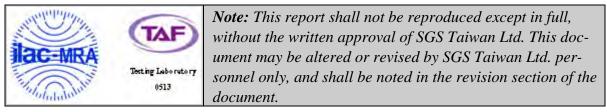


ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 15 SUBPART E REQUIREMENT OF

Product Name:	OF Mobile Tablet		
Brand Name:	DT Research Inc.		
Model No.:	DT395BV, Atlas 91i		
Model Difference:	Different Exterior Color: DT395BV-Black, Atlas 91i-Red		
FCC ID:	YE3800E		
Report No.:	E2/2015/60049		
Issue Date:	Jul. 15, 2015		
FCC Rule Part:	§15.247, Cat: DTS		
Prepared for:	DT Research Inc. 6F, NO.1, Ning-Po E. Street, Taipei 100, Tai- wan SGS Taiwan Ltd.		
D 11	Electronics & Communication Laboratory		
Prepared by:	No.2, Keji 1st Rd., Guishan District, Taoyuan City, Taiwan 333		



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VERIFICATION OF COMPLIANCE

Applicant:	DT Research Inc. 6F, NO.1, Ning-Po E. Street, Taipei 100, Taiwan
Product Name:	Mobile Tablet
Brand Name:	DT Research Inc.
Model No.:	DT395BV, Atlas 91i
Model Difference:	Different Exterior Color: DT395BV-Black, Atlas 91i-Red
FCC ID:	YE3800E
Report Number:	E2/2015/60049
Date of test:	Jun. 23, 2015 ~ Jul. 15, 2015
Date of EUT Received:	Jun. 23, 2015

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: 2009 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:	Jerry	Lu	Date:	Jul. 15, 2015	
Prepared By:	Jerry Lu / En Allen	gineer Tsai	Date:	Jul. 15, 2015	
Approved By:	Allen Tsai / El	ngineer h ang	Date:	Jul. 15, 2015	

Jim Chang / Asst. Manager

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Revision History

Report Number	Revision	Description	Issue Date
E2/2015/60049	Rev.00	Initial creation of document	Jul. 15, 2015

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GENERAL INFORMATION 1.

1.1 **Product Description**

General:

Product Name:	Mobile Tablet			
Brand Name:	DT Resear	ch Inc.		
Model No.:	DT395BV	, Atlas 91i		
Model Difference:	Different H	Exterior Color: DT395BV-Black, Atlas 91i-Red		
Product SW/HW version:	WIN embe	WIN embedded 8.1 industry pro. / MB version 2.1		
Radio SW/HW version:	N/A			
Test SW Version:	DRTU version 1.7.4-1041			
RF power setting in TEST SW:	N/A			
	7.4Vdc from Rechargeable Li-ion Battery or 19V from AC/DC Adapter			
Power Supply:	Battery:	Model No.:ACC-006-18, Supplier: Formosa Electronic Industries INC		
	Adapter :	Model No.:A11-065N1A, Supplier: Chicony		

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WLAN 5GHz:

Wi-Fi	Frequency Range	Channels	Rated Power (Avg.)	Modulation Technology
	5150~5250	4	13.49dBm	
11.	5250~5350	4	14.48dBm	OFDM
11a	5470~5725	11	14.36dBm	
	5725-5850	5	14.49dBm	
	HT20 / VHT20 5150~5250	4	HT: 13.49dBm VHT: 13.48dBm	
11/	HT20 / VHT20 5250~5350	4	HT: 14.49dBm VHT: 14.47dBm	OFDM
11n / ac	HT20 / VHT20 5470~5725	11	HT: 14.47dBm VHT: 14.42dBm	OFDM
	HT20 / VHT20 5725-5850	5	HT: 14.47dBm VHT: 14.44dBm	
	HT40 / VHT40 5150~5250	2	HT: 14.46dBm VHT: 14.41dBm	
11 /	HT40 / VHT40 5250~5350	2	HT: 14.47dBm VHT: 14.43dBm	OFDIA
11n / ac	HT40 / VHT40 5470~5725	6	HT: 14.48dBm VHT: 14.43dBm	OFDM
	HT40 / VHT40 5725-5850	2	HT: 14.97dBm VHT: 14.80dBm	
	VHT80 5150~5250	1	11.73dBm	
11ac	VHT80 5250~5350	1	11.86dBm	
	VHT80 5470~5725	3	13.48dBm	OFDM
	VHT80 5725-5850	1	14.97dBm	

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Antenna Designation	PIFA Antenna, Main Antenna Model number:DT395PV 5GHz Gain: 2.40dBi (5150MHz-5250MHz) 5GHz Gain: 3.21dBi (5250MHz-5350MHz) 5GHz Gain: 2.68dBi (5470MHz-5725MHz) 5GHz Gain: 3.41dBi (5725MHz-5850MHz) Aux Antenna Model number:DT395PV 5GHz Gain: 0.86dBi (5150MHz-5250MHz) 5GHz Gain: 0.60dBi (5250MHz-5350MHz) 5GHz Gain: -0.66dBi (5470MHz-5725MHz)
Modulation type	5GHz Gain: 1.41dBi (5725MHz-5850MHz) 64QAM, 16QAM, QPSK, BPSK for OFDM
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 - 300.0Mbps 802.11 ac_20MHz: 6.5 - 144.4Mbps 802.11 ac_40MHz: 13.5 - 300.0Mbps 802.11 ac_80MHz: 29.3 - 650.0Mbps

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1.2 Product Feature of Equipment Under Test

The equipment under Test (Hereafter Called: EUT) is Mobile Tablet supporting, CDMA, LTE, Wi-Fi 802.11abgn & ac, Bluetooth features, and below is details of information.

Product Feature			
Product Name:	Mobile Tablet		
Brand Name:	DT Research Inc.		
Model No.:	DT395BV, Atlas 91i		
Model Difference:	Different Exterior Color: DT395BV-Black, Atlas 91i-Red		
FCC ID:	YE3800E		
CDMA2000 / EVDO	BC0/BC1		
LTE	B4/B13		
Wi-Fi Specification	802.11a/b/g/n & ac		
Bluetooth Version	V4.0 dual mode		

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 v01

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

ANSI C63.10:2009

Note:

- 1. All test items have been performed and record as per the above standards.
- 2. The composite system is compliance with FCC Subpart B is authorized under the certification procedure.
- 3. The EUT was placed 0.8m height for frequency above 1GHz in accordance with AN-SI C63.10:2009.

Test Facility 1.4

SGS Taiwan Ltd. Electronics & Communication Laboratory No.2, Keji 1st Rd., Guishan District, Taoyuan City, Taiwan 333. (TAF code 0513)

FCC Registration Numbers are: 628985

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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2. SYSTEM TEST CONFIGURATION

2.1 EUT Configuration

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

2.2 EUT Exercise

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

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 plan. 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 \$15.107. 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 which is 0.8 m above ground plan. 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.

2.4 Measurement Results Explanation Example For all conducted test items:

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

Note:

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Following shows an offset computation example with cable loss 1.3 dB and 10 dB attenuator.

Offset = RF cable loss (dB)+ attenuation factor(dB) =1.3+10=11.3(dB)

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2.5 **Configuration of Tested System**

F ig. 2-1 Conducted (Antenna Port)

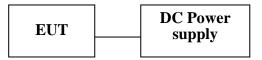


Fig. 2-2 Radiated Emission & AC Power Line Conducted Emission Configuration



Table 2-1 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/Model No.	Series No.	Data Cable	Power Cord
1.	WLAN Test Software	N/A	N/A	N/A	N/A	N/A

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SUMMARY OF TEST RESULT 3.

FCC Rules	Description Of Test	Result
§15.207	AC Power Line Conducted Emission	Compliant
\$15.403(i) \$15.407(e)	26 dB & 6dB 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 Infor- mation	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**

O perated 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	5590 MHz	134	5670 MHz
118	5590 MHz		

3 channels are provided for 802.11ac_VHT80

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
106	5530 MHz	138	5690 MHz
122	5610 MHz		

Operated band in 5725 MHz ~5850 MHz:

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

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
149	5745 MHz	161	5805 MHz
153	5765 MHz	165	5825 MHz
157	5785 MHz		

2 channels are provided for 802.11n_HT40, 802.11ac_VHT40

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
151	5755 MHz	159	5795 MHz

1 channel is provided for 802.11ac_VHT80

CHANNEL	FREQUENCY	
155	5775 MHz	

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4.2 The Worst Test Modes and Channel Details

- The EUT has been tested under operating condition. 1.
- 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.
- Pre-scanned was done on SISO mode Main antenna: DT395PV and SISO mode Aux antenna: 4. DT395PV and MIMO mode. SISO Mode Main antenna results the highest emission at 5GHz. Therefore, the completed set of measurement was done on Main antenna to be presented in this test repot.
- 5. The given UE is pre-scanned among 802.11n and ac modes, and below table shows modes yield the highest reading that generates the highest emission. Therefore, these modes of test configuration are chosen to carry out the relevantly mandatory test items.

RADIATED EMISSION TEST (Internal Antenna and External Antenna):

	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	44	OFDM	6	MAIN			
802.11ac_VHT80	5210	42	42	OFDM	MCS0	MAIN			
802.11a	5260~5320	52 to 64	60	OFDM	6	MAIN			
802.11ac_VHT80	5290	58	58	OFDM	MCS0	MAIN			
802.11a	5500~5700	100 to 140	116	OFDM	6	MAIN			
802.11ac_VHT80	5530~5690	106 to 138	106,122,138	OFDM	MCS0	MAIN			
802.11a	5745~5825	149 to 165	157	OFDM	6	MAIN			
802.11ac_VHT80	5775	155	155	OFDM	MCS0	MAIN			
	RAD	IATED EMIS	SION TEST (A	BOVE 1 GHz)					
MODE	FREQUENCY BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)	ANTENNA PORT			
802.11a	5100 5240	264 40	26.44.40	OFDM	6	MAIN			
802.11n_HT20	5180~5240	36 to 48	36,44,48	OFDM	MCS0	MAIN			
802.11n_HT40	5190~5230	38 to 46	38,46	OFDM	MCS0	MAIN			
802.11ac_VHT80	5210	42	42	OFDM	MCS0	MAIN			
802.11a	52(0,5220	52 4- 64	52 (0 (4	OFDM	6	MAIN			
802.11n_HT20	5260~5320	52 to 64	52,60,64	OFDM	MCS0	MAIN			
802.11n_HT40	5270~5310	54 to 62	54,62	OFDM	MCS0	MAIN			
802.11ac_VHT80	5290	58	58	OFDM	MCS0	MAIN			

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MODE	FREQUENCY	AVAILABLE	TESTED	MODULATION	DATA RATE	ANTENNA
INIODE	BAND (MHz)	CHANNEL	CHANNEL	MODULATION	(Mbps)	PORT
802.11a	5500 5700	100 to 140	100 116 140	OFDM	6	MAIN
802.11n_HT20	5500~5700	100 to 140	100,116,140	OFDM	MCS0	MAIN
802.11n_HT40	5510~5670	102 to 134	102,110,134	OFDM	MCS0	MAIN
802.11ac_VHT80	5530~5690	106 to 138	106,122,138	OFDM	MCS0	MAIN
802.11a	5745~5825	149 to 165	140 157 165	OFDM	6	MAIN
802.11n_HT20	5745~5825	149 10 103	149,157,165	OFDM	MCS0	MAIN
802.11n_HT40	5755~5795	151 to 159	151,159	OFDM	MCS0	MAIN
802.11ac_VHT80	5775	155	155	OFDM	MCS0	MAIN

Note:

The field strength of radiation emission was measured as 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 H 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	5180~5240	36 to 48	36,44,48	OFDM	6	MAIN			
802.11n_HT20	5160~5240	50 10 48	50,44,40	OFDM	MCS0	MAIN			
802.11n_HT40	5190~5230	38 to 46	38,46	OFDM	MCS0	MAIN			
802.11ac_VHT80	5210	42	42	OFDM	MCS0	MAIN			
802.11a	5260~5320	52 to 64	52 60 64	OFDM	6	MAIN			
802.11n_HT20	5200~5520	52 10 04	52,60,64	OFDM	MCS0	MAIN			
802.11n_HT40	5270~5310	54 to 62	54,62	OFDM	MCS0	MAIN			
802.11ac_VHT80	5290	58	58	OFDM	MCS0	MAIN			
802.11a	5500~5700	500 5700 100 / 140	100 116 140	OFDM	6	MAIN			
802.11n_HT20	3300~3700	100 to 140	100,116,140	OFDM	MCS0	MAIN			
802.11n_HT40	5510~5670	102 to 134	102,110,134	OFDM	MCS0	MAIN			
802.11ac_VHT80	5530~5690	106 to 138	106,122,138	OFDM	MCS0	MAIN			
802.11a	5745 5005	140 . 165		OFDM	6	MAIN			
802.11n_HT20	5745~5825	149 to 165	149,157,165	OFDM	MCS0	MAIN			
802.11n_HT40	5755~5795	151 to 159	151,159	OFDM	MCS0	MAIN			
802.11ac_VHT80	5775	155	155	OFDM	MCS0	MAIN			

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MEASUREMENT UNCERTAINTY 5.

Test Items	Uncertainty
AC Power Line Conducted Emission	+/- 2.586 dB
26dB 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:

	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

	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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6. CONDUCTED EMISSION TEST

6.1. Standard Applicable

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

Frequency range		imits 3(uV)					
MHz	Quasi-peak	Average					
0.15 to 0.50	66 to 56	56 to 46					
0.50 to 5	56	46					
5 to 30	60	50					
Note							
1. The lower limit shall apply at the transition frequencies							
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 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	SCHWARZ BECK	NSLK 8127	8127-649	05/15/2015	05/14/2016				
LISN	FCC	FCC-LISN-50/250-25 -2-01	04034	03/13/2015	03/12/2016				
Coaxial Cables	N/A	WK CE Cable	N/A	11/26/2014	11/25/2015				

6.3. EUT Setup

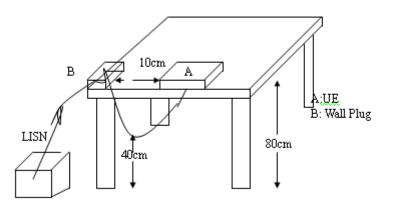
- 1. The conducted emission tests were performed in the test site, using the setup in accordance with the ANSI C63.10:2009.
- 2. The AC/DC Power adaptor of EUT was plug-in LISN. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop.
- 3. The LISN was connected with 120Vac/60Hz 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 plan.
- 2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 3. Repeat above procedures until all phases of power being supplied by given UE are completed.

6.6. Measurement Result

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

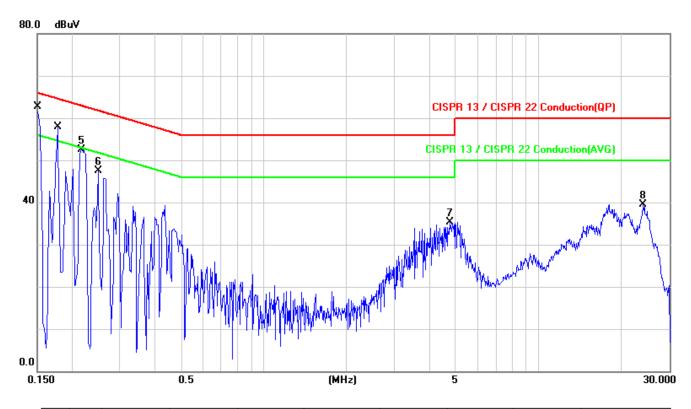
Note2: The * reveals the worst-case results that that closet to the limit

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AC POWER LINE CONDUCTED EMISSION TEST DATA

Operation Mode:	Operation mode			Test Date:	Jul. 03, 2015
Temperature:	26	Humidity:	52 %	Test By:	Vito
Model No.:	Adapter: A11-065N1A			Phase:	L1



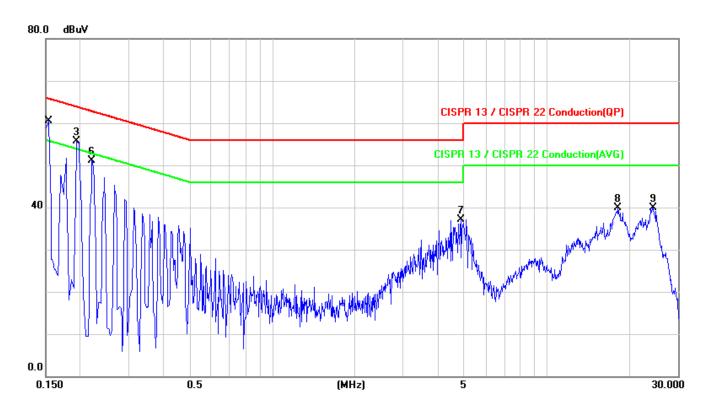
No.	Mk.	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Comment
		(MHz)	dBuV	(dB)	(dBuV)	(dBuV)	(dB)		
1	*	0.1500	60.81	0.08	60.89	66.00	-5.11	QP	
2		0.1500	47.01	0.08	47.09	56.00	-8.91	AVG	
3		0.1780	56.70	0.08	56.78	64.58	-7.80	QP	
4		0.1780	42.40	0.08	42.48	54.58	-12.10	AVG	
5		0.2180	52.34	0.08	52.42	62.89	-10.47	peak	
6		0.2500	47.40	0.09	47.49	61.76	-14.27	peak	
7		4.7540	34.69	0.62	35.31	56.00	-20.69	peak	
8		24.1380	38.82	0.74	39.56	60.00	-20.44	peak	

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Operation Mode:	Operation mode			Test Date:	Jul. 03, 2015
Temperature:	26	Humidity:	52 %	Test By:	Vito
Model No.:	Adapter: A11-065N1A			Phase:	N



No.	Mk.	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Comment
		(MHz)	dBuV	(dB)	(dBuV)	(dBuV)	(dB)		
1		0.1540	55.40	0.14	55.54	65.78	-10.24	QP	
2		0.1540	36.40	0.14	36.54	55.78	-19.24	AVG	
3	*	0.1940	55.52	0.13	55.65	63.86	-8.21	peak	
4		0.1940	53.90	0.13	54.03	63.86	-9.83	QP	
5		0.1940	35.50	0.13	35.63	53.86	-18.23	AVG	
6		0.2220	50.98	0.14	51.12	62.74	-11.62	peak	
7		4.8660	36.39	0.67	37.06	56.00	-18.94	peak	
8		18.1500	39.21	0.61	39.82	60.00	-20.18	peak	
9		24.3820	39.14	0.78	39.92	60.00	-20.08	peak	

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7. DUTY CYCLE TEST SIGNAL

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

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

Formula:

Duty Cycle = Ton / (Ton+Toff)

Measurement Procedure:

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

Duty Cycle:

Operation Mode	Duty Cycle	Duty Fator (dB) 10 * log (1/ Duty cycle)
802.11a (Main)	98.6%	0.06
802.11n_20 (Main)	98.5%	0.07
802.11n_40 (Main)	96.9%	0.14
802.11ac_80 (Main)	93.8%	0.28
802.11n_20 (MIMO)	97.2%	0.12
802.11ac_40 (MIMO)	94.5%	0.24
802.11ac_80 (MIMO)	90.1%	0.45

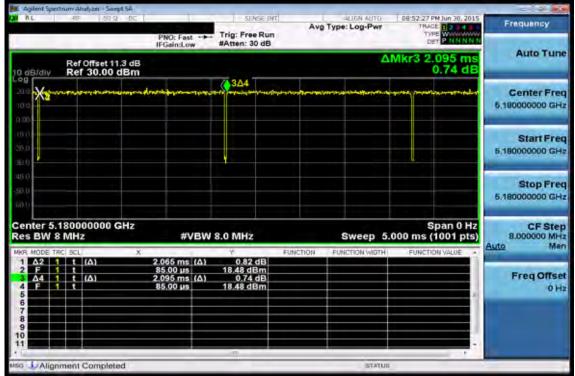
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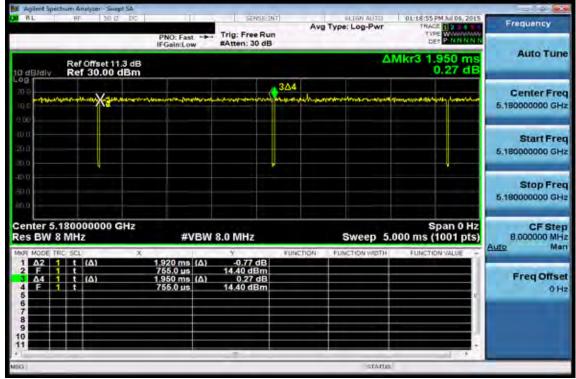
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DUTY CYCLE TEST SIGNAL Measurement Result 802.11a (Main)



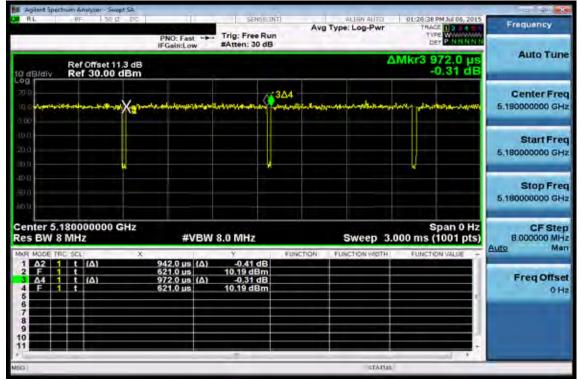
802.11n HT20 (Main)



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802.11n HT40 (Main)



802.11ac VHT80 (Main)



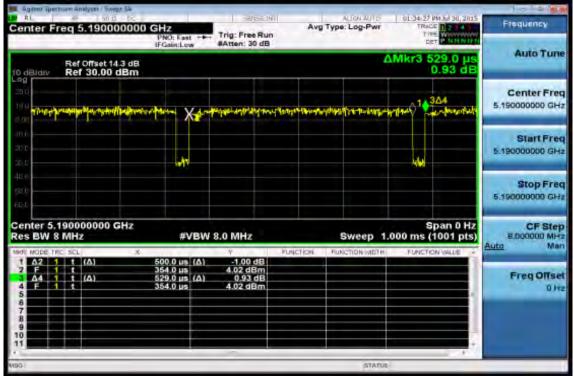
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802.11n HT20 (MIMO)



802.11ac VHT40 (MIMO)



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802.11ac VHT80 (MIMO)



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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 v01.
- 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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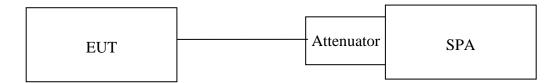
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8.3 Measurement Equipment Used

Conducted Emission Test Site					
EQUIPMENT	MFR MODEL SERIAL		LAST	CAL DUE.	
TYPE		NUMBER	NUMBER	CAL.	
EXA Spectrum Analyzer	Agilent	N9010A	MY50420195	12/22/2014	12/21/2015
DC Block	Mini-Circuits	BLK-18-S+	1	01/02/2015	01/01/2016
Attenuator	Mini-Circuit	BW-S10W2+	002	01/02/2015	01/01/2016

Test Set-up 8.4



8.5 Measurement Result **26dB Bandwidth**

802.11a

Frequency (MHz)	26dB Bandwidth (MHz)	10 Log (B) (dB)
5180	22.480	13.52
5220	22.120	13.45
5240	22.490	13.52
5260	22.920	13.60
5300	23.520	13.71
5320	21.930	13.41
5500	22.430	13.51
5580	21.840	13.39
5700	21.870	13.40

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802.11n_HT20

Frequency (MHz)	26dB Bandwidth (MHz)	10 Log (B) (dB)
5180	23.000	13.62
5220	22.780	13.58
5240	23.070	13.63
5260	22.280	13.48
5300	23.110	13.64
5320	22.960	13.61
5500	22.190	13.46
5580	23.440	13.70
5700	23.320	13.68

802.11n HT40

Frequency (MHz)	26dB Bandwidth (MHz)	10 Log (B) (dB)
5190	43.220	16.36
5230	42.810	16.32
5270	41.320	16.16
5310	42.700	16.30
5510	44.140	16.45
5550	43.430	16.38
5670	43.430	16.38

802.11ac_VHT80

Frequency (MHz)	26dB Bandwidth (MHz)	10 Log (B) (dB)
5210	80.440	19.05
5290	80.730	19.07
5530	80.500	19.06
5610	95.050	19.78

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6dB Bandwidth (5725 MHz~ 5850 MHz)

802.11a

Frequency (MHz)	6dB Bandwidth (MHz)	10 Log (B) (dB)
5745	13.910	11.43
5785	15.340	11.86
5825	12.350	10.92

802.11n_HT20

Frequency (MHz)	6dB Bandwidth (MHz)	10 Log (B) (dB)
5745	13.900	11.43
5785	15.050	11.78
5825	13.820	11.41

802.11n_HT40

Frequency (MHz)	6dB Bandwidth (MHz)	10 Log (B) (dB)
5755	35.140	15.46
5795	33.890	15.30

802.11ac_VHT80

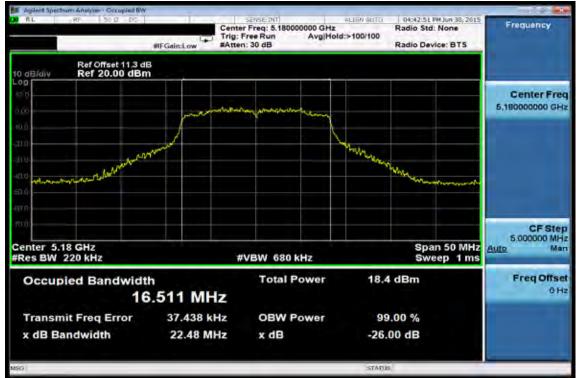
Frequency	26dB Bandwidth	10 Log (B)
(MHz)	(MHz)	(dB)
5775	75.230	18.76

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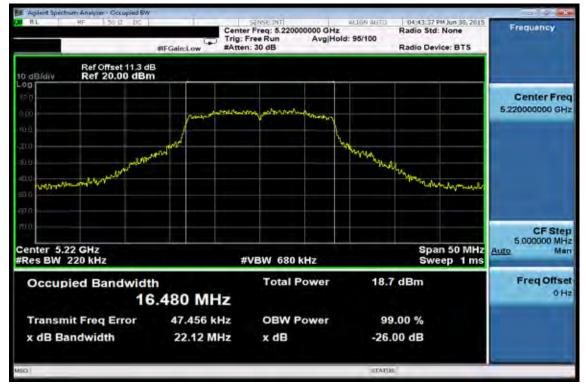
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802.11a, 5150~5250 MHz 26dB Band Width Test Data CH-Low (5180MHz)



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

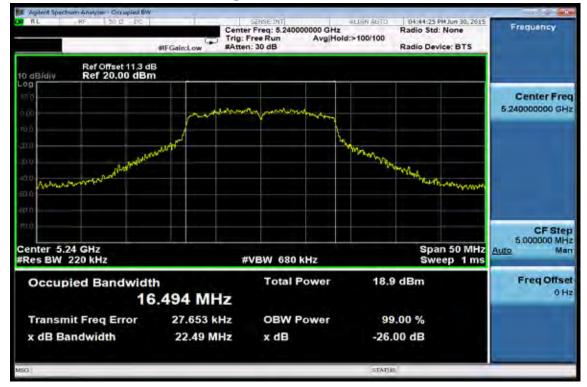


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26dB Band Width Test Data CH-High (5240MHz)

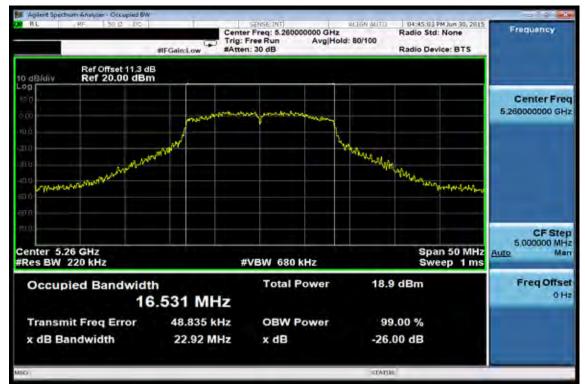


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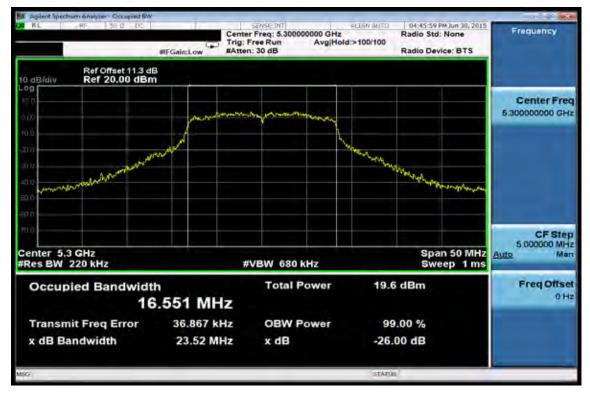
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802.11a, 5250~5350 MHz 26dB Band Width Test Data CH-Low (5260MHz)



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

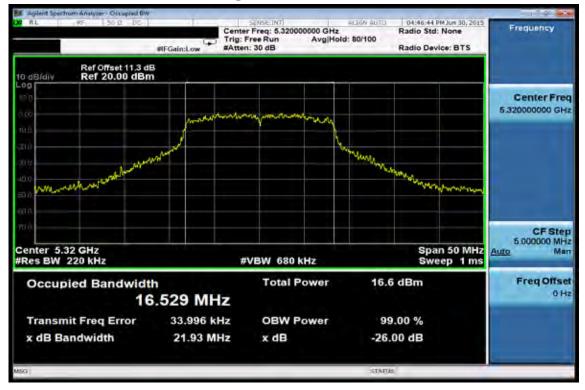


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26dB Band Width Test Data CH-High (5320MHz)

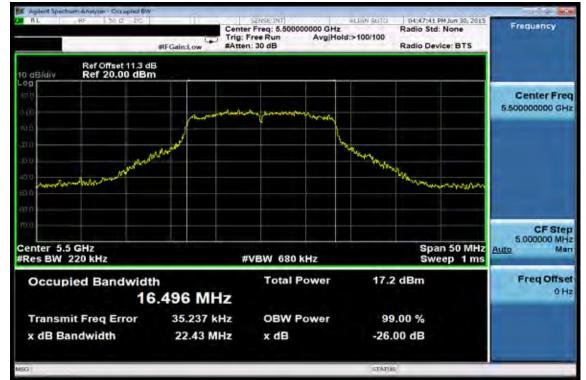


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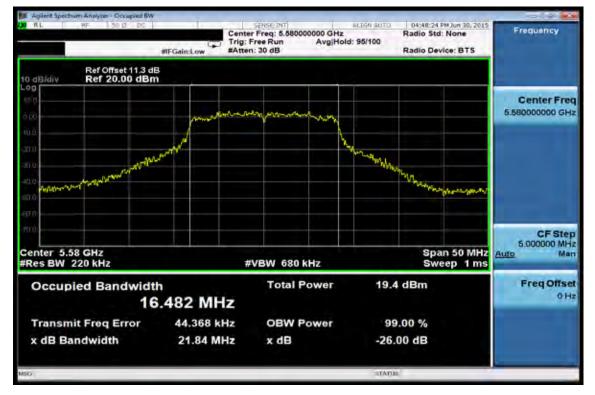
SGS Taiwan Ltd. No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134號



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



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

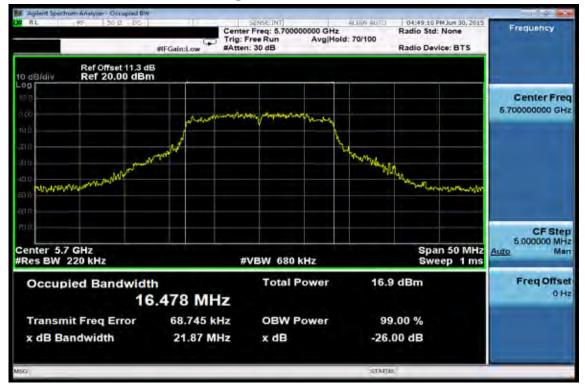


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26dB Band Width Test Data CH-High (5700MHz)



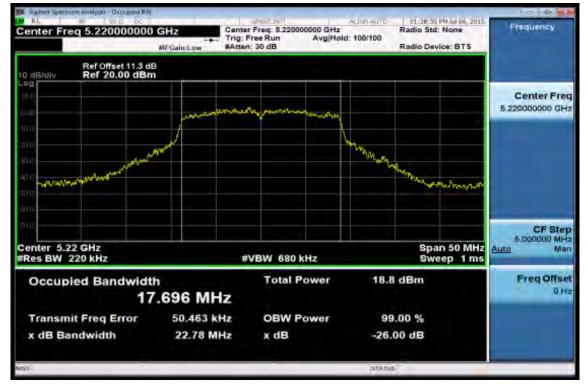
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802.11n HT20, 5150~5250 MHz 26dB Band Width Test Data CH-Low (5180 MHz)



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



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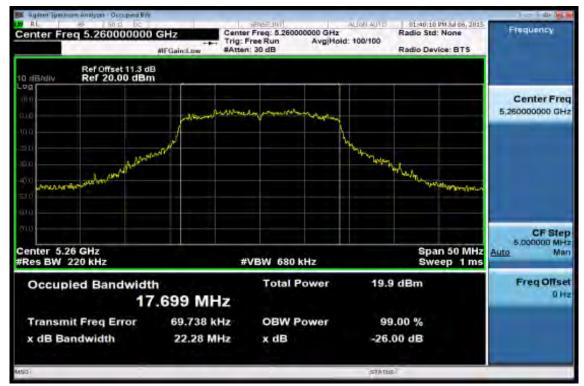
26dB Band Width Test Data CH-High (5240 MHz)



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



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



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



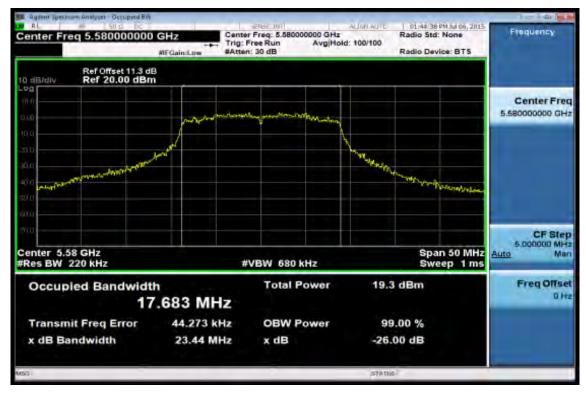
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802.11n HT20, 5470~5725 MHz (Main) 26dB Band Width Test Data CH-Low (5500 MHz)



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

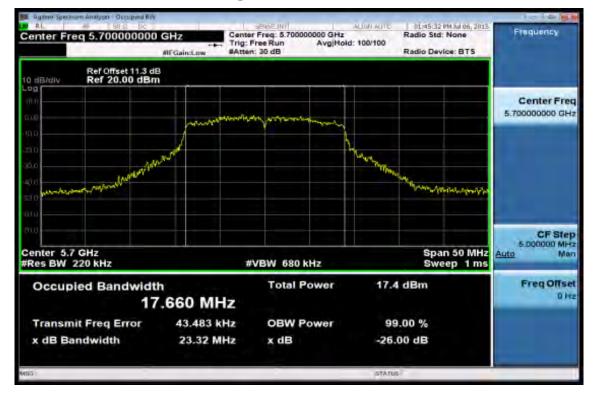


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26dB Band Width Test Data CH-High (5700 MHz)



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



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



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



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



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



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

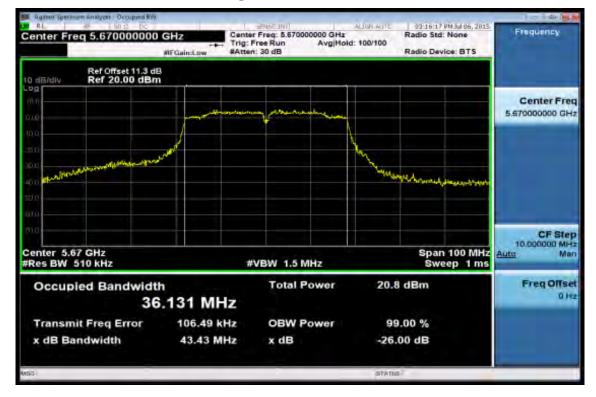


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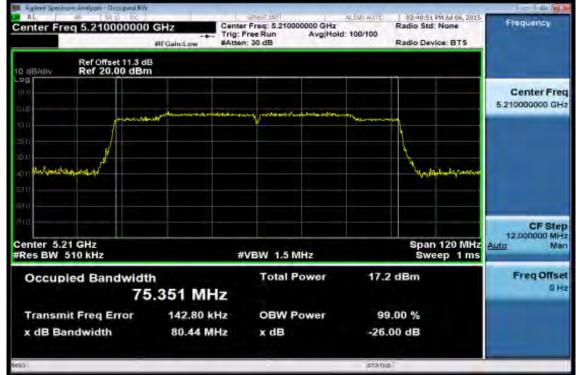
26dB Band Width Test Data CH-High (5670 MHz)



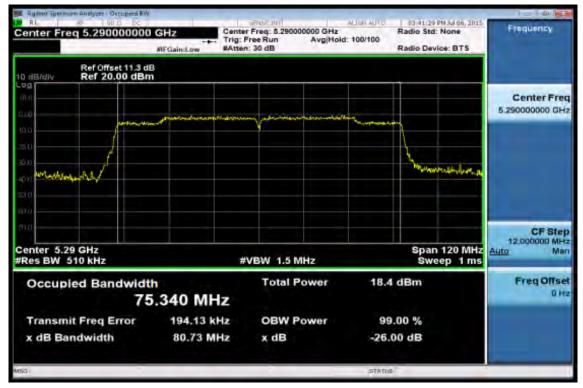
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802.11ac VHT80, 5150~5250 MHz 26dB Band Width Test Data CH-Low (5210 MHz)



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



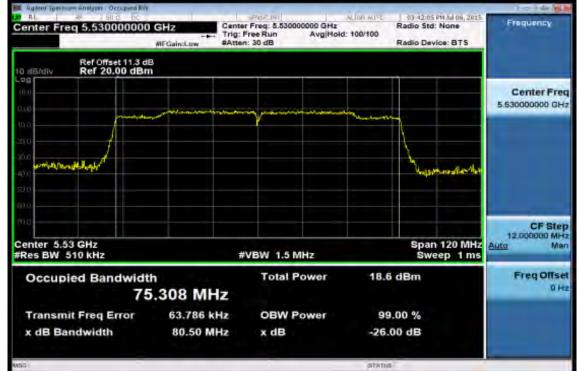
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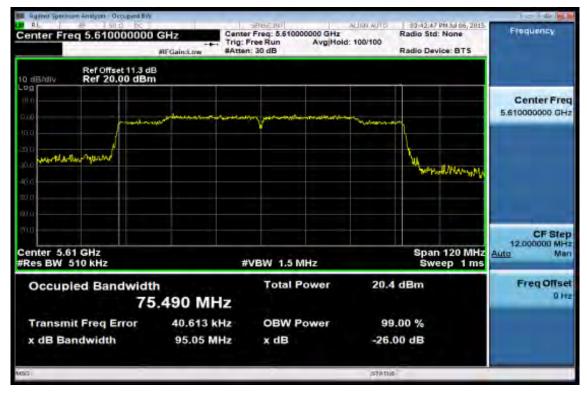
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802.11ac VHT80, 5470~5725 MHz 26dB Band Width Test Data CH-Low (5530 MHz)



26dB Band Width Test Data CH-Mid (5610 MHz)



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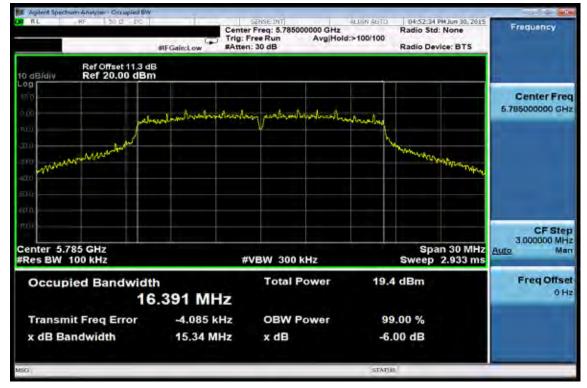
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802.11a, 5725~5850 MHz 6dB Band Width Test Data CH-Low (5745 MHz)

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

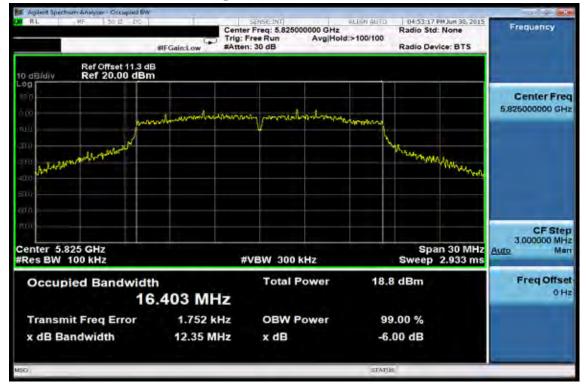


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6dB Band Width Test Data CH-High (5825 MHz)



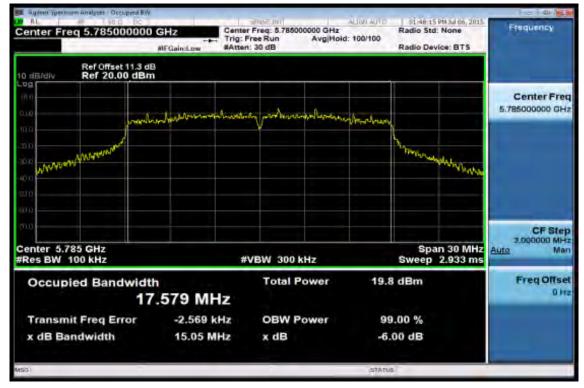
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802.11n HT20, 5725~5850 MHz 6dB Band Width Test Data CH-Low (5745 MHz)

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



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



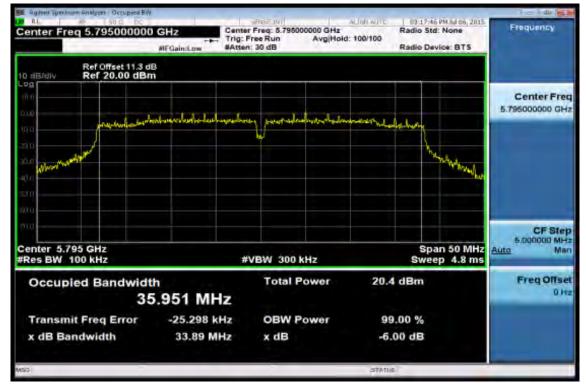
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802.11n HT40, 5725~5850 MHz 6dB Band Width Test Data CH-Low (5755 MHz)



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



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

Agtent Spectrum Analyzes Occupied Bill					10140	
Center Freq 5.775000000	GHz Center Trig: F	Freq: 5.775000000 GHz ree Run Avg Hol : 30 dB	Radio S d: 100/100	26 PH Jul 06, 2015 td: None evice: BTS	Frequency	
	Ref Offset 11.3 dB Ref 20.00 dBm					
010	- HE SHOLD	المرسابة اطالبا والمرابع			Center Fred 5.775000000 GHz	
	Manual Contraction of the Contra	he waith and a law and a share a	Marille .			
-200 Woman minterest			har	topose and the second		
210 210						
Center 5.775 GHz				120 Mile	CF Step 12.00000 MH	
#Res BW 100 kHz	#	VBW 300 kHz	Sweep	an 120 MHz 5 11.53 ms	Auto Mar	
Occupied Bandwide	Total Power	22.3 dBm		Freq Offset 0 Hz		
Transmit Freq Error	-14.334 kHz	OBW Power	99.00 %			
x dB Bandwidth	75.23 MHz	x dB	-6.00 dB			
1667			status	_		

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9. MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT9.1 Standard Applicable

OPERZTION Band		EUT CATEGORY	LIMIT
U-NII-1		Access Point (Mater device)	1 Watt(30dBm)
		Fixed point-to-point Acess Ponit	1 Watt(30dBm)
	\checkmark	Mobile and portable clinet device	250mW(23.98dBm)
U-NII-2A	\checkmark		250mW(23.98dBm) or 11dBm+10 log B
U-NII-2C	\checkmark		250mW(23.98dBm) or 11dBm+10 log B
U-NII-3	\checkmark		1 Watt(30dBm)

If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the direction-al gain of the antenna exceeds 6 dBi.

The antenna gain is granter than 6 dBi in MIMO mode the limit reduce as below:

Directional gain = gain of antenna element + $10 \log (\# \text{ of TX antenna elements})$

UNII-2A Effective Legacy Gain (dBi) = 3.21+3.01=6.22dBi

Limit: 23.98dBm – (6.22 - 6 dBi) = 23.76dBm

UNII-3 Effective Legacy Gain (dBi) = 3.41+3.01=6.42dBi

Limit: 30dBm - (6.42 - 6 dBi) = 29.58dBm

Therefore the limit needs to reduce for the U-NII-2A and U-NII-3 band.

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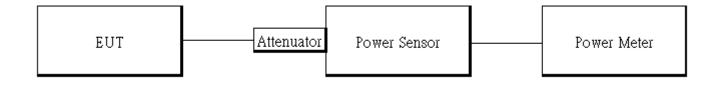
9.2 Measurement Procedure

- 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 v01.
- 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

Refer to section 8.3 for details.

9.4 Test Set-up



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9.5 Measurement Result

802.11a (Main)

СН	Frequency (MHz)	TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
36	5180	12.44	17.539	23.98	PASS
44	5220	13.47	22.233	23.98	PASS
48	5240	13.49	22.336	23.98	PASS
52	5260	14.48	28.054	23.98 or 11+10log(B) =24.60	PASS
60	5300	14.38	27.416	23.98 or 11+10log(B) =24.71	PASS
64	5320	11.97	15.740	23.98 or 11+10log(B) =24.41	PASS
100	5500	11.87	15.382	23.98 or 11+10log(B) =24.51	PASS
116	5580	14.36	27.290	23.98 or 11+10log(B) =24.39	PASS
140	5700	11.48	14.060	23.98 or 11+10log(B) =24.40	PASS
149	5745	14.34	27.164	30	PASS
157	5785	14.49	28.119	30	PASS
165	5825	14.45	27.861	30	PASS

802.11n_HT20 (Main)

СН	Frequency (MHz)	TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
36	5180	12.48	17.701	23.98	PASS
44	5220	13.48	22.284	23.98	PASS
48	5240	13.49	22.336	23.98	PASS
52	5260	14.49	28.119	23.98 or 11+10log(B) =24.28	PASS
60	5300	14.46	27.925	23.98 or 11+10log(B) =24.64	PASS
64	5320	11.96	15.704	23.98 or 11+10log(B) =24.61	PASS
100	5500	11.98	15.776	23.98 or 11+10log(B) =24.46	PASS
116	5580	14.47	27.990	23.98 or 11+10log(B) =24.70	PASS
140	5700	11.48	14.060	23.98 or 11+10log(B) =24.68	PASS
149	5745	14.47	27.990	30	PASS
157	5785	14.47	27.990	30	PASS
165	5825	14.46	27.925	30	PASS

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802.11ac_VHT20 (Main)

СН	Frequency (MHz)	TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
36	5180	12.41	17.418	23.98	PASS
44	5220	13.41	21.928	23.98	PASS
48	5240	13.48	22.284	23.98	PASS
52	5260	14.47	27.990	23.98 or 11+10log(B) =24.28	PASS
60	5300	14.39	27.479	23.98 or 11+10log(B) =24.64	PASS
64	5320	11.81	15.171	23.98 or 11+10log(B) =24.61	PASS
100	5500	11.97	15.740	23.98 or 11+10log(B) =24.46	PASS
116	5580	14.42	27.669	23.98 or 11+10log(B) =24.70	PASS
140	5700	11.43	13.900	23.98 or 11+10log(B) =24.68	PASS
149	5745	14.41	27.606	30	PASS
157	5785	14.44	27.797	30	PASS
165	5825	14.42	27.669	30	PASS

802.11n_HT40 (Main)

СН	Frequency (MHz)	TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
38	5190	10.48	11.169	23.98	PASS
46	5230	14.46	27.925	23.98	PASS
54	5270	14.47	27.990	23.98 or 11+10log(B) =27.16	PASS
62	5310	11.97	15.740	23.98 or 11+10log(B) =27.30	PASS
102	5510	11.98	15.776	23.98 or 11+10log(B) =27.45	PASS
110	5550	14.48	28.054	23.98 or 11+10log(B) =27.38	PASS
134	5670	14.48	28.054	23.98 or 11+10log(B) =27.38	PASS
151	5755	14.97	31.405	30	PASS
159	5795	14.97	31.405	30	PASS

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802.11ac_VHT40 (Main)

СН	Frequency (MHz)	TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
38	5190	11.81	15.171	23.98	PASS
46	5230	14.41	27.606	23.98	PASS
54	5270	14.43	27.733	23.98 or 11+10log(B) =27.16	PASS
62	5310	11.94	15.631	23.98 or 11+10log(B) =27.30	PASS
102	5510	11.94	15.631	23.98 or 11+10log(B) =27.45	PASS
110	5550	14.39	27.479	23.98 or 11+10log(B) =27.38	PASS
134	5670	14.43	27.733	23.98 or 11+10log(B) =27.38	PASS
151	5755	14.55	28.510	30	PASS
159	5795	14.80	30.200	30	PASS

802.11ac_VHT80 (Main)

СН	Frequency (MHz)	TOTAL POWER (dBm)	TOTAL POWER (mW)	REQUIRED LIMIT (dBm)	RESULT
42	5210	11.73	14.894	23.98	PASS
58	5290	11.86	15.346	23.98 or 11+10log(B) =30.07	PASS
106	5530	11.81	15.171	23.98 or 11+10log(B) =30.06	PASS
122	5610	13.48	22.284	23.98 or 11+10log(B) =30.78	PASS
155	5775	14.97	31.405	30	PASS

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802.11n HT20 MIMO

	Engeneration	AVERAGE F	POWER (dBm)	TOTAL	TOTAL	REQUIRED	
СН	Frequency (MHz)	CHAIN 0	CHAIN 1	POWER (dBm)	POWER (mW)	LIMIT (dBm)	RESULT
36	5180	6.71	7.21	9.98	9.948	23.98	PASS
44	5220	6.93	6.91	9.93	9.841	23.98	PASS
48	5240	7.05	6.82	9.95	9.878	23.98	PASS
52	5260	8.16	8.69	11.44	13.942	23.76 or 11+10log(B) =24.28	PASS
60	5300	8.13	8.71	11.44	13.931	23.76 or 11+10log(B) =24.64	PASS
64	5320	6.86	6.91	9.90	9.762	23.76 or 11+10log(B) =24.61	PASS
100	5500	5.86	6.07	8.98	7.901	23.98 or 11+10log(B) =24.46	PASS
116	5580	8.85	8.95	11.91	15.526	23.98 or 11+10log(B) =24.70	PASS
140	5700	6.04	6.69	9.39	8.685	23.98 or 11+10log(B) =24.68	PASS
149	5745	8.93	8.89	11.92	15.561	29.58	PASS
157	5785	8.89	8.88	11.90	15.471	29.58	PASS
165	5825	9.02	8.94	11.99	15.814	29.58	PASS

802.11ac_VHT20 MIMO

	F	AVERAGE POWER		TOTAL	TOTAL	REQUIRED	
СН	Frequency (MHz)	CHAIN 0	CHAIN 1	POWER (dBm)	POWER (mW)	LIMIT (dBm)	RESULT
36	5180	6.63	7.27	9.97	9.936	23.98	PASS
44	5220	6.67	7.14	9.92	9.821	23.98	PASS
48	5240	6.65	7.19	9.94	9.860	23.98	PASS
52	5260	8.26	8.56	11.42	13.877	23.76 or 11+10log(B) =24.28	PASS
60	5300	8.29	8.55	11.43	13.907	23.76 or 11+10log(B) =24.64	PASS
64	5320	6.85	6.88	9.88	9.717	23.76 or 11+10log(B) =24.61	PASS
100	5500	5.61	5.84	8.74	7.476	23.98 or 11+10log(B) =24.46	PASS
116	5580	8.81	8.96	11.90	15.474	23.98 or 11+10log(B) =24.70	PASS
140	5700	6.02	6.21	9.13	8.178	23.98 or 11+10log(B) =24.68	PASS
149	5745	8.75	9.03	11.90	15.497	29.58	PASS
157	5785	8.81	8.81	11.82	15.207	29.58	PASS
165	5825	8.71	9.11	11.92	15.577	29.58	PASS

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802.11n HT40 MIMO

	E	AVERAGE POWER (dBm)		TOTAL	TOTAL	REQUIRED	
СН	Frequency (MHz)	CHAIN 0	CHAIN 1	POWER (dBm)	POWER (mW)	LIMIT (dBm)	RESULT
38	5190	5.27	5.54	8.42	6.946	23.98	PASS
46	5230	8.17	8.35	11.27	13.401	23.98	PASS
54	5270	8.21	8.41	11.32	13.556	23.76 or 11+10log(B) =27.16	PASS
62	5310	6.62	6.77	9.71	9.345	23.76 or 11+10log(B) =27.30	PASS
102	5510	6.82	6.81	9.83	9.606	23.98 or 11+10log(B) =27.45	PASS
110	5550	8.79	9.12	11.97	15.734	23.98 or 11+10log(B) =27.38	PASS
134	5670	8.71	9.15	11.95	15.653	23.98 or 11+10log(B) =27.38	PASS
151	5745	9.06	9.87	12.49	17.759	29.58	PASS
159	5795	9.04	9.86	12.48	17.700	29.58	PASS

802.11ac_VHT40 MIMO

	Encourance	AVERAGE POWER (dBm)		TOTAL	TOTAL	REQUIRED	
СН	Frequency (MHz)	CHAIN 0	CHAIN 0 CHAIN 1		POWER (mW)	LIMIT (dBm)	RESULT
38	5190	5.12	5.61	8.38	6.890	23.98	PASS
46	5230	8.1	8.33	11.23	13.264	23.98	PASS
54	5270	8.17	8.41	11.30	13.496	23.76 or 11+10log(B) =27.16	PASS
62	5310	6.53	6.72	9.64	9.197	23.76 or 11+10log(B) =27.30	PASS
102	5510	6.61	6.81	9.72	9.379	23.98 or 11+10log(B) =27.45	PASS
110	5550	8.76	8.74	11.76	14.998	23.98 or 11+10log(B) =27.38	PASS
134	5670	8.86	8.71	11.80	15.121	23.98 or 11+10log(B) =27.38	PASS
151	5745	9.25	9.64	12.46	17.618	29.58	PASS
159	5785	9.14	9.65	12.41	17.429	29.58	PASS

802.11ac_VHT80 MIMO

	AVERAGE POWER (dBm		TOTAL TOTA		REQUIRED		
СН	Frequency (MHz)	CHAIN 0	CHAIN 1	POWER (dBm)	POWER (mW)	LIMIT (dBm)	RESULT
42	5210	6.29	7.04	9.69	9.314	23.98	PASS
58	5290	7.03	6.91	9.98	9.956	23.76 or 11+10log(B) =30.07	PASS
106	5530	6.41	6.18	9.31	8.525	23.98 or 11+10log(B) =30.06	PASS
122	5610	8.47	8.15	11.32	13.562	23.98 or 11+10log(B) =30.78	PASS
155	5775	8.77	9.35	12.08	16.143	29.58	PASS

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10. PEAK POWER SPECTRAL DENSITY 10.1 Standard Applicable

OPERZTION Band		EUT CATEGORY	LIMIT
U-NII-1		Access Point (Mater device)	17dBm/ MHz
	Fixed point-to-point Acess Ponit		
		Mobile and portable clinet device	11dBm/ MHz
U-NII-2A	\checkmark		11dBm/ MHz
U-NII-2C			11dBm/ MHz
U-NII-3	\checkmark		30dBm/ 500kHz

If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

The antenna gain is granter than 6 dBi in MIMO mode the limit reduce as below:

Directional gain = gain of antenna element + $10 \log (\# \text{ of TX antenna elements})$

UNII-2A Effective Legacy Gain (dBi) = 3.21+3.01=6.22dBi

Limit: 11dBm – (6.22– 6 dBi) = 10.78 dBm

UNII-3 Effective Legacy Gain (dBi) = 3.41+3.01=6.42dBi

Limit: 30dBm - (6.42 - 6 dBi) = 29.58 dBm

Therefore the limit needs to reduce for the U-NII-2A and U-NII-3 band.

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10.2 Measurement Procedure

- 1. Place the EUT on the table and set it in transmitting mode.
- The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01. 2.
- 3. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to Spectrum.
- 4. For U-NII1, U-NII-2A, U-NII-2C Band:

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

For U-NII-3 Band:

Set RBW=510 kHz, VBW=3*RBW, 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.
- 802.11n MIMO mode: offset is set following "measure and add 10 Log (N)" on spectrum to 8. measure the PSD for MIMO mode. Offset = cable loss + 10 log (N), where N is number of transmitting antenna. N=2 for this given application.

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.

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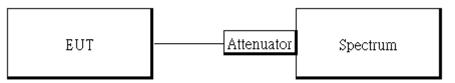
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10.3 Measurement Equipment Used

	Conducted Emission Test Site									
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.					
TYPE		NUMBER	NUMBER	CAL.						
EXA Spectrum Ana- lyzer	Agilent	N9010A	MY50420195	12/22/2014	12/21/2015					
DC Block	Mini-Circuits	BLK-18-S+	1	01/02/2015	01/01/2016					
Attenuator	Mini-Circuit	BW-S10W2+	002	01/02/2015	01/01/2016					

10.4 Test Set-up



10.5 Measurement Result

802.11a (Main)

Frequency (MHz)	Reading Level (dBm)	Duty factor	PPSD (dBm)	Limit (dBm)	Margin (dB)
5180	1.93	0.06	1.99	11.00	-9.02
5220	2.46	0.06	2.52	11.00	-8.48
5240	1.33	0.06	1.39	11.00	-9.62
5260	2.45	0.06	2.51	11.00	-8.49
5300	2.03	0.06	2.09	11.00	-8.91
5320	1.14	0.06	1.20	11.00	-9.80
5500	0.45	0.06	0.51	11.00	-10.49
5580	2.49	0.06	2.55	11.00	-8.46
5700	0.93	0.06	0.99	11.00	-10.01
5745	1.66	0.06	1.72	30.00	-28.28
5785	2.17	0.06	2.23	30.00	-27.77
5825	1.85	0.06	1.91	30.00	-28.09

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802.11n HT20 (Main)

	Frequency (MHz)	Reading Level (dBm)	Duty factor	PPSD (dBm)	Limit (dBm)	Margin (dB)
	5180	1.18	0.07	1.25	11.00	-9.75
	5220	2.39	0.07	2.46	11.00	-8.54
	5240	2.09	0.07	2.16	11.00	-8.84
	5260	2.50	0.07	2.57	11.00	-8.43
	5300	3.10	0.07	3.17	11.00	-7.83
	5320	1.51	0.07	1.58	11.00	-9.42
	5500	0.58	0.07	0.65	11.00	-10.35
	5580	2.27	0.07	2.34	11.00	-8.66
	5700	0.74	0.07	0.81	11.00	-10.19
	5745	3.04	0.07	3.11	30.00	-26.89
	5785	2.63	0.07	2.70	30.00	-27.30
	5825	1.73	0.07	1.80	30.00	-28.20
802.1	1n HT40 (Main)					
	Frequency	Reading	Duty factor	PPSD	Limit	Margin
	(MHz)	Level	Duty factor	(dBm)	(dBm)	(dB)
	5190	-3.92	0.14	-3.78	11.00	-14.78
	5230	-0.35	0.14	-0.21	11.00	-11.21
	5270	0.81	0.14	0.95	11.00	-10.05
	5310	-2.51	0.14	-2.37	11.00	-13.37
	5510	-2.90	0.14	-2.76	11.00	-13.76
	5550	-0.35	0.14	-0.21	11.00	-11.21
	5670	0.29	0.14	0.43	11.00	-10.57
	5755	0.38	0.14	0.52	30.00	-29.48
	5795	-0.59	0.14	-0.45	30.00	-30.45
000 1	1_{00} VUT80 (Mai		•			•

802.11ac VHT80 (Main)

Frequency (MHz)	Reading Level	Duty factor	PPSD (dBm)	Limit (dBm)	Margin (dB)
5210	-6.67	0.28	-6.39	11.00	-17.39
5290	-5.44	0.28	-5.16	11.00	-16.16
5530	-6.98	0.28	-6.70	11.00	-17.70
5610	-3.79	0.28	-3.51	11.00	-14.51
5775	-2.70	0.28	-2.42	30.00	-32.42

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802.11n HT20 (MIMO)

Frequency (MHz)	Reading Level (dBm)	Duty factor	PPSD (dBm)	Limit (dBm)	Margin (dB)
5180	2.39	0.12	2.51	11.00	-8.49
5220	1.95	0.12	2.07	11.00	-8.93
5240	3.91	0.12	4.03	11.00	-6.97
5260	2.95	0.12	3.07	10.78	-7.71
5300	4.58	0.12	4.70	10.78	-6.08
5320	1.75	0.12	1.87	10.78	-8.91
5500	0.79	0.12	0.91	11.00	-10.09
5580	3.54	0.12	3.66	11.00	-7.34
5700	1.94	0.12	2.06	11.00	-8.94
5745	2.90	0.12	3.02	29.58	-26.56
5785	3.70	0.12	3.82	29.58	-25.76
5825	2.10	0.12	2.22	29.58	-27.36

802.11n HT40 (MIMO)

Frequency	Reading	Duty factor	PPSD	Limit	Margin
(MHz)	Level	Duty factor	(dBm)	(dBm)	(dB)
5190	-2.63	0.24	-2.39	11.00	-13.39
5230	1.26	0.24	1.50	11.00	-9.50
5270	0.40	0.24	0.64	10.78	-10.14
5310	-1.38	0.24	-1.14	10.78	-11.92
5510	-1.94	0.24	-1.70	11.00	-12.70
5550	0.80	0.24	1.04	11.00	-9.96
5670	0.74	0.24	0.98	11.00	-10.02
5755	-0.84	0.24	-0.60	29.58	-30.18
5795	-1.14	0.24	-0.90	29.58	-30.48

802.11ac VHT80 (MIMO)

Frequency	Reading	Duty factor	PPSD	Limit	Margin
(MHz)	Level	Duty factor	(dBm)	(dBm)	(dB)
5210	-3.60	0.45	-3.15	11.00	-14.15
5290	-2.91	0.45	-2.46	10.78	-13.24
5530	-3.49	0.45	-3.04	11.00	-14.04
5610	-2.87	0.45	-2.42	11.00	-13.42
5775	-1.79	0.45	-1.34	29.58	-30.92

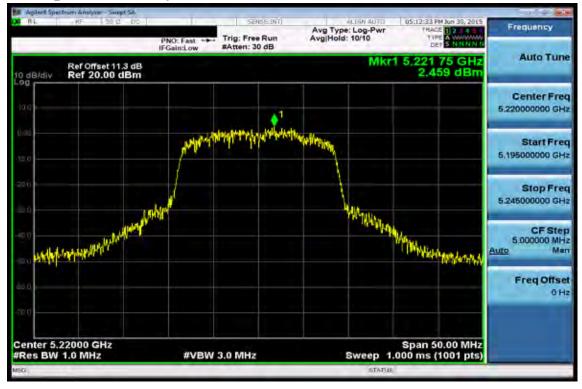
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802.11a (Main), 5150~5250 MHz Peak Power Spectral Density Data Plot (CH Low 5180 MHz)



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

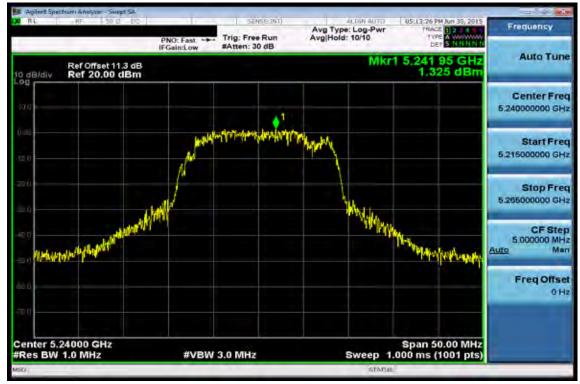


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Peak Power Spectral Density Data Plot (CH High 5240 MHz)

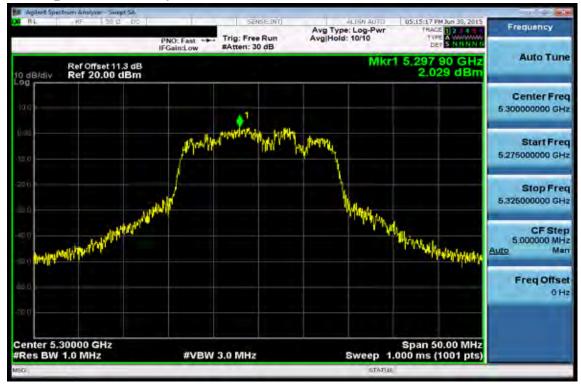


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802.11a (Main), 5250~5350 MHz Peak Power Spectral Density Data Plot (CH Low 5260 MHz)



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



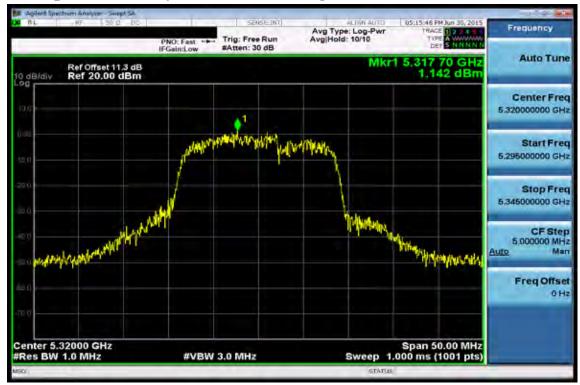
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Peak Power Spectral Density Data Plot (CH High 5320 MHz)



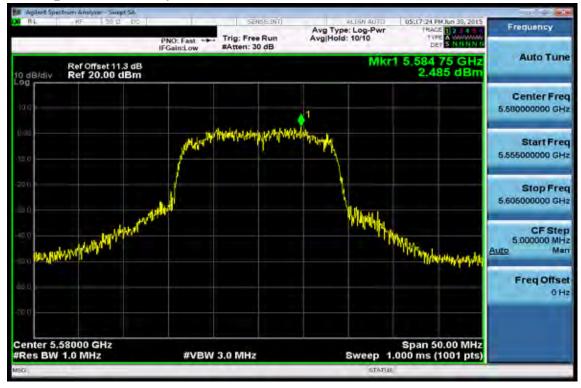
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802.11a (Main), 5470~5725 MHz Peak Power Spectral Density Data Plot (CH Low 5500 MHz)



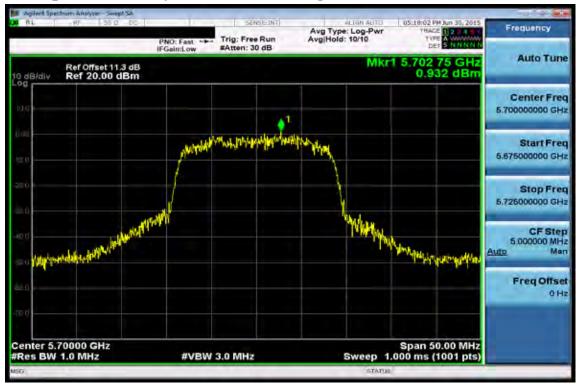
Peak Power Spectral Density Data Plot (CH Mid 5580 MHz)



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802.11a (Main), 5725~5850 MHz Peak Power Spectral Density Data Plot (CH Low 5745 MHz)



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

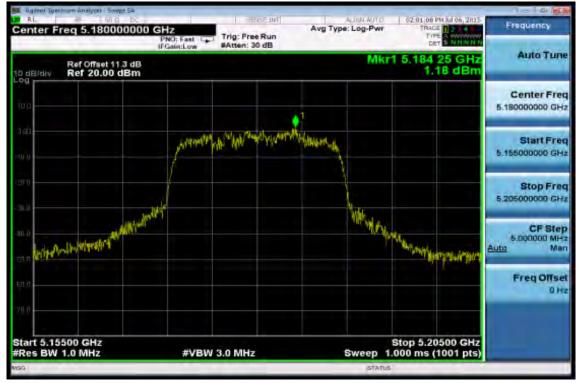


Peak Power Spectral Density Data Plot (CH High 5825 MHz)

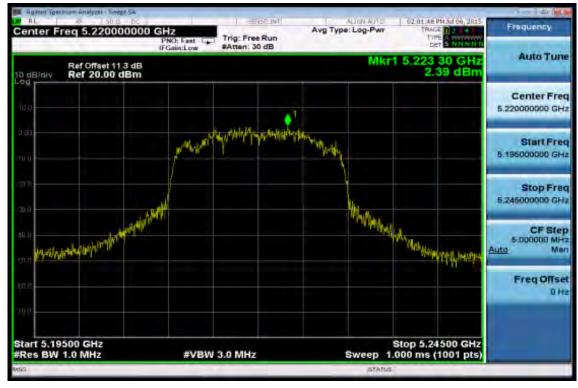


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802.11n HT20 (Main), 5150~5250 MHz Peak Power Spectral Density Data Plot (CH Low 5180 MHz)



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

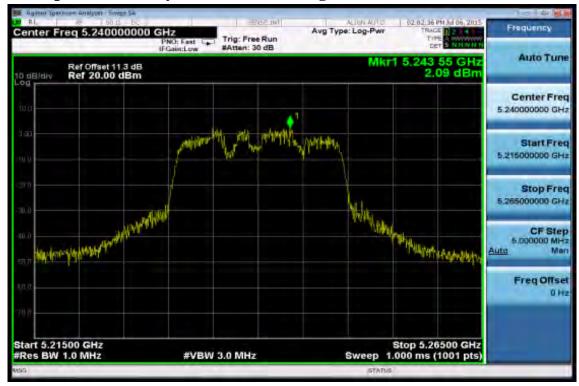


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Peak Power Spectral Density Data Plot (CH High 5240 MHz)



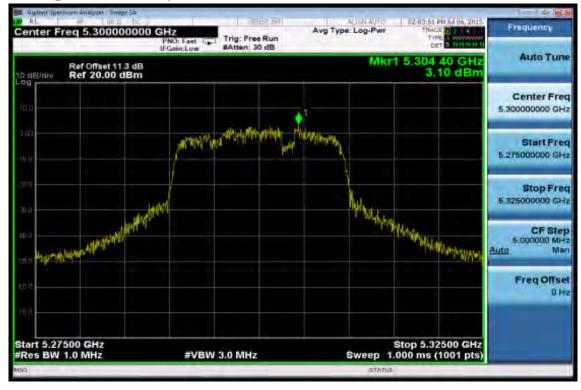
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802.11n HT20 (Main), 5250~5350 MHz Peak Power Spectral Density Data Plot (CH Low 5260MHz)



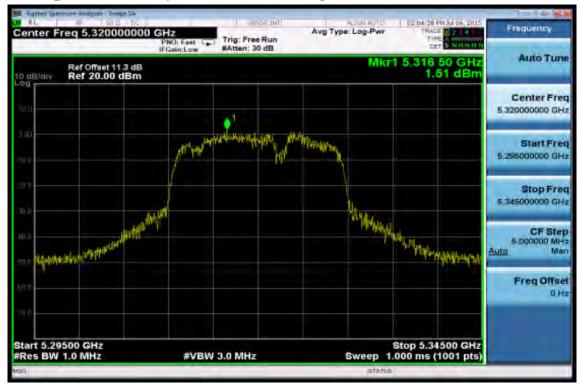
Peak Power Spectral Density Data Plot (CH Mid 5300 MHz)



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



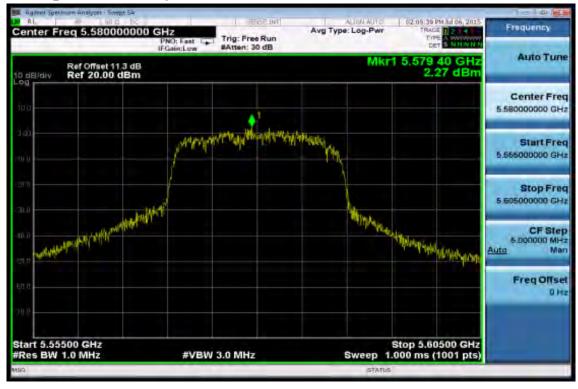
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802.11n HT20 (Main), 5470~5725 MHz Peak Power Spectral Density Data Plot (CH Low 5500 MHz)



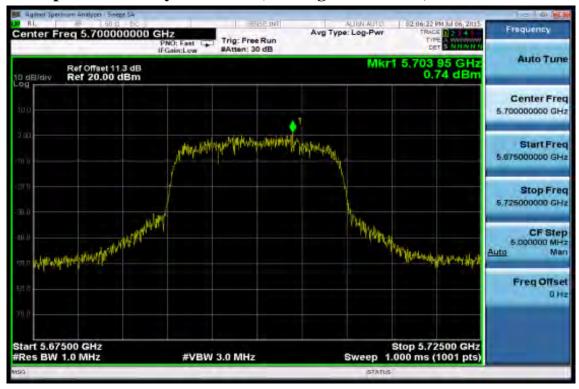
Peak Power Spectral Density Data Plot (CH Mid 5580MHz)



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



802.11n HT20 (Main), 5725~5850 MHz Peak Power Spectral Density Data Plot (CH Low 5745 MHz)



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



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



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



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



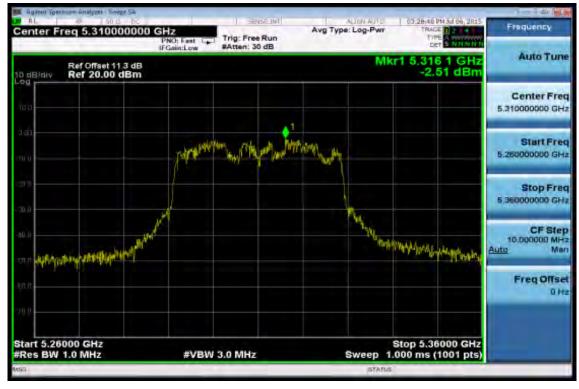
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802.11n HT40 (Main), 5250~5350 MHz Peak Power Spectral Density Data Plot (CH Low 5270MHz)



Peak Power Spectral Density Data Plot (CH Mid 5310 MHz)



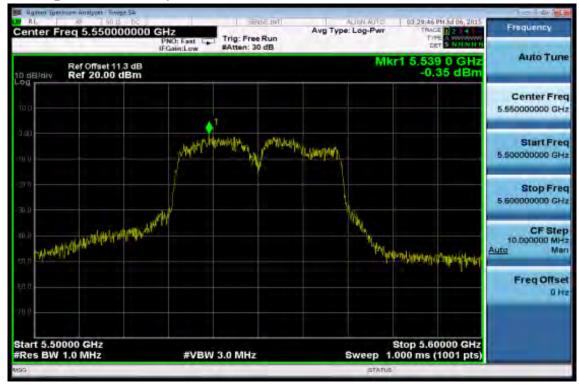
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802.11n HT40 (Main), 5470~5725 MHz Peak Power Spectral Density Data Plot (CH Low 5510 MHz)



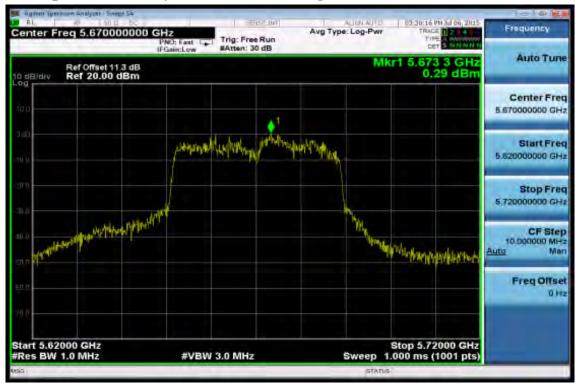
Peak Power Spectral Density Data Plot (CH Mid 5550MHz)



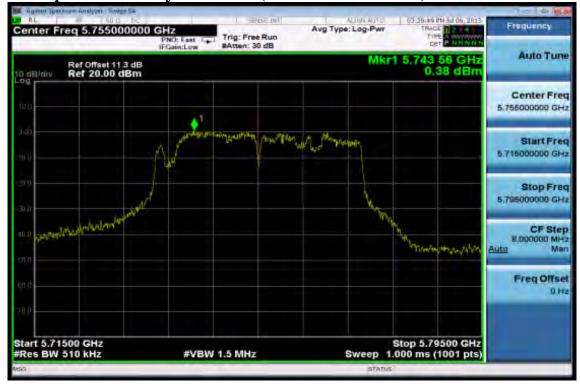
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802.11n HT40 (Main), 5725~5850 MHz Peak Power Spectral Density Data Plot (CH Low 5755 MHz)

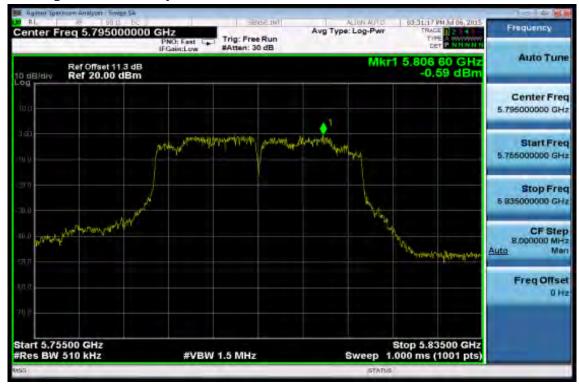


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Peak Power Spectral Density Data Plot (CH Mid 5795 MHz)



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802.11ac VHT80(Main), 5150~5250 MHz Peak Power Spectral Density Data Plot (CH, Mid 5210 MHz)



802.11ac VHT80(Main), 5250~5350 MHz Peak Power Spectral Density Data Plot (CH Mid 5290 MHz)



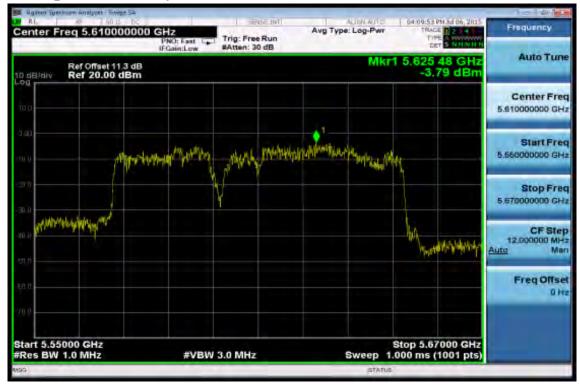
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802.11ac VHT80(Main), 5470~5725 MHz Peak Power Spectral Density Data Plot (CH Low 5530 MHz)



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



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802.11ac VHT80(Main), 5725~5850 MHz

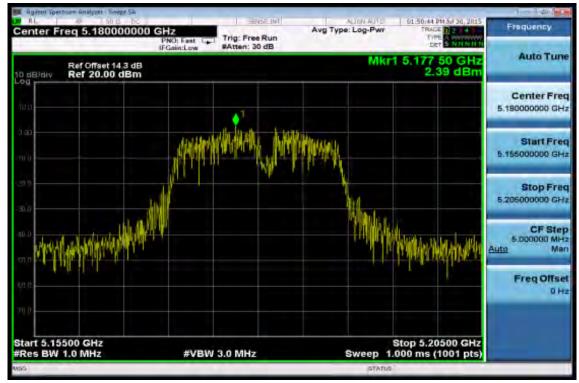
Peak Power Spectral Density Data Plot (CH Mid 5775 MHz)



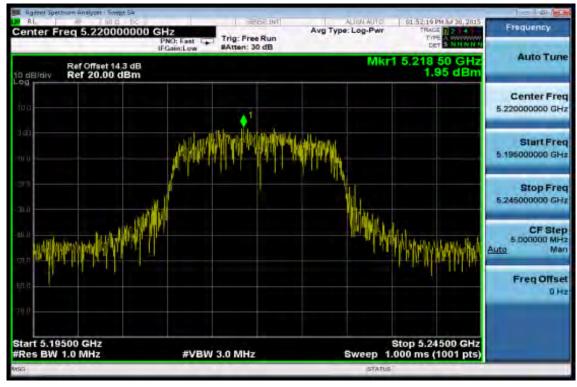
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802.11n HT20 (MIMO), 5150~5250 MHz Peak Power Spectral Density Data Plot (CH Low 5180 MHz)



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

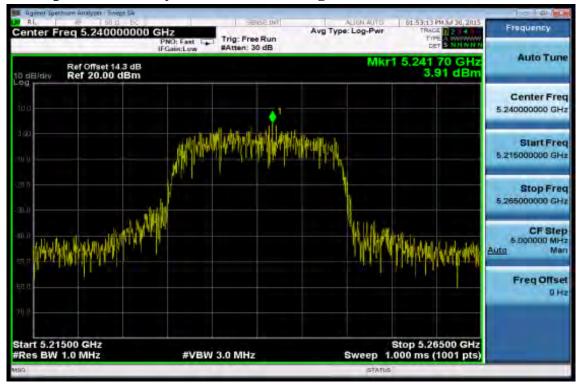


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Peak Power Spectral Density Data Plot (CH High 5240 MHz)



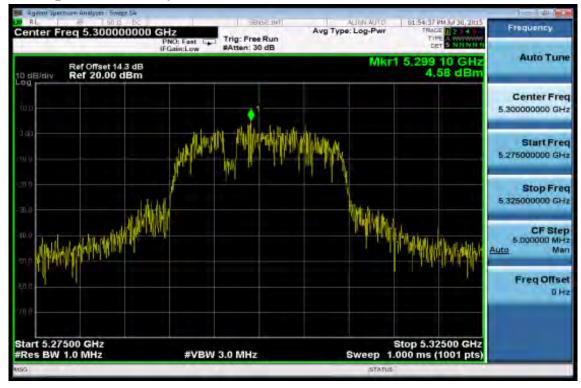
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802.11n HT20 (MIMO), 5250~5350 MHz Peak Power Spectral Density Data Plot (CH Low 5260MHz)



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

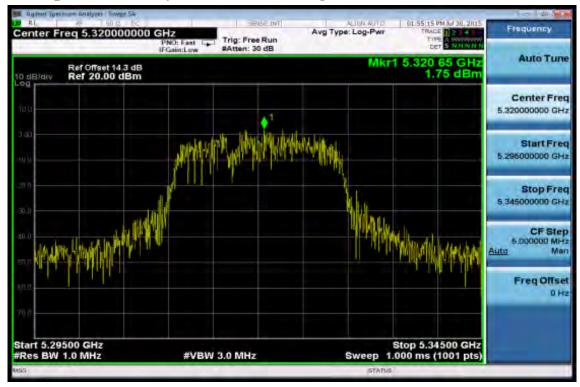


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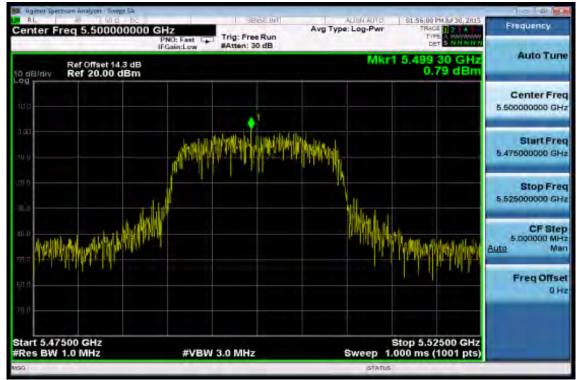
Peak Power Spectral Density Data Plot (CH High 5320 MHz)



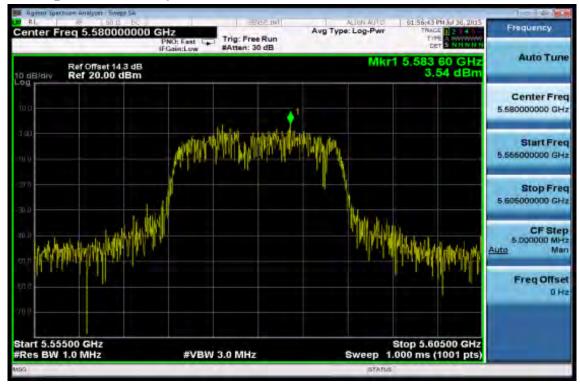
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802.11n HT20 (MIMO), 5470~5725 MHz Peak Power Spectral Density Data Plot (CH Low 5500 MHz)



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

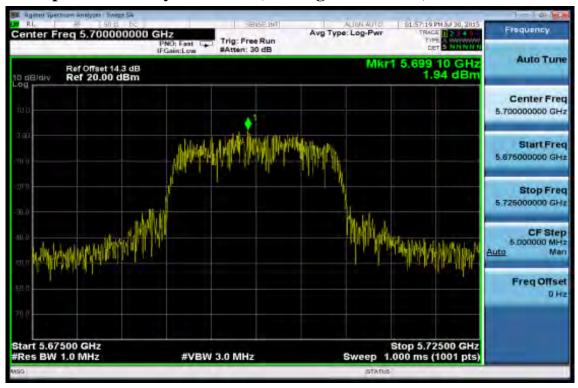


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Peak Power Spectral Density Data Plot (CH High 5700 MHz)



802.11n HT20 (MIMO), 5725~5850 MHz Peak Power Spectral Density Data Plot (CH Low 5745 MHz)



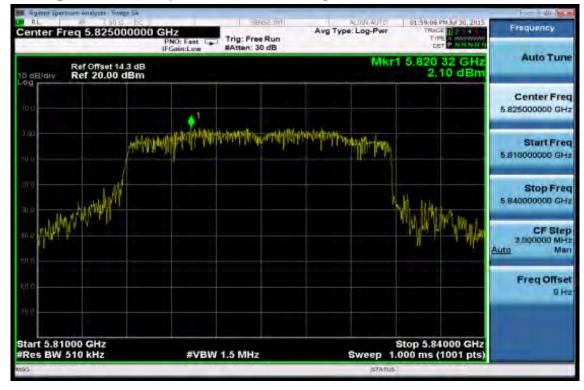
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Peak Power Spectral Density Data Plot (CH Mid 5785 MHz)



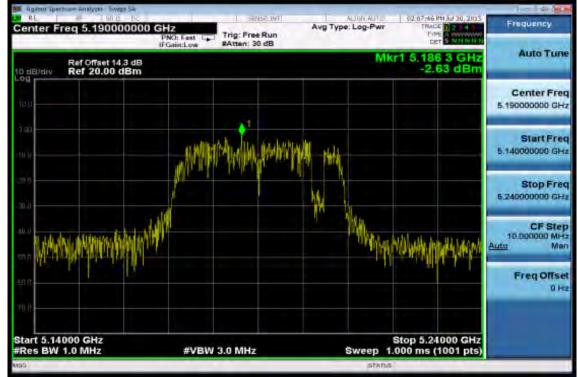
Peak Power Spectral Density Data Plot (CH High 5825 MHz)



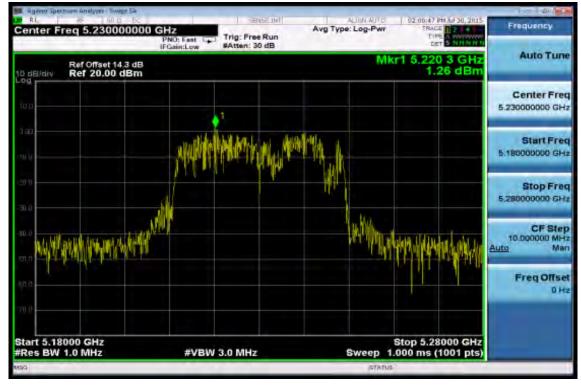
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802.11n HT40(MIMO), 5150~5250 MHz Peak Power Spectral Density Data Plot (CH Low 5190 MHz)



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



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



Peak Power Spectral Density Data Plot (CH Mid 5310 MHz)



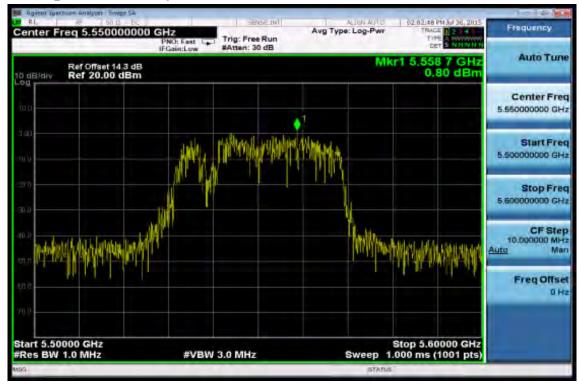
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802.11n HT40 (MIMO), 5470~5725 MHz Peak Power Spectral Density Data Plot (CH Low 5510 MHz)



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

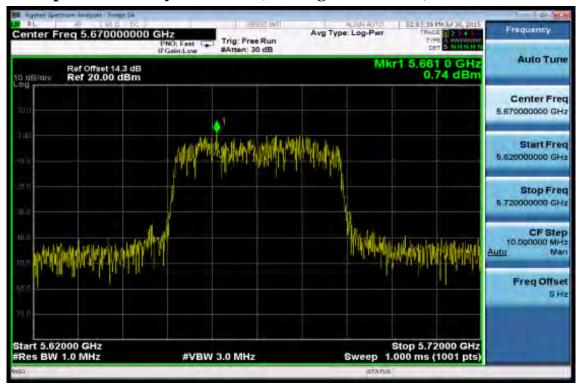


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Peak Power Spectral Density Data Plot (CH High 5670 MHz)



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



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Peak Power Spectral Density Data Plot (CH Mid 5795 MHz)



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802.11ac VHT80, 5150~5250 MHz Peak Power Spectral Density Data Plot (CH, Mid 5210 MHz)



802.11ac VHT80, 5250~5350 MHz Peak Power Spectral Density Data Plot (CH Mid 5290 MHz)



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



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



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Member of SGS Group



802.11ac VHT80, 5725~5850 MHz

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



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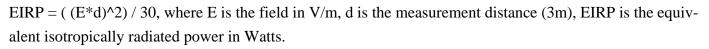


11. UNDESIRABLE RADIATED EMISSION MEASUREMENT111.1 Standard Applicable

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	LIMIT			
FCC KDB 789033 D02 General UNII Test Procedures New Rules v01	FIELD STRENGTH AT 3m			
	PK: 74 (dBµV/m)	AV 54 (dBµV/m)		
APPLICABLE TO	EIRP LIMIT	FIELD STRENGTH AT 3m		
15.407(b)(1)		PK: 68.3 (dBµV/m)		
15.407(b)(2)	PK: -27 (dBm/MHz)			
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)		



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

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

Note:

1. The lower limit shall apply at the transition frequencies.

2. Emission level $(dB\mu V/m) = 20 \log Emission level (dB\mu V/m)$

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Measurement Equipment Used 11.2

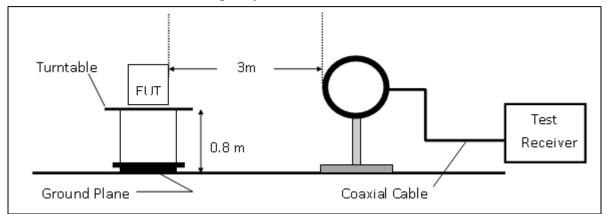
966 Chamber								
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.			
ТҮРЕ		NUMBER	NUMBER	CAL.				
EMI Test Receiver	R&S	ESCI7	100760	05/04/2015	05/03/2016			
Spectrum Analyzer	Agilent	E4446A	MY51100003	01/29/2015	01/28/2016			
EXA Spectrum Analyzer	Agilent	N9010A	MY50420195	12/22/2014	12/21/2015			
Spectrum Analyzer	R&S	FSV-30	101398	10/07/2014	10/06/2015			
Loop Antenna	ETS.LINDGREN	6502	00143303	12/9/2014	12/08/2015			
Bilog Antenna	SCHWAZBECK	VULB9168	378	12/23/2014	12/22/2015			
Horn antenna	ETS.LINDGREN	3117	123995	05/05/2015	05/04/2016			
Horn Antenna	Schwarzbeck	BBHA9170	184	12/25/2014	12/24/2015			
Pre-Amplifier	EMC Instruments Corp.	EMC0126530	980038	01/02/2015	01/01/2016			
Pre-Amplifier	Agilent	8447D	2944A07676	01/02/2015	01/01/2016			
Pre-Amplifier	Agilent	8449B	3008A00578	01/02/2015	01/01/2016			
Pre-Amplifier	EMC Instruments Corp.	EMC184045	980135	01/24/2014	01/23/2015			
5150-5350 Band Reject Filter	Micro-Tronics	BRM50703	1	01/02/2015	01/01/2016			
5470-5725 Band Reject Filter	Micro-Tronics	BRM50704	1	01/02/2015	01/01/2016			
5725-5875 Band Reject Filter	Micro-Tronics	BRM50705	1	01/02/2015	01/01/2016			
1GHz High Pass Filter	Micro-Tronics	HPM50108	32	01/02/2015	01/01/2016			
2GHz High Pass Filter	Micro-Tronics	HPM50110	36	01/02/2015	01/01/2016			
Attenuator	Mini-Circuit	BW-S10W2+	002	01/02/2015	01/01/2016			
Turn Table	HD	DT420	N/A	N.C.R	N.C.R			
Antenna Tower	HD	MA240-N	240/657	N.C.R	N.C.R			
Controller	HD	HD100	N/A	N.C.R	N.C.R			
Low Loss Cable	Huber Suhner	966_Rx	9	01/02/2015	01/01/2016			
3m Site NSA	SGS	966 chamber	N/A	07/15/2014	07/14/2015			

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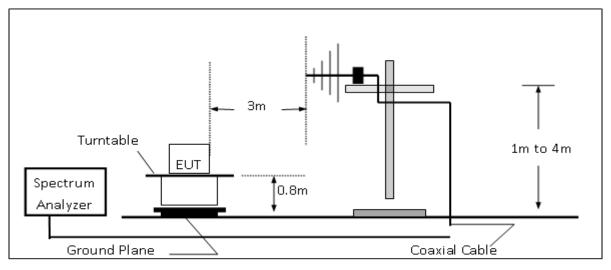


Test SET-UP 11.3

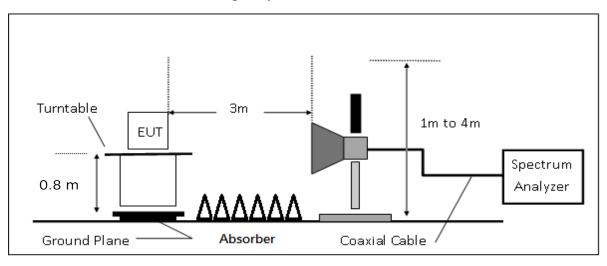
(A) Radiated Emission Test Set-UP Frequency Below 30MHz.



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



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





11.4 Measurement Procedure

- 1. The EUT was placed on a turn table which is 0.8m above ground plan.
- 2. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01.
- 3. The EUT was placed on a turn table with 0.8m for frequency< 1GHz and 0.8m for frequency> 1GHz above ground plan.
- 4. The turn table shall rotate 360 degrees to determine the position of maximum emission level.
- 5. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emissions.
- 6. Set the spectrum analyzer as RBW=120 kHz and VBW=300 kHz for Peak Detector (PK) and Quasi-peak (QP) at frequency below 1 GHz.
- 7. Set the spectrum analyzer as RBW=1 MHz, VBW=3 MHz for Peak Detector at frequency above 1 GHz.
- 8. Set the spectrum analyzer as RBW=1 MHz, VBW=10 Hz (Duty cycle > 98%) or VBW $\geq 1/T$ (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:

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

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

Note :

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



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.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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Radiated Spurious Emission Measurement Result

Below 1GHz Worst-Case Data:

802.11a, 5150~5250 MHz

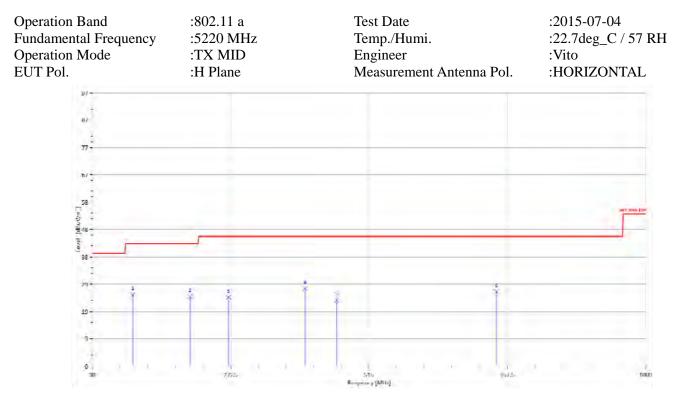
Operation	tal Frequency	:802.11 a :5220 MHz :TX MID	Test Date Temp./Humi. Engineer	:2015-07-04 :22.7deg_C / 57 RH :Vito	
EUT Pol.		:H Plane	Measurement A	ntenna Pol.	:VERTICAL
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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
99.84	Peak	S	51.74	-23.84	27.90	43.50	-15.60
149.31	Peak	S	46.55	-22.61	23.94	43.50	-19.56
470.38	Peak	S	41.91	-14.16	27.75	46.00	-18.25
537.31	Peak	S	37.68	-13.31	24.37	46.00	-21.63
605.21	Peak	S	38.03	-12.64	25.39	46.00	-20.61
940.83	Peak	S	36.05	-7.63	28.42	46.00	-17.58

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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
100.81	Peak	S	49.01	-23.69	25.32	43.50	-18.18
201.69	Peak	S	47.88	-23.18	24.70	43.50	-18.81
268.62	Peak	S	44.04	-19.63	24.41	46.00	-21.59
403.45	Peak	S	43.30	-15.75	27.55	46.00	-18.45
458.74	Peak	S	38.15	-14.65	23.50	46.00	-22.50
739.07	Peak	S	36.61	-10.23	26.38	46.00	-19.62

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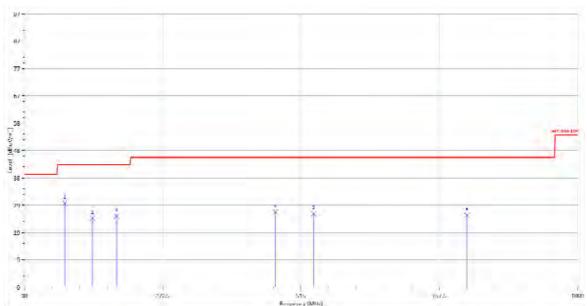
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802.11ac VHT80, 5150~5250 MHz

Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 ac80 :5210 MHz :TX MID :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2015-07-04 :22.7deg_C / 57 RH :Vito :VERTICAL

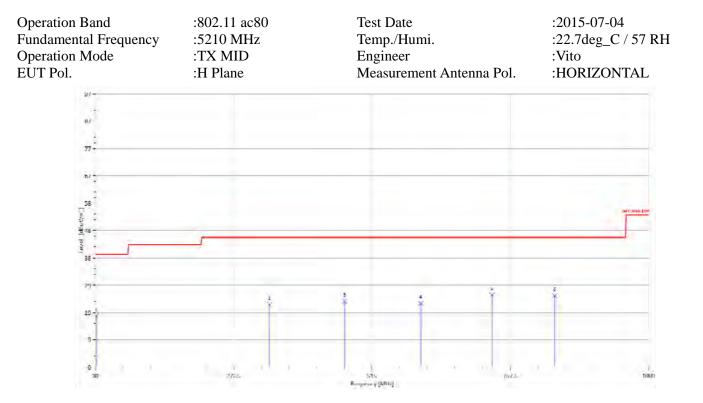


Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
100.81	Peak	S	53.43	-23.69	29.74	43.50	-13.76
149.31	Peak	S	47.10	-22.61	24.49	43.50	-19.01
191.99	Peak	S	49.18	-23.99	25.19	43.50	-18.31
470.38	Peak	S	40.77	-14.16	26.61	46.00	-19.39
537.31	Peak	S	39.31	-13.31	26.00	46.00	-20.00
806.00	Peak	S	34.68	-9.14	25.54	46.00	-20.46

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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
31.94	Peak	S	32.29	-14.17	18.13	40.00	-21.87
335.55	Peak	S	40.29	-18.08	22.21	46.00	-23.79
467.47	Peak	S	37.65	-14.31	23.35	46.00	-22.65
600.36	Peak	S	35.04	-12.45	22.59	46.00	-23.41
725.49	Peak	S	36.32	-10.71	25.61	46.00	-20.39
835.10	Peak	S	34.46	-9.16	25.30	46.00	-20.70

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802.11a, 5250~5350 MHz

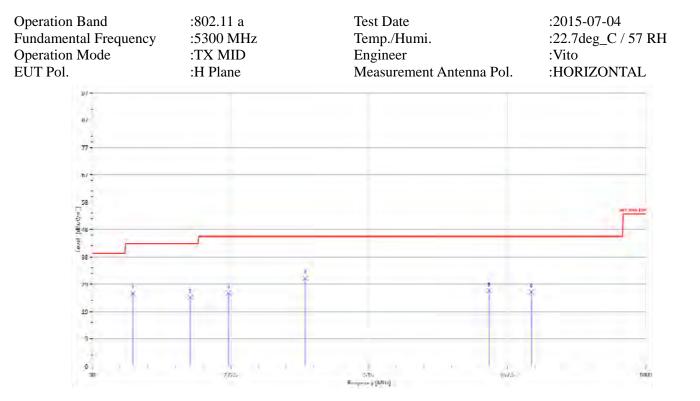
Operation Band :802.11 a Test Date :2015-07-04 **Fundamental Frequency** :22.7deg_C / 57 RH :5300 MHz Temp./Humi. **Operation Mode** :TX MID Engineer :Vito EUT Pol. :H Plane Measurement Antenna Pol. :VERTICAL ŵ 77 ħ/ -58 5 : 38 2 79 19-÷., 0 TIRE 2772 0.794 Wit-Forgerse (Mile)

Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
36.79	Peak	S	51.53	-16.96	34.57	40.00	-5.43
99.84	Peak	S	52.94	-23.84	29.10	43.50	-14.40
403.45	Peak	S	43.33	-15.75	27.58	46.00	-18.42
470.38	Peak	S	43.01	-14.16	28.85	46.00	-17.15
605.21	Peak	S	40.90	-12.64	28.26	46.00	-17.74
940.83	Peak	S	37.77	-7.63	30.14	46.00	-15.86

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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
100.81	Peak	S	49.50	-23.69	25.81	43.50	-17.69
201.69	Peak	S	47.53	-23.18	24.35	43.50	-19.15
268.62	Peak	S	45.58	-19.63	25.95	46.00	-20.05
403.45	Peak	S	46.87	-15.75	31.12	46.00	-14.88
725.49	Peak	S	37.53	-10.71	26.82	46.00	-19.18
800.18	Peak	S	35.80	-9.49	26.31	46.00	-19.69

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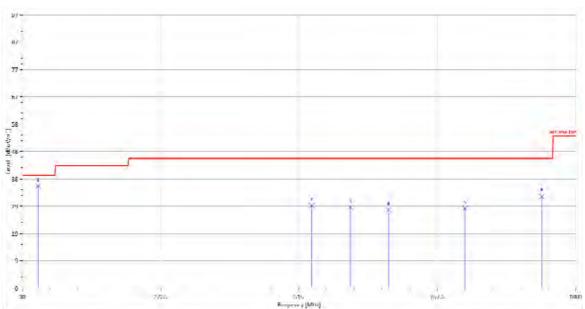


802.11ac VHT80, 5250~5350 MHz

Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 ac80 :5290 MHz :TX MID :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2015-07-04 :22.7deg_C / 57 RH :Vito :VERTICAL

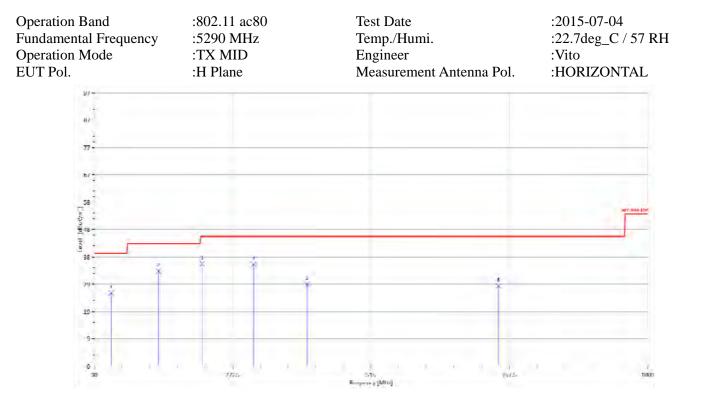


Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
58.13	Peak	S	64.18	-27.92	36.26	40.00	-3.74
537.31	Peak	S	42.67	-13.31	29.36	46.00	-16.64
605.21	Peak	S	41.29	-12.64	28.65	46.00	-17.35
672.14	Peak	S	39.47	-11.68	27.79	46.00	-18.21
806.00	Peak	S	37.43	-9.14	28.30	46.00	-17.70
940.83	Peak	S	40.24	-7.63	32.61	46.00	-13.39

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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
60.07	Peak	S	54.47	-28.50	25.97	40.00	-14.03
142.52	Peak	S	55.65	-21.92	33.74	43.50	-9.76
219.15	Peak	S	59.30	-22.97	36.33	46.00	-9.67
309.36	Peak	S	54.98	-18.82	36.16	46.00	-9.84
403.45	Peak	S	44.74	-15.75	28.99	46.00	-17.01
739.07	Peak	S	38.66	-10.23	28.43	46.00	-17.57

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802.11a, 5470~5725 MHz

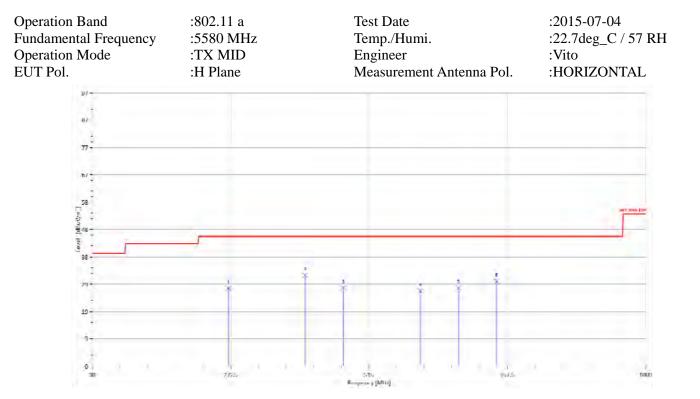
Operation Band :802.11 a Test Date :2015-07-04 **Fundamental Frequency** :22.7deg_C / 57 RH :5580 MHz Temp./Humi. **Operation Mode** :TX MID Engineer :Vito EUT Pol. :H Plane Measurement Antenna Pol. :VERTICAL ŵ 77 ħ/ -58 5 : 38 79 10-0 172 345 Wit-TIRE Forgerse (Mile)

Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
33.88	Peak	S	51.61	-15.22	36.39	40.00	-3.61
99.84	Peak	S	53.73	-23.84	29.90	43.50	-13.60
191.02	Peak	S	49.06	-24.07	24.98	43.50	-18.52
403.45	Peak	S	43.33	-15.75	27.58	46.00	-18.42
470.38	Peak	S	42.80	-14.16	28.64	46.00	-17.36
537.31	Peak	S	42.58	-13.31	29.27	46.00	-16.73

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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
268.62	Peak	S	47.26	-19.63	27.63	46.00	-18.37
403.45	Peak	S	48.02	-15.75	32.27	46.00	-13.73
470.38	Peak	S	41.91	-14.16	27.75	46.00	-18.25
605.21	Peak	S	39.33	-12.64	26.69	46.00	-19.31
672.14	Peak	S	39.41	-11.68	27.72	46.00	-18.28
739.07	Peak	S	40.38	-10.23	30.15	46.00	-15.85

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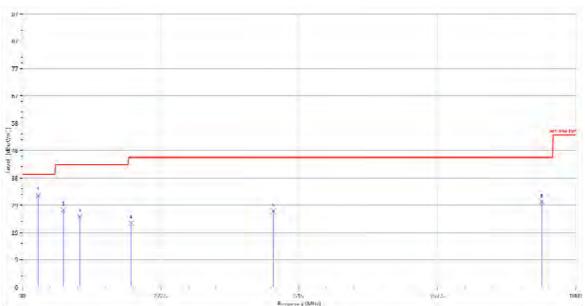


802.11ac VHT80, 5470~5725 MHz

Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 ac80 :5610 MHz :TX MID :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2015-07-04 :22.7deg_C / 57 RH :Vito :VERTICAL

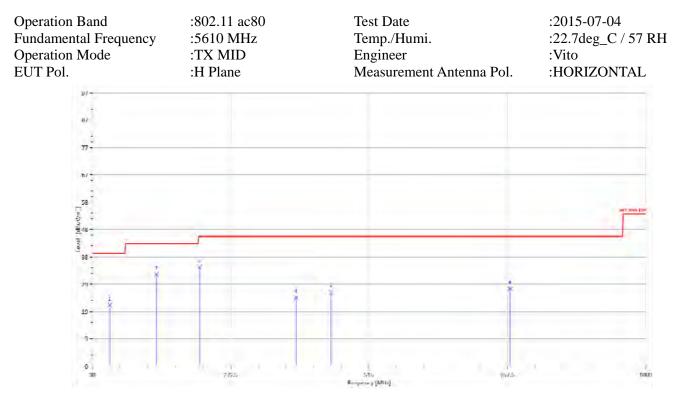


Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
58.13	Peak	S	60.46	-27.92	32.54	40.00	-7.46
101.78	Peak	S	50.91	-23.54	27.37	43.50	-16.13
130.88	Peak	S	46.29	-21.37	24.92	43.50	-18.58
221.09	Peak	S	45.63	-22.91	22.72	46.00	-23.28
470.38	Peak	S	41.09	-14.16	26.93	46.00	-19.07
940.83	Peak	S	37.89	-7.63	30.26	46.00	-15.74

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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
61.04	Peak	S	50.08	-28.42	21.66	40.00	-18.34
142.52	Peak	S	54.50	-21.92	32.59	43.50	-10.91
218.18	Peak	S	58.06	-22.97	35.09	46.00	-10.91
386.96	Peak	S	40.54	-16.32	24.22	46.00	-21.78
449.04	Peak	S	41.22	-15.06	26.16	46.00	-19.84
762.35	Peak	S	37.54	-10.00	27.54	46.00	-18.46

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802.11a, 5725~5850 MHz

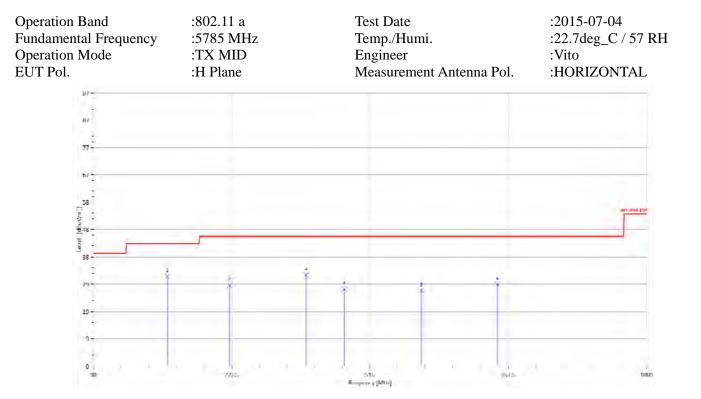
Operation Band :802.11 a Test Date :2015-07-04 **Fundamental Frequency** :22.7deg_C / 57 RH :5785 MHz Temp./Humi. **Operation Mode** :TX MID Engineer :Vito EUT Pol. :H Plane Measurement Antenna Pol. :VERTICAL ŵ 77 ħ/ -58 38 10-0 Wit-TIRE 172 549 ene à (Milié)

Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
 MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
31.94	Peak	S	49.50	-14.17	35.34	40.00	-4.66
101.78	Peak	S	53.24	-23.54	29.70	43.50	-13.80
191.99	Peak	S	49.33	-23.99	25.34	43.50	-18.16
537.31	Peak	S	43.30	-13.31	29.99	46.00	-16.01
605.21	Peak	S	42.20	-12.64	29.56	46.00	-16.44
940.83	Peak	S	39.35	-7.63	31.72	46.00	-14.28

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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
159.98	Peak	S	54.92	-23.14	31.78	43.50	-11.72
268.62	Peak	S	48.22	-19.63	28.59	46.00	-17.41
403.45	Peak	S	48.12	-15.75	32.38	46.00	-13.62
470.38	Peak	S	41.46	-14.16	27.30	46.00	-18.70
605.21	Peak	S	39.50	-12.64	26.86	46.00	-19.14
739.07	Peak	S	39.21	-10.23	28.99	46.00	-17.01

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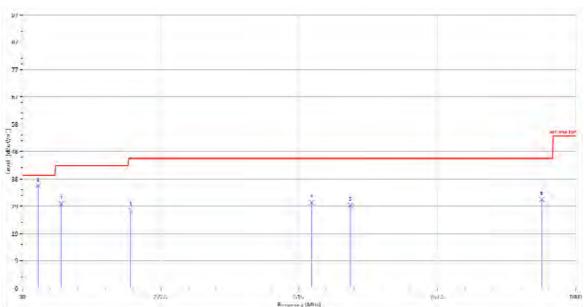
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802.11ac VHT80, 5725~5850 MHz

Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 ac80 :5775 MHz :TX LOW :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2015-07-04 :22.7deg_C / 57 RH :Vito :VERTICAL

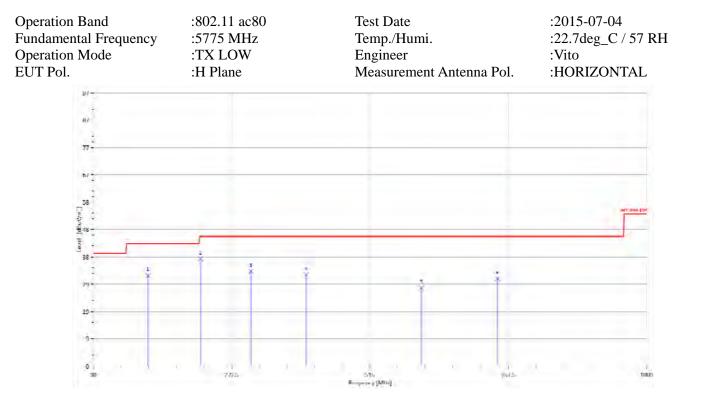


Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
58.13	Peak	S	64.24	-27.92	36.33	40.00	-3.67
97.90	Peak	S	54.07	-24.19	29.88	43.50	-13.62
220.12	Peak	S	50.58	-22.96	27.62	46.00	-18.38
537.31	Peak	S	43.67	-13.31	30.36	46.00	-15.64
605.21	Peak	S	42.07	-12.64	29.43	46.00	-16.57
940.83	Peak	S	39.15	-7.63	31.52	46.00	-14.48

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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
126.03	Peak	S	53.50	-21.37	32.13	43.50	-11.37
218.18	Peak	S	61.09	-22.97	38.12	46.00	-7.88
306.45	Peak	S	52.64	-18.99	33.64	46.00	-12.36
403.45	Peak	S	48.19	-15.75	32.44	46.00	-13.56
605.21	Peak	S	40.33	-12.64	27.69	46.00	-18.31
739.07	Peak	S	41.22	-10.23	31.00	46.00	-15.00

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Above 1GHz Worst-Case Data:

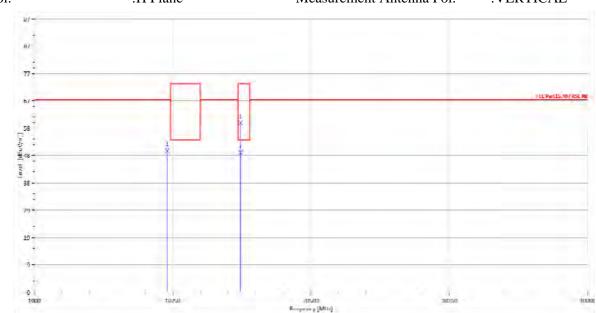
802.11a, 5150~5250 MHz

Operation Band Fundamental Frequency Operation Mode EUT Pol.

:5180 MHz :TX LOW :H Plane

:802.11 a

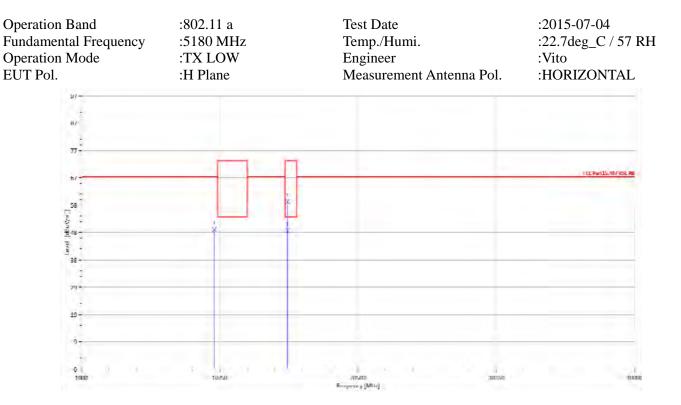
Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2015-07-04 :22.7deg_C / 57 RH :Vito :VERTICAL



Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10360.00	Peak	Н	31.23	18.94	50.17	68.30	-18.13
15540.00	Peak	Н	34.32	25.80	60.11	74.00	-13.89
15540.00	Average	Н	23.70	25.80	49.50	54.00	-4.50

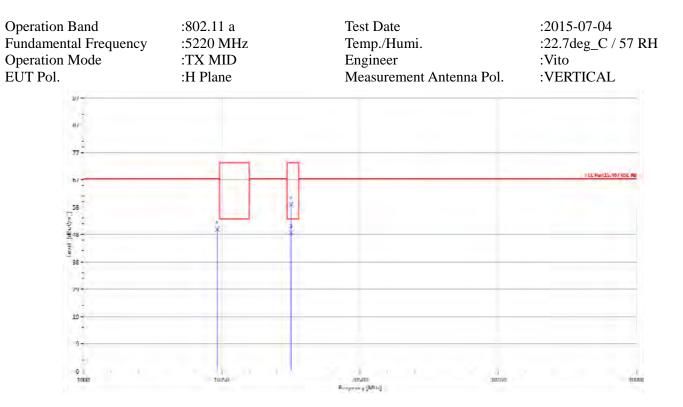
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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10360.00	Peak	Н	30.63	18.94	49.57	68.30	-18.73
15540.00	Peak	Н	33.67	25.80	59.47	74.00	-14.53
15540.00	Average	Н	23.42	25.80	49.22	54.00	-4.78

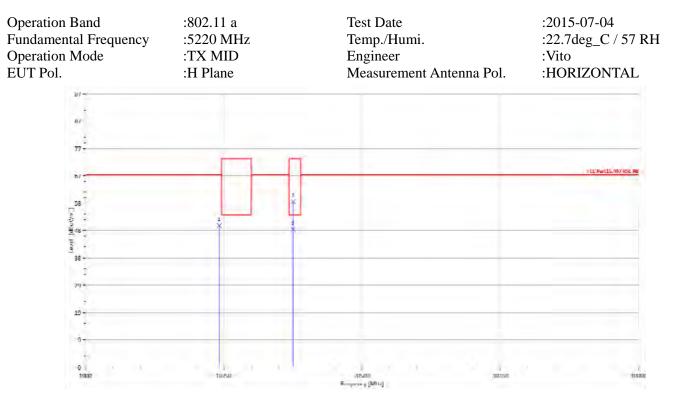




Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10440.00	Peak	Н	31.34	19.03	50.36	68.30	-17.94
15660.00	Peak	Н	33.14	26.06	59.20	74.00	-14.80
15660.00	Average	Н	23.13	26.06	49.19	54.00	-4.81

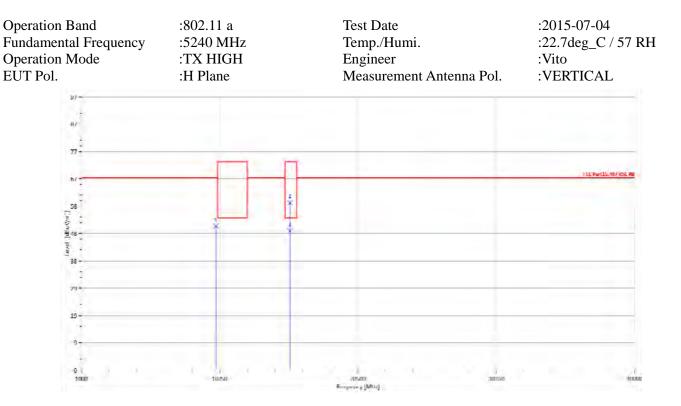


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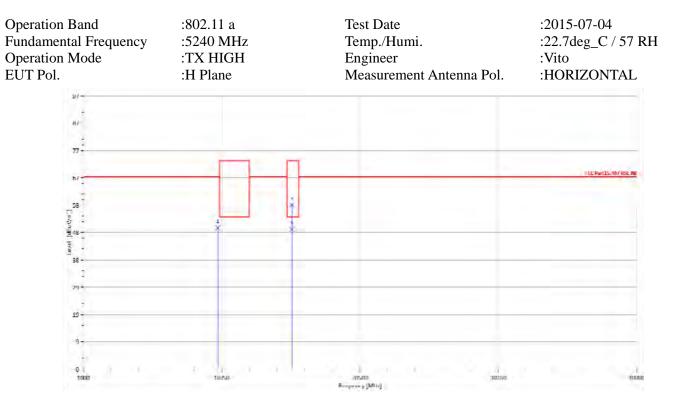
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10440.00	Peak	Н	31.15	19.03	50.18	68.30	-18.12
15660.00	Peak	Н	32.65	26.06	58.72	74.00	-15.28
15660.00	Average	Н	22.88	26.06	48.94	54.00	-5.06





Detector	Note	Spectrum	Factor	Actual	Limit	Margin
Mode		Reading Level		FS	@3m	
PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
Peak	Н	32.01	19.13	51.14	68.30	-17.16
Peak	Н	33.26	26.13	59.39	74.00	-14.61
Average	Н	23.32	26.13	49.45	54.00	-4.55
	Mode PK/QP/AV Peak Peak	Mode PK/QP/AV F/H/E/S Peak H Peak H	Mode Reading Level <u>PK/QP/AV F/H/E/S dBµV</u> Peak H 32.01 Peak H 33.26	ModeReading LevelPK/QP/AVF/H/E/SdBµVdBPeakH32.0119.13PeakH33.2626.13	ModeReading LevelFSPK/QP/AVF/H/E/SdBµVdBdBµV/mPeakH32.0119.1351.14PeakH33.2626.1359.39	Mode Reading Level FS @3m PK/QP/AV F/H/E/S dBµV dB dBµV/m dBµV/m Peak H 32.01 19.13 51.14 68.30 Peak H 33.26 26.13 59.39 74.00





Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10480.00	Peak	Н	31.02	19.13	50.15	68.30	-18.15
15720.00	Peak	Н	32.12	26.13	58.25	74.00	-15.75
15720.00	Average	Н	23.53	26.13	49.66	54.00	-4.34



5150.00

Average

Band edge falling to restricted band

Operation Ba Fundamental Operation Mo EUT Pol.	Frequency	:Band Edge LOW Engineer		Cemp./Humi.	:2015-07-04 :22.7deg_C / 57 RH :Vito :VERTICAL		
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level	l	FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5150.00	Peak	Е	44.26	11.14	55.40	74.00	-18.60
5150.00	Average	Е	32.21	11.14	43.35	54.00	-10.65
Fundamental Frequency:5180 MHzOperation Mode:Band Edge LOW		Test Date Temp./Humi. Engineer Measurement Antenna Pol.		:2015-07-04 :22.7deg_C / 57 RH :Vito :HORIZONTAL			
	· ·				tenna Pol.		AL
	· ·				tenna Pol. Actual		AL Margin
EUT Pol.	ode	:H Plane	Ν	Aeasurement An Factor		:HORIZONTA	
EUT Pol.	Detector	:H Plane	M. Spectrum	Aeasurement An Factor	Actual	:HORIZONTA	
EUT Pol. Freq.	Detector Mode	:H Plane Note	M Spectrum Reading Level	Aeasurement An Factor	Actual FS	:HORIZONTA Limit @3m	Margin
EUT Pol. Freq. MHz	Detector Mode PK/QP/AV	:H Plane Note F/H/E/S	M Spectrum Reading Level dBµV	Aeasurement An Factor I dB	Actual FS dBµV∕m	:HORIZONTA Limit @3m dBµV/m	Margin dB

32.91

Ε

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11.14

44.05

54.00

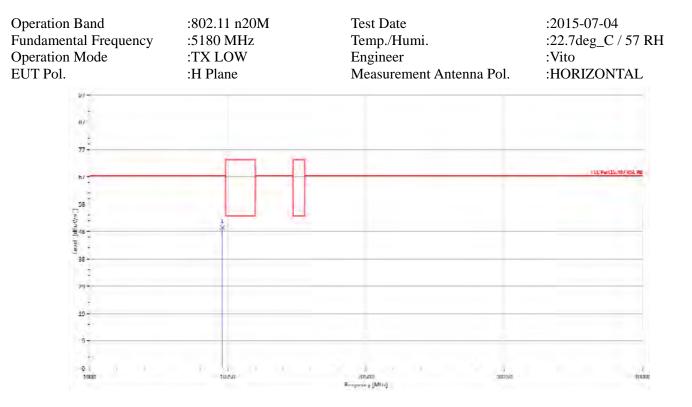
-9.95



Radiated Spurious Emission Measurement Result 802.11n HT20, 5150~5250 MHz **Operation Band** :802.11 n20M Test Date :2015-07-04 **Fundamental Frequency** :5180 MHz Temp./Humi. :22.7deg_C / 57 RH **Operation Mode** :TX LOW Engineer :Vito EUT Pol. :H Plane Measurement Antenna Pol. :VERTICAL 10 77 Di Barth, mhris hr 58 : 1 . 38 -79 10-9-0 100 TIRAL (12,01) Distance. 10000 Frequence (Mile)

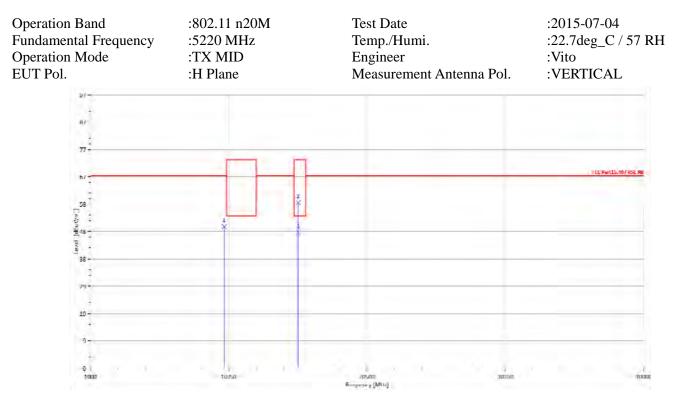
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10360.00	Peak	Н	30.79	18.94	49.73	68.30	-18.57





Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV∕m	dB
10360.00	Peak	Н	30.90	18.94	49.84	68.30	-18.46

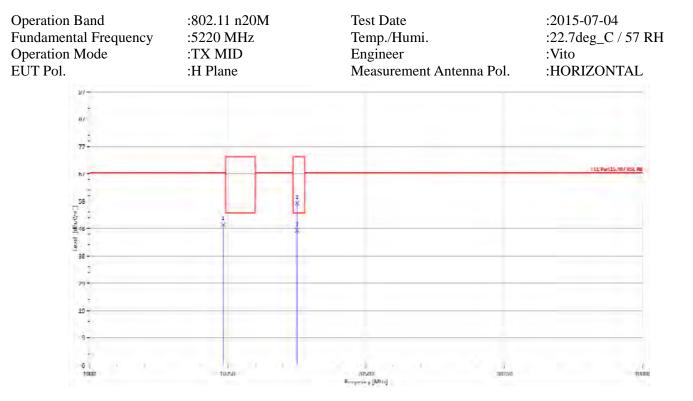




Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10440.00	Peak	S	31.16	19.03	50.18	68.30	-18.12
15660.00	Peak	Н	32.66	26.06	58.72	74.00	-15.28
15660.00	Average	Н	22.08	26.06	48.14	54.00	-5.86

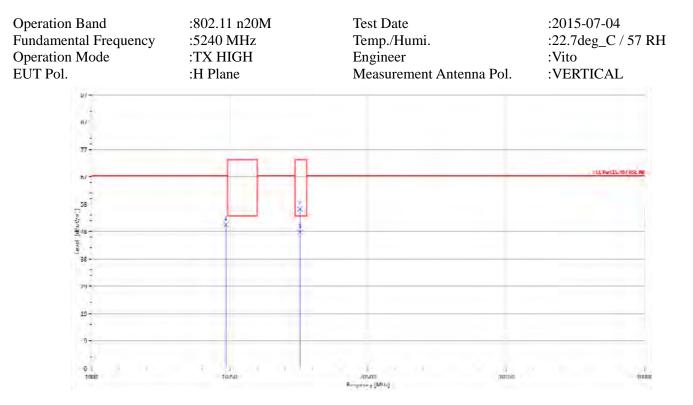


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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10440.00	Peak	Н	30.83	19.03	49.85	68.30	-18.45
15660.00	Peak	Н	31.43	26.06	57.49	74.00	-16.51
15660.00	Average	Н	21.79	26.06	47.85	54.00	-6.15

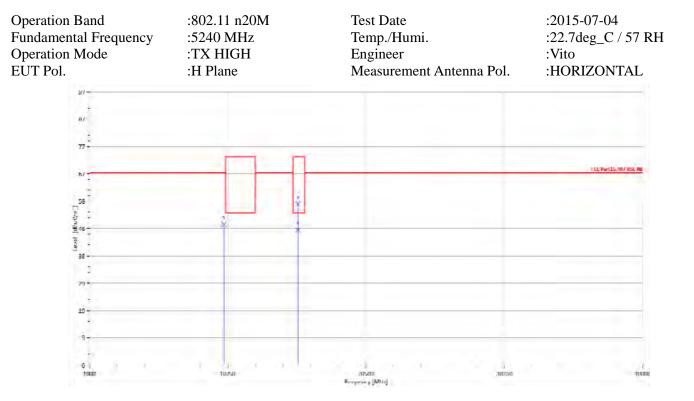




Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10480.00	Peak	Н	31.78	19.13	50.91	68.30	-17.39
15720.00	Peak	Н	30.44	26.13	56.57	74.00	-17.43
15720.00	Average	Н	22.07	26.13	48.20	54.00	-5.80



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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10480.00	Peak	Н	30.88	19.13	50.00	68.30	-18.30
15720.00	Peak	Н	31.03	26.13	57.16	74.00	-16.84
15720.00	Average	Н	21.78	26.13	47.91	54.00	-6.09



Band edge falling to restricted band

Operation Band:802.11 n20MFundamental Frequency:5180 MHzOperation Mode:Band Edge LOWEUT Pol.:H Plane		Test Date Temp./Humi. Engineer Measurement Ant	enna Pol.	:2015-07-04 :22.7deg_C / 57 RH :Vito :VERTICAL		
Freq. Detector Mode	Note	Spectrum Reading Lev		Actual FS	Limit @3m	Margin
MHz PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5147.92 Peak	S	44.45	11.15	55.60	74.00	-18.40
5147.92 Average	S	32.06	11.15	43.21	54.00	-10.79
5150.00 Peak	E	43.07	11.14	54.21	74.00	-19.79
5150.00 Average	Е	32.05	11.14	43.19	54.00	-10.81

Operation Band	:802.11 n20M	Test Date	:2015-07-04
Fundamental Frequency	:5180 MHz	Temp./Humi.	:22.7deg_C / 57 RH
Operation Mode	:Band Edge LOW	Engineer	:Vito
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL

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

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

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

The trace on RE(radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5150.00	Peak	Е	44.36	11.14	55.51	74.00	-18.49
5150.00	Average	Е	32.76	11.14	43.90	54.00	-10.10

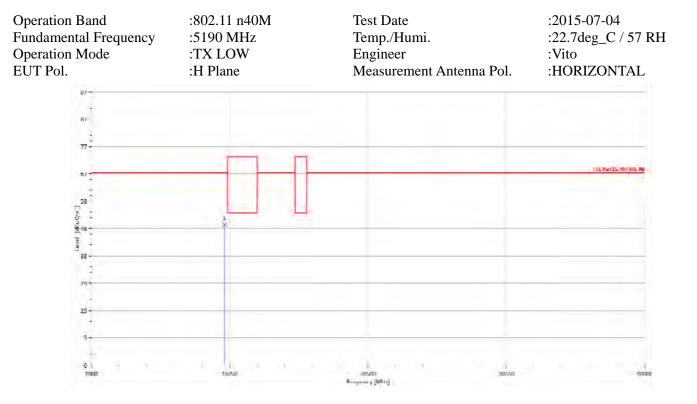


Radiated Spurious Emission Measurement Result 802.11n HT40, 5150~5250 MHz **Operation Band** :802.11 n40M Test Date :2015-07-04 **Fundamental Frequency** :5190 MHz Temp./Humi. :22.7deg_C / 57 RH **Operation Mode** :TX LOW Engineer :Vito :H Plane EUT Pol. Measurement Antenna Pol. :VERTICAL 111 77 Distant 15, million h/ 58 : . 38 -79 10-9-1000 TIRAL (12,01) Distance. 10000 Frequence (Mile)

Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10380.00	Peak	Н	31.47	19.01	50.49	68.30	-17.81

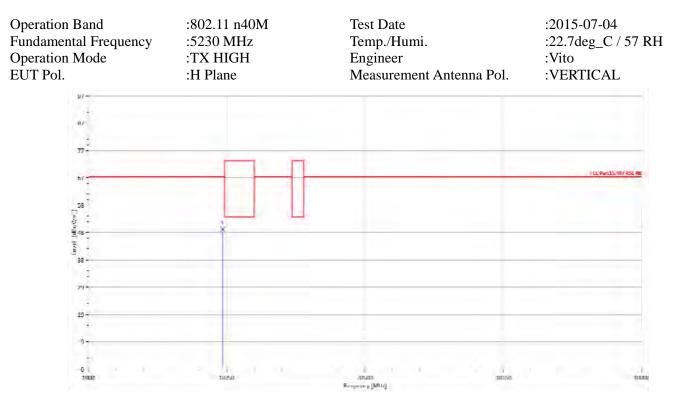


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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10380.00	Peak	Н	30.85	19.01	49.86	68.30	-18.44





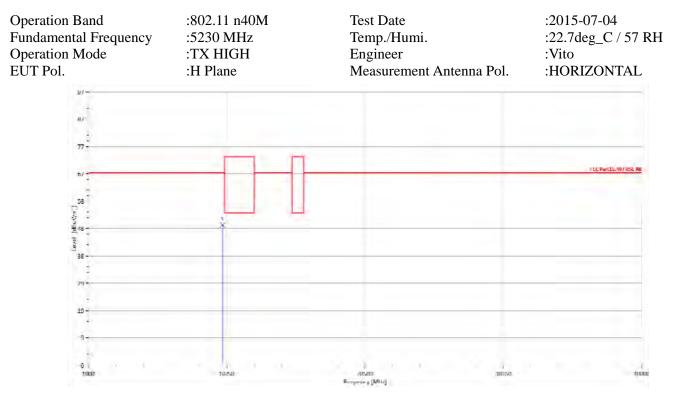
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV∕m	dB
10460.00	Peak	Н	30.63	19.11	49.74	68.30	-18.56

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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV∕m	dB
10460.00	Peak	Н	30.65	19.11	49.76	68.30	-18.54



Band edge falling to restricted band

Operation Band:802.11 n40MFundamental Frequency:5190 MHzOperation Mode:Band Edge LOVEUT Pol.:H Plane			Temp./Humi.			:2015-07-04 :22.7deg_C / 57 RH :Vito :VERTICAL		
Freq.	Detector Mode	Note	Spectrum Reading Lev		Actual FS	Limit @3m	Margin	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB	
5138.44	Peak	S	45.13	11.20	56.33	74.00	-17.67	
5138.44	Average	S	32.02	11.20	43.22	54.00	-10.78	
5150.00	Peak	E	43.23	11.14	54.37	74.00	-19.63	
5150.00	Average	Е	32.23	11.14	43.37	54.00	-10.63	

Operation Ba Fundamental Operation Mo EUT Pol.	ndamental Frequency :5190 MHz eration Mode :Band Edge LOW		Test Date Temp./Humi. Engineer Measurement An	tenna Pol.	:2015-07-04 :22.7deg_C / 57 RH :Vito :HORIZONTAL		
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Lev	vel	FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5148.16	Peak	S	45.12	11.15	56.27	74.00	-17.73
5148.16	Average	S	32.87	11.15	44.02	54.00	-9.98
5150.00	Peak	Е	44.07	11.14	55.21	74.00	-18.79
5150.00	Average	E	32.89	11.14	44.03	54.00	-9.97

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Radiated Spurious Emission Measurement Result 802.11ac VHT80, 5150~5250 MHz **Operation Band** :802.11 ac80M Test Date :2015-07-04 **Fundamental Frequency** :5210 MHz Temp./Humi. :22.7deg_C / 57 RH Engineer **Operation Mode** :TX MID :Vito EUT Pol. :H Plane Measurement Antenna Pol. :VERTICAL 111 77 Di Barth, mhris h/ 58 100 : 2 38 -79 10à-0 1000 TIREAD 12,01 Distance. TAXABLE INC. (utild) a new

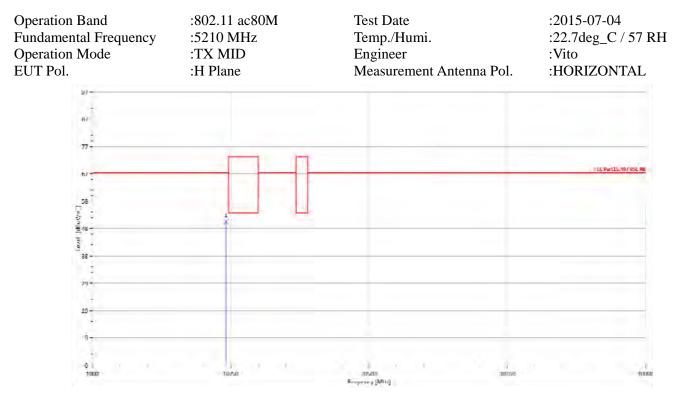
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10420.00	Peak	Н	31.30	18.96	50.26	68.30	-18.04

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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV∕m	dB
10420.00	Peak	Н	31.95	18.96	50.91	68.30	-17.39



Band edge falling to restricted band

Operation Band:802.11 ac80MFundamental Frequency:5210 MHzOperation Mode:Band Edge HIGHEUT Pol.:H Plane		Test Date Temp./Humi. Engineer Measurement Ant	enna Pol.	:2015-07-04 :22.7deg_C / 57 RH :Vito :VERTICAL			
Freq.	Detector Mode	Note	Spectrum Reading Lev		Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5145.00	Peak	S	47.31	11.16	58.47	74.00	-15.53
5145.00	Average	S	32.32	11.16	43.48	54.00	-10.52
5150.00	Peak	E	45.71	11.14	56.85	74.00	-17.15
5150.00	Average	E	32.42	11.14	43.56	54.00	-10.44

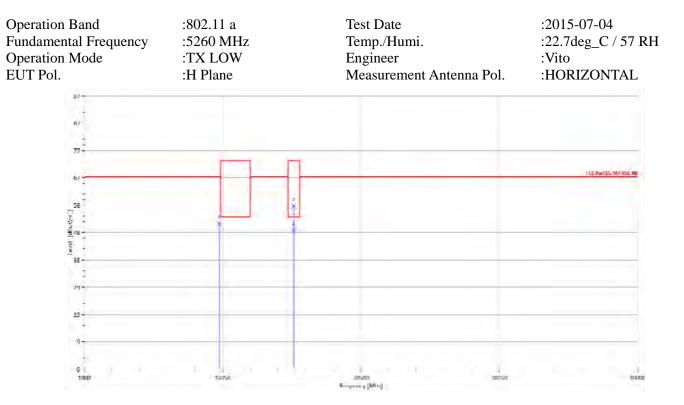
Operation Ba Fundamental Operation Mo EUT Pol.	ental Frequency :5320 MHz n Mode :Band Edge HIGH		Test Date Temp./Humi. Engineer Measurement Ant	tenna Pol.	:2015-07-04 :22.7deg_C / 57 RH :Vito :HORIZONTAL		
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Lev	vel	FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5145.20	Peak	S	49.71	11.16	60.88	74.00	-13.12
5145.20	Average	S	33.31	11.16	44.47	54.00	-9.53
5150.00	Peak	E	45.90	11.14	57.04	74.00	-16.96
5150.00	Average	E	33.40	11.14	44.54	54.00	-9.46



Radiated Spurious Emission Measurement Result 802.11a, 5250MHz-5350MHz **Operation Band** :802.11 a Test Date :2015-07-04 **Fundamental Frequency** :5260 MHz Temp./Humi. :22.7deg_C / 57 RH **Operation Mode** :TX LOW Engineer :Vito EUT Pol. :H Plane Measurement Antenna Pol. :VERTICAL 40 77 LC Part 15, 107 RS h/ 38 : 38 -79 10-9-0 1000 (12,01) mune 1000 Frequence (Mile)

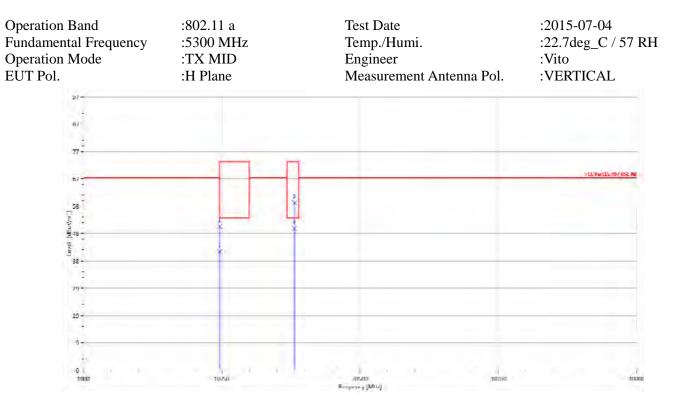
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10520.00	Peak	Н	31.79	19.25	51.04	68.30	-17.26
15780.00	Peak	Н	31.68	26.25	57.93	74.00	-16.07
15780.00	Average	Н	22.91	26.25	49.16	54.00	-4.84





Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10520.00	Peak	Н	32.21	19.25	51.46	68.30	-16.84
15780.00	Peak	Н	31.60	26.25	57.86	74.00	-16.14
15780.00	Average	Н	23.15	26.25	49.40	54.00	-4.60





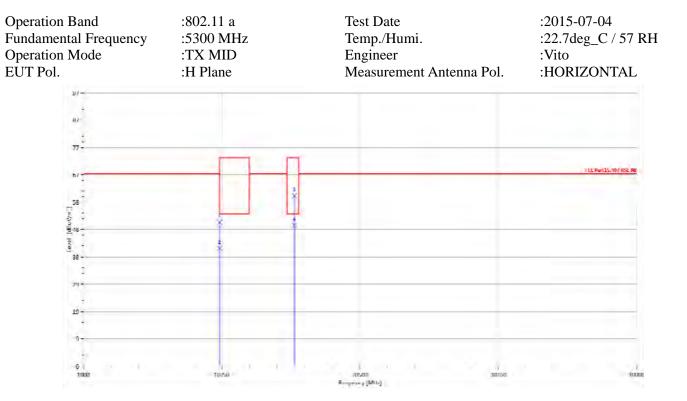
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10600.00	Peak	Н	31.58	19.38	50.96	74.00	-23.04
10600.00	Average	Н	22.59	19.38	41.97	54.00	-12.03
15900.00	Peak	Н	32.94	26.39	59.33	74.00	-14.67
15900.00	Average	Н	23.84	26.39	50.23	54.00	-3.77

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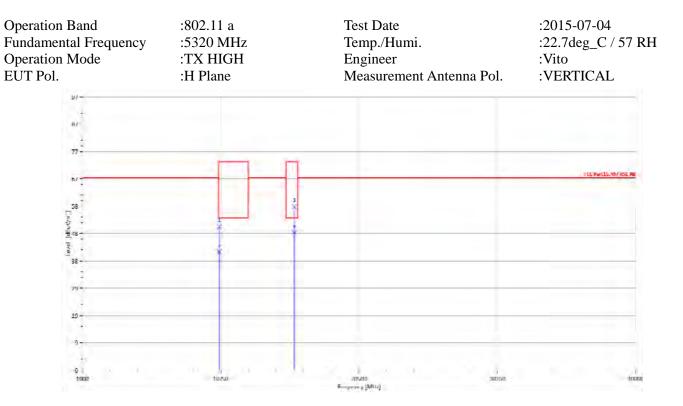


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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10600.00	Peak	Н	31.68	19.38	51.06	74.00	-22.94
10600.00	Average	Н	22.45	19.38	41.83	54.00	-12.17
15900.00	Peak	Н	34.02	26.39	60.41	74.00	-13.59
15900.00	Average	Н	23.58	26.39	49.97	54.00	-4.03

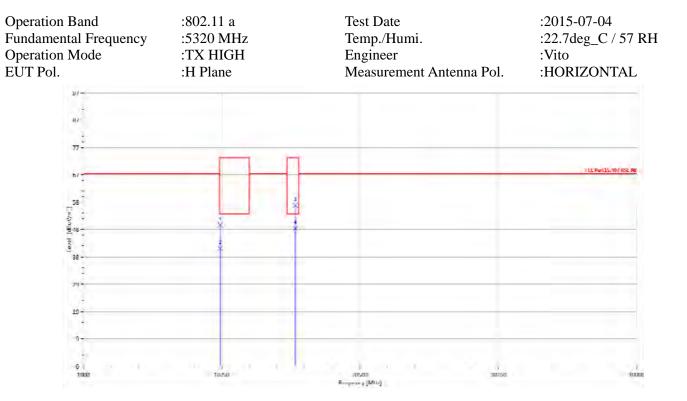




Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10640.00	Peak	Н	31.62	19.28	50.90	74.00	-23.11
10640.00	Average	Н	22.64	19.28	41.92	54.00	-12.08
15960.00	Peak	Н	31.53	26.48	58.01	74.00	-15.99
15960.00	Average	Н	22.31	26.48	48.79	54.00	-5.21



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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10640.00	Peak	Н	30.82	19.28	50.10	74.00	-23.90
10640.00	Average	Н	22.49	19.28	41.77	54.00	-12.23
15960.00	Peak	Н	30.56	26.48	57.04	74.00	-16.96
15960.00	Average	Н	22.38	26.48	48.86	54.00	-5.14

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Band edge falling to restricted band

Operation Band Fundamental Frequency Operation Mode EUT Pol.		:802.11 a :5320 MHz :Band Edge HIGH :H Plane		Test Date Temp./Humi. Engineer Measurement Ant	tenna Pol.	:2015-07-04 :22.7deg_C / 57 RH :Vito :VERTICAL	
Freq.	Detector Mode	Note	Spectrum Reading Lev	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5350.00	Peak	Е	44.25	11.30	55.55	74.00	-18.45
5350.00	Average	Е	32.84	11.30	44.14	54.00	-9.86
5353.32	Peak	S	45.21	11.32	56.53	74.00	-17.47
5353.32	Average	S	32.71	11.32	44.03	54.00	-9.97

Operation Ba Fundamental Operation Mo EUT Pol.	Frequency	:802.11 a :5320 MHz :Band Edge :H Plane	MHzTemp./Humi.Edge HIGHEngineer		tenna Pol.	:2015-07-04 :22.7deg_C / 57 RH :Vito ma Pol. :HORIZONTAL		
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin	
	Mode		Reading Lev	el	FS	@3m		
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB	
5350.00	Peak	Е	45.70	11.30	57.00	74.00	-17.00	
5350.00	Average	Е	33.64	11.30	44.94	54.00	-9.06	

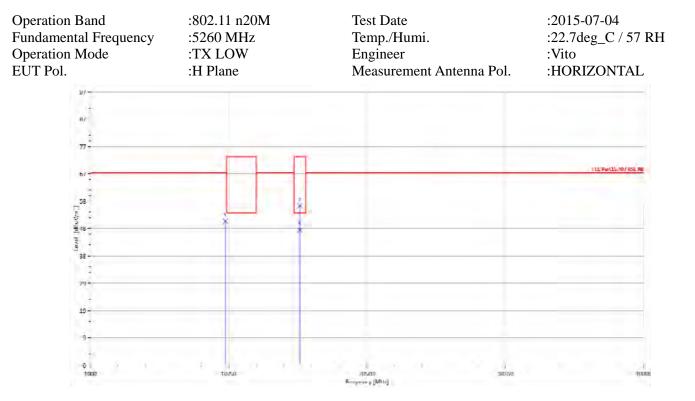


Radiated Spurious Emission Measurement Result 802.11n HT20, 5250~5350 MHz **Operation Band** :802.11 n20M Test Date :2015-07-04 **Fundamental Frequency** :5260 MHz Temp./Humi. :22.7deg_C / 57 RH Engineer **Operation Mode** :TX LOW :Vito :H Plane EUT Pol. Measurement Antenna Pol. :VERTICAL 50 ŵ 77 LC Part 15, 107 RS h/ 38 1000 : 2 38 --79 10-9-0 100 TIRAL (12,01) mune 1000 Frequence (Mile)

Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10520.00	Peak	Н	30.91	19.25	50.16	68.30	-18.14
15780.00	Peak	Н	30.66	26.25	56.91	74.00	-17.09
15780.00	Average	Н	22.25	26.25	48.50	54.00	-5.50

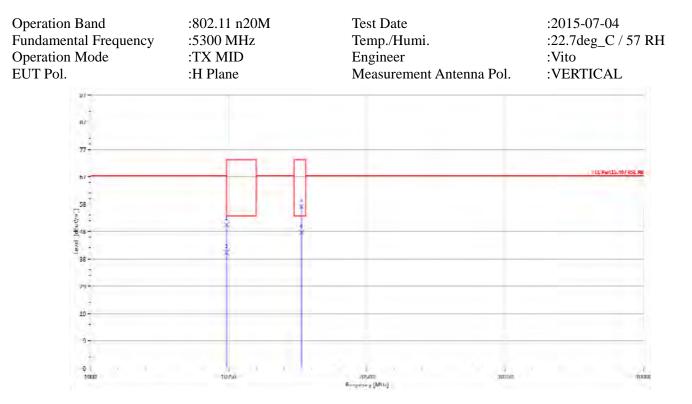


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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10520.00	Peak	Н	31.82	19.25	51.07	68.30	-17.23
15780.00	Peak	Н	30.39	26.25	56.64	74.00	-17.36
15780.00	Average	Н	21.71	26.25	47.96	54.00	-6.04

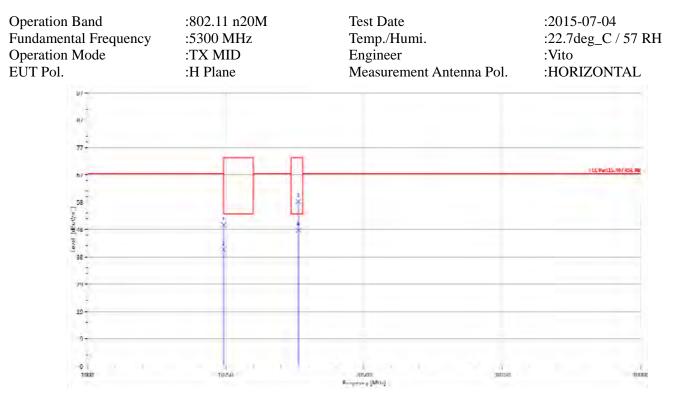




Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10600.00	Peak	Н	31.50	19.38	50.88	74.00	-23.12
10600.00	Average	Н	21.59	19.38	40.97	54.00	-13.03
15900.00	Peak	Н	30.95	26.39	57.35	74.00	-16.65
15900.00	Average	Н	21.72	26.39	48.11	54.00	-5.89



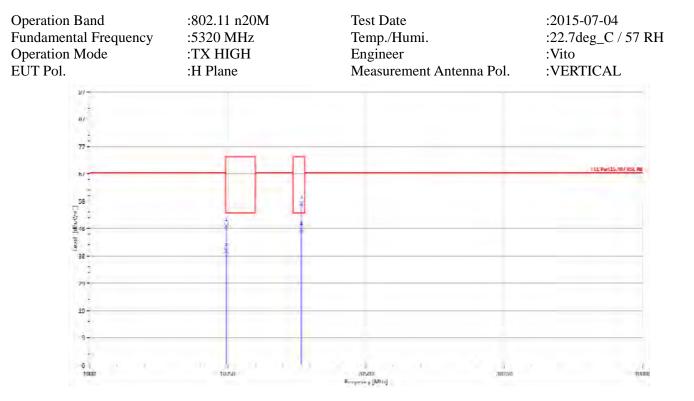
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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10600.00	Peak	Н	30.73	19.38	50.10	74.00	-23.90
10600.00	Average	Н	21.97	19.38	41.35	54.00	-12.65
15900.00	Peak	Н	32.02	26.39	58.41	74.00	-15.59
15900.00	Average	Н	21.89	26.39	48.28	54.00	-5.72



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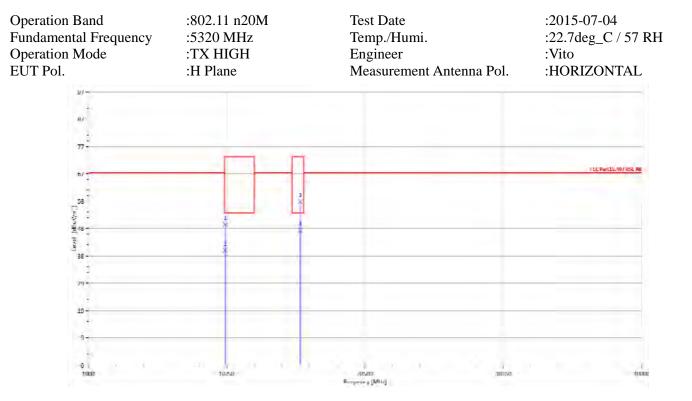
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10640.00	Peak	Н	30.24	19.28	49.52	74.00	-24.48
10640.00	Average	Н	21.32	19.28	40.60	54.00	-13.40
15960.00	Peak	Н	30.89	26.48	57.37	74.00	-16.63
15960.00	Average	Н	21.56	26.48	48.04	54.00	-5.96

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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10640.00	Peak	Н	30.61	19.28	49.89	74.00	-24.11
10640.00	Average	Н	21.48	19.28	40.76	54.00	-13.24
15960.00	Peak	Н	31.52	26.48	58.00	74.00	-16.00
15960.00	Average	Н	21.32	26.48	47.80	54.00	-6.20



Band edge falling to restricted band

Operation Ba Fundamental Operation Mo EUT Pol.	imental Frequency :5320 MHz tion Mode :Band Edge HIGH		Test Date Temp./Humi. Engineer Measurement Ant	enna Pol.	:2015-07-04 :22.7deg_C / 57 RH :Vito :VERTICAL		
Freq.	Detector Mode	Note	Spectrum Reading Lev	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5350.00	Peak	E	43.79	11.30	55.09	74.00	-18.91
5350.00	Average	E	32.74	11.30	44.04	54.00	-9.96
5351.40	Peak	S	45.29	11.32	56.61	74.00	-17.39
5351.40	Average	S	32.57	11.32	43.89	54.00	-10.11

Operation Band	:802.11 n20M	Test Date	:2015-07-04
Fundamental Frequency	:5320 MHz	Temp./Humi.	:22.7deg_C / 57 RH
Operation Mode	:Band Edge HIGH	Engineer	:Vito
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5350.00	Peak	Е	46.34	11.30	57.64	74.00	-16.36
5350.00	Average	E	33.81	11.30	45.11	54.00	-8.89
5352.48	Peak	S	48.55	11.32	59.88	74.00	-14.12
5352.48	Average	S	33.59	11.32	44.91	54.00	-9.09



Radiated Spurious Emission Measurement Result 802.11n HT40, 5250~5350 MHz **Operation Band** :802.11 n40M Test Date :2015-07-04 **Fundamental Frequency** :5270 MHz Temp./Humi. :22.7deg_C / 57 RH **Operation Mode** :TX LOW Engineer :Vito :H Plane EUT Pol. Measurement Antenna Pol. :VERTICAL 40 77 Distant 15, million h/ 58 : 38 -79 10-9-0 1000 (12,01) Distance. 10000 Frequence (Mile)

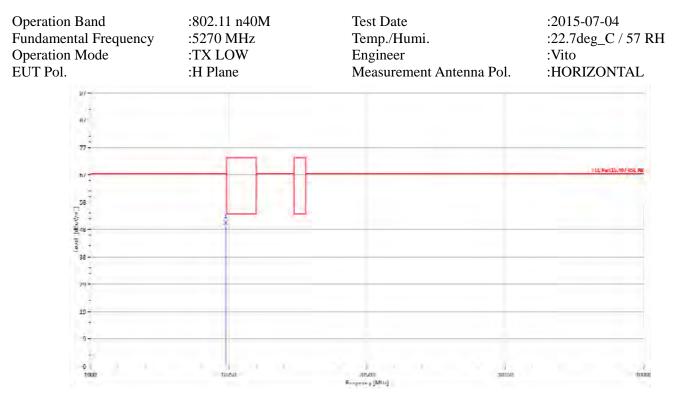
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10540.00	Peak	Н	31.94	19.13	51.07	68.30	-17.23

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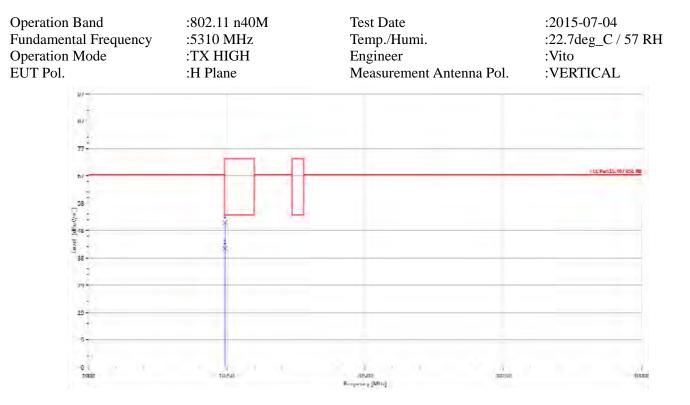


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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV∕m	dB
10540.00	Peak	Н	31.88	19.13	51.01	68.30	-17.29

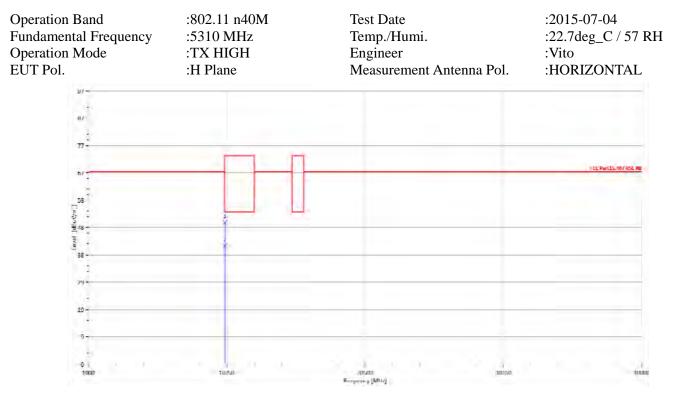




Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10620.00	Peak	Н	31.85	19.38	51.23	74.00	-22.77
10620.00	Average	Н	22.63	19.38	42.01	54.00	-11.99



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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10620.00	Peak	Н	30.85	19.38	50.23	74.00	-23.77
10620.00	Average	Н	22.48	19.38	41.86	54.00	-12.14



Band edge falling to restricted band

Operation Band		:802.11 n40M		Test Date		:2015-07-04	
Fundamental	Frequency	:5310 MHz		Temp./Humi.		:22.7deg_C / 57 RH	
Operation Mode		:Band Edge	HIGH	Engineer		:Vito	
EUT Pol.		:H Plane		Measurement An	tenna Pol.	:VERTICAL	
Freq.	Detector Mode	Note	Spectrum Reading Lev	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
							dD
5350.00	Peak	E	49.05	11.30	60.35	74.00	-13.65
5350.00	Average	E	34.69	11.30	45.99	54.00	-8.01

	ndamental Frequency :5310 MHz beration Mode :Band Edge HIGH			Test Date Temp./Humi. Engineer Measurement An	:2015-07-04 :22.7deg_C / 57 RH :Vito :HORIZONTAL		
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Lev	rel	FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5350.00	Peak	Е	49.85	11.30	61.15	74.00	-12.85
5350.00	Average	E	35.76	11.30	47.06	54.00	-6.94



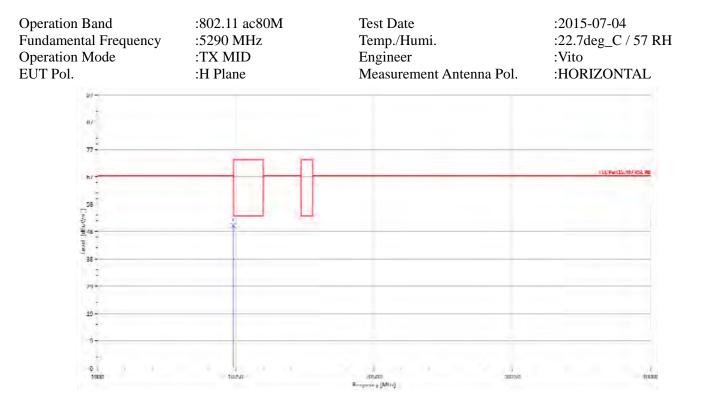
Radiated Spurious Emission Measurement Result 802.11ac VHT80, 5250~5350 MHz **Operation Band** :802.11 ac80M Test Date :2015-07-04 **Fundamental Frequency** :5290 MHz Temp./Humi. :22.7deg_C / 57 RH Engineer **Operation Mode** :TX MID :Vito EUT Pol. :H Plane Measurement Antenna Pol. :VERTICAL 111 77 Di Barth, mhris h/ 58 : 38 -79 10-9-0 1000 Tip Au (12,01) Distance. 10000 Frequence (Mile)

Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10580.00	Peak	Н	30.76	19.29	50.05	68.30	-18.25

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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
10580.00	Peak	Н	31.25	19.29	50.53	68.30	-17.77

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Band edge falling to restricted band

Operation Band:802.11 ac80MFundamental Frequency:5290 MHzOperation Mode:Band Edge HIGHEUT Pol.:H Plane			Test Date Temp./Humi. Engineer Measurement And	tenna Pol.	:2015-07-04 :22.7deg_C / 57 RH :Vito :VERTICAL		
Freq.	Detector Mode	Note	Spectrum Reading Lev		Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5350.00	Peak	E	48.58	11.30	59.88	74.00	-14.12
5350.00	Average	E	34.70	11.30	46.00	54.00	-8.00
5353.20	Peak	S	49.00	11.32	60.32	74.00	-13.68
5353.20	Average	S	34.32	11.32	45.64	54.00	-8.36

Operation Ba Fundamental Operation Mo EUT Pol.	Frequency	:802.11 ac80MTest Date:5290 MHzTemp./Humi.:Band Edge HIGHEngineer:H PlaneMeasurement Antenna Po		itenna Pol.	:2015-07-04 :22.7deg_C / 57 RH :Vito :HORIZONTAL		
Freq.	Detector Mode	Note	Spectrum Reading Lev		Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV∕m	dBµV∕m	dB
5350.00	Peak	Е	51.21	11.30	62.51	74.00	-11.49
5350.00	Average	E	36.65	11.30	47.95	54.00	-6.05



16500.00

Peak

Η

Operation Band :802.11 a Test Date :2015-07-04 **Fundamental Frequency** :5500 MHz Temp./Humi. :22.7deg_C / 57 RH **Operation Mode** :TX LOW Engineer :Vito EUT Pol. :H Plane Measurement Antenna Pol. :VERTICAL 77 58 38 10-÷... 01 1000 12,01 THE A DATE Freq. Detector Note Spectrum Factor Actual Limit Margin Mode Reading Level FS @3m $dB\mu V$ dBµV/m MHz PK/QP/AV F/H/E/S dB dBµV/m dB 11000.00 Peak Η 30.78 20.02 50.80 74.00 -23.20 11000.00 Η 20.02 54.00 -12.42 21.56 41.58 Average

31.76

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

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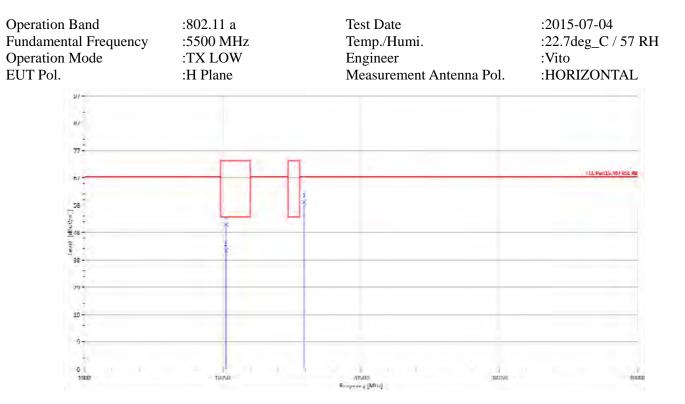
27.16

58.92

68.30

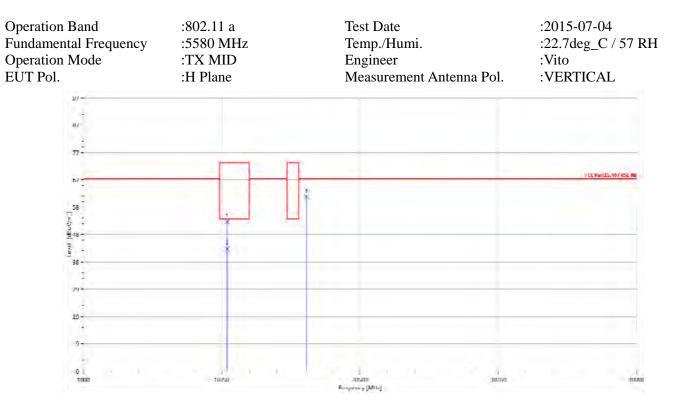
-9.38





Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11000.00	Peak	Н	31.34	20.02	51.36	74.00	-22.64
11000.00	Average	Н	22.02	20.02	42.04	54.00	-11.96
16500.00	Peak	Н	32.19	27.16	59.35	68.30	-8.95

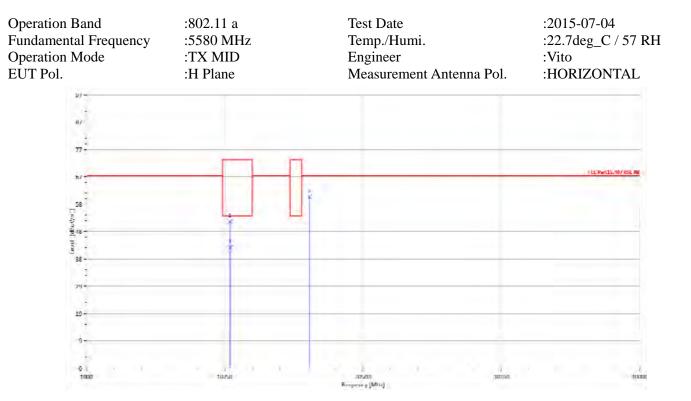




Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11160.00	Peak	Н	32.74	20.38	53.12	74.00	-20.88
11160.00	Average	Н	22.96	20.38	43.34	54.00	-10.66
16740.00	Peak	Н	34.15	27.79	61.94	68.30	-6.36



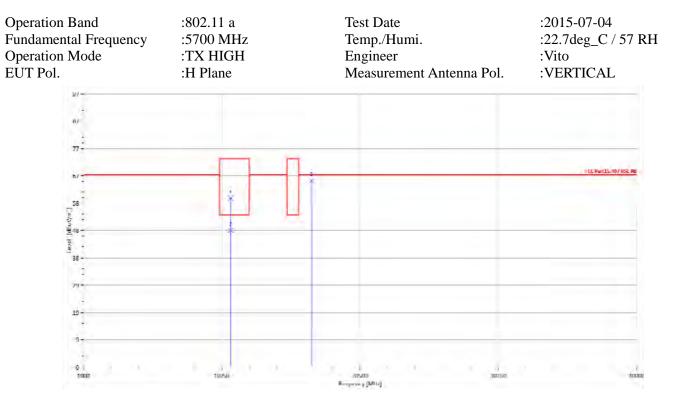
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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11160.00	Peak	Н	31.67	20.38	52.05	74.00	-21.95
11160.00	Average	Н	22.42	20.38	42.80	54.00	-11.20
16740.00	Peak	Н	32.97	27.79	60.76	68.30	-7.54



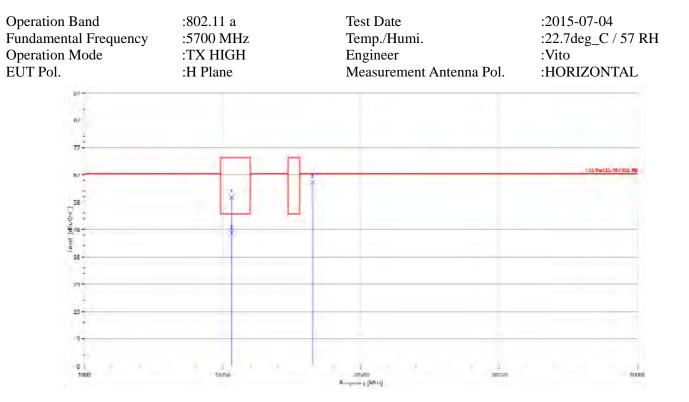
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Detector	Note	Spectrum	Factor	Actual	Limit	Margin
Mode		Reading Level		FS	@3m	
PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
Peak	Н	39.17	20.81	59.98	74.00	-14.02
Average	Н	27.68	20.81	48.49	54.00	-5.51
Peak	Н	37.87	28.26	66.13	68.30	-2.17
	Mode PK/QP/AV Peak Average	Mode PK/QP/AV F/H/E/S Peak H Average H	Mode Reading Level PK/QP/AV F/H/E/S dBµV Peak H 39.17 Average H 27.68	Mode Reading Level <u>PK/QP/AV F/H/E/S dBµV dB</u> Peak H 39.17 20.81 Average H 27.68 20.81	ModeReading LevelFSPK/QP/AVF/H/E/SdBµVdBdBµV/mPeakH39.1720.8159.98AverageH27.6820.8148.49	ModeReading LevelFS@3mPK/QP/AVF/H/E/SdBµVdBdBµV/mdBµV/mPeakH39.1720.8159.9874.00AverageH27.6820.8148.4954.00



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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11400.00	Peak	Н	39.11	20.81	59.92	74.00	-14.08
11400.00	Average	Н	26.50	20.81	47.31	54.00	-6.69
17100.00	Peak	Н	37.04	28.26	65.30	68.30	-3.00



Band edge falling to restricted band

Operation Band Fundamental Frequency Operation Mode EUT Pol.		:802.11 a :5500 MHz :Band Edge LOW :H Plane		Test Date Temp./Humi. Engineer Measurement Ant	tenna Pol.	:2015-07-04 :22.7deg_C / 57 RH :Vito :VERTICAL	
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Lev	el	FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5445.92	Peak	S	45.79	11.38	57.17	74.00	-16.83
5445.92	Average	S	32.58	11.38	43.96	54.00	-10.04
5460.00	Peak	E	43.62	11.46	55.09	74.00	-18.91
5460.00	Average	E	32.63	11.46	44.09	54.00	-9.91
5469.68	Peak	S	46.74	11.46	58.19	68.30	-10.11
5470.00	Peak	Е	44.68	11.46	56.13	68.30	-12.17

Fundamental Frequency:5500 MHzTerOperation Mode:Band Edge LOWEng		Test Date Temp./Humi. Engineer Measurement Ant	enna Pol.	:2015-07-04 :22.7deg_C / 57 RH :Vito :HORIZONTAL			
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Lev	el	FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5460.00	Peak	E	46.70	11.46	58.17	74.00	-15.83
5460.00	Average	E	33.50	11.46	44.96	54.00	-9.04
5470.00	Peak	E	49.50	11.46	60.95	68.30	-7.35



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Operation Band Fundamental Frequency Operation Mode EUT Pol.	:802.11 aTest Date:5700 MHzTemp./Humi.:Band Edge HIGHEngineer:H PlaneMeasurement Antenna Pol.		:2015-07-04 :22.7deg_C / 57 RH :Vito :VERTICAL			
Freq. Detector	Note	Spectrum	Factor	Actual	Limit	Margin
Mode		Reading Lev	vel	FS	@3m	
MHz PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5725.00 Peak	E	43.83	12.27	56.10	68.30	-12.20
5729.36 Peak	S	46.53	12.29	58.82	68.30	-9.48
Operation Band Fundamental Frequency Operation Mode EUT Pol.	:802.11 a :5700 MHz :Band Edge H :H Plane	IGH	Test Date Temp./Humi. Engineer Measurement Ant	enna Pol.	:2015-07-04 :22.7deg_C / : :Vito :HORIZONTA	
Freq. Detector	Note	Spectrum	Factor	Actual	Limit	Margin
Mode		Reading Lev	vel	FS	@3m	
MHz PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5725.00 Peak	Е	44.99	12.27	57.26	68.30	-11.04
5728.52 Peak	S	47.28			68.30	

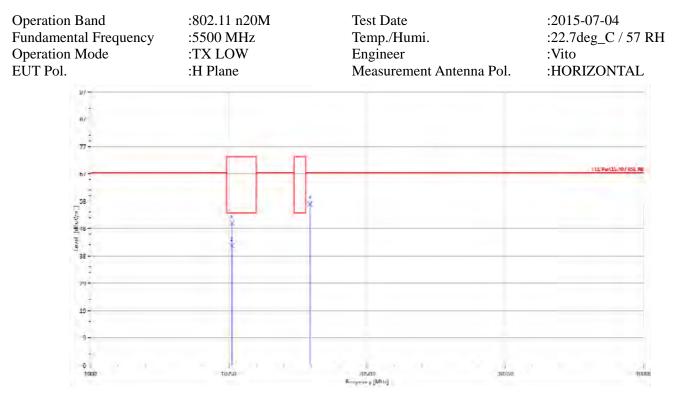


Radiated Spurious Emission Measurement Result 802.11n HT20, 5470~5725 MHz **Operation Band** :802.11 n20M Test Date :2015-07-04 **Fundamental Frequency** :5500 MHz Temp./Humi. :22.7deg_C / 57 RH **Operation Mode** :TX LOW Engineer :Vito :H Plane EUT Pol. Measurement Antenna Pol. :VERTICAL ŵ, 77 LC Part 15, 107 RS hr 58 : . 38 1 79 10ġ... 0 100 TIREAD (12,01) Distance. 1000 Frequence (Mile)

Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11000.00	Peak	Н	31.31	20.02	51.32	74.00	-22.68
11000.00	Average	Н	21.84	20.02	41.86	54.00	-12.14
16500.00	Peak	Н	31.27	27.16	58.44	68.30	-9.86

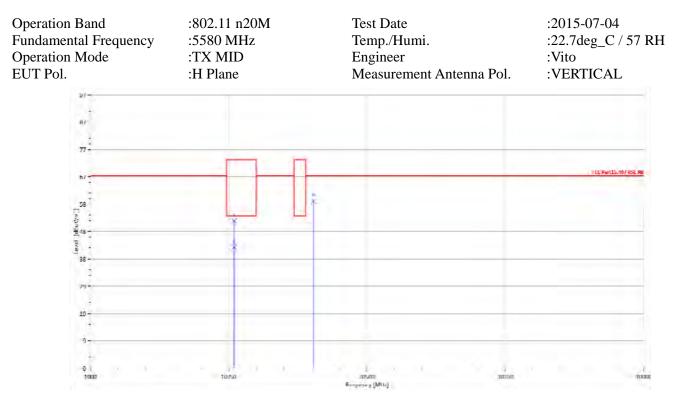


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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11000.00	Peak	Н	30.30	20.02	50.32	74.00	-23.68
11000.00	Average	Н	22.31	20.02	42.33	54.00	-11.67
16500.00	Peak	Н	30.01	27.16	57.17	68.30	-11.13

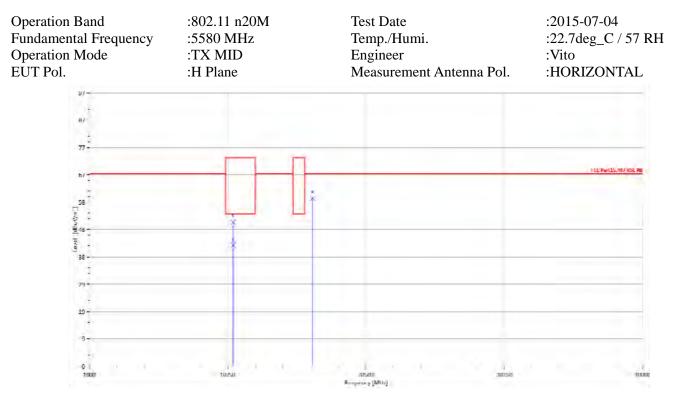




Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11160.00	Peak	Н	31.82	20.38	52.20	74.00	-21.80
11160.00	Average	Н	22.55	20.38	42.93	54.00	-11.07
16740.00	Peak	Н	31.46	27.79	59.25	68.30	-9.05



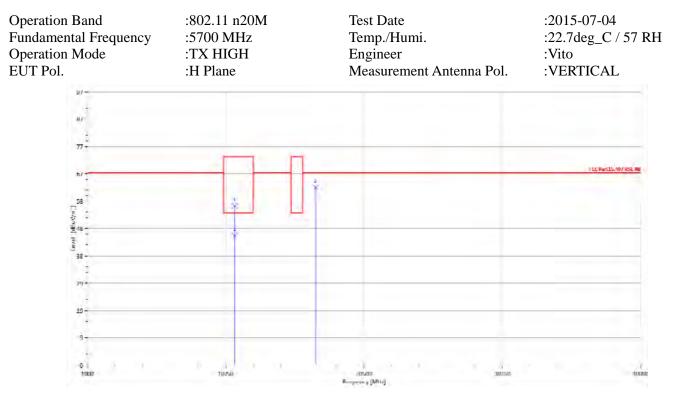
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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11160.00	Peak	Н	30.68	20.38	51.06	74.00	-22.94
11160.00	Average	Н	22.57	20.38	42.95	54.00	-11.05
16740.00	Peak	Н	31.79	27.79	59.58	68.30	-8.72



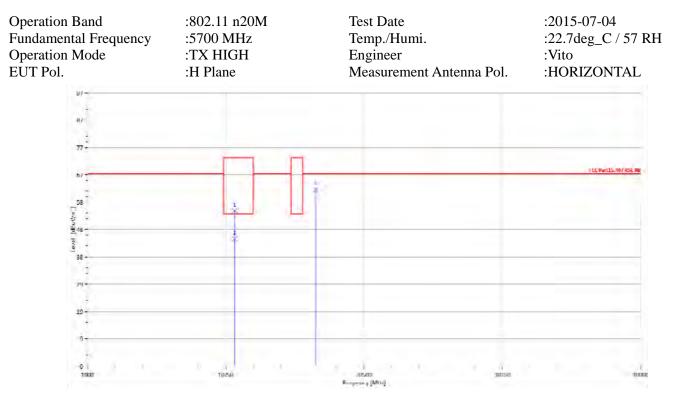
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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11400.00	Peak	Н	35.77	20.81	56.58	74.00	-17.42
11400.00	Average	Н	25.20	20.81	46.01	54.00	-7.99
17100.00	Peak	Н	34.85	28.26	63.10	68.30	-5.20



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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11400.00	Peak	Н	34.34	20.81	55.15	74.00	-18.85
11400.00	Average	Н	24.35	20.81	45.16	54.00	-8.84
17100.00	Peak	Н	34.40	28.26	62.66	68.30	-5.64



Band edge falling to restricted band

Operation Band Fundamental Frequency Operation Mode EUT Pol.		:802.11 n20M :5500 MHz :Band Edge LOW :H Plane		Test Date Temp./Humi. Engineer Measurement Ant	tenna Pol.	:2015-07-04 :22.7deg_C / 57 RH :Vito :VERTICAL	
Freq.	Detector Mode	Note	Spectrum Reading Lev	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5460.00	Peak	E	44.15	11.46	55.62	74.00	-18.38
5460.00	Average	Е	32.46	11.46	43.92	54.00	-10.08
5465.96	Peak	S	45.27	11.46	56.73	68.30	-11.57
5470.00	Peak	Е	44.20	11.46	55.66	68.30	-12.64

Operation Band	:802.11 n20M	Test Date	:2015-07-04
Fundamental Frequency	:5500 MHz	Temp./Humi.	:22.7deg_C / 57 RH
Operation Mode	:Band Edge LOW	Engineer	:Vito
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL

Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5460.00	Peak	Е	44.67	11.46	56.13	74.00	-17.87
5460.00	Average	Е	32.88	11.46	44.34	54.00	-9.66
5469.80	Peak	S	47.01	11.46	58.47	68.30	-9.83
5470.00	Peak	Е	46.10	11.46	57.56	68.30	-10.74



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Operation Band Fundamental Frequency Operation Mode		:5700 MHz :Band Edge HIGH		Test Date Temp./Humi. Engineer		:2015-07-04 :22.7deg_C / 57 RH :Vito	
EUT Pol.		:H Plane		Measurement An	tenna Pol.	:VERTICAL	
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Lev	rel	FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5725.00	Peak	E	43.39	12.27	55.66	68.30	-12.64

Fundamental	Fundamental Frequency:5700 MHzOperation Mode:Band Edge HIGH		Test Date Temp./Humi. Engineer Measurement An	tenna Pol.	:2015-07-04 :22.7deg_C / 57 RH :Vito :HORIZONTAL		
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Lev	el	FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5725.00	Peak	E	44.84	12.27	57.11	68.30	-11.19
5725.88	Peak	S	45.60	12.27	57.87	68.30	-10.43



Radiated Spurious Emission Measurement Result 802.11n HT40, 5470~5725 MHz **Operation Band** :802.11 n40M Test Date :2015-07-04 **Fundamental Frequency** :5510 MHz Temp./Humi. :22.7deg_C / 57 RH **Operation Mode** :TX LOW Engineer :Vito EUT Pol. :H Plane Measurement Antenna Pol. :VERTICAL 111 77 LC Part 15, 107 RS 58 : 2 38 -79 10-9-÷. 0 1 1000 TIREAR 12,01 THE OWNER 1000 Frequence (Mile)

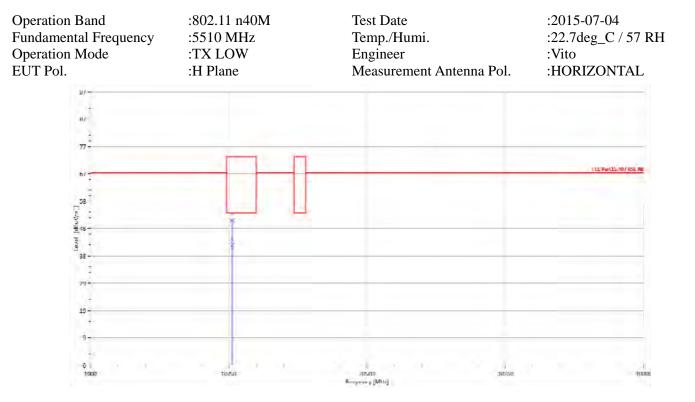
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11020.00	Peak	Н	31.20	20.04	51.24	74.00	-22.76
11020.00	Average	Н	22.33	20.04	42.37	54.00	-11.63

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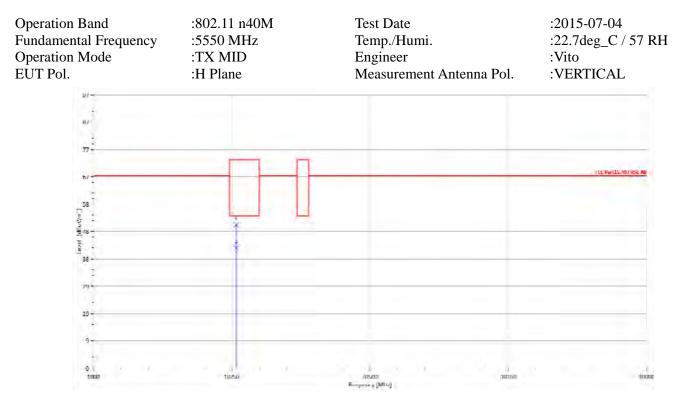


Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11020.00	Peak	Н	31.32	20.04	51.36	74.00	-22.64
11020.00	Average	Н	22.53	20.04	42.57	54.00	-11.43

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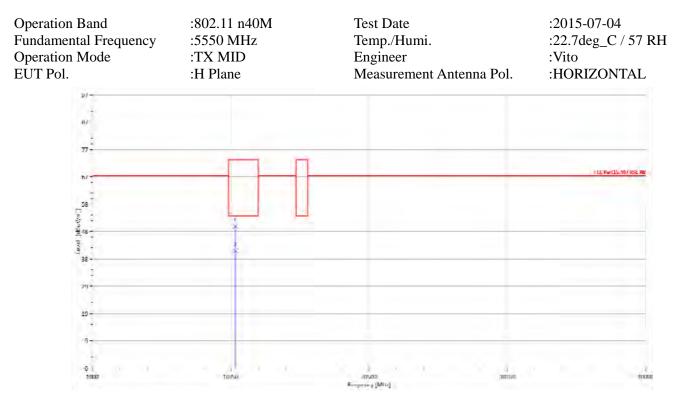
No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號 SGS Taiwan Ltd.





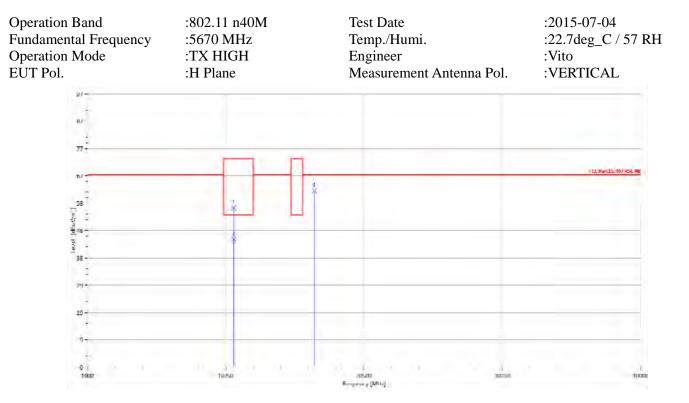
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11100.00	Peak	Н	30.59	20.21	50.79	74.00	-23.21
11100.00	Average	Н	22.39	20.21	42.60	54.00	-11.40





Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11100.00	Peak	Н	30.08	20.21	50.29	74.00	-23.71
11100.00	Average	Н	21.44	20.21	41.65	54.00	-12.35

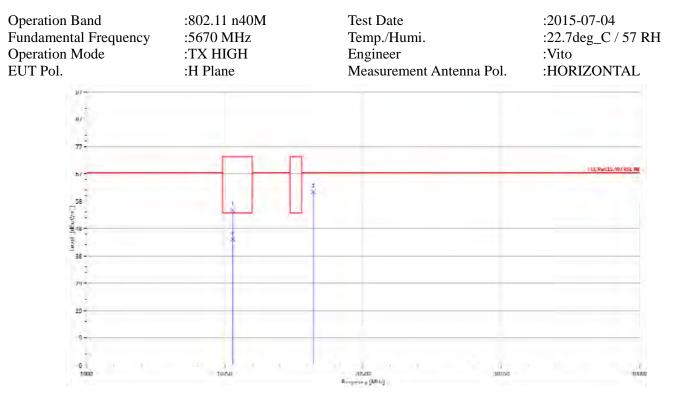




Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11340.00	Peak	Н	35.92	20.61	56.53	74.00	-17.47
11340.00	Average	Н	24.78	20.61	45.39	54.00	-8.61
17010.00	Peak	Н	34.28	28.28	62.56	68.30	-5.74



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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11340.00	Peak	Н	34.37	20.61	54.98	74.00	-19.02
11340.00	Average	Н	24.03	20.61	44.64	54.00	-9.36
17010.00	Peak	Н	33.25	28.28	61.53	68.30	-6.77



Band edge falling to restricted band

Operation Band:802.11 n40MFundamental Frequency:5510 MHzOperation Mode:Band Edge LOWEUT Pol.:H Plane		Test Date Temp./Humi. Engineer Measurement Ant	tenna Pol.	:2015-07-04 :22.7deg_C / 57 RH :Vito :VERTICAL			
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Lev	el	FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5457.00	Peak	S	44.73	11.46	56.19	74.00	-17.81
5457.00	Average	S	32.56	11.46	44.02	54.00	-9.98
5460.00	Peak	E	44.33	11.46	55.79	74.00	-18.21
5460.00	Average	Е	32.68	11.46	44.14	54.00	-9.86
5463.60	Peak	S	46.23	11.46	57.69	68.30	-10.61
5470.00	Peak	Е	44.66	11.46	56.12	68.30	-12.18

Operation Band	:802.11 n40M	Test Date	:2015-07-04
Fundamental Frequency	:5510 MHz	Temp./Humi.	:22.7deg_C / 57 RH
Operation Mode	:Band Edge LOW	Engineer	:Vito
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL

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

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

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---": denotes Noise Floor.

The trace on RE (radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5453.28	Peak	S	45.63	11.46	57.09	74.00	-16.91
5453.28	Average	S	32.90	11.46	44.36	54.00	-9.64
5460.00	Peak	Е	44.11	11.46	55.58	74.00	-18.42
5460.00	Average	Е	33.22	11.46	44.68	54.00	-9.32
5466.36	Peak	S	46.10	11.46	57.56	68.30	-10.74
5470.00	Peak	Е	45.49	11.46	56.95	68.30	-11.35

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FCC ID: YE3800E

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Operation Ba Fundamental Operation Mo EUT Pol.	Frequency	:5670 MHz	:Band Edge HIGH Engineer		tenna Pol.	:2015-07-04 :22.7deg_C / :Vito :VERTICAL	57 RH
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Lev	el	FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5725.00	Peak	Е	43.09	12.27	55.36	68.30	-12.94
5733.80	Peak	S	45.12	12.32	57.45	68.30	-10.85

Operation Ba Fundamental Operation Mo EUT Pol.	Frequency	:802.11 n401 :5670 MHz :Band Edge :H Plane	0 MHz Temp./Humi. d Edge HIGH Engineer		tenna Pol.	:2015-07-04 :22.7deg_C / 57 RH :Vito :HORIZONTAL	
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Lev	el	FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5725.00	Peak	Е	45.07	12.27	57.34	68.30	-10.96
5729.24	Peak	S	46.29	12.29	58.58	68.30	-9.72

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Radiated Spurious Emission Measurement Result 802.11ac VHT80, 5470~5725 MHz **Operation Band** :802.11 ac80M Test Date :2015-07-04 **Fundamental Frequency** :5530 MHz Temp./Humi. :22.7deg_C / 57 RH Engineer **Operation Mode** :TX LOW :Vito :H Plane EUT Pol. Measurement Antenna Pol. :VERTICAL 40 77 LC Part 15, 107 RS hr 58 : 1 2 38 -79 10-9-0 0 100 TIREAR 12,01 THE OWNER 1000 Frequence (Mile)

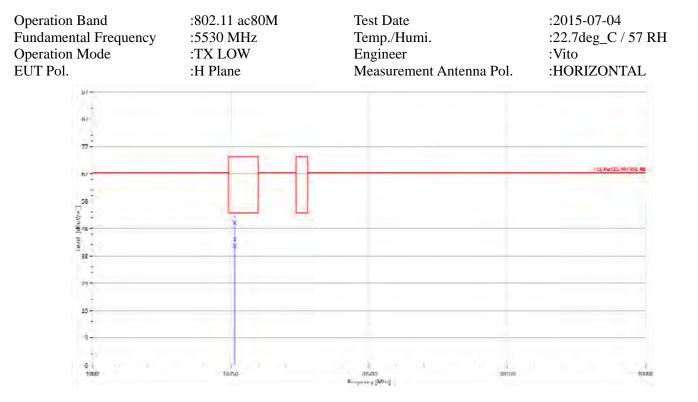
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11060.00	Peak	Н	30.08	20.14	50.23	74.00	-23.77
11060.00	Average	Н	22.29	20.14	42.43	54.00	-11.57

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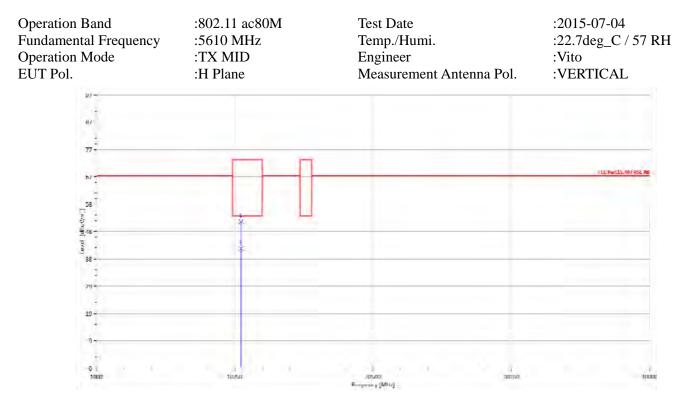


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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11060.00	Peak	Н	30.33	20.14	50.47	74.00	-23.53
11060.00	Average	Н	22.21	20.14	42.35	54.00	-11.65

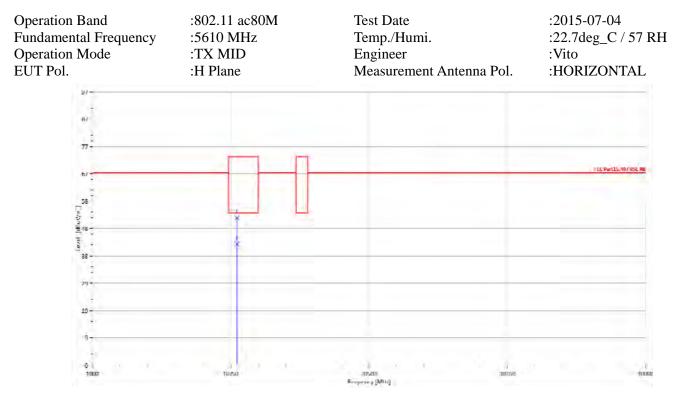




Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11220.00	Peak	Н	31.53	20.39	51.92	74.00	-22.08
11220.00	Average	Н	22.04	20.39	42.43	54.00	-11.57

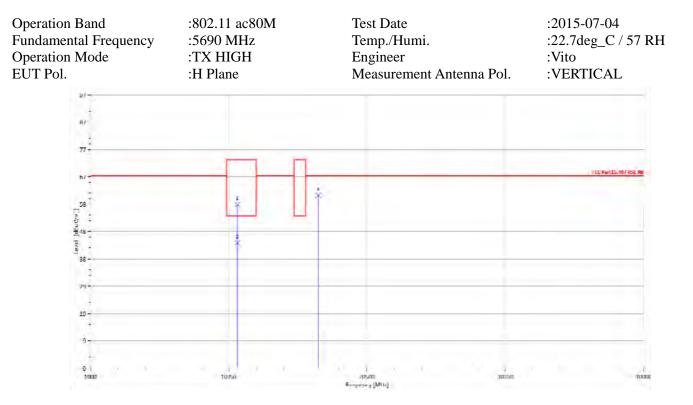


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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11220.00	Peak	Н	31.82	20.39	52.21	74.00	-21.79
11220.00	Average	Н	22.58	20.39	42.97	54.00	-11.03

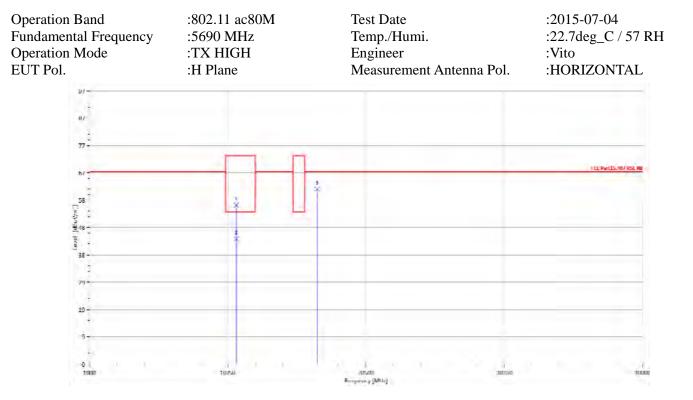




Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11380.00	Peak	Н	37.16	20.84	58.00	74.00	-16.00
11380.00	Average	Н	23.56	20.84	44.40	54.00	-9.60
17070.00	Peak	Н	33.09	28.21	61.30	68.30	-7.00



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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11380.00	Peak	Н	35.64	20.84	56.48	74.00	-17.52
11380.00	Average	Н	23.55	20.84	44.39	54.00	-9.61
17070.00	Peak	Н	33.94	28.21	62.15	68.30	-6.15



Band edge falling to restricted band

Operation Band Fundamental Frequency Operation Mode EUT Pol.		:802.11 ac80M :5530 MHz :Band Edge LOW :H Plane		Test Date Temp./Humi. Engineer Measurement Ant	tenna Pol.	:2015-07-04 :22.7deg_C / 57 RH :Vito :VERTICAL	
Freq.	Detector Mode	Note	Spectrum Reading Lev	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5457.50	Peak	S	45.08	11.46	56.54	74.00	-17.46
5457.50	Average	S	32.79	11.46	44.25	54.00	-9.75
5460.00	Peak	Е	43.93	11.46	55.39	74.00	-18.61
5460.00	Average	Е	32.86	11.46	44.32	54.00	-9.68
5465.20	Peak	S	48.04	11.46	59.50	68.30	-8.80
5470.00	Peak	E	45.52	11.46	56.98	68.30	-11.32

Operation Band	:802.11 ac80M	Test Date	:2015-07-04
Fundamental Frequency	:5530 MHz	Temp./Humi.	:22.7deg_C / 57 RH
Operation Mode	:Band Edge LOW	Engineer	:Vito
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL

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

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

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---": denotes Noise Floor.

The trace on RE (radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5460.00	Peak	Е	46.58	11.46	58.04	74.00	-15.96
5460.00	Average	E	33.33	11.46	44.79	54.00	-9.21
5464.90	Peak	S	50.33	11.46	61.79	68.30	-6.51
5470.00	Peak	Е	47.02	11.46	58.47	68.30	-9.83

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Radiated Spurious Emission Measurement Result 802.11a, 5725~5850 MHz **Operation Band** Test Date :802.11 a :2015-07-04 Fundamental Frequency :5745 MHz Temp./Humi. :22.7deg_C / 57 RH **Operation Mode** :TX LOW Engineer :Vito EUT Pol. :H Plane Measurement Antenna Pol. :VERTICAL 40 77 LC Part15, 107 RSI h/ 58 : 100 . 38 --79 10-9-0 ÷. 0 1 1000 TIREAR (12,45) Distant. 1000 Frequence (Mile)

Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11490.00	Peak	Н	42.20	21.08	63.28	74.00	-10.72
11490.00	Average	Н	30.15	21.08	51.23	54.00	-2.77
17235.00	Peak	Н	34.91	28.06	62.97	68.30	-5.33

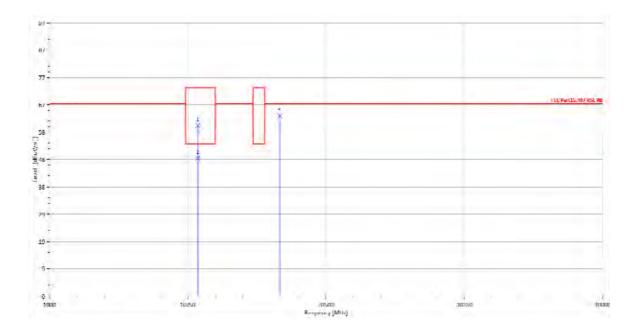


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Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 a :5745 MHz :TX LOW :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2015-07-04 :22.7deg_C / 57 RH :Vito :HORIZONTAL

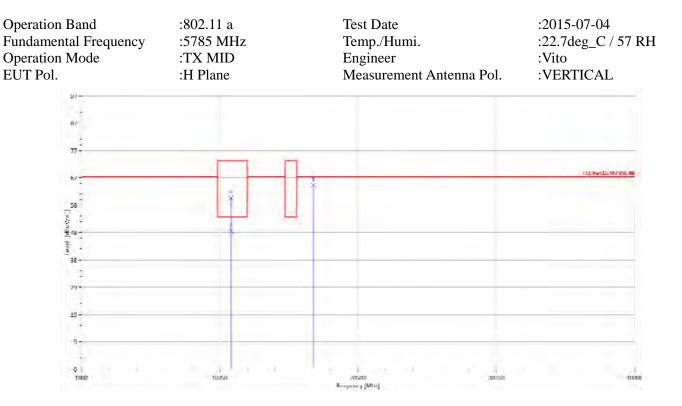


Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11490.00	Peak	Н	39.41	21.08	60.49	74.00	-13.51
11490.00	Average	Н	27.82	21.08	48.90	54.00	-5.10
17235.00	Peak	Н	35.97	28.06	64.03	68.30	-4.27

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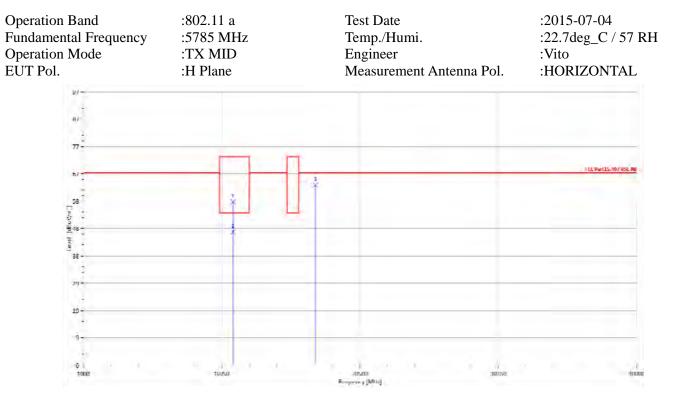




Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11570.00	Peak	Н	39.52	21.14	60.66	74.00	-13.34
11570.00	Average	Н	27.87	21.14	49.01	54.00	-4.99
17355.00	Peak	Н	37.44	27.87	65.31	68.30	-2.99

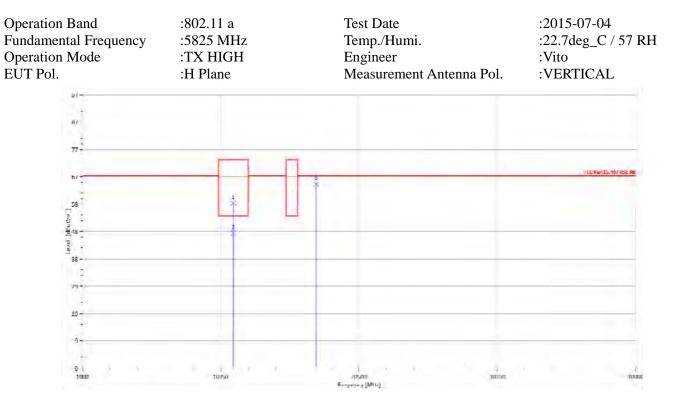


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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11570.00	Peak	Н	36.82	21.14	57.96	74.00	-16.04
11570.00	Average	Н	26.16	21.14	47.30	54.00	-6.70
17355.00	Peak	Н	35.99	27.87	63.87	68.30	-4.43

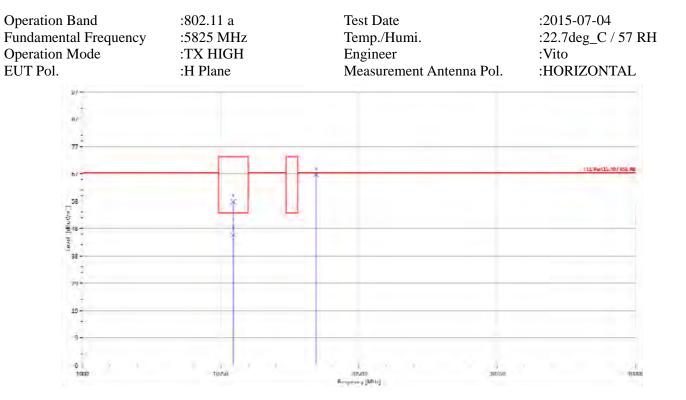




Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11650.00	Peak	Н	37.26	21.27	58.53	74.00	-15.47
11650.00	Average	Н	26.55	21.27	47.82	54.00	-6.18
17475.00	Peak	Н	37.66	27.65	65.31	68.30	-2.99



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Detector	Note	Spectrum	Factor	Actual	Limit	Margin
Mode		Reading Level		FS	@3m	
PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
Peak	Н	36.69	21.27	57.96	74.00	-16.04
Average	Н	24.87	21.27	46.14	54.00	-7.86
Peak	Н	39.88	27.65	67.53	68.30	-0.77
	Mode PK/QP/AV Peak Average	Mode PK/QP/AV F/H/E/S Peak H Average H	Mode Reading Level PK/QP/AV F/H/E/S dBµV Peak H 36.69 Average H 24.87	ModeReading LevelPK/QP/AVF/H/E/SdBµVdBPeakH36.6921.27AverageH24.8721.27	ModeReading LevelFSPK/QP/AVF/H/E/SdBµVdBdBµV/mPeakH36.6921.2757.96AverageH24.8721.2746.14	ModeReading LevelFS@3mPK/QP/AVF/H/E/SdBµVdBdBµV/mdBµV/mPeakH36.6921.2757.9674.00AverageH24.8721.2746.1454.00



Band edge falling to restricted band

Operation Ba Fundamental Operation Mo EUT Pol.	Frequency	:802.11 a :5745 MHz :Band Edge I :H Plane	LOW	Test Date Temp./Humi. Engineer Measurement Antenna Pol.		:2015-07-04 :22.7deg_C / 57 RH :Vito :VERTICAL	
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Lev	vel	FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5725.00	Peak	Е	51.31	12.27	63.58	78.20	-14.62
Operation Ba		:802.11 a		Test Date		:2015-07-04	

Fundamental Operation Mo EUT Pol.	· ·	:5745 MHz :Band Edge :H Plane	LOW	Engineer		:22.7deg_C / 57 RH :Vito :HORIZONTAL	
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Lev	el	FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5725.00	Peak	Е	53.68	12.27	65.95	78.20	-12.25



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Operation Ba Fundamental Operation Mo EUT Pol.	Frequency	:802.11 a :5825 MHz :Band Edge :H Plane	25 MHzTemp./Humi.:22and Edge HIGHEngineer:V		MHzTemp./Humi.:22.7deg_Edge HIGHEngineer:Vito		Temp./Humi. Engineer		57 RH
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin		
	Mode		Reading Lev	el	FS	@3m			
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB		
5850.00	Peak	Е	43.07	12.61	55.68	78.20	-22.52		
5851.90	Peak	S	46.71	12.63	59.34	78.20	-18.86		

Operation Ba Fundamental Operation Mo EUT Pol.	Frequency	:802.11 a :5825 MHz :Band Edge :H Plane	HIGH	Test Date Temp./Humi. Engineer Measurement Antenna Pol.		:2015-07-04 :22.7deg_C / 57 RH :Vito a Pol. :HORIZONTAL	
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Lev	vel	FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5850.00	Peak	Е	47.88	12.61	60.49	78.20	-17.71
5853.80	Peak	S	51.31	12.65	63.96	78.20	-14.24

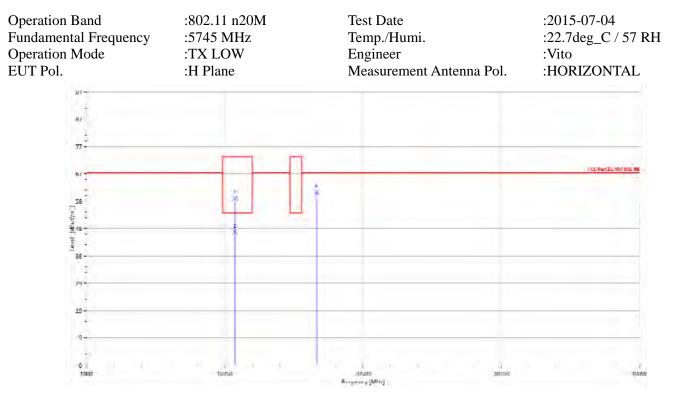


Radiated Spurious Emission Measurement Result 802.11n HT20, 5725~5850 MHz :802.11 n20M **Operation Band** Test Date :2015-07-04 **Fundamental Frequency** :5745 MHz Temp./Humi. :22.7deg_C / 57 RH **Operation Mode** :TX LOW Engineer :Vito EUT Pol. :H Plane Measurement Antenna Pol. :VERTICAL 40 77 LUPer115, 107 RSI h/-38 100 : . 38 -79 10ġ... 0 1 1000 TIDEN (12,45) Distant. 1000 Frequence (Mile)

Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11490.00	Peak	Н	38.81	21.08	59.90	74.00	-14.10
11490.00	Average	Н	28.58	21.08	49.66	54.00	-4.34
17235.00	Peak	Н	32.84	28.06	60.90	68.30	-7.40

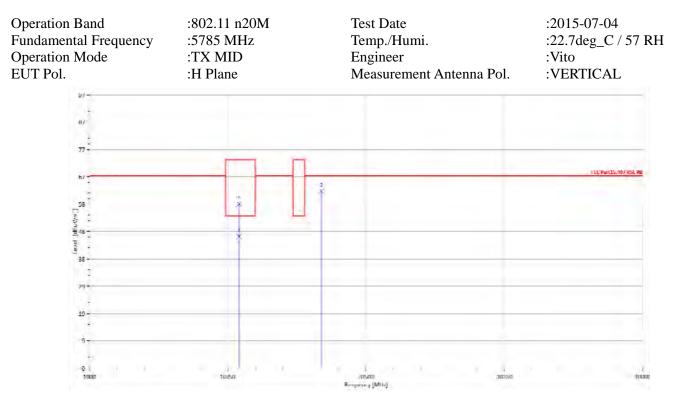


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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11490.00	Peak	Н	38.12	21.08	59.20	74.00	-14.80
11490.00	Average	Н	26.21	21.08	47.29	54.00	-6.71
17235.00	Peak	Н	33.30	28.06	61.35	68.30	-6.95

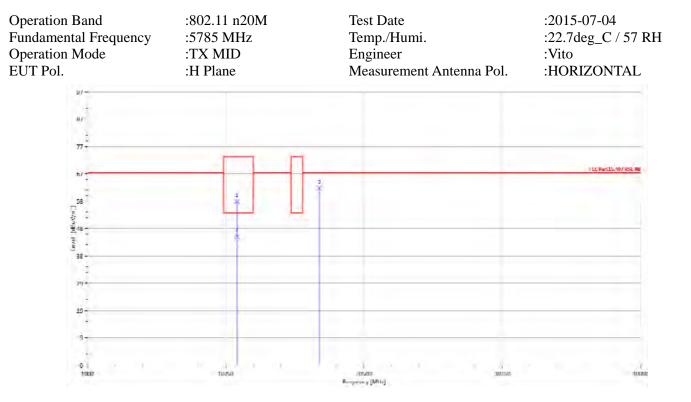




Detector	Note	Spectrum	Factor	Actual	Limit	Margin
Mode		Reading Level		FS	@3m	
PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
Peak	Н	37.09	21.14	58.23	74.00	-15.77
Average	Н	25.55	21.14	46.69	54.00	-7.31
Peak	Н	34.86	27.87	62.73	68.30	-5.57
	Mode PK/QP/AV Peak Average	Mode PK/QP/AV F/H/E/S Peak H Average H	Mode Reading Level PK/QP/AV F/H/E/S dBµV Peak H 37.09 Average H 25.55	ModeReading LevelPK/QP/AVF/H/E/SdBµVdBPeakH37.0921.14AverageH25.5521.14	ModeReading LevelFSPK/QP/AVF/H/E/SdBµVdBdBµV/mPeakH37.0921.1458.23AverageH25.5521.1446.69	Mode Reading Level FS @3m PK/QP/AV F/H/E/S dBμV dB dBμV/m dBμV/m Peak H 37.09 21.14 58.23 74.00 Average H 25.55 21.14 46.69 54.00

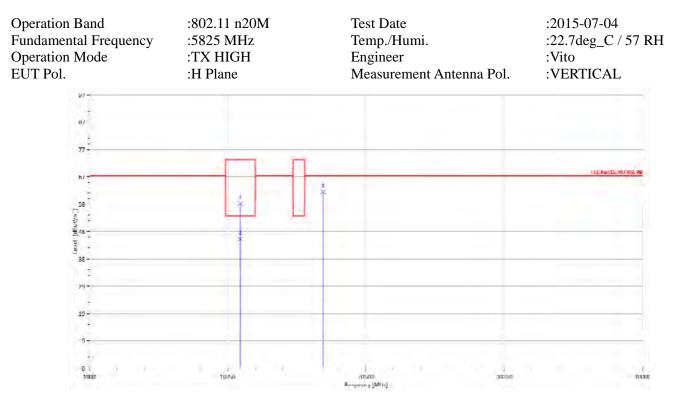


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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11570.00	Peak	Н	36.93	21.14	58.06	74.00	-15.94
11570.00	Average	Н	24.45	21.14	45.59	54.00	-8.41
17355.00	Peak	Н	34.94	27.87	62.81	68.30	-5.49





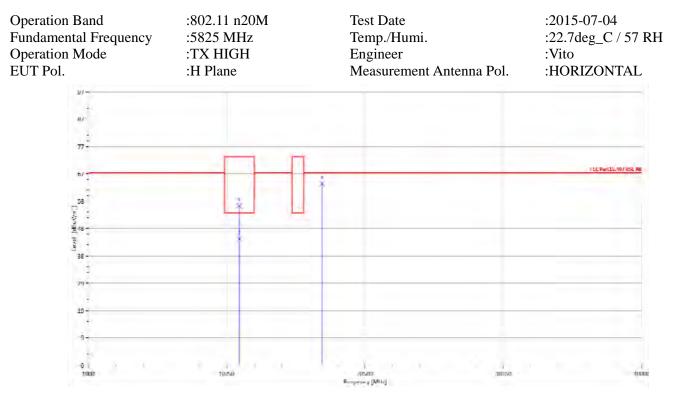
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11650.00	Peak	Н	37.07	21.27	58.34	74.00	-15.66
11650.00	Average	Н	24.43	21.27	45.70	54.00	-8.30
17475.00	Peak	Н	34.89	27.65	62.55	68.30	-5.76

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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11650.00	Peak	Н	35.34	21.27	56.61	74.00	-17.39
11650.00	Average	Н	23.38	21.27	44.65	54.00	-9.35
17475.00	Peak	Н	36.74	27.65	64.39	68.30	-3.91



Band edge falling to restricted band

Operation Ba Fundamental Operation Mo EUT Pol.	damental Frequency:5745 MHzTemp./Humi.ration Mode:Band Edge LOWEngineer		tenna Pol.	:2015-07-04 :22.7deg_C / 57 RH :Vito :VERTICAL			
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Lev	el	FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5724.10	Peak	S	48.14	12.27	60.41	78.20	-17.79
5725.00	Peak	Е	46.08	12.27	58.35	78.20	-19.85

Operation Ba Fundamental Operation Mo EUT Pol.	Frequency	i:802.11 n20M i:5745 MHz i:Band Edge LOW i:H Plane Test Date Temp./Humi. Engineer Measurement Antenna I		tenna Pol.	:2015-07-04 :22.7deg_C / :Vito :HORIZONT		
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Lev	rel	FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5724.80	Peak	S	50.42	12.27	62.69	78.20	-15.51
5725.00	Peak	E	48.73	12.27	61.00	78.20	-17.20



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Operation Ba Fundamental Operation Mo EUT Pol.	ntal Frequency :5825 MHz Temp./Humi. n Mode :Band Edge HIGH Engineer		tenna Pol.	:2015-07-04 :22.7deg_C / :Vito :VERTICAL	57 RH		
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Lev	el	FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5850.00	Peak	Е	43.15	12.61	55.76	78.20	-22.44
5856.20	Peak	S	45.52	12.67	58.19	78.20	-20.01

Operation Ba Fundamental Operation Mo EUT Pol.	damental Frequency:5825 MHzTemp./Humi.ration Mode:Band Edge HIGHEngineer		tenna Pol.	:2015-07-04 :22.7deg_C / :Vito :HORIZONT			
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Lev	vel	FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5850.00	Peak	E	44.44	12.61	57.05	78.20	-21.15
5851.70	Peak	S	47.42	12.63	60.05	78.20	-18.16

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Operation Band

Radiated Spurious Emission Measurement Result (802.11n (5GHz)_40M)

:802.11 n40M

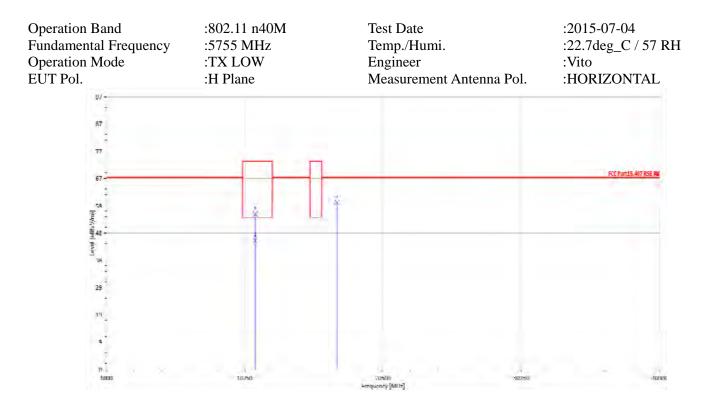
:2015-07-04

Fundamental Frequency :5755 MHz Temp./Humi. :22.7deg_C / 57 RH Engineer **Operation Mode** :TX LOW :Vito EUT Pol. :H Plane Measurement Antenna Pol. :VERTICAL 77 10 20500 succesy (MHz)

Test Date

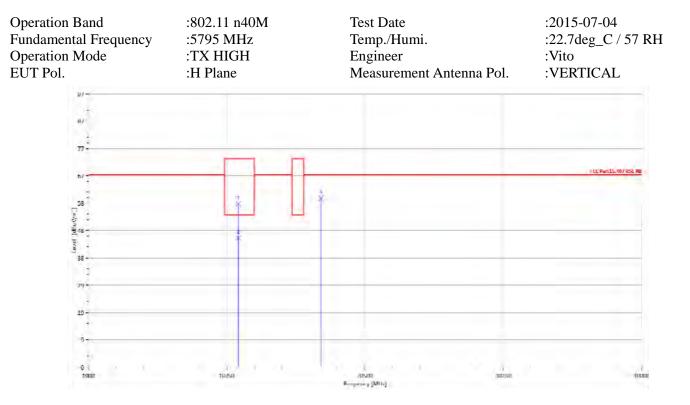
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11510.00	Peak	Н	37.66	21.17	58.83	74.00	-15.17
11510.00	Average	Н	25.62	21.17	46.79	54.00	-7.21
17265.00	Peak	Н	31.89	27.82	59.71	68.30	-8.59





Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11510.00	Peak	Н	33.97	21.17	55.14	74.00	-18.86
11510.00	Average	Н	24.55	21.17	45.72	54.00	-8.28
17265.00	Peak	Н	31.41	27.82	59.24	68.30	-9.06

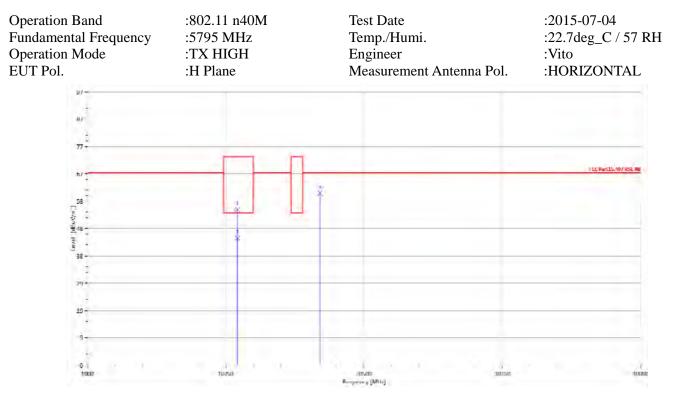




Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11590.00	Peak	Н	36.65	21.28	57.93	74.00	-16.07
11590.00	Average	Н	24.51	21.28	45.79	54.00	-8.21
17385.00	Peak	Н	32.37	27.61	59.98	68.30	-8.32



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Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11590.00	Peak	Н	33.89	21.28	55.17	74.00	-18.83
11590.00	Average	Н	23.79	21.28	45.07	54.00	-8.93
17385.00	Peak	Н	33.40	27.61	61.01	68.30	-7.29
17385.00	Peak	Н	33.40	27.61	61.01	68.30	-7.29



Band edge falling to restricted band

Operation Ba Fundamental Operation Mo EUT Pol.	damental Frequency:5755 MHzTemp./Humi.aration Mode:Band Edge LOWEngineer		tenna Pol.	:2015-07-04 :22.7deg_C / 57 RH :Vito :VERTICAL			
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Leve	el	FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5717.60	Peak	S	46.96	12.29	59.25	78.20	-18.95
5725.00	Peak	E	45.37	12.27	57.64	78.20	-20.56

Operation Ba Fundamental Operation Mo EUT Pol.	Frequency	:802.11 n40M Test Date :5755 MHz Temp./Humi. :Band Edge LOW Engineer :H Plane Measurement Antenna		tenna Pol.	:2015-07-04 :22.7deg_C / :Vito :HORIZONT		
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Lev	el	FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5724.40	Peak	S	48.61	12.27	60.89	78.20	-17.31
5725.00	Peak	Е	46.27	12.27	58.54	78.20	-19.66

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Operation Band Fundamental Frequency Operation Mode EUT Pol.		:5795 MHz :Band Edge HIGH		Test Date Temp./Humi. Engineer Measurement An	tenna Pol.	:2015-07-04 :22.7deg_C / 57 RH :Vito :VERTICAL	
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Lev	vel	FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5850.00	Peak	Е	42.88	12.61	55.49	78.20	-22.71

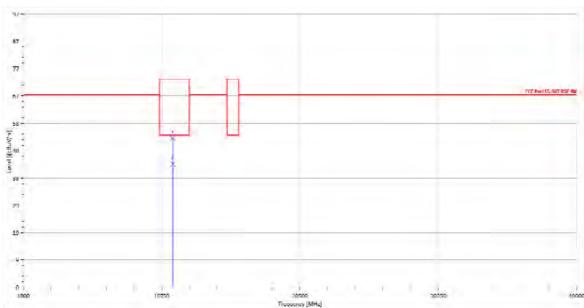
Operation Ba Fundamental Operation Mo EUT Pol.	Frequency	:5795 MHz	:Band Edge HIGH Engineer		tenna Pol.	:2015-07-04 :22.7deg_C / :Vito :HORIZONT.	
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Lev	rel	FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5850.00	Peak	Е	45.27	12.61	57.88	78.20	-20.32
5855.80	Peak	S	45.87	12.67	58.54	78.20	-19.66



Radiated Spurious Emission Measurement Result (802.11n (5GHz)_80M)

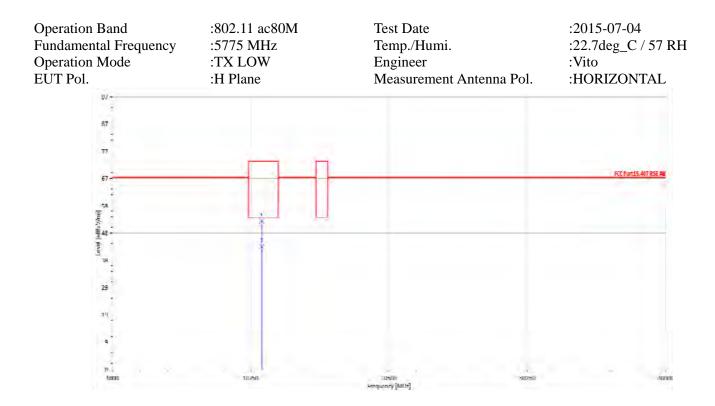
Operation Band :802.11 ac80M Test Date **Fundamental Frequency** :5775 MHz Temp./Humi. Engineer **Operation Mode** :TX LOW EUT Pol. :H Plane Measurement Antenna Pol. 77

:2015-07-04 :22.7deg_C / 57 RH :Vito :VERTICAL



Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11550.00	Peak	Н	31.95	20.97	52.92	74.00	-21.08
11550.00	Average	Н	22.69	20.97	43.66	54.00	-10.34





Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Level		FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
11550.00	Peak	Н	31.76	20.97	52.74	74.00	-21.26
11550.00	Average	Н	22.63	20.97	43.60	54.00	-10.40



5850.00

Peak

Band edge falling to restricted band

Operation Band:802.11 ac80MFundamental Frequency:5775 MHzOperation Mode:Band Edge LOWEUT Pol.:H Plane		Test Date Temp./Humi. Engineer Measurement Antenna Pol.		:2015-07-04 :22.7deg_C / 57 RH :Vito :VERTICAL			
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Leve	el	FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5710.10	Peak	S	51.10	12.32	63.42	68.30	-4.88
5717.50	Peak	S	52.09	12.29	64.38	78.20	-13.82
5725.00	Peak	E	47.85	12.27	60.12	78.20	-18.08
5850.00	Peak	E	47.11	12.61	59.72	78.20	-18.48
5851.20	Peak	S	49.59	12.62	62.21	78.20	-15.99

Operation Ba Fundamental Operation Mo EUT Pol.	Frequency	:5775 MHz Ti :Band Edge LOW E		Test Date Temp./Humi. Engineer Measurement Antenna Pol.		:2015-07-04 :22.7deg_C / 57 RH :Vito :HORIZONTAL	
Freq.	Detector	Note	Spectrum	Factor	Actual	Limit	Margin
	Mode		Reading Lev	rel	FS	@3m	
MHz	PK/QP/AV	F/H/E/S	dBµV	dB	dBµV/m	dBµV/m	dB
5710.70	Peak	S	54.93	12.32	67.25	68.30	-1.05
5717.80	Peak	S	54.42	12.29	66.71	78.20	-11.49
5725.00	Peak	E	51.16	12.27	63.43	78.20	-14.77

50.11

Ε

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12.61

62.73

78.20

-15.47



12. TRANSMISSION IN THE ABSENCE OF DATA12.1 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

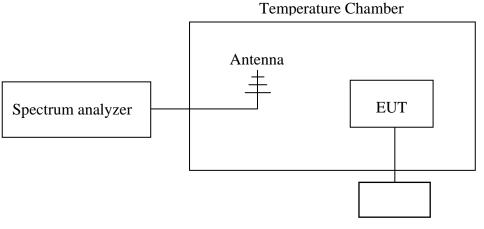
13.1 Standard Applicable

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

Conducted Emission Test Site								
EQUIPMENT	MED	MODEL SERI		LAST	CAL DUE			
TYPE	MFR	NUMBER	NUMBER	CAL.	CAL DUE.			
EXA Spectrum Analyzer	Agilent	N9010A	MY50420195	12/22/2014	12/21/2015			
Temperature Chamber	TERCHY	MHG-120LF	911009	05/06/2015	05/05/2016			
DC Power Supply	Agilent	E3640A	MY52410006	11/10/2014	11/09/2015			

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Measurement Result 13.5

Operation Mode	802.11 a	Test Date	2015.07.01
Temperature	22	Test By	Tank
Humidity	68 %		

Test Temp.	Test Voltage	Channel	Measured Frequency (MHz)	Spectrum Frequency (MHz)	ΔFrequency (MHz)
•		36	5180.0000	5,180.043860	-0.0439
		44	5220.0000	5,220.053560	-0.0536
		48	5240.0000	5,240.055310	-0.0553
		52	5260.0000	5,260.047450	-0.0475
		60	5300.0000	5,300.058070	-0.0581
	0 437	64	5320.0000	5,320.040360	-0.0404
	8.4V	100	5500.0000	5,500.058610	-0.0586
		116	5580.0000	5,580.042050	-0.0421
		140	5700.0000	5,700.045520	-0.0455
		149	5745.0000	5,745.054700	-0.0547
		157	5785.0000	5,785.051940	-0.0519
-20		165	5825.0000	5,825.050620	-0.0506
-20		36	5180.0000	5,180.048430	-0.0484
		44	5220.0000	5,220.057810	-0.0578
		48	5240.0000	5,240.056600	-0.0566
		52	5260.0000	5,260.057210	-0.0572
		60	5300.0000	5,300.044710	-0.0447
	~T T	64	5320.0000	5,320.048770	-0.0488
	6V	100	5500.0000	5,500.059780	-0.0598
		116	5580.0000	5,580.048880	-0.0489
		140	5700.0000	5,700.050740	-0.0507
		149	5745.0000	5,745.056540	-0.0565
		157	5785.0000	5,785.046970	-0.0470
		165	5825.0000	5,825.048720	-0.0487

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36 5180.0000 5,177.989740 44 5220.0000 5,217.989670	2.0103
	2.0103
48 5240.0000 5,237.990200	2.0098
52 5260.0000 5,257.990170	2.0098
60 5300.0000 5,297.990060	2.0099
64 5320.0000 5,317.990120	2.0099
45 7.4V 100 5500.0000 5,497.990090	2.0099
116 5580.0000 5,577.989540	2.0105
140 5700.0000 5,697.989440	2.0106
149 5745.0000 5,742.989610	2.0104
157 5785.0000 5,782.989640	2.0104
165 5825.0000 5,822.989700	2.0103
36 5180.0000 5,180.047920	-0.0479
44 5220.0000 5,220.059810	-0.0598
48 5240.0000 5,240.055670	-0.0557
52 5260.0000 5,260.046830	-0.0468
60 5300.0000 5,300.042530	-0.0425
64 5320.0000 5,320.043090	-0.0431
8.4V 100 5500.0000 5,500.041500	-0.0415
116 5580.0000 5,580.056240	-0.0562
140 5700.0000 5,700.052190	-0.0522
149 5745.0000 5,745.044300	-0.0443
157 5785.0000 5,785.048750	-0.0487
165 5825.0000 5,825.040540	-0.0405
50 36 5180.0000 5,180.058550	-0.0585
44 5220.0000 5,220.040860	-0.0409
48 5240.0000 5,240.048200	-0.0482
52 5260.0000 5,260.046230	-0.0462
60 5300.0000 5,300.052240	-0.0522
64 5320.0000 5,320.048190	-0.0482
6V 100 5500.0000 5,500.059830	-0.0598
116 5580.0000 5,580.055250	-0.0553
140 5700.0000 5,700.052730	-0.0527
149 5745.0000 5,745.044620	-0.0446
157 5785.0000 5,785.043670	-0.0437
165 5825.0000 5,825.057050	-0.0571



Operation Mode	802.11n 40	Test Date	2015.07.01
Temperature	22	Test By	Tank
Humidity	68 %		

Test Temp.	Test Voltage	Channel	Measured Frequency (MHz)	Spectrum Frequency (MHz)	ΔFrequency (MHz)
		38	5190.0000	5,190.021490	-0.0215
		46	5230.0000	5,230.021000	-0.0210
		54	5270.0000	5,270.033540	-0.0335
		62	5310.0000	5,310.027980	-0.0280
	8.4V	102	5510.0000	5,510.020610	-0.0206
		110	5550.0000	5,550.024140	-0.0241
		134	5670.0000	5,670.027590	-0.0276
		151	5755.0000	5,755.025010	-0.0250
-20		159	5795.0000	5,795.021830	-0.0218
-20		38	5190.0000	5,190.034210	-0.0342
		46	5230.0000	5,230.035100	-0.0351
		54	5270.0000	5,270.039450	-0.0395
		62	5310.0000	5,310.030960	-0.0310
	6V	102	5510.0000	5,510.024590	-0.0246
		110	5550.0000	5,550.030810	-0.0308
		134	5670.0000	5,670.022230	-0.0222
		151	5755.0000	5,755.032640	-0.0326
		159	5795.0000	5,795.031090	-0.0311
		38	5190.0000	5,187.989470	2.0105
		46	5230.0000	5,227.990530	2.0095
		54	5270.0000	5,267.990760	2.0092
		62	5310.0000	5,307.990930	2.0091
25	7.4V	102	5510.0000	5,507.990610	2.0094
		110	5550.0000	5,547.990490	2.0095
		134	5670.0000	5,667.990280	2.0097
		151	5755.0000	5,752.990240	2.0098
		159	5795.0000	5,792.990250	2.0098



		38	5190.0000	5,190.028520	-0.0285
		46	5230.0000	5,230.027990	-0.0280
		54	5270.0000	5,270.028470	-0.0285
		62	5310.0000	5,310.028720	-0.0287
	8.4V	102	5510.0000	5,510.027550	-0.0275
		110	5550.0000	5,550.033810	-0.0338
		134	5670.0000	5,670.022330	-0.0223
		151	5755.0000	5,755.031770	-0.0318
50		159	5795.0000	5,795.034380	-0.0344
50		38	5190.0000	5,190.034900	-0.0349
		46	5230.0000	5,230.037480	-0.0375
		54	5270.0000	5,270.028020	-0.0280
		62	5310.0000	5,310.020990	-0.0210
	6V	102	5510.0000	5,510.038800	-0.0388
		110	5550.0000	5,550.038570	-0.0386
		134	5670.0000	5,670.029500	-0.0295
		151	5755.0000	5,755.021660	-0.0217
		159	5795.0000	5,795.038180	-0.0382



Operation Mode	802.11ac 80	Test Date	2015.07.01
Temperature	22	Test By	Tank
Humidity	68 %		

Test Temp.	Test Voltage	Channel	Measured Frequency (MHz)	Spectrum Frequency (MHz)	ΔFrequency (MHz)
-20	8.4V	42	5210.0000	5,210.028110	-0.0281
		58	5290.0000	5,290.033660	-0.0337
		106	5530.0000	5,530.038260	-0.0383
		122	5610.0000	5,610.030650	-0.0306
		138	5690.0000	5,690.023820	-0.0238
		155	5775.0000	5,775.027130	-0.0271
	6V	42	5210.0000	5,210.027440	-0.0274
		58	5290.0000	5,290.039930	-0.0399
		106	5530.0000	5,530.032900	-0.0329
		122	5610.0000	5,610.031940	-0.0319
		138	5690.0000	5,690.037300	-0.0373
		155	5775.0000	5,775.035650	-0.0356
25	7.4V	42	5210.0000	5,207.990450	2.0095
		58	5290.0000	5,287.991620	2.0084
		106	5530.0000	5,527.990820	2.0092
		122	5610.0000	5,607.991290	2.0087
		138	5690.0000	5,687.991110	2.0089
		155	5775.0000	5,772.990950	2.0090
50	8.4V	42	5210.0000	5,210.033430	-0.0334
		58	5290.0000	5,290.034560	-0.0346
		106	5530.0000	5,530.029170	-0.0292
		122	5610.0000	5,610.025870	-0.0259
		138	5690.0000	5,690.020970	-0.0210
		155	5775.0000	5,775.026290	-0.0263
	6V	42	5210.0000	5,210.029440	-0.0294
		58	5290.0000	5,290.028990	-0.0290
		106	5530.0000	5,530.023970	-0.0240
		122	5610.0000	5,610.025910	-0.0259
		138	5690.0000	5,690.020470	-0.0205
		155	5775.0000	5,775.036880	-0.0369



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

An embedded-in antenna design is used.

The antenna connector is designed with unique type RF connector and no consideration of replacement. Please see EUT photo and antenna spec. for details.

The antenna gain is less than 6dBi. Therefore, it is not necessary to reduce maximum output power power limit.

~ End of Report ~

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