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FCC Test Report

Part 15 subpart E

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Applicant: Plastoform Industries Ltd.

Applicant add.: Rm. 902-4 Seapower Center 73 Lei Muk Road, Kwai Chung

Product Information:

Product Name: Big Blue Party Chrome

Model No.: AR106A4BK

Derivative model No.: __

Brand Name: BROOKSTONE

FCC ID: VL5-AR106A4BK

FCC Classification: Unlicensed National Information Infrastructure (UNII)

Standards: CFR 47 FCC PART 15 SUBPART E:2016 section 15.407

Prepared By:

Dongguan Yaxu (AiT) Technology Limited

Add.: No.22, Jinqianling Third Street, Jitigang, Huangjiang, Dongguan, Guangdong, China

Date of Receipt: Sep. 23, 2016 Date of Test: Sep. 23~ Oct. 25, 2016

Date of Issue: Oct. 26, 2016 Test Result: Pass

This device described above has been tested by Dongguan Yaxu (AiT) Technology Limited, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

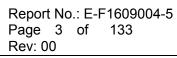
*This test report must not be used by the client to claim product endorsement by any agency of the U.S. government.

Reviewed by:

Seal-Chern
Approved by:

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2 Test Summary

2.1 Compliance with FCC Part 15 subpart E

FCC Part15 (15.407)						
Test Item	FCC standard	Judgment				
AC Conducted Emission	15.207	PASS				
26dB Bandwidth	§ 15.407 (2) (26 dB)	PASS				
Maximum Conducted Output Power	15.407(a) (1).(2).(3).(4).(5)	PASS				
Radiated Emission And (Unwanted Emissions) Measurement	15.407(b)& 15.209	PASS				
Radiated Restricted Band Edge Measurement	15.407(b)7	PASS				
Power Spectral Density	15.407(a) (1).(2).(3).(4).(5)	PASS				
Frequency Stability	15.407(g)	PASS				
Automatically Discontinue Transmission	15.407(c)	PASS				
Antenna Requirement	15.203/15.204	PASS				

Note: Reference to the ANSI C63.10-2013, KDB 789033 D02v01r01, KDB 662911 D01v02r01 and KDB 644545 D03v01.

2.2 Measurement Uncertainty

All measurements involve certain levels of uncertainties, The following measurements uncertainty Levels maximum value of the uncertainty as below

No.	Item	Uncertainty
1	Conducted Emission Test	±1.38dB
2	Radiated Emission Test	±3.57dB

[&]quot; N/A" denotes test is not applicable in this Test Report.



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3 Test Facility

The test facility is recognized, certified or accredited by the following organizations:

.CNAS- Registration No: L6177

Dongguan Yaxu (AiT) technology Limited is accredited to ISO/IEC 17025:2005 general Requirements for the competence of testing and calibration laboratories (CNAS-CL01 Accreditation Criteria for the competence of testing and calibration laboratories) on Apr. 18, 2013

.FCC- Registration No: 248337

The 3m Semi-Anechoic Chamber, 3m/10m Open Area Test Site and Shielding Room of Dongguan Yaxu (AiT) technology Limited have been registered by Federal Communications Commission (FCC) on Aug.29, 2014.

.Industry Canada(IC)-Registration No: IC 6819A

The 3m Semi-Anechoic Chamber and 3m/10m Open Area Test Site of A Dongguan Yaxu (AiT) technology Limited have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing on Oct. 01, 2014.

3.1	Deviation from standard
None	9
3.2	Abnormalities from standard conditions
None	9

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4 General Information

4.1 General Description of EUT

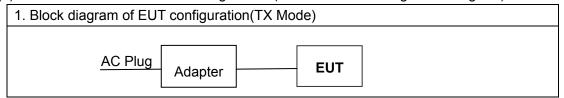
Manufacturer:	Brookstone Inc.
Manufacturer Address:	One Innovation Way, Merrimack, New HampShire, 03054 United States
EUT Name:	Big Blue Party Chrome
Model No.:	AR106A4BK
Antenna Gain:	4.54 dBi
Operation frequency:	For 802.11a/n-HT20/ac-VHT20: 5260~5320MHz, 5570~5720MHz For 802.11n-HT40/ac-VHT40: 5270~5310MHz, 5510~5710MHz For 802.11ac-VHT80: 5290MHz, 5530~5610MHz
Modulation Type and	802.11a/n/ac: OFDM
Antenna Type:	PCB antenna
Maximum Average Output Power with 5GHz	802.11a: 14.70dBm 802.11n-HT20: 14.95dBm 802.11n-HT40: 11.65dBm 802.11ac-VHT20: 14.80dBm 802.11ac-VHT40: 11.56dBm 802.11ac-VHT80: 5.30dBm
Brand Name:	BROOKSTONE
Power Supply Range:	Input: AC 100-240v 50/60Hz 1.5A, Output: DC18V 3.5A or DC11.1V from battery.
Power Supply:	The same as above.
H/W No.:	E09-02160-01
S/W No.:	1.0

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4.2 Description of Test conditions

(1) EUT was tested in normal configuration (Please See following Block diagram)



(2) E.U.T. test conditions:

15.31(e): For intentional radiators, measurements of the variation of the input power or the adiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. For battery operated equipment, the equipment tests shall be performed using a new battery.

(3) Test frequencies:

According to the 15.31(m) Measurements on intentional radiators or receivers, other than TV broadcast receivers, shall be performed and. If required reported for each band in which the device can be operated with the device operating at the number of frequencies in each band specified in the following table:

Frequency range over	Number of	Location in
which device operates	frequencies	the range of operation
1 MHz or less	1	Middle
1 to 10 MHz	2	1 near top and 1 near bottom
More than 10 MHz	3	1 near top, 1 near middle and
WOIE MAIN TO WINZ	3	1 near bottom

(4) Frequency range of radiated measurements:

According to the 15.33, The test range will be up to the tenth harmonic of the highest fundamental frequency.

- (5) The EUT 's duty cycle is set to 100%
- (6) The measurements are performed at all Bit Rate of Transmitter, For all tests the worst-case was selected as the table below, the data of the worst-case is shown in the report.

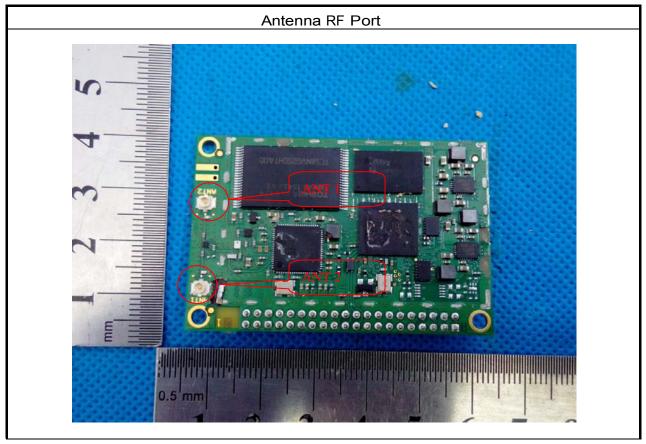
Test Mode	Mode 1: Transmit by 802.11a with antenna #1
	Mode 2: Transmit by 802.11n-HT20 with antenna #1
	Mode 3: Transmit by 802.11n-HT40 with antenna #1
	Mode 4: Transmit by 802.11ac-VHT20 with antenna #1
	Mode 5: Transmit by 802.11ac-VHT40 with antenna #1
	Mode 6: Transmit by 802.11ac-VHT80 with antenna #1



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(7) Description of Antenna RF Port



Note:1. 1/2 Represent the value of antenna1/2, The worst data is Antenna 1, only shown Antenna 1Plot.

2. Antenna 1 and Antenna 2 can not transmit simultaneously.



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4.3 EUT Peripheral List

No.	Equipment	Manufacturer	Model No.	Serial No.	Power cord	signal cable
1	Adapter	Fujia	FJ-SW1803500D	N/A	1.2m/unshielded /undetachable(DC) 1.2m/unshielded /detachable(AC)	N/A

4.4 Test Peripheral List

No.	Equipment	Manufacturer	EMC Compliance	Model No.	Serial No.	Power cord	signal cable
1	Notebook	Asus	FCC	N/A	N/A	N/A	N/A

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5 Equipments List for All Test Items

No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	SIGNAL ANALYZER	R&S	FSV40	101470	2016.06.29	2017.06.29
2	EMI Measuring Receiver	R&S	ESR	101660	2016.06.29	2017.06.29
3	Low Noise Pre Amplifier	Tsj	MLA-10K01-B01-2 7	1205323	2016.06.29	2017.06.29
4	Low Noise Pre Amplifier	Tsj	MLA-0120-A02-34	2648A04738	2016.06.29	2017.06.29
5	TRILOG Super Broadband test Antenna	SCHWARZBEC K	VULB9160	9160-3206	2016.06.29	2017.06.29
6	Broadband Horn Antenna	SCHWARZBEC K	BBHA9120D	452	2016.06.29	2017.06.29
7	SHF-EHF Horn	SCHWARZBEC K	BBHA9170	BBHA917036 7	2016.06.29	2017.06.29
8	Loop Antenna	ETS	6512	00165355	2016.06.29	2017.06.29
9	Radiated Cable 1# (30MHz-1GHz)	FUJIKURA	5D-2W	01	2016.06.29	2017.06.29
10	Radiated Cable 2# (1GHz -40GHz)	FUJIKURA	10D2W	02	2016.06.29	2017.06.29
11	Conducted Cable 1#(9KHz-30MHz)	FUJIKURA	1D-2W	01	2016.06.29	2017.06.29
12	Power Meter	Anritsu	ML2495A	N/A	2016.06.29	2017.06.29
13	Power sensor	Anritsu	MA2411B	N/A	2016.06.29	2017.06.29

Note: N/A

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6 Test Result

6.1 Conduction Emissions Measurement

6.1.1 Applied procedures / Limit

(Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Quasi-peak (dBuV)	Average (dBuV)	Standard
0.15 -0.5	66 - 56 *	56 - 46 *	
0.50 -5.0	56.00	46.00	CISPR
5.0 -30.0	60.00	50.00	

0.15 -0.5	66 - 56 *	56 - 46 *	
0.50 -5.0	56.00	46.00	FCC
5.0 -30.0	60.00	50.00	

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

6.1.2 Test procedure

- a. The EUT was placed 0.4 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos

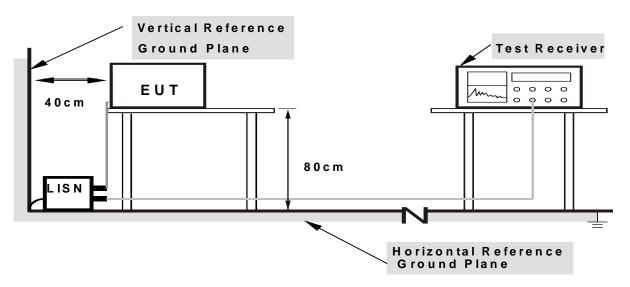
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6.1.3 DEVIATION FROM TEST STANDARD

No deviation

6.1.4 TEST SETUP



Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

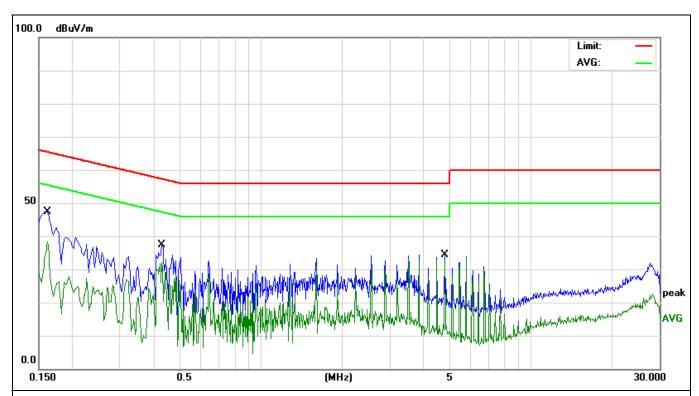


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6.1.5 Test results

EUT:	Big Blue Party Chrome	Model Name. :	AR106A4BK
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	1010hPa	Test Date :	2016-09-27
Test Mode:	TX (worst case)	Phase :	L/N



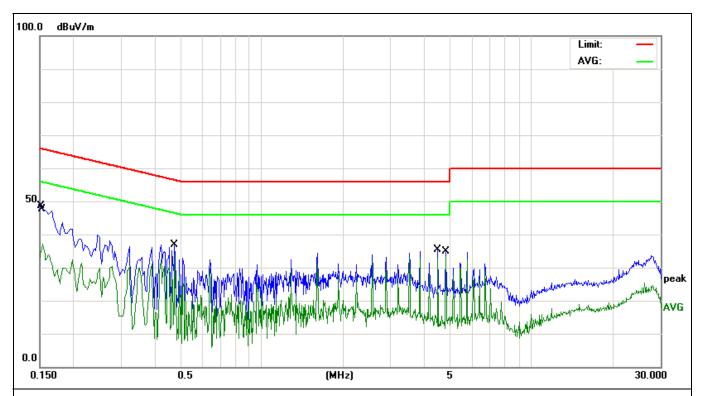
Remark: Factor = LISN factor + Cable Loss + Pulse limiter factor.

No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
	MHz	dBuV/m	dB	dBu∀/m	dBuV/m	dB	Detector
1	0.1620	35.70	11.68	47.38	65.36	-17.98	QP
2	0.1620	26.68	11.68	38.36	55.36	-17.00	AVG
3	0.4300	27.32	10.09	37.41	57.25	-19.84	QP
4	0.4300	22.06	10.09	32.15	47.25	-15.10	AVG
5	4.8060	24.31	10.10	34.41	56.00	-21.59	QP
6 *	4.8060	22.82	10.10	32.92	46.00	-13.08	AVG



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Remark: Factor = LISN factor + Cable Loss + Pulse limiter factor.

Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
MHz	dBuV/m	dB	dBu∀/m	dBuV/m	dB	Detector
0.1539	25.35	11.84	37.19	55.78	-18.59	AVG
0.1548	35.58	11.83	47.41	65.73	-18.32	QP
0.4740	26.77	10.04	36.81	56.44	-19.63	QP
0.4740	23.92	10.04	33.96	46.44	-12.48	AVG
4.4860	25.28	10.08	35.36	56.00	-20.64	QP
4.8060	23.33	10.10	33.43	46.00	-12.57	AVG
	MHz 0.1539 0.1548 0.4740 0.4740 4.4860	Freq. Level MHz dBuV/m 0.1539 25.35 0.1548 35.58 0.4740 26.77 0.4740 23.92 4.4860 25.28	Freq. Level Factor MHz dBuV/m dB 0.1539 25.35 11.84 0.1548 35.58 11.83 0.4740 26.77 10.04 0.4740 23.92 10.04 4.4860 25.28 10.08	Freq. Level Factor ment MHz dBuV/m dB dBuV/m 0.1539 25.35 11.84 37.19 0.1548 35.58 11.83 47.41 0.4740 26.77 10.04 36.81 0.4740 23.92 10.04 33.96 4.4860 25.28 10.08 35.36	Freq. Level Factor ment Limit MHz dBuV/m dB dBuV/m dBuV/m dBuV/m 0.1539 25.35 11.84 37.19 55.78 0.1548 35.58 11.83 47.41 65.73 0.4740 26.77 10.04 36.81 56.44 0.4740 23.92 10.04 33.96 46.44 4.4860 25.28 10.08 35.36 56.00	Freq. Level Factor ment Limit Over MHz dBuV/m dB dBuV/m dBuV/m dB 0.1539 25.35 11.84 37.19 55.78 -18.59 0.1548 35.58 11.83 47.41 65.73 -18.32 0.4740 26.77 10.04 36.81 56.44 -19.63 0.4740 23.92 10.04 33.96 46.44 -12.48 4.4860 25.28 10.08 35.36 56.00 -20.64



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6.2 Radiated Emissions Measurement

6.2.1 Applied procedures / Limit

FCC Part15 section 15.407 Test

Requirement:

Limits:

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20 dB below the highest level of the desired power:

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	PEAK (dBuV/m)	AVERAGE (dBuV/m)
Above 1000	74	54

Notes:

- (1) The lower limit shall apply at the transition frequencies.
- (2) Emission level (dBuV/m) = 20 log Emission level (uV/m).
- (3) For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

Measurement

Distance:

3m (Semi-Anechoic Chamber)

Frequency

9 kHz - 40 GHz for transmitting mode.

range

Test instrumentation resolution bandwidth

9 kHz (9 kHz - 30 MHz), 120 kHz (30 MHz - 1000 MHz), 1 MHz (1000 MHz – 40 GHz)



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Detector: For PK and QP value:

RBW = 1 MHz for $f \ge 1$ GHz, 100 kHz for f < 1 GHz

VBW ≥ RBW

Sweep = auto

Detector function = peak

Trace = max hold

For AV value:

RBW = 1 MHz for $f \ge 1$ GHz,

VBW =10 Hz

Sweep = auto

Detector function = peak

Trace = max hold

Test Procedure:

1)9 kHz to 30 MHz emissions:

For testing performed with the loop antenna, testing was performed in accordance to ANSI C63.10. The centre of the loop was positioned 1 m above the ground and positioned with its plane vertical at the specified distance from the EUT, During testing the loop was rotated about its vertical axis for maximum response at each azimuth and also investigated with the loop positioned in the horizontal plane.

2)30 MHz to 1 GHz emissions:

For testing performed with the bi-log type antenna, testing was performed in accordance to ANSI C63.10. The measurement is performed with the EUT rotated 360°, the antenna height scanned between 1m and 4m, and the antenna rotated to repeat the measurement for both the horizontal and vertical antenna polarizations.

3)1 GHz to 40 GHz emissions:

Test site with RF absorbing material covering the ground plane that met the site validation criterion called out in CISPR 16-1-4:2007 was used to perform radiated emission test above 1 GHz.

For testing performed with the horn antenna, testing was performed in accordance to ANSI C63.10. The measurement is performed with the EUT rotated 360°, the antenna height scan between 1m and 4m, and the antenna rotated to repeat the measurement for both the horizontal and vertical antenna polarizations.

For the radiated emission test above 1GHz:

Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for



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receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.

And according 15.35(a)

15.35(a) On any frequency or frequencies below or equal to 1000 MHz, the limits shown are based on measuring equipment employing a CISPR quasi-peak detector function and related measurement bandwidths, unless otherwise specified. The specifications for the measuring instrument using the CISPR quasi-peak detector can be found in Publication 16 of the International Special Committee on Radio Interference (CISPR) of the International Electro technical Commission. As an alternative to CISPR quasi-peak measurements, the responsible party, at its option, may demonstrate compliance with the emission limits using measuring equipment employing a peak detector function, properly adjusted for such factors as pulse desensitization, as long as the same bandwidths as indicated for CISPR quasi-peak measurements are employed.

Note: For pulse modulated devices with a pulse-repetition frequency of 20 Hz or less and for which CISPR quasi-peak measurements are specified, compliance with the regulations shall be demonstrated using measuring equipment employing a peak detector function, properly adjusted for such factors as pulse desensitization, using the same measurement bandwidths that are indicated for CISPR quasi-peak measurements.

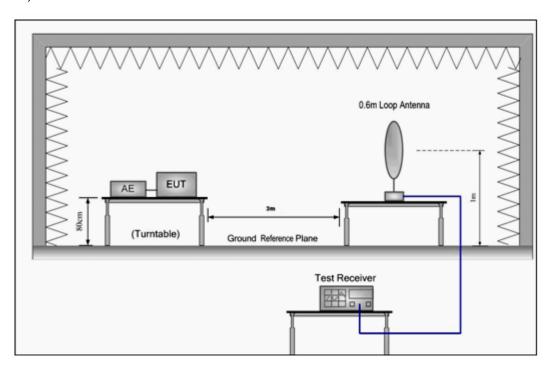
According to 15.35 (b) Unless otherwise specified, on any frequency or frequencies above 1000 MHz, the radiated emission limits are based on the use of measurement instrumentation employing an average detector function. Unless otherwise specified, measurements above 1000 MHz shall be performed using a minimum resolution bandwidth of 1 MHz. When average radiated emission measurements are specified in this part, including average emission measurements below 1000 MHz, there also is a limit on the peak level of the radio frequency emissions. Unless otherwise specified, e.g., see §§ 15.250, 15.252, 15.255, and 15.509-15.519 of this part, the limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device, e.g., the total peak power level. Note that the use of a pulse desensitization correction factor may be needed to determine the total peak emission level. The instruction manual or application note for the measurement instrument should be consulted for determining pulse desensitization factors, as necessary.

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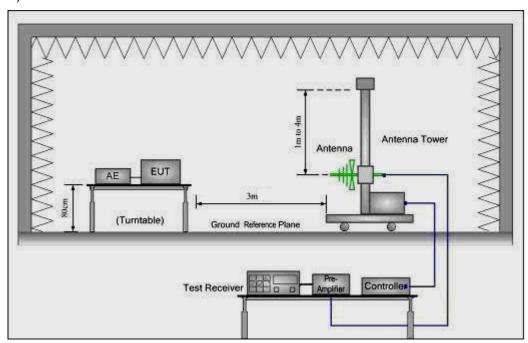
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Test Configuration:

1) 9 kHz to 30 MHz emissions:



2) 30 MHz to 1 GHz emissions:

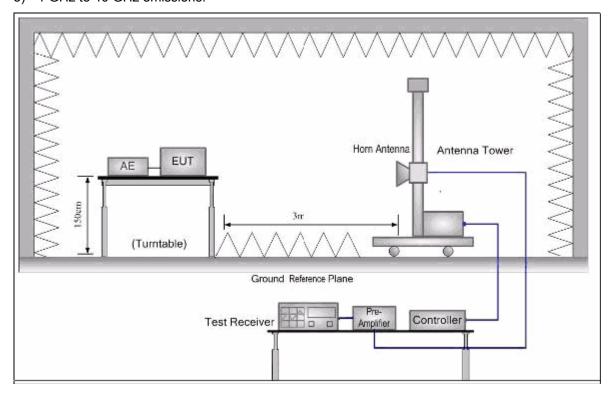




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3) 1 GHz to 40 GHz emissions:



The field strength is calculated by adding the Antenna Factor, Cable Loss & Per-amplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna, Factor + Cable Loss - Preamplifier Factor



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6.2.2 Radiated Emissions Test Data

9 kHz~30 MHz Field Strength of Unwanted Emissions. Quasi-Peak Measurement

The measurements with active loop antenna were greater than 20dB below the limit, so the test data were not recorded in the test report.

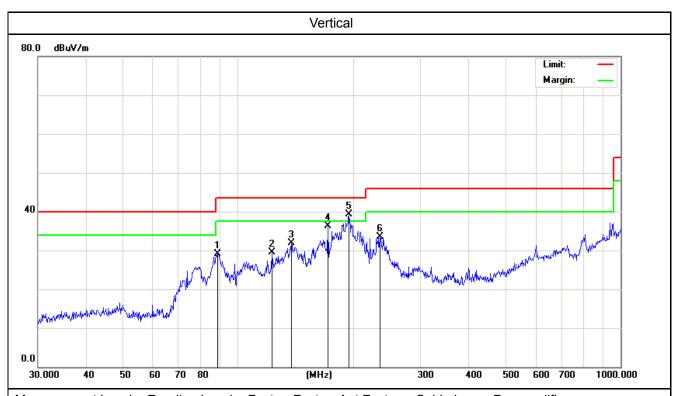


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30 MHz~1 GHz Field Strength of Unwanted Emissions. Quasi-Peak Measurement

EUT:	Big Blue Party Chrome	Model Name:	AR106A4BK		
Pressure:	1010 hPa Relative Humidity:		50%		
Test Mode :	TX mode(worse-case)	Test Voltage:	DC 18V from adapter, AC 120V/60Hz for adapter		
Measurement Distance	3 m	Frenqucy Range	30MHz to 1GHz		
RBW/VBW	100KHz / 300KHz for spectrum, RBW=120KHz for receiver.				



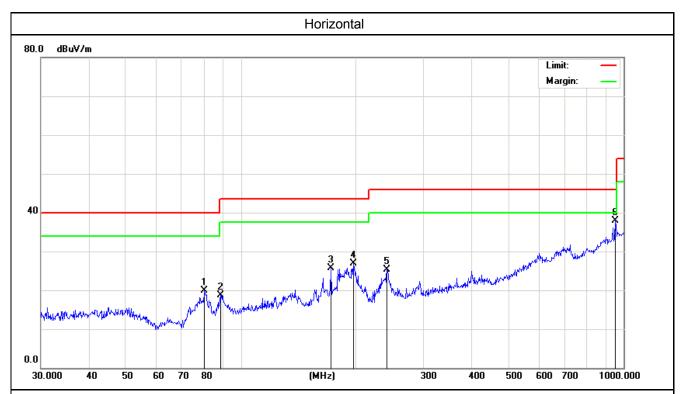
Measurement Level = Reading Level + Factor, Factor=Ant Factor + Cable Loss- Pre-amplifier.

No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB	dBuV/m	dBu∀/m	dB	Detector
1		88.6524	47.66	-18.60	29.06	43.50	-14.44	QP
2		122.8340	44.55	-15.04	29.51	43.50	-13.99	QP
3		137.9028	46.78	-14.83	31.95	43.50	-11.55	QP
4		171.9946	51.62	-15.41	36.21	43.50	-7.29	QP
5	*	195.1365	55.61	-16.36	39.25	43.50	-4.25	QP
6		234.9909	48.02	-14.55	33.47	46.00	-12.53	QP



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Measurement Level = Reading Level + Factor, Factor=Ant Factor + Cable Loss- Pre-amplifier.

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB	dBuV/m	dBu∀/m	dB	Detector
1		80.3619	38.57	-18.73	19.84	40.00	-20.16	QP
2		88.3421	35.74	-17.13	18.61	43.50	-24.89	QP
3		171.9946	39.07	-13.33	25.74	43.50	-17.76	QP
4		196.5098	42.92	-16.08	26.84	43.50	-16.66	QP
5		240.8304	39.38	-14.05	25.33	46.00	-20.67	QP
6	*	952.0937	34.19	3.77	37.96	46.00	-8.04	QP



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1~40 GHz Field Strength of Fundamental & Field Strength of Unwanted Emissions. Peak & Average Measurement.

TX Mode:	Ant 1 Measurement Distance: 3 m			3 m					
Test channel:	802.11a Channel 52 Frequency Range:				1GHz to 40GHz				
RBW/VBW:	Spurious	emission: 1M	Hz/3MH	z for Pe	eak, 1MHz/10H	z for	Average.		
Average measurement was not performed if peak level lower than average limit.						n average limit.			
Remark:	2. Other fi	equency was	20dB b	elow lin	nit line within 1	-40G	Hz, there	is not show	
	in the repo	ort.							
			Vert	ical					
F	Reading	Correct	Meas	sure	Limaik		1		
Frequency	Level	Factor	Lev	⁄el	Limit		largin	Detector Type	
(MHz)	(dBuV)	(dB)	(dBu\	V/m)	(dBuV/m)	(dB)			
10520.000	45.24	12.85	58.0	09	74.00	-	15.91	peak	
10520.000	34.33	12.85	47.	18	54.00	-	6.82	AVG	
15780.000	36.89	16.56	53.4	45	74.00	-2	20.55	peak	
15780.000	25.92	16.56	42.4	48	54.00	-	11.52	AVG	
			Horiz	ontal					
Frequency	Reading	Correct	Meas	sure	Limit		lorgin		
Frequency	Level	Factor	Lev	⁄el			largin (dB)	Detector Type	
(MHz)	(dBuV)	(dB)	(dBu\	//m)	(dBuV/m)		(dB)		
10520.000	43.58	12.85	56.4	43	74.00		17.57	peak	
10520.000	33.76	12.85	46.0	61	54.00	-	7.39	AVG	
15780.000	35.19	16.56	51.	75	74.00 -		22.25	peak	
15780.000	24.96	16.56	41.	52	54.00		12.48	AVG	

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor -Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode:	Ant 1		Ме	easurement Distanc	ce: 3 m					
Test channel:	802.11a C	hannel 60	Fre	equency Range:	1GHz to	40GHz				
RBW/VBW:	Spurious	emission: 1M	Hz/3MHz fo	for Peak, 1MHz/10Hz for Average.						
	1. Average	e measureme	ent was not	performed if peak	level lower that	an average limit.				
Remark:	2. Other fr	equency was	20dB belo	w limit line within 1	-40GHz, ther	e is not show				
	in the repo	ort.								
Vertical										
Fraguenav	Reading	Correct	Measur	e Limit	Margin					
Frequency	Level	Factor	Level		Margin	Detector Type				
(MHz)	(dBuV)	(dB)	(dBuV/n	n) (dBuV/m)	(dB)					
10600.000	44.57	13.49	58.06	74.00	-15.94	peak				
10600.000	33.91	13.49	47.40	54.00	-6.60	AVG				
15900.000	35.58	16.59	52.17	74.00	-21.83	peak				
15900.000	23.63	16.59	40.22	54.00	-13.78	AVG				
			Horizo	ntal						
Frequency	Reading	Correct	Measur	e Limit	Margin					
(MHz)	Level	Factor	Level	(dBuV/m)	(dB)	Detector Type				
(1011 12)	(dBuV)	(dB)	(dBuV/n	n) (dbd v/iii)	(UD)					
10600.000	46.42	13.49	59.91	74.00	-14.09	peak				
10600.000	34.69	13.49	48.18	54.00	-5.82	AVG				
15900.000	36.52	16.59	53.11	74.00	-20.89	peak				
15900.000	25.35	16.59	41.94	54.00	-12.06	AVG				

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor –Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode:	Ant 1		١	Measur	rement Distanc	e:	3 m		
Test channel:	802.11a C	Channel 64	F	reque	ncy Range:		1GHz to	40GHz	
RBW/VBW:	Spurious	emission: 1M	Hz for Peak, 1MHz/10Hz for Average.						
	1. Averag	e measureme	ent was n	ot perfe	ormed if peak l	evel l	ower tha	n average limit.	
Remark:	2. Other f	requency was	20dB be	elow lin	nit line within 1	-40GI	Hz, there	is not show	
	in the rep	ort.							
Vertical									
F	Reading	Correct	Meas	ure	Linait				
Frequency	Level	Factor	Lev	el	Limit		argin	Detector Type	
(MHz)	(dBuV)	(dB)	(dBu√	//m)	(dBuV/m)	((dB)		
10640.000	43.29	13.81	57.1	10	74.00	-1	16.90	peak	
10640.000	32.71	13.81	46.5	52	54.00	-	7.48	AVG	
15960.000	34.66	16.46	51.1	12	74.00	-2	22.88	peak	
15960.000	23.58	16.46	40.0)4	54.00	-1	13.96	AVG	
			Horiz	zontal					
Fraguenay	Reading	Correct	Meas	ure	Limit	N /	orgin		
Frequency (MHz)	Level	Factor	Lev	el	(dBuV/m)		argin (dB)	Detector Type	
(1011 12)	(dBuV)	(dB)	(dBu√	//m)	(dbdv/iii)	,	(ub)		
10640.000	45.95	13.81	59.7	76	74.00	′	14.24	peak	
10640.000	33.86	13.81	47.6	7.67 54.00		-	6.33	AVG	
15960.000	35.27	16.46	51.7	73	74.00	-2	22.27	peak	
15960.000	24.66	16.46	41.1	12	54.00	′	12.88	AVG	

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor –Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode:	Ant 1		N	/leasur	ement Distanc	e:	3 m			
Test channel:	802.11n20	Channel 52	F	reque	ncy Range:		1GHz to	40GHz		
RBW/VBW:	Spurious	emission: 1M	Hz/3MHz	for Pe	or Peak, 1MHz/10Hz for Average.					
	1. Average	e measureme	ent was no	ot perf	ormed if peak l	evel	ower tha	n average limit.		
Remark:	2. Other fr	equency was	20dB be	low lin	nit line within 1-	40G	Hz, there	is not show		
	in the repo	ort.								
Vertical										
Fraguenay	Reading	Correct	Meas	ure	Limit		lorgin			
Frequency (MHz)	Level	Factor	Leve	el	(dBuV/m)		fargin	Detector Type		
(1011 12)	(dBuV)	(dB)	(dBuV	/m)	(dbuv/iii)		(dB)			
10520.000	43.78	12.85	56.6	3	74.00	•	17.37	peak		
10520.000	31.65	12.85	44.5	0	54.00		-9.50	AVG		
15780.000	32.43	16.56	48.9	9	74.00	-:	25.01	peak		
15780.000	22.92	16.56	39.4	-8	54.00	-	14.52	AVG		
			Horiz	ontal						
Frequency	Reading	Correct	Measi	ure	Limit	N	1argin			
Frequency (MHz)	Level	Factor	Leve	el	(dBuV/m)		(dB)	Detector Type		
(1011 12)	(dBuV)	(dB)	(dBuV	/m)	(dbdv/iii)		(ub)			
10520.000	46.11	12.85	58.9	6	74.00	-	15.04	peak		
10520.000	34.62	12.85	47.4	7	54.00		-6.53	AVG		
15780.000	32.50	16.56	49.0	6	74.00	-:	24.94	peak		
15780.000	23.82	16.56	40.3	8	54.00	-	13.62	AVG		

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor –Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode:	Ant 1			Measu	rement Distanc	e:	3 m		
Test channel:	802.11n20	Channel 60		Freque	ncy Range:		1GHz to	40GHz	
RBW/VBW:	Spurious	emission: 1M	Hz/3MH	Hz for Peak, 1MHz/10Hz for Average.					
	1. Averag	e measureme	ent was r	not perf	ormed if peak I	evel	lower tha	n average limit.	
Remark:	2. Other f	requency was	20dB b	elow lin	nit line within 1	-40G	Hz, there	is not show	
	in the rep	ort.							
Vertical									
F	Reading	Correct	Meas	sure	1 114		4		
Frequency	Level	Factor	Lev	⁄el	Limit		largin	Detector Type	
(MHz)	(dBuV)	(dB)	(dBu\	V/m)	(dBuV/m)		(dB)		
10600.000	43.15	13.49	56.	64	74.00	-	17.36	peak	
10600.000	32.98	13.49	46.4	47	54.00		-7.53	AVG	
15900.000	33.11	16.59	49.	70	74.00	-	24.30	peak	
15900.000	20.38	16.59	36.	97	54.00	-	17.03	AVG	
			Hori	zontal					
Fraguenay	Reading	Correct	Meas	sure	Limit	,			
Frequency	Level	Factor	Lev	⁄el	Limit (dBuV/m)		fargin	Detector Type	
(MHz)	(dBuV)	(dB)	(dBu\	V/m)	(ubuv/III)		(dB)		
10600.000	45.79	13.49	59.	0.28 74.00 -			14.72	peak	
10600.000	31.62	13.49	45.	11	54.00		-8.89	AVG	
15900.000	35.31	16.59	51.	90	74.00	-	22.10	peak	
15900.000	22.98	16.59	39.	57	54.00	-	14.43	AVG	

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode:	Ant 1			Measu	rement Distanc	e:	3 m		
Test channel:	802.11n20	Channel 64		Freque	ncy Range:		1GHz to	40GHz	
RBW/VBW:	Spurious e	emission: 1M	Hz/3MH	z for Peak, 1MHz/10Hz for Average.					
	1. Average	e measureme	nt was r	not perf	ormed if peak l	evel	lower tha	n average limit.	
Remark:	2. Other fr	equency was	20dB b	elow lin	nit line within 1-	-40G	Hz, there	is not show	
	in the repo	ort.							
Vertical									
Fraguenay	Reading	Correct	Meas	sure	Limit				
Frequency	Level	Factor	Lev	/el			fargin	Detector Type	
(MHz)	(dBuV)	(dB)	(dBu	V/m)	(dBuV/m)		(dB)		
10640.000	44.75	13.81	58.	56	74.00	-	15.44	peak	
10640.000	33.12	13.81	46.	93	54.00	-	-7.07	AVG	
15960.000	34.68	16.46	51.	14	74.00	-7	22.86	peak	
15960.000	21.97	16.46	38.	43	54.00	-	15.57	AVG	
			Hori	zontal					
Fraguenay	Reading	Correct	Meas	sure	Limit		/orgin		
Frequency	Level	Factor	Lev	/el	(dBuV/m)		fargin	Detector Type	
(MHz)	(dBuV)	(dB)	(dBu	V/m)	(ubuv/III)		(dB)		
10640.000	46.26	13.81	60.	07	74.00		13.93	peak	
10640.000	31.35	13.81	45.	16	54.00	•	-8.84	AVG	
15960.000	35.78	16.46	52.	24	74.00	-:	21.76	peak	
15960.000	23.65	16.46	40.	11	54.00		13.89	AVG	

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor –Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode:	Ant 1	1 Meas			ement Distanc	e: 3 r	n			
Test channel:	802.11n40	Channel 54	Fi	requer	ncy Range:	1G	Hz to	40GHz		
RBW/VBW:	Spurious	emission: 1M	Hz/3MHz 1	z for Peak, 1MHz/10Hz for Average.						
	1. Average	e measureme	ent was no	t perfo	ormed if peak l	evel low	er tha	n average limit.		
Remark:	2. Other fi	equency was	20dB bel	low lim	nit line within 1	-40GHz	, there	is not show		
	in the repo	ort.								
Vertical										
Francis	Reading	Correct	Measu	ıre	Limit	Man	aia			
Frequency	Level	Factor	Leve	el	Limit	Mar	_	Detector Type		
(MHz)	(dBuV)	(dB)	(dBuV/	m)	(dBuV/m)	(dE	o)			
10540.000	42.59	13.02	55.61	55.61 74.00		-18.	39	peak		
10540.000	31.33	13.02	44.35	5	54.00	-9.6	35	AVG		
15810.000	32.74	16.57	49.31	1	74.00	-24.	69	peak		
15810.000	21.65	16.57	38.22	2	54.00	-15.	78	AVG		
			Horizo	ontal						
Fraguenay	Reading	Correct	Measu	ire	Limit	Mor	ain			
Frequency (MHz)	Level	Factor	Leve	el	(dBuV/m)	Mar (dE	_	Detector Type		
(1011 12)	(dBuV)	(dB)	(dBuV/	m)	(ubuv/iii)	(ul) 			
10540.000	44.85	13.02	57.87	7	74.00	-16.	13	peak		
10540.000	32.28	13.02	45.30	0	54.00	-8.7	70	AVG		
15810.000	33.71	16.57	50.28	3	74.00	-23.	72	peak		
15810.000	23.69	16.57	40.26	6	54.00	-13.	74	AVG		

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode:	Ant 1			Measu	rement Distanc	e:	3 m		
Test channel:	802.11n40	Channel 62		Freque	ncy Range:		1GHz to	40GHz	
RBW/VBW:	Spurious e	emission: 1M	Hz/3MH:	z for Peak, 1MHz/10Hz for Average.					
	1. Average	e measureme	ent was r	not perf	ormed if peak l	evel	lower tha	n average limit.	
Remark:	2. Other fr	requency was	20dB b	elow lin	nit line within 1-	-40G	Hz, there	is not show	
	in the repo	ort.							
Vertical									
Fraguenay	Reading	Correct	Meas	sure	Limit				
Frequency	Level	Factor	Lev	/el			fargin	Detector Type	
(MHz)	(dBuV)	(dB)	(dBu\	V/m)	(dBuV/m)		(dB)		
10620.000	43.91	13.65	57.	56	74.00	-	16.44	peak	
10620.000	33.25	13.65	46.	90	54.00		-7.10	AVG	
15930.000	32.74	16.53	49.	27	74.00	-	24.73	peak	
15930.000	21.33	16.53	37.	86	54.00	-	16.14	AVG	
			Hori	zontal					
Frequency	Reading	Correct	Meas	sure	Limit		/orgin		
Frequency	Level	Factor	Lev	/el	(dBuV/m)		fargin	Detector Type	
(MHz)	(dBuV)	(dB)	(dBu\	V/m)	(ubuv/III)		(dB)		
10620.000	45.41	13.65	59.	06	74.00	-	14.94	peak	
10620.000	34.65	13.65	48.	30	54.00		-5.70	AVG	
15930.000	33.72	16.53	50.	25	74.00	-	23.75	peak	
15930.000	23.46	16.53	39.	99	54.00	_	14.01	AVG	

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode:	Ant 1			Measu	rement Distanc	e:	3 m		
Test channel:	802.11ac2	20 Channel 52	2	Freque	ncy Range:		1GHz to	40GHz	
RBW/VBW:	Spurious	emission: 1M	Hz/3MH	z for Peak, 1MHz/10Hz for Average.					
	1. Average	e measureme	nt was r	not perf	ormed if peak l	evel l	ower tha	n average limit.	
Remark:	2. Other fi	requency was	20dB b	elow lin	nit line within 1-	-40G	Hz, there	is not show	
	in the repo	ort.							
Vertical									
Fraguenay	Reading	Correct	Meas	sure	Limit		lorgin		
Frequency	Level	Factor	Lev	⁄el			largin (dB)	Detector Type	
(MHz)	(dBuV)	(dB)	(dBu\	//m)	(dBuV/m)		(dB)		
10520.000	43.20	12.85	56.0	05	74.00	-	17.95	peak	
10520.000	32.83	12.85	45.0	88	54.00	_	8.32	AVG	
15780.000	35.46	16.56	52.0	02	74.00	-2	21.98	peak	
15780.000	23.15	16.56	39.	71	54.00		14.29	AVG	
			Hori	zontal					
Fraguenay	Reading	Correct	Meas	sure	Limit	N/	lorgin		
Frequency (MHz)	Level	Factor	Lev	⁄el	(dBuV/m)		largin (dB)	Detector Type	
(1011 12)	(dBuV)	(dB)	(dBu\	V/m)	(dbdv/iii)		(ub)		
10520.000	45.85	12.85	58.	70	74.00		15.30	peak	
10520.000	33.91	12.85	46.	76	54.00		7.24	AVG	
15780.000	37.48	16.56	54.0	04	74.00		19.96	peak	
15780.000	25.50	16.56	42.0	06	54.00	-	11.94	AVG	

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode:	Ant 1			Measu	rement Distanc	e: 3 m				
Test channel:	802.11ac	20 Channel 6	0	Freque	ncy Range:	1GHz t	o 40GHz			
RBW/VBW:	Spurious	emission: 1M	Hz/3MH	z for Pe	Peak, 1MHz/10Hz for Average.					
	1. Averag	e measureme	ent was r	not perf	ormed if peak l	evel lower th	an average limit.			
Remark:	2. Other f	requency was	s 20dB b	elow lir	nit line within 1	-40GHz, the	re is not show			
	in the rep	ort.								
Vertical										
Fraguency	Reading	Reading Correct Measure				Morain				
Frequency	Level	Factor	Lev	/el	Limit	Margin	Detector Type			
(MHz)	(dBuV)	(dB)	(dBu	V/m)	(dBuV/m)	(dB)				
10600.000	42.41	13.49	55.	90	74.00	-18.10) peak			
10600.000	33.98	13.49	47.	47	54.00	-6.53	B AVG			
15900.000	35.67	16.59	52.	26	74.00	-21.74	l peak			
15900.000	24.49	16.59	41.	80	54.00	-12.92	2 AVG			
			Horiz	ontal						
Frequency	Reading	Correct	Measu	ıre	Limit	Margin	Detector			
(MHz)	Level	Factor	Leve	el	(dBuV/m)	(dB)	Type			
(1011 12)	(dBuV)	(dB)	(dBuV	/m)	(dBdV/III)	(ub)	Туре			
10600.000	43.36	13.49	56.	85	74.00	-17.15	peak			
10600.000	32.54	13.49	46.	03	54.00	-7.97	AVG			
15900.000	36.81	16.59	53.	40	74.00	-20.60	peak			
15900.000	25.93	16.59	42.	52	54.00	-11.48	AVG			

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode:	Ant 1			Measu	rement Distanc	e:	3 m			
Test channel:	802.11ac2	20 Channel 6	4	Freque	ncy Range:		1GHz to	40GHz		
RBW/VBW:	Spurious	emission: 1M	Hz/3MH	for Peak, 1MHz/10Hz for Average.						
	1. Average	e measureme	ent was r	ot perf	ormed if peak l	evel	ower tha	n average limit.		
Remark:	2. Other fi	requency was	20dB b	elow lin	nit line within 1-	40G	Hz, there	is not show		
	in the repo	ort.								
Vertical										
Fraguenav	Reading	Correct	Meas	sure	Limit		lorain			
Frequency (MHz)	Level	Factor	Lev	⁄el	(dBuV/m)		fargin	Detector Type		
(IVITZ)	(dBuV)	(dB)	(dBu\	//m)	(ubuv/III)		(dB)			
10640.000	45.28	13.81	59.0	09	74.00	-	14.91	peak		
10640.000	33.79	13.81	47.0	60	54.00	-	-6.40	AVG		
15960.000	35.64	16.46	52.	10	74.00	-:	21.90	peak		
15960.000	24.22	16.46	40.0	86	54.00	-	13.32	AVG		
			Hori	zontal						
Fraguenay	Reading	Correct	Meas	sure	Limit		lorain			
Frequency (MHz)	Level	Factor	Lev	el e	(dBuV/m)		fargin (dB)	Detector Type		
(IVII IZ)	(dBuV)	(dB)	(dBu\	//m)	(dbdv/iii)		(ub)			
10640.000	46.29	13.81	60.	10	74.00	-	13.90	peak		
10640.000	35.58	13.81	49.39		54.00		-4.61	AVG		
15960.000	36.72	16.46	53.18		74.00	-:	20.82	peak		
15960.000	25.66	16.46	42.	12	54.00	_	11.88	AVG		

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode:	Ant 1		Measurement Distan			3 m				
Test channel:	802.11ac4	10 Channel 54	4 Fr	equency Range:		1GHz to	40GHz			
RBW/VBW:	Spurious	emission: 1M	Hz/3MHz fo	for Peak, 1MHz/10Hz for Average						
	1. Average	e measureme	ent was not	performed if pea	ak level	lower tha	ın average limit.			
Remark:	2. Other fr	requency was	20dB belo	w limit line withi	n 1-400	Hz, there	e is not show			
	in the repo	ort.								
Vertical										
Fraguenay	Reading	Correct	Measur	e Limit	,	Aorain				
Frequency (MHz)	Level	Factor	Level	(dBuV/m		Margin (dB)	Detector Type			
(IVII IZ)	(dBuV)	(dB)	(dBuV/r	n) (dbdv/iii	,	(ub)				
10540.000	43.90	13.02	56.92	74.00	-	17.08	peak			
10540.000	32.38	13.02	45.40	54.00		-8.60	AVG			
15810.000	34.12	16.57	50.69	74.00		23.31	peak			
15810.000	23.65	16.57	40.22	54.00		-13.78	AVG			
			Horizo	ntal						
Fraguenay	Reading	Correct	Measur	e Limit	,	Aorain				
Frequency (MHz)	Level	Factor	Level			Margin (dB)	Detector Type			
(1011 12)	(dBuV)	(dB)	(dBuV/r	n) (dbdv/iii	,	(ub)				
10540.000	45.27	13.02	58.29	74.00		15.71	peak			
10540.000	34.59	13.02	47.61	54.00		-6.39	AVG			
15810.000	35.61	16.57	52.18	74.00		21.82	peak			
15810.000	24.73	16.57	41.30	54.00		12.70	AVG			

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode:	Ant 1		N	Measur	ement Distanc	e:	3 m		
Test channel:	802.11ac4	10 Channel 62	2 F	reque	ncy Range:		1GHz to	40GHz	
RBW/VBW:	Spurious	emission: 1M	Hz/3MHz	lz for Peak, 1MHz/10Hz for Average.					
	1. Average	e measureme	ent was n	ot perfo	ormed if peak l	evel l	ower tha	n average limit.	
Remark:	2. Other fi	equency was	20dB be	elow lin	nit line within 1	-40G	Hz, there	is not show	
	in the repo	ort.							
Vertical									
Francis	Reading	Correct	Meas	ure	Limeit		A a rain		
Frequency	Level	Factor	Lev				fargin	Detector Type	
(MHz)	(dBuV)	(dB)	(dBu√	//m)	(dBuV/m)		(dB)		
10620.000	43.80	13.65	57.4	.45 74.00		-	16.55	peak	
10620.000	32.49	13.65	46.1	14	54.00	-	-7.86	AVG	
15930.000	34.22	16.53	50.7	' 5	74.00	-2	23.25	peak	
15930.000	23.61	16.53	40.1	14	54.00	-	13.86	AVG	
			Horiz	zontal					
Frequency	Reading	Correct	Meas	ure	Limit		1argin		
(MHz)	Level	Factor	Lev	el	(dBuV/m)		(dB)	Detector Type	
(1011 12)	(dBuV)	(dB)	(dBu√	//m)	(dbdv/iii)		(GD)		
10620.000	45.51	13.65	59.1	16	74.00	-	14.84	peak	
10620.000	33.20	13.65	46.8	35	54.00	-	-7.15	AVG	
15930.000	35.60	16.53	52.1	13	74.00	-2	21.87	peak	
15930.000	24.76	16.53	41.2	29	54.00		12.71	AVG	

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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Rev: 00

TX Mode:	Ant 1	Ant 1		easurement	Distance:	3 m	3 m	
Test channel:	802.11ac8	802.11ac80 Channel 58		Frequency Range:		1GHz to	1GHz to 40GHz	
RBW/VBW:	Spurious	Spurious emission: 1MHz/3MHz for Peak, 1MHz/10Hz for Average.						
	1. Average	Average measurement was not performed if peak level lower than average limit.						
Remark:	2. Other fi	2. Other frequency was 20dB below limit line within 1-40GHz, there is not show						
	in the repo	in the report.						
Vertical								
Frequency (MHz)	Reading	Correct	Measur	e	:4	Margin (dB)	Detector Type	
	Level	Factor	Level	Lir				
	(dBuV)	(dB)	(dBuV/r	n) (dBu	V/III)			
10580.000	43.69	13.34	57.03	74.	.00	-16.97	peak	
10580.000	32.25	13.34	45.59	54.	.00	-8.41	AVG	
15870.000	33.17	16.58	49.75	74.	.00	-24.25	peak	
15870.000	22.43	16.58	39.01	54.	.00	-14.99	AVG	
Horizontal								
Frequency (MHz)	Reading	Correct	Measur		nit	Margin (dB)	Detector Type	
	Level	Factor	Level		V/m)			
	(dBuV)	(dB)	(dBuV/r	n) (dbu	V/111)			
10580.000	45.38	13.34	58.72	74.	.00	-15.28	peak	
10580.000	34.20	13.34	47.54	54.	.00	-6.46	AVG	
15870.000	35.14	16.58	51.72	74.	.00	-22.28	peak	
15870.000	24.26	16.58	40.84	54.	.00	-13.16	AVG	

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode:	Ant 1		I	Measu	Measurement Distance:			3 m	
Test channel:	802.11a C	Channel 100	I	Freque	ncy Range:		1GHz to	40GHz	
RBW/VBW:	Spurious	emission: 1M	Hz/3MHz	for Pe	ak, 1MHz/10H	z for	Average.		
	1. Average	e measureme	nt was n	ot perf	ormed if peak l	evel l	ower tha	n average limit.	
Remark:	2. Other fr	requency was	20dB be	elow lin	nit line within 1	-40G	Hz, there	is not show	
	in the repo								
Vertical									
Fraguenay	Reading	Correct	Meas	ure	Limit		lorgin		
Frequency	Level	Factor	Lev	el			largin (dB)	Detector Type	
(MHz)	(dBuV)	(dB)	(dBu\	//m)	m) (dBuV/m)		(dB)		
11140.000	40.99	16.97	57.96		74.00	-	16.04	peak	
11140.000	31.23	16.97	48.2	20	54.00	_	5.80	AVG	
16710.000	33.70	17.80	51.5	50	74.00	-2	22.50	peak	
16710.000	21.64	17.80	39.4	14	54.00		14.56	AVG	
			Horiz	zontal					
Frequency	Reading	Correct	Meas	ure	Limit	N	lorgin		
Frequency	Level	Factor	Lev	el	Limit (dBuV/m)		largin (dB)	Detector Type	
(MHz)	(dBuV)	(dB)	(dBu\	//m)	(ubuv/III)		(dB)		
11140.000	43.52	16.97	60.4	19	74.00		13.51	peak	
11140.000	31.48	16.97	48.4	15	54.00	_	5.55	AVG	
16710.000	35.76	17.80	53.5	56	74.00	-2	20.44	peak	
16710.000	24.37	17.80	42.1	17	54.00	_	11.83	AVG	

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode:	Ant 1		Ме	asurement Distanc	e: 3 m	3 m			
Test channel:	802.11a C	hannel 120	Fre	quency Range:	1GHz to	40GHz			
RBW/VBW:	Spurious	emission: 1M	Hz/3MHz fc	r Peak, 1MHz/10H	z for Average				
	1. Average	e measureme	nt was not	performed if peak I	evel lower that	an average limit.			
Remark:	2. Other fi	equency was	20dB belo	w limit line within 1	-40GHz, there	e is not show			
	in the report.								
Vertical									
Fraguency	Reading	Correct	Measure		Morain				
			Level	Limit	Margin	Detector Type			
(MHz)	(dBuV)	(dB)	(dBuV/m	(dBuV/m)	(dB)				
11200.000	41.13	16.99	58.12	74.00	-15.88	peak			
11200.000	30.94	16.99	47.93	54.00	-6.07	AVG			
16800.000	33.86	18.65	52.51	74.00	-21.49	peak			
16800.000	22.40	18.65	41.05	54.00	-12.95	AVG			
			Horizor	ntal					
Frequency	Reading	Correct	Measure	Limit	Margin				
(MHz)	Level	Factor	Level	(dBuV/m)	(dB)	Detector Type			
(IVII IZ)	(dBuV)	(dB)	(dBuV/m	i) (dbdv/iii)	(UD)				
11200.000	42.59	16.99	59.58	74.00	-14.42	peak			
11200.000	31.27	16.99	48.26	54.00	-5.74	AVG			
16800.000	35.56	18.65	54.21	74.00	-19.79	peak			
16800.000	24.05	18.65	42.70	54.00	-11.30	AVG			

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode:	Ant 1		1	Measur	ement Distanc	e:	3 m		
Test channel:	802.11a C	Channel 140	I	reque	ncy Range:		1GHz to	40GHz	
RBW/VBW:	Spurious e	emission: 1M	Hz/3MHz	for Pe	ak, 1MHz/10H	z for	Average.		
	1. Average	e measureme	nt was n	ot perfe	ormed if peak l	evel l	ower tha	n average limit.	
Remark:	2. Other fr	requency was	20dB be	elow lin	nit line within 1	-40G	Hz, there	is not show	
	in the report.								
Vertical									
Fraguenay	Reading	Correct	Meas	ure	Limit				
Frequency	Level	Factor	Lev	el	Limit		fargin	Detector Type	
(MHz)	(dBuV)	(dB)	(dBu∖	//m)) (dBuV/m)		(dB)		
11400.000	41.16	17.04	58.2	20	74.00	-	15.80	peak	
11400.000	30.88	17.04	47.9	92	54.00	-	-6.08	AVG	
17100.000	32.37	21.31	53.6	88	74.00	-2	20.32	peak	
17100.000	21.93	21.31	43.2	24	54.00	-	10.76	AVG	
			Horiz	zontal					
Frequency	Reading	Correct	Meas	ure	Limit		lorgin		
Frequency	Level	Factor	Lev	el	(dBuV/m)		fargin (dB)	Detector Type	
(MHz)	(dBuV)	(dB)	(dBu∖	//m)	(ubuv/III)		(dB)		
11400.000	43.96	17.04	61.0	00	74.00	-	13.00	peak	
11400.000	32.84	17.04	49.8	38	54.00	-	-4.12	AVG	
17100.000	32.33	21.31	53.6	64	74.00	-2	20.36	peak	
17100.000	21.57	21.31	42.8	38	54.00		11.12	AVG	

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode:	Ant 1		Mea	surement Distanc	e: 3 m	3 m					
Test channel:	802.11n20	Channel 10) Fred	uency Range:	1GHz to	40GHz					
RBW/VBW:	Spurious	emission: 1M	Hz/3MHz for	Peak, 1MHz/10H	z for Average	١.					
	1. Average	e measureme	nt was not p	erformed if peak I	evel lower tha	an average limit.					
Remark:	2. Other fi	requency was	20dB below	limit line within 1	-40GHz, there	e is not show					
	in the repo	ort.									
	Vertical										
Fraguenav	Reading	Correct	Measure	Limit	Morain						
Frequency	Level	Factor	Level		Margin	Detector Type					
(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)						
11140.000	41.61	16.97	58.58	74.00	-15.42	peak					
11140.000	32.50	16.97	49.47	54.00	-4.53	AVG					
16710.000	34.39	17.80	52.19	74.00	-21.81	peak					
16710.000	24.88	17.80	42.68	54.00	-11.32	AVG					
			Horizont	al							
Frequency	Reading	Correct	Measure	Limit	Morain						
	Level	Factor	Level	(dBuV/m)	Margin	Detector Type					
(MHz)	(dBuV)	(dB)	(dBuV/m)	(ubuv/iii)	(dB)						
11140.000	43.10	16.97	60.07	74.00	-13.93	peak					
11140.000	31.75	16.97	48.72	54.00	-5.28	AVG					
16710.000	32.68	17.80	50.48	74.00	-23.52	peak					
16710.000	21.04	17.80	38.84	54.00	-15.16	AVG					

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode:	Ant 1		Meas	urement Distanc	e: 3 m	3 m	
Test channel:	802.11n20	Channel 120	0 Frequ	ency Range:	1GHz to	40GHz	
RBW/VBW:	Spurious	emission: 1M	Hz/3MHz for F	Peak, 1MHz/10H	z for Average		
	1. Average	e measureme	ent was not pe	rformed if peak l	evel lower tha	n average limit.	
Remark:	2. Other fr	requency was	20dB below I	imit line within 1-	-40GHz, there	e is not show	
	in the repo						
			Vertical				
Frequency	Reading	Correct	Measure	Limit	Margin		
(MHz)	Level	Factor Level		Limit	Margin (dB)	Detector Type	
(IVITZ)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(ub)		
11200.000	41.73	16.99	58.72	.72 74.00		peak	
11200.000	30.96	16.99	47.95	54.00	-6.05	AVG	
16800.000	32.85	18.65	51.50	74.00	-22.50	peak	
16800.000	21.24	18.65	39.89	54.00	-14.11	AVG	
			Horizonta	l _.			
Frequency	Reading	Correct	Measure	Limit	Margin		
(MHz)	Level	Factor	Level	(dBuV/m)	Margin (dB)	Detector Type	
(IVII IZ)	(dBuV)	(dB)	(dBuV/m)	(dbdv/iii)	(ub)		
11200.000	43.30	16.99	60.29	74.00	-13.71	peak	
11200.000	32.47	16.99	49.46	54.00	-4.54	AVG	
16800.000	34.93	18.65	53.58	74.00	-20.42	peak	
16800.000	23.65	18.65	42.30	54.00	-11.70	AVG	

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



17100.000

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TX Mode:	Ant 1		M	/leasu	rement Distanc	e:	3 m	
Test channel:	802.11n20	Channel 14	0 F	reque	ncy Range:		1GHz to 40GHz	
RBW/VBW:	Spurious	emission: 1M	Hz/3MHz	for Pe	eak, 1MHz/10H	z for	Average.	
	1. Averag	e measureme	ent was no	ot perf	ormed if peak I	evel	lower tha	n average limit.
Remark:	2. Other frequency was 20dB below limit line within 1-40							is not show
	in the rep	ort.						
			Vertic	cal				
Fraguenav	Reading	Correct	Meası	ıre	Limit		1orain	
Frequency	Level	Factor	Leve	el			/argin	Detector Type
(MHz)	(dBuV)	(dB)	(dBuV	/m)	(dBuV/m)		(dB)	
11400.000	42.12	17.04	59.1	6	74.00	-	14.84	peak
11400.000	30.38	17.04	47.4	2	54.00		-6.58	AVG
17100.000	32.74	21.31	54.0	5	74.00	-	19.95	peak
17100.000	21.60	21.31	42.9	1	54.00	-	11.09	AVG
			Horiz	ontal				
Fraguency	Reading	Correct	Meası	ıre	Limit		/orgin	
Frequency	Level	Factor	Leve	el			/argin	Detector Type
(MHz)	(dBuV)	(dB)	(dBuV	/m)	(dBuV/m)		(dB)	
11400.000	43.32	17.04	60.3	6	74.00	-	13.64	peak
11400.000	31.66	17.04	48.7	0	54.00		-5.30	AVG
17100.000	33.97	21.31	55.2	8	74.00	-	18.72	peak

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

46.16

54.00

-7.84

AVG

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

21.31

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.

Hence there no other emissions have been reported.

24.85



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TX Mode:	Ant 1		Ме	asurement Distanc	ce: 3 m	3 m				
Test channel:	802.11n40	Channel 10	2 Fre	quency Range:	1GHz to	40GHz				
RBW/VBW:	Spurious	emission: 1M	Hz/3MHz fo	or Peak, 1MHz/10H	Iz for Average					
	1. Average	e measureme	ent was not	performed if peak	level lower that	an average limit.				
Remark:	2. Other fr	requency was	20dB belo	w limit line within 1	-40GHz, there	e is not show				
	in the report.									
Vertical										
Fraguenay	Reading Correct Measure				Marain					
Frequency (MHz)	Level	Factor	Level	Limit (dBuV/m)	Margin (dB)	Detector Type				
(IVII IZ)	(dBuV)	(dB)	(dBuV/m	i) (dbdv/iii)	(ub)					
11020.000	41.31	16.83	58.14	74.00	-15.86	peak				
11020.000	33.90	16.83	50.73	54.00	-3.27	AVG				
16530.000	33.72	16.10	49.82	74.00	-24.18	peak				
16530.000	23.67	16.10	39.77	54.00	-14.23	AVG				
			Horizor	ntal						
Fraguenay	Reading	Correct	Measur	e Limit	Marain					
Frequency (MHz)	Level	Factor	Level	(dBuV/m)	Margin (dB)	Detector Type				
(IVII IZ)	(dBuV)	(dB)	(dBuV/m	i) (dbdv/iii)	(ub)					
11020.000	43.50	16.83	60.33	74.00	-13.67	peak				
11020.000	32.43	16.83	49.26	54.00	-4.74	AVG				
16530.000	32.79	16.10	48.89	74.00	-25.11	peak				
16530.000	21.58	16.10	37.68	54.00	-16.32	AVG				

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode:	Ant 1		Me	Measurement Distance:			3 m			
Test channel:	802.11n40	Channel 118	B Fr	equen	cy Range:	1GHz t	o 40GHz			
RBW/VBW:	Spurious	emission: 1M	Hz/3MHz f	or Pea	ak, 1MHz/10H	z for Averag	Э.			
	1. Average	e measureme	ent was not	t perfo	rmed if peak le	evel lower th	an average limit.			
Remark:	2. Other fi	equency was	20dB belo	ow limi	it line within 1-	40GHz, the	re is not show			
	in the report.									
Vertical										
Francis	Reading	Reading Correct Measure				Marain				
Frequency	Level	Factor	Level		Limit	Margin	Detector Type			
(MHz)	(dBuV)	(dB)	(dBuV/r	m)	(dBuV/m)	(dB)				
11180.000	42.12	16.98	59.10		74.00	-14.90	peak			
11180.000	31.50	16.98	48.48	3	54.00	-5.52	AVG			
16770.000	32.46	18.37	50.83	3	74.00	-23.17	peak			
16770.000	23.78	18.37	42.15	5	54.00	-11.85	AVG			
			Horizo	ntal						
Fraguenay	Reading	Correct	Measur	re	Limit	Margin				
Frequency (MHz)	Level	Factor	Level		(dBuV/m)	Margin (dB)	Detector Type			
(IVII IZ)	(dBuV)	(dB)	(dBuV/r	m)	(ubuv/iii)	(ub)				
11180.000	44.21	16.98	61.19)	74.00	-12.81	peak			
11180.000	33.86	16.98	50.84	,	54.00	-3.16	AVG			
16770.000	35.52	18.37	53.89)	74.00	-20.11	peak			
16770.000	24.01	18.37	42.38	3	54.00	-11.62	AVG			

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode:	Ant 1		Me	Measurement Distance:			3 m			
Test channel:	802.11n40	Channel 13	4 Fr	equency Range:		1GHz to	40GHz			
RBW/VBW:	Spurious	emission: 1M	Hz/3MHz fo	or Peak, 1MHz/1	0Hz for	Average.				
	1. Average	e measureme	ent was not	performed if pea	ak level	lower tha	n average limit.			
Remark:	2. Other fr	requency was	20dB belo	w limit line within	า 1-400	Hz, there	e is not show			
	in the report.									
Vertical										
Fraguenay	Reading	Correct	Measur	e Limit		Margin				
Frequency (MHz)	Level	Factor	Level			Margin (dB)	Detector Type			
(IVII IZ)	(dBuV)	(dB)	(dBuV/r	n) (dBuV/m)		(ub)				
11340.000	42.23	17.03	59.26	74.00		-14.74	peak			
11340.000	33.67	17.03	50.70	54.00		-3.30	AVG			
17010.000	34.87	20.57	55.44	74.00		-18.56	peak			
17010.000	23.26	20.57	43.83	54.00		-10.17	AVG			
			Horizo	ntal						
Fraguenay	Reading	Correct	Measur	e Limit		Margin				
Frequency (MHz)	Level	Factor	Level			Margin (dB)	Detector Type			
(1011 12)	(dBuV)	(dB)	(dBuV/r	n) (dBdV/iii	,	(ub)				
11340.000	44.20	17.03	61.23	74.00		-12.77	peak			
11340.000	32.79	17.03	49.82	54.00		-4.18	AVG			
17010.000	33.66	20.57	54.23	74.00		-19.77	peak			
17010.000	23.42	20.57	43.99	54.00		-10.01	AVG			

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode:	Ant 1			Measu	rement Distanc	e:	3 m		
Test channel:	802.11ac2	20 Channel 10	00	Freque	ncy Range:		1GHz to 40GHz		
RBW/VBW:	Spurious	emission: 1M	Hz/3MH:	z for Pe	ak, 1MHz/10H	z for	Average.		
	1. Average	e measureme	ent was r	not perf	ormed if peak l	evel l	ower tha	n average limit.	
Remark:	2. Other fi	requency was	20dB b	elow lin	nit line within 1-	-40G	Hz, there	is not show	
	in the report.								
Vertical									
Fraguenay	Reading	Reading Correct Measure							
Frequency	Level	Factor	Lev	/el	Limit		fargin	Detector Type	
(MHz)	(dBuV)	(dB)	(dBu\	V/m)	(dBuV/m)		(dB)		
11000.000	42.30	16.80	59.10		74.00	-	14.90	peak	
11000.000	31.87	16.80	48.67		54.00	-	-5.33	AVG	
16500.000	34.04	15.82	49.	86	74.00	-7	24.14	peak	
16500.000	23.29	15.82	39.	11	54.00	-	14.89	AVG	
			Hori	zontal					
Frequency	Reading	Correct	Meas	sure	Limit	N.	1argin		
(MHz)	Level	Factor	Lev	/el	(dBuV/m)		(dB)	Detector Type	
(IVII IZ)	(dBuV)	(dB)	(dBu\	V/m)	(dBdV/III)		(ub)		
11000.000	44.30	16.80	61.	10	74.00	-	12.90	peak	
11000.000	32.97	16.80	49.	77	54.00		-4.23	AVG	
16500.000	34.14	15.82	49.9	96	74.00	-	24.04	peak	
16500.000	23.81	15.82	39.0	63	54.00	-	14.37	AVG	

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode:	Ant 1		Ме	asurement Distanc	e: 3 m	3 m				
Test channel:	802.11ac2	20 Channel 12	20 Fre	equency Range:	1GHz to	40GHz				
RBW/VBW:	Spurious	emission: 1M	Hz/3MHz fo	or Peak, 1MHz/10H	z for Average					
	1. Average	e measureme	ent was not	performed if peak I	evel lower that	an average limit.				
Remark:	2. Other fr	equency was	20dB belo	w limit line within 1	-40GHz, there	e is not show				
	in the report.									
Vertical										
Fraguenay	Reading	Correct	Measure	e Limit	Morgin					
Frequency (MHz)	Level	Factor	Level	(dBuV/m)	Margin (dB)	Detector Type				
(IVII IZ)	(dBuV)	(dB)	(dBuV/m	i) (dbdv/iii)	(ub)					
11200.000	42.29	16.99	59.28	74.00	-14.72	peak				
11200.000	31.42	16.99	48.41	54.00	-5.59	AVG				
16800.000	33.71	18.65	52.36	74.00	-21.64	peak				
16800.000	23.53	18.65	42.18	54.00	-11.82	AVG				
			Horizor	ntal						
Fraguenay	Reading	Correct	Measure	e Limit	Morgin					
Frequency (MHz)	Level	Factor	Level	(dBuV/m)	Margin (dB)	Detector Type				
(IVII IZ)	(dBuV)	(dB)	(dBuV/m	i) (dbdv/iii)	(ub)					
11200.000	43.05	16.99	60.04	74.00	-13.96	peak				
11200.000	32.73	16.99	49.72	54.00	-4.28	AVG				
16800.000	35.92	18.65	54.57	74.00	-19.43	peak				
16800.000	24.08	18.65	42.73	54.00	-11.27	AVG				

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode: Ant 1 Measurement Distance: 3 m 802.11n20 Channel 144 Test channel: Frequency Range: 1GHz to 40GHz RBW/VBW: Spurious emission: 1MHz/3MHz for Peak, 1MHz/10Hz for Average. 1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-40GHz, there is not show Remark: in the report. Vertical Correct Measure Reading Frequency Limit Margin Level Factor Level **Detector Type** (dBuV/m) (dB) (MHz) (dBuV/m) (dBuV) (dB) 11440.000 42.56 16.94 59.50 74.00 -14.50 peak 11440.000 31.77 16.94 48.71 54.00 -5.29 AVG 17160.000 29.46 22.03 51.49 74.00 -22.51 peak 17160 000 18 54 22 N3 **4**0 57 54 00 13 43 ΔVG

17 160.000	18.54	22.03	40.57	54.00	-13.43	AVG					
	Horizontal										
Frequency (MHz)	Reading Level (dBuV)	Correct Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector Type					
11440.000	43.28	16.94	60.22	74.00	-13.78	peak					
11440.000	31.41	16.94	48.35	54.00	-5.65	AVG					
17160.000	29.30	22.03	51.33	74.00	-22.67	peak					
17160.000	18.82	22.03	40.85	54.00	-13.15	AVG					

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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Rev: 00

TX Mode:	Ant 1	ant 1 Measurement Dist			rement Distanc	e:	3 m			
Test channel:	802.11ac4	10 Channel 10	02	Frequency Range:			1GHz to 40GHz			
RBW/VBW:	Spurious	emission: 1M	Hz/3MH:	z for Pe	ak, 1MHz/10H	z for	Average.			
	Average measurement was not performed if peak level lower than average limit									
Remark:	2. Other fi	2. Other frequency was 20dB below limit line within 1-40GHz, there is not show								
in the report.										
			Vert	ical						
Fraguency	Reading	Correct	Meas	sure				Detector Type		
Frequency	Level	Factor	Lev	/el			Margin			
(MHz)	(dBuV)	(dB)	(dBu\	V/m)	(dBuV/m)	(dB)				
11020.000	43.13	16.83	59.	96	74.00	-	14.04	peak		
11020.000	32.67	16.83	49.	50	54.00	-	-4.50	AVG		
16530.000	32.90	16.10	49.	00	74.00	-7	25.00	peak		
16530.000	22.48	16.10	38.	58	54.00 -		15.42	AVG		
			Hori	zontal						
Frequency	Reading	Correct	Meas	sure	Limit		Morain .			
(MHz)	Level	Factor	Lev	/el			Margin (dB)	Detector Type		
(1011 12)	(dBuV)	(dB)	(dBu\	V/m)	(dBuV/m)		(ub)			
11020.000	45.90	16.83	62.	73	74.00	-	11.27	peak		
11020.000	34.86	16.83	51.	69	54.00	•	-2.31	AVG		
16530.000	35.35	16.10	51.	45	74.00	-:	22.55	peak		
16530.000	24.67	16.10	40.	77	54.00		13.23	AVG		

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode:	Ant 1			Measurement Distance:			3 m		
Test channel:	802.11ac4	10 Channel 11	18	Freque	ncy Range:	1GHz to 40GHz			
RBW/VBW:	Spurious e	Spurious emission: 1MHz/3MHz for Peak, 1MHz/10Hz for Average.							
	1. Average	Average measurement was not performed if peak level lower than average limit.							
Remark: 2. Other frequency was 20dB below limit line within 1-40GHz, t							Hz, there	is not show	
	in the repo	ort.							
			Vert	ical					
Fraguenay	Reading	Correct	Meas	sure	Limit			Detector Type	
Frequency	Level	Factor	Lev	/el			Margin (dB)		
(MHz)	(dBuV)	(dB)	(dBu	V/m)	(dBuV/m)				
11180.000	44.26	16.98	61.	24	74.00	-	12.76	peak	
11180.000	33.19	16.98	50.	17	54.00		-3.83	AVG	
16770.000	32.88	18.37	51.	25	74.00	-	22.75	peak	
16770.000	24.30	18.37	42.	67	54.00 -		11.33	AVG	
			Hori	zontal					
Frequency	Reading	Correct	Meas	sure	l insit		Margin .		
Frequency (MHz)	Level	Factor	Lev	/el	Limit		fargin (dB)	Detector Type	
(IVII IZ)	(dBuV)	(dB)	(dBu	V/m)	(dBuV/m)		(ub)		
11180.000	45.89	16.98	62.	87	74.00	-	11.13	peak	
11180.000	33.62	16.98	50.	60	54.00	-	-3.40	AVG	
16770.000	35.33	18.37	53.	70	74.00	-:	20.30	peak	
16770.000	24.47	18.37	42.	84	54.00	-	11.16	AVG	

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode:	Ant 1	Measurement Distar			ement Distanc	e:	3 m		
Test channel:	802.11ac4	10 Channel 14	42 F	Frequency Range:			1GHz to 40GHz		
RBW/VBW:	Spurious	Spurious emission: 1MHz/3MHz for Peak, 1MHz/10Hz for Average.							
	1. Average	1. Average measurement was not performed if peak level lower than average lim							
Remark:	2. Other fi	20dB be	pelow limit line within 1-40GHz, there is not show						
in the report.									
			Verti	cal					
Frequency	Reading	Correct	Measi	ure	Limit	N.	largin		
(MHz)	Level	Factor	Leve	el			Margin (dB)	Detector Type	
(1011 12)	(dBuV)	(dB)	(dBuV	//m)	(dBuV/m)				
11420.000	43.12	16.99	60.1	1	74.00	-	13.89	peak	
11420.000	34.92	16.99	51.9)1	54.00	-	2.09	AVG	
17130.000	32.67	21.67	54.3	34	74.00	-	19.66	peak	
17130.000	23.42	21.67	45.0	9	54.00		8.91	AVG	
			Horiz	ontal					
Frequency	Reading	Correct	Meas	ure	Limit	l N	largin	Detector Type	
(MHz)	Level	Factor	Leve	el	(dBuV/m)		Margin (dB)		
(1411 12)	(dBuV)	(dB)	(dBuV	//m)	(dDdV/III)		(GD)		
11420.000	45.14	16.99	62.1	3	74.00	-	11.87	peak	
11420.000	33.69	16.99	50.6	88	54.00	-	3.32	AVG	
17130.000	35.38	21.67	57.0	5	74.00	-	16.95	peak	
17130.000	23.51	21.67	45.1	8	54.00		8.82	AVG	

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode:	Ant 1		Measurement Distance:			3 m			
Test channel:	802.11ac8	30 Channel 10	06 F	Frequency Range:			1GHz to 40GHz		
RBW/VBW:	Spurious	Spurious emission: 1MHz/3MHz for Peak, 1MHz/10Hz for Average.							
	1. Average	1. Average measurement was not performed if peak level lower than average lim							
Remark:	2. Other fr	frequency was 20dB below limit line within 1-40GHz, there is not show							
in the report.									
			Vertic	al					
Frequency	Reading	Correct	Measu	re Limit	ı	Agrain	Detector Type		
Frequency (MHz)	Level	Factor	Leve		"	Margin (dB)			
(1011 12)	(dBuV)	(dB)	(dBuV/	m) (dBdV/III)	m)				
11060.000	42.52	16.89	59.4	1 74.00	-	14.59	peak		
11060.000	33.73	16.89	50.62	2 54.00		-3.38	AVG		
16590.000	34.65	16.67	51.32	2 74.00	-	22.68	peak		
16590.000	23.22	16.67	39.89	54.00	54.00 -		AVG		
		_	Horizo	ontal					
Frequency	Reading	Correct	Measu	ire Limit		/argin	Detector Type		
(MHz)	Level	Factor	Leve	I (dBuV/m)	"	Margin (dB)			
(1011 12)	(dBuV)	(dB)	(dBuV/	m) (dBdV/III)		(ub)			
11060.000	44.60	16.89	61.49	74.00	_	12.51	peak		
11060.000	32.58	16.89	49.47	7 54.00		-4.53	AVG		
16590.000	35.71	16.67	52.38	3 74.00		21.62	peak		
16590.000	24.86	16.67	41.53	3 54.00	-	12.47	AVG		

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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TX Mode:	Ant 1		Mea	surement Distanc	e: 3 m	3 m				
Test channel:	802.11ac8	30 Channel 12	22 Freq	uency Range:	1GHz to	1GHz to 40GHz				
RBW/VBW:	Spurious	Spurious emission: 1MHz/3MHz for Peak, 1MHz/10Hz for Average.								
	1. Average	Average measurement was not performed if peak level lower than average limit								
Remark:	2. Other fi	2. Other frequency was 20dB below limit line within 1-40GHz, there is not show								
	in the repo	ort.								
			Vertical							
Francis	Reading	Correct	Measure	Lineit	Marain					
Frequency	Level	Factor	Level	Limit	Margin	Detector Type				
(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)					
11220.000	42.23	16.99	59.22	74.00	-14.78	peak				
11220.000	30.96	16.99	47.95	54.00	-6.05	AVG				
16830.000	33.45	18.92	52.37	74.00	-21.63	peak				
16830.000	22.24	18.92	41.16	54.00	-12.84	AVG				
			Horizont	al						
Frequency	Reading	Correct	Measure	Limit	Margin	Detector Type				
Frequency (MHz)	Level	Factor	Level	(dBuV/m)	Margin (dB)					
(IVII IZ)	(dBuV)	(dB)	(dBuV/m)	(dbdv/iii)	(ub)					
11220.000	43.84	16.99	60.83	74.00	-13.17	peak				
11220.000	32.77	16.99	49.76	54.00	-4.24	AVG				
16830.000	34.26	18.92	53.18	74.00	-20.82	peak				
16830.000	23.14	18.92	42.06	54.00	-11.94	AVG				

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor.

Average measurement was not performed if peak level lower than average limit.

No any other emissions level which are attenuated less than 20dB below the limit.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.



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6.3 Radiated Restricted Band Edge Measurement

6.3.1 Applied procedures / Limit

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, 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 5.25-5.35 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..
- (2) 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.
- (3) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.
- (4) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.
- (5) The provisions of §15.205 apply to intentional radiators operating under this section. (6) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.

6.3.2 Test procedure

a. The Transmitter output of EUT was connected to the spectrum analyzer.

Equipment mode: Spectrum analyzer

Detector function: Peak mode

SPAN: 100MHz RBW: 1 MHz VBW: 3 MHz Sweep time= Auto.

- b. Using Peak Search to read the peak power of Carrier frequencies after Maximum Hold function is completed.
- c. Find the next peak frequency outside the operation frequency band.

6.3.3 Deviation from standard

No deviation.

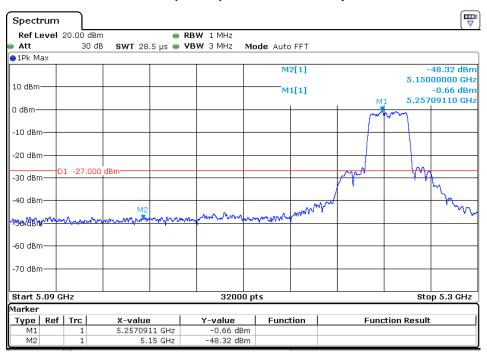
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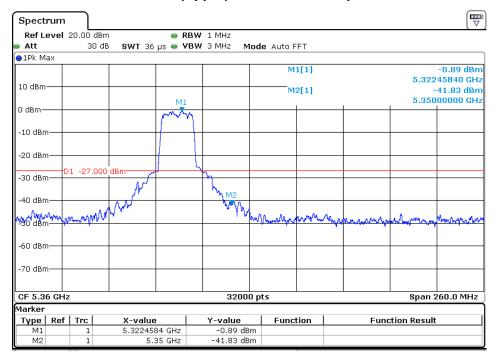
6.3.4 Test results

Note: 1/2 Represent the value of antenna 1/2, The worst data is Antenna 1, only shown Antenna 1.

Ant 1#(Worst data) 802.11n(20M) (5.25GHz-5.35GHz) CH 52 (Lower) Data rate 7.2Mbps



Ant 1#(Worst data) 802.11n(20M) (5.25GHz-5.35GHz) CH 64 (Upper) Data rate 7.2Mbps

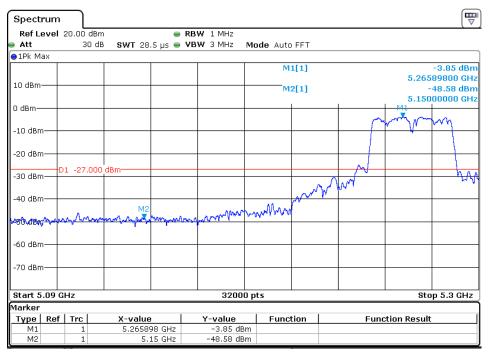




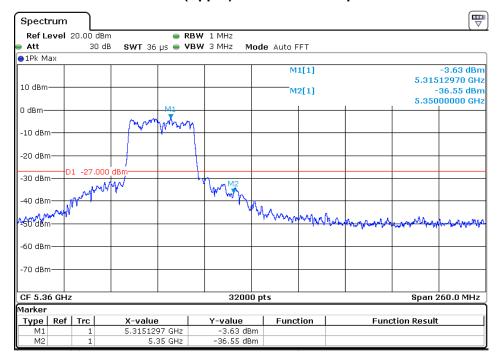
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Ant 1#(Worst data) 802.11n(40M) (5.25GHz-5.35GHz) CH 54 (Lower) Data rate 15Mbps



Ant 1#(Worst data) 802.11n(40M) (5.25GHz-5.35GHz) CH 62 (Upper) Data rate 15Mbps

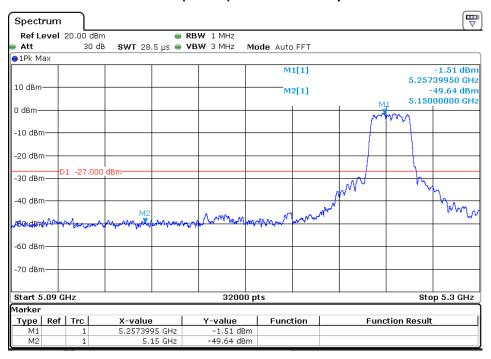




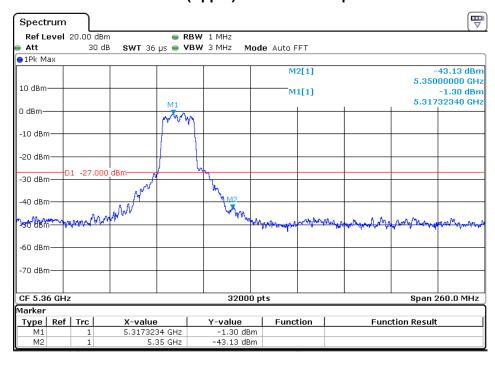
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Ant 1#(Worst data) 802.11a (5.25GHz-5.35GHz) CH 52 (Lower) Data rate 6Mbps



Ant 1#(Worst data) 802.11a (5.25GHz-5.35GHz) CH 64 (Upper) Data rate 6Mbps

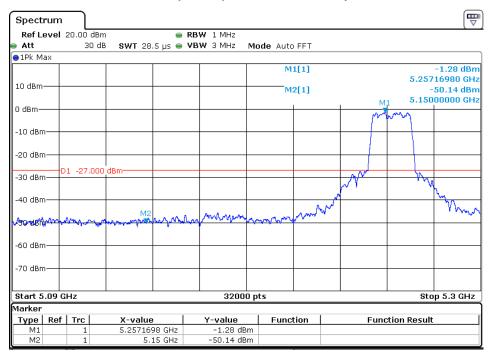




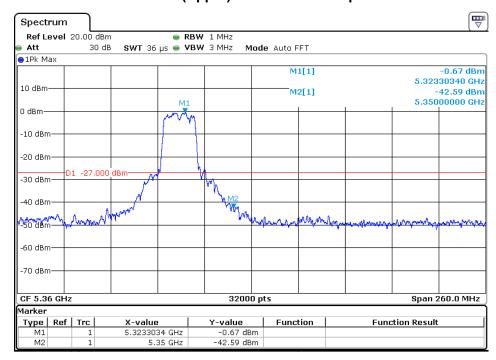
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Ant 1#(Worst data) 802.11ac(20M) (5.25GHz-5.35GHz) CH 52 (Lower) Data rate 7.2Mbps



Ant 1#(Worst data) 802.11ac(20M) (5.25GHz-5.35GHz) CH 64 (Upper) Data rate 7.2Mbps

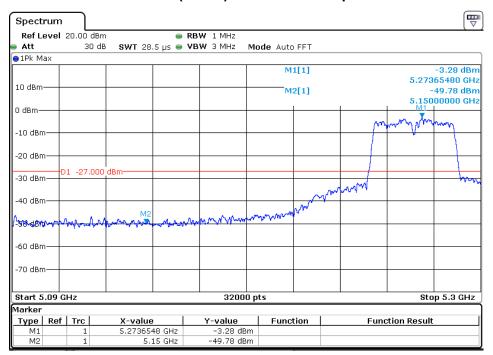




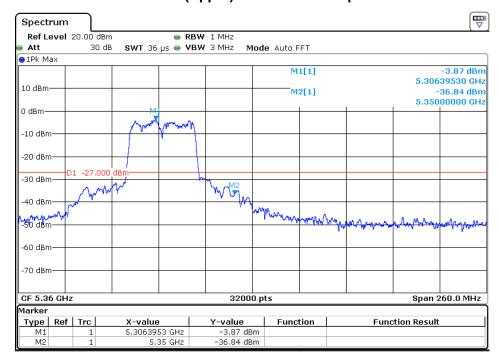
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Ant 1#(Worst data) 802.11ac(40M) (5.25GHz-5.35GHz) CH 54 (Lower) Data rate 15Mbps



Ant 1#(Worst data) 802.11ac(40M) (5.25GHz-5.35GHz) CH 62 (Upper) Data rate 15Mbps

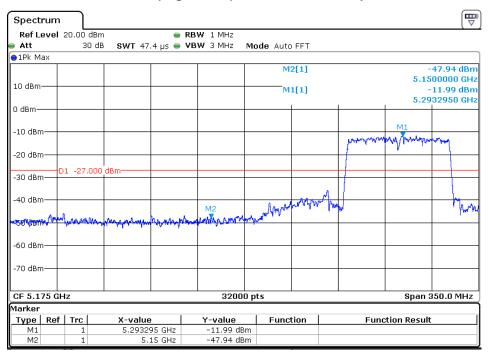




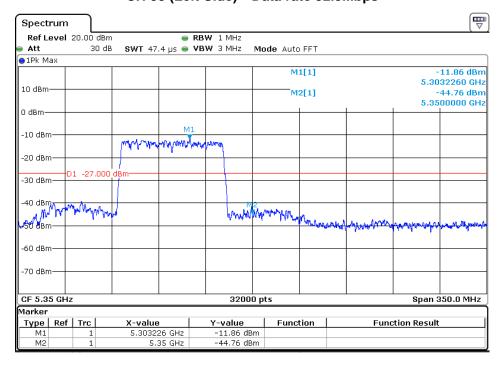
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Ant 1#(Worst data) 802.11ac(80M) (5.25GHz-5.35GHz) CH 58 (Right Side) Data rate 32.5Mbps



Ant 1#(Worst data) 802.11ac(80M) (5.25GHz-5.35GHz) CH 58 (Left Side) Data rate 32.5Mbps

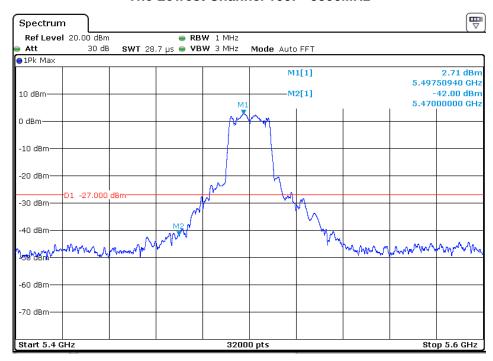




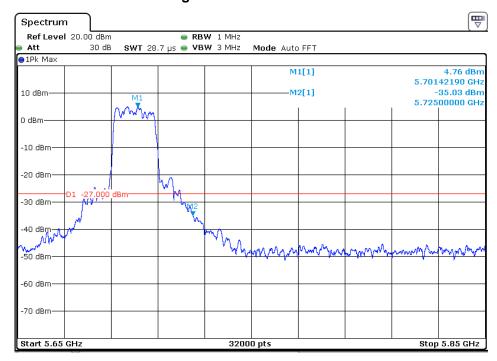
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Ant 1#(Worst data) 802.11n(20M) (5.47GHz-5.725GHz) The Lowest Channel 100: 5500MHz



Ant 1#(Worst data) 802.11n(20M) (5.47GHz-5.725GHz) The High Channel 140: 5700MHz





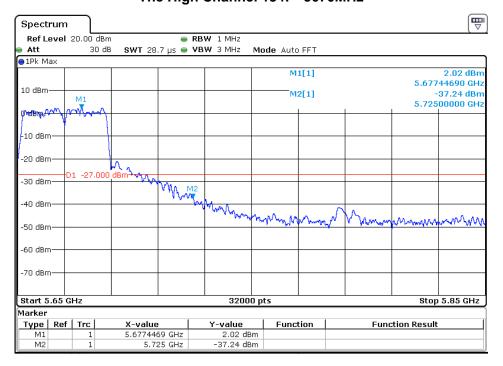
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Ant 1#(Worst data) 802.11n(40M) (5.47GHz-5.725GHz) The Lowest Channel 102: 5510MHz



Ant 1#(Worst data) 802.11n(40M) (5.47GHz-5.725GHz) The High Channel 134: 5670MHz

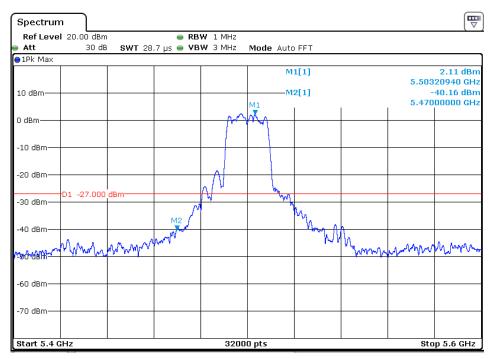




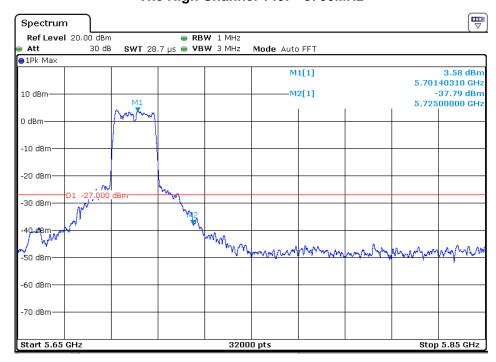
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Rev: 00

Ant 1#(Worst data) 802.11a (5.47GHz-5.725GHz) The Lowest Channel 100: 5500MHz



Ant 1#(Worst data) 802.11a (5.47GHz-5.725GHz) The High Channel 140: 5700MHz

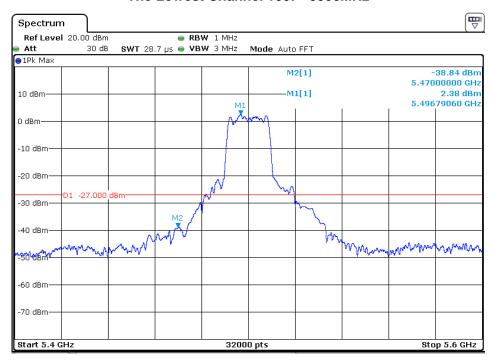




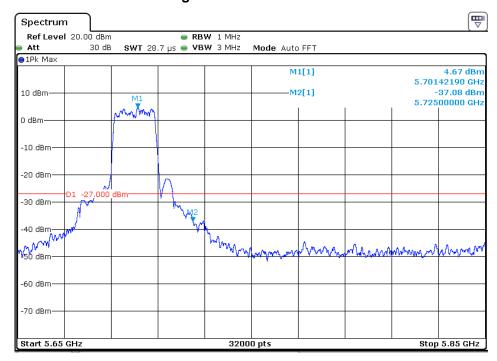
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Rev: 00

Ant 1#(Worst data) 802.11ac(20M) (5.47GHz-5.725GHz) The Lowest Channel 100: 5500MHz



Ant 1#(Worst data) 802.11ac(20M) (5.47GHz-5.725GHz) The High Channel 142: 5700MHz

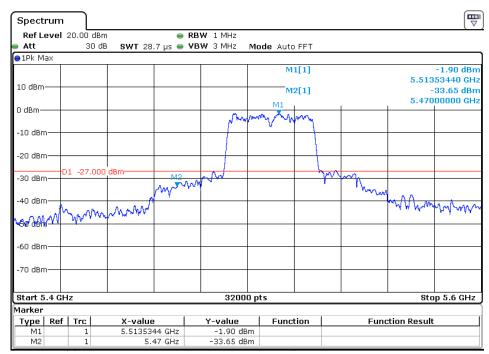




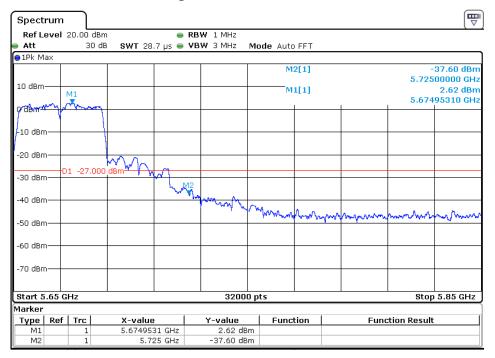
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Ant 1#(Worst data) 802.11ac(40M) (5.47GHz-5.725GHz) The Lowest Channel 102: 5510MHz



Ant 1#(Worst data) 802.11ac(40M) (5.47GHz-5.725GHz) The High Channel 134: 5670MHz

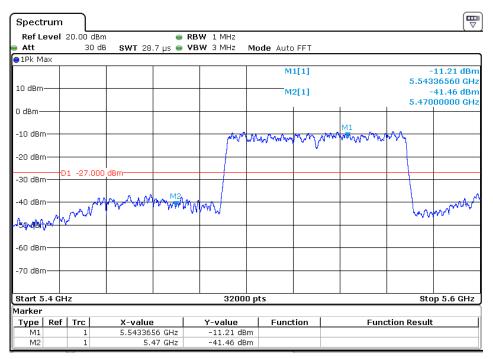




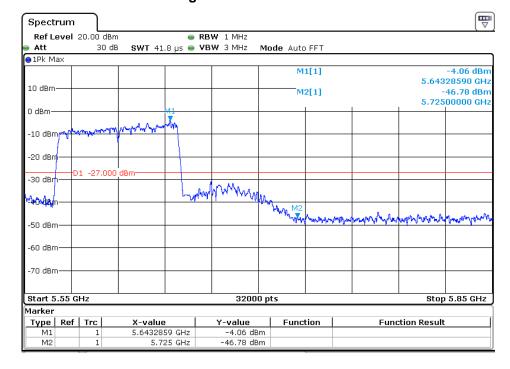
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Ant 1#(Worst data) 802.11ac(80M) (5.47GHz-5.725GHz) The Lowest Channel 106: 5530MHz



Ant 1#(Worst data) 802.11ac(80M) (5.47GHz-5.725GHz) The High Channel 122: 5610MHz





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6.4 BANDWIDTH TEST

6.4.1 Applied procedures / Limit

The bandwidth at 26 dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating at its maximum power control level, as defined in KDB 789033, at the appropriate frequencies. The spectrum analyzer's bandwidth measurement function is configured to measure the 26 dB bandwidth.

The 26 dB bandwidth is used to determine the conducted power limits.

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

6.4.2 Test procedure

26 dB BANDWID PROCEDURES

- a. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01
- b. Set RBW = approximately 1% of the emission bandwidth.
- c. Trace mode = max hold
- d. Detector = Peak
- e. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%

6 dB BANDWID PROCEDURES

- a. Set resolution bandwidth (RBW) = 100 kHz
- b. Set the video bandwidth (VBW) \geq 3 x RBW, Detector = Peak.
- c. Trace mode = max hold.
- d. Sweep = auto couple.
- e. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

99% BANDWID PROCEDURES

- 1. Set center frequency to the nominal EUT channel center frequency.
- 2. Set span = 1.5 times to 5.0 times the OBW.
- 3. Set RBW = 1 % to 5 % of the OBW
- Set VBW ≥ 3 RBW
- 5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
- 6. Use the 99 % power bandwidth function of the instrument (if available).
- 7. If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.



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6.4.3 Deviation from standard

No deviation.

6.4.4 Test setup

EUT SPECTRUM ANALYZER



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6.4.5 Test results

Note:1/2 Represent the value of antenna1/2, The worst data is Antenna 1, only shown Antenna 1Plot.

EUT:	Big Blue Party Chrome	Model Name:	AR106A4BK			
Temperature:	26 ℃	Relative Humidity:	53%			
Pressure:	1010 hPa	lTest Power →	DC 18V from adapter,			
			AC 120V/60Hz for adapter			
Test Mode:	802.11a/n20/n40/ac20/ac40/ac80-Ant 1#(worst case)					

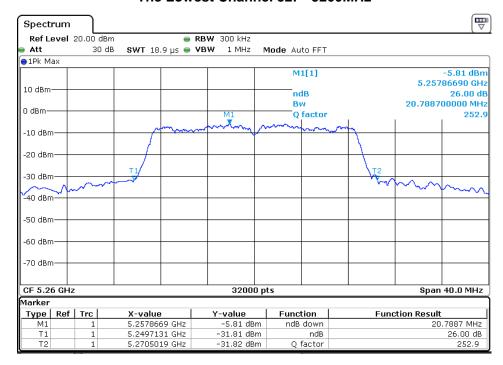
Test Mode	Test Channel	Frequency	26 dB Bandwidth		
1001111000	1000 0110111101	(MHz)	(MHz)		
Ant 1#	CH52	5260	20.7887		
802.11n(20M) (5.25GHz-5.35GHz)	CH60	5300	21.5175		
Data rate 7.2Mbps	CH64	5320	21.1850		
Ant 1# 802.11n(40M)	CH54	5270	40.3406		
(5.25GHz-5.35GHz) Data rate 15Mbps	CH62	5310	40.4137		
Ant 1#	CH52	5260	20.3412		
802.11a (5.25GHz-5.35GHz)	CH60	5300	20.1812		
Data rate 6Mbps	CH64	5320	20.8050		
Ant 1#	CH52	5260	20.8487		
802.11ac(20M) (5.25GHz-5.35GHz)	CH60	5300	20.5075		
Data rate 7.2Mbps	CH64	5320	22.4525		
Ant 1# 802.11ac(40M)	CH54	5270	40.1081		
(5.25GHz-5.35GHz) Data rate 15Mbps	CH62	5310	40.5825		
Ant 1# 802.11ac(80M) (5.25GHz-5.35GHz) Data rate 32.5Mbps	CH58	5290	80.5750		
Note:					
1.	1/2 Represent the value of antenna1/2,The worst data is Antenna 1,only shown Antenna 1Plot.				
2	Antenna 1 and Antenna 2 can not transmit simultaneously.				



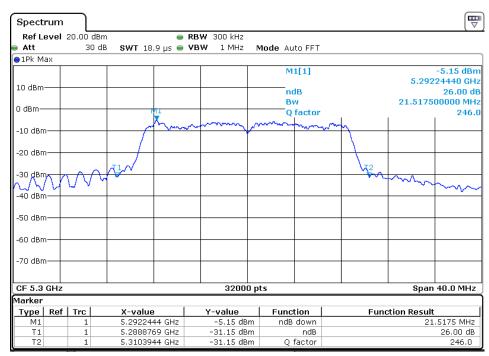
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Ant 1#(Worst data) 802.11n(20M) (5.25GHz-5.35GHz) The Lowest Channel 52: 5260MHz



Ant 1#(Worst data) 802.11n(20M) (5.25GHz-5.35GHz) The Middle Channel 60: 5300MHz

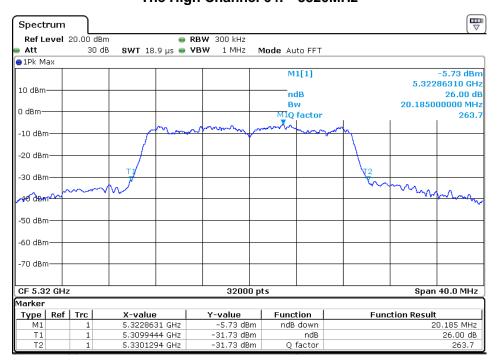




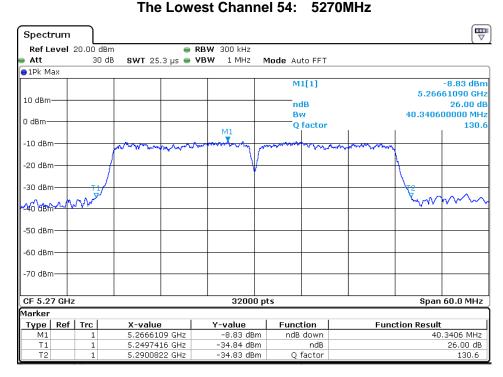
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Ant 1#(Worst data) 802.11n(20M) (5.25GHz-5.35GHz) The High Channel 64: 5320MHz



Ant 1#(Worst data) 802.11n(40M) (5.25GHz-5.35GHz)

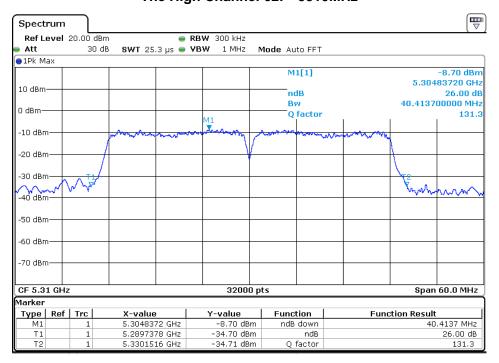




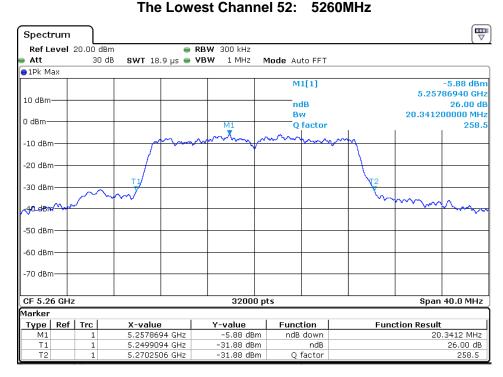
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Rev: 00

Ant 1#(Worst data) 802.11n(40M) (5.25GHz-5.35GHz) The High Channel 62: 5310MHz



Ant 1#(Worst data) 802.11a (5.25GHz-5.35GHz)

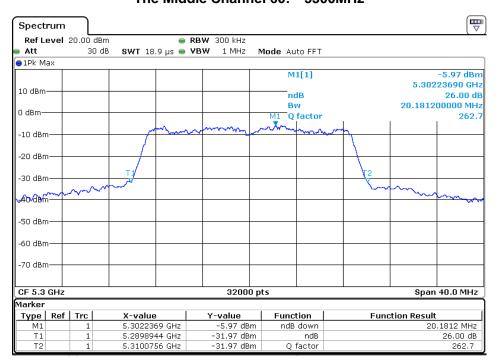




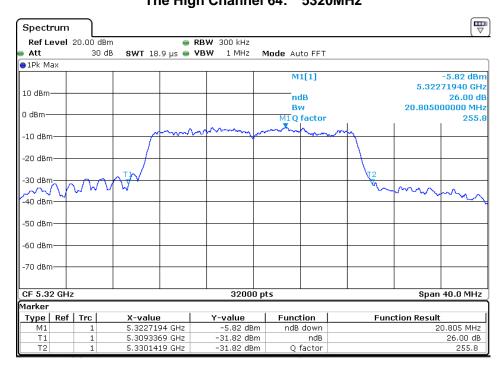
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Ant 1#(Worst data) 802.11a (5.25GHz-5.35GHz) The Middle Channel 60: 5300MHz



Ant 1#(Worst data) 802.11a (5.25GHz-5.35GHz) The High Channel 64: 5320MHz

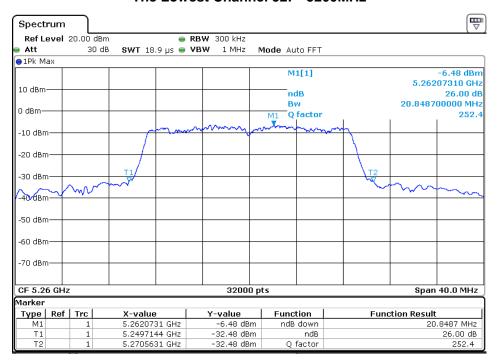




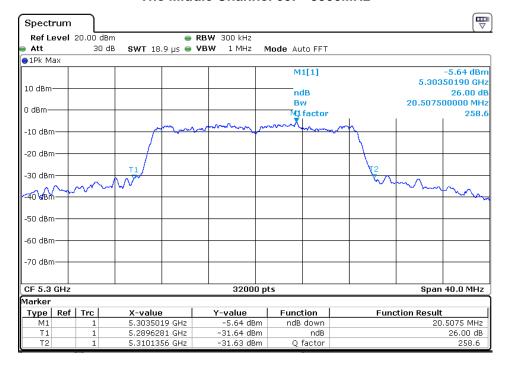
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Ant 1#(Worst data) 802.11ac(20M) (5.25GHz-5.35GHz) The Lowest Channel 52: 5260MHz



Ant 1#(Worst data) 802.11ac(20M) (5.25GHz-5.35GHz) The Middle Channel 60: 5300MHz

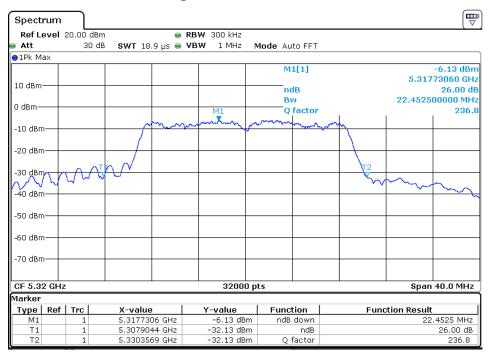




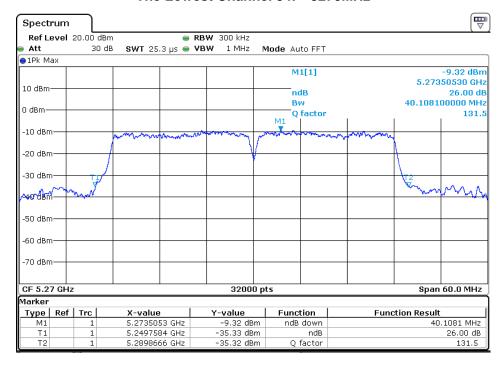
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Ant 1#(Worst data) 802.11ac(20M) (5.25GHz-5.35GHz) The High Channel 64: 5320MHz



Ant 1#(Worst data) 802.11ac(40M) (5.25GHz-5.35GHz) The Lowest Channel 54: 5270MHz

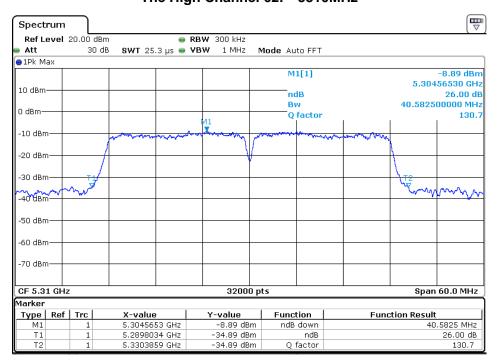




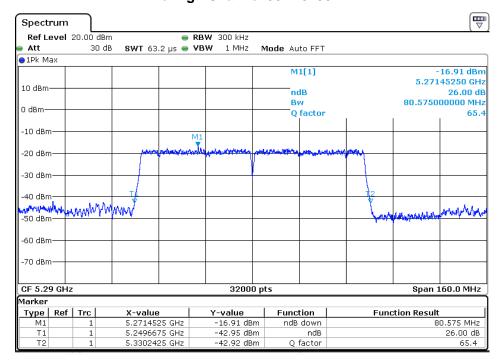
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Ant 1#(Worst data) 802.11ac(40M) (5.25GHz-5.35GHz) The High Channel 62: 5310MHz



Ant 1#(Worst data) 802.11ac(80M) (5.25GHz-5.35GHz) The High Channel 58: 5290MHz





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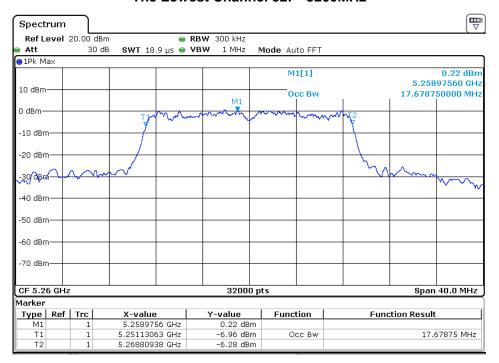
Test Mode	Test Channel	Frequency (MHz)	99% Bandwidth (MHz)	
Ant 1#	CH52	5260	17.67875	
802.11n(20M)	CH60	5300	17.69625	
(5.25GHz-5.35GHz) Data rate 7.2Mbps	CH64	5320	17.85	
Ant 1# 802.11n(40M) (5.25GHz-5.35GHz) Data rate 15Mbps	CH54	5270	36.33	
	CH62	5310	36.32	
Ant 1#	CH52	5260	17.72625	
802.11a	CH60	5300	17.83625	
(5.25GHz-5.35GHz) Data rate 6Mbps	CH64	5320	17.7825	
Ant 1# 802.11ac(20M) (5.25GHz-5.35GHz) Data rate 7.2Mbps	CH52	5260	17.985	
	CH60	5300	17.8125	
	CH64	5320	18.11	
Ant 1# 802.11ac(40M)	CH54	5270	36.39	
(5.25GHz-5.35GHz) Data rate 15Mbps	CH62	5310	36.38	
Ant 1# 802.11ac(80M) (5.25GHz-5.35GHz) Data rate 32.5Mbps	CH58	5290	76.21	
Note:				
1.	1/2 Represent the value of antenna1/2,The worst data is Antenna 1,only shown Antenna 1Plot.			
2	Antenna 1 and Antenna 2 can not transmit simultaneously.			



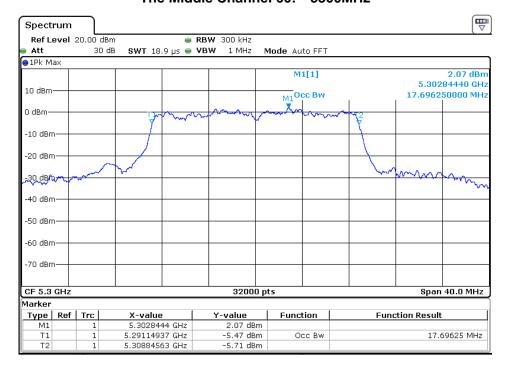
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Ant 1#(Worst data) 802.11n(20M) (5.25GHz-5.35GHz) The Lowest Channel 52: 5260MHz



Ant 1#(Worst data) 802.11n(20M) (5.25GHz-5.35GHz) The Middle Channel 60: 5300MHz

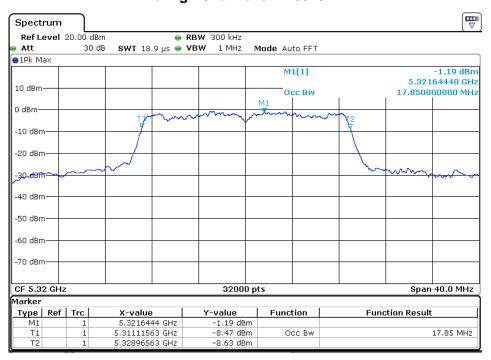




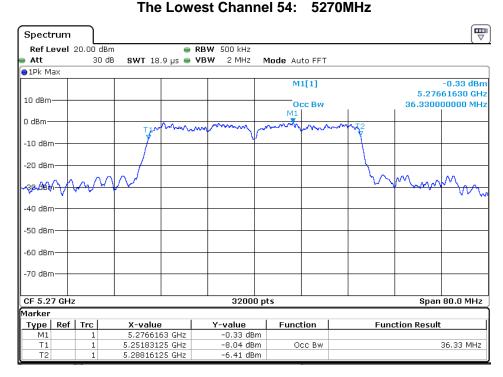
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Ant 1#(Worst data) 802.11n(20M) (5.25GHz-5.35GHz) The High Channel 64: 5320MHz



Ant 1#(Worst data) 802.11n(40M) (5.25GHz-5.35GHz)

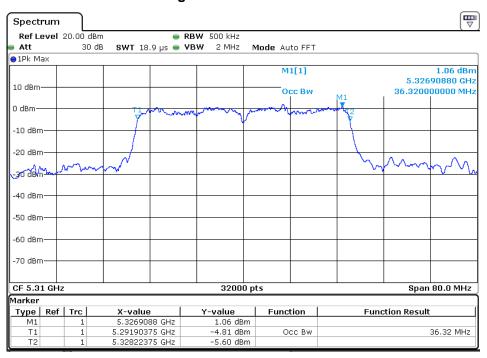




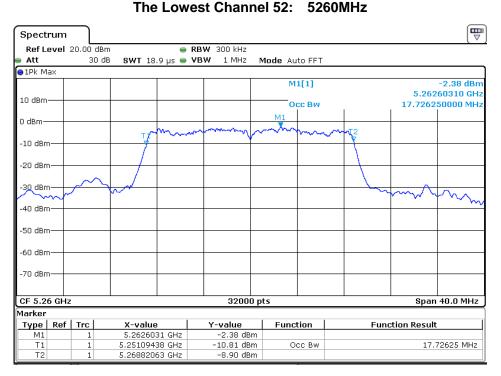
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Ant 1#(Worst data) 802.11n(40M) (5.25GHz-5.35GHz) The High Channel 62: 5310MHz



Ant 1#(Worst data) 802.11a (5.25GHz-5.35GHz)

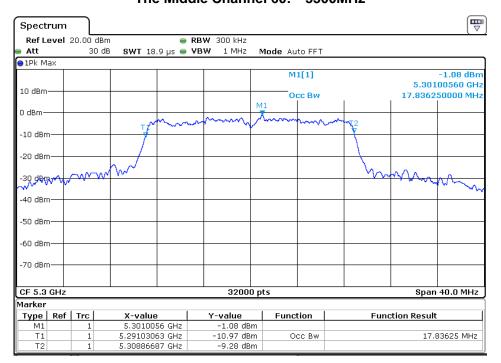




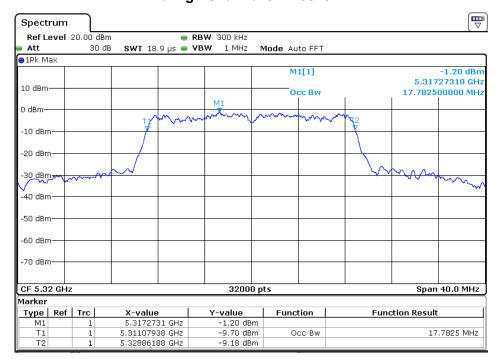
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Ant 1#(Worst data) 802.11a (5.25GHz-5.35GHz) The Middle Channel 60: 5300MHz



Ant 1#(Worst data) 802.11a (5.25GHz-5.35GHz) The High Channel 64: 5320MHz

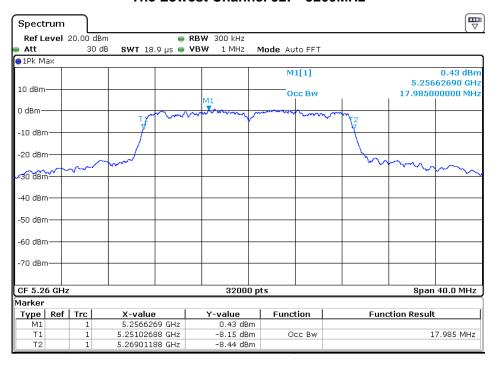




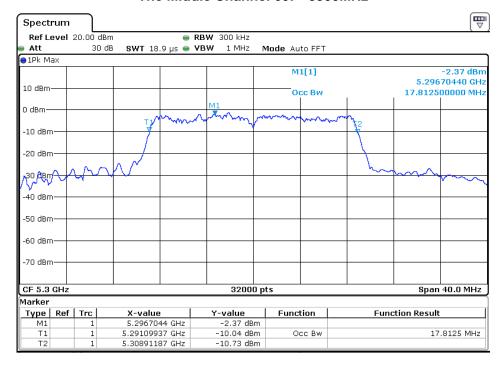
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Ant 1#(Worst data) 802.11ac(20M) (5.25GHz-5.35GHz) The Lowest Channel 52: 5260MHz



Ant 1#(Worst data) 802.11ac(20M) (5.25GHz-5.35GHz) The Middle Channel 60: 5300MHz

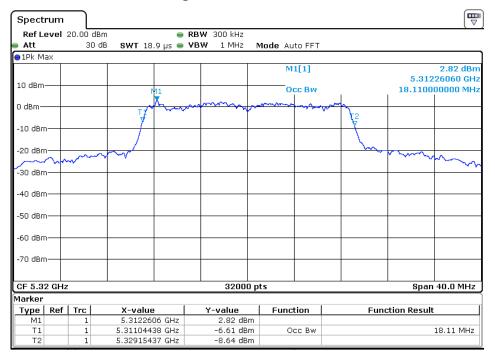




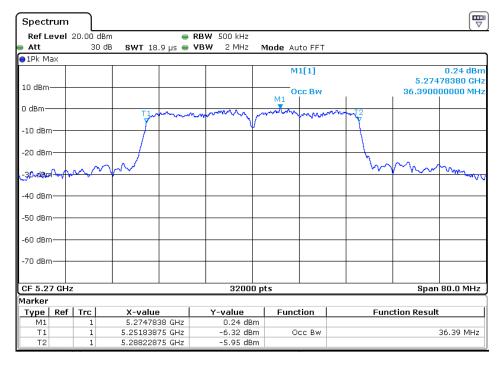
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Ant 1#(Worst data) 802.11ac(20M) (5.25GHz-5.35GHz) The High Channel 64: 5320MHz



Ant 1#(Worst data) 802.11ac(40M) (5.25GHz-5.35GHz) The Lowest Channel 54: 5270MHz

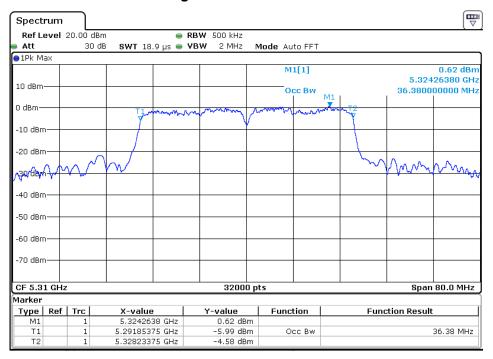




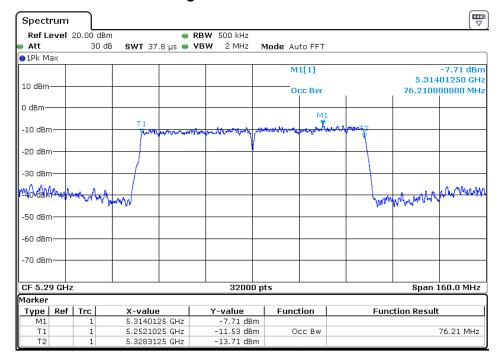
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Ant 1#(Worst data) 802.11ac(40M) (5.25GHz-5.35GHz) The High Channel 62: 5310MHz



Ant 1#(Worst data) 802.11ac(80M) (5.25GHz-5.35GHz) The High Channel 58: 5290MHz





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EUT:	Big Blue Party Chrome	Model Name:	AR106A4BK	
Temperature:	26 ℃	Relative Humidity:	53%	
Pressure:	1010 hPa	Test Power •	DC 18V from adapter,	
			AC 120V/60Hz for adapter	
Test Mode:	802.11a/n20/n40/ac20/ac40/ac80-Ant 1#(worst case)			

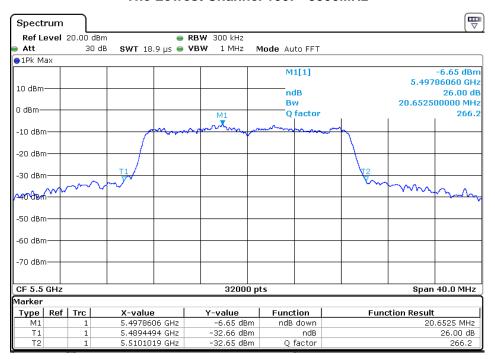
			1	
Test Mode	Test Channel	Frequency	26 dB Bandwidth	
		(MHz)	(MHz)	
Ant 1# 802.11n(20M) (5.47GHz-5.725GHz) Data rate 7.2Mbps	CH100	5500	20.6525	
	CH120	5600	21.8687	
	CH140	5700	20.5850	
Ant 1# 802.11n(40M) (5.47GHz-5.725GHz)	CH102	5510	40.3875	
	CH118	5590	43.0375	
Data rate 15Mbps	CH134	5670	40.5625	
Ant 1# 802.11a (5.47GHz-5.725GHz)	CH100	5500	20.8400	
	CH120	5600	21.5237	
Data rate 6Mbps	CH140	5700	20.2962	
Ant 1# 802.11ac(20M) (5.47GHz-5.725GHz) Data rate 7.2Mbps	CH100	5500	20.6637	
	CH120	5600	20.8375	
	CH144	5720	20.7750	
Ant 1# 802.11ac(40M) (5.47GHz-5.725GHz) Data rate 15Mbps	CH102	5510	40.0025	
	CH118	5590	40.8525	
	CH134	5670	40.3900	
Ant 1# 802.11ac(80M) (5.47GHz-5.725GHz) Data rate 32.5Mbps	CH106	5530	81.1000	
	CH122	5610	81.0400	
Note:				
1.	1/2 Represent the value of antenna1/2, The worst data is Antenna 1, only shown Antenna 1Plot.			
2	Antenna 1 and Antenna 2 can not transmit simultaneously.			



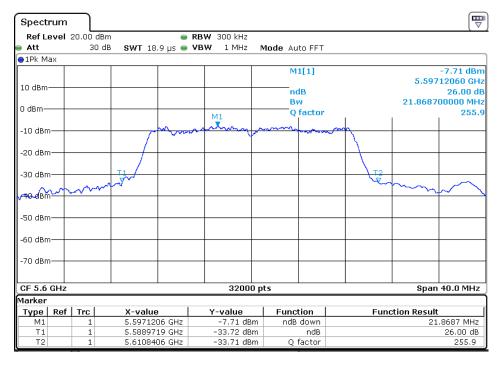
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Ant 1#(Worst data) 802.11n(20M) (5.47GHz-5.725GHz) The Lowest Channel 100: 5500MHz



Ant 1#(Worst data) 802.11n(20M) (5.47GHz-5.725GHz) The Middle Channel 120: 5600MHz

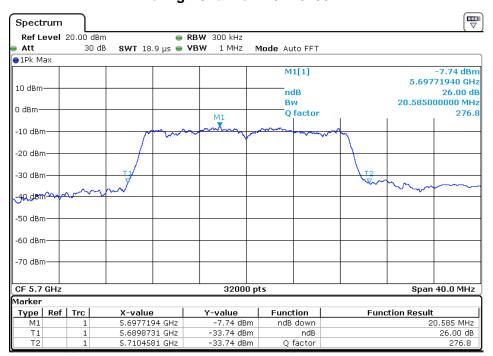




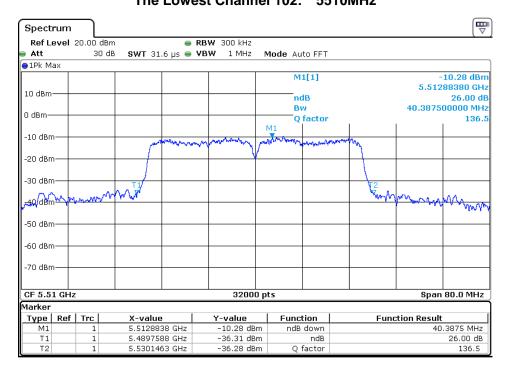
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Ant 1#(Worst data) 802.11n(20M) (5.47GHz-5.725GHz) The High Channel 140: 5700MHz



Ant 1#(Worst data) 802.11n(40M) (5.47GHz-5.725GHz) The Lowest Channel 102: 5510MHz

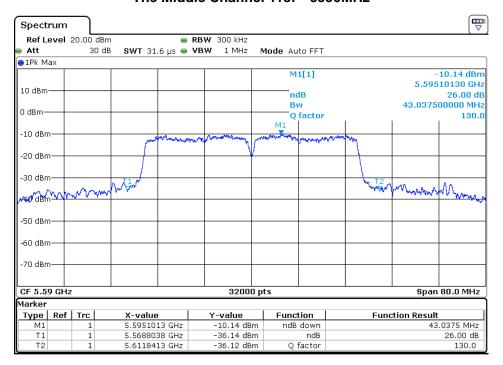




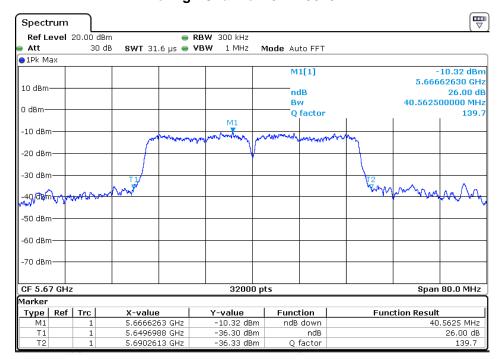
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Ant 1#(Worst data) 802.11n(40M) (5.47GHz-5.725GHz) The Middle Channel 118: 5590MHz



Ant 1#(Worst data) 802.11n(40M) (5.47GHz-5.725GHz) The High Channel 134: 5670MHz

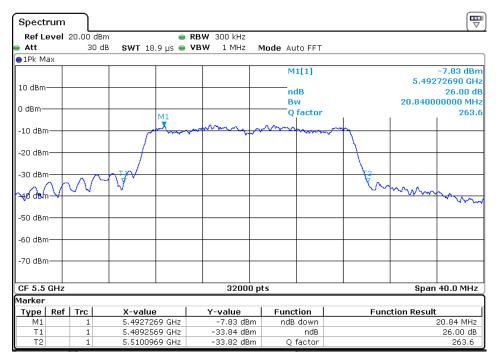




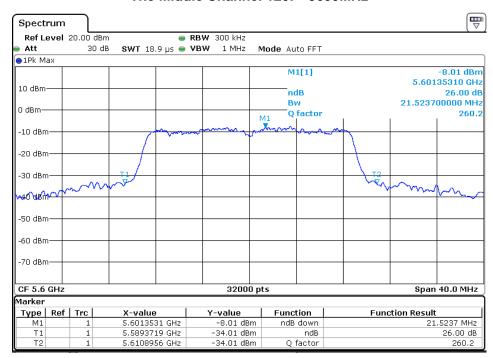
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Ant 1#(Worst data) 802.11a (5.47GHz-5.725GHz) The Lowest Channel 100: 5500MHz



Ant 1#(Worst data) 802.11a (5.47GHz-5.725GHz) The Middle Channel 120: 5600MHz

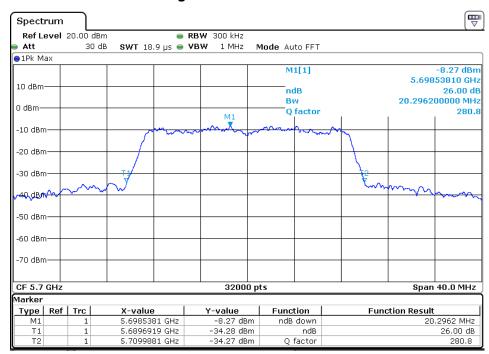




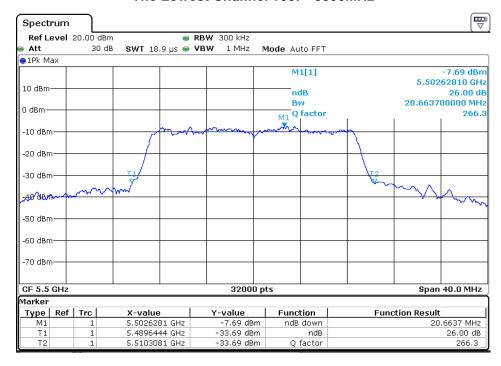
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Ant 1#(Worst data) 802.11a (5.47GHz-5.725GHz) The High Channel 140: 5700MHz



Ant 1#(Worst data) 802.11ac(20M) (5.47GHz-5.725GHz) The Lowest Channel 100: 5500MHz

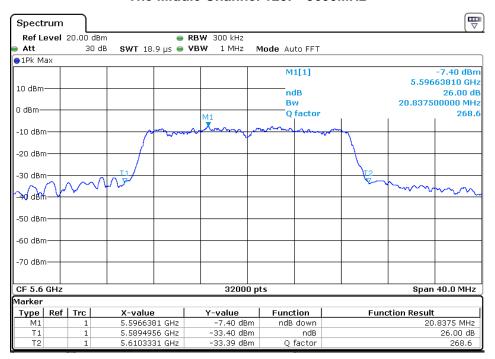




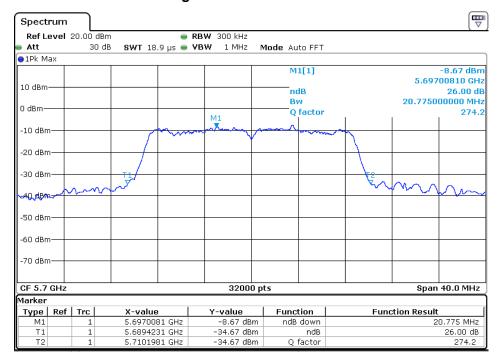
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Ant 1#(Worst data) 802.11ac(20M) (5.47GHz-5.725GHz) The Middle Channel 120: 5600MHz



Ant 1#(Worst data) 802.11ac(20M) (5.47GHz-5.725GHz) The High Channel 142: 5700MHz

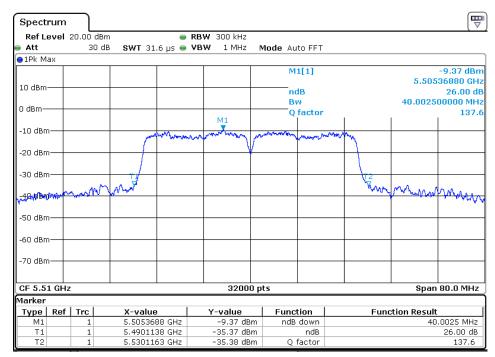




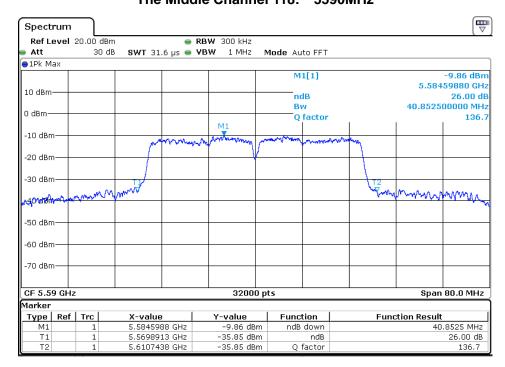
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Ant 1#(Worst data) 802.11ac(40M) (5.47GHz-5.725GHz) The Lowest Channel 102: 5510MHz



Ant 1#(Worst data) 802.11ac(40M) (5.47GHz-5.725GHz) The Middle Channel 118: 5590MHz

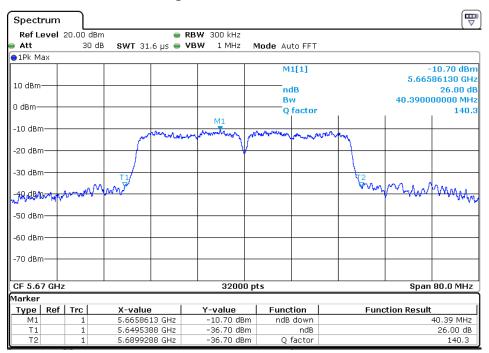




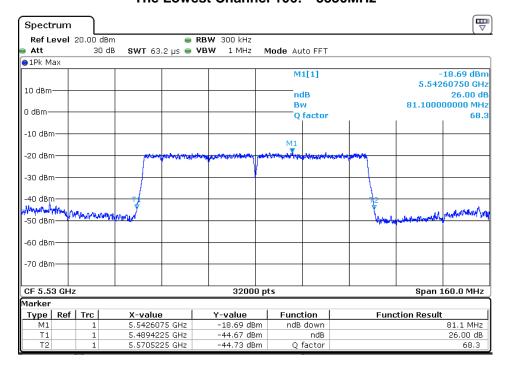
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Ant 1#(Worst data) 802.11ac(40M) (5.47GHz-5.725GHz) The High Channel 134: 5670MHz



Ant 1#(Worst data) 802.11ac(80M) (5.47GHz-5.725GHz) The Lowest Channel 106: 5530MHz

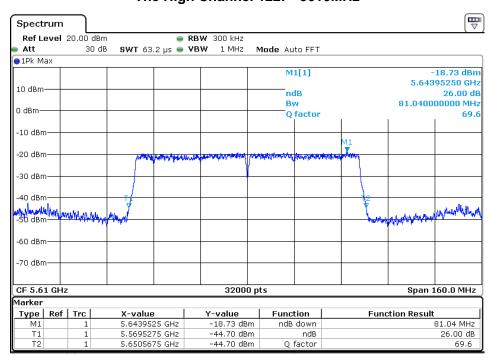




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Ant 1#(Worst data) 802.11ac(40M) (5.47GHz-5.725GHz) The High Channel 122: 5610MHz





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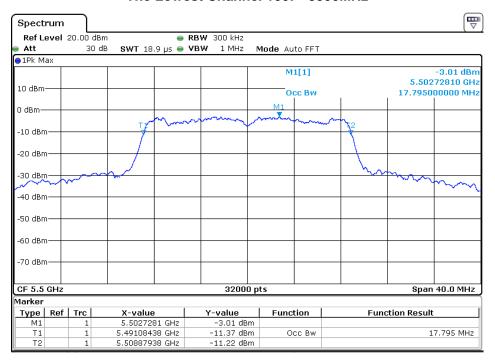
Γ			, ,	
Test Mode	Test Channel	Frequency	99% Bandwidth	
		(MHz)	(MHz)	
Ant 1# 802.11n(20M) (5.47GHz-5.725GHz) Data rate 7.2Mbps	CH100	5500	17.795	
	CH120	5600	17.885	
	CH140	5700	17.81625	
Ant 1# 802.11n(40M) (5.47GHz-5.725GHz)	CH102	5510	36.36	
	CH118	5590	36.7775	
Data rate 15Mbps	CH134	5670	36.305	
Ant 1# 802.11a (5.47GHz-5.725GHz) Data rate 6Mbps	CH100	5500	17.7725	
	CH120	5600	17.705	
	CH140	5700	17.815	
Ant 1# 802.11ac(20M) (5.47GHz-5.725GHz) Data rate 7.2Mbps	CH100	5500	17.79125	
	CH120	5600	17.80625	
	CH144	5720	17.78625	
Ant 1# 802.11ac(40M) (5.47GHz-5.725GHz) Data rate 15Mbps	CH102	5510	36.3325	
	CH118	5590	36.52	
	CH134	5670	36.265	
Ant 1# 802.11ac(80M) (5.47GHz-5.725GHz) Data rate 32.5Mbps	CH106	5530	75.995	
	CH122	5610	76.12	
Note:				
1.	1/2 Represent the value of antenna1/2,The worst data is Antenna 1,only shown Antenna 1Plot.			
2	Antenna 1 and Antenna 2 can not transmit simultaneously.			



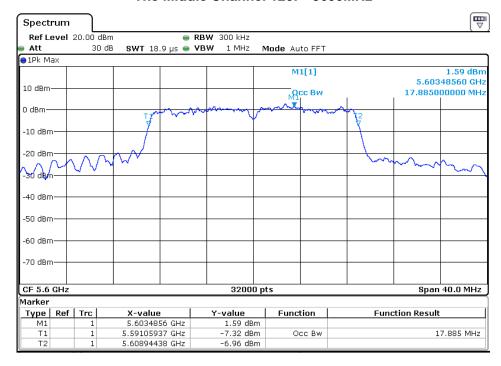
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Ant 1#(Worst data) 802.11n(20M) (5.47GHz-5.725GHz) The Lowest Channel 100: 5500MHz



Ant 1#(Worst data) 802.11n(20M) (5.47GHz-5.725GHz) The Middle Channel 120: 5600MHz

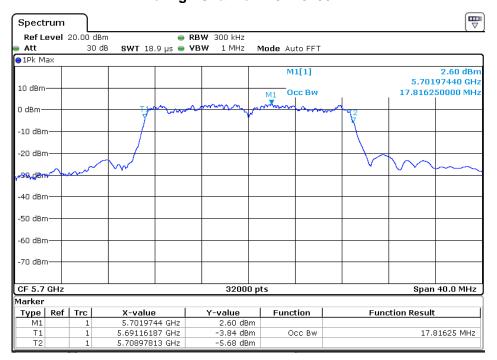




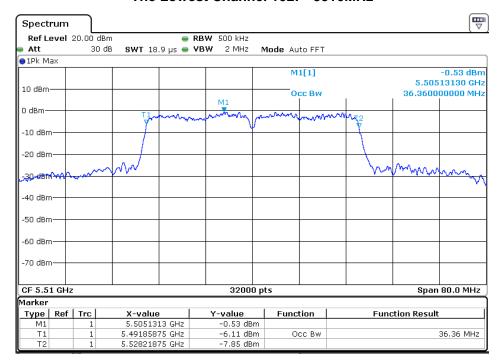
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Ant 1#(Worst data) 802.11n(20M) (5.47GHz-5.725GHz) The High Channel 140: 5700MHz



Ant 1#(Worst data) 802.11n(40M) (5.47GHz-5.725GHz) The Lowest Channel 102: 5510MHz

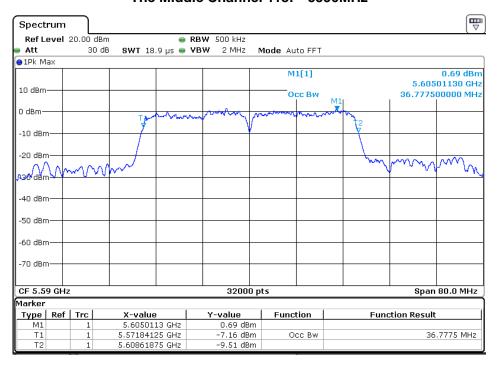




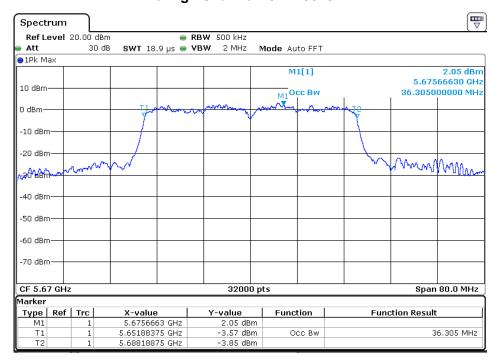
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Ant 1#(Worst data) 802.11n(40M) (5.47GHz-5.725GHz) The Middle Channel 118: 5590MHz



Ant 1#(Worst data) 802.11n(40M) (5.47GHz-5.725GHz) The High Channel 134: 5670MHz

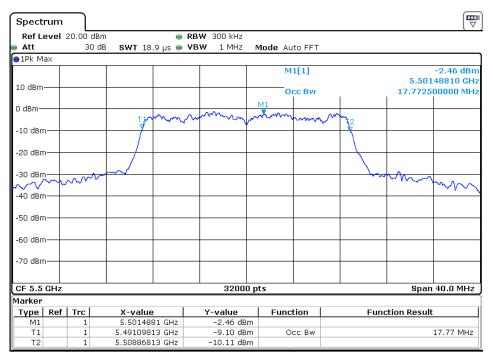




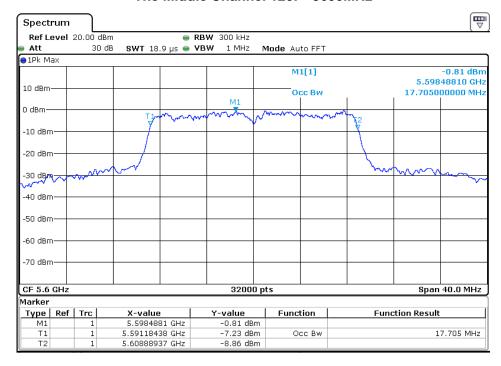
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Ant 1#(Worst data) 802.11a (5.47GHz-5.725GHz) The Lowest Channel 100: 5500MHz



Ant 1#(Worst data) 802.11a (5.47GHz-5.725GHz) The Middle Channel 120: 5600MHz

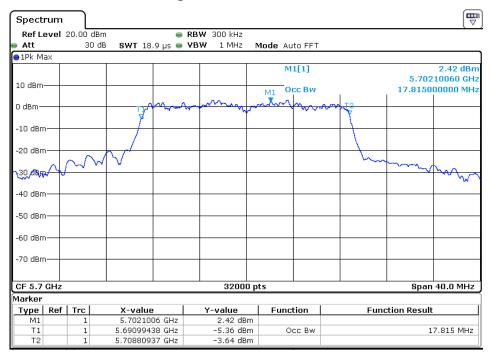




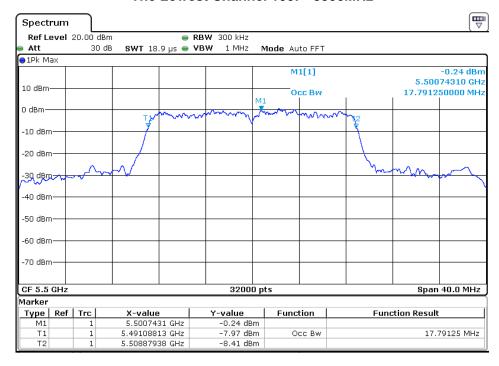
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Ant 1#(Worst data) 802.11a (5.47GHz-5.725GHz) The High Channel 140: 5700MHz



Ant 1#(Worst data) 802.11ac(20M) (5.47GHz-5.725GHz) The Lowest Channel 100: 5500MHz

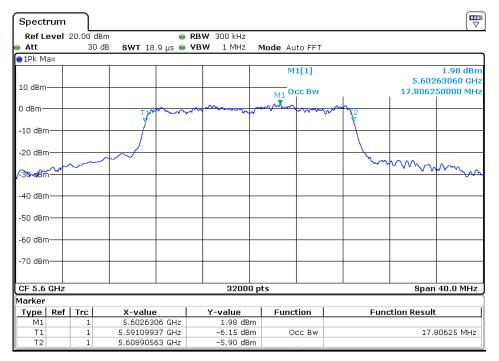




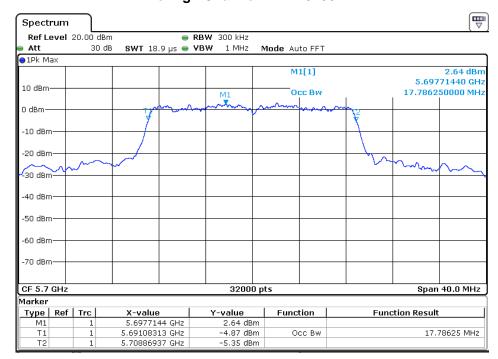
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Ant 1#(Worst data) 802.11ac(20M) (5.47GHz-5.725GHz) The Middle Channel 120: 5600MHz



Ant 1#(Worst data) 802.11ac(20M) (5.47GHz-5.725GHz) The High Channel 142: 5700MHz

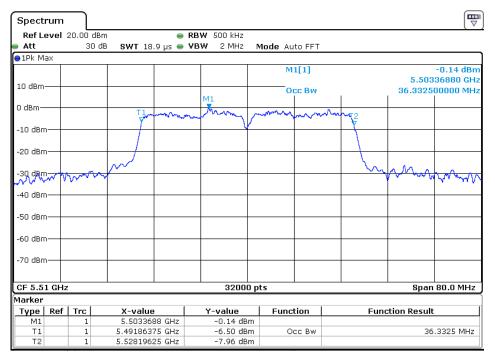




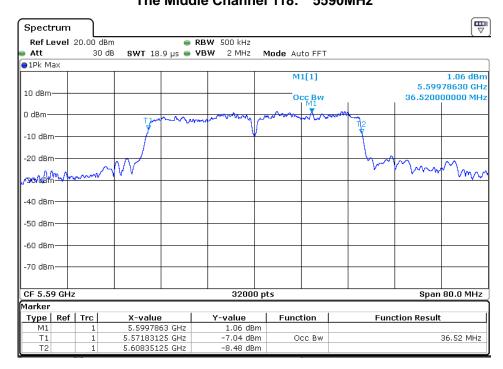
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Ant 1#(Worst data) 802.11ac(40M) (5.47GHz-5.725GHz) The Lowest Channel 102: 5510MHz



Ant 1#(Worst data) 802.11ac(40M) (5.47GHz-5.725GHz) The Middle Channel 118: 5590MHz

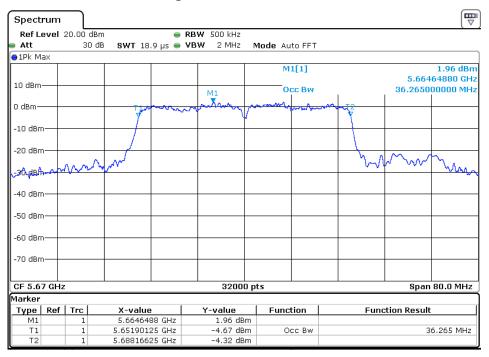




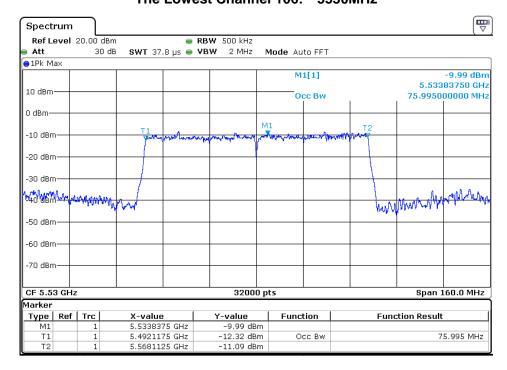
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Ant 1#(Worst data) 802.11ac(40M) (5.47GHz-5.725GHz) The High Channel 134: 5670MHz



Ant 1#(Worst data) 802.11ac(80M) (5.47GHz-5.725GHz) The Lowest Channel 106: 5530MHz

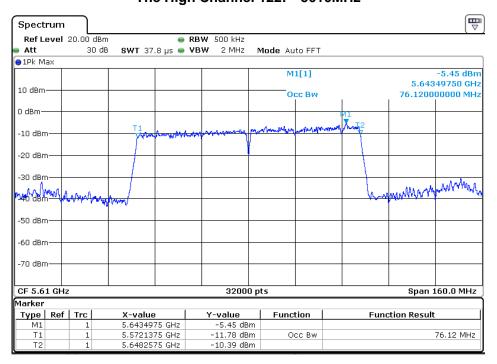




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Ant 1#(Worst data) 802.11ac(80M) (5.47GHz-5.725GHz) The High Channel 122: 5610MHz





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6.5 Peak Power Density

6.5.1 Applied procedures / Limit

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. 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.

6.5.2 Test procedure

- 1. The setting follows Method SA-1 of FCC KDB 789033 D02 General UNII Test Procedures New Rules v01 . For devices operating in the band, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, "provided that the measured power is integrated over the full reference bandwidth" to show the total power over the specified measurement bandwidth (*i.e.*, 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 KHz bandwidth, the following adjustments to the procedures apply:
 - a) Set RBW $\geq 1/T$, where T is defined in section II.B.l.a).
 - b) Set VBW ≥ 3 RBW.
 - c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10log(500kHz/RBW) to the measured result, whereas RBW (< 500 KHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
 - d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add 10log(1MHz/RBW) to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.
 - e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

6.5.3 TEST SETUP



6.5.4 Deviation from standard

No deviation.



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6.5.5 Test results

Note:1/2 Represent the value of antenna1/2, The worst data is Antenna 1, only shown Antenna 1Plot.



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Result plot as follows:

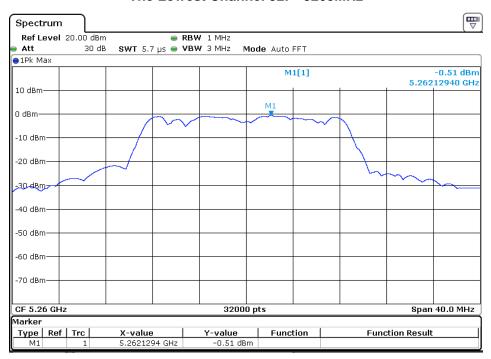
Test Mode	Channe I	Channel frenqucy (MHz)	Ant 1# Readin g (dBm)	Limit (dBm)	Result
Ant 1#	Low	5260	-0.51	11.00	Pass
802.11n(20M)	Middle	5300	-0.82	11.00	Pass
(5.25GHz-5.35GHz) Data rate 7.2Mbps	Highest	5320	-0.61	11.00	Pass
Ant 1# 802.11n(40M)	Low	5270	-3.88	11.00	Pass
(5.25GHz-5.35GHz) Data rate 15Mbps	Highest	5310	-3.68	11.00	Pass
Ant 1#	Low	5260	-0.42	11.00	Pass
802.11a	Middle	5300	-0.90	11.00	Pass
(5.25GHz-5.35GHz) Data rate 6Mbps	Highest	5320	-0.50	11.00	Pass
Ant 1#	Low	5260	-0.88	11.00	Pass
802.11ac(20M) (5.25GHz-5.35GHz) Data rate 7.2Mbps	Middle	5300	-0.46	11.00	Pass
	Highest	5320	-0.82	11.00	Pass
Ant 1#	Low	5270	-3.32	11.00	Pass
802.11ac(40M) (5.25GHz-5.35GHz) Data rate 15Mbps	Highest	5310	-3.53	11.00	Pass
Ant 1# 802.11ac(80M) (5.25GHz-5.35GHz) Data rate 32.5Mbps	Middle	5290	-11.69	11.00	Pass
Note:					
1.	1/2 Represent the value of antenna1/2,The worst data is Antenna 1,only shown Antenna 1Plot.				
2.	Antenna 1 and Antenna 2 can not transmit Simultaneously.				



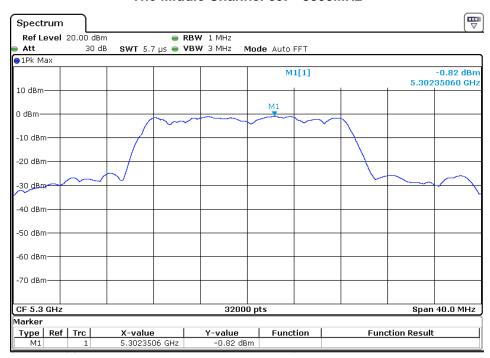
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Ant 1#(Worst data) 802.11n(20M) (5.25GHz-5.35GHz) The Lowest Channel 52: 5260MHz



Ant 1#(Worst data) 802.11n(20M) (5.25GHz-5.35GHz) The Middle Channel 60: 5300MHz

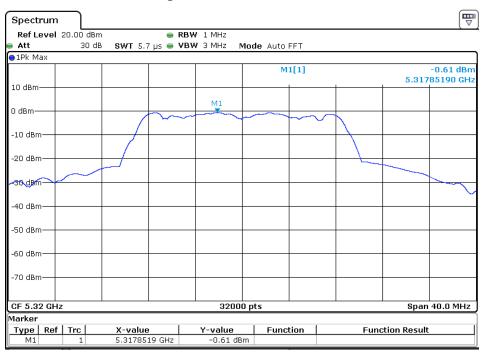




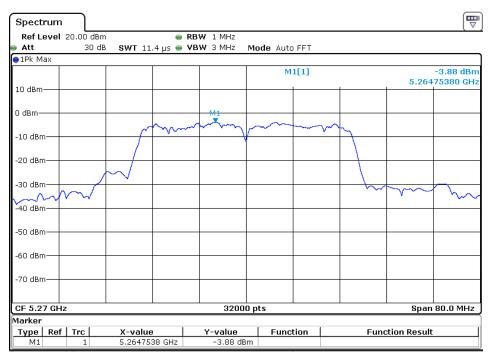
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Ant 1#(Worst data) 802.11n(20M) (5.25GHz-5.35GHz) The Highest Channel 64: 5320MHz



Ant 1#(Worst data) 802.11n(40M) (5.25GHz-5.35GHz) The Lowest Channel 54: 5270MHz

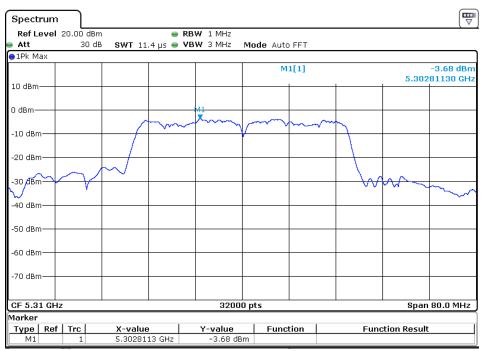




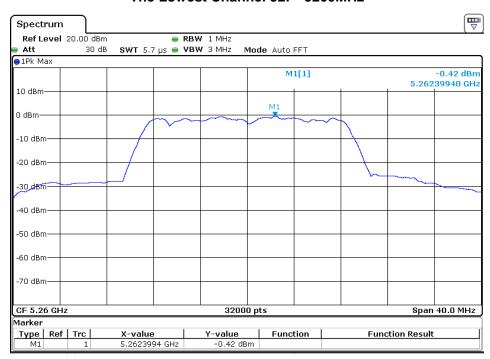
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Ant 1#(Worst data) 802.11n(40M) (5.25GHz-5.35GHz) The Highest Channel 62: 5310MHz



Ant 1#(Worst data) 802.11a (5.25GHz-5.35GHz) The Lowest Channel 52: 5260MHz

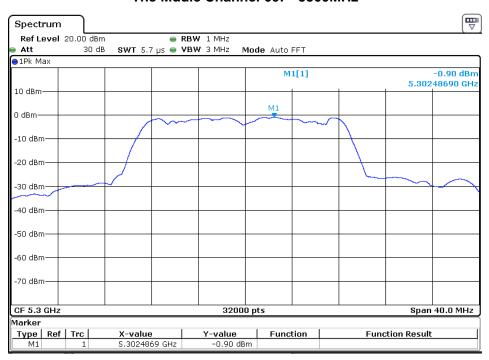




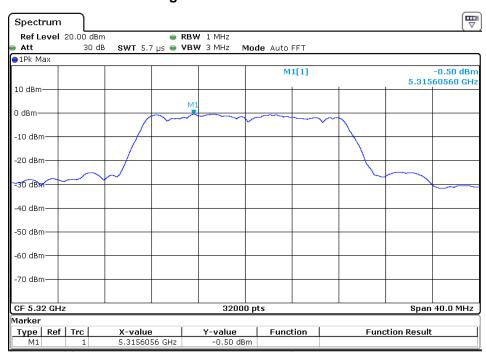
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Ant 1#(Worst data) 802.11a (5.25GHz-5.35GHz) The Mddle Channel 60: 5300MHz



Ant 1#(Worst data) 802.11a (5.25GHz-5.35GHz) The Highest Channel 64: 5320MHz

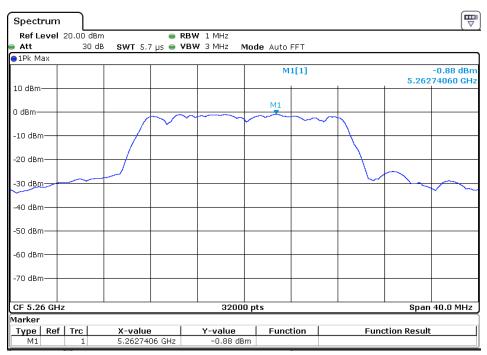




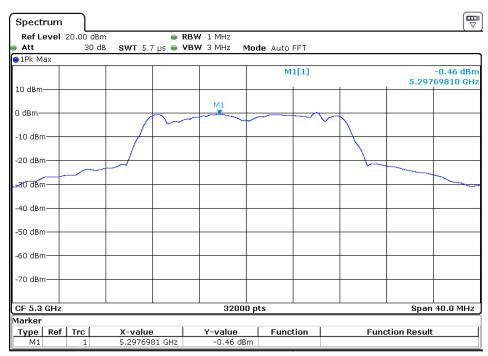
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Ant 1#(Worst data) 802.11ac(20M) (5.25GHz-5.35GHz) The Lowest Channel 52: 5260MHz



Ant 1#(Worst data) 802.11ac(20M) (5.25GHz-5.35GHz) The Middle Channel 60: 5300MHz

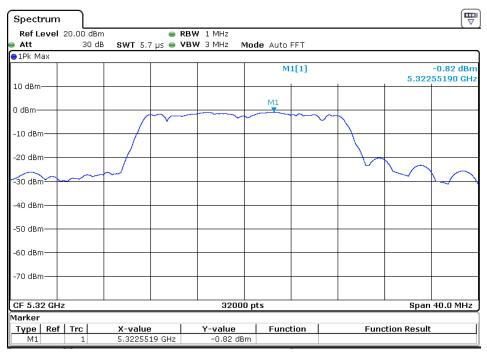




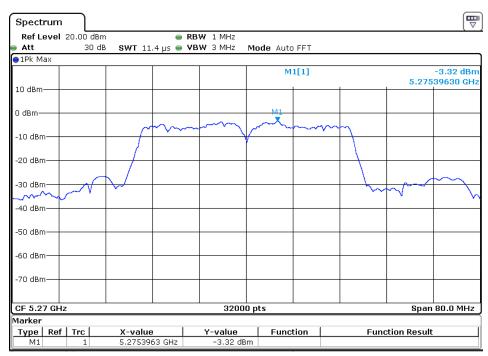
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Ant 1#(Worst data) 802.11ac(20M) (5.25GHz-5.35GHz) The Highest Channel 64: 5320MHz



Ant 1#(Worst data) 802.11ac(40M) (5.25GHz-5.35GHz) The Lowest Channel 54: 5270MHz

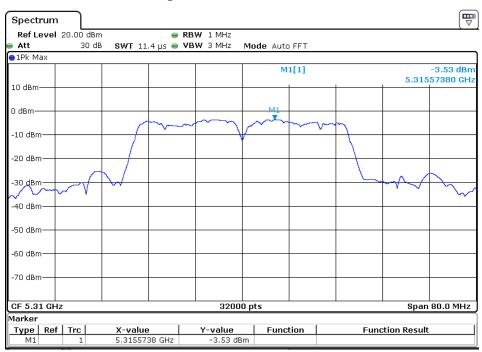




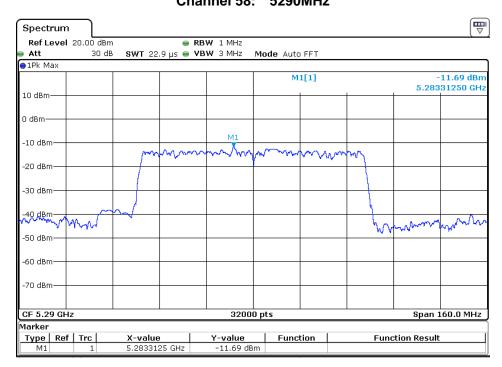
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Ant 1#(Worst data) 802.11ac(40M) (5.25GHz-5.35GHz) The Highest Channel 62: 5310MHz



Ant 1#(Worst data) 802.11ac(80M) (5.25GHz-5.35GHz) Channel 58: 5290MHz





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EUT:	Big Blue Party Chrome	Model Name:	AR106A4BK
Temperature:	22 ℃	Relative Humidity:	53%
Pressure:	1010 hPa	Hest Power •	DC 18V from adapter, AC 120V/60Hz for adapter
Test Mode:	802.11a/n20/n40/ac20/ac40/ac80-Ant 1#		

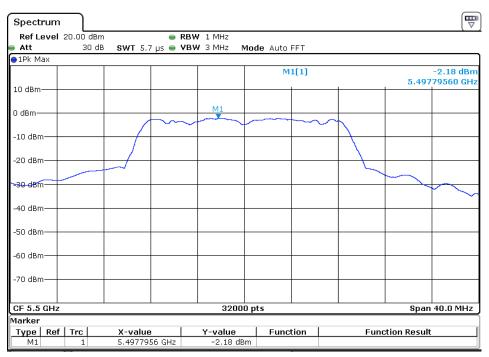
Test Mode	Channe I	Channel frenqucy (MHz)	Ant 1# Reading (dBm)	Limit (dBm)	Result
Ant 1#	Low	5500	-2.18	11.00	Pass
802.11n(20M)	Middle	5600	-1.45	11.00	Pass
(5.47GHz-5.725GHz) Data rate 7.2Mbps	Highest	5700	-2.86	11.00	Pass
Ant 1#	Low	5510	-5.08	11.00	Pass
802.11n(40M) (5.47GHz-5.725GHz)	Middle	5590	-4.37	11.00	Pass
Data rate 15Mbps	Highest	5670	-5.62	11.00	Pass
Ant 1#	Low	5500	-1.75	11.00	Pass
802.11a	Middle	5600	-2.11	11.00	Pass
(5.47GHz-5.725GHz) Data rate 6Mbps	Highest	5700	-2.68	11.00	Pass
Ant 1#	Low	5500	-1.42	11.00	Pass
802.11ac(20M)	Middle	5600	-1.31	11.00	Pass
(5.47GHz-5.725GHz) Data rate 7.2Mbps	Highest	5720	-2.48	11.00	Pass
Ant 1#	Low	5510	-4.64	11.00	Pass
802.11ac(40M) (5.47GHz-5.725GHz)	Middle	5590	-4.22	11.00	Pass
Data rate 15Mbps	Highest	5710	-4.82	11.00	Pass
Ant 1# 802.11ac(80M)	Low	5530	-13.06	11.00	Pass
(5.47GHz-5.725GHz) Data rate 32.5Mbps	Highest	5610	-13.20	11.00	Pass
Note:					
1.	1/2 Represent the value of antenna1/2,The worst data is Antenna 1,only shown Antenna 1Plot.				
2.	Antenna 1 and Antenna 2 can not transmit simultaneously.				



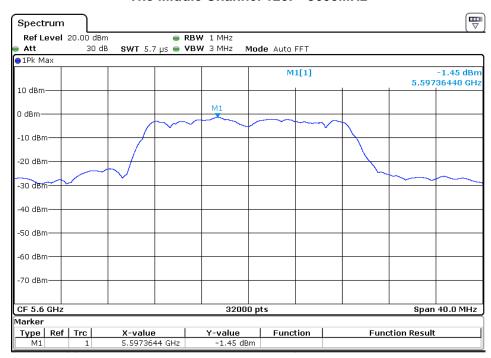
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Ant 1#(Worst data) 802.11n(20M) (5.47GHz-5.725GHz) The Lowest Channel 100: 5500MHz



Ant 1#(Worst data) 802.11n(20M) (5.47GHz-5.725GHz) The Middle Channel 120: 5600MHz

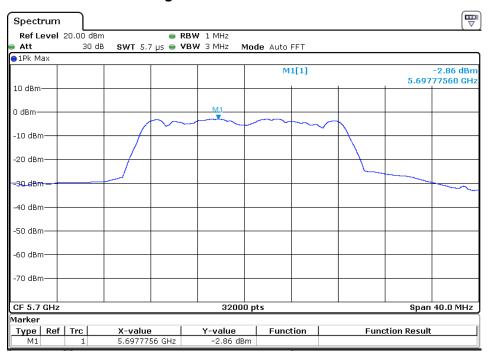




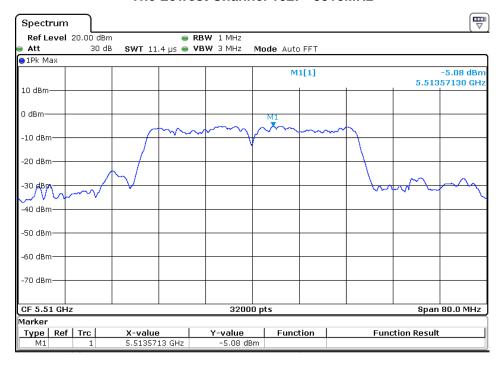
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Ant 1#(Worst data) 802.11n(20M) (5.47GHz-5.725GHz) The Highest Channel 140: 5700MHz



Ant 1#(Worst data) 802.11n(40M) (5.47GHz-5.725GHz) The Lowest Channel 102: 5510MHz

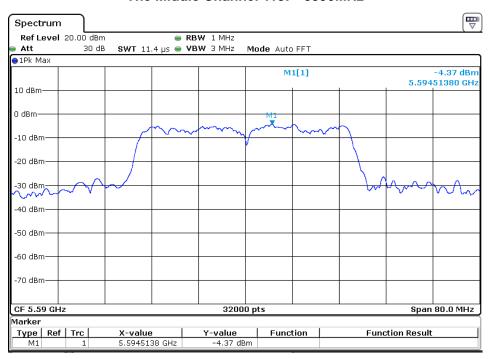




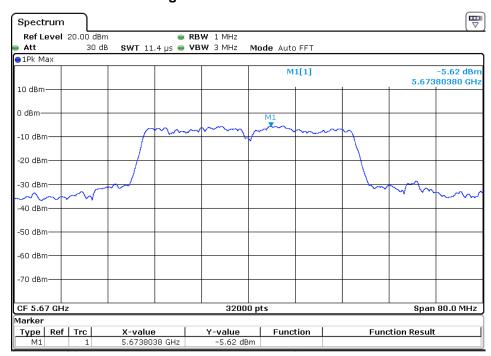
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Ant 1#(Worst data) 802.11n(40M) (5.47GHz-5.725GHz) The Middle Channel 118: 5590MHz



Ant 1#(Worst data) 802.11n(40M) (5.47GHz-5.725GHz) The Highest Channel 134: 5670MHz

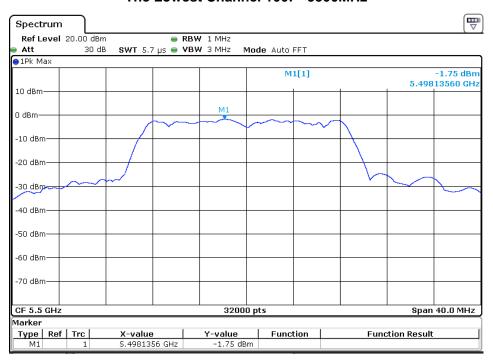




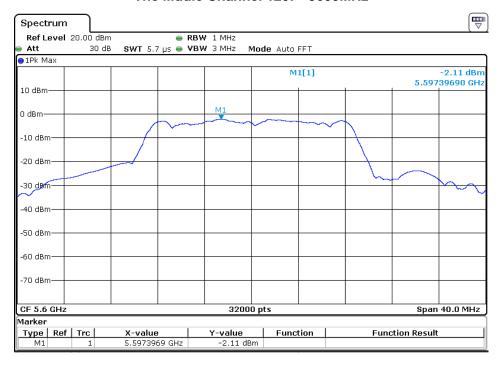
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Ant 1#(Worst data) 802.11a (5.47GHz-5.725GHz) The Lowest Channel 100: 5500MHz



Ant 1#(Worst data) 802.11a (5.47GHz-5.725GHz) The Mddle Channel 120: 5600MHz

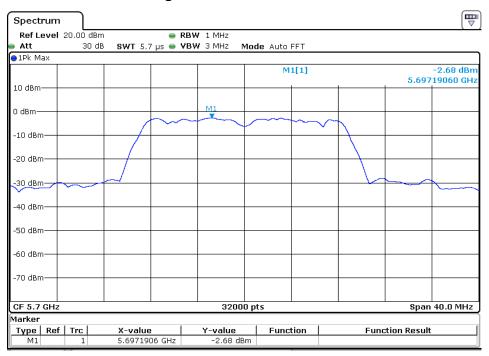




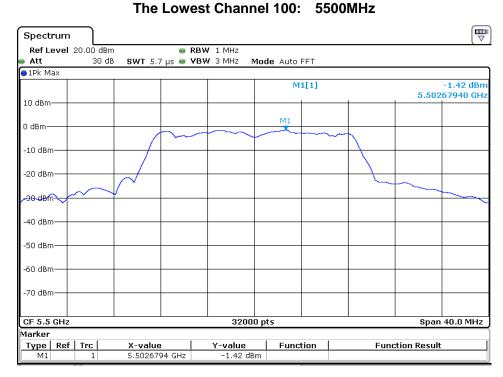
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Ant 1#(Worst data) 802.11a (5.47GHz-5.725GHz) The Highest Channel 140: 5700MHz



Ant 1#(Worst data) 802.11ac(20M) (5.47GHz-5.725GHz)

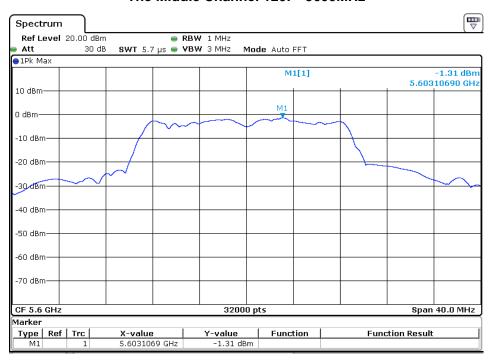




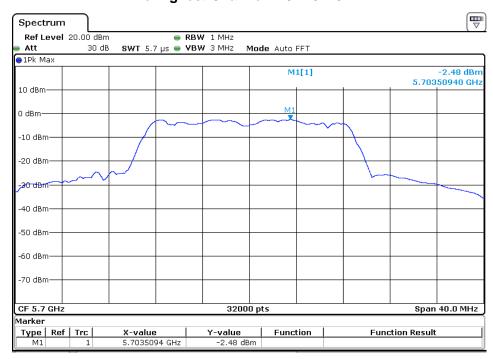
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Ant 1#(Worst data) 802.11ac(20M) (5.47GHz-5.725GHz) The Middle Channel 120: 5600MHz



Ant 1#(Worst data) 802.11ac(20M) (5.47GHz-5.725GHz) The Highest Channel 140: 5720MHz

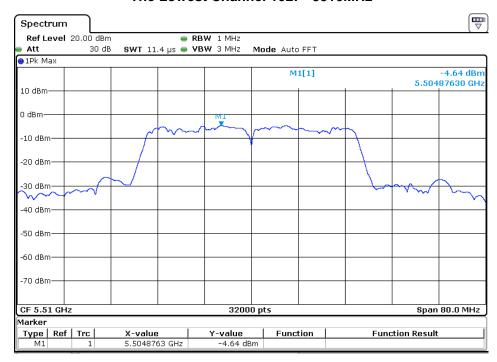




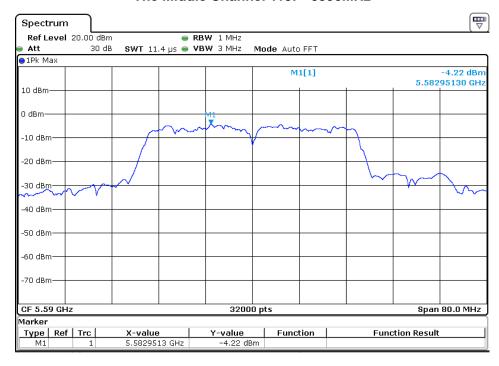
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Ant 1#(Worst data) 802.11ac(40M) (5.47GHz-5.725GHz) The Lowest Channel 102: 5510MHz



Ant 1#(Worst data) 802.11ac(40M) (5.47GHz-5.725GHz) The Middle Channel 118: 5590MHz

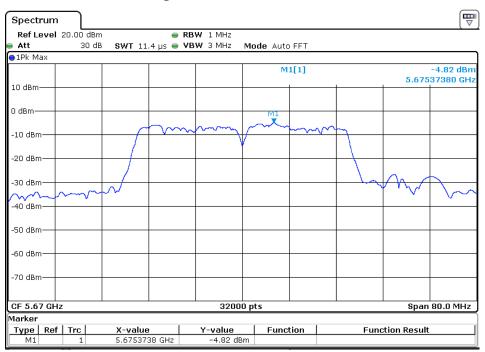




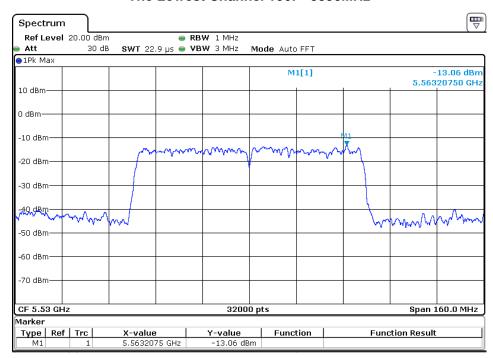
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Ant 1#(Worst data) 802.11ac(40M) (5.47GHz-5.725GHz) The Highest Channel 134: 5670MHz



Ant 1#(Worst data) 802.11ac(80M) (5.47GHz-5.725GHz) The Lowest Channel 106: 5530MHz

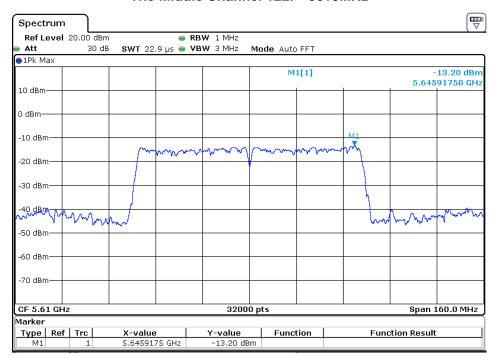




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Ant 1#(Worst data) 802.11ac(80M) (5.47GHz-5.725GHz) The Middle Channel 122: 5610MHz





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6.6 Maximum Peak Output Power

6.6.1 Applied procedures / Limit

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. 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.

FCC Part15 (15	.407) . Subr	oart E
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		` , ,	•	
Section	Test Item	Limit	Frequency Range	Result
			(MHz)	
15.407(E)	Peak Output	250 mW or 11	5.25-5.35 GHz and	PASS
(ii)/(2)	Power	dBm + 10 log B	5.47-5.725 GHz	

6.6.2 Test procedure

KDB 789033 D02v01r01 - Section E) 3) b) Method PM-G

The EUT was directly connected to the Power Sensor & Power meter.

Average power measurements were perform only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter. The trace was averaged over 100 traces to obtain the final measured average power.

6.6.3 Test Setup



6.6.4 Deviation from standard

No deviation.



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6.6.5 Test results

EUT:	Big Blue Party Chrome	Model Name:	AR106A4BK
Temperature:	22 ℃	Relative Humidity:	60%
Pressure:	1010 hPa	Test Voltage ·	DC 18V from adapter, AC 120V/60Hz for adapter
Test Mode : TX			
Note: All the data rates have be tested and the worst-case as the table below.			

Ant 1# Limit **Test Mode** Frequency **Reading Power** (dBm) Result (MHz) (dBm) 5260 23.98 **Pass** 802.11n(20M) 14.43 (5.25GHz-5.35GHz) 5300 14.76 23.98 Pass Data rate 7.2Mbps 5320 14.95 23.98 Pass 802.11n(40M) 5270 11.28 23.98 Pass (5.25GHz-5.35GHz) 5310 11.65 23.98 **Pass** Data rate 15Mbps 802.11a 5260 14.70 23.98 **Pass** (5.25GHz-5.35GHz) 14.25 **Pass** 5300 23.98 Data rate 6Mbps 5320 14.33 23.98 **Pass** 802.11ac(20M) 5260 13.26 23.98 **Pass** (5.25GHz-5.35GHz) 5300 13.41 23.98 **Pass** Data rate 7.2Mbps 5320 13.59 23.98 **Pass** 802.11ac(40M) 5270 11.27 23.98 **Pass** (5.25GHz-5.35GHz) 5310 11.56 23.98 **Pass** Data rate 15Mbps 802.11ac(80M) (5.25GHz-5.35GHz) 5290 5.30 23.98 **Pass** Data rate 32.5Mbps



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EUT:	Big Blue Party Chrome	Model Name:	AR106A4BK
Temperature:	22 ℃	Relative Humidity:	60%
Pressure:	1010 hPa	Lest Voltage ·	DC 18V from adapter, AC 120V/60Hz for adapter
Test Mode: TX			
Note: All the data rates have be tested and the worst-case as the table below			

Ant 1# Limit **Test Mode** Frequency **Reading Power** (dBm) Result (dBm) (MHz) 802.11n(20M) 5570 13.28 23.98 Pass (5.47-5.725GHz) 5600 14.46 23.98 Pass Data rate 7.2Mbps 5700 13.52 23.98 **Pass** 5510 10.64 23.98 **Pass** 802.11n(40M) (5.47-5.725GHz) 5590 10.71 23.98 **Pass** Pass Data rate 15Mbps 5670 10.25 23.98 Pass 802.11a 5570 13.43 23.98 5600 Pass (5.47-5.725GHz) 13.61 23.98 5700 Data rate 6Mbps 13.29 23.98 Pass 802.11ac(20M) 5570 14.80 23.98 **Pass** (5.47-5.725GHz) 5600 14.76 23.98 **Pass** Data rate 7.2Mbps 5720 14.34 23.98 **Pass** 802.11ac(40M) 5510 11.51 23.98 **Pass** (5.47-5.725GHz) 5590 11.66 23.98 **Pass** 5710 11.87 Data rate 15Mbps 23.98 **Pass** 802.11ac(80M) 5530 5.23 23.98 Pass (5.47-5.725GHz)

5.04

5610

Data rate 32.5Mbps

23.98

Pass

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6.7 FREQUENCY STABILITY MEASUREMENT

6.7.1 Applied procedures / Limit

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.

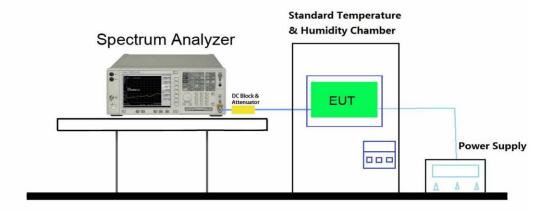
6.7.2 Test procedure

- 1. To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
- 2. The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10dB lower than the measured peak value.
- The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

6.7.3 Deviation from standard

No deviation.

6.7.4 Test setup





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6.7.5 Test results

Voltage	Power	Temp	Frequency Tolerance (ppm)
(%)	(VAC)	(℃)	
		- 20	3.43
		- 10	2.02
		0	1.78
100% 12	400	+ 10	3.21
	120	+ 20 (Ref)	2.12
		+ 30	4.10
		+ 40	2.56
		+ 50	3.87
115%	138	+ 20	3.87
85%	102	+ 20	3.42

Note: Frequency Tolerance (ppm) = $\{[Measured Frequency (Hz) - Declared Frequency (Hz)] / Declared Frequency (Hz)\} *10⁶.$



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6.8 AUTOMATICALLY DISCONTINUE TRANSMISSION

6.8.1 LIMIT OF AUTOMATICALLY DISCONTINUE TRANSMISSION

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 to describe how this requirement is met.

6.8.2 TEST RESULT OF AUTOMATICALLY DISCONTINUE TRANSMISSION

During no any information transmission, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission

6.9 ANTENNA REQUIREMENT

6.9.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

6.9.2 EUT ANTENNA

The EUT antenna comply with the standard requirement.

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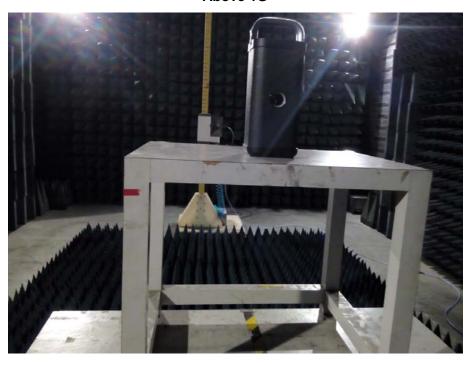
Photographs

7.1 Radiated Emission Test Setup

Below 1G



Above 1G





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7.2 Conduction Emission Test Setup





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7.3 EUT Constructional Details

Please refer to report E-F1609004-1.

End of report