

ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 15 SUBPART E REQUIREMENT

	OF
Product Name:	SX-PCEAC-DB
Marketing Name:	SX-PCEAC-DB
Brand Name:	SX-PCEAC-DB
Model No.:	SX-PCEAC-DB
Model Difference:	N/A
FCC ID:	N6C-SXPCEACDB
Report No.:	ER/2016/20015
Issue Date:	Mar. 23, 2016
FCC Rule Part:	§15.407
Prepared for:	Silex Technology, Inc. Hikaridai 2-3-1, Seika-cho, Kyoto 619-0237, Japan
Prepared by:	SGS Taiwan Ltd. Electronics & Communication Laboratory No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803
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VERIFICATION OF COMPLIANCE

Applicant:	Silex Technology, Inc. Hikaridai 2-3-1, Seika-cho, Kyoto 619-0237, Japan
Product Name:	SX-PCEAC-DB
Marketing Name:	SX-PCEAC-DB
Brand Name:	SX-PCEAC-DB
Model No.:	SX-PCEAC-DB
Model Difference:	N/A
FCC ID:	N6C-SXPCEACDB
File Number:	ER/2016/20015
Date of Test:	Feb. 15, 2016 ~ Mar. 21, 2016
Date of EUT Received:	Feb. 15, 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.

Test By:	Ton Lis	Date:	Mar. 23, 2016
Prepared By:	Tin LIn / Engineer Vroletta Tang	Date:	Mar. 23, 2016
- Approved By: _	Violetta Tang / Clerk Tim Ch ang Jim Chang / Asst. Manager	Date:	Mar. 23, 2016

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Revision History

Report Number	Revision	Description	Issue Date
ER/2016/20015 Rev.00		Initial creation of document	Mar. 23, 2016

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GENERAL INFORMATION 1.

1.1 Product Description

General:

Product Name:	SX-PCEAC-DB
Marketing Name:	SX-PCEAC-DB
Brand Name:	SX-PCEAC-DB
Model No.:	SX-PCEAC-DB
Model Difference:	N/A
Product SW/HW version:	N/A / Ver.1
Radio SW/HW version:	10.2.00084-2 / BR4A
Test SW Version:	N/A
RF power setting in TEST SW:	N/A
Power Supply:	3.3V from DC Power Supply

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WLAN 5GHz:

Wi-Fi	Frequency Range	Channels	Rated Power (Avg.)	Modulation Technology
	5150~5250	4	16.79 dBm	
11a	5250~5350	4	16.76 dBm	OFDM
11a	5470~5725	12	18.75 dBm	OFDIM
	5725-5850	5	20.79 dBm	
	HT20 / VHT20 5150~5250	4	HT: 12.75 dBm (Worst Case)	
11n /	HT20 / VHT20 5250~5350	4	HT: 12.25 dBm (Worst Case)	OFDM
ac_20M	HT20 / VHT20 5470~5725	11	HT: 15.78 dBm (Worst Case)	
	HT20 / VHT20 5725-5850	5	HT: 21.26 dBm (Worst Case)	
	HT40 / VHT40 5150~5250	2	HT: 12.29 dBm (Worst Case)	
11n/	HT40 / VHT40 5250~5350	2	HT: 13.27 dBm (Worst Case)	OFDM
ac_40M	HT40 / VHT40 5470~5725	5	VHT: 16.28 dBm (Worst Case)	
	HT40 / VHT40 5725-5850	2	HT: 19.77 dBm (Worst Case)	
	VHT80 5150~5250	1	12.65 dBm	
11ac_80M	VHT80 5250~5350	1	12.15 dBm	OFDM
	VHT80 5470~5725	2	16.78 dBm	
	VHT80 5725-5850	1	11.49 dBm	

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Antenna Designation	 PCB Antenna (Dipole Antenna) 1. Partl No.: 146153, Supplier: Molex 5GHz Gain: 5dBi (5150MHz-5250MHz) 5GHz Gain: 5dBi (5250MHz-5350MHz) 5GHz Gain: 5dBi (5470MHz-5725MHz) 5GHz Gain: 5dBi (5725MHz-5850MHz) 2. Part No.: H2B1PD1A1C (AA222), Supplier: Unictron 5GHz Gain: 4.2dBi (5150MHz-5250MHz) 5GHz Gain: 4.2dBi (5250MHz-5350MHz) 5GHz Gain: 4.2dBi (5250MHz-5350MHz) 5GHz Gain: 4.2dBi (5250MHz-5350MHz) 5GHz Gain: 4.2dBi (5250MHz-5350MHz) 5GHz Gain: 4.2dBi (5470MHz-5725MHz) 5GHz Gain: 4.2dBi (5725MHz-5850MHz) 3. Part No.: H2B1PC1A1C (AA258), Supplier: Unictron 5GHz Gain: 4.4dBi (5150MHz-5250MHz) 5GHz Gain: 4.4dBi (5250MHz-5350MHz) 5GHz Gain: 4.4dBi (5250MHz-5350MHz) 5GHz Gain: 4.4dBi (5250MHz-5350MHz) 5GHz Gain: 4.4dBi (5250MHz-5350MHz)
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_20MHz: 6.5 - 144.4Mbps 802.11 n_40MHz: 13.5 - 300Mbps 802.11 ac_20MHz: 6.5 -144.4Mbps 802.11 ac_40MHz: 13.5 - 300Mbps 802.11 ac_80MHz: 29.3 - 650Mbps

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1.2 Product Feature of Equipment Under Test

The equipment under Test (Hereafter Called: EUT) is supporting, Wi-Fi 802.11a/b/g/n & ac features, and below is details of information.

Product Feature			
Product Name:	SX-PCEAC-DB		
Marketing Name:	SX-PCEAC-DB		
Brand Name:	SX-PCEAC-DB		
Model No.:	SX-PCEAC-DB		
Model Difference:	N/A		
FCC ID:	N6C-SXPCEACDB		
Wi-Fi Specification	802.11a/b/g/n/ac		

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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1.3 Test Methodology of Applied Standards

FCC Part 15, Subpart E §15.407

FCC KDB 789033 D02 General UNII Test Procedures New Rules

FCC KDB 662911 D01 Multiple Transmitter Output

FCC KDB 644545 D03 Guidance for IEEE 802.11ac v01

ANSI C63.10:2013

Note:

- All test items have been performed and record as per the above standards. 1.
- The composite system is compliance with FCC Subpart B is authorized under 2. the certification procedure.

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: 990257

Canada Registration Number: 4620A-5.

Special Accessories 1.5

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 2.

EUT Configuration 2.1

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.

2.3 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.

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Measurement Results Explanation Example 2.4 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 6.6dB, and 10dB attenuator. MIMO mode offset

= RF cable loss (dB)+ attenuation factor(dB)+ 10 log(NANT) dB = 16.6(dB)

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2.5 Configuration of Tested System

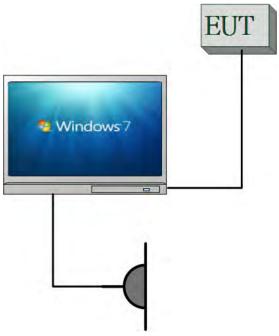


Fig. 2-1 Radiated Emission

Fig. 2-2 Conducted (Antenna Port) Configuration Emission



Table 2-1 Equipment Used in Tested System

lte 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	L420	LR-7HXZA	N/A	Un-shielded
3.	DC Power Supply	HP	E3640A	KR93300208	N/A	Un-shielded

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3. 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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4. 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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac_VHT80

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

CHANNEL	FREQUENCY
58	5290 MHz

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Operated band in 5470 MHz ~5725 MHz:

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

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		

5 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		

2 channesl are provided for 802.11ac_VHT80

C	HANNEL	FREQUENCY	CHANNEL	FREQUENCY
	106	5530 MHz	122	5610 MHz

Operated band in 5725 MHz ~5850 MHz:

5 channels are provided for 802.11a, 802.11n_HT20, 802.11ac_VHT20

	CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
	149	5745 MHz	161	5805 MHz
Ī	153	5765 MHz	165	5825 MHz
Ī	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

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.

RADIATED EMISSION TEST:

	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	MIMO				
802.11ac_VHT80	5210	42	42	OFDM	MCS8	MIMO				
802.11a	5260~5320	52 to 64	52,60,64	OFDM	6	MIMO				
802.11ac_VHT80	5290	58	58	OFDM	MCS8	MIMO				
802.11a	5500~5720	100 to 140	100,116,140	OFDM	6	MIMO				
802.11ac_VHT80	5530~5690	106 to 138	106,122,138	OFDM	MCS8	MIMO				
802.11a	5745~5825	149 to 165	149,157,165	OFDM	6	MIMO				
802.11ac_VHT80	5775	155	155	OFDM	MCS8	MIMO				
RADIATED EMISSION TEST (ABOVE 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	MIMO				
802.11n_HT20	5160~5240	30 10 40	30,44,40	OFDM	MCS8	MIMO				
802.11n_HT40	5190~5230	38 to 46	38,46	OFDM	MCS8	MIMO				
802.11ac_VHT80	5210	42	42	OFDM	MCS8	MIMO				
802.11a	5260~5320	52 to 64	52,60,64	OFDM	6	MIMO				
802.11n_HT20	5260~5520	52 10 64	52,00,04	OFDM	MCS8	MIMO				
802.11n_HT40	5270~5310	54 to 62	54,62	OFDM	MCS8	MIMO				
802.11ac_VHT80	5290	58	58	OFDM	MCS8	MIMO				

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MODE	FREQUENCY BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)	ANTENNA PORT
802.11a	5500~5720	100 to 144	100 110 140	OFDM	6	MIMO
802.11n_HT20	5500~5720	100 to 144	100,116,140	OFDM	MCS8	MIMO
802.11n_HT40	5510~5710	102 to 142	102,110,134	OFDM	MCS8	MIMO
802.11ac_VHT80	5530~5610	106 to 122	106,122	OFDM	MCS8	MIMO
802.11a	5745~5825	149 to 165	149,157,165	OFDM	6	MIMO
802.11n_HT20	5745~5625	149 10 165	149,157,165	OFDM	MCS8	MIMO
802.11n_HT40	5755~5795	151 to 159	151,159	OFDM	MCS8	MIMO
802.11ac_VHT80	5775	155	155	OFDM	MCS8	MIMO

Note:

The field strength of radiation emission was measured as EUT stand-up position (H mode) and lie down position (E1, E2 mode) for 802.11a/n/ac WLAN Transmitter for channel Low, Mid and High, the worst case E1 position was reported.

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ANTENNA PORT CONDUCTED MEASUREMENT:

CONDUCTED TEST									
MODE	FREQUENCY BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)	ANTENNA PORT			
802.11a				OFDM	6	MIMO			
802.11n_HT20 802.11ac_VHT20	5180~5240	36 to 48	36,44,48	OFDM	MCS8	MIMO			
802.11n_HT40 802.11ac_VHT40	5190~5230	38 to 46	38,46	OFDM	MCS8	MIMO			
802.11ac_VHT80	5210	42	42	OFDM	MCS8	MIMO			
802.11a				OFDM	6	MIMO			
802.11n_HT20 802.11ac_VHT20	5260~5320	52 to 64	52,60,64	OFDM	MCS8	MIMO			
802.11n_HT40 802.11ac_VHT40	5270~5310	54 to 62	54,62	OFDM	MCS8	МІМО			
802.11ac_VHT80	5290	58	58	OFDM	MCS8	MIMO			
802.11a				OFDM	6	MIMO			
802.11n_HT20 802.11ac_VHT20	5500~5700	100 to 140	100,116,140	OFDM	MCS8	MIMO			
802.11n_HT40 802.11ac_VHT40	5510~5670	102 to 134	102,110,134	OFDM	MCS8	МІМО			
802.11ac_VHT80	5530~5610	106 to 122	106,122	OFDM	MCS8	MIMO			
802.11a				OFDM	6	MIMO			
802.11n_HT20 802.11ac_VHT20	5745~5825	149 to 165	149,157,165	OFDM	MCS8	MIMO			
802.11n_HT40 802.11ac_VHT40	5755~5795	151 to 159	151,159	OFDM	MCS8	МІМО			
802.11ac_VHT80	5775	155	155	OFDM	MCS8	MIMO			

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MEASUREMENT UNCERTAINTY 5.

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:

	9kHz-30MHz: +/-2.87dB
	30MHz - 180MHz: +/- 3.37dB
Measurement uncertainty	180MHz -417MHz: +/- 3.19dB
(Polarization : Vertical)	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.

6.1. Standard Applicable

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

	Limits							
Frequency range	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 th	e transition frequencies							
2. The limit decreases linearly wit	2.The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50							
MHz.								

6.2. Measurement Equipment Used

Conducted Emission Test Site										
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.					
ТҮРЕ		NUMBER	NUMBER	CAL.						
EMI Test Receiver	R&S	ESCI7	100760	05/04/2015	05/03/2016					
LISN	SCHWARZBECK	NSLK 8127	8127-649	05/15/2015	05/14/2016					
LISN	FCC	FCC-LISN-50/2 50-25-2-01	4034	03/13/2015	03/12/2016					
Coaxial Cables	N/A	WK CE Cable	N/A	11/26/2015	11/25/2016					

6.3. EUT Setup

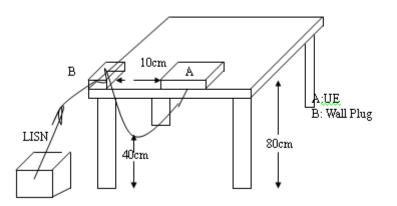
- 1. The conducted emission tests were performed in the test site, using the setup in accordance with the ANSI C63.10:2013.
- 2. The AC/DC Power adaptor of EUT was plug-in LISN. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop.
- 3. The LISN was connected with 120Vac/60Hz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

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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

N/A, the device is powered by 3.3V DC Power Supply.

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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	95.74	0.19		
802.11n_20	90.77	0.42		
802.11n_40	83.83	0.77		
802.11ac_80	51.45	2.89		

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DUTY CYCLE TEST SIGNAL Measurement Result 802.11a

1:44/01/AM Feb 25, 2015 Frequency Center Freq 5.180000000 GHz Avg Type: Log-Pwr PNO: Fast Trig: Free Run #Atten: 20 dB DET Auto Tune 404 m ∆Mkr3 Ref Offset 16.6 dB Ref 26.60 dBm -0.54 dE 0 dF Sec. P. And the state of the -makers - Alter Center Freq 5.18000000 GH; Start Fred 5 18000000 GH Stop Freq 5 18000000 GH Center 5.180000000 GHz Res BW 8 MHz Span 0 Hz Sweep 4.267 ms (1001 pts) CF Step 8.000000 MHz Man #VBW 8.0 MHz Auto 19.58 dBm -0.54 dB 19.58 dBm ms Δ4 T (4) ms (Δ) Freq Offset ÷ 033 ms 4 OH 567

802.11n HT20



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802.11n HT 40

Center F	req		00000 G	NO: Fast		Trig: Free #Atten: 20				Log-Pwr	[11:03[32 [11:03] [11:	OE DE		Frequency
IQ dB/div-		Offset 16									AMkr3	400.	8 µs 8 dB	Auto Tune
1000 		harder der	showing-	X	, beauty	-	in think my	∆ ^{1∆2}	304	an here	ntimitati	n los		Center Free 5.190000000 GH
900 900 100				Илин				YISA					yun	Start Free 5 190000000 GH
50.0 60.0 70.0														Stop Free 5.190000000 GH
Center 5. Res BW 1			SHz	#V	BW	8.0 MHz			S	weep 1	.200 ms		1 0 Hz 1 pts)	CF Step 8.000000 MH Auto Me
1 A2	RC SCI		X	36.0 µs		0.15		TION	FLM	TEN WETH	FUNCT	10W VAL	UE ·	Charles The second
2 F	t		34	87.6 µs 00.8 µs 87.6 µs		8.00 dE -0.08 d 8.00 dE	18						-	Freq Offse 0 H
7 8 9 10														
• [- (ce						1.0				≝TÁTU		-	4	

802.11 ac VHT 80

enter Freq 5.210	000000 GHz PNO: Fas	Trig: Free	Run	Type: Log-Pwr	TRAC	M Mar 02, 2016	Frequency
Ref Offset	16.6 dB				AMKr3 1	24.6 µs 3.30 dB	Auto Tun
	a and the state of	Δ2	304 	HV -		ktonektuan	Center Fre 5 210000000 GH
oo oo oo daarahaaakuske		dad militari daran bi		maniaposisingin			Start Fre 5 210000000 GH
		na su suddad		Contraction of the	yayır.		Stop Fre 5.210000000 GH
enter 5.21000000 es BW 8 MHz		BW 8.0 MHz			360.0 µs (pan 0 Hz 1001 pts)	CF Ste 8.000000 Mit Auto Mit
RR MDDE TRC SOL 1 Δ2 1 t (Δ) 2 F 1 t	× 64,08 µs 56,52 µs			FUNCTION WOTH	FUNCTI	OW VALUE	
Δ4 1 t. (Δ) 4 F 1 t 5 6 7 7	124.6 µs 56.52 µs	(A) 3.30	dB			+	Freq Offs 01

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8. 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 measurement.
 - 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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Measurement Equipment Used 8.3

SGS Conducted Room											
Name of Equipment	Manutacturar Modal		Serial Number	Calibration Date	Calibration Due						
Power Meter	Anritsu	ML2495A	1005007	12/09/2015	12/08/2016						
Power Sensor	Anritsu	MA2411B	917032	12/09/2015	12/08/2016						
Spectrum Analyzer	Agilent	N9010A	MY50420195	12/21/2015	12/20/2016						
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	11/05/2015	11/04/2016						
Temperature Chamber	TERCHY	MHG-120LF	911009	05/06/2015	05/05/2016						

Test Set-up 8.4



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8.5 Measurement Result 26dB Bandwidth

802.11a Main

Frequency (MHz)	26d B Band width (MHz)	10 Log (B) (dB)	Frequency (MHz)	26dB Bandwidth (MHz)	10 Log (B) (dB)	
5180	21.13	13.250	5180	21.24	13.272	
5220	21.27	13.278	5220	20.25	13.064	
5240	21.48	13.320	5240	21.23	13.270	
5260	22.08	13.440	5260	20.92	13.206	
5300	20.97	13.215	5300	20.77	13.174	
5320	21.07	13.237	5320	20.37	13.090	
5500	21.97	13.419	5500	21.07	13.237	
5580	21.85	13.394	5580	21.12	13.246	
5700	21.69	13.362	5700	20.83	13.187	

802.11a Aux1

802.11a Aux2

Frequency (MHz)	26dB Bandwidth (MHz)	10 Log (B) (dB)
5180	22.04	13.431
5220	21.26	13.275
5240	21.34	13.292
5260	21.20	13.263
5300	22.49	13.521
5320	21.29	13.282
5500	21.73	13.370
5580	21.62	13.349
5700	21.30	13.285

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802.11n_HT20_Main

802.11n_HT20_Aux1

Frequency (MHz)	26dB Bandwidth (MHz)	10 Log (B) (dB)	Frequency (MHz)	26dB Bandwidth (MHz)	10 Log (B) (dB)
5180	21.41	13.307	5180	22.12	13.448
5220	21.32	13.288	5220	21.28	13.280
5240	21.23	13.269	5240	22.53	13.527
5260	21.33	13.289	5260	21.84	13.392
5300	21.06	13.234	5300	21.61	13.346
5320	21.82	13.389	5320	22.29	13.481
5500	20.73	13.165	5500	22.13	13.451
5580	21.54	13.333	5580	21.71	13.367
5700	20.97	13.217	5700	21.61	13.347

802.11n HT20 Aux2

Frequency (MHz)	26dB Bandwidth (MHz)	10 Log (B) (dB)
5180	22.29	13.480
5220	21.87	13.397
5240	21.56	13.336
5260	21.84	13.393
5300	21.71	13.366
5320	22.14	13.453
5500	21.94	13.412
5580	21.95	13.414
5700	21.60	13.345

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802.11n HT40 Main

802.11n HT40 Aux1

<u></u>					
Frequency (MHz)	26d B Band width (MHz)	10 Log (B) (dB)	Frequency (MHz)	26dB Bandwidth (MHz)	10 Log (B) (dB)
5190	42.52	16.286	5190	44.19	16.453
5230	43.51	16.386	5230	44.23	16.457
5270	43.10	16.345	5270	43.18	16.353
5310	43.28	16.363	5310	43.59	16.394
5510	43.07	16.342	5510	44.42	16.475
5550	41.81	16.212	5550	43.91	16.426
5670	44.27	16.461	5670	42.71	16.305

802.11n HT40 Aux2

Frequency (MHz)	26dB Bandwidth (MHz)	10 Log (B) (dB)
5190	42.08	16.241
5230	42.43	16.276
5270	42.43	16.277
5310	43.12	16.347
5510	43.03	16.337
5550	42.84	16.318
5670	43.31	16.366

802.11ac VHT80 Main

802.11ac VHT80 Aux1 26dB 26d B Frequency 10 Log (B) Frequency 10 Log (B) **Bandwidth** Bandwidth (MHz) (MHz) (dB) (dB) (MHz) (MHz) 5210 90.22 19.553 19.465 5210 88.42 5290 92.22 19.648 5290 89.15 19.501 5530 93.08 19.688 5530 91.11 19.596 5610 90.51 19.567 5610 92.05 19.640

802.11ac VHT80 Aux2

Frequency (MHz)	26dB Bandwidth (MHz)	10 Log (B) (dB)
5210	85.34	19.311
5290	87.58	19.424
5530	87.88	19.439
5160	86.71	19.381

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

802.11a Main

802.11a Aux1

Frequency (MHz)	6dB Bandwidth (MHz)	10 Log (B) (dB)	Frequency (MHz)	6dB Bandwidth (MHz)	10 Log (B) (dB)
5745	16.11	12.071	5745	16.32	12.127
5785	16.34	12.133	5785	15.92	12.019
5825	15.70	11.960	5825	15.75	11.972

802.11a_Aux2

Frequency (MHz)	6dB Bandwidth (MHz)	10 Log (B) (dB)
5745	16.35	12.134
5785	16.33	12.129
5825	15.75	11.972

802.11n_HT20_Main

802.11n HT20 Aux1

Frequency (MHz)	6dB Bandwidth (MHz)	10 Log (B) (dB)	Frequency (MHz)	6dB Bandwidth (MHz)	10 Log (B) (dB)
5745	17.61	12.457	5745	17.59	12.452
5785	17.62	12.461	5785	17.03	12.312
5825	17.60	12.455	5825	16.96	12.294

802.11n HT20 Aux2

Frequency (MHz)	6dB Bandwidth (MHz)	10 Log (B) (dB)
5745	17.18	12.349
5785	17.57	12.448
5825	16.70	12.227

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802.11n_HT40_Main

802.11n HT40 Aux1

Frequency (MHz)	6dB Bandwidth (MHz)	10 Log (B) (dB)	Frequency (MHz)	6dB Bandwidth (MHz)	10 Log (B) (dB)
5755	35.54	15.507	5755	36.38	15.608
5795	35.67	15.523	5795	36.39	15.610

802.11n HT40 Aux2

Frequency (MHz)	6dB Bandwidth (MHz)	10 Log (B) (dB)	
5755	36.35	15.605	
5795	36.33	15.603	

802.11ac VHT80 Main

802.11ac VHT80 Aux1

Frequency	6d B Bandwidth	10 Log (B)	Frequency	6dB Bandwidth	10 Log (B)
(MHz)	(MHz)	(dB)	(MHz)	(MHz)	(dB)
5775	75.23	18.764	5775	75.24	18.764

802.11ac VHT80 Aux2

Frequency	6dB Bandwidth	10 Log (B)
(MHz)	(MHz)	(dB)
5775	76.24	18.822

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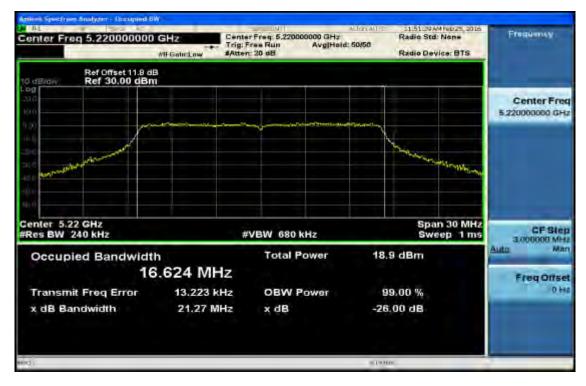
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802.11a, 5150~5250 MHz (Main) 26dB Band Width Test Data CH-Low (5180MHz)



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



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

enter Freq 5.24000000	Trent Tr	Trig: Free Run Avg Hold: 50/50		Radio Device: BTS		Frequency	
o deraw Ref 30.00 dBm							
000	and the second	and the second		-		Center Free 5.240000000 GH;	
				har want	man		
Center 5,24 GHz Res BW 220 kHz		#VBW 680 k	Hz	Spa	n 30 MHz ep 1 ms	CF Step 3 000000 MHz	
Occupied Bandwidth 16.572 MHz		Total Power		19,5 dBm		Auto Man	
Transmit Freq Error x dB Bandwidth	12.650 kHz 21.48 MHz	OBW P	ower	99.00 % -26,00 dB		Freq Offset 0 Hi	
-							

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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)



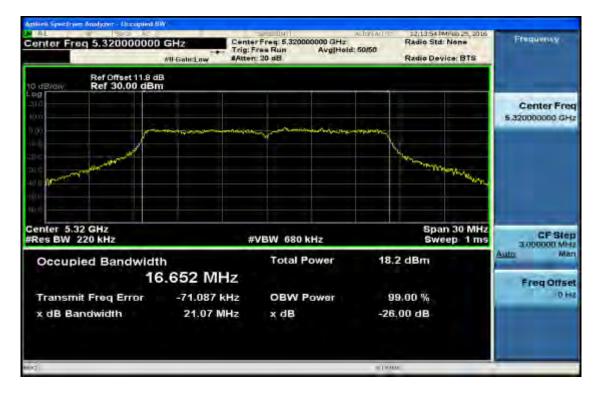
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26dB Band Width Test Data CH-High (5320MHz)



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

Antional Spectrum Analyzer - Dacapting	Support States	Tartalian (ALIGNATIO	2:170% PMFeb 25, 2016	Provide State
Center Freq 5.5000000	Trig: 1	r Freq. 5.500000000 GHz Free Run Avg Hold 1: 20 aB	50/50	adio Std: None adio Device: BTS	Frequency
o dB/aiv Ref 30.00 dB			· · · ·		_
200 100		and the second description			Center Fred 5,50000000 GH;
11.1 200 201 201 201 201 201 201 201 201 20			<u></u>	and the contraction of	
Center 5.5 GHz #Res BW 330 kHz		VBW 1 MHz		Span 30 MHz Sweep 1 ms	CF Step 3 000000 MHz
Occupied Bandwid	th 6.832 MHz			Bm	Auto Man
Transmit Freq Error x dB Bandwidth	-68.884 kHz 21.97 MHz	OBW Power x dB	99.00 -26,00		Freq Offset 0 Hz
00			#18000		

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



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

Center Freq 5.70000000	Trig: F	Freq 5.700000000 GHz ree Run AvgiHold 20 dB	Radio St	Mine 25, 2016 d: None evice: BTS	Frequency
Ref Offset 11.8 dB Ref 30.00 dBm					
200 400 100	and the analysis of sugar the surgering	ing and the second descention	un a		Center Free 5,700000000 GH
in () 200 in () (0.0)			an and and a second	mar de series	
Genter 5.7 GHz Res BW 240 kHz	#	VBW 680 kHz		an 30 MHz Veep 1 ms	CF Sier
Occupied Bandwidth	.662 MHz	Total Power			Auto Man
Transmit Freq Error x dB Bandwidth	-48.216 kHz 21.69 MHz	OBW Power x dB	99.00 % -26.00 dB		OH
a)			*)*000		

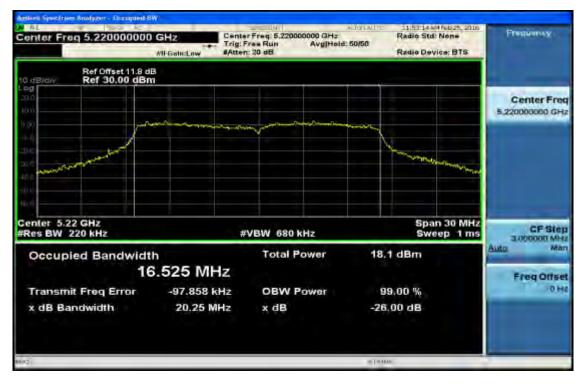
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802.11a, 5150~5250 MHz (Aux1) 26dB Band Width Test Data CH-Low (5180MHz)



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



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



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802.11a, 5250~5350 MHz (Aux1) 26dB Band Width Test Data CH-Low (5260MHz)



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



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

Center Freq 5.320000000	Trig	Center Freq 5.320000000 GHz Trig: Freq Ed. AvgHeid: 50/50 \$Atten: 20 oB		Radio Std: None Radio Device: BTS		Frequency
IO dEraw Ref Offset 11.8 dE Ref 30.00 dBm						
99	n a an	way manual survey	and the second			Center Free 5.320000000 GH
200 200 200 201				Mar	- and and a	
Center 5.32 GHz Res BW 220 kHz		#VBW 680 kHz		Spa Sw	n 30 MHz eep 1 ms	CF Step 3.000000 MH
Occupied Bandwidth 16	524 MHz	Total Power 4 MHz		17.5 dBm		Auto Man
Transmit Freq Error x dB Bandwidth	-52.050 kHz 20.37 MHz	OBW Power x dB		9.00 % ,00 dB		DH
a)			1000	10-		

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802.11a, 5470~5725 MHz (Aux1) 26dB Band Width Test Data CH-Low (5500MHz)

1 ML		-spramilev		CN PMFab 25, 2016	The second second second
Center Freg 5.500000	T. T.	enter Freq. 5.500000000 GHz rig: Free Run Avg Hold Atten: 20 aB	50/50	Std: None Device: BTS	Frequency
Ref Offset 11 Ref 30.00 c					-
20.0 10.0 10.0	and	-	non		Center Free 5,50000000 GH
and a second second		L .	han	an interesting	
40.0 (j).j					
Center 5.5 GHz #Res BW 220 kHz		#VBW 680 kHz		pan 30 MHz Weep 1 ms	CF Step 3.000000 MH
Occupied Bandwidth		Total Power	20.4 dBm		Auto Mar
Transmit Freq Error x dB Bandwidth	16.548 MHz -38.663 kHz 21.07 MHz	OBW Power	99.00 % -26,00 dB		Freq Ottse
			a) 0000		

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



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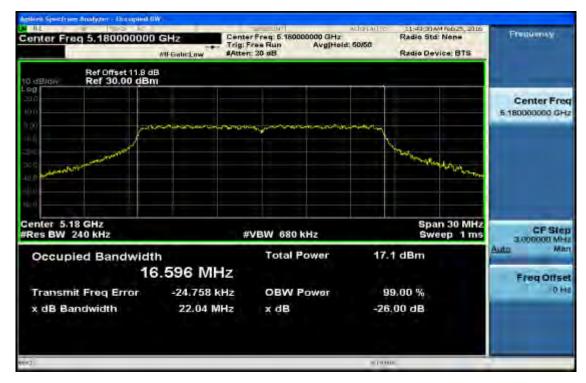
26dB Band Width Test Data CH-High (5700MHz)

enter Freg 5.70000000	Trig: F	rFreq 5.700000000 GHz res Run Avg[Hold 20 dB	Radio S	td: None evice: BTS	Frequency
o dB/div: Ref 30.00 dBm					
00 100	-Al-		mm		Center Free 5,70000000 GH;
10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			And and	the among	
Center 5.7 GHz Res BW 240 kHz				oan 30 MHz weep 1 ms	CF Sier
Occupied Bandwidth		#VBW 680 kHz Total Power 2 MHz		weep 1 ms	3.000000 MHz Auto Man
Transmit Freq Error x dB Bandwidth	-2.658 kHz 20.83 MHz	OBW Power x dB	99.00 % -26,00 dB		Freq Offset 0 Hi
					_

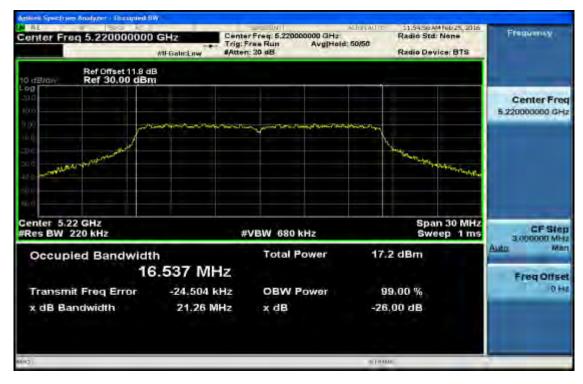
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802.11a, 5150~5250 MHz (Aux2) 26dB Band Width Test Data CH-Low (5180MHz)



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



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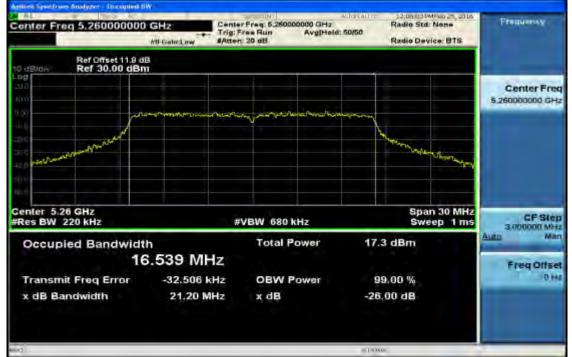
26dB Band Width Test Data CH-High (5240MHz)



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802.11a, 5250~5350 MHz (Aux2) 26dB Band Width Test Data CH-Low (5260MHz)



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



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

Center Freq 5.320000000 GHz	Trig: F	r Freq. 5.320000000 Gi Free Run Avgin 20 dB	Alloriative Hai Hold: 50/50	Radio Device: BTS		Frequency
O dE/div Ref 30.00 dBm						
90 500 (0) (0) (0) (0) (0) (0) (0) (0) (0) (on the second	en jour or have				Center Free 5 32000000 GH
31.0 40.0 40.0 10.1					and a second	
Res BW 220 kHz	#	VBW 680 kHz			n 30 MHz ep 1 ms	CF Step 3.000000 MH
Occupied Bandwidth 16.57	9 MHz	Total Power MHz		17.6 dBm		Auto Man
	0.760 kHz 21.29 MHz	OBW Power x dB		9.00 % .00 dB		0 Hz
a			=100	0		

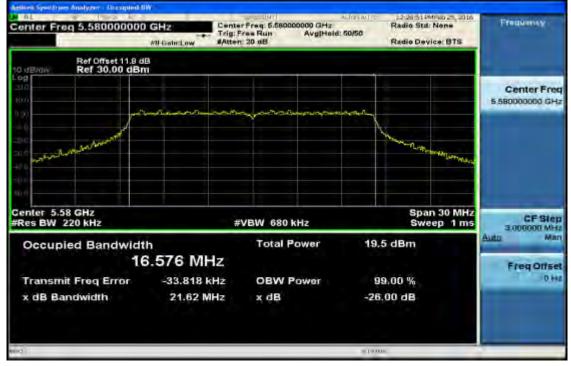
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802.11a, 5470~5725 MHz (Aux2) 26dB Band Width Test Data CH-Low (5500MHz)

IL SEC IC	"sartsmithty	ALTONIAUTO 12/21/154MFeb 25, 2016	Frequency
enter Freg 5.500000000 GH2 //FGalieLow	Center Freq 5.500000000 GHz Trig: Free Run Avg Hei #Atten: 20 dB		Productory
Ref Offset 11.8 dB dB/div Ref 30.00 dBm			_
			Center Free 5,50000000 GH
and a start and a start and			
enter 5.5 GHz Res BW 240 kHz	#VBW 680 kHz	Span 30 MHz Sweep 1 ms	CF Step 3 000000 MH
Occupied Bandwidth 16.620 M	Total Power	19.9 dBm	Auto Man Freg Offset
Transmit Freq Error -34.184 x dB Bandwidth 21.73		99.00 % -26,00 dB	0 H

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



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

enter Freq 5.7000000	Te Te	inter Freq. 5.700000000 GHz ig: Free Run Avg Hol itten: 20 dB	Radio St	twine 21, 2016 d: None wice: BTS	Frequency		
o devail Ref Offset 11.8 Ref 30.00 de							
100		and anne in anno 1			Center Free 5,700000000 GH		
100 100 100			and the second	minann			
() () () () () () () () () () () () () (
Res BW 240 kHz		#VBW 680 kHz	Sp: Sw	an 30 MHz eep 1 ms	CF Ste		
Occupied Bandwid	ith 6.576 MHz	Total Power	20.1 dBm		Auto Man		
Transmit Freq Error x dB Bandwidth	-24.064 kHz 21.30 MHz		99.00 % -26,00 dB		θH		

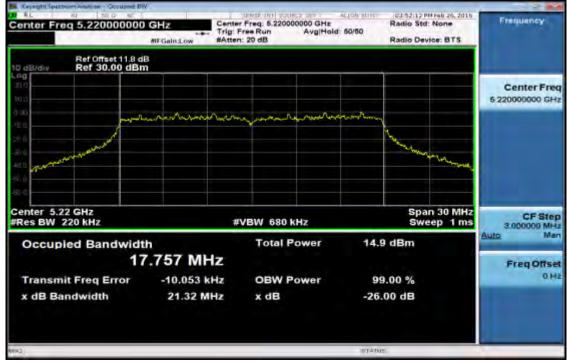
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802.11n HT20, 5150~5250 MHz (Main) 26dB Band Width Test Data CH-Low (5180 MHz)



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



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

Center Freq 5.24000000	-t- Trig	ter Freq: 5.240000000 GHz Free Run AvgiHal ten: 20 dB		Radio Std: Radio Dev	and the second sec	Frequency
10 dB/div Ref 30.00 dBr						
100 000						Center Fred 5 240000000 GHz
200 mm	and the second	non marker when	many	-		
-30.6 46.0 10.0				many	Warner and	
Center 5.24 GHz #Res BW 220 kHz		#VBW 680 kHz			n 30 MHz ep 1 ms	CF Step 3.00000 MH
Occupied Bandwidt	h 7.748 MHz	Total Power 14		14.8 dBm		Auto Man Freg Offset
Transmit Freq Error x dB Bandwidth	-18.026 kHz 21.23 MHz	OBW Power x dB		.00 % 00 dB		0.84
						a second s

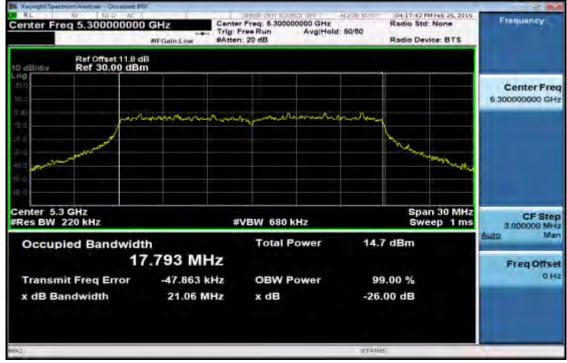
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802.11n HT20, 5250~5350 MHz (Main) 26dB Band Width Test Data CH-Low (5260 MHz)



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



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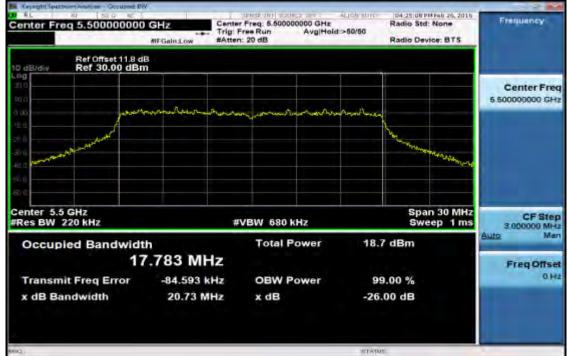
26dB Band Width Test Data CH-High (5320 MHz)

Center Fre	eq 5.32000000	Trig	ter Freq: 5.320000000 G : Free Run Avgi en: 20 dB		Radio St	PHTeb 26, 2016 d: None wice: BTS	Frequency
10 dB/div	Ref Offset 11.8 d Ref 30.00 dBr						
10.0							Center Free 5 320000000 GH
9 00 (10.0) -20 0		mmententer	an marine	N. marton	No.		
-30.0 -40.0 -0.0	and a start of the				- waly	and a second	
Center 5.3 #Res BW 2			#VBW 680 kHz			an 30 MHz eep 1 ms	CF Step
Occupi	Occupied Bandwidth		Total Power 7 MHz				3.00000 MHz Auto Man
	it Freq Error ndwidth	-44.967 kHz 21.82 MHz	OBW Power x dB		9.00 % .00 dB		Freq Offse 0 H
East I				TAN	15		

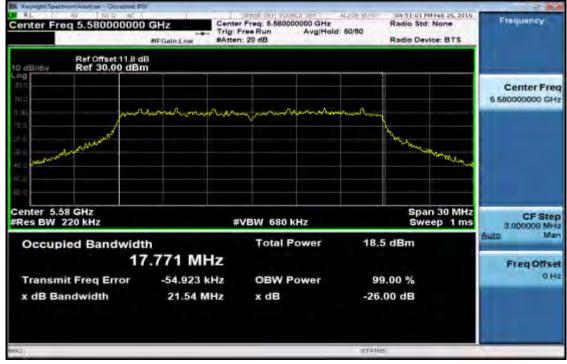
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802.11n HT20, 5470~5725 MHz (Main) 26dB Band Width Test Data CH-Low (5500 MHz)



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



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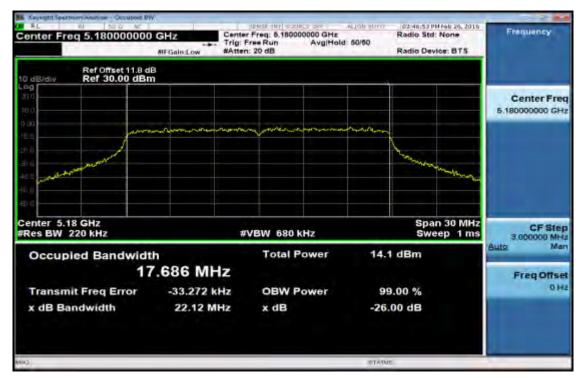
26dB Band Width Test Data CH-High (5700 MHz)

Center Freq 5.700000		Center Freq: 5,7000		Radio Std: None Radio Device: B1	Frequency
10 dB/div Ref 30.00					
100 100 100		مەرىمەسىرى بىراسىمى ار	and such		Center Free 5.700000000 GH
20.0	بمكر يعتقيني يترجمون والانتخار يعتلنيهم	a cara and this and		and a second second	
3) 0 41: 2				Mr.	~
Center 5.7 GHz #Res BW 220 kHz		#VBW 6801	kHz	Span 30 Sweep 1	Cr ale
Occupied Bandy	width 17.769 MH	Total F		3.1 dBm	Auto Mar
Transmit Freq Erro x dB Bandwidth		KHZ OBW P		99.00 % 6.00 dB	Freq Offset 0 Hz

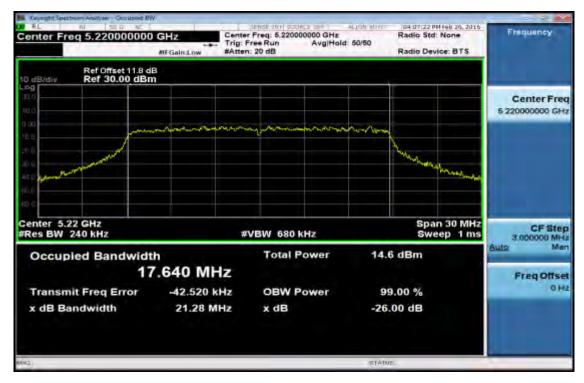
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802.11n HT20, 5150~5250 MHz (Aux1) 26dB Band Width Test Data CH-Low (5180 MHz)



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



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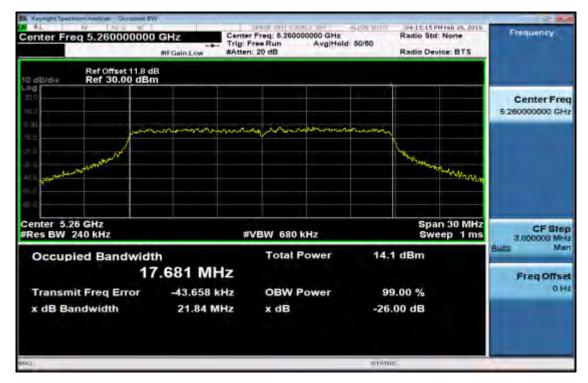
26dB Band Width Test Data CH-High (5240 MHz)

Keynight Spectrum Analyzer - Occupied B RL RI NI NI G N	W	SENSE JUT POURCE OFF	ALION AUTO	104:11:091	M Feb 26, 2016	
Center Freq 5.24000000	Trig:	er Freq: 5.240000000 GHz Free Run Avg Ho m: 20 dB		Radio Std	I: None	Frequency
Ref Offset 11.8 d Ref 30.00 dB						
10.0 10.0						Center Free 5 240000000 GH
9 00 VID 0		monanam	man			1
20.0 -20.0 -40.0 				Trank	andream	
-50 0						
Center 5.24 GHz #Res BW 240 kHz		#VBW 680 kHz			n 30 MHz eep 1 ms	CF Step 3.000000 MH
Occupied Bandwid	th 7.750 MHz	Total Power	12.	2 dBm		<u>Auto</u> Man
Transmit Freq Error x dB Bandwidth	-40.398 kHz 22.53 MHz	OBW Power x dB		9.00 % .00 dB		Freq Offse 0 H

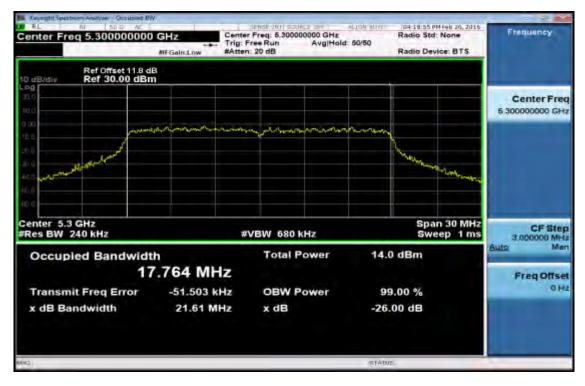
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802.11n HT20, 5250~5350 MHz (Aux1) 26dB Band Width Test Data CH-Low (5260 MHz)



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



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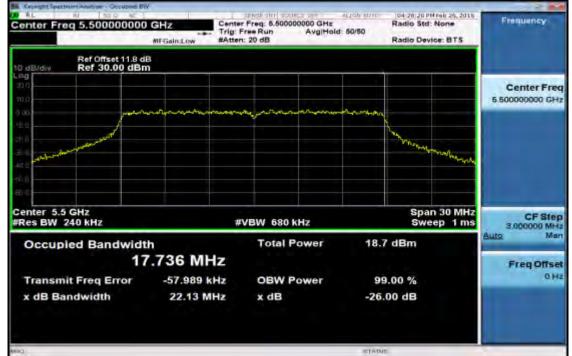
26dB Band Width Test Data CH-High (5320 MHz)

Center Fre	iq 5.32000000		Center Freq: 5.320000000 GHz Trig: Freq: 6.320000000 GHz Trig: Free Run AvgiHold: 50/50 #Atten: 20 dB			Radio St	PHFeb 26, 2016 d: None evice: BTS	Frequency	
10 dB/div	Ref Offset 11.8 Ref 30.00 dE								
10.0 10.0									Center Fred 5 320000000 GHz
9 00 00 00 00 00 00 00 00 00 00 00 00 00		mound	min	m	mun	mining			
-30 (1) -40 (1)	and a start of the second						- www.	when when we	
-60 (1	2.011-							00 101	
Center 5.3 #Res BW 2			#VBW 680 kHz					an 30 MHz /eep 1 ms	CF Step 3.000000 MHz Auto Man
Occupi	ed Bandwid	Total Power 14			14.	0 dBm			
Transmit Freq Error x dB Bandwidth		-46.276 k 22.29 M		OBW Power x dB			9.00 % .00 dB		0 Hz
									A DESCRIPTION OF A DESC

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802.11n HT20, 5470~5725 MHz (Aux1) 26dB Band Width Test Data CH-Low (5500 MHz)



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



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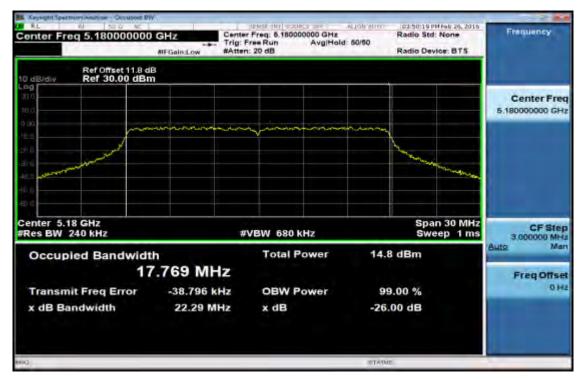
26dB Band Width Test Data CH-High (5700 MHz)

	D MC		RC2 OFF ALLON BU	Radio Std	M Mar 02, 2010	Frequency
Center Freq 5.7000	MFGain:Low	Total France Date				
	et 11.8 dB 00 dBm			-		
10.0 10.0		man marin	an Santa sing Programmin	~		Center Free 5.700000000 GH
20.0						
-30.0 -40.0					Verman	
Center 5.7 GHz #Res BW 240 kHz		#VBW 6801	(Hz		n 30 MHz eep 1 ms	CF Step 3.000000 MH Auto Mer
Occupied Ban	dwidth 17.722 MH	Total P	ower 1	9.0 dBm		
Transmit Freq E x dB Bandwidth	rror -45.916 k	Hz OBW P	OBW Power x dB -2			0H
CRIP			57	ATME		

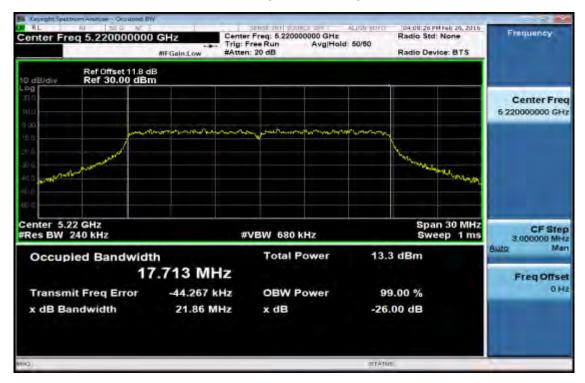
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802.11n HT20, 5150~5250 MHz (Aux2) 26dB Band Width Test Data CH-Low (5180 MHz)



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



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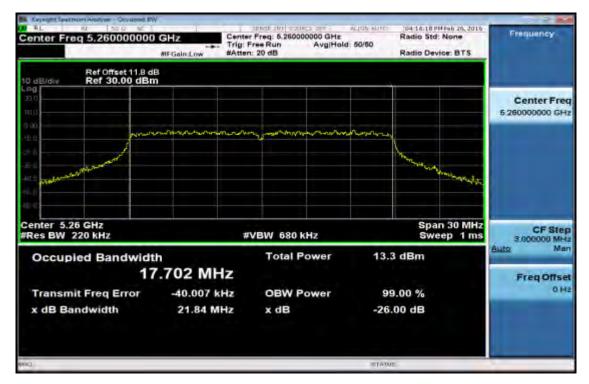
26dB Band Width Test Data CH-High (5240 MHz)

Keynight Spectrum Anutyzer - Occupied B R.L. RJ 20 G AC	N.	SENSE JUT POURSE OFF	ALIGN BUTTO	04:12:15 P	M Feb 26, 2016	
Center Freq 5.24000000	Trig	Center Freq: 5.240000000 GHz Trig: Free Run Avg Hold: 50/50 #Atten: 20 dB			None	Frequency
10 dB/div Ref 30.00 dBr				1		
30.0 10.0						Center Free 5 240000000 GH
- 11 II	mon	www.www.www.www.	manap			
200 200 400 march Marca Mar Marca Marca Marc				North March	man	
-60.0						
Center 5.24 GHz #Res BW 220 kHz		#VBW 680 kHz			n 30 MHz ep 1 ms	CF Step 3.000000 MH
Occupied Bandwid	th 7.726 MHz	Total Power	13.	7 dBm		Auto Man
Transmit Freq Error x dB Bandwidth	-51.194 kHz 21.56 MHz	OBW Power x dB		99.00 % -26.00 dB		OH

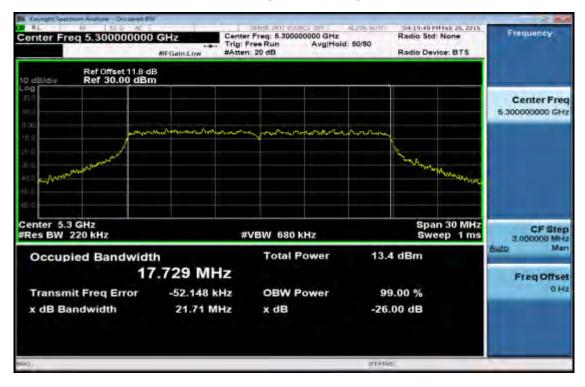
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802.11n HT20, 5250~5350 MHz (Aux2) 26dB Band Width Test Data CH-Low (5260 MHz)



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



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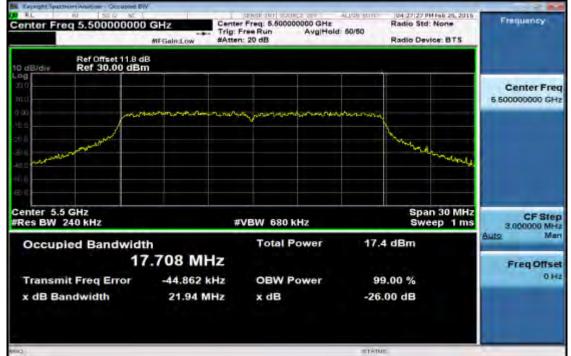
26dB Band Width Test Data CH-High (5320 MHz)

Center Fre	Center Freq: 5.320000000 GHz Trig: Freq: 8.320000000 GHz Trig: Free Run AvgiHold: 50/50 #Atten: 20 dB			ALIGN BUTCH	Radio Sta	PM Feb 26, 2016 1: None vice: BTS	Frequency			
10 dB/div	Ref Offset 1 Ref 30.00									
320 10.0										Center Free 5 32000000 GH
9.00 10.0	1	perenant	monald	- down	man	hormon	nom			
200 -300	manne							Lanna	manunan i	
10.0										
Center 5.3 #Res BW 2				#VE	W 680 P	(Hz			an 30 MHz eep 1 ms	CF Step 3.000000 MH
Occupied Bandwidth 17.763 MH							13.	5 dBm		Auto Mar
Transmit Freq Error -62		-62.842 k 22.14 M	2 kHz OBW Power		ower		9.00 % 00 dB		Freq Offset 0 Hi	

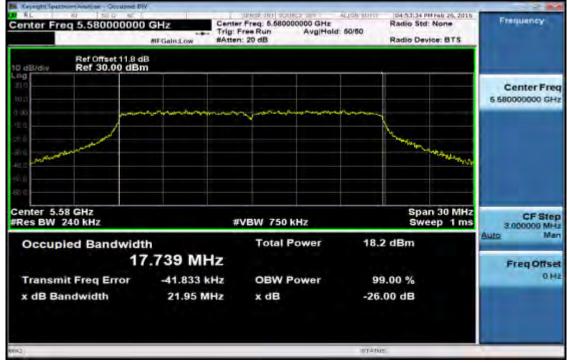
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802.11n HT20, 5470~5725 MHz (Aux2) 26dB Band Width Test Data CH-Low (5500 MHz)



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



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

Center Freq 5.70000000	-te- Tri	street dirt sollies and nter Freq. 5,700000000 GHz g: Free Run AvgiHo tten: 20 dB	Carrow .	Radio Std: Radio Dev		Frequency
Ref Offset 11.8 c Ref 30.00 dB						
100	- M-million	m mmmm				Center Fred 5.700000000 GH:
an a start and a start and a start a s				the		
-20.0. 40:2					mich	
© 1 Center 5.7 GHz #Res BW 240 kHz		#VBW 680 kHz			n 30 MHz ep 1 ms	CF Step 3.000000 MHz Auto Man
Occupied Bandwid	th 7.708 MHz	Total Power	18.1	dBm		
Transmit Freq Error x dB Bandwidth	-50.082 kHz 21.60 MHz	OBW Power x dB		00 % 00 dB		0.84

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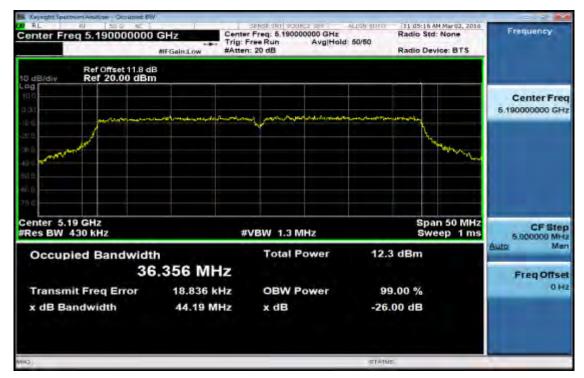
26dB Band Width Test Data CH-High (5670 MHz)

Center Fre			HZ FGaln:Low	Center F Trig: Fre	Center Freq: 5.67000000 GHz Trig: Freq: 5.67000000 GHz Trig: Free Run AvgiHold: 50/50 #Atten: 20 dB			Radio Std: None			Frequency
10 dB/div		f Offset 11.8 dB ef 20.00 dBm									
100 000 -100			-	www	and the second		an a		1		Center Freq 5 670000000 GHz
-31.0 -34.0 -40.0 -51.0 -40.0										- Harrison	
	enter 5.67 GHz Span 50 MHz Res BW 470 kHz #VBW 1.3 MHz Sweep 1 ms								CF Step 5.000000 MH		
Occupied Bandwidth Tota 36.369 MHz						otal Power 18.7 dBm					Auto Man Freg Offsel
Transmit Freq Error x dB Bandwidth			12.204 kHz 44.27 MHz		OBW Power x dB		99.00 % -26.00 dB				OH
Det							TAN	15	-		

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802.11n HT40, 5150~5250 MHz (Aux1) 26dB Band Width Test Data CH-Low (5190 MHz)



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



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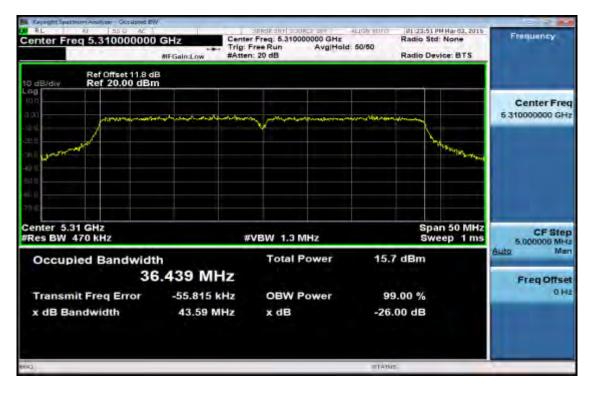
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802.11n HT40, 5250~5350 MHz (Aux1) 26dB Band Width Test Data CH-Low (5270 MHz)



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



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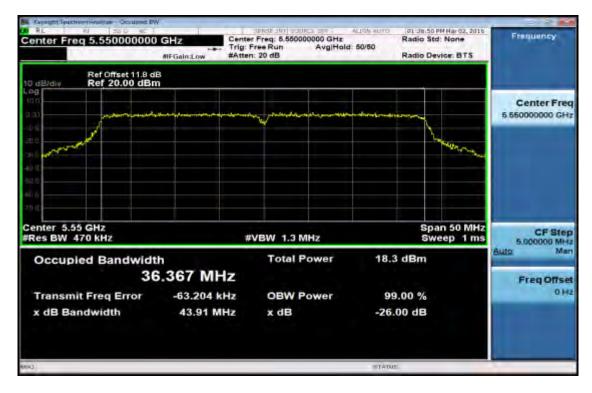
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802.11n HT40, 5470~5725 MHz (Aux1) 26dB Band Width Test Data CH-Low (5510 MHz)



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



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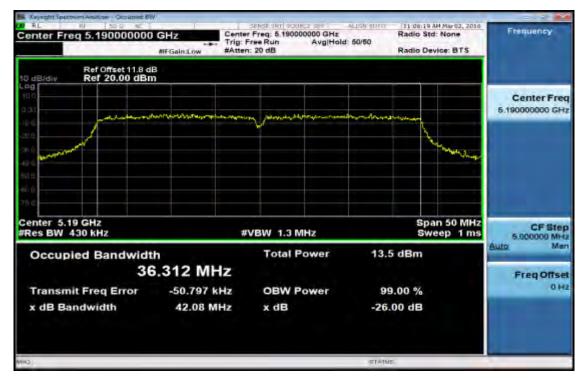
26dB Band Width Test Data CH-High (5670 MHz)



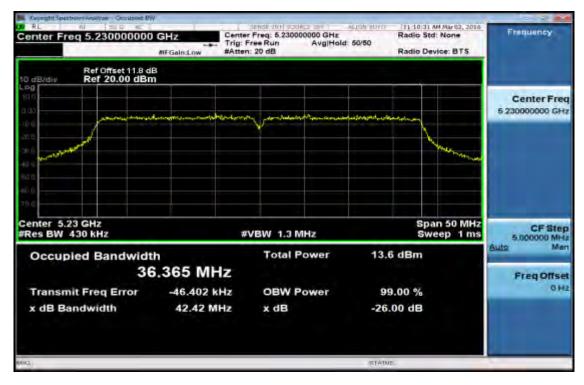
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802.11n HT40, 5150~5250 MHz (Aux2) 26dB Band Width Test Data CH-Low (5190 MHz)



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



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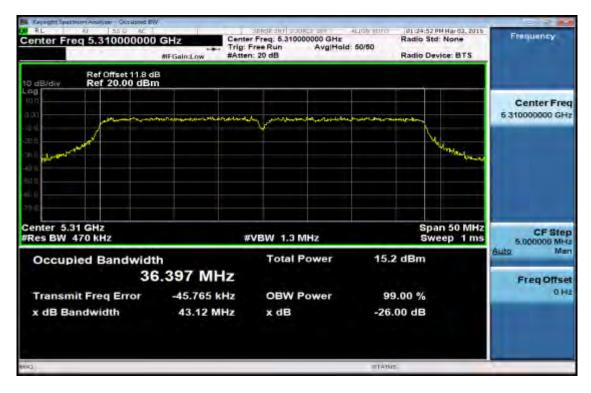
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802.11n HT40, 5250~5350 MHz (Aux2) 26dB Band Width Test Data CH-Low (5270 MHz)



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



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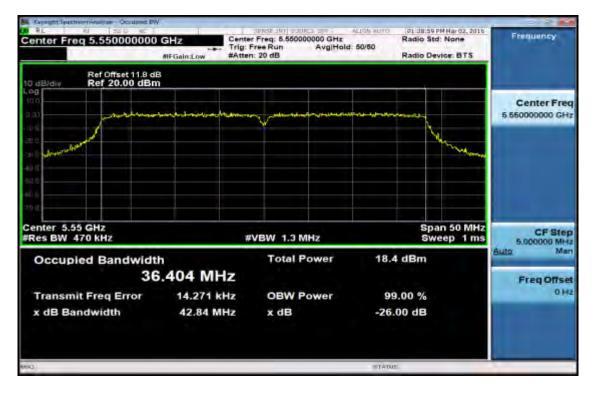
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802.11n HT40, 5470~5725 MHz (Aux2) 26dB Band Width Test Data CH-Low (5510 MHz)



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



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



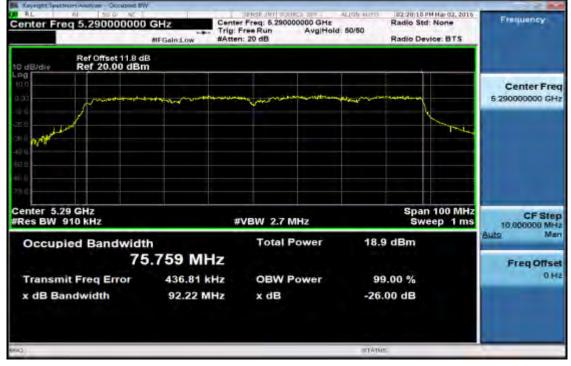
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802.11ac VHT80, 5150~5250 MHz (Main) 26dB Band Width Test Data CH-Mid (5210 MHz)



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



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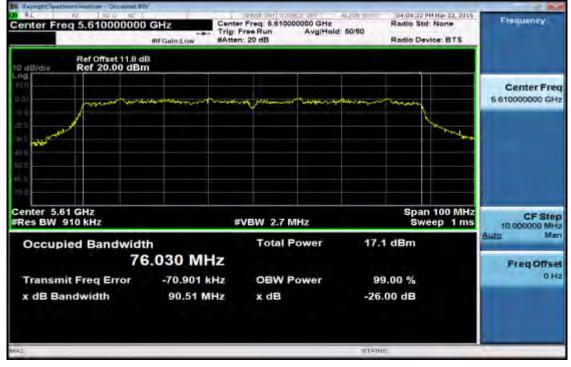
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802.11ac VHT80, 5470~5725 MHz (Main) 26dB Band Width Test Data CH-Low (5530 MHz)



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



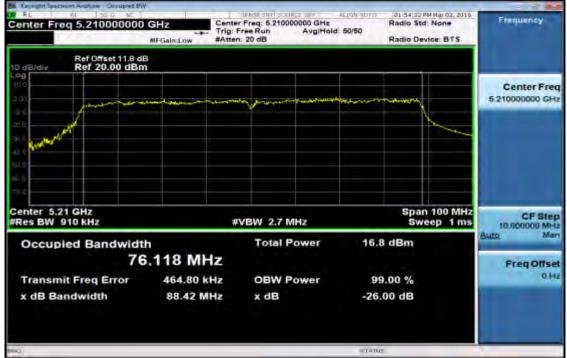
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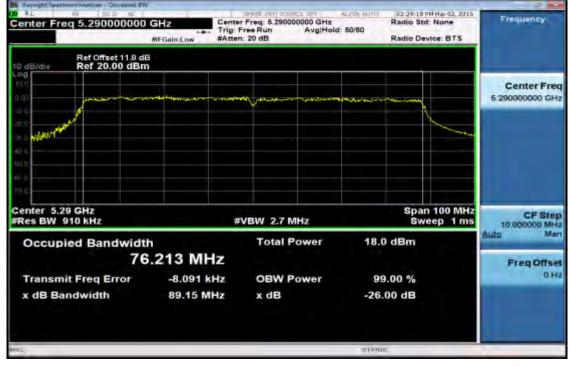
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802.11ac VHT80, 5150~5250 MHz (Aux1) 26dB Band Width Test Data CH-Mid (5210 MHz)



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



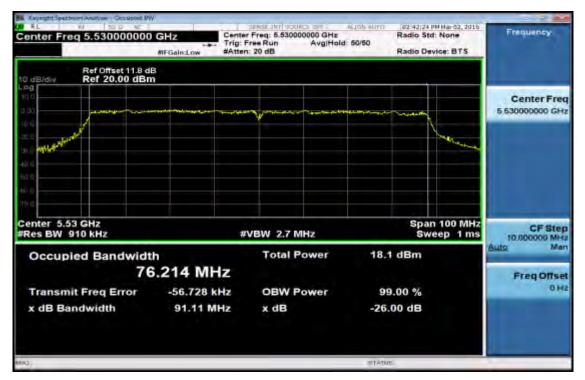
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802.11ac VHT80, 5470~5725 MHz (Aux1) 26dB Band Width Test Data CH-Low (5530 MHz)



802.11ac VHT80, 5470~5725 MHz (Aux1) 26dB Band Width Test Data CH-High (5610 MHz)

	nter Freq 5.610000000 GHz		Center Fr			tz Radio St fold: 50/50		PH Nar 22, 2016 d: None wice: BTS	Frequency		
0 dB/div											
10.0 10.0 10.0 10.0	June		and and the	and the second	mont	ve how	m	trany		Center 5 61000000	
200 gyldha^{nda} 200 gyldha^{nda} 200 soo 200 soo											
enter 5.61 Res BW 91				#VE	3W 2.7 N	IHz			n 100 MHz eep 1 ms	10.00000	
Occupie	Occupied Bandwidth 76.134 MH Transmit Freq Error -28.488 k x dB Bandwidth 92.05 M		١z	Total Power 16.4 dB		4 dBm		Auto Man Freg Offset			
					OBW Power x dB		99.00 % -26.00 dB				0 Hz
143							TAN	č			

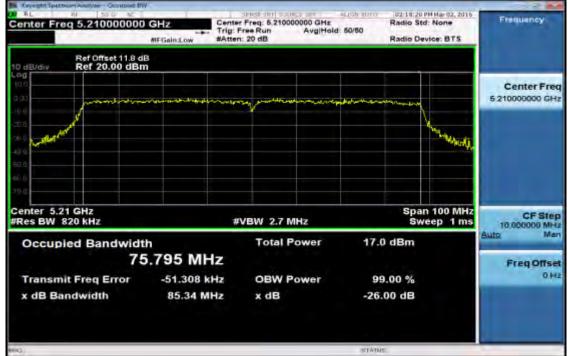
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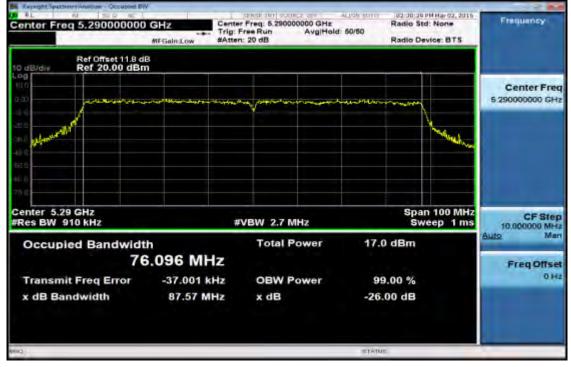
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802.11ac VHT80, 5150~5250 MHz (Aux2) 26dB Band Width Test Data CH-Mid (5210 MHz)



802.11ac VHT80, 5250~5350 MHz (Aux2) 26dB Band Width Test Data CH-Mid (5290 MHz)



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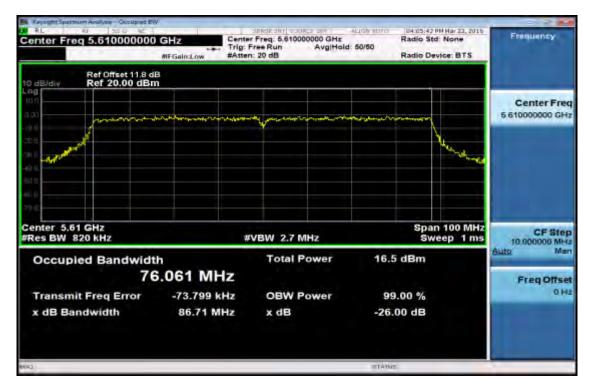
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802.11ac VHT80, 5470~5725 MHz (Aux2) 26dB Band Width Test Data CH-Low (5530 MHz)



802.11ac VHT80, 5470~5725 MHz (Aux2) 26dB Band Width Test Data CH-High (5610 MHz)



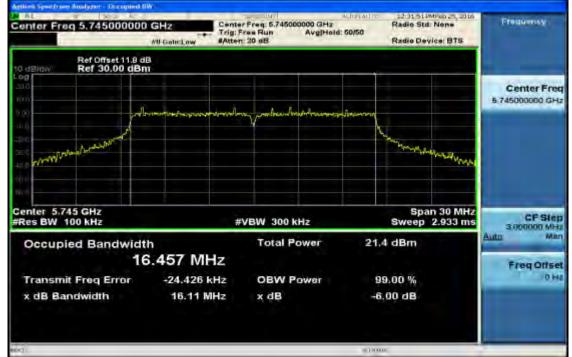
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6dB Band Width measure with Peak detector for FCC 802.11a, 5725~5850 MHz (Main) 6dB Band Width Test Data CH-Low (5745 MHz)



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



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

enter Freg 5.82500000	/IFGalicLow	Center Freq 5.8250 Trig: Free Run \$Atten: 20 dB	AugiHeid: 50/50	Radio Std: N	one Frequency
o dEraw Ref 30.00 dBr					
Will program from and the second	nan mangati karametek bagi ba	m Inizirintendi		m historication	Center Free 5 825000000 GH
Center 5.825 GHz Res BW 100 kHz		#VBW 3001		Span 30 MHz Sweep 2.933 ms	
Occupied Bandwidt 16 Transmit Freq Error x dB Bandwidth	h 5.460 MH -60.070 k 15.70 M	Hz OBW P		22.1 dBm 99.00 % -6.00 dB	Auto Mar Freg Offse 0 H

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802.11a, 5725~5850 MHz (Aux1) 6dB Band Width Test Data CH-Low (5745 MHz)



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



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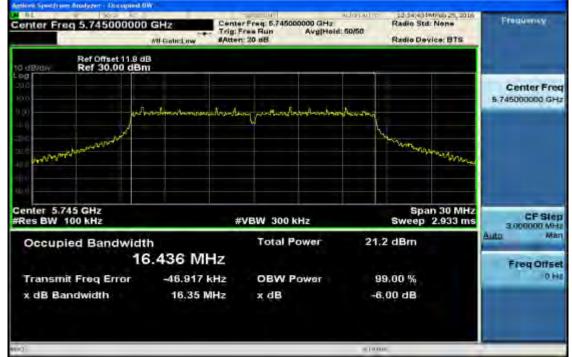
6dB Band Width Test Data CH-High (5825 MHz)

enter Freg 5.82500000	GHz MFGalicLow	Center Freq 5,825 Trig: Free Run #Atten: 20 dB		Radio S dd: 50/50		When 25, 2016 I: None vice: BTS	Frequency		
o devaiv: Ref 30.00 dBn									
00 100 100 100 100 100 100 100	an handran fryn	and and the second s	liniosenica;	himiting	New and	Manyatapa	Center Freq 5.825000000 GHz		
Center 5.825 GHz Res BW 100 kHz Occupied Bandwidth		#VBW 300 kHz Total Power		Span 30 MH Sweep 2.933 m 23.0 dBm					
16.449 Transmit Freq Error -72.20 x dB Bandwidth 15.7		Z Iz OBW		99.00 % -6.00 dB			Freq Ottse		

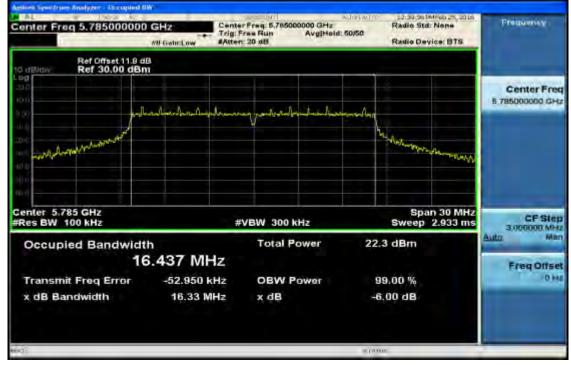
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802.11a, 5725~5850 MHz (Aux2) 6dB Band Width Test Data CH-Low (5745 MHz)



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



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

Center Freq 5.825000000 GH	Trig: F	Freq 5.82500 rea Run 20 dB	Avg[Hold	4.101.401 E>50/50	Radio Std: None Radio Device: BTS		Frequency
10 dB/div: Ref 30.00 dBm							
m ()		restrati	n Montha				Center Free 5.825000000 GH
200 411 bootstand bootstand					and the second	hadronautarity	
Center 5.825 GHz Res BW 100 kHz	#	VBW 300 1	Hz			n 30 MHz 2.933 ms	CF Step 3.00000 MHz
Occupied Bandwidth 16.4	32 MHz	Total Power 23.4 dBm			Auto Mar		
Transmit Freq Error x dB Bandwidth	-73.574 kHz 15.75 MHz	OBW P x dB	ower		99.00 % -6.00 dB		0 H
a.				-			

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802.11n_HT20, 5725~5850 MHz (Main) 6dB Band Width Test Data CH-Low (5745 MHz)

Key right Spactrum Analyzer - Occupied B	N					
Center Freq 5.74500000	Trig: I	r Freq. 5.745000000 GHz Free Run AvgiHold 1: 20 dB	Radio 1 1 50/50	ito AM Mar 62, 2016 Std: None Device: BTS	Frequency	
Ref Offset 11.8 d Ref 30.00 dBr						
100 000	monohun	ai - Marthantanta	Minhan		Center Free 5.745000000 GH	
1000 2010 300 motoretante			Manarita	Manner		
Center 5.745 GHz #Res BW 100 kHz	#	VBW 300 kHz		pan 30 MHz p 2.933 ms	CF Step	
Occupied Bandwidt	th	Total Power			3.000000 MH	
17	7.672 MHz				Freq Offset	
Transmit Freq Error x dB Bandwidth	-59.079 kHz 17.61 MHz	OBW Power x dB	99.00 % -6.00 dB		0 H	
eg)			STATUS			

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



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

R RL RL Spectral and Spectral a	NY	SENSE SWIT BOOKCE OFFI	ALTON MUTURE	10-10-54	AM Mar 02, 2010	
Center Freq 5.82500000	Trig: 1	r Freq: 5.825000000 GHz	Las an	Radio Std: None Frequent Radio Device: BTS		Frequency
Ref Offset 11.8 c Ref 30.00 dB						
100	Soul and a free of the second	- malarhanstradie	manentung			Center Free 5 825000000 GH
100 2011 2011		v		Marry	an mout	
46.0						
Center 5.825 GHz #Res BW 100 kHz		#VBW 300 kHz Sw			an 30 MHz 2.933 ms	CF Step 3.000000 MH
Occupied Bandwid	th 7.666 MHz	Total Power	ver 23.5 dBm			Auto Mar Freg Offse
Transmit Freq Error x dB Bandwidth	-30.780 kHz 17.60 MHz	OBW Power x dB		0.00 % 00 dB		0 H
983			artàtur			

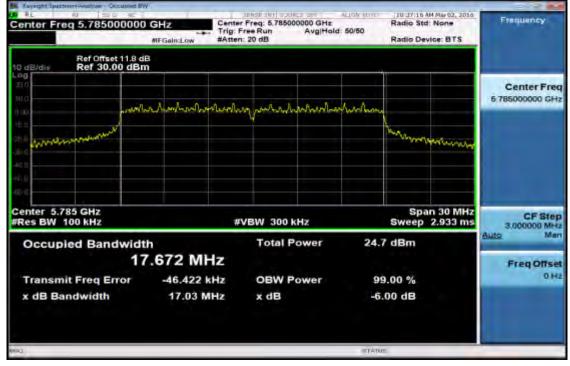
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802.11n HT20, 5725~5850 MHz (Aux1) 6dB Band Width Test Data CH-Low (5745 MHz)

Center Freq 5.74500000	sales ing: I	r Freq. 5.745000000 GHz Free Run Avg Holi 1: 20 dB	d>50/50	Radio Std: None Radio Device: B	Frequency
Ref Offset 11.8 dl					
200	o Aronh national call	an window burgeralise	sheet a		Center Free 5.745000000 GH
and woman and water and				mm	
Center 5.745 GHz Res BW 100 kHz	#	#VBW 300 kHz		Span 30 Sweep 2.93	
Occupied Bandwidt 17	h 7.643 MHz			dBm	Freq Offse
Transmit Freq Error x dB Bandwidth	-45.479 kHz 17.59 MHz	OBW Power x dB		00 % 0 dB	OH
Ω.			STATUS		

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



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

Center Freq 5.825000000	GHz Center Trig: F	rFreq: 5.825000000 GHz free Run AvgiHol : 20 dB		Radio Std		Frequency
10 dE/div Ref 30.00 dBn						
120 120 120 120 120	when when here	y what water	and performing			Center Free 5 825000000 GH
100 200 -000		2		haven		
-0 0 -0 0 Center 5.825 GHz					n 30 MHz	CF Ster
Res BW 100 kHz Occupied Bandwidt		#VBW 300 kHz Sweep 2.93 Total Power 24.2 dBm		2.933 ms	3,000000 MH	
Transmit Freq Error x dB Bandwidth	-34.053 kHz 16.96 MHz	OBW Power x dB		.00 % 00 dB		Freq Offse 0 H

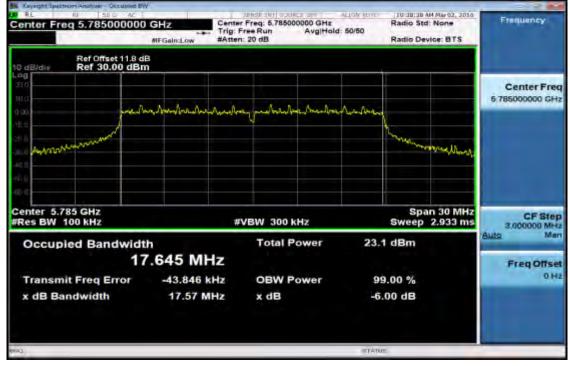
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802.11n HT20, 5725~5850 MHz (Aux2) 6dB Band Width Test Data CH-Low (5745 MHz)

enter Freq 5.74500000	signer i rig: r	r Freq. 5.745000000 GHz Free Run Avg Holi 1: 20 dB	Radio St d: 50/50	d: None wice: BTS	Frequency
Ref Offset 11.8 d Ref 30.00 dBr					
eg					Center Free 5.745000000 GH:
100	monthe adverted to and the	where we have a second of the	mintering		
monterenter			Jon Martin	Horn march	
0.0 2.0					
enter 5.745 GHz Res BW 100 kHz	#	VBW 300 kHz		an 30 MHz 2.933 ms	
Occupied Bandwidt		Total Power	22.1 dBm		Auto Mar
	7.601 MHz	and a set of the			Freq Offset
Transmit Freq Error x dB Bandwidth	-58.565 kHz 17.18 MHz	OBW Power x dB	99.00 % -6.00 dB		

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



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

RL RI Sectore Analyzer - Occupied By	V .				AH Mar 02, 2010	
Center Freq 5.82500000	GHz MFGain:Low	Center Freq: 5.8250		Radio St		Frequency
Ref Offset 11.8 d Ref 30.00 dBn						
100 000	- Anithro And	Addres, margine	mention	ulen.		Center Fred 5 82500000 GHz
100 200 200 million March 1					monumana	
40.0						
Center 5.825 GHz #Res BW 100 kHz		#VBW 3001	Span 30 MHz #VBW 300 kHz Sweep 2.933 ms			CF Step 3.000000 MHz
Occupied Bandwidt	h 7.607 MH	Total F	ower	22.8 dBm		Freg Offset
Transmit Freq Error x dB Bandwidth	-58.502 kl 16.70 Mi		OBW Power 99.00 % x dB -6.00 dB			0 Hz
Min2				STATUS		

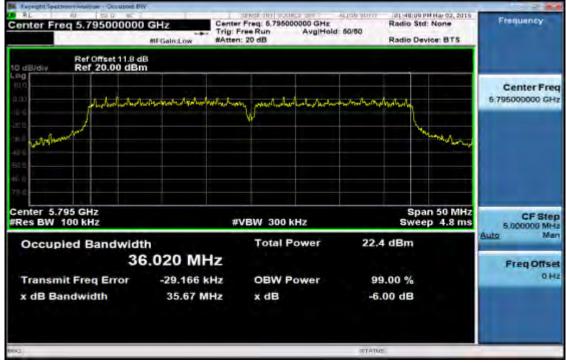
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802.11n_HT40, 5725~5850 MHz (Main) 6dB Band Width Test Data CH-Low (5755 MHz)

Center Freq 5.75500000	-the frig	ter Freq. 5.75500000 GHz Free Run AvgiHold ten: 20 dB	Rad	45:04 PM Har 02, 2016 lo Std: None lo Device: BTS	Frequency
Ref Offset 11.8 Ref 20.00 dE				_	
00 100 00 00	And have a Analogue and and	nan jan minin kan kan kan kan kan kan kan kan kan ka	حساسالمساليسالي	N.	Center Freq 5 75500000 GHz
0 0 Manufarana				manut mus	
61 0 10 0					
enter 5.755 GHz Res BW 100 kHz		#VBW 300 kHz	ŝ	Span 50 MHz Sweep 4.8 ms	CF Step 5.000000 MHz Auto Man
Occupied Bandwid		Total Power	20.9 dB	20.9 dBm	
	6.070 MHz			20-	Freq Offset
Transmit Freq Error x dB Bandwidth	-57.024 kHz 35.54 MHz	OBW Power x dB	99.00 -6.00 d		- CHZ
19			eratur		

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



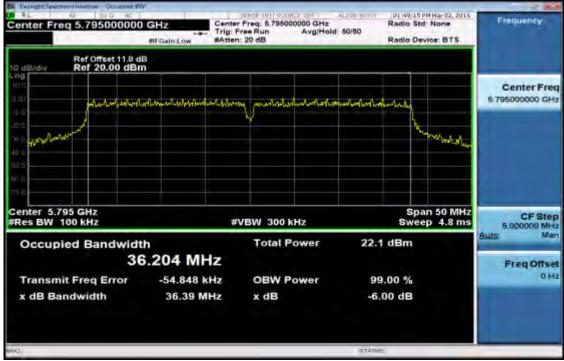
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802.11n HT40, 5725~5850 MHz (Aux1) 6dB Band Width Test Data CH-Low (5755 MHz)

RL 01:46:09 PM Mar 02, 2016 Radio Std: None Center Freq: 5.755000000 GHz Trig: Free Run Avg|Hold: 50/50 #Atten: 20 dB Frequency Center Freq 5.755000000 GHz Radio Device: BTS MFGain:Low Ref Offset 11.8 dB Ref 20.00 dBm Center Freq 5 755000000 GHz Andreal del ha hadreshalled W mart Span 50 MHz Sweep 4.8 ms Center 5.755 GHz #Res BW 100 kHz CF Step #VBW 300 kHz 5.000000 Auto Me Total Power 21.3 dBm Occupied Bandwidth 36.189 MHz Freq Offset 0 H **Transmit Freq Error** -49.398 kHz **OBW Power** 99.00 % x dB Bandwidth 36.38 MHz x dB -6.00 dB

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



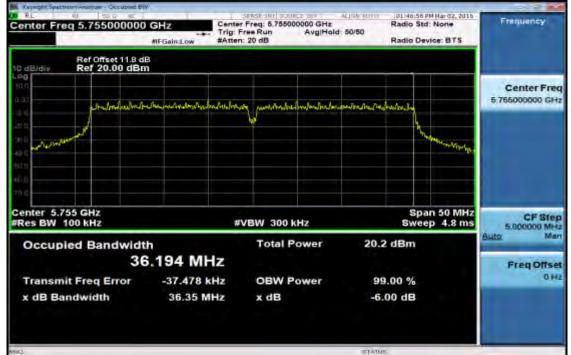
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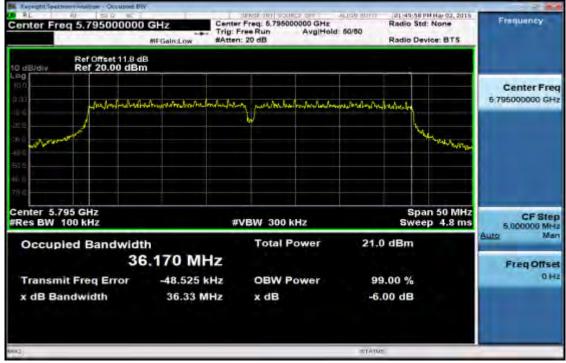
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802.11n HT40, 5725~5850 MHz (Aux2) 6dB Band Width Test Data CH-Low (5755 MHz)



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



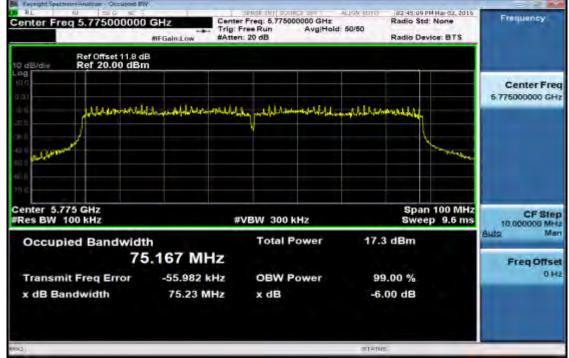
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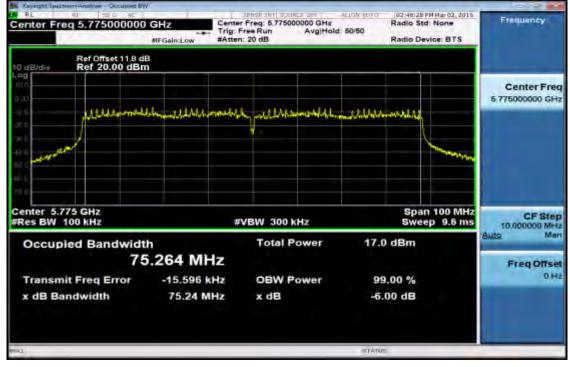
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802.11ac VHT80, 5725~5850 MHz (Main) 6dB Band Width Test Data CH-Low (5775 MHz)



802.11ac VHT80, 5725~5850 MHz (Aux1) 6dB Band Width Test Data CH-Low (5775 MHz)



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802.11ac VHT80, 5725~5850 MHz (Aux2) 6dB Band Width Test Data CH-Low (5775 MHz)

Center Freq 5.775000000	-t- Trig:	Freq. 5.775000000 GHz Free Run AvgiHold n: 20 dB	Radio St 50/50	PH Har 02, 2016 d: None wice: BTS	Frequency
10 dB/div Ref Offset 11.8 d Ref 20.00 dBn					
Log (0.7					Center Freq 5 775000000 GHz
	laborand di topolishi diya diga diga diga diga diga diga diga dig	its philosophilica	month distriction and by the last		
40.0				Margaret .	
eii 0 70 0					
Center 5.775 GHz #Res BW 100 kHz		Span 10 #VBW 300 kHz Sweep			CF Step 10.000000 MHz
Occupied Bandwidt		Total Power 16.4			Auto Man
Transmit Freq Error	-104.20 kHz	OBW Power	99.00 %		Freq Offset 0 Hz
x dB Bandwidth	76.24 MHz	x dB	-6.00 dB		
- [209			ETÁTUS		

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MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT 9.

Standard Applicable 9.1

U-NII-1

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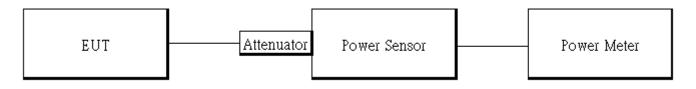
9.2 Measurement Procedure

- 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 v01r01.
- 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												
Name of Equipment	Manufacturer	Nanufacturer Model N		Calibration Date	Calibration Due								
Power Meter	Anritsu	ML2495A	1005007	12/09/2015	12/08/2016								
Power Sensor	Anritsu	MA2411B	917032	12/09/2015	12/08/2016								
Spectrum Analyzer	Agilent	N9010A	MY50420195	12/21/2015	12/20/2016								
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	11/05/2015	11/04/2016								
Temperature Chamber	TERCHY	MHG-120LF	911009	05/06/2015	05/05/2016								

9.4 Test Set-up



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9.5 Measurement Result Conducted output power (FCC)

802.11a_MIMO

011	Frequency	AVER	AGE POWER	(dBm)	TOTAL	TOTAL		REQUIRED LIMIT		
СН	(MHz)	CHAIN 0 CHAIN 1 CHAIN 2		POWER (dBm)	POWER (mW)		RESULT			
36	5180	7.63	7.68	7.37	12.33	17.113		20.21		PASS
44	5220	7.83	7.93	7.04	12.39	17.334		20.21		PASS
48	5240	8.01	7.62	7.21	12.40	17.365		20.21		PASS
52	5260	12.63	11.99	11.11	16.73	47.048	20.21	or 11+10log(B) =	24.21	PASS
60	5300	12.67	11.59	11.61	16.76	47.402	20.21	or 11+10log(B) =	24.17	PASS
64	5320	12.13	11.75	11.72	16.64	46.152	20.21	or 11+10log(B) =	24.09	PASS
100	5500	14.52	13.97	12.99	18.64	73.167	20.21	or 11+10log(B) =	24.24	PASS
116	5580	14.12	13.96	13.3	18.58	72.091	20.21	or 11+10log(B) =	24.25	PASS
140	5700	14.36	14.02	13.51	18.75	74.963	20.21	or 11+10log(B) =	24.19	PASS
149	5745	14.7	14.93	14.06	19.35	86.098		26.23		PASS
157	5785	16.38	16.44	15.1	20.79	119.866		26.23		PASS
165	5825	16.34	16.37	15.25	20.79	119.900		26.23		PASS

802.11n_HT20_MIMO

011	Frequency	AVER	AGE POWER	(dBm)	TOTAL	TOTAL		REQUIRED		
СН	(MHz)	CHAIN 0	CHAIN 1	CHAIN 2	POWER (dBm)	POWER (mW)		LIMIT (dBm)		RESULT
36	5180	8.2	7.9	7.63	12.69	18.567		20.21		PASS
44	5220	7.89	8.12	7.4	12.58	18.134		20.21		PASS
48	5240	8.17	7.74	7.43	12.56	18.038		20.21		PASS
52	5260	7.85	7.54	6.99	12.25	16.771	20.21	or 11+10log(B) =	24.29	PASS
60	5300	7.72	7.02	7.1	12.06	16.079	20.21	or 11+10log(B) =	24.23	PASS
64	5320	7.31	6.73	7.33	11.90	15.500	20.21	or 11+10log(B) =	24.39	PASS
100	5500	11.3	10.99	10.49	15.71	37.244	20.21	or 11+10log(B) =	24.17	PASS
116	5580	11.23	10.73	10.83	15.71	37.210	20.21	or 11+10log(B) =	24.33	PASS
140	5700	10.98	11.09	10.95	15.78	37.829	20.21	or 11+10log(B) =	24.22	PASS
149	5745	14.87	15.11	14.22	19.52	89.548		26.23		PASS
157	5785	16.78	16.93	15.65	21.26	133.689		26.23		PASS
165	5825	16.41	16.61	15.37	20.93	124.001		26.23		PASS

802.11n_HT40_MIMO

СН	Frequency	AVER	AGE POWER	(dBm)	TOT AL POWER	TOTAL POWER		REQUIRED LIMIT		RESULT
on	(MHz)	CHAIN 0	CHAIN 1	CHAIN 2	(dBm)	(mW)		(dBm)		NESOE1
38	5190	7.53	7.63	7.02	12.17	16.492		20.21		PASS
46	5230	7.68	7.78	7.05	12.29	16.929		20.21		PASS
54	5270	8.9	8.53	8.03	13.27	21.244	20.21	or 11+10log(B) =	27.28	PASS
62	5310	8.58	7.94	8.17	13.01	19.996	20.21	or 11+10log(B) =	27.35	PASS
102	5510	11.76	11.22	10.92	16.09	40.600	20.21	or 11+10log(B) =	27.34	PASS
110	5550	11.35	11.04	11.05	15.92	39.087	20.21	or 11+10log(B) =	27.21	PASS
134	5670	11.7	11.47	11.3	16.26	42.309	20.21	or 11+10log(B) =	27.31	PASS
151	5755	12.4	12.31	11.74	16.93	49.328		26.23		PASS
1 59	5795	15.29	15.36	14.25	19.77	94.770		26.23		PASS

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802.11ac VHT20 MIMO

СН	Frequency	AVER	AGE POWER	(dBm)	TOTAL POWER	TOTAL POWER		REQUIRED LIMIT		RESULT
Сп	(MHz)	CHAIN 0	CHAIN 1	CHAIN 2	(dBm)	(mW)		(dBm)		RESULT
36	5180	8.17	8.18	7.36	12.69	18.583		20.21		PASS
44	5220	8.09	8.02	7.2	12.56	18.028		20.21		PASS
48	5240	8.1	7.73	7.28	12.49	17.731	20.21			PASS
52	5260	7.83	7.51	6.97	12.22	16.681	20.21	or 11+10log(B) =	24.29	PASS
60	5300	7.61	6.93	7.05	11.98	15.769	20.21	or 11+10log(B) =	24.23	PASS
64	5320	7.28	6.7	7.25	11.86	15.332	20.21	or 11+10log(B) =	24.39	PASS
100	5500	11.3	11.13	10.53	15.77	37.759	20.21	or 11+10log(B) =	24.17	PASS
116	5580	11.18	10.68	10.77	15.65	36.757	20.21	or 11+10log(B) =	24.33	PASS
140	5700	11.04	11.02	10.87	15.75	37.571	20.21	or 11+10log(B) =	24.22	PASS
149	5745	16.68	16.7	15.61	21.13	129.724		26.23		PASS
157	5785	16.72	16.89	15.58	21.21	131.996		26.23		PASS
165	5825	16.36	16.56	15.31	20.88	122.504		26.23		PASS

802.11ac_VHT40_MIMO

СН	Frequency	AVER	AGE POWER	(dBm)	TOTAL POWER	TOTAL POWER		REQUIRED LIMIT		RESULT
Ch	(MHz)	CHAIN 0			(dBm)	(mW)		(dBm)	NEGOLI	
38	5190	7.5	7.55	6.75	12.05	16.043		20.21		PASS
46	5230	7.72	7.78	6.95	12.27	16.868		20.21		PASS
54	5270	8.88	8.57	7.93	13.25	21.130	20.21	or 11+10log(B) =	27.28	PASS
62	5310	8.51	7.86	8.1	12.94	19.662	20.21	or 11+10log(B) =	27.35	PASS
102	5510	11.65	11.13	10.87	16.00	39.812	20.21	or 11+10log(B) =	27.34	PASS
110	5550	11.35	11.07	10.97	15.90	38.942	20.21	or 11+10log(B) =	27.21	PASS
134	5670	11.75	11.52	11.24	16.28	42.457	20.21	or 11+10log(B) =	27.31	PASS
151	5755	15.12	15.26	14.53	19.75	94.462		26.23		PASS
159	5795	15.3	15.33	14.22	19.75	94.428		26.23		PASS

802.11ac_VHT80_MIMO

ĺ	СН	Frequency	AVERAGE POWER (dBm)			TOTAL POWER	TOTAL REQUIRED POWER LIMIT				RESULT
	СП	(MHz)		MHz) CHAIN 0 CHAIN 1 CHAIN 2		(dBm)	(mW)	(dBm)			
ĺ	42	5210	8.45	8.01	7.07	12.65	18.416		20.21		PASS
[58	5290	7.57	7.49	7.05	12.15	16.395	20.21	or 11+10log(B) =	30.42	PASS
	106	5530	7.64	7.01	7.16	12.05	16.031	20.21	or 11+10log(B) =	30.44	PASS
	122	5610	12.35	11.71	11.95	16.78	47.672	20.21	or 11+10log(B) =	30.38	PASS
	155	5775	6.81	6.92	6.41	11.49	14.093		26.23		PASS

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10. PEAK POWER SPECTRAL DENSITY

10.1 Standard Applicable

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 v01r01.
- 3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to Spectrum.
- 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, VRW> 2RBW, where appendix enough to capture the entire bandwidth

Set RBW=500 kHz, VBW \ge 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)

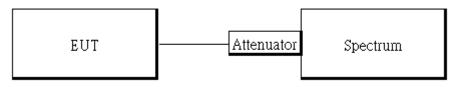
- 5. User the cursor on spectrum to peak search the highest level of trace
- 6. Record the max. reading and add 10 log(1/duty cycle).
- 7. Repeat above procedures until all default test channel (low, middle, and high) was complete.

Note: For the test of PSD at MIMO mode, the highest emission of worst case employing Measure and add 10 log (N) technical is reported on this report after the comparison between Main Antenna at single transmitting mode and Aux that yields the higher value. The MIMO transmitting mode produces higher value of outcome

10.3 Measurement Equipment Used

	SGS Conducted Room										
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due						
Spectrum Analyzer	Agilent	N9010A	MY50420195	12/21/2015	12/20/2016						
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 DENSITY 802.11a MODE								
Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin (dB)						
5180	-2.01	13.23	-15.24						
5220	-2.19	13.23	-15.42						
5240	-1.90	13.23	-15.13						
5260	4.31	7.23	-2.92						
5300	3.77	7.23	-3.46						
5320	3.38	7.23	-3.85						
5500	4.82	7.23	-2.41						
5580	5.04	7.23	-2.19						
5700	4.90	7.23	-2.33						
5745	13.02	26.23	-13.21						
5785	14.55	26.23	-11.68						
5825	13.87	26.23	-12.36						

	POWER DENSITY 802.11n HT20 MODE								
Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin (dB)						
5180	-2.44	13.23	-15.67						
5220	-3.24	13.23	-16.47						
5240	-3.14	13.23	-16.37						
5260	-4.48	7.23	-11.71						
5300	-3.06	7.23	-10.29						
5320	-4.05	7.23	-11.28						
5500	-1.47	7.23	-8.70						
5580	-0.55	7.23	-7.78						
5700	0.43	7.23	-6.80						
5745	15.66	26.23	-10.57						
5785	16.21	26.23	-10.02						
5825	15.09	26.23	-11.14						

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	POWER DENSITY 802.11n HT40 MODE								
Frequency	PPSD	Limit	Margin						
5190	-7.41	13.23	-20.64						
5230	-9.98	13.23	-23.21						
5270	-8.01	7.23	-15.24						
5310	-9.89	7.23	-17.12						
5510	-6.54	7.23	-13.77						
5550	-6.6	7.23	-13.83						
5670	-5.79	7.23	-13.02						
5755	10.51	26.23	-15.72						
5795	11.29	26.23	-14.94						

F	POWER DENSITY 802.11ac VHT80 MODE								
Frequency (MHz)	PPSD (dBm)	Limit (dBm)	Margin (dB)						
5210	-25.73	13.23	-38.96						
5290	-24.68	7.23	-31.91						
5530	-24.59	7.23	-31.82						
5610	-21.92	7.23	-29.15						
5775	2.37	26.23	-23.86						

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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)



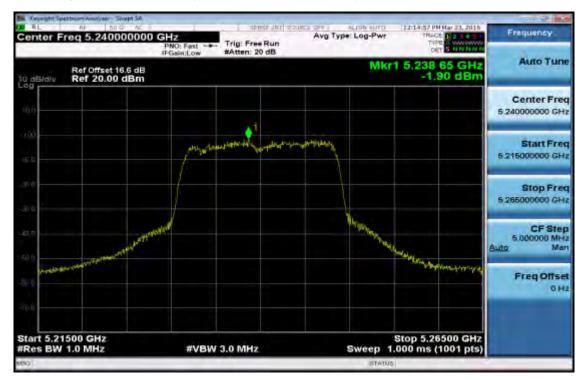
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Peak Power Spectral Density Data Plot (CH High 5240 MHz)



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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)

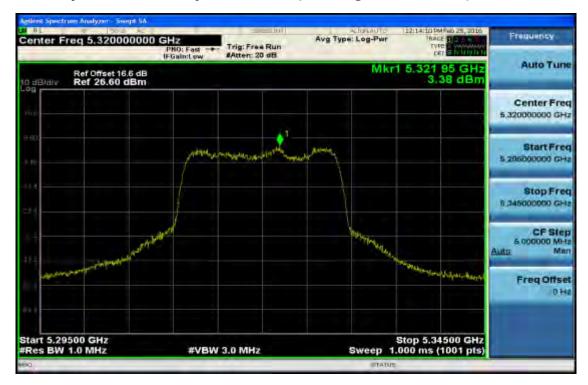


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Peak Power Spectral Density Data Plot (CH High 5320 MHz)



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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)

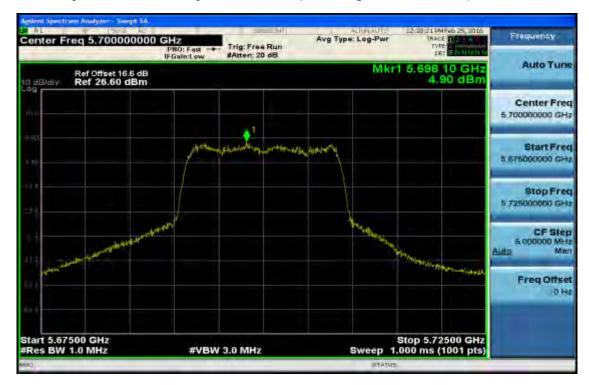


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Peak Power Spectral Density Data Plot (CH High 5700 MHz)



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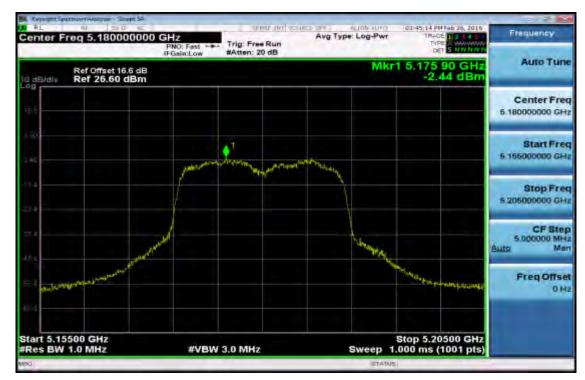
Peak Power Spectral Density Data Plot (CH High 5825 MHz)



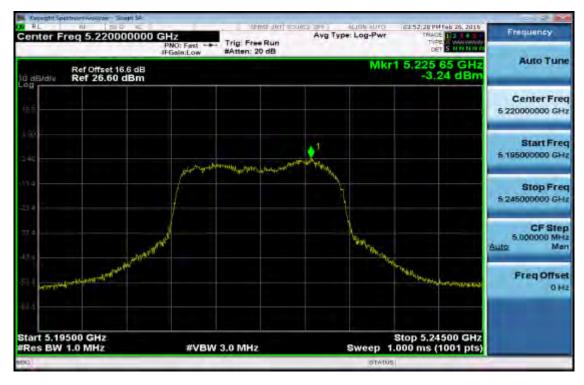
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802.11n HT20, 5150~5250 MHz Peak Power Spectral Density Data Plot (CH Low 5180 MHz)



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



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



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

Center F	req 5.26000	0000 GH	Z VO: Fast		Run 0 dB		e: Log-Pwr			Frequency
ia dB/div	Ref Offset 16 Ref 26.60 c				Mkr	1 5.266	70 GHz 48 dBm	Auto Tune		
16.6										Center Free 5 260000000 GH
5 AD 2 AD			Man		instruction	T				Start Free 5 235000000 GH
114				Mar. Juni	M		1			Stop Fre 5.285000000 GH
37.4		a supering of					Windy to be			СF Step 5,000000 МН Ашто Ма
SI I Genter	and the set of the							and a state	wyalitika waka da	Freq Offse 0 H
Start 5.23 #Res BW			#VBW	3.0 MHz			Sweep 1	Stop 5.2	3500 GHz	

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



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

Newspirit See	uttraart Analyzer - Silve									10.00
71.5-	req 5.32000	0000 GH	Z VO: Fast		Run 0 dB		e: Log-Pwr	THAT	H Pab 26, 2016 20 1 2 1 4 9 7 5 N P 1 1 0 P	Frequency
jū dB/div	Ref Offset 16. Ref 26.60 d	6 dB	200112-200			60 GHz 05 dBm	Auto Tune			
16.6										Center Free 5 320000000 GH
140 140			-	the the way		N ^M aula				Start Fre 5 29500000 GH
174				100 C 10 C 10		- my				Stop Fre 5.345000000 GH
37.4		Joshowskirt					- Survive -			CF Ster 5.000000 MH Auto Ma
	alin and the set							the New Way	MAN ENCLOSE	Freq Offse 0 H
Start 5.29 #Res BW			#VBW	3.0 MHz			Sweep	Stop 5.3	4500 GHz 1001 pts)	
(DR)							STATU			

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

Center Fre	eq 5.50000000	PNO: Fast	Trig: Free Run #Atten: 20 dB	Avg Type	Log-Pwr			Frequency.
	Ref Offset 16.6 dB Ref 26.60 dBm				Mkr	1 5.494 55	GHz dBm	Auto Tune
TB.G								Center Free 5 500000000 GH
5 90 2 40		jour	and the state of t	Weenstraphy.				Start Free 5.475000000 GH
14								Stop Free 5 52500000 GH
17.4	- Month Apply of	ward -			W. A. C. R. M. W. ST.			CF Step 5.000000 MH Auto Ma
الجعنيومين و	Marthan and the					water alto-non	Watth	Freq Offse 0 H
Start 5.475		49. (B) 14	2.0 MU-			Stop 5.5250	0 GHz	
Res BW 1		#VBW	3.0 MHz	8	sweep 1.	000 ms (100	01 pts)	

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



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

Ref offset 16.6 dB 10 dB/dlv Ref 26.60 dBm 16.6 16.7 16.	M Kwanght Spa	the Analyter - Ske							12.10 M
Ref Offset 16.6 dB Mkr1 5.707 05 GHz Auto Tu 0 dB/du Ref 26.60 dBm 0.43 dBm Center Fm 16 1	Center Fi		00000 G	NO: Fast	Trig: Free Run			TRACE 1 2 3 4	Frequency
Center Fr 5.70000000 G Start 5.67500 GHz Start 5.67500 GHz Start 5.67500 GHz	10 dB/dlv	Ref Offset 16 Ref 26.60 d	.6 dB	GaintEow	ACTIVITY AND A		Mkr	1 5.707 05 GI 0.43 dB	4z Auto Tune m
Start Fr Start Fr 34 0									Center Fred 5,700000000 GH
Stop Fr Stop Stop Fr Stop Stop Fr Stop Stop Stop Stop Stop Stop Stop Stop				- Mada-and	the stand and the stand and the	month			Start Free 5.675000000 GH
5.000000 M Auto M Start 5.67500 GHz Stop 5.72500 GHz				/			1		Stop Free 5,725000000 GH
Start 5.67500 GHz Stop 5.72500 GHz			mont				Harrison		
Start 5.67500 GHz Stop 5.72500 GHz	100	- Andrew Market						The has a second by the second	Freq Offse
		500 CH2						Stop 5 72500 C	
SUTATE COM	#Res BW			#VBW	3.0 MHz		Sweep 1.	.000 ms (1001 p	(S)

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



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

Center Fr	eq 5.19000	p	NO: Fast				e: Log-Pwr	TRA	M Mar 92, 2018 CE 1 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Frequency
ta dB/div	Ref Offset 16. Ref 20.00 d	6 dB	CARTICOT				M	kr1 5.18 -7.	1 1 GHz 41 dBm	Auto Tune
10.0										Center Free 5.190000000 GH;
0.00 			the state of the state	1 n	jul non	A				Start Free 5 140000000 GH
30 30				Jiston,		4 Mar				Stop Free 5.240000000 GH
4(FT) 50(1)		- Andrew					A HENRICHAN	-		CF Ster 10.000000 MH Auto Ma
-80 D	while-industry-and							- and the	with the second	Freq Offse 0 H
Start 5.14								Stop 5.2	4000 GHz	
Res BW	1.0 MHZ		#VB0	/ 3.0 MHz	_		Sweep		(1001 pts)	

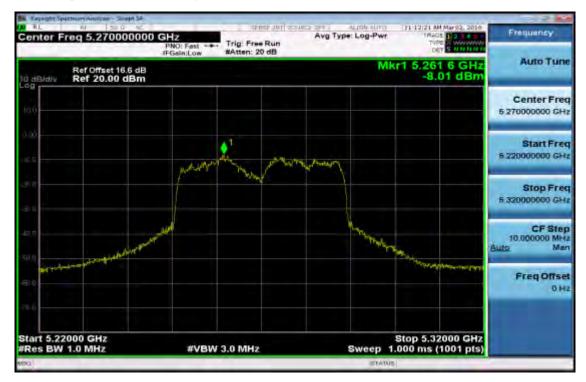
Peak Power Spectral Density Data Plot (CH High 5230 MHz)



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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)

Keynight Spi	itteum Anulyter - Sile				-	-				2.30
Center F	req 5.51000	PI	Z NO: Fast				e: Log-Pwr	TR	PM Mar 62, 2016 AGE 1 2 14 5 VPE 6 00000000000000000000000000000000000	Frequency
ių dB/div	Ref Offset 16 Ref 20.00 d	.6 dB dBm					M	(r1 5.5) -6	05 3 GHz 1.54 dBm	Auto Tun
10,0										Center Fre 5 510000000 GH
0.00 			harten	and in	inging the tag	21-31/4/1-M				Start Fre 5.46000000 GF
50 0										Stop Fre 5 56000000 GH
40.0	المتنزم وموجد وملاق	a south and a south					Walker Ville	and a		CF Ste 10.000000 Mi Auto M
800									elefter-literation	Freq Offs 01
Start 5.46			#VBW	3.0 MHz			Sweep		56000 GHz (1001 pts)	
00							STATU			

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

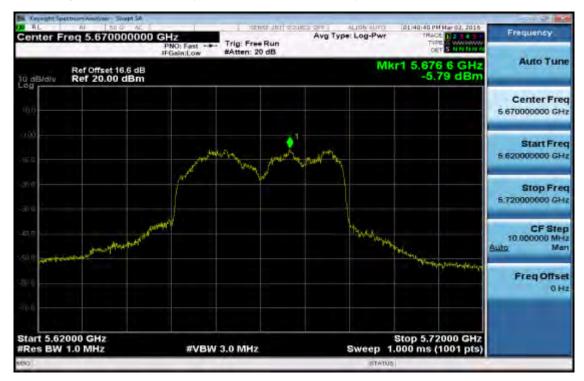


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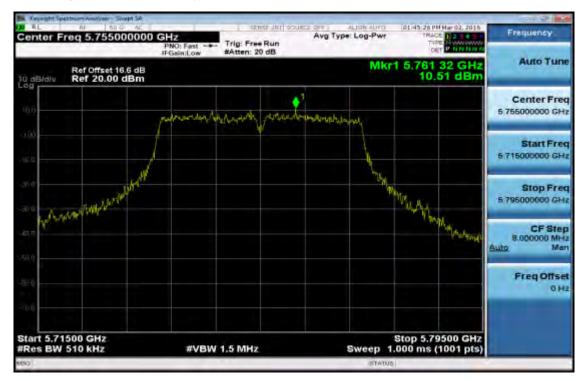


Peak Power Spectral Density Data Plot (CH High 5670 MHz)

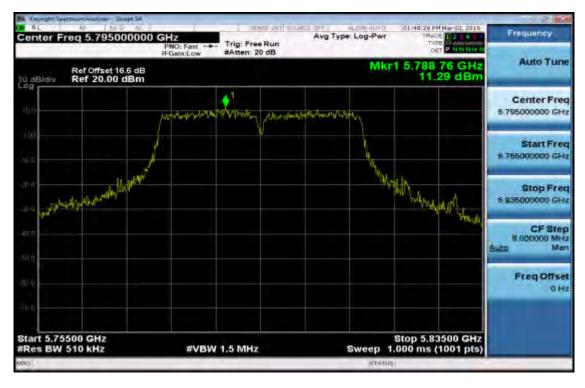


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802.11n HT40, 5725~5850 MHz Peak Power Spectral Density Data Plot (CH Low 5755 MHz)



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)



802.11ac VHT80, 5470~5725 MHz Peak Power Spectral Density Data Plot (CH High 5610 MHz)



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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

11.1 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.

APPLICABLE TO	LII	ИІТ				
FCC KDB 789033 D02 General UNII Test Procedures New Rules	FIELD STRENGTH AT 3m					
v01r01	ΡΚ: 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)				

 $EIRP = ((E^*d)^2) / 30$, 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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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.
- Emission level (dBµV/m) = 20 log Emission level (dBµV/m)

Measurement Equipment Used 11.2

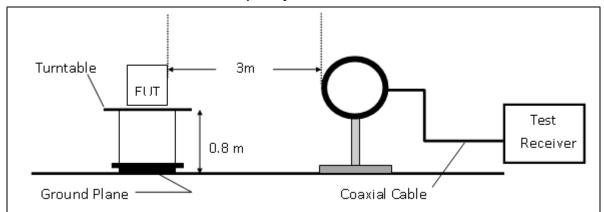
SGS SAC-III							
Name of Equipment	Manufacturer	Model	Serial Num- ber	Calibration Date	Calibration Due		
EMI Test Receiver	R&S	ESCI7	100760	05/04/2015	05/03/2016		
Spectrum Analyzer	Agilent	E4446A	MY51100003	01/28/2016	01/27/2017		
Loop Antenna	ETS.LINDGREN	6502	148045	09/07/2015	09/06/2016		
Bilog Antenna	SCHWAZBECK	VULB9168	378	12/14/2015	12/13/2016		
Horn antenna	ETS.LINDGREN	3117	123995	05/05/2015	05/04/2016		
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	07/02/2015	07/01/2016		
Low Loss Cable	Huber Suhner	966 TX	1	01/02/2016	01/01/2017		

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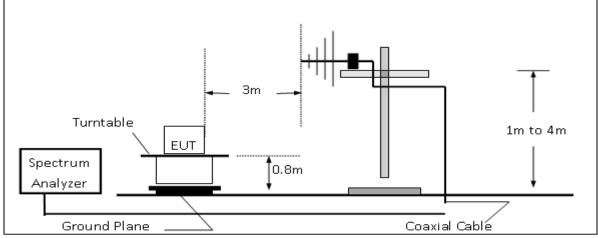


11.3 Test SET-UP

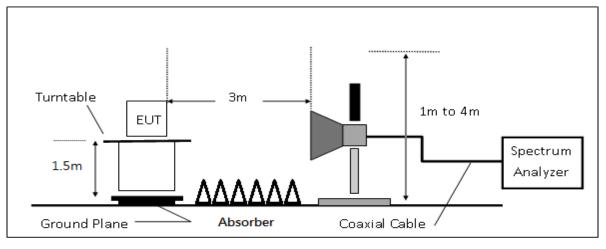
(A) Radiated Emission Test Set-UP Frequency Below 30MHz.



(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

- 1. The EUT was placed on a turn table which is 0.8m above ground plane.
- 2. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r01.
- The EUT was placed on a turn table with 0.8m for frequency< 1GHz and 1.5m for frequen-3. cy> 1GHz above ground plane.
- The turn table shall rotate 360 degrees to determine the position of maximum emission 4. level.
- 5. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emissions.
- Set the spectrum analyzer as RBW=120 kHz and VBW=300 kHz for Peak Detector (PK) 6. and Quasi-peak (QP) at frequency below 1 GHz.
- Set the spectrum analyzer as RBW=1 MHz, VBW=3 MHz for Peak Detector at frequency 7. above 1 GHz.
- 8. Set the spectrum analyzer as RBW=1 MHz, VBW=10 Hz (Duty cycle > 98%) or VBW ≥ 1/T (Duty cycle < 98%) for Average Detector at frequency above 1 GHz.
- 9. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 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:

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

FS = RA + AF + CL - AG

Actual FS(dB μ V/m) = SPA. Reading level(dB μ V) + Factor(dB)

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

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Note :

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

11.6 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.

11.7 Measurement Result

Refer to attach tabular data sheets.

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

Operation Mode : Fundamental Frequency : Operation Band : EUT Pol. :		2.11aB1 20 MHz CH MID Plane	Temp. / Humi. :			03/21/2016 09:05:39 21 deg_C / 61 RH Tin VERTICAL	
97							
80 -							
Level [dEuV]					FCC FSI	E-QP <u>3M</u>	
40				5 X			
	2 *	Å	*	Î		*	
30	200	400	600 Frequency [MHz]		800	1000	
Freq.	Note	Emission Level	Spectrum Reading Level	Factor	Limit @3m	Margin	
MHz	F/H/E/S	dBuV/m	dBuV	dB	dBuV/m	dB	
99.84	S	41.48	54.15	-12.67	43.50	-2.02	
199.75	S	25.14	34.74	-9.60	43.50	-18.36	
298.69	S	32.35	38.30	-5.95	46.00	-13.65	
500.45	S	31.64	34.33	-2.69	46.00	-14.36	
697.36	S	38.59	37.23	1.36	46.00	-7.41	
978.66	S	33.27	27.00	6.28	54.00	-20.73	

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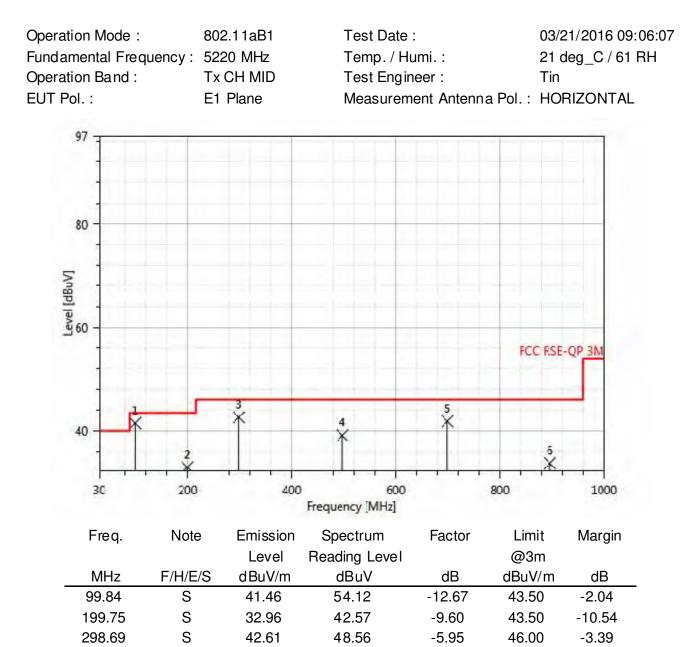
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497.54

699.30

896.21



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39.11

41.82

33.74

S

S

S

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41.50

40.38

29.15

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-2.39

1.44

4.59

46.00

46.00

46.00

-6.89

-4.18

-12.26



802.11a 5250~5350 MHz

Operation Mode :802.11aB2Fundamental Frequency :5300 MHzOperation Band :Tx CH MIDEUT Pol. :E1 Plane		00 MHz CH MID				21/2016 09:05:41 deg_C / 61 RH RTICAL
97 -						
-						
-						

80 -				1.		
	_					
5						
Level [dBuV]						
Evel .					FCC FSE	-OP 3M
-						F
40				5		
+0		3		×	6	10.11
		X	¥		×	
	2					
30	200	400	600		800	1000
50 200 400 600 800 1000 Frequency [MHz]						
Freq.	Note	Emission	Spectrum	Factor	Limit	Margin
1.04.	11010	Level	Reading Level	1 40101	@3m	ivia giri
MHz	F/H/E/S	dBuV/m	dBuV	dB	dBuV/m	dB
99.84	S	41.54	54.20	-12.67	43.50	-1.96
199.75	S	24.57	34.18	-9.60	43.50	-18.93
298.69	S	32.47	38.42	-5.95	46.00	-13.53
500.45	S	31.65	34.34	-2.69	46.00	-14.35

38.55

33.78

S

S

699.30

871.96

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37.10

28.72

1.44

5.06

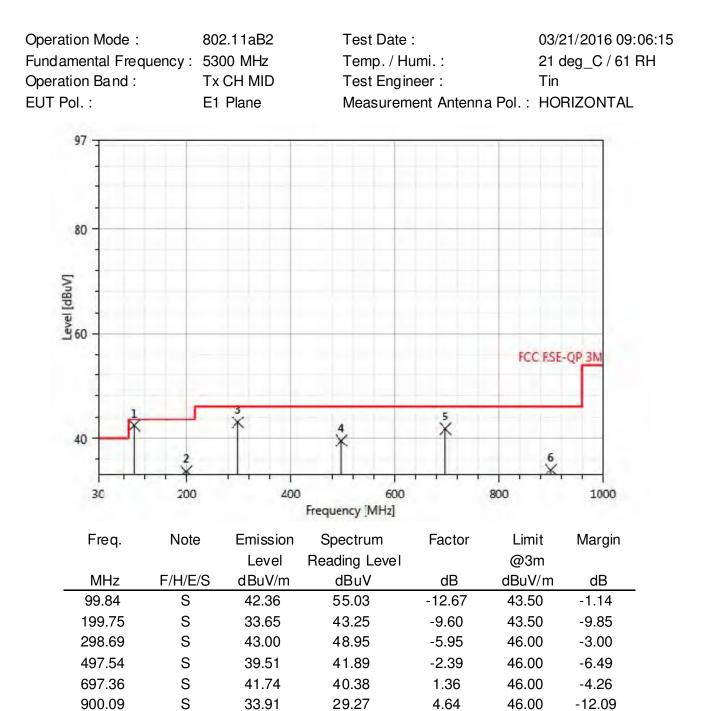
-7.45

-12.22

46.00

46.00





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802.11a, 5470~5725 MHz

Operation Mode : Fundamental Frequ Operation Band : EUT Pol. :	uency: 558 Tx	2.11aB3 30 MHz CH MID Plane	Test Date : Temp. / Hu Test Engin Measureme	ımi. : eer :	21 Tin	03/21/2016 09:05:43 21 deg_C / 61 RH Tin VERTICAL	
97							
80 -							
Level [dBuV]					FCC RSE	-QP 3M	
40	2	3 *	4	5 *		° X	
30 30	- 1 200	400) 600 Frequency [MHz]	<u></u>	800	1000	
Freq.	Note	Emission	Spectrum	Factor	Limit	Margin	
MHz	F/H/E/S	Level dBuV/m	Reading Level dBuV	dB	@3m dBuV/m	dB	
99.84	S	41.41	54.08	-12.67	43.50	-2.09	
199.75	S	25.61	35.21	-9.60	43.50	-17.89	
298.69	S	32.63	38.58	-5.95	46.00	-13.37	

31.36

37.67

33.69

S

S

S

500.45

697.36

970.90

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34.05

36.31

27.41

-2.69

1.36

6.28

46.00

46.00

54.00

-14.64

-8.33

-20.31



Operation Mode : 802.11aB3 Test Date : 03/21/2016 09:06:25 Fundamental Frequency: 5580 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band :** Tx CH MID Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: HORIZONTAL 97 80 Level [dBuV] FCC ESE-QP 3M 1 5 4 40 6 400 600 30 200 800 1000 Frequency [MHz] Freq. Note Emission Spectrum Factor Limit Margin Level Reading Level @3m MHz F/H/E/S dBuV/m dBuV dB dBuV/m dB 99.84 S 42.35 55.02 -12.67 43.50 -1.15 199.75 S 42.72 33.12 -9.60 43.50 -10.38

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43.09

40.04

41.16

33.69

S

S

S

S

298.69

497.54

699.30

873.90

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49.05

42.43

39.71

28.79

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46.00

46.00

46.00

46.00

-5.95

-2.39

1.44

4.90

-2.91

-5.96

-4.84

-12.31



802.11a, 5725~5850 MHz

500.45

699.30

970.90

Operation Mode : Fundamental Frequency : Operation Band : EUT Pol. :		802.11aB4 5785 MHz Tx CH MID E1 Plane	Test Date Temp. / I Test Eng Measure	Humi. :	21 c Tin		
97							
80							
Level [dBuV]					FCC RSE	-QP 3M	
40 -	1 X 2	3 *	4 X	5 *		°×	
30	200) 40	0 600 Frequency [MHz])	800	1000	
Free	q. Not	e Emission Level	Spectrum Reading Level	Factor	Limit @3m	Margin	
MH	z F/H/E	E/S dBuV/m	dBuV	dB	dBuV/m	dB	
99.8	4 S	38.46	51.13	-12.67	43.50	-5.04	
199.7	75 S	25.62	35.23	-9.60	43.50	-17.88	
298.6	69 S	32.82	38.77	-5.95	46.00	-13.18	

33.04

36.28

32.93

S

S

S

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35.72

34.84

26.64

-2.69

1.44

6.28

46.00

46.00

54.00

-12.96

-9.72

-21.07



40

30

Operation Mode : 802.11aB4 Test Date : 03/21/2016 09:06:40 Fundamental Frequency: 5785 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band :** Tx CH MID Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: HORIZONTAL 97 80 Level [dBuV] FCC FSE-QP 3M

	Freq.	Note	Emission	Spectrum	Factor	Limit	Margin	
			Level	Reading Level		@3m		
_	MHz	F/H/E/S	dBuV/m	dBuV	dB	dBuV/m	dB	_
_	99.84	S	42.26	54.93	-12.67	43.50	-1.24	-
	199.75	S	33.15	42.75	-9.60	43.50	-10.35	
	299.66	S	43.61	49.54	-5.93	46.00	-2.39	
	500.45	S	41.49	44.17	-2.69	46.00	-4.51	
	699.30	S	40.86	39.41	1.44	46.00	-5.14	
	900.09	S	34.58	29.94	4.64	46.00	-11.42	

Frequency [MHz]

4

400

5

600

6 X

1000

800

200

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802.11ac VHT80, 5150~5250 MHz

Operation Mode : Fundamental Frequency : Operation Band : EUT Pol. :		uency: 52 ⁻ Tx	2.1 1ac80B1 10 MHz CH LOW Plane	Test Date Temp. / Hu Test Engin Measurem	umi. : ieer :	21 Tir	03/01/2016 23:01:55 21 deg_C / 61 RH Tin VERTICAL		
97	1								
80	, <u>-</u>								
Level [dBuV]				-		FCC RS	E-QP 3M		
40	, k	2	3 * 4 *	5 *					
	30	- 1 200	400	600 Frequency [MHz]	i i i i	800	1000		
	Freq.	Note	Emission Level	Spectrum Reading Level	Factor	Limit @3m	Margin		
	MHz	F/H/E/S	dBuV/m	dBuV	dB	dBuV/m	dB		
	99.84	S	40.70	53.37	-12.67	43.50	-2.80		
	199.75	S	26.42	36.03	-9.60	43.50	-17.08		
	299.66	S	33.60	39.53	-5.93	46.00	-12.40		
4	400.54	S	30.44	34.38	-3.94	46.00	-15.56		

34.68

44.29

S

S

500.45

599.39

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37.36

44.56

-2.69

-0.28

46.00

46.00

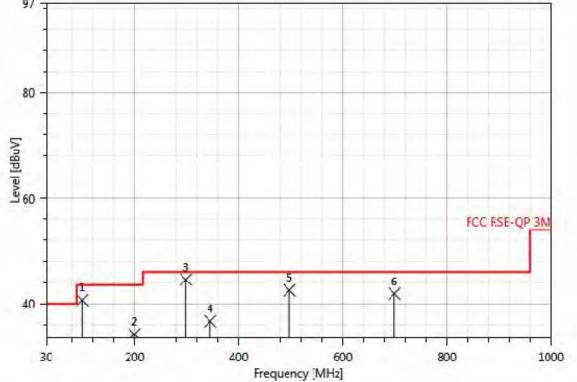
-11.32

-1.71



:32

802.11ac80B1	Test Date :	03/01/2016 23:01:3
5210 MHz	Temp. / Humi. :	21 deg_C / 61 RH
Tx CH LOW	Test Engineer :	Tin
E1 Plane	Measurement Antenna Pol. :	HORIZONTAL
	5210 MHz Tx CH LOW	5210 MHzTemp. / Humi. :Tx CH LOWTest Engineer :



Freq.	Note	Emission	Spectrum	Factor	Limit	Margin
		Level	Reading Level		@3m	
MHz	F/H/E/S	dBuV/m	dBuV	dB	dBuV/m	dB
99.84	S	40.67	53.34	-12.67	43.50	-2.83
199.75	S	34.21	43.81	-9.60	43.50	-9.29
298.69	S	44.55	50.50	-5.95	46.00	-1.45
345.25	S	36.67	41.76	-5.09	46.00	-9.33
497.54	S	42.52	44.90	-2.39	46.00	-3.48
699.30	S	41.88	40.43	1.44	46.00	-4.12

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802.11ac VHT80, 5250~5350 MHz

Operation Mode : Fundamental Frequ Operation Band : EUT Pol. :	uency: 529 Tx	2.1 1ac80 B2 90 MHz CH MID Plane	Test Date : Temp. / Hu Test Engin Measureme	ımi. : eer :	21 c Tin	03/21/2016 09:05:49 21 deg_C / 61 RH Tin VERTICAL	
97							
80 -							
Level [dBuV]					FCC RSE	-QP 3M	
40	2	3 X	4 *	5 *		6 *	
30 30	200	400	600 Frequency [MHz]	<u>, i i i i</u>	800	1000	
Freq.	Note	Emission Level	Spectrum Reading Level	Factor	Limit @3m	Margin	
MHz	F/H/E/S	dBuV/m	dBuV	dB	dBuV/m	dB	
99.84	S	38.66	51.33	-12.67	43.50	-4.84	
199.75	S	25.50	35.10	-9.60	43.50	-18.00	
298.69	S	32.41	38.36	-5.95	46.00	-13.59	

34.68

36.27

32.39

S

S

S

497.54

697.36

968.96

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37.07

34.91

26.17

-2.39

1.36

6.21

46.00

46.00

54.00

-11.32

-9.73

-21.61

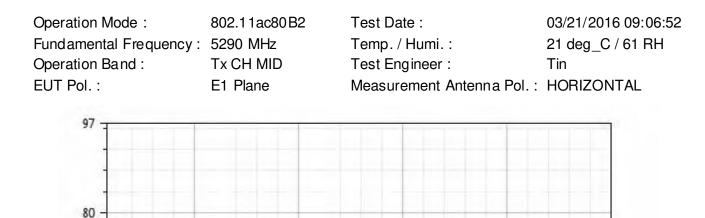


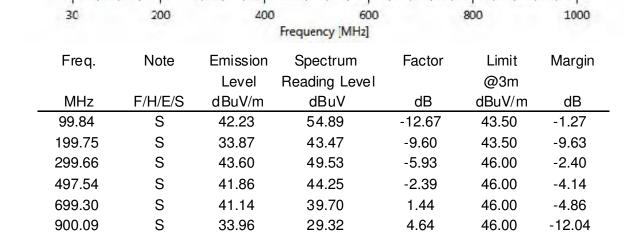
Level [dBuV]

40

FCC RSE-QP 3M

6





4

5

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802.11ac VHT80, 5470~5725 MHz

Operation Mode : Fundamental Free Operation Band : EUT Pol. :	quency: 56 ⁻ Tx	2.1 1ac80B3 10 MHz CH MID Plane	Test Date Temp. / Hi Test Engir Measurem	umi. : neer :	21 Tin	02/17/2016 22:37:34 21 deg_C / 61 RH Tin VERTICAL	
97							
80 -							
Level [dBuV]					FCC RSE	E-QP 3M	
40	2	3 X	4 *	5 *		°×	
30	200	400	600 Frequency [MHz]		800	1000	
Freq.	Note	Emission Level	Spectrum Reading Level	Factor	Limit @3m	Margin	
MHz	F/H/E/S	dBuV/m	dBuV	dB	dBuV/m	dB	
99.84	S	38.66	51.33	-12.67	43.50	-4.84	
199.75	S	25.50	35.10	-9.60	43.50	-18.00	
298.69	S	32.41	38.36	-5.95	46.00	-13.59	
400.54	S	29.69	33.63	-3.94	46.00	-16.31	
497.54	S	34.68	37.07	-2.39	46.00	-11.32	

41.01

S

599.39

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41.29

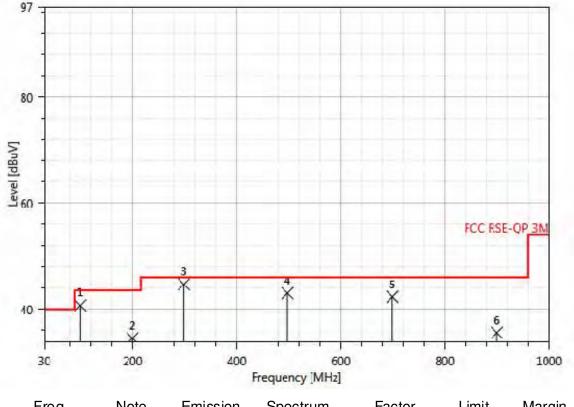
-0.28

46.00

-4.99



Operation Mode :	802.11ac80B3	Test Date :	02/19/2016 23:03:01
Fundamental Frequency :	5610 MHz	Temp. / Humi. :	21 deg_C / 61 RH
Operation Band :	Tx CH MID	Test Engineer :	Tin
EUT Pol. :	E1 Plane	Measurement Antenna Pol. :	HORIZONTAL



⊢req.	Note	Emission	Spectrum	Factor	Limit	Margin	
		Level	Reading Level		@3m		
MHz	F/H/E/S	dBuV/m	dBuV	dB	dBuV/m	dB	_
99.84	S	40.36	53.02	-12.67	43.50	-3.14	
199.75	S	33.87	43.47	-9.60	43.50	-9.63	
299.66	S	43.60	49.53	-5.93	46.00	-2.40	
345.25	S	32.90	37.99	-5.09	46.00	-13.10	
497.54	S	41.86	44.25	-2.39	46.00	-4.14	
699.30	S	41.14	39.70	1.44	46.00	-4.86	

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802.11ac VHT80, 5725~5850 MHz

Operation Mode : Fundamental Fre Operation Band : EUT Pol. :	quency : 57 Tx	2.11ac80B4 75 MHz CH LOW Plane	Test Date Temp. / Hu Test Engin Measurem	umi. : ieer :	21	03/01/2016 22:53:34 21 deg_C / 61 RH Tin VERTICAL	
97							
80 -							
Level [dBuV]					FCC RSE	-QP 3M	
40	2	3 * 4	5 *				
30	200	400	600 Frequency [MHz]		800	1000	
Freq.	Note	Emission Level	Spectrum Reading Level	Factor	Limit @3m	Margin	
MHz	F/H/E/S	dBuV/m	dBuV	dB	dBuV/m	dB	
99.84	S	41.79	54.46	-12.67	43.50	-1.71	
199.75	S	26.83	36.43	-9.60	43.50	-16.67	
298.69	S	32.99	38.95	-5.95	46.00	-13.01	
399.57	S	30.34	34.27	-3.93	46.00	-15.66	

34.54

40.22

S

S

497.54

597.45

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36.93

40.41

-2.39

-0.19

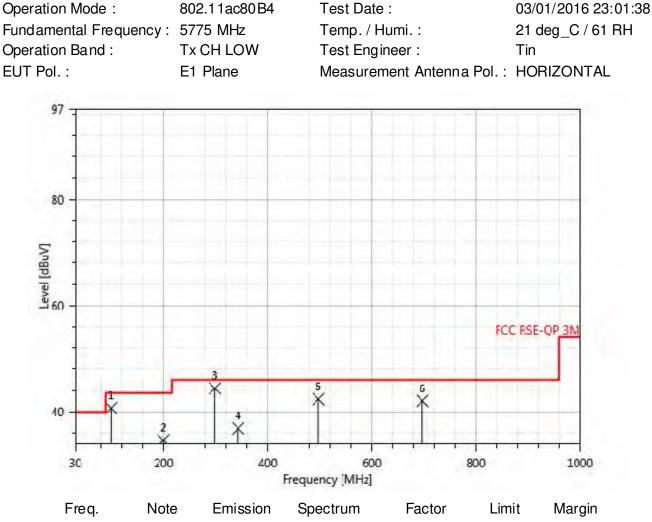
46.00

46.00

-11.46

-5.78





⊢req.	Note	Emission	Spectrum	Factor	Limit	Margin	
		Level	Reading Level		@3m		
MHz	F/H/E/S	dBuV/m	dBuV	dB	dBuV/m	dB	
99.84	S	40.70	53.37	-12.67	43.50	-2.80	
199.75	S	34.65	44.25	-9.60	43.50	-8.85	
298.69	S	44.40	50.35	-5.95	46.00	-1.60	
343.31	S	36.87	41.99	-5.12	46.00	-9.13	
497.54	S	42.37	44.76	-2.39	46.00	-3.63	
697.36	S	42.06	40.70	1.36	46.00	-3.94	

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Above 1GHz Worst-Case Data:

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

Operation Mode : Fundamental Frequency Operation Band : EUT Pol. :	802.11aB1 : 5180 MHz Tx CH LOW E1 Plane	Test Date :03/01/2016 1Temp. / Humi. :21 deg_C / 6Test Engineer :TinMeasurement Antenna Pol. :VERTICAL				MHzTemp. / Humi. :21 dH LOWTest Engineer :Tin		
97								
90 -								
Level [dBuV]								
level		FCC RSE	PEAK15.407 3M					
60								
FCC RSE-A	10000 15000	20000 25000 30000 uency [MHz]	35000 40000					
Freq. No		•	mit Margin 3m					

dBuV

48.82

dB

18.29

dBuV/m

68.30

dB

-1.19

dBuV/m

67.11

F/H/E/S

н

MHz

10360.00

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Operation Mode : 802.11aB1 Test Date : 03/01/2016 19:39:44 Fundamental Frequency: 5180 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band :** Tx CH LOW Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: HORIZONTAL 97 90 Level [dBuV] 70 FCC RSE PEAK15.407 3N 1 60 FCC RSE-AV15.407 3M 15000 20000 25000 30000 1000 5000 10000 35000 40000 Frequency [MHz]

⊢req.	Note	Emission	Spectrum	Factor	Limit	Margin	
		Level	Reading Level		@3m		
MHz	F/H/E/S	dBuV/m	dBuV	dB	dBuV/m	dB	
10360.00	Н	62.18	43.89	18.29	68.30	-6.12	_

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Operation Mode : 802.11aB1 Test Date : 03/01/2016 19:45:38 Fundamental Frequency: 5220 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band :** Tx CH MID Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: VERTICAL 97 90 Level [dBuV] 70 FCC RSE PEAK15.407 3N 1 60 FCC RSE-AV15.407 3M 15000 20000 25000 30000 1000 5000 10000 35000 40000 Frequency [MHz] Spectrum Factor Limit Margin Freq. Note Emission

Reading Level

dBuV

46.02

Level

dBuV/m

64.70

F/H/E/S

н

MHz 10440.00

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@3m dBuV/m

68.30

dB

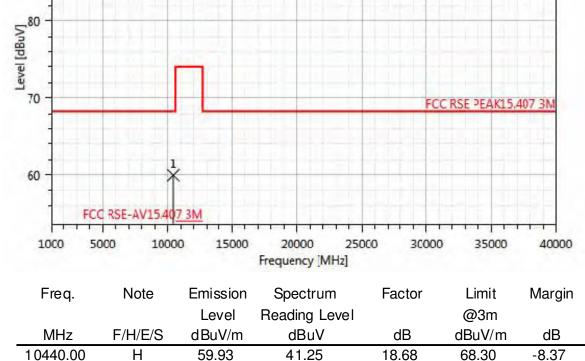
-3.60

dB

18.68



Operation Mode : 802.11aB1 Test Date : 03/01/2016 19:45:54 Fundamental Frequency: 5220 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band :** Tx CH MID Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: HORIZONTAL 97 90



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Operation Mode : 802.11aB1 Test Date : 03/01/2016 19:49:59 Fundamental Frequency: 5240 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band : Tx CH HIGH** Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: VERTICAL 97 90 Level [dBuV] 70 FCC RSE PEAK15.407 3N 1 60 FCC RSE-AV15.407 3M 15000 20000 25000 30000 1000 5000 10000 35000 40000 Frequency [MHz] Spectrum Factor Limit Freq. Note Emission Margin Level Reading Level @3m F/H/E/S dBuV/m dBuV dBuV/m MHz dB dB 10480.00 н 64.39 46.10 18.29 68.30 -3.91

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Operation Mode : 802.11aB1 Test Date : 03/01/2016 19:50:14 Fundamental Frequency: 5240 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band : Tx CH HIGH** Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: HORIZONTAL 97 90 Level [dBuV] 70 FCC RSE PEAK15.407 3N 1 60 FCC RSE-AV15.407 3M 15000 25000 30000 40000 1000 5000 10000 20000 35000 Frequency [MHz]

Freq.	Note	Emission	Spectrum	Factor	Limit	Margin
		Level	Reading Level		@3m	
MHz	F/H/E/S	dBuV/m	dBuV	dB	dBuV/m	dB
10480.00	Н	60.12	41.83	18.29	68.30	-8.18

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

Operation Mode : Fundamental Frequency : Operation Band : EUT Pol. :		02.11aB2 260 MHz < CH LOW 1 Plane	Test Date Temp. / F Test Eng Measure	Humi. :	21 c Tin	01/2016 19:52:29 leg_C / 61 RH RTICAL
97						
90 -						
80 Fevel [dBn/]				FCC	RSE PEAK15.	407 <u>3M</u>
60 -		×				
1000	FCC RSE-AV154 5000 100	TTTTT	20000 2 Frequency [MHz]	5000 30000	35000	40000
Freq.	Note	Emission Level	Spectrum Reading Level	Factor	Limit @3m	Margin
MHz	F/H/E/S	dBuV/m	dBuV	dB	dBuV/m	dB
10520.00) H	64.87	45.50	19.37	68.30	-3.43

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MHz

10520.00

н

Operation Mode : 802.11aB2 Test Date : 03/01/2016 19:52:44 Fundamental Frequency: 5260 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band :** Tx CH LOW Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: HORIZONTAL 97 90 Level [dBuV] 70 FCC RSE PEAK15.407 3N 1 60 FCC RSE-AV15.407 3M 15000 20000 25000 30000 1000 5000 10000 35000 40000 Frequency [MHz] Spectrum Factor Limit Margin Freq. Note Emission Level Reading Level @3m F/H/E/S dBuV/m dBuV dBuV/m dB

41.57

60.94

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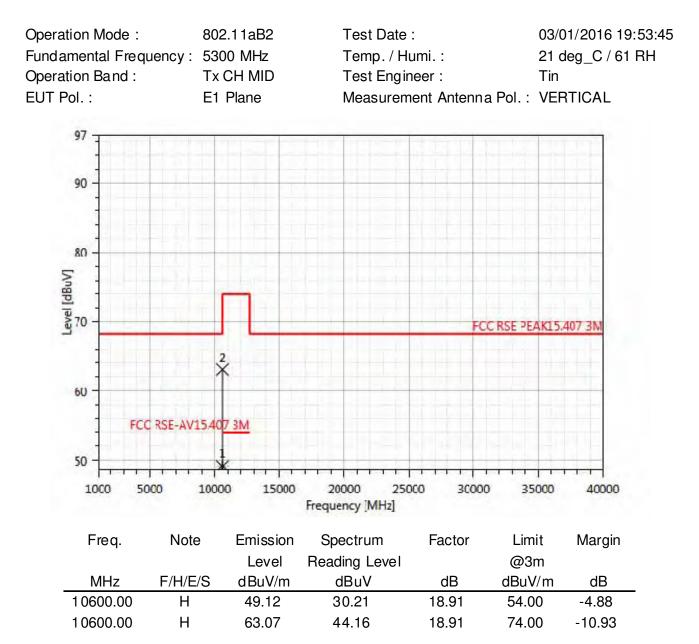
dB

19.37

68.30

-7.36





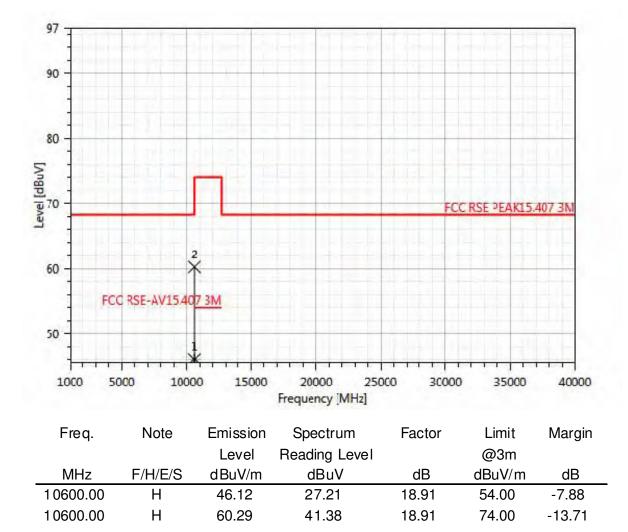
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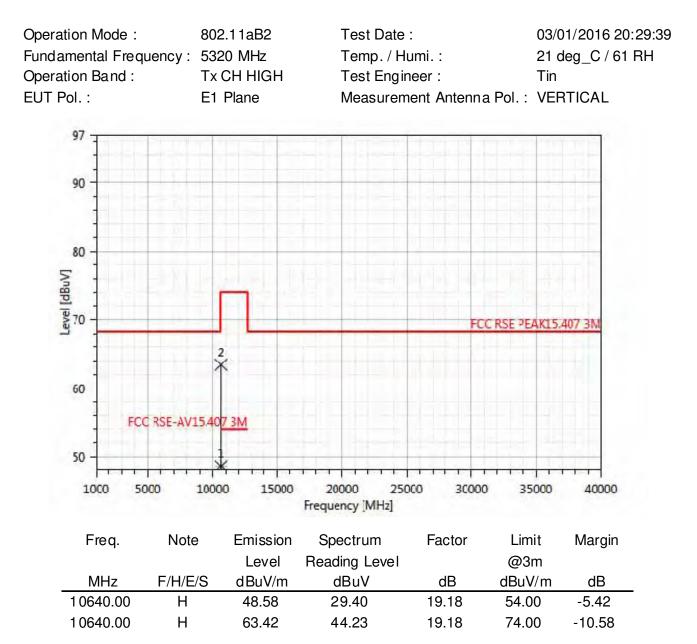
Operation Mode : 802.11aB2 Test Date : Fundamental Frequency: 5300 MHz Temp. / Humi. : **Operation Band :** Tx CH MID Test Engineer : EUT Pol. : E1 Plane

03/01/2016 19:54:00 21 deg C / 61 RH Tin Measurement Antenna Pol.: HORIZONTAL



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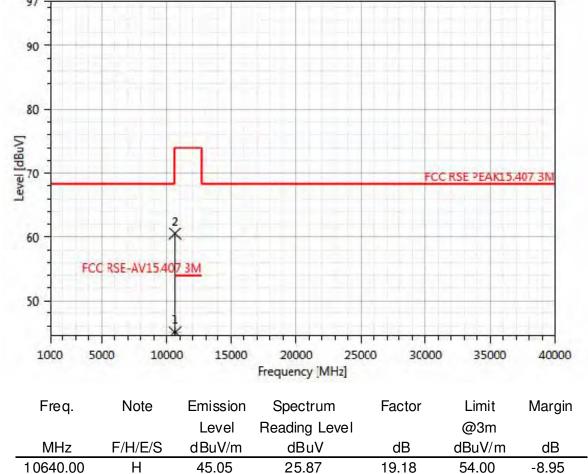
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10640.00

н

Operation Mode : 802.11aB2 Test Date : 03/01/2016 20:29:52 Fundamental Frequency: 5320 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band : Tx CH HIGH** Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: HORIZONTAL 97



41.31

19.18

74.00

-13.50

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60.50

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

Operation Mode : Fundamental Frequence Operation Band : EUT Pol. :	802.11aB3 sy : 5500 MHz Tx CH LOW E1 Plane	Test Date : Temp. / Humi. : Test Engineer : Measurement Antenna	03/01/2016 20:37:39 21 deg_C / 61 RH Tin Pol. : VERTICAL
97			
90			
80			
[dBuV]		FCC	RSE PEAK15.407 3M
60	2 X		
50 - FCC RSE	-AV15.407 <u>3M</u>		
1000 5000		0000 25000 30000 lency [MHz]	35000 40000
Freq. N	•	bectrum Factor ding Level	Limit Margin @3m
MHz F/	H/E/S dBuV/m	dBuV dB	dBuV/m dB
1 1000.00	H 45.74	25.57 20.17	54.00 -8.26
11000.00	H 61.58	41.41 20.17	74.00 -12.42

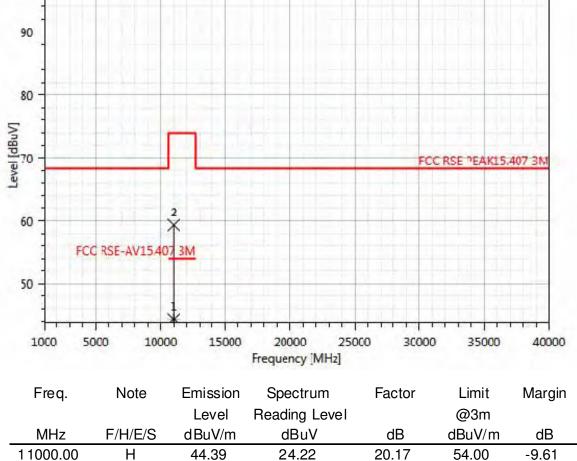
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11000.00

н

Operation Mode : 802.11aB3 Test Date : 03/01/2016 20:37:53 Fundamental Frequency: 5500 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band :** Tx CH LOW Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: HORIZONTAL 97



39.16

20.17

74.00

-14.67

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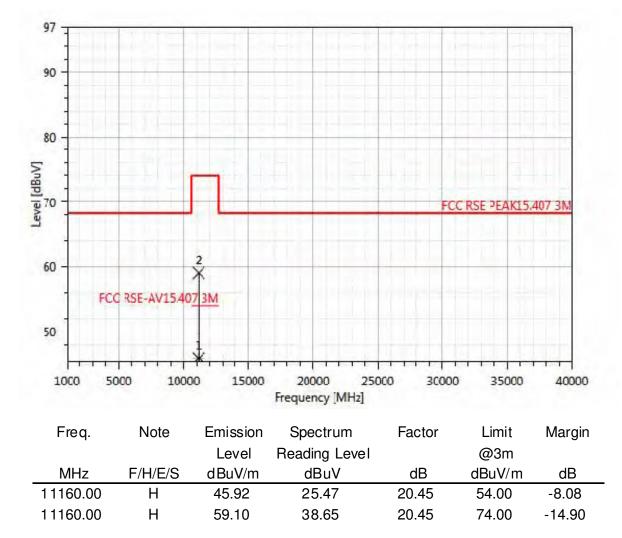
59.33

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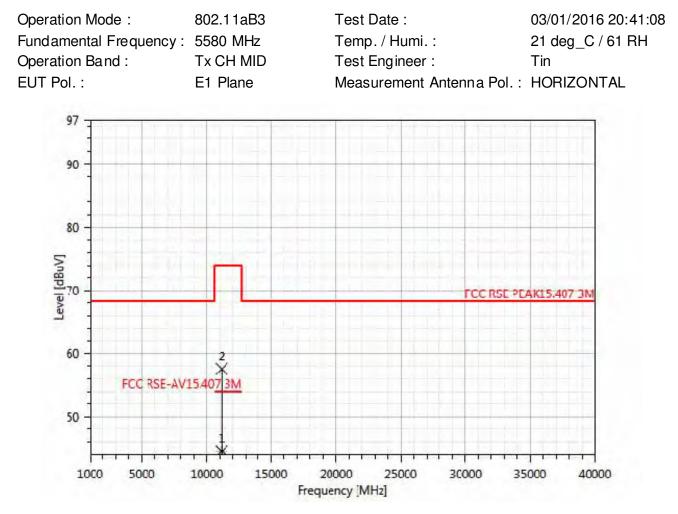
Operation Mode : 802.11aB3 Test Date : Fundamental Frequency: 5580 MHz Temp. / Humi. : **Operation Band :** Tx CH MID Test Engineer : EUT Pol. : E1 Plane

03/01/2016 20:40:54 21 deg C / 61 RH Tin Measurement Antenna Pol.: VERTICAL



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Freq.	Note	Emission	Spectrum	Factor	Limit	Margin
		Level	Reading Level		@3m	
MHz	F/H/E/S	dBuV/m	dBuV	dB	dBuV/m	dB
11160.00	Н	44.56	24.11	20.45	54.00	-9.44
11160.00	Н	57.59	37.15	20.45	74.00	-16.41

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Operation Mode : 802.11aB3 Test Date : 03/01/2016 20:46:16 Fundamental Frequency: 5700 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band : Tx CH HIGH** Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: VERTICAL 97 90 80 Level [dBuV] /0 FCC RSE PEAK15.407 3N 60 FCC RSE-AV15.407 50 30000 15000 25000 1000 5000 10000 20000 35000 40000 Frequency [MHz]

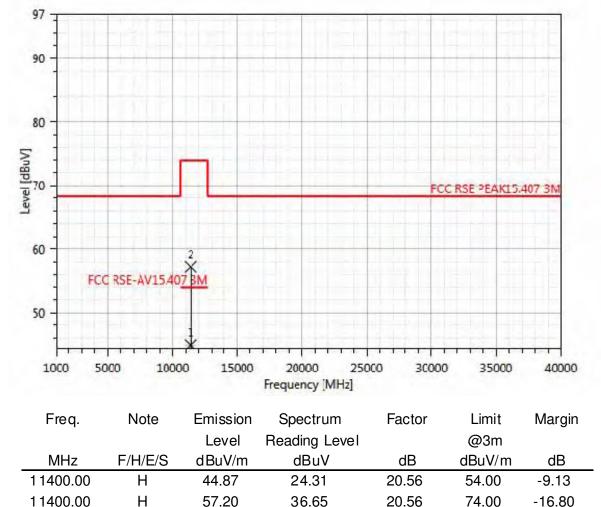
Freq.	Note	Emission	Spectrum	Factor	Limit	Margin	
		Level	Reading Level		@3m		
MHz	F/H/E/S	dBuV/m	dBuV	dB	dBuV/m	dB	
11400.00	Н	46.47	25.91	20.56	54.00	-7.53	
11400.00	Н	58.92	38.36	20.56	74.00	-15.08	

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Operation Mode : 802.11aB3 Test Date : Fundamental Frequency: 5700 MHz Temp. / Humi. : **Operation Band : Tx CH HIGH** Test Engineer : EUT Pol. : E1 Plane

03/01/2016 20:46:30 21 deg C / 61 RH Tin Measurement Antenna Pol.: HORIZONTAL



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

Operation Mode : Fundamental Frequen Operation Band : EUT Pol. :	802.11aB4 ncy: 5745 MHz Tx CH LOW E1 Plane	Test Engine	Test Date :03/01/2016 20:Temp. / Humi. :21 deg_C / 61 FTest Engineer :TinMeasurement Antenna Pol. :VERTICAL		
97		- In Presser		1-	100
90 -					
80					
5					1.00
80.70			ECC P	SE PEAK15.4	07 741
Constant of the second			FLER	DE PEAKLD.4	07 510
	2 X				
60	×				
FCC RS	E-AV1540/ 3M				411
50 -					
++++++	X				11
1000 5000	10000 15000	20000 2500 Frequency [MHz]	0 30000	35000	40000
Freq.	Note Emission	Spectrum	Factor	Limit	Margin
	Level	Reading Level		@3m	
MHz F	/H/E/S dBuV/m	dBuV	dB d	dBuV/m	dB
11490.00	H 43.60	23.18	20.42	54.00	-10.40
11490.00	H 60.81	40.39	20.42	74.00	-13.19

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11490.00

11490.00

Operation Mode : 802.11aB4 Test Date : 03/01/2016 20:51:58 Fundamental Frequency: 5745 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band :** Tx CH LOW Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: HORIZONTAL 97 90 80 Level [dBuV] FCC RSF PEAK15,407 3M X 60 FCC RSE-AV15.407 3M 50 15000 20000 25000 30000 1000 5000 10000 35000 40000 Frequency [MHz] Freq. Note Emission Spectrum Factor Limit Margin Level Reading Level @3m F/H/E/S dBuV/m dBuV dBuV/m dB MHz dB

23.00

38.47

20.42

20.42

54.00

74.00

-10.58

-15.11

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43.42

58.89

Н

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11570.00

н

Operation Mode : 802.11aB4 Test Date : 03/01/2016 20:55:16 Fundamental Frequency: 5785 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band :** Tx CH MID Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: VERTICAL 97 90 80 Level [dBuV] 70 FCC RSE PEAK15.407 3N 60 FCC RSE-AV15.407 50 15000 25000 30000 1000 5000 10000 20000 35000 40000 Frequency [MHz] Freq. Note Emission Spectrum Factor Limit Margin Level Reading Level @3m F/H/E/S dBuV/m dBuV dBuV/m MHz dB dB 11570.00 Н 44.83 24.24 20.59 54.00 -9.17

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60.68

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40.10

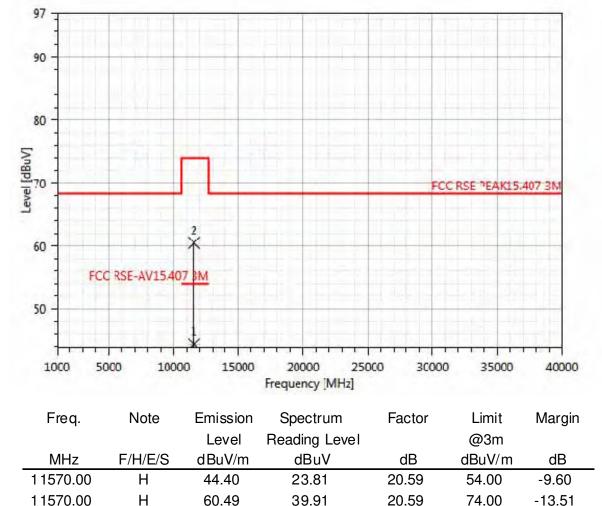
20.59

74.00

-13.32



Operation Mode : 802.11aB4 Test Date : 03/01/2016 20:55:30 Fundamental Frequency: 5785 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band :** Tx CH MID Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: HORIZONTAL



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50

11650.00

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Operation Mode : 802.11aB4 Test Date : 03/01/2016 20:58:50 Fundamental Frequency: 5825 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band : Tx CH HIGH** Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: VERTICAL 97 90 80 Level [dBuV] PEAK15,407 3M CCRSE 2 60 FCC RSE-AV15.407

15000 20000 25000 30000 1000 5000 10000 35000 40000 Frequency [MHz] Freq. Note Emission Spectrum Factor Limit Margin Level Reading Level @3m F/H/E/S dBuV/m dBuV dBuV/m MHz dB dB 11650.00 Н 47.27 26.84 20.43 54.00 -6.73

43.93

20.43

74.00

-9.64

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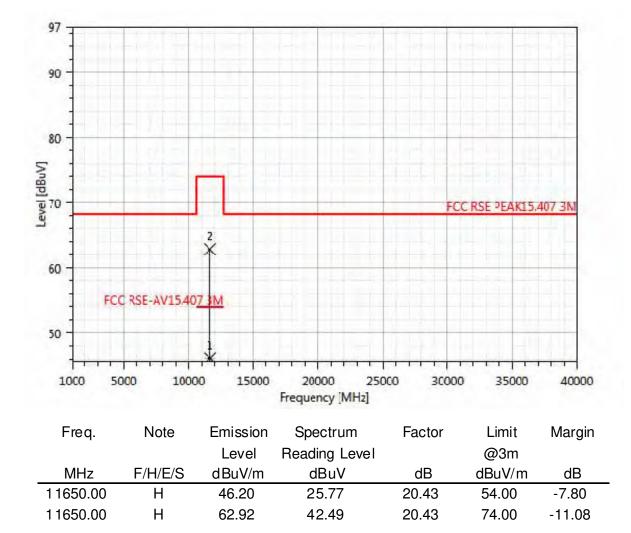
64.36

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Operation Mode : 802.11aB4 Fundamental Frequency: 5825 MHz **Operation Band : Tx CH HIGH** EUT Pol. : E1 Plane

Test Date : 03/01/2016 20:59:04 Temp. / Humi. : 21 deg C / 61 RH Test Engineer : Tin Measurement Antenna Pol.: HORIZONTAL



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

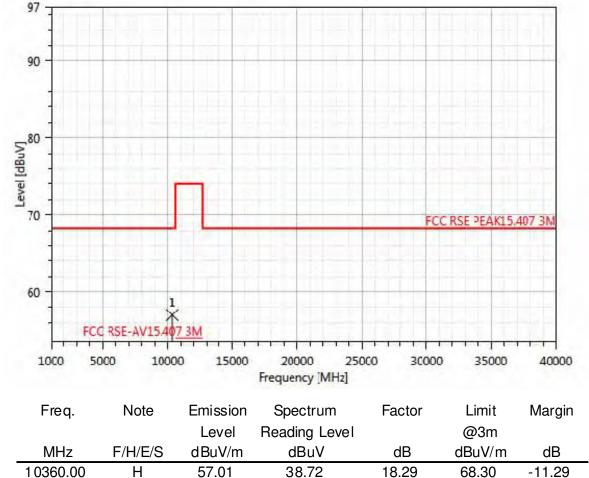
Operation Mode : Fundamental Fre Operation Band : EUT Pol. :	quency : 5180 Tx C	1 1n20B1) MHz)H LOW Plane	Test Dat Temp. / Test Eng Measure	Humi. :	21 d Tin	1/2016 19:55:58 eg_C / 61 RH TICAL
97						
90						
80 						
				FCC	RSE PEAK15.4	407 <u>3M</u>
60	X					
F	CC RSE-AV15.407	<u>3M</u>				
1000	5000 10000	15000	20000 2 Frequency [MHz]	5000 3000	35000	40000
Freq.	Note	Emission Level	Spectrum Reading Leve	Factor	Limit @3m	Margin
MHz	F/H/E/S	dBuV/m	dBuV	dB	dBuV/m	dB
10360.00	Н	61.37	43.07	18.29	68.30	-6.93

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Operation Mode : 802.11n20B1 Test Date : 03/01/2016 19:56:11 Fundamental Frequency: 5180 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band :** Tx CH LOW Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: HORIZONTAL



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Operation Mode : 802.11n20B1 Test Date : 03/01/2016 20:04:19 Fundamental Frequency: 5220 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band :** Tx CH MID Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: VERTICAL 97 90 Level [dBuV] 70 FCC RSE PEAK15.407 3N 1 60 FCC RSE-AV15.407 3M 15000 20000 25000 30000 1000 5000 10000 35000 40000 Frequency [MHz] Spectrum Factor Limit Margin Freq. Note Emission Level Reading Level @3m

dBuV

40.68

dBuV/m

59.37

F/H/E/S

н

MHz 10440.00

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dBuV/m

68.30

dB

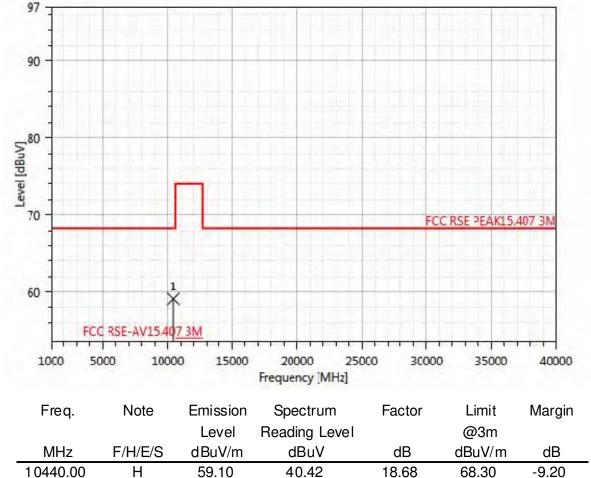
-8.93

dB

18.68



Operation Mode : 802.11n20B1 Test Date : 03/01/2016 20:04:33 Fundamental Frequency: 5220 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band :** Tx CH MID Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: HORIZONTAL



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60

1000

Operation Mode : 802.11n20B1 Test Date : 03/01/2016 20:06:12 Fundamental Frequency: 5240 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band : Tx CH HIGH** Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: VERTICAL 97 90 Level [dBuV] 70 FCC RSE PEAK15.407 3N

Freq.	Note	Emission	Spectrum	Factor	Limit	Margin	
		Level	Reading Level		@3m		
MHz	F/H/E/S	dBuV/m	dBuV	dB	dBuV/m	dB	_
10480.00	Н	59.06	40.76	18.29	68.30	-9.24	-

20000

Frequency [MHz]

25000

30000

35000

40000

1

10000

15000

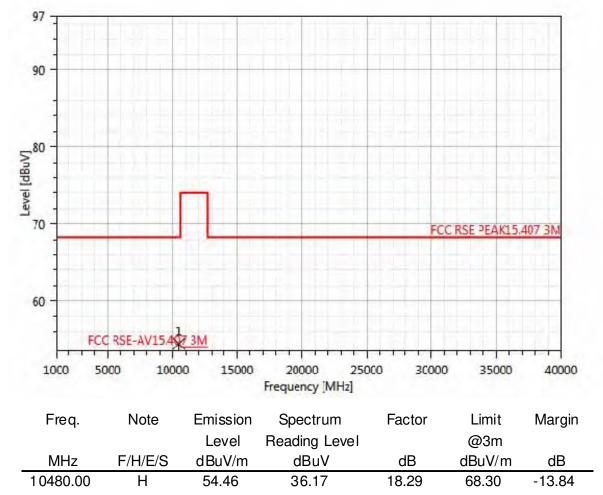
FCC RSE-AV15.407 3M

5000

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Operation Mode : 802.11n20B1 Test Date : 03/01/2016 20:06:26 Fundamental Frequency: 5240 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band : Tx CH HIGH** Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: HORIZONTAL



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

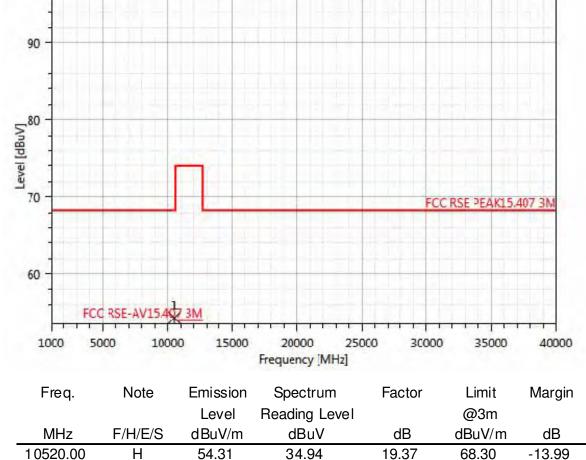
Operation Mode : Fundamental Frequ Operation Band : EUT Pol. :	uency: 5260	1 1n20B2) MHz H LOW Plane	Test Date Temp. / Hu Test Engin Measurem	umi.:	21 d Tin	1/2016 20:07:55 eg_C / 61 RH
97						1.1
90						
Fevel [ding]		1		FCC	RSE PEAK15,4	107 <u>3M</u>
60	RSE-AV15407	3M				
1	00 10000	TITT	20000 250 Frequency [MHz]	co 3cooo	35000	40000
Freq.	Note	Emission Level	Spectrum Reading Level	Factor	Limit @3m	Margin
MHz	F/H/E/S	dBuV/m	dBuV	dB	dBuV/m	dB
10520.00	Н	58.67	39.30	19.37	68.30	-9.63

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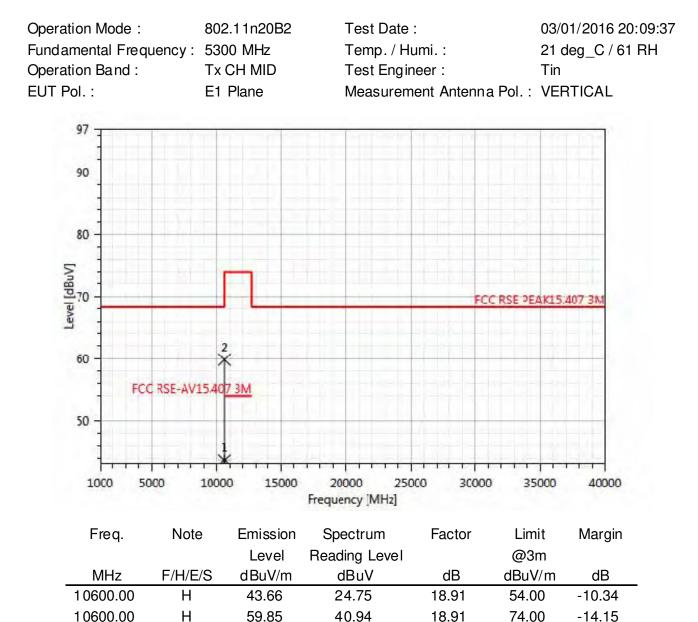


Operation Mode : 802.11n20B2 Test Date : 03/01/2016 20:08:08 Fundamental Frequency: 5260 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band :** Tx CH LOW Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: HORIZONTAL 97



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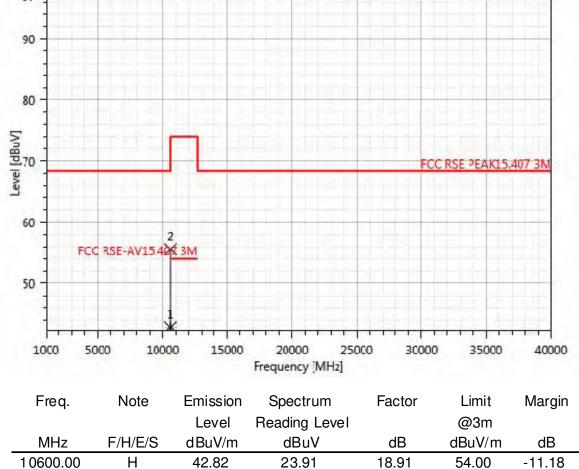
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Operation Mode : 802.11n20B2 Test Date : 03/01/2016 20:09:50 Fundamental Frequency: 5300 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band :** Tx CH MID Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: HORIZONTAL 97



36.66

18.91

74.00

-18.43

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55.57

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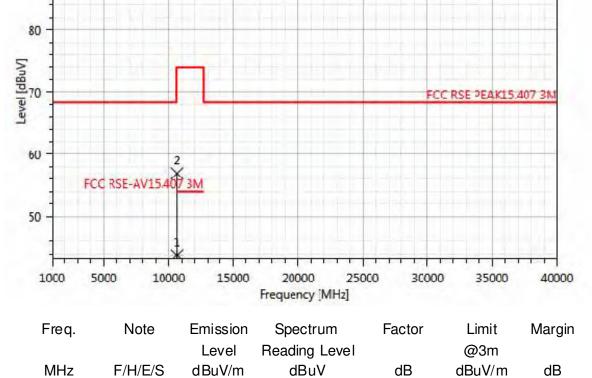


10640.00

Н

н

Operation Mode : 802.11n20B2 Test Date : 03/01/2016 20:32:07 Fundamental Frequency: 5320 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band : Tx CH HIGH** Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: VERTICAL 97 90



24.59

37.74

19.18

19.18

54.00

74.00

-10.23

-17.07

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43.77

56.93

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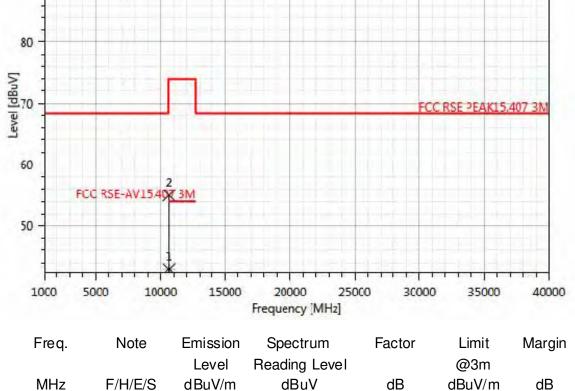


10640.00

Н

н

Operation Mode : 802.11n20B2 Test Date : 03/01/2016 20:32:20 Fundamental Frequency: 5320 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band : Tx CH HIGH** Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: HORIZONTAL 97 90



23.76

35.81

19.18

19.18

54.00

74.00

-11.06

-19.00

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42.94

55.00

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

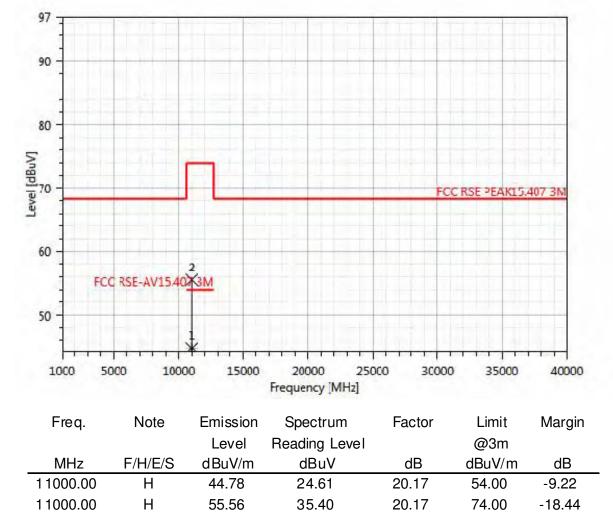
Operation Mode : Fundamental Frequency : Operation Band : EUT Pol. :	802.11n20B3 5500 MHz Tx CH LOW E1 Plane	Test Date : Temp. / Humi. : Test Engineer : Measurement Ante	21 c Tin	01/2016 20:39:10 deg_C / 61 RH RTICAL
97				The second s
90				
80 -				
Level [dBuV]			FCC RSE PEAK15	.407 3M
60 FCC RSE-AV	2 /15.40 <u>7 3M</u>			
50 -		-		
1000 5000		20000 25000 3 uency [MHz]	3000 35000	40000
Freq. Not		pectrum Facto		Margin
MHz F/H/I		ding Level dBuV dB	@3m dBuV/m	dB
11000.00 H		26.41 20.17		-7.42
11000.00 H	59.22	39.05 20.17	7 74.00	-14.78

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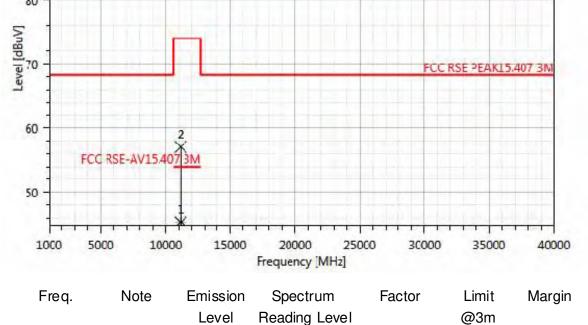
Operation Mode :	802.11n20B3	Test Date :	03/01/2016 20:39:24
Fundamental Frequency :	5500 MHz	Temp. / Humi. :	21 deg_C / 61 RH
Operation Band :	Tx CH LOW	Test Engineer :	Tin
EUT Pol. :	E1 Plane	Measurement Antenna Pol. :	HORIZONTAL



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Operation Mode : 802.11n20B3 Test Date : 03/01/2016 20:44:27 Fundamental Frequency: 5580 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band :** Tx CH MID Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: VERTICAL 97 90 80



dBuV

24.88

36.63

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dBuV/m

45.33

57.07

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F/H/E/S

Н

н

MHz

11160.00

11160.00

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dBuV/m

54.00

74.00

dB

-8.67

-16.93

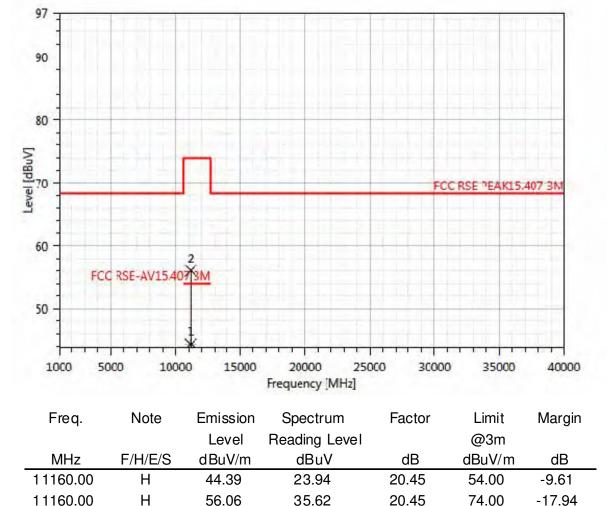
dB

20.45

20.45



Operation Mode :	802.11n20B3	Test Date :	03/01/2016 20:44:40
Fundamental Frequency :	5580 MHz	Temp. / Humi. :	21 deg_C / 61 RH
Operation Band :	Tx CH MID	Test Engineer :	Tin
EUT Pol. :	E1 Plane	Measurement Antenna Pol. :	HORIZONTAL



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60

50

1000

FCC RSE-AV15.40

10000

5000

Operation Mode : 802.11n20B3 Test Date : 03/01/2016 20:47:28 Fundamental Frequency: 5700 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band : Tx CH HIGH** Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: VERTICAL 97 90 80 Level [dBuV] 70 FCCRSE PEAKI5.407 3M

Freq.	Note	Emission	Spectrum	Factor	Limit	Margin
		Level	Reading Level		@3m	
MHz	F/H/E/S	dBuV/m	dBuV	dB	dBuV/m	dB
11400.00	Н	45.75	25.19	20.56	54.00	-8.25
11400.00	Н	57.18	36.62	20.56	74.00	-16.82

20000

Frequency [MHz]

25000

30000

35000

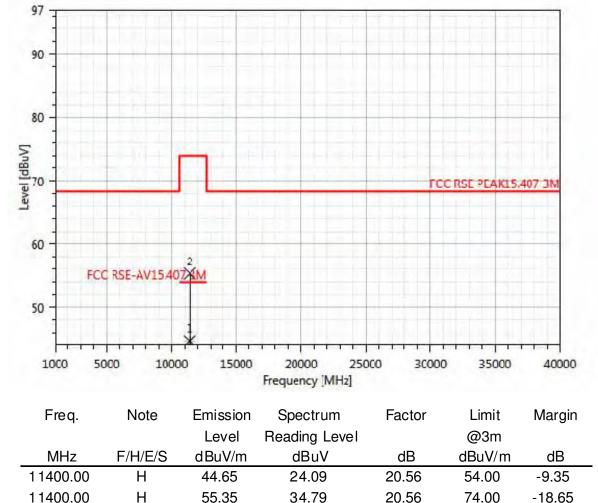
40000

15000

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Operation Mode : 802.11n20B3 Test Date : 03/01/2016 20:47:42 Fundamental Frequency: 5700 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band : Tx CH HIGH** Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: HORIZONTAL



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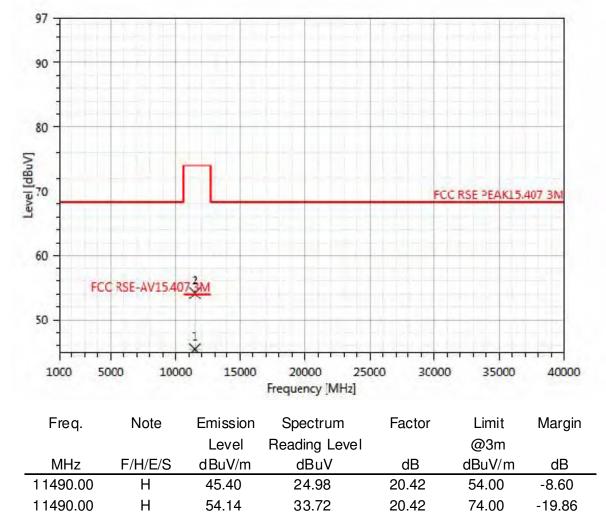
Radiated Spurious Emission Measurement Result 802.11n HT20, 5725~5850 MHz

Operation Mode : Fundamental Freque Operation Band : EUT Pol. :	802.11n20B4 ncy : 5745 MHz Tx CH LOW E1 Plane	Test Date : Temp. / Hu Test Engine Measureme	mi. : eer :	21 c Tin	01/2016 20:53:04 deg_C / 61 RH RTICAL
97					
90 -					
80 -					
			FCC	C RSE PEAK15.	407 3M
3					
60 FCC R	2 SE-AV15.4073M				
50	1				
1000 5000) 10000 15000	20000 2500 Frequency [MHz]	0 3C000	35000	40000
Freq.	Note Emission Level	Spectrum Reading Level	Factor	Limit @3m	Margin
MHz	F/H/E/S dBuV/m	dBuV	dB	dBuV/m	dB
11490.00	H 47.30	26.88	20.42	54.00	-6.70
11490.00	H 56.81	36.39	20.42	74.00	-17.19

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Operation Mode : 802.11n20B4 Test Date : 03/01/2016 20:53:17 Fundamental Frequency: 5745 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band :** Tx CH LOW Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: HORIZONTAL

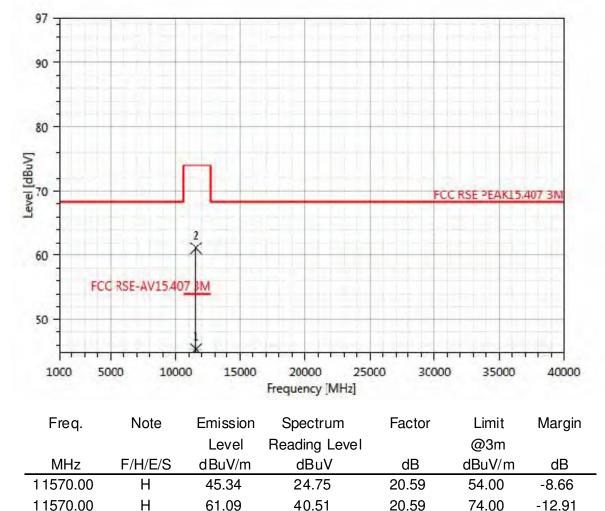


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Operation Mode : 802.11n20B4 Test Date : 03/01/2016 20:56:25 Fundamental Frequency: 5785 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band :** Tx CH MID Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: VERTICAL

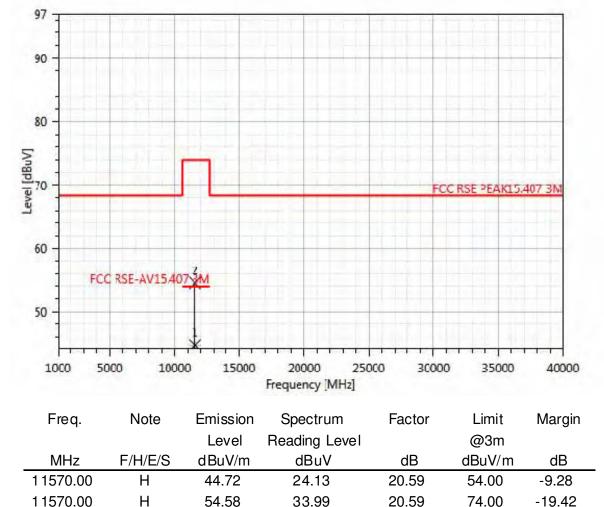


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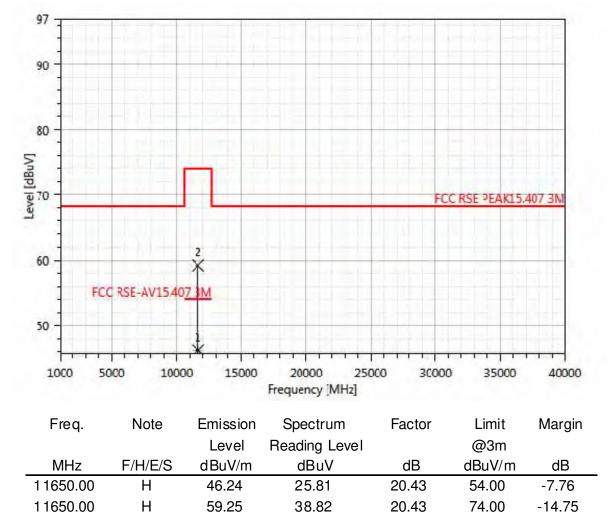
Operation Mode :	802.11n20B4	Test Date :	03/01/2016 20:56:39
Fundamental Frequency :	5785 MHz	Temp. / Humi. :	21 deg_C / 61 RH
Operation Band :	Tx CH MID	Test Engineer :	Tin
EUT Pol.:	E1 Plane	Measurement Antenna Pol. :	HORIZONTAL



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Operation Mode : 802.11n20B4 Test Date : 03/01/2016 21:01:21 Fundamental Frequency: 5825 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band : Tx CH HIGH** Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: VERTICAL

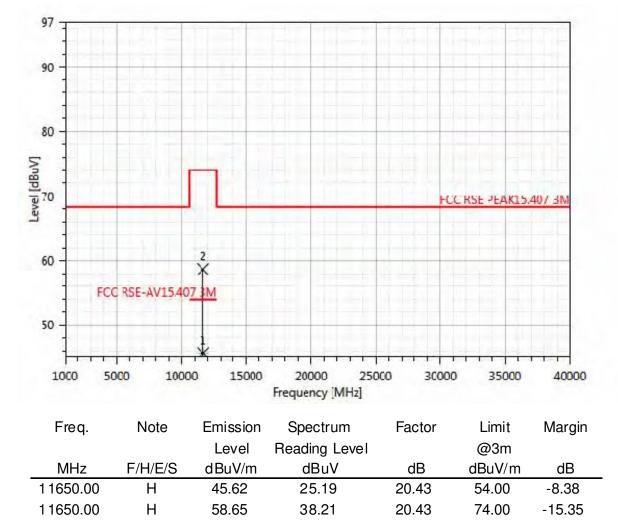


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Operation Mode : 802.11n20B4 Test Date : 03/01/2016 21:01:34 Fundamental Frequency: 5825 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band : Tx CH HIGH** Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: HORIZONTAL



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

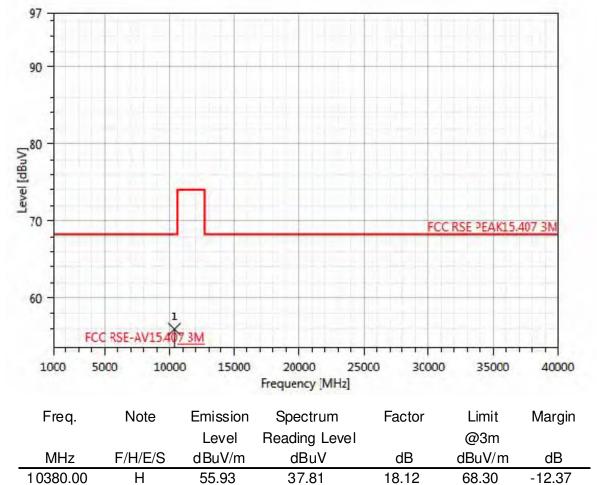
Operation Mode : Fundamental Frequence Operation Band : EUT Pol. :	802.11n40B1 cy : 5190 MHz Tx CH LOW E1 Plane	Test Date : Temp. / Humi. : Test Engineer : Measurement Antenna	03/01/2016 20:14:51 21 deg_C / 61 RH Tin a Pol. : VERTICAL
97			
90			
80 Fevel [dBuv]		FC	C RSE PEAK15,407 3M
60 - FCC RSE	1 X E-AV15.407 3M		
1000 5000	10000 15000	20000 25000 30000 equency [MHz]	35000 40000
Freq.		Spectrum Factor eading Level	Limit Margin @3m
	/H/E/S dBuV/m	dBuV dB	dBuV/m dB
10380.00	H 61.21	43.08 18.12	68.30 -7.09

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Operation Mode : 802.11n40B1 Test Date : 03/01/2016 20:15:05 Fundamental Frequency: 5190 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band :** Tx CH LOW Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: HORIZONTAL



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Operation Mode : 802.11n40B1 Test Date : 03/01/2016 20:16:56 Fundamental Frequency: 5230 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band : Tx CH HIGH** Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: VERTICAL 97 90 Level [dBuV] 70 FCC RSE PEAK15.407 3N 60 1

Level Reading Level @3m dBuV/m F/H/E/S dBuV/m dBuV dB MHz dB 10460.00 н 56.49 37.95 18.54 68.30 -11.81

20000

Frequency [MHz]

Spectrum

25000

30000

Factor

35000

Limit

40000

Margin

FCC RSE-AV15

Note

5000

1000

Freq.

3M

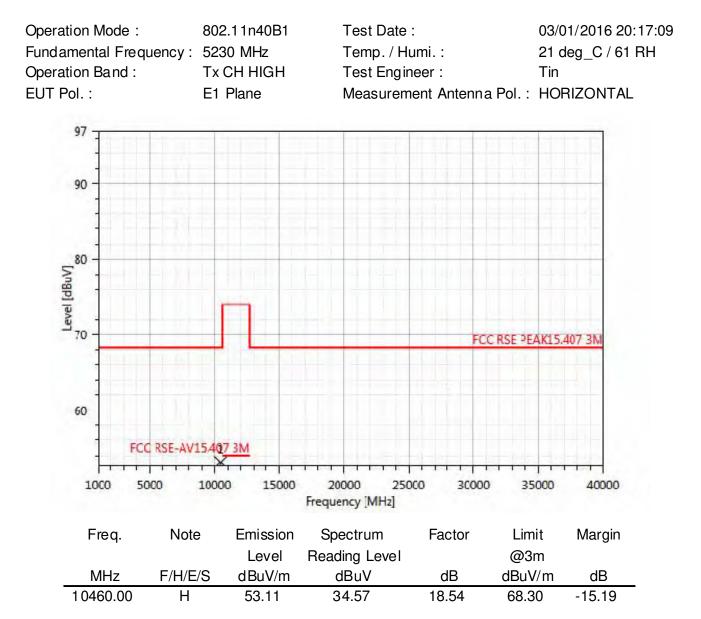
10000

15000

Emission

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

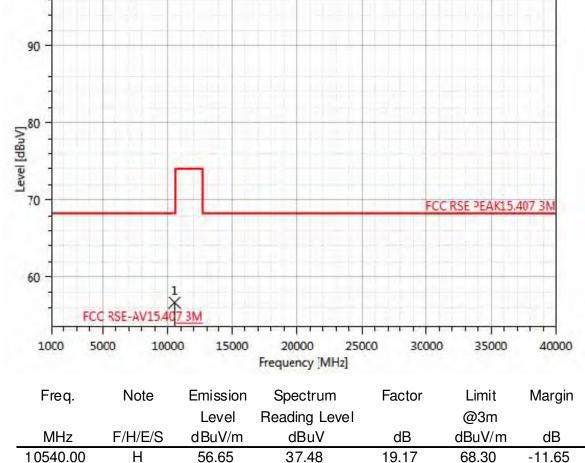
Operation Moc Fundamental F Operation Ban EUT Pol. :	Frequency :	802.11n40B2 5270 MHz Tx CH LOW E1 Plane	Temp. Test E	ate : / Humi. : ngineer : rement Antenr	21 o Tin	01/2016 20:18:52 deg_C / 61 RH RTICAL
97						13.11
90 -						
Fevel [dBuV]				F	CC RSE PEAK15	.407 <u>3M</u>
60	FCC RSE-AV	1 X 15.407 <u>3M</u>				
1000	5000	10000 1500	0 20000 Frequency [MH	25000 300 z]	00 35000	40000
Freq	. Note	e Emissio Level	n Spectrum Reading Lev	Factor	Limit @3m	Margin
MHz	F/H/E		-	dB	dBuV/m	dB
10540.0	H 00	59.18	40.01	19.17	68.30	-9.12

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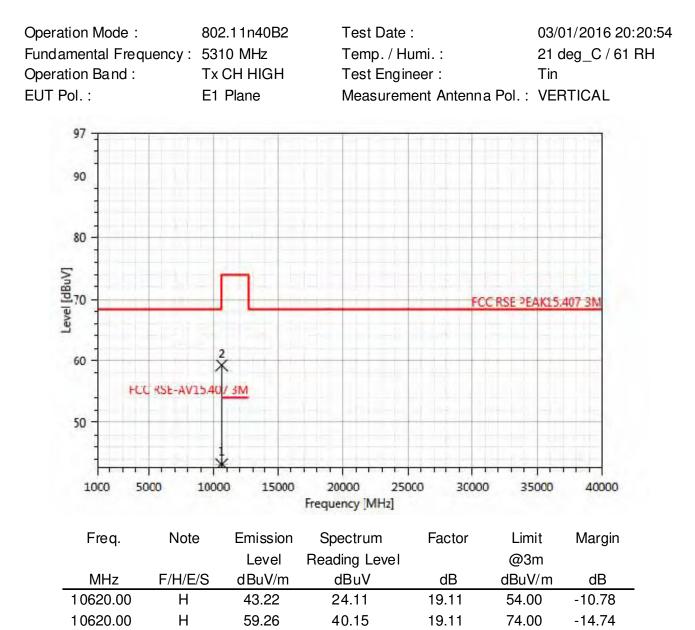


Operation Mode : 802.11n40B2 Test Date : 03/01/2016 20:19:06 Fundamental Frequency: 5270 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band :** Tx CH LOW Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: HORIZONTAL 97



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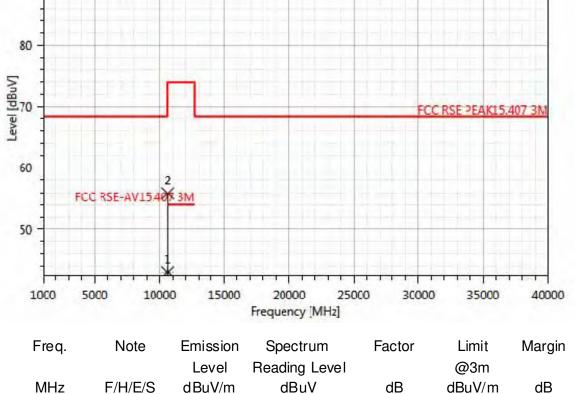


10620.00

Н

н

Operation Mode : 802.11n40B2 Test Date : 03/01/2016 20:21:08 Fundamental Frequency: 5310 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band : Tx CH HIGH** Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: HORIZONTAL 97 90



23.88

36.74

19.11

19.11

54.00

74.00

-11.01

-18.15

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42.99

55.85

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

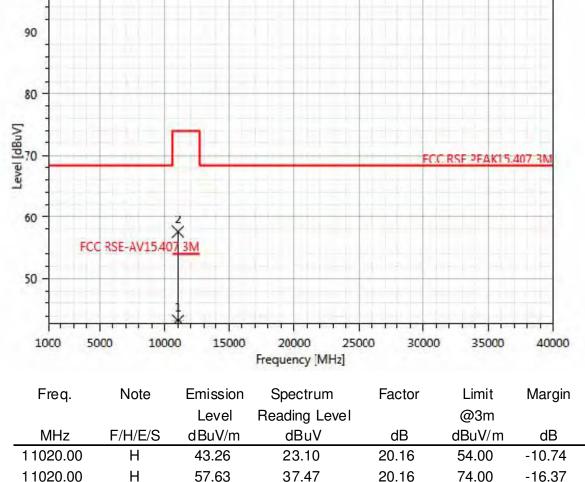
Operation Mode : Fundamental Frequ Operation Band : EUT Pol. :	ency: 55 ⁻ Tx	2.1 1n40B3 10 MHz CH LOW Plane	Test Date : Temp. / Hu Test Engin Measurem	ımi. :	21 c Tin	01/2016 21:14:14 deg_C / 61 RH RTICAL
97	10 100	TI THE		-	112 11	
90						
80						
Level [dBuV]				FC	C RSE PEAKL5.	407 3M
60	RSE-AV1540	2 Хум				
50						
10C0 500	1000	¥	20000 250 Frequency [MHz]	co 30000	35000	40000
Freq.	Note	Emission Level	Spectrum Reading Level	Factor	Limit @3m	Margin
MHz	F/H/E/S	dBuV/m	dBuV	dB	dBuV/m	dB
11020.00	Н	43.60	23.44	20.16	54.00	-10.40
1 1020.00	Н	56.27	36.11	20.16	74.00	-17.73

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Operation Mode :	802.11n40B3	Test Date :	03/01/2016 21:14:28
Fundamental Frequency :	5510 MHz	Temp. / Humi. :	21 deg_C / 61 RH
Operation Band :	Tx CH LOW	Test Engineer :	Tin
EUT Pol. :	E1 Plane	Measurement Antenna Pol. :	HORIZONTAL
07			
97 -		The part of the second se	and an and a second

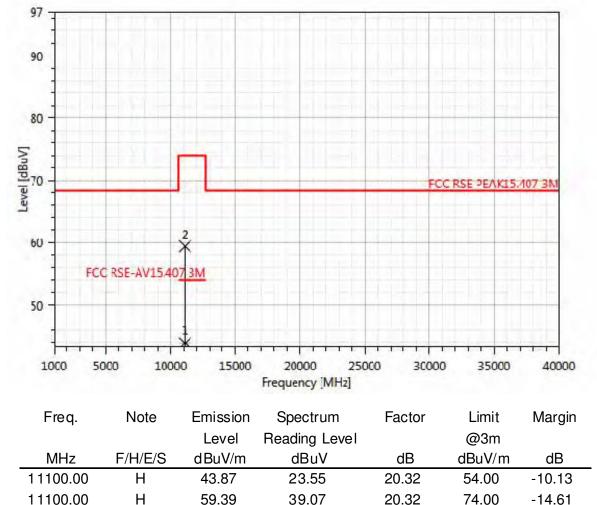


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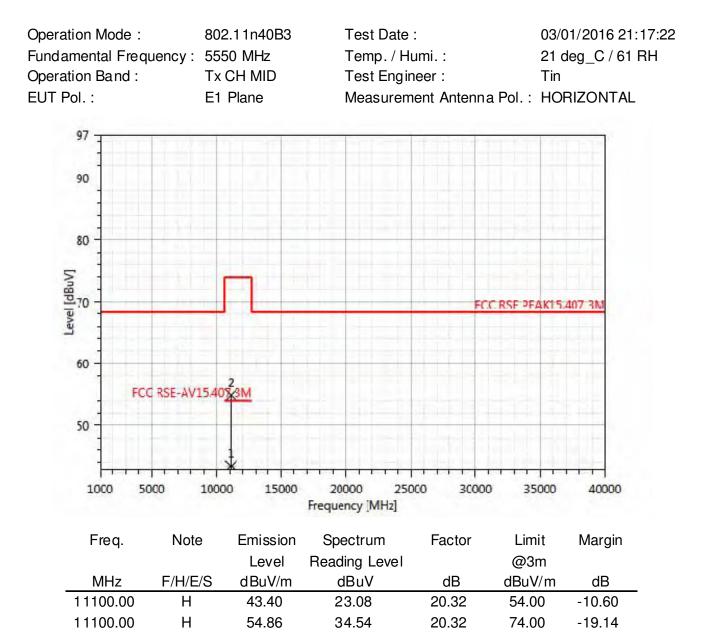
Operation Mode : 802.11n40B3 Test Date : 03/01/2016 21:17:08 Fundamental Frequency: 5550 MHz Temp. / Humi. : 21 deg C / 61 RH **Operation Band :** Tx CH MID Test Engineer : Tin EUT Pol. : E1 Plane Measurement Antenna Pol.: VERTICAL



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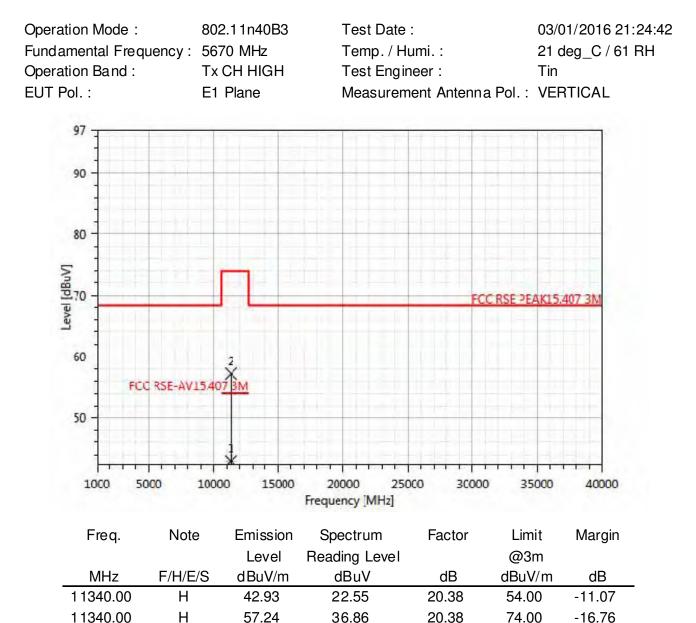




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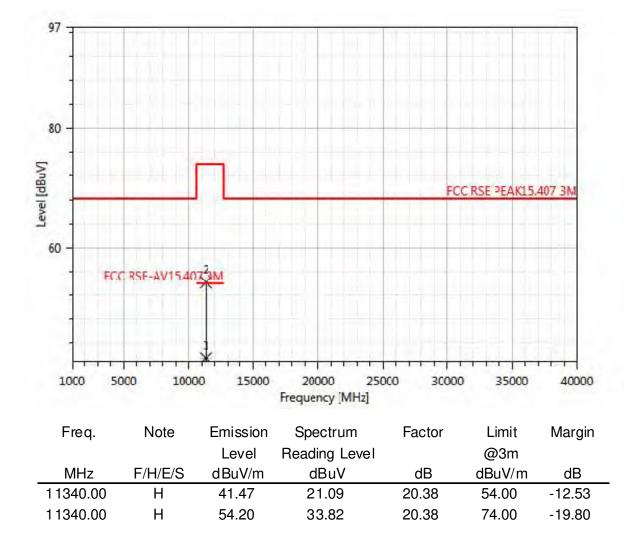
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Operation Mode : 802.11n40B3 Test Date : Fundamental Frequency: 5670 MHz Temp. / Humi. : **Operation Band : Tx CH HIGH** Test Engineer : EUT Pol. : E1 Plane

03/01/2016 21:24:56 21 deg C / 61 RH Tin Measurement Antenna Pol.: HORIZONTAL



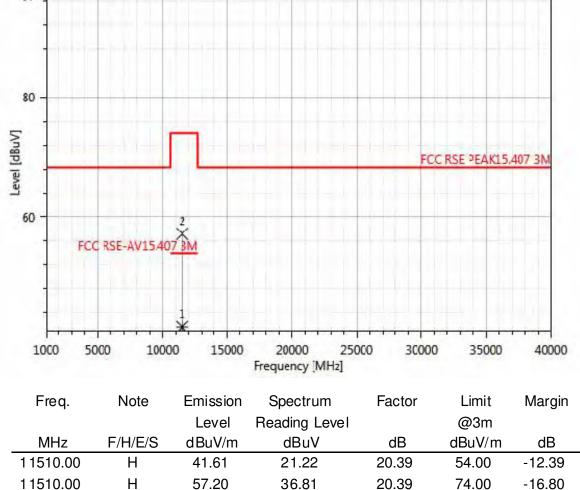
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Radiated Spurious Emission Measurement Result 802.11n HT40, 5725~5850 MHz

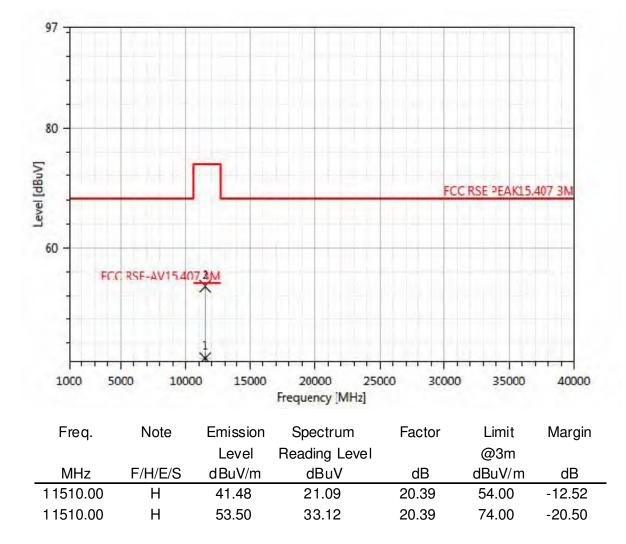
Operation Mode :	802.11n40B4	Test Date :	03/01/2016 21:08:10
Fundamental Frequency :	5755 MHz	Temp. / Humi. :	21 deg_C / 61 RH
Operation Band :	Tx CH LOW	Test Engineer :	Tin
EUT Pol. :	E1 Plane	Measurement Antenna Pol. :	VERTICAL
97			



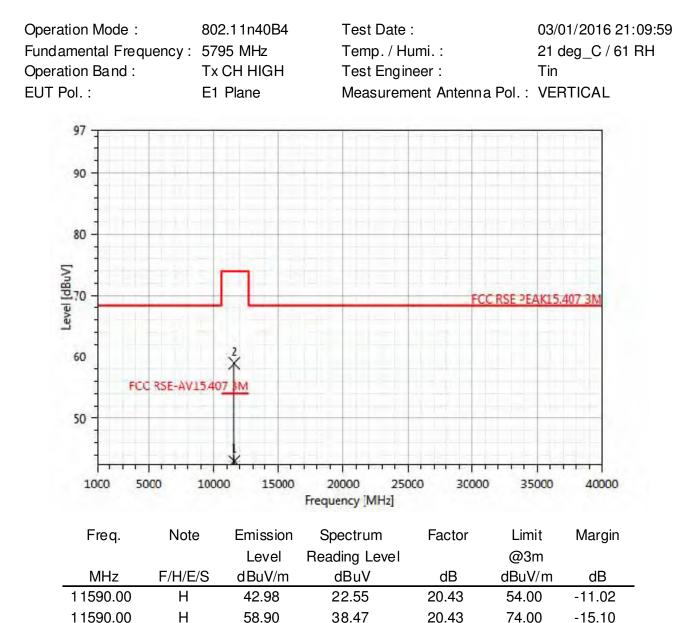
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Operation Mode :	802.11n40B4	Test Date :	03/01/2016 21:08:24
Fundamental Frequency :	5755 MHz	Temp. / Humi. :	21 deg_C / 61 RH
Operation Band :	Tx CH LOW	Test Engineer :	Tin
EUT Pol. :	E1 Plane	Measurement Antenna Pol. :	HORIZONTAL







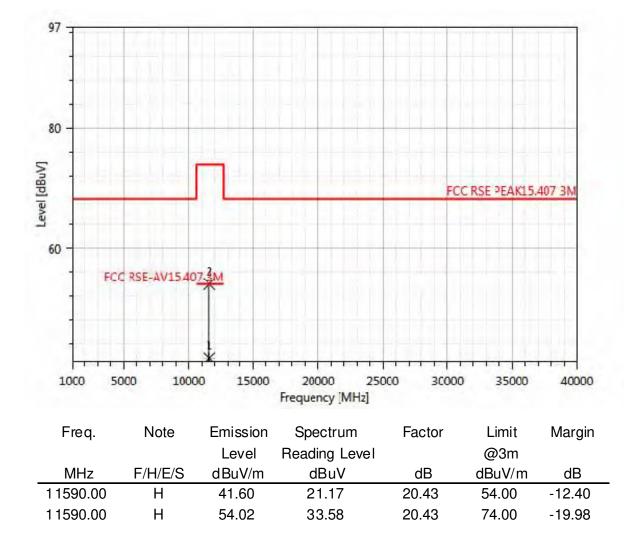
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Operation Mode : 802.11n40B4 Test Date : Fundamental Frequency: 5795 MHz Temp. / Humi. : **Operation Band : Tx CH HIGH** Test Engineer : EUT Pol. : E1 Plane

03/01/2016 21:10:12 21 deg C / 61 RH Tin Measurement Antenna Pol.: HORIZONTAL



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

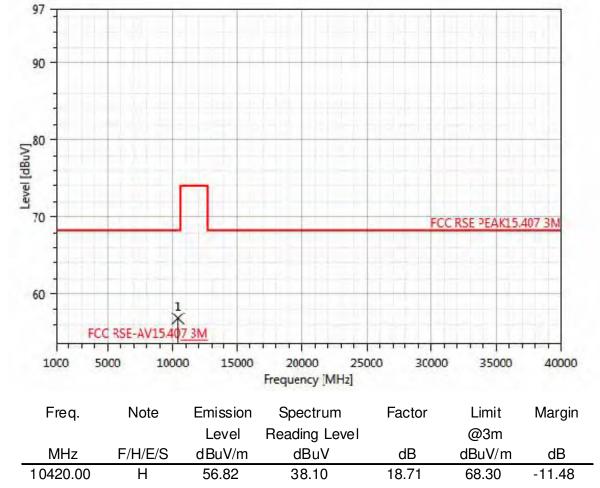
Operation Mode : Fundamental Frequency Operation Band : EUT Pol. :	802.11ac80B1 : 5210 MHz Tx CH LOW E1 Plane	Test Date : Temp. / Humi. : Test Engineer : Measurement Antenna	03/01/2016 20:23:02 21 deg_C / 61 RH Tin Pol. : VERTICAL
97			
90			
80 Fevel [ggnv]		FCC	RSE PEAK15.407 3M
60	×		
10C0 50C0		20000 25000 30000 Jency [MHz]	35000 40000
Freq. No	•	pectrum Factor	Limit Margin
	/E/S dBuV/m	ding Level dBuV dB	@3m dBuV/m dB
10420.00 H	62.91	44.20 18.71	68.30 -5.39

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Operation Mode :	802.11ac80B1	Test Date :	03/01/2016 20:23:16
Fundamental Frequency :	5210 MHz	Temp. / Humi. :	21 deg_C / 61 RH
Operation Band :	Tx CH LOW	Test Engineer :	Tin
EUT Pol. :	E1 Plane	Measurement Antenna Pol. :	HORIZONTAL





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

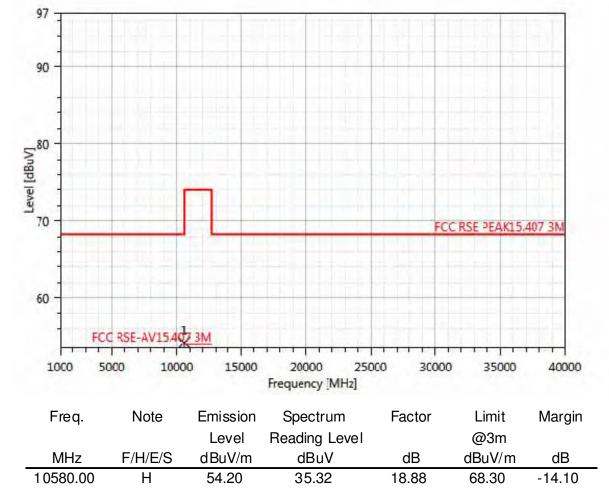
Operation Mode : Fundamental Freque Operation Band : EUT Pol. :	802.11ac80B2 ency : 5290 MHz Tx CH HIGH E1 Plane	Test Date : Temp. / Hum Test Enginee Measuremer	er:	21 de Tin	1/2016 20:24:55 eg_C / 61 RH TICAL
97					
90					
80 Fevel [dgm/]			FCC	RSE PEAK15.4	07 <u>3M</u>
60	1 X SE-AV15407 3M				
1000 5000	*****	20000 25000 Frequency [MHz]	3C000	350 <mark>0</mark> 0	40000
Freq.	Note Emission	Spectrum	Factor	Limit	Margin
	Level F/H/E/S dBuV/m	Reading Level dBuV	dB	@3m dBuV/m	dB
10580.00	H 59.15	40.27	18.88	68.30	-9.15

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Operation Mode :	802.11ac80B2	Test Date :	03/01/2016 20:25:09
Fundamental Frequency :	5290 MHz	Temp. / Humi. :	21 deg_C / 61 RH
Operation Band :	Tx CH HIGH	Test Engineer :	Tin
EUT Pol. :	E1 Plane	Measurement Antenna Pol. :	HORIZONTAL





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

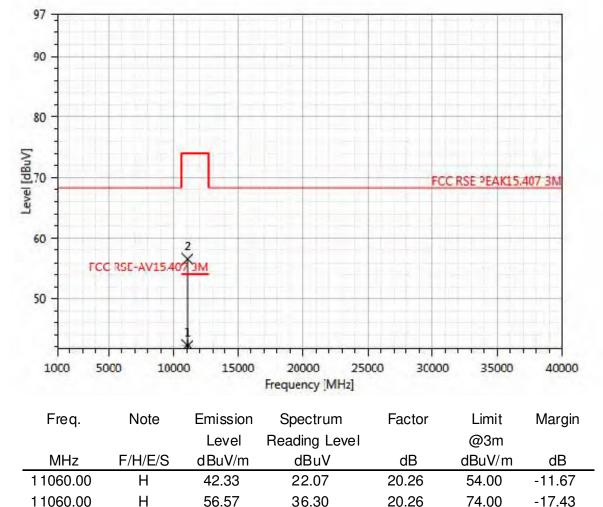
Operation Mode : Fundamental Frequence Operation Band : EUT Pol. :	802.11ac80B3 cy : 5530 MHz Tx CH LOW E1 Plane	Test Date : Temp. / Humi. : Test Engineer : Measurement Antenn <i>a</i>	03/01/2016 21:27:40 21 deg_C / 61 RH Tin a Pol. : VERTICAL
97			
80 Fevel [dBuV]	2	FCC	CRSE PEAKL5.407 3M
60 - FCC RSI	2 X E-AV15.40 <u>7 3M</u>		
1000 5000	10000 15000 Free	20000 25000 30000 guency [MHz]	35000 40000
Freq.		Spectrum Factor ading Level	Limit Margin @3m
MHz F/	/H/E/S dBuV/m	dBuV dB	dBuV/m dB
11060.00	H 43.10	22.84 20.26	54.00 -10.90
1 1060.00	H 61.50	41.24 20.26	74.00 -12.50

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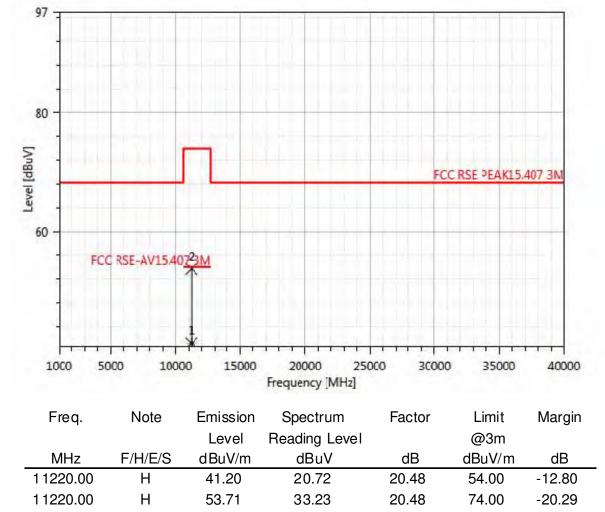
Operation Mode :	802.11ac80B3	Test Date :	03/01/2016 21:27:53
Fundamental Frequency :	5530 MHz	Temp. / Humi. :	21 deg_C / 61 RH
Operation Band :	Tx CH LOW	Test Engineer :	Tin
EUT Pol. :	E1 Plane	Measurement Antenna Pol. :	HORIZONTAL



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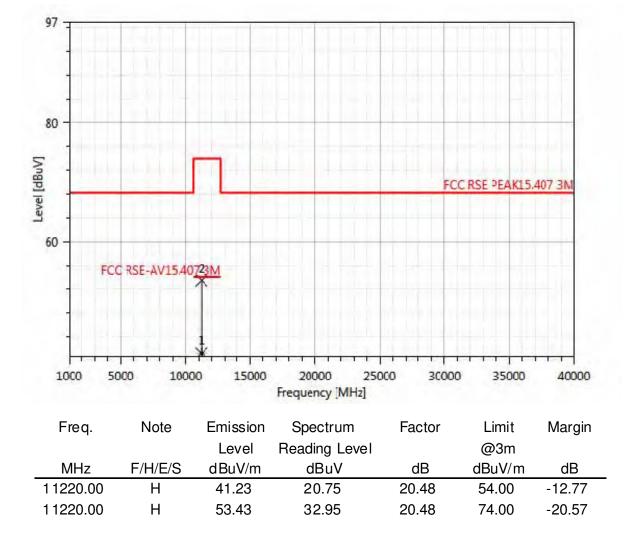


Operation Mode :	802.11ac80B3	Test Date :	03/22/2016 16:14:30
Fundamental Frequency :	5610 MHz	Temp. / Humi. :	21 deg_C / 61 RH
Operation Band :	Tx CH MID	Test Engineer :	Tin
EUT Pol.:	E1 Plane	Measurement Antenna Pol. :	VERTICAL





Operation Mode :	802.11ac80B3	Test Date :	03/22/2016 16:14:43
Fundamental Frequency :	5610 MHz	Temp. / Humi. :	21 deg_C / 61 RH
Operation Band :	Tx CH MID	Test Engineer :	Tin
EUT Pol. :	E1 Plane	Measurement Antenna Pol. :	HORIZONTAL

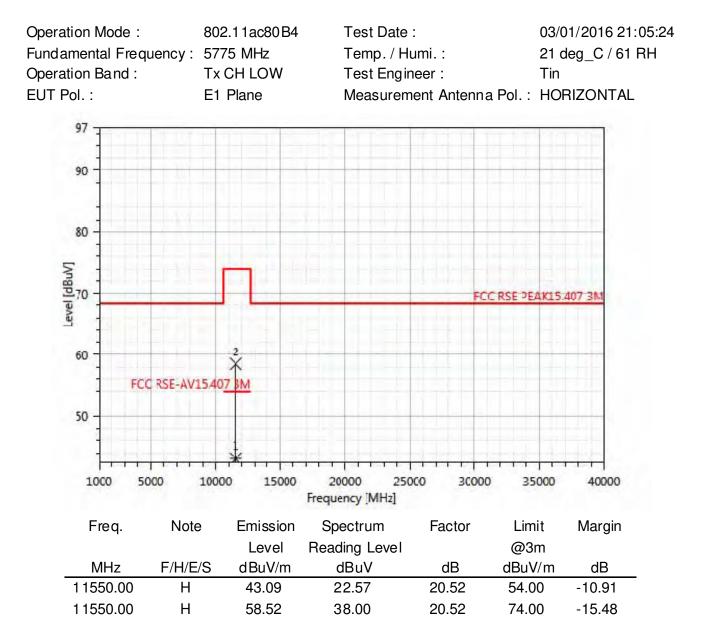


Radiated Spurious Emission Measurement Result 802.11ac VHT80, 5725~5850 MHz

Operation Mode : Fundamental Frequency Operation Band : EUT Pol. :	802.11ac80B4 : 5775 MHz Tx CH LOW E1 Plane	Test Date : Temp. / Humi. : Test Engineer : Measurement Antenna	03/01/2016 21:05:10 21 deg_C / 61 RH Tin Pol. : VERTICAL
97			
90			
80			
0.01 Level	2	FCC	RSE PEAK15.407 3M
60	× ·		
FCC RSE-A	V15.407 8M		
50 -			
1000 5000		20000 25000 30000 Jency [MHz]	35000 40000
Freq. No	te Emission S	pectrum Factor ding Level	Limit Margin @3m
MHz F/H/		dBuV dB	dBuV/m dB
11550.00 H	43.70	23.18 20.52	54.00 -10.30
11550.00 H	62.58	42.07 20.52	74.00 -11.42

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5150.00

5150.00

Е

Е

42.66

55.28

Band edge falling to restricted band

802.11a mode

Operation Mode : Fundamental Freq Operation Band : EUT Pol. :	uency : 518 Bai		Test Date : Temp. / Hu LOW Test Engin Measurem	ımi. : eer :		01/2016 09: deg_C / 61 I	
Freq.	Note	Emission	Spectrum	Factor	Limit	Margin	
		Level	Reading Level		@3m	-	
MHz	F/H/E/S	dBuV/m	dBuV	dB	dBuV/m	dB	
5150.00	Е	47.85	41.96	5.88	54.00	-6.15	
5150.00	Е	61.39	55.51	5.88	74.00	-12.61	
Operation Mode :	802	2.11aB1	Test Date :	:	03/0	01/2016 09:	14:17
Fundamental Freq	uency: 518	30 MHz	Temp. / Hu	umi. :	21 c	deg_C / 61 I	RH
Operation Band :	Bai	ndedge CH	LOW Test Engin	eer:	Tin		
EUT Pol. :	E1	Plane	Measurem	ent Antenna	a Pol. : HOI	RIZONTAL	
Freq.	Note	Emission	Spectrum	Factor	Limit	Margin	
		Level	Reading Level		@3m		
MHz	F/H/E/S	dBuV/m	dBuV	dB	dBuV/m	dB	

36.78

49.40

5.88

5.88

54.00

74.00

-11.34

-18.72

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Opera	tion Mode:		802	.11aB2	Test Date	:	03/01/2016 09:20:52		
Funda	imental Frequ	uency:	532	0 MHz	Temp. / H	umi. :	21 c	leg_C / 61	RH
Opera	tion Band :		Bar	dedge CH	HIGH Test Engir	neer :	Tin		
EUT F	UT Pol. :		E1	Plane	Measurem	nent Antenna	Antenna Pol.: VERTICAL		
			Note Emission Level		Spectrum Reading Level	Factor	Limit @3m	Margin	
	MHz	F/H/E	/S	dBuV/m	dBuV	dB	dBuV/m	dB	
	5350.00			46.27	40.12	6.15	54.00	-7.73	
	5350.00			58.70	52.55	6.15	74.00	-15.30	

Opera	tion Mode :		802	.11aB2	Test Date :				03/01/2016 09:31:41		
Funda	imental Frequ	iency :	532	0 MHz	Т	emp. / Hi	umi. :		21 c	deg_C / 61	RH
Opera	tion Band :		Ban	dedge CH	HIGH T	est Engir	neer:		Tin		
EUT F	EUT Pol. :		E1 Plane		Μ	easurem	ment Antenna Pol.: H			RIZONTAL	
	Freq.	Note			Spectrum Reading Level		Factor		nit	Margin	
	N 41 1-		(C			0		@(
	MHz	F/H/E/	3	dBuV/m	dB	uv	dB	dBu	V/m	dB	
	5350.00	Е		42.93	36.	78	6.15	54.	00	-11.07	
	5350.00 E					68	6.15		00	-18.17	



Opera	tion Mode:		802	.11aB3		Test Date	:		03/0	01/2016 11:	26:47
Funda	imental Frequ	iency :	550	0 MHz		Temp./H	umi. :		21 c	leg_C / 61	RH
Opera	tion Band :		Ban	dedge CH	LOW	Test Engi	neer :		Tin		
EUT F	EUT Pol. :		E1	Plane		Measurement Antenna Pol.: VE			: VEF	RTICAL	
	Freq. N		9	Emission Level			Factor	r Lir @:	nit 3m	Margin	
	MHz	F/H/E	/S	dBuV/m		dBuV	dB	-	V/m	dB	
	5460.00	E		42.93	3	36.70	6.23	54.	00	-11.07	
	5460.00			55.78	2	9.55	6.23	74.	00	-18.22	

Operation Mode :	802	2.11aB3	Test Date	:	03/01/2016 11:33:3			
Fundamental Frequ	ency : 550	00 MHz	Temp. / H	umi. :	21 c	leg_C / 61 I	RH	
Operation Band :	Ba	ndedge CH	LOW Test Engir	neer :	Tin			
EUT Pol. :	E1	Plane	Measurem	ent Antenna	a Pol. : HOF	Pol.: HORIZONTAL		
Freq.	Note	Emission Level	Spectrum Reading Level	Factor	Limit @3m	Margin		
MHz	F/H/E/S	dBuV/m	dBuV	dB	dBuV/m	dB		
5460.00	Е	47.04	40.80	6.23	54.00	-6.96		
5460.00	Е	60.19	53.96	6.23	74.00	-13.81		



Opera	tion Mode:		802	2.11aB3		Test Date :			03/01/2016 11:38:55			38:55	
Funda	amental Frequ	uency :	550	0 MHz		Temp./H	umi. :			21 (deg_	C / 61	RH
Opera	tion Band :		Bar	ndedge CH	LOW	Test Engir	neer :			Tin			
EUT F	JT Pol. :		E1 Plane			Measurement Antenna			a Pol.: VERTICAL				
	Freq.	Note)	Emission	Sp	ectrum	Fa	ctor		Limit	M	argin	
				Level	Read	ding Level			(@3m			
	MHz	F/H/E	/S	dBuV/m		dBuV	(dB	d	BuV/m		dB	
	5470.00	E		56.12	4	19.86	6	.26	6	8.30	-1:	2.18	

Opera	tion Mode :		802	2.11aB3		Test Date	:		03/01/2016 11:36:50		
Funda	amental Frequ	uency:	550	0 MHz		Temp./H	lumi. :		21 c	deg_C / 61 F	٦H
Opera	tion Band :		Bar	ndedge CH	LOW	Test Engi	neer :		Tin		
EUT F			E1 Plane			Measurer	nent Ante	ol.: HO	HORIZONTAL		
	Freq.	Note	e	Emission	Spe	ectrum	Facto	or	Limit	Margin	
				Level	Read	ing Level			@3m		
	MHz	F/H/E	/S	dBuV/m	d	BuV	dB	d	BuV/m	dB	
	5470.00	Е		63.11	5	6.84	6.26		68.30	-5.19	



Opera	tion Mode :		802	.11aB3	-	Test Date			03/	03/01/2016 11:42:26		:42:26	
Funda	imental Frequ	uency :	570	0 MHz		Temp./H	umi.	:		21	deg	J_C / 61	RH
Opera	tion Band :		Ban	dedge CH	HIGH	Fest Engii	neer	:		Tin	1		
EUT F	UT Pol. :		E1 Plane			Measurement Antenna				a Pol. : VERTICAL			
	Freq.	Note)	Emission	Spe	ctrum	F	actor		Limit	Ν	Margin	
				Level	Readi	ng Level			(@3m			
	MHz	F/H/E/	/S	dBuV/m	d	BuV		dB	d	BuV/m		dB	_
	5725.00	E		57.65	5	.06	6	6.59	6	8.30	-	10.65	

Opera	tion Mode:		802	.11aB3	Test Date	:	03/0	03/01/2016 11:44:0		
Funda	amental Frequ	lency :	570	0 MHz	Temp. / Hu	umi.:	21 d	leg_C / 61 F	łH	
Opera	tion Band :		Ban	dedge CH	HIGH Test Engin	eer:	Tin	1		
EUT F	T Pol.: E1 Plane			Plane	Measurem	a Pol. : HORIZONTAL				
	Freq.				Spectrum	Factor	Limit	Margin		
				Level	Reading Level		@3m			
	MHz				dBuV	dB	dBuV/m	dB		
	5725.00	E		60.81	54.22	6.59	68.30	-7.49		



Opera	tion Mode:		802	2.11aB4	Test Date :				03/01/2016 17:42:09		
Funda	amental Frequ	uency :	574	5 MHz		Temp. / H	umi. :		21 c	leg_C / 61	RH
Opera	tion Band :		Bar	ndedge CH	LOW	Test Engir	neer :		Tin		
EUT F	UT Pol. :		E1 Plane			Measurement Antenna			a Pol.: VERTICAL		
	Pol.: Freq. Not		e Emission		Sp	ectrum	Factor		Limit	Margin	
				Level	Read	ding Level			@3m		
	MHz F/H/E		/S	dBuV/m		dBuV	dB	C	dBuV/m	dB	_
	5725.00	E				58.85 6.59			78.20	-12.75	

Opera	tion Mode :		802	2.11aB4		Test Date	:		03/01/2016 17:39:49		
Funda	amental Frequ	uency :	574	5 MHz		Temp./H	umi. :		21 c	leg_C / 61	RH
Opera	tion Band :		Bar	ndedge CH	LOW	Test Engi	neer :		Tin		
EUT F			E1 Plane			Measuren	nent Anter	ol.: HOP	RIZONTAL		
	Freq.	Note	e	Emission	Spe	ectrum	Factor		Limit	Margin	
				Level	Read	ing Level			@3m		
	MHz	F/H/E	/S	dBuV/m	c	lBuV	dB	d	BuV/m	dB	
	5725.00	Е		72.36	6	5.77	6.59	-	78.20	-5.84	



Opera	tion Mode:		802	.11aB4	Test D	ate :	03/01/2016 14:34:23		
Funda	amental Frequ	uency :	582	5 MHz	Temp.	/ Humi. :	21 c	leg_C / 61 F	۱H
Opera	tion Band :		Ban	dedge CH	HIGH Test Er	ngineer :	Tin		
EUT F				Plane	Measu	rement Antenna	a Pol. : VEF	RTICAL	
	Freq.	Note	;	Emission	Spectrum	Factor	Limit	Margin	
				Level	Reading Lev	el	@3m		
	MHz	F/H/E	/S	dBuV/m	dBuV	dB	dBuV/m	dB	
	5850.00	E		62.58	55.30	7.28	78.20	-15.62	

Opera	tion Mode :		802	2.11aB4	Test Date	:	03/0	03/01/2016 14:36:24		
Funda	amental Frequ	uency :	582	5 MHz	Temp. / Hu	umi.:	21 c	leg_C / 61 F	١H	
Opera				ndedge CH	HIGH Test Engir	ieer :	Tin			
EUT F	e e e e e e e e e e e e e e e e e e e				Measurem	ent Antenna	a Pol. : HOF	RIZONTAL		
	Freq.	Note	;	Emission	Spectrum	Factor	Limit	Margin		
				Level	Reading Level		@3m			
	MHz	F/H/E	/S	dBuV/m	dBuV	dB	dBuV/m	dB		
	5850.00	E		63.02	55.73	7.28	78.20	-15.18		



802.11n20 HT mode

Operation Mode :			802.11n20B1			Test Date :			03/01/2016 14:40:07		
Funda	amental Frequ	iency :	518	0 MHz		Temp. / H	umi. :	2	1 deg_C / 61	RH	
Opera	tion Band :		Bar	dedge CH	LOW	Test Engir	neer :	Т	in		
EUT Pol. :			E1 Plane			Measurem	ent Antenna	a Pol. : V	VERTICAL		
	Freq. Not		te Emission Level		Spectrum Reading Level		Factor	Limit @3m	Margin		
	MHz F/H/E				dBuV		dB	dBuV/n	n dB		
	5150.00 E			42.29		36.41	5.88	54.00	-11.71		
5150.00 E			55.12	2	9.23	5.88	74.00	-18.88			

Operation Mode :			802.11n20B1			Test Date :				03/01/2016 14:43:10		
Funda	mental Frequ	iency :	518	0 MHz		Temp./H	umi. :		21 c	21 deg_C / 61 RH		
Opera	tion Band :		Ban	dedge CH	LOW	Test Engi	neer :		Tin	Tin		
EUT F	EUT Pol. :			Plane	Measurement Antenna Pol. :				RIZONTAL			
	Freq.	Freq. Note		Emission Sp		ectrum	Facto	or Lir	nit	Margin		
				Level	Read	ding Level		@3	ßm			
_	MHz	F/H/E	/S	dBuV/m	dBuV		dB	dB dBuV/m		dB		
_	5150.00 E			43.55 3		37.67	5.88	54.	00	-10.45		
5150.00 E			56.73 5		0.85 5.88 74		74.	00	-17.27			



Operation Mode :	802.11n20B2	Test Date :	03/01/2016 14:46:19
Fundamental Frequency :	5320 MHz	Temp. / Humi. :	21 deg_C / 61 RH
Operation Band :	Bandedge CH HIGH	Test Engineer :	Tin
EUT Pol. :	E1 Plane	Measurement Antenna Pol. :	VERTICAL

Freq.	Note	Emission	Spectrum	Factor	Limit	Margin
		Level	Reading Level		@3m	
MHz	F/H/E/S	dBuV/m	dBuV	dB	dBuV/m	dB
5350.00	E	42.34	36.19	6.15	54.00	-11.66
5350.00	Е	55.80	49.64	6.15	74.00	-18.20

Operation Mode :	802.11n20B2	Test Date :	03/01/2016 14:48:21
Fundamental Frequency :	5320 MHz	Temp. / Humi. :	21 deg_C / 61 RH
Operation Band :	Bandedge CH HIGH	Test Engineer :	Tin
EUT Pol.:	E1 Plane	Measurement Antenna Pol. :	HORIZONTAL

Freq.	Note	Emission	Spectrum	Factor	Limit	Margin
		Level	Reading Level		@3m	
MHz	F/H/E/S	dBuV/m	dBuV	dB	dBuV/m	dB
5350.00	Е	42.66	36.51	6.15	54.00	-11.34
5350.00	Е	55.79	49.64	6.15	74.00	-18.21



Operation Mode :			802.11n20B3			Test Date :			03/0	03/01/2016 14:54:35		
Funda	imental Frequ	iency :	550	0 MHz		Temp./H	umi. :		21 c	21 deg_C / 61 RH		
Opera	tion Band :		Ban	dedge CH	LOW	Test Engi	neer :		Tin	Tin		
EUT Pol. :			E1 Plane			Measurement Antenna Pol. :				VERTICAL		
	Freq. Not		e Emission Level		Spectrum Reading Level		Factor	r Lir @:	nit	Margin		
	MHz	F/H/E	/S	dBuV/m		dBuV	dB	~	V/m	dB		
·	5460.00 E			42.72		36.49	6.23	54.		-11.28	•	
5460.00 E			55.48 4		9.25 6.23 74.		00	-18.52				

Operation Mode :			802.11n20B3			Test Date :				03/01/2016 14:59:30		
Funda	amental Frequ	lency :	550	0 MHz		Temp./H	umi. :		21 0	21 deg_C / 61 RH		
Opera	tion Band :		Bar	ndedge CH	LOW	Test Engir	neer :		Tin	Tin		
EUT F	EUT Pol. :			Plane	Measurem	nent Ant	: HO	HORIZONTAL				
	Freq. Not		· ·		ectrum Factor ding Level			imit 93m	Margin			
	MHz F/H/E				dBuV		dB	dB dBuV/m		dB		
	5460.00 E			44.45		38.22 6		3 54	.00	-9.55		
5460.00 E			56.33 5		0.09 6.23 74.		.00	-17.67				



Opera	Operation Mode :		802.11n20B3			Test Date :				03/01/2016 15:01:32		
Funda	imental Frequ	uency :	550	0 MHz		Temp./H	umi. :		21 c	deg_C / 61	RH	
Opera	tion Band :		Bar	dedge CH	LOW	Test Engir	neer :		Tin	Tin		
EUT F	EUT Pol. :			Plane	Measurement Antenna Pol.:				VERTICAL			
	Freq. No		e Emission Sp		ectrum	Fac	tor	Limit	Margin			
	·			Level	Read	ding Level			@3m			
	MHz F/H/E		/S	dBuV/m		dBuV	dE	3	dBuV/m	dB		
	5470.00	E		55.02	4	18.75	6.2	6	68.30	-13.28		

Opera	Operation Mode :		802.11n20B3			Test Date :				03/	03/01/2016 15:02:22		
Funda	amental Frequ	uency:	550	0 MHz		Temp. / H	łumi.	:		21	deg	_C / 61 I	RH
Opera	tion Band :		Bar	ndedge CH	LOW	Test Engi	ineer			Tir	Tin		
EUT F	EUT Pol. :			Plane		Measurement Antenna Pol.:					HORIZONTAL		
	Freq. Note Emission		Spe	ectrum	Fa	actor		Limit	Ν	<i>I</i> largin			
		Level Rea		Read	ing Level				@3m				
	MHz F/H/E/S dBuV/m		С	lBuV		dB	C	dBuV/m		dB			
	5470.00 E 59.74		5	3.47	6	.26		68.30	-	8.56			



Opera	Operation Mode :		802.11n20B3			Test Date :				03/01/2016 17:18:50		
Funda	imental Frequ	uency :	570	0 MHz	Τe	emp. / Hur	mi. :		21 d	leg_C / 61	RH	
Opera	tion Band :		Bar	dedge CH	HIGH Te	est Engine	er:		Tin	Tin		
EUT F	EUT Pol. :			Plane	Me	easureme	nt Antenn	VEF	RTICAL			
	Freq. Note			Emission	Spect	rum	Factor	Lim	it	Margin		
	·			Level Rea		g Level		@3	m			
	MHz F/H/E/S		/S	dBuV/m	dBı	JV	dB	dBu∖	//m	dB		
	5725.00 E			56.00	49.4	41	6.59	68.3	0	-12.30		

Opera	Operation Mode :			.11n20B3	Tes	t Date :		03/0	03/01/2016 17:20:25		
Funda	amental Frequ	lency :	570	0 MHz	Ten	np./Humi.:	:	21 c	deg_C / 61 F	RH	
Opera	tion Band :		Ban	dedge CH	HIGH Tes	t Engineer :		Tin			
EUT F	EUT Pol. :			Plane	Mea	asurement A	Antenna	Pol.: HOP	HORIZONTAL		
	Freq. Note Emission		Spectrum Factor			Limit	Margin				
		Level		Level	Reading	Level		@3m			
	MHz F/H/E/S dBu		dBuV/m	dBu\	/ (dB	dBuV/m	dB			
	5725.00 E 58.01		58.01	51.42 6.59			68.30	-10.29			



Opera	Operation Mode :		802.11n20B4			Test Date :				03/01/2016 17:55:43		
Funda	amental Frequ	uency :	574	5 MHz		Temp./H	umi. :			21 d	eg_C / 61	RH
Opera	tion Band :		Bar	ndedge CH	LOW	Test Engi	neer :			Tin		
EUT F	UT Pol. :		E1 Plane			Measurem	nent Ai	ntenna	Pol.:	VER	TICAL	
	Freq.	Note	;	Emission	Sp	ectrum	Fac	tor	Limi	it	Margin	
				Level	Read	ding Level			@3r	n		
	MHz	F/H/E	/S	dBuV/m		dBuV	d	В	dBuV	/m	dB	_
	5725.00	E		68.12	6	61.53	6.5	59	78.2	0	-10.08	

Opera	Operation Mode :		802.11n20B4			Test Date :				03/01/2016 17:53:20		
Funda	amental Frequ	uency :	574	5 MHz		Temp./H	łumi. :		21 c	deg_C / 61 I	RH	
Opera	tion Band :		Ban	ndedge CH	LOW	Test Eng	ineer :		Tin			
EUT F	EUT Pol. :		E1 Plane			Measurer	nent Ante	enna Pol	.: HORIZONTAL			
					ectrum	Facto	or L	imit	Margin			
	1		Read	eading Level		0)3m					
	MHz	F/H/E	/S	dBuV/m		dBuV	dB	dB	uV/m	dB		
	5725.00	Е		72.90	6	6.31	6.59	78	3.20	-5.30		



Opera	Operation Mode :			.11n20B4	-	Test Date :				03/01/2016 15:12:06		
Funda	imental Frequ	uency :	582	5 MHz	-	Femp. / H	umi. :		21 c	deg_C / 61	RH	
Opera	Operation Band :		Ban	dedge CH	HIGH ⁻	Fest Engir	neer :		Tin			
EUT F	UT Pol. :		E1	Plane	I	Measurem	ent Ante	I.: VEF	RTICAL			
	Freq. N		te Emission		Spe	ectrum Factor		or	Limit	Margin		
				Level	Readi	ng Level			@3m			
	MHz	F/H/E/	′S	dBuV/m	d	ЗuV	dB	d	BuV/m	dB		
	5850.00 E			63.44	56	56.16 7.28		7	78.20	-14.76		

Opera	tion Mode:		802	.11n20B4	Test Date	:	03/0	03/01/2016 15:13:34		
Funda	amental Frequ	lency :	582	5 MHz	Temp./H	umi. :	21 d	leg_C / 61 F	RH	
Opera	tion Band :		Ban	ndedge CH	HIGH Test Engi	neer :	Tin			
EUT F	EUT Pol. :			Plane	Measuren	nent Antenna	RIZONTAL			
	Freq. No		te Emission		Spectrum	Factor	Limit	Margin		
				Level	Reading Level		@3m			
	MHz	F/H/E	/S	dBuV/m	dBuV	dB	dBuV/m	dB		
	5850.00	E		69.50	62.22	7.28	78.20	-8.70		



802.11n40 HT mode

Opera	Operation Mode :			2.11n40B1		Test Date :			03/01/2016 15:17:36		
Funda	amental Frequ	iency :	519	0 MHz		Temp. / Hu	umi. :	21	l deg_C / 61 l	RH	
Opera	tion Band :		Bar	ndedge CH	LOW	Test Engir	neer :	Ti	n		
EUT F	EUT Pol. :		E1 Plane			Measurem	ent Antenna	a Pol. : VI	ERTICAL		
	Freq. No		9	•		ectrum Factor ding Level		Limit @3m	Margin		
	MHz	F/H/E	/S	dBuV/m		dBuV	dB	dBuV/m	n dB		
,	5150.00 E			42.82	3	36.94	5.88	54.00	-11.18		
5150.00 E				49.90 5.88		74.00	-18.22				

Opera	tion Mode:		802.11n40B1		Test Date	:	0	03/01/2016 15:20:43		
Funda	mental Frequ	iency :	5190 MHz		Temp. / H	umi. :	2	21 deg_C / 61 I	٦H	
Opera	tion Band :		Bandedge CH	LOW	Test Engir	neer:	Т	īn		
EUT F	EUT Pol. :		E1 Plane		Measurem	ent Antenna	a Pol. : H	.: HORIZONTAL		
	Freq. No		Emission			Factor	Limit	5		
			Level		ing Level		@3m			
_	MHz	F/H/E/\$	S dBuV/m	C	BuV	dB	dBuV/r	m dB		
	5150.00	E	45.04	3	9.16	5.88	54.00	-8.96		
	5150.00	Е	58.90	5	3.01	5.88	74.00	-15.10		



Opera	Operation Mode :			.11n40B2		Test Date :				03/01/2016 15:26:50		
Funda	imental Frequ	iency:	531	0 MHz		Temp. / H	umi. :		21 0	deg_C / 61	RH	
Opera	tion Band :		Ban	dedge CH	HIGH	Test Engir	neer :		Tin			
EUT F	EUT Pol. :			Plane		Measurement Antenna Pol.				VERTICAL		
	Freq.	Note	9	Emission Level	•	ctrum ng Level	Facto		imit)3m	Margin		
	MHz F/H/		Lev ⊣/E/S dBuV		Ũ		dB	-	uV/m	dB		
	5350.00 E			42.61	3	36.46		54	l.00	-11.39	•	
5350.00 E		55.53 4		49.38 6.15		74	l.00	-18.47				

Opera	Operation Mode :			.11n40B2		Test Date :				03/01/2016 15:29:28		
Funda	imental Frequ	iency :	531	0 MHz		Temp./H	umi.:			21 d	leg_C / 61	RH
Opera	tion Band :		Ban	dedge CH	HIGH	Test Engi	neer :			Tin		
EUT F	EUT Pol. :		E1 Plane			Measurement Antenna Po				.: HORIZONTAL		
	Freq. No				•	Spectrum Reading Level		tor	Lim @3		Margin	
	MHz	F/H/E/	'S	dBuV/m		BuV	d	В	dBu√		dB	
	5350.00	E		44.62	3	8.47	6.1	5	54.0	0	-9.38	-
5350.00 E			58.06	5	1.91 6.15		74.0	0	-15.94			



Opera	Operation Mode :		802.11n40B3			Test Date	:		03/01/2016 15:33:53		
Funda	amental Frequ	uency:	551	0 MHz		Temp./H	umi.:		21 d	leg_C / 61	RH
Opera	tion Band :		Bar	dedge CH	LOW	Test Engir	neer :		Tin		
EUT F	EUT Pol. :		E1 Plane			Measurement Antenna Pol.: VERTIC					
	Freq. No		Note Emission Level		Spectrum Reading Level		Factor	Lim @3		Margin	
	MHz	F/H/E	/S	dBuV/m		dBuV	dB	dBuV		dB	
	5460.00	E		43.23	3	37.00	6.23	54.0	0	-10.77	
5460.00 E		55.70 4		49.47 6.23		74.0	0	-18.30			

Opera	Operation Mode :		802.11n40B3			Test Date :				03/01/2016 15:37:23		
Funda	amental Frequ	lency :	551	0 MHz		Temp./H	umi.:		2	1 deg_C /	61 RH	
Opera	tion Band :		Bar	dedge CH	LOW	Test Engir	neer :		Т	in		
EUT F	EUT Pol. :		E1 Plane			Measurement Antenna Pol				: HORIZONTAL		
	Freq. No		9	Emission Level	•	ectrum Factor Jing Level		tor	Limit @3m	Marg	in	
	MHz	F/H/E	/S	dBuV/m		dBuV	dE	3	dBuV/n	n dB		
	5460.00	E		45.97	3	39.74	6.2	3	54.00	-8.03	}	
	5460.00	Е		59.25	5	53.01	6.2	3	74.00	-14.7	5	



Opera	Operation Mode :		802.11n40B3			Test Date :				03	03/01/2016 15:38:23		
Funda	amental Frequ	uency :	551	0 MHz		Temp./H	umi.	:		21	1 de	g_C / 61	RH
Opera	Operation Band : FUT Pol		Bar	ndedge CH	LOW	Test Engi	neer	:		Ti	n		
EUT F	EUT Pol. :		E1 Plane			Measurem	Pol.: VE	ERT	ICAL				
	Freq. No		te Emission Sp		ectrum Factor		actor		Limit		Margin		
				Level	Read	ding Level				@3m			
	MHz	F/H/E/	/S	dBuV/m		dBuV		dB	(dBuV/m	ו	dB	_
	5470.00 E			59.42	5	53.15		6.26		68.30		-8.88	

Opera	tion Mode :		802.11n40B3			Test Date :				03/01/2016 15:38:55		
Funda	amental Frequ	uency :	551	0 MHz		Temp./H	łumi. :		21 c	deg_C / 61 I	RH	
Opera	tion Band :		Ban	ndedge CH	LOW	Test Eng	ineer :		Tin			
EUT F	EUT Pol. :		E1 Plane			Measurer	ment Antei	.: HOP	RIZONTAL			
	Freq.	Note	9	Emission	Sp	ectrum	Factor	· L	imit	Margin		
				Level	Read	ding Level		(∂3m			
	MHz	F/H/E	/S	dBuV/m		dBuV	dB	dE	uV/m	dB		
	5470.00	Е		67.12	6	60.86	6.26	6	3.30	-1.18		



Operation Mode :			802	.11n40B3	Test	Date :	03/0	03/01/2016 15:58:53		
Fundamental Frequency :				0 MHz	Temp	o. / Humi. :	21 c	21 deg_C / 61 RH		
Operation Band :			Ban	dedge CH	HIGH Test	Engineer :	Tin	Tin		
EUT Pol. :			E1	Plane	Meas	surement Antenn	a Pol.: VEF	VERTICAL		
	Freq. Note		e Emission		Spectrur	n Factor	Limit	Margin		
				Level Read		evel	@3m			
	MHz F/H/E		/S dBuV/m		dBuV	dB	dBuV/m	dB		
	5725.00 E			56.63	50.04	6.59	68.30	-11.67		

Operation Mode :			802.	11n40B3	Test Date	:	03/0	03/01/2016 16:01:31		
Fundamental Frequency :			5670) MHz	Temp. / H	umi.:	21 c	21 deg_C / 61 RH		
Operation Band :			Ban	dedge CH	HIGH Test Engir	neer :	Tin	Tin		
EUT Pol. :			E1 F	Plane	Measurem	ent Antenna	a Pol. : HOF	RIZONTAL		
	Freq.	Note		Emission	Spectrum	Factor	Limit	Margin		
			Level F		Reading Level		@3m			
_	MHz	F/H/E/S		dBuV/m dBu\		dB	dBuV/m	dB		
_	5725.00	Е		57.50	50.91	6.59	68.30	-10.80		



Operation Mode :			802.11n40B4			Test Date :				03/01/2016 18:06:56		
Fundamental Frequency :				5 MHz	Temp. / Humi. :			2	21 deg_C / 61 RH			
Operation Band :			Bandedge CH LOW			Test Engineer :				Tin		
EUT Pol. :			E1 Plane			Measurement Antenna Pol.: VE				VER	TICAL	
	Freq. Note		e Emission		Spectrum		Fac	tor	Limit		Margin	
				Level Read		ding Level			@3m			
	MHz F/H/E		/S dBuV/m		dBuV	d	В	dBuV/m		dB	_	
	5725.00 E			66.02	5	59.43	6.5	59	78.20)	-12.18	

Operation Mode :			802.11n40B4			Test Date :				03/01/2016 18:04:53		
Fundamental Frequency :			5755 MHz			Temp. / Humi. :			21 c	21 deg_C / 61 RH		
Operation Band :			Bandedge CH LOW			Test Engineer :			Tin	Tin		
EUT Pol. :			E1 Plane			Measurement Antenna Pol.: HORIZONTAL						
	Freq.	Note	Note Emission Sp		ectrum	Factor		Limit	Margin			
	Level Read			ding Level @3m			@3m					
	MHz	F/H/E	I/E/S dBuV/m		dBuV	dB	d	BuV/m	dB			
	5725.00	E		70.88	6	64.29	6.59	7	78.20	-7.32		



Opera	Operation Mode : Fundamental Frequency :			.11n40B4	Test Da	ate :	03/0	1/2016 16:	15:13
Funda	imental Frequ	lency :	579	5 MHz	Temp.	/ Humi. :	21 c	leg_C / 61 l	RH
Opera	tion Band :		Ban	dedge CH	HIGH Test Er	ngineer :	Tin		
EUT F	Pol.:		E1	Plane	Measu	rement Antenna	a Pol. : VEF	RTICAL	
	Freq.	Note	;	Emission	Spectrum	Factor	Limit	Margin	
				Level	Reading Lev	el	@3m		
	MHz	F/H/E	/S	dBuV/m	dBuV	dB	dBuV/m	dB	
	5850.00 E			57.57	50.29	7.28	78.20	-20.63	

Opera	tion Mode:		802	.11n40B4		Test Date):		03/0	1/2016 16:	17:33
Funda	amental Frequ	uency :	579	5 MHz		Temp./H	lumi. :		21 c	leg_C / 61	RH
Opera	tion Band :		Ban	dedge CH	HIGH	Test Engi	neer :		Tin		
EUT F	EUT Pol. :			Plane		Measurer	nent Ant	enna P	ol.: HOP	RIZONTAL	
	Freq.	Note	9	Emission	Spe	ctrum	Facto	or	Limit	Margin	
	1104			Level	Readi	ng Level			@3m		
	MHz	F/H/E	/S	dBuV/m	d	BuV	dB	(dBuV/m	dB	
	5850.00	E		60.10	52	2.82	7.28		78.20	-18.10	



802.11ac80 VHT mode

Opera	Operation Mode :		802	.11ac80B1		Test Date	:		03/0	1/2016 16	:31:27
Funda	imental Frequ	iency :	521	0 MHz		Temp. / H	umi.:		21 d	leg_C / 61	RH
Opera	tion Band :		Ban	dedge CH	LOW	Test Engir	neer :		Tin		
EUT F	EUT Pol. :		E1	Plane		Measurem	nent Antenn	a Pol. :	VER	TICAL	
	Freq.	Note	9	Emission Level	•	ectrum ding Level	Factor	Lim @3		Margin	
	MHz	F/H/E	/S	dBuV/m		dBuV	dB	dBu∖		dB	
	5150.00	E		44.77	3	8.89	5.88	54.0	0	-9.23	•
	5150.00 E			59.93	5	54.05	5.88	74.0	0	-14.07	

Opera	Operation Mode : Fundamental Frequency :		802	.11ac80B1		Test Date	:		0	3/01/2016 1	6:35:48
Funda	imental Frequ	iency :	521	0 MHz		Temp./H	umi. :		2	1 deg_C / 6	1 RH
Opera	tion Band :		Ban	dedge CH	LOW	Test Engir	neer :		Т	in	
EUT F	EUT Pol. :		E1	Plane		Measurem	nent An	tenna	Pol.: H	ORIZONTA	L
	Freq.	Note)	Emission	•	ectrum	Fac	tor	Limit	Margin	
				Level	Read	ding Level			@3m		
	MHz	F/H/E/	′S	dBuV/m		dBuV	dE	3	dBuV/n	n dB	
	5150.00	E		48.92	2	13.04	5.8	8	54.00	-5.08	_
	5150.00	Е		65.81	5	59.93	5.8	8	74.00	-8.19	



Opera	Operation Mode :		802	.11ac80B2		Test Date	:			03/	01/2	2016 16	:40:09
Funda	imental Frequ	lency :	529	0 MHz		Temp./H	lumi.	:		21	deg	_C / 61	RH
Opera	tion Band :		Ban	dedge CH	HIGH	Test Engi	neer	:		Tin	l		
EUT F	EUT Pol. :			Plane		Measuren	nent /	Antenn	a Pol	.: VE	RTIC	CAL	
	Freq. No		Э	Emission Level	•	ectrum ling Level	Fa	actor		_imit @3m	N	largin	
	MHz F/H/		/S	dBuV/m	c	dBuV		dB	dE	8uV/m		dB	
	5350.00	E		44.41	3	8.26	6	.15	5	4.00	-9	9.59	•
	5350.00 E			57.87	5	1.72	6	.15	7	4.00	-1	6.13	

Opera	tion Mode :		802	.11ac80B2		Test Date	:			03/0	01/2016 16	6:44:12
Funda	amental Frequ	lency :	529	0 MHz		Temp./H	umi. :	:		21 c	deg_C / 61	RH
Opera	tion Band :		Ban	dedge CH	HIGH	Test Engi	neer :			Tin		
EUT F	EUT Pol. :			Plane		Measurem	nent A	Antenn	a Pol.	: HOF	RIZONTA	L
	Freq.	Freq. Note		Emission	•	ectrum	Fa	actor		nit	Margin	
		E (1.1/E	6	Level		ing Level			-	3m		
	MHz	F/H/E/	/S	dBuV/m	C	BuV		dB	aBr	V/m	dB	_
	5350.00	Е		47.46	4	1.31	6	.15	54	00	-6.54	
	5350.00	Е		63.57	5	7.42	6	.15	74.	00	-10.43	



Opera	Operation Mode :		802	.11ac80B3		Test Date	:		03/0	1/2016 18	30:14
Funda	amental Frequ	uency :	553	0 MHz		Temp. / H	umi.:		21 d	leg_C / 61	RH
Opera	tion Band :		Ban	dedge CH	LOW	Test Engir	neer :		Tin		
EUT F	EUT Pol. :			Plane		Measurem	nent Antenr	a Pol. :	VER	RTICAL	
	Freq.	Note	9	Emission Level	•	ectrum ding Level	Factor	Lim @3		Margin	
	MHz	F/H/E	/S	dBuV/m		dBuV	dB	dBu\		dB	
	5460.00	E		43.88	3	37.65	6.23	54.0	0	-10.12	
	5460.00	Е		56.71	Ę	50.47	6.23	74.0	00	-17.29	

Opera	Operation Mode :		802	2.11ac80B3		Test Date	:			03/0	1/2016 18	:31:09
Funda	amental Frequ	iency :	553	80 MHz		Temp./H	umi. :			21 d	leg_C / 61	RH
Opera	tion Band :		Bar	ndedge CH	LOW	Test Engi	neer :			Tin		
EUT F	EUT Pol. :			Plane		Measuren	nent A	Antenn	a Pol. :	HOF	RIZONTAL	
	Freq. Not		9	Emission Level	•	ectrum ding Level	Fa	ctor	Lir @3		Margin	
	MHz	F/H/E	/S	dBuV/m		dBuV	(dB	dBu		dB	_
	5470.00	E		47.70	2	1.44	6	26	54.	00	-6.30	_
	5470.00	Е		65.07	5	58.81	6.	26	74.	00	-8.93	



Opera	tion Mode:		802	.11ac80B3		Test Date	:			03	3/01/	/2016 18	3:28:44
Funda	amental Frequ	uency :	553	0 MHz		Temp./H	umi.	:		21	1 de	g_C / 61	RH
Opera	tion Band :		Bar	dedge CH	LOW	Test Engi	neer	:		Ti	in		
EUT F	EUT Pol. :		E1	Plane		Measurem	nent	Antenn	a P	ol.: VE	ERT	ICAL	
	Freq.	Note	;	Emission	Sp	ectrum	F	actor		Limit		Margin	
				Level	Read	ding Level				@3m			
	MHz	F/H/E	/S	dBuV/m		dBuV		dB	(dBuV/m	า	dB	_
	5470.00 E			59.31	5	53.04	6	5.26		68.30		-8.99	

Opera	tion Mode :		802	2.11ac80B3		Test Date	e :		03/0	1/2016 18:	26:19
Funda	amental Frequ	uency:	553	0 MHz		Temp./H	łumi. :		21 c	leg_C / 61	RH
Opera	tion Band :		Ban	ndedge CH	LOW	Test Eng	ineer :		Tin		
EUT F	EUT Pol. :		E1	Plane		Measurer	ment An	tenna P	ol.: HOF	RIZONTAL	
	Freq.	Note	9	Emission	Sp	ectrum	Fact	or	Limit	Margin	
	1104. 110			Level	Read	ding Level			@3m		
	MHz	F/H/E	/S	dBuV/m		dBuV	dE	в с	dBuV/m	dB	
	5470.00	Е		65.07	Ę	58.81	6.20	6	68.30	-3.23	



Opera	tion Mode :		802	.11ac80B4		Test Date	:	03	/01/2016 09:	25:19
Funda	amental Frequ	uency :	577	5 MHz		Temp./H	umi. :	21	deg_C / 61	RH
Opera	tion Band :		Bar	dedge CH	LOW	Test Engir	neer:	Ti	า	
EUT F	EUT Pol. :		E1	Plane		Measurem	nent Antenn	a Pol. : VE	RTICAL	
	Freq.	Note	9	Emission	Sp	ectrum	Factor	Limit	Margin	
				Level	Read	ding Level		@3m		
	MHz	F/H/E	/S	dBuV/m		dBuV	dB	dBuV/m	dB	
	5725.00	E		64.42	Ę	57.83	6.59	78.20	-13.78	

Opera	tion Mode :		802	2.11ac80B4		Test Date	:			03	3/01/	/2016 09:	19:32
Funda	imental Frequ	lency :	577	'5 MHz		Temp./H	lumi.	:		21	de	g_C / 61 F	RH
Opera	tion Band :		Bar	ndedge CH	LOW	Test Engi	neer	:		Tii	n		
EUT F	EUT Pol. :		E1	Plane		Measuren	nent	Antenn	ia F	Pol.: HO	ORI	ZONTAL	
	Freq.	Note	9	Emission	Sp	ectrum	F	actor		Limit		Margin	
				Level	Read	ding Level				@3m			
	MHz	F/H/E	/S	dBuV/m		dBuV		dB		dBuV/m	۱	dB	
	5725.00	E		71.39	6	64.80	(6.59		78.20		-6.81	



Operation Mode :			802	.11ac80B4	Те	st Date :			03/0	01/2016 09	:21:40
Fundamental Frequency :			577	5 MHz	Те	mp. / Hur	mi. :		21 c	deg_C / 61	RH
Opera	tion Band :		Ban	dedge CH	HIGH Te	st Engine	er:		Tin		
EUT F	Pol.:		E1	Plane	Me	asureme	nt Antenn	a Pol. :	VEF	RTICAL	
	Freq.	Note	;	Emission	Spect	rum	Factor	Lin	nit	Margin	
				Level	Reading	Level		@3	m		
	MHz	F/H/E/	′S	dBuV/m	dBu	١V	dB	dBuʻ	/ /m	dB	_
	5850.00	E		57.45	50.1	7	7.28	78.2	20	-20.75	

Opera	tion Mode:		802	2.11ac80B4		Test Date):			03/0	1/2016 09	:23:36
Fundamental Frequency :		5775 MHz		Temp. / Humi. :		21 deg_C / 61 RH						
Opera	tion Band :		Bar	ndedge CH	HIGH	Test Engi	neer :			Tin		
EUT F	Pol.:		E1	Plane		Measurer	nent Ar	ntenna	a Pol. :	HOF	RIZONTAL	-
	Freq.	Note	9	Emission	Spe	ectrum	Fac	tor	Lin	nit	Margin	
				Level	Read	ing Level			@3	m		
	MHz	F/H/E	/S	dBuV/m	С	lBuV	d	3	dBuʻ	/ /m	dB	
	5850.00	E		58.96	5	1.68	7.2	8	78.2	20	-19.24	



12. TRANSMISSION IN THE ABSENCE OF DATA

12.1 Standard Applicable

According to §15.407(c)

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.

12.2 Result

No non-compliance noted: Refer to the theory of operation.

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13. FREQUENCY STABILITY

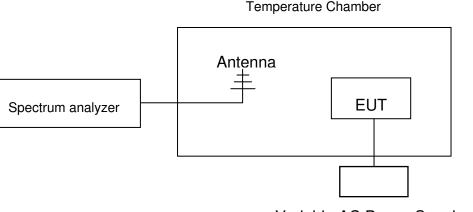
13.1 Standard Applicable

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

13.2 Measurement Procedure

- 1. The EUT was placed inside temperature chamber and powered and powered by nominal DC voltage.
- 2. Set EUT as normal operation.
- 3. Turn the EUT on and couple its output to spectrum.
- 4. Turn the EUT off and set the chamber to the highest temperature specified.
- 5. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT and measure the operating frequency.
- 6. Repeat step with the temperature chamber set to the lowest temperature.

13.3 Test SET-UP



Variable AC Power Supply

13.4 Measurement Equipment Used:

	SGS	6 Conducted	Room		
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Spectrum Analyzer	Agilent	N9010A	MY50420195	12/21/2015	12/20/2016
DC Power Supply	Agilent	E3640A	MY52410006	11/05/2015	11/04/2016
Temperature Chamber	TERCHY	MHG-120LF	911009	05/06/2015	05/05/2016

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13.5 Measurement Result

Operation Mode	802.11 a		Test Date	2016.03.15
Temperature	:21		Test By	Cooper
				ΔFrequency (MHz)
	36	5180	5,180.00000	0.00000000
	44	5220	5,220.06006	
	48	5240	5,240.04492	
	52	5260	5,260.00000	0.00000000
	60	5300	5,300.01489	-0.00000281
	64	5320	5,320.00000	0.00000000
	100	5500	5,499.95508	
	116	5580	5,579.95508	
	140	5700	5,699.95508	
	149	5745	5,744.96997	
	157	5785	5,784.98511	0.00000257
	165	5825	5,824.98511	0.00000256
	36	5180	5,180.01489	
	44	5220	5,220.01489	
	48	5240	5,240.04492	
	52	5260	5,259.98511	0.0000283
	60	5300	5,300.01489	-0.00000281
	64	5320	5,320.00000	0.0000000
	100	5500	5,499.95508	0.00000817
	116	5580	5,579.94019	0.00001072
	140	5700	5,699.94019	0.00001049
	149	5745	5,744.95508	0.00000782
	157	5785	5,784.97022	
	165	5825	5,824.98511	0.00000256



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36	5180	5,180.00000	0.00000000
44	5220	5,220.04492	-0.00000861
48	5240	5,240.01489	-0.00000284
52	5260	5,260.00000	0.00000000
60	5300	5,299.98511	0.00000281
64	5320	5,319.96997	0.00000564
100	5500	5,499.95508	0.00000817
116	5580	5,579.95508	0.00000805
140	5700	5,699.94019	0.00001049
149	5745	5,744.94019	0.00001041
157	5785	5,784.95508	0.00000777
165	5825	5,824.98511	0.00000256



Operation Mode	802.11 n_HT40		Test Date	2016.03.15
Temperature	:21		Test By	Cooper
	38 46 54 62 102 110 134 151 159 38 46 54 62 102 110 134 151 159	5190 5230 5270 5310 5550 5670 5755 5795 5190 5230 5270 5230 5270 5310 5510 5550 5670 5755 5795	5,189.97510 5,230.00000 5,269.95020 5,309.95020 5,509.95020 5,549.95020 5,669.95020 5,754.92505 5,794.95020 5,269.95020 5,309.92505 5,509.92505 5,549.95020 5,669.95020 5,669.95020 5,754.95020 5,794.95020	0.0000000 0.0000945 0.0000938 0.0000904 0.0000897 0.0000878 0.00001302 0.00000859 0.0000000 0.00000476 0.00000476 0.00000476 0.00001412 0.00001360 0.00000897 0.00000878 0.00000878



25	
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38	5190	5,190.00000	0.00000000
46	5230	5,229.95020	0.00000952
54	5270	5,269.97510	0.00000473
62	5310	5,309.97510	0.00000469
102	5510	5,509.92505	0.00001360
110	5550	5,549.95020	0.0000897
134	5670	5,669.97510	0.00000439
151	5755	5,754.95020	0.00000865
159	5795	5,794.95020	0.00000859
38	5190	5,189.97510	0.00000480
46	5230	5,230.00000	0.00000000
54	5270	5,269.95020	0.00000945
62	5310	5,309.95020	0.00000938
102	5510	5,509.95020	0.00000904
110	5550	5,549.95020	0.00000897
134	5670	5,669.95020	0.00000878
151	5755	5,754.95020	0.00000865
159	5795	5,794.97510	0.00000430
38	5190	5,189.97510	0.00000480
46	5230	5,229.95020	0.00000952
54	5270	5,269.97510	0.00000473
62	5310	5,309.92505	0.00001412
102	5510	5,509.92505	0.00001360
110	5550	5,549.95020	0.00000897
134	5670	5,669.95020	0.00000878
151	5755	5,754.95020	0.00000865
159	5795	5,794.95020	0.0000859



Test Date	2016.03.15
Test By	Cooper

42	5210	5,210.10010	-0.00001921
58	5290	5,290.04981	-0.00000941
106	5530	5,529.95020	0.00000901
122	5610	5,609.95020	0.00000888
155	5775	5,775.00000	0.0000000
42	5210	5,210.00000	0.0000000
58	5290	5,290.10010	-0.00001892
106	5530	5,529.95020	0.00000901
122	5610	5,609.95020	0.0000888
155	5775	5,774.90015	0.00001729
42	5210	5,210.00000	0.0000000
58	5290	5,290.00000	0.0000000
106	5530	5,529.95020	0.00000901
122	5610	5,609.95020	0.0000888
155	5775	5,774.95020	0.00000862
42	5210	5,210.15015	-0.00002882
58	5290	5,290.05005	-0.00000946
106	5530	5,529.95020	0.00000901
122	5610	5,609.95020	0.0000888
155	5775	5,774.95020	0.00000862
42	5210	5,210.00000	0.00000000
58	5290	5,290.00000	0.00000000
106	5530	5,529.95020	0.00000901
122	5610	5,609.95020	0.00000888
155	5775	-	
155	5775	5,774.90015	0.00001729

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14. ANTENNA REQUIREMENT

14.1 Standard Applicable

According to §15.203, an intentional radiator shall be designed to ensure that no antenna other than furnished by the responsible party shall be used with the device. According to §15.407, If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

14.2 Antenna Connected Construction

PCB antenna designs are used.

The antenna is designed with permanent attached and no consideration of replacement. Please see EUT photo and antenna spec. for details.

~ End of Report ~

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