



Test Report No:
2410358R-RFUSV03S-A

TEST REPORT

FCC Rules&Regulations

Product Name	VX5 HD Indoor Camera
Brand Name	resideo
Model No.	CAMW-WI
FCC ID	CFS8DLCAMWEWI1
Applicant's Name / Address	Ademco Inc. 2 Corporate Center Drive, Suite 100, Melville, New York 11747, United States
Manufacturer's Name / Address	XAVi Technologies Corporation 22 F., No. 69, Sec. 2, Guangfu Rd., Sanchong Dist., New Taipei City 241561, Taiwan (R.O.C.)
Test Method Requested, Standard	FCC CFR Title 47 Part 15 Subpart E Section 15.407 ANSI C63.10-2013
Verdict Summary	IN COMPLIANCE
Documented By	<i>Vera Hsu</i> Vera Hsu
Approved By	<i>Rueyyan Lin</i> Rueyyan Lin
Date of Receipt	Jan. 12, 2024
Date of Issue	Jul. 19, 2024
Report Version	V1.0

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Competences and Guarantees

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

IMPORTANT: No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of DEKRA.

General Conditions

1. The test results relate only to the samples tested.
2. The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.
3. This report must not be used to claim product endorsement by TAF or any agency of the government.
4. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification Co., Ltd.
5. Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Revision History

Version	Description	Issued Date
V1.0	Initial issue of report	Jul. 19, 2024

Summary of Test Result

Report Clause	Test Items	Result (PASS/FAIL)	Remark
3	AC Power Line Conducted Emission	PASS	-
4	Emission Bandwidth	PASS	-
5	Maximum Conducted Output Power	PASS	-
6	Maximum Power Spectral Density	PASS	-
7	Transmitter Radiated Spurious Emission	PASS	-

Comments and Explanations

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Comments and Remarks

The product specification and testing instructions for the EUT declared in the report are provided by the manufacturer who will take all responsibilities for the accuracy.

1. General Information

1.1. EUT Description

Frequency Range	5150 ~ 5250 MHz 5250 ~ 5350 MHz 5470 ~ 5725 MHz 5725 ~ 5850 MHz	
Operating Frequency / Channel Number	IEEE 802.11a IEEE 802.11n/ac (20 MHz)	5180 ~ 5240 MHz / 4 Channels 5260 ~ 5320 MHz / 4 Channels 5500 ~ 5700 MHz / 11 Channels 5745 ~ 5825 MHz / 5 Channels
	IEEE 802.11n/ac (40 MHz)	5190 ~ 5230 MHz / 2 Channels 5270 ~ 5310 MHz / 2 Channels 5510 ~ 5670 MHz / 5 Channels 5755 ~ 5795 MHz / 2 Channels
	IEEE 802.11ac (80 MHz)	5210 MHz / 1 Channel 5290 MHz / 1 Channel 5530 ~ 5610 MHz / 2 Channels 5775 MHz / 1 Channel
Type of Modulation	IEEE 802.11a/n	OFDM-BPSK, QPSK, 16QAM, 64QAM
	IEEE 802.11ac	OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM

Accessories Information				
No.	Equipment Name	Brand Name	Model No.	Rating
1	SWITCHING POWER SUPPLY	KLEC	KL-WA120100-E	INPUT: AC 100-240V, 50/60Hz, 0.5A OUTPUT: DC 12.0V \equiv 1.0A

Antenna Information							
Ant.	Brand Name	Model No.	Type	Antenna Gain (dBi)			
				U-NII 1	U-NII 2A	U-NII 2C	U-NII 3
1	AWAN	ASP6P-100123	COUPLE	4.28	4.28	3.17	3.71
2	AWAN	ASP6P-100124	COUPLE	5.91	5.91	5.16	5.47

For IEEE 802.11a Mode: (1TX, 1RX)

Only Ant. 1 can be used as transmitting/receiving antenna.

For IEEE 802.11n/ac Mode: (2TX, 2RX)

Both Ant. 1 and Ant. 2 can be used as transmitting/receiving antennas, and they can transmit/receive signal simultaneously.

1.2. EUT Information

EUT Power Type	From Adapter			
EUT Function	<input checked="" type="checkbox"/>	Point-to-multipoint	<input type="checkbox"/>	Point-to-point
TPC Function	<input type="checkbox"/>	With TPC Function	<input checked="" type="checkbox"/>	Without TPC Function
Weather Band (5600 ~ 5650 MHz)	<input checked="" type="checkbox"/>	With 5600 ~ 5650 MHz	<input type="checkbox"/>	Without 5600 ~ 5650 MHz
Beamforming Function	<input type="checkbox"/>	With beamforming	<input checked="" type="checkbox"/>	Without beamforming
Product Type	<input type="checkbox"/>	Outdoor AP	<input type="checkbox"/>	Indoor AP
	<input type="checkbox"/>	Fixed P2P AP	<input checked="" type="checkbox"/>	Client

1.3. Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR FCC Part 15
- ♦ ANSI C63.10-2013
- ♦ KDB 789033 D02 v02r01

The following reference test guidance is not within the scope of accreditation of TAF.

- ♦ KDB 662911 D01 v02r01
- ♦ KDB 412172 D01 v01r01
- ♦ KDB 414788 D01 v01r01

1.4. Testing Location Information

Testing Location Information	
Test Laboratory : DEKRA Testing and Certification Co., Ltd.	
1 (TAF: 3024)	ADD: No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C. TEL: +886-3-582-8001 FAX: +886-3-582-8958 Test site Designation No. TW3024 with FCC. Conformity Assessment Body Identifier (CABID) TW3024 with ISED.
2 (TAF: 3024)	ADD: No.372, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C. TEL: +886-3-582-8001 FAX: +886-3-582-8958 Test site Designation No. TW3024 with FCC. Conformity Assessment Body Identifier (CABID) TW3024 with ISED.
Test site number for address 1 includes HC-SR02. Test site number for address 2 includes HC-CB02, HC-CB03, HC-CB04, HC-SR10 and HC-SR12.	

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
AC Conduction Emission	HC-SR02	Gary Liao	21.5 / 55	2024/05/28
RF Conducted Emission	HC-SR12	Clemens Fang	23.4~26.4 / 52~57.4	2024/05/25~2024/05/27
Radiated Emission	HC-CB02	Cyril Chen	20~25 / 60~65	2024/05/22~2024/05/28

1.5. Measurement Uncertainty

Uncertainties have been calculated according to the DEKRA internal document with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)).

Test Item	Uncertainty
AC Power Line Conducted Emission	± 2.34 dB
Emission Bandwidth	± 636.54 Hz
Maximum Conducted Output Power	± 1.16 dB
Maximum Power Spectral Density	± 2.47 dB
Transmitter Radiated Spurious Emission	± 3.52 dB below 1 GHz ± 3.56 dB above 1 GHz

1.6. List of Test Equipment

HC-SR02

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Cal. Date	Next Cal. Date
Artificial Mains Network	R&S	ENV4200	848411/010	9kHz-30MHz, 4line/100A	2023/12/15	2024/12/14
EMI Test Receiver	R&S	ESR3	102608	9 kHz - 3.6 GHz	2023/09/19	2024/09/18
Two-Line V-Network	R&S	ENV216	100096	9kHz-30MHz	2023/06/02	2024/06/01
Coaxial Cable(9 m)	Harbour	RG-400	HC-SR02	9 kHz–2500 MHz	2023/08/04	2024/08/03
EMI Testing System	Audix	e3 210616 dekra V9	HC-SR02	N/A	N/A	N/A

HC-SR12

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Cal. Date	Next Cal. Date
High Speed Peak Power Meter Dual Input	Anritsu	ML2496A	1602004	0.3-40 GHz	2023/10/25	2024/10/24
Pulse Power Sensor	Anritsu	MA2411B	1531043	0.3-40 GHz	2023/10/25	2024/10/24
EXA Signal Analyzer	Keysight	N9010A	MY51440132	10 Hz-44 GHz	2023/12/11	2024/12/10

HC-CB04

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Cal. Date	Next Cal. Date
Signal and Spectrum Analyzer	R&S	FSVA40	101435	10 Hz-40 GHz	2024/05/17	2025/05/16
Trilog Broadband Antenna	Schwarzbeck	VULB 9168	1209	30 MHz-2 GHz	2023/06/13	2024/06/12
Double Ridged Horn Antenna	RF SPIN	DRH18-E	211212A18EN	1G-18GHz	2023/11/17	2024/11/16
Horn Antenna	Schwarzbeck	BBHA 9170	203	18G-40GHz	2024/02/02	2025/02/01
Pre-Amplifier	EMCI	EMC01820I	980364	30M-8 GHz,20 dB	2023/06/06	2024/06/05
Pre-Amplifier	EMEC	EM01G18GA	060835	1-18 GHz,50 dB	2023/07/24	2024/07/23
Pre-Amplifier	DEKRA	AP-400C	201801231	18G-40 GHz,48 dB	2023/10/03	2024/10/02
EMI Test Receiver	R&S	ESR7	102260	10 Hz-7 GHz	2023/11/27	2024/11/26
Magnetic Loop Antenna	Teseq	HLA 6121	44287	0.01-30 MHz	2023/10/13	2024/10/12
Coaxial Cable(11m)	Suhner	SF102_SF104	HC-CB04	30M-18 GHz	2023/08/08	2024/08/07
Coaxial Cable(3m)	Suhner,Rosnol	SF102_UP0264	HC-CB04-1	18G-40 GHz	2023/08/14	2024/08/13
Radiated Software	Audix	e3 V9	HC-CB02_1	N/A	N/A	N/A

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

2. Test Configuration of EUT

2.1. Test Condition

EUT Operational Condition	
Testing Voltage	AC 120V/60Hz

2.2. Test Frequency Mode

Test Software	Tera Tem Version 4.75
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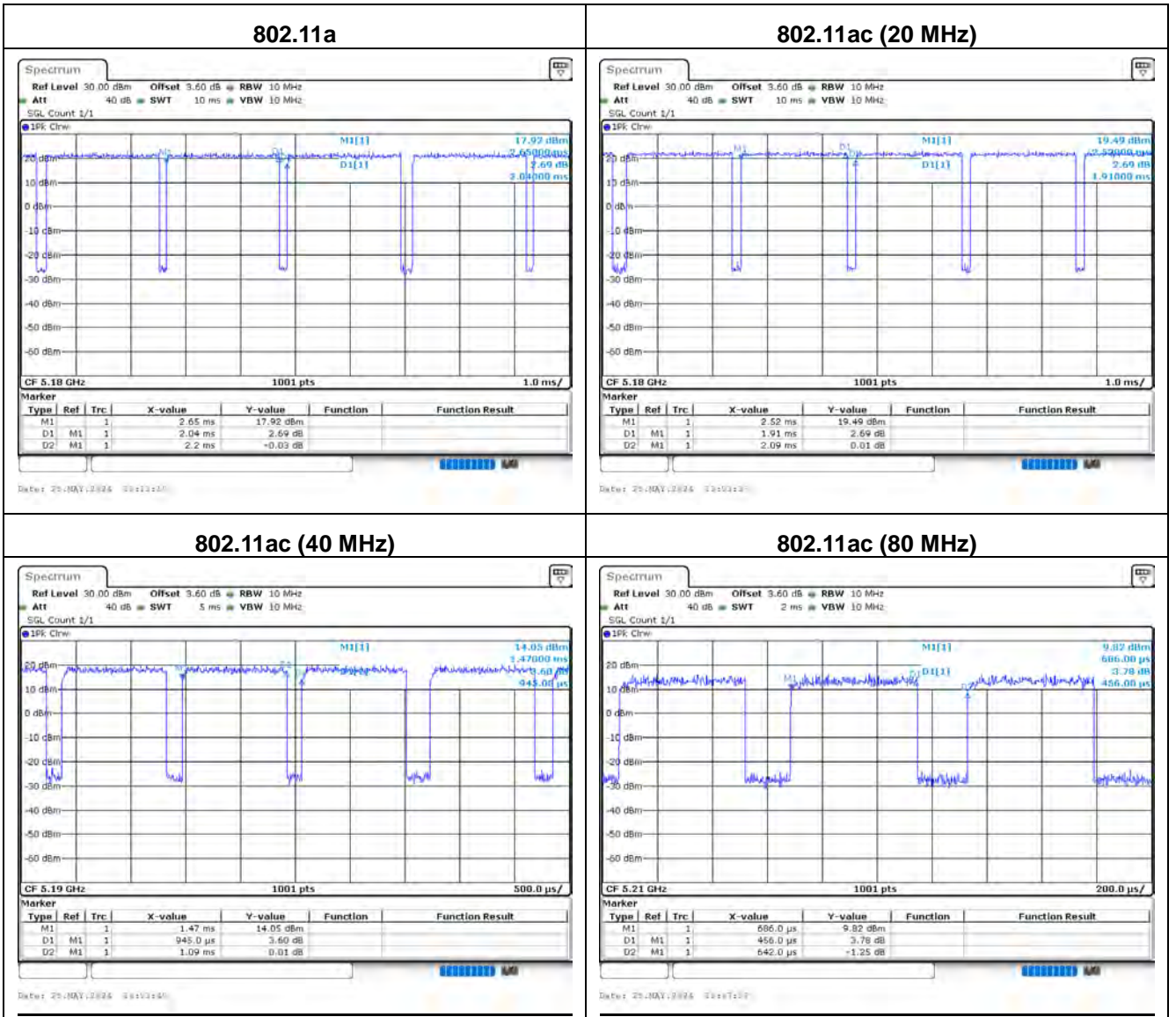
Modulation	Frequency (MHz)	Power Setting
802.11a	5180	98.0
	5220	100.0
	5240	100.0
	5260	100.0
	5300	103.0
	5320	103.0
	5500	100.0
	5580	103.0
	5700	100.0
	5745	103.0
	5785	103.0
	5825	103.0
802.11ac (20 MHz)	5180	96.0
	5220	96.0
	5240	96.0
	5260	100.0
	5300	100.0
	5320	100.0
	5500	96.0
	5580	100.0
	5700	92.0
	5745	103.0
	5785	103.0
	5825	103.0

Modulation	Frequency (MHz)	Power Setting
802.11ac (40 MHz)	5190	86.0
	5230	103.0
	5270	103.0
	5310	102.0
	5510	92.0
	5550	103.0
	5670	103.0
	5755	103.0
	5795	103.0
802.11ac (80 MHz)	5210	90.0
	5290	100.0
	5530	88.0
	5610	103.0
	5755	103.0

2.3. Duty Cycle

Modulation	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Minimum VBW (kHz)
802.11a	2.040	2.200	92.73%	0.33	0.490
802.11ac (20 MHz)	1.910	2.090	91.39%	0.39	0.524
802.11ac (40 MHz)	0.945	1.090	86.70%	0.62	1.058
802.11ac (80 MHz)	0.456	0.642	71.03%	1.49	2.193

Note: The duty factor will compensation encompasses for the total power spectral density.



2.4. The Worst Case Measurement Configuration

Tests Item	AC Power Line Conducted Emission
Test Condition	AC power line conducted measurement for line and neutral
Operating Mode	Transmit

Tests Item	Emission Bandwidth Maximum Conducted Output Power Maximum Power Spectral Density
Test Condition	Conducted measurement at transmit chains

Tests Item	Transmitter Radiated Spurious Emission
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	Transmit
Operating Mode > 1GHz	Transmit

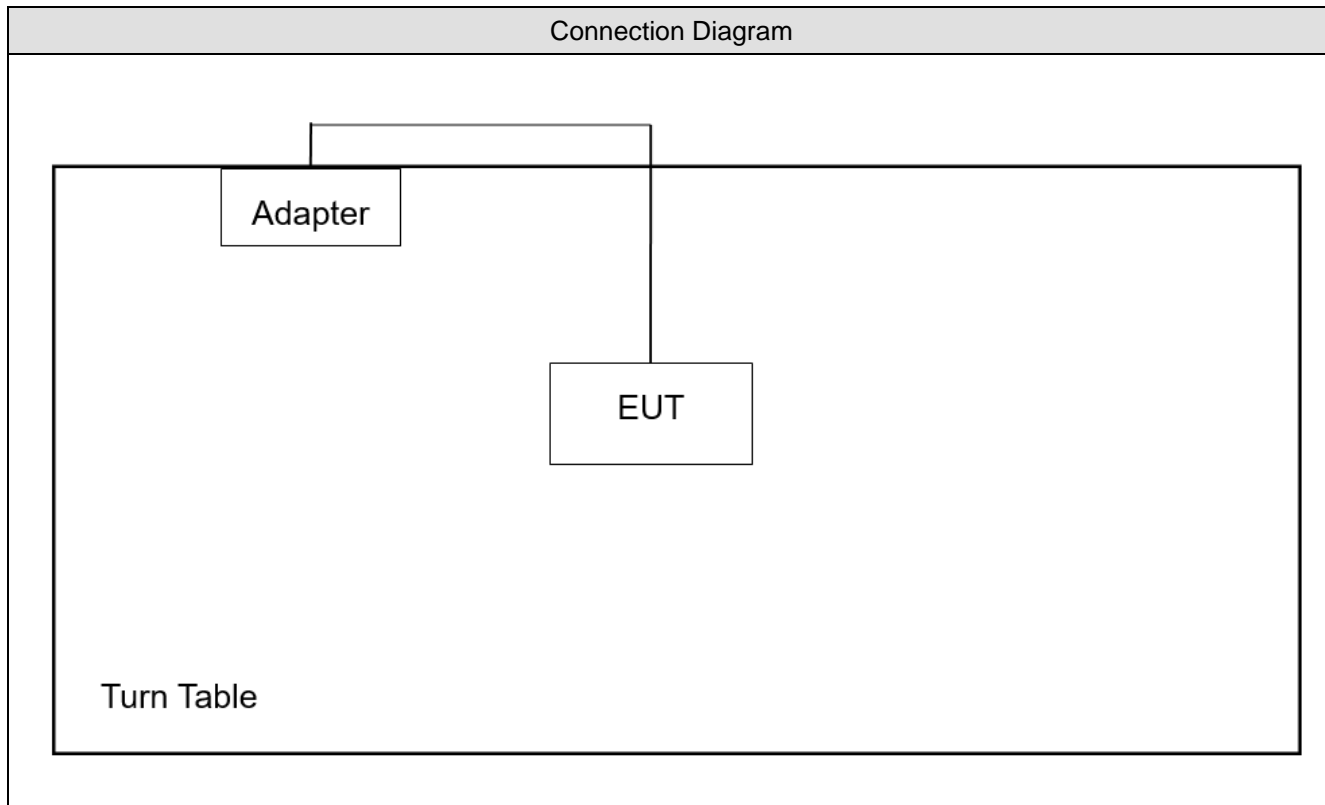
The EUT was performed at X axis, Y axis and Z axis position for radiated spurious emission test. The worst case was found at Z axis, so the measurement will follow this same test configuration.

Note:	
1.	Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2.	For radiated emission below 1 GHz and AC power line conducted emission have performed all modes of operation were investigated and the worst-case emissions are reported.
3.	The modulation and bandwidth are similar for 802.11n mode for HT20/HT40 and 802.11ac mode for VHT20/VHT40/VHT80, therefore investigated worst case to representative mode in test report.

2.5. Tested System Details

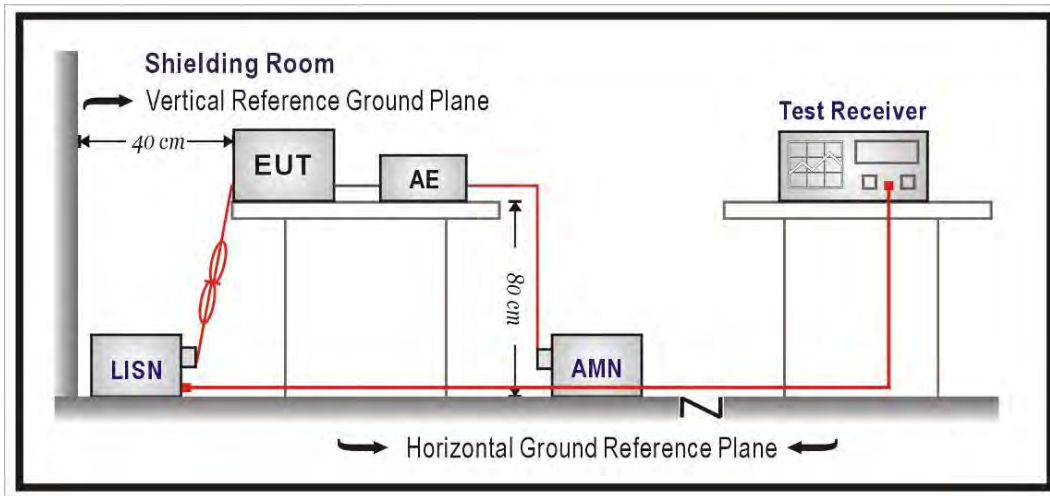
N/A

2.6. Configuration of tested System



3. AC Power Line Conducted Emission

3.1. Test Setup



3.2. Test Limit

Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Remark: In the above table, the tighter limit applies at the band edges.

3.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2013. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs.)

Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.

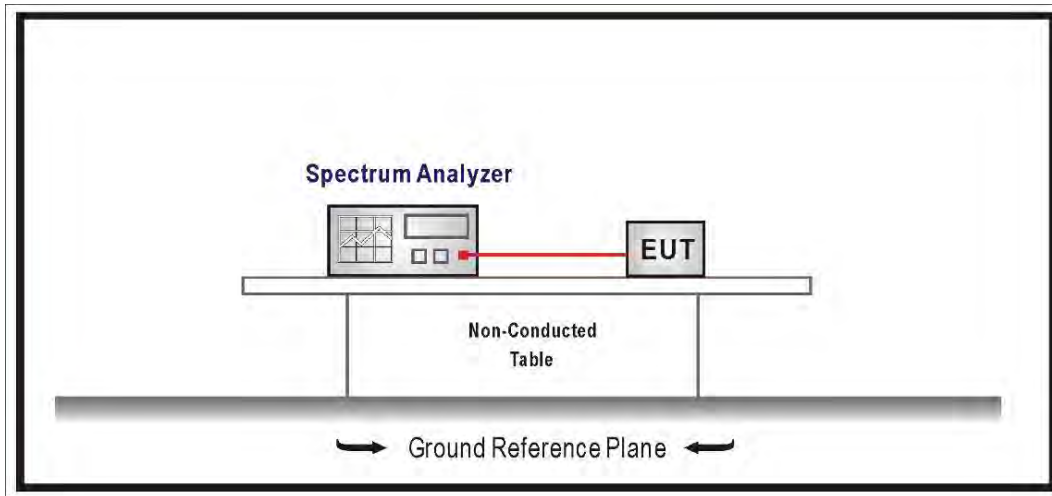
Conducted emissions were investigated over the frequency range from 0.15 MHz to 30 MHz using a receiver bandwidth of 9 kHz.

3.4. Test Result of AC Power Line Conducted Emission

Refer as Appendix A

4. Emission Bandwidth

4.1. Test Setup



4.2. Test Limit

99% & 26dB Bandwidth : No Required

6dB Bandwidth \geq 500kHz

4.3. Test Procedure

99% & 26dB Bandwidth :

The EUT was tested according to U-NII test procedure of KDB 789033.

Set RBW 1% of the emission bandwidth, VBW equal to 3 times the RBW.

DTS Bandwidth :

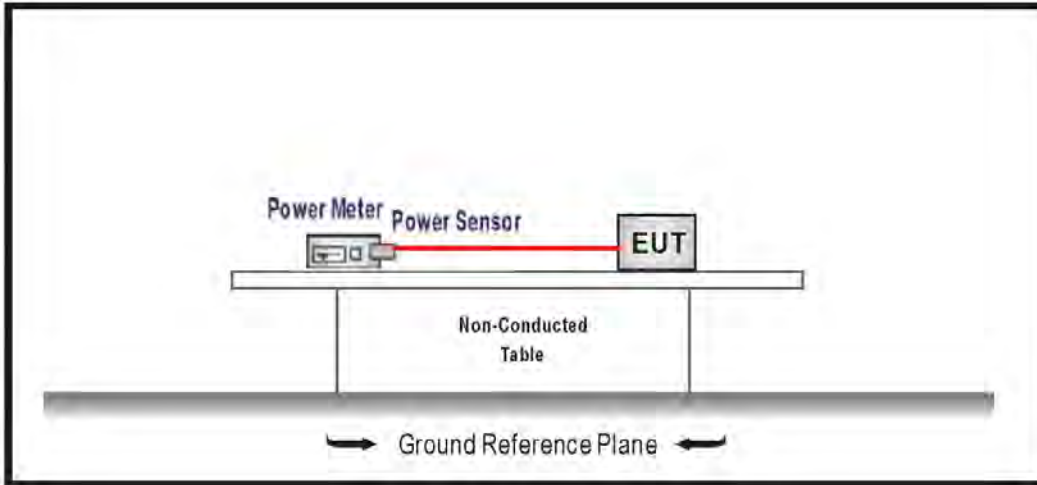
Set RBW = 100kHz, VBW \geq 3xRBW, Sweep time=Auto, Set Peak detector.

4.4. Test Result of Emission Bandwidth

Refer as Appendix B

5. Maximum Conducted Output Power

5.1. Test Setup



5.2. Test Limit

1. For an outdoor access point and an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. 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. For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. 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.
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 $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. 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.
3. For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. 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.
4. For the band 5.850–5.895 GHz:
For an indoor access point, the maximum e.i.r.p. over the frequency band of operation must not exceed 36 dBm. Indoor access points operating on a channel that spans the 5.725–5.850 GHz and 5.850–5.895 GHz bands must not exceed an e.i.r.p. of 36 dBm.
For client devices, the maximum e.i.r.p. over the frequency band of operation must not exceed 30 dBm.
Client devices operating on a channel that spans the 5.725–5.850 GHz and 5.850–5.895 GHz bands must

not exceed an e.i.r.p. of 30 dBm.

For a subordinate device, the maximum e.i.r.p. over the frequency band of operation must not exceed 36 dBm.

5.3. Test Procedure

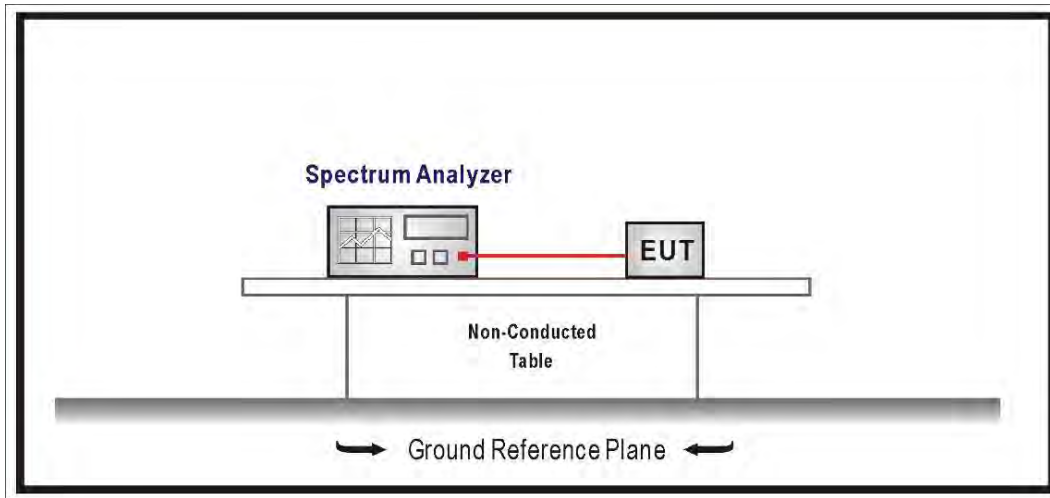
The EUT was setup to ANSI C63.10: 2013; tested according to U-NII test procedure of KDB 789033.

5.4. Test Result of Maximum Conducted Output Power

Refer as Appendix C

6. Maximum Power Spectral Density

6.1. Test Setup



6.2. Test Limit

1. For the band 5.15 ~ 5.25 GHz, the peak power spectral density shall not exceed 17 dBm in any 1 MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
2. For client devices in the 5.15 ~ 5.25 GHz band, 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
3. For the 5.25 ~ 5.35 GHz ,5470 ~ 5600 MHz and 5650 ~ 5725 MHz, the peak power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
4. For the band 5.725 ~ 5.850 GHz, the peak power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antenna of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that directional gain of the antenna exceeds 6 dBi.
5. The frequency band 5.850 ~ 5.895 GHz:
For an indoor access point operating in the 5.850–5.895 GHz band, the maximum power spectral density must not exceed 20 dBm e.i.r.p. in any 1–megahertz band.
For client devices operating under the control of an indoor access point in the 5.850–5.895 GHz band, the maximum power spectral density must not exceed 14 dBm e.i.r.p. in any 1-megahertz band.
For a subordinate device operating under the control of an indoor access point in the 5.850–5.895 GHz band, the maximum power spectral density must not exceed 20 dBm e.i.r.p in any 1–megahertz band.

6.3. Test Procedure

The EUT was setup to ANSI C63.10: 2013; tested to U-NII test procedure of KDB 789033.

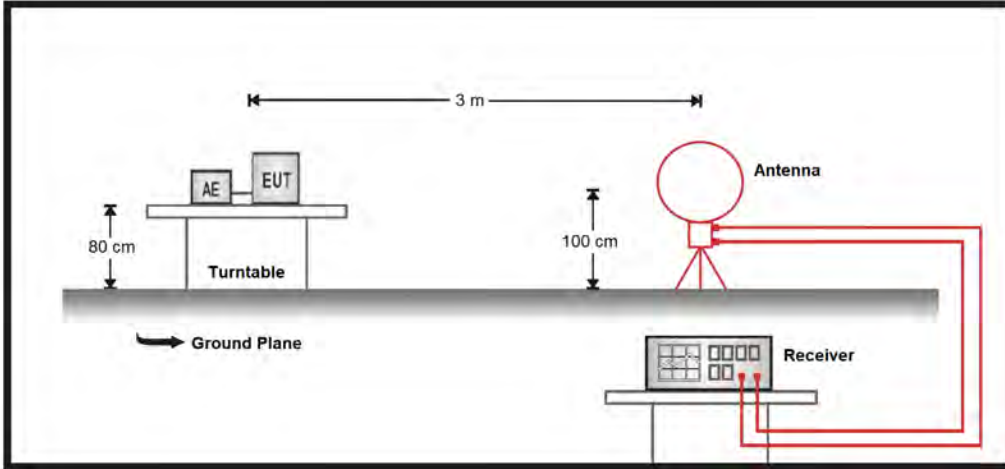
6.4. Test Result of Maximum Power Spectral Density

Refer as Appendix D

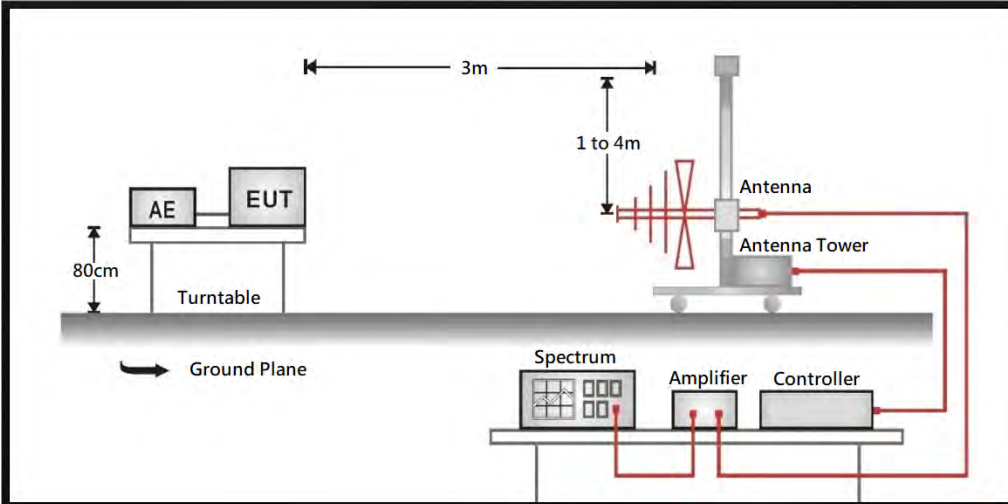
7. Transmitter Radiated Spurious Emission

7.1. Test Setup

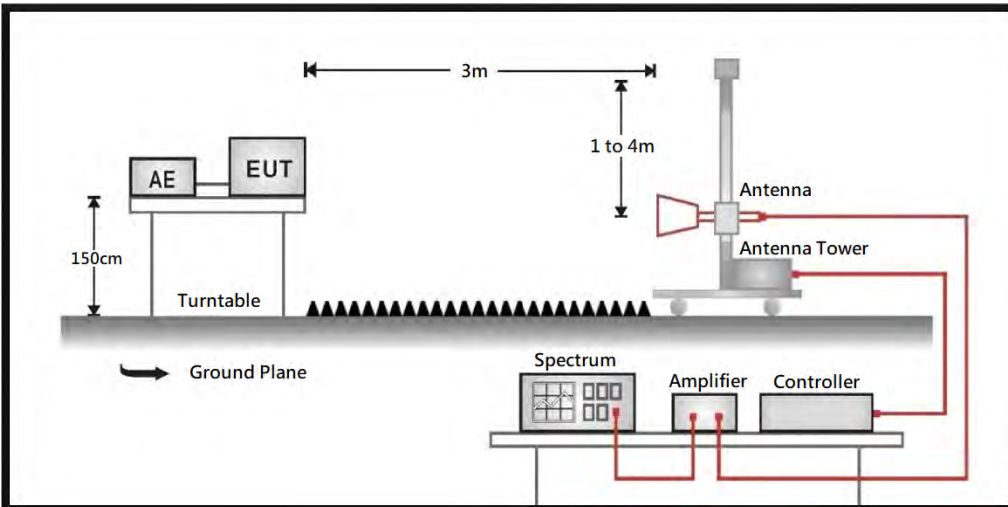
9 kHz ~ 30 MHz



30 MHz ~ 1 GHz



Above 1 GHz



7.2. Test Limit

Frequency (MHz)	Field strength (uV/m)	Field strength (dBuV/m)	Measurement distance (m)
0.009 – 0.490	2400/F(kHz)	20 log (2400/F(kHz))	300
0.490 – 1.705	24000/F(kHz)	20 log (24000/F(kHz))	30
1.705 - 30	30	29.5	30
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
Above 960	500	54	3

Remarks:

- Field strength (dBuV/m) = 20 log Field strength (uV/m)
- In the Above Table, the tighter limit applies at the band edges.
- Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system

Unwanted Emission out of the restricted bands Test Limit

Frequency (MHz)	EIRP Limit (dBm/MHz)	Equivalent Field Strength (dBuV/m@3m)
5150 – 5250	-27	68.2
5250 – 5350	-27	68.2
5470 – 5725	-27	68.2
5725 – 5850	-27 ^{*1}	68.2 ^{*1}
	10 ^{*2}	105.2 ^{*2}
	15.6 ^{*3}	110.8 ^{*3}
	27 ^{*4}	122.2 ^{*4}
5850 – 5895	(i) For an indoor access point or subordinate device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of 15 dBm/MHz and shall decrease linearly to an e.i.r.p. of -7 dBm/MHz at or above 5.925 GHz. (ii) For a client device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of -5 dBm/MHz and shall decrease linearly to an e.i.r.p. of -27 dBm/MHz at or above 5.925 GHz. (iii) For a client device or indoor access point or subordinate device, all emissions below 5.725 GHz shall not exceed an e.i.r.p. of -27 dBm/MHz at 5.65 GHz increasing linearly to 10 dBm/MHz at 5.7 GHz, and from 5.7 GHz increasing linearly to a level of 15.6 dBm/MHz at 5.72 GHz, and from 5.72 GHz increasing linearly to a level of 27 dBm/MHz at 5.725 GHz.	
^{*1} beyond 75 MHz or more above of the band edge. ^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above. ^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above. ^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.		

Remark:

The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3} \quad \text{uV/m, where P is the eirp (Watts).}$$

7.3. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 or 1.5 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated measurement.

The additional latch filter below 1 GHz was used to measure the level of harmonics radiated emission during field strength of harmonics measurement.

The bandwidth below 1 GHz setting on the field strength meter is 120 kHz, above 1 GHz are 1 MHz.

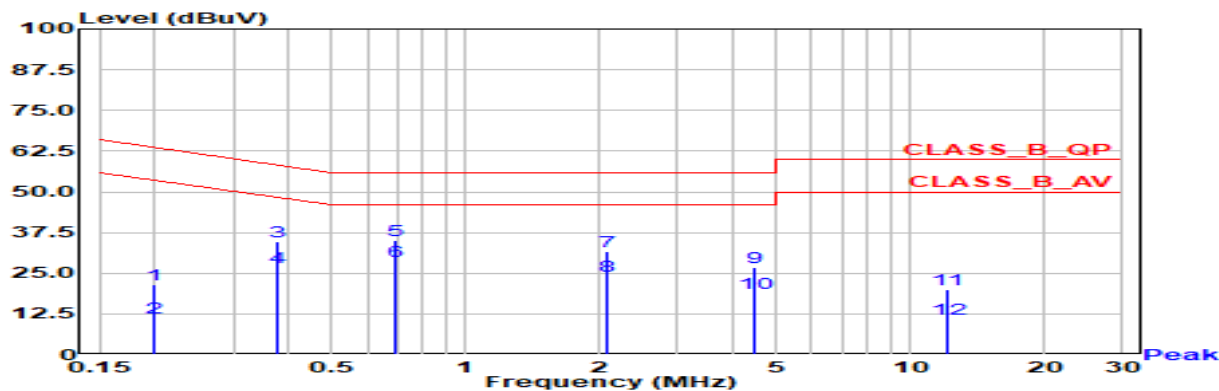
The frequency range from 9 kHz to 10th harmonics and included The frequency range from the lowest oscillator frequency generated within the device up to the 10th harmonic was checked is checked.

7.4. Test Result of Transmitter Radiated Spurious Emission

Refer as Appendix E

Appendix A. Test Result of AC Power Line Conducted Emission

Test Mode	Mode 1: Transmit	Phase	Line
Test Condition	802.11ac (80 MHz) / Ant. 1 + Ant. 2 / 5775 MHz		

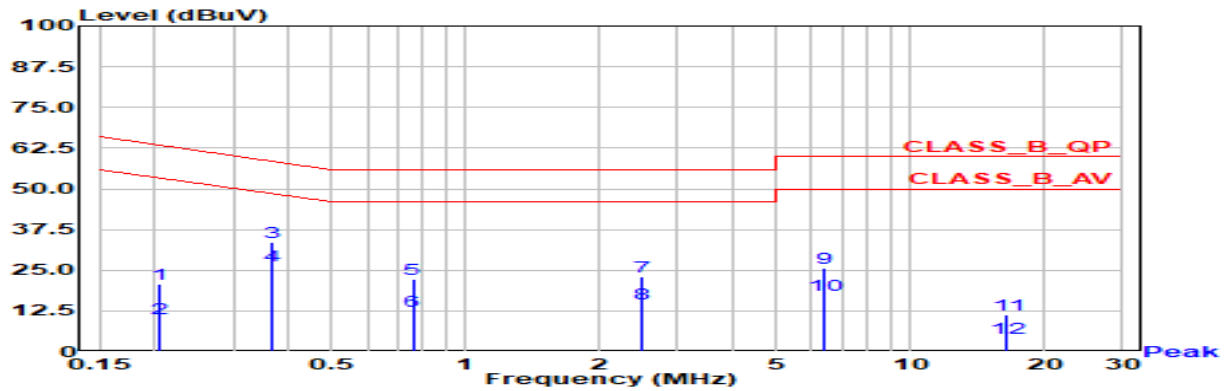


No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.200	21.60	63.61	-42.01	11.94	9.66	QP
2	0.200	11.29	53.61	-42.32	1.63	9.66	AV
3	0.375	34.55	58.39	-23.84	24.88	9.67	QP
4	0.375	26.85	48.39	-21.54	17.18	9.67	AV
5	0.695	35.19	56.00	-20.81	25.50	9.68	QP
*6	0.695	28.50	46.00	-17.50	18.82	9.68	AV
7	2.090	31.54	56.00	-24.46	21.67	9.86	QP
8	2.090	24.14	46.00	-21.86	14.27	9.86	AV
9	4.435	26.63	56.00	-29.37	16.69	9.93	QP
10	4.435	18.90	46.00	-27.10	8.96	9.93	AV
11	12.069	19.89	60.00	-40.11	9.72	10.17	QP
12	12.069	10.96	50.00	-39.04	0.79	10.17	AV

Note:

1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limit.

Test Mode	Mode 1: Transmit	Phase	Neutral
Test Condition	802.11ac (80 MHz) / Ant. 1 + Ant. 2 / 5775 MHz		



No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.205	20.78	63.41	-42.62	11.12	9.66	QP
2	0.205	10.37	53.41	-43.03	0.71	9.66	AV
3	0.365	33.73	58.61	-24.88	24.07	9.66	QP
*4	0.365	26.41	48.61	-22.20	16.75	9.66	AV
5	0.760	22.29	56.00	-33.71	12.60	9.68	QP
6	0.760	12.61	46.00	-33.39	2.92	9.68	AV
7	2.505	23.06	56.00	-32.94	13.19	9.88	QP
8	2.505	14.63	46.00	-31.37	4.75	9.88	AV
9	6.381	25.85	60.00	-34.15	15.83	10.01	QP
10	6.381	17.33	50.00	-32.67	7.32	10.01	AV
11	16.541	11.31	60.00	-48.69	0.91	10.41	QP
12	16.541	4.29	50.00	-45.71	-6.11	10.41	AV

Note:

1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limit.

Appendix B. Test Result of Emission Bandwidth

Modulation	Frequency (MHz)	99% Bandwidth (MHz)		26dB Bandwidth (MHz)		Limit (MHz)	
		Ant. 1	Ant. 2	Ant. 1	Ant. 2	99% & 26dB Bandwidth	
802.11a	5180	16.98		30.45		-	
	5220	17.30		31.10		-	
	5240	16.82		30.16		-	
	5260	16.62		28.60		-	
	5300	16.54		28.56		-	
	5320	16.62		26.00		-	
	5500	16.62		31.70		-	
	5580	17.50		34.85		-	
	5700	18.46		36.95		-	
Modulation	Frequency (MHz)	99% Bandwidth (MHz)		DTS Bandwidth (MHz)		Limit (MHz)	
		Ant. 1	Ant. 2	Ant. 1	Ant. 2	99% Bandwidth	DTS Bandwidth
802.11a	5745	24.58		16.28		-	0.50
	5785	26.73		16.32		-	0.50
	5825	27.49		16.28		-	0.50

Modulation	Frequency (MHz)	99% Bandwidth (MHz)		26dB Bandwidth (MHz)		Limit (MHz)	
		Ant. 1	Ant. 2	Ant. 1	Ant. 2	99% & 26dB Bandwidth	
802.11ac (20 MHz)	5180	17.58	17.54	24.08	20.16	-	
	5220	17.58	17.54	20.52	19.24	-	
	5240	17.54	17.54	20.00	19.48	-	
	5260	17.62	17.54	23.52	19.96	-	
	5300	17.54	17.62	20.36	20.96	-	
	5320	17.54	17.58	20.40	20.48	-	
	5500	17.54	17.66	19.52	28.96	-	
	5580	17.70	17.98	27.48	27.36	-	
	5700	17.58	17.70	22.24	27.52	-	
Modulation	Frequency (MHz)	99% Bandwidth (MHz)		DTS Bandwidth (MHz)		Limit (MHz)	
		Ant. 1	Ant. 2	Ant. 1	Ant. 2	99% Bandwidth	DTS Bandwidth
802.11ac (20 MHz)	5745	21.86	23.30	17.56	17.20		0.50
	5785	24.34	24.38	17.56	17.20	-	0.50
	5825	25.21	21.90	17.56	16.64	-	0.50

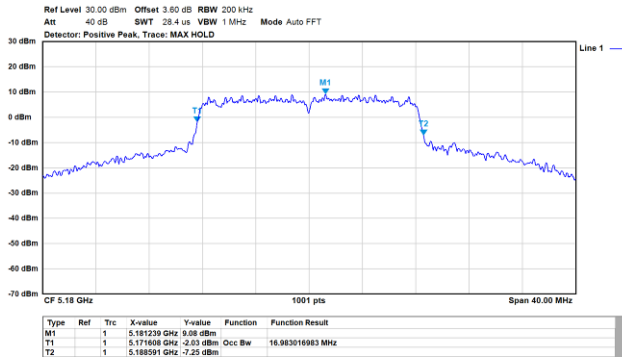
Modulation	Frequency (MHz)	99% Bandwidth (MHz)		26dB Bandwidth (MHz)		Limit (MHz)	
		Ant. 1	Ant. 2	Ant. 1	Ant. 2	99% & 26dB Bandwidth	
802.11ac (40 MHz)	5190	36.20	36.20	42.24	40.88	-	
	5230	36.84	36.44	74.20	47.60	-	
	5270	36.44	36.28	57.60	42.72	-	
	5310	36.36	36.44	49.52	45.52	-	
	5510	36.28	36.60	42.08	50.64	-	
	5550	36.44	37.24	59.30	71.90	-	
	5670	37.24	37.48	72.60	76.30	-	
Modulation	Frequency (MHz)	99% Bandwidth (MHz)		DTS Bandwidth (MHz)		Limit (MHz)	
		Ant. 1	Ant. 2	Ant. 1	Ant. 2	99% Bandwidth	DTS Bandwidth
802.11ac (40 MHz)	5755	44.12	47.23	35.12	35.12	-	0.50
	5795	47.39	44.60	35.12	35.12	-	0.50

Modulation	Frequency (MHz)	99% Bandwidth (MHz)		26dB Bandwidth (MHz)		Limit (MHz)	
		Ant. 1	Ant. 2	Ant. 1	Ant. 2	99% & 26dB Bandwidth	
802.11ac (80 MHz)	5210	75.12	74.33	84.64	79.52	-	
	5290	74.81	74.97	93.60	80.48	-	
	5530	74.97	74.97	79.68	101.76	-	
	5610	75.76	76.88	140.40	150.80	-	
Modulation	Frequency (MHz)	99% Bandwidth (MHz)		DTS Bandwidth (MHz)		Limit (MHz)	
		Ant. 1	Ant. 2	Ant. 1	Ant. 2	99% Bandwidth	DTS Bandwidth
802.11ac (80 MHz)	5755	87.27	81.84	72.64	70.08	-	0.50

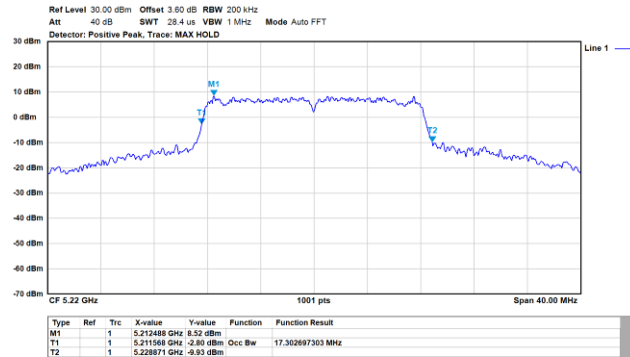
For 99% Bandwidth:

Spectrum plot of worst value

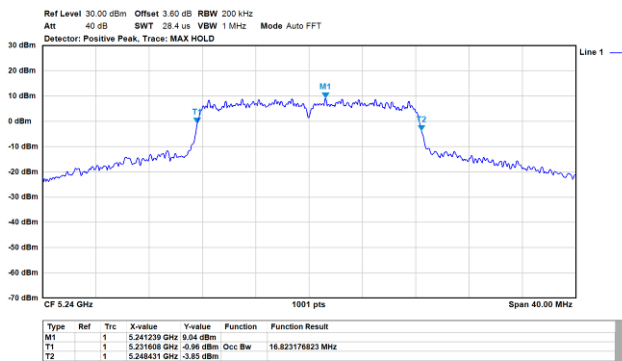
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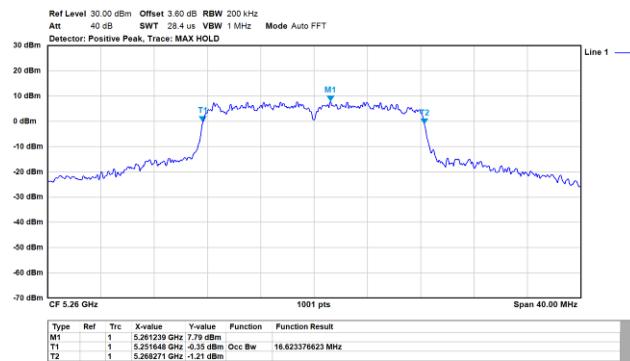
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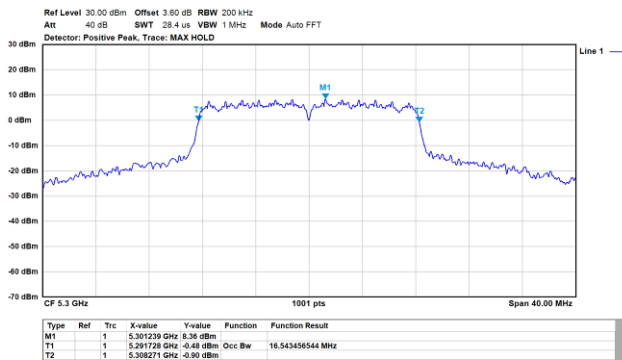
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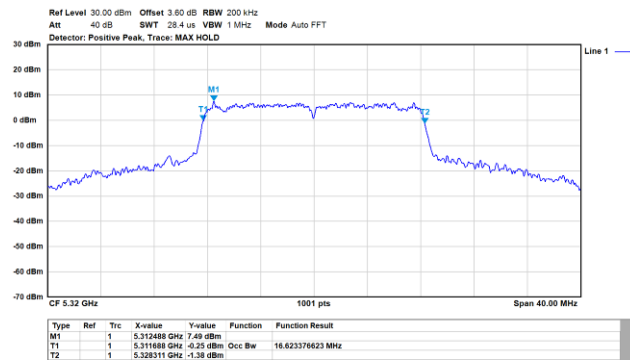
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802.11a/20MHz/6M/5300/60/Ant.1

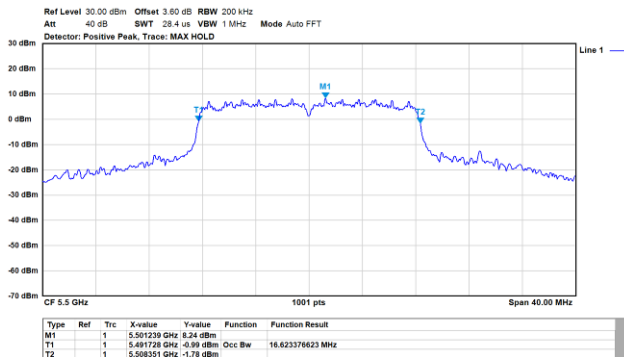


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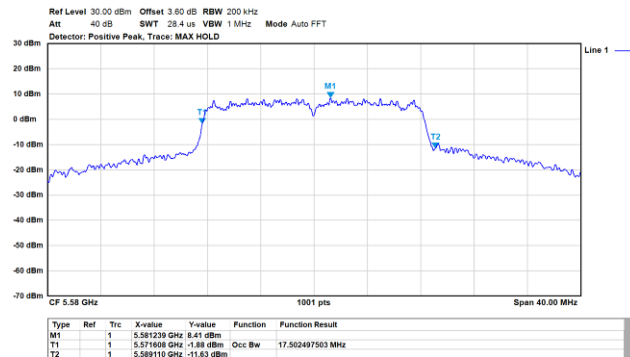


Spectrum plot of worst value

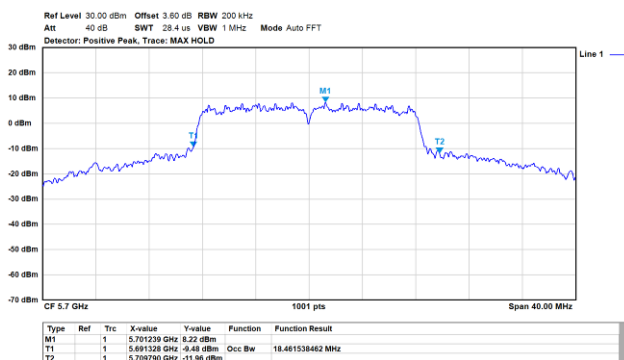
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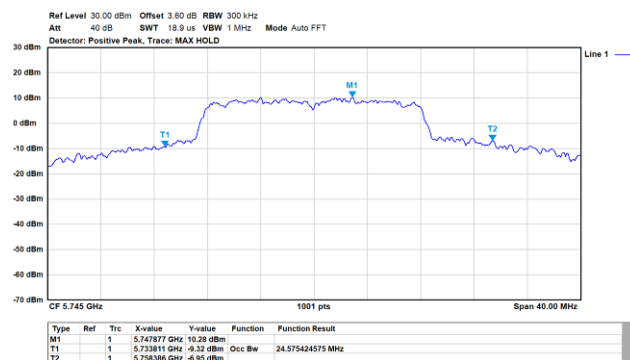
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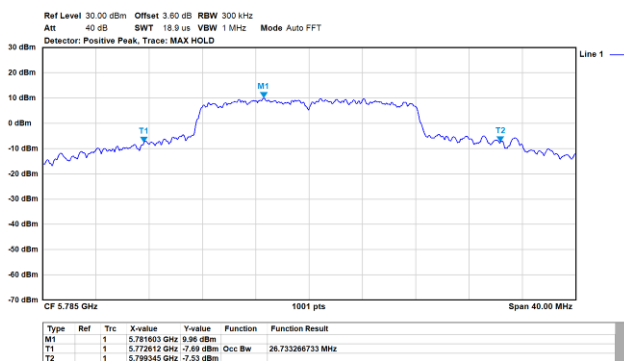
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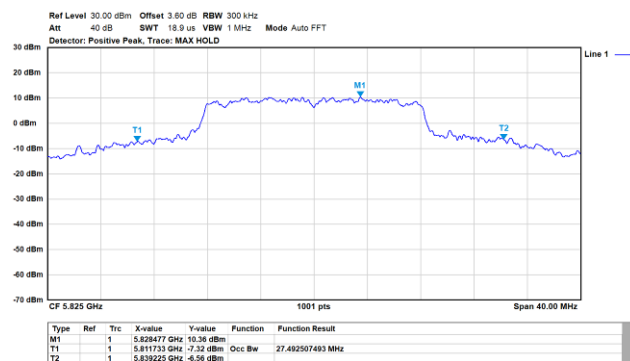
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802.11a/20MHz/6M/5785/157/Ant.1

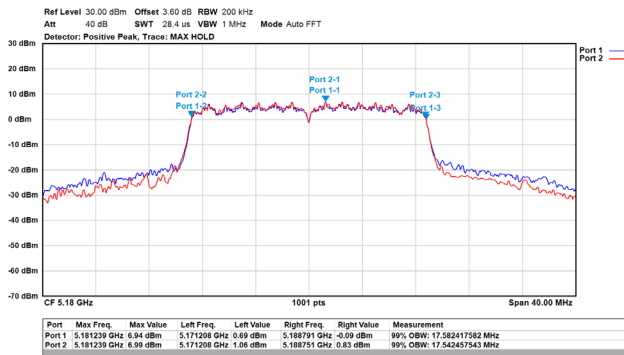


802.11a/20MHz/6M/5825/165/Ant.1

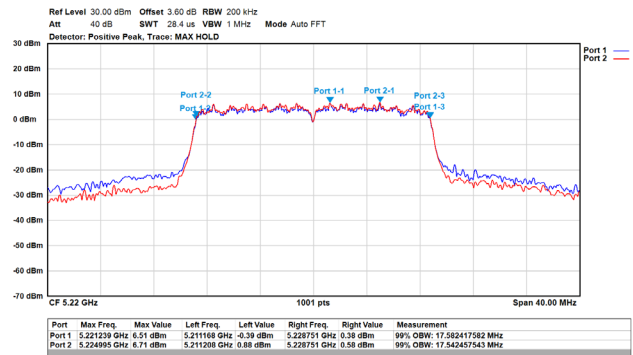


Spectrum plot of worst value

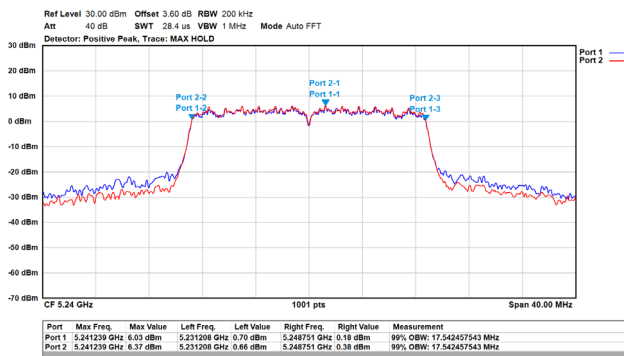
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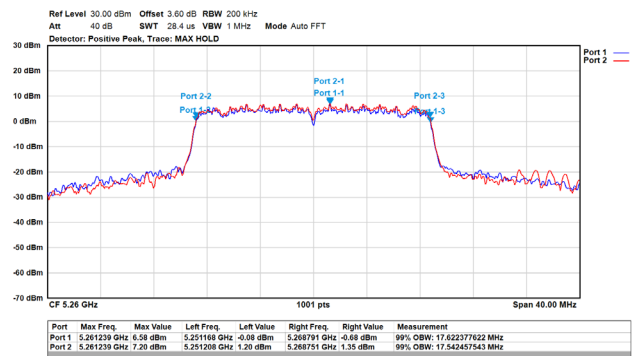
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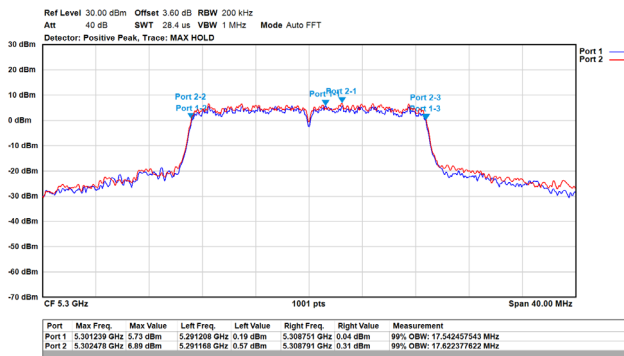
802.11ac/20MHz/MCS0/5240/48



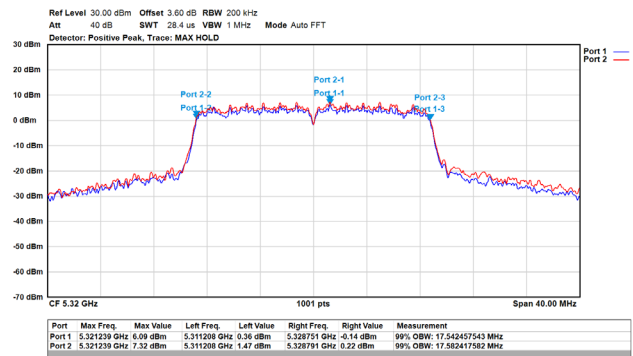
802.11ac/20MHz/MCS0/5260/52



802.11ac/20MHz/MCS0/5300/60

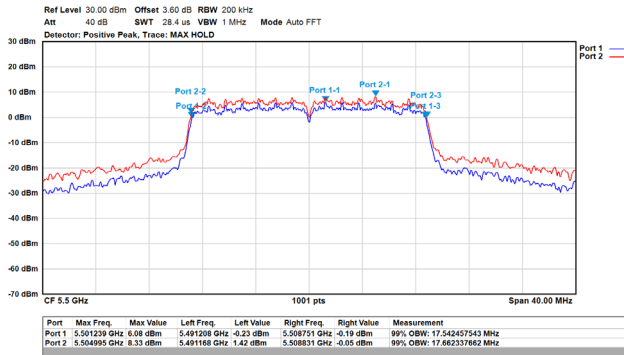


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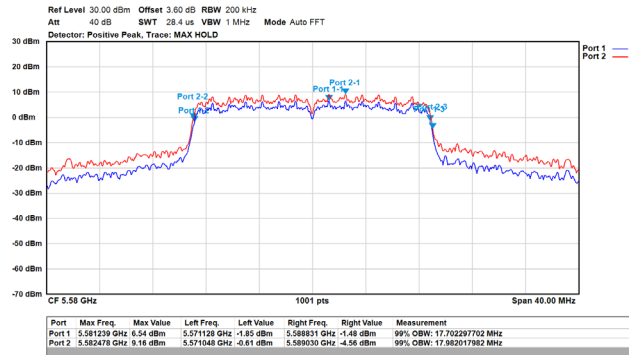


Spectrum plot of worst value

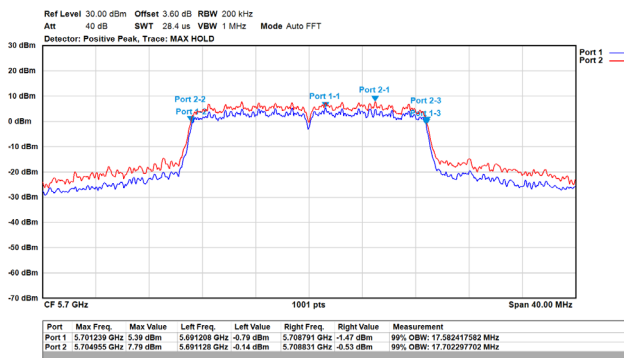
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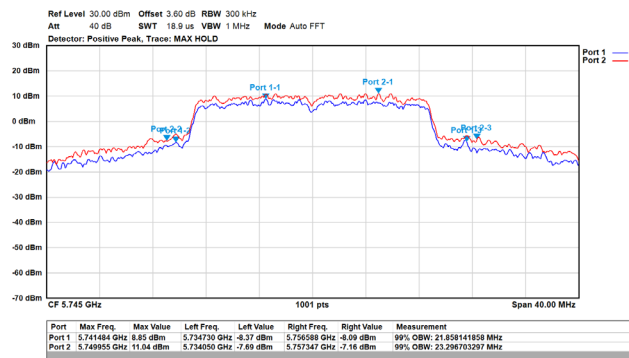
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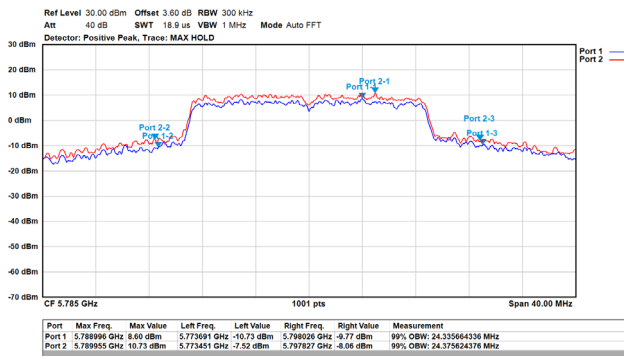
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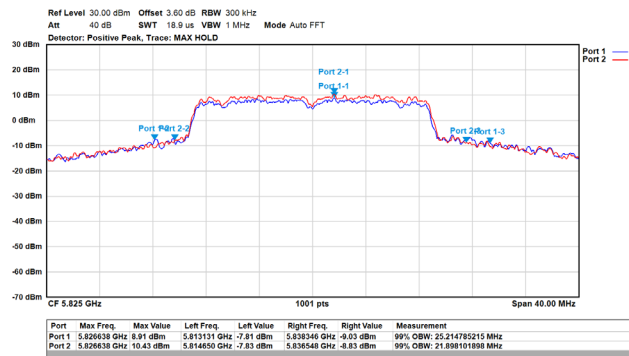
802.11ac/20MHz/MCS0/5745/149



802.11ac/20MHz/MCS0/5785/157

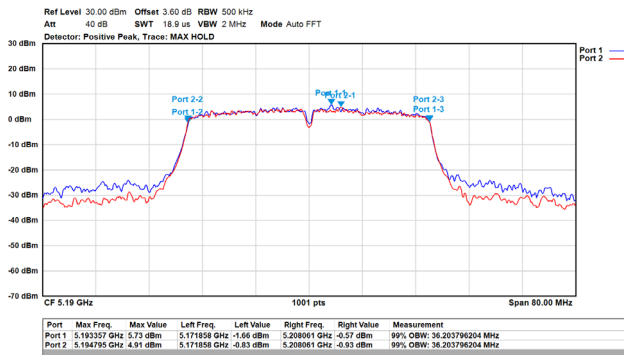


802.11ac/20MHz/MCS0/5825/165

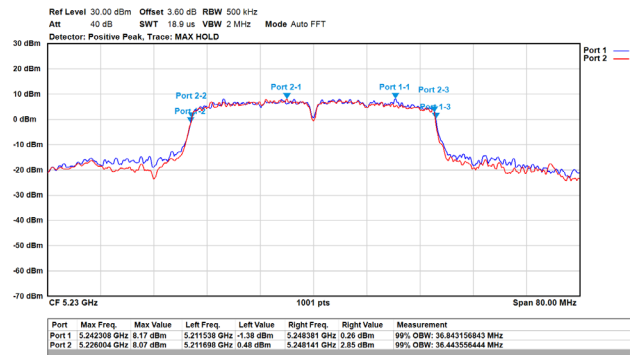


Spectrum plot of worst value

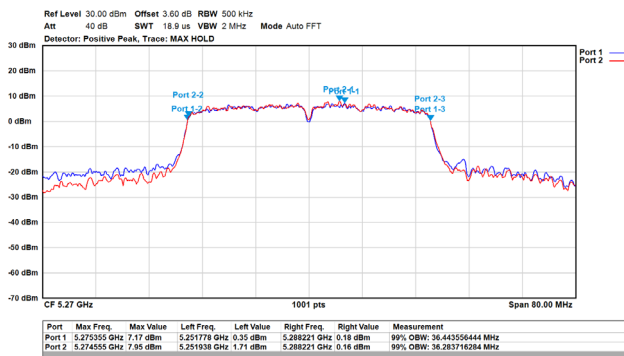
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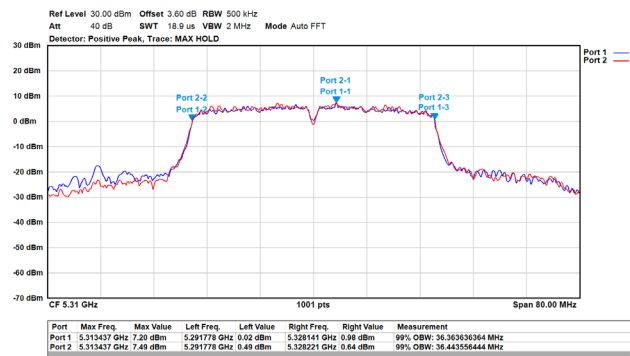
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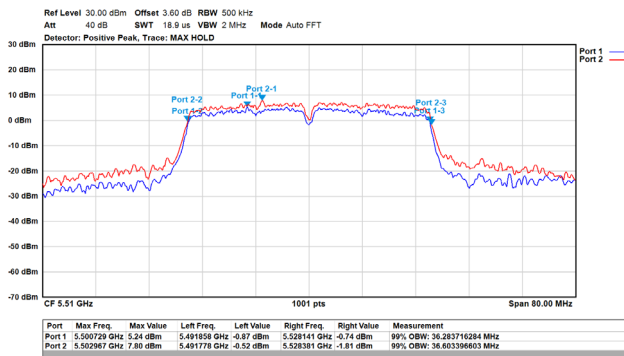
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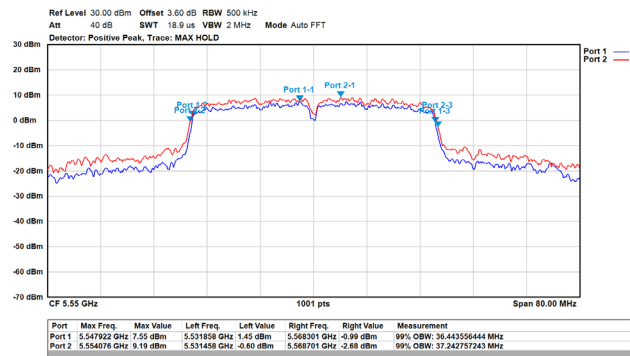
802.11ac/40MHz/MCS0/5310/62



802.11ac/40MHz/MCS0/5510/102

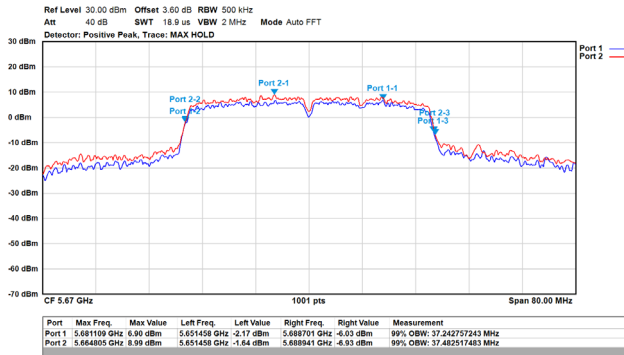


802.11ac/40MHz/MCS0/5550/110

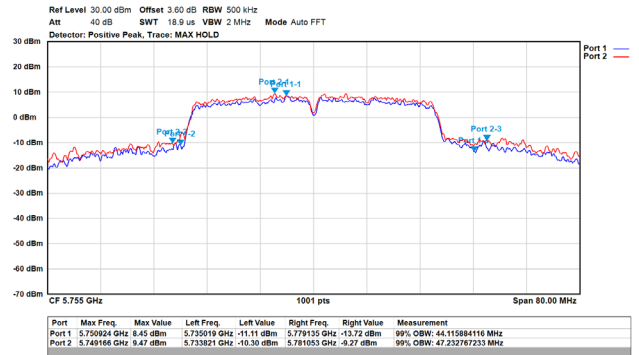


Spectrum plot of worst value

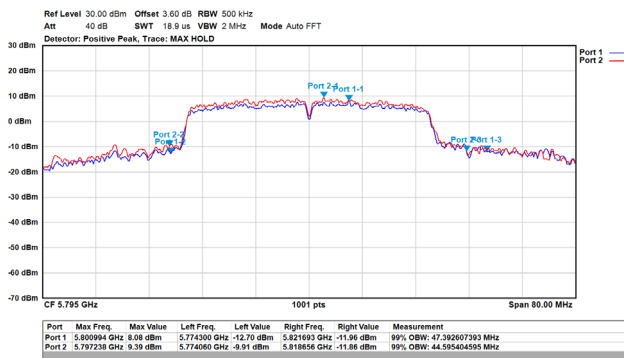
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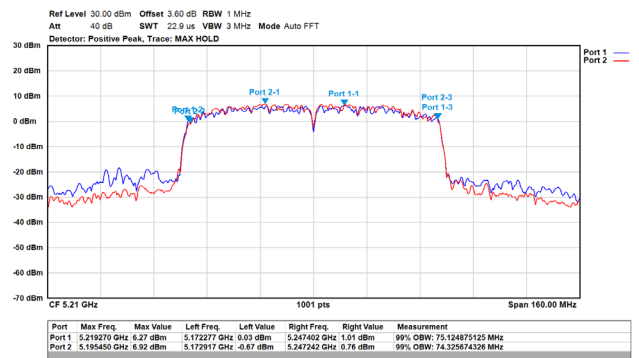
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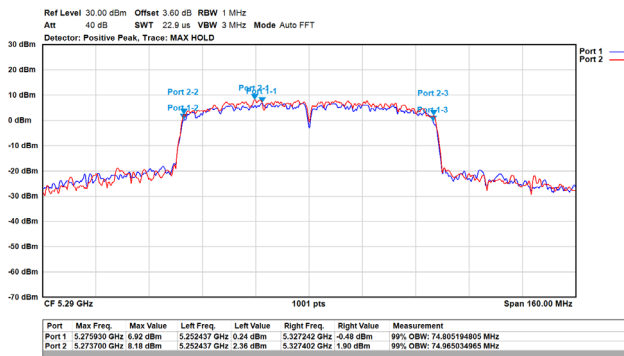
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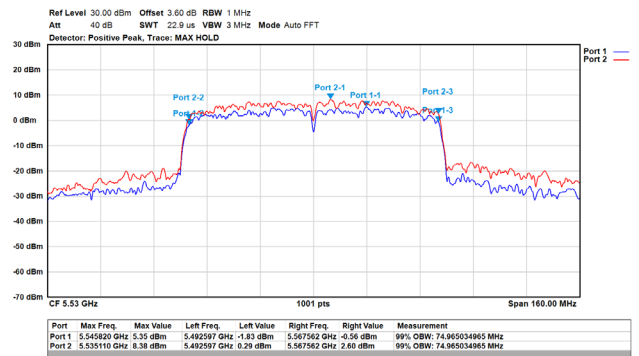
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802.11ac/80MHz/MCS0/5290/58



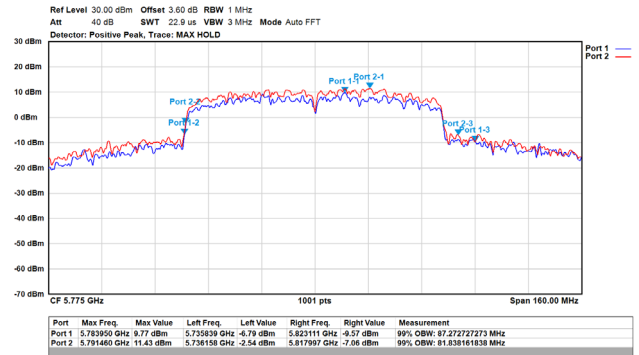
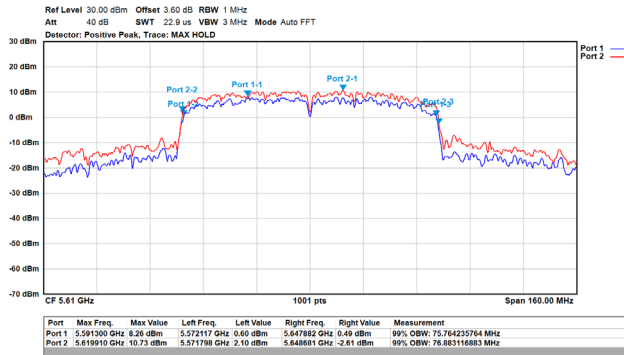
802.11ac/80MHz/MCS0/5530/106



Spectrum plot of worst value

802.11ac/80MHz/MCS0/5610/122

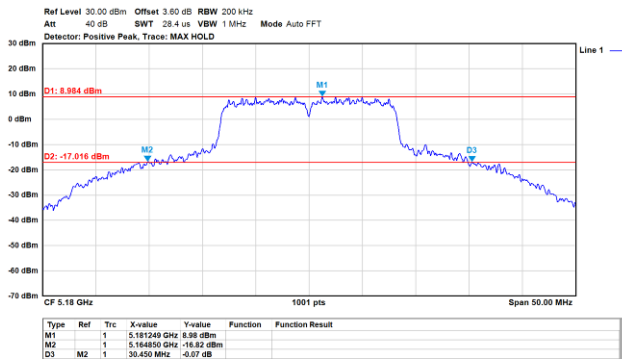
802.11ac/80MHz/MCS0/5775/155



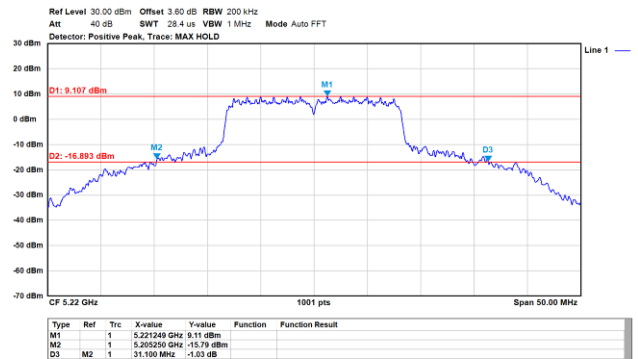
For 26dB Bandwidth:

Spectrum plot of worst value

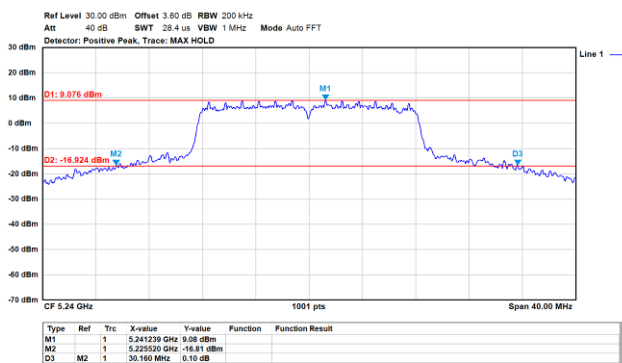
802.11a/20MHz/6M/5180/36/Ant.1



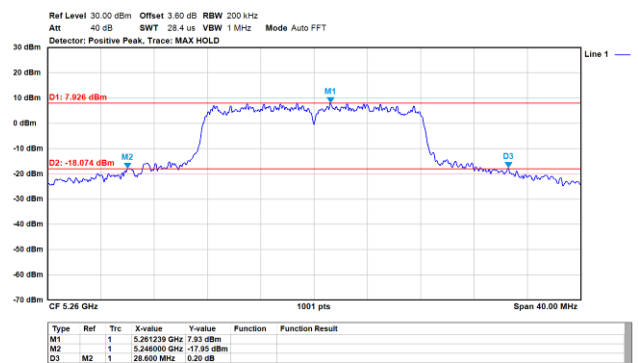
802.11a/20MHz/6M/5220/44/Ant.1



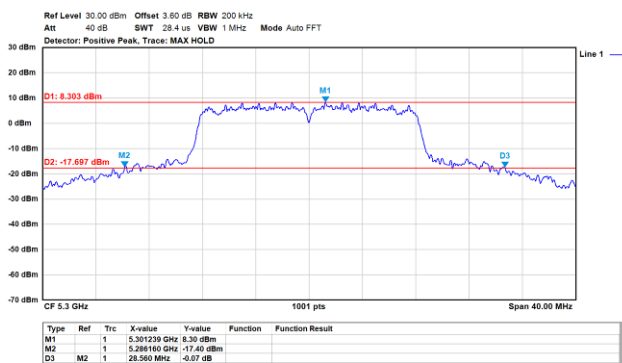
802.11a/20MHz/6M/5240/48/Ant.1



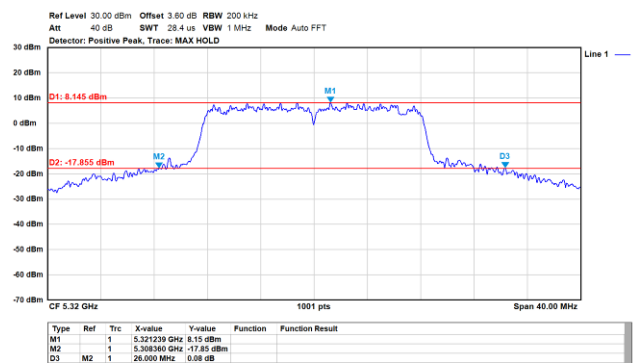
802.11a/20MHz/6M/5260/52/Ant.1



802.11a/20MHz/6M/5300/60/Ant.1

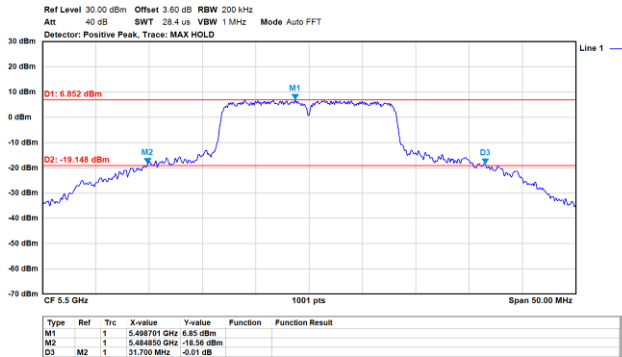


802.11a/20MHz/6M/5320/64/Ant.1

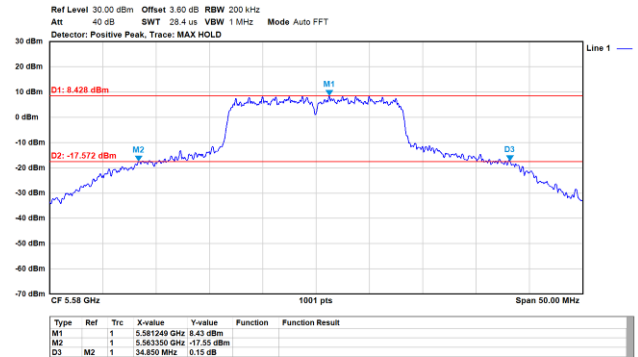


Spectrum plot of worst value

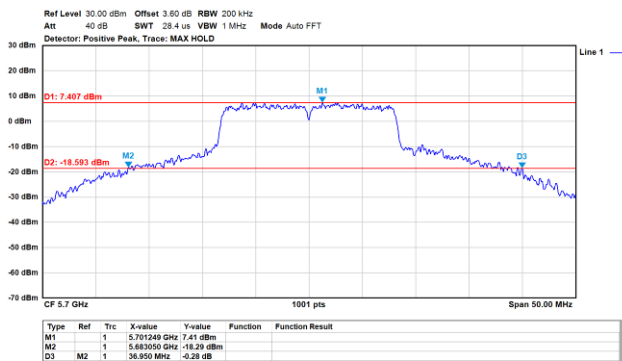
802.11a/20MHz/6M/5500/100/Ant.1



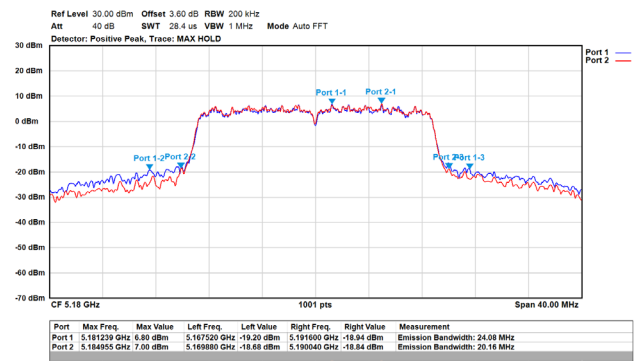
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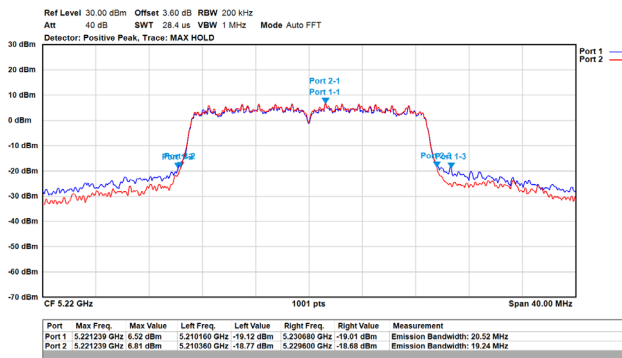
802.11a/20MHz/6M/5700/140/Ant.1



802.11ac/20MHz/MCS0/5180/36



802.11ac/20MHz/MCS0/5220/44



802.11ac/20MHz/MCS0/5240/48

