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## ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

## INTENTIONAL RADIATOR CERTIFICATION TO **FCC PART 15 SUBPART E REQUIREMENT**

OF

**Brand Name:** Sony

FCC ID: PY7-47130J

ER/2016/C0033 Report No.:

**Issue Date:** Mar. 10, 2017

**FCC Rule Part: §15.407** 

**Sony Mobile Communications Inc.** 

4-12-3, Higashi-Shinagawa, Shinagawa-ku, **Prepared for:** 

Tokyo, 140-0002 Japan

SGS Taiwan Ltd.

**Electronics & Communication Laboratory** 

Prepared by: No.134, Wu Kung Road, New Taipei Indus-

trial Park, Wuku District, New Taipei City,

Taiwan 24803





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## VERIFICATION OF COMPLIANCE

Applicant: Sony Mobile Communications Inc.

4-12-3, Higashi-Shinagawa, Shinagawa-ku, Tokyo, 140-0002 Japan

Brand Name: Sony

**FCC ID:** PY7-47130J

File Number: ER/2016/C0033

**Date of Test:** Dec. 12, 2016 ~ Dec. 29, 2016

Date of EUT Received: Dec. 12, 2016

## We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Electronics & Communication Laboratory The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10: 2013 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits.

The test results of this report relate only to the tested sample identified in this report.

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Jim Chang / Asst. Manager

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# **Revision History**

Report Number	Revision	Description	Issue Date
ER/2016/C0033	Rev.00	Initial creation of document	Jan. 09, 2017
ER/2016/C0033	Rev.01	Provide measurement plot of radiation, please refer to Appendix I.	Jan. 23, 2017
ER/2016/C0033	Rev.02	Update general information & add MPE evaluation.	Feb. 06, 2017
ER/2016/C0033	Rev.03	Add ferrite core & update conduction setup photo.	Mar. 01, 2017
ER/2016/C0033	Rev.04	Update Channel Details on page 14~15 & test results.	Mar. 10, 2017

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## 1. GENERAL INFORMATION

## 1.1 Product Description

### General:

	noran			
Brand Name:	Sony			
Hardware Version:	A			
Software Version:	0.20			
Data Cable (USB):	Model No.:	UCB20, Supplier: Sony, Length: 100cm		
BT Headset:	Model No.: MW600, Supplier: Sony			
HDMI Cable:	Model No.: DLC-HEU10A, Supplier: Sony			
Ferrite Core:	Type No.: 2	ZCAT-2035-0930A-BK, Supplier: TDK		
	11.1Vdc			
Power Supply:	Battery:	Model No.: N/A, Supplier: N/A		
	Adapter:	Model No.: UCH30C, Supplier: Sony		

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## WLAN 5GHz:

AN JOHE.					
Wi-Fi	Frequency Range	Channels	Rated Power (Avg.)	Modulation Technology	
	5150~5250	4	15.33dBm		
44.	5250~5350	4	15.12dBm	OFDM	
11a	5470~5725	12	16.04dBm	OFDM	
	5725-5850	5	13.23dBm		
	HT / VHT20 5150~5250	4	HT: 15.05dBm (Worst Case)		
	HT / VHT20 5250~5350	4	HT: 14.84dBm (Worst Case)		
11n / ac_20M	HT / VHT20 5470~5725	11	HT: 15.71dBm (Worst Case)	OFDM	
	VHT20 5720~5720	1	VHT: 11.73dBm (Worst Case)		
	HT / VHT20 5725-5850	5	HT: 12.88dBm (Worst Case)		
	HT / VHT40 5150~5250	2	HT: 14.43dBm (Worst Case)		
	HT / VHT40 5250~5350	2	HT: 14.40dBm (Worst Case)		
11n / ac_40M	HT / VHT40 5470~5725	5	HT: 14.68dBm (Worst Case)	OFDM	
	VHT40 5710~5710	1	VHT: 13.00dBm (Worst Case)		
	HT / VHT40 5725-5850	2	HT: 12.70dBm (Worst Case)		
	VHT80 5150~5250	1	6.73dBm		
	VHT80 5250~5350	1	10.47dBm		
11ac_80M	VHT80 5470~5725	2	9.92dBm	OFDM	
	VHT80 5690	1	10.80dBm		
	VHT80 5725-5850	1	10.83dBm		

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Antenna Designation	PIFA Antenna, 5GHz Gain: -0.2dBi (5150MHz-5250MHz) 5GHz Gain: 2dBi (5250MHz-5350MHz) 5GHz Gain: -0.6dBi (5470MHz-5725MHz) 5GHz Gain: 0.3dBi (5725MHz-5850MHz)	
Modulation type	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 802.11ac only	
Transition Rate:	802.11 a: 6/9/12/18/24/36/48/54 Mbps; 802.11 n_20 / ac VHT20MHz: 6.5 - 65Mbps 802.11 n_40 / ac VHT40MHz: 13.5 - 135Mbps 802.11 ac_80MHz: 29.3 - 292.5Mbps	

## 1.2 Product Feature of Equipment Under Test

The equipment under Test (Hereafter Called: EUT) supports below functions.

Product Feature		
GSM Operating Band(s)	GSM 850/1900MHz	
GPRS / EGPRS Multi Slot Class	GPRS Class 12 / Class 12	
WCDMA Operating Band(s)	FDD Band II / IV / V	
WCDMA Rel. Version	Rel.9	
LTE Operating Band(s)	FCC Band 2 / 4 / 5 / 7 / 12 / 17 / 26 / 41	
LTE Rel. Version	Rel.10	
Bluetooth Version	V4.2 dual mode	
Wi-Fi- Specification	802.11a/b/g/n/ac	
NFC Specification	NFC	

Note: The above EUT information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

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## Test Methodology of Applied Standards

FCC Part 15, Subpart E §15.407

FCC KDB 789033 D02 General UNII Test Procedures New Rules

FCC KDB 644545 D03 Guidance for IEEE 802.11ac v01

Note:

All test items have been performed and record as per the above standards.

## 1.4 Test Facility

SGS Taiwan Ltd. Electronics & Communication Laboratory No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803 (TAF code 0513)

FCC Registration Numbers are: 509634

Canada Registration Number: 4620A-5.

## Special Accessories

There are no special accessories used while test was conducted.

#### **Equipment Modifications** 1.6

There was no modification incorporated into the EUT.

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### SYSTEM TEST CONFIGURATION

## **EUT Configuration**

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

#### 2.2 EUT Exercise

An engineering test mode (software/firmware) that applicant provided was utilized to manipulate the EUT into transmit, selection of the test channel, and modulation scheme.

#### **Test Procedure**

#### 2.3.1 Conducted Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz,. The CISPR Quasi-Peak and Average detector mode is employed according to §15.207. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

#### 2.3.2 Radiated Emissions

The EUT is a placed on as turn table. For emissions testing at or below 1 GHz, the table height shall be 0.8 m above the reference ground plan. For emission measurements above 1 GHz, the table height shall be 1.5 m. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna.

## **Measurement Results Explanation Example** For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuation factor between EUT conducted port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly EUT RF output level.

### Note:

The spectrum analyzer offset is derived from RF cable loss and attenuator factor. Following shows an offset computation example with cable loss 1dB, and 10dB attenuator. Offset:

= RF cable loss (dB)+ attenuation factor(dB) dB =11dB

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## 2.5 Configuration of Tested System

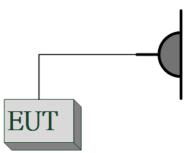
Fig. 2-1 Radiated Emission Configuration



Fig. 2-2 Conducted (Antenna Port) Configuration



Fig. 2-3 AC Power Line Conducted Emission Configuration



**Table 2-1 Equipment Used in Tested System** 

Ite m	Equipment	Mfr/Brand	Model/Type No.	Series No.	Data Cable	Power Cord
1.	WLAN Test Software	N/A	N/A	N/A	N/A	N/A
2.	Notebook	Lenovo	R400	7440AV6	N/A	Un-shield
3.	DC Power Supply	Agilent	E3640A	KR93300208	N/A	N/A

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## **SUMMARY OF TEST RESULT**

FCC Rules	Description Of Test	Result
§15.207	AC Power Line Conducted Emission	Compliant
§15.403(i) §15.407(e)	26 dB & 6dB & 99% Emission Bandwidth	Compliant
§15.407(a)	Maximum Conducted Output Power	Compliant
§15.407(a)	Power Spectral Density	Compliant
§15.407(b)	Undesirable Radiated Emissions	Compliant
§15.407(c)	Transmission in case of Absence of Information	Compliant
§15.407(g)	Frequency Stability	Compliant
§15.203 §15.407(a)	Antenna Requirement	Compliant

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### **DESCRIPTION OF TEST MODES**

## 4.1 Operated in U-NII Bands

Operated band in 5150 MHz ~5250 MHz:

4 channels are provided for 802.11a, 802.11n HT20, 802.11ac VHT20

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

2 channels are provided for 802.11n HT40, 802.11ac VHT40

_		· · · · · <u>_</u> · · · · · · · , · · · · ·		
CHANNEL		FREQUENCY	CHANNEL	FREQUENCY
	38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac VHT80

•	<u>uo_ 111100</u>		
	CHANNEL	FREQUENCY	
	42	5210 MHz	

Operated band in 5250 MHz ~5350 MHz:

4 channels are provided for 802.11a, 802.11n HT20, 802.11ac VHT20

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
52	5260 MHz	60	5300 MHz
56	5280 MHz	64	5320 MHz

2 channels are provided for 802.11n\_HT40, 802.11ac\_VHT40

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac VHT80

_				
Ī	CHANNEL	FREQUENCY		
	58	5290 MHz		

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## Operated band in 5470 MHz ~5725 MHz:

12 channels are provided for 802.11a, 802.11n HT20, 802.11ac VHT20

provided for 602:114, 602:1111_11120, 602:1146_111120					
	CHANNEL	FREQUENCY	CHANNEL	FREQUENCY	
	100	5500 MHz	124	5620 MHz	
	104	5520 MHz	128	5640 MHz	
	108	5540 MHz	132	5660 MHz	
	112	5560 MHz	136	5680 MHz	
	116	5580 MHz	140	5700 MHz	
	120	5600 MHz	144	5720 MHz	

6 channels are provided for 802.11n\_HT40, 802.11ac\_VHT40

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY	
102	5510 MHz	126	5630 MHz	
110	5550 MHz	134	5670 MHz	
118	5590 MHz	142	5710 MHz	

3 channes are provided for 802.11ac\_VHT80

Ι-,				
	CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
	106	106 5530 MHz		5690 MHz
	122	5610 MHz		

### Operated band in 5725 MHz ~5850 MHz:

5 channels are provided for 802.11a, 802.11n HT20, 802.11ac VHT20

Ξ.		<u> </u>		
	CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
	149	149 5745 MHz		5805 MHz
	153	5765 MHz	165	5825 MHz
	157	5785 MHz		

2 channels are provided for 802.11n\_HT40, 802.11ac\_VHT40

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY	
151	5755 MHz	159	5795 MHz	

1 channel is provided for 802.11ac VHT80

ao o o		
CHANNEL	FREQUENCY	
155	5775 MHz	

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#### 4.2 The Worst Test Modes and Channel Details

- 1. The EUT has been tested under operating condition.
- 2. Test program used to control the EUT for staying in continuous transmitting mode is programmed.
- 3. Investigation has been done on all the possible configurations for searching the worst case.
- 4. The given UE is pre-scanned among 802.11n and ac modes, and 802.11n yields the highest reading that generates the highest emission. Therefore, 802.11n as the mode of test configuration is chosen to carry out the relevantly mandatory test items.

#### **RADIATED EMISSION TEST:**

TIADIATED LIMI	SSIUN IESI:					
	RADIATED EMISSION TEST (BELOW 1 GHz)					
MODE	FREQUENCY BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)	ANTENNA PORT
802.11a	5180~5240	36 to 48	36,44,48	OFDM	6	MAIN
802.11ac_VHT80	5210	42	42	OFDM	MCS0	MAIN
802.11a	5260~5320	52 to 64	52,60,64	OFDM	6	MAIN
802.11ac_VHT80	5290	58	58	OFDM	MCS0	MAIN
802.11a	5500~5720	100 to 140	100,116,140	OFDM	6	MAIN
802.11ac_VHT80	5530~5690	106 to 138	106,122	OFDM	MCS0	MAIN
802.11a	5745~5825	149 to 165	149,157,165	OFDM	6	MAIN
802.11ac_VHT80	5775	155	155	OFDM	MCS0	MAIN
	RADI	ATED EMISS	ION TEST (A	BOVE 1 GHz)		
MODE	FREQUENCY BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)	ANTENNA PORT
802.11a	E400 E040	00 +- 40	00 44 40	OFDM	6	MAIN
802.11n_HT20	5180~5240	36 to 48	36,44,48	OFDM	MCS0	MAIN
802.11n_HT40	5190~5230	38 to 46	38,46	OFDM	MCS0	MAIN
802.11ac_VHT80	5210	42	42	OFDM	MCS0	MAIN
802.11a	F000 F000	FO += C4	FO CO C4	OFDM	6	MAIN
802.11n_HT20	5260~5320	52 to 64	52,60,64	OFDM	MCS0	MAIN
802.11n_HT40	5270~5310	54 to 62	54,62	OFDM	MCS0	MAIN
802.11ac_VHT80	5290	58	58	OFDM	MCS0	MAIN

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MODE	FREQUENCY BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)	ANTENNA PORT
802.11a	FF00 F700	4001.444	100 110 110	OFDM	6	MAIN
802.11n_HT20	5500~5720	100 to 144	100,116,140	OFDM	MCS0	MAIN
802.11ac_VHT20	5720	144	144	OFDM	MCS0	MAIN
802.11n_HT40	5510~5670	102 to 134	102,110,134	OFDM	MCS0	MAIN
802.11ac_VHT40	5710	142	142	OFDM	MCS0	MAIN
802.11ac_VHT80	5530~5690	106 to 138	106,122,138	OFDM	MCS0	MAIN
802.11a	E74E E00E	440 +- 405	440 457 405	OFDM	6	MAIN
802.11n_HT20	5745~5825	149 to 165	149,157,165	OFDM	MCS0	MAIN
802.11n_HT40	5755~5795	151 to 159	151,159	OFDM	MCS0	MAIN
802.11ac_VHT80	5775	155	155	OFDM	MCS0	MAIN

### Note:

The field strength of radiation emission was measured as 802.11a/n/ac WLAN Transmitter for channel Low, Mid and High, the worst case was reported.

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## ANTENNA PORT CONDUCTED MEASUREMENT.

ANTENNA PO	ANTENNA PORT CONDUCTED MEASUREMENT:					
		CON	IDUCTED TEST			
MODE	FREQUENCY BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)	ANTENNA PORT
802.11a	E100 E040	00 to 40	00 44 40	OFDM	6	MAIN
802.11n_HT20	5180~5240	36 to 48	36,44,48	OFDM	MCS0	MAIN
802.11n_HT40	5190~5230	38 to 46	38,46	OFDM	MCS0	MAIN
802.11ac_VHT80	5210	42	42	OFDM	MCS0	MAIN
802.11a	F000 F000	50 to 04	50.00.04	OFDM	6	MAIN
802.11n_HT20	5260~5320	52 to 64	52,60,64	OFDM	MCS0	MAIN
802.11n_HT40	5270~5310	54 to 62	54,62	OFDM	MCS0	MAIN
802.11ac_VHT80	5290	58	58	OFDM	MCS0	MAIN
802.11a	5500~5720	100 to 144	100,116,140,144	OFDM	6	MAIN
802.11n_HT20	3300*3720	100 10 144	100,110,140,144	OFDM	MCS0	MAIN
802.11n_HT40	5510~5710	102 to 142	102,110,134,142	OFDM	MCS0	MAIN
802.11ac_VHT80	5530~5690	106 to 138	106,122,138	OFDM	MCS0	MAIN
802.11a	5745 5005	110   105	1 10 157 105	OFDM	6	MAIN
802.11n_HT20	5745~5825	149 to 165	149,157,165	OFDM	MCS0	MAIN
802.11n_HT40	5755~5795	151 to 159	151,159	OFDM	MCS0	MAIN
802.11ac_VHT80	5775	155	155	OFDM	MCS0	MAIN

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### **MEASUREMENT UNCERTAINTY**

Test Items	Uncertainty
AC Power Line Conducted Emission	+/- 2.586 dB
26dB & 6dB Emission Bandwidth	+/- 123.36 Hz
The Maximum Output Power Measurement	+/- 0.96 dB
Peak Power Spectral Density Measurement	+/- 1.67 dB
Frequency Stability	+/- 123.36 Hz
Temperature	+/- 0.65 °C
Humidity	+/- 4.6 %
DC / AC Power Source	DC= +/- 0.13%, AC=+/- 0.2%

**Radiated Spurious Emission:** 

radiated e pariode Ermonom				
Measurement uncertainty (Polarization : <b>Vertical</b> )	9kHz-30MHz: +/-2.87dB			
	30MHz - 180MHz: +/- 3.37dB			
	180MHz -417MHz: +/- 3.19dB			
	0.417GHz-1GHz: +/- 3.19dB			
	1GHz - 18GHz: +/- 4.04dB			
	18GHz - 40GHz: +/- 4.04dB			

	9kHz-30MHz: +/-2.87dB	
	30MHz - 167MHz: +/- 4.22dB	
Measurement uncertainty	167MHz -500MHz: +/- 3.44dB	
(Polarization : Horizontal)	0.5GHz-1GHz: +/- 3.39dB	
	1GHz - 18GHz: +/- 4.08dB	
	18GHz - 40GHz: +/- 4.08dB	

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

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### CONDUCTED EMISSION TEST

## 6.1. Standard Applicable

Frequency range within 150 kHz to 30 MHz shall not exceed the Limit table as below.

1 7 0				
Frequency range	Limits dB(uV)			
MHz	Quasi-peak	Average		
0.15 to 0.50	66 to 56	56 to 46		
0.50 to 5	56	46		
5 to 30	60	50		

### Note

- 1. The lower limit shall apply at the transition frequencies
- 2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50

## 6.2. Measurement Equipment Used

Conducted Emission Test Site						
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.	
TYPE		NUMBER	NUMBER	CAL.		
EMI Test Receiver	R&S	ESCI7	100760	05/10/2016	05/09/2017	
LISN	SCHWARZBECK	NSLK 8127	8127-649	05/16/2016	05/15/2017	
LISN	MESS TEC	FCC-LISN-50/250 -25-2-01	4034	05/16/2016	05/15/2017	
Coaxial Cables	N/A	WK CE Cable	N/A	11/26/2016	11/25/2017	

## 6.3. EUT Setup

- 1. The conducted emission tests were performed in the test site, using the setup in accordance with the ANSI C63.10:2013.
- 2. The AC/DC Power adaptor of EUT was plug-in LISN. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop.
- 3. The LISN was connected with 120Vac/60Hz power source.

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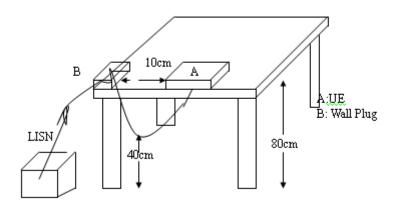
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#### 6.4. Test SET-UP



#### 6.5. Measurement Procedure

- 1. The EUT was placed on a table which is 0.8m above ground plane.
- 2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 3. Repeat above procedures until all phases of power being supplied by given UE are completed.

#### 6.6. Measurement Result

Note: Refer to next page for measurement data and plots.

Note2: The \* reveals the worst-case results that closet to the limit

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### AC POWER LINE CONDUCTED EMISSION TEST DATA

Test Date: Dec. 27, 2016 Operation Mode: Operation mode

Temperature: 20

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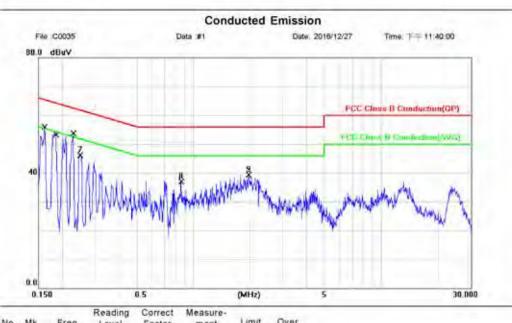
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Site Conduction Room Phase Temperature: 20 1 Limit FCC Class B Conduction(QP) AC 120V/60Hz Mode: Operation



No.	Mk.	Freq.	Reading Level	Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	ďΒ	Detector	Comment
1	*	0.1620	56.40	0.07	56.47	65.36	-8.89	QP	
2		0.1620	37.80	0.07	37.87	55.36	-17.49	AVG	
3		0.1860	51.00	0.08	51.08	64.21	-13/13	QP	
4		0.1860	32.40	0.08	32.48	54.21	-21.73	AVG	
5		0.2300	47.50	0.08	47.58	82.45	-14.87	QP	
6		0.2300	29.60	0.08	29.68	52.45	-22.77	AVG	
7		0.2500	45.92	0.09	46.01	61.76	-15.75	peak	
8		0.8660	36.83	0.12	36.95	56.00	-19.05	peak	
9		1.9700	39,21	0.15	39.36	56.00	-16.64	peak	

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### 7. DUTY CYCLE TEST SIGNAL

Pre-analysis Check: While conducting average power measurement, duty cycle of each mode shall be checked to ensure its duty cycle in order to compensate for the loss due to insufficient ratio of duty cycle.

All duty cycle is pre-scanned, and result as obtained below shows only the most representative ones where duty cycle is conducted as the given transmission with given virtual operation that expresses the percentage.

#### Formula:

Duty Cycle = Ton / (Ton+Toff)

#### **Measurement Procedure:**

- 1. Set span = Zero
- 2. RBW = 8MHz
- 3. VBW = 8MHz,
- 4. Detector = Peak

### **Duty Cycle:**

Mode	Duty Cycle (%)	Duty Factor (dB) =10*log ( 1/Duty Cycle )
802.11a	99.36	0.03
802.11n_20	99.14	0.04
802.11n_40	97.56	0.11
802.11ac_80	96.99	0.13

Duty Cycle Factor:  $10 * \log(1/0.9936) = 0.03$ Duty Cycle Factor:  $10 * \log(1/0.9914) = 0.04$ Duty Cycle Factor:  $10 * \log(1/0.9756) = 0.11$ Duty Cycle Factor:  $10 * \log(1/0.9699) = 0.13$ 

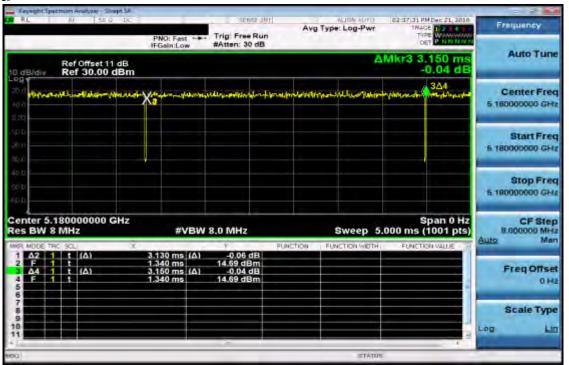
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## **DUTY CYCLE TEST SIGNAL Measurement Result** 802.11a



### 802.11n HT20



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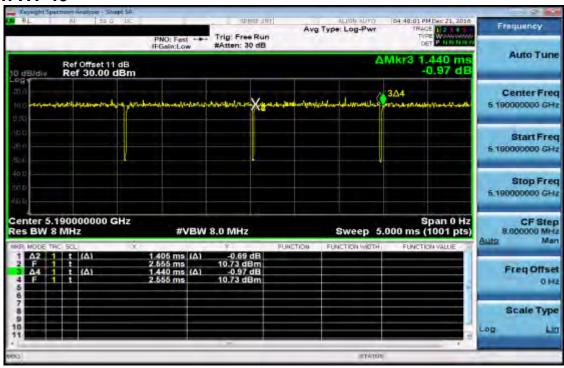
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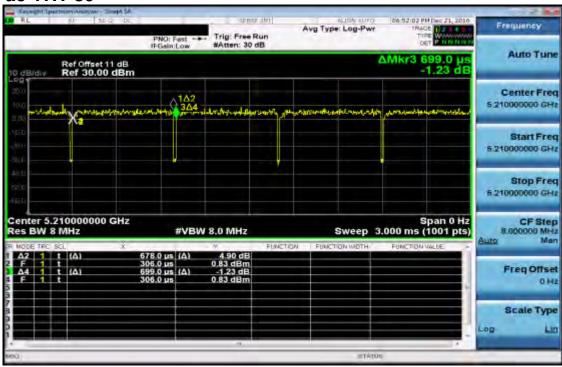


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## 802.11n HT 40



## 802.11 ac VHT 80



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### 26dB & 6dB EMISSION BANDWIDTH MEASUREMENT

## 8.1 Standard Applicable

There is no limit bandwidth for U-NII-1, U-NII-2-A and U-NII-2-C.

The minimum of 6dB Bandwidth measurement is 0.5 MHz for U-NII-3

#### 8.2 Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules.
- 3. Remove the antenna from the EUT and then connect a low loss RF cable from the Antenna port to the spectrum analyzer.
  - a. 26dB Band width Measurement: Set the spectrum analyzer as 1% of emission BW Sweep=auto, Detector = Peak, Trace Mode = Max Hold, Manually readjust RBW until the RBW/EBW ratio is 1% based on EBW as observed on the result of pre-sequence measure-
  - b. Mark the peak frequency and -26dB (upper and lower) frequency.
- 4. Repeat the procedures as list above until all test default channels (low, middle, and high) are completed.
- 5. Minimum Emission Bandwidth for the band 5.725-5.850GHz.
  - a. Set the spectrum analyzer as RBW = 100 kHz, VBW = 3\*RBW, Span = 30M/50MHz, Detector=Peak,
    - Sweep=auto
  - b. Mark the peak frequency and -6dB (upper and lower) frequency.
- 6. Repeat above procedures until all test default channel measured were complete.

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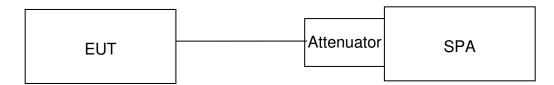


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#### **Measurement Equipment Used** 8.3

SGS Conducted Room					
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.
TYPE		NUMBER	NUMBER	CAL.	
Power Meter	Anritsu	ML2495A	1005007	12/15/2016	12/14/2017
Power Sensor	Anritsu	MA2411B	917032	12/15/2016	12/14/2017
EXA Spectrum Analyzer	Agilent	N9030A	MY53120760	02/26/2016	02/25/2017
DC Block	Mini-Circuits	BLK-18-S+	1	01/02/2016	01/01/2017
Coaxial Cable	HUBER+SUHNER	SUCOFLEX 102	23670/2	01/02/2016	01/01/2017
Attenuator	Mini-Circuit	BW-S10W2+	2	01/02/2016	01/01/2017
Splitter	Agilent	11636B	N/A	01/02/2016	01/01/2017
DC Power Supply	Agilent	E3640A	MY52410006	11/21/2016	11/20/2017
Temperature Chamber	TERCHY	MHG-120LF	911009	05/17/2016	05/16/2017

## 8.4 Test Set-up



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## 8.5 Measurement Result 26dB Bandwidth

802.11a Main

002.11a_Wa111					
Frequency (MHz)	26dB BW (MHz)	10 Log (B) (dB)			
5180	21.29	13.282			
5220	21.41	13.306			
5240	20.96	13.214			
5260	21.37	13.298			
5300	21.11	13.245			
5320	21.24	13.272			
5500	21.19	13.261			
5580	24.28	13.852			
5700	20.95	13.212			

802.11n \_HT40\_Main

Frequency (MHz)	26dB BW (MHz)	10 Log (B) (dB)
5190	39.64	15.981
5230	39.46	15.962
5270	40.07	16.028
5310	39.40	15.955
5510	39.64	15.981
5550	39.76	15.994
5670	39.70	15.988

802.11n HT20 Main

Frequency (MHz)	26dB BW (MHz)	10 Log (B) (dB)
5180	21.36	13.296
5220	22.91	13.600
5240	22.01	13.426
5260	21.71	13.367
5300	22.95	13.608
5320	21.40	13.304
5500	21.21	13.265
5580	21.53	13.330
5700	21.33	13.290

802.11ac VHT80 Main

Frequency (MHz)	26dB BW (MHz)	10 Log (B) (dB)		
5210	80.63	19.065		
5290	80.95	19.082		
5530	81.07	19.089		
5610	80.80	19.074		

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#### 802.11ac VHT20 Main

Frequency (MHz)	26dB Bandwidth (MHz)	10 Log (B) (dB)
5720 (UNII-2C)	15.640	11.94
5720 (UNII-3)	5.640	7.51

#### 802.11ac VHT40 Main

Frequency (MHz)	26dB Bandwidth (MHz)	10 Log (B) (dB)
5710 (UNII-2C)	34.840	15.42
5710 (UNII-3)	4.840	6.85

#### 802.11ac VHT80 Main

Frequency (MHz)	26dB Bandwidth (MHz)	10 Log (B) (dB)
5690 (UNII-2C)	75.300	18.77
5690 (UNII-3)	5.200	7.16

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## 6dB Bandwidth (5725 MHz~ 5850 MHz) measure with Peak detector for FCC

### 802.11a\_Main

Frequency (MHz)	6dB BW (MHz)	10 Log (B) (dB)
5745	16.32	12.126
5785	16.35	12.134
5825	16.35	12.135

#### 802.11 n\_HT20\_Main

Frequency (MHz)	6dB BW (MHz)	10 Log (B) (dB)
5745	17.56	12.446
5785	17.30	12.381
5825	17.58	12.449

#### 802.11n\_HT40\_Main

Frequency (MHz)	6dB BW (MHz)	10 Log (B) (dB)
5755	35.65	15.521
5795	35.14	15.458

#### 802.11ac VHT80 Main

Frequency (MHz)	6dB BW (MHz)	10 Log (B) (dB)
5775	75.26	18.766

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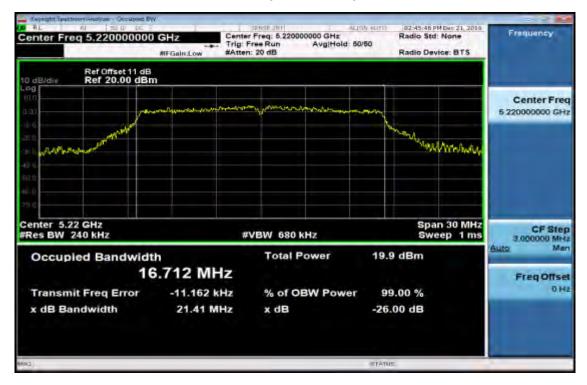


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# 802.11a, 5150~5250 MHz (Main) 26dB Band Width Test Data CH-Low (5180MHz)



## 26dB Band Width Test Data CH-Mid (5220MHz)



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# 26dB Band Width Test Data CH-High (5240MHz)



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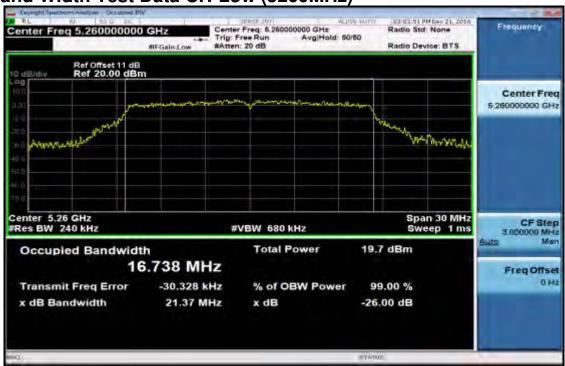
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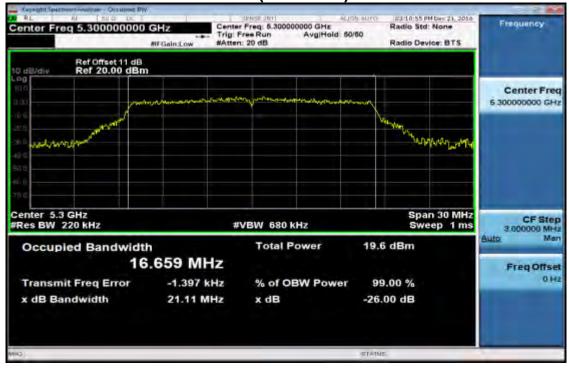


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## 802.11a, 5250~5350 MHz (Main) 26dB Band Width Test Data CH-Low (5260MHz)



# 26dB Band Width Test Data CH-Mid (5300MHz)



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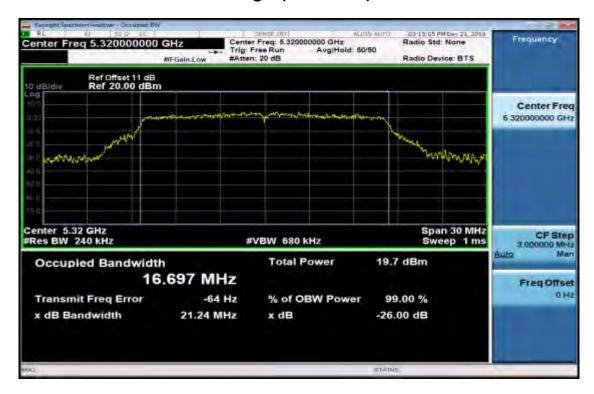
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## 26dB Band Width Test Data CH-High (5320MHz)



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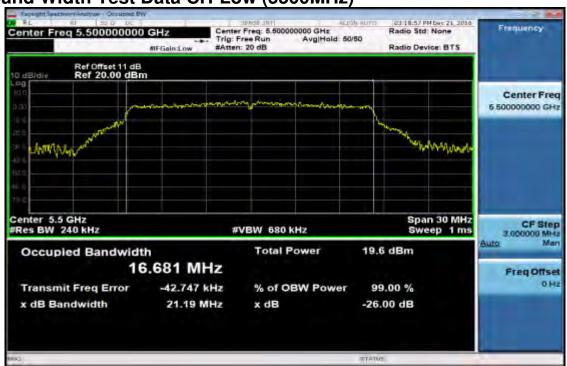
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## 802.11a, 5470~5725 MHz (Main) 26dB Band Width Test Data CH-Low (5500MHz)



## 26dB Band Width Test Data CH-Mid (5580MHz)



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## 26dB Band Width Test Data CH-High (5700MHz)



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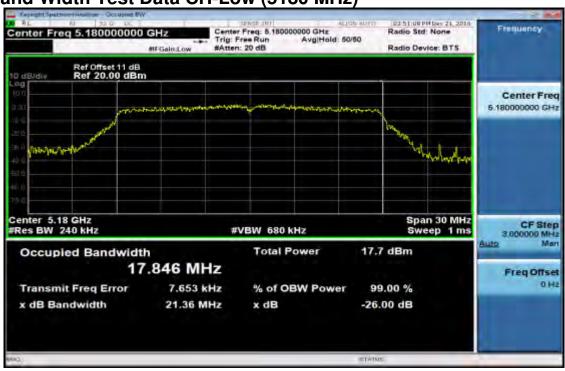
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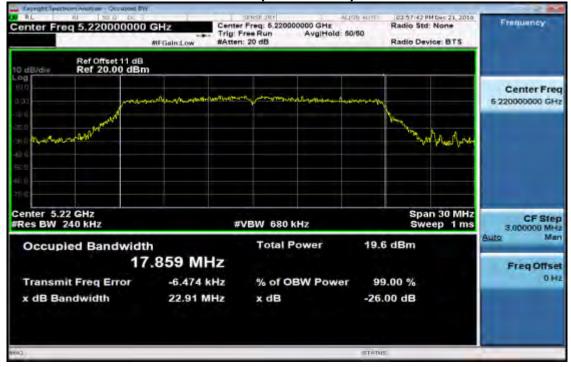


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## 802.11n HT20, 5150~5250 MHz (Main) 26dB Band Width Test Data CH-Low (5180 MHz)



# 26dB Band Width Test Data CH-Mid (5220 MHz)



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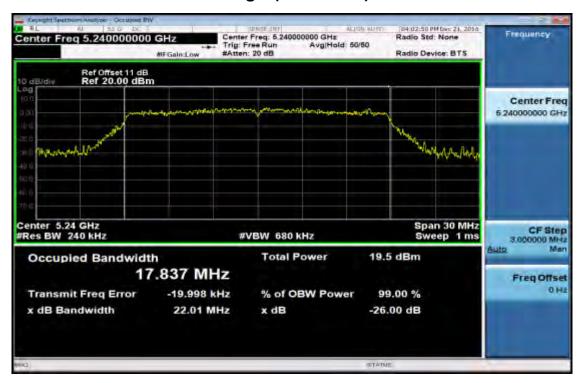
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# 26dB Band Width Test Data CH-High (5240 MHz)



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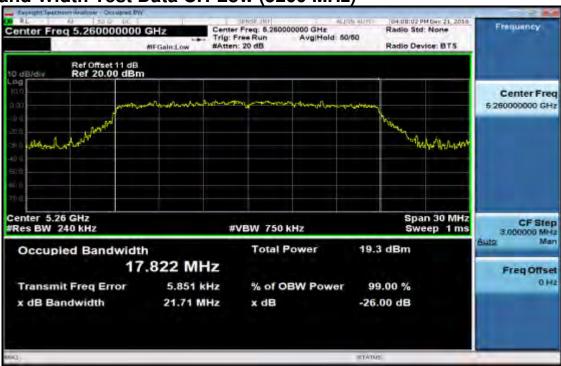
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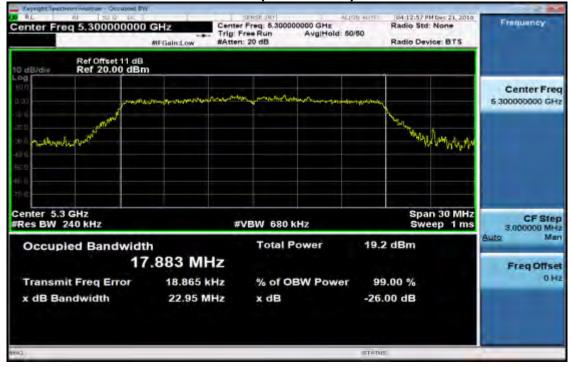


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#### 802.11n HT20, 5250~5350 MHz (Main) 26dB Band Width Test Data CH-Low (5260 MHz)



# 26dB Band Width Test Data CH-Mid (5300 MHz)



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# 26dB Band Width Test Data CH-High (5320 MHz)



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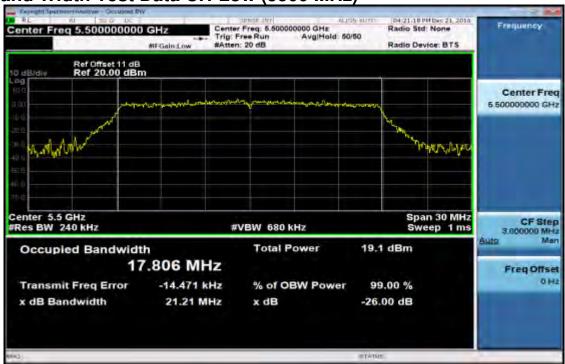
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#### 802.11n HT20, 5470~5725 MHz (Main) 26dB Band Width Test Data CH-Low (5500 MHz)



# 26dB Band Width Test Data CH-Mid (5580 MHz)



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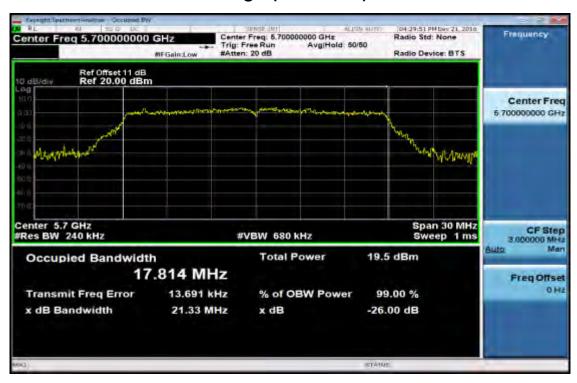
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#### 26dB Band Width Test Data CH-High (5700 MHz)



802.11ac VHT20, 5470~5725 MHz (Main) 26dB Band Width Test Data CH-High (5720 MHz)



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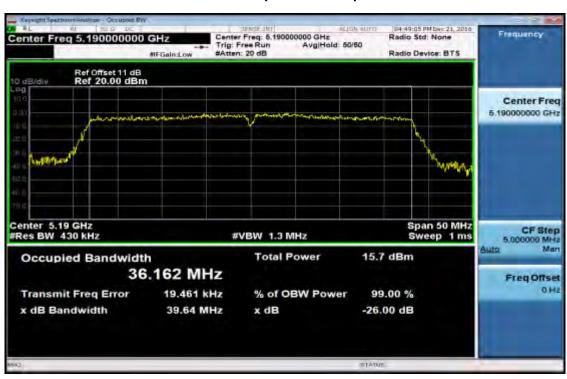
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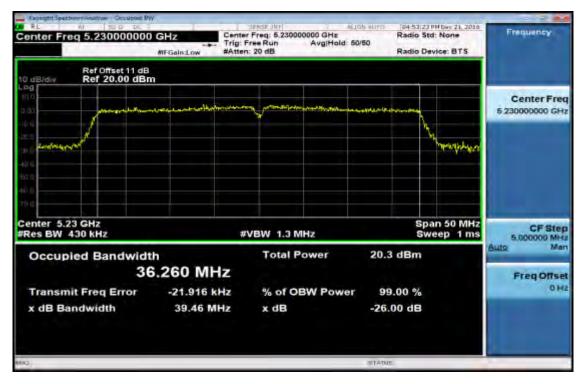


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### 802.11n HT40, 5150~5250 MHz (Main) 26dB Band Width Test Data CH-Low (5190 MHz)



# 26dB Band Width Test Data CH-High (5230 MHz)



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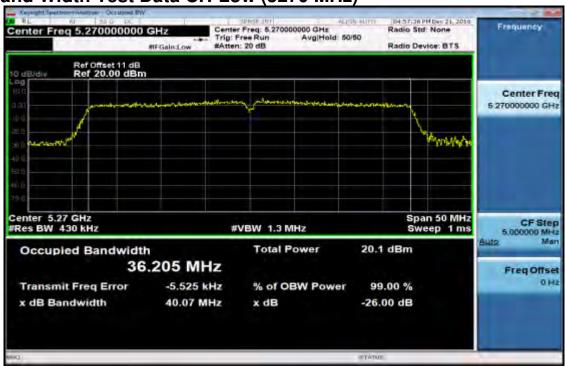
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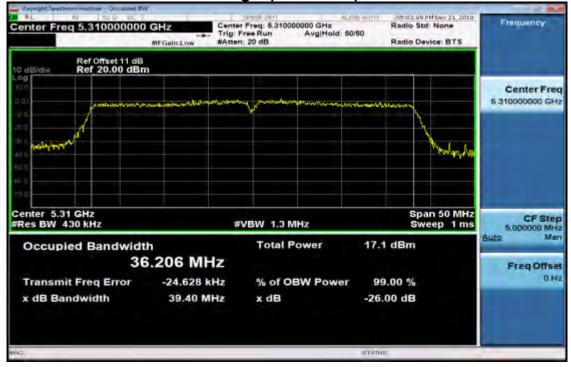


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#### 802.11n HT40, 5250~5350 MHz (Main) 26dB Band Width Test Data CH-Low (5270 MHz)



26dB Band Width Test Data CH-High (5310MHz)



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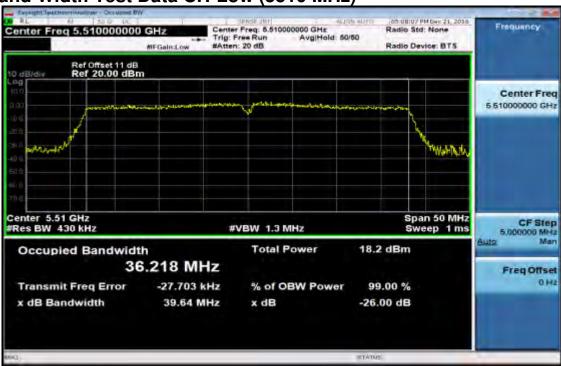
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#### 802.11n HT40, 5470~5725 MHz (Main) 26dB Band Width Test Data CH-Low (5510 MHz)



# 26dB Band Width Test Data CH-Mid (5550 MHz)



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#### 26dB Band Width Test Data CH-High (5670 MHz)



### 802.11ac VHT40, 5470~5725 MHz (Main) 26dB Band Width Test Data CH-Low (5710 MHz)



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#### 802.11ac VHT80, 5150~5250 MHz (Main) 26dB Band Width Test Data CH-Mid (5210 MHz)



802.11ac VHT80, 5250~5350 MHz 26dB Band Width Test Data CH-Mid (5290 MHz)



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#### 802.11ac VHT80, 5470~5725 MHz (Main) 26dB Band Width Test Data CH-Low (5530 MHz)



# 802.11ac VHT80, 5470~5725 MHz (Main) 26dB Band Width Test Data CH-High (5610 MHz)



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# 26dB Band Width Test Data CH-Low (5690 MHz)



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### 802.11a, 5725~5850 MHz (Main) 6dB Band Width Test Data CH-Low (5745 MHz)



6dB Band Width Test Data CH-Mid (5785 MHz)



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# 6dB Band Width Test Data CH-High (5825 MHz)



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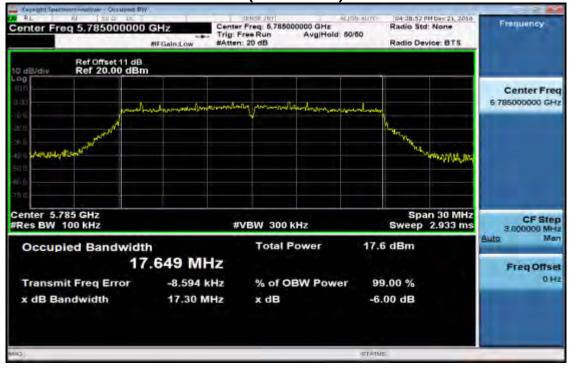


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#### 802.11n HT20, 5725~5850 MHz (Main) 6dB Band Width Test Data CH-Low (5745 MHz)



# 6dB Band Width Test Data CH-Mid (5785 MHz)



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# 6dB Band Width Test Data CH-High (5825 MHz)



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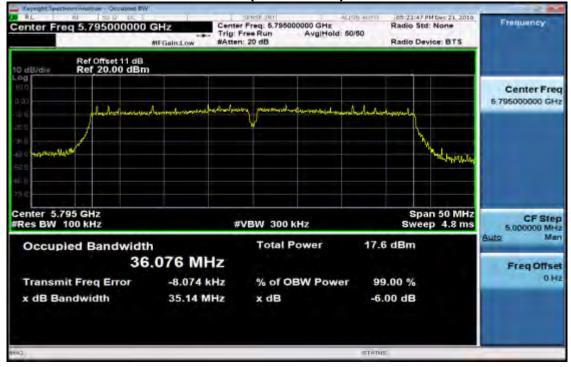


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#### 802.11n HT40, 5725~5850 MHz (Main) 6dB Band Width Test Data CH-Low (5755 MHz)



# 6dB Band Width Test Data CH-Mid (5795 MHz)



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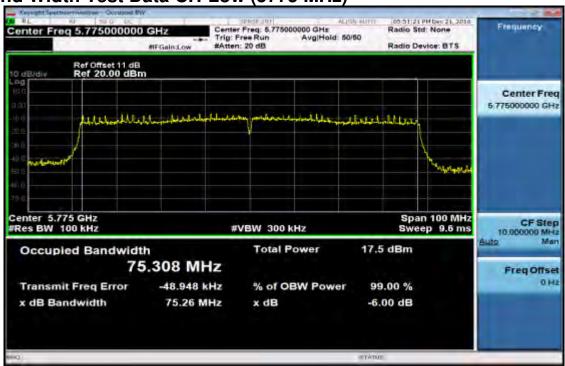
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#### 802.11ac VHT80, 5725~5850 MHz (Main) 6dB Band Width Test Data CH-Low (5775 MHz)



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#### MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT

#### **Standard Applicable**

**FCC** 

OPERZTION Band	EUT CATEGORY	LIMIT
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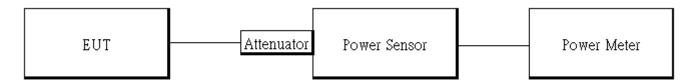
#### 9.2 Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules.
- 3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power meter
- 4. Power Meter is used as the auxiliary test equipment to conduct the output power measurement.
- 5. Record the max. reading and add 10 log(1/duty cycle).
- 6. Repeat above procedures until all frequency (low, middle, and high channel) measured were complete.

#### 9.3 Measurement Equipment Used

	SGS Conducted Room								
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.				
Power Meter	Anritsu	ML2495A	1005007	12/15/2016	12/14/2017				
Power Sensor	Anritsu	MA2411B	917032	12/15/2016	12/14/2017				
EXA Spectrum  Analyzer	Agilent	N9030A	MY53120760	02/26/2016	02/25/2017				
DC Block	Mini-Circuits	BLK-18-S+	1	01/02/2016	01/01/2017				
Coaxial Cable	HUBER+SUHNER	SUCOFLEX 102	23670/2	01/02/2016	01/01/2017				
Attenuator	Mini-Circuit	BW-S10W2+	2	01/02/2016	01/01/2017				
Splitter	Agilent	11636B	N/A	01/02/2016	01/01/2017				
DC Power Supply	Agilent	E3640A	MY52410006	11/21/2016	11/20/2017				
Temperature Chamber	TERCHY	MHG-120LF	911009	05/17/2016	05/16/2017				

#### 9.4 Test Set-up



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### 9.5 Measurement Result **Conducted output power**

#### 802 11a Main

002.11a_W	iaiii							
СН	Frequency (MHz)	Data Rate	TOTAL POWER (dBm)	TOTAL POWER (mW)		REQUIRED LIMIT (dBm)		RESULT
36	5180	MCS0	13.64	23.121		23.98		PASS
44	5220	MCS0	15.30	33.884		23.98		PASS
48	5240	MCS0	15.33	34.119		23.98		PASS
52	5260	MCS0	15.05	31.989	23.98	or 11+10log(B) =	24.30	PASS
60	5300	MCS0	15.12	32.509	23.98	or $11+10\log(B) =$	24.24	PASS
64	5320	MCS0	15.06	32.063	23.98	or 11+10log(B) =	24.27	PASS
100	5500	MCS0	14.84	30.479	23.98	or $11+10\log(B) =$	24.26	PASS
116	5580	MCS0	16.04	40.179	23.98	or $11+10\log(B) =$	24.85	PASS
140	5700	MCS0	15.21	33.189	23.98	or $11+10\log(B) =$	24.21	PASS
149	5745	MCS0	13.23	21.038		30		PASS
157	5785	MCS0	12.97	19.815		30		PASS
165	5825	MCS0	12.99	19.907		30		PASS

#### 802.11n\_HT20\_Main

СН	Frequency (MHz)	Data Rate	TOTAL POWER (dBm)	TOTAL POWER (mW)		REQUIRED LIMIT (dBm)		RESULT
36	5180	MCS0	13.19	20.845		23.98		PASS
44	5220	MCS0	15.05	31.989		23.98		PASS
48	5240	MCS0	15.04	31.915		23.98		PASS
52	5260	MCS0	14.84	30.479	23.98	or $11+10\log(B) =$	24.37	PASS
60	5300	MCS0	14.80	30.200	23.98	or 11+10log(B) =	24.61	PASS
64	5320	MCS0	14.74	29.785	23.98	or 11+10log(B) =	24.30	PASS
100	5500	MCS0	15.01	31.696	23.98	or 11+10log(B) =	24.27	PASS
116	5580	MCS0	15.71	37.239	23.98	or 11+10log(B) =	24.33	PASS
140	5700	MCS0	14.86	30.620	23.98	or 11+10log(B) =	24.29	PASS
144	5720 (U-NII 2C)	MCS0	11.73	14.894	23.98	or 11+10log(B) =	22.94	PASS
144	5720 (U-NII 3)	MCS0	4.23	2.649		30		PASS
149	5745	MCS0	12.88	19.409	30		PASS	
157	5785	MCS0	12.83	19.187	30		PASS	
165	5825	MCS0	12.69	18.578		30		PASS

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#### 802.11n HT40 Main

СН	Frequency (MHz)	Data Rate	TOTAL POWER (dBm)	TOTAL POWER (mW)		REQUIRED LIMIT (dBm)		RESULT
38	5190	MCS0	10.12	10.280		23.98		PASS
46	5230	MCS0	14.43	27.733		23.98		PASS
54	5270	MCS0	14.40	27.542	23.98	or 11+10log(B) =	27.03	PASS
62	5310	MCS0	11.49	14.093	23.98	or $11+10\log(B) =$	26.95	PASS
102	5510	MCS0	13.05	20.184	23.98	or 11+10log(B) =	26.98	PASS
110	5550	MCS0	14.56	28.576	23.98	or $11+10\log(B) =$	26.99	PASS
134	5670	MCS0	14.68	29.376	23.98	or $11+10\log(B) =$	26.99	PASS
142	5710 (U-NII 2C)	MCS0	13.00	19.966	23.98	or 11+11log(B) =	26.42	PASS
142	5710 (U-NII 3)	MCS0	1.81	1.516	30		PASS	
151	5755	MCS0	12.54	17.947	30		PASS	
159	5795	MCS0	12.70	18.621		30		PASS

#### 802.11ac VHT80 Main

СН	Frequency (MHz)	Data Rate	TOTAL POWER (dBm)	TOTAL POWER (mW)		REQUIRED LIMIT (dBm)		RESULT
42	5210	MCS0	6.73	4.710		23.98		PASS
58	5290	MCS0	10.47	11.143	23.98	or $11+10\log(B) =$	30.08	PASS
106	5530	MCS0	8.86	7.691	23.98	or $11+10\log(B) =$	30.09	PASS
122	5610	MCS0	9.92	9.817	23.98	or $11+10\log(B) =$	30.07	PASS
138	5690 (U-NII 2C)	MCS0	10.80	12.031	23.98	or $11+10\log(B) =$	29.77	PASS
138	5690 (U-NII 3)	MCS0	0.75	1.187	30		PASS	
155	5775	MCS0	10.83	12.106	30			PASS

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#### 10. PEAK POWER SPECTRAL DENSITY

#### 10.1 Standard Applicable

**FCC** 

OPERZTION Band	EUT CATEGORY	LIMIT
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U-NII-1

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#### 10.2 Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules.
- 3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to Spectrum.
- 4. For U-NII1, U-NII-2A, U-NII-2C Band:

Set RBW=1MHz, VBW=3MHz, where span is enough to capture the entire bandwidth, Sweep time = Auto (601 pts), detector = sample, traces 100 sweeps of video averaging. (SA-2 with the omission of procedure x, the integration with 26dB EBW bandwidth)

#### For U-NII-3 Band:

Set RBW=500 kHz, VBW≥ 3RBW, where span is enough to capture the entire bandwidth. Sweep time = Auto (601 pts), detector = sample, traces 100 sweeps of video averaging. (SA-2 with the omission of procedure x, the integration with 26dB EBW bandwidth)

- 5. User the cursor on spectrum to peak search the highest level of trace
- 6. Record the max. reading and add 10 log(1/duty cycle).
- 7. Repeat above procedures until all default test channel (low, middle, and high) was complete.

#### 10.3 Measurement Equipment Used

SGS Conducted Room								
EQUIPMENT TYPE	MFR	MODEL NUMBER	LAST CAL.	CAL DUE.				
EXA Spectrum Analyzer	Agilent	N9030A	MY53120760	02/26/2016	02/25/2017			
DC Block	Mini-Circuits	BLK-18-S+	1	01/02/2016	01/01/2017			
Attenuator	Mini-Circuit	BW-S10W2+	2	01/02/2016	01/01/2017			

#### 10.4 Test Set-up



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#### 10.5 Measurement Result

POWER	POWER DENSITY 802.11a MODE							
Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin (dB)					
5180	1.73	11	-9.27					
5220	3.44	11	-7.56					
5240	3.95	11	-7.05					
5260	3.70	11	-7.30					
5300	3.31	11	-7.69					
5320	2.91	11	-8.09					
5500	3.37	11	-7.63					
5580	3.69	11	-7.31					
5700	3.72	11	-7.28					
5745	6.27	30	-23.73					
5785	5.64	30	-24.36					
5825	5.90	30	-24.10					

POWER DENSITY 802.11n HT20 MODE						
Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin (dB)			
5180	0.78	11	-10.22			
5220	2.94	11	-8.06			
5240	2.86	11	-8.14			
5260	2.88	11	-8.12			
5300	1.91	11	-9.09			
5320	2.39	11	-8.61			
5500	2.17	11	-8.83			
5580	3.40	11	-7.60			
5700	3.47	11	-7.53			
5720 (UNII-2C)	3.83	11	-7.18			
5720 (UNII-3)	1.28	30	-28.72			
5745	6.05	30	-23.95			
5785	5.40	30	-24.60			
5825	6.86	30	-23.14			

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POWER DENSITY 802.11n HT40 MODE							
Frequency	PPSD	Limit	Margin				
(MHz)	(dBm)	(dBm)	(dB)				
5190	-5.32	11	-16.32				
5230	-0.84	11	-11.84				
5270	-1.13	11	-12.13				
5310	-4.43	11	-15.43				
5510	-3.44	11	-14.44				
5550	-1.46	11	-12.46				
5670	-0.52	11	-11.52				
5710 (UNII-2C)	-0.83	11	-11.83				
5710 (UNII-3)	-3.52	30	-33.52				
5755	2.87	30	-27.13				
5795	2.41	30	-27.59				

POWER DENSITY 802.11ac VHT80 MODE							
Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin (dB)				
5210	-10.95	11	-21.95				
5290	-7.32	11	-18.32				
5530	-8.98	11	-19.98				
5610	-6.77	11	-17.77				
5690(UNII-2C)	-6.70	11	-17.70				
5690(UNII-3)	-11.19	11	-22.19				
5775	-0.74	30	-30.74				

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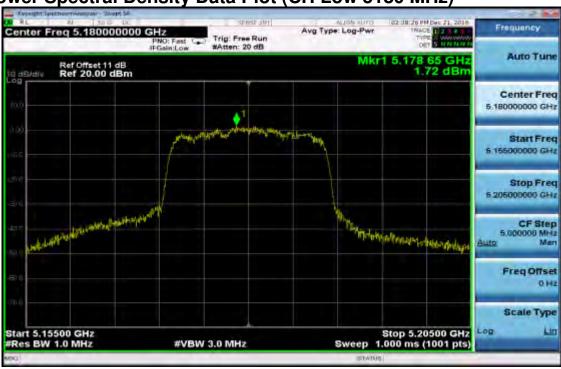
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# 802.11a 5150~5250 MHz Peak Power Spectral Density Data Plot (CH Low 5180 MHz)



Peak Power Spectral Density Data Plot (CH Mid 5220 MHz)



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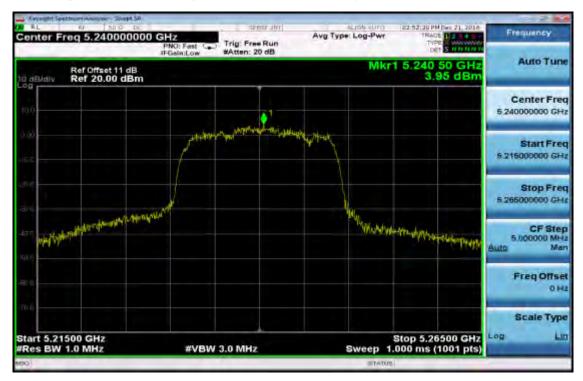
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# Peak Power Spectral Density Data Plot (CH High 5240 MHz)



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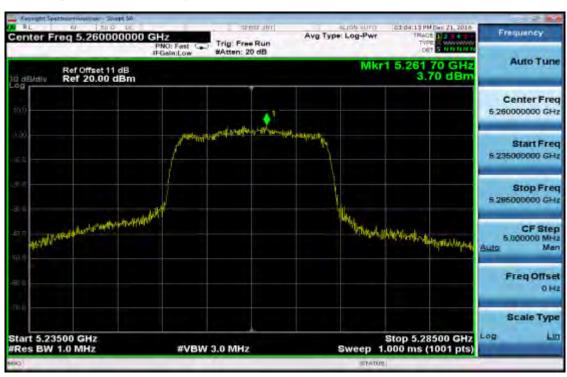
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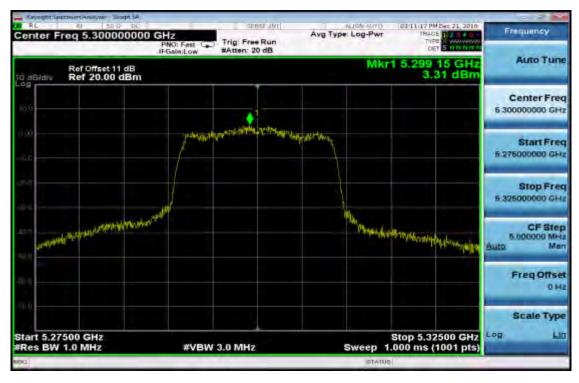


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### 802.11a 5250~5350 MHz Peak Power Spectral Density Data Plot (CH Low 5260 MHz)



### Peak Power Spectral Density Data Plot (CH Mid 5300 MHz)



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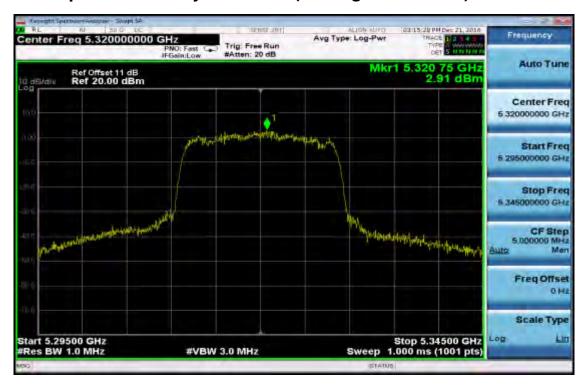
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#### Peak Power Spectral Density Data Plot (CH High 5320 MHz)



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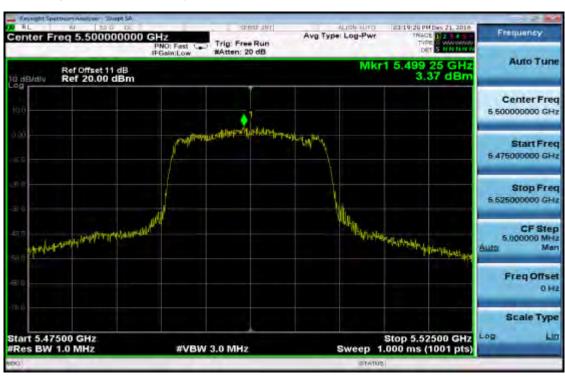
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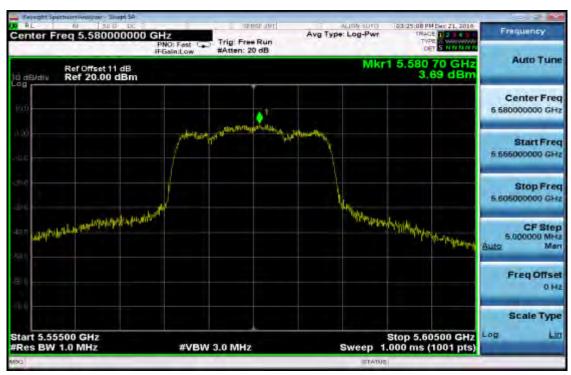


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### 802.11a 5470~5725 MHz Peak Power Spectral Density Data Plot (CH Low 5500 MHz)



### Peak Power Spectral Density Data Plot (CH Mid 5580 MHz)



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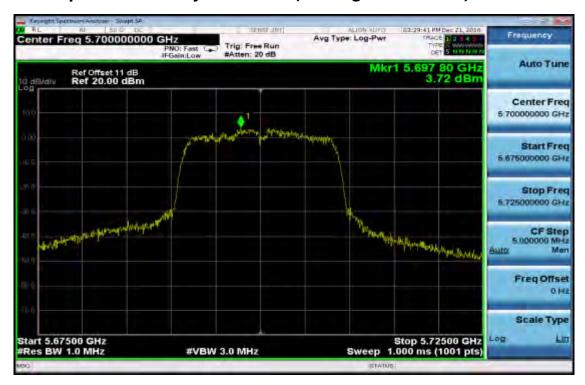
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#### Peak Power Spectral Density Data Plot (CH High 5700 MHz)



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#### 802.11a 5725~5850 MHz

Peak Power Spectral Density Data Plot (CH Low 5745 MHz)



#### Peak Power Spectral Density Data Plot (CH Mid 5785 MHz)



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# Peak Power Spectral Density Data Plot (CH High 5825 MHz)



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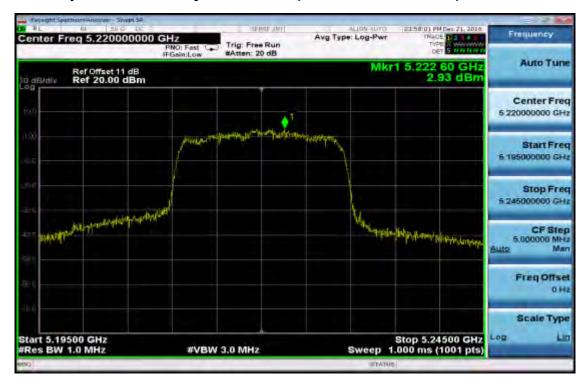


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# 802.11n HT20, 5150~5250 MHz Peak Power Spectral Density Data Plot (CH Low 5180 MHz)



#### Peak Power Spectral Density Data Plot (CH Mid 5220 MHz)



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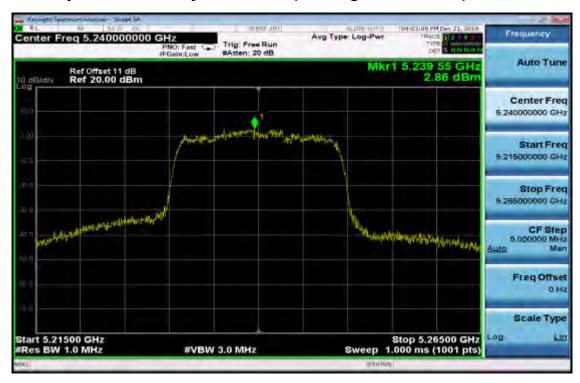
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# Peak Power Spectral Density Data Plot (CH High 5240 MHz)



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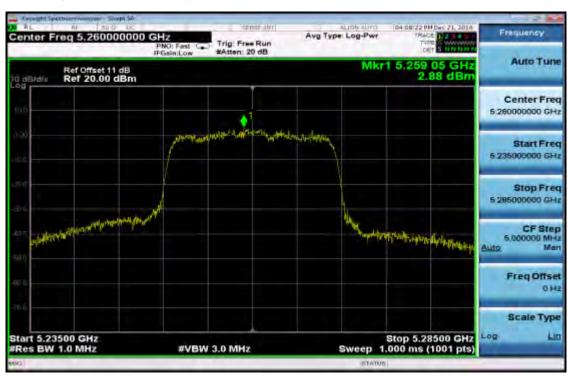
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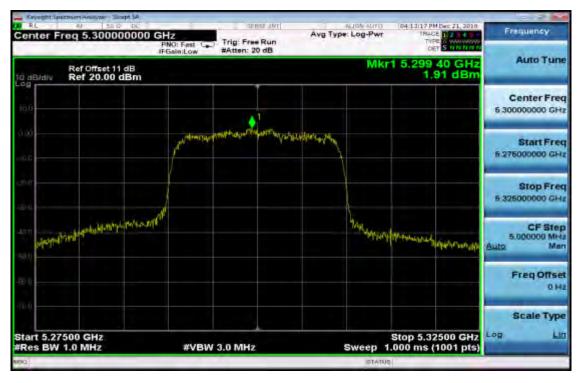


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## 802.11n HT20, 5250~5350 MHz Peak Power Spectral Density Data Plot (CH Low 5260MHz)



# Peak Power Spectral Density Data Plot (CH Mid 5300 MHz)



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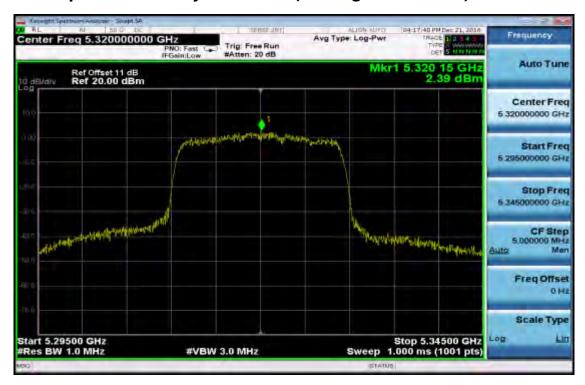
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## Peak Power Spectral Density Data Plot (CH High 5320 MHz)



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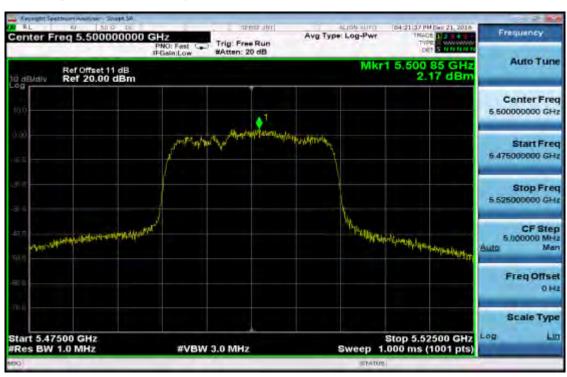
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## 802.11n HT20, 5470~5725 MHz Peak Power Spectral Density Data Plot (CH Low 5500 MHz)



# Peak Power Spectral Density Data Plot (CH Mid 5580MHz)



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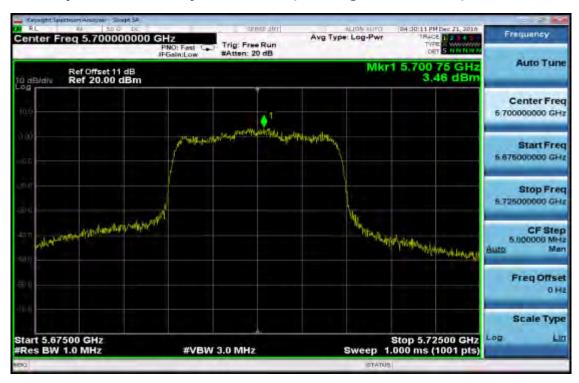
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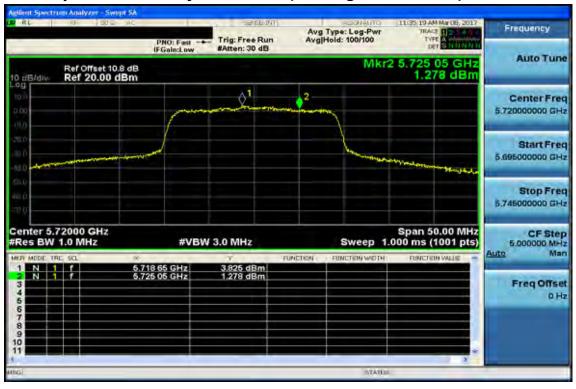


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## Peak Power Spectral Density Data Plot (CH High 5700 MHz)



### Peak Power Spectral Density Data Plot (CH High 5720 MHz)



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# 802.11n HT20, 5725~5850 MHz

Peak Power Spectral Density Data Plot (CH Low 5745 MHz)



## Peak Power Spectral Density Data Plot (CH Mid 5785 MHz)



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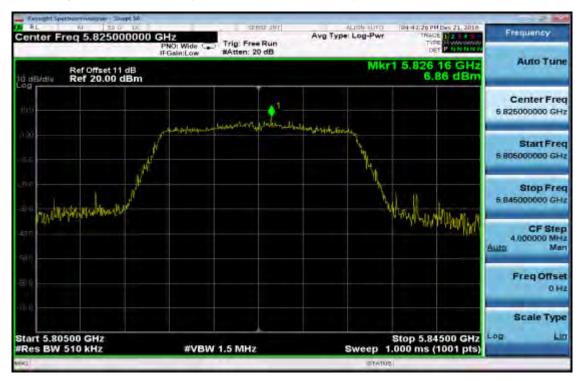
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# Peak Power Spectral Density Data Plot (CH High 5825 MHz)



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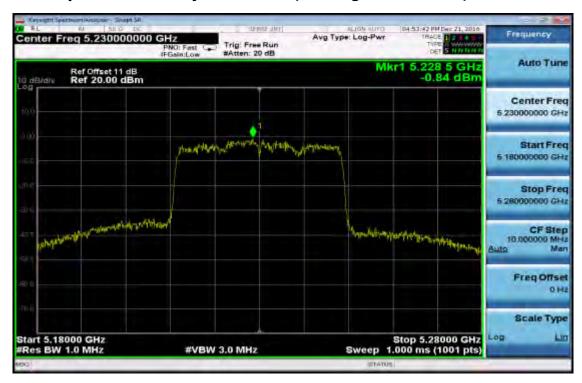


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# 802.11n HT40, 5150~5250 MHz Peak Power Spectral Density Data Plot (CH Low 5190 MHz)



### Peak Power Spectral Density Data Plot (CH High 5230 MHz)



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## 802.11n HT40, 5250~5350 MHz Peak Power Spectral Density Data Plot (CH Low 5270 MHz)



# Peak Power Spectral Density Data Plot (CH High 5310 MHz)



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## 802.11n HT40, 5470~5725 MHz Peak Power Spectral Density Data Plot (CH Low 5510 MHz)



# Peak Power Spectral Density Data Plot (CH Mid 5550 MHz)



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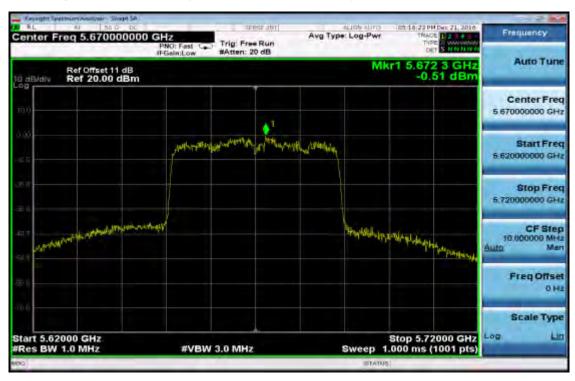
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## Peak Power Spectral Density Data Plot (CH High 5670 MHz)



### Peak Power Spectral Density Data Plot (CH High 5710 MHz)



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## 802.11n HT40, 5725~5850 MHz Peak Power Spectral Density Data Plot (CH Low 5755 MHz)



### Peak Power Spectral Density Data Plot (CH High 5795 MHz)



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### 802.11ac VHT80, 5150~5250 MHz

Peak Power Spectral Density Data Plot (CH Mid 5210 MHz)



### 802.11ac VHT80, 5250~5350 MHz

Peak Power Spectral Density Data Plot (CH Mid 5290 MHz)



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# 802.11ac VHT80, 5470~5725 MHz Peak Power Spectral Density Data Plot (CH Low 5530 MHz)



Peak Power Spectral Density Data Plot (CH High 5610 MHz)



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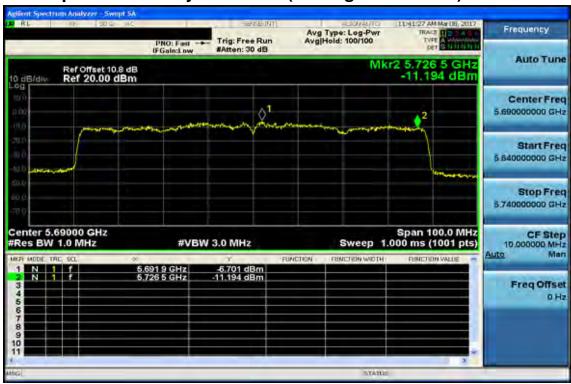
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## Peak Power Spectral Density Data Plot (CH High 5690 MHz)



# 802.11ac VHT80, 5725~5850 MHz

Peak Power Spectral Density Data Plot (CH Mid 5775 MHz)



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#### 11. UNDESIRABLE RADIATED EMISSION MEASUREMENT1

### **Standard Applicable**

The maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- 1. For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
- 2. For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
- 3. For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- 4. For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.

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APPLICABLE TO	LIMIT			
FCC KDB 789033 D02 General UNII Test Procedures New Rules	FIELD STRENGTH AT 3m			
v01r01	PK: 74 (dBμV/m)	AV 54 (dBμV/m)		
APPLICABLE TO	EIRP LIMIT	FIELD STRENGTH AT 3m		
15.407(b)(1)				
15.407(b)(2)	PK: -27 (dBm/MHz)	PK: 68.3 (dBµV/m)		
15.407(b)(3)				
15.407(b)(4)	PK: -27 (dBm/MHz) PK: -17 (dBm/MHz)	PK: 68.3 (dBμV/m) PK: 78.2 (dBμV/m)		
15.407(b)(4)(i)	PK:-27 (dBm/MHz) *1 PK:10 (dBm/MHz) *2 PK:15.6 (dBm/MHz) *3 PK:27 (dBm/MHz) *4	PK: 68.2(dBµV/m) *1 PK:105.2 (dBµV/m) *2 PK: 110.8(dBµV/m) *3 PK:122.2 (dBµV/m) *4		

<sup>\*1</sup> beyond 75 MHz or more above of the bandedge.

 $EIRP = ((E*d)^2) / 30$ , where E is the field in V/m, d is the measurement distance (3m), EIRP is the equivalent isotropically radiated power in Watts.

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<sup>\*2</sup> below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.

<sup>\*3</sup> below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.

<sup>\*4</sup> from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.



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Unwanted spurious emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table:

Frequency (MHz)	Field strength (microvolts/meter)	Distance (meters)
0.009-0.490	2400/F(KHz)	300
0.490-1.705	24000/F(KHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

#### Note:

- 1. The lower limit shall apply at the transition frequencies.
- 2. Emission level  $(dB\mu V/m) = 20 \log Emission level (dB\mu V/m)$

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### 11.2 Measurement Equipment Used

	SGS SAC-III									
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.					
EMI Test Receiver	R&S	ESCI7	100760	05/10/2016	05/09/2017					
Spectrum Analyzer	Agilent	E4446A	MY51100003	01/29/2016	01/28/2017					
Loop Antenna	ETS-Lindgren	6502	148045	09/20/2016	09/19/2017					
Bilog Antenna	SCHWAZBECK	VULB9168	378	12/19/2016	12/18/2017					
Horn Antenna	Schwarzbeck	BBHA9120D	1441	08/01/2016	07/31/2017					
Pre-Amplifier	Agilent	8447D	2944A07676	01/02/2016	01/01/2017					
Pre-Amplifier	EMC Instru- ments Corp.	EMC0126530	980038	01/02/2016	01/01/2017					
Turn Table	HD	DT420	N/A	N.C.R	N.C.R					
Antenna Tower	ChamPro	AM-BS-4500-B	060776-ABS	N.C.R	N.C.R					
Controller	ChamPro	EM1000	60776	N.C.R	N.C.R					
Low Loss Cable	Huber Suhner	966_RX	9	01/02/2016	01/01/2017					
3m Site NSA	SGS	966 chamber	N/A	07/01/2016	06/30/2017					
Low Loss Cable	Huber Suhner	966 TX	1	01/02/2016	01/01/2017					
Horn Antenna	Schwarzbeck	BBHA9170	184	12/12/2016	12/11/2017					
Pre-Amplifier	EMC Instru- ments Corp.	EMC184045	980135	01/06/2016	01/05/2017					

Note: N.C.R refers to Not Calibrated Required.

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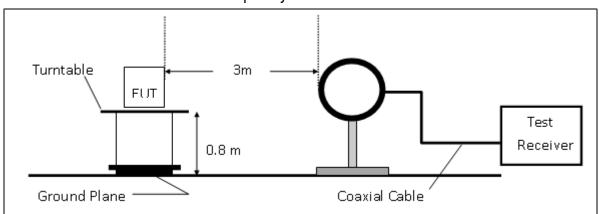
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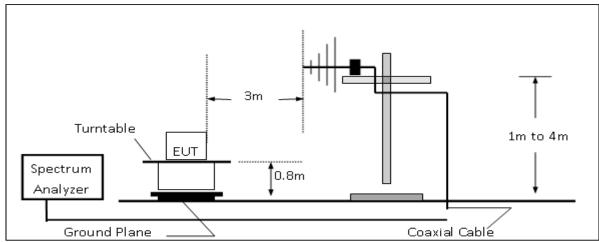
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#### 11.3 Test SET-UP

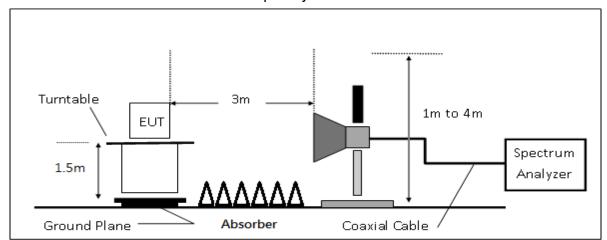
(A) Radiated Emission Test Set-UP Frequency Below 30MHz.



(B) Radiated Emission Test Set-Up, Frequency form 30MHz to 1000MHz



(C) Radiated Emission Test Set-UP Frequency Over 1 GHz



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#### 11.4 Measurement Procedure

- The EUT was placed on a turn table which is 0.8m above ground plane.
- The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules.
- The EUT was placed on a turn table with 0.8m for frequency< 1GHz and 1.5m for frequency> 1GHz above ground plane.
- 4. The turn table shall rotate 360 degrees to determine the position of maximum emission
- EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emissions.
- 6. Set the spectrum analyzer as RBW=120 kHz and VBW=300 kHz for Peak Detector (PK) and Quasi-peak (QP) at frequency below 1 GHz.
- 7. Set the spectrum analyzer as RBW=1 MHz, VBW=3 MHz for Peak Detector at frequency above 1 GHz.
- Set the spectrum analyzer as RBW=1 MHz, VBW=10 Hz (Duty cycle > 98%) or VBW ≥ 8. 1/T (Duty cycle < 98%) for Average Detector at frequency above 1 GHz.
- Maximum procedure was performed on the six highest emissions to ensure EUT com-
- 10. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 11. Repeat above procedures until all frequency measured were complete.

### 11.5 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

#### FS = RA + AF + CL - AG

Where	FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	AG = Amplifier Gain
	AF = Antenna Factor	

Actual FS( $dB\mu V/m$ ) = SPA. Reading level( $dB\mu V$ ) + Factor(dB)

Factor(dB) = Antenna Factor(dB $\mu$ V/m) + Cable Loss(dB) – Pre Amplifier Gain(dB)

#### Note:

"F": denotes Fundamental Frequency.; "H": denotes Harmonic Frequency. "E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

### Test Results of Radiated Spurious Emissions form 9 kHz to 30 MHz

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit per 15.31(o) was not reported.

#### Measurement Result

Note: Refer to next page spectrum analyzer data chart and tabular data sheets.

Note: For measurement plot of radiation revealing the compliance of 15.407, please refer to Appendix I.

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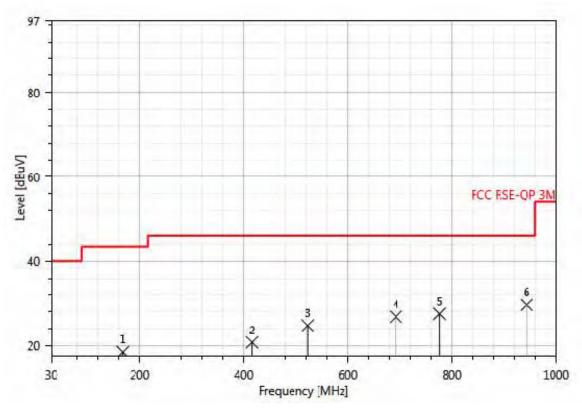
## **Radiated Spurious Emission Measurement Result Below 1GHz Worst-Case Data:** 802.11a 5150~5250 MHz

Operation Mode: Test Date: 12/27/2016 802.11aB1

Fundamental Frequency: 5220 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Test Engineer: Operation Band: Tx CH MID

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
167.74	S	Peak	18.51	25.98	-7.46	43.50	-24.99
416.06	S	Peak	20.80	24.06	-3.27	46.00	-25.20
522.76	S	Peak	24.75	26.41	-1.66	46.00	-21.25
692.51	S	Peak	26.83	25.36	1.47	46.00	-19.17
775.93	S	Peak	27.52	24.86	2.67	46.00	-18.48
943.74	S	Peak	29.67	24.36	5.31	46.00	-16.33

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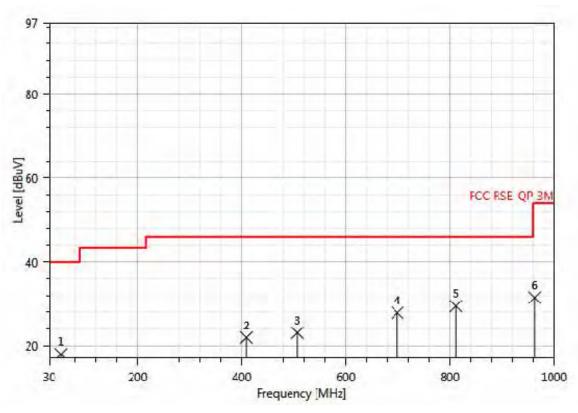
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Operation Mode: 802.11aB1 Test Date: 12/27/2016

Fundamental Frequency: 5220 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH MID Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBμV/m	dBµV/m	dB	dBuV/m	dB
53.28	S	Peak	18.04	25.83	-7.79	40.00	-21.96
409.27	S	Peak	21.98	25.55	-3.57	46.00	-24.02
507.24	S	Peak	23.13	25.46	-2.33	46.00	-22.87
699.30	S	Peak	27.89	26.45	1.44	46.00	-18.11
811.82	S	Peak	29.51	26.20	3.31	46.00	-16.49
963.14	S	Peak	31.52	25.46	6.06	54.00	-22.48

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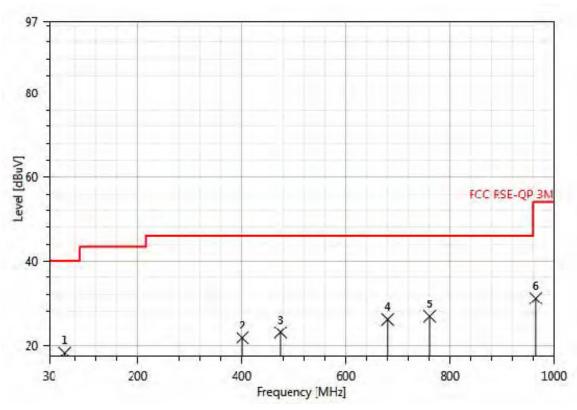
#### 802.11a 5250~5350 MHz

802.11aB2 Operation Mode: Test Date: 12/27/2016

Fundamental Frequency: 5300 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Tx CH MID Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBμV/m	dBµV/m	dB	dBuV/m	dB
60.07	S	Peak	18.18	26.23	-8.05	40.00	-21.82
401.51	S	Peak	21.70	25.65	-3.95	46.00	-24.30
474.26	S	Peak	23.02	25.50	-2.48	46.00	-22.98
679.90	S	Peak	26.14	25.38	0.75	46.00	-19.86
761.38	S	Peak	26.88	23.96	2.92	46.00	-19.12
965.08	S	Peak	31.13	25.18	5.95	54.00	-22.87

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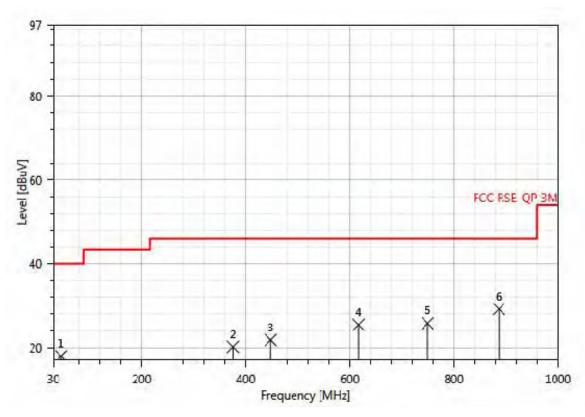
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Operation Mode: 802.11aB2 Test Date: 12/27/2016

Fundamental Frequency: 5300 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH MID Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
45.52	S	Peak	17.96	25.95	-7.98	40.00	-22.04
375.32	S	Peak	20.20	24.74	-4.54	46.00	-25.80
448.07	S	Peak	21.80	24.78	-2.97	46.00	-24.20
616.85	S	Peak	25.49	25.65	-0.17	46.00	-20.51
749.74	S	Peak	25.83	23.11	2.72	46.00	-20.17
886.51	S	Peak	29.19	24.78	4.41	46.00	-16.81

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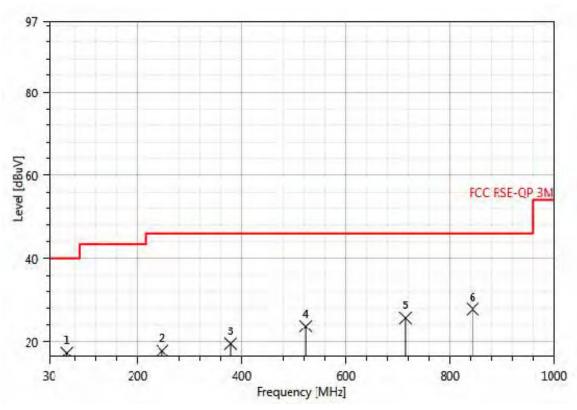
#### 802.11a, 5470~5725 MHz

802.11aB3 Operation Mode: Test Date: 12/27/2016

Fundamental Frequency: 5580 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Tx CH MID Test Engineer: Mike

Measurement Antenna Pol.: VERTICAL EUT Pol.: E2 Plane



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBμV/m	dBµV/m	dB	dBuV/m	dB
63.95	S	Peak	17.32	26.26	-8.93	40.00	-22.68
247.28	S	Peak	17.83	25.83	-8.00	46.00	-28.17
378.23	S	Peak	19.52	23.95	-4.43	46.00	-26.48
522.76	S	Peak	23.69	25.35	-1.66	46.00	-22.31
714.82	S	Peak	25.71	24.31	1.40	46.00	-20.29
843.83	S	Peak	27.77	24.36	3.41	46.00	-18.23

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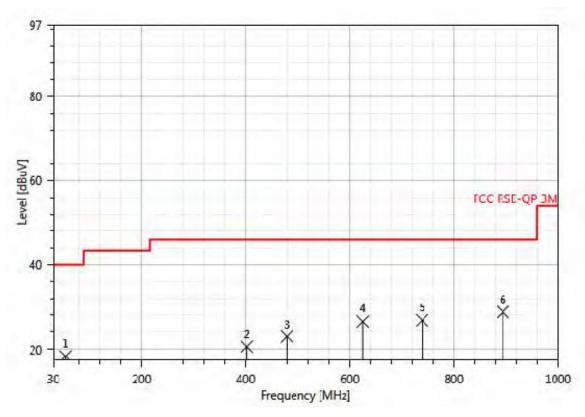
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Operation Mode: 802.11aB3 Test Date: 12/27/2016

Fundamental Frequency: 5580 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH MID Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
54.25	S	Peak	18.30	26.12	-7.82	40.00	-21.70
402.48	S	Peak	20.59	24.55	-3.96	46.00	-25.41
479.11	S	Peak	22.94	25.34	-2.39	46.00	-23.06
624.61	S	Peak	26.55	26.40	0.15	46.00	-19.45
739.07	S	Peak	26.87	24.94	1.92	46.00	-19.13
894.27	S	Peak	28.80	24.31	4.50	46.00	-17.20

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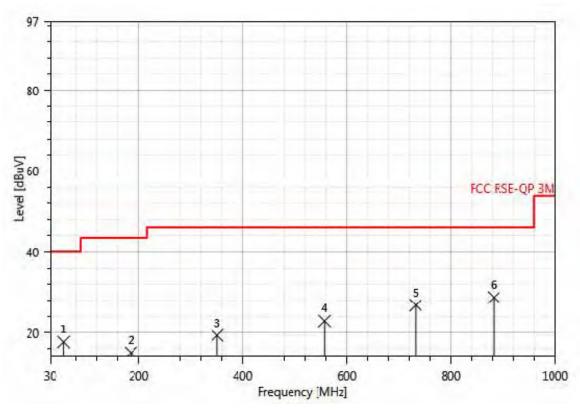
#### 802.11a, 5725~5850 MHz

Operation Mode: 802.11aB4 Test Date: 12/27/2016

Fundamental Frequency: 5785 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Tx CH MID Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBμV/m	dBµV/m	dB	dBuV/m	dB
56.19	S	Peak	17.74	25.65	-7.92	40.00	-22.26
185.20	S	Peak	15.07	24.13	-9.06	43.50	-28.43
351.07	S	Peak	19.35	24.34	-5.00	46.00	-26.65
557.68	S	Peak	22.95	24.37	-1.42	46.00	-23.05
732.28	S	Peak	26.84	25.01	1.83	46.00	-19.16
882.63	S	Peak	28.75	24.29	4.46	46.00	-17.25

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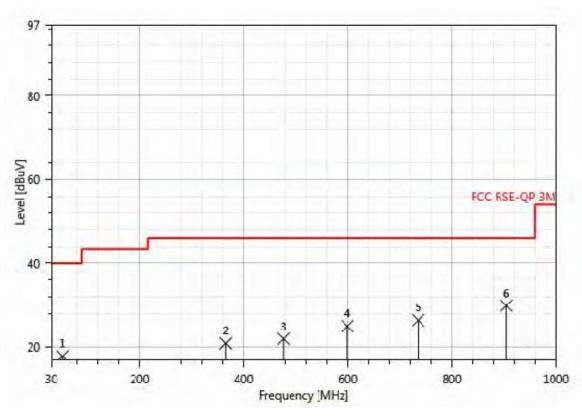
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Operation Mode: 802.11aB4 Test Date: 12/27/2016

Fundamental Frequency: 5785 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH MID Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
52.31	S	Peak	17.78	25.55	-7.77	40.00	-22.22
365.62	S	Peak	20.85	25.55	-4.70	46.00	-25.15
476.20	S	Peak	21.95	24.40	-2.45	46.00	-24.05
599.39	S	Peak	24.97	25.25	-0.28	46.00	-21.03
735.19	S	Peak	26.39	24.38	2.01	46.00	-19.61
904.94	S	Peak	29.89	24.99	4.90	46.00	-16.11

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#### **Above 1GHz Worst-Case Data:**

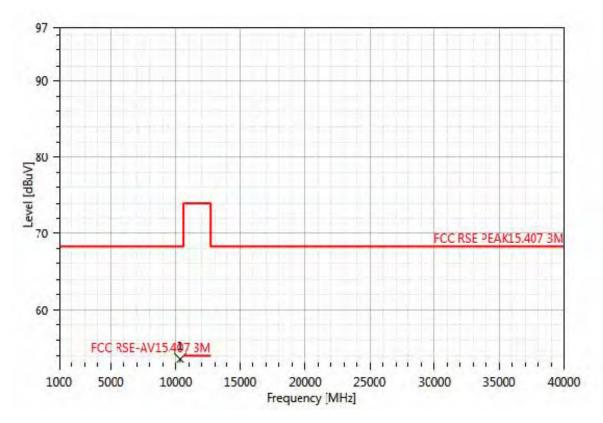
#### Radiated Spurious Emission Measurement Result 802.11a, 5150~5250 MHz

Test Date: Operation Mode: 802.11aB1 12/27/2016

Fundamental Frequency: 5180 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10360.00	Н	Peak	53.55	35.26	18.29	68.30	-14.75

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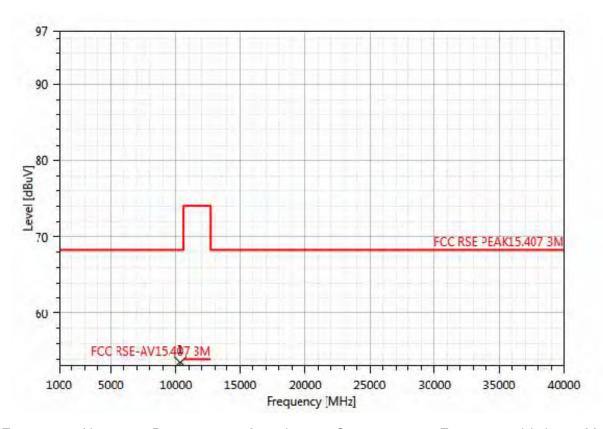
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Operation Mode: 802.11aB1 Test Date: 12/27/2016

Fundamental Frequency: 5180 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin	
		Mode	Reading Level	FS		@3m		
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB	
10360.00	Н	Peak	53.56	35.27	18.29	68.30	-14.74	

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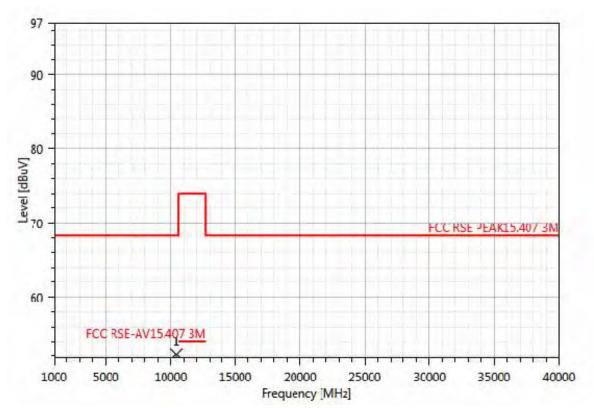
Page: 103 of 417

Operation Mode: 802.11aB1 Test Date: 12/27/2016

Fundamental Frequency: 5220 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH MID Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10440.00	Н	Peak	52.29	33.60	18.68	68.30	-16.01

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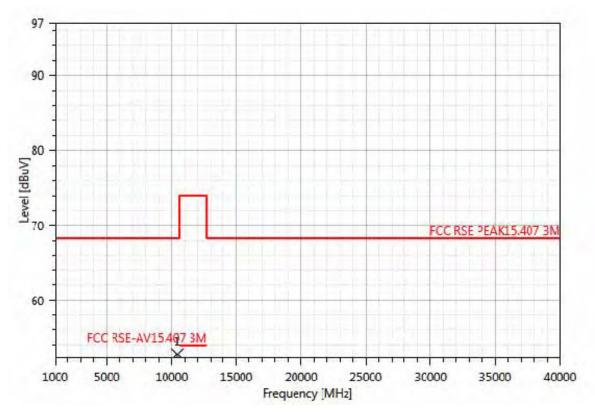
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Operation Mode: 802.11aB1 Test Date: 12/27/2016

Fundamental Frequency: 5220 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH MID Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10440.00	Н	Peak	52.82	34.13	18.68	68.30	-15.48

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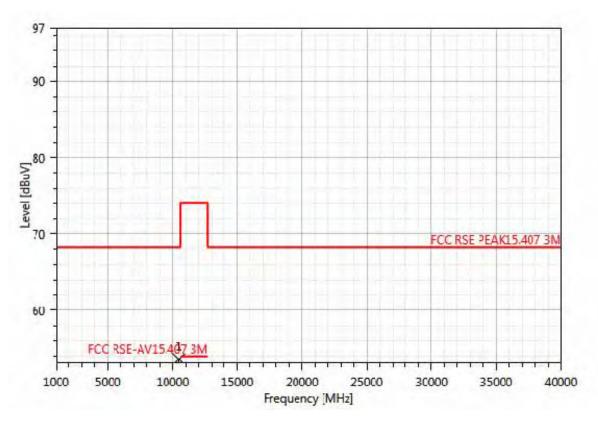
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Operation Mode: 802.11aB1 Test Date: 12/27/2016

Fundamental Frequency: 5240 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10480.00	Н	Peak	53.60	35.31	18.29	68.30	-14.70

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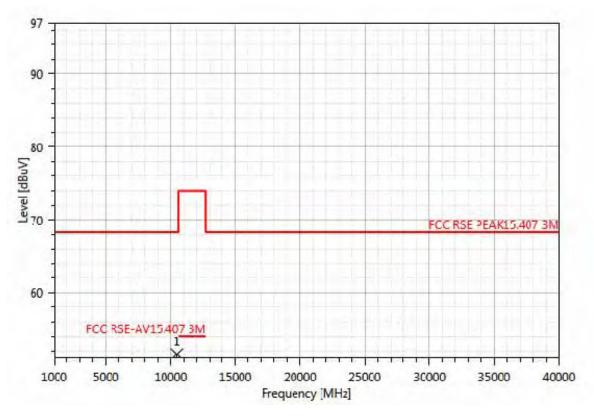
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Operation Mode: 802.11aB1 Test Date: 12/27/2016

Fundamental Frequency: 5240 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10480.00	Н	Peak	51.59	33.29	18.29	68.30	-16.71

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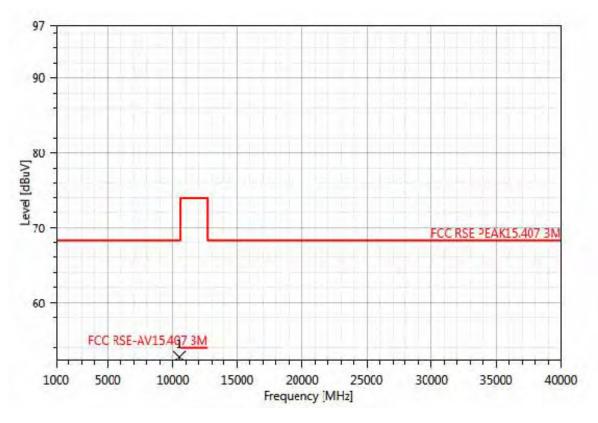
#### Radiated Spurious Emission Measurement Result 802.11a, 5250MHz-5350MHz

Operation Mode: 802.11aB2 Test Date: 12/27/2016

Fundamental Frequency: 5260 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10520.00	Н	Peak	52.78	33.40	19.37	68.30	-15.52

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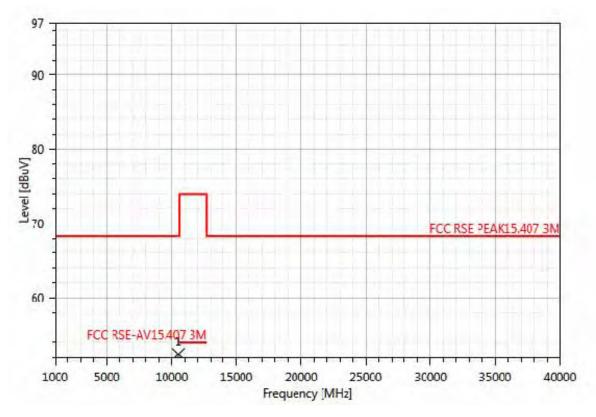
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Operation Mode: 802.11aB2 Test Date: 12/27/2016

Fundamental Frequency: 5260 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10520.00	Н	Peak	52.41	33.04	19.37	68.30	-15.89

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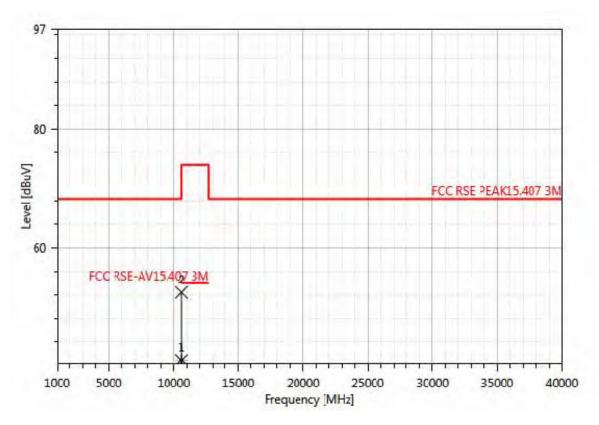
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Operation Mode: 802.11aB2 Test Date: 12/27/2016

Fundamental Frequency: 5300 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH MID Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum 5 cm	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10600.00	Н	Average	40.98	22.07	18.91	54.00	-13.02
10600.00	Н	Peak	52.46	33.55	18.91	74.00	-21.54

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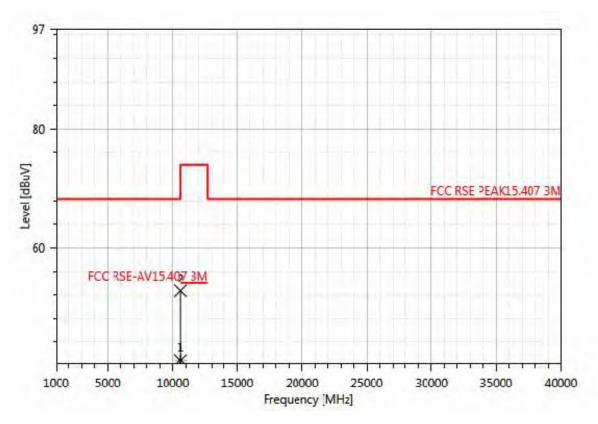
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Operation Mode: 802.11aB2 Test Date: 12/27/2016

Fundamental Frequency: 5300 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH MID Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum 5 ctrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dΒμV/m	dB	dBuV/m	dB
10600.00	Н	Average	40.98	22.07	18.91	54.00	-13.02
10600.00	Н	Peak	52.70	33.79	18.91	74.00	-21.30

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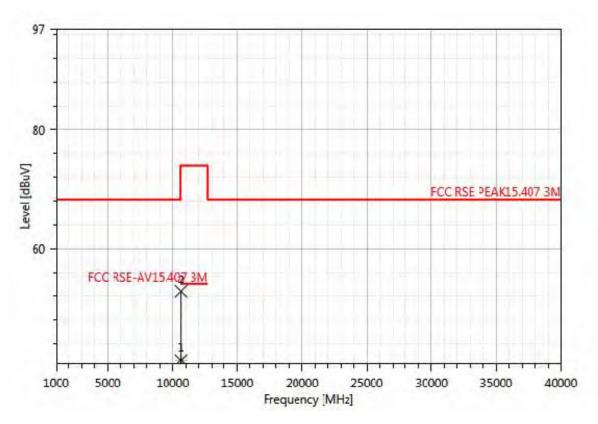
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Operation Mode: 802.11aB2 Test Date: 12/27/2016

Fundamental Frequency: 5320 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dΒμV/m	dB	dBuV/m	dB
10640.00	Н	Average	41.21	22.03	19.18	54.00	-12.79
10640.00	Н	Peak	52.79	33.61	19.18	74.00	-21.21

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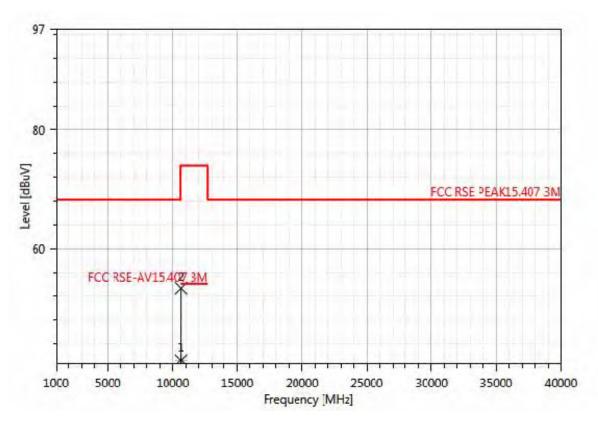
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Operation Mode: 802.11aB2 Test Date: 12/27/2016

Fundamental Frequency: 5320 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10640.00	Н	Average	41.21	22.03	19.18	54.00	-12.79
10640.00	Н	Peak	53.28	34.10	19.18	74.00	-20.72

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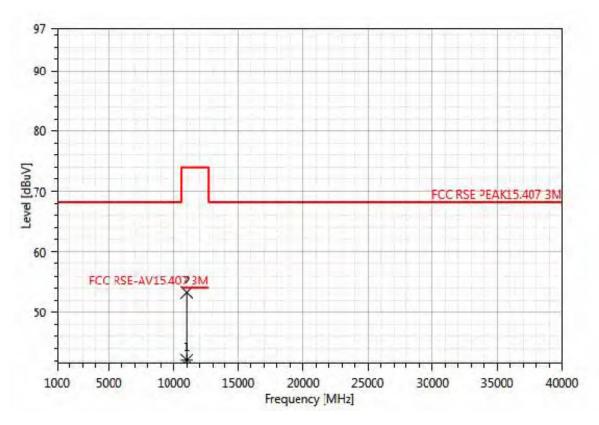
#### Radiated Spurious Emission Measurement Result 802.11a, 5470~5725 MHz

Operation Mode: 802.11aB3 Test Date: 12/27/2016

Fundamental Frequency: 5500 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

Measurement Antenna Pol.: VERTICAL EUT Pol.: E2 Plane



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin	
		Mode	Reading Level	FS		@3m		
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB	
11000.00	Н	Average	42.12	21.95	20.17	54.00	-11.88	_
11000.00	Н	Peak	53.25	33.08	20.17	74.00	-20.75	

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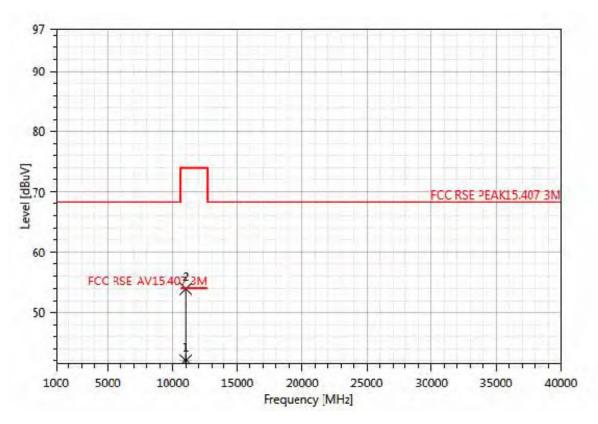
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Operation Mode: 802.11aB3 Test Date: 12/27/2016

Fundamental Frequency: 5500 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11000.00	Н	Average	42.11	21.94	20.17	54.00	-11.89
11000.00	Н	Peak	53.90	33.73	20.17	74.00	-20.10

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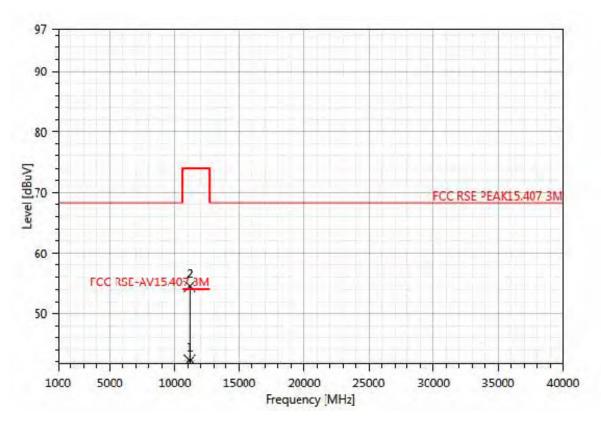
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Operation Mode: 802.11aB3 Test Date: 12/27/2016

Fundamental Frequency: 5580 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH MID Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum 5 cm	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11160.00	Н	Average	42.32	21.87	20.45	54.00	-11.68
11160.00	Н	Peak	54.50	34.05	20.45	74.00	-19.50

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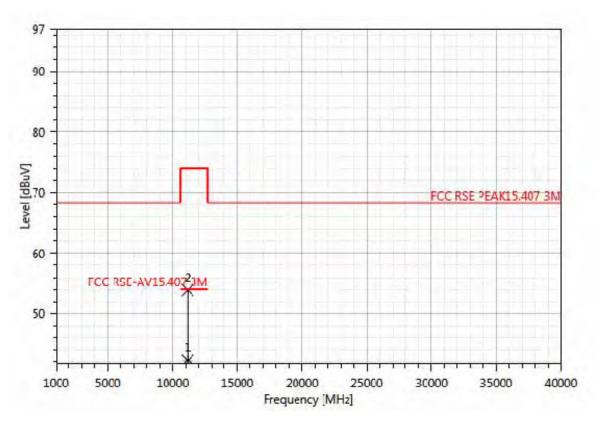
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Operation Mode: 802.11aB3 Test Date: 12/27/2016

Fundamental Frequency: 5580 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH MID Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dΒμV/m	dB	dBuV/m	dB
11160.00	Н	Average	42.34	21.89	20.45	54.00	-11.66
11160.00	Н	Peak	53.90	33.46	20.45	74.00	-20.10

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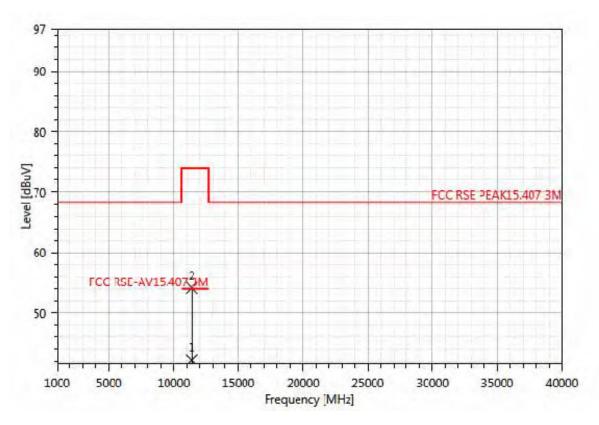
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Operation Mode: 802.11aB3 Test Date: 12/27/2016

Fundamental Frequency: 5700 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11400.00	Н	Peak	54.15	33.59	20.56	74.00	-19.85
11400.00	Н	Peak	42.22	21.66	20.56	74.00	-31.78

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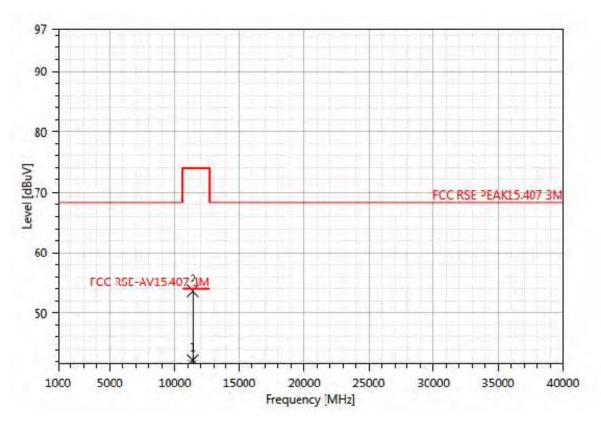
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Operation Mode: 802.11aB3 Test Date: 12/27/2016

Fundamental Frequency: 5700 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11400.00	Н	Average	42.23	21.67	20.56	54.00	-11.77
11400.00	Н	Peak	53.67	33.12	20.56	74.00	-20.33

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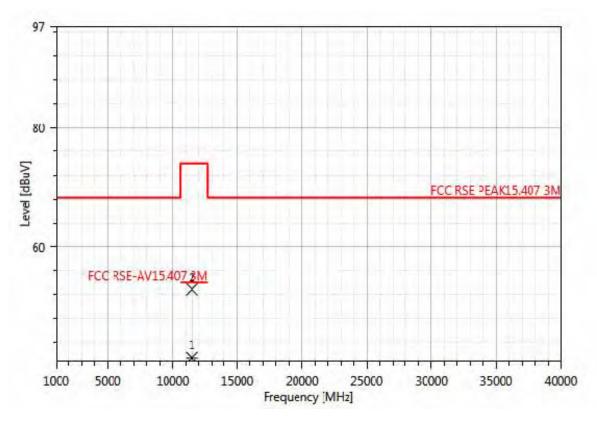
#### Radiated Spurious Emission Measurement Result 802.11a, 5725~5850 MHz

Operation Mode: 802.11aB4 Test Date: 12/27/2016

Fundamental Frequency: 5745 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11490.00	Н	Average	41.38	20.96	20.42	54.00	-12.62
11490.00	Н	Peak	52.84	32.42	20.42	74.00	-21.16

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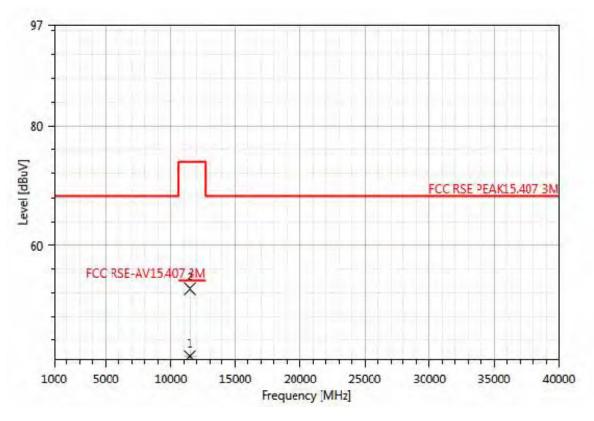
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Operation Mode: 802.11aB4 Test Date: 12/27/2016

Fundamental Frequency: 5745 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11490.00	Н	Average	41.34	20.92	20.42	54.00	-12.66
11490.00	Н	Peak	52.66	32.24	20.42	74.00	-21.34

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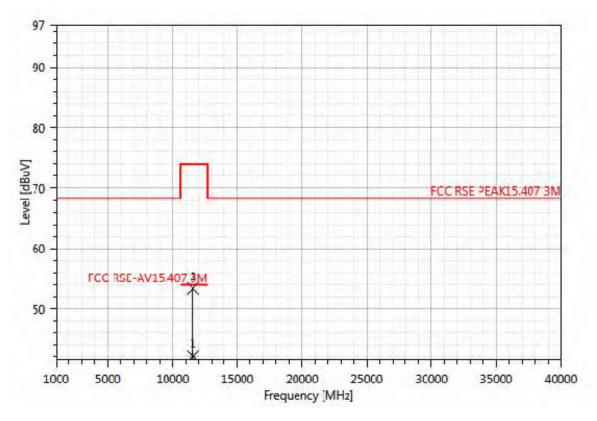
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Operation Mode: 802.11aB4 Test Date: 12/27/2016

Fundamental Frequency: 5785 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH MID Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11570.00	Н	Average	42.21	21.62	20.59	54.00	-11.79
11570.00	Н	Peak	53.41	32.82	20.59	74.00	-20.59

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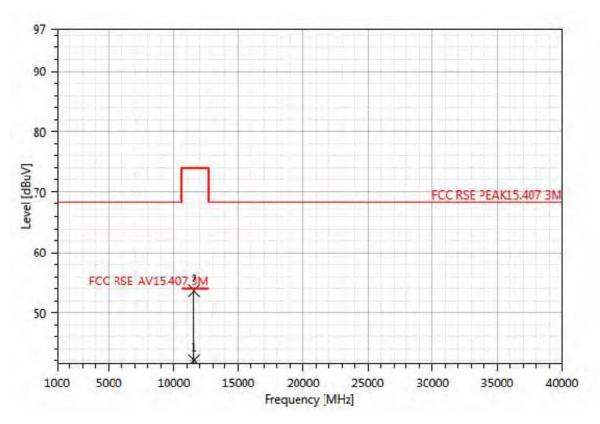
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Operation Mode: 802.11aB4 Test Date: 12/27/2016

Fundamental Frequency: 5785 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH MID Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11570.00	Н	Average	42.19	21.60	20.59	54.00	-11.81
11570.00	Н	Peak	53.67	33.08	20.59	74.00	-20.33

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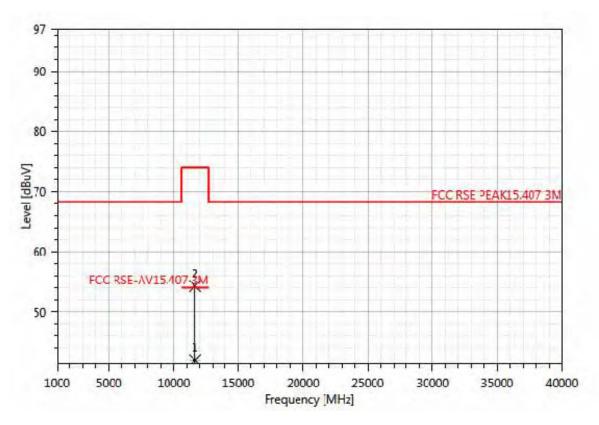
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Operation Mode: 802.11aB4 Test Date: 12/27/2016

Fundamental Frequency: 5825 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11650.00	Н	Average	41.99	21.56	20.43	54.00	-12.01
11650.00	Н	Peak	54.31	33.87	20.43	74.00	-19.69

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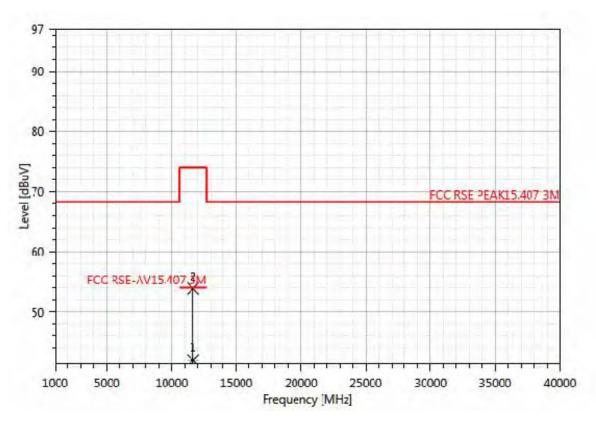
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Operation Mode: 802.11aB4 Test Date: 12/27/2016

Fundamental Frequency: 5825 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11650.00	Н	Average	41.99	21.56	20.43	54.00	-12.01
11650.00	Н	Peak	53.87	33.43	20.43	74.00	-20.13

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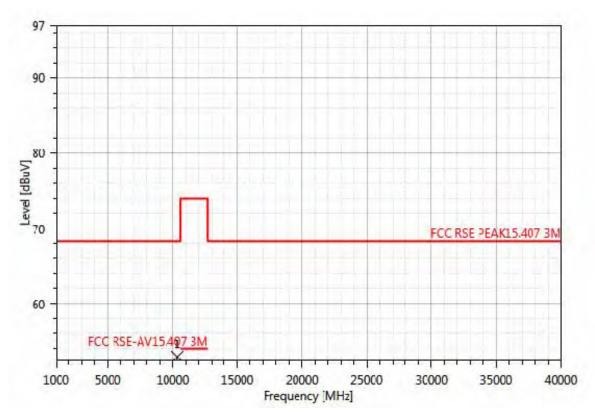
## Radiated Spurious Emission Measurement Result 802.11n HT20, 5150~5250 MHz

Operation Mode: 802.11n20B1 Test Date: 12/27/2016

Fundamental Frequency: 5180 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10360.00	Н	Peak	52.91	34.62	18.29	68.30	-15.39

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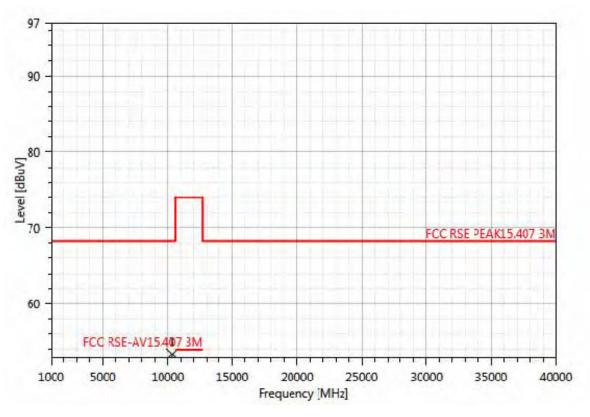
Page: 126 of 417

Operation Mode: 802.11n20B1 Test Date: 12/27/2016

Fundamental Frequency: 5180 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10360.00	Н	Peak	53.37	35.08	18.29	68.30	-14.93

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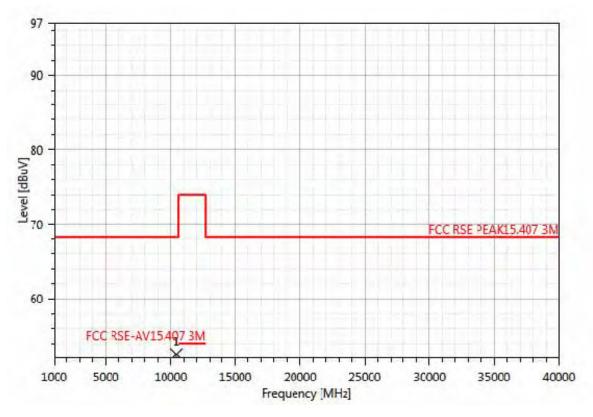
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Operation Mode: 802.11n20B1 Test Date: 12/27/2016

Fundamental Frequency: 5220 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH MID Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10440.00	Н	Peak	52.58	33.90	18.68	68.30	-15.72

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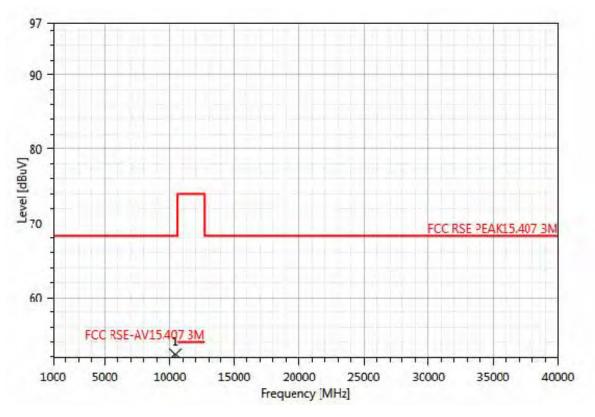
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Operation Mode: 802.11n20B1 Test Date: 12/27/2016

Fundamental Frequency: 5220 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH MID Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10440.00	Н	Peak	52.36	33.68	18.68	68.30	-15.94

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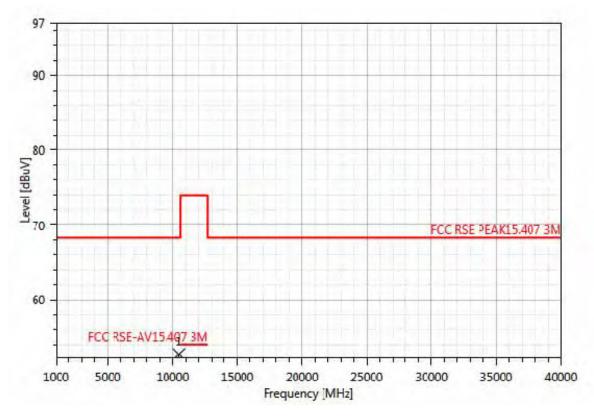
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Operation Mode: 802.11n20B1 Test Date: 12/27/2016

Fundamental Frequency: 5240 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10480.00	Н	Peak	52.72	34.43	18.29	68.30	-15.58

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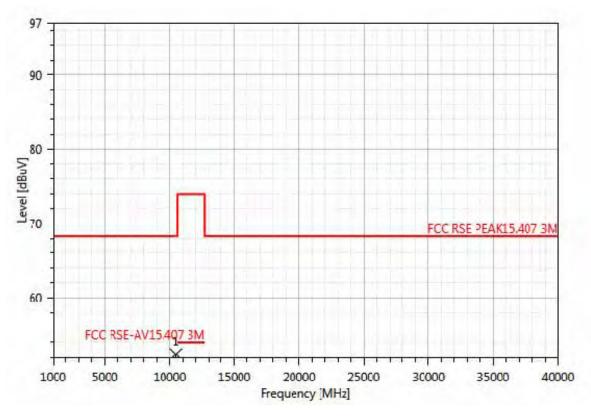
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Operation Mode: 802.11n20B1 Test Date: 12/27/2016

Fundamental Frequency: 5240 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10480.00	Н	Peak	52.41	34.12	18.29	68.30	-15.89

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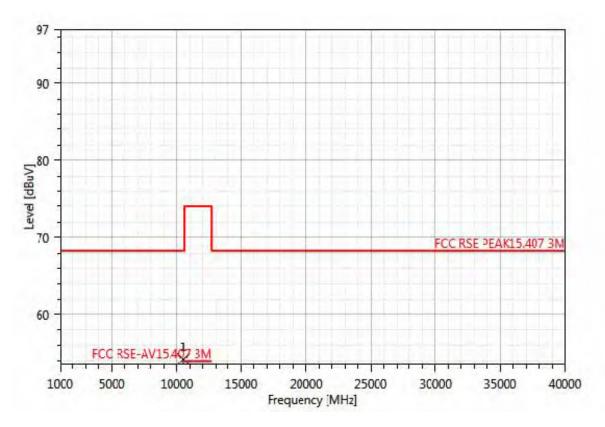
## Radiated Spurious Emission Measurement Result 802.11n HT20, 5250~5350 MHz

Operation Mode: 802.11n20B2 Test Date: 12/27/2016

Fundamental Frequency: 5260 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10520.00	Н	Peak	54.21	34.83	19.37	68.30	-14.09

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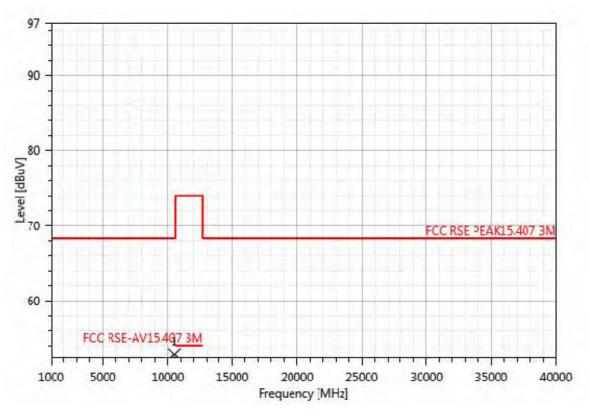
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Operation Mode: 802.11n20B2 Test Date: 12/27/2016

Fundamental Frequency: 5260 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10520.00	Н	Peak	52.86	33.49	19.37	68.30	-15.44

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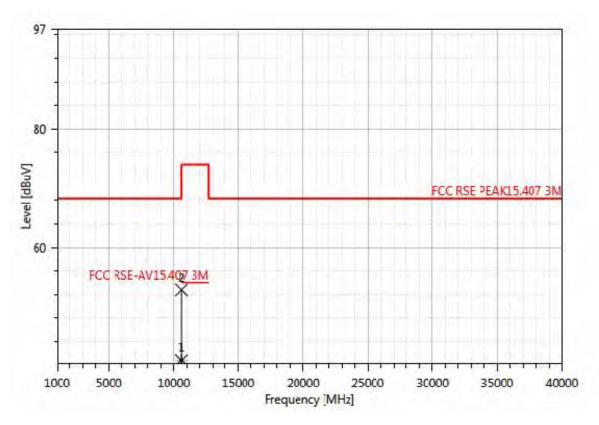
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Operation Mode: 802.11n20B2 Test Date: 12/27/2016

Fundamental Frequency: 5300 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH MID Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10600.00	Н	Average	40.88	21.97	18.91	54.00	-13.12
10600.00	Н	Peak	52.75	33.85	18.91	74.00	-21.25

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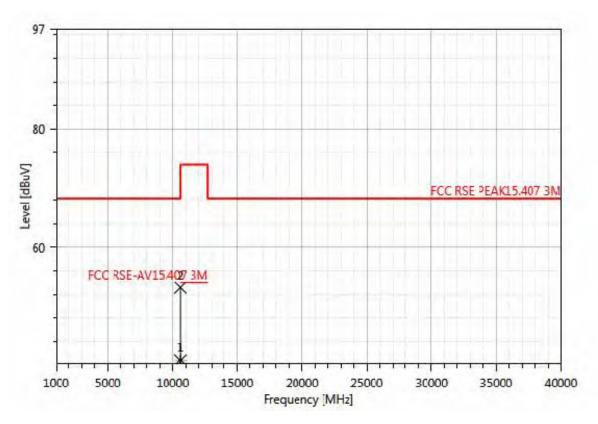
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Operation Mode: 802.11n20B2 Test Date: 12/27/2016

Fundamental Frequency: 5300 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH MID Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dΒμV/m	dB	dBuV/m	dB
10600.00	Н	Average	40.86	21.95	18.91	54.00	-13.14
10600.00	Н	Peak	53.14	34.24	18.91	74.00	-20.86

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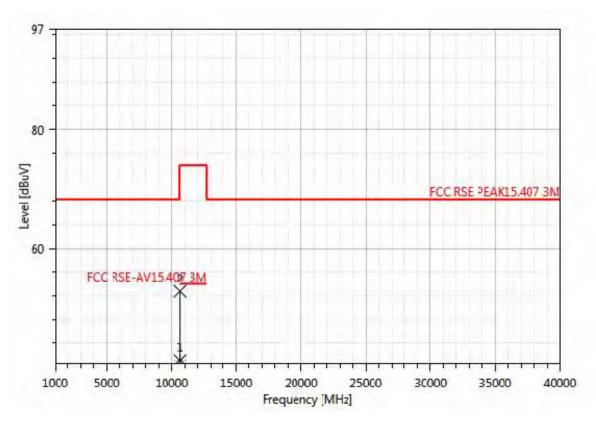
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Operation Mode: 802.11n20B2 Test Date: 12/27/2016

Fundamental Frequency: 5320 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10640.00	Н	Average	41.13	21.95	19.18	54.00	-12.87
10640.00	Н	Peak	52.74	33.56	19.18	74.00	-21.26

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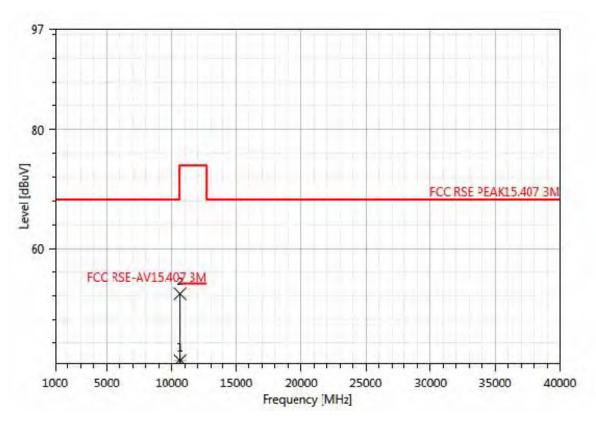
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Operation Mode: 802.11n20B2 Test Date: 12/27/2016

Fundamental Frequency: 5320 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10640.00	Н	Average	41.15	21.97	19.18	54.00	-12.85
10640.00	Н	Peak	52.35	33.17	19.18	74.00	-21.65

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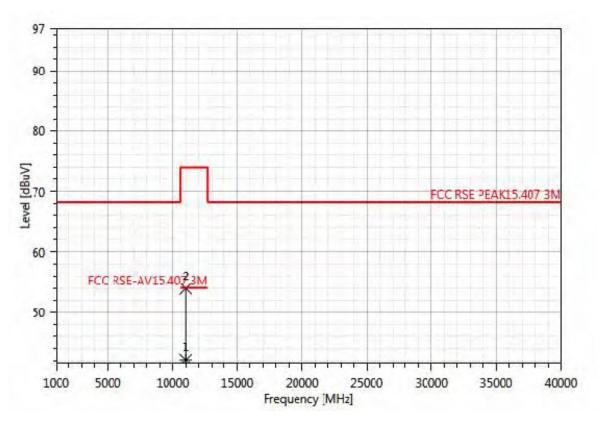
# Radiated Spurious Emission Measurement Result 802.11n HT20, 5470~5725 MHz

Operation Mode: 802.11n20B3 Test Date: 12/27/2016

Fundamental Frequency: 5500 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

Measurement Antenna Pol.: VERTICAL EUT Pol.: E2 Plane



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin	
		Mode	Reading Level	FS		@3m		
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB	
11000.00	Н	Average	42.13	21.96	20.17	54.00	-11.87	_
11000.00	Н	Peak	53.92	33.76	20.17	74.00	-20.08	

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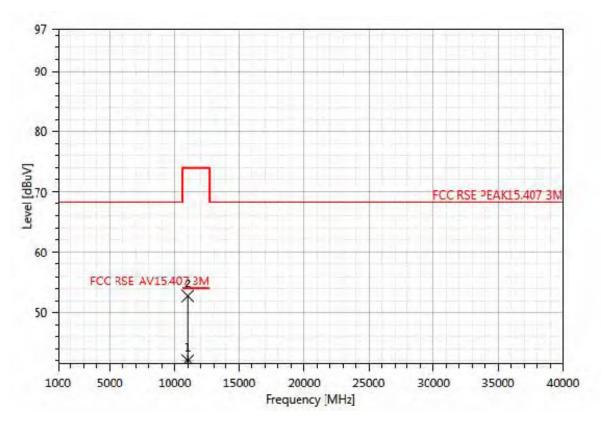
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Operation Mode: 802.11n20B3 Test Date: 12/27/2016

Fundamental Frequency: 5500 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dΒμV/m	dB	dBuV/m	dB
11000.00	Н	Average	42.12	21.95	20.17	54.00	-11.88
11000.00	Н	Peak	52.76	32.60	20.17	74.00	-21.24

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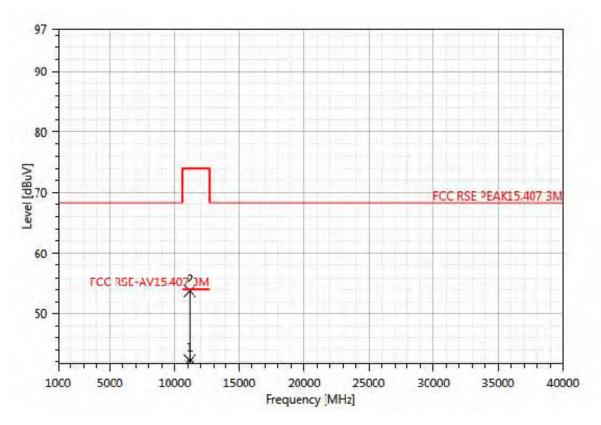
Page: 139 of 417

Operation Mode: 802.11n20B3 Test Date: 12/27/2016

Fundamental Frequency: 5580 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH MID Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum 5 cm	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11160.00	Н	Average	42.35	21.90	20.45	54.00	-11.65
11160.00	Н	Peak	53.73	33.29	20.45	74.00	-20.27

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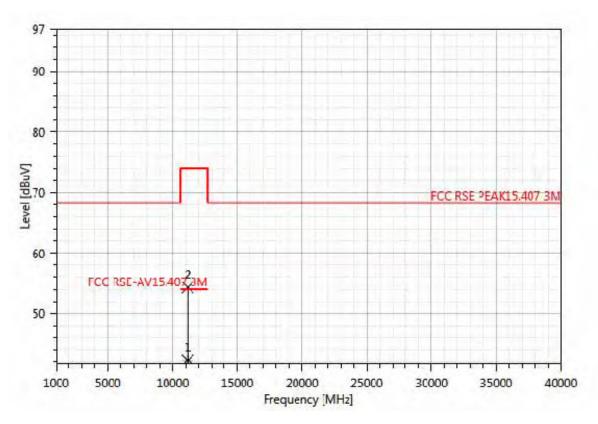
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Operation Mode: 802.11n20B3 Test Date: 12/27/2016

Fundamental Frequency: 5580 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH MID Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum 5 ctrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dΒμV/m	dB	dBuV/m	dB
11160.00	Н	Average	42.33	21.88	20.45	54.00	-11.67
11160.00	Н	Peak	54.35	33.90	20.45	74.00	-19.65

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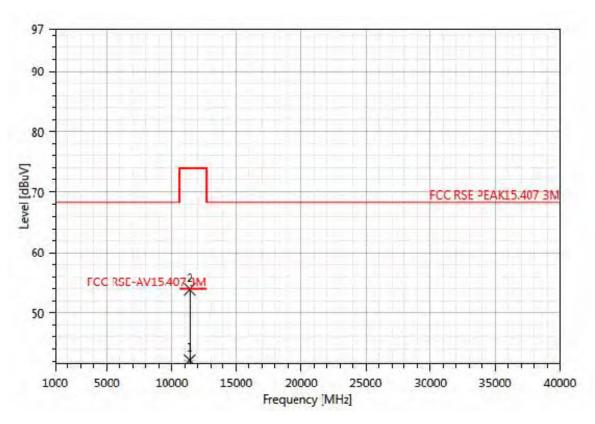
Page: 141 of 417

Operation Mode: 802.11n20B3 Test Date: 12/27/2016

Fundamental Frequency: 5700 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dΒμV/m	dB	dBuV/m	dB
11400.00	Н	Average	42.22	21.66	20.56	54.00	-11.78
11400.00	Н	Peak	53.91	33.35	20.56	74.00	-20.09

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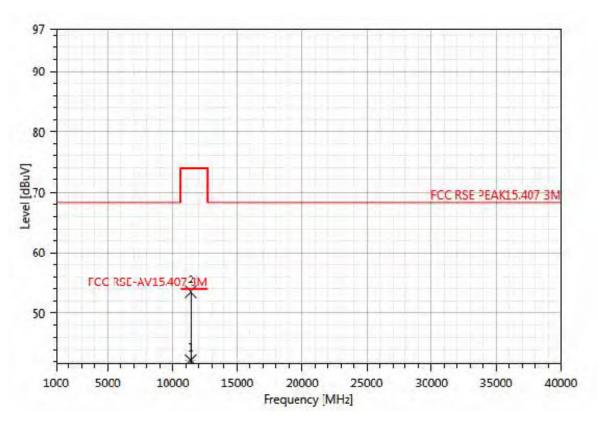
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Operation Mode: 802.11n20B3 Test Date: 12/27/2016

Fundamental Frequency: 5700 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum 5 cm	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11400.00	Н	Average	42.25	21.69	20.56	54.00	-11.75
11400.00	Н	Peak	53.54	32.98	20.56	74.00	-20.46

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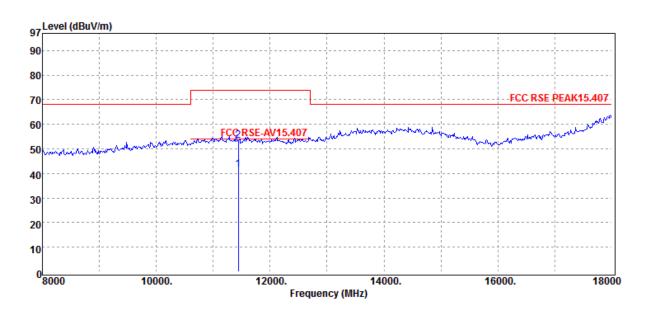
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Operation Mode: 802.11ac20B3 Test Date: 12/27/2016

Fundamental Frequency: 5720 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH High Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
11440.00	Н	Average	21.09	20.44	41.53	54.00	-12.47
11440.00	Н	Peak	33.00	20.44	53.44	74.00	-20.56

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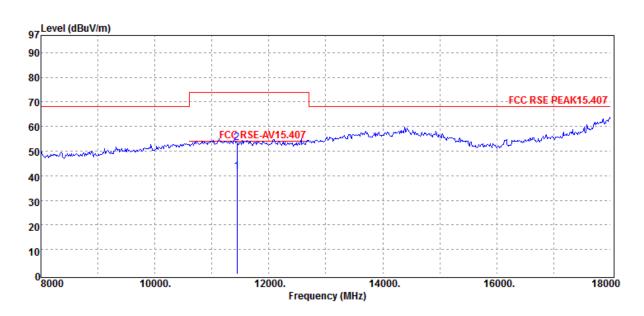
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Operation Mode: 802.11ac20B3 Test Date: 12/27/2016

Fundamental Frequency: 5720 MHz Temp. / Humi.: 23 deg C / 62 RH

Mike Operation Band: Tx CH High Test Engineer:

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
11440.00	Н	Average	21.06	20.44	41.50	54.00	-12.50
11440.00	Н	Peak	33.04	20.44	53.48	74.00	-20.52

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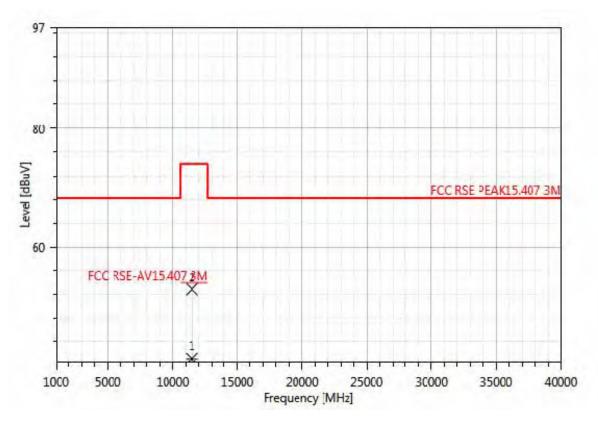
## Radiated Spurious Emission Measurement Result 802.11n HT20, 5725~5850 MHz

Operation Mode: 802.11n20B4 Test Date: 12/27/2016

Fundamental Frequency: 5745 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

Measurement Antenna Pol.: VERTICAL EUT Pol.: E2 Plane



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11490.00	Н	Average	41.15	20.73	20.42	54.00	-12.85
11490.00	Н	Peak	52.85	32.43	20.42	74.00	-21.15

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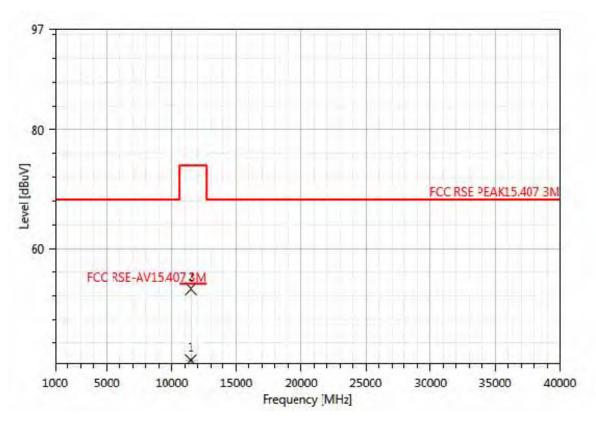
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Operation Mode: 802.11n20B4 Test Date: 12/27/2016

Fundamental Frequency: 5745 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11490.00	Н	Average	41.18	20.76	20.42	54.00	-12.82
11490.00	Н	Peak	53.17	32.75	20.42	74.00	-20.83

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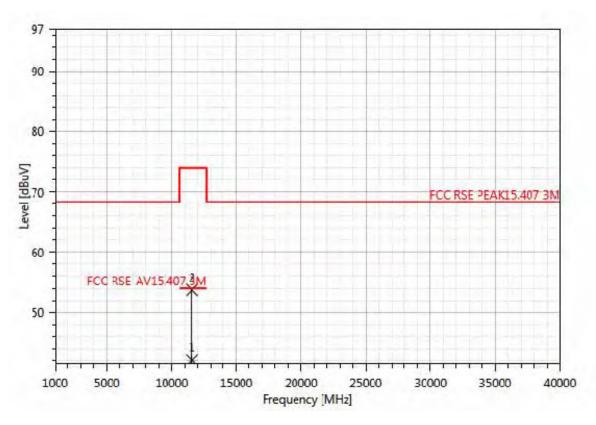
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Operation Mode: 802.11n20B4 Test Date: 12/27/2016

Fundamental Frequency: 5785 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH MID Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11570.00	Н	Average	42.11	21.52	20.59	54.00	-11.89
11570.00	Н	Peak	53.74	33.15	20.59	74.00	-20.26

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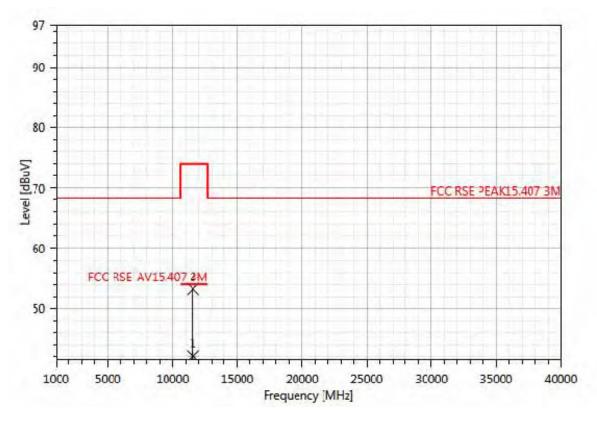
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Operation Mode: 802.11n20B4 Test Date: 12/27/2016

Fundamental Frequency: 5785 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH MID Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dΒμV/m	dB	dBuV/m	dB
11570.00	Н	Average	42.13	21.54	20.59	54.00	-11.87
11570.00	Н	Peak	53.26	32.67	20.59	74.00	-20.74

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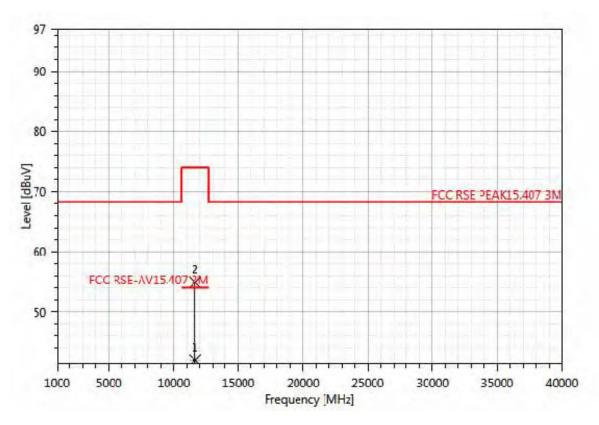
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Operation Mode: 802.11n20B4 Test Date: 12/27/2016

Fundamental Frequency: 5825 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11650.00	Н	Average	41.99	21.56	20.43	54.00	-12.01
11650.00	Н	Peak	54.92	34.49	20.43	74.00	-19.08

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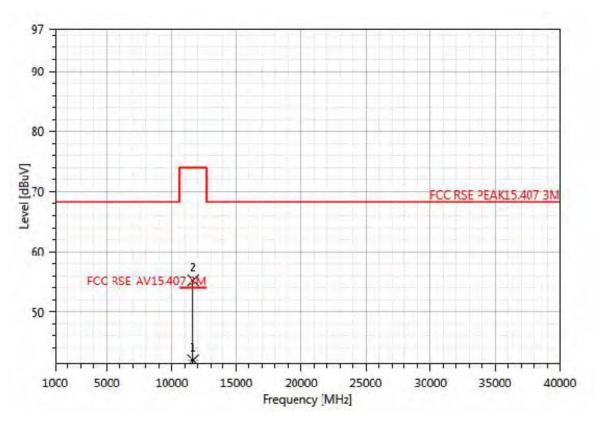
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Operation Mode: 802.11n20B4 Test Date: 12/27/2016

Fundamental Frequency: 5825 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11650.00	Н	Average	42.01	21.58	20.43	54.00	-11.99
11650.00	Н	Peak	55.27	34.84	20.43	74.00	-18.73

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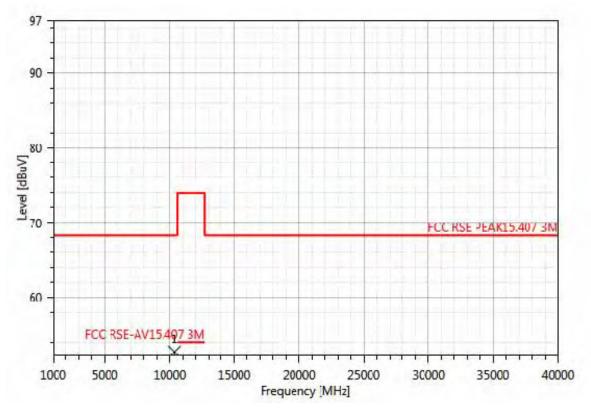
### Radiated Spurious Emission Measurement Result 802.11n HT40, 5150~5250 MHz

Operation Mode: 802.11n40B1 Test Date: 12/27/2016

Fundamental Frequency: 5190 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10380.00	Н	Peak	52.74	34.61	18.12	68.30	-15.56

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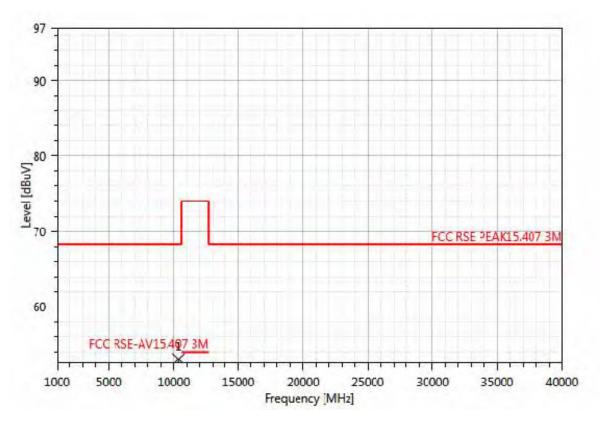
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Operation Mode: 802.11n40B1 Test Date: 12/27/2016

Fundamental Frequency: 5190 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10380.00	Н	Peak	53.03	34.91	18.12	68.30	-15.27

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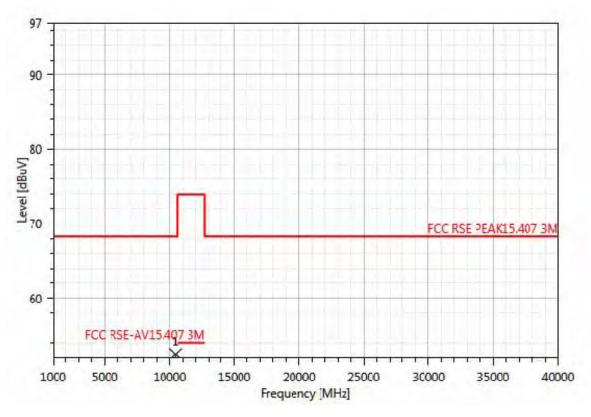
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Operation Mode: 802.11n40B1 Test Date: 12/27/2016

Fundamental Frequency: 5230 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10460.00	Н	Peak	52.46	33.92	18.54	68.30	-15.84

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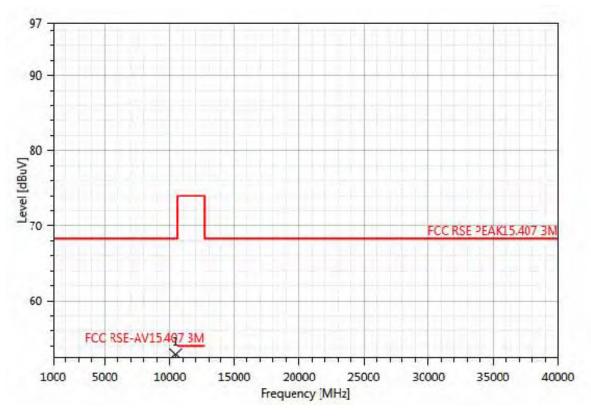
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Operation Mode: 802.11n40B1 Test Date: 12/27/2016

Fundamental Frequency: 5230 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10460.00	Н	Peak	52.89	34.35	18.54	68.30	-15.41

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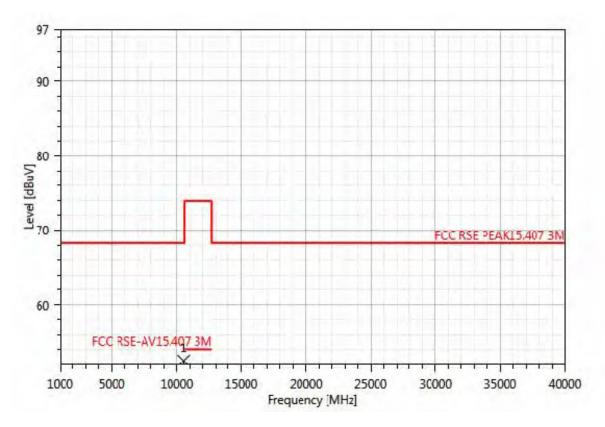
### Radiated Spurious Emission Measurement Result 802.11n HT40, 5250~5350 MHz

Operation Mode: 802.11n40B2 Test Date: 12/27/2016

Fundamental Frequency: 5270 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10540.00	Н	Peak	52.47	33.30	19.17	68.30	-15.83

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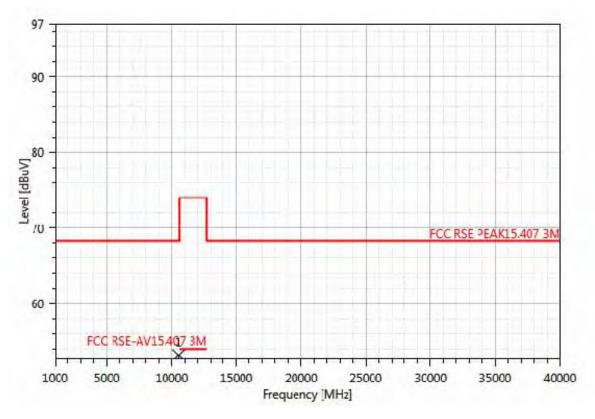
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Operation Mode: 802.11n40B2 Test Date: 12/27/2016

Fundamental Frequency: 5270 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10540.00	Н	Peak	53.17	34.00	19.17	68.30	-15.13

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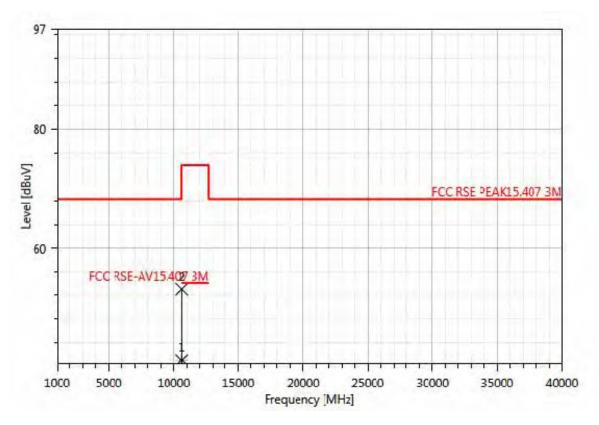
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Operation Mode: 802.11n40B2 Test Date: 12/27/2016

Fundamental Frequency: 5310 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10620.00	Н	Average	41.05	21.94	19.11	54.00	-12.95
10620.00	Н	Peak	53.00	33.90	19.11	74.00	-21.00

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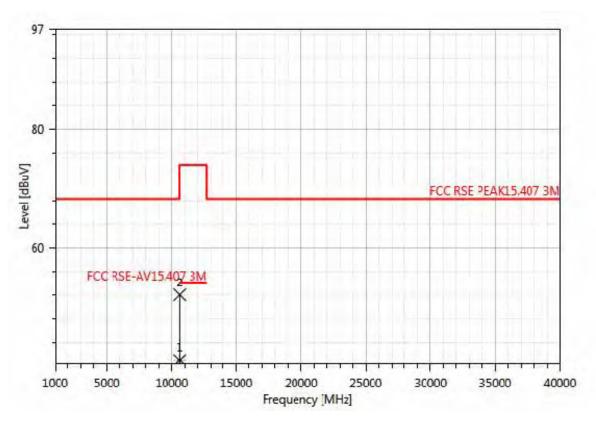
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Operation Mode: 802.11n40B2 Test Date: 12/27/2016

Fundamental Frequency: 5310 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Mike Tx CH HIGH Test Engineer:

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10620.00	Н	Average	41.01	21.90	19.11	54.00	-12.99
10620.00	Н	Peak	52.09	32.98	19.11	74.00	-21.91

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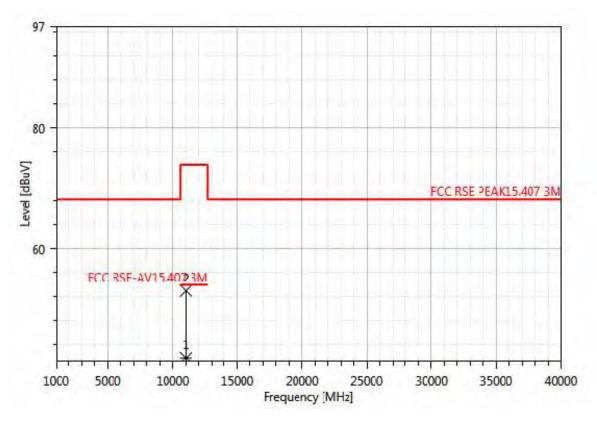
### Radiated Spurious Emission Measurement Result 802.11n HT40, 5470~5725 MHz

Operation Mode: 802.11n40B3 Test Date: 12/27/2016

Fundamental Frequency: 5510 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11020.00	Н	Average	41.88	21.72	20.16	54.00	-12.12
11020.00	Н	Peak	53.04	32.88	20.16	74.00	-20.96

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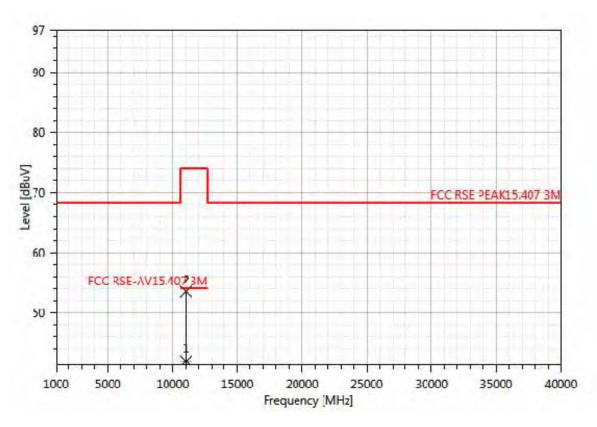
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Operation Mode: 802.11n40B3 Test Date: 12/27/2016

Fundamental Frequency: 5510 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11020.00	Н	Average	41.91	21.75	20.16	54.00	-12.09
11020.00	Н	Peak	53.49	33.33	20.16	74.00	-20.51

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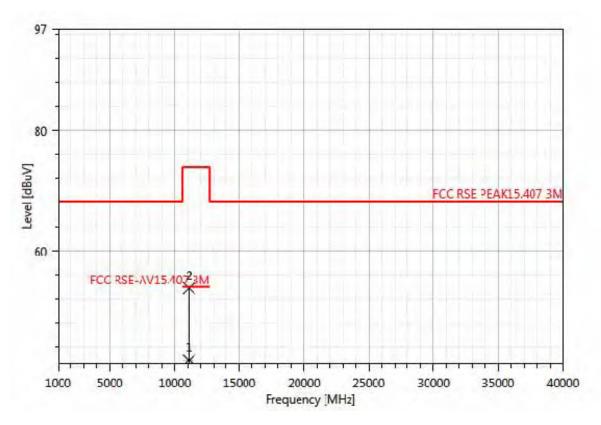
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Operation Mode: 802.11n40B3 Test Date: 12/27/2016

Fundamental Frequency: 5550 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH MID Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11100.00	Н	Average	41.80	21.48	20.32	54.00	-12.20
11100.00	Н	Peak	53.77	33.45	20.32	74.00	-20.23

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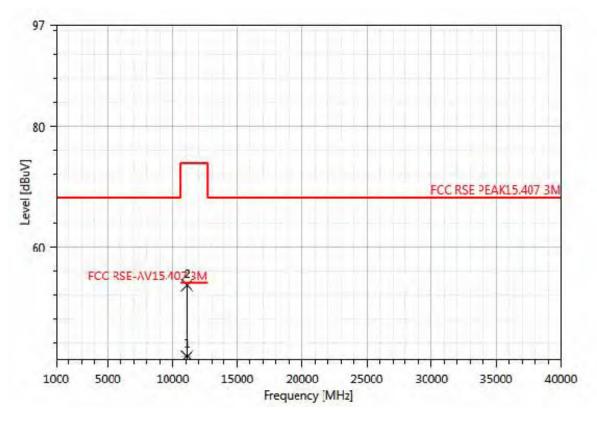
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Operation Mode: 802.11n40B3 Test Date: 12/27/2016

Fundamental Frequency: 5550 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH MID Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11100.00	Н	Average	41.81	21.49	20.32	54.00	-12.19
11100.00	Н	Peak	53.60	33.28	20.32	74.00	-20.40

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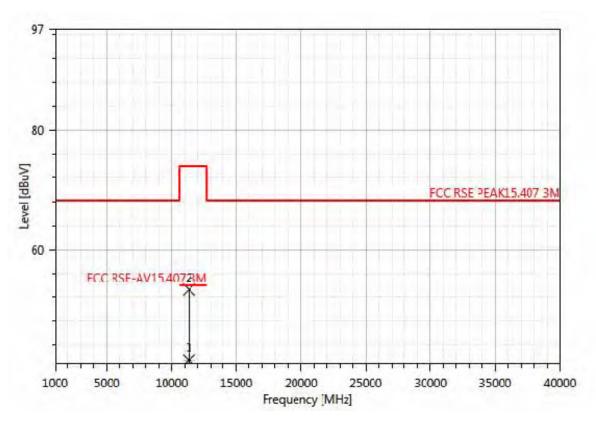
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Operation Mode: 802.11n40B3 Test Date: 12/27/2016

Fundamental Frequency: 5670 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11340.00	Н	Average	41.47	21.09	20.38	54.00	-12.53
11340.00	Н	Peak	53.30	32.92	20.38	74.00	-20.70

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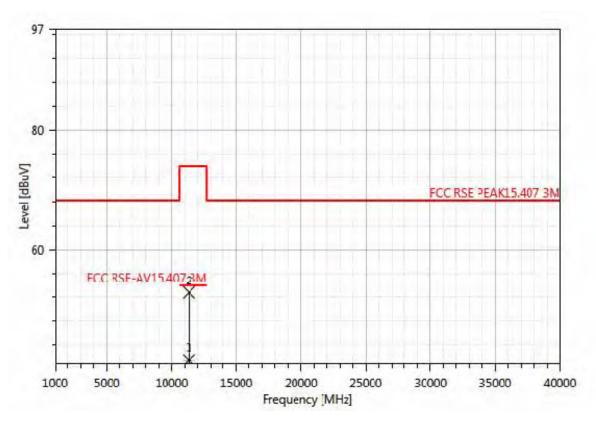
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Operation Mode: 802.11n40B3 Test Date: 12/27/2016

Fundamental Frequency: 5670 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11340.00	Н	Average	41.47	21.09	20.38	54.00	-12.53
11340.00	Н	Peak	52.83	32.45	20.38	74.00	-21.17

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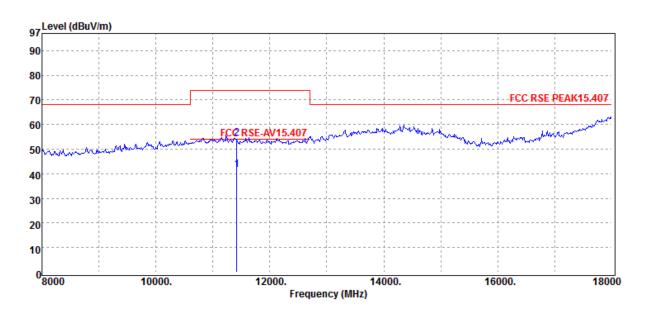
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Operation Mode: 802.11ac40B3 Test Date: 12/27/2016

Fundamental Frequency: 5710 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH High Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
11420.00	Н	Average	21.25	20.44	41.69	54.00	-12.31
11420.00	Н	Peak	33.90	20.44	54.34	74.00	-19.66

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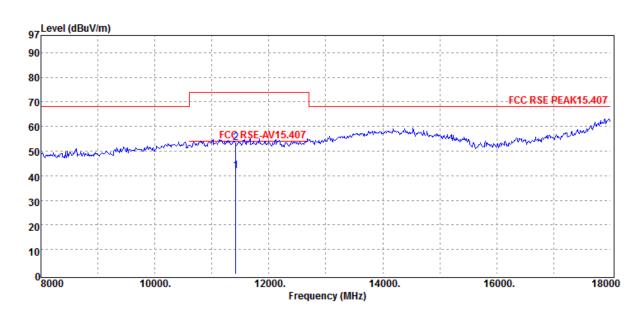
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Operation Mode: 802.11ac40B3 Test Date: 12/27/2016

Fundamental Frequency: 5710 MHz Temp. / Humi.: 23 deg C / 62 RH

Mike Operation Band: Tx CH High Test Engineer:

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
11420.00	Н	Average	21.35	20.44	41.79	54.00	-12.21
11420.00	Н	Peak	32.95	20.44	53.39	74.00	-20.61

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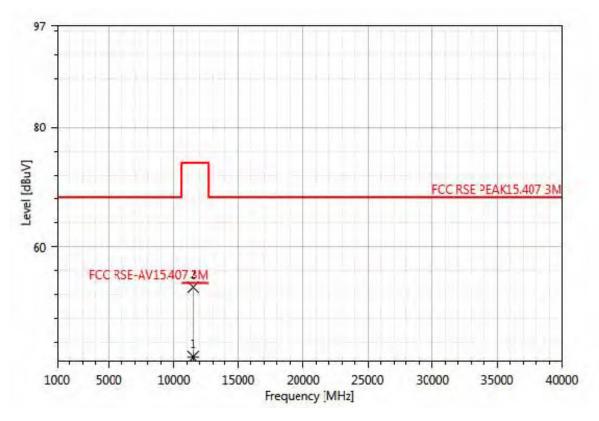
### Radiated Spurious Emission Measurement Result 802.11n HT40, 5725~5850 MHz

Operation Mode: 802.11n40B4 Test Date: 12/27/2016

Fundamental Frequency: 5755 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dΒμV/m	dB	dBuV/m	dB
11510.00	Н	Average	41.54	21.15	20.39	54.00	-12.46
11510.00	Н	Peak	53.24	32.85	20.39	74.00	-20.76

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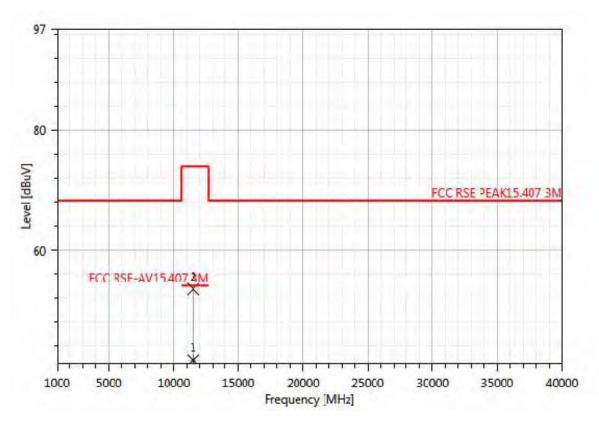
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Operation Mode: 802.11n40B4 Test Date: 12/27/2016

Fundamental Frequency: 5755 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11510.00	Н	Average	41.55	21.16	20.39	54.00	-12.45
11510.00	Н	Peak	53.45	33.06	20.39	74.00	-20.55

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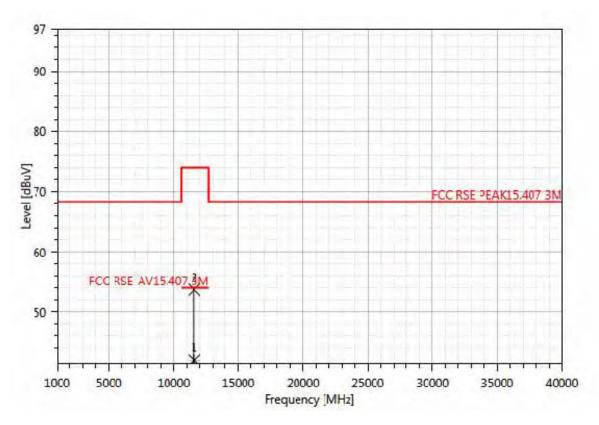
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Operation Mode: 802.11n40B4 Test Date: 12/27/2016

Fundamental Frequency: 5795 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBμV/m	dB	dBuV/m	dB
11590.00	Н	Average	42.02	21.59	20.43	54.00	-11.98
11590.00	Н	Peak	53.72	33.29	20.43	74.00	-20.28

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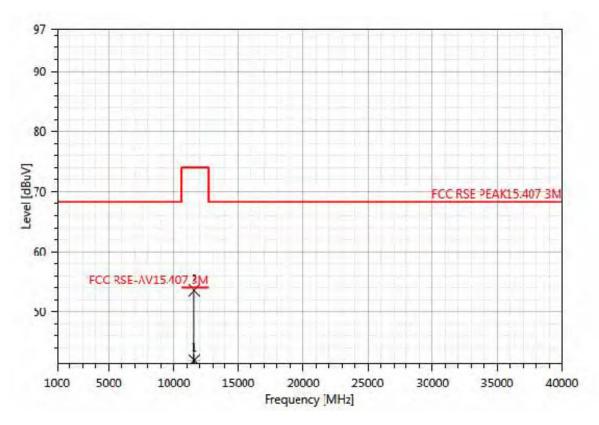
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Operation Mode: 802.11n40B4 Test Date: 12/27/2016

Fundamental Frequency: 5795 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11590.00	Н	Average	41.98	21.55	20.43	54.00	-12.02
11590.00	Н	Peak	53.56	33.13	20.43	74.00	-20.44

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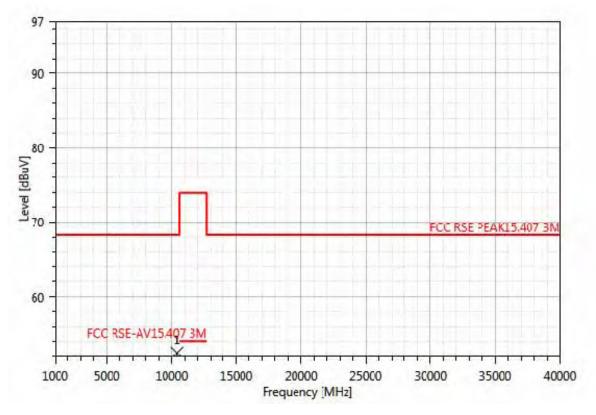
# Radiated Spurious Emission Measurement Result 802.11ac VHT80, 5150~5250 MHz

Operation Mode: 802.11ac80B1 Test Date: 12/27/2016

Fundamental Frequency: 5210 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

Measurement Antenna Pol.: VERTICAL EUT Pol.: E2 Plane



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10420.00	Н	Peak	52.45	33.74	18.71	68.30	-15.85

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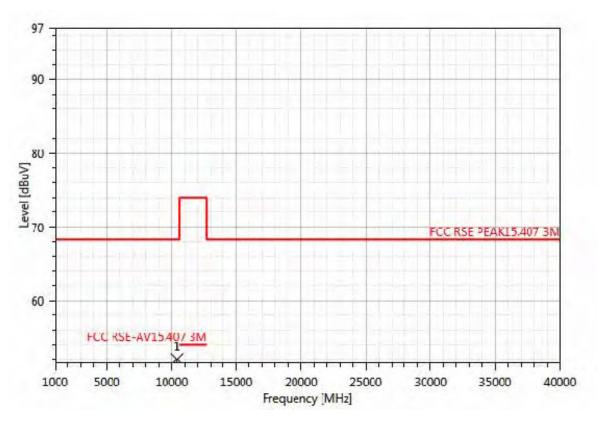
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Operation Mode: 802.11ac80B1 Test Date: 12/27/2016

Fundamental Frequency: 5210 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
10420.00	Н	Peak	52.05	33.34	18.71	68.30	-16.25

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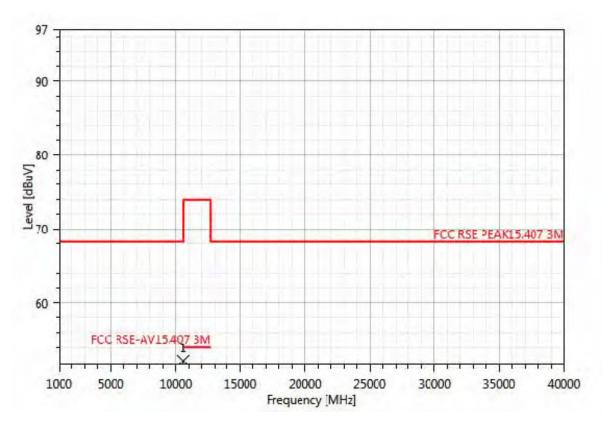
### Radiated Spurious Emission Measurement Result 802.11ac VHT80, 5250~5350 MHz

Operation Mode: 802.11ac80B2 Test Date: 12/27/2016

Fundamental Frequency: 5290 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBμV/m	dBµV/m	dB	dBuV/m	dB
10580.00	Н	Peak	52.18	33.30	18.88	68.30	-16.12

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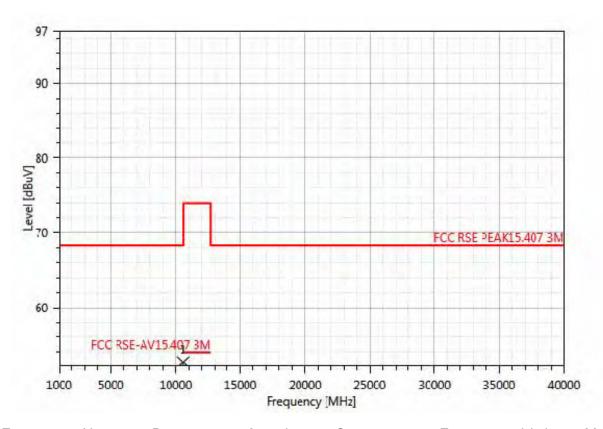
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Operation Mode: 802.11ac80B2 Test Date: 12/27/2016

Fundamental Frequency: 5290 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin	
		Mode	Reading Level	FS		@3m		
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB	
10580.00	Н	Peak	52.68	33.81	18.88	68.30	-15.62	

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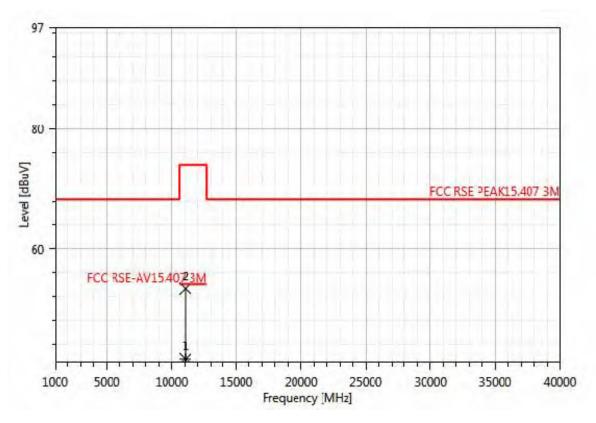
### Radiated Spurious Emission Measurement Result 802.11ac VHT80, 5470~5725 MHz

Operation Mode: 802.11ac80B3 Test Date: 12/27/2016

Fundamental Frequency: 5530 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11060.00	Н	Average	41.57	21.31	20.26	54.00	-12.43
11060.00	Н	Peak	53.28	33.01	20.26	74.00	-20.72

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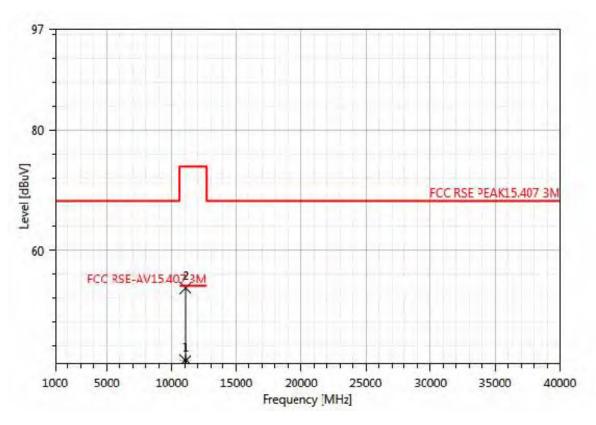
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Operation Mode: 802.11ac80B3 Test Date: 12/27/2016

Fundamental Frequency: 5530 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11060.00	Н	Average	41.60	21.34	20.26	54.00	-12.40
11060.00	Н	Peak	53.63	33.37	20.26	74.00	-20.37

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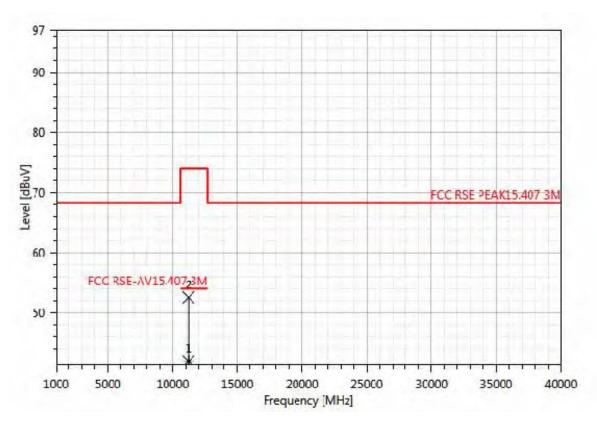
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Operation Mode: 802.11ac80B3 Test Date: 12/27/2016

Fundamental Frequency: 5610 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11220.00	Н	Average	41.97	21.49	20.48	54.00	-12.03
11220.00	Н	Peak	52.56	32.09	20.48	74.00	-21.44

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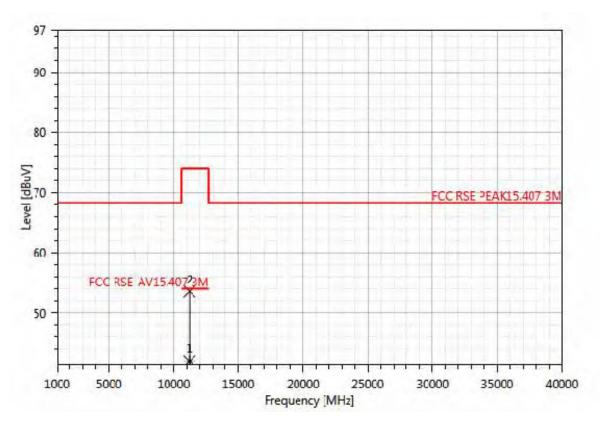
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Operation Mode: 802.11ac80B3 Test Date: 12/27/2016

Fundamental Frequency: 5610 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH HIGH Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11220.00	Н	Average	42.00	21.52	20.48	54.00	-12.00
11220.00	Н	Peak	53.58	33.10	20.48	74.00	-20.42

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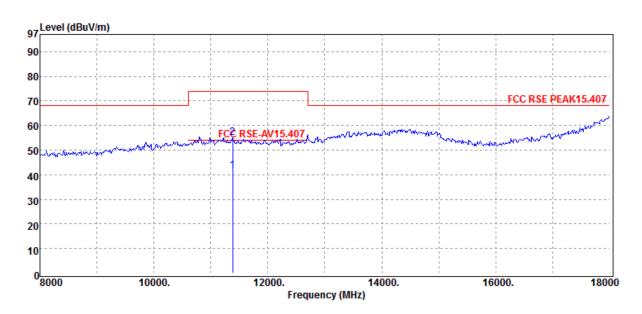
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Operation Mode: 802.11ac80B3 Test Date: 12/27/2016

Fundamental Frequency: 5690 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH High Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
11380.00	Н	Average	21.27	20.50	41.77	54.00	-12.23
11380.00	Н	Peak	34.64	20.50	55.14	74.00	-18.86

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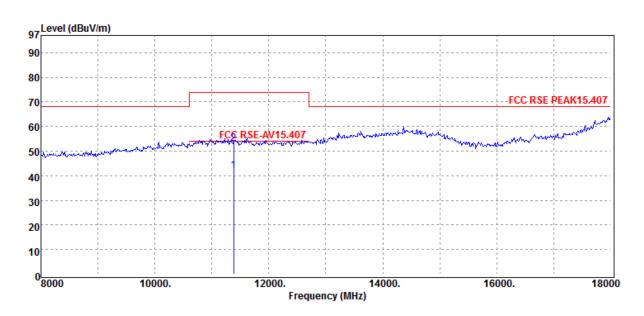
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Operation Mode: 802.11ac80B3 Test Date: 12/27/2016

Fundamental Frequency: 5690 MHz Temp. / Humi.: 23 deg C / 62 RH

Mike Operation Band: Tx CH High Test Engineer:

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dΒμV	dB	dBμV/m	dBμV/m	dB
11380.00	Н	Average	21.45	20.50	41.95	54.00	-12.05
11380.00	Н	Peak	32.65	20.50	53.15	74.00	-20.85

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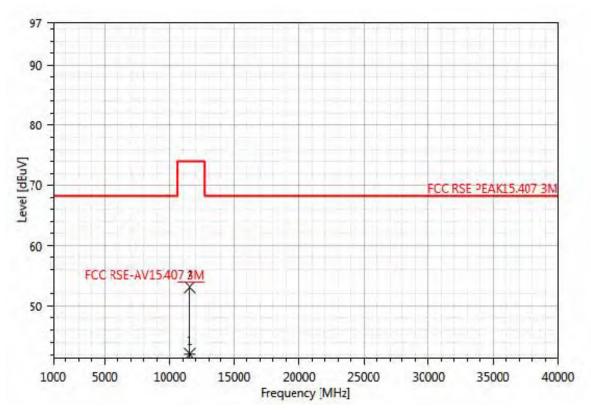
## Radiated Spurious Emission Measurement Result 802.11ac VHT80, 5725~5850 MHz

Operation Mode: 802.11ac80B4 Test Date: 12/27/2016

Fundamental Frequency: 5775 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
11550.00	Н	Average	42.06	21.54	20.52	54.00	-11.94
11550.00	Н	Peak	53.10	32.59	20.52	74.00	-20.90

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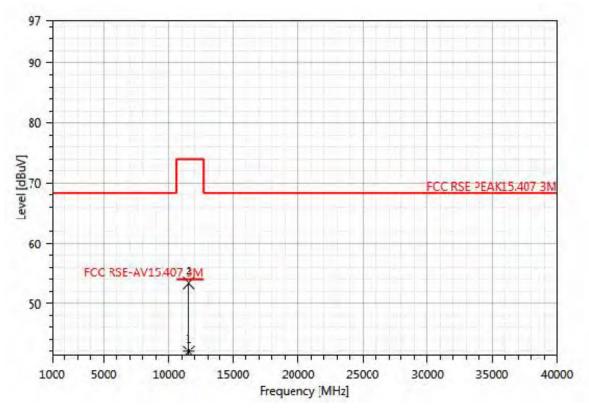
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Operation Mode: Test Date: 802.11ac80B4 12/27/2016

Fundamental Frequency: 5775 MHz Temp. / Humi.: 23 deg C / 62 RH

Operation Band: Tx CH LOW Test Engineer: Mike

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum 5 2 2	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBμV/m	dBµV/m	dB	dBuV/m	dB
11550.00	Н	Average	42.04	21.52	20.52	54.00	-11.96
11550.00	Н	Peak	53.41	32.90	20.52	74.00	-20.59

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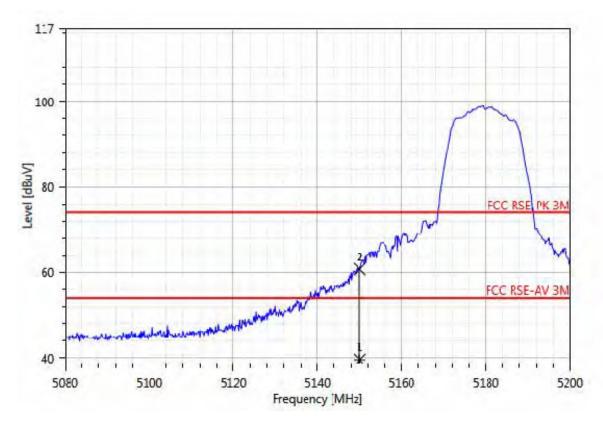
## Band edge falling to restricted band 802.11a mode

Operation Mode: Test Date: 12/12/2016 802.11aB1

Fundamental Frequency: 5180 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH LOW Test Engineer:

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
5150.00	Е	Average	39.57	33.69	5.88	54.00	-14.43
5150.00	Е	Peak	60.77	54.89	5.88	74.00	-13.23

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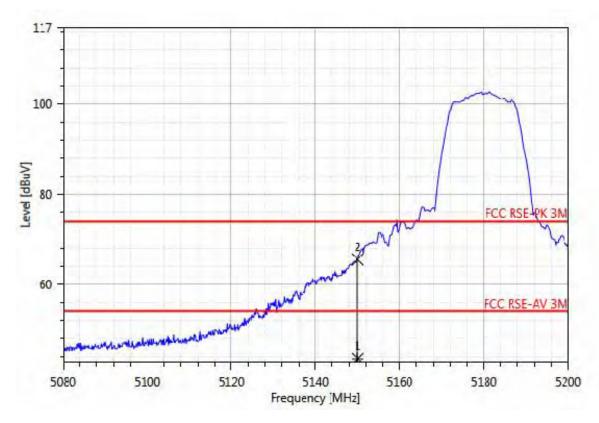
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Operation Mode: 802.11aB1 Test Date: 12/12/2016

Fundamental Frequency: 5180 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH LOW Test Engineer:

Measurement Antenna Pol.: HORIZONTAL EUT Pol.: E2 Plane



	Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
			Mode	Reading Level	FS		@3m	
_	MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
	5150.00	Е	Average	43.50	37.62	5.88	54.00	-10.50
	5150.00	Ε	Peak	65.54	59.66	5.88	74.00	-8.46

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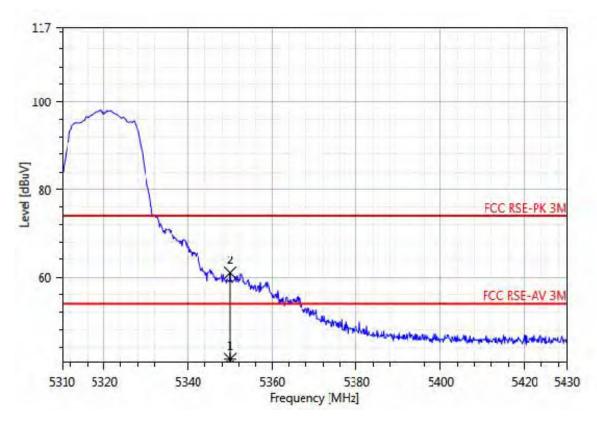
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Operation Mode: 802.11aB2 Test Date: 12/12/2016

Fundamental Frequency: 5320 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH HIGH Test Engineer:

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin	
		Mode	Reading Level	FS		@3m		
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB	
5350.00	Е	Average	41.37	35.22	6.15	54.00	-12.63	
5350.00	Ε	Peak	61.03	54.88	6.15	74.00	-12.97	

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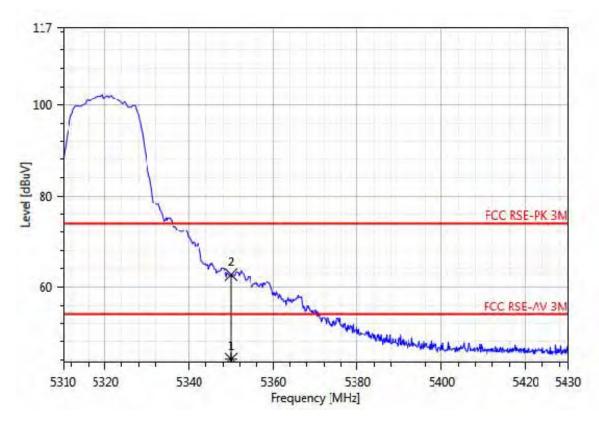
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Operation Mode: 802.11aB2 Test Date: 12/12/2016

Fundamental Frequency: 5320 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH HIGH Test Engineer:

Measurement Antenna Pol.: HORIZONTAL EUT Pol.: E2 Plane



	Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
			Mode	Reading Level	FS		@3m	
_	MHz	F/H/E/S	QP/AV/PK	dBµV/m	dΒμV/m	dB	dBuV/m	dB
	5350.00	Е	Average	44.25	38.10	6.15	54.00	-9.75
	5350.00	Ε	Peak	62.76	56.61	6.15	74.00	-11.24

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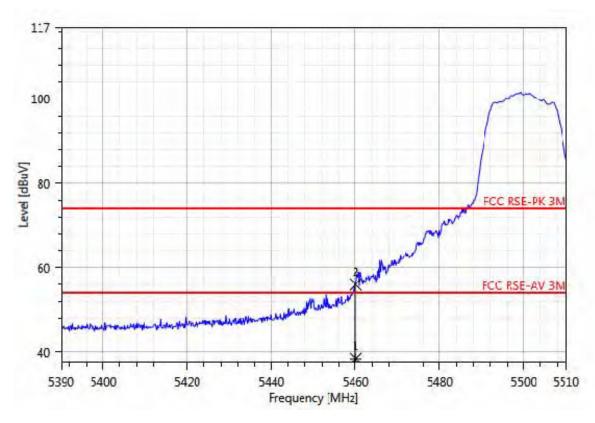
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Operation Mode: 802.11aB3 Test Date: 12/12/2016

Fundamental Frequency: 5500 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH LOW Test Engineer:

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



	Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
			Mode	Reading Level	FS		@3m	
_	MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
	5460.00	Е	Average	38.34	32.11	6.23	54.00	-15.66
	5460.00	Ε	Peak	56.00	49.76	6.23	74.00	-18.00

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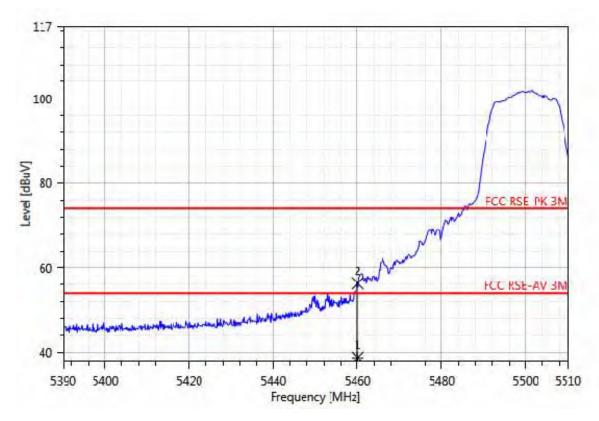
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802.11aB3 Operation Mode: Test Date: 12/12/2016

Fundamental Frequency: 5500 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH LOW Test Engineer:

Measurement Antenna Pol.: HORIZONTAL EUT Pol.: E2 Plane



F	req.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
			Mode	Reading Level	FS		@3m	
N	ЛHz	F/H/E/S	QP/AV/PK	dBµV/m	dΒμV/m	dB	dBuV/m	dB
546	50.00	Е	Average	38.77	32.54	6.23	54.00	-15.23
546	60.00	Е	Peak	56.36	50.13	6.23	74.00	-17.64

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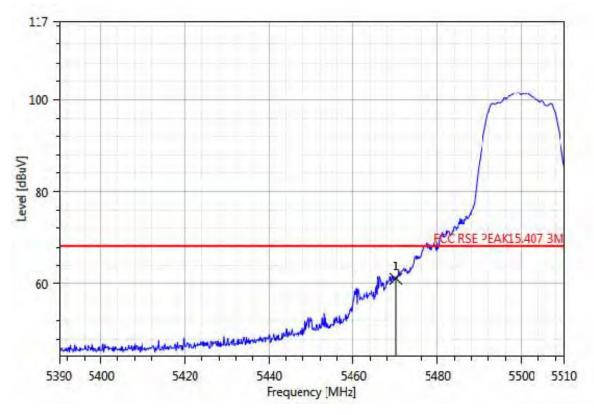
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Operation Mode: 802.11aB3 Test Date: 12/12/2016

Fundamental Frequency: 5500 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH LOW Test Engineer:

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



	Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
			Mode	Reading Level	FS		@3m	
_	MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
	5470.00	E	Peak	61.10	54.84	6.26	68.30	-7.20

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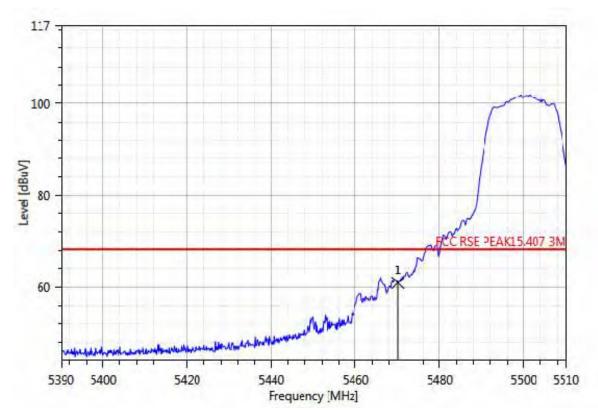
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Operation Mode: 802.11aB3 Test Date: 12/12/2016

Fundamental Frequency: 5500 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH LOW Test Engineer: Tin

Measurement Antenna Pol.: HORIZONTAL EUT Pol.: E2 Plane



	Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
			Mode	Reading Level	FS		@3m	
_	MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
	5470.00	E	Peak	60.93	54.67	6.26	68.30	-7.37

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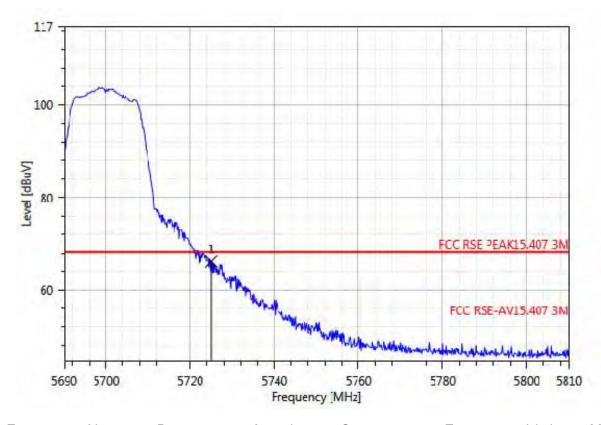
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Operation Mode: 802.11aB3 Test Date: 12/12/2016

Fundamental Frequency: 5700 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH HIGH Test Engineer:

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



	Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin	
			Mode	Reading Level	FS		@3m		
	MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB	
,	5725.00	Е	Peak	66.14	59.55	6.59	68.30	-2.16	

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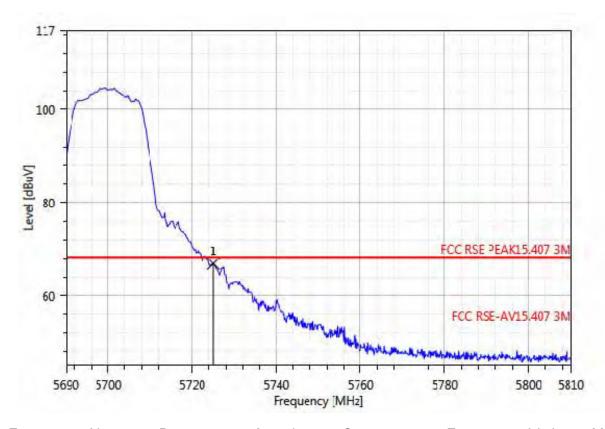
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Operation Mode: 802.11aB3 Test Date: 12/12/2016

Fundamental Frequency: 5700 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH HIGH Test Engineer:

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



	Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin	
			Mode	Reading Level	FS		@3m		
	MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB	
,	5725.00	Е	Peak	66.91	60.32	6.59	68.30	-1.39	

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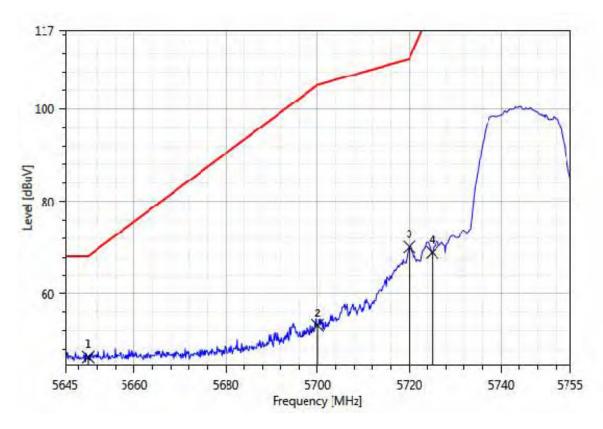
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Operation Mode: 802.11aB4 Test Date: 12/12/2016

Fundamental Frequency: 5745 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH LOW Test Engineer:

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
5650.00	Е	Peak	46.38	39.90	6.48	68.23	-21.85
5700.00	Е	Peak	53.22	46.55	6.68	105.23	-52.01
5720.00	Е	Peak	70.18	63.58	6.60	110.83	-40.65
5725.00	Е	Peak	69.03	62.44	6.59	122.23	-53.20

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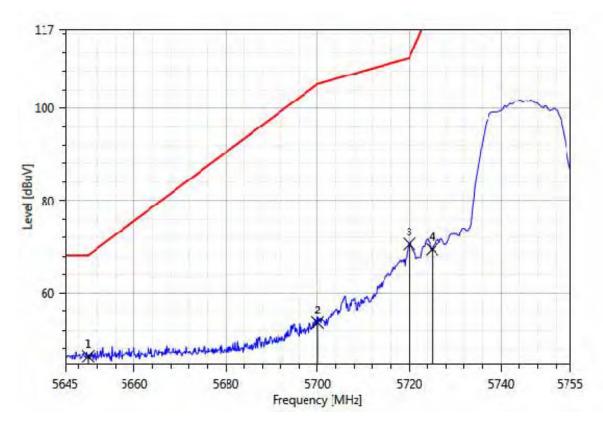
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Operation Mode: 802.11aB4 Test Date: 12/12/2016

Fundamental Frequency: 5745 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH LOW Test Engineer:

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
5650.00	Е	Peak	46.38	39.89	6.48	68.23	-21.85
5700.00	Е	Peak	53.66	46.98	6.68	105.23	-51.57
5720.00	Е	Peak	70.64	64.04	6.60	110.83	-40.19
5725.00	Е	Peak	69.54	62.95	6.59	122.23	-52.69

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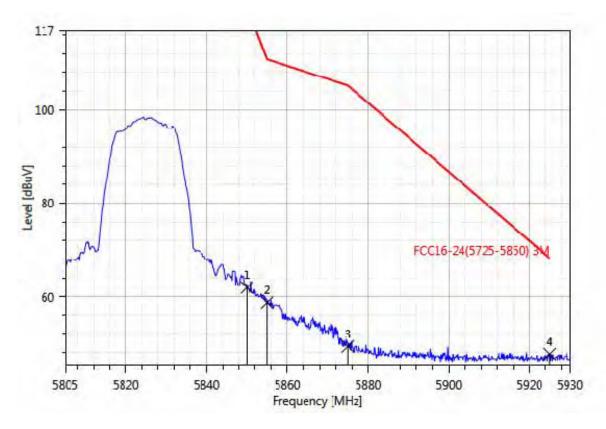
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Operation Mode: 802.11aB4 Test Date: 12/12/2016

Fundamental Frequency: 5825 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH HIGH Test Engineer:

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
5850.00	Е	Peak	61.95	54.67	7.28	122.23	-60.28
5855.00	E	Peak	58.74	51.42	7.32	110.83	-52.09
5875.00	Е	Peak	49.32	41.95	7.37	105.23	-55.91
5925.00	E	Peak	47.68	40.29	7.39	68.23	-20.55

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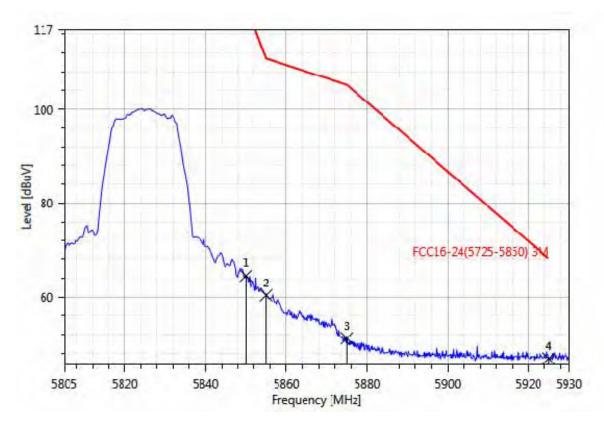
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Operation Mode: 802.11aB4 Test Date: 12/12/2016

Fundamental Frequency: 5825 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH HIGH Test Engineer:

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
5850.00	Е	Peak	64.56	57.28	7.28	122.23	-57.67
5855.00	Е	Peak	60.38	53.06	7.32	110.83	-50.45
5875.00	Е	Peak	51.25	43.88	7.37	105.23	-53.98
5925.00	Е	Peak	46.94	39.55	7.39	68.23	-21.29

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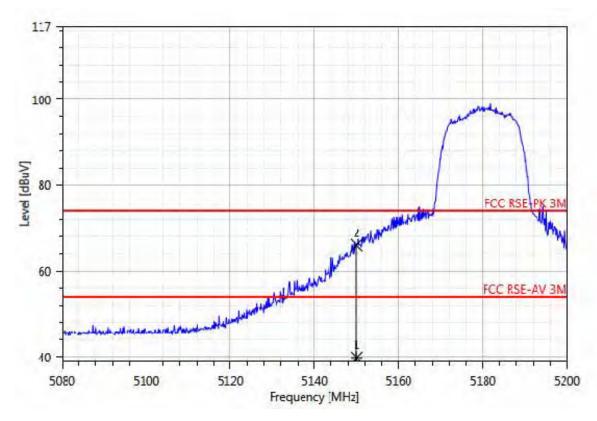
## 802.11n20 HT mode

Operation Mode: 802.11n20B1 Test Date: 12/12/2016

Fundamental Frequency: 5180 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH LOW Test Engineer:

Measurement Antenna Pol.: VERTICAL EUT Pol.: E2 Plane



	Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
			Mode	Reading Level	FS		@3m	
	MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
5	150.00	Е	Average	39.78	33.90	5.88	54.00	-14.22
5	150.00	Ε	Peak	66.07	60.19	5.88	74.00	-7.93

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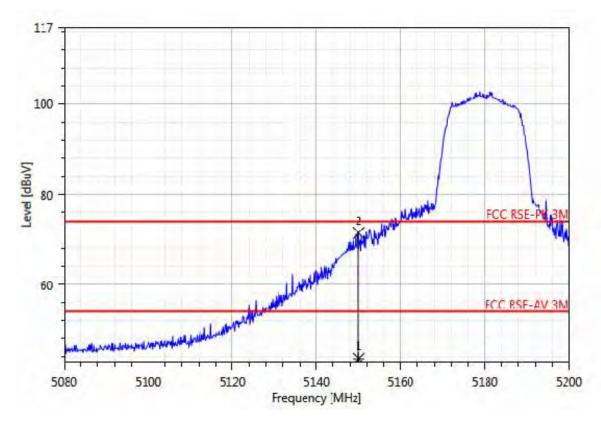
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Operation Mode: 802.11n20B1 Test Date: 12/12/2016

Fundamental Frequency: 5180 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH LOW Test Engineer:

Measurement Antenna Pol.: HORIZONTAL EUT Pol.: E2 Plane



	Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
			Mode	Reading Level	FS		@3m	
_	MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
	5150.00	Е	Average	43.53	37.65	5.88	54.00	-10.47
	5150.00	Ε	Peak	71.43	65.55	5.88	74.00	-2.57

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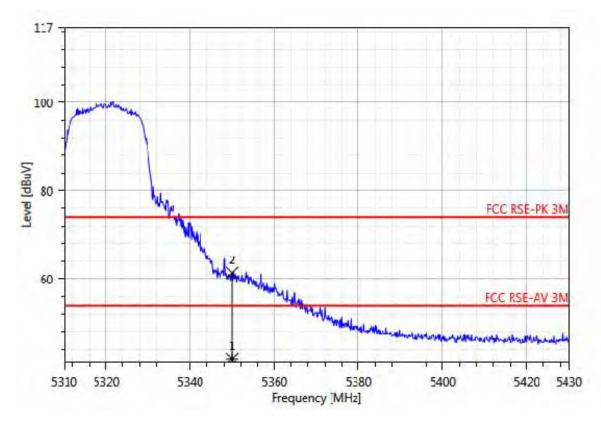
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Operation Mode: 802.11n20B2 Test Date: 12/12/2016

Fundamental Frequency: 5320 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH HIGH Test Engineer:

Measurement Antenna Pol.: VERTICAL EUT Pol.: E2 Plane



	Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin	
			Mode	Reading Level	FS		@3m		
_	MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB	
	5350.00	Е	Average	41.88	35.73	6.15	54.00	-12.12	
	5350.00	Ε	Peak	61.38	55.23	6.15	74.00	-12.62	

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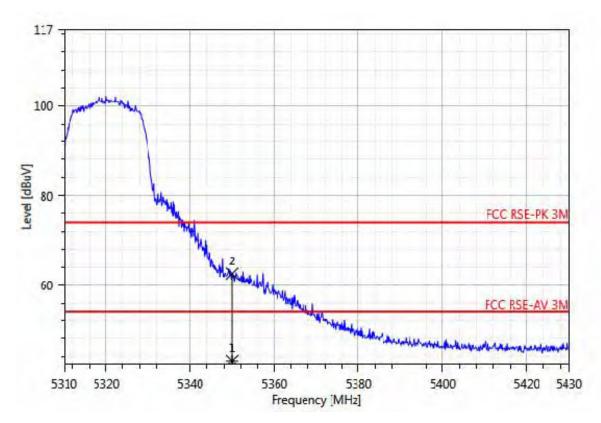
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Operation Mode: 802.11n20B2 Test Date: 12/12/2016

Fundamental Frequency: 5320 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH HIGH Test Engineer:

Measurement Antenna Pol.: HORIZONTAL EUT Pol.: E2 Plane



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
5350.00	Е	Average	43.13	36.98	6.15	54.00	-10.87
5350.00	Ε	Peak	62.55	56.40	6.15	74.00	-11.45

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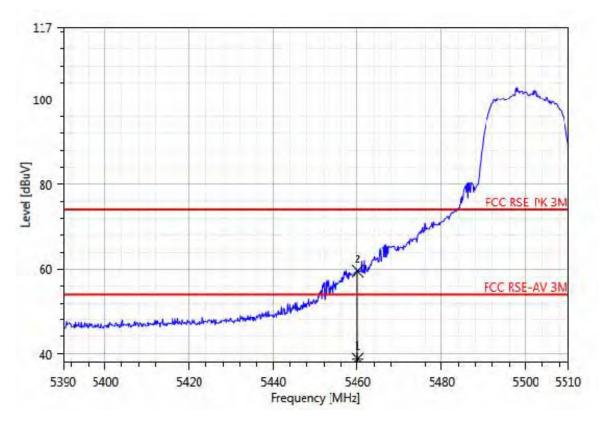
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Operation Mode: 802.11n20B3 Test Date: 12/12/2016

Fundamental Frequency: 5500 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH LOW Test Engineer:

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin	
		Mode	Reading Level	FS		@3m		
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB	
5460.00	Е	Average	38.85	32.62	6.23	54.00	-15.15	•
5460.00	Ε	Peak	59.54	53.31	6.23	74.00	-14.46	

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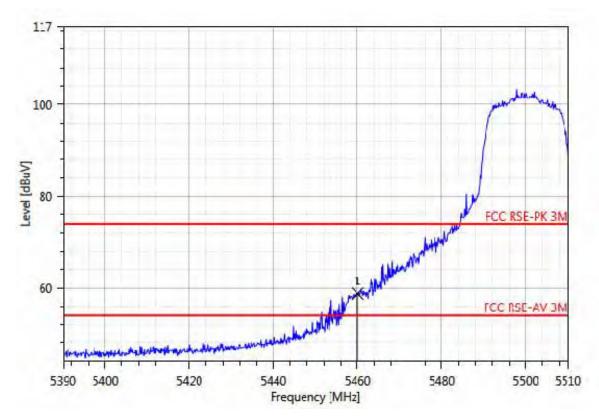
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Operation Mode: 802.11n20B3 Test Date: 12/12/2016

Fundamental Frequency: 5500 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH LOW Test Engineer: Tin

Measurement Antenna Pol.: HORIZONTAL EUT Pol.: E2 Plane



	Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin	
			Mode	Reading Level	FS		@3m		
	MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB	
•	5460.00	E	Peak	58.77	52.54	6.23	74.00	-15.23	-

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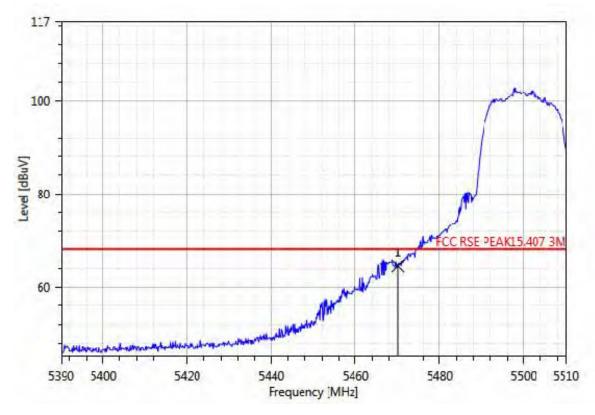
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Operation Mode: 802.11n20B3 Test Date: 12/12/2016

Fundamental Frequency: 5500 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH LOW Test Engineer:

Measurement Antenna Pol.: VERTICAL EUT Pol.: E2 Plane



	Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
			Mode	Reading Level	FS		@3m	
_	MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
	5470.00	E	Peak	64.58	58.32	6.26	68.30	-3.72

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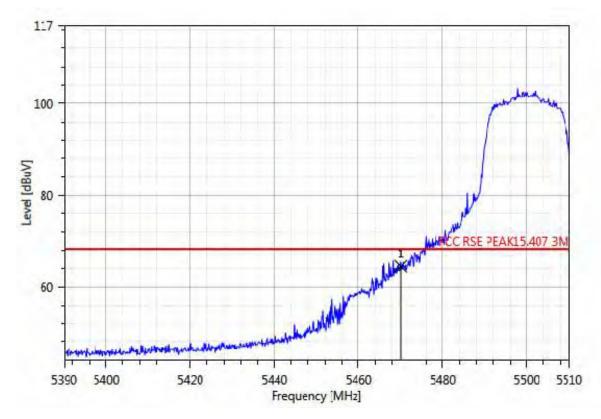
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Operation Mode: 802.11n20B3 Test Date: 12/12/2016

Fundamental Frequency: 5500 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH LOW Test Engineer: Tin

Measurement Antenna Pol.: HORIZONTAL EUT Pol.: E2 Plane



	Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
			Mode	Reading Level	FS		@3m	
_	MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
	5470.00	E	Peak	64.51	58.24	6.26	68.30	-3.79

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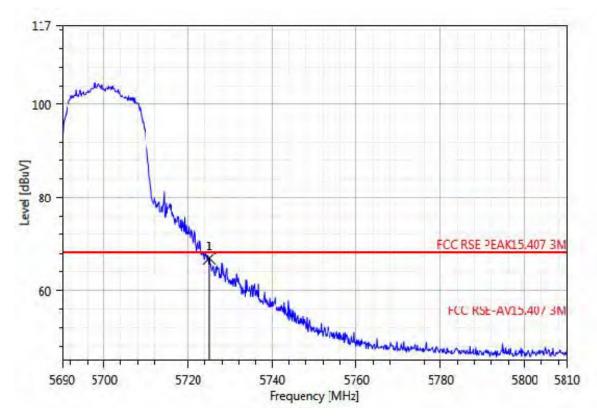
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Operation Mode: 802.11n20B3 Test Date: 12/12/2016

Fundamental Frequency: 5700 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH HIGH Test Engineer:

Measurement Antenna Pol.: VERTICAL EUT Pol.: E2 Plane



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
5725.00	E	Peak	66.86	60.27	6.59	68.30	-1.44

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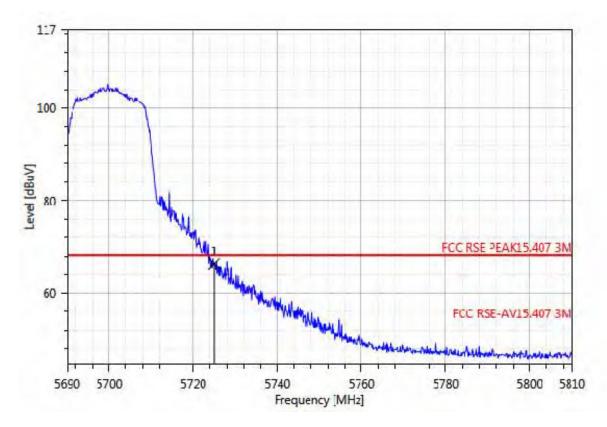
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Operation Mode: 802.11n20B3 Test Date: 12/12/2016

Fundamental Frequency: 5700 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH HIGH Test Engineer:

Measurement Antenna Pol.: HORIZONTAL EUT Pol.: E2 Plane



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
5725.00	Е	Peak	66.31	59.72	6.59	68.30	-1.99

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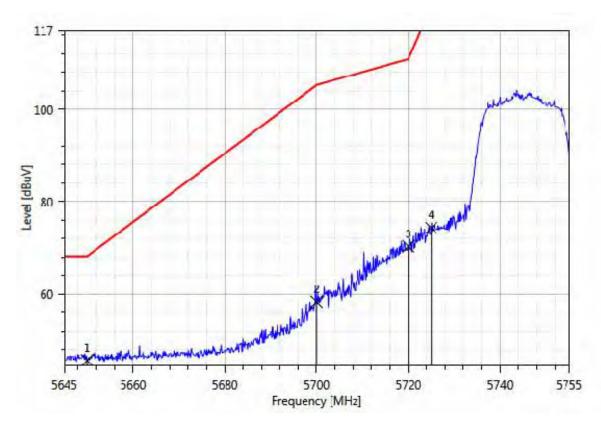
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Operation Mode: 802.11n20B4 Test Date: 12/12/2016

Fundamental Frequency: 5745 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH LOW Test Engineer:

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
5650.00	Е	Peak	45.71	39.23	6.48	68.23	-22.52
5700.00	Е	Peak	58.38	51.71	6.68	105.23	-46.85
5720.00	Е	Peak	70.38	63.78	6.60	110.83	-40.45
5725.00	Е	Peak	74.35	67.76	6.59	122.23	-47.88

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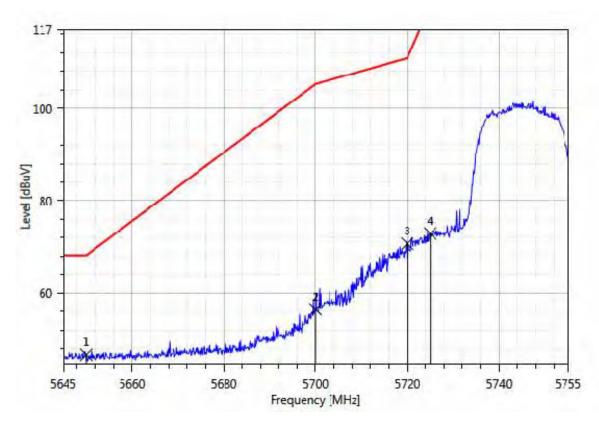
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Operation Mode: 802.11n20B4 Test Date: 12/12/2016

Fundamental Frequency: 5745 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH LOW Test Engineer:

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
5650.00	Е	Peak	46.75	40.27	6.48	68.23	-21.48
5700.00	Е	Peak	56.54	49.86	6.68	105.23	-48.69
5720.00	Е	Peak	70.74	64.14	6.60	110.83	-40.09
5725.00	Е	Peak	72.95	66.36	6.59	122.23	-49.28

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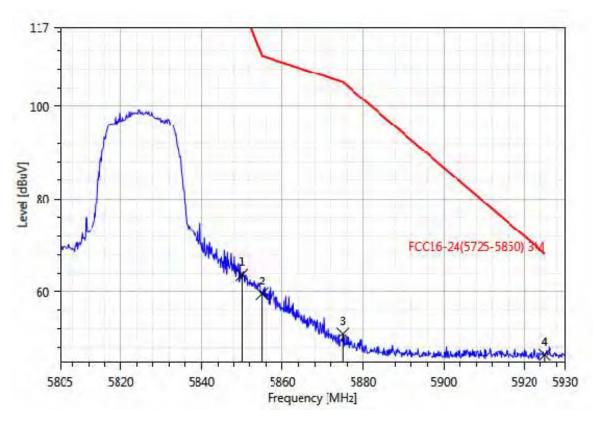
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Operation Mode: 802.11n20B4 Test Date: 12/12/2016

Fundamental Frequency: 5825 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH HIGH Test Engineer:

EUT Pol.: E2 Plane Measurement Antenna Pol.: VERTICAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
5850.00	Е	Peak	63.70	56.42	7.28	122.23	-58.53
5855.00	Е	Peak	59.52	52.21	7.32	110.83	-51.31
5875.00	Е	Peak	50.95	43.58	7.37	105.23	-54.28
5925.00	Е	Peak	46.38	38.99	7.39	68.23	-21.85

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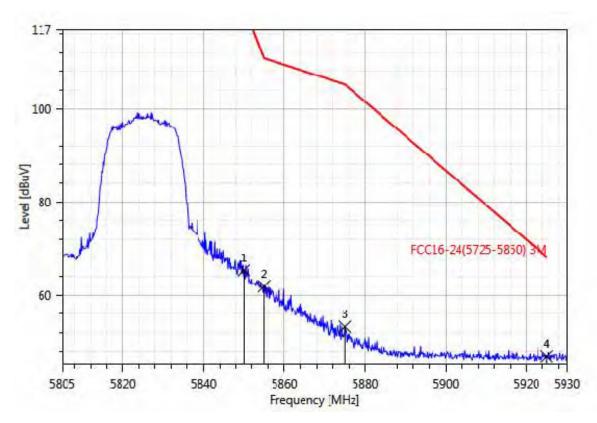
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Operation Mode: 802.11n20B4 Test Date: 12/12/2016

Fundamental Frequency: 5825 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH HIGH Test Engineer:

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
		Mode	Reading Level	FS		@3m	
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
5850.00	Е	Peak	65.36	58.08	7.28	122.23	-56.87
5855.00	Е	Peak	61.93	54.61	7.32	110.83	-48.90
5875.00	Е	Peak	53.27	45.90	7.37	105.23	-51.96
5925.00	Е	Peak	46.89	39.50	7.39	68.23	-21.34

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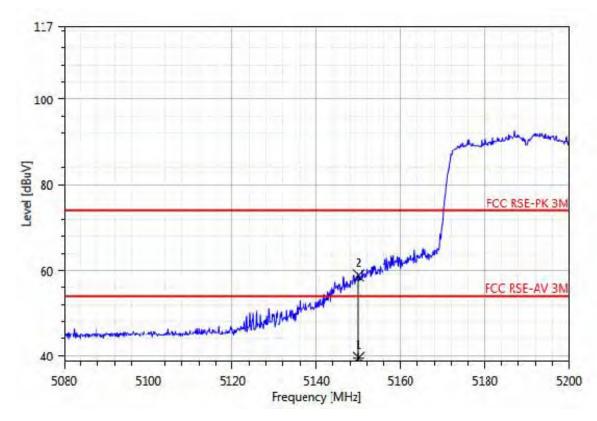
## 802.11n40 HT mode

Operation Mode: 802.11n40B1 Test Date: 12/12/2016

Fundamental Frequency: 5190 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH LOW Test Engineer:

Measurement Antenna Pol.: VERTICAL EUT Pol.: E2 Plane



	Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
			Mode	Reading Level	FS		@3m	
	MHz	F/H/E/S	QP/AV/PK	dBμV/m	dBµV/m	dB	dBuV/m	dB
5	150.00	Е	Average	39.60	33.72	5.88	54.00	-14.40
5	150.00	Е	Peak	58.84	52.96	5.88	74.00	-15.16

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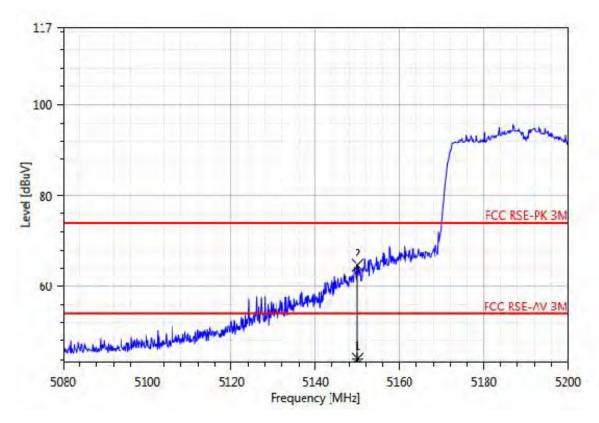
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Operation Mode: 802.11n40B1 Test Date: 12/12/2016

Fundamental Frequency: 5190 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH LOW Test Engineer:

Measurement Antenna Pol.: HORIZONTAL EUT Pol.: E2 Plane



	Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin
			Mode	Reading Level	FS		@3m	
_	MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB
	5150.00	Е	Average	44.07	38.19	5.88	54.00	-9.93
	5150.00	Ε	Peak	64.63	58.75	5.88	74.00	-9.37

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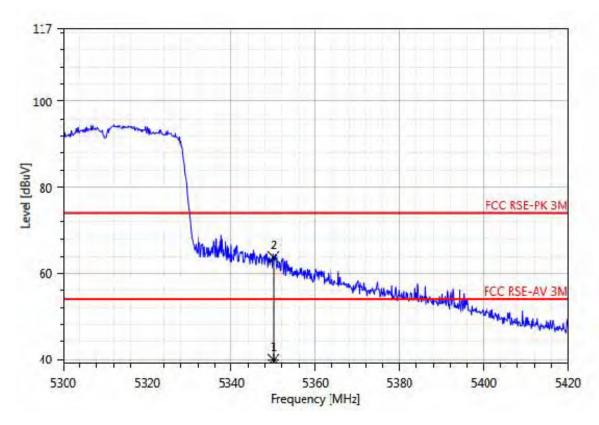
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Operation Mode: 802.11n40B2 Test Date: 12/12/2016

Fundamental Frequency: 5310 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH HIGH Test Engineer:

Measurement Antenna Pol.: VERTICAL EUT Pol.: E2 Plane



	Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin	
			Mode	Reading Level	FS		@3m		
_	MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB	
	5350.00	Е	Average	39.85	33.70	6.15	54.00	-14.15	
	5350.00	Е	Peak	63.78	57.63	6.15	74.00	-10.22	

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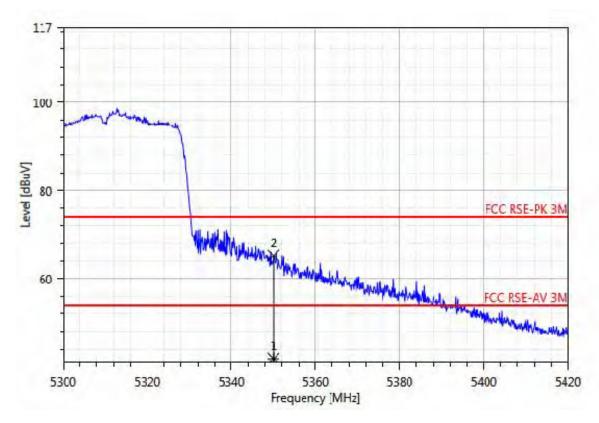
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Operation Mode: 802.11n40B2 Test Date: 12/12/2016

Fundamental Frequency: 5310 MHz Temp. / Humi.: 23 deg\_C / 62 RH

Operation Band: Bandedge CH HIGH Test Engineer:

EUT Pol.: E2 Plane Measurement Antenna Pol.: HORIZONTAL



Freq.	Note	Decetor	Actual	Spectrum	Factor	Limit	Margin	
		Mode	Reading Level	FS		@3m		
MHz	F/H/E/S	QP/AV/PK	dBµV/m	dBµV/m	dB	dBuV/m	dB	
5350.00	Е	Average	41.81	35.66	6.15	54.00	-12.19	_
5350.00	Ε	Peak	65.25	59.10	6.15	74.00	-8.75	

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