




RF TEST REPORT



Report No.: 16071296-FCC-R3

Supersede Report No.: N/A

Applicant	Posh Mobile Limited	
Product Name	Revel Max LTE	
Model No.	L551	
Serial No.	L551A,L551B,L551C	
Test Standard	FCC Part 15.247: 2015, ANSI C63.10: 2013	
Test Date	November 18 to December 04, 2016	
Issue Date	December 05, 2016	
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"/>		
		
Loren Luo 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

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.	16071296-FCC-R3
Page	3 of 55

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	9
6. MEASUREMENTS, EXAMINATION AND DERIVED RESULTS	10
6.1 ANTENNA REQUIREMENT	10
6.2 DTS (6 DB&20 DB) CHANNEL BANDWIDTH	11
6.3 MAXIMUM OUTPUT POWER	17
6.4 POWER SPECTRAL DENSITY	21
6.5 BAND-EDGE & UNWANTED EMISSIONS INTO RESTRICTED FREQUENCY BANDS	25
6.6 AC POWER LINE CONDUCTED EMISSIONS	31
6.7 RADIATED SPURIOUS EMISSIONS & RESTRICTED BAND	37
ANNEX A. TEST INSTRUMENT	43
ANNEX B. EUT AND TEST SETUP PHOTOGRAPHS	44
ANNEX C. TEST SETUP AND SUPPORTING EQUIPMENT	50
ANNEX D. USER MANUAL / BLOCK DIAGRAM / SCHEMATICS / PARTLIST	54
ANNEX E. DECLARATION OF SIMILARITY	55

1. Report Revision History

Report No.	Report Version	Description	Issue Date
16071296-FCC-R3	NONE	Original	December 05, 2016

2. Customer information

Applicant Name	Posh Mobile Limited
Applicant Add	1011A, 10/F., Harbour Centre Tower 1, No.1 Hok Cheung Street, Hung Hom, Kowloon, Hong Kong
Manufacturer	Shenzhen Posh Mobile Limited
Manufacturer Add	Room 6H, Block C, NEO Building, Chegongmiao, Futian District, Shenzhen, P.R. 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:	Revel Max LTE
Main Model:	L551
Serial Model:	L551A,L551B,L551C
Date EUT received:	November 17, 2016
Test Date(s):	November 18 to December 04, 2016
Equipment Category :	DTS
Antenna Gain:	GSM850: -1.27dBi PCS1900: 0.84dBi UMTS-FDD Band V: -1.27dBi UMTS-FDD Band IV: 0.84dBi UMTS-FDD Band II: 0.84dBi LTE Band II: 0.54dBi LTE Band IV: 0.84dBi LTE Band VII: 0.9dBi LTE Band XII: -2.02dBi LTE Band XVII: -2.06dBi WIFI: 0.87dBi Bluetooth/BLE: 0.87dBi GPS: 0.89dBi
Antenna Type:	PIFA antenna
Type of Modulation:	GSM / GPRS: GMSK EGPRS: GMSK,8PSK UMTS-FDD: QPSK LTE Band: QPSK, 16QAM 802.11b/g/n: DSSS, OFDM Bluetooth: GFSK, π /4DQPSK, 8DPSK BLE: GFSK GPS:BPSK

	GSM850 TX: 824.2 ~ 848.8 MHz; RX: 869.2 ~ 893.8 MHz
	PCS1900 TX: 1850.2 ~ 1909.8 MHz; RX: 1930.2 ~ 1989.8 MHz
	UMTS-FDD Band V TX: 826.4 ~ 846.6 MHz; RX: 871.4 ~ 891.6 MHz
	UMTS-FDD Band IV TX:1712.4 ~ 1752.6 MHz;
	RX : 2112.4 ~ 2152.6 MHz
	UMTS-FDD Band II TX:1852.4 ~ 1907.6 MHz;
	RX: 1932.4 ~ 1987.6 MHz
RF Operating Frequency (ies):	LTE Band II TX: 1850.7 ~ 1909.3MHz; RX : 1930.7 ~ 1989.3 MHz
	LTE Band IV TX: 1710.7 ~ 1754.3 MHz; RX : 2110.7~ 2154.3 MHz
	LTE Band VII TX: 2502.5 ~ 2567.5 MHz; RX : 2622.5 ~ 2687.5 MHz
	LTE Band XII TX:699.7 ~ 715.3 MHz; RX : 729.7~ 745.3MHz
	LTE Band XVII TX: 706.5 ~ 713.5 MHz; RX : 736.5 ~ 743.5 MHz
	WIFI: 802.11b/g/n(20M): 2412-2462 MHz
	WIFI: 802.11n(40M): 2422-2452 MHz
	Bluetooth& BLE: 2402-2480 MHz
	GPS: 1575.42 MHz
Max. Output Power:	802.11b: 8.88dBm
	802.11g: 8.94dBm
	802.11n(20M): 8.60dBm
	802.11n(40M): 8.86dBm
Number of Channels:	GSM 850: 124CH
	PCS1900: 299CH
	UMTS-FDD Band V: 102CH
	UMTS-FDD Band IV: 202CH
	UMTS-FDD Band II: 277CH
	WIFI :802.11b/g/n(20M): 11CH
	WIFI :802.11n(40M): 7CH
	Bluetooth: 79CH
	BLE: 40CH
Port:	GPS:1CH
	USB Port, Earphone Port

Test Report No.	16071296-FCC-R3
Page	8 of 55

Adapter:

Model: A88-501500

Input Power:

Input: AC100-240V~50/60Hz,0.35A

Output: DC 5.0V,1.5A

Battery:

Spec: 3.85V,2820mAh

Trade Name :

Posh

GPRS/EGPRS Multi-slot class

8/10/12

FCC ID:

2AG8KL551

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 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 3 antennas:

A permanently attached PIFA antenna for Bluetooth/BLE/WIFI/GPS, the gain is 0.87dBi for Bluetooth/BLE, the gain is 0.87dBi for WIFI, the gain is 0.89dBi for GPS.

A permanently attached PIFA antenna for GSM/PCS/UMTS, the gain is -1.27dBi for GSM850, 0.84dBi for PCS1900, -1.27dBi for UMTS-FDD Band V, 0.84dBi for UMTS-FDD Band IV, 0.84dBi for UMTS-FDD Band II.

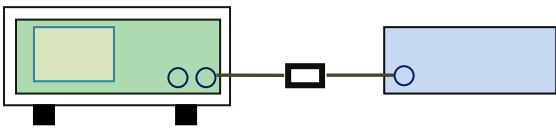
A permanently attached PIFA antenna for LTE Band II/ IV/VII/XII/XVII, the gain is 0.54dBi for LTE Band II, the gain is 0.84dBi for LTE Band IV, the gain is 0.9dBi for LTE Band VII, the gain is -2.02dBi for LTE XII, the gain is -2.06dBi for LTE Band XVII.

The antenna meets up with the ANTENNA REQUIREMENT.

Result: Compliance.

6.2 DTS (6 dB&20 dB) Channel Bandwidth

Temperature	24°C
Relative Humidity	56%
Atmospheric Pressure	1023mbar
Test date :	November 23&24, 2016
Tested By :	Loren Luo

Spec	Item	Requirement	Applicable
§ 15.247(a)(2) RSS Gen(4.6.1)	a)	6dB BW ≥ 500kHz; 20dB BW ≥ 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 v03r03, 8.1 DTS bandwidth</p> <p><u>6dB bandwidth</u></p> <ol style="list-style-type: none"> Set RBW = 100 kHz. Set the video bandwidth (VBW) ≥ 3 × RBW. Detector = Peak. Trace mode = max hold. Sweep = auto couple. Allow the trace to stabilize. 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. <p><u>20dB bandwidth</u></p> <p>C63.10 Occupied Bandwidth (OBW=20dB bandwidth)</p> <ol style="list-style-type: none"> Set RBW = 1%-5% OBW. Set the video bandwidth (VBW) ≥ 3 x RBW. Set the span range between 2 times and 5 times of the OBW. Sweep time=Auto, Detector=PK, Trace=Max hold. Once the reference level is established, the equipment is conditioned with typical modulating signals to produce the worst- 		

Test Report No.	16071296-FCC-R3
Page	12 of 55

	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

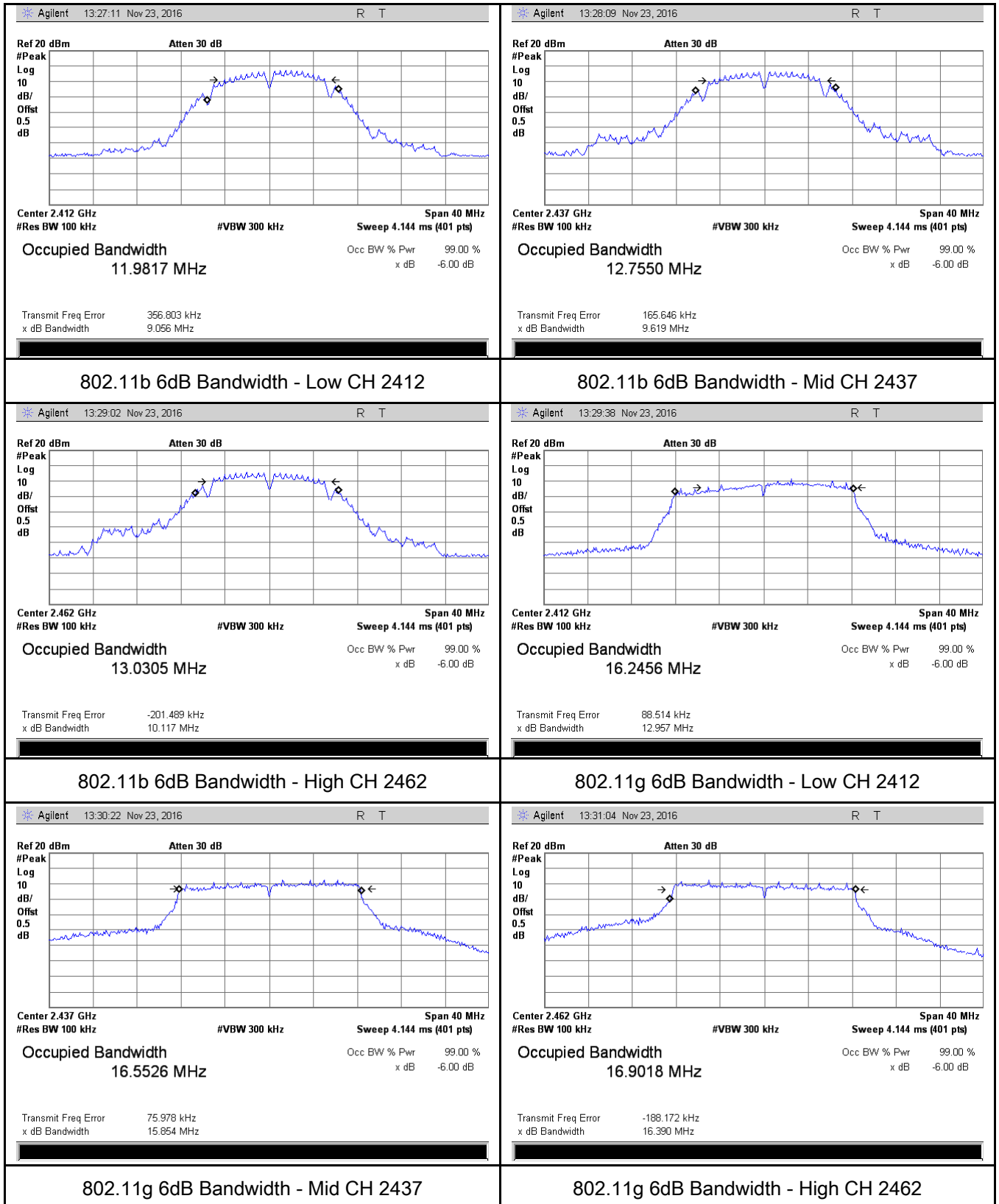
Test Plot ☒ Yes (See below) ☐ N/A

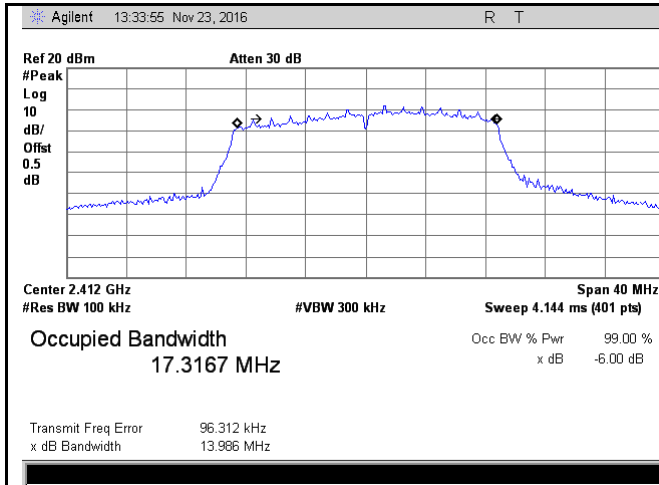
Measurement result

Test mode	CH	Freq (MHz)	6dB Bandwidth (MHz)	20dB Bandwidth (MHz)	Limit (MHz)
802.11b	Low	2412	9.056	13.845	≥ 0.5
	Mid	2437	9.619	14.824	≥ 0.5
	High	2462	10.117	14.921	≥ 0.5
802.11g	Low	2412	12.957	18.456	≥ 0.5
	Mid	2437	15.854	19.338	≥ 0.5
	High	2462	16.390	19.433	≥ 0.5
802.11n (20M)	Low	2412	13.986	19.187	≥ 0.5
	Mid	2437	16.562	19.798	≥ 0.5
	High	2462	17.719	19.819	≥ 0.5
802.11n (40M)	Low	2422	35.087	39.728	≥ 0.5
	Mid	2437	36.056	38.715	≥ 0.5
	High	2452	36.374	38.319	≥ 0.5

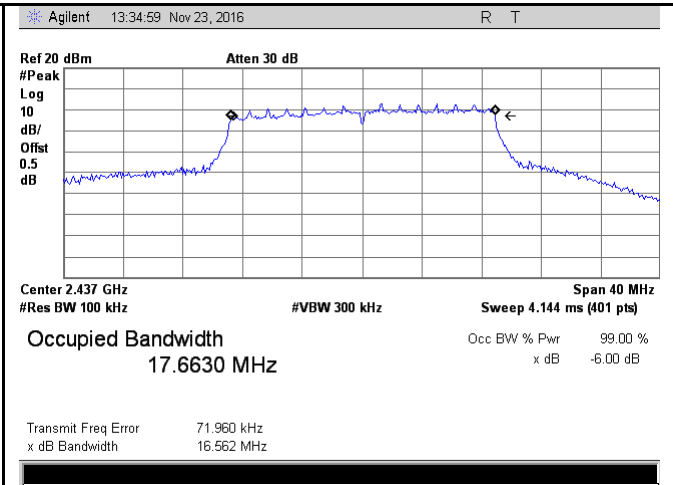
Test Plots

6dB Bandwidth measurement result

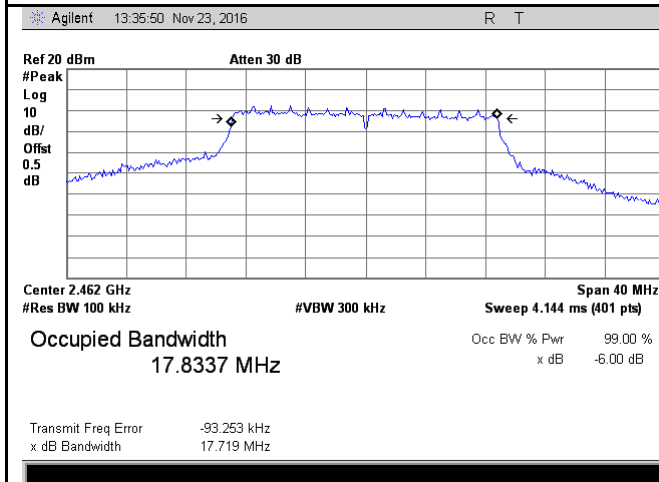




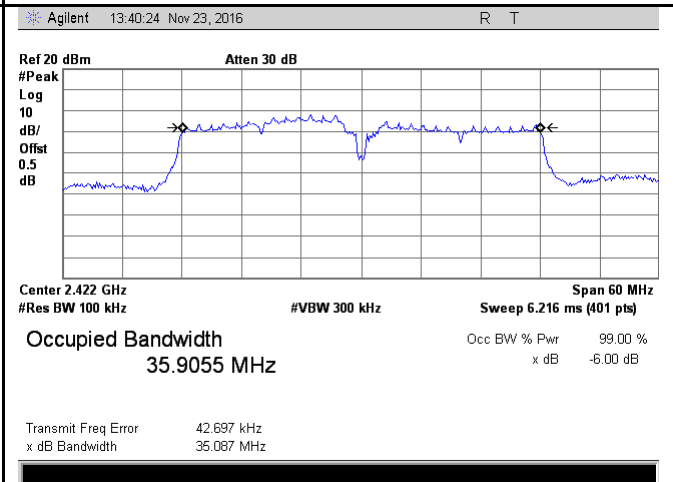
802.11n20 6dB Bandwidth - Low CH 2412



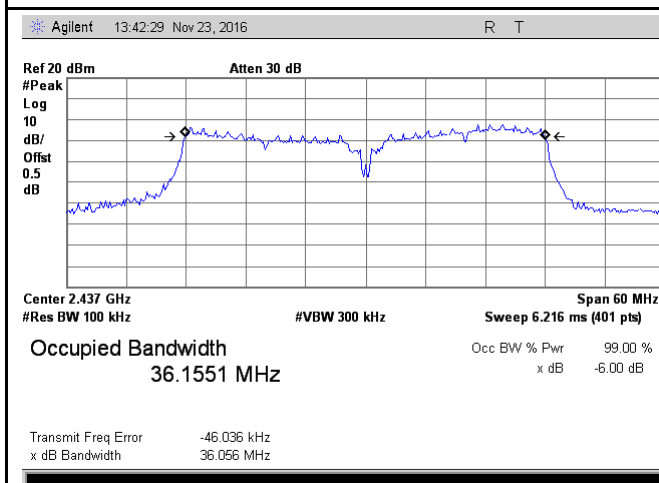
802.11n20 6dB Bandwidth - Mid CH 2437



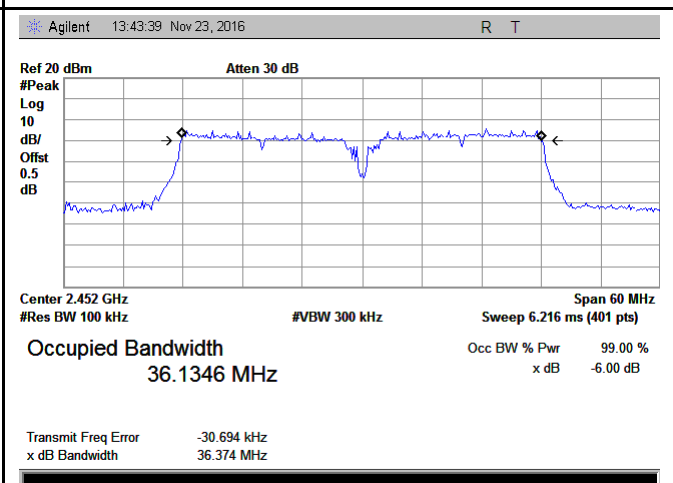
802.11n20 6dB Bandwidth - High CH 2462



802.11n40 6dB Bandwidth - Low CH 2422

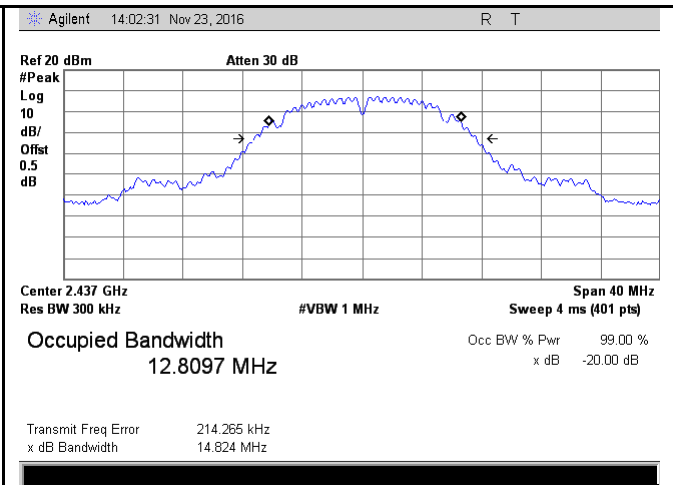
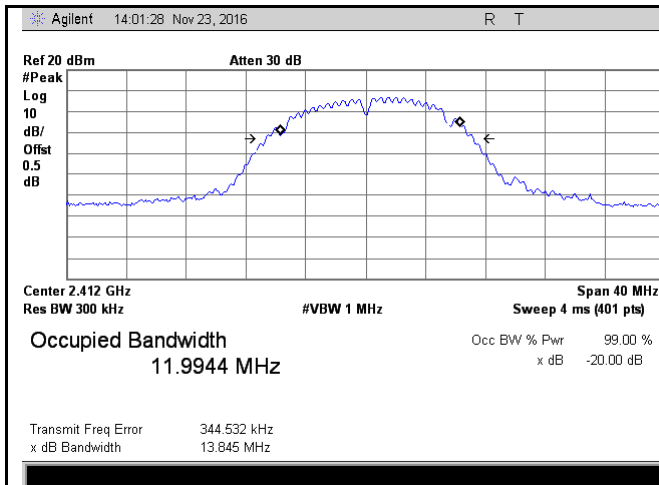


802.11n40 6dB Bandwidth - Mid CH 2437

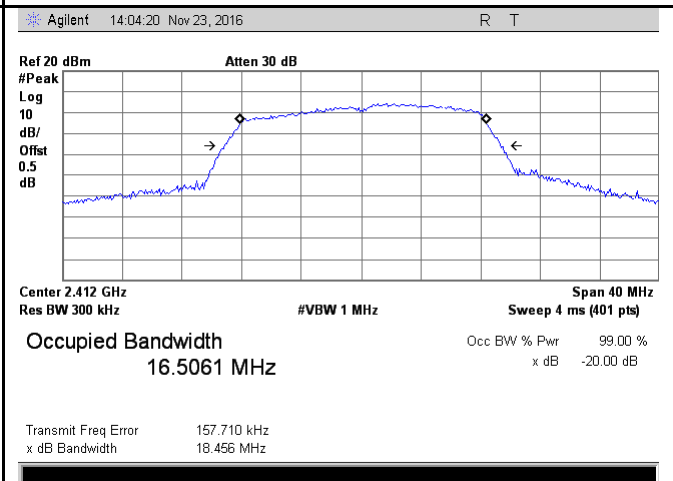
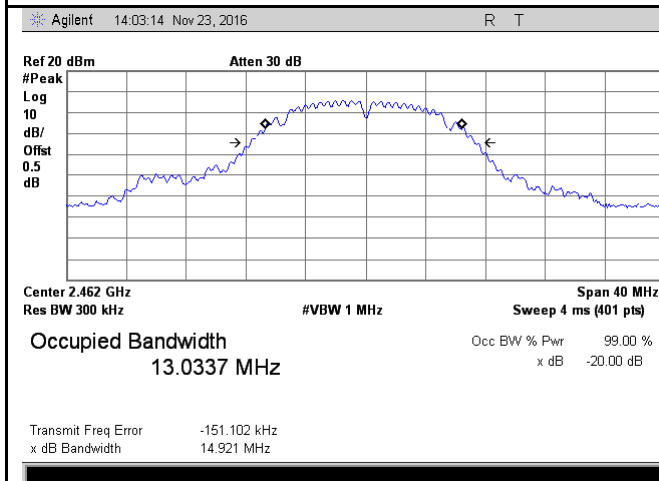


802.11n40 6dB Bandwidth - High CH 2452

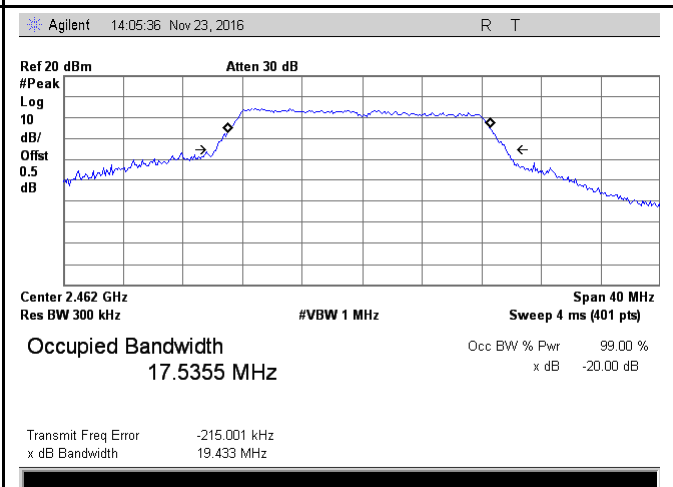
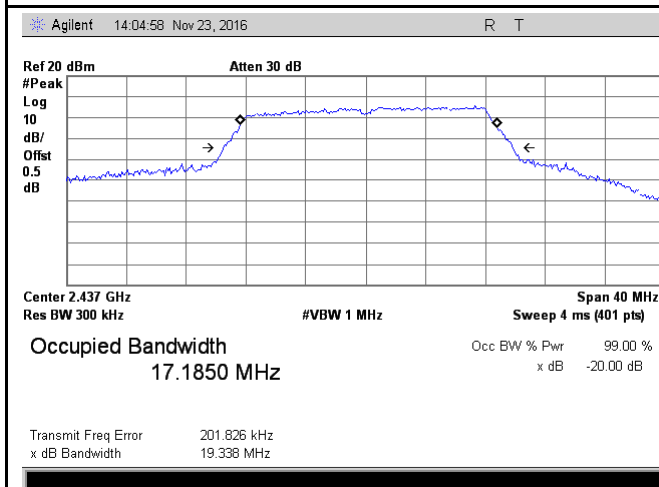
20 dB Bandwidth measurement result



802.11b 20dB Bandwidth - Low CH 2412

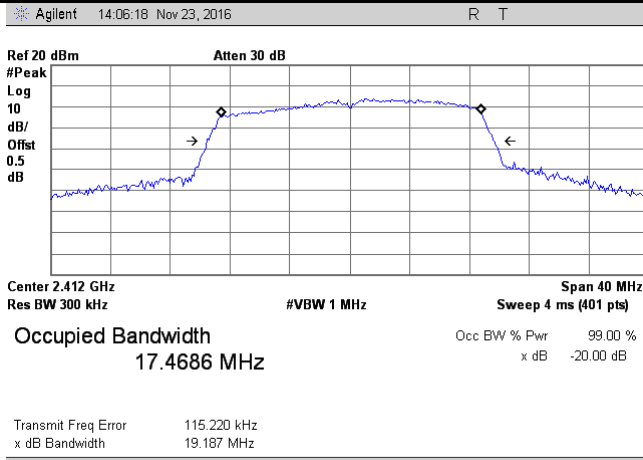


802.11b 20dB Bandwidth - High CH 2462

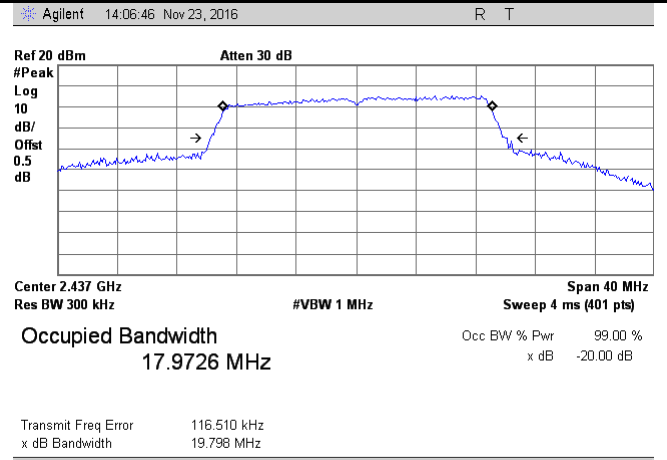


802.11g 20dB Bandwidth - Mid CH 2437

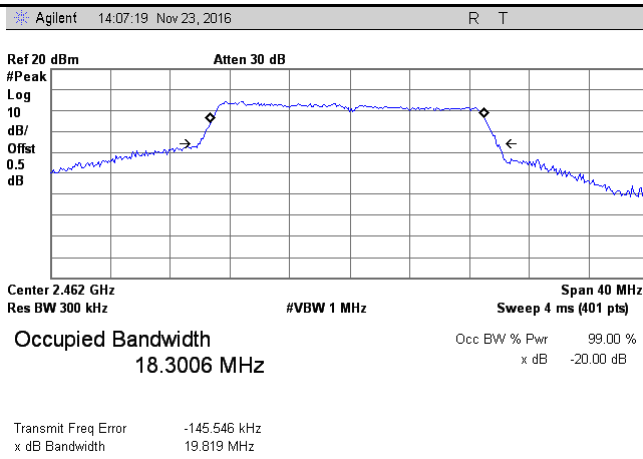
802.11g 20dB Bandwidth - High CH 2462



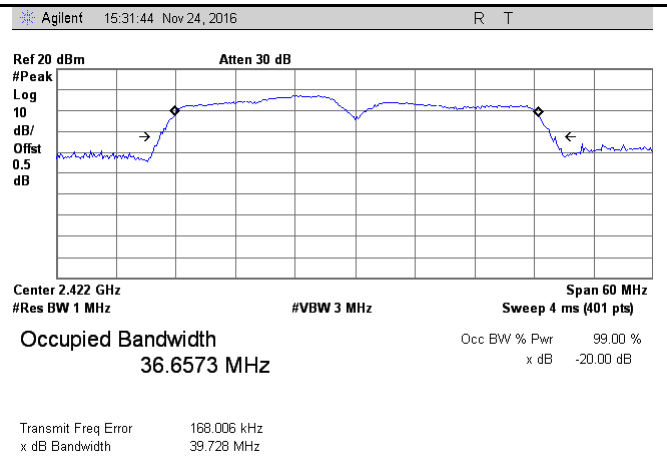
802.11n20 20dB Bandwidth - Low CH 2412



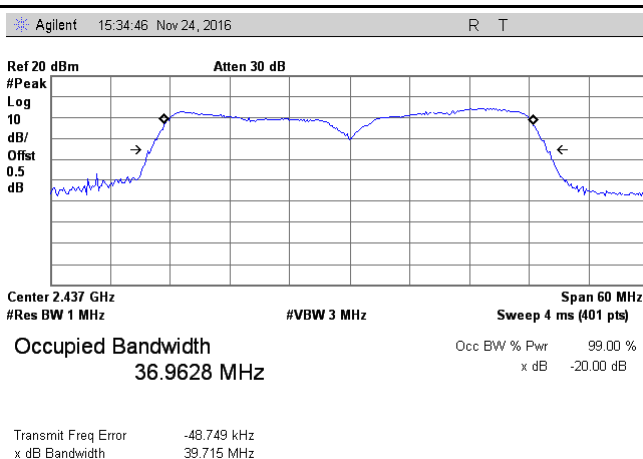
802.11n20 20dB Bandwidth - Mid CH 2437



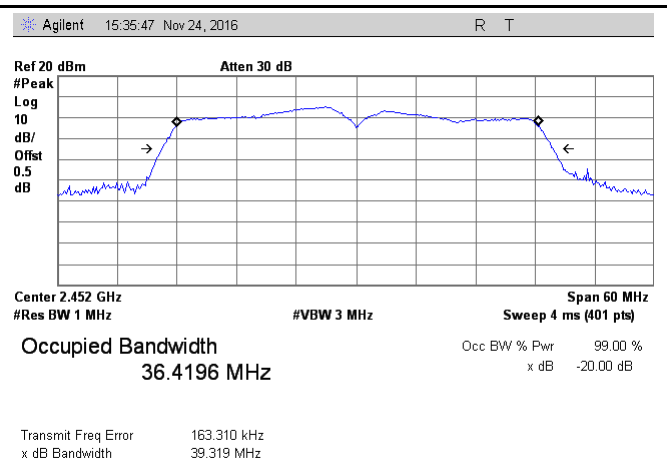
802.11n20 20dB Bandwidth - High CH 2462



802.11n40 20dB Bandwidth - Low CH 2422



802.11n40 20dB Bandwidth - Mid CH 2437

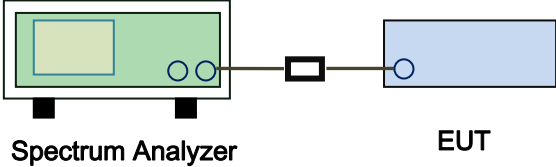


802.11n40 20dB Bandwidth - High CH 2452

6.3 Maximum Output Power

Temperature	24°C
Relative Humidity	56%
Atmospheric Pressure	1023mbar
Test date :	November 23&24, 2016
Tested By :	Loren Luo

Requirement(s):

Spec	Item	Requirement	Applicable
§15.247(b) (3),RSS210 (A8.4)	a)	FHSS in 2400-2483.5MHz with ≥ 75 channels: ≤ 1 Watt	<input type="checkbox"/>
	b)	FHSS in 5725-5850MHz: ≤ 1 Watt	<input type="checkbox"/>
	c)	For all other FHSS in the 2400-2483.5MHz band: ≤ 0.125 Watt.	<input type="checkbox"/>
	d)	FHSS in 902-928MHz with ≥ 50 channels: ≤ 1 Watt	<input type="checkbox"/>
	e)	FHSS in 902-928MHz with ≥ 25 & <50 channels: ≤ 0.25 Watt	<input type="checkbox"/>
	f)	DTS in 902-928MHz, 2400-2483.5MHz: ≤ 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 v03r03, 9.1.2 Integrated band power method Maximum output power measurement procedure</p> <ul style="list-style-type: none"> - 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 $\geq 3 \times$ RBW. - d) Number of points in sweep $\geq 2 \times$ span / RBW. (This gives bin-to-bin spacing \leq 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 		

Test Report No.	16071296-FCC-R3
Page	18 of 55

	<p>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 $\geq 98\%$, 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"> - 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	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

Test Data ☒ Yes ☐ N/A

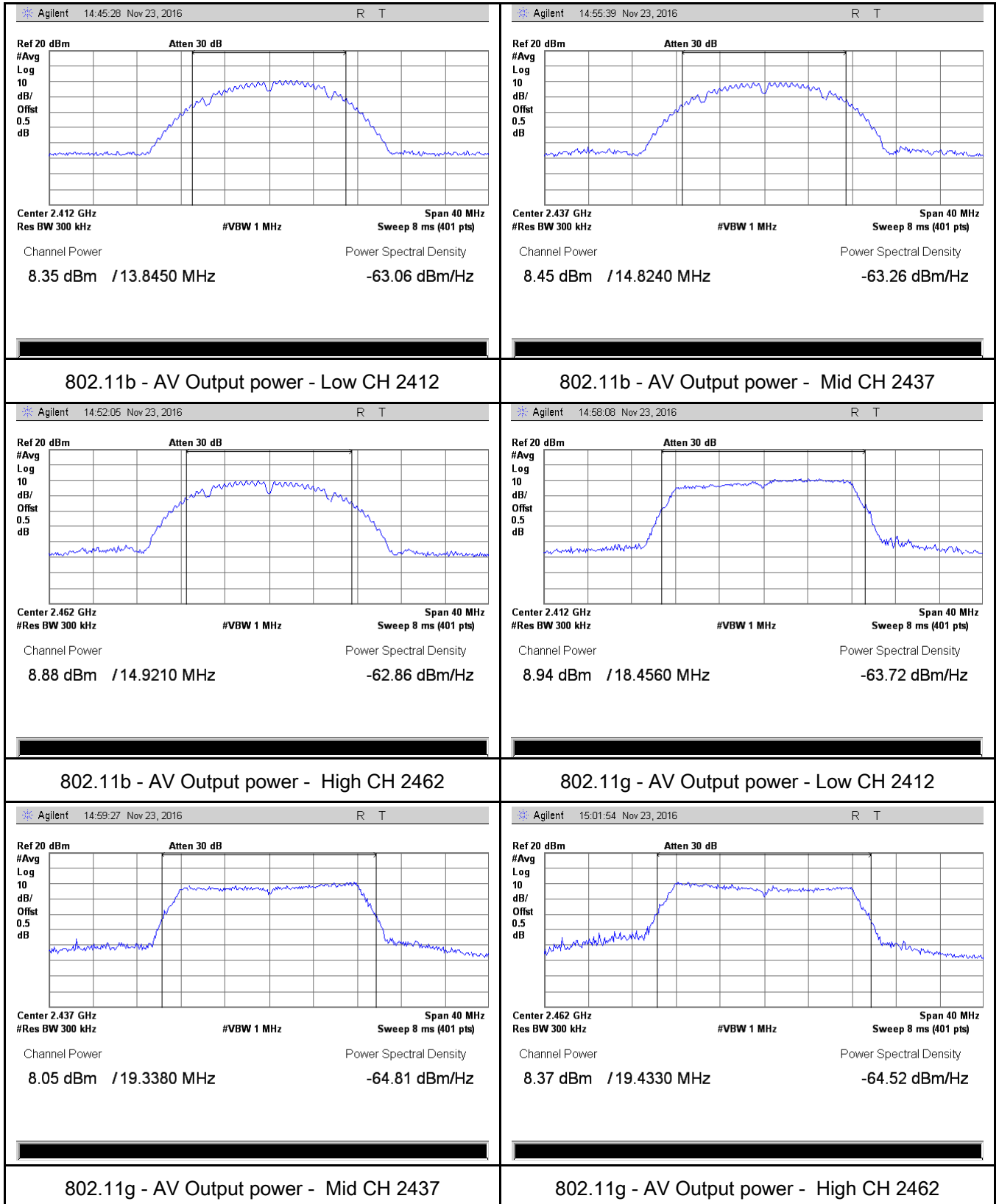
Test Plot ☒ Yes (See below) ☐ N/A

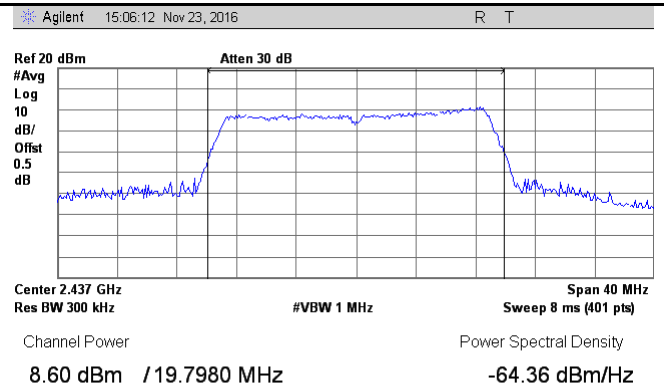
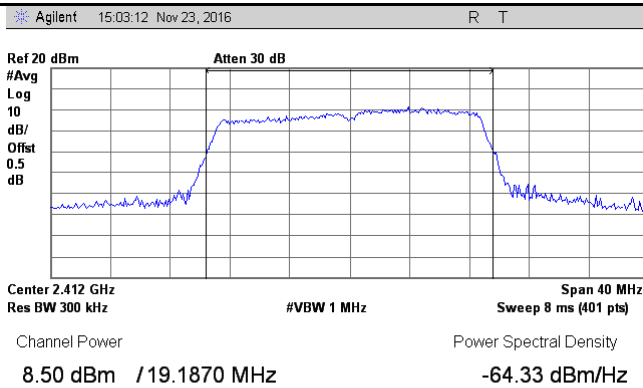
Output Power measurement result

Type	Test mode	CH	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Result
Output power	802.11b	Low	2412	8.35	30	Pass
		Mid	2437	8.45	30	Pass
		High	2462	8.88	30	Pass
	802.11g	Low	2412	8.94	30	Pass
		Mid	2437	8.05	30	Pass
		High	2462	8.37	30	Pass
	802.11n (20M)	Low	2412	8.50	30	Pass
		Mid	2437	8.60	30	Pass
		High	2462	8.16	30	Pass
	802.11n (40M)	Low	2422	8.86	30	Pass
		Mid	2437	8.41	30	Pass
		High	2452	8.37	30	Pass

Test Plots

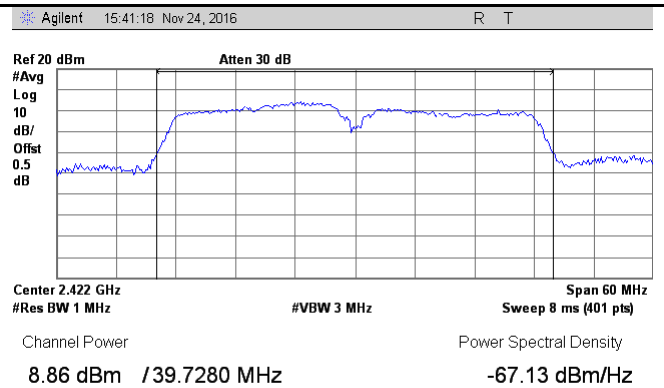
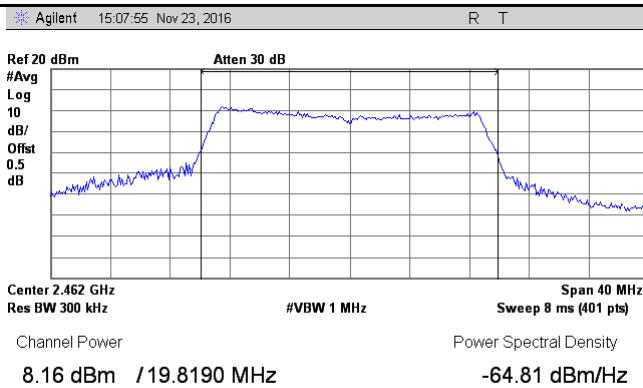
The Average Power





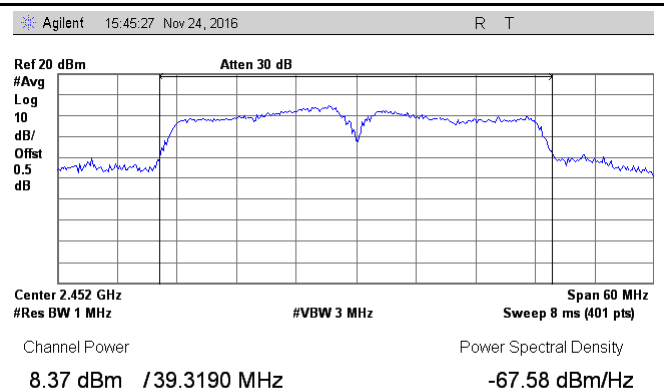
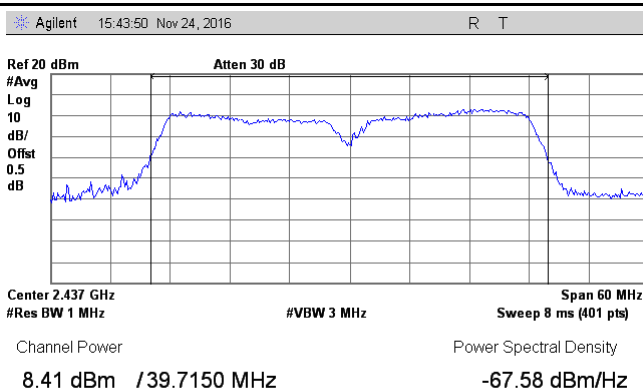
802.11n20 - AV Output power - Low CH 2412

802.11n20 - AV Output power - Mid CH 2437



802.11n20 - AV Output power - High CH 2462

802.11n40 - AV Output power - Low CH 2422

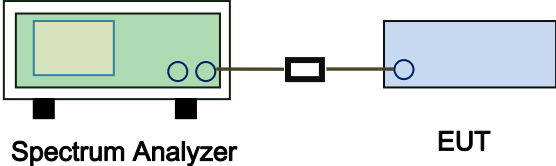


802.11n40 - AV Output power - Mid CH 2437

802.11n40 - AV Output power - High CH 2452

6.4 Power Spectral Density

Temperature	24°C
Relative Humidity	56%
Atmospheric Pressure	1023mbar
Test date :	November 23, 2016
Tested By :	Loren Luo

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 v03r03, 10.2 power spectral density method power spectral density measurement procedure</p> <ul style="list-style-type: none"> - 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: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$. - d) Set the VBW $\geq 3 \times \text{RBW}$. - 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	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail		

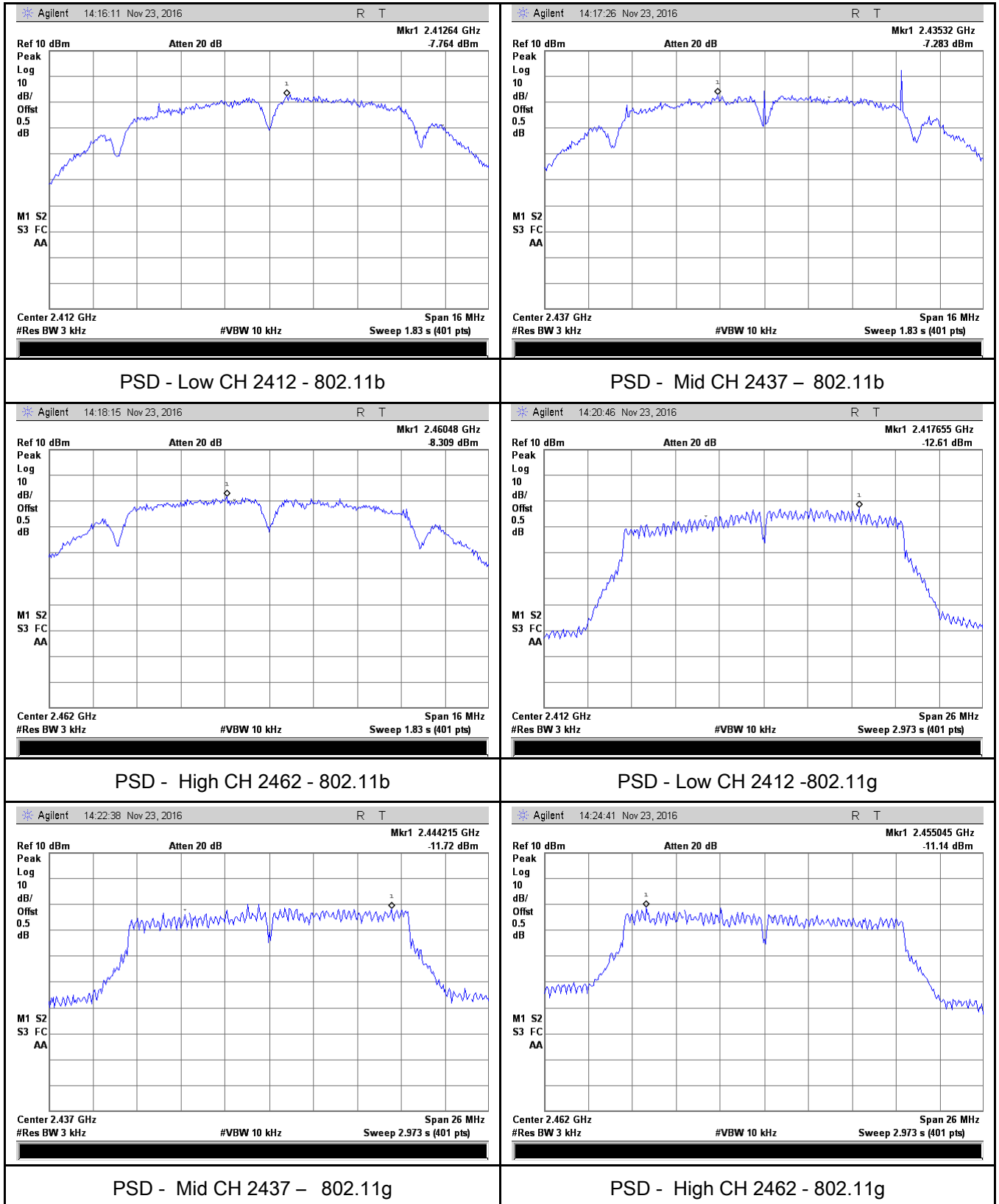
Test Data ☒ Yes ☐ N/A
Test Plot ☒ Yes (See below) ☐ N/A

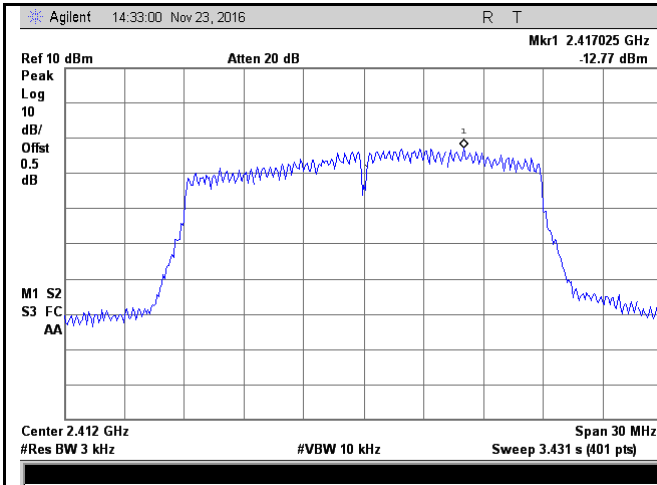
Power Spectral Density measurement result

Type	Test mode	CH	Freq (MHz)	PSD	Limit (dBm)	Result
				(dBm)		
PSD	802.11b	Low	2412	-7.764	8	Pass
		Mid	2437	-7.283	8	Pass
		High	2462	-8.309	8	Pass
	802.11g	Low	2412	-12.61	8	Pass
		Mid	2437	-11.72	8	Pass
		High	2462	-11.14	8	Pass
	802.11n (20M)	Low	2412	-12.77	8	Pass
		Mid	2437	-9.82	8	Pass
		High	2462	-11.14	8	Pass
	802.11n (40M)	Low	2422	-12.19	8	Pass
		Mid	2437	-12.21	8	Pass
		High	2452	-10.46	8	Pass

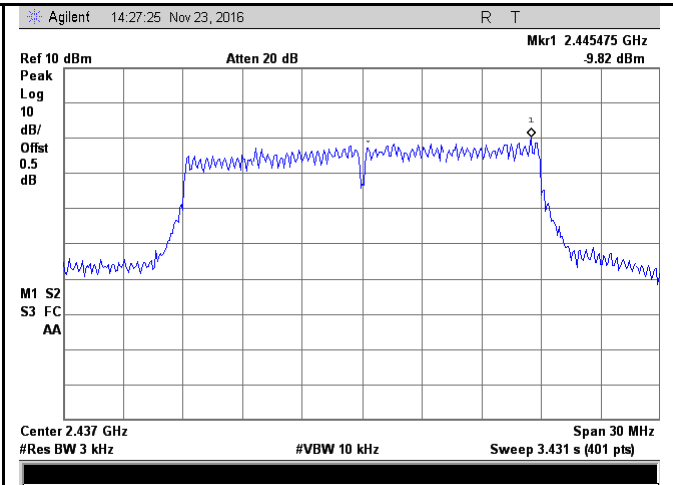
Test Plots

Power Spectral Density measurement result

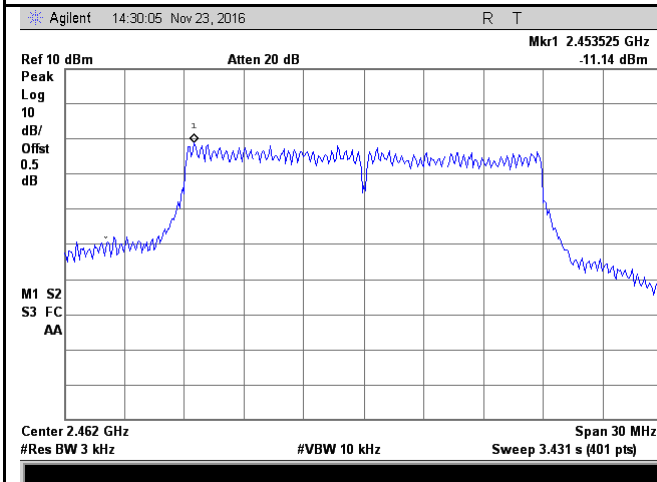




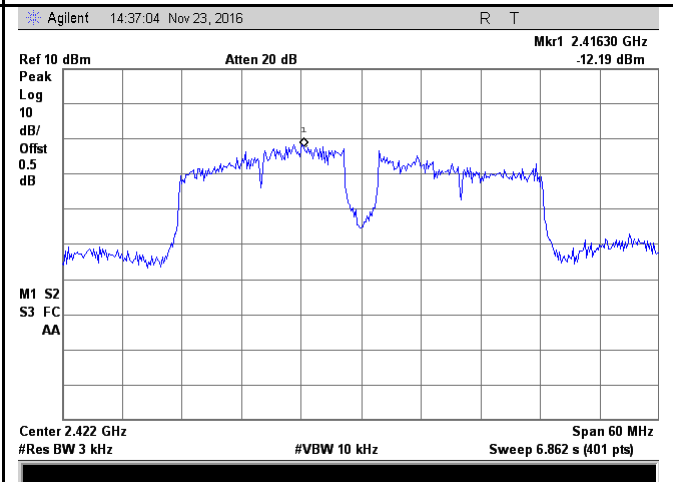
PSD - Low CH 2412 - 802.11n20



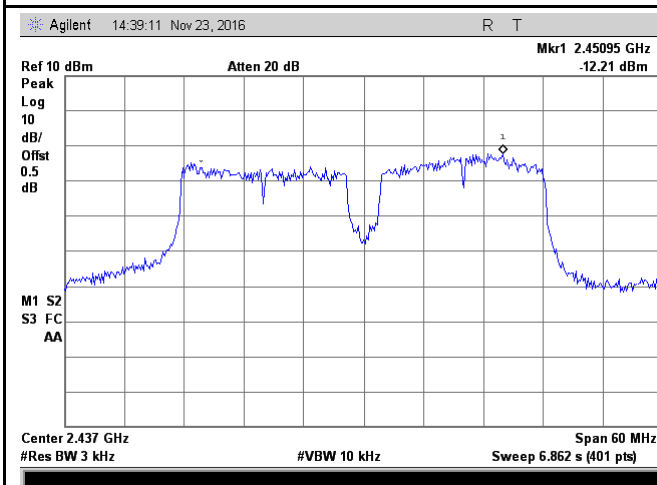
PSD - Mid CH 2437 - 802.11n20



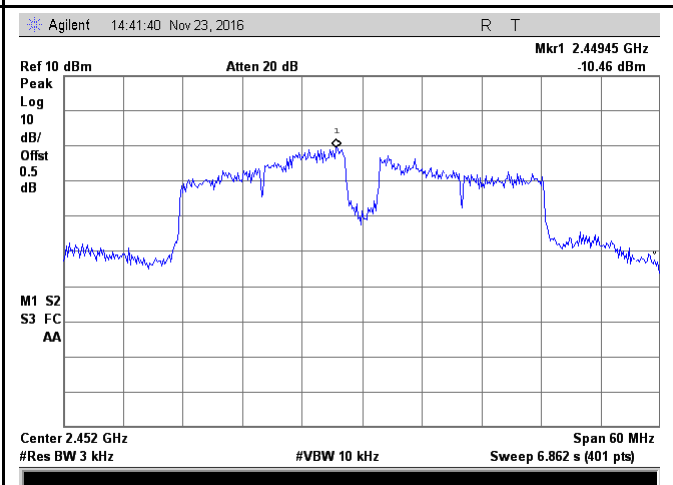
PSD - High CH 2472 - 802.11n20



PSD - Low CH 2422 - 802.11n40



PSD - Mid CH 2437 - 802.11n40

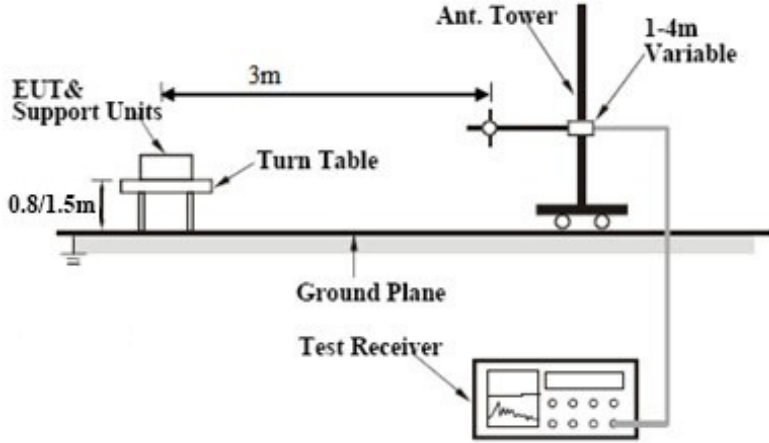


PSD - High CH 2452 - 802.11n40

6.5 Band-Edge & Unwanted Emissions into Restricted Frequency Bands

Temperature	22°C
Relative Humidity	58%
Atmospheric Pressure	1025mbar
Test date :	November 25, 2016
Tested By :	Loren Luo

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"> 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. 		

Test Report No.	16071296-FCC-R3
Page	26 of 55

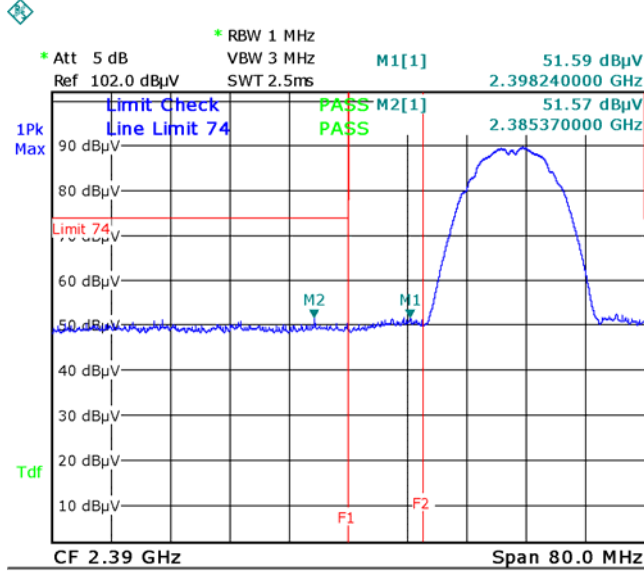
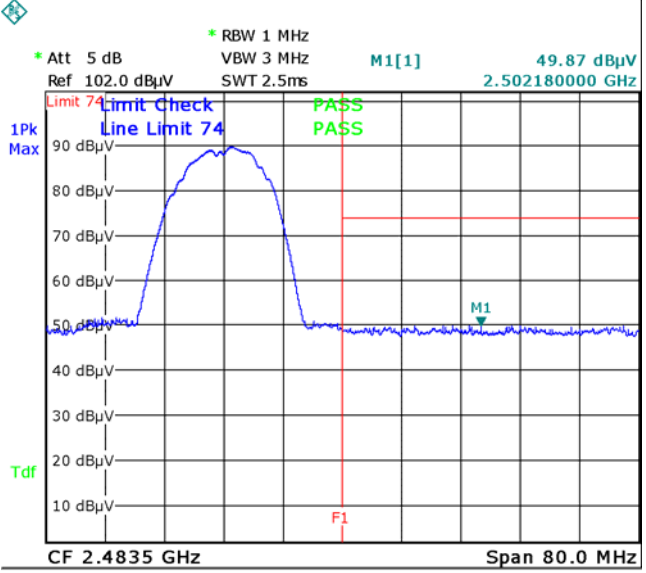
	<ul style="list-style-type: none"> - 3. First, set both RBW and VBW of spectrum analyzer to 100 kHz with a convenient frequency span including 100kHz bandwidth from band edge, check the emission of EUT, if pass then set Spectrum Analyzer as below: <ul style="list-style-type: none"> a. The resolution 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	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

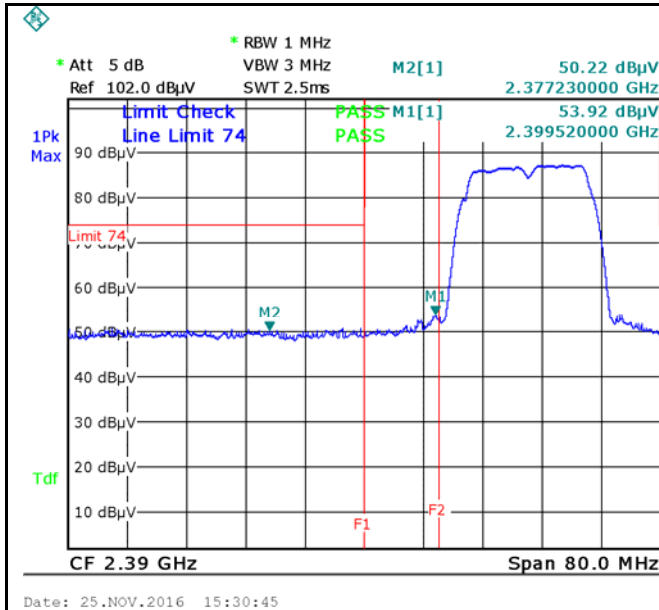
Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

Test Plots

Band Edge measurement result

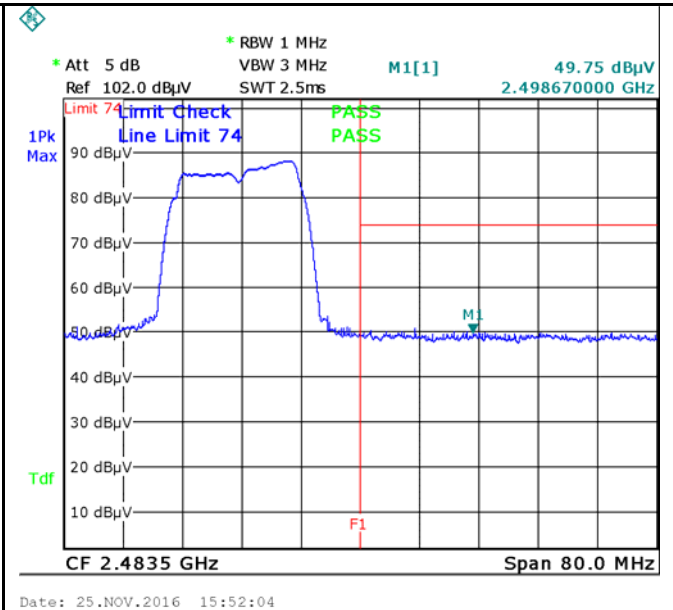
 <p> * RBW 1 MHz * Att 5 dB Ref 102.0 dBμV VBW 3 MHz SWT 2.5ms M1[1] 51.59 dBμV 2.398240000 GHz Limit Check Line Limit 74 PASS M2[1] PASS CF 2.39 GHz Span 80.0 MHz Date: 25.NOV.2016 15:25:52 </p>	 <p> * RBW 1 MHz * Att 5 dB Ref 102.0 dBμV VBW 3 MHz SWT 2.5ms M1[1] 49.87 dBμV 2.502180000 GHz Limit Check Line Limit 74 PASS M1[1] PASS CF 2.4835 GHz Span 80.0 MHz Date: 25.NOV.2016 15:49:38 </p>
<p>Band Edge, Left Side (Peak) - 802.11b</p> <p>Note: F1 is frequency 2390MHz; F2 is frequency 2400MHz</p>	<p>Band Edge, Right Side (Peak) - 802.11b</p> <p>Note: F1 is frequency 2483.5MHz</p>
<p>Note: (no need if PK value less than the AV limit)</p>	<p>Note: (no need if PK value less than the AV limit)</p>
<p>Band Edge, Left Side (Average) - 802.11b</p>	<p>Band Edge, Right Side (Average) - 802.11b</p>



Band Edge, Left Side (Peak) - 802.11g
Note: F1 is frequency 2390MHz; F2 is frequency 2400MHz

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

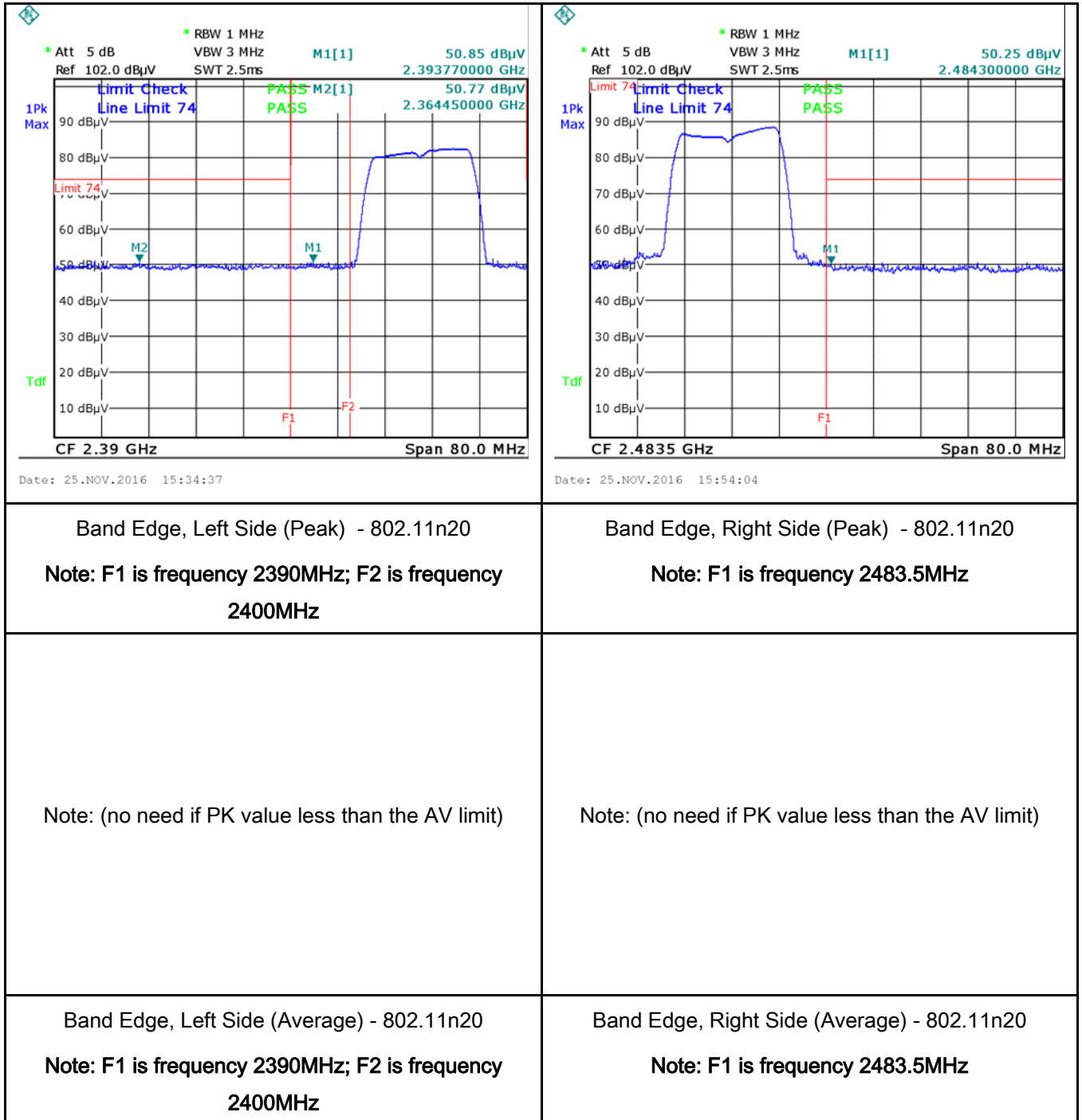
Band Edge, Left Side (Average) - 802.11g
Note: F1 is frequency 2390MHz; F2 is frequency 2400MHz

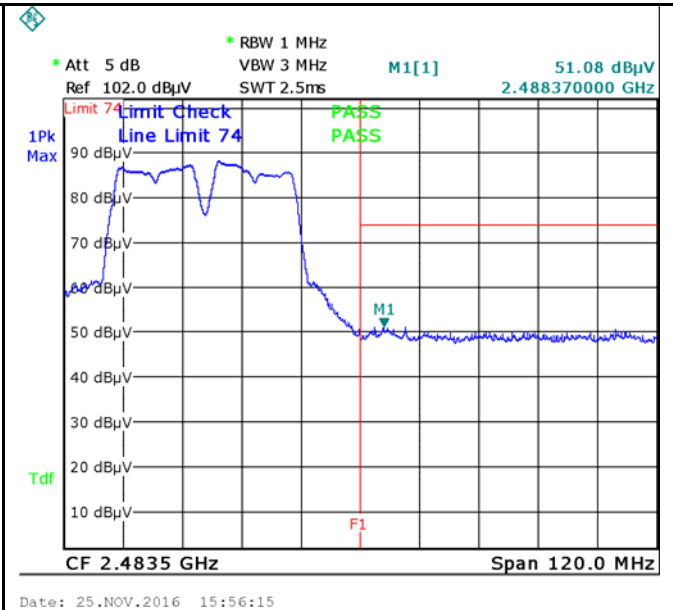
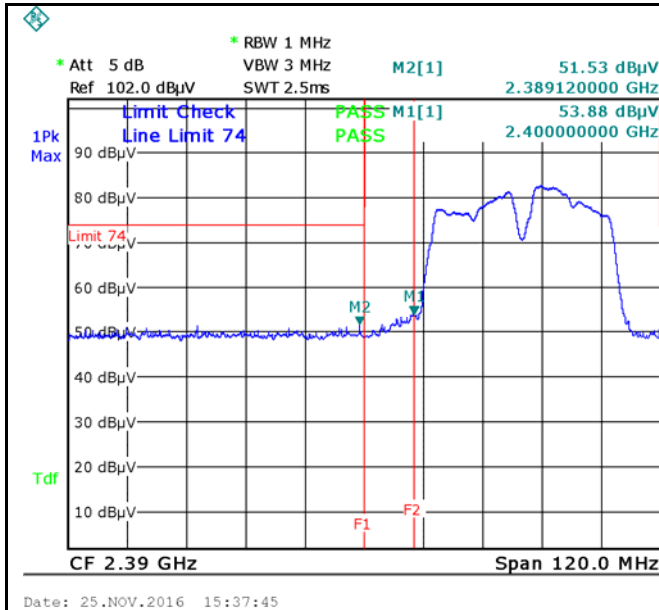


Band Edge, Right Side (Peak) - 802.11g
Note: F1 is frequency 2483.5MHz

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

Band Edge, Right Side (Average) - 802.11g
Note: F1 is frequency 2483.5MHz





Band Edge, Left Side (Peak) - 802.11n40

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

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

Band Edge, Left Side (Average) - 802.11n40

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

Band Edge, Right Side (Peak) - 802.11n40

Note: F1 is frequency 2483.5MHz

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

Band Edge, Right Side (Average) - 802.11n40

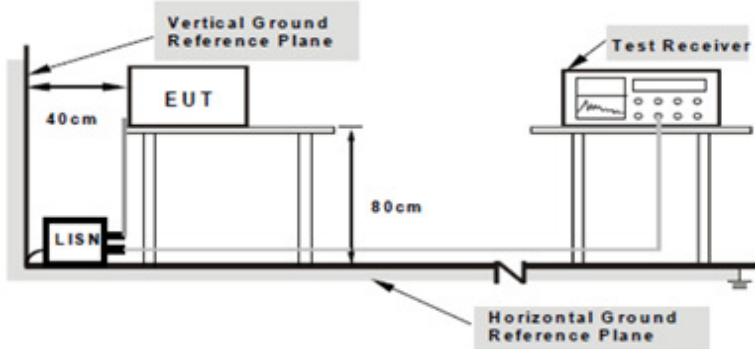
Note: F1 is frequency 2483.5MHz

6.6 AC Power Line Conducted Emissions

Temperature	22°C
Relative Humidity	58%
Atmospheric Pressure	1025mbar
Test date :	November 25, 2016
Tested By :	Loren Luo

Requirement(s):

Spec	Item	Requirement	Applicable		
47CFR§15.207, RSS210 (A8.1)	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.	<div><input checked="" type="checkbox"/></div>		
		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"> 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. The power supply for the EUT was fed through a 50W/50mH EUT LISN, connected to filtered mains. The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss
-----------	---

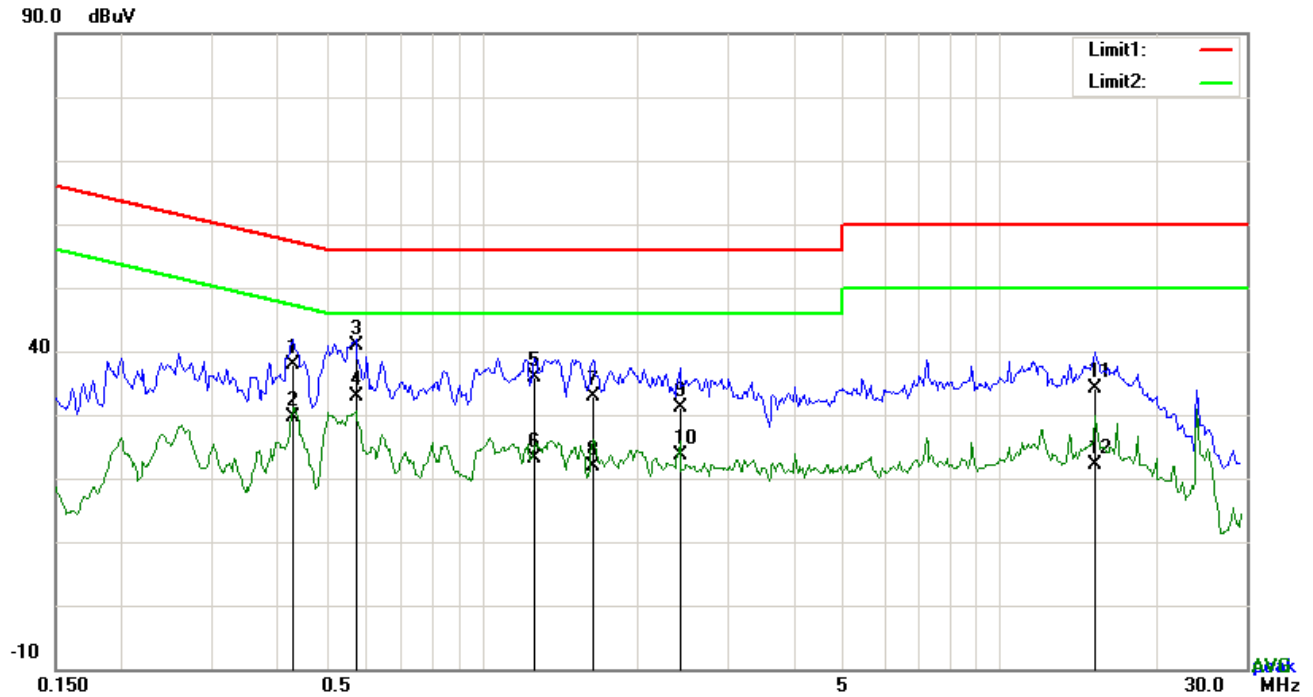
Test Report No.	16071296-FCC-R3
Page	32 of 55

	<p>coaxial cable.</p> <ol style="list-style-type: none"> 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	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

Test Data ☒ Yes ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

Test Mode: Transmitting Mode

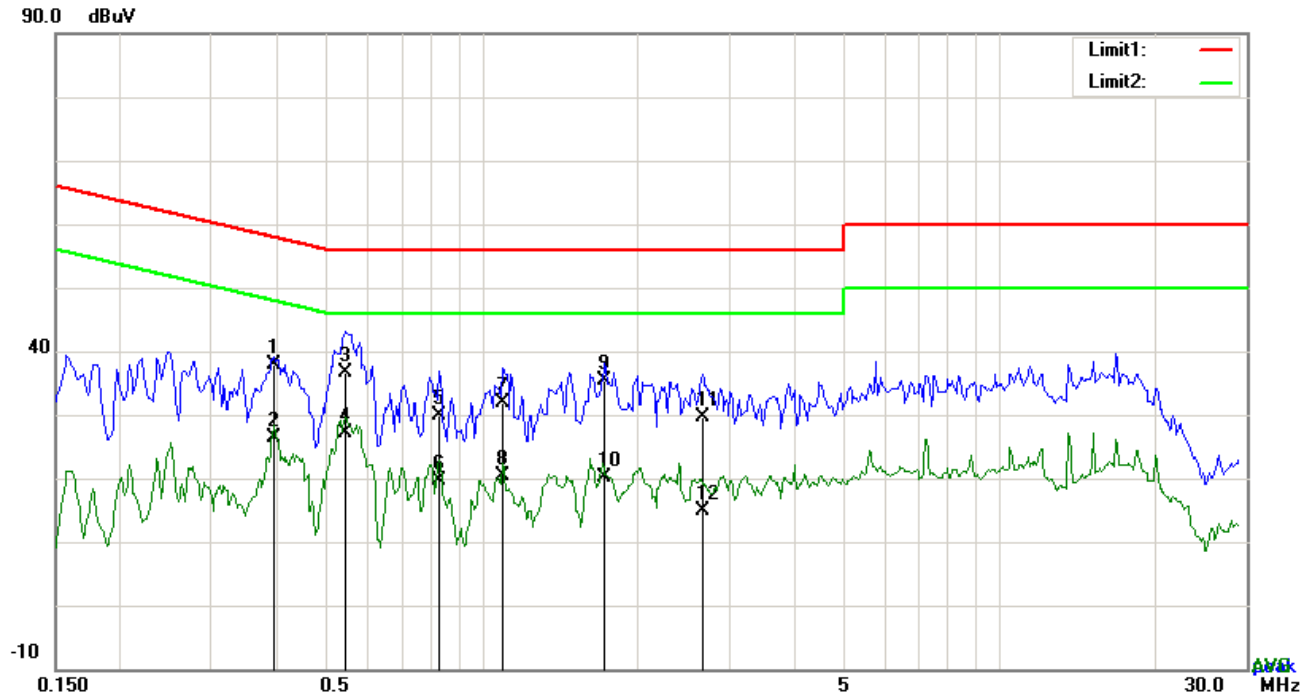


Test Data

Phase Line Plot at 120Vac, 60Hz

No.	P/L	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)
1	L1	0.4308	25.84	QP	12.16	38.00	57.24	-19.24
2	L1	0.4308	17.38	AVG	12.16	29.54	47.24	-17.70
3	L1	0.5712	29.05	QP	11.83	40.88	56.00	-15.12
4	L1	0.5712	21.03	AVG	11.83	32.86	46.00	-13.14
5	L1	1.2654	24.50	QP	11.40	35.90	56.00	-20.10
6	L1	1.2654	11.69	AVG	11.40	23.09	46.00	-22.91
7	L1	1.6437	21.37	QP	11.40	32.77	56.00	-23.23
8	L1	1.6437	10.50	AVG	11.40	21.90	46.00	-24.10
9	L1	2.4120	19.72	QP	11.40	31.12	56.00	-24.88
10	L1	2.4120	12.11	AVG	11.40	23.51	46.00	-22.49
11	L1	15.2772	19.82	QP	14.20	34.02	60.00	-25.98
12	L1	15.2772	7.97	AVG	14.20	22.17	50.00	-27.83

Test Mode: Transmitting Mode

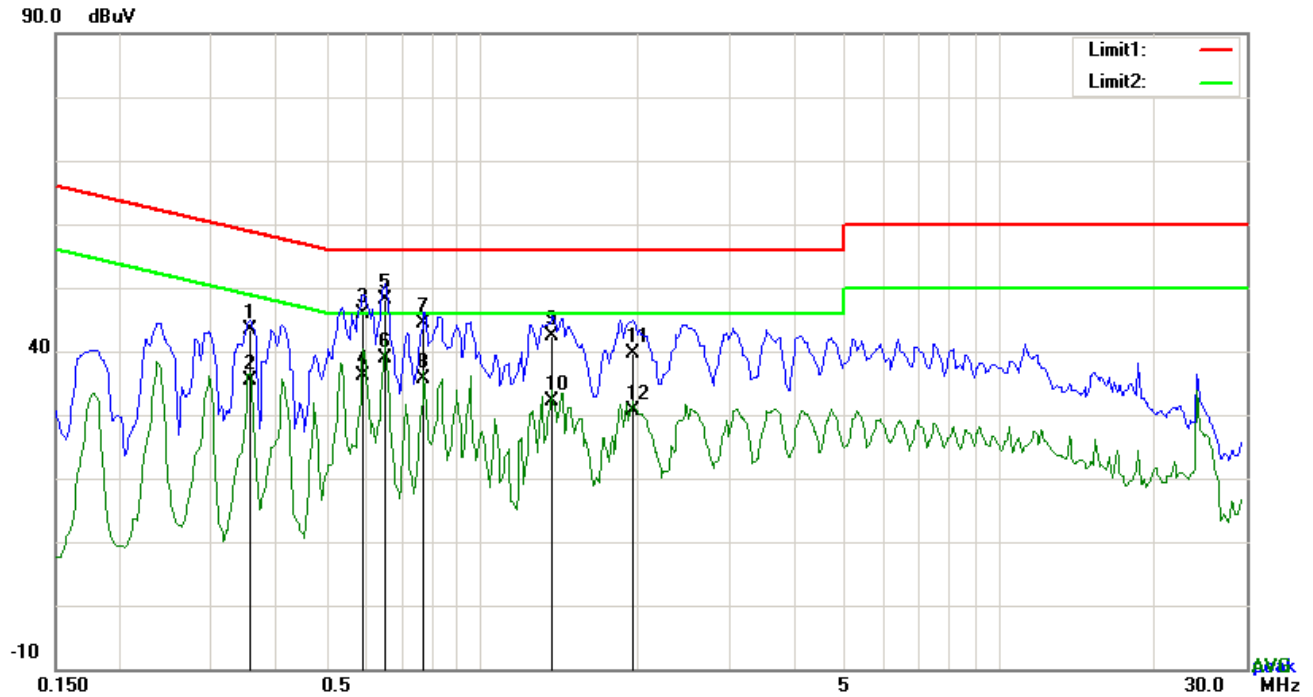


Test Data

Phase Neutral Plot at 120Vac, 60Hz

No.	P/L	Frequency (MHz)	Reading (dBuV)	Detector	Corrected (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	N	0.3957	25.49	QP	12.29	37.78	57.94	-20.16
2	N	0.3957	14.01	AVG	12.29	26.30	47.94	-21.64
3	N	0.5439	24.83	QP	11.86	36.69	56.00	-19.31
4	N	0.5439	15.30	AVG	11.86	27.16	46.00	-18.84
5	N	0.8286	18.22	QP	11.57	29.79	56.00	-26.21
6	N	0.8286	8.09	AVG	11.57	19.66	46.00	-26.34
7	N	1.0977	20.54	QP	11.41	31.95	56.00	-24.05
8	N	1.0977	8.88	AVG	11.41	20.29	46.00	-25.71
9	N	1.7295	23.94	QP	11.49	35.43	56.00	-20.57
10	N	1.7295	8.56	AVG	11.49	20.05	46.00	-25.95
11	N	2.6694	18.11	QP	11.61	29.72	56.00	-26.28
12	N	2.6694	3.16	AVG	11.61	14.77	46.00	-31.23

Test Mode: Transmitting Mode

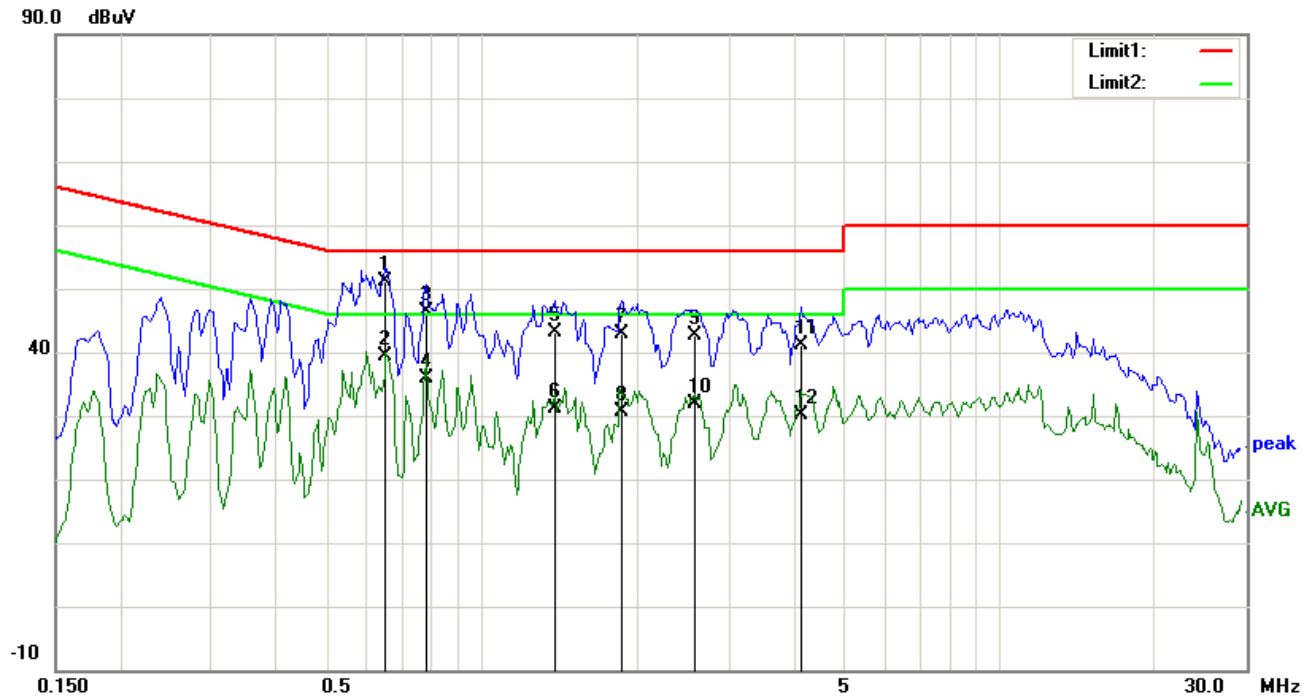


Test Data

Phase Line Plot at 240Vac, 60Hz

No.	P/L	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)
1	L1	0.3567	31.00	QP	12.43	43.43	58.80	-15.37
2	L1	0.3567	22.96	AVG	12.43	35.39	48.80	-13.41
3	L1	0.5907	34.04	QP	11.81	45.85	56.00	-10.15
4	L1	0.5907	24.26	AVG	11.81	36.07	46.00	-9.93
5	L1	0.6531	36.38	QP	11.75	48.13	56.00	-7.87
6	L1	0.6531	27.04	AVG	11.75	38.79	46.00	-7.21
7	L1	0.7740	32.84	QP	11.63	44.47	56.00	-11.53
8	L1	0.7740	24.07	AVG	11.63	35.70	46.00	-10.30
9	L1	1.3707	30.89	QP	11.40	42.29	56.00	-13.71
10	L1	1.3707	20.76	AVG	11.40	32.16	46.00	-13.84
11	L1	1.9557	28.12	QP	11.40	39.52	56.00	-16.48
12	L1	1.9557	19.13	AVG	11.40	30.53	46.00	-15.47

Test Mode: Transmitting Mode



Test Data

Phase Neutral Plot at 240Vac, 60Hz

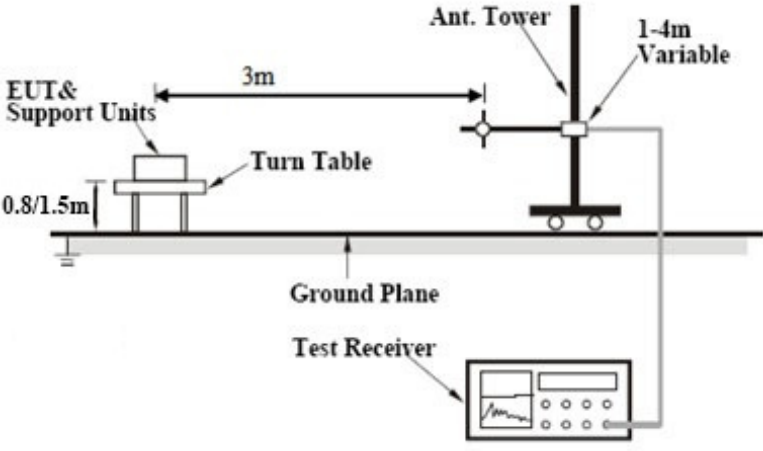
No.	P/L	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)
1	N	0.6531	39.47	QP	11.75	51.22	56.00	-4.78
2	N	0.6531	27.61	AVG	11.75	39.36	46.00	-6.64
3	N	0.7818	34.81	QP	11.62	46.43	56.00	-9.57
4	N	0.7818	24.25	AVG	11.62	35.87	46.00	-10.13
5	N	1.3863	31.60	QP	11.45	43.05	56.00	-12.95
6	N	1.3863	19.62	AVG	11.45	31.07	46.00	-14.93
7	N	1.8621	31.39	QP	11.51	42.90	56.00	-13.10
8	N	1.8621	19.05	AVG	11.51	30.56	46.00	-15.44
9	N	2.5797	30.99	QP	11.60	42.59	56.00	-13.41
10	N	2.5797	20.32	AVG	11.60	31.92	46.00	-14.08
11	N	4.1427	29.41	QP	11.79	41.20	56.00	-14.80
12	N	4.1427	18.29	AVG	11.79	30.08	46.00	-15.92

6.7 Radiated Spurious Emissions & Restricted Band

Temperature	22°C
Relative Humidity	58%
Atmospheric Pressure	1025mbar
Test date :	November 25, 2016
Tested By :	Loren Luo

Requirement(s):

Spec	Item	Requirement	Applicable										
47CFR§15.247(d), RSS210 (A8.5)	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>											

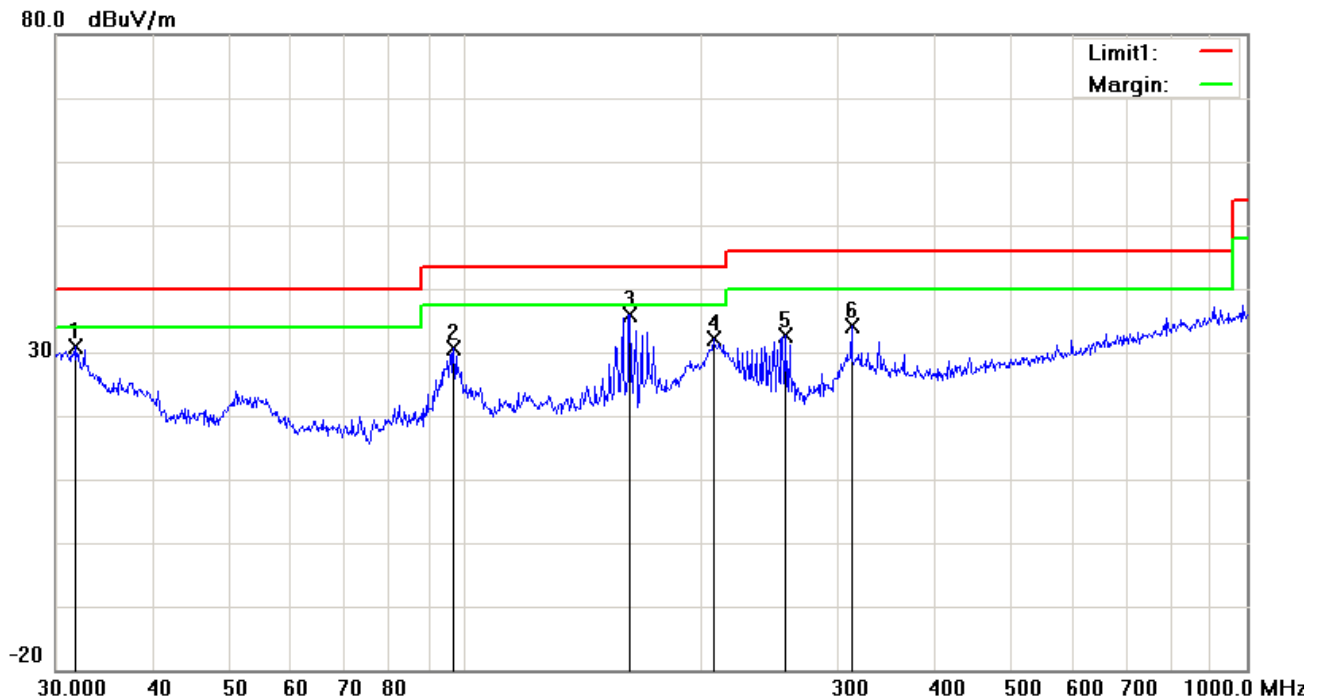
Test Setup	
Procedure	<ol style="list-style-type: none"> The EUT was switched on and allowed to warm up to its normal operating condition. The test was carried out at the selected frequency points obtained from the EUT characterization. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner: <ol style="list-style-type: none"> Vertical or horizontal polarization (whichever gave the higher emission level over a full rotation of the EUT) was chosen. The EUT was then rotated to the direction that gave the maximum emission. Finally, the antenna height was adjusted to the height that gave the maximum emission. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi Peak detection at frequency below 1GHz. 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. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured.
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: Transmitting Mode

(Below 1GHz)

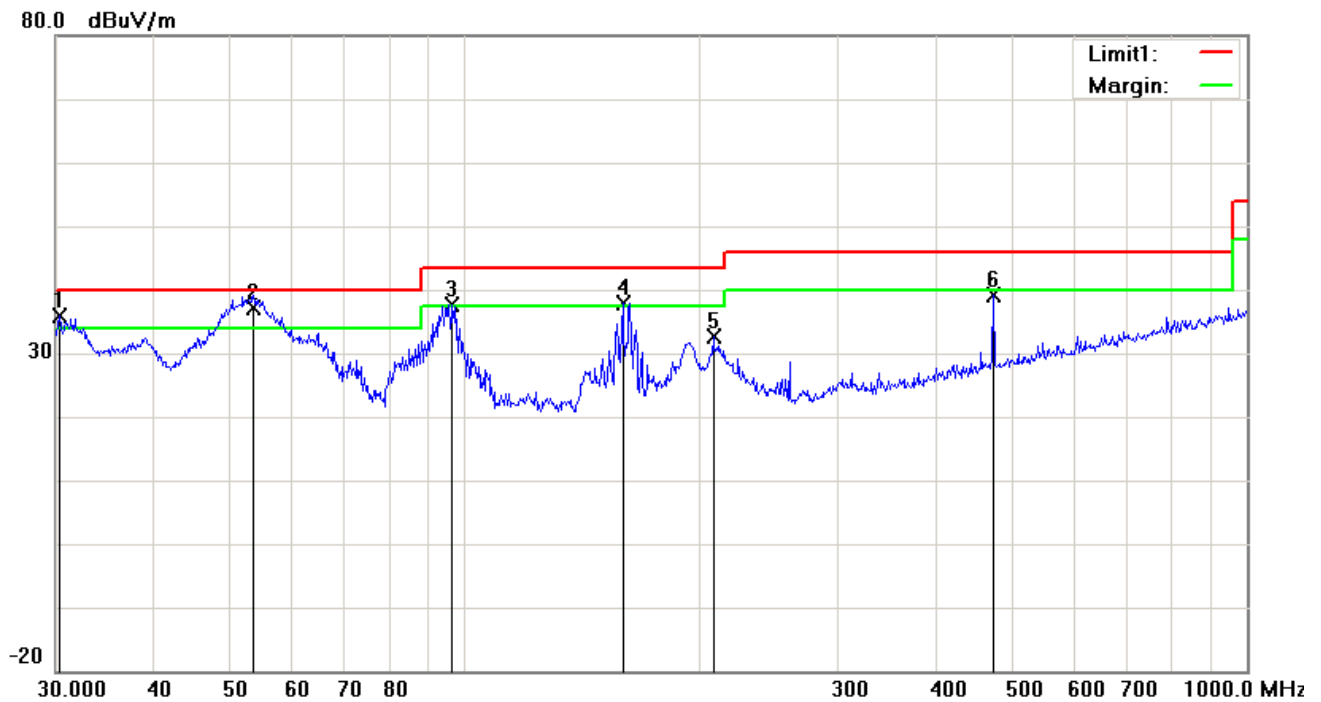


Test Data

Vertical Polarity Plot @3m

No	P/L	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Height	Degree
1	H	31.8427	32.38	peak	-1.62	30.76	40.00	-9.24	200	73
2	H	96.7749	42.40	peak	-11.65	30.75	43.50	-12.75	100	158
3	H	162.6106	44.38	peak	-8.50	35.88	43.50	-7.62	100	62
4	H	207.8501	40.96	peak	-8.81	32.15	43.50	-11.35	100	65
5	H	257.4222	41.58	peak	-8.85	32.73	46.00	-13.27	100	345
6	H	312.1794	40.64	peak	-6.55	34.09	46.00	-11.91	100	182

(Below 1GHz)



Test Data

Horizontal Polarity Plot @3m

No	P/L	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Height	Degree
1	V	30.3173	36.25	QP	-0.49	35.76	40.00	-4.24	100	99
2	V	53.6932	50.83	QP	-13.61	37.22	40.00	-2.78	100	143
3	V	96.0986	49.58	QP	-11.84	37.74	43.50	-5.76	100	62
4	V	159.2251	46.29	QP	-8.29	38.00	43.50	-5.50	100	358
5	V	207.8501	41.42	peak	-8.81	32.61	43.50	-10.89	100	275
6	V	473.8347	41.62	peak	-2.41	39.21	46.00	-6.79	100	109

Above 1GHz

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

Low Channel (2412 MHz) (g mode worst case)

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	38.27	AV	V	33.8	6.86	32.69	46.24	54	-7.76
4824	38.01	AV	H	33.8	6.86	32.69	45.98	54	-8.02
4824	47.13	PK	V	33.8	6.86	32.69	55.1	74	-18.9
4824	46.52	PK	H	33.8	6.86	32.69	54.49	74	-19.51
17915	23.54	AV	V	45.12	11.57	32.11	48.12	54	-5.88
17915	23.08	AV	H	45.12	11.57	32.11	47.66	54	-6.34
17915	40.55	PK	V	45.12	11.57	32.11	65.13	74	-8.87
17915	39.62	PK	H	45.12	11.57	32.11	64.2	74	-9.8

Middle Channel (2437 MHz) (n20 mode worst case)

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	38.44	AV	V	33.6	6.82	32.71	46.15	54	-7.85
4874	38.31	AV	H	33.6	6.82	32.71	46.02	54	-7.98
4874	47.56	PK	V	33.6	6.82	32.71	55.27	74	-18.73
4874	47.19	PK	H	33.6	6.82	32.71	54.9	74	-19.1
17924	23.68	AV	V	45.17	11.63	32.18	48.3	54	-5.7
17924	23.47	AV	H	45.17	11.63	32.18	48.09	54	-5.91
17924	40.85	PK	V	45.17	11.63	32.18	65.47	74	-8.53
17924	40.62	PK	H	45.17	11.63	32.18	65.24	74	-8.76

High Channel (2452 MHz) (b mode worst case)

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	38.59	AV	V	33.83	6.95	32.79	46.58	54	-7.42
4924	38.26	AV	H	33.83	6.95	32.79	46.25	54	-7.75
4924	47.69	PK	V	33.83	6.95	32.79	55.68	74	-18.32
4924	47.12	PK	H	33.83	6.95	32.79	55.11	74	-18.89
17908	23.64	AV	V	45.19	11.61	32.24	48.2	54	-5.8
17908	23.48	AV	H	45.19	11.61	32.24	48.04	54	-5.96
17908	41.13	PK	V	45.19	11.61	32.24	65.69	74	-8.31
17908	40.76	PK	H	45.19	11.61	32.24	65.32	74	-8.68

Note:

1, The testing has been conformed to $10 \times 2462 \text{ MHz} = 24,620 \text{ MHz}$

2, All other emissions more than 30 dB below the limit

3, X-Axis, Y-Axis and Z-Axis were investigated. The results above show only the worst case.

Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Due	In use
AC Line Conducted					
EMI test receiver	ESCS30	8471241027	09/16/2016	09/15/2017	<input checked="" type="checkbox"/>
Line Impedance	LI-125A	191106	09/24/2016	09/23/2017	<input checked="" type="checkbox"/>
Line Impedance	LI-125A	191107	09/24/2016	09/23/2017	<input checked="" type="checkbox"/>
LISN	ISN T800	34373	09/24/2016	09/23/2017	<input checked="" type="checkbox"/>
Double Ridge Horn Antenna (1 ~18GHz)	AH-118	71283	09/23/2016	09/22/2017	<input checked="" type="checkbox"/>
Transient Limiter	LIT-153	531118	08/31/2016	08/30/2017	<input checked="" type="checkbox"/>
RF conducted test					
Agilent ESA-E SERIES	E4407B	MY45108319	09/16/2016	09/15/2017	<input checked="" type="checkbox"/>
Power Splitter	1#	1#	08/31/2016	08/30/2017	<input checked="" type="checkbox"/>
DC Power Supply	E3640A	MY40004013	09/16/2016	09/15/2017	<input checked="" type="checkbox"/>
Radiated Emissions					
EMI test receiver	ESL6	100262	09/16/2016	09/15/2017	<input checked="" type="checkbox"/>
Positioning Controller	UC3000	MF780208282	11/18/2016	11/17/2017	<input checked="" type="checkbox"/>
OPT 010 AMPLIFIER (0.1-1300MHz)	8447E	2727A02430	08/31/2016	08/30/2017	<input checked="" type="checkbox"/>
Microwave Preamplifier (1 ~ 26.5GHz)	8449B	3008A02402	03/24/2016	03/23/2017	<input checked="" type="checkbox"/>
Bilog Antenna (30MHz~6GHz)	JB6	A110712	09/20/2016	09/19/2017	<input checked="" type="checkbox"/>
Double Ridge Horn Antenna (1 ~18GHz)	AH-118	71283	09/23/2016	09/22/2017	<input checked="" type="checkbox"/>
Universal Radio Communication Tester	CMU200	121393	09/24/2016	09/23/2017	<input checked="" type="checkbox"/>

Annex B. EUT and Test Setup Photographs

Annex B.i. Photograph: EUT External Photo



Whole Package View



Adapter - Front View



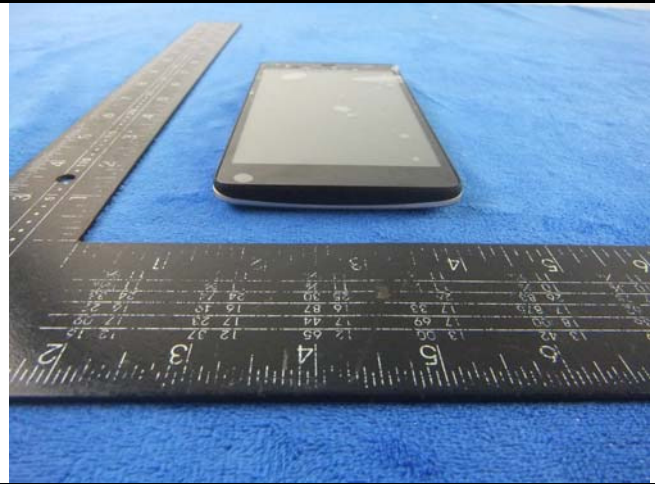
EUT - Front View



EUT - Rear View



EUT - Top View



EUT - Bottom View



EUT - Left View



EUT - Right View

Annex B.ii. Photograph: EUT Internal Photo



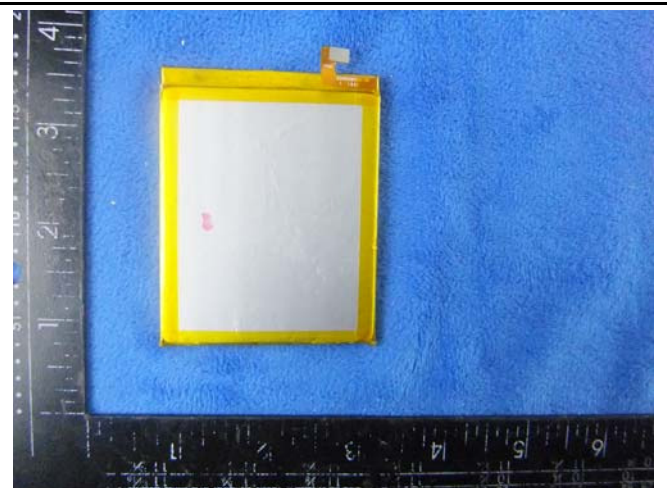
Cover Off - Top View 1



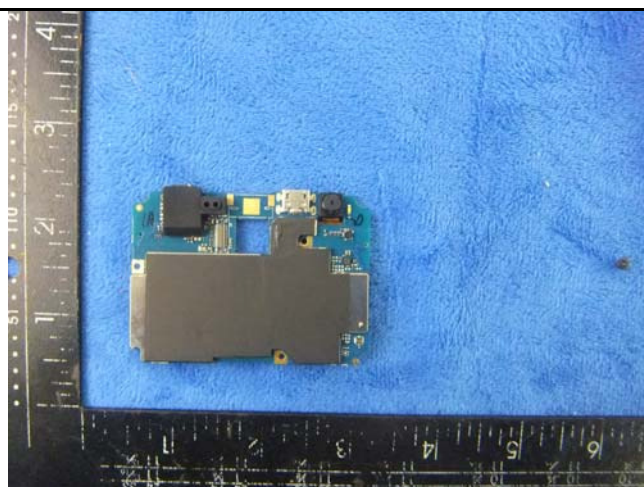
Cover Off - Top View 2



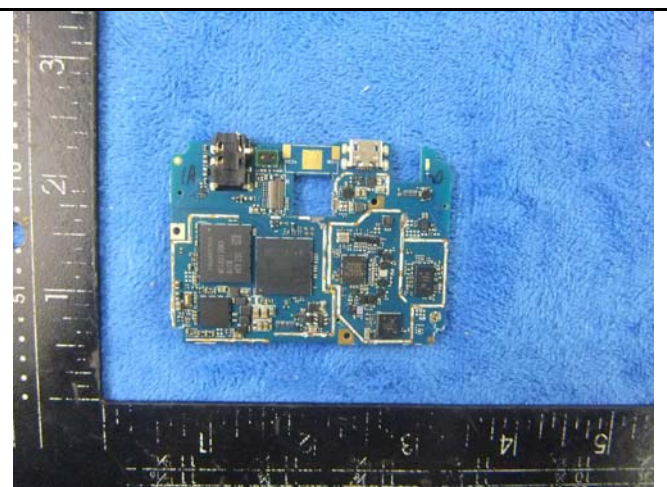
Battery - Front View



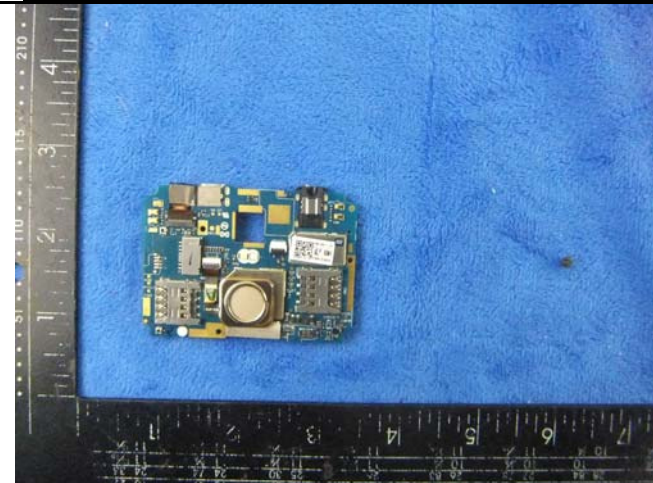
Battery - Rear View



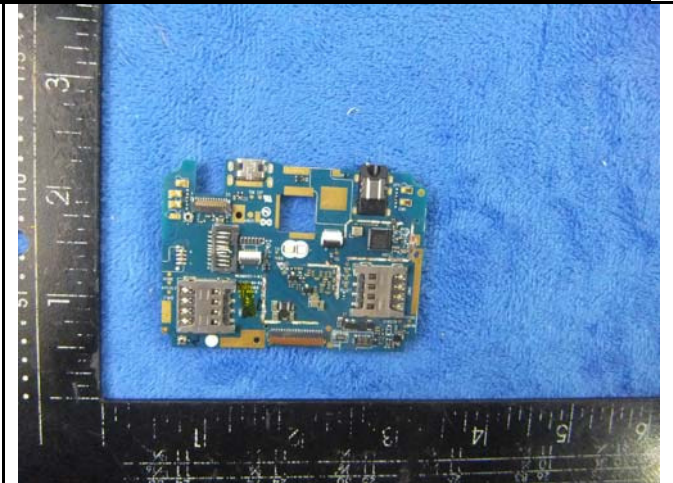
Mainboard with Shielding - Front View



Mainboard without Shielding - Front View



Mainboard with Shielding – Rear View



Mainboard without Shielding - Rear View



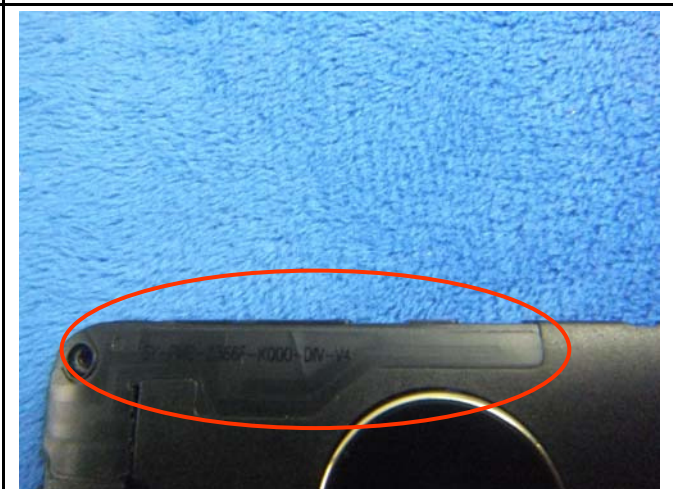
LCD – Front View



LCD – Rear View



GSM/PCS/UMTS-FDD Antenna View



LTE - Antenna View



WIFI/BT/BLE/GPS - Antenna View

Annex B.iii. Photograph: Test Setup Photo



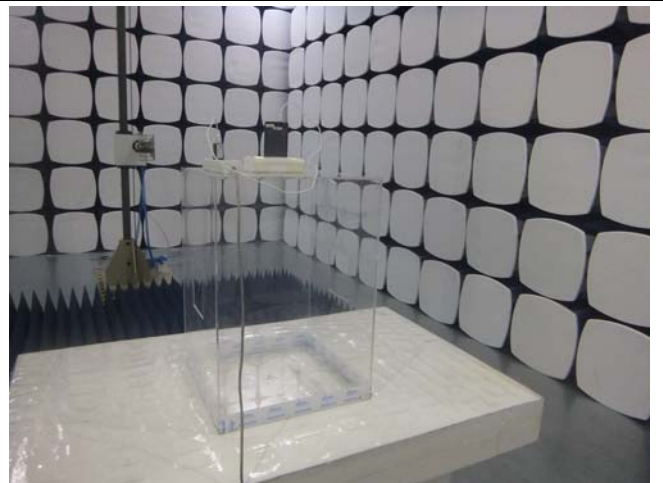
Conducted Emissions Test Setup Front View



Conducted Emissions Test Setup Side View



Radiated Spurious Emissions Test Setup Below 1GHz

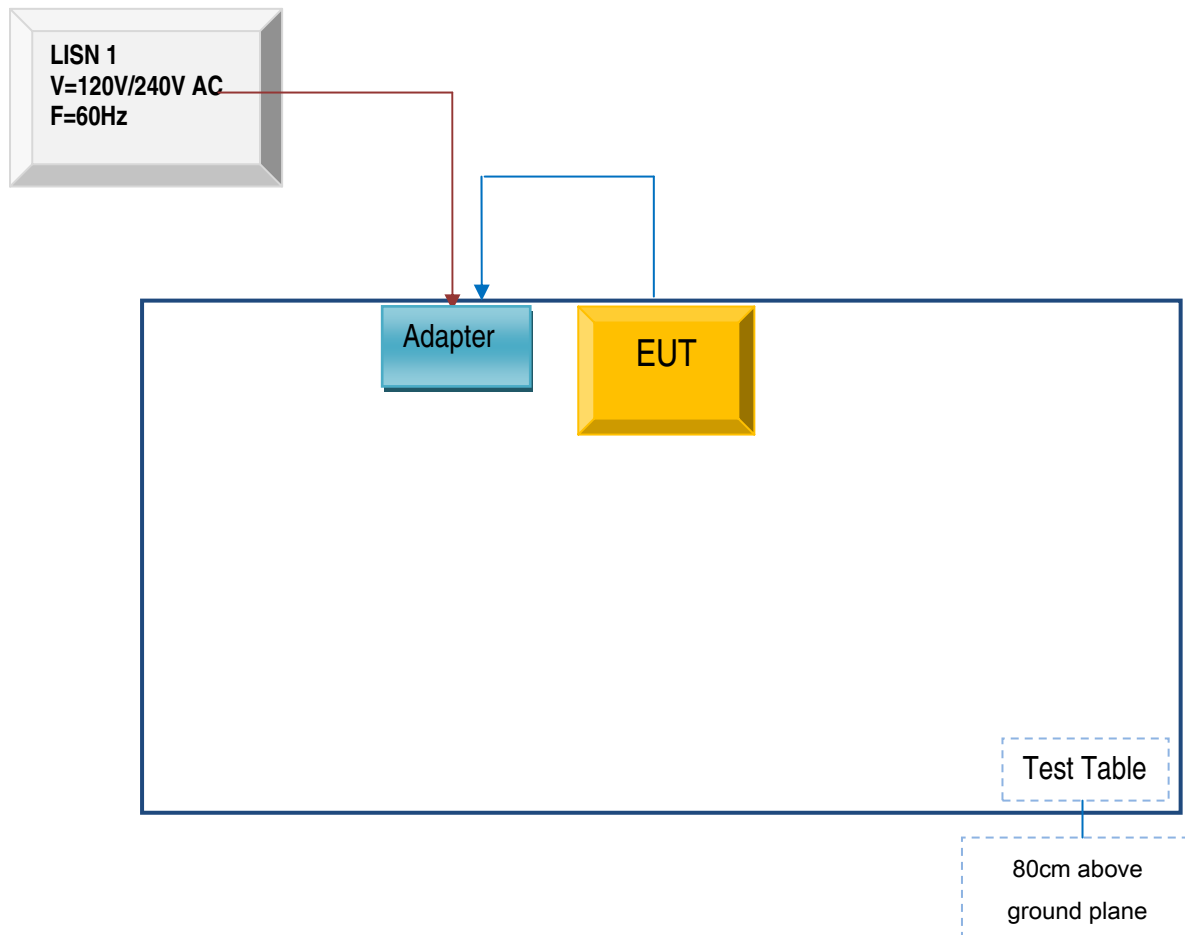


Radiated Spurious Emissions Test Setup Above
1GHz

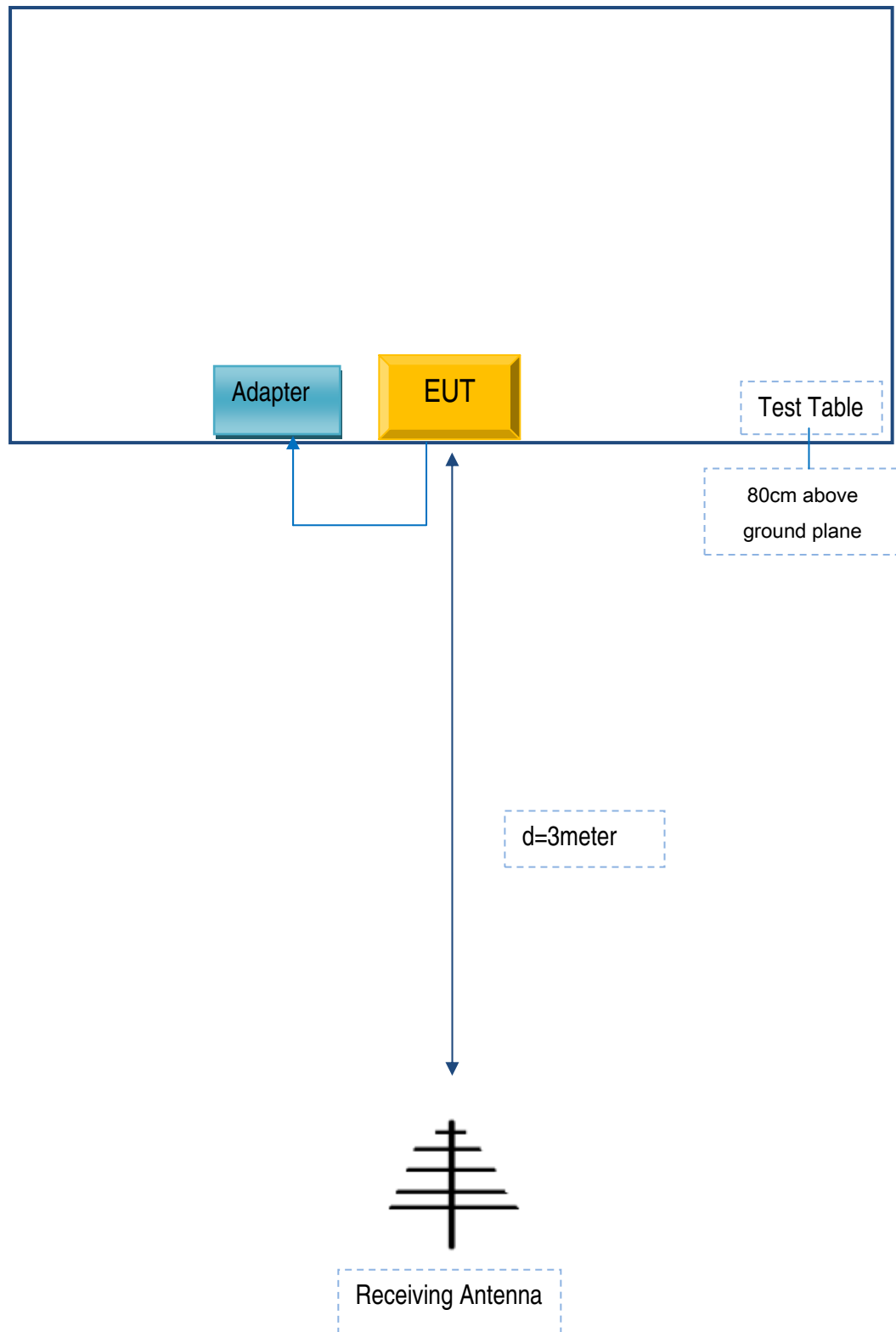
Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

Annex C.ii. TEST SET UP BLOCK

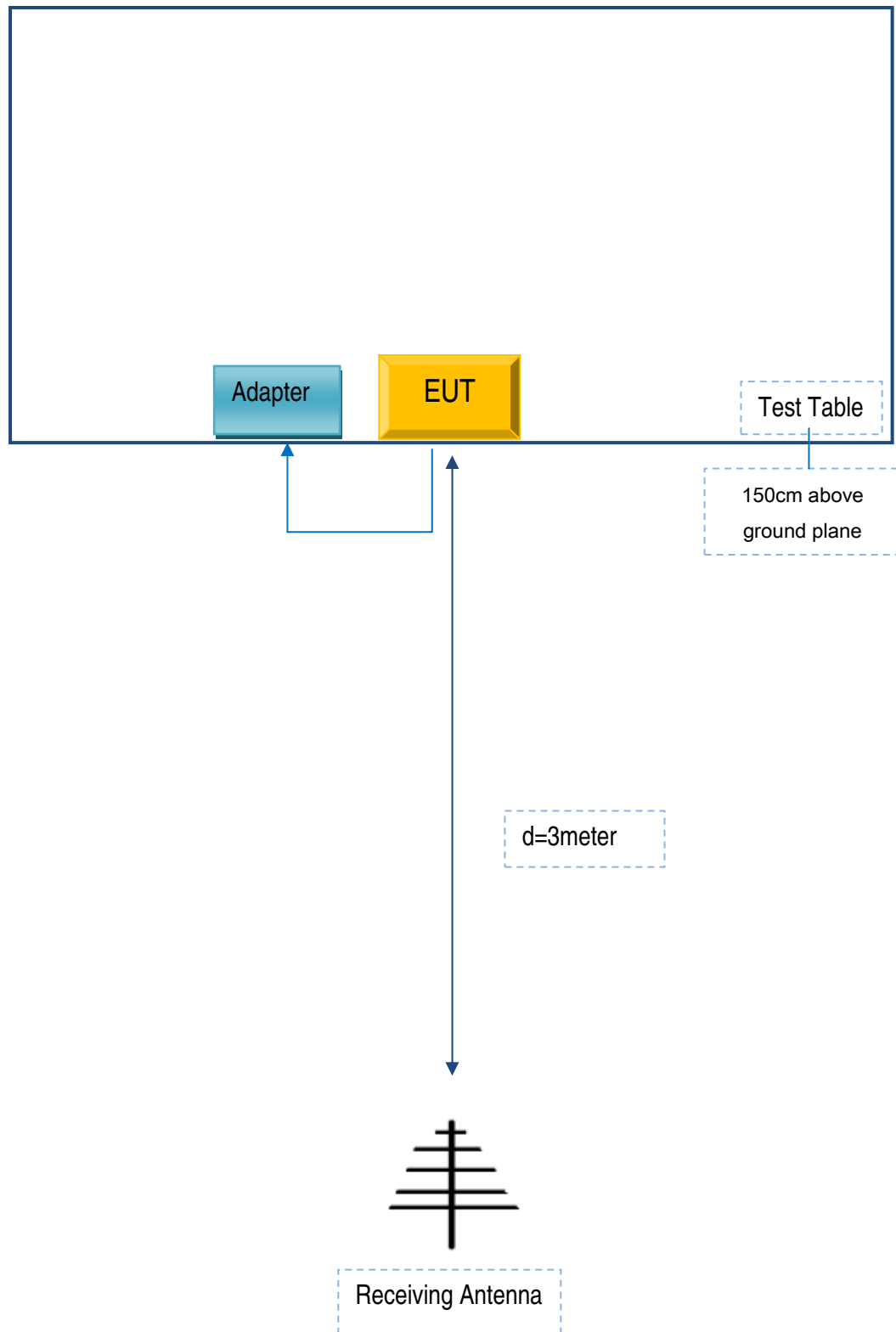
Block Configuration Diagram for AC Line Conducted Emissions



Block Configuration Diagram for Radiated Emissions (Below 1GHz) .



Block Configuration Diagram for Radiated Emissions (Above 1GHz) .



Annex C. ii. 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
Posh Mobile Limited	Adapter	A88-501500	S0523DF2

Supporting Cable:

Cable type	Shield Type	Ferrite Core	Length	Serial No
USB Cable	Un-shielding	No	0.8m	S0523DF2

Test Report No.	16071296-FCC-R3
Page	54 of 55

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

Please see the attachment

Annex E. DECLARATION OF SIMILARITY

Posh Mobile Limited

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 4 model numbers on the FCC certificates and reports, as following:

Model No.: L551 L551A L551B L551C

We declare that, all the model PCB, Antenna and Appearance shape, accessories are the same.

The difference of these is listed as below:

Main Model No.	Serial Model No.	Difference
L551	L551A L551B L551C	Different model name and color

Thank you!

Signature:

Printed name/title: Warren Chan

Address: 1011A, 10/F., Harbour Centre Tower 1 No.1 Hok Cheung St., Hung Hom, Kowloon, Hong Kong