

RF TEST REPORT



Report No.: 16070654-FCC-R3

Supersede Report No.: N/A

Applicant	NEG TECHNOLOGY CO., LIMITED	
Product Name	Mobile Phone	
Model No.	S3000S	
Serial No.	N/A	
Test Standard	FCC Part 15.247: 2015, ANSI C63.10: 2013	
Test Date	June 04 to June 23, 2016	
Issue Date	June 24, 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	David Huang	
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

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Laboratories Introduction

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



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Accreditations for Conformity Assessment

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

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1. Report Revision History

Report No.	Report Version	Description	Issue Date
16070654-FCC-R3	NONE	Original	June 24, 2016

2. Customer information

Applicant Name	NEG TECHNOLOGY CO., LIMITED
Applicant Add	Rm 1406, Block B, Jinsejiali, Jingtian south road, Futian district, Shenzhen, China
Manufacturer	NEG TECHNOLOGY CO., LIMITED
Manufacturer Add	Rm 1406, Block B, Jinsejiali, Jingtian south road, Futian district, Shenzhen, 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: Mobile Phone

Main Model: S3000S

Serial Model: N/A

Date EUT received: June 03, 2016

Test Date(s): June 04 to June 23, 2016

Equipment Category : DTS

GSM850: 0.8dBi

PCS1900: 1dBi

Antenna Gain: UMTS-FDD Band II: 1dBi

Bluetooth/BLE/WIFI: 1dBi

GPS: 1dBi

GSM / GPRS: GMSK

EGPRS: GMSK

UMTS-FDD: QPSK

Type of Modulation: 802.11b/g/n: DSSS, OFDM

Bluetooth: GFSK, $\pi/4$ DQPSK, 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 II TX:1852.4 ~ 1907.6 MHz;

RX: 1932.4 ~ 1987.6 MHz

RF Operating Frequency (ies): RA. 1932.4 ~ 1987.6 MHz, 1935.1 MHz (2001), 1935.2 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

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Max. Output Power:
 802.11b: 9.50dBm
 802.11g: 9.15dBm
 802.11n(20M): 9.34dBm
 802.11n(40M): 9.40dBm

Number of Channels:
 GSM 850: 124CH
 PCS1900: 299CH
 UMTS-FDD Band II: 277CH
 WIFI :802.11b/g/n(20M): 11CH
 WIFI :802.11n(40M): 7CH
 Bluetooth: 79CH
 BLE: 40CH
 GPS:1CH

Port: Power Port, Earphone Port, USB Port

Adapter:
 Model: S3000S
 Input: AC 100-240V~50/60Hz;0.15A
 Output: DC 5.0V,500mA
 Battery:
 Model: S3000S
 Spec: 3.7V,1100mAh(4.07Wh)
 Charge limited voltage: 4.2V

Trade Name : OWN

GPRS/EGPRS Multi-slot class 8/10/12

FCC ID: 2AAZ8-S3000S

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 2 antennas:

A permanently attached PIFA antenna for Bluetooth/BLE/WIFI/GPS, the gain is 1dBi for Bluetooth/BLE and WIFI , the gain is 1dBi for GPS.

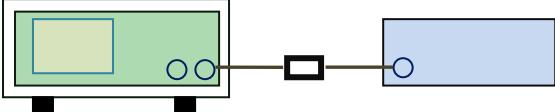
A permanently attached PIFA antenna for GSM/PCS/UMTS, the gain is 0.8dBi for GSM850, 1.0dBi for PCS1900, 1dBi for UMTS-FDD Band II.

The antenna meets up with the ANTENNA REQUIREMENT.

Result: Compliance.

6.2 DTS (6 dB&20 dB) Channel Bandwidth

Temperature	22°C
Relative Humidity	59%
Atmospheric Pressure	1017mbar
Test date :	June 17, 2016
Tested By :	Loren Luo

Spec	Item	Requirement	Applicable
§ 15.247(a)(2) RSS Gen(4.6.1)	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			
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) \geq 3 \times 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) \geq 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- 		

	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

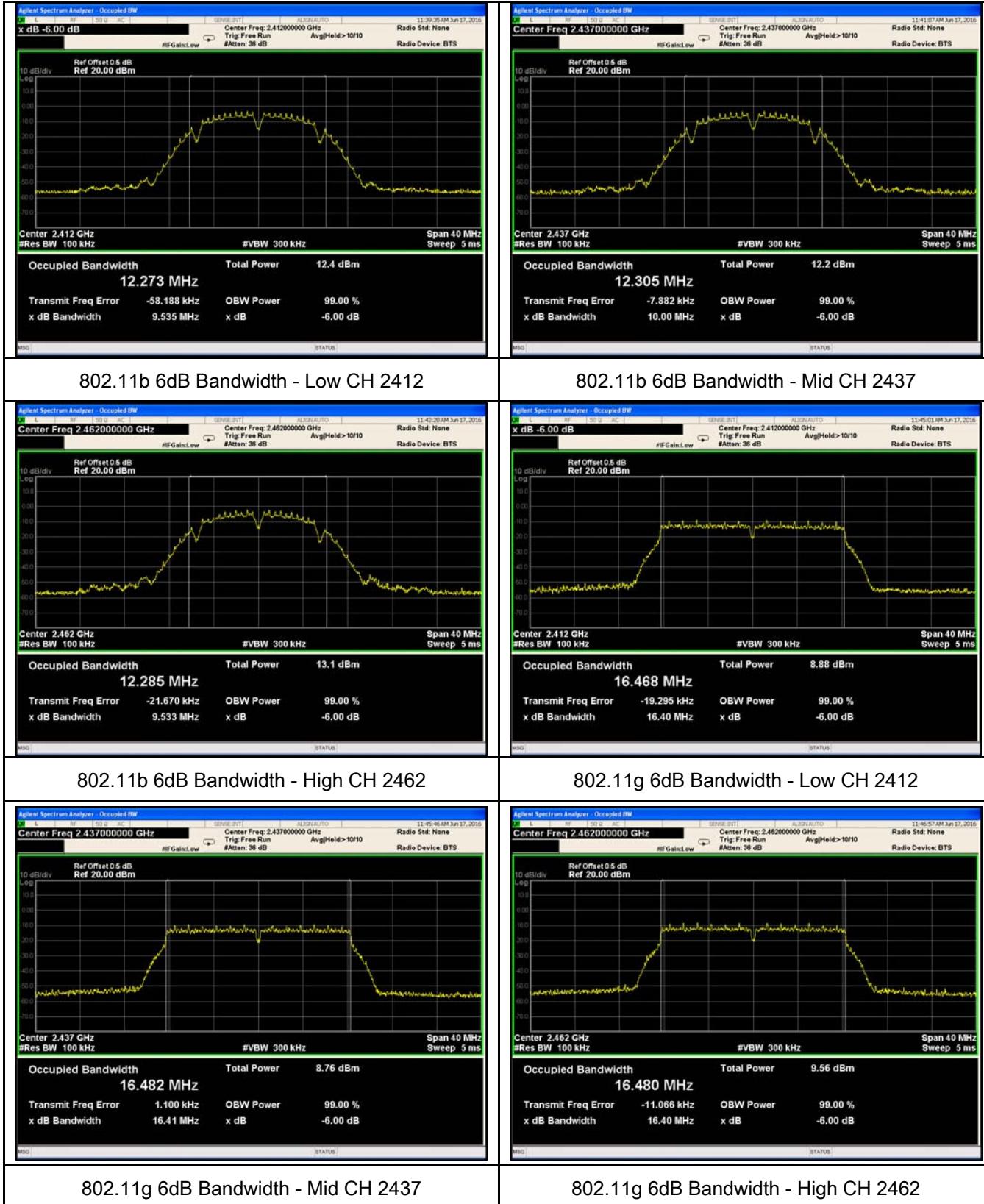
Test Plot Yes (See below) N/A

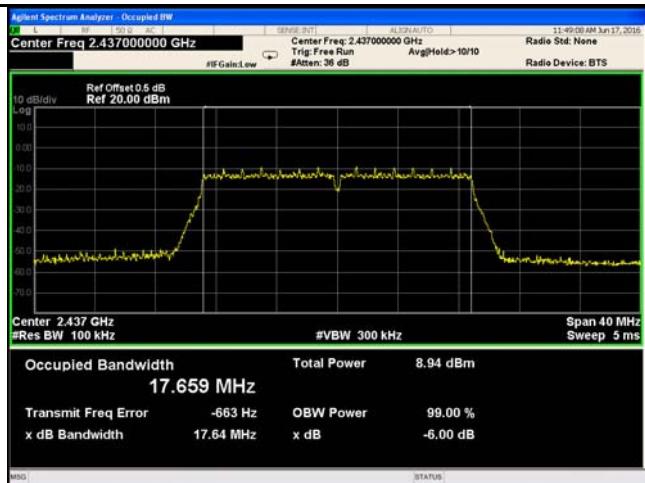
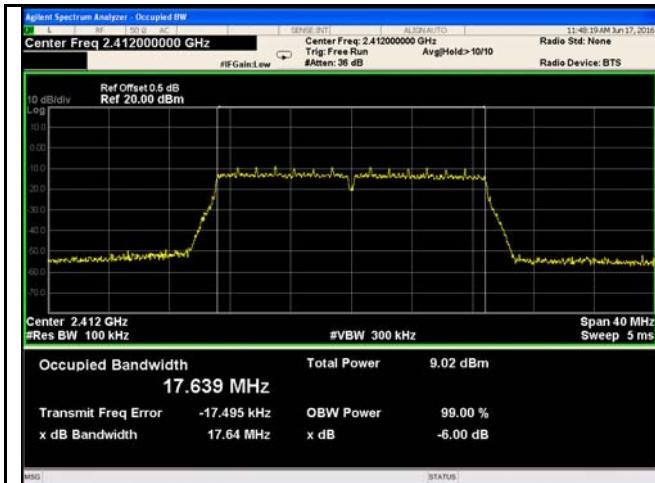
Measurement result

Test mode	CH	Freq (MHz)	6dB Bandwidth (MHz)	20dB Bandwidth (MHz)	Limit (MHz)
802.11b	Low	2412	9.535	16.27	≥ 0.5
	Mid	2437	10.00	16.30	≥ 0.5
	High	2462	9.533	16.28	≥ 0.5
802.11g	Low	2412	16.40	18.86	≥ 0.5
	Mid	2437	16.41	18.92	≥ 0.5
	High	2462	16.40	18.81	≥ 0.5
802.11n (20M)	Low	2412	17.64	19.34	≥ 0.5
	Mid	2437	17.64	19.26	≥ 0.5
	High	2462	17.63	19.26	≥ 0.5
802.11n (40M)	Low	2422	36.33	38.82	≥ 0.5
	Mid	2437	36.35	38.92	≥ 0.5
	High	2452	36.33	38.92	≥ 0.5

Test Plots

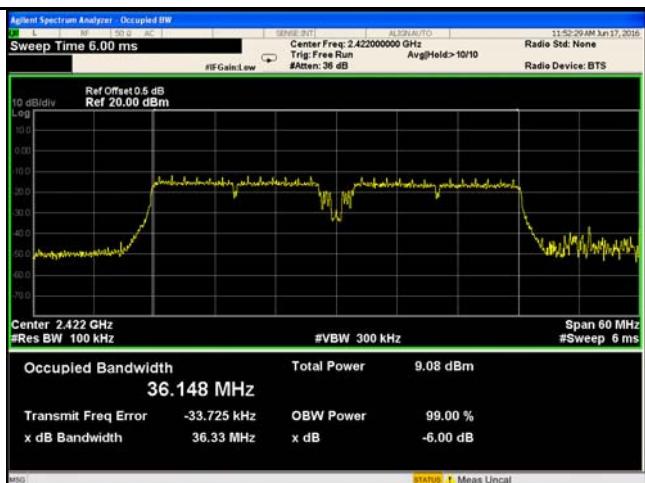
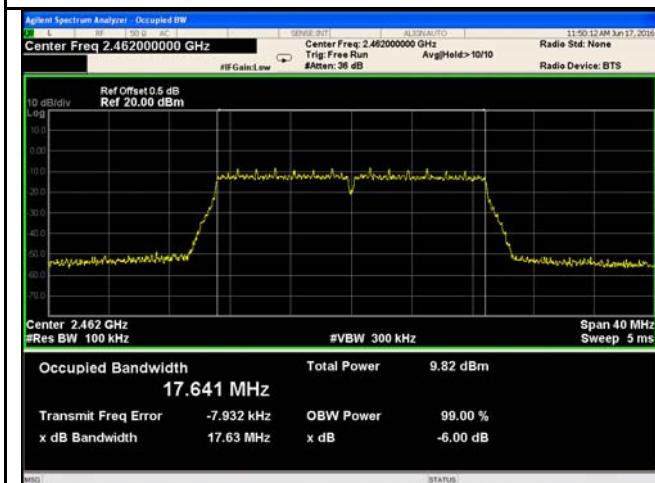
6dB Bandwidth measurement result





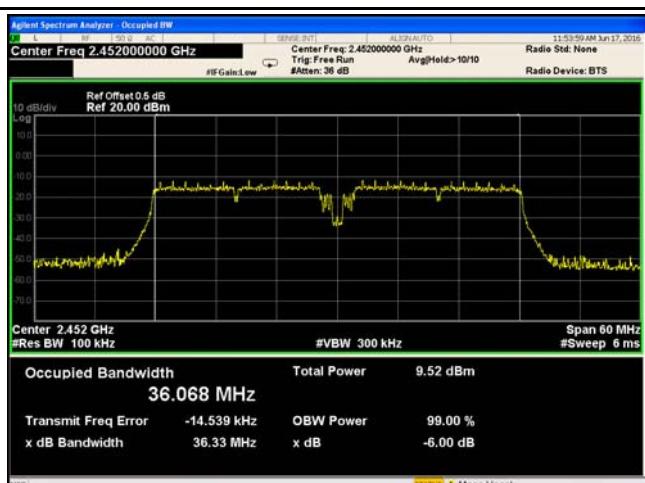
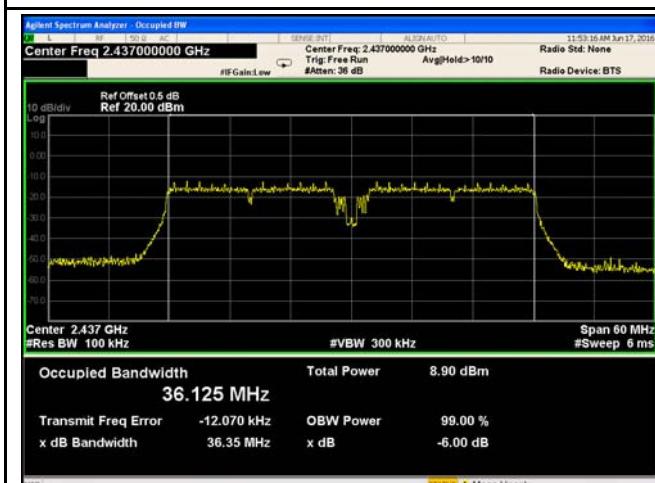
802.11n20 6dB Bandwidth - Low CH 2412

802.11n20 6dB Bandwidth - Mid CH 2437



802.11n20 6dB Bandwidth - High CH 2462

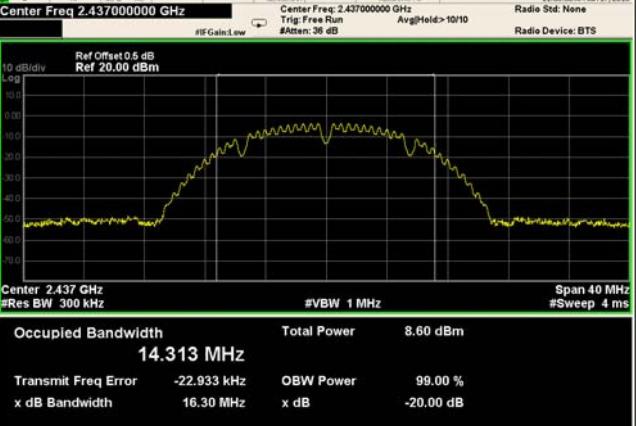
802.11n40 6dB Bandwidth - Low CH 2422

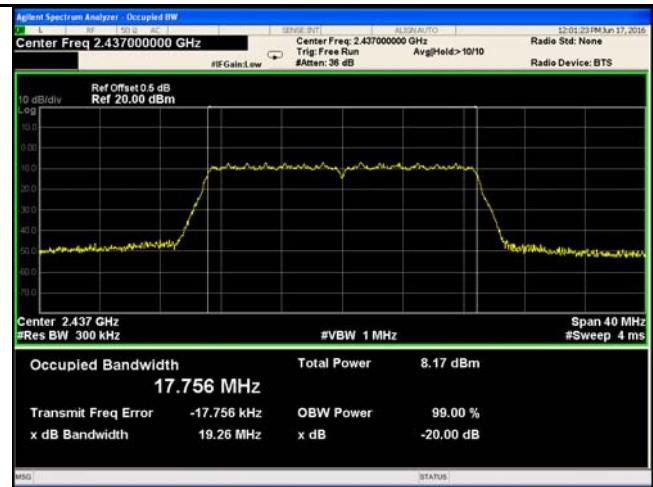
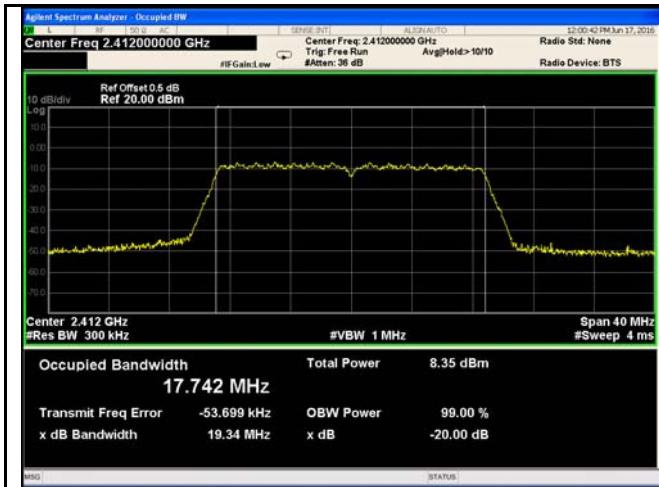


802.11n40 6dB Bandwidth - Mid CH 2437

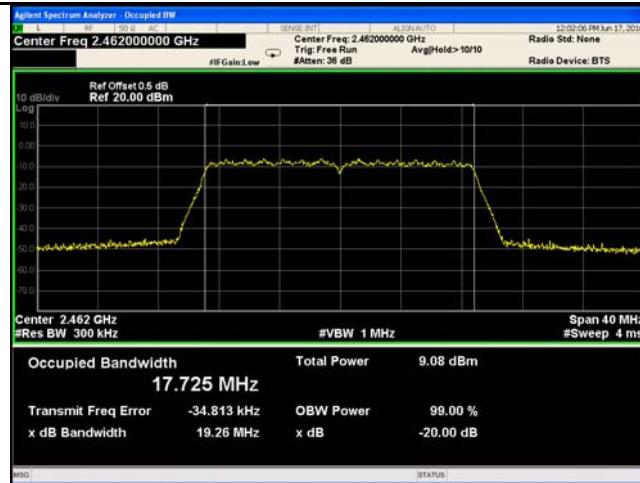
802.11n40 6dB Bandwidth - High CH 2452

20 dB Bandwidth measurement result

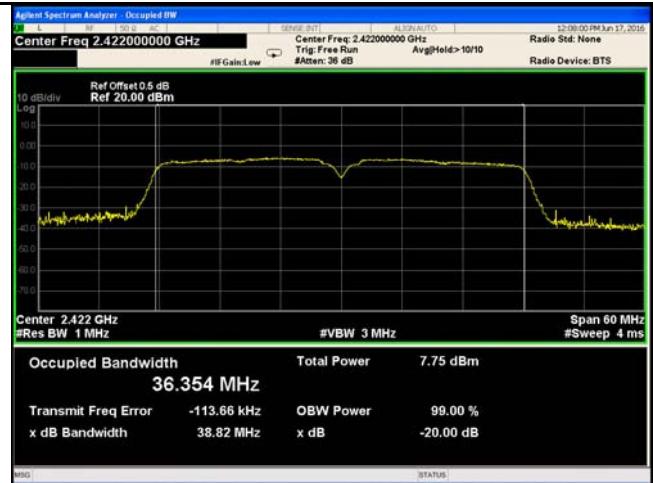
 <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 2.412000000 GHz</p> <p>Ref Offset 0.5 dB Ref 20.00 dBm</p> <p>10 dB/div Log</p> <p>Center: 2.412 GHz #Res BW 300 kHz #VBW 1 MHz Span 40 MHz #Sweep 4 ms</p> <p>Occupied Bandwidth: 14.299 MHz</p> <p>Total Power: 8.48 dBm</p> <p>Transmit Freq Error: -117.41 kHz</p> <p>x dB Bandwidth: 16.27 MHz</p> <p>OBW Power: 99.00 %</p> <p>x dB: -20.00 dB</p>	 <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 2.437000000 GHz</p> <p>Ref Offset 0.5 dB Ref 20.00 dBm</p> <p>10 dB/div Log</p> <p>Center: 2.437 GHz #Res BW 300 kHz #VBW 1 MHz Span 40 MHz #Sweep 4 ms</p> <p>Occupied Bandwidth: 14.313 MHz</p> <p>Total Power: 8.60 dBm</p> <p>Transmit Freq Error: -22.933 kHz</p> <p>x dB Bandwidth: 16.30 MHz</p> <p>OBW Power: 99.00 %</p> <p>x dB: -20.00 dB</p>
<h3>802.11b 20dB Bandwidth - Low CH 2412</h3>  <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 2.462000000 GHz</p> <p>Ref Offset 0.5 dB Ref 20.00 dBm</p> <p>10 dB/div Log</p> <p>Center: 2.462 GHz #Res BW 300 kHz #VBW 1 MHz Span 40 MHz #Sweep 4 ms</p> <p>Occupied Bandwidth: 14.268 MHz</p> <p>Total Power: 9.40 dBm</p> <p>Transmit Freq Error: -69.587 kHz</p> <p>x dB Bandwidth: 16.28 MHz</p> <p>OBW Power: 99.00 %</p> <p>x dB: -20.00 dB</p>	<h3>802.11b 20dB Bandwidth - Mid CH 2437</h3>  <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 2.412000000 GHz</p> <p>Ref Offset 0.5 dB Ref 20.00 dBm</p> <p>10 dB/div Log</p> <p>Center: 2.412 GHz #Res BW 300 kHz #VBW 1 MHz Span 40 MHz #Sweep 4 ms</p> <p>Occupied Bandwidth: 16.747 MHz</p> <p>Total Power: 8.25 dBm</p> <p>Transmit Freq Error: -84.055 kHz</p> <p>x dB Bandwidth: 18.86 MHz</p> <p>OBW Power: 99.00 %</p> <p>x dB: -20.00 dB</p>
<h3>802.11b 20dB Bandwidth - High CH 2462</h3>  <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 2.437000000 GHz</p> <p>Ref Offset 0.5 dB Ref 20.00 dBm</p> <p>10 dB/div Log</p> <p>Center: 2.437 GHz #Res BW 300 kHz #VBW 1 MHz Span 40 MHz #Sweep 4 ms</p> <p>Occupied Bandwidth: 16.755 MHz</p> <p>Total Power: 8.12 dBm</p> <p>Transmit Freq Error: -31.729 kHz</p> <p>x dB Bandwidth: 18.92 MHz</p> <p>OBW Power: 99.00 %</p> <p>x dB: -20.00 dB</p>	<h3>802.11g 20dB Bandwidth - Low CH 2412</h3>  <p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 2.462000000 GHz</p> <p>Ref Offset 0.5 dB Ref 20.00 dBm</p> <p>10 dB/div Log</p> <p>Center: 2.462 GHz #Res BW 300 kHz #VBW 1 MHz Span 40 MHz #Sweep 4 ms</p> <p>Occupied Bandwidth: 16.706 MHz</p> <p>Total Power: 8.85 dBm</p> <p>Transmit Freq Error: -48.439 kHz</p> <p>x dB Bandwidth: 18.81 MHz</p> <p>OBW Power: 99.00 %</p> <p>x dB: -20.00 dB</p>
<h3>802.11g 20dB Bandwidth - Mid CH 2437</h3>	<h3>802.11g 20dB Bandwidth - High CH 2462</h3>



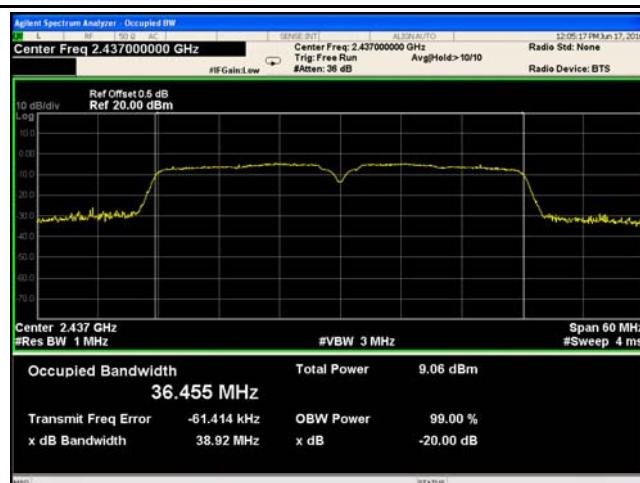
802.11n20 20dB Bandwidth - Low CH 2412



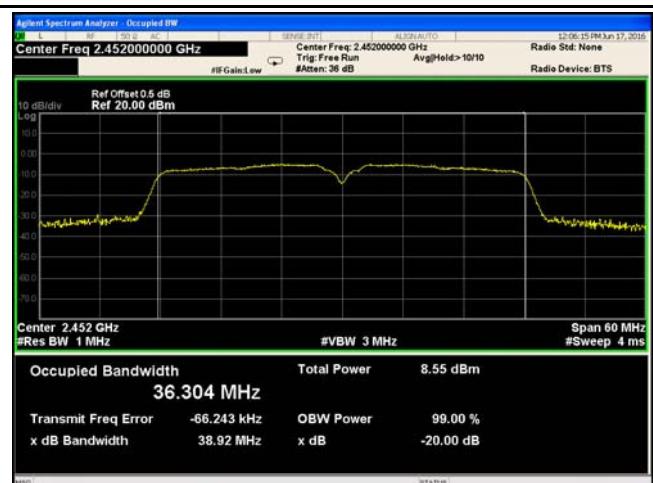
802.11n20 20dB Bandwidth - Mid CH 2437



802.11n20 20dB Bandwidth - High CH 2462



802.11n40 20dB Bandwidth - Low CH 2422



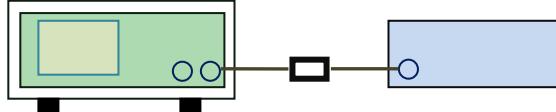
802.11n40 20dB Bandwidth - Mid CH 2437

802.11n40 20dB Bandwidth - High CH 2452

6.3 Maximum Output Power

Temperature	22°C
Relative Humidity	59%
Atmospheric Pressure	1017mbar
Test date :	June 17, 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 \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)	DTS in 902-928MHz, 2400-2483.5MHz: \leq 1 Watt	<input checked="" type="checkbox"/>
Test Setup			
Test Procedure		<p>558074 D01 DTS MEAS Guidance v03r03, 9.1.2 Integrated band power method</p> <p>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 x RBW. - d) Number of points in sweep \geq 2 x 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 	

	<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

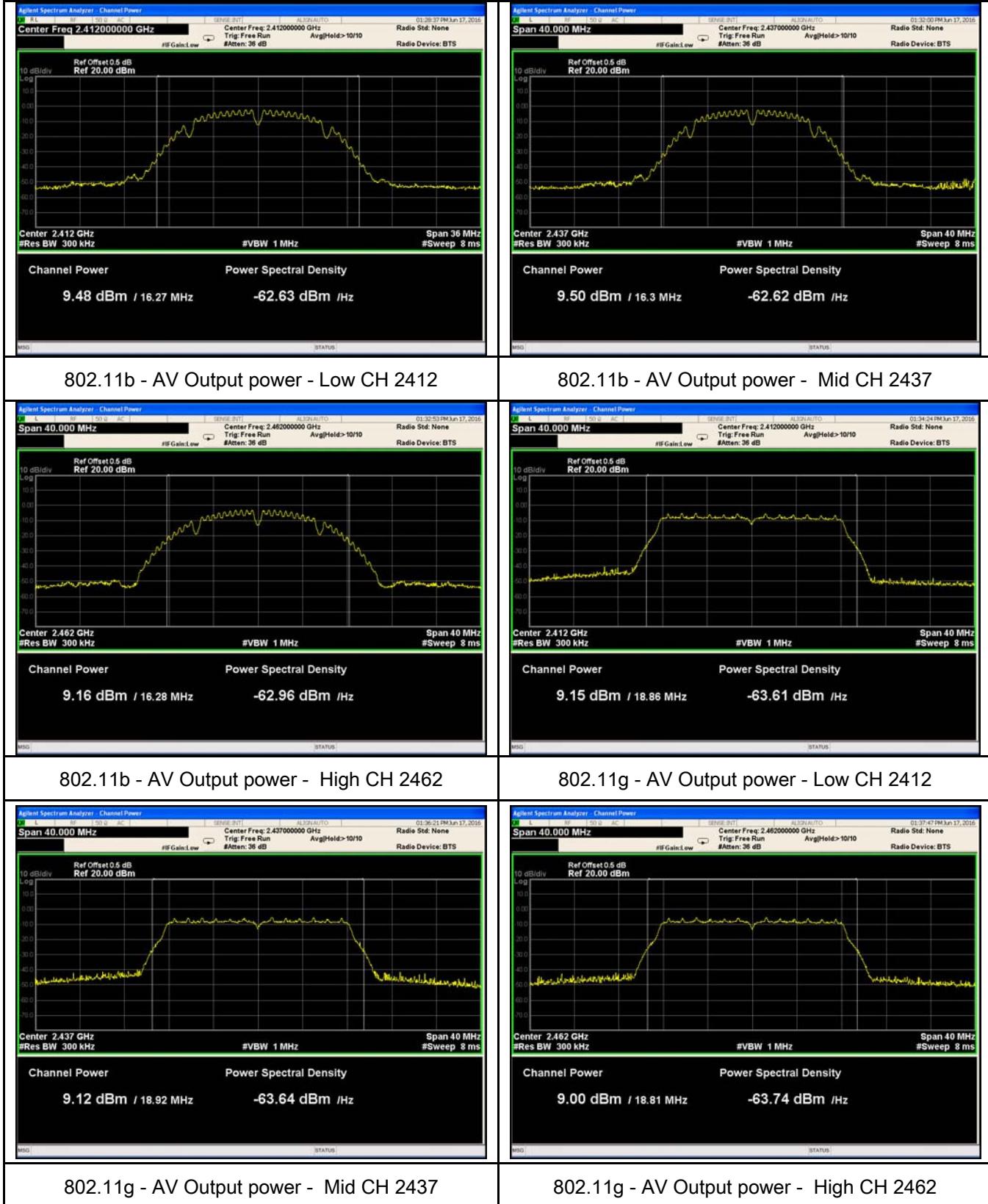
Output Power measurement result

Type	Test mode	CH	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Result
Output power	802.11b	Low	2412	9.48	30	Pass
		Mid	2437	9.50	30	Pass
		High	2462	9.16	30	Pass
	802.11g	Low	2412	9.15	30	Pass
		Mid	2437	9.12	30	Pass
		High	2462	9.00	30	Pass
	802.11n (20M)	Low	2412	8.31	30	Pass
		Mid	2437	9.34	30	Pass
		High	2462	9.14	30	Pass
	802.11n (40M)	Low	2422	9.00	30	Pass
		Mid	2437	9.40	30	Pass
		High	2452	9.03	30	Pass

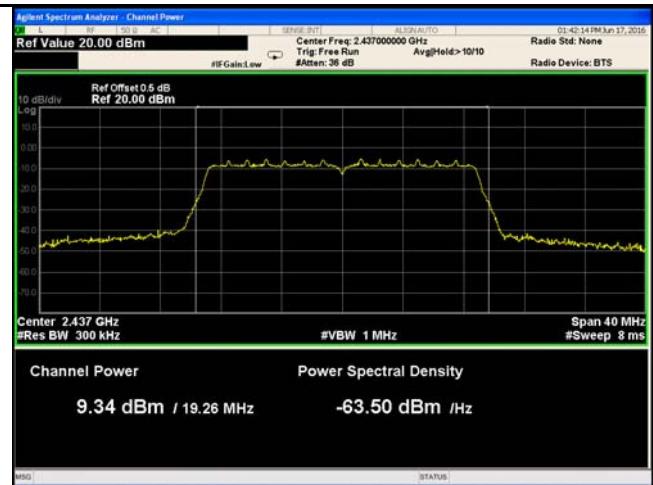
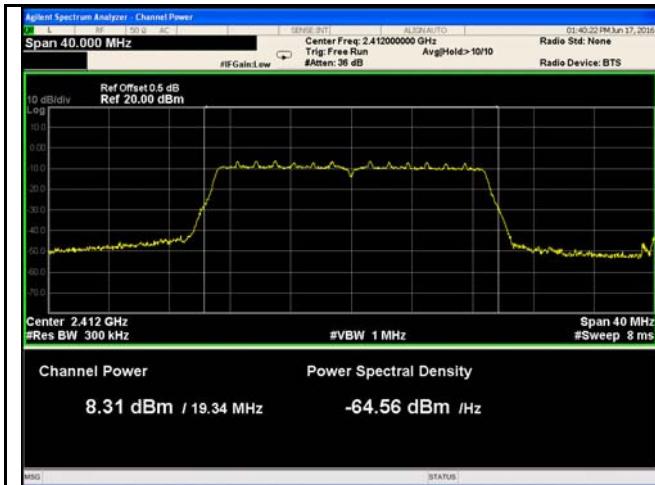
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Test Plots

The Average Power

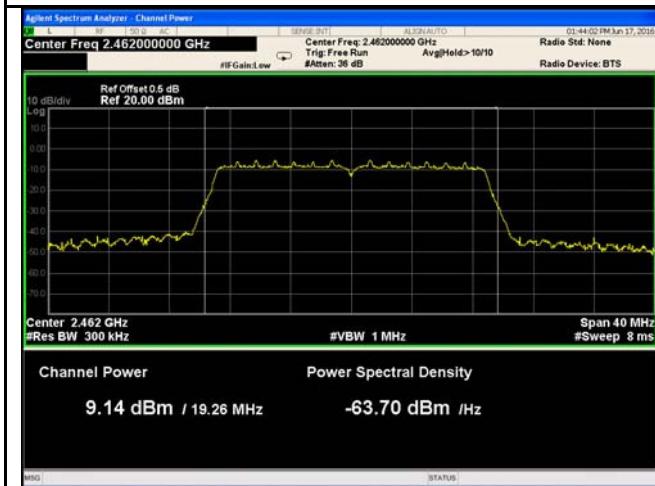


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802.11n20 - AV Output power - Low CH 2412

802.11n20 - AV Output power - Mid CH 2437



802.11n20 - AV Output power - High CH 2462

802.11n40 - AV Output power - Low CH 2422

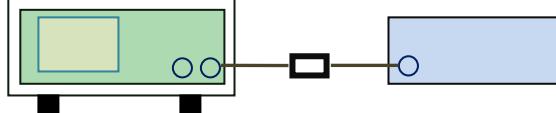


802.11n40 - AV Output power - Mid CH 2437

802.11n40 - AV Output power - High CH 2452

6.4 Power Spectral Density

Temperature	22°C
Relative Humidity	59%
Atmospheric Pressure	1017mbar
Test date :	June 17, 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			
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

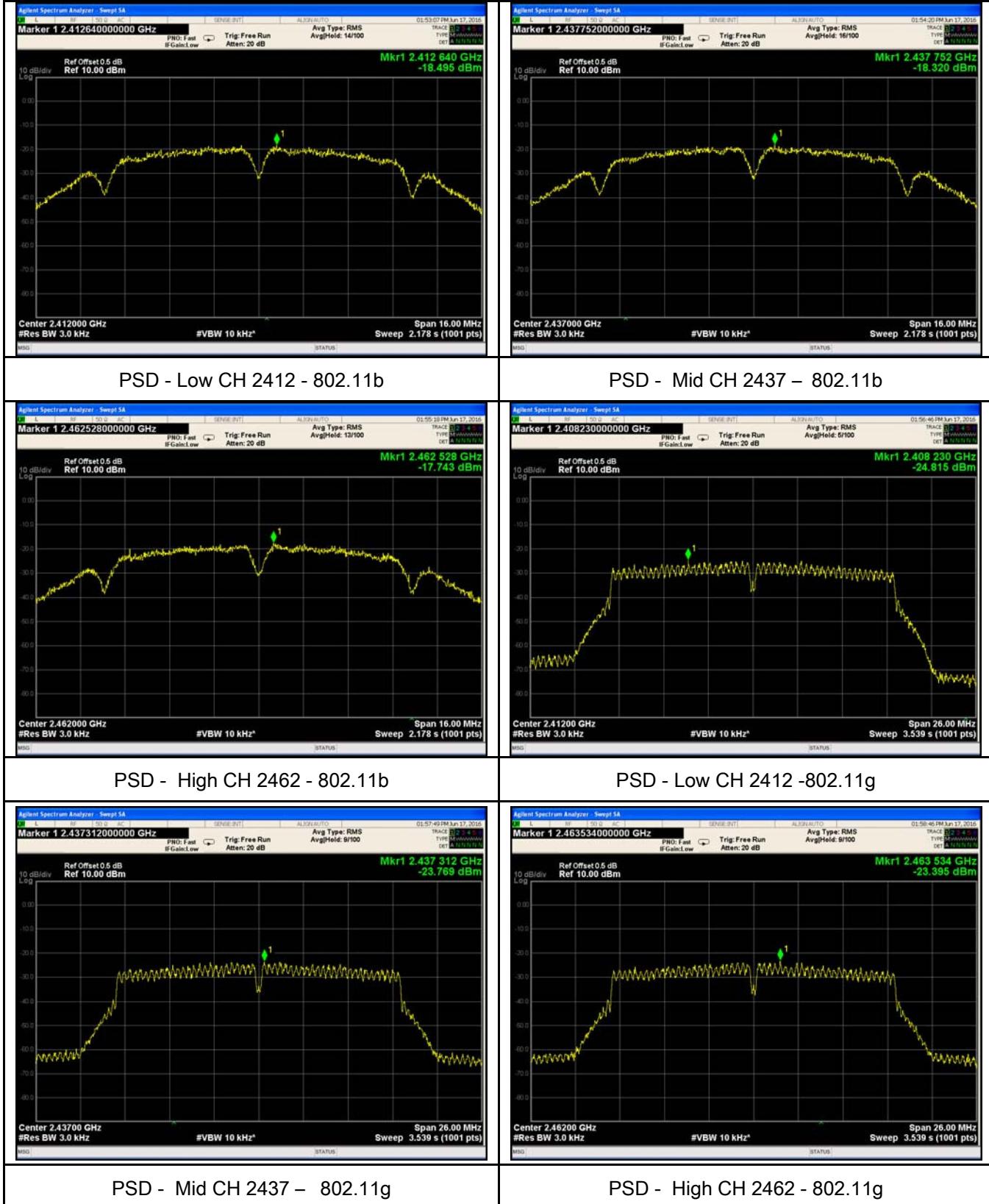
Test Plot Yes (See below) N/A

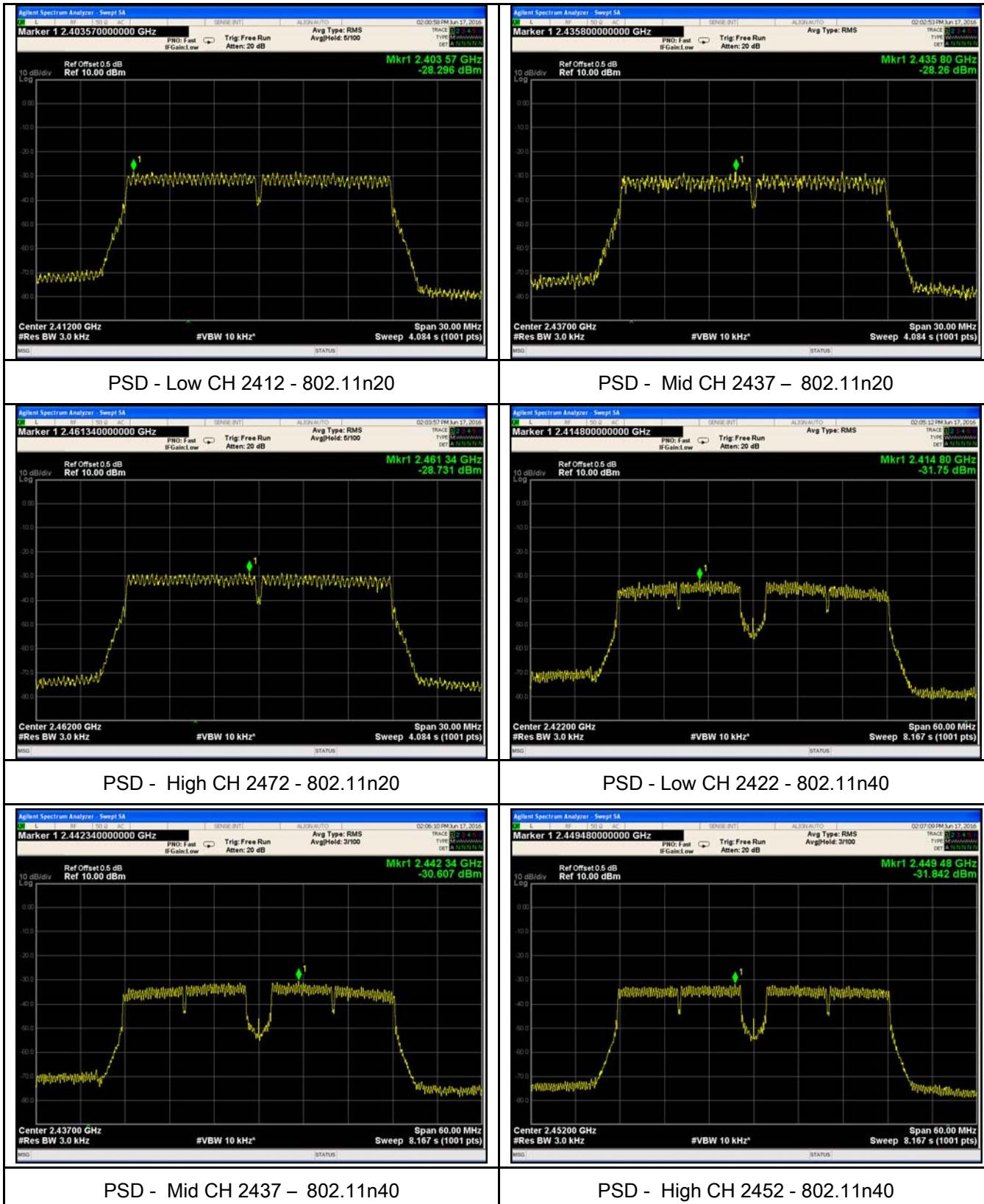
Power Spectral Density measurement result

Type	Test mode	CH	Freq (MHz)	PSD (dBm)	Limit (dBm)	Result
PSD	802.11b	Low	2412	-18.495	8	Pass
		Mid	2437	-23.769	8	Pass
		High	2462	-28.731	8	Pass
	802.11g	Low	2412	-18.320	8	Pass
		Mid	2437	-23.395	8	Pass
		High	2462	-31.750	8	Pass
	802.11n (20M)	Low	2412	-17.743	8	Pass
		Mid	2437	-28.296	8	Pass
		High	2462	-30.607	8	Pass
	802.11n (40M)	Low	2422	-24.815	8	Pass
		Mid	2437	-28.260	8	Pass
		High	2452	-31.842	8	Pass

Test Plots

Power Spectral Density measurement result

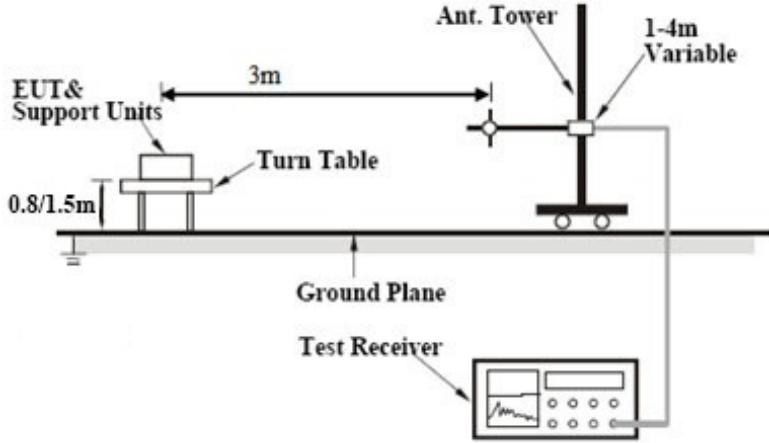




6.5 Band-Edge & Unwanted Emissions into Restricted Frequency Bands

Temperature	22°C
Relative Humidity	54%
Atmospheric Pressure	1021mbar
Test date :	June 21, 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	 <p>The diagram illustrates the test setup. An Ant. Tower is positioned 3m away from the EUT & Support Units, which are placed on a Turn Table. The Turn Table is mounted on a Ground Plane. A Test Receiver is connected to the system, with a 1-4m Variable cable connecting the Test Receiver to the Ant. Tower. The height of the EUT & Support Units is specified as 0.8/1.5m.</p>		
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. 		

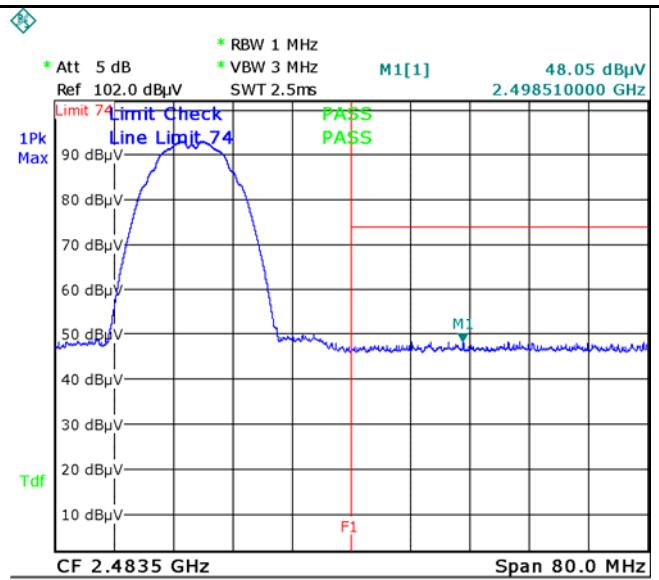
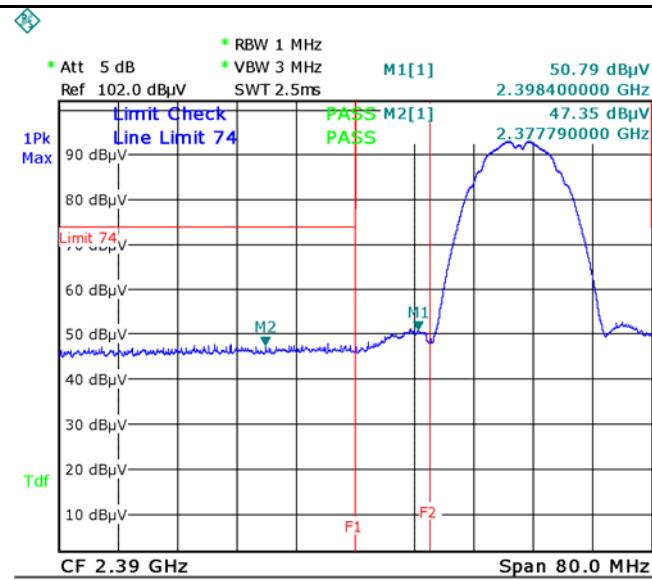
	<ul style="list-style-type: none"> - 3. First, set both RBW and VBW of spectrum analyzer to 100 kHz with a convenient frequency span including 100kHz bandwidth from band edge, check the emission of EUT, if pass then set Spectrum Analyzer as below: <ul style="list-style-type: none"> a. The resolution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



Date: 21.JUN.2016 11:07:58

Date: 21.JUN.2016 11:44:13

Band Edge, Left Side (Peak) - 802.11b

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

Band Edge, Right Side (Peak) - 802.11b

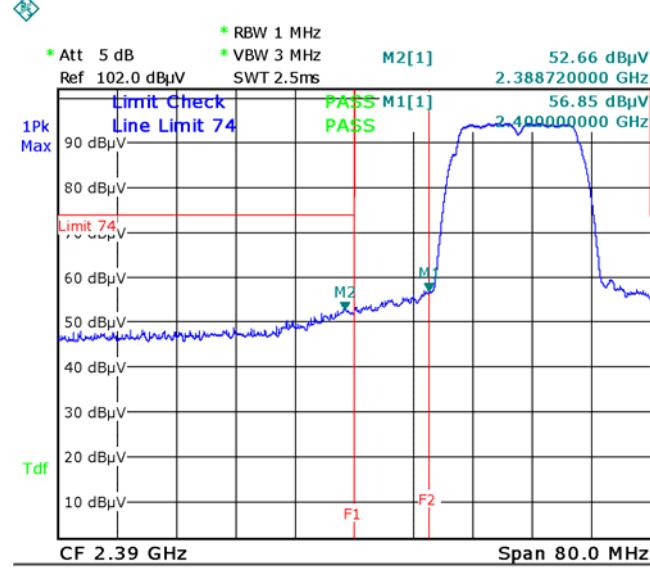
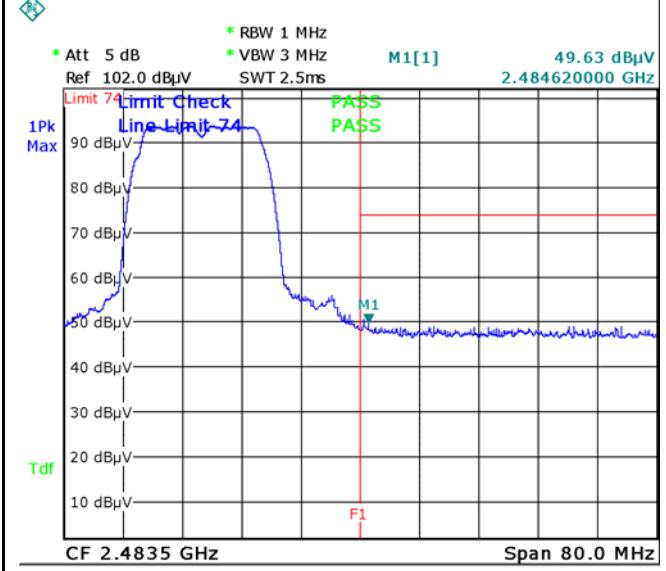
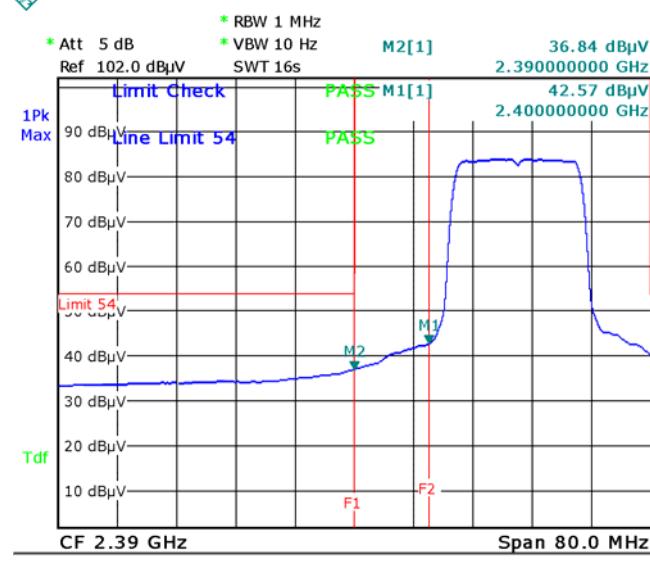
Note: F1 is frequency 2483.5MHz

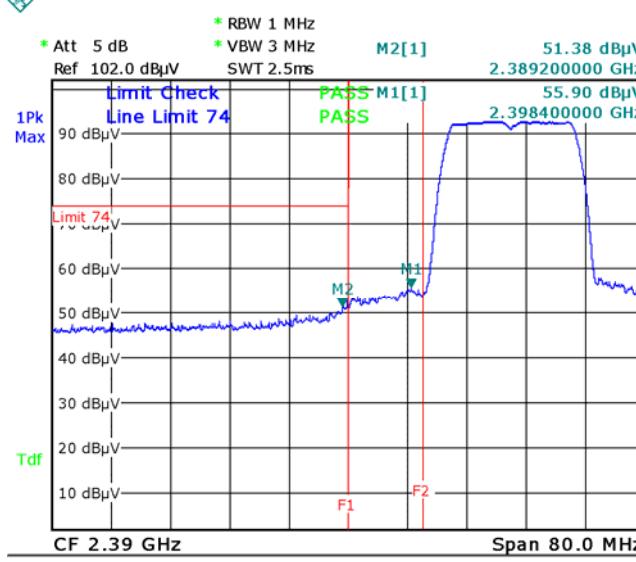
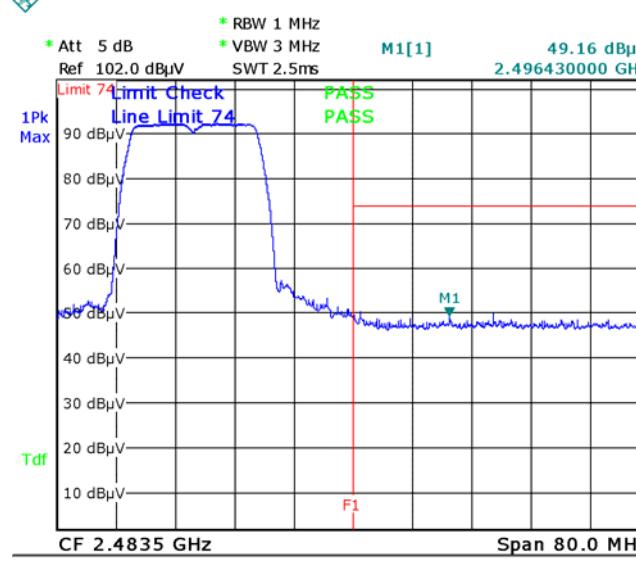
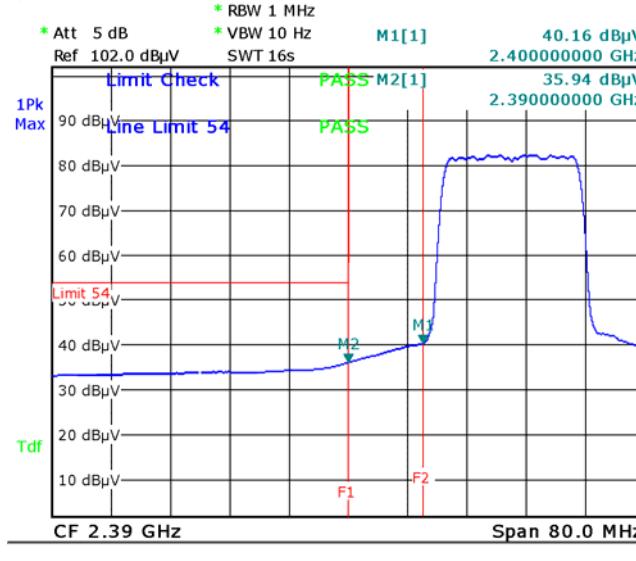
Note: (no need if PK value less than the AV limit)

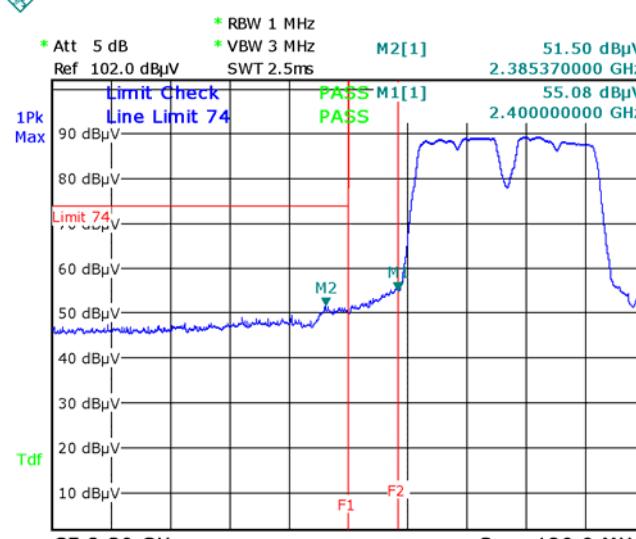
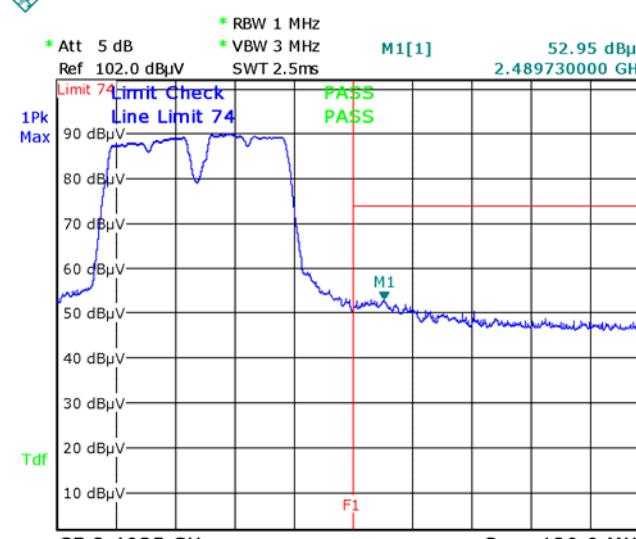
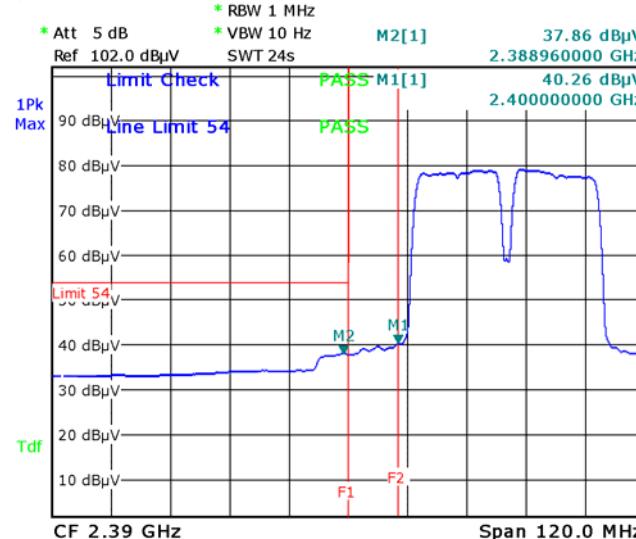
Note: (no need if PK value less than the AV limit)

Band Edge, Left Side (Average) - 802.11b

Band Edge, Right Side (Average) - 802.11b

 <p>* RBW 1 MHz * Att 5 dB * VBW 3 MHz Ref 102.0 dBµV SWT 2.5ms</p> <p>Limit Check Line Limit 74 1Pk Max Tdf</p> <p>M2[1] 52.66 dBµV 2.388720000 GHz</p> <p>56.85 dBµV 2.400000000 GHz</p> <p>F1 F2</p> <p>CF 2.39 GHz Span 80.0 MHz</p> <p>Date: 21.JUN.2016 11:54:23</p>	 <p>* RBW 1 MHz * Att 5 dB * VBW 3 MHz Ref 102.0 dBµV SWT 2.5ms</p> <p>Limit 74 Limit Check 1Pk Max Tdf</p> <p>M1[1] 49.63 dBµV 2.484620000 GHz</p> <p>PASS PASS</p> <p>F1</p> <p>CF 2.4835 GHz Span 80.0 MHz</p> <p>Date: 21.JUN.2016 12:03:55</p>
<p>Band Edge, Left Side (Peak) - 802.11g</p> <p>Note: F1 is frequency 2390MHz; F2 is frequency 2400MHz</p>	<p>Band Edge, Right Side (Peak) - 802.11g</p> <p>Note: F1 is frequency 2483.5MHz</p>
 <p>* RBW 1 MHz * Att 5 dB * VBW 10 Hz Ref 102.0 dBµV SWT 16s</p> <p>Limit Check Line Limit 54 1Pk Max Tdf</p> <p>M2[1] 36.84 dBµV 2.390000000 GHz</p> <p>42.57 dBµV 2.400000000 GHz</p> <p>F1 F2</p> <p>CF 2.39 GHz Span 80.0 MHz</p> <p>Date: 21.JUN.2016 12:00:19</p>	<p>Note: (no need if PK value less than the AV limit)</p>
<p>Band Edge, Left Side (Average) - 802.11g</p> <p>Note: F1 is frequency 2390MHz; F2 is frequency 2400MHz</p>	<p>Band Edge, Right Side (Average) - 802.11g</p> <p>Note: F1 is frequency 2483.5MHz</p>

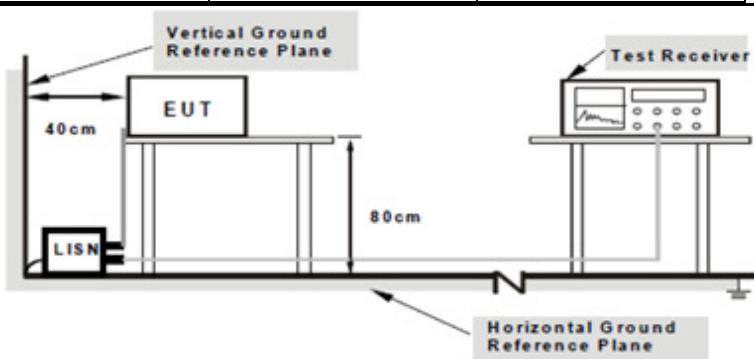
 <p>* RBW 1 MHz * Att 5 dB * VBW 3 MHz Ref 102.0 dBµV SWT 2.5ms</p> <p>1Pk Max Tdf</p> <p>CF 2.39 GHz Span 80.0 MHz</p> <p>M2[1] 51.38 dBµV 2.389200000 GHz</p> <p>Limit Check PASS M1[1] 55.90 dBµV 2.398400000 GHz Line Limit 74 PASS</p> <p>F1 F2 M1 M2 N1 N2</p>	 <p>* RBW 1 MHz * Att 5 dB * VBW 3 MHz Ref 102.0 dBµV SWT 2.5ms</p> <p>1Pk Max Tdf</p> <p>CF 2.4835 GHz Span 80.0 MHz</p> <p>M1[1] 49.16 dBµV 2.496430000 GHz</p> <p>Limit 74 Limit Check PASS M1[1] 49.16 dBµV 2.496430000 GHz Line Limit 74 PASS</p> <p>F1</p>
<p>Date: 21.JUN.2016 12:08:58</p> <p>Band Edge, Left Side (Peak) - 802.11n20</p> <p>Note: F1 is frequency 2390MHz; F2 is frequency 2400MHz</p>	<p>Date: 21.JUN.2016 12:16:03</p> <p>Band Edge, Right Side (Peak) - 802.11n20</p> <p>Note: F1 is frequency 2483.5MHz</p>
 <p>* RBW 1 MHz * Att 5 dB * VBW 10 Hz Ref 102.0 dBµV SWT 16s</p> <p>1Pk Max Tdf</p> <p>CF 2.39 GHz Span 80.0 MHz</p> <p>M2[1] 40.16 dBµV 2.400000000 GHz</p> <p>Limit Check PASS M2[1] 35.94 dBµV 2.390000000 GHz Line Limit 54 PASS</p> <p>F1 F2 M1 M2</p>	<p>Note: (no need if PK value less than the AV limit)</p>
<p>Date: 21.JUN.2016 12:11:51</p> <p>Band Edge, Left Side (Average) - 802.11n20</p> <p>Note: F1 is frequency 2390MHz; F2 is frequency 2400MHz</p>	<p>Band Edge, Right Side (Average) - 802.11n20</p> <p>Note: F1 is frequency 2483.5MHz</p>

 <p>* RBW 1 MHz * Att 5 dB * VBW 3 MHz Ref 102.0 dBµV SWT 2.5ms</p> <p>1Pk Max Tdf</p> <p>CF 2.39 GHz Span 120.0 MHz</p> <p>M2[1] 51.50 dBµV 2.385370000 GHz</p> <p>M1[1] 55.08 dBµV 2.400000000 GHz</p> <p>PASS M1[1] PASS</p> <p>Limit Check Line Limit 74</p> <p>Limit 74</p> <p>F1 F2</p>	 <p>* RBW 1 MHz * Att 5 dB * VBW 3 MHz Ref 102.0 dBµV SWT 2.5ms</p> <p>1Pk Max Tdf</p> <p>CF 2.4835 GHz Span 120.0 MHz</p> <p>M1[1] 52.95 dBµV 2.489730000 GHz</p> <p>PASS M1[1] PASS</p> <p>Limit 74 Limit Check Line Limit 74</p> <p>M1</p> <p>F1</p>
<p>Date: 21.JUN.2016 12:20:25</p> <p>Band Edge, Left Side (Peak) - 802.11n40</p> <p>Note: F1 is frequency 2390MHz; F2 is frequency 2400MHz</p>	<p>Date: 21.JUN.2016 13:56:53</p> <p>Band Edge, Right Side (Peak) - 802.11n40</p> <p>Note: F1 is frequency 2483.5MHz</p>
 <p>* RBW 1 MHz * Att 5 dB * VBW 10 Hz Ref 102.0 dBµV SWT 24s</p> <p>1Pk Max Tdf</p> <p>CF 2.39 GHz Span 120.0 MHz</p> <p>M2[1] 37.86 dBµV 2.388960000 GHz</p> <p>M1[1] 40.26 dBµV 2.400000000 GHz</p> <p>PASS M1[1] PASS</p> <p>Limit Check Line Limit 54</p> <p>Limit 54</p> <p>F1 F2</p>	<p>Note: (no need if PK value less than the AV limit)</p>
<p>Date: 21.JUN.2016 13:47:01</p> <p>Band Edge, Left Side (Average) - 802.11n40</p> <p>Note: F1 is frequency 2390MHz; F2 is frequency 2400MHz</p>	<p>Band Edge, Right Side (Average) - 802.11n40</p> <p>Note: F1 is frequency 2483.5MHz</p>

6.6 AC Power Line Conducted Emissions

Temperature	25°C
Relative Humidity	58%
Atmospheric Pressure	1016mbar
Test date :	June 16, 2016
Tested By :	Loren Luo

Requirement(s):

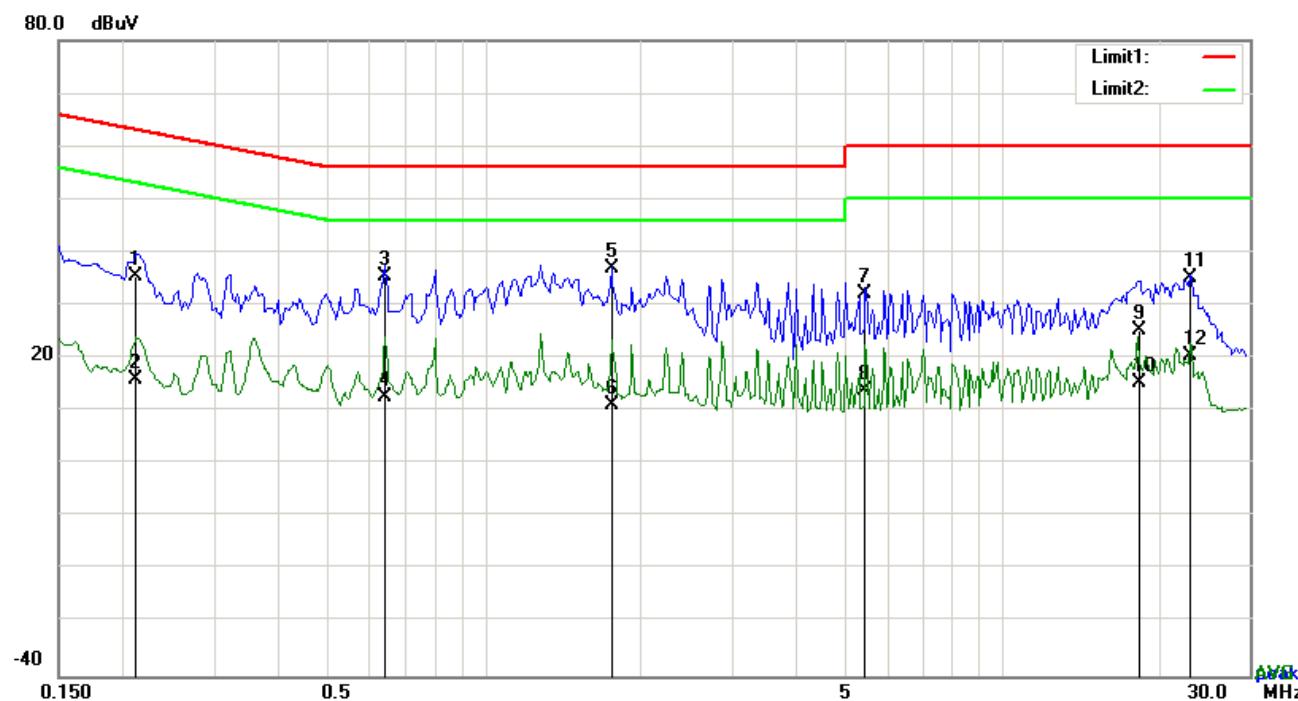
Spec	Item	Requirement	Applicable														
47CFR§15.207, RSS210 (A8.1)	a)	<p>For Low-power radio-frequency devices that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within 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.</p> <table border="1"> <thead> <tr> <th rowspan="2">Frequency ranges (MHz)</th> <th colspan="2">Limit (dBμV)</th> </tr> <tr> <th>QP</th> <th>Average</th> </tr> </thead> <tbody> <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> </tbody> </table>	Frequency ranges (MHz)	Limit (dB μ V)		QP	Average	0.15 ~ 0.5	66 – 56	56 – 46	0.5 ~ 5	56	46	5 ~ 30	60	50	<input checked="" type="checkbox"/>
Frequency ranges (MHz)	Limit (dB μ V)																
	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 																

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

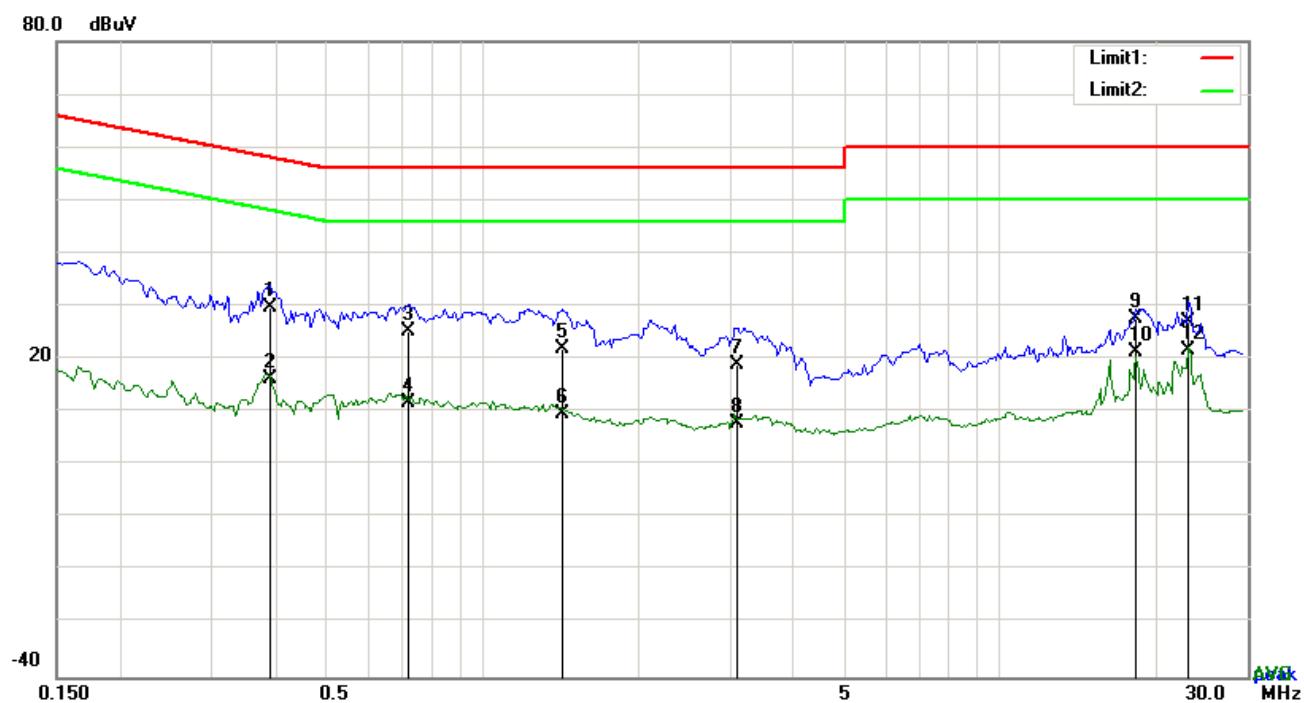


Test Data

Phase Line Plot at 120Vac, 60Hz

No.	P/L	Frequency (MHz)	Reading (dB μ V)	Detector	Corrected (dB)	Result (dB μ V)	Limit (dB μ V)	Margin (dB)
1	L1	0.2124	25.30	QP	10.03	35.33	63.11	-27.78
2	L1	0.2124	5.83	AVG	10.03	15.86	53.11	-37.25
3	L1	0.6414	25.56	QP	10.03	35.59	56.00	-20.41
4	L1	0.6414	2.72	AVG	10.03	12.75	46.00	-33.25
5	L1	1.7607	27.01	QP	10.04	37.05	56.00	-18.95
6	L1	1.7607	1.03	AVG	10.04	11.07	46.00	-34.93
7	L1	5.4414	22.01	QP	10.09	32.10	60.00	-27.90
8	L1	5.4414	3.70	AVG	10.09	13.79	50.00	-36.21
9	L1	18.4089	15.01	QP	10.28	25.29	60.00	-34.71
10	L1	18.4089	5.01	AVG	10.28	15.29	50.00	-34.71
11	L1	23.1279	24.82	QP	10.36	35.18	60.00	-24.82
12	L1	23.1279	10.01	AVG	10.36	20.37	50.00	-29.63

Test Mode: Transmitting Mode

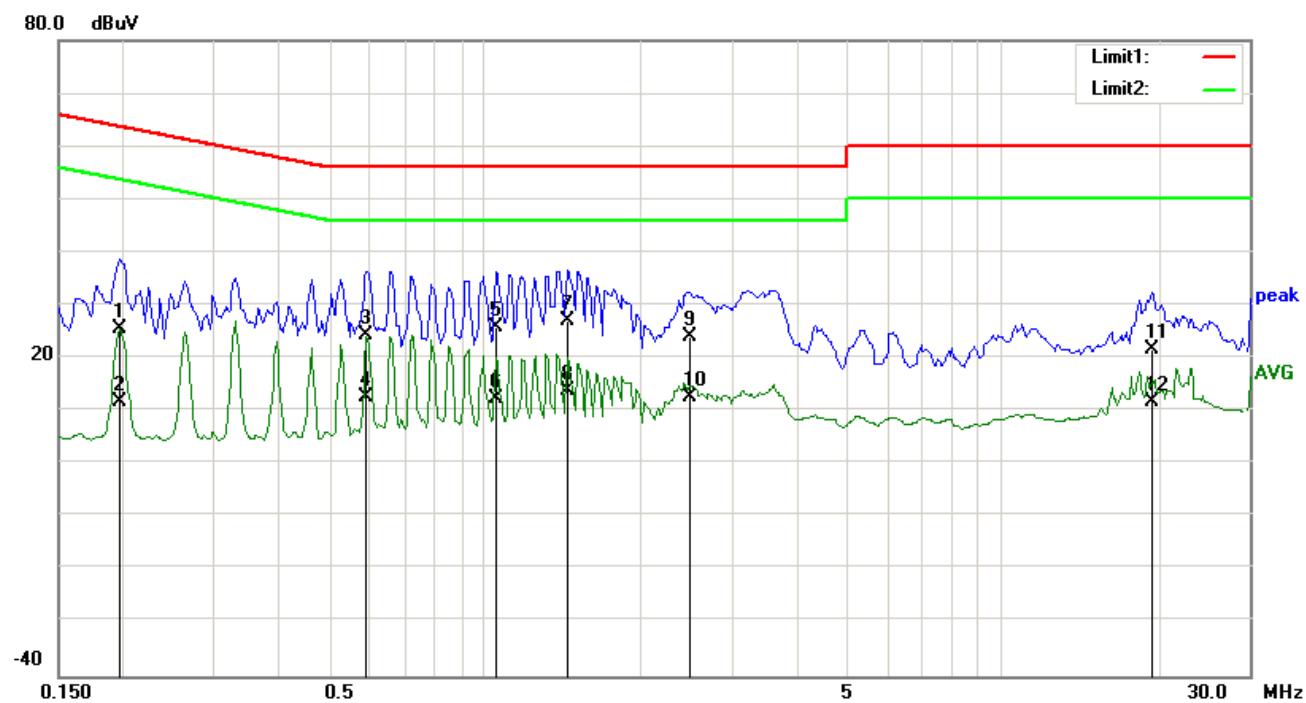


Test Data

Phase Neutral Plot at 120Vac, 60Hz

No.	P/L	Frequency (MHz)	Reading (dB μ V)	Detector	Corrected (dB)	Result (dB μ V)	Limit (dB μ V)	Margin (dB)
1	N	0.3879	19.73	QP	10.02	29.75	58.11	-28.36
2	N	0.3879	6.22	AVG	10.02	16.24	48.11	-31.87
3	N	0.7194	15.20	QP	10.02	25.22	56.00	-30.78
4	N	0.7194	1.86	AVG	10.02	11.88	46.00	-34.12
5	N	1.4214	12.02	QP	10.03	22.05	56.00	-33.95
6	N	1.4214	-0.25	AVG	10.03	9.78	46.00	-36.22
7	N	3.1014	8.81	QP	10.05	18.86	56.00	-37.14
8	N	3.1014	-2.07	AVG	10.05	7.98	46.00	-38.02
9	N	18.2451	17.27	QP	10.24	27.51	60.00	-32.49
10	N	18.2451	10.99	AVG	10.24	21.23	50.00	-28.77
11	N	23.1279	16.85	QP	10.31	27.16	60.00	-32.84
12	N	23.1279	11.23	AVG	10.31	21.54	50.00	-28.46

Test Mode: Transmitting Mode

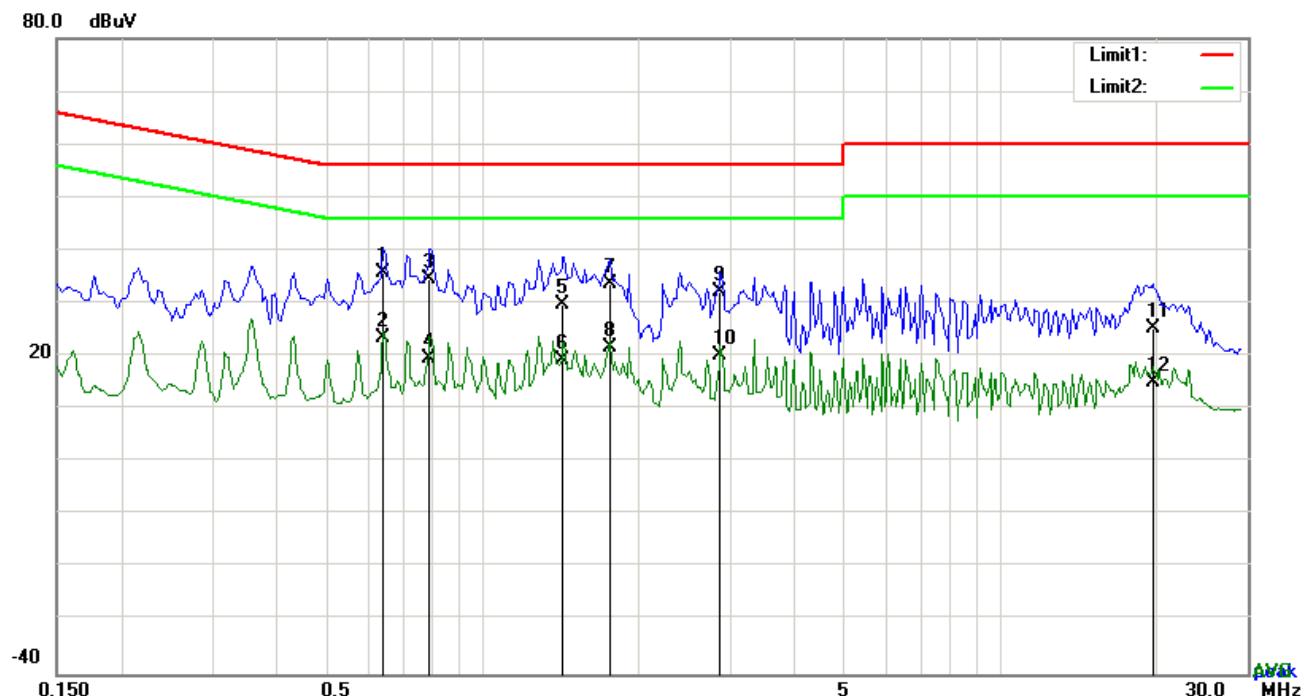


Test Data

Phase Line Plot at 240Vac, 60Hz

No.	P/L	Frequency (MHz)	Reading (dB μ V)	Detector	Corrected (dB)	Result (dB μ V)	Limit (dB μ V)	Margin (dB)
1	L1	0.1968	15.43	QP	10.03	25.46	63.74	-38.28
2	L1	0.1968	1.73	AVG	10.03	11.76	53.74	-41.98
3	L1	0.5907	14.29	QP	10.03	24.32	56.00	-31.68
4	L1	0.5907	2.48	AVG	10.03	12.51	46.00	-33.49
5	L1	1.0509	15.83	QP	10.03	25.86	56.00	-30.14
6	L1	1.0509	2.25	AVG	10.03	12.28	46.00	-33.72
7	L1	1.4448	16.94	QP	10.04	26.98	56.00	-29.02
8	L1	1.4448	3.95	AVG	10.04	13.99	46.00	-32.01
9	L1	2.4939	14.08	QP	10.05	24.13	56.00	-31.87
10	L1	2.4939	2.47	AVG	10.05	12.52	46.00	-33.48
11	L1	19.5087	11.29	QP	10.29	21.58	60.00	-38.42
12	L1	19.5087	1.47	AVG	10.29	11.76	50.00	-38.24

Test Mode: Transmitting Mode



Test Data

Phase Neutral Plot at 240Vac, 60Hz

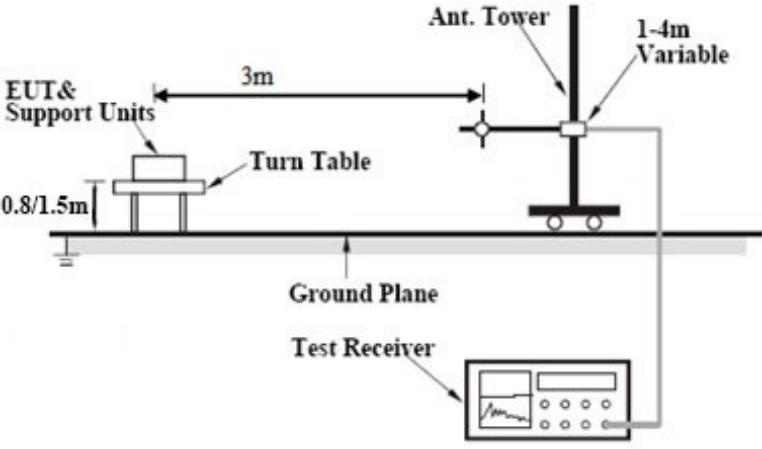
No.	P/L	Frequency (MHz)	Reading (dB μ V)	Detector	Corrected (dB)	Result (dB μ V)	Limit (dB μ V)	Margin (dB)
1	N	0.6414	25.70	QP	10.02	35.72	56.00	-20.28
2	N	0.6414	13.41	AVG	10.02	23.43	46.00	-22.57
3	N	0.7896	24.42	QP	10.03	34.45	56.00	-21.55
4	N	0.7896	9.39	AVG	10.03	19.42	46.00	-26.58
5	N	1.4331	19.64	QP	10.03	29.67	56.00	-26.33
6	N	1.4331	9.26	AVG	10.03	19.29	46.00	-26.71
7	N	1.7568	23.70	QP	10.04	33.74	56.00	-22.26
8	N	1.7568	11.48	AVG	10.04	21.52	46.00	-24.48
9	N	2.8800	22.01	QP	10.05	32.06	56.00	-23.94
10	N	2.8800	9.97	AVG	10.05	20.02	46.00	-25.98
11	N	19.6569	14.98	QP	10.26	25.24	60.00	-34.76
12	N	19.6569	4.69	AVG	10.26	14.95	50.00	-35.05

6.7 Radiated Spurious Emissions & Restricted Band

Temperature	25°C
Relative Humidity	58%
Atmospheric Pressure	1016mbar
Test date :	June 16, 2016
Tested By :	Loren Luo

Requirement(s):

Spec	Item	Requirement	Applicable							
47CFR§15. 247(d), RSS210 (A8.5)	a)	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	<input checked="" type="checkbox"/>							
		<table border="1"> <thead> <tr> <th>Frequency range (MHz)</th> <th>Field Strength (µV/m)</th> </tr> </thead> <tbody> <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> </tbody> </table>		Frequency range (MHz)	Field Strength (µV/m)	30 – 88	100	88 – 216	150	216 – 960
Frequency range (MHz)	Field Strength (µV/m)									
30 – 88	100									
88 – 216	150									
216 – 960	200									
Above 960	500									
b)	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 <input checked="" type="checkbox"/> 20 dB down <input type="checkbox"/> 30 dB down	<input checked="" type="checkbox"/>								
c)	or restricted band, emission must also comply with the radiated emission limits specified in 15.209	<input checked="" type="checkbox"/>								

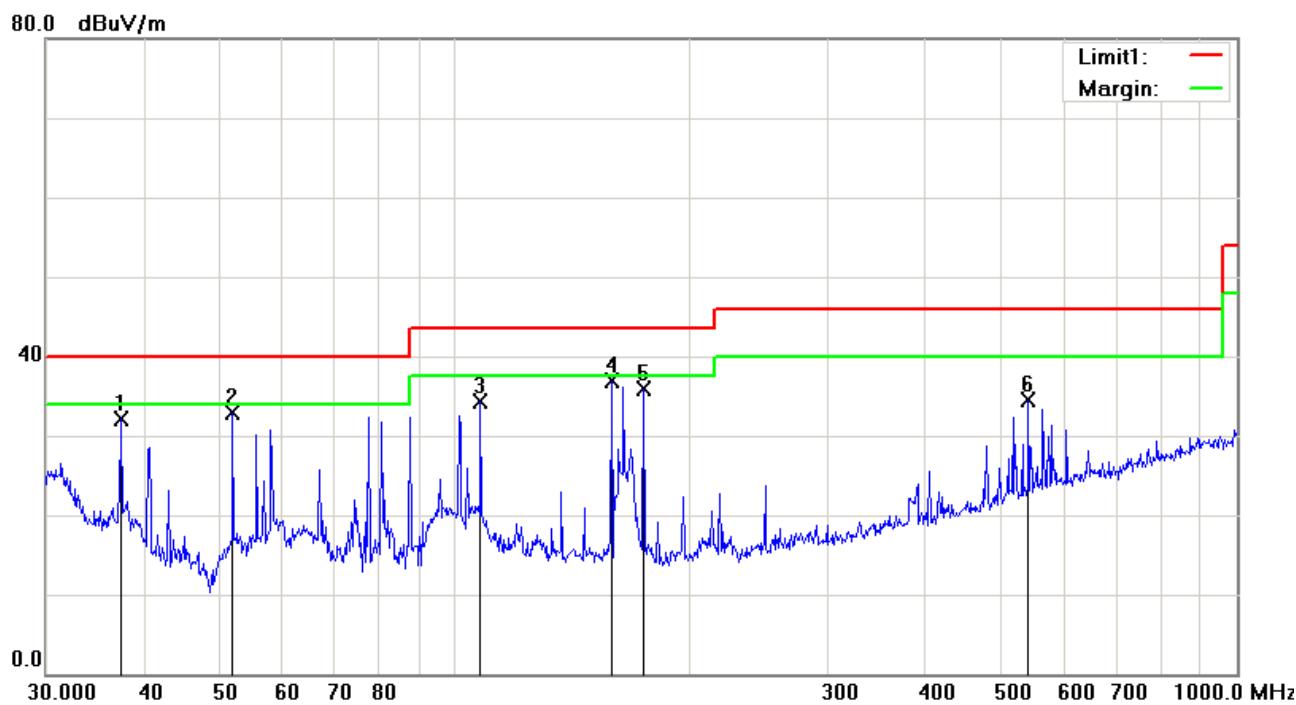
Test Setup	 <p>The diagram illustrates the test setup. An EUT & Support Units assembly is mounted on a Turn Table, which is positioned on a Ground Plane. The Turn Table is at a height of 0.8/1.5m from the ground. A vertical Ant. Tower is connected to the turn table via a horizontal crossbar. The tower has a height of 1-4m and is labeled 'Variable'. A Test Receiver is connected to the tower, with its signal path indicated by a grey line.</p>
Procedure	<ol style="list-style-type: none"> 1. The EUT was switched on and allowed to warm up to its normal operating condition. 2. The test was carried out at the selected frequency points obtained from the EUT characterization. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner: <ol style="list-style-type: none"> a. Vertical or horizontal polarization (whichever gave the higher emission level over a full rotation of the EUT) was chosen. b. The EUT was then rotated to the direction that gave the maximum emission. c. Finally, the antenna height was adjusted to the height that gave the maximum emission. 3. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasiy Peak detection at frequency below 1GHz. 4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz with Peak detection for Peak measurement at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz with Peak detection for Average Measurement as below at frequency above 1GHz. 5. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured.
Remark	<p>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.</p>
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)

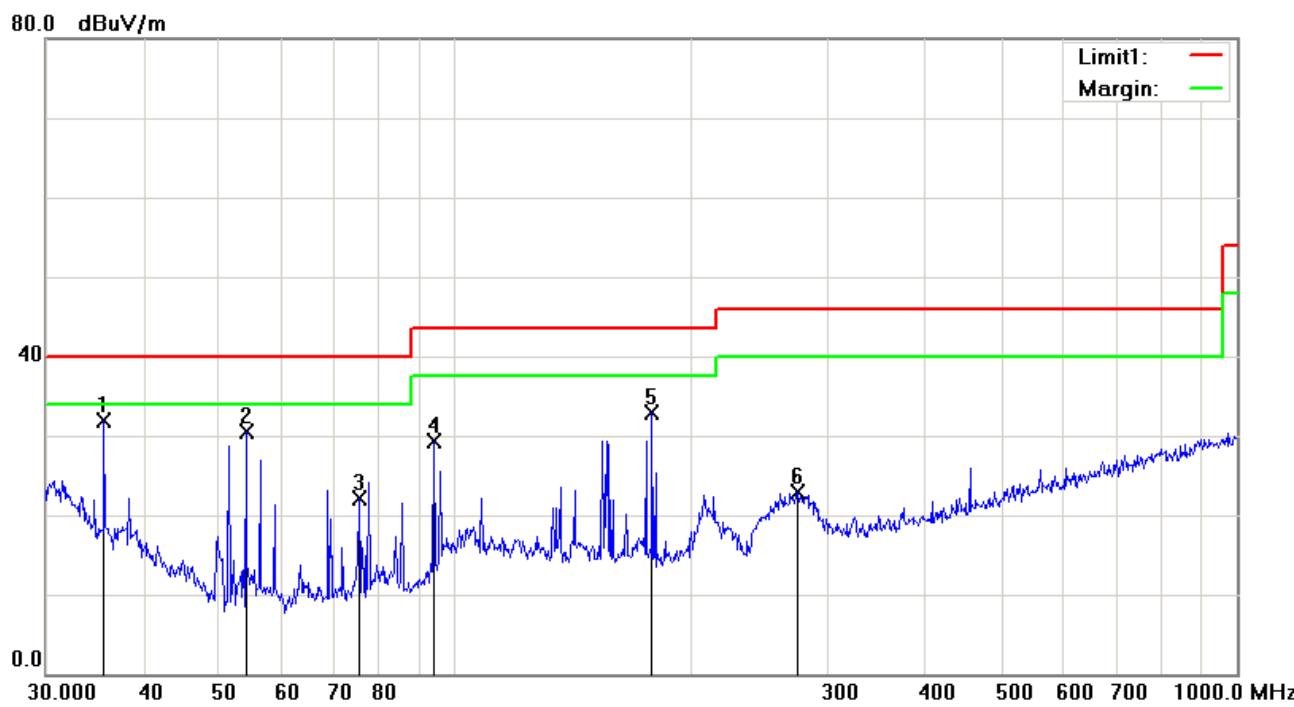


Test Data

Vertical Polarity Plot @3m

No	P/L	Frequency (MHz)	Reading (dB μ V)	Detector	Corrected (dB)	Result (dB μ V)	Limit (dB μ V)	Margin (dB)	Height	Degree
1	V	37.4165	37.71	peak	-5.70	32.01	40.00	-7.99	100	30
2	V	52.0251	46.37	peak	-13.42	32.95	40.00	-7.05	100	15
3	V	107.8877	43.68	peak	-9.40	34.28	43.50	-9.22	100	19
4	V	158.6677	45.25	peak	-8.30	36.95	43.50	-6.55	100	19
5	V	174.4241	45.26	peak	-9.45	35.81	43.50	-7.69	100	8
6	V	541.3725	35.38	peak	-0.96	34.42	46.00	-11.58	100	11

(Below 1GHz)



Test Data

Horizontal Polarity Plot @3m

No	P/L	Frequency (MHz)	Reading (dB μ V)	Detector	Corrected (dB)	Result (dB μ V)	Limit (dB μ V)	Margin (dB)	Height	Degree
1	H	35.6240	36.24	peak	-4.40	31.84	40.00	-8.16	100	179
2	H	54.0711	44.24	peak	-13.66	30.58	40.00	-9.42	100	179
3	H	75.4464	35.83	peak	-13.74	22.09	40.00	-17.91	100	44
4	H	94.0979	41.58	peak	-12.36	29.22	43.50	-14.28	100	33
5	H	178.7584	42.65	peak	-9.79	32.86	43.50	-10.64	100	36
6	H	274.1939	31.04	peak	-8.09	22.95	46.00	-23.05	100	0

Above 1GHz

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

Low Channel (2412 MHz)(n40 mode worst case)

Frequency (MHz)	S.A. Reading (dB μ V)	Detector (PK/AV)	Polarity (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord Amp. (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
4824	38.95	AV	V	33.8	6.86	32.69	46.92	54	-7.08
4824	38.68	AV	H	33.8	6.86	32.69	46.65	54	-7.35
4824	47.22	PK	V	33.8	6.86	32.69	55.19	74	-18.81
4824	47.59	PK	H	33.8	6.86	32.69	55.56	74	-18.44
17798	23.51	AV	V	44.52	11.36	31.88	47.51	54	-6.49
17798	23.18	AV	H	44.52	11.36	31.88	47.18	54	-6.82
17798	40.43	PK	V	44.52	11.36	31.88	64.43	74	-9.57
17798	40.04	PK	H	44.52	11.36	31.88	64.04	74	-9.96

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

Frequency (MHz)	S.A. Reading (dB μ V)	Detector (PK/AV)	Polarity (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord Amp. (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
4874	39.12	AV	V	33.6	6.82	32.71	46.83	54	-7.17
4874	38.85	AV	H	33.6	6.82	32.71	46.56	54	-7.44
4874	47.48	PK	V	33.6	6.82	32.71	55.19	74	-18.81
4874	48.06	PK	H	33.6	6.82	32.71	55.77	74	-18.23
17835	23.41	AV	V	44.61	11.4	31.93	47.49	54	-6.51
17835	23.09	AV	H	44.61	11.4	31.93	47.17	54	-6.83
17835	40.14	PK	V	44.61	11.4	31.93	64.22	74	-9.78
17835	40.37	PK	H	44.61	11.4	31.93	64.45	74	-9.55

High Channel (2462 MHz) (n20 mode worst case)

Frequency (MHz)	S.A. Reading (dB μ V)	Detector (PK/AV)	Polarity (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord Amp. (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
38.82	AV	V	33.83	6.95	32.79	46.81	54	-7.19	38.82
38.77	AV	H	33.83	6.95	32.79	46.76	54	-7.24	38.77
47.48	PK	V	33.83	6.95	32.79	55.47	74	-18.53	47.48
47.52	PK	H	33.83	6.95	32.79	55.51	74	-18.49	47.52
23.28	AV	V	44.75	11.48	32.01	47.5	54	-6.5	23.28
23.61	AV	H	44.75	11.48	32.01	47.83	54	-6.17	23.61
40.59	PK	V	44.75	11.48	32.01	64.81	74	-9.19	40.59
40.14	PK	H	44.75	11.48	32.01	64.36	74	-9.64	40.14

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	09/17/2015	09/16/2016	<input checked="" type="checkbox"/>
Line Impedance	LI-125A	191106	09/25/2015	09/24/2016	<input checked="" type="checkbox"/>
Line Impedance	LI-125A	191107	09/25/2015	09/24/2016	<input checked="" type="checkbox"/>
LISN	ISN T800	34373	09/25/2015	09/24/2016	<input checked="" type="checkbox"/>
Double Ridge Horn Antenna (1 ~18GHz)	AH-118	71283	09/24/2015	09/23/2016	<input checked="" type="checkbox"/>
Transient Limiter	LIT-153	531118	09/01/2015	08/31/2016	<input checked="" type="checkbox"/>
RF conducted test					
Agilent ESA-E SERIES	E4407B	MY45108319	09/17/2015	09/16/2016	<input checked="" type="checkbox"/>
Power Splitter	1#	1#	09/01/2015	08/31/2016	<input checked="" type="checkbox"/>
DC Power Supply	E3640A	MY40004013	09/17/2015	09/16/2016	<input checked="" type="checkbox"/>
Radiated Emissions					
EMI test receiver	ESL6	100262	09/17/2015	09/16/2016	<input checked="" type="checkbox"/>
Positioning Controller	UC3000	MF780208282	11/19/2015	11/18/2016	<input checked="" type="checkbox"/>
OPT 010 AMPLIFIER (0.1-1300MHz)	8447E	2727A02430	09/01/2015	08/31/2016	<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	09/21/2015	09/20/2016	<input checked="" type="checkbox"/>
Double Ridge Horn Antenna (1 ~18GHz)	AH-118	71283	09/24/2015	09/23/2016	<input checked="" type="checkbox"/>
Universal Radio Communication Tester	CMU200	121393	09/25/2015	09/24/2016	<input checked="" type="checkbox"/>

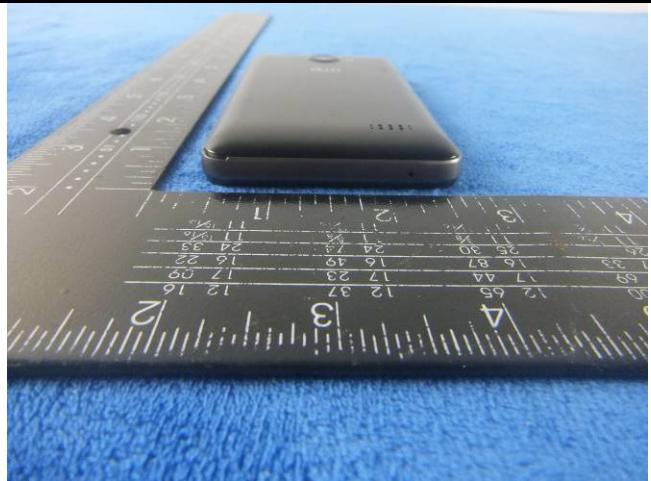
Annex B. EUT and Test Setup Photographs

Annex B.i. Photograph: EUT External Photo





EUT - Top View



EUT - Bottom View

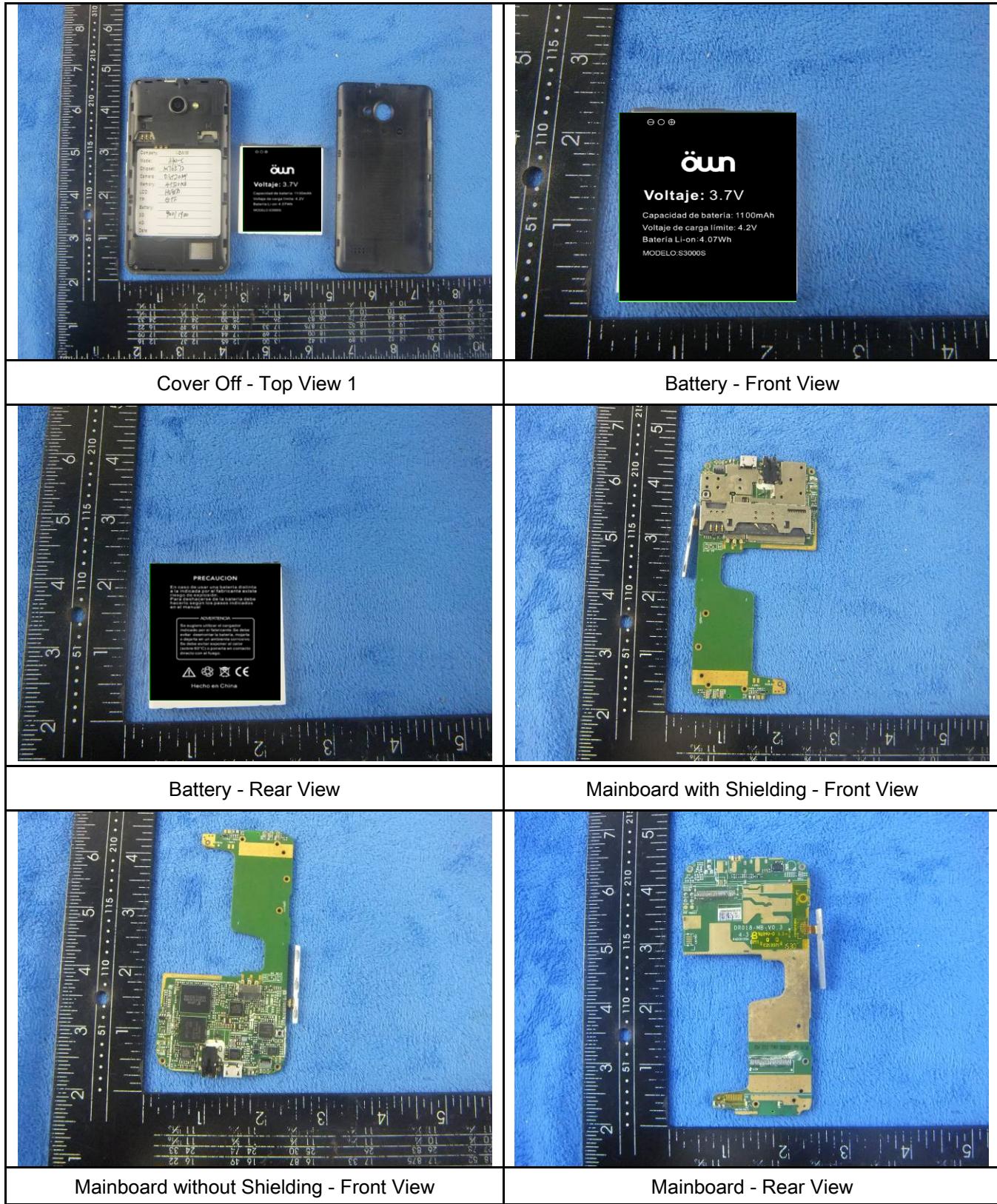


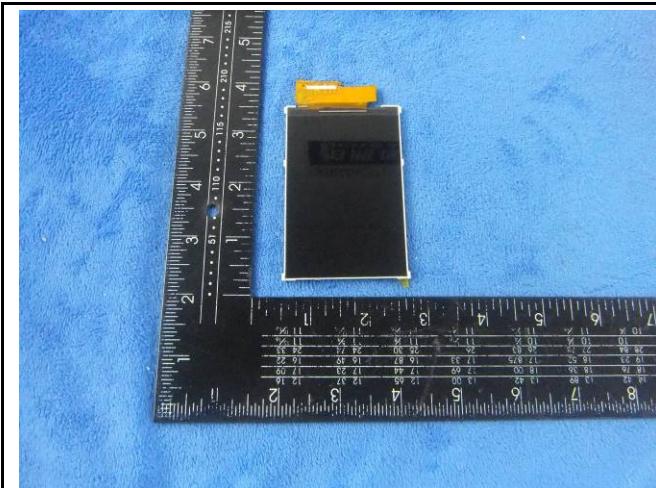
EUT - Left View



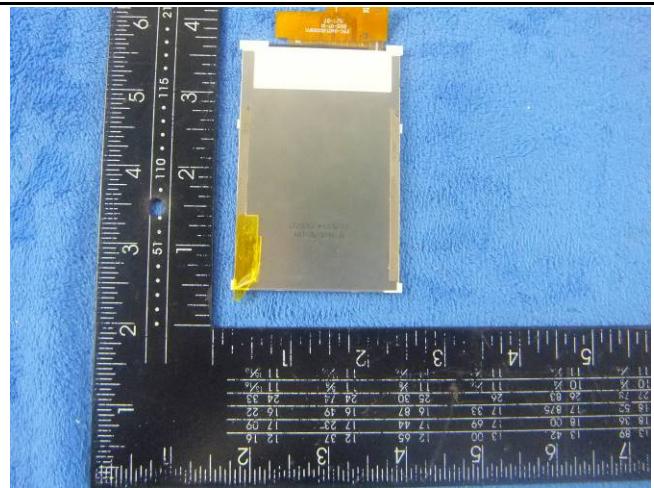
EUT - Right View

Annex B.ii. Photograph: EUT Internal Photo

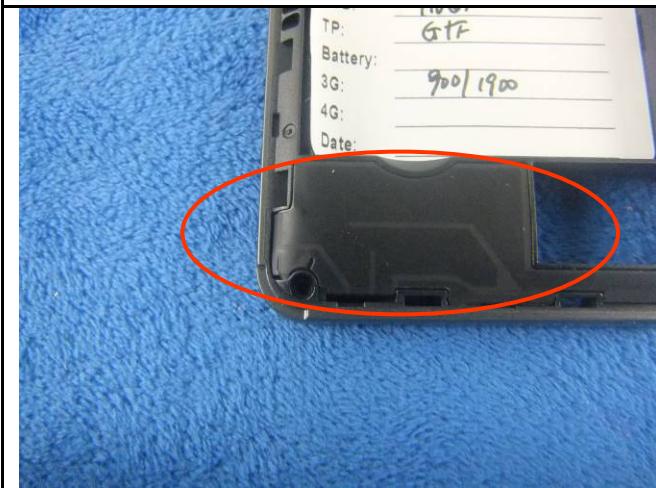




LCD – Front View



LCD – Rear View

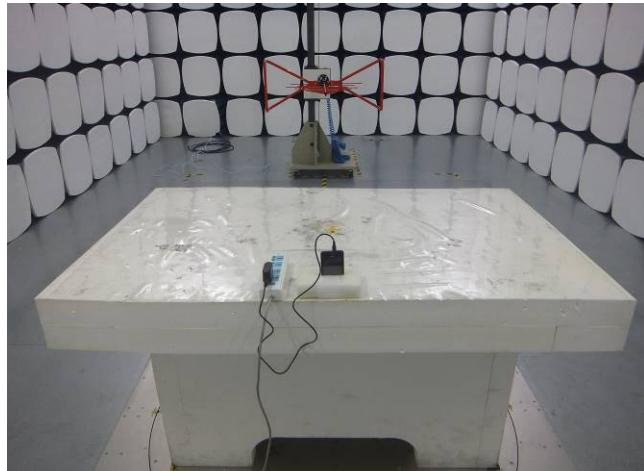
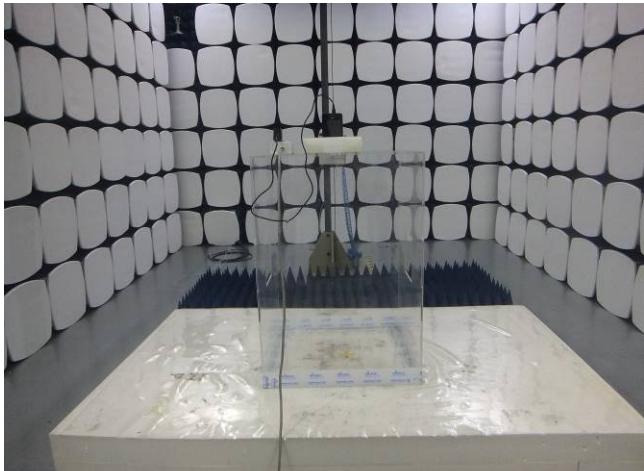


GSM/PCS/UMTS-FDD Antenna View



WIFI/BT/BLE/GPS - Antenna View

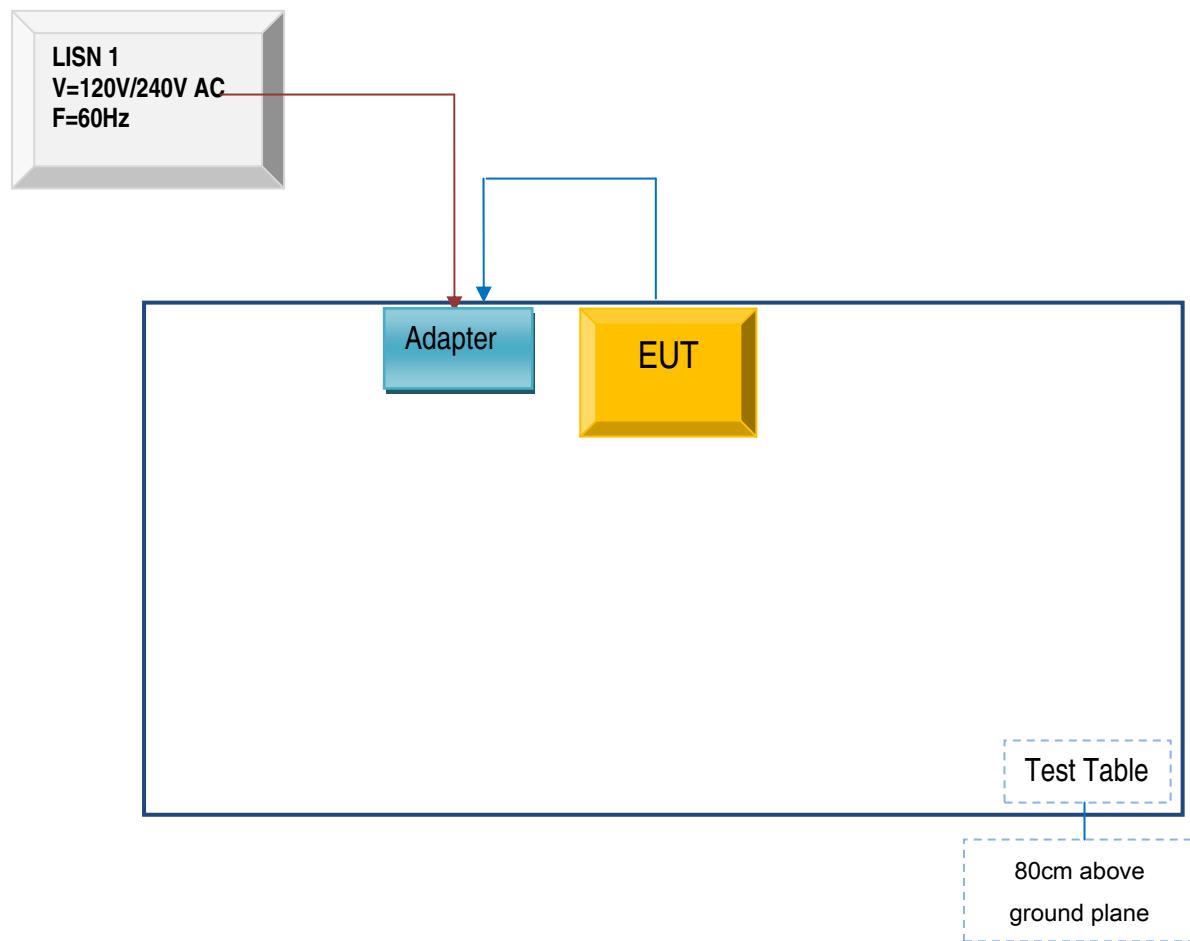
Annex B.iii. Photograph: Test Setup Photo

 A photograph showing a wooden table in a test chamber. On the table is a white device connected to a power source. The floor of the chamber has some markings.	 A photograph showing a side view of the wooden table in the test chamber. A white device is mounted on a stand on the table.
Conducted Emissions Test Setup Front View	Conducted Emissions Test Setup Side View
 A photograph showing a white table in a test chamber. A white device is mounted on a stand on the table. The background is a grid of white panels.	 A photograph showing a white table in a test chamber. A white device is mounted on a stand above the table. The background is a grid of white panels.
Radiated Spurious Emissions Test Setup Below 1GHz	Radiated Spurious Emissions Test Setup Above 1GHz

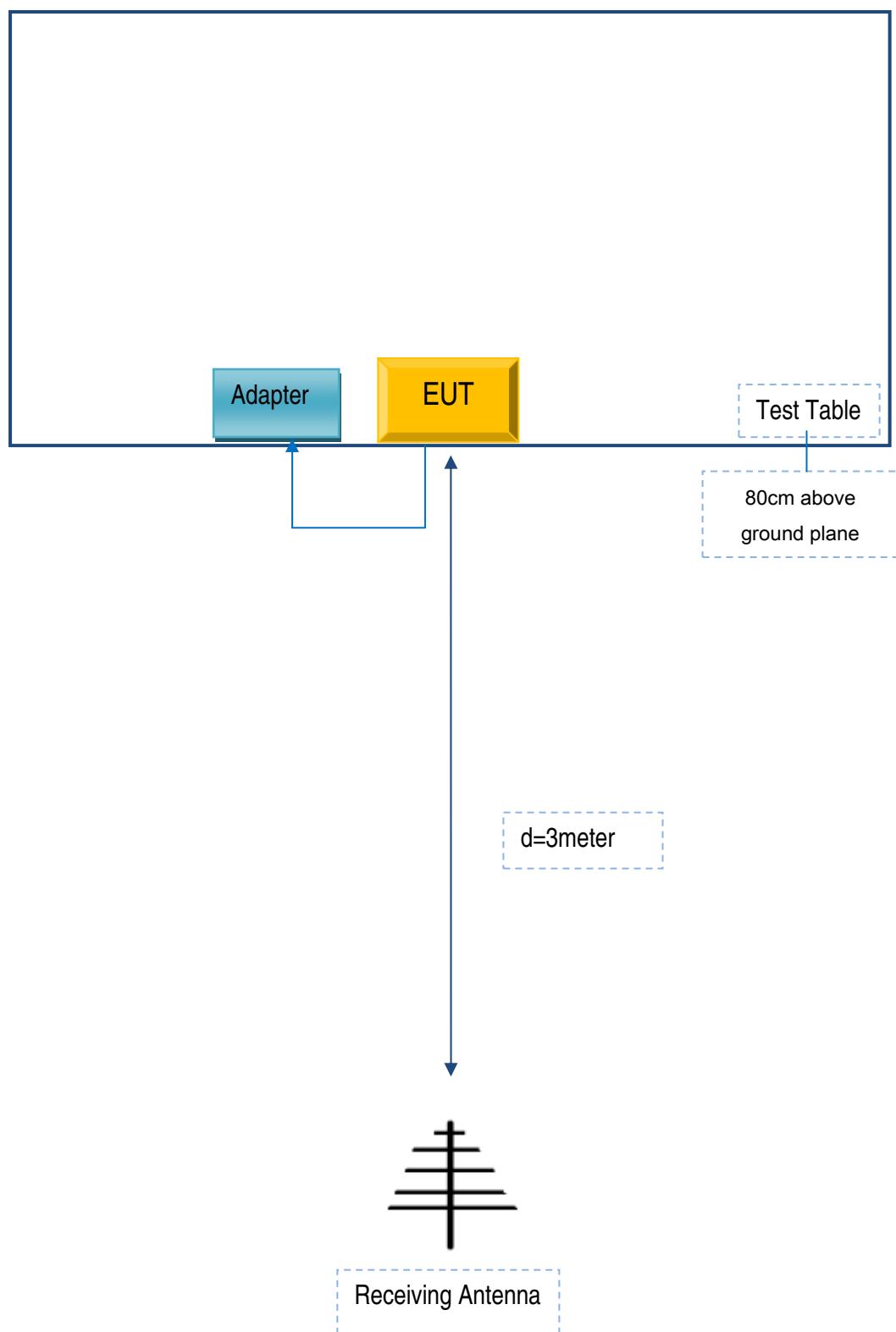
Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

Annex C.ii. TEST SET UP BLOCK

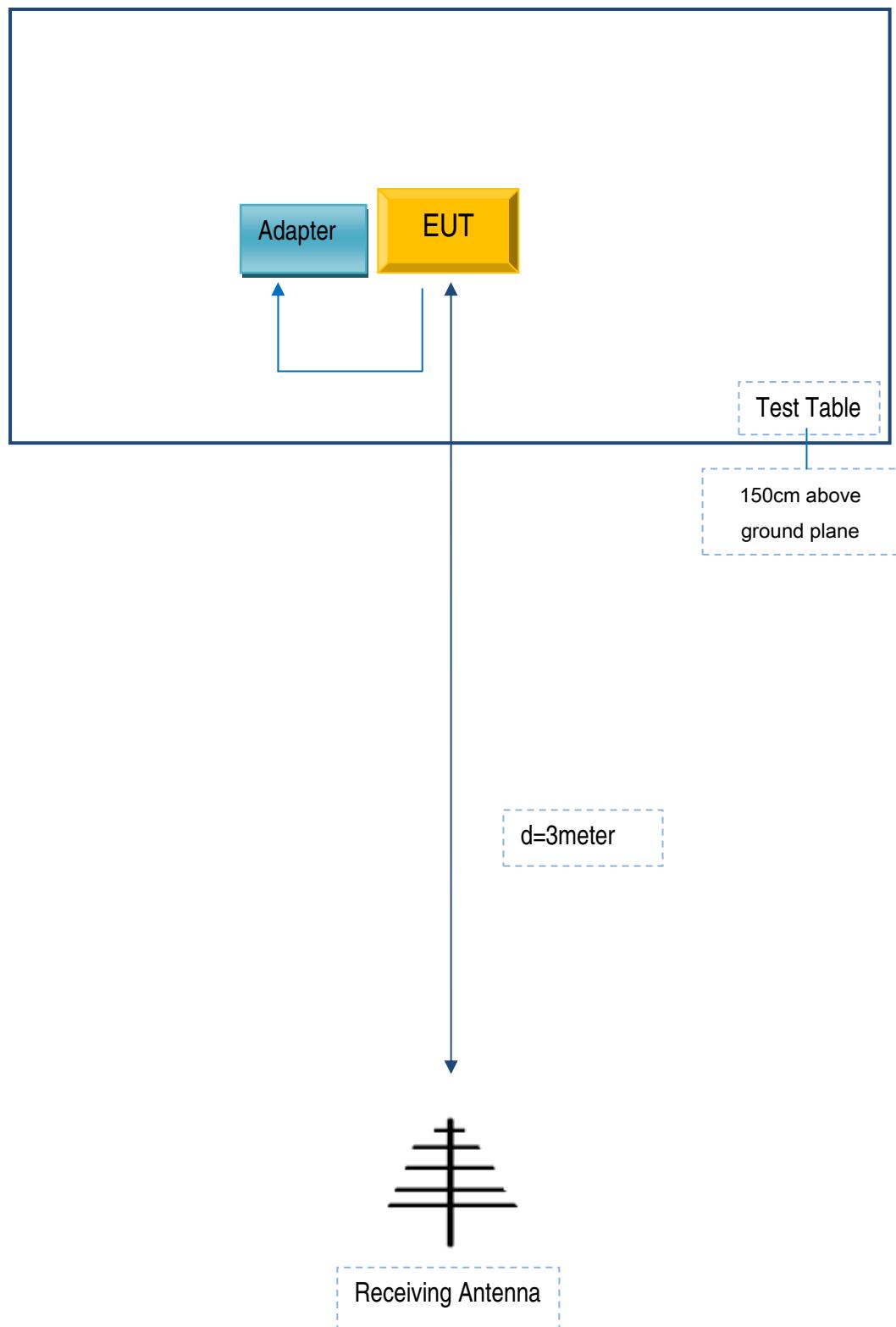
Block Configuration Diagram for AC Line Conducted Emissions



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
NEG TECHNOLOGY CO., LIMITED	Adapter	S3000S	S-3

Supporting Cable:

Cable type	Shield Type	Ferrite Core	Length	Serial No
USB Cable	Un-shielding	No	0.8m	S-3

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

See attachment

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Annex E. DECLARATION OF SIMILARITY

N/A