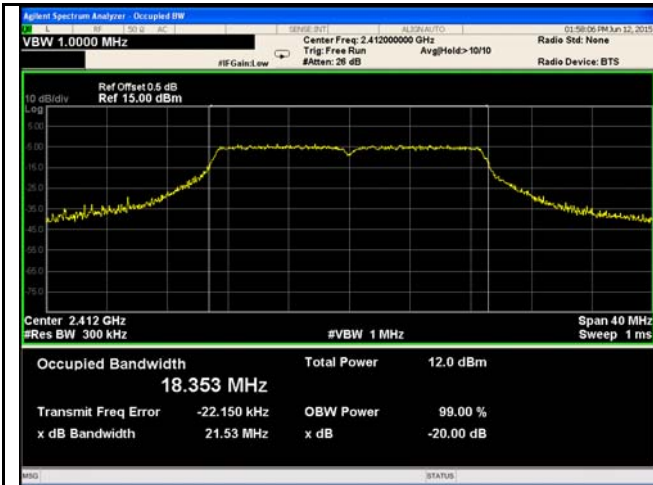


802.11g 20dB Bandwidth - Mid CH 2437

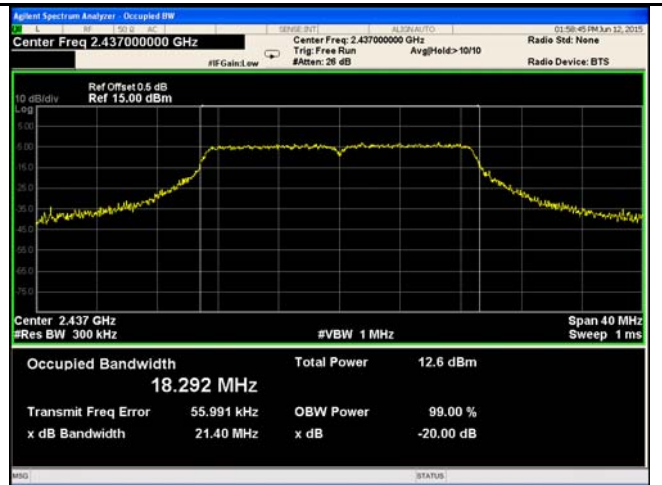


802.11g 20dB Bandwidth - High CH 2462

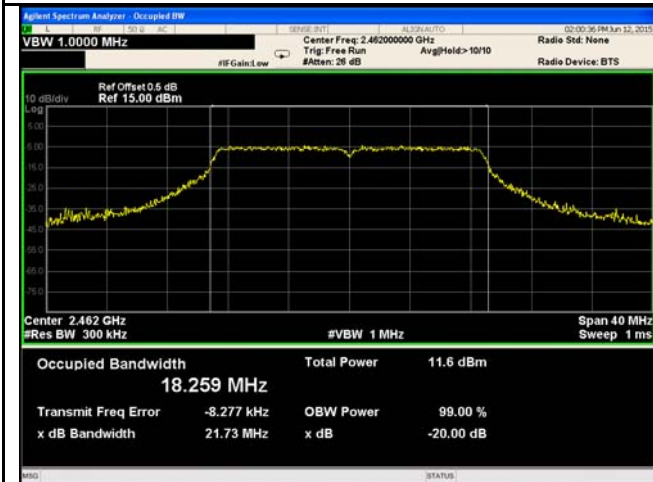




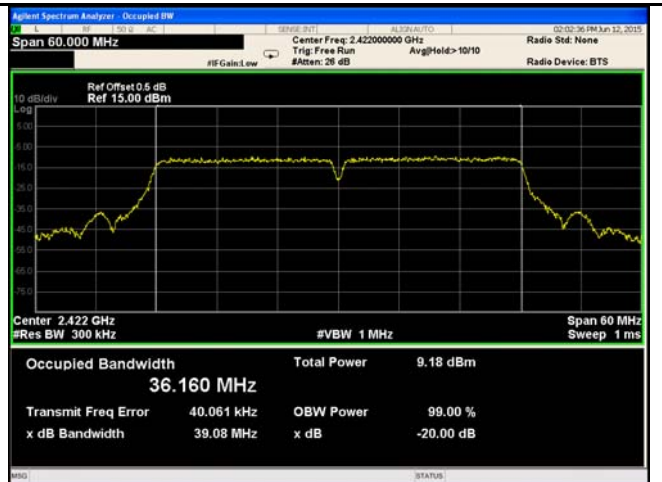
802.11n20 20dB Bandwidth - Low CH 2412



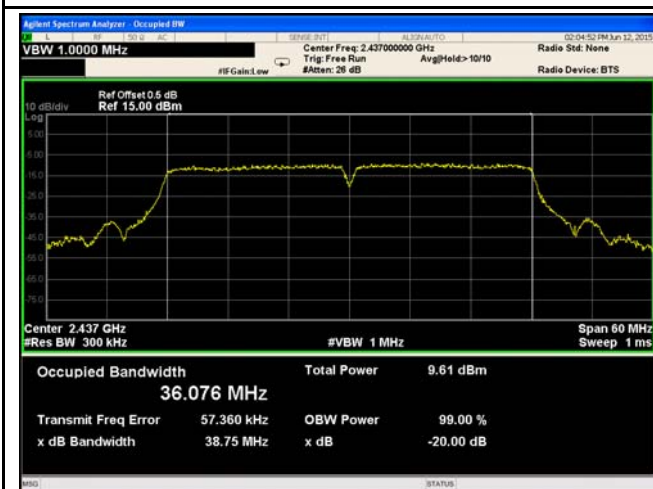
802.11n20 20dB Bandwidth - Mid CH 2437



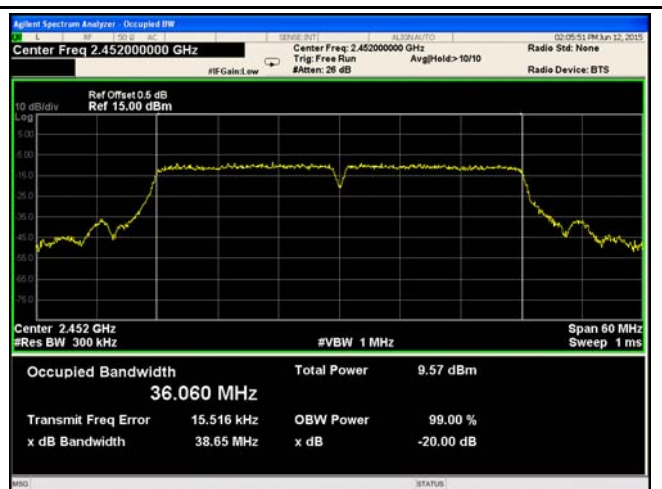
802.11n20 20dB Bandwidth - High CH 2462



802.11n40 20dB Bandwidth - Low CH 2422



802.11n40 20dB Bandwidth - Mid CH 2437

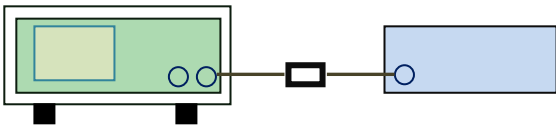


802.11n40 20dB Bandwidth - High CH 2452

### 6.3 Maximum Output Power

Temperature	20°C
Relative Humidity	54%
Atmospheric Pressure	1012mbar
Test date :	Juen 12, 2015
Tested By :	Wiky.Jam

#### Requirement(s):

Spec	Item	Requirement	Applicable
§15.247(b) (2),	a)	FHSS in 2400-2483.5MHz with $\geq 75$ channels: $\leq 1$ Watt	<input type="checkbox"/>
	b)	FHSS in 5725-5850MHz: $\leq 1$ Watt	<input type="checkbox"/>
	c)	For all other FHSS in the 2400-2483.5MHz band: $\leq 0.125$ Watt.	<input type="checkbox"/>
	d)	FHSS in 902-928MHz with $\geq 50$ channels: $\leq 1$ Watt	<input type="checkbox"/>
	e)	FHSS in 902-928MHz with $\geq 25$ & $<50$ channels: $\leq 0.25$ Watt	<input type="checkbox"/>
	f)	DSSS in 902-928MHz, 2400-2483.5MHz, 5725-5850MHz: $\leq 1$ Watt	<input checked="" type="checkbox"/>
Test Setup	 <p style="text-align: center;">Spectrum Analyzer                      EUT</p>		
Test Procedure	<p>558074 D01 DTS MEAS Guidance v03r02, 9.1.2 Integrated band power method Maximum output power measurement procedure</p> <ul style="list-style-type: none"> <li>- a) Set span to at least 1.5 times the OBW.</li> <li>- b) Set RBW = 1-5% of the OBW, not to exceed 1 MHz.</li> <li>- c) Set VBW <math>\geq 3 \times</math> RBW.</li> <li>- d) Number of points in sweep <math>\geq 2 \times</math> span / RBW. (This gives bin-to-bin spacing <math>\leq</math> RBW/2, so that narrowband signals are not lost between frequency bins.)</li> <li>- e) Sweep time = auto.</li> <li>- f) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.</li> <li>- g) If transmit duty cycle <math>&lt; 98\%</math>, use a sweep trigger with the level set to enable</li> </ul>		



	<p>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 <math>\geq 98\%</math>, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to "free run".</p> <ul style="list-style-type: none"> <li>- h) Trace average at least 100 traces in power averaging (i.e., RMS) mode.</li> <li>- 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.</li> </ul>
Remark	
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

#### Output Power measurement result

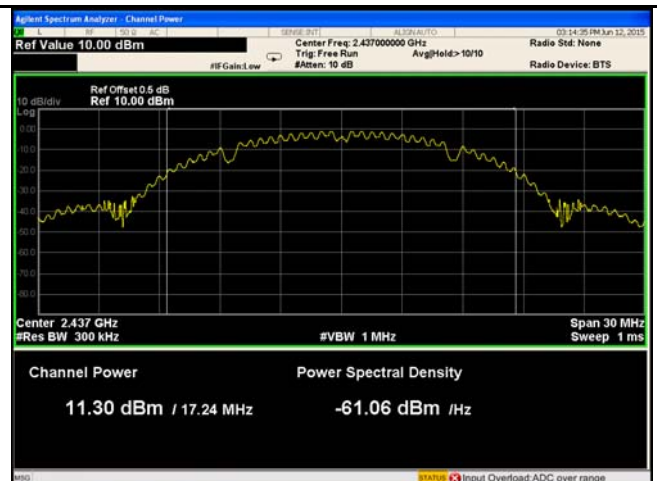
Type	Test mode	CH	Freq (MHz)	Conducted Power (dBm)	Limit (dBm)	Result
Output power	802.11b	Low	2412	10.32	30	Pass
		Mid	2437	<b>11.30</b>	30	Pass
		High	2462	11.15	30	Pass
	802.11g	Low	2412	13.19	30	Pass
		Mid	2437	<b>13.55</b>	30	Pass
		High	2462	12.44	30	Pass
	802.11n (20M)	Low	2412	12.21	30	Pass
		Mid	2437	<b>12.56</b>	30	Pass
		High	2462	11.78	30	Pass
	802.11n (40M)	Low	2422	7.83	30	Pass
		Mid	2437	8.22	30	Pass
		High	2452	<b>8.55</b>	30	Pass

## Test Plots

### The Average Power



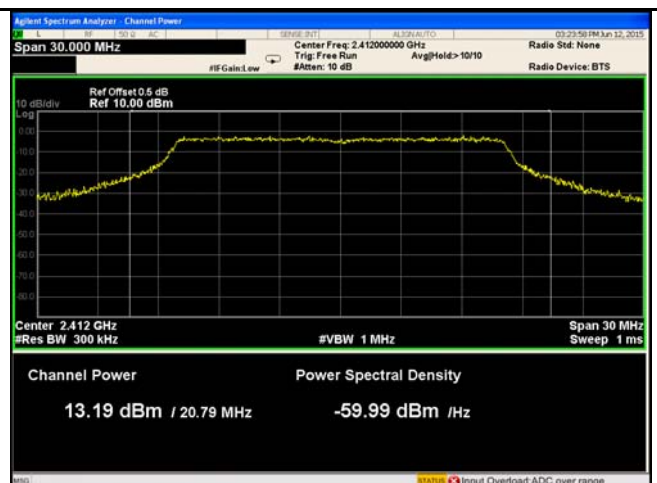
802.11b - AV Output power - Low CH 2412



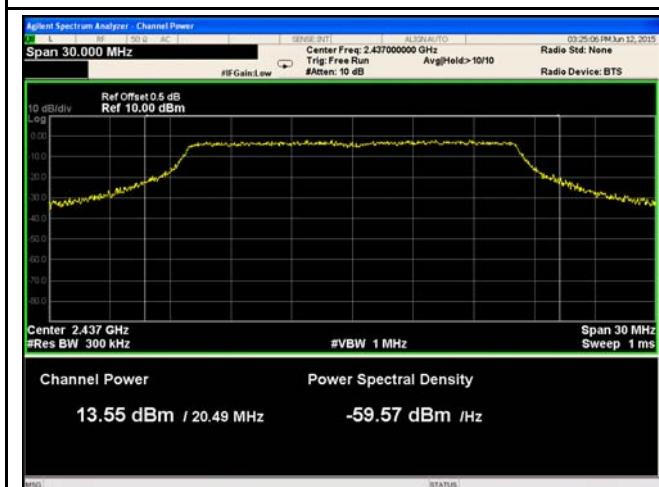
802.11b - AV Output power - Mid CH 2437



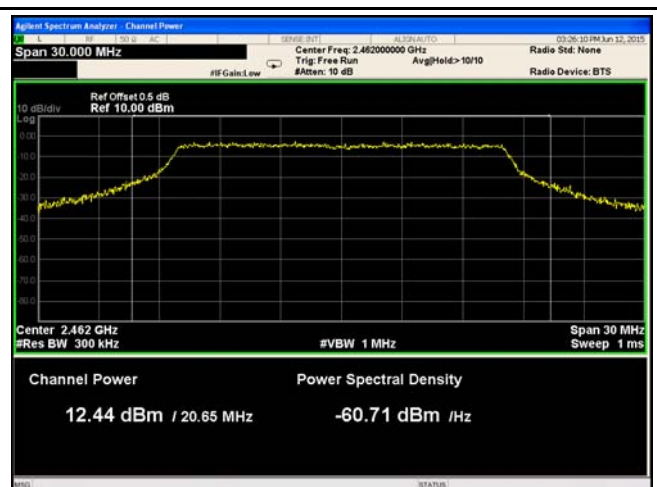
802.11b - AV Output power - High CH 2462



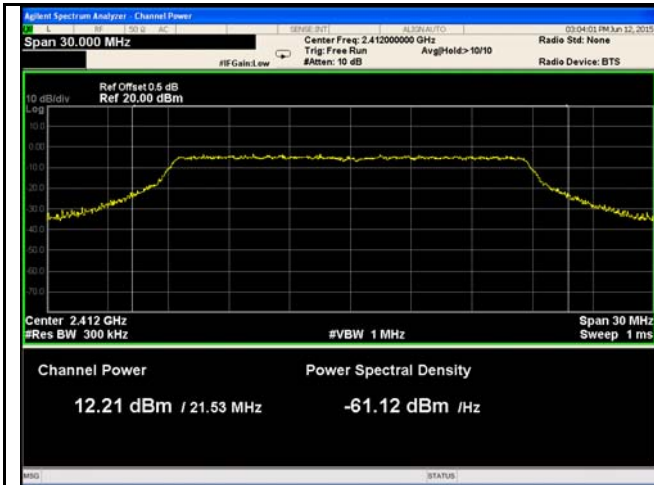
802.11g - AV Output power - Low CH 2412



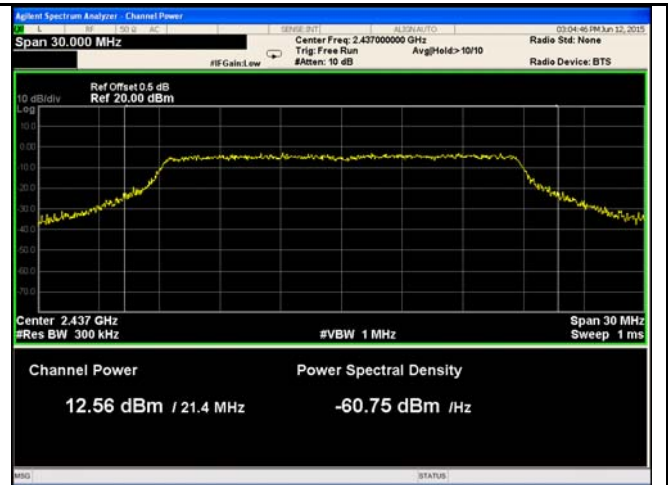
802.11g - AV Output power - Mid CH 2437



802.11g - AV Output power - High CH 2462



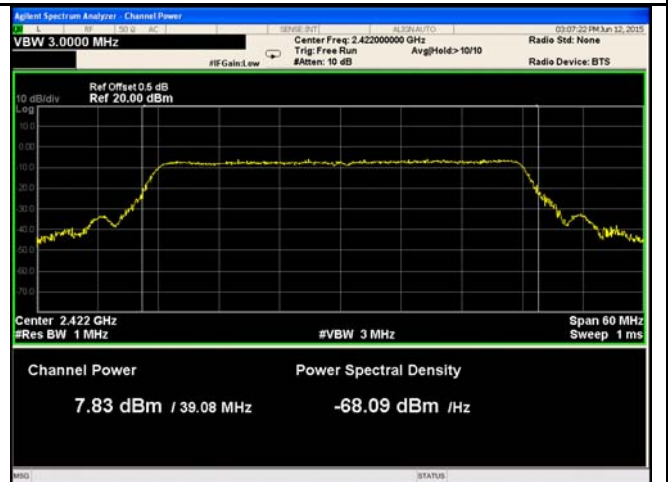
802.11n20 - AV Output power - Low CH 2412



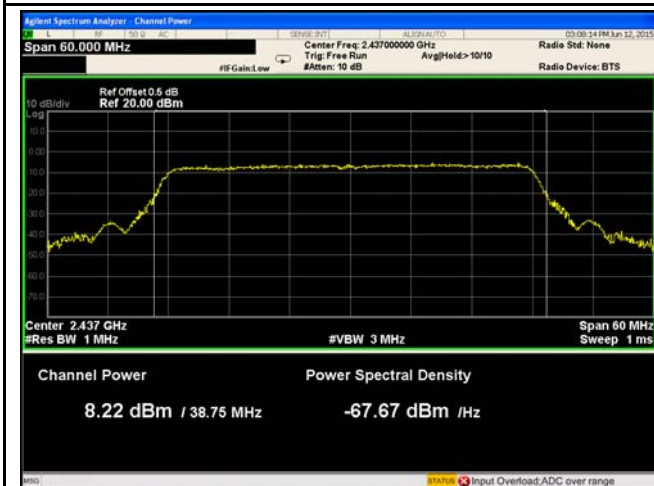
802.11n20 - AV Output power - Mid CH 2437



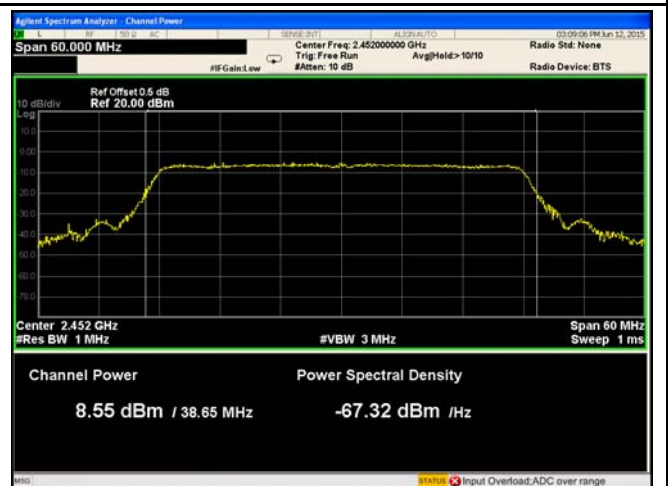
802.11n20 - AV Output power - High CH 2462



802.11n40 - AV Output power - Low CH 2422



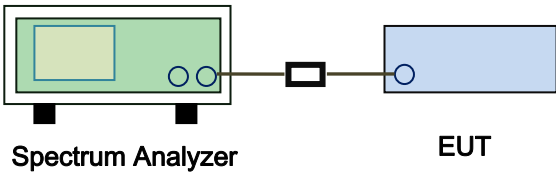
802.11n40 - AV Output power - Mid CH 2437



802.11n40 - AV Output power - High CH 2452

## 6.4 Power Spectral Density

Temperature	20°C
Relative Humidity	54%
Atmospheric Pressure	1012mbar
Test date :	June 12, 2015
Tested By :	Wiky.Jam

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.	<input checked="" type="checkbox"/>
Test Setup	 <p style="text-align: center;">Spectrum Analyzer                      EUT</p>		
Test Procedure	<p>558074 D01 DTS MEAS Guidance v03r02, 10.2 power spectral density method power spectral density measurement procedure</p> <ul style="list-style-type: none"> <li>- a) Set analyzer center frequency to DTS channel center frequency.</li> <li>- b) Set the span to 1.5 times the DTS bandwidth.</li> <li>- c) Set the RBW to: <math>3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}</math>.</li> <li>- d) Set the VBW <math>\geq 3 \times \text{RBW}</math>.</li> <li>- e) Detector = peak.</li> <li>- f) Sweep time = auto couple.</li> <li>- g) Trace mode = max hold.</li> <li>- h) Allow trace to fully stabilize.</li> <li>- i) Use the peak marker function to determine the maximum amplitude level within the RBW.</li> <li>- j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.</li> </ul>		
Remark			
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> 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	802.11b	Low	2412	-4.615	8	Pass
		Mid	2437	-2.580	8	Pass
		High	2462	-4.145	8	Pass
	802.11g	Low	2412	-8.759	8	Pass
		Mid	2437	-7.702	8	Pass
		High	2462	-8.721	8	Pass
	802.11n (20M)	Low	2412	-10.196	8	Pass
		Mid	2437	-8.995	8	Pass
		High	2462	-10.172	8	Pass
	802.11n (40M)	Low	2422	-11.161	8	Pass
		Mid	2437	-10.625	8	Pass
		High	2452	-10.382	8	Pass

## Test Plots

### Power Spectral Density measurement result



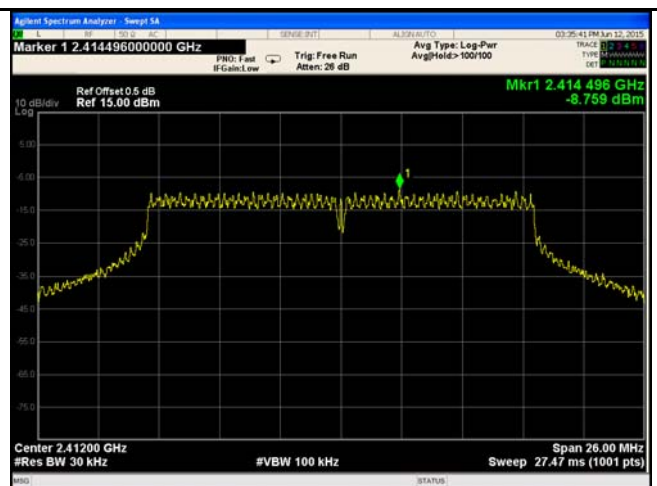
PSD - Low CH 2412 - 802.11b



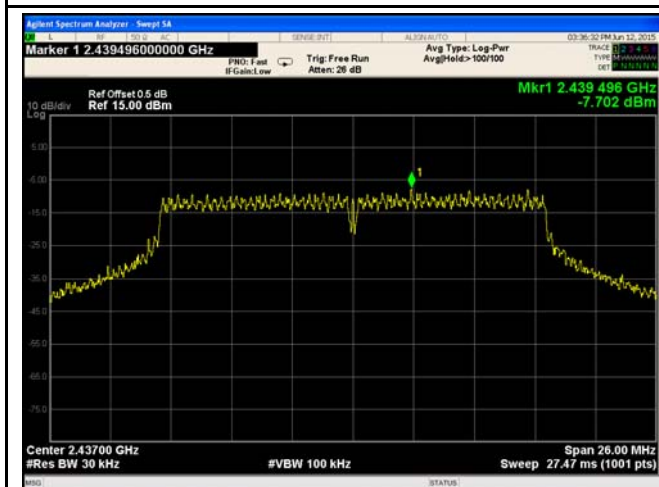
PSD - Mid CH 2437 - 802.11b



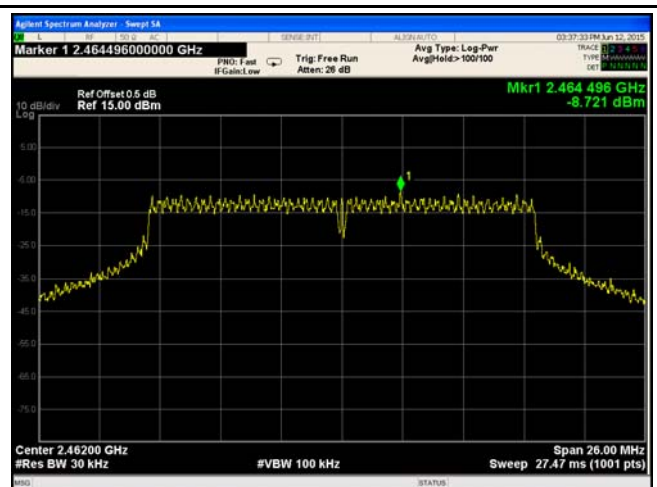
PSD - High CH 2462 - 802.11b



PSD - Low CH 2412 - 802.11g

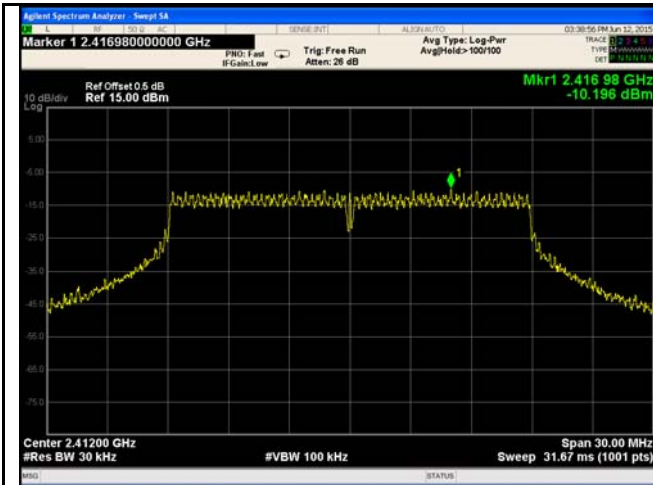


PSD - Mid CH 2437 - 802.11g

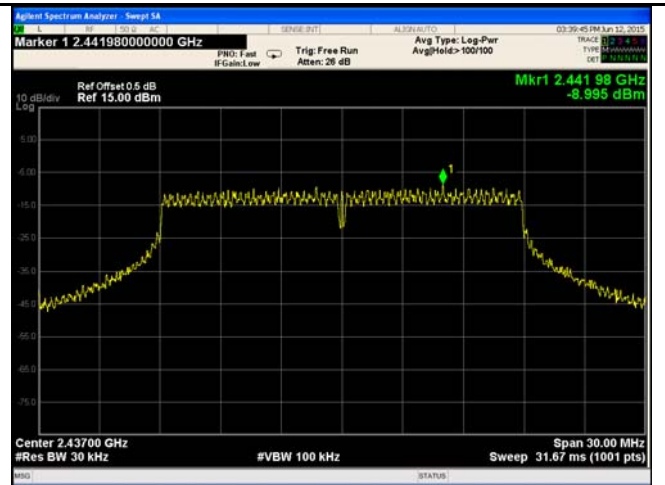


PSD - High CH 2462 - 802.11g

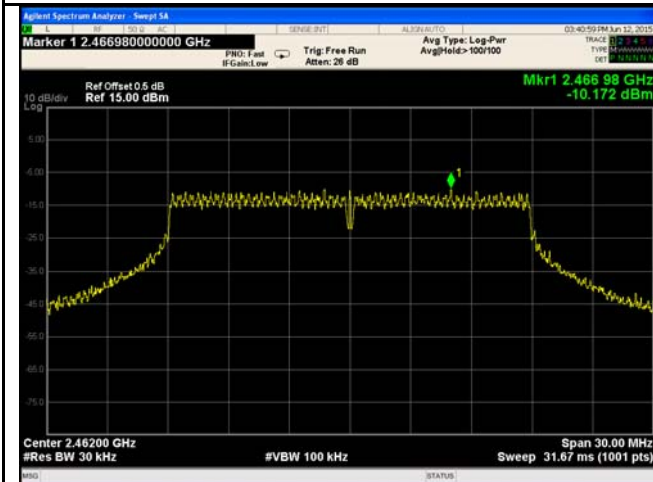




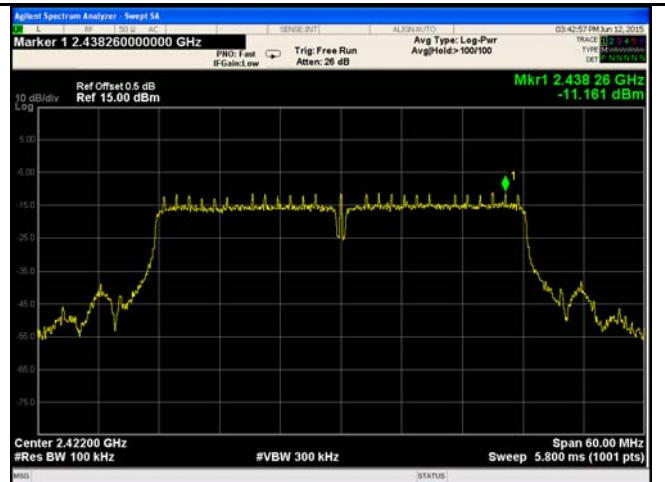
PSD - Low CH 2412 - 802.11n20



PSD - Mid CH 2437 - 802.11n20



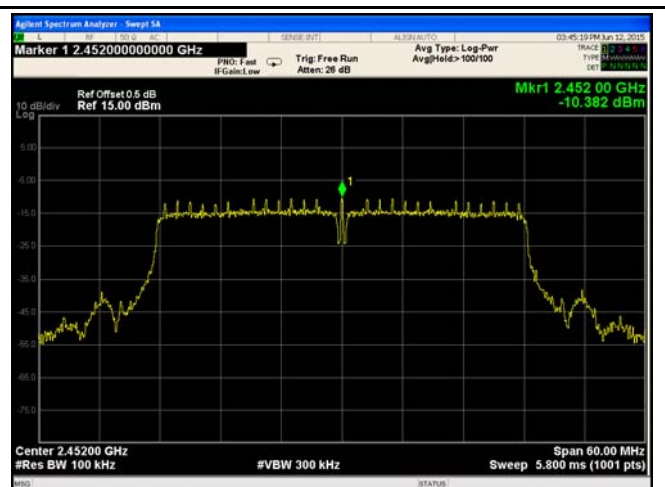
PSD - High CH 2462 - 802.11n20



PSD - Low CH 2422 - 802.11n40



PSD - Mid CH 2437 - 802.11n40

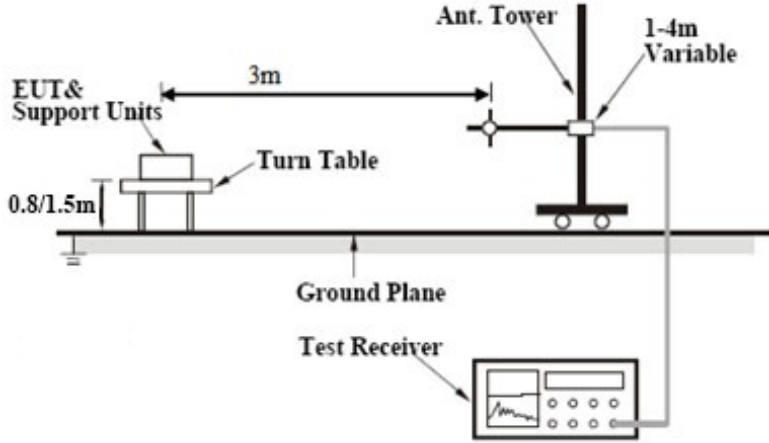


PSD - High CH 2462 - 802.11n40

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

Temperature	25°C
Relative Humidity	58%
Atmospheric Pressure	1016mbar
Test date :	June 16, 2015
Tested By :	Wiky.Jam

### 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.	<input checked="" type="checkbox"/>
Test Setup			
Test Procedure	<p>Radiated Method Only</p> <ul style="list-style-type: none"> <li>1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.</li> <li>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.</li> </ul>		



Test Report No.	15070358-FCC-R
Page	25 of 58

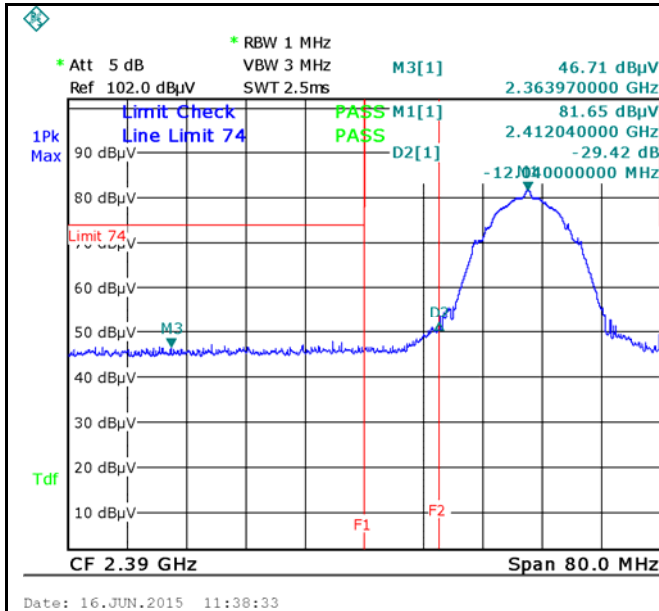
	<ul style="list-style-type: none"> <li>- 3. First, set both RBW and VBW of spectrum analyzer to 100 kHz with a convenient frequency span including 100kHz bandwidth from band edge, check the emission of EUT, if pass then set Spectrum Analyzer as below: <ul style="list-style-type: none"> <li>a. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi Peak detection at frequency below 1GHz.</li> <li>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.</li> <li>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.</li> </ul> </li> <li>- 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.</li> <li>- 5. Repeat above procedures until all measured frequencies were complete.</li> </ul>
Remark	
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

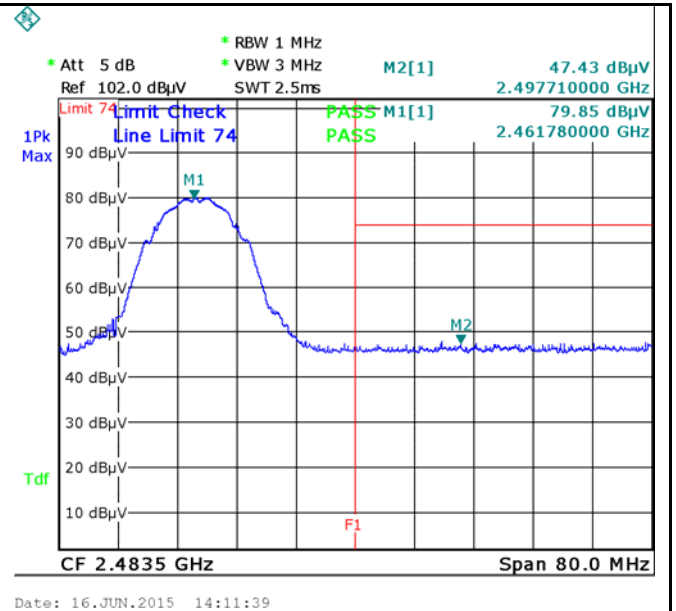
## Test Plots

### Band Edge measurement result



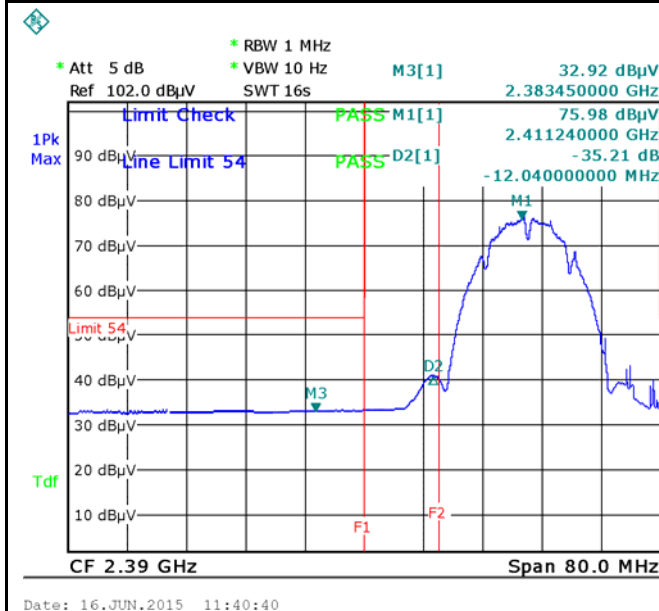
Band Edge, Left Side (Peak) - 802.11b

Note: F1 is frequency 2390MHz; F2 is frequency 2400MHz



Band Edge, Right Side (Peak) - 802.11b

Note: F1 is frequency 2483.5MHz



Band Edge, Left Side (Average) - 802.11b

Note: F1 is frequency 2390MHz; F2 is frequency 2400MHz

Note: (no need if PK value less than the AV limit)

Band Edge, Right Side (Average) - 802.11b



**Note: F1 is frequency 2390MHz; F2 is frequency 2400MHz**



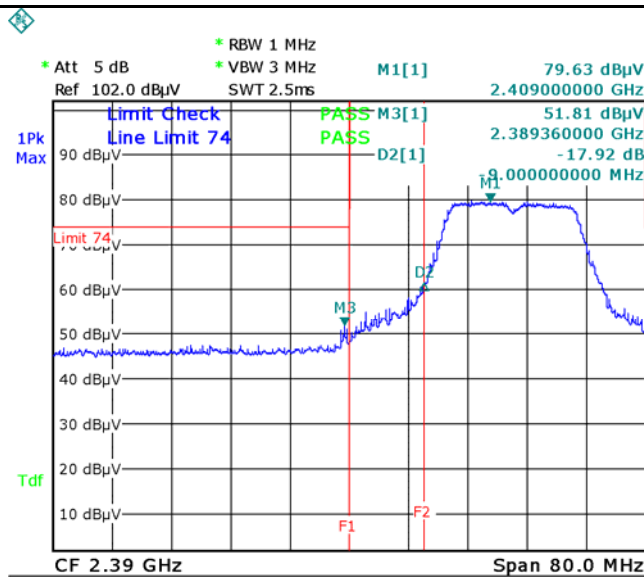
**Note: F1 is frequency 2483.5MHz**



**Note: F1 is frequency 2390MHz; F2 is frequency 2400MHz**

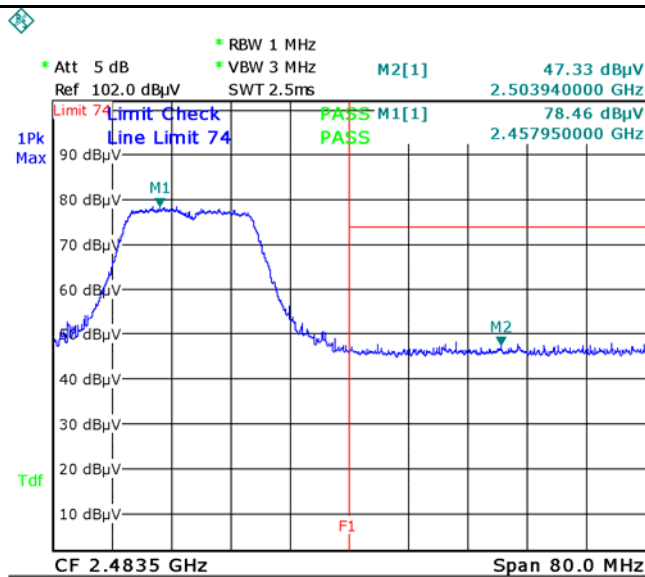
Note: (no need if PK value less than the AV limit)

Band Edge, Right Side (Average) - 802.11g



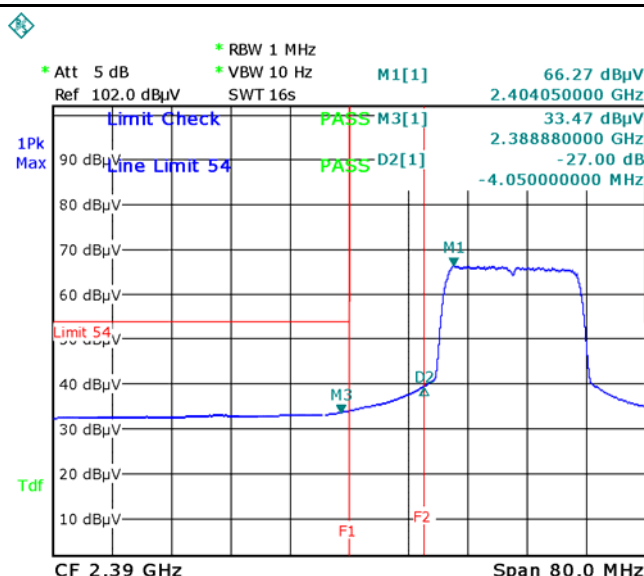
Band Edge, Left Side (Peak) - 802.11n20

Note: F1 is frequency 2390MHz; F2 is frequency 2400MHz



Band Edge, Right Side (Peak) - 802.11n20

Note: F1 is frequency 2483.5MHz



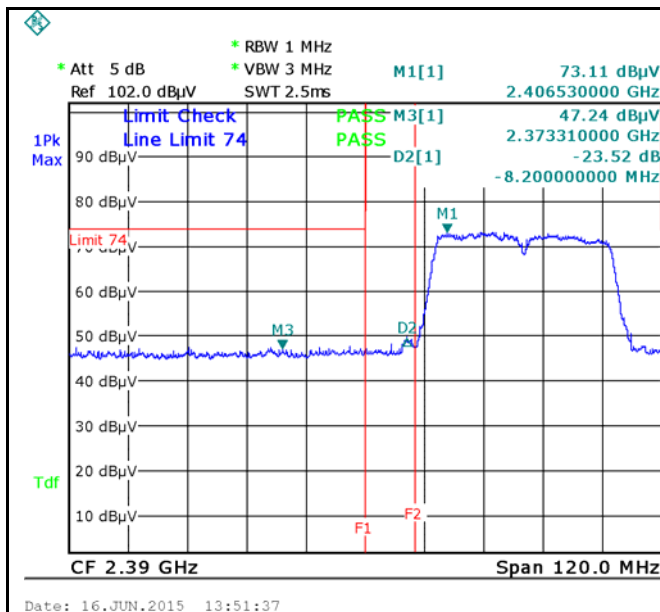
Band Edge, Left Side (Average) - 802.11n20

Note: F1 is frequency 2390MHz; F2 is frequency 2400MHz

Note: (no need if PK value less than the AV limit)

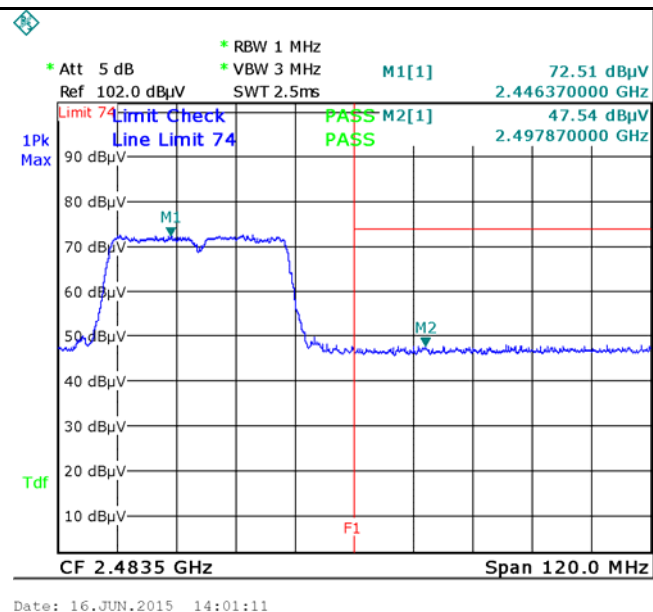
Band Edge, Right Side (Average) - 802.11n20

Note: F1 is frequency 2483.5MHz



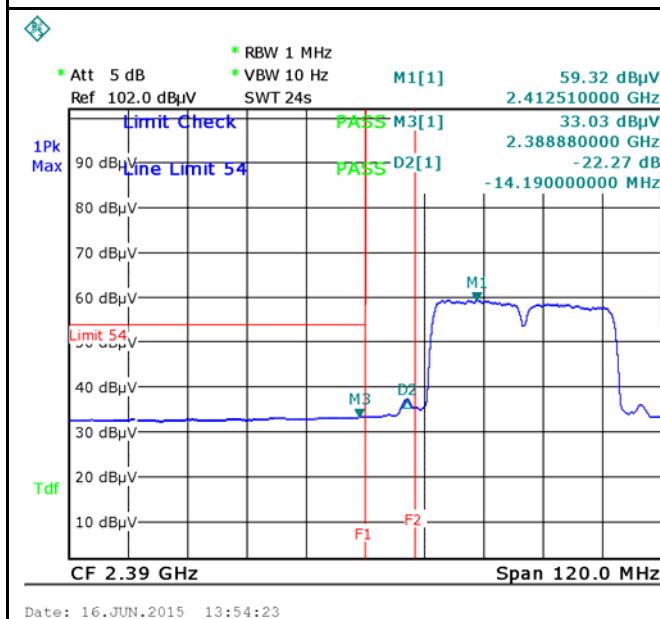
Band Edge, Left Side (Peak) - 802.11n40

Note: F1 is frequency 2390MHz; F2 is frequency 2400MHz



Band Edge, Right Side (Peak) - 802.11n40

Note: F1 is frequency 2483.5MHz



Band Edge, Left Side (Average) - 802.11n40

Note: F1 is frequency 2390MHz; F2 is frequency 2400MHz

Note: (no need if PK value less than the AV limit)


Band Edge, Right Side (Average) - 802.11n40

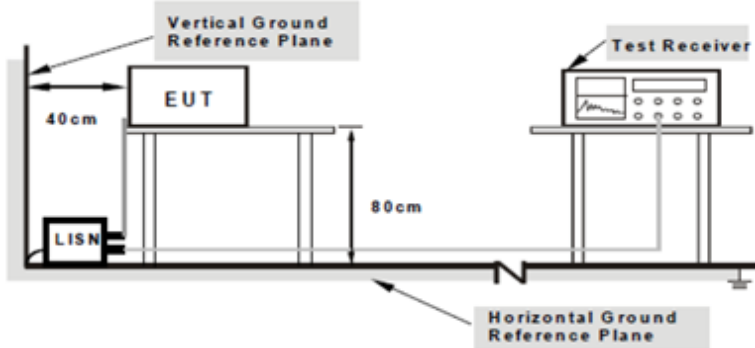
Note: F1 is frequency 2483.5MHz

## 6.6 AC Power Line Conducted Emissions

Temperature	21C
Relative Humidity	55%
Atmospheric Pressure	1028mbar
Test date :	May 28, 2015
Tested By :	Wiky.Jam

### Requirement(s):

Spec	Item	Requirement	Applicable														
47CFR§15.207,	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 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>	Frequency ranges (MHz)	Limit (dBµV)		QP	Average	0.15 ~ 0.5	66 – 56	56 – 46	0.5 ~ 5	56	46	5 ~ 30	60	50	
Frequency ranges (MHz)	Limit (dBµV)																
	QP	Average															
0.15 ~ 0.5	66 – 56	56 – 46															
0.5 ~ 5	56	46															
5 ~ 30	60	50															

Test Setup	 <p>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.</p>
------------	---

Procedure	<ol style="list-style-type: none"> <li>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.</li> <li>The power supply for the EUT was fed through a 50W/50mH EUT LISN, connected to filtered mains.</li> <li>The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss</li> </ol>
-----------	---

Test Report No.	15070358-FCC-R
Page	31 of 58

	<p>coaxial cable.</p> <ol style="list-style-type: none"> <li>4. All other supporting equipment were powered separately from another main supply.</li> <li>5. The EUT was switched on and allowed to warm up to its normal operating condition.</li> <li>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.</li> <li>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.</li> <li>8. Step 7 was then repeated for the LIVE line (for AC mains) or DC line (for DC power).</li> </ol>
Remark	
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

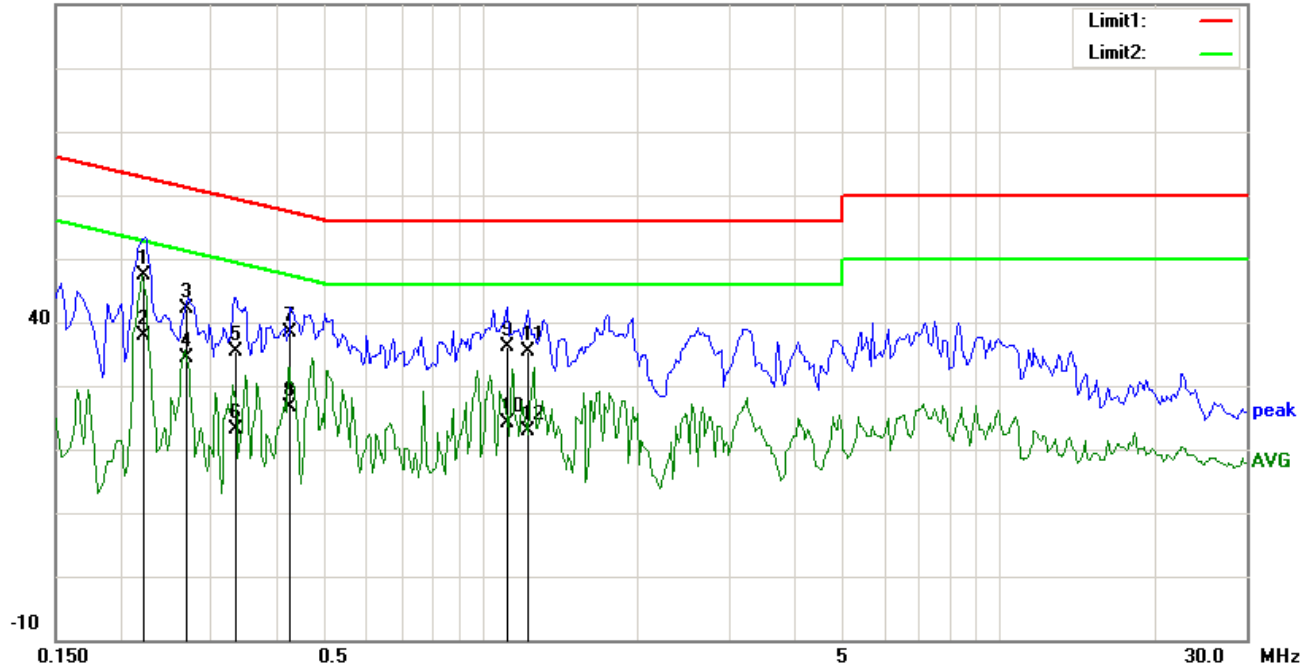
Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

**Test Mode 1: Transmitting Mode (Adaptor: TEKA006-0501000UKU )**

120V,60Hz

90.0 dBμV



**Test Data**

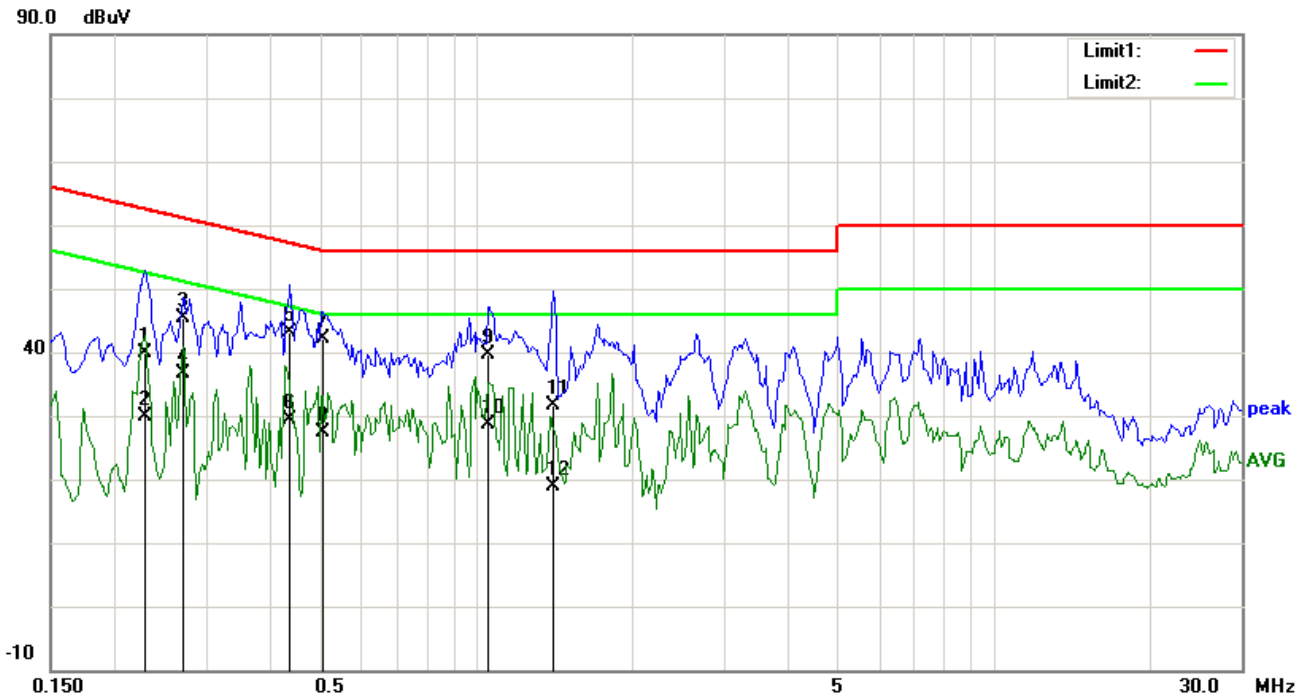
**Phase Line Plot at 120Vac, 60Hz**

No.	P/L	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Comment)
1	L1	0.2220	34.36	QP	12.93	47.29	62.74	-15.45	
2	L1	0.2220	24.93	AVG	12.93	37.86	52.74	-14.88	
3	L1	0.2687	29.28	QP	12.76	42.04	61.16	-19.12	
4	L1	0.2687	21.60	AVG	12.76	34.36	51.16	-16.80	
5	L1	0.3338	22.87	QP	12.52	35.39	59.36	-23.97	
6	L1	0.3338	10.66	AVG	12.52	23.18	49.36	-26.18	
7	L1	0.4273	26.25	QP	12.17	38.42	57.31	-18.89	
8	L1	0.4273	14.42	AVG	12.17	26.59	47.31	-20.72	
9	L1	1.1187	24.84	QP	11.40	36.24	56.00	-19.76	
10	L1	1.1187	12.74	AVG	11.40	24.14	46.00	-21.86	
11	L1	1.2291	23.99	QP	11.40	35.39	56.00	-20.61	
12	L1	1.2291	11.57	AVG	11.40	22.97	46.00	-23.03	



**Test Mode1 :** Transmitting Mode(Adaptor:TEKA006-0501000UKU )

120V,60Hz



### Test Data

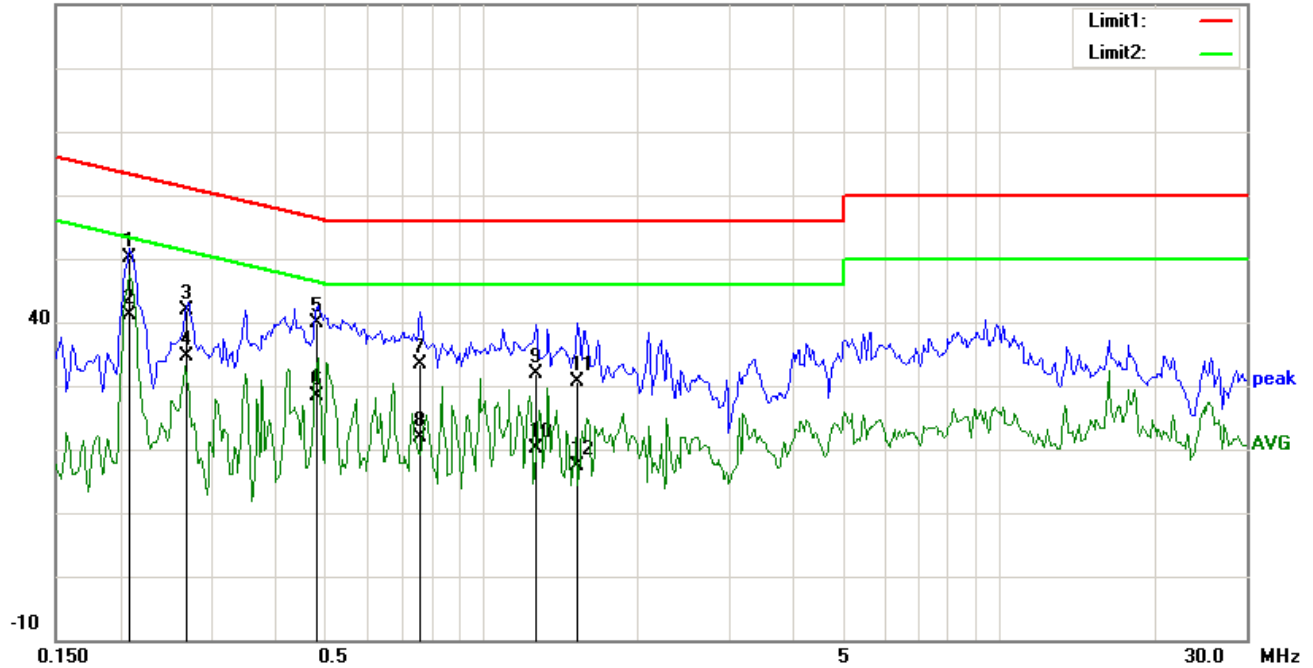
#### Phase Neutral Plot at 120Vac, 60Hz

No.	P/L	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Comment
1	N	0.2281	26.88	QP	12.91	39.79	62.52	-22.73	
2	N	0.2281	16.90	AVG	12.91	29.81	52.52	-22.71	
3	N	0.2711	32.73	QP	12.75	45.48	61.08	-15.60	
4	N	0.2711	23.85	AVG	12.75	36.60	51.08	-14.48	
5	N	0.4352	30.99	QP	12.14	43.13	57.15	-14.02	
6	N	0.4352	17.34	AVG	12.14	29.48	47.15	-17.67	
7	N	0.5047	30.18	QP	11.90	42.08	56.00	-13.92	
8	N	0.5047	15.46	AVG	11.90	27.36	46.00	-18.64	
9	N	1.0523	28.20	QP	11.41	39.61	56.00	-16.39	
10	N	1.0523	17.20	AVG	11.41	28.61	46.00	-17.39	
11	N	1.4078	20.23	QP	11.45	31.68	56.00	-24.32	
12	N	1.4078	7.47	AVG	11.45	18.92	46.00	-27.08	

**Test Mode 2: Transmitting Mode (Adaptor: A31-3762-501000 )**

120V, 60Hz

90.0 dBμV



**Test Data**

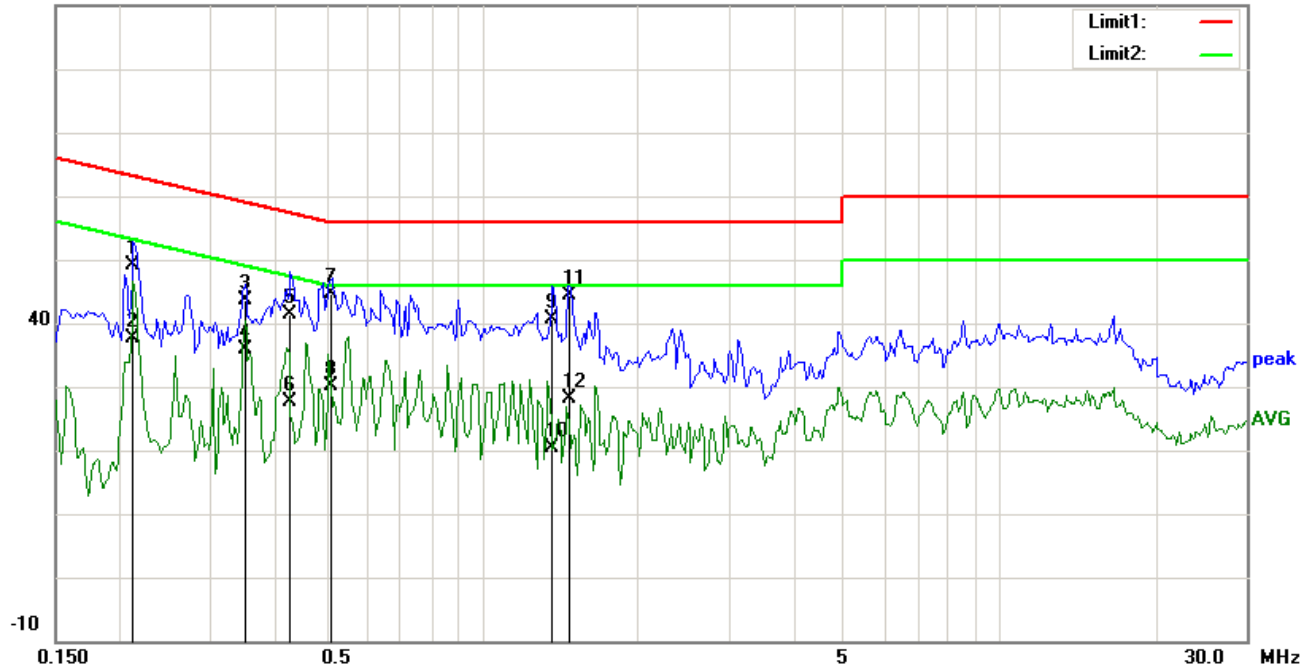
**Phase Line Plot at 120Vac, 60Hz**

No.	P/L	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Comment)
1	L1	0.2086	37.12	QP	12.98	50.10	63.26	-13.16	
2	L1	0.2086	28.11	AVG	12.98	41.09	53.26	-12.17	
3	L1	0.2687	29.12	QP	12.76	41.88	61.16	-19.28	
4	L1	0.2687	21.79	AVG	12.76	34.55	51.16	-16.61	
5	L1	0.4786	27.95	QP	11.98	39.93	56.36	-16.43	
6	L1	0.4786	16.50	AVG	11.98	28.48	46.36	-17.88	
7	L1	0.7594	21.67	QP	11.64	33.31	56.00	-22.69	
8	L1	0.7594	10.15	AVG	11.64	21.79	46.00	-24.21	
9	L1	1.2711	20.37	QP	11.40	31.77	56.00	-24.23	
10	L1	1.2711	8.69	AVG	11.40	20.09	46.00	-25.91	
11	L1	1.5289	19.19	QP	11.40	30.59	56.00	-25.41	
12	L1	1.5289	5.96	AVG	11.40	17.36	46.00	-28.64	

**Test Mode 2: Transmitting Mode(Adaptor: A31-3762-501000 )**

120V,60Hz

90.0 dBuV



**Test Data**

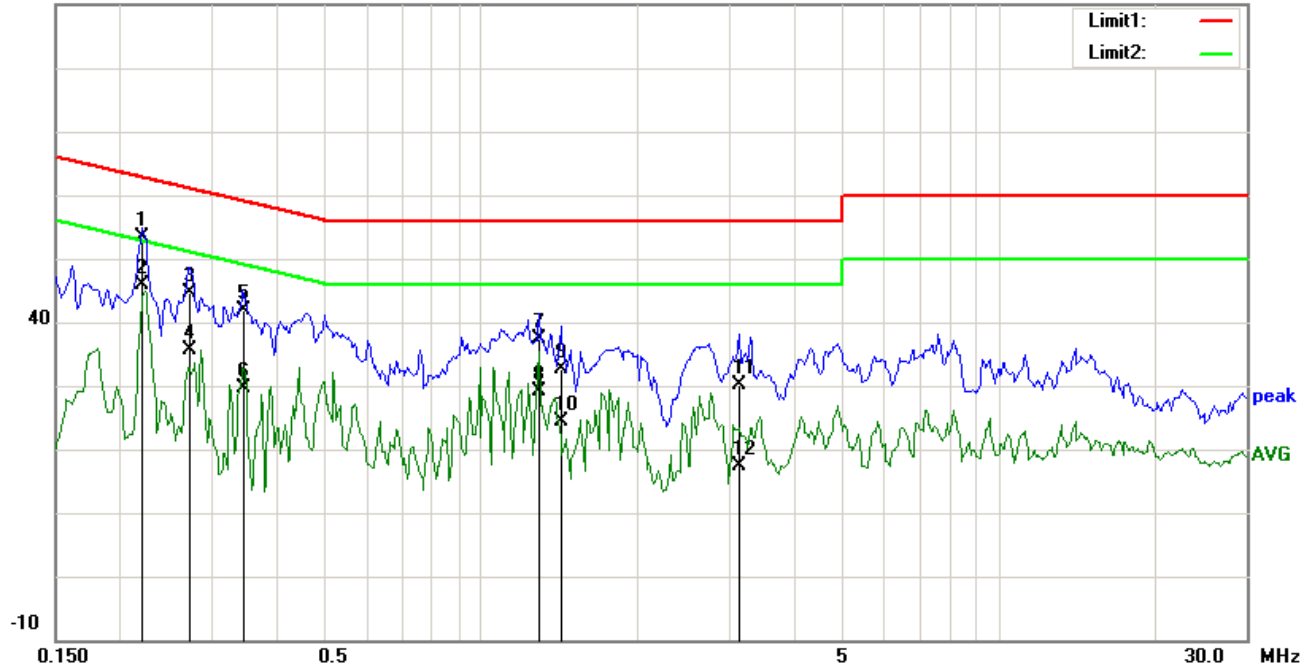
**Phase Neutral Plot at 120Vac, 60Hz**

No.	P/L	Frequency (MHz)	Reading (dBuV)	Detector	Corrected (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Comment)
1	N	0.2125	36.16	QP	12.97	49.13	63.11	-13.98	
2	N	0.2125	24.72	AVG	12.97	37.69	53.11	-15.42	
3	N	0.3492	31.07	QP	12.46	43.53	58.98	-15.45	
4	N	0.3492	23.46	AVG	12.46	35.92	48.98	-13.06	
5	N	0.4273	29.22	QP	12.17	41.39	57.31	-15.92	
6	N	0.4273	15.48	AVG	12.17	27.65	47.31	-19.66	
7	N	0.5101	32.75	QP	11.89	44.64	56.00	-11.36	
8	N	0.5101	18.24	AVG	11.89	30.13	46.00	-15.87	
9	N	1.3727	29.18	QP	11.45	40.63	56.00	-15.37	
10	N	1.3727	8.81	AVG	11.45	20.26	46.00	-25.74	
11	N	1.4718	32.87	QP	11.46	44.33	56.00	-11.67	
12	N	1.4718	16.71	AVG	11.46	28.17	46.00	-17.83	

**Test Mode 1: Transmitting Mode (Adaptor: TEKA006-0501000UKU )**

240V, 60Hz

90.0 dBμV



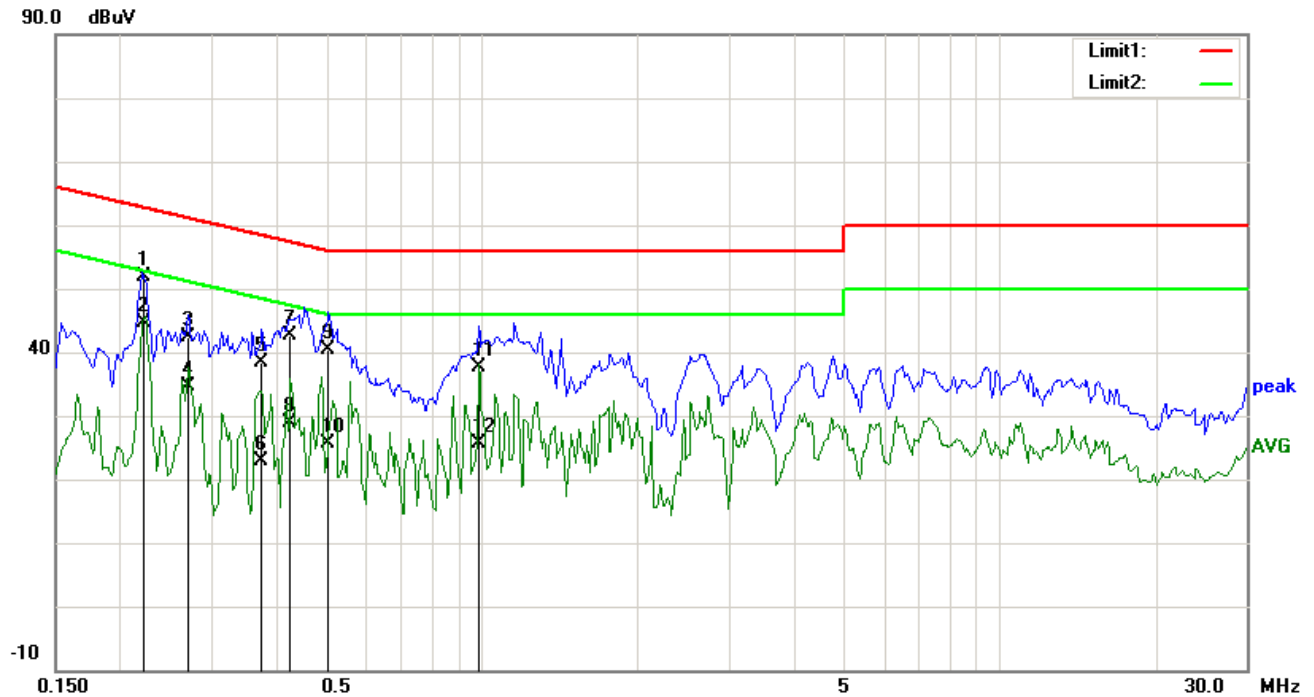
**Test Data**

**Phase Line Plot at 240Vac, 60Hz**

No.	P/L	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Comment)
1	L1	0.2208	40.40	QP	12.94	53.34	62.79	-9.45	
2	L1	0.2208	32.95	AVG	12.94	45.89	52.79	-6.90	
3	L1	0.2730	32.01	QP	12.74	44.75	61.03	-16.28	
4	L1	0.2730	22.82	AVG	12.74	35.56	51.03	-15.47	
5	L1	0.3465	29.38	QP	12.47	41.85	59.05	-17.20	
6	L1	0.3465	17.17	AVG	12.47	29.64	49.05	-19.41	
7	L1	1.2945	25.90	QP	11.40	37.30	56.00	-18.70	
8	L1	1.2945	17.78	AVG	11.40	29.18	46.00	-16.82	
9	L1	1.4273	21.20	QP	11.40	32.60	56.00	-23.40	
10	L1	1.4273	13.03	AVG	11.40	24.43	46.00	-21.57	
11	L1	3.1563	18.76	QP	11.40	30.16	56.00	-25.84	
12	L1	3.1563	5.92	AVG	11.40	17.32	46.00	-28.68	

**Test Mode1 :** Transmitting Mode(Adaptor:TEKA006-0501000UKU )

240V,60Hz



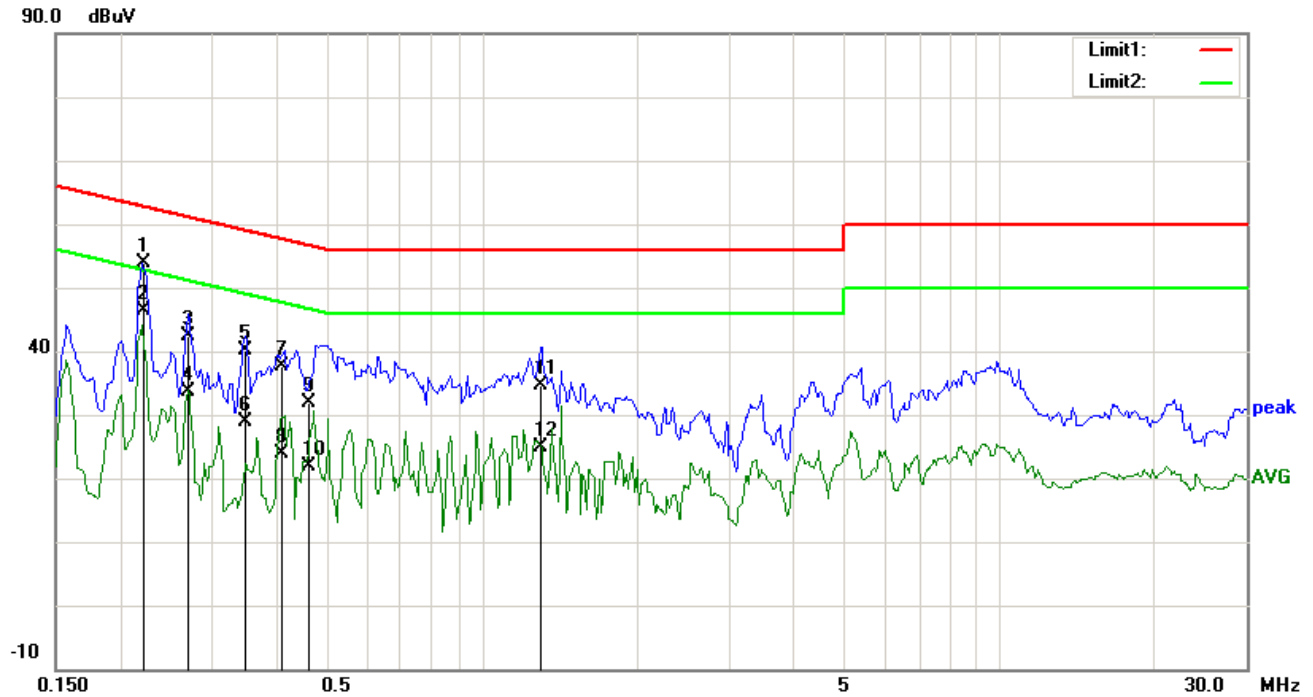
### Test Data

#### Phase Neutral Plot at 240Vac, 60Hz

No.	P/L	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Comment
1	N	0.2220	39.02	QP	12.93	51.95	62.74	-10.79	
2	N	0.2220	31.59	AVG	12.93	44.52	52.74	-8.22	
3	N	0.2711	29.71	QP	12.75	42.46	61.08	-18.62	
4	N	0.2711	21.90	AVG	12.75	34.65	51.08	-16.43	
5	N	0.3766	25.95	QP	12.36	38.31	58.35	-20.04	
6	N	0.3766	10.43	AVG	12.36	22.79	48.35	-25.56	
7	N	0.4273	30.46	QP	12.17	42.63	57.31	-14.68	
8	N	0.4273	16.69	AVG	12.17	28.86	47.31	-18.45	
9	N	0.5055	28.53	QP	11.89	40.42	56.00	-15.58	
10	N	0.5055	13.83	AVG	11.89	25.72	46.00	-20.28	
11	N	0.9859	26.24	QP	11.41	37.65	56.00	-18.35	
12	N	0.9859	14.28	AVG	11.41	25.69	46.00	-20.31	

**Test Mode 2: Transmitting Mode (Adaptor: A31-3762-501000 )**

240 V, 60Hz



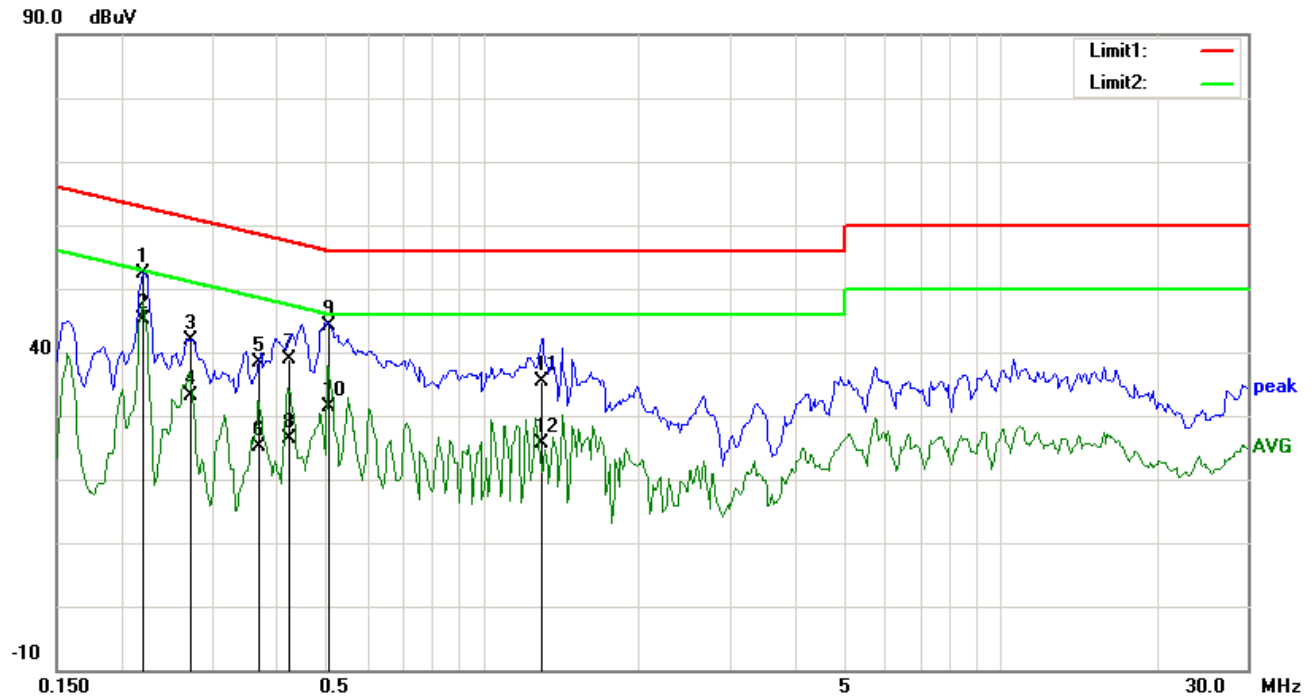
**Test Data**

**Phase Line Plot at 240Vac, 60Hz**

No.	P/L	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Comment)
1	L1	0.2220	40.93	QP	12.93	53.86	62.74	-8.88	
2	L1	0.2220	33.33	AVG	12.93	46.26	52.74	-6.48	
3	L1	0.2711	29.62	QP	12.75	42.37	61.08	-18.71	
4	L1	0.2711	20.82	AVG	12.75	33.57	51.08	-17.51	
5	L1	0.3492	27.73	QP	12.46	40.19	58.98	-18.79	
6	L1	0.3492	16.41	AVG	12.46	28.87	48.98	-20.11	
7	L1	0.4105	25.40	QP	12.23	37.63	57.64	-20.01	
8	L1	0.4105	11.77	AVG	12.23	24.00	47.64	-23.64	
9	L1	0.4637	19.90	QP	12.03	31.93	56.63	-24.70	
10	L1	0.4637	9.85	AVG	12.03	21.88	46.63	-24.75	
11	L1	1.3023	23.22	QP	11.40	34.62	56.00	-21.38	
12	L1	1.3023	13.45	AVG	11.40	24.85	46.00	-21.15	

**Test Mode 2: Transmitting Mode(Adaptor: A31-3762-501000 )**

240 V, 60Hz



**Test Data**

**Phase Neutral Plot at 240Vac, 60Hz**

No.	P/L	Frequency (MHz)	Reading (dBuV)	Detector	Corrected (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Comment)
1	N	0.2208	39.40	QP	12.94	52.34	62.79	-10.45	
2	N	0.2208	32.15	AVG	12.94	45.09	52.79	-7.70	
3	N	0.2711	29.18	QP	12.75	41.93	61.08	-19.15	
4	N	0.2711	20.50	AVG	12.75	33.25	51.08	-17.83	
5	N	0.3688	26.01	QP	12.39	38.40	58.53	-20.13	
6	N	0.3688	12.84	AVG	12.39	25.23	48.53	-23.30	
7	N	0.4234	26.80	QP	12.18	38.98	57.38	-18.40	
8	N	0.4234	14.13	AVG	12.18	26.31	47.38	-21.07	
9	N	0.5047	32.26	QP	11.90	44.16	56.00	-11.84	
10	N	0.5047	19.39	AVG	11.90	31.29	46.00	-14.71	
11	N	1.3023	23.96	QP	11.44	35.40	56.00	-20.60	
12	N	1.3023	14.20	AVG	11.44	25.64	46.00	-20.36	

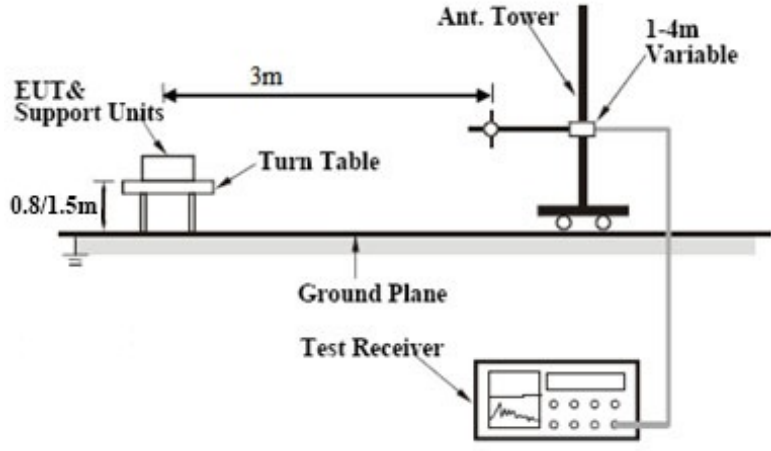
## 6.7 Radiated Spurious Emissions

Temperature	25°C
Relative Humidity	58%
Atmospheric Pressure	1016mbar
Test date :	Juen 16, 2015
Tested By :	Wiky.Jam

### Requirement(s):

Spec	Item	Requirement	Applicable										
47CFR§15.247(d),	a)	<div>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</div> <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>	Frequency range (MHz)	Field Strength (µV/m)	30 – 88	100	88 – 216	150	216 960	200	Above 960	500	<div><input checked="" type="checkbox"/></div>
	Frequency range (MHz)	Field Strength (µV/m)											
	30 – 88	100											
88 – 216	150												
216 960	200												
Above 960	500												
b)	<div>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</div> <div><input checked="" type="checkbox"/> 20 dB down      <input type="checkbox"/> 30 dB down</div>	<div><input checked="" type="checkbox"/></div>											
c)	<div>or restricted band, emission must also comply with the radiated emission limits specified in 15.209</div>	<div><input checked="" type="checkbox"/></div>											



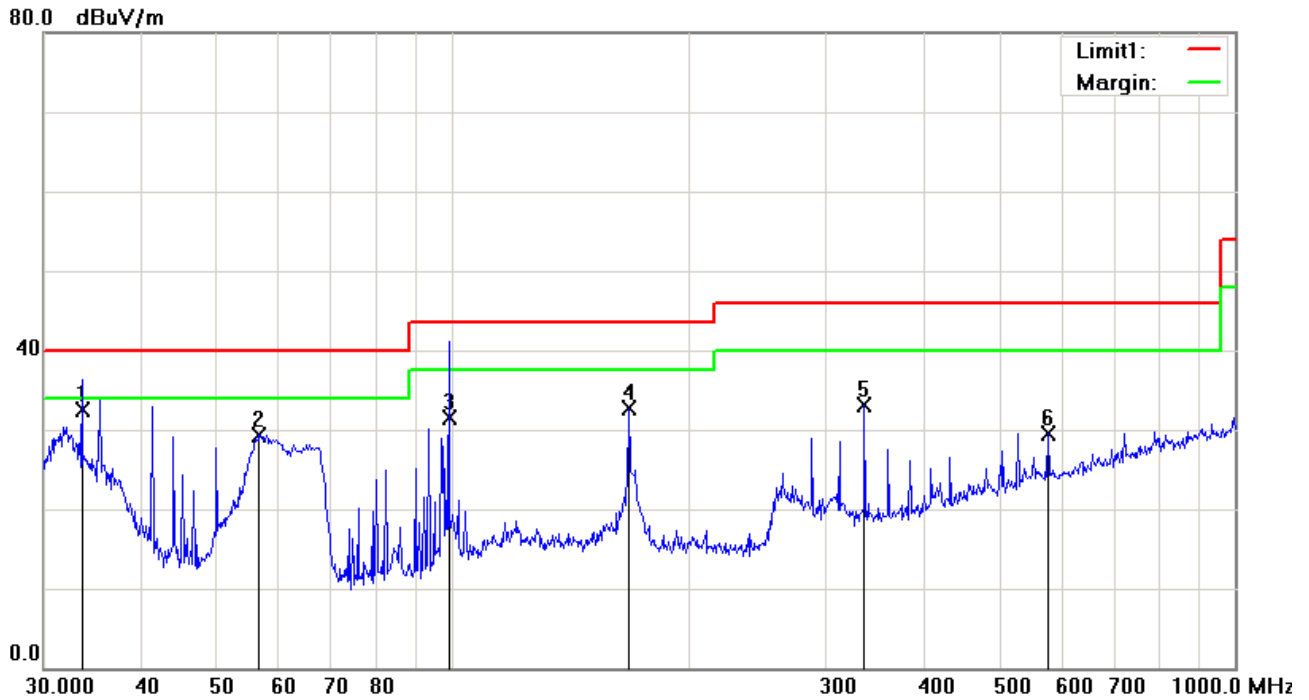
Test Setup	
Procedure	<ol style="list-style-type: none"> <li>The EUT was switched on and allowed to warm up to its normal operating condition.</li> <li>The test was carried out at the selected frequency points obtained from the EUT characterization. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner: <ol style="list-style-type: none"> <li>Vertical or horizontal polarization (whichever gave the higher emission level over a full rotation of the EUT) was chosen.</li> <li>The EUT was then rotated to the direction that gave the maximum emission.</li> <li>Finally, the antenna height was adjusted to the height that gave the maximum emission.</li> </ol> </li> <li>The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi Peak detection at frequency below 1GHz.</li> <li>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.</li> <li>Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured.</li> </ol>
Remark	Different RF configuration has been evaluated but not much difference was found. The data presented here is the worst case data with EUT under 802.11n – HT20-2437MHz mode.
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

**Test Mode 1: Transmitting Mode (Adaptor: TEKA006-0501000UKU )**

(Below 1GHz)

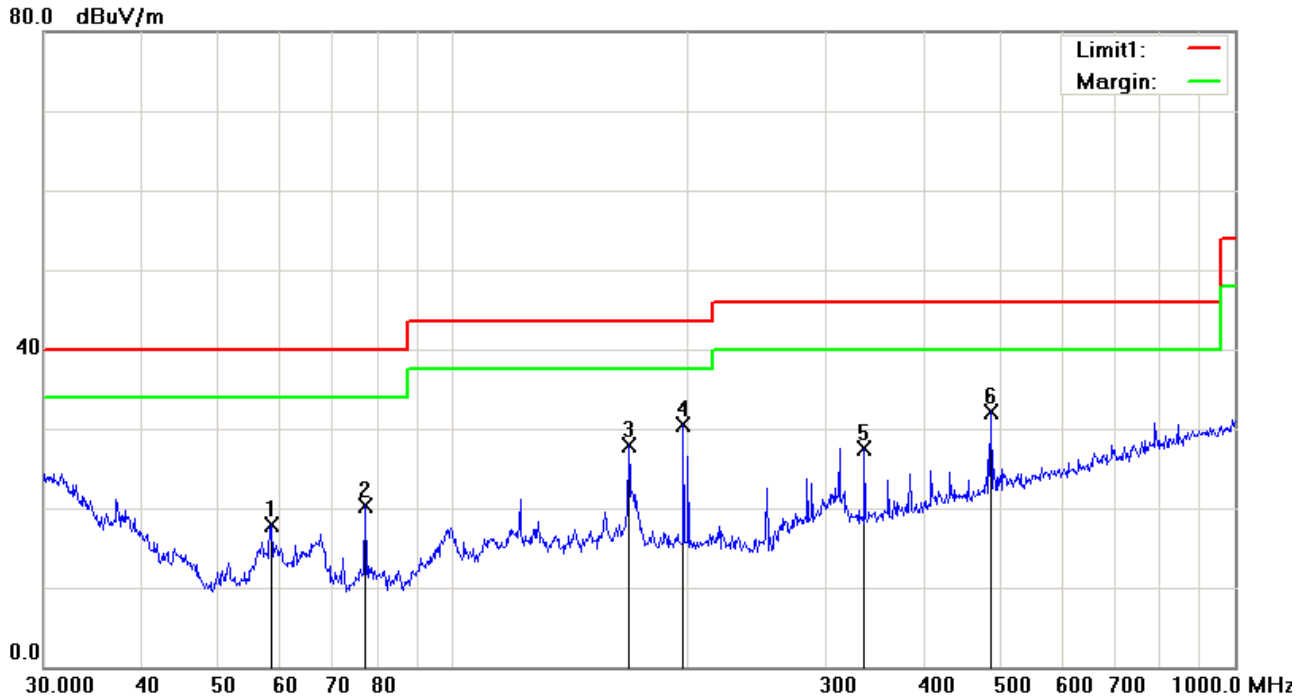


**Test Data**

**Vertical Polarity Plot @3m**

No	P/L	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Height	Degree	Comment
1	V	33.5624	35.36	QP	-2.88	32.48	40.00	-7.52	100	206	
2	V	56.5929	43.34	peak	-13.96	29.38	40.00	-10.62	100	30	
3	V	98.7327	42.61	QP	-11.13	31.48	43.50	-12.02	100	218	
4	V	167.8243	41.67	peak	-8.92	32.75	43.50	-10.75	200	156	
5	V	336.0352	38.93	peak	-5.86	33.07	46.00	-12.93	100	124	
6	V	576.6443	29.96	peak	-0.37	29.59	46.00	-16.41	100	195	

**(Below 1GHz)**



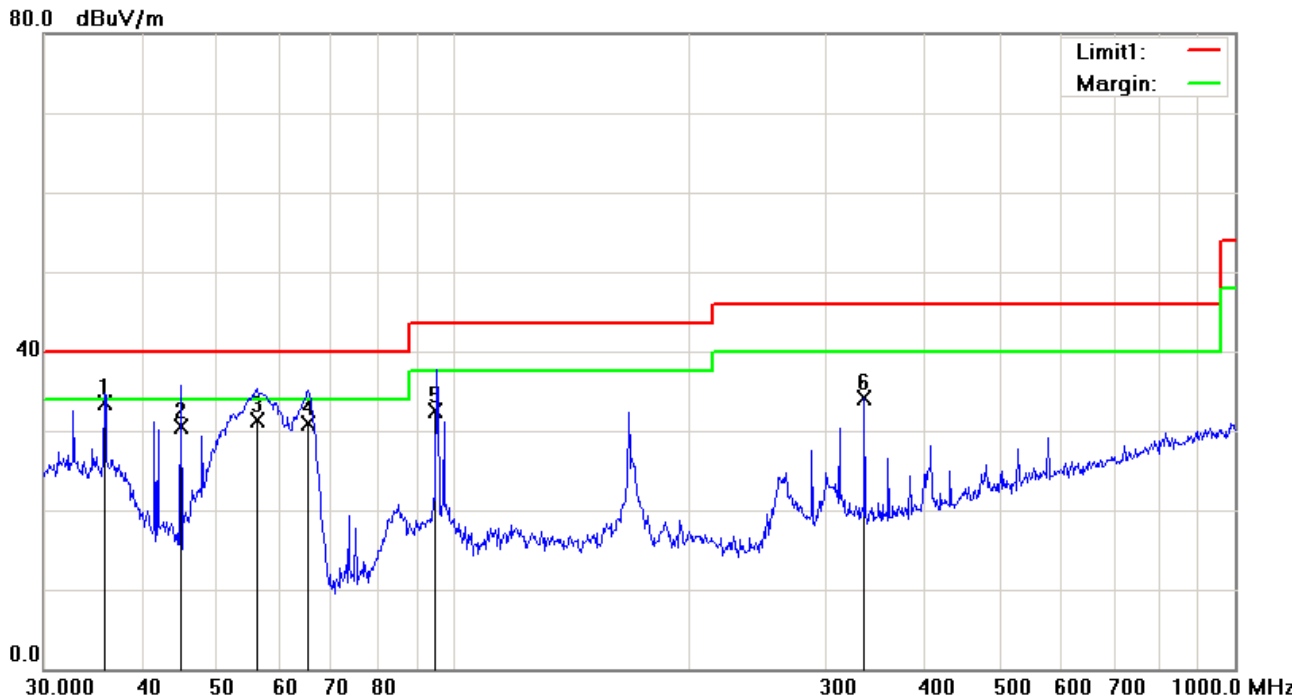
**Test Data**

**Vertical Polarity Plot @3m**

No	P/L	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Height	Degree	Comment
1	H	58.6126	32.05	peak	-14.20	17.85	40.00	-22.15	100	224	
2	H	77.3212	34.02	peak	-13.76	20.26	40.00	-19.74	200	233	
3	H	167.8243	36.91	peak	-8.92	27.99	43.50	-15.51	200	177	
4	H	197.2001	39.34	peak	-8.87	30.47	43.50	-13.03	200	225	
5	H	336.0352	33.27	peak	-5.86	27.41	46.00	-18.59	200	54	
6	H	487.3151	34.21	peak	-2.04	32.17	46.00	-13.83	200	222	

**Test Mode 2: Transmitting Mode (Adaptor: A31-3762-501000 )**

(Above 1GHz)

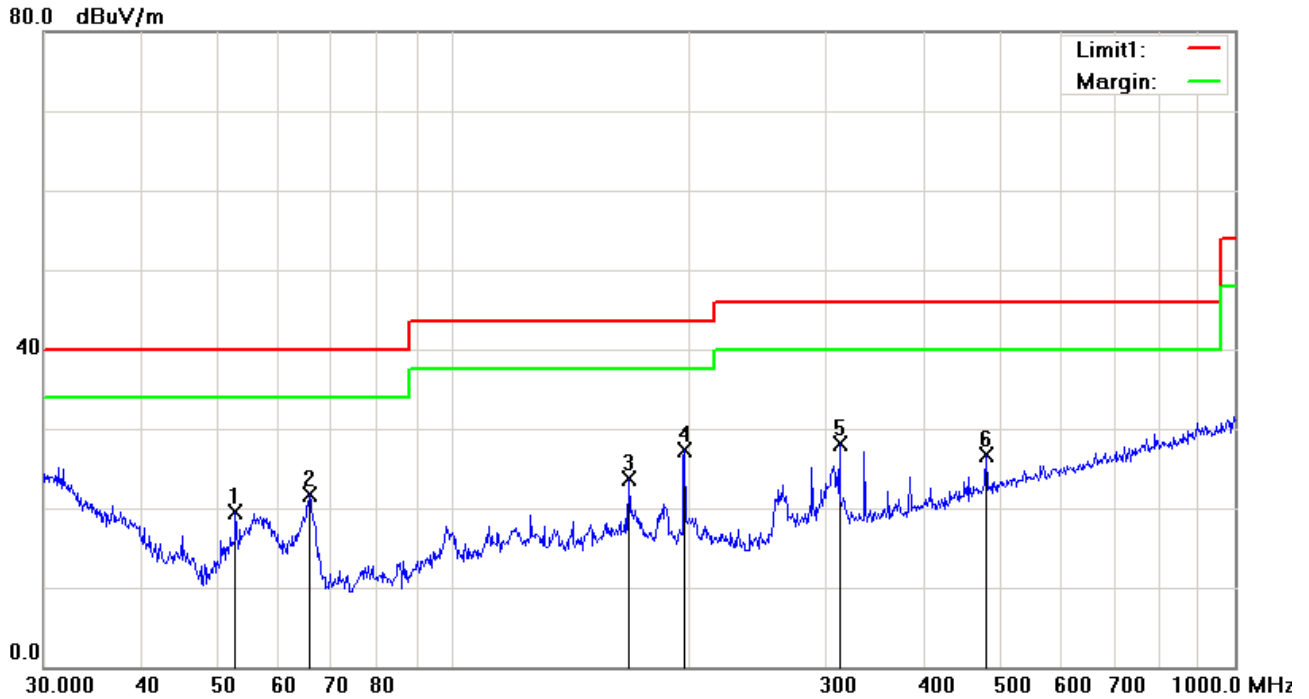


**Test Data**

**Vertical Polarity Plot @3m**

No	P/L	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Height	Degree	Comment
1	V	35.8747	38.06	QP	-4.58	33.48	40.00	-6.52	200	192	
2	V	44.9066	41.36	QP	-10.88	30.48	40.00	-9.52	200	199	
3	V	56.1375	45.27	QP	-13.91	31.36	40.00	-8.64	123	0	
4	V	65.4871	44.84	QP	-13.93	30.91	40.00	-9.09	100	107	
5	V	94.4779	44.72	QP	-12.26	32.46	43.50	-11.04	100	201	
6	V	336.0352	40.02	peak	-5.86	34.16	46.00	-11.84	100	152	

**(Below 1GHz)**



**Test Data**

**Vertical Polarity Plot @3m**

No	P/L	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Height	Degree	Comment
1	H	52.7600	33.05	peak	-13.50	19.55	40.00	-20.45	100	218	
2	H	65.5727	35.65	peak	-13.92	21.73	40.00	-18.27	200	123	
3	H	167.8243	32.63	peak	-8.92	23.71	43.50	-19.79	200	10	
4	H	197.8928	36.19	peak	-8.85	27.34	43.50	-16.16	100	214	
5	H	312.1794	34.69	peak	-6.55	28.14	46.00	-17.86	100	359	
6	H	480.5276	28.94	peak	-2.23	26.71	46.00	-19.29	100	312	

Test Mode:	Transmitting Mode
------------	-------------------

#### Low Channel (2412 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)
4824	37.55	AV	V	34	6.86	31.72	46.69	54	-7.31
4824	36.52	AV	H	33.8	6.86	31.72	45.46	54	-8.54
4824	46.18	PK	V	34	6.86	31.72	55.32	74	-18.68
4824	45.09	PK	H	33.8	6.86	31.72	54.03	74	-19.97

#### Middle Channel (2437 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)
4874	37.32	AV	V	33.6	6.82	31.82	45.92	54	-8.08
4874	36.48	AV	H	33.8	6.82	31.82	45.28	54	-8.72
4874	46.22	PK	V	33.6	6.82	31.82	54.82	74	-19.18
4874	45.36	PK	H	33.8	6.82	31.82	54.16	74	-19.84

#### High Channel (2462 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)
4924	36.82	AV	V	34.6	6.76	31.92	46.26	54	-7.74
4924	35.93	AV	H	34.7	6.76	31.92	45.47	54	-8.53
4924	45.77	PK	V	34.6	6.76	31.92	55.21	74	-18.79
4924	44.25	PK	H	34.7	6.76	31.92	53.79	74	-20.21

## Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Due	In use
<b>AC Line Conducted</b>					
EMI test receiver	ESCS30	8471241027	09/18/2014	09/17/2015	<input checked="" type="checkbox"/>
Line Impedance	LI-125A	191106	09/26/2014	09/25/2015	<input checked="" type="checkbox"/>
Line Impedance	LI-125A	191107	09/26/2014	09/25/2015	<input checked="" type="checkbox"/>
LISN	ISN T800	34373	09/26/2014	09/25/2015	<input checked="" type="checkbox"/>
Double Ridge Horn Antenna (1 ~18GHz)	AH-118	71283	09/25/2014	09/24/2015	<input checked="" type="checkbox"/>
Transient Limiter	LIT-153	531118	09/02/2014	09/01/2015	<input checked="" type="checkbox"/>
<b>RF conducted test</b>					
Agilent ESA-E SERIES	E4407B	MY45108319	09/18/2014	09/17/2015	<input checked="" type="checkbox"/>
Power Splitter	1#	1#	09/02/2014	09/01/2015	<input checked="" type="checkbox"/>
DC Power Supply	E3640A	MY40004013	09/18/2014	09/17/2015	<input checked="" type="checkbox"/>
<b>Radiated Emissions</b>					
EMI test receiver	ESL6	100262	09/18/2014	09/17/2015	<input checked="" type="checkbox"/>
Positioning Controller	UC3000	MF780208282	11/20/2014	11/19/2015	<input checked="" type="checkbox"/>
OPT 010 AMPLIFIER (0.1-1300MHz)	8447E	2727A02430	09/02/2014	09/01/2015	<input checked="" type="checkbox"/>
Microwave Preamplifier (1 ~ 26.5GHz)	8449B	3008A02402	03/25/2015	03/24/2016	<input checked="" type="checkbox"/>
Bilog Antenna (30MHz~6GHz)	JB6	A110712	09/22/2014	09/21/2015	<input checked="" type="checkbox"/>
Double Ridge Horn Antenna (1 ~18GHz)	AH-118	71283	09/25/2014	09/24/2015	<input checked="" type="checkbox"/>
Universal Radio Communication Tester	CMU200	121393	09/26/2014	09/25/2015	<input checked="" type="checkbox"/>



## Annex B. EUT and Test Setup Photographs

### S510

#### Annex B.i. Photograph: EUT External Photo



Whole package 1 - Front View



Whole package 2 - Front View



Adapter 1 - Front View



Adapter 2 - Front View



EUT - Front View



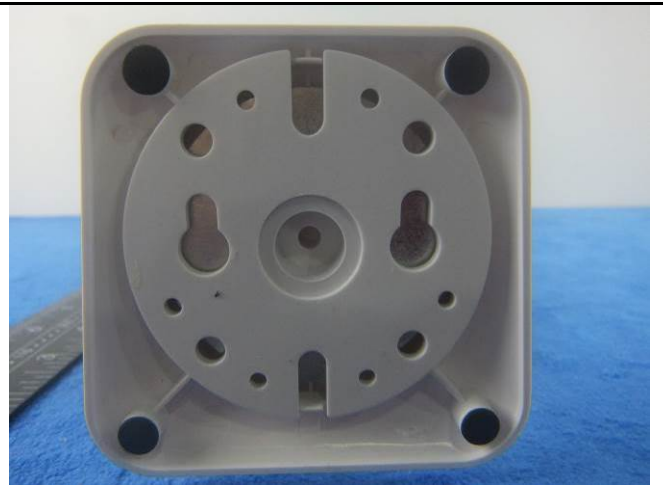
EUT - Rear View



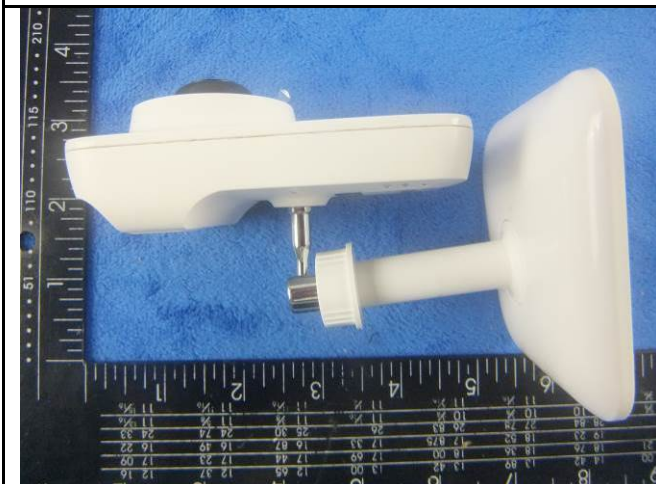
Test Report No.	15070358-FCC-R
Page	49 of 58



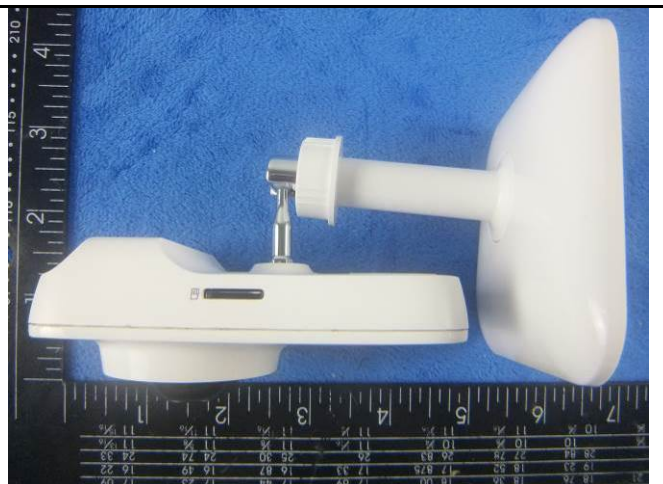
EUT - Top View



EUT - Bottom View



EUT - Left View



EUT - Right View

**S520**

**Annex B.i. Photograph: EUT External Photo**



EUT - Front View



EUT - Rear View



EUT - Left View



EUT - Right View



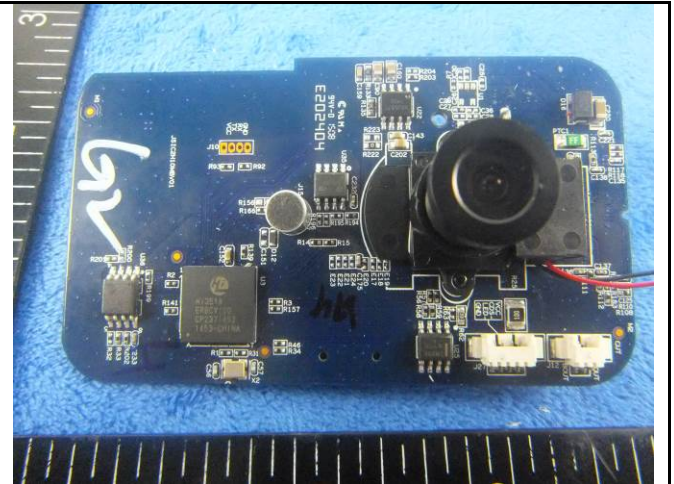
EUT - Top View



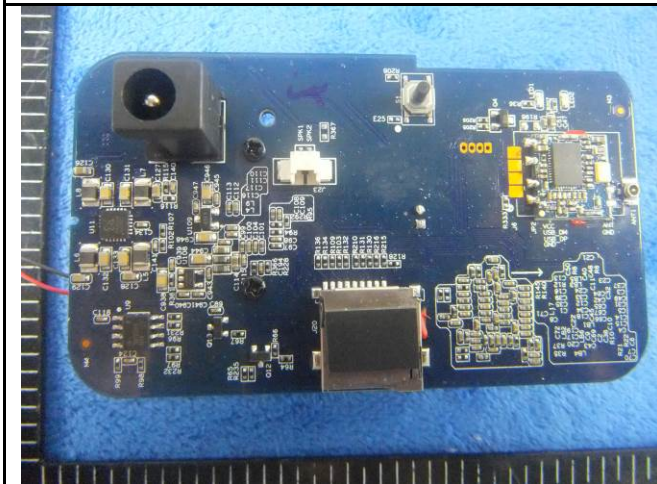
## Annex B.ii. Photograph: EUT Internal Photo



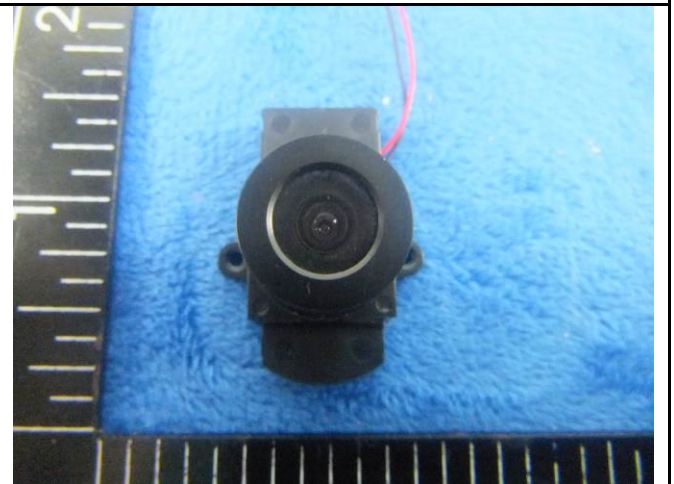
EUT - Uncover Front View 1



Mainboard - Front View



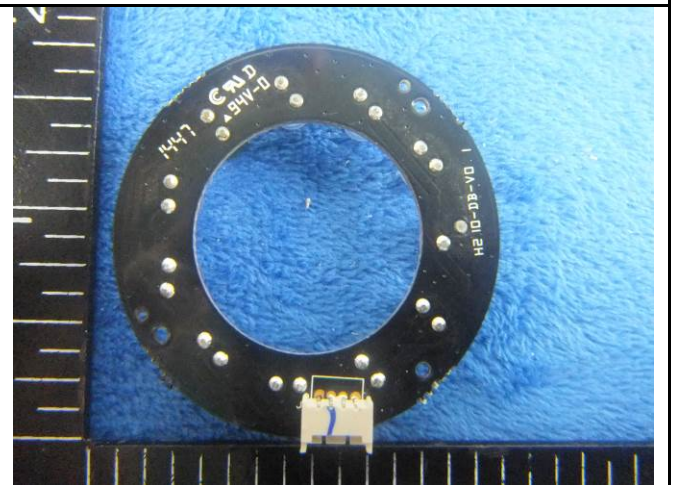
Mainboard - Rear View



Camera



LCD - Front View



LCD - Rear View



### Annex B.iii. Photograph: Test Setup Photo



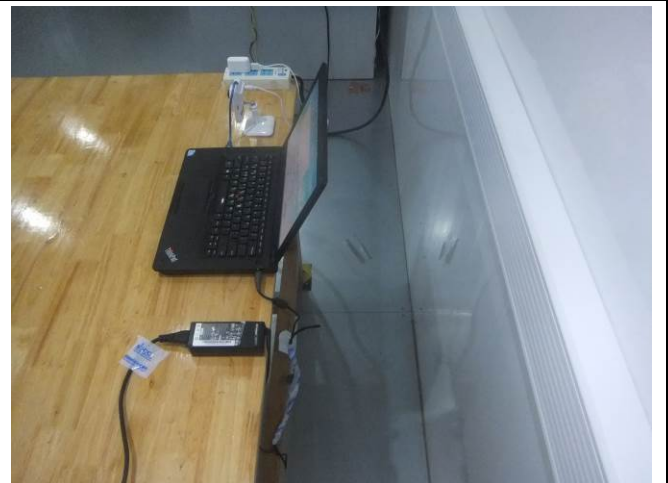
Conducted Emission and Adapter 1– Front View



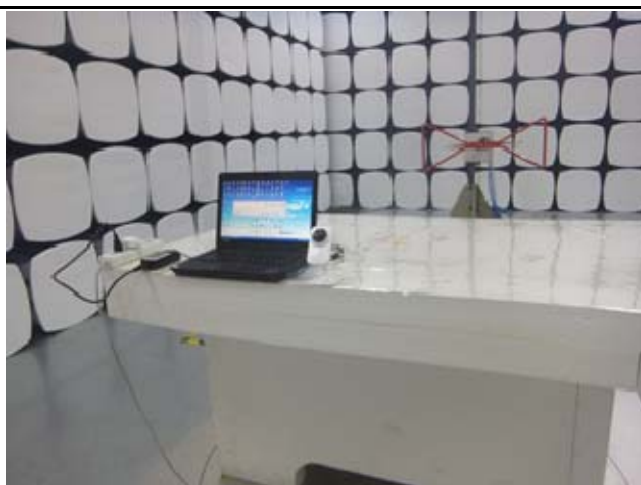
Conducted Emission and Adapter 1– Rear View



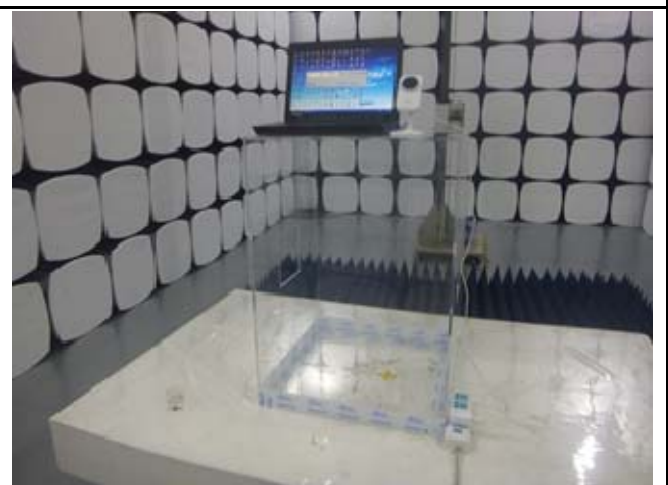
Conducted Emission and Adapter 2– Front View



Conducted Emission and Adapter 2– Rear View



Radiated Spurious Emissions Test Setup Below 1GHz  
Adapter 1

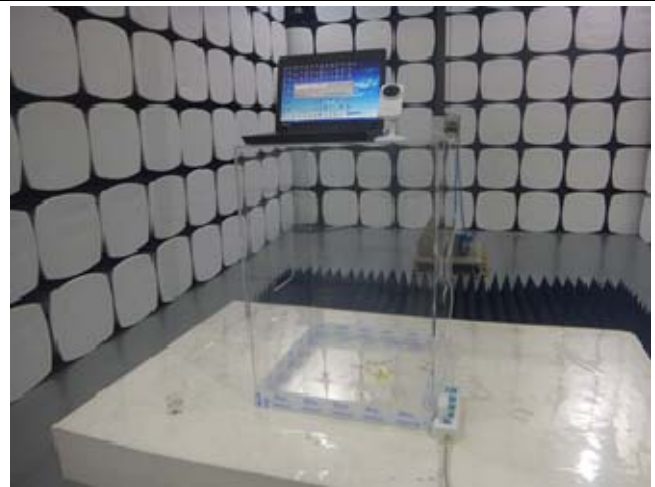


Radiated Spurious Emissions Test Setup Above  
1GHz - Adapter 1

Test Report No.	15070358-FCC-R
Page	53 of 58



Radiated Spurious Emissions Test Setup Below 1GHz  
Adapter 2

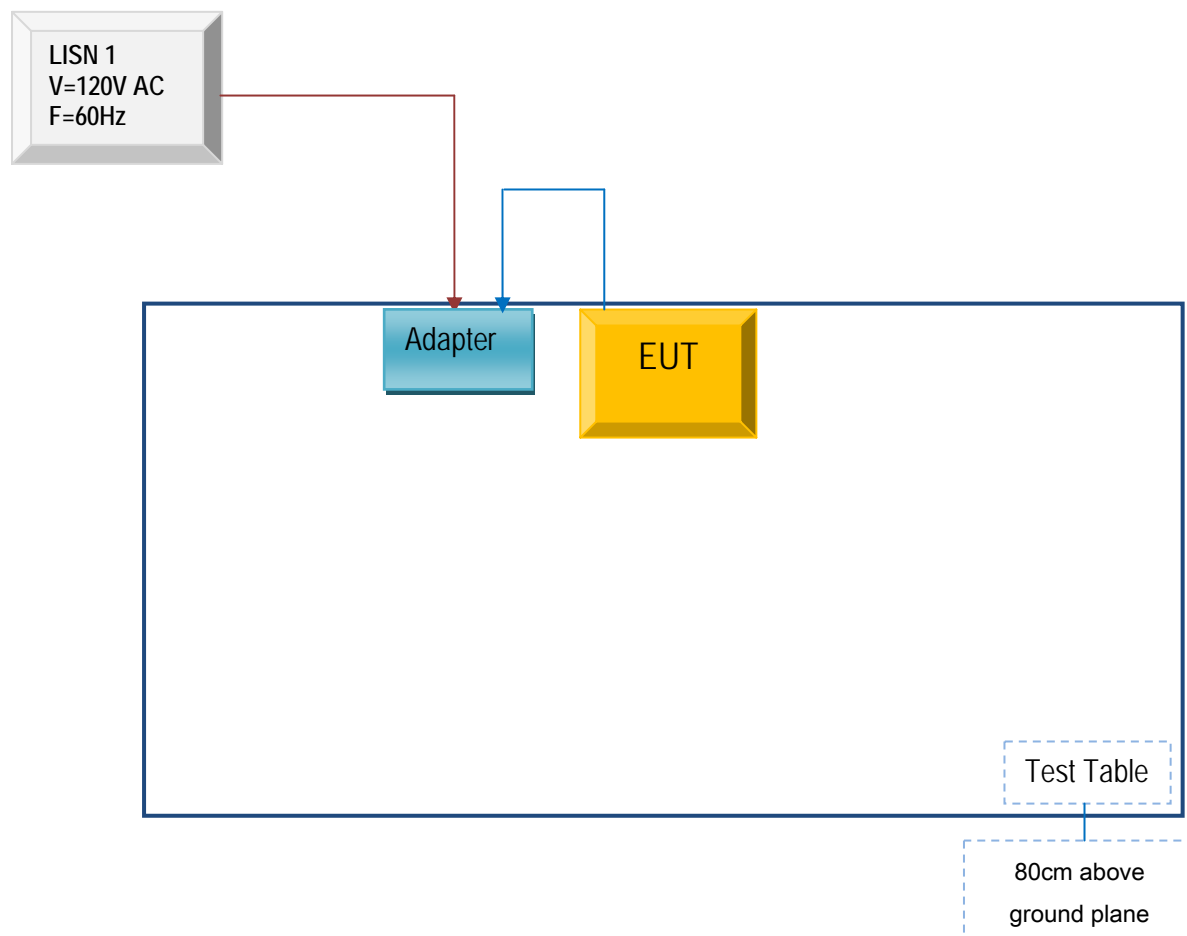


Radiated Spurious Emissions Test Setup Above  
1GHz - Adapter 2

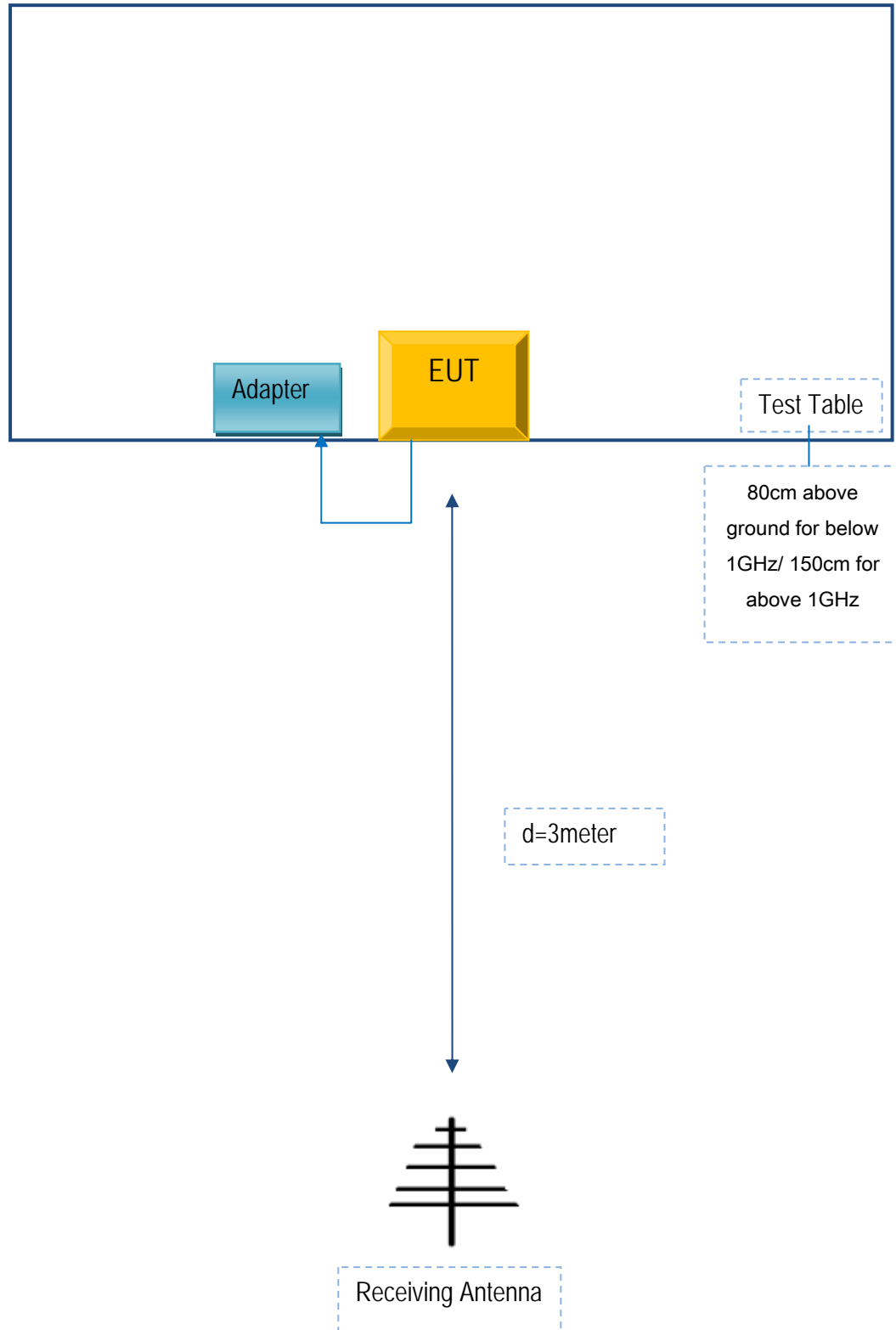
## Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

### Annex C.ii. TEST SET UP BLOCK

#### Block Configuration Diagram for AC Line Conducted Emissions



## Block Configuration Diagram for Radiated Emissions



Test Report No.	15070358-FCC-R
Page	56 of 58

## **Annex C. ii. SUPPORTING EQUIPMENT DESCRIPTION**

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

<b>Manufacturer</b>	<b>Equipment Description</b>	<b>Model</b>	<b>Calibration Date</b>	<b>Calibration Due Date</b>
N/A	N/A	N/A	N/A	N/A



Test Report No.	15070358-FCC-R
Page	57 of 58

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

Please see attachment

## Annex E. DECLARATION OF SIMILARITY

shenzhen omimo Technology Co.,Ltd..

To: SIEMIC ,775 Montague Expressway, Milpitas, CA 95035,USA

### Declaration Letter

Dear Sir,

For our business issue and marketing requirement, we would like to list 2 model numbers on the FCC certificates and reports, as following:

Model No.:S510 / S520

We declare that the difference of these is listed as below:

Main Model No	Serial Model No	Difference
S510	S520	Difference on the outlook The face sell of S510 is arc-shaped,and S520 is rectilinear figure The reverse side of S510 is "T" type,and S520 is rectilinear figure The support of S510 is arc plane shape,and S520 is adjustable white plastic

Thank you!

Signature:

*Ci Ci . Lin*

Printed name/title: Shenzhen omimo Technology Co.,Ltd.

Tel:86-755-33098502

Address: Room 1212,Chuangjian Building,No.6023,Shennan Boulevard,Futian  
District,Shenzhen,China.