TEST REPORT

Applicant Name :	Grandstream Networks, Inc.
Address :	126 Brookline Ave, 3rd Floor Boston, MA 02215, USA
Manufacturer Name :	Grandstream Networks, Inc.
Address :	126 Brookline Ave, 3rd Floor Boston, MA 02215, USA
Report Number :	SZNS210408-55720E-RF-00B
FCC ID:	YZZGWN7660LR

Test Standard (s)

FCC PART 15.407

Sample Description

Product Type:	Outdoor Long-Range Wi-Fi 6 Access Point
Model No.:	GWN7660LR
Trade Mark:	GRANDSTREAM
Date Received:	2021/04/08
Date of Test:	2021/05/07-2021/12/10
Report Date:	2021/12/10

Test Result:	Pass*

* In the configuration tested, the EUT complied with the standards above.

Prepared and Checked By:

Ting Lü
EMC Engineer

Approved By:

Candy Li
EMC Engineer

Note: This report may contain data that are not covered by the A2LA accreditation and are marked with an asterisk "★ ".
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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product	Outdoor Long-Range Wi-Fi 6 Access Point
Tested Model	GWN7660LR
Frequency Range	5G Wi-Fi: 5150-5250MHz; 5250-5350MHz; 5470-5725MHz; 5725-5850MHz
Mode	802.11a/n20/n40/ac20/ac40/ac80/ax20/ax40/ax80
Maximum Conducted Average Ouput Power	5150-5250 MHz: 20.2dBm 5250-5350MHz: 20.3dBm 5470-5725MHz: 19.5dBm 5725-5850 MHz: 20.5dBm
Modulation Technique	OFDM, OFDMA
Antenna Specification*	Antenna gain:3.5dBi
Voltage Range	DC 48V from POE
Sample serial number	SZNS210408-55720E-RF-S1(Assigned by ATC)
Sample/EUT Status	Good condition

Objective

This test report is in accordance with Part 2-Subpart J, Part 15-Subparts A and E of the Federal Communication Commissions rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart E, section 15.203, 15.205, 15.207, 15.209 and 15.407 rules.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices. And KDB789033 D02 General U-NII Test Procedures New Rules v02r01.

All emissions measurement was performed at Shenzhen Accurate Technology Co., Ltd. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Each test item follows test standards and with no deviation.

Measurement Uncertainty

Parameter		Uncertainty
Occupied Channel Bandwidth		5%
RF output power, conducted		0.73dB
Unwanted Emission, conducted		1.6dB
AC Power Lines Conducted Emissions		2.72dB
Emissions, Radiated	30MHz - 1GHz	4.28dB
	1GHz- 18GHz	4.98dB
	18GHz- 26.5GHz	5.06dB
	26.5GHz- 40GHz	4.72dB
Temperature		1℃
Humidity		6%
Supply voltages		0.4%

Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

Test Facility

The test site used by Shenzhen Accurate Technology Co., Ltd. to collect test data is located on the 1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China.

The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No.: 708358, the FCC Designation No.: CN1189. Accredited by American Association for Laboratory Accreditation (A2LA) The Certificate Number is 429 7.01.

Listed by Innovation, Science and Economic Development Canada (ISEDC), the Registration Number is 5077A.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The device supports Beamforming and Non-beamforming modes. The two modes have same output power, which is declared by manufacturer, so the worst case requirements for beamforming mode was recorded.

For 5150-5250MHz Band, 7 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	44	5220
38	5190	46	5230
40	5200	48	5240
42	5210	/	/

For 802.11a, 802.11n20/ac20/ax20 mode: channel 36, 40, 48 were tested; For 802.11n40/ac40/ax40 mode: channel 38, 46 were tested. For 802.11ac80/ax80 mode, channel 42 was tested.

For 5250-5350MHz Band, 7 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
52	5260	60	5300
54	5270	62	5310
56	5280	64	5320
58	5290	/	/

For 802.11a, 802.11n20/ac20/ax20 mode: channel 52, 56, 64 were tested; For 802.11n40/ac40/ax40 mode: channel 54, 62 were tested. For 802.11ac80/ax80 mode, channel 58 was tested.

For 5470-5725MHz Band, 18 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
100	5500	120	5600
102	5510	122	5610
104	5520	124	5620
106	5530	126	5630
108	5540	128	5640
110	5550	132	5660
112	5560	134	5670
116	5580	136	5680
118	5590	140	5700

For 802.11a, 802.11n20/ac20/ax20 mode: channel 100, 116, 140 were tested; For 802.11n40/ac40/ax40 mode: channel 102, 110, 134 were tested. For 802.11ac80/ax80 mode, channel 106, 122 was tested.

For 5725-5850MHz Band, 8 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	157	5785
151	5755	159	5795
153	5765	161	5805
155	5775	165	5825

For 802.11a, 802.11n20/ac20/ax20 mode: channel 149, 157, 165 were tested; For 802.11n40/ac40/ax40 mode: channel 151, 159 were tested. For 802.11ac80/ax80 mode, channel 155 was tested.

EUT Exercise Software

"QRCT 4"* exercise software was used. The software and power level was provided by the manufacturer.

The worst case was performed under:

U-NII	Mode	Frequency (MHz)	Data Rate	Power Level*
5150 – 5250MHz	802.11 a	5180	6Mbps	19
		5200	6Mbps	19
		5240	6Mbps	19
	802.11 n20	5180	MCS0	19
		5200	MCS0	19
		5240	MCS0	18
	802.11 n40	5190	MCS0	19
		5230	MCS0	19
	802.11 ac20	5180	MCS0	19
		5200	MCS0	19
		5240	MCS0	19
	802.11 ac40	5190	MCS0	19
		5230	MCS0	18
	802.11 ac80	5210	MCS0	19
	802.11 ax20	5180	MCS0	19
		5200	MCS0	19
		5240	MCS0	19
	802.11 ax40	5190	MCS0	19
		5230	MCS0	18
	802.11 ax80	5210	MCS0	19

U-NII	Mode	Frequency (MHz)	Data Rate	Power Level*
5250 – 5350MHz	802.11 a	5260	6Mbps	15
		5280	6Mbps	15
		5320	6Mbps	15
	802.11 n20	5260	MCS0	16
		5280	MCS0	15
		5320	MCS0	16
	802.11 n40	5270	MCS0	18
		5310	MCS0	18
	802.11 ac20	5260	MCS0	15
		5280	MCS0	15
		5320	MCS0	15
	802.11 ac40	5270	MCS0	18
		5310	MCS0	18
	802.11 ac80	5290	MCS0	20
	802.11 ax20	5260	MCS0	14
		5280	MCS0	14
		5320	MCS0	14
	802.11 ax40	5270	MCS0	16
		5310	MCS0	16
	802.11 ax80	5290	MCS0	21

U-NII	Mode	Frequency (MHz)	Data Rate set	Power Level*
5470 – 5725MHz	802.11 a	5500	6Mbps	15
		5580	6Mbps	15
		5700	6Mbps	15
	802.11 n20	5500	MCS0	16
		5580	MCS0	15
		5700	MCS0	16
	802.11 n40	5510	MCS0	18
		5550	MCS0	18
		5670	MCS0	18
	802.11 ac20	5500	MCS0	15
		5580	MCS0	15
		5700	MCS0	15
	802.11 ac40	5510	MCS0	18
		5550	MCS0	18
		5670	MCS0	18
	802.11 ac80	5530	MCS0	20
		5610	MCS0	20
	802.11 ax20	5500	MCS0	14
		5580	MCS0	14
		5700	MCS0	14
	802.11 ax40	5510	MCS0	17
		5550	MCS0	16
		5670	MCS0	16
	802.11 ax80	5530	MCS0	21
		5610	MCS0	21

U-NII	Mode	Frequency (MHz)	Data Rate	Power Level*
5725 – 5850MHz	802.11 a	5745	6Mbps	default
		5785	6Mbps	default
		5825	6Mbps	default
	802.11 n20	5745	MCS0	default
		5785	MCS0	default
		5825	MCS0	default
	802.11 n40	5755	MCS0	default
		5795	MCS0	default
	802.11 ac20	5745	MCS0	default
		5785	MCS0	default
		5825	MCS0	default
	802.11 ac40	5755	MCS0	default
		5795	MCS0	default
	802.11 ac80	5775	MCS0	default
	802.11 ax20	5745	MCS0	default
		5785	MCS0	default
		5825	MCS0	default
	802.11 ax40	5755	MCS0	default
		5795	MCS0	default
	802.11 ax80	5775	MCS0	default

The worse-case data rates are determined to be as above for each mode based upon investigations by measuring the output power and PSD across all data rates, bandwidths and modulations.
The device supports SISO and MIMO in all modes, per pretest, the MIMO mode was the worst mode for all the modes. All the antenna ports have the same power level for SISO and MIMO modes.

Duty cycle

Test Result: Pass. Please refer to the Appendix.

Equipment Modifications

No modification was made to the EUT tested.

Support Equipment List and Details

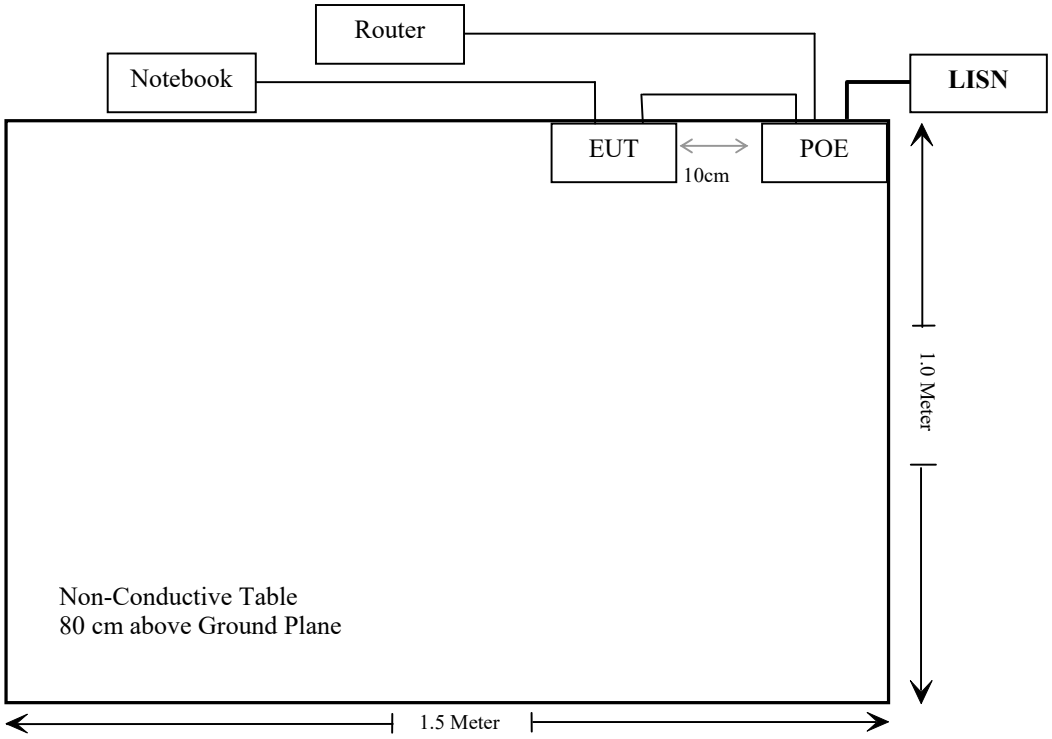
Manufacturer	Description	Model	Serial Number
GOSPELL	POE	G0720-480-050	G0720-480-050
DELL	Notebook	Latitude E6410	11429208685
HIKVISION	Router	DS-3WR03-E	10021642429

External I/O Cable

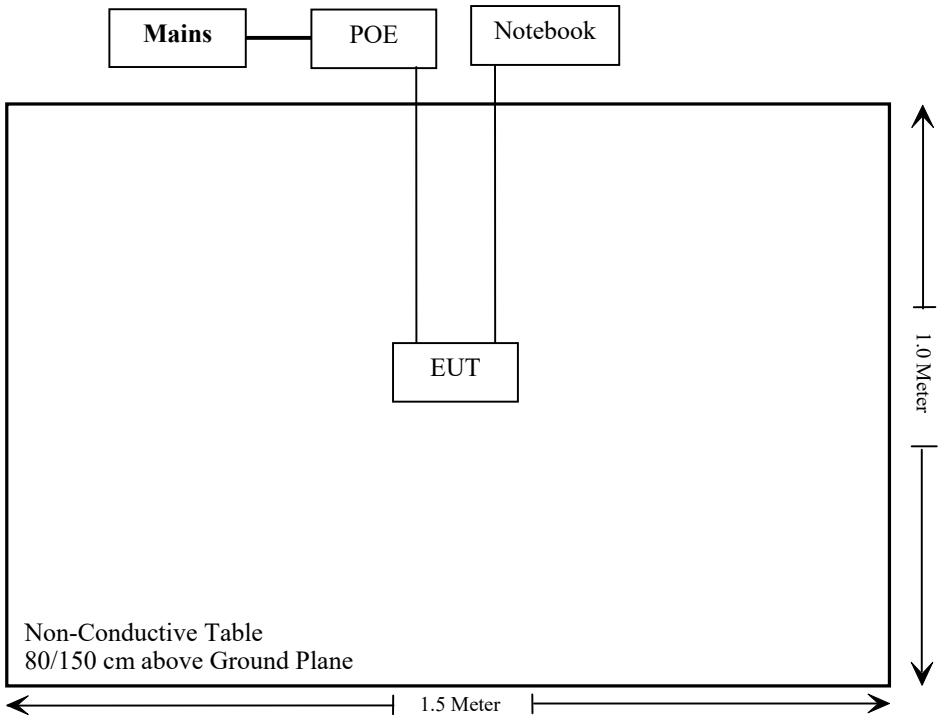
Cable Description	Length (m)	From Port	To
Un-shielded Un-detachable AC Cable	1.2	LISN	POE
Un-shielded detachable RJ45 Cable	1.5	POE	EUT
Un-shielded detachable RJ45 Cable	2.0	POE	Router
Un-Shielding Detachable RJ45 Cable	3.1	EUT	Notebook

Block Diagram of Test Setup

For conducted emission:



For radiated emission:



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§1.1307 (b) (1) & §2.1091	MaximuM Permissible exposure (MPE)	Compliant
§15.203	Antenna Requirement	Compliant
§15.407(b)(9)& §15.207(a)	Conducted Emissions	Compliant
§15.205& §15.209 &§15.407(b)	Undesirable Emission& Restricted Bands	Compliant
§15.407(a) (e)	26 dB Emission Bandwidth & 6dB Bandwidth	Compliant
§15.407(a)	Conducted Transmitter Output Power	Compliant
§15.407 (a)	Power Spectral Density	Compliant
§15.407 (h)	Transmit Power Control (TPC)	Not Applicable
§15.407 (h)	Dynamic Frequency Selection (DFS)	Compliant*

Not Applicable: the EUT has no TPC function which was declarded by the applicant.
Compliant*: Please refer to the DFS report: SZNS210408-55720E-RFB.

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Conducted emission test					
Rohde& Schwarz	Test Receiver	ESPI3	100396	2020/12/24	2021/12/23
R & S	L.I.S.N.	ENV216	101314	2020/12/25	2021/12/24
Anritsu Corp	50ΩCoaxial Switch	MP59B	6200506474	2020/12/25	2021/12/24
Unknown	RF Coaxial Cable	N-2m	No.2	2020/12/25	2021/12/24
Conducted Emissions Test Software: ES-K1 V1.71					
Radiated emission test					
Rohde& Schwarz	Test Receiver	ESR	101817	2020/12/24	2021/12/23
Rohde&Schwarz	Spectrum Analyzer	FSV40	101495	2020/12/24	2021/12/23
SONOMA INSTRUMENT	Amplifier	310 N	186131	2020/12/25	2021/12/24
A.H. Systems, inc.	Preamplifier	PAM-0118P	531	2021/07/08	2022/07/07
Quinstar	Amplifier	QLW-18405536-J0	15964001002	2020/11/28	2021/11/27
Anritsu Corp	50 Coaxial Switch	MP59B	6100237248	2020/12/25	2021/12/24
Schwarzbeck	Bilog Antenna	VULB9163	9163-323	2020/01/05	2023/01/04
Schwarzbeck	Horn Antenna	BBHA9120D	9120D-1067	2020/01/05	2023/01/04
Schwarzbeck	HORN ANTENNA	BBHA9170	9170-359	2020/01/05	2023/01/04
Unknown	RF Coaxial Cable	N-5m	No.3	2020/12/25	2021/12/24
Unknown	RF Coaxial Cable	N-5m	No.4	2020/12/25	2021/12/24
Unknown	RF Coaxial Cable	N-1m	No.5	2020/12/25	2021/12/24
Unknown	RF Coaxial Cable	N-1m	No.6	2020/12/25	2021/12/24
Radiated Emission Test Software: EZ_EMC V 1.1.4.2					
RF conducted test					
Rohde&Schwarz	Spectrum Analyzer	FSV40	101495	2020/12/24	2021/12/23
Tonscend	RF Control Unit	JS0806-2	19G8060182	2020/07/06	2021/07/05
				2021/07/06	2022/07/05

*** Statement of Traceability:** Shenzhen Accurate Technology Co., Ltd. attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

1.1307 (b) (1) & §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to subpart 1.1307 (b)(1), 2.1091 systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

Limits for General Population/Uncontrolled Exposure

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm^2)**	**Averaging Time (Minutes)**
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*($180/f^2$)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

f = frequency in MHz
* = Plane-wave equivalent power density
a)

Result

Calculated Formulary:

Predication of MPE limit at a given distance

$$S = \frac{PG}{4\pi R^2}$$

S = power density (in appropriate units, e.g. mW/cm^2)
P = power input to the antenna (in appropriate units, e.g., mW).
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain.
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \le 1$$

Frequency (MHz)	Antenna Gain		Tune up conducted power		Evaluation Distance (cm)	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)
	(dBi)	(numeric)	(dBm)	(mW)			
2412-2462	6.5	4.47	25.5	354.81	20	0.315	1
5150-5250	6.5	4.47	20.5	112.20	20	0.100	1
5250-5350	6.5	4.47	20.5	112.20	20	0.100	1
5470-5725	6.5	4.47	20.5	112.20	20	0.100	1
5725-5850	6.5	4.47	20.5	112.20	20	0.100	1

Note: 1. The tune up conducted power was declared by the applicant.
2. The 2.4G Wi-Fi can transmit at the same time with the 5G Wi-Fi.
3. For the 2.4G Wi-Fi, as it can support the beam-forming function, so the directional antenna gain should add the 10lg2, 3.5dBi+10lg2=6.5dBi.
4. For the 5G Wi-Fi, as it can support the beam-forming function, so the directional antenna gain should add the 10lg2, 3.5dBi+10lg2=6.5dBi.

Simultaneous transmitting consideration (worst case):

The ratio=$MPE_{2.4G\ Wi\text{-}Fi}$/limit+$MPE_{5G\ Wi\text{-}Fi}$/limit=0.315+0.100=0.415＜1.0, so simultaneous exposure is compliant.

To maintain compliance with the FCC's RF exposure guidelines, place the equipment at least 20cm from nearby persons.

Result: Compliant.

FCC §15.203 – ANTENNA REQUIREMENT

Applicable Standard

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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

b. Antenna must be permanently attached to the unit.
c. Antenna must use a unique type of connector to attach to the EUT.

Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

And according to FCC 47 CFR section 15.407 (a), if the transmitting antennas of directional gain greater than 6dBi are used, the transmit power and power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connector Construction

The EUT has two external antennas arrangement for 2.4G Wi-Fi and 5G Wi-Fi, which were used unique type of connector to attach to the EUT. Please refer to the EUT photos.

Type	Antenna Gain	Impedance	Frequency Range
Dipole	3.5dBi	50 Ω	2412-2462MHz/5150-5850MHz

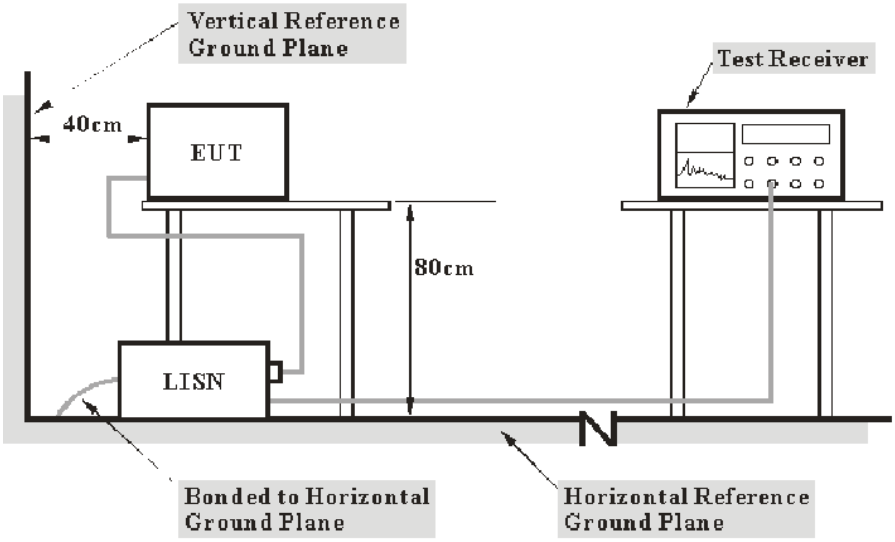
Result: Compliant.

FCC §15.407 (b) (6) §15.207 (a) – CONDUCTED EMISSIONS

Applicable Standard

FCC §15.207, §15.407(b) (6)

EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

Test Procedure

During the conducted emission test, the adapter was connected to the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and Average detection mode.

Corrected Factor & Margin Calculation

The Corrected factor is calculated by adding LISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation. The basic equation is as follows:

Correction Factor = LISN VDF + Cable Loss + Transient Limiter Attenuation

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7 dB means the emission is 7 dB below the limit. The equation for margin calculation is as follows:

Margin = Limit – Level
Level = Reading level + Correction Factor

Test Data

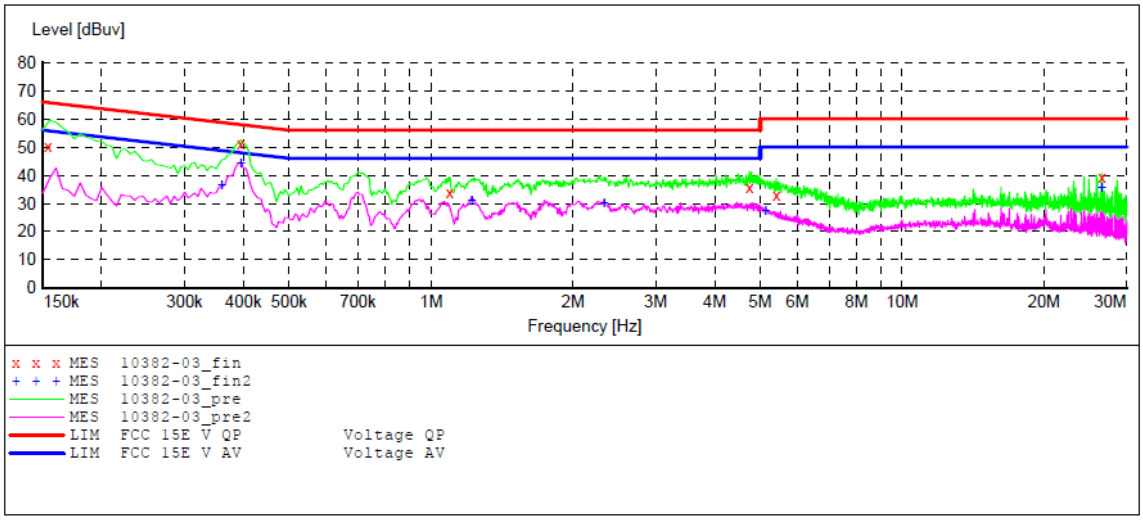
Environmental Conditions

Temperature:	23 ℃
Relative Humidity:	48 %
ATM Pressure:	101.0 kPa

The testing was performed by Fan Yang on 2021-10-01.

EUT operation mode: Transmitting (worst case for 802.11 a 5260MHz)

AC 120V/60 Hz, Line:



MEASUREMENT RESULT: "10382-03_fin"

2021-10-1 01:42

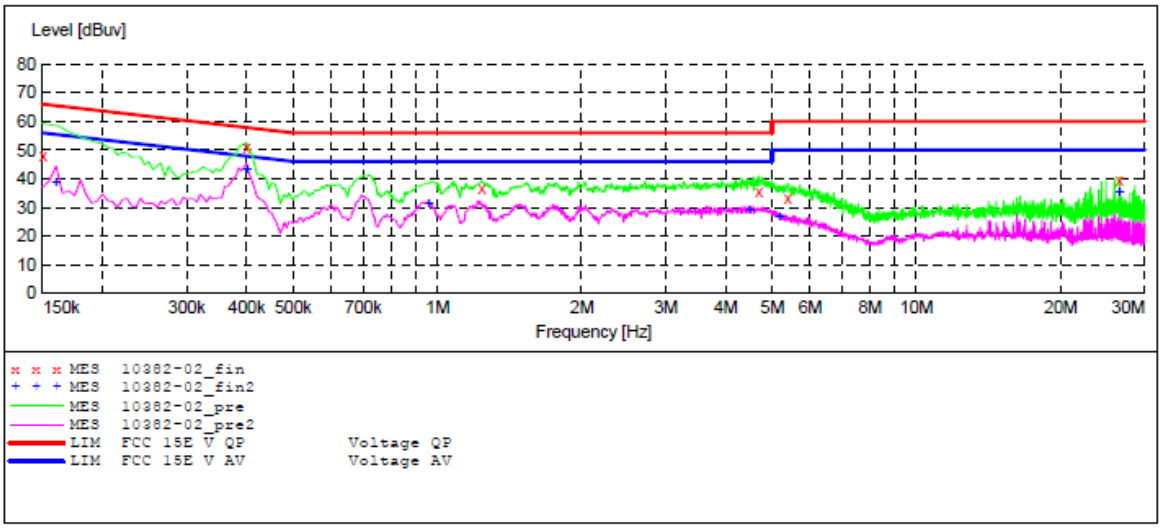
Frequency MHz	Level dBuv	Transd dB	Limit dBuv	Margin dB	Detector	Line	PE
0.155000	51.30	10.8	66	14.7	QP	L1	GND
0.395000	51.00	11.0	58	7.0	QP	L1	GND
1.095000	33.70	11.1	56	22.3	QP	L1	GND
4.740000	35.70	11.4	56	20.3	QP	L1	GND
5.410000	33.00	11.5	60	27.0	QP	L1	GND
26.550000	39.30	11.8	60	20.7	QP	L1	GND

MEASUREMENT RESULT: "10382-03_fin2"

2021-10-1 01:42

Frequency MHz	Level dBuv	Transd dB	Limit dBuv	Margin dB	Detector	Line	PE
0.360000	36.90	10.9	49	12.1	AV	L1	GND
0.395000	44.30	11.0	48	3.7	AV	L1	GND
1.220000	31.10	11.2	46	14.9	AV	L1	GND
2.330000	30.10	11.3	46	15.9	AV	L1	GND
5.140000	27.40	11.4	50	22.6	AV	L1	GND
26.550000	35.70	11.8	50	14.3	AV	L1	GND

AC 120V/60 Hz, Neutral:



MEASUREMENT RESULT: "10382-02_fin"

2021-10-1 01:40

Frequency MHz	Level dBuv	Transd dB	Limit dBuv	Margin dB	Detector	Line	PE
0.150000	38.20	10.8	66	27.8	QP	N	GND
0.400000	50.80	11.0	58	7.2	QP	N	GND
1.240000	36.50	11.2	56	19.5	QP	N	GND
4.690000	35.60	11.4	56	20.4	QP	N	GND
5.390000	33.30	11.5	60	26.7	QP	N	GND
26.550000	39.20	11.8	60	20.8	QP	N	GND

MEASUREMENT RESULT: "10382-02_fin2"

2021-10-1 01:40

Frequency MHz	Level dBuv	Transd dB	Limit dBuv	Margin dB	Detector	Line	PE
0.160000	39.60	10.8	56	16.4	AV	N	GND
0.400000	43.80	11.0	48	4.2	AV	N	GND
0.960000	31.30	11.1	46	14.7	AV	N	GND
4.480000	29.20	11.4	46	16.8	AV	N	GND
5.180000	27.20	11.4	50	22.8	AV	N	GND
26.550000	35.40	11.8	50	14.6	AV	N	GND

§15.205 & §15.209 & §15.407(B)– UNDESIRABLE EMISSION

Applicable Standard

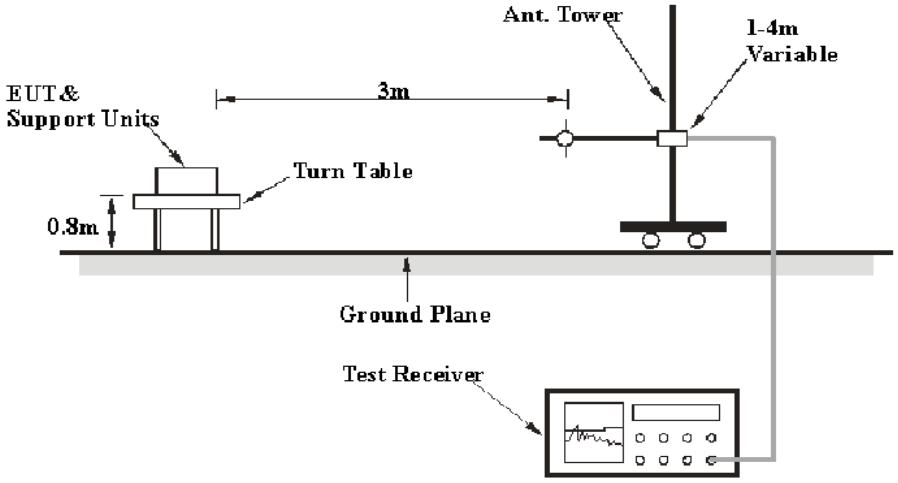
FCC §15.407 (b); §15.209; §15.205;

(b) 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 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(4) For transmitters operating in the 5.725-5.85 GHz band:
(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

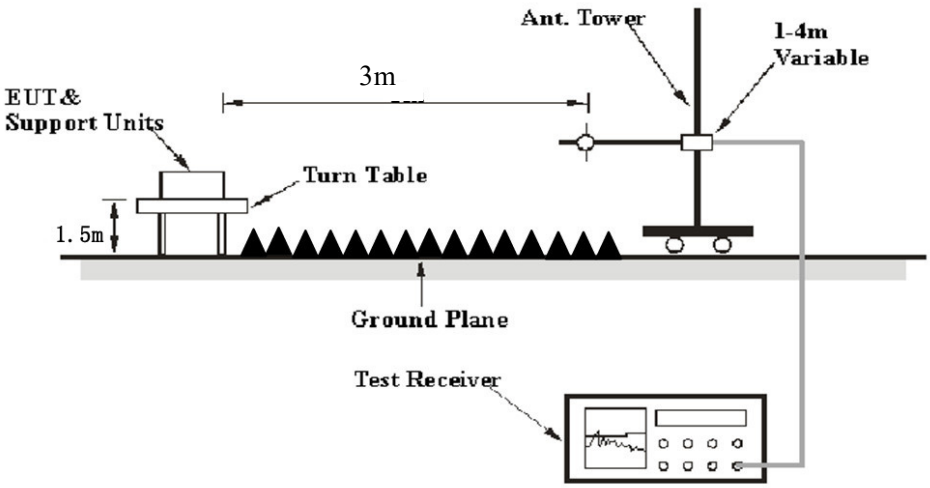
Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209.

EUT Setup

Below 1 GHz:



Above 1 GHz:



The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC 15.209 and FCC 15.407 limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 40 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Measurement
30 MHz – 1000 MHz	100 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1 MHz	3 MHz	/	PK
	1MHz	10 Hz Note 1	/	Average
	1MHz	＞1/T Note 2	/	Average

Note 1: when duty cycle is no less than 98%
Note 2: when duty cycle is less than 98%

Test Procedure

Radiated Spurious Emission

During the radiated emission test, the adapter was connected to the AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all the installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz-1GHz, peak and Average detection modes for frequencies above 1GHz.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin = Result / Corrected Amplitude - Limit

Test Data

Environmental Conditions

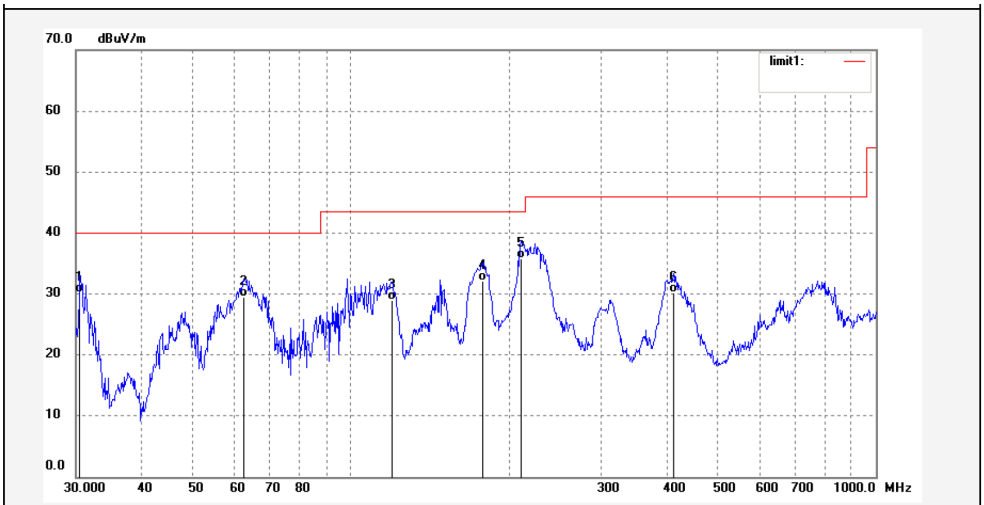
Temperature:	23~27.1 ℃
Relative Humidity:	44~48 %
ATM Pressure:	101.0 kPa

The testing was performed by Amy Cao on 2021-09-30 for below 1GHz and by Caro Hu on 2021-10-23 for above 1GHz.

Test mode: Transmitting (Pre-scan in the X,Y and Z axes of orientation, the worst case Z-axis of orientation was recorded)

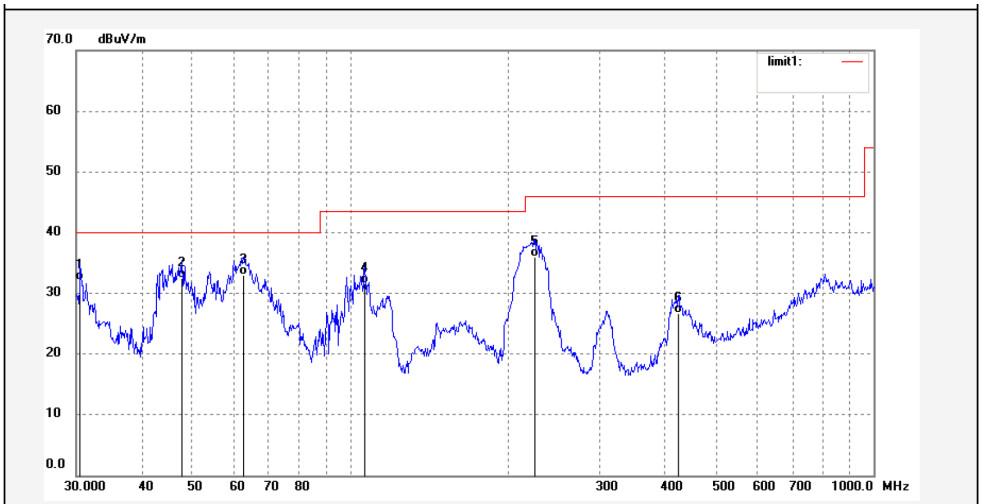
30MHz-1GHz: (worst case for 802.11 a 5260MHz)

Horizontal



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	30.5305	50.35	-20.16	30.19	40.00	-9.81	QP			
2	62.6507	48.37	-18.88	29.49	40.00	-10.51	QP			
3	119.8555	47.02	-18.09	28.93	43.50	-14.57	QP			
4	178.1326	50.64	-18.59	32.05	43.50	-11.45	QP			
5	210.7860	53.16	-17.42	35.74	43.50	-7.76	QP			
6	411.8240	42.20	-11.94	30.26	46.00	-15.74	QP			

Vertical



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	30.5305	45.76	-13.71	32.05	40.00	-7.95	QP			
2	47.6584	49.80	-17.29	32.51	40.00	-7.49	QP			
3	62.6507	52.68	-19.65	33.03	40.00	-6.97	QP			
4	106.7587	50.46	-18.90	31.56	43.50	-11.94	QP			
5	225.3079	52.76	-16.86	35.90	46.00	-10.10	QP			
6	423.5403	38.13	-11.43	26.70	46.00	-19.30	QP			

5150-5250 MHz:

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11A									
5180 MHz									
4500	62.21	PK	334	2.5	H	1.89	64.10	74	-9.9
4500	50.07	Ave.	334	2.5	H	1.89	51.96	54	-2.04
4500	60.80	PK	238	2.4	V	1.89	62.69	74	-11.31
4500	48.51	Ave.	238	2.4	V	1.89	50.40	54	-3.6
5150	57.17	PK	24	1.8	H	3.37	60.54	74	-13.46
5150	45.16	Ave.	24	1.8	H	3.37	48.53	54	-5.47
5150	56.00	PK	360	1.7	V	3.37	59.37	74	-14.63
5150	44.25	Ave.	360	1.7	V	3.37	47.62	54	-6.38
10360	37.19	PK	204	2.2	H	14.41	51.60	68.2	-16.6
10360	36.43	PK	165	2.2	V	14.41	50.84	68.2	-17.36
5200 MHz									
10400	36.83	PK	89	1.4	H	14.46	51.29	68.2	-16.91
10400	36.08	PK	64	1.4	V	14.46	50.54	68.2	-17.66
5240 MHz									
5350	57.91	PK	13	2.5	H	3.33	61.24	74	-12.76
5350	43.72	Ave.	13	2.5	H	3.33	47.05	54	-6.95
5350	57.36	PK	29	1.9	V	3.33	60.69	74	-13.31
5350	42.99	Ave.	29	1.9	V	3.33	46.32	54	-7.68
5460	59.23	PK	46	2.1	H	3.31	62.54	74	-11.46
5460	44.53	Ave.	46	2.1	H	3.31	47.84	54	-6.16
5460	58.36	PK	349	1.5	V	3.31	61.67	74	-12.33
5460	42.73	Ave.	349	1.5	V	3.31	46.04	54	-7.96
10480	39.56	PK	2	1.7	H	11.53	51.09	68.2	-17.11
10480	38.01	PK	272	1.7	V	11.53	49.54	68.2	-18.66

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11n20									
5180 MHz									
4500	66.00	PK	264	1.1	H	1.89	67.89	74	-6.11
4500	49.75	Ave.	264	1.1	H	1.89	51.64	54	-2.36
4500	64.46	PK	211	1.8	V	1.89	66.35	74	-7.65
4500	48.43	Ave.	211	1.8	V	1.89	50.32	54	-3.68
5150	57.40	PK	253	2.3	H	3.37	60.77	74	-13.23
5150	44.02	Ave.	253	2.3	H	3.37	47.39	54	-6.61
5150	55.97	PK	7	2	V	3.37	59.34	74	-14.66
5150	42.37	Ave.	7	2	V	3.37	45.74	54	-8.26
10360	36.46	PK	25	1.9	H	14.41	50.87	68.2	-17.33
10360	35.15	PK	6	1.9	V	14.41	49.56	68.2	-18.64
5200 MHz									
10400	36.68	PK	354	1.2	H	14.46	51.14	68.2	-17.06
10400	35.11	PK	71	1.2	V	14.46	49.57	68.2	-18.63
5240 MHz									
5350	57.78	PK	88	1.8	H	3.33	61.11	74	-12.89
5350	44.65	Ave.	88	1.8	H	3.33	47.98	54	-6.02
5350	57.03	PK	336	2.1	V	3.33	60.36	74	-13.64
5350	42.98	Ave.	336	2.1	V	3.33	46.31	54	-7.69
5460	58.77	PK	250	1.1	H	3.31	62.08	74	-11.92
5460	45.48	Ave.	250	1.1	H	3.31	48.79	54	-5.21
5460	58.03	PK	274	1.9	V	3.31	61.34	74	-12.66
5460	44.30	Ave.	274	1.9	V	3.31	47.61	54	-6.39
10480	39.39	PK	1	1.7	H	11.53	50.92	68.2	-17.28
10480	38.00	PK	17	1.7	V	11.53	49.53	68.2	-18.67

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11N40									
5190 MHz									
4500	68.58	PK	174	2.2	H	1.89	70.47	74	-3.53
4500	51.09	Ave.	174	2.2	H	1.89	52.98	54	-1.02
4500	67.49	PK	309	1.8	V	1.89	69.38	74	-4.62
4500	49.72	Ave.	309	1.8	V	1.89	51.61	54	-2.39
5150	57.86	PK	335	2.1	H	3.37	61.23	74	-12.77
5150	44.13	Ave.	335	2.1	H	3.37	47.50	54	-6.5
5150	56.96	PK	247	1.8	V	3.37	60.33	74	-13.67
5150	42.62	Ave.	247	1.8	V	3.37	45.99	54	-8.01
10380	36.16	PK	242	2.4	H	14.43	50.59	68.2	-17.61
10380	34.53	PK	1	2.4	V	14.43	48.96	68.2	-19.24
5230 MHz									
5350	57.68	PK	299	2.1	H	3.33	61.01	74	-12.99
5350	43.35	Ave.	299	2.1	H	3.33	46.68	54	-7.32
5350	57.03	PK	254	2.1	V	3.33	60.36	74	-13.64
5350	42.41	Ave.	254	2.1	V	3.33	45.74	54	-8.26
5460	58.95	PK	172	2	H	3.31	62.26	74	-11.74
5460	44.21	Ave.	172	2	H	3.31	47.52	54	-6.48
5460	57.72	PK	88	1	V	3.31	61.03	74	-12.97
5460	43.01	Ave.	88	1	V	3.31	46.32	54	-7.68
10460	35.11	PK	247	1.7	H	14.5	49.61	68.2	-18.59
10460	34.06	PK	114	1.7	V	14.5	48.56	68.2	-19.64

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11AC20									
5180 MHz									
4500	66.72	PK	103	1.8	H	1.89	68.61	74	-5.39
4500	50.51	Ave.	103	1.8	H	1.89	52.40	54	-1.6
4500	65.78	PK	320	1.3	V	1.89	67.67	74	-6.33
4500	49.44	Ave.	320	1.3	V	1.89	51.33	54	-2.67
5150	58.36	PK	290	1.8	H	3.37	61.73	74	-12.27
5150	43.73	Ave.	290	1.8	H	3.37	47.10	54	-6.9
5150	56.69	PK	311	1.7	V	3.37	60.06	74	-13.94
5150	42.81	Ave.	311	1.7	V	3.37	46.18	54	-7.82
10360	36.16	PK	339	1.9	H	14.41	50.57	68.2	-17.63
10360	35.10	PK	162	1.9	V	14.41	49.51	68.2	-18.69
5200 MHz									
10400	36.29	PK	225	1.8	H	14.46	50.75	68.2	-17.45
10400	34.75	PK	326	1.8	V	14.46	49.21	68.2	-18.99
5240 MHz									
5350	57.48	PK	269	2.4	H	3.33	60.81	74	-13.19
5350	42.85	Ave.	269	2.4	H	3.33	46.18	54	-7.82
5350	56.01	PK	88	2.3	V	3.33	59.34	74	-14.66
5350	41.73	Ave.	88	2.3	V	3.33	45.06	54	-8.94
5460	59.13	PK	303	1.1	H	3.31	62.44	74	-11.56
5460	43.92	Ave.	303	1.1	H	3.31	47.23	54	-6.77
5460	57.56	PK	77	1.2	V	3.31	60.87	74	-13.13
5460	43.01	Ave.	77	1.2	V	3.31	46.32	54	-7.68
10480	38.73	PK	237	1.7	H	11.53	50.26	68.2	-17.94
10480	37.51	PK	140	1.7	V	11.53	49.04	68.2	-19.16

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11AC40									
5190 MHz									
4500	69.15	PK	93	1.7	H	1.89	71.04	74	-2.96
4500	49.94	Ave.	93	1.7	H	1.89	51.83	54	-2.17
4500	67.82	PK	276	1.9	V	1.89	69.71	74	-4.29
4500	48.47	Ave.	276	1.9	V	1.89	50.36	54	-3.64
5150	57.44	PK	278	2.4	H	3.37	60.81	74	-13.19
5150	43.65	Ave.	278	2.4	H	3.37	47.02	54	-6.98
5150	55.66	PK	227	1.2	V	3.37	59.03	74	-14.97
5150	42.69	Ave.	227	1.2	V	3.37	46.06	54	-7.94
10380	35.88	PK	61	1	H	14.43	50.31	68.2	-17.89
10380	35.28	PK	143	1	V	14.43	49.71	68.2	-18.49
5230 MHz									
5350	57.77	PK	167	2.2	H	3.33	61.1	74	-12.9
5350	43.38	Ave.	167	2.2	H	3.33	46.71	54	-7.29
5350	57.01	PK	118	2.4	V	3.33	60.34	74	-13.66
5350	42.20	Ave.	118	2.4	V	3.33	45.53	54	-8.47
5460	58.45	PK	328	2.2	H	3.31	61.76	74	-12.24
5460	43.80	Ave.	328	2.2	H	3.31	47.11	54	-6.89
5460	56.72	PK	328	1.3	V	3.31	60.03	74	-13.97
5460	42.83	Ave.	328	1.3	V	3.31	46.14	54	-7.86
10460	35.34	PK	194	1.7	H	14.5	49.84	68.2	-18.36
10460	33.54	PK	132	1.7	V	14.5	48.04	68.2	-20.16

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11AC80									
5210MHz									
4500	66.42	PK	352	1.7	H	1.89	68.31	74	-5.69
4500	48.36	Ave.	352	1.7	H	1.89	50.25	54	-3.75
4500	65.95	PK	144	1.4	V	1.89	67.84	74	-6.16
4500	47.84	Ave.	144	1.4	V	1.89	49.73	54	-4.27
5150	66.68	PK	166	2.3	H	3.37	70.05	74	-3.95
5150	49.05	Ave.	166	2.3	H	3.37	52.42	54	-1.58
5150	65.66	PK	6	1.9	V	3.37	69.03	74	-4.97
5150	47.64	Ave.	6	1.9	V	3.37	51.01	54	-2.99
5350	60.47	PK	189	1.9	H	3.33	63.8	74	-10.2
5350	45.23	Ave.	189	1.9	H	3.33	48.56	54	-5.44
5350	58.30	PK	169	2.3	V	3.33	61.63	74	-12.37
5350	43.36	Ave.	169	2.3	V	3.33	46.69	54	-7.31
5460	57.23	PK	28	1.6	H	3.31	60.54	74	-13.46
5460	42.53	Ave.	28	1.6	H	3.31	45.84	54	-8.16
5460	57.85	PK	35	2.5	V	3.31	61.16	74	-12.84
5460	42.75	Ave.	35	2.5	V	3.31	46.06	54	-7.94
10420	36.10	PK	177	1.7	H	14.48	50.58	68.2	-17.62
10420	33.91	PK	343	1.7	V	14.48	48.39	68.2	-19.81

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11AX20									
5180 MHz									
4500	62.92	PK	192	1.6	H	1.89	64.81	74	-9.19
4500	48.51	Ave.	192	1.6	H	1.89	50.40	54	-3.6
4500	61.77	PK	58	1.3	V	1.89	63.66	74	-10.34
4500	47.44	Ave.	58	1.3	V	1.89	49.33	54	-4.67
5150	59.80	PK	224	2.5	H	3.37	63.17	74	-10.83
5150	43.30	Ave.	224	2.5	H	3.37	46.67	54	-7.33
5150	58.69	PK	360	1	V	3.37	62.06	74	-11.94
5150	41.86	Ave.	360	1	V	3.37	45.23	54	-8.77
10360	35.98	PK	300	1.6	H	14.41	50.39	68.2	-17.81
10360	35.00	PK	98	1.6	V	14.41	49.41	68.2	-18.79
5200 MHz									
10400	35.87	PK	324	2.4	H	14.46	50.33	68.2	-17.87
10400	34.86	PK	167	2.4	V	14.46	49.32	68.2	-18.88
5240 MHz									
5350	57.42	PK	230	1.4	H	3.33	60.75	74	-13.25
5350	42.79	Ave.	230	1.4	H	3.33	46.12	54	-7.88
5350	56.00	PK	294	2.1	V	3.33	59.33	74	-14.67
5350	41.90	Ave.	294	2.1	V	3.33	45.23	54	-8.77
5460	58.45	PK	277	2.4	H	3.31	61.76	74	-12.24
5460	43.96	Ave.	277	2.4	H	3.31	47.27	54	-6.73
5460	57.40	PK	227	1.7	V	3.31	60.71	74	-13.29
5460	42.81	Ave.	227	1.7	V	3.31	46.12	54	-7.88
10480	38.85	PK	226	1.7	H	11.53	50.38	68.2	-17.82
10480	37.70	PK	294	1.7	V	11.53	49.23	68.2	-18.97

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11AX40									
5190 MHz									
4500	70.24	PK	281	1.9	H	1.89	72.13	74	-1.87
4500	49.58	Ave.	281	1.9	H	1.89	51.47	54	-2.53
4500	69.85	PK	114	2.1	V	1.89	71.74	74	-2.26
4500	48.44	Ave.	114	2.1	V	1.89	50.33	54	-3.67
5150	57.70	PK	182	2.3	H	3.37	61.07	74	-12.93
5150	43.38	Ave.	182	2.3	H	3.37	46.75	54	-7.25
5150	56.99	PK	15	1.8	V	3.37	60.36	74	-13.64
5150	42.14	Ave.	15	1.8	V	3.37	45.51	54	-8.49
10380	36.01	PK	8	1.6	H	14.43	50.44	68.2	-17.76
10380	34.80	PK	109	1.6	V	14.43	49.23	68.2	-18.97
5230 MHz									
5350	57.67	PK	266	1.7	H	3.33	61	74	-13
5350	42.69	Ave.	266	1.7	H	3.33	46.02	54	-7.98
5350	56.22	PK	352	1.2	V	3.33	59.55	74	-14.45
5350	41.95	Ave.	352	1.2	V	3.33	45.28	54	-8.72
5460	58.95	PK	283	1.7	H	3.31	62.26	74	-11.74
5460	44.03	Ave.	283	1.7	H	3.31	47.34	54	-6.66
5460	57.53	PK	83	2	V	3.31	60.84	74	-13.16
5460	42.71	Ave.	83	2	V	3.31	46.02	54	-7.98
10460	35.44	PK	327	1.7	H	14.5	49.94	68.2	-18.26
10460	33.72	PK	357	1.7	V	14.5	48.22	68.2	-19.98

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11AX80									
5210MHz									
4500	68.93	PK	165	1.7	H	1.89	70.82	74	-3.18
4500	47.12	Ave.	165	1.7	H	1.89	49.01	54	-4.99
4500	68.32	PK	356	1.3	V	1.89	70.21	74	-3.79
4500	46.47	Ave.	356	1.3	V	1.89	48.36	54	-5.64
5150	68.81	PK	246	2.1	H	3.37	72.18	74	-1.82
5150	47.87	Ave.	246	2.1	H	3.37	51.24	54	-2.76
5150	67.77	PK	253	2.3	V	3.37	71.14	74	-2.86
5150	47.21	Ave.	253	2.3	V	3.37	50.58	54	-3.42
5350	57.30	PK	360	2.5	H	3.33	60.63	74	-13.37
5350	42.01	Ave.	360	2.5	H	3.33	45.34	54	-8.66
5350	55.95	PK	12	2.1	V	3.33	59.28	74	-14.72
5350	41.51	Ave.	12	2.1	V	3.33	44.84	54	-9.16
5460	58.93	PK	3	1.2	H	3.31	62.24	74	-11.76
5460	44.52	Ave.	3	1.2	H	3.31	47.83	54	-6.17
5460	57.80	PK	308	1.8	V	3.31	61.11	74	-12.89
5460	43.12	Ave.	308	1.8	V	3.31	46.43	54	-7.57
10420	36.38	PK	291	1.7	H	14.48	50.86	68.2	-17.34
10420	34.79	PK	63	1.7	V	14.48	49.27	68.2	-18.93

5250-5350 MHz:

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11A									
5260 MHz									
4500	58.42	PK	246	2.4	H	1.89	60.31	74	-13.69
4500	44.80	Ave.	246	2.4	H	1.89	46.69	54	-7.31
4500	57.32	PK	239	1.8	V	1.89	59.21	74	-14.79
4500	43.57	Ave.	239	1.8	V	1.89	45.46	54	-8.54
5150	57.58	PK	343	2	H	3.37	60.95	74	-13.05
5150	43.75	Ave.	343	2	H	3.37	47.12	54	-6.88
5150	55.97	PK	253	2	V	3.37	59.34	74	-14.66
5150	43.05	Ave.	253	2	V	3.37	46.42	54	-7.58
10520	36.67	PK	160	1	H	14.60	51.27	68.2	-16.93
10520	35.68	PK	306	1	V	14.60	50.28	68.2	-17.92
5280 MHz									
10560	37.55	PK	159	1.4	H	14.72	52.27	68.2	-15.93
10560	36.50	PK	285	1.4	V	14.72	51.22	68.2	-16.98
5320 MHz									
5350	56.65	PK	218	1.5	H	3.33	59.98	74	-14.02
5350	43.32	Ave.	218	1.5	H	3.33	46.65	54	-7.35
5350	55.01	PK	352	1.7	V	3.33	58.34	74	-15.66
5350	41.96	Ave.	352	1.7	V	3.33	45.29	54	-8.71
5460	57.33	PK	48	1.4	H	3.31	60.64	74	-13.36
5460	43.69	Ave.	48	1.4	H	3.31	47	54	-7
5460	56.12	PK	96	1.4	V	3.31	59.43	74	-14.57
5460	41.73	Ave.	96	1.4	V	3.31	45.04	54	-8.96
10640	37.67	PK	247	1.7	H	15.07	52.74	74	-21.26
10640	36.51	PK	8	1.7	V	15.07	51.58	74	-22.42

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11n20									
5260 MHz									
4500	58.94	PK	255	1.4	H	1.89	60.83	74	-13.17
4500	44.84	Ave.	255	1.4	H	1.89	46.73	54	-7.27
4500	57.74	PK	171	2.1	V	1.89	59.63	74	-14.37
4500	43.15	Ave.	171	2.1	V	1.89	45.04	54	-8.96
5150	57.84	PK	357	1.3	H	3.37	61.21	74	-12.79
5150	43.69	Ave.	357	1.3	H	3.37	47.06	54	-6.94
5150	56.96	PK	349	2	V	3.37	60.33	74	-13.67
5150	42.76	Ave.	349	2	V	3.37	46.13	54	-7.87
10520	37.09	PK	293	1.6	H	14.60	51.69	68.2	-16.51
10520	35.74	PK	135	1.6	V	14.60	50.34	68.2	-17.86
5280 MHz									
10560	37.51	PK	177	1.7	H	14.72	52.23	68.2	-15.97
10560	36.75	PK	277	1.7	V	14.72	51.47	68.2	-16.73
5320 MHz									
5350	57.22	PK	189	1.6	H	3.33	60.55	74	-13.45
5350	43.13	Ave.	189	1.6	H	3.33	46.46	54	-7.54
5350	56.19	PK	139	2.5	V	3.33	59.52	74	-14.48
5350	41.74	Ave.	139	2.5	V	3.33	45.07	54	-8.93
5460	57.60	PK	45	2.1	H	3.31	60.91	74	-13.09
5460	44.19	Ave.	45	2.1	H	3.31	47.5	54	-6.5
5460	56.14	PK	234	2.4	V	3.31	59.45	74	-14.55
5460	42.85	Ave.	234	2.4	V	3.31	46.16	54	-7.84
10640	37.40	PK	323	1.7	H	15.07	52.47	74	-21.53
10640	36.24	PK	196	1.7	V	15.07	51.31	74	-22.69

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11N40									
5270 MHz									
4500	58.75	PK	266	1.5	H	1.89	60.64	74	-13.36
4500	44.73	Ave.	266	1.5	H	1.89	46.62	54	-7.38
4500	57.49	PK	137	2.4	V	1.89	59.38	74	-14.62
4500	43.16	Ave.	137	2.4	V	1.89	45.05	54	-8.95
5150	57.71	PK	192	1.5	H	3.37	61.08	74	-12.92
5150	44.20	Ave.	192	1.5	H	3.37	47.57	54	-6.43
5150	56.96	PK	140	1	V	3.37	60.33	74	-13.67
5150	42.64	Ave.	140	1	V	3.37	46.01	54	-7.99
10540	37.36	PK	112	1.1	H	14.72	52.08	68.2	-16.12
10540	35.80	PK	64	1.1	V	14.72	50.52	68.2	-17.68
5310 MHz									
5350	56.65	PK	237	2.4	H	3.33	59.98	74	-14.02
5350	43.48	Ave.	237	2.4	H	3.33	46.81	54	-7.19
5350	55.39	PK	83	2.2	V	3.33	58.72	74	-15.28
5350	42.00	Ave.	83	2.2	V	3.33	45.33	54	-8.67
5460	58.90	PK	271	2.1	H	3.31	62.21	74	-11.79
5460	45.72	Ave.	271	2.1	H	3.31	49.03	54	-4.97
5460	57.72	PK	102	2.3	V	3.31	61.03	74	-12.97
5460	45.06	Ave.	102	2.3	V	3.31	48.37	54	-5.63
10620	37.53	PK	41	1.7	H	15	52.53	74	-21.47
10620	36.01	PK	133	1.7	V	15	51.01	74	-22.99

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11AC20									
5260 MHz									
4500	58.21	PK	119	1.1	H	1.89	60.10	74	-13.9
4500	44.51	Ave.	119	1.1	H	1.89	46.40	54	-7.6
4500	57.27	PK	95	2	V	1.89	59.16	74	-14.84
4500	43.45	Ave.	95	2	V	1.89	45.34	54	-8.66
5150	57.38	PK	38	1.6	H	3.37	60.75	74	-13.25
5150	43.89	Ave.	38	1.6	H	3.37	47.26	54	-6.74
5150	55.71	PK	243	1.7	V	3.37	59.08	74	-14.92
5150	42.97	Ave.	243	1.7	V	3.37	46.34	54	-7.66
10520	37.34	PK	282	2.4	H	14.60	51.94	68.2	-16.26
10520	35.84	PK	14	2.4	V	14.60	50.44	68.2	-17.76
5280 MHz									
10560	37.99	PK	62	1.3	H	14.72	52.71	68.2	-15.49
10560	36.85	PK	133	1.3	V	14.72	51.57	68.2	-16.63
5320 MHz									
5350	56.91	PK	224	1.7	H	3.33	60.24	74	-13.76
5350	43.50	Ave.	224	1.7	H	3.33	46.83	54	-7.17
5350	56.16	PK	19	1.4	V	3.33	59.49	74	-14.51
5350	41.75	Ave.	19	1.4	V	3.33	45.08	54	-8.92
5460	58.04	PK	151	1.5	H	3.31	61.35	74	-12.65
5460	43.89	Ave.	151	1.5	H	3.31	47.2	54	-6.8
5460	57.03	PK	345	1.2	V	3.31	60.34	74	-13.66
5460	42.76	Ave.	345	1.2	V	3.31	46.07	54	-7.93
10640	37.75	PK	305	1.7	H	15.07	52.82	74	-21.18
10640	35.31	PK	277	1.7	V	15.07	50.38	74	-23.62

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11AC40									
5270 MHz									
4500	58.11	PK	128	2.5	H	1.89	60.00	74	-14
4500	44.49	Ave.	128	2.5	H	1.89	46.38	54	-7.62
4500	56.47	PK	220	1.9	V	1.89	58.36	74	-15.64
4500	43.84	Ave.	220	1.9	V	1.89	45.73	54	-8.27
5150	57.32	PK	311	1.8	H	3.37	60.69	74	-13.31
5150	44.18	Ave.	311	1.8	H	3.37	47.55	54	-6.45
5150	56.05	PK	140	2.1	V	3.37	59.42	74	-14.58
5150	43.34	Ave.	140	2.1	V	3.37	46.71	54	-7.29
10540	37.21	PK	300	2.3	H	14.72	51.93	68.2	-16.27
10540	35.54	PK	179	2.3	V	14.72	50.26	68.2	-17.94
5310 MHz									
5350	57.48	PK	187	1	H	3.33	60.81	74	-13.19
5350	43.15	Ave.	187	1	H	3.33	46.48	54	-7.52
5350	55.68	PK	54	1.1	V	3.33	59.01	74	-14.99
5350	42.00	Ave.	54	1.1	V	3.33	45.33	54	-8.67
5460	57.62	PK	193	2.3	H	3.31	60.93	74	-13.07
5460	43.85	Ave.	193	2.3	H	3.31	47.16	54	-6.84
5460	56.36	PK	95	1.7	V	3.31	59.67	74	-14.33
5460	42.77	Ave.	95	1.7	V	3.31	46.08	54	-7.92
10620	37.86	PK	336	1.7	H	15	52.86	74	-21.14
10620	36.34	PK	113	1.7	V	15	51.34	74	-22.66

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11AC80									
5290 MHz									
4500	50.77	PK	136	2.2	H	1.89	52.66	74	-21.34
4500	38.47	Ave.	136	2.2	H	1.89	40.36	54	-13.64
4500	51.74	PK	230	2.2	V	1.89	53.63	74	-20.37
4500	39.13	Ave.	230	2.2	V	1.89	41.02	54	-12.98
5150	52.02	PK	309	1.8	H	3.37	55.39	74	-18.61
5150	38.80	Ave.	309	1.8	H	3.37	42.17	54	-11.83
5150	50.86	PK	38	1.9	V	3.37	54.23	74	-19.77
5150	37.57	Ave.	38	1.9	V	3.37	40.94	54	-13.06
5350	67.54	PK	22	1.3	H	3.33	70.87	74	-3.13
5350	46.64	Ave.	22	1.3	H	3.33	49.97	54	-4.03
5350	64.30	PK	20	1.4	V	3.33	67.63	74	-6.37
5350	45.51	Ave.	20	1.4	V	3.33	48.84	54	-5.16
5460	63.50	PK	320	2	H	3.31	66.81	74	-7.19
5460	45.57	Ave.	320	2	H	3.31	48.88	54	-5.12
5460	65.70	PK	111	1.8	V	3.31	69.01	74	-4.99
5460	44.27	Ave.	111	1.8	V	3.31	47.58	54	-6.42
10580	37.59	PK	122	1.7	H	14.9	52.49	68.2	-15.71
10580	35.63	PK	247	1.7	V	14.9	50.53	68.2	-17.67

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11AX20									
5260 MHZ									
4500	58.13	PK	108	1.2	H	1.89	60.02	74	-13.98
4500	46.10	Ave.	108	1.2	H	1.89	47.99	54	-6.01
4500	58.13	PK	323	2.3	V	1.89	60.02	74	-13.98
4500	46.10	Ave.	323	2.3	V	1.89	47.99	54	-6.01
5150	57.73	PK	31	1.1	H	3.37	61.10	74	-12.9
5150	45.14	Ave.	31	1.1	H	3.37	48.51	54	-5.49
5150	57.73	PK	281	1.7	V	3.37	61.10	74	-12.9
5150	45.14	Ave.	281	1.7	V	3.37	48.51	54	-5.49
10520	37.37	PK	360	1.2	H	14.60	51.97	68.2	-16.23
10520	35.68	PK	207	1.3	V	14.60	50.28	68.2	-17.92
5280 MHZ									
10560	38.09	PK	72	1.2	H	14.72	52.81	68.2	-15.39
10560	36.00	PK	69	1.2	V	14.72	50.72	68.2	-17.48
5320 MHZ									
5350	57.00	PK	297	1.9	H	3.33	60.33	74	-13.67
5350	44.64	Ave.	297	1.9	H	3.33	47.97	54	-6.03
5350	55.51	PK	21	1.8	V	3.33	58.84	74	-15.16
5350	42.75	Ave.	21	1.8	V	3.33	46.08	54	-7.92
5460	57.83	PK	13	1.4	H	3.31	61.14	74	-12.86
5460	45.47	Ave.	13	1.4	H	3.31	48.78	54	-5.22
5460	57.08	PK	342	2.2	V	3.31	60.39	74	-13.61
5460	44.27	Ave.	342	2.2	V	3.31	47.58	54	-6.42
10640	37.62	PK	265	1.7	H	15.07	52.69	74	-21.31
10640	36.01	PK	292	1.7	V	15.07	51.08	74	-22.92

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11AX40									
5270 MHz									
4500	58.23	PK	62	1.1	H	1.89	60.12	74	-13.88
4500	44.58	Ave.	62	1.1	H	1.89	46.47	54	-7.53
4500	57.48	PK	153	1.1	V	1.89	59.37	74	-14.63
4500	43.14	Ave.	153	1.1	V	1.89	45.03	54	-8.97
5150	57.27	PK	133	1.2	H	3.37	60.64	74	-13.36
5150	44.10	Ave.	133	1.2	H	3.37	47.47	54	-6.53
5150	55.40	PK	267	1.4	V	3.37	58.77	74	-15.23
5150	42.79	Ave.	267	1.4	V	3.37	46.16	54	-7.84
10540	37.27	PK	251	1.9	H	14.72	51.99	68.2	-16.21
10540	35.53	PK	182	1.9	V	14.72	50.25	68.2	-17.95
5310 MHz									
5350	55.90	PK	73	1.3	H	3.33	59.23	74	-14.77
5350	44.75	Ave.	73	1.3	H	3.33	48.08	54	-5.92
5350	54.83	PK	143	2.5	V	3.33	58.16	74	-15.84
5350	43.75	Ave.	143	2.5	V	3.33	47.08	54	-6.92
5460	56.85	PK	149	1.8	H	3.31	60.16	74	-13.84
5460	45.38	Ave.	149	1.8	H	3.31	48.69	54	-5.31
5460	56.32	PK	87	1.4	V	3.31	59.63	74	-14.37
5460	43.53	Ave.	87	1.4	V	3.31	46.84	54	-7.16
10620	38.09	PK	107	1.7	H	15	53.09	74	-20.91
10620	37.17	PK	220	1.7	V	15	52.17	74	-21.83

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11AX80									
5290 MHz									
4500	51.42	PK	85	1.3	H	1.89	53.31	74	-20.69
4500	38.63	Ave.	85	1.3	H	1.89	40.52	54	-13.48
4500	50.12	PK	123	1	V	1.89	52.01	74	-21.99
4500	37.44	Ave.	123	1	V	1.89	39.33	54	-14.67
5150	52.14	PK	209	2.1	H	3.37	55.51	74	-18.49
5150	38.93	Ave.	209	2.1	H	3.37	42.30	54	-11.7
5150	51.16	PK	183	1.8	V	3.37	54.53	74	-19.47
5150	37.51	Ave.	183	1.8	V	3.37	40.88	54	-13.12
5350	68.94	PK	109	1.1	H	3.33	72.27	74	-1.73
5350	48.74	Ave.	109	1.1	H	3.33	52.07	54	-1.93
5350	67.59	PK	79	2.2	V	3.33	70.92	74	-3.08
5350	47.21	Ave.	79	2.2	V	3.33	50.54	54	-3.46
5460	67.74	PK	357	1.2	H	3.31	71.05	74	-2.95
5460	46.01	Ave.	357	1.2	H	3.31	49.32	54	-4.68
5460	66.56	PK	273	2	V	3.31	69.87	74	-4.13
5460	44.77	Ave.	273	2	V	3.31	48.08	54	-5.92
10580	37.62	PK	277	1.7	H	14.9	52.52	68.2	-15.68
10580	35.34	PK	252	1.7	V	14.9	50.24	68.2	-17.96

5470-5725MHz:

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11A									
5500 MHz									
5400	65.03	PK	315	2	H	3.33	68.36	74	-5.64
5400	44.12	Ave.	315	2	H	3.33	47.45	54	-6.55
5400	63.03	PK	281	1.3	V	3.33	66.36	74	-7.64
5400	43.99	Ave.	281	1.3	V	3.33	47.32	54	-6.68
5470	59.60	PK	124	2.3	H	3.31	62.91	68.2	-5.29
5470	58.56	PK	215	1.4	V	3.31	61.87	68.2	-6.33
11000	36.83	PK	15	2.2	H	16.30	53.13	74	-20.87
11000	36.15	PK	164	2.5	V	16.30	52.45	74	-21.55
5580 MHz									
11160	36.20	PK	207	1.9	H	15.84	52.04	74	-21.96
11160	35.81	PK	34	1.9	V	15.84	51.65	74	-22.35
5700 MHz									
5725	58.60	PK	339	1.2	H	3.89	62.49	68.2	-5.71
5725	57.93	PK	87	1.8	V	3.89	61.82	68.2	-6.38
5745	58.63	PK	240	1.1	H	4.03	62.66	68.2	-5.54
5745	56.89	PK	282	2.4	V	4.03	60.92	68.2	-7.28
11400	37.86	PK	99	1.7	H	15.06	52.92	74	-21.08
11400	36.30	PK	77	1.7	V	15.06	51.36	74	-22.64
802.11n20									
5500 MHz									
5400	65.13	PK	193	2.3	H	3.33	68.46	74	-5.54
5400	42.29	Ave.	193	2.3	H	3.33	45.62	54	-8.38
5400	64.40	PK	199	1.6	V	3.33	67.73	74	-6.27
5400	40.69	Ave.	199	1.6	V	3.33	44.02	54	-9.98
5470	59.09	PK	193	2.2	H	3.31	62.40	68.2	-5.8
5470	57.87	PK	260	2.4	V	3.31	61.18	68.2	-7.02
11000	37.23	PK	98	1.9	H	16.30	53.53	74	-20.47
11000	36.05	PK	220	1.1	V	16.30	52.35	74	-21.65
5580 MHz									
11160	36.81	PK	98	2	H	15.84	52.65	74	-21.35
11160	35.83	PK	334	2	V	15.84	51.67	74	-22.33
5700 MHz									
5725	58.76	PK	24	2.4	H	3.89	62.65	68.2	-5.55
5725	58.23	PK	42	1.5	V	3.89	62.12	68.2	-6.08
5745	58.71	PK	276	2.4	H	4.03	62.74	68.2	-5.46
5745	57.29	PK	291	1.9	V	4.03	61.32	68.2	-6.88
11400	38.32	PK	198	1.7	H	15.06	53.38	74	-20.62
11400	37.21	PK	177	1.7	V	15.06	52.27	74	-21.73

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11n40									
5510 MHz									
5400	64.35	PK	250	1.1	H	3.33	67.68	74	-6.32
5400	42.01	Ave.	250	1.1	H	3.33	45.34	54	-8.66
5400	62.99	PK	12	2.1	V	3.33	66.32	74	-7.68
5400	40.43	Ave.	12	2.1	V	3.33	43.76	54	-10.24
5470	59.37	PK	221	1.9	H	3.31	62.68	68.2	-5.52
5470	58.55	PK	210	1.1	V	3.31	61.86	68.2	-6.34
11020	36.57	PK	185	2.2	H	16.15	52.72	74	-21.28
11020	35.18	PK	2	1.6	V	16.15	51.33	74	-22.67
5550 MHz									
11100	35.49	PK	177	1.6	H	15.99	51.48	74	-22.52
11100	34.39	PK	224	1.9	V	15.99	50.38	74	-23.62
5670 MHz									
5725	58.44	PK	199	2.3	H	3.89	62.33	68.2	-5.87
5725	57.00	PK	227	2.1	V	3.89	60.89	68.2	-7.31
5745	58.75	PK	332	1.6	H	4.03	62.78	68.2	-5.42
5745	57.35	PK	268	1	V	4.03	61.38	68.2	-6.82
11340	36.92	PK	85	1.7	H	15.21	52.13	74	-21.87
11340	36.13	PK	172	1.7	V	15.21	51.34	74	-22.66

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11AC20									
5500 MHz									
5400	65.17	PK	325	1.8	H	3.33	68.50	74	-5.5
5400	44.34	Ave.	325	1.8	H	3.33	47.67	54	-6.33
5400	62.11	PK	83	2.2	V	3.33	65.44	74	-8.56
5400	43.05	Ave.	83	2.2	V	3.33	46.38	54	-7.62
5470	59.32	PK	344	2.4	H	3.31	62.63	68.2	-5.57
5470	58.50	PK	336	1.7	V	3.31	61.81	68.2	-6.39
11000	37.73	PK	69	1.3	H	16.30	54.03	74	-19.97
11000	30.10	Ave.	69	1.3	H	16.30	46.40	54	-7.6
11000	36.07	PK	305	1.8	V	16.30	52.37	74	-21.63
5580 MHz									
11160	37.27	PK	100	1.2	H	15.84	53.11	74	-20.89
11160	36.83	PK	245	1.2	V	15.84	52.67	74	-21.33
5700 MHz									
5725	58.19	PK	251	2.4	H	3.89	62.08	68.2	-6.12
5725	56.15	PK	68	2	V	3.89	60.04	68.2	-8.16
5745	58.50	PK	247	1.6	H	4.03	62.53	68.2	-5.67
5745	57.20	PK	70	1.6	V	4.03	61.23	68.2	-6.97
11400	38.04	PK	18	1.7	H	15.06	53.1	74	-20.9
11400	36.61	PK	145	1.7	V	15.06	51.67	74	-22.33
802.11AC40									
5510 MHz									
5400	64.45	PK	227	1.3	H	3.33	67.78	74	-6.22
5400	41.03	Ave.	227	1.3	H	3.33	44.36	54	-9.64
5400	62.86	PK	293	1.2	V	3.33	66.19	74	-7.81
5400	39.71	Ave.	293	1.2	V	3.33	43.04	54	-10.96
5470	59.35	PK	213	1.9	H	3.31	62.66	68.2	-5.54
5470	57.55	PK	127	2	V	3.31	60.86	68.2	-7.34
11020	37.13	PK	157	2.4	H	16.15	53.28	74	-20.72
11020	36.18	PK	340	1.3	V	16.15	52.33	74	-21.67
5550 MHz									
11100	36.19	PK	211	1.9	H	15.99	52.18	74	-21.82
11100	35.62	PK	172	2	V	15.99	51.61	74	-22.39
5670 MHz									
5725	58.80	PK	135	1.7	H	3.89	62.69	68.2	-5.51
5725	57.32	PK	314	1.5	V	3.89	61.21	68.2	-6.99
5745	58.08	PK	17	2.1	H	4.03	62.11	68.2	-6.09
5745	56.89	PK	167	1.5	V	4.03	60.92	68.2	-7.28
11340	37.59	PK	252	1.7	H	15.21	52.80	74	-21.2
11340	35.62	PK	354	1.7	V	15.21	50.83	74	-23.17

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11AC80									
5530 MHz									
5400	64.52	PK	335	1.1	H	3.33	67.85	74	-6.15
5400	41.54	Ave.	335	1.1	H	3.33	44.87	54	-9.13
5400	63.43	PK	12	1.6	V	3.33	66.76	74	-7.24
5400	42.03	Ave.	12	1.6	V	3.33	45.36	54	-8.64
5470	59.17	PK	297	2.5	H	3.31	62.48	68.2	-5.72
5470	57.81	PK	218	1.2	V	3.31	61.12	68.2	-7.08
11060	36.13	PK	64	1.8	H	16.15	52.28	74	-21.72
11060	34.19	PK	271	2.2	V	16.15	50.34	74	-23.66
5610 MHz									
5725	58.90	PK	31	2.4	H	3.89	62.79	68.2	-5.41
5725	56.76	PK	60	2.1	V	3.89	60.65	68.2	-7.55
5745	58.55	PK	266	2.2	H	4.03	62.58	68.2	-5.62
5745	56.01	PK	127	1.9	V	4.03	60.04	68.2	-8.16
11220	37.07	PK	259	1.7	H	15.68	52.75	74	-21.25
11220	34.68	PK	206	1.7	V	15.68	50.36	74	-23.64
802.11AX20									
5500 MHz									
5400	64.65	PK	314	1.5	H	3.33	67.98	74	-6.02
5400	40.33	Ave.	314	1.5	H	3.33	43.66	54	-10.34
5400	62.73	PK	102	1.4	V	3.33	66.06	74	-7.94
5400	49.29	Ave.	102	1.4	V	3.33	52.62	54	-1.38
5470	59.24	PK	25	1.9	H	3.31	62.55	68.2	-5.65
5470	58.05	PK	213	1.5	V	3.31	61.36	68.2	-6.84
11000	36.82	PK	336	2.2	H	16.30	53.12	74	-20.88
11000	35.35	PK	109	1.8	V	16.30	51.65	74	-22.35
5580 MHz									
11160	36.85	PK	116	1.1	H	15.84	52.69	74	-21.31
11160	35.70	PK	78	1.1	V	15.84	51.54	74	-22.46
5700 MHz									
5725	58.74	PK	322	1.8	H	3.89	62.63	68.2	-5.57
5725	57.66	PK	95	1.3	V	3.89	61.55	68.2	-6.65
5745	58.10	PK	79	1.5	H	4.03	62.13	68.2	-6.07
5745	55.88	PK	216	1.5	V	4.03	59.91	68.2	-8.29
11400	37.94	PK	185	1.7	H	15.06	53	74	-21
11400	36.28	PK	292	1.7	V	15.06	51.34	74	-22.66

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11AX40									
5510 MHz									
5400	64.80	PK	274	2.1	H	3.33	68.13	74	-5.87
5400	39.34	Ave.	274	2.1	H	3.33	42.67	54	-11.33
5400	64.28	PK	340	1.1	V	3.33	67.61	74	-6.39
5400	40.16	Ave.	340	1.1	V	3.33	43.49	54	-10.51
5470	58.81	PK	188	2.4	H	3.31	62.12	68.2	-6.08
5470	56.72	PK	52	2.3	V	3.31	60.03	68.2	-8.17
11020	36.50	PK	45	2.3	H	16.15	52.65	74	-21.35
11020	35.16	PK	303	1.5	V	16.15	51.31	74	-22.69
5550 MHz									
11100	35.62	PK	295	1.3	H	15.99	51.61	74	-22.39
11100	34.19	PK	34	2.4	V	15.99	50.18	74	-23.82
5670 MHz									
5725	58.91	PK	14	2.1	H	3.89	62.8	68.2	-5.4
5725	57.44	PK	122	2.4	V	3.89	61.33	68.2	-6.87
5745	58.34	PK	154	2.3	H	4.03	62.37	68.2	-5.83
5745	57.18	PK	240	1.7	V	4.03	61.21	68.2	-6.99
11340	37.03	PK	246	1.7	H	15.21	52.24	74	-21.76
11340	35.90	PK	302	1.7	V	15.21	51.11	74	-22.89
802.11AX80									
5530 MHz									
5400	66.55	PK	51	2.1	H	3.33	69.88	74	-4.12
5400	43.01	Ave.	51	2.1	H	3.33	46.34	54	-7.66
5400	64.25	PK	105	1.8	V	3.33	67.58	74	-6.42
5400	41.76	Ave.	105	1.8	V	3.33	45.09	54	-8.91
5470	59.92	PK	82	2.4	H	3.31	63.23	68.2	-4.97
5470	58.77	PK	99	2.1	V	3.31	62.08	68.2	-6.12
11060	36.39	PK	49	1.9	H	16.15	52.54	74	-21.46
11060	35.01	PK	218	2.5	V	16.15	51.16	74	-22.84
5610 MHz									
5725	58.79	PK	336	2.4	H	3.89	62.68	68.2	-5.52
5725	57.03	PK	36	2	V	3.89	60.92	68.2	-7.28
5745	60.55	PK	313	1.7	H	4.03	64.58	68.2	-3.62
5745	58.80	PK	53	1.7	V	4.03	62.83	68.2	-5.37
11220	36.16	PK	231	1.7	H	15.68	51.84	74	-22.16
11220	33.60	PK	116	1.7	V	15.68	49.28	74	-24.72

5725-5850 MHz:

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11A									
5745 MHz									
5650	57.91	PK	278	1.2	H	3.97	61.88	68.2	-6.32
5650	55.92	PK	35	1.1	V	3.97	59.89	68.2	-8.31
5700	70.74	PK	196	1.5	H	3.95	74.69	105.2	-30.51
5700	69.24	PK	121	1.9	V	3.95	73.19	105.2	-32.01
5720	73.84	PK	177	1.4	H	3.89	77.73	110.8	-33.07
5720	71.99	PK	21	2.3	V	3.89	75.88	110.8	-34.92
5725	93.76	PK	199	2.3	H	3.75	97.51	122.2	-24.69
5725	92.35	PK	269	2.3	V	3.75	96.10	122.2	-26.1
11490	38.36	PK	13	1.6	H	14.74	53.10	74	-20.9
11490	37.66	PK	66	2	V	14.74	52.40	74	-21.6
5785 MHz									
11570	38.54	PK	90	1.2	H	14.74	53.28	74	-20.72
11570	36.89	PK	182	1.5	V	14.74	51.63	74	-22.37
5825 MHz									
5850	87.46	PK	313	1.9	H	4.33	91.79	122.2	-30.41
5850	87.46	PK	303	2.2	V	4.33	91.79	122.2	-30.41
5855	75.21	PK	225	1.1	H	4.35	79.56	110.8	-31.24
5855	75.21	PK	203	1.1	V	4.35	79.56	110.8	-31.24
5875	69.02	PK	130	1.4	H	4.41	73.43	105.2	-31.77
5875	69.02	PK	261	1.7	V	4.41	73.43	105.2	-31.77
5925	60.39	PK	220	2.3	H	4.55	64.94	68.2	-3.26
5925	60.39	PK	202	1.1	V	4.55	64.94	68.2	-3.26
11650	37.46	PK	145	1.7	H	14.79	52.25	74	-21.75
11650	36.14	PK	16	1.5	V	14.79	50.93	74	-23.07

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11N20									
5745 MHz									
5650	57.03	PK	78	1.9	H	3.97	61.00	68.2	-7.2
5650	55.00	PK	234	2.4	V	3.97	58.97	68.2	-9.23
5700	61.58	PK	197	1.5	H	3.95	65.53	105.2	-39.67
5700	59.99	PK	10	1.2	V	3.95	63.94	105.2	-41.26
5720	77.84	PK	187	1.8	H	3.89	81.73	110.8	-29.07
5720	75.65	PK	147	1.3	V	3.89	79.54	110.8	-31.26
5725	78.98	PK	168	1.5	H	3.75	82.73	122.2	-39.47
5725	77.52	PK	89	2.5	V	3.75	81.27	122.2	-40.93
11490	37.29	PK	46	1.1	H	14.74	52.03	74	-21.97
11490	35.94	PK	302	1.6	V	14.74	50.68	74	-23.32
5785 MHz									
11570	38.13	PK	19	2.4	H	14.74	52.87	74	-21.13
11570	36.02	PK	352	1.2	V	14.74	50.76	74	-23.24
5825 MHz									
5850	78.02	PK	36	1.8	H	4.33	82.35	122.2	-39.85
5850	77.56	PK	292	2.3	V	4.33	81.89	122.2	-40.31
5855	66.03	PK	276	1.9	H	4.35	70.38	110.8	-40.42
5855	64.48	PK	85	1.4	V	4.35	68.83	110.8	-41.97
5875	60.89	PK	121	1	H	4.41	65.30	105.2	-39.9
5875	59.48	PK	262	1.1	V	4.41	63.89	105.2	-41.31
5925	60.54	PK	167	2.1	H	4.55	65.09	68.2	-3.11
5925	58.73	PK	91	2.5	V	4.55	63.28	68.2	-4.92
11650	37.17	PK	45	1.7	H	14.79	51.96	74	-22.04
11650	35.00	PK	9	1.9	V	14.79	49.79	74	-24.21

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11N40									
5755 MHz									
5650	57.13	PK	3	2.5	H	3.97	61.10	68.2	-7.1
5650	54.89	PK	159	2.3	V	3.97	58.86	68.2	-9.34
5700	64.26	PK	104	1.5	H	3.95	68.21	105.2	-36.99
5700	63.61	PK	178	1.2	V	3.95	67.56	105.2	-37.64
5720	79.88	PK	67	2.4	H	3.89	83.77	110.8	-27.03
5720	77.60	PK	345	2.2	V	3.89	81.49	110.8	-29.31
5725	82.06	PK	237	2.4	H	3.75	85.81	122.2	-36.39
5725	80.19	PK	335	1.1	V	3.75	83.94	122.2	-38.26
11510	38.57	PK	172	1.9	H	14.74	53.31	74	-20.69
11510	36.93	PK	299	1.2	V	14.74	51.67	74	-22.33
5795 MHz									
5850	78.96	PK	241	1.1	H	4.33	83.29	122.2	-38.91
5850	78.02	PK	240	1.6	V	4.33	82.35	122.2	-39.85
5855	65.32	PK	114	1.1	H	4.35	69.67	110.8	-41.13
5855	63.28	PK	183	1.2	V	4.35	67.63	110.8	-43.17
5875	83.27	PK	146	1.6	H	4.41	87.68	105.2	-17.52
5875	81.15	PK	32	1.9	V	4.41	85.56	105.2	-19.64
5925	59.60	PK	222	1.9	H	4.55	64.15	68.2	-4.05
5925	57.32	PK	301	2.1	V	4.55	61.87	68.2	-6.33
11590	38.54	PK	105	2.4	H	14.74	53.28	74	-20.72
11590	36.57	PK	344	1.4	V	14.74	51.31	74	-22.69

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11AC20									
5745 MHz									
5650	57.10	PK	248	1.3	H	3.97	61.07	68.2	-7.13
5650	54.92	PK	251	1	V	3.97	58.89	68.2	-9.31
5700	62.09	PK	252	2.4	H	3.95	66.04	105.2	-39.16
5700	59.98	PK	55	2.2	V	3.95	63.93	105.2	-41.27
5720	73.69	PK	282	1.8	H	3.89	77.58	110.8	-33.22
5720	71.98	PK	151	1	V	3.89	75.87	110.8	-34.93
5725	76.14	PK	111	2.5	H	3.75	79.89	122.2	-42.31
5725	74.24	PK	122	2.5	V	3.75	77.99	122.2	-44.21
11490	37.39	PK	157	1.2	H	14.74	52.13	74	-21.87
11490	35.58	PK	203	1.7	V	14.74	50.32	74	-23.68
5785 MHz									
11570	37.52	PK	112	1.7	H	14.74	52.26	74	-21.74
11570	36.32	PK	329	1.6	V	14.74	51.06	74	-22.94
5825 MHz									
5850	78.57	PK	169	2.5	H	4.33	82.90	122.2	-39.3
5850	76.56	PK	151	1.2	V	4.33	80.89	122.2	-41.31
5855	69.36	PK	315	2	H	4.35	73.71	110.8	-37.09
5855	66.81	PK	172	2.1	V	4.35	71.16	110.8	-39.64
5875	61.98	PK	57	1.4	H	4.41	66.39	105.2	-38.81
5875	60.93	PK	265	1.6	V	4.41	65.34	105.2	-39.86
5925	59.89	PK	128	1.4	H	4.55	64.44	68.2	-3.76
5925	58.57	PK	190	2.4	V	4.55	63.12	68.2	-5.08
11650	36.50	PK	251	1.9	H	14.79	51.29	74	-22.71
11650	34.59	PK	135	2.4	V	14.79	49.38	74	-24.62

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11AC40									
5755 MHz									
5650	63.10	PK	117	1.3	H	3.97	67.07	68.2	-1.13
5650	61.07	PK	357	2.4	V	3.97	65.04	68.2	-3.16
5700	82.17	PK	335	2.1	H	3.95	86.12	105.2	-19.08
5700	79.91	PK	3	2.4	V	3.95	83.86	105.2	-21.34
5720	93.87	PK	54	1.1	H	3.89	97.76	110.8	-13.04
5720	91.25	PK	36	1.5	V	3.89	95.14	110.8	-15.66
5725	94.11	PK	62	1.4	H	3.75	97.86	122.2	-24.34
5725	92.51	PK	164	2.1	V	3.75	96.26	122.2	-25.94
11510	38.50	PK	220	1.5	H	14.74	53.24	74	-20.76
11510	37.34	PK	11	1.8	V	14.74	52.08	74	-21.92
5795 MHz									
5850	86.18	PK	235	1.1	H	4.33	90.51	122.2	-31.69
5850	84.81	PK	265	2.2	V	4.33	89.14	122.2	-33.06
5855	77.27	PK	350	1.3	H	4.35	81.62	110.8	-29.18
5855	75.62	PK	29	2.3	V	4.35	79.97	110.8	-30.83
5875	76.65	PK	248	1.1	H	4.41	81.06	105.2	-24.14
5875	74.83	PK	356	1.6	V	4.41	79.24	105.2	-25.96
5925	62.16	PK	241	1.9	H	4.55	66.71	68.2	-1.49
5925	60.01	PK	186	2	V	4.55	64.56	68.2	-3.64
11590	38.42	PK	12	1.4	H	14.74	53.16	74	-20.84
11590	37.39	PK	324	1.1	V	14.74	52.13	74	-21.87

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11AC80									
5775 MHz									
5650	61.69	PK	221	2.5	H	3.97	65.66	68.2	-2.54
5650	60.41	PK	355	1.7	V	3.97	64.38	68.2	-3.82
5700	69.09	PK	119	2.2	H	3.95	73.04	105.2	-32.16
5700	67.61	PK	84	1.2	V	3.95	71.56	105.2	-33.64
5720	70.74	PK	355	2.4	H	3.89	74.63	110.8	-36.17
5720	68.99	PK	303	2.5	V	3.89	72.88	110.8	-37.92
5725	73.97	PK	98	1.5	H	3.75	77.72	122.2	-44.48
5725	72.63	PK	224	1.9	V	3.75	76.38	122.2	-45.82
5850	71.61	PK	27	2.1	H	4.33	75.94	122.2	-46.26
5850	68.91	PK	354	2	V	4.33	73.24	122.2	-48.96
5855	67.87	PK	0	2.3	H	4.35	72.22	110.8	-38.58
5855	66.09	PK	40	1.5	V	4.35	70.44	110.8	-40.36
5875	65.59	PK	263	1.5	H	4.41	70.00	105.2	-35.2
5875	63.74	PK	222	1.8	V	4.41	68.15	105.2	-37.05
5925	62.37	PK	90	1.2	H	4.55	66.92	68.2	-1.28
5925	59.99	PK	159	1.3	V	4.55	64.54	68.2	-3.66
11550	37.52	PK	274	1.2	H	14.74	52.26	74	-21.74
11550	36.19	PK	148	1.8	V	14.74	50.93	74	-23.07

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11AX20									
5745 MHz									
5650	57.95	PK	245	2.4	H	3.97	61.92	68.2	-6.28
5650	56.31	PK	303	2.3	V	3.97	60.28	68.2	-7.92
5700	62.94	PK	48	1.7	H	3.95	66.89	105.2	-38.31
5700	61.64	PK	204	1.6	V	3.95	65.59	105.2	-39.61
5720	73.58	PK	40	1.1	H	3.89	77.47	110.8	-33.33
5720	71.19	PK	313	2.5	V	3.89	75.08	110.8	-35.72
5725	85.59	PK	180	2	H	3.75	89.34	122.2	-32.86
5725	84.39	PK	175	2	V	3.75	88.14	122.2	-34.06
11490	37.81	PK	133	2.4	H	14.74	52.55	74	-21.45
11490	35.59	PK	353	1.2	V	14.74	50.33	74	-23.67
5785 MHz									
11570	38.10	PK	277	1.5	H	14.74	52.84	74	-21.16
11570	35.62	PK	29	1.6	V	14.74	50.36	74	-23.64
5825 MHz									
5850	82.83	PK	272	2	H	4.33	87.16	122.2	-35.04
5850	80.56	PK	356	1.7	V	4.33	84.89	122.2	-37.31
5855	71.92	PK	24	1.7	H	4.35	76.27	110.8	-34.53
5855	70.53	PK	268	2.3	V	4.35	74.88	110.8	-35.92
5875	65.06	PK	50	2	H	4.41	69.47	105.2	-35.73
5875	64.42	PK	93	1.6	V	4.41	68.83	105.2	-36.37
5925	59.53	PK	323	1.9	H	4.55	64.08	68.2	-4.12
5925	58.04	PK	110	2	V	4.55	62.59	68.2	-5.61
11650	37.43	PK	92	1.6	H	14.79	52.22	74	-21.78
11650	35.93	PK	79	1.1	V	14.79	50.72	74	-23.28

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11AX40									
5755 MHz									
5650	62.67	PK	232	1.3	H	3.97	66.64	68.2	-1.56
5650	61.87	PK	88	2.4	V	3.97	65.84	68.2	-2.36
5700	77.81	PK	189	1.8	H	3.95	81.76	105.2	-23.44
5700	76.33	PK	159	2.1	V	3.95	80.28	105.2	-24.92
5720	89.92	PK	252	1.6	H	3.89	93.81	110.8	-16.99
5720	88.68	PK	323	2.4	V	3.89	92.57	110.8	-18.23
5725	98.16	PK	69	1	H	3.75	101.91	122.2	-20.29
5725	96.51	PK	256	2.3	V	3.75	100.26	122.2	-21.94
11510	38.49	PK	4	2.3	H	14.74	53.23	74	-20.77
11510	37.60	PK	354	2.3	V	14.74	52.34	74	-21.66
5795 MHz									
5850	78.43	PK	300	2	H	4.33	82.76	122.2	-39.44
5850	77.18	PK	184	1.3	V	4.33	81.51	122.2	-40.69
5855	75.18	PK	328	1.4	H	4.35	79.53	110.8	-31.27
5855	73.39	PK	335	1.3	V	4.35	77.74	110.8	-33.06
5875	70.15	PK	81	1.1	H	4.41	74.56	105.2	-30.64
5875	69.11	PK	245	2.1	V	4.41	73.52	105.2	-31.68
5925	59.51	PK	132	1.2	H	4.55	64.06	68.2	-4.14
5925	57.31	PK	175	1.9	V	4.55	61.86	68.2	-6.34
11590	38.60	PK	49	1.8	H	14.74	53.34	74	-20.66
11590	36.89	PK	292	2.2	V	14.74	51.63	74	-22.37

Frequency (MHz)	Receiver		Turn-Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part15.407	
	Reading (dBμV)	Detector (PK/QP/Ave.)	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11AX80									
5775 MHz									
5650	60.60	PK	210	1.1	H	3.97	64.57	68.2	-3.63
5650	59.31	PK	45	2.2	V	3.97	63.28	68.2	-4.92
5700	66.64	PK	316	1.2	H	3.95	70.59	105.2	-34.61
5700	64.94	PK	138	2.4	V	3.95	68.89	105.2	-36.31
5720	68.31	PK	261	1.5	H	3.89	72.20	110.8	-38.6
5720	66.24	PK	257	1.5	V	3.89	70.13	110.8	-40.67
5725	75.59	PK	134	1.8	H	3.75	79.34	122.2	-42.86
5725	74.77	PK	38	2.1	V	3.75	78.52	122.2	-43.68
5850	74.25	PK	358	1.1	H	4.33	78.58	122.2	-43.62
5850	72.92	PK	88	2	V	4.33	77.25	122.2	-44.95
5855	70.33	PK	254	2.3	H	4.35	74.68	110.8	-36.12
5855	68.08	PK	55	1.2	V	4.35	72.43	110.8	-38.37
5875	73.69	PK	37	1.7	H	4.41	78.10	105.2	-27.1
5875	71.63	PK	158	2.1	V	4.41	76.04	105.2	-29.16
5925	62.73	PK	218	2.4	H	4.55	67.28	68.2	-0.92
5925	61.59	PK	289	1.1	V	4.55	66.14	68.2	-2.06
11550	38.22	PK	190	2.1	H	14.74	52.96	74	-21.04
11550	35.62	PK	46	2.1	V	14.74	50.36	74	-23.64

2.4G Wi-Fi (802.11b mode, 2437MHz) & 5G Wi-Fi (802.11ac20 mode, 5500MHz) Simultaneously Transmission:

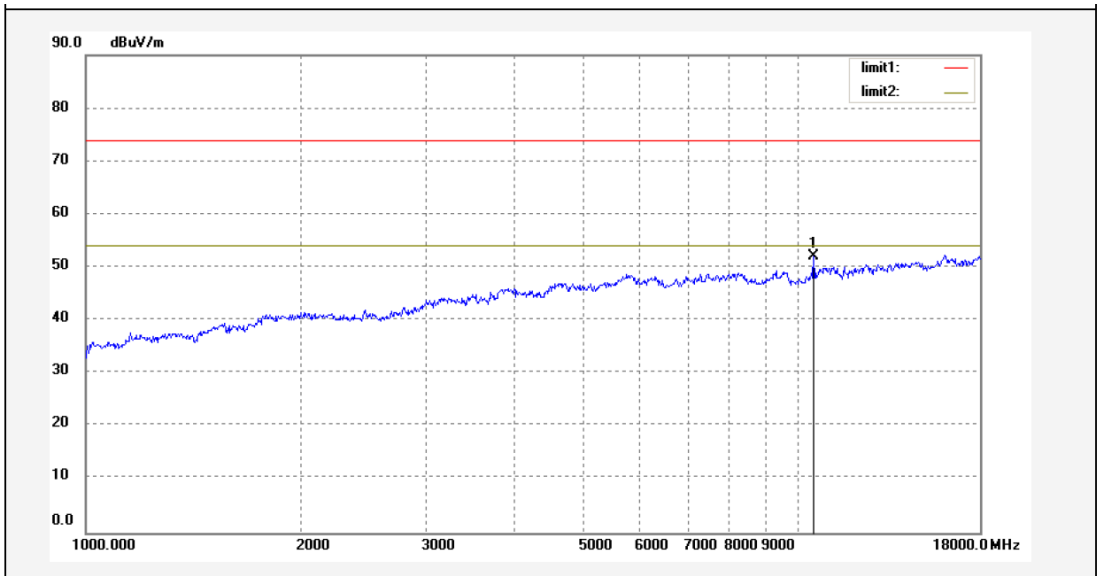
Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/QP/Ave.		Height (m)	Polar (H/V)				
670.49	44.24	QP	330	2.2	H	-7.65	36.59	46	-9.41
53.25	47.34	QP	135	2.2	V	-13.90	33.44	40	-6.56
4874	50.45	PK	26	2.2	H	3.01	53.46	74	-20.54
4874	48.32	PK	130	2.2	V	3.01	51.33	74	-22.67
11000	37.73	PK	69	1.3	H	16.30	54.03	74	-19.97
11000	30.10	AV	69	1.3	H	16.30	46.40	54	-7.6
11000	36.07	PK	305	1.8	V	16.30	52.37	74	-21.63

Note:
Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
Absolute Level (Corrected Amplitude)= Factor + Reading
Margin = Absolute Level (Corrected Amplitude) - Limit
The other spurious emission which is 20dB below to the limit or in the noise floor was not recorded.
The test result of peak was less than the limit of average, so just peak values were recorded.

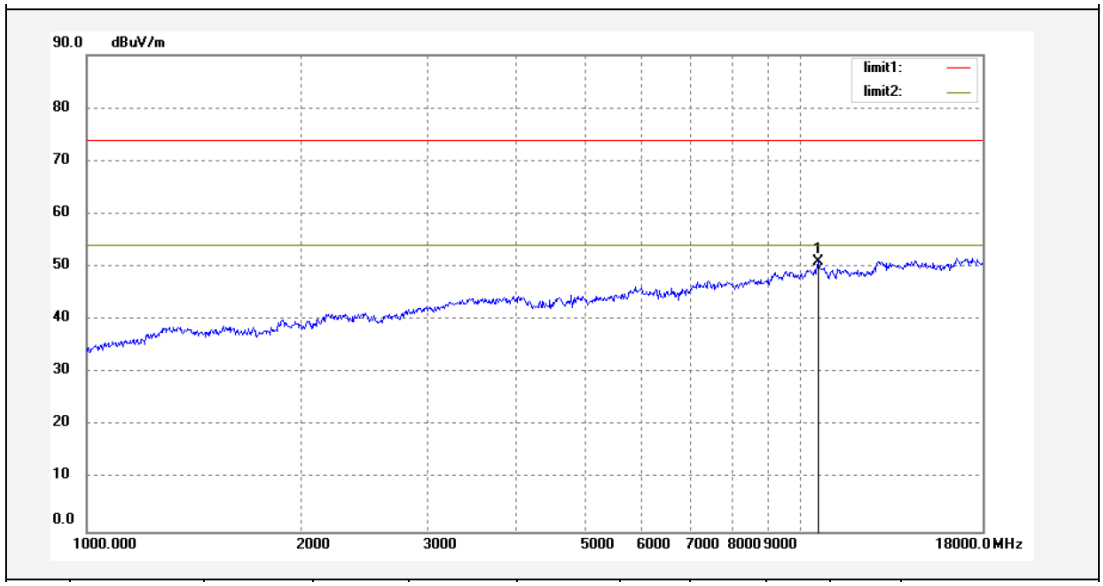
1-18 GHz:

Pre-scan Plots:

802.11 a 5260MHz
Horizontal



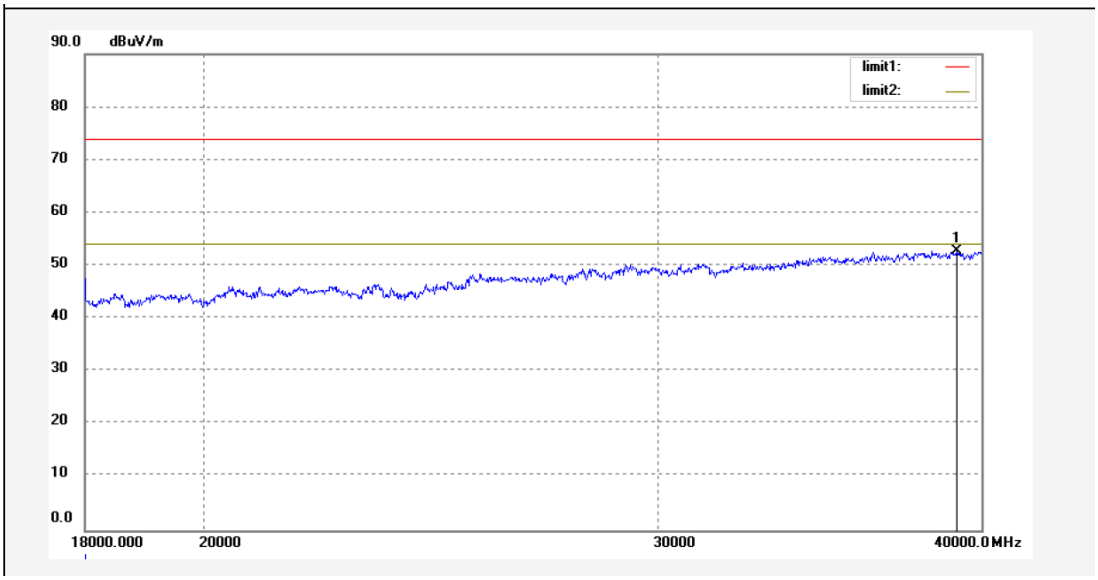
Vertical



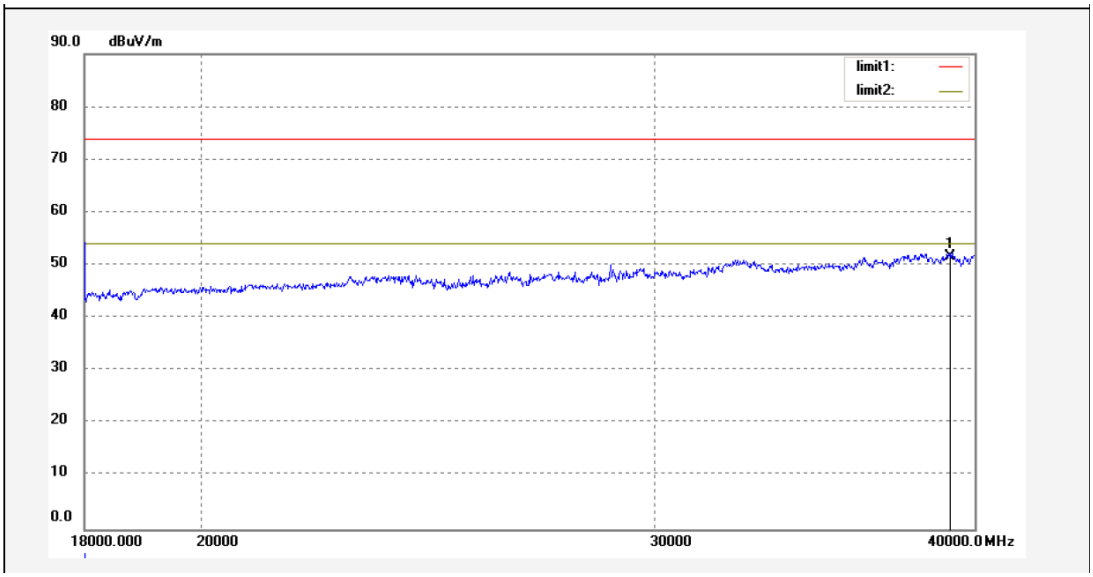
18 -40GHz:

Pre-scan Plots:

802.11 a 5260MHz
Horizontal



Vertical



FCC §15.407(a),(e) – 26 dB & 6dB EMISSION BANDWIDTH

Applicable Standard

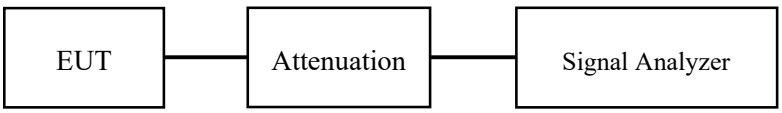
The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.725-5.85 GHz band are made over a reference bandwidth of 500 kHz or the 26 dB emission bandwidth of the device, whichever is less. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth.

Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

Test Procedure

1. Emission Bandwidth (EBW)
a) Set RBW = approximately 1% of the emission bandwidth.
b) Set the VBW > RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Measure the maximum width of the emission that is 26 dB down from the maximum 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%.

2. **Minimum Emission Bandwidth for the band 5.725-5.85 GHz**
Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.725-5.85 GHz. The following procedure shall be used for measuring this bandwidth:
a) Set RBW = 100 kHz.
b) Set the video bandwidth (VBW) ≥ 3 × RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Sweep = auto couple.
f) Allow the trace to stabilize.
g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.



Test Data

Environmental Conditions

Temperature:	27 ℃
Relative Humidity:	57 %
ATM Pressure:	101.0 kPa

The testing was performed by Paul Liu from 2021-05-07 to 2021-12-10.

EUT operation mode: Transmitting

Test Result: Pass

Please refer to the Appendix.

FCC §15.407(a) – CONDUCTED TRANSMITTER OUTPUT POWER

Applicable Standard

For an outdoor 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. In addition, the maximum power spectral density shall not exceed 17 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. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

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.

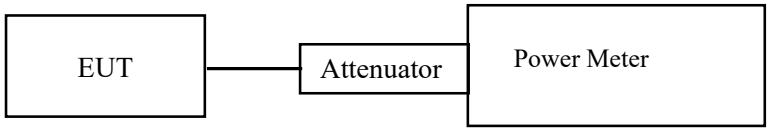
For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum 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. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

Test Procedure

d. Place the EUT on a bench and set it in transmitting mode.

e. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to one test equipment.

f. Add a correction factor to the display.



Test Data

Environmental Conditions

Temperature:	27 ℃
Relative Humidity:	57 %
ATM Pressure:	101.0 kPa

The testing was performed by Paul Liu from 2021-05-07 to 2021-05-12.

EUT operation mode: Transmitting

Test Result: Pass

Please refer to the Appendix.

FCC §15.407(a) - POWER SPECTRAL DENSITY

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. 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.

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.

For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz 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. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

Test Procedure

For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, 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 $\geqslant$ 1/T, where T is defined in section II.B.l.a).
b) Set VBW $\geqslant$ 3 RBW.
c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10 log (500 kHz/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 10 log (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.

Test Data

Environmental Conditions

Temperature:	27 ℃
Relative Humidity:	57 %
ATM Pressure:	101.0 kPa

The testing was performed by Paul Liu from 2021-05-07 to 2021-05-12.

EUT operation mode: Transmitting

Test Result: Pass

Please refer to the Appendix.

APPENDIX

Appendix A1:EmissionBandwidth

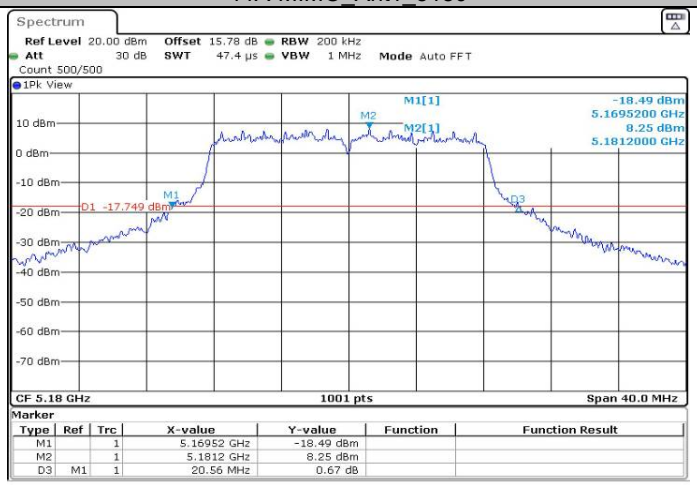
Test Result

TestMode	Antenna	Channel	26db EBW [MHz]	Limit[MHz]	Verdict
11A-MIMO	Ant1	5180	20.560	---	PASS
	Ant1	5200	20.360	---	PASS
	Ant1	5240	21.360	---	PASS
	Ant1	5260	20.120	---	PASS
	Ant1	5280	19.600	---	PASS
	Ant1	5320	20.560	---	PASS
	Ant1	5500	20.200	---	PASS
	Ant1	5580	20.360	---	PASS
	Ant1	5700	19.880	---	PASS
11N20MIMO	Ant1	5180	21.760	---	PASS
	Ant1	5200	21.160	---	PASS
	Ant1	5240	21.360	---	PASS
	Ant1	5260	22.560	---	PASS
	Ant1	5280	22.400	---	PASS
	Ant1	5320	22.920	---	PASS
	Ant1	5500	21.120	---	PASS
	Ant1	5580	20.800	---	PASS
	Ant1	5700	21.640	---	PASS
11N40MIMO	Ant1	5190	42.160	---	PASS
	Ant1	5230	41.360	---	PASS
	Ant1	5270	44.240	---	PASS
	Ant1	5310	42.160	---	PASS
	Ant1	5510	41.120	---	PASS
	Ant1	5550	41.360	---	PASS
	Ant1	5670	41.120	---	PASS
11AC20MIMO	Ant1	5180	20.520	---	PASS
	Ant1	5200	21.240	---	PASS
	Ant1	5240	22.160	---	PASS
	Ant1	5260	22.160	---	PASS
	Ant1	5280	22.280	---	PASS
	Ant1	5320	20.960	---	PASS
	Ant1	5500	21.200	---	PASS
	Ant1	5580	20.840	---	PASS
	Ant1	5700	21.000	---	PASS
11AC40MIMO	Ant1	5190	41.360	---	PASS
	Ant1	5230	41.520	---	PASS
	Ant1	5270	43.440	---	PASS
	Ant1	5310	41.280	---	PASS
	Ant1	5510	41.600	---	PASS
	Ant1	5550	55.680	---	PASS
	Ant1	5670	68.480	---	PASS
11AC80MIMO	Ant1	5210	103.040	---	PASS
	Ant1	5290	83.200	---	PASS
	Ant1	5530	82.560	---	PASS
	Ant1	5610	102.080	---	PASS
11AX20MIMO	Ant1	5180	21.600	---	PASS
	Ant1	5200	21.360	---	PASS
	Ant1	5240	22.000	---	PASS
	Ant1	5260	21.920	---	PASS
	Ant1	5280	21.200	---	PASS
	Ant1	5320	21.840	---	PASS
	Ant1	5500	20.960	---	PASS

	Ant1	5580	21.360	---	PASS
	Ant1	5700	21.000	---	PASS
11AX40MIMO	Ant1	5190	41.680	---	PASS
	Ant1	5230	49.520	---	PASS
	Ant1	5270	65.360	---	PASS
	Ant1	5310	49.280	---	PASS
	Ant1	5510	41.120	---	PASS
	Ant1	5550	40.960	---	PASS
	Ant1	5670	41.280	---	PASS
11AX80MIMO	Ant1	5210	83.840	---	PASS
	Ant1	5290	82.880	---	PASS
	Ant1	5530	83.200	---	PASS
	Ant1	5610	81.920	---	PASS

Test Graphs

11A-MIMO_Ant1_5180



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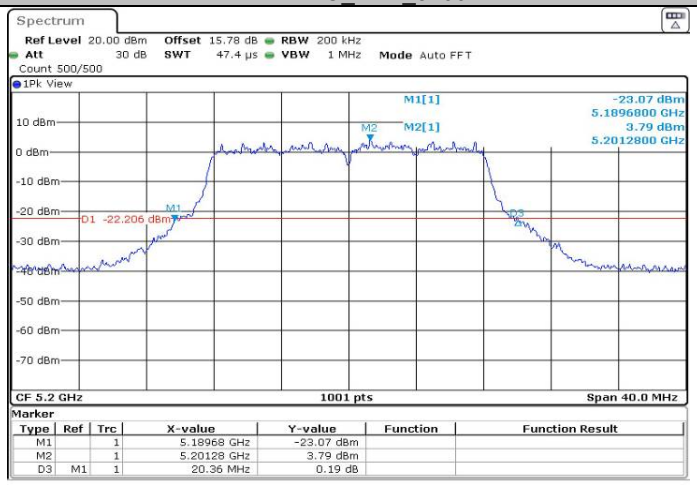

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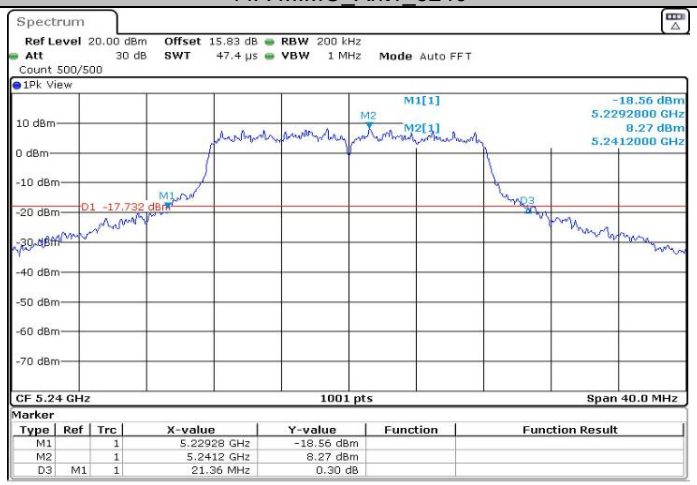

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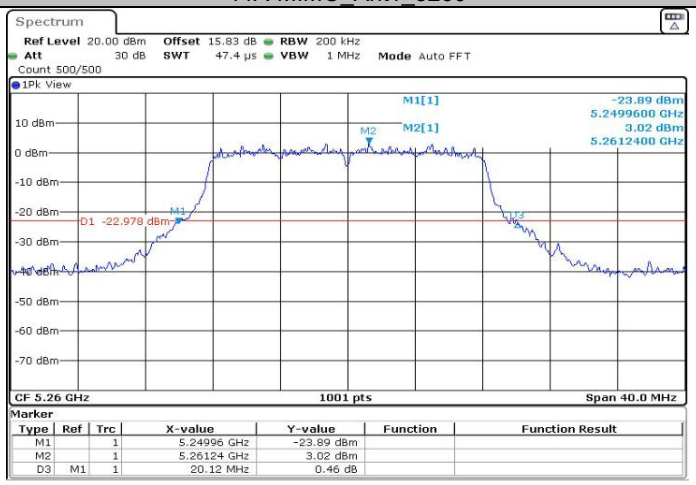

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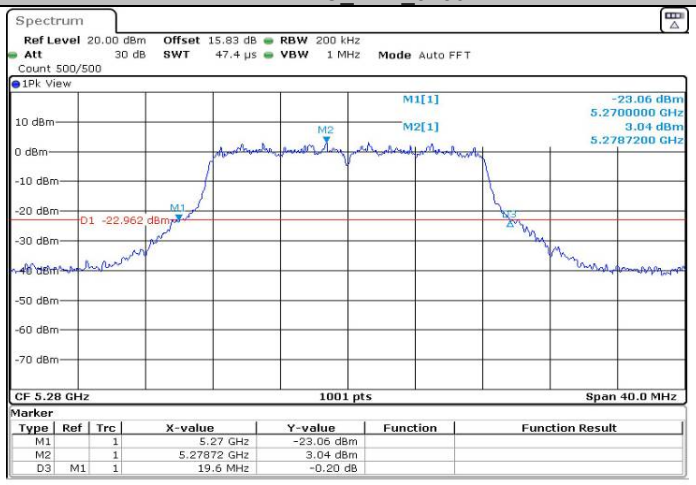

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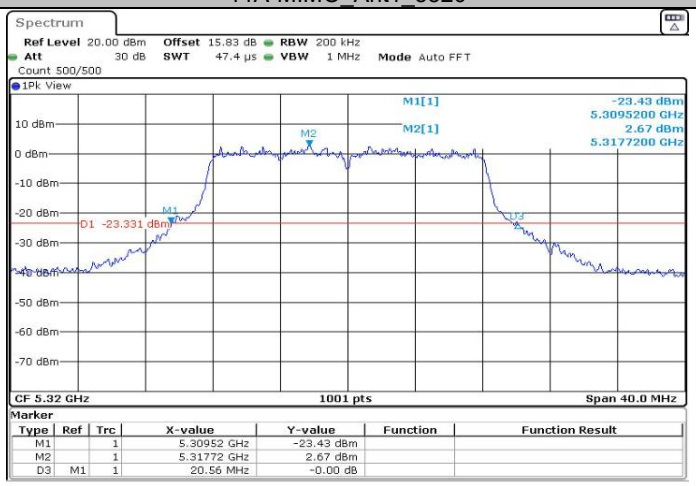

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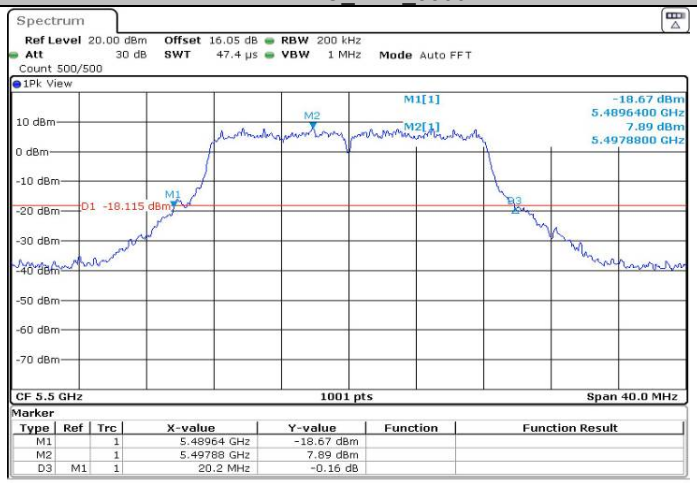

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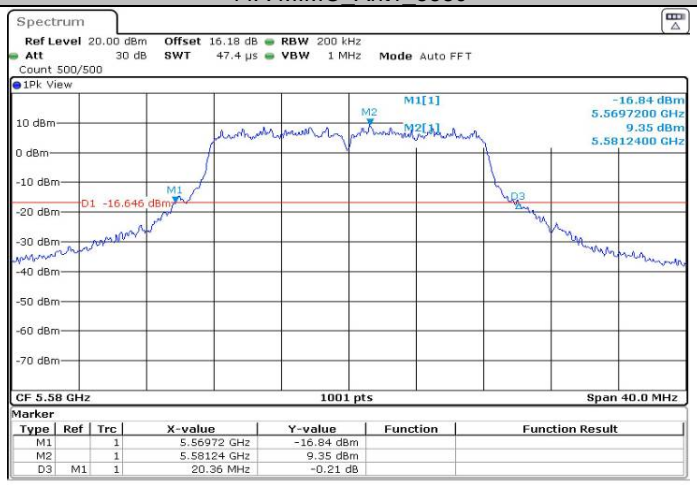

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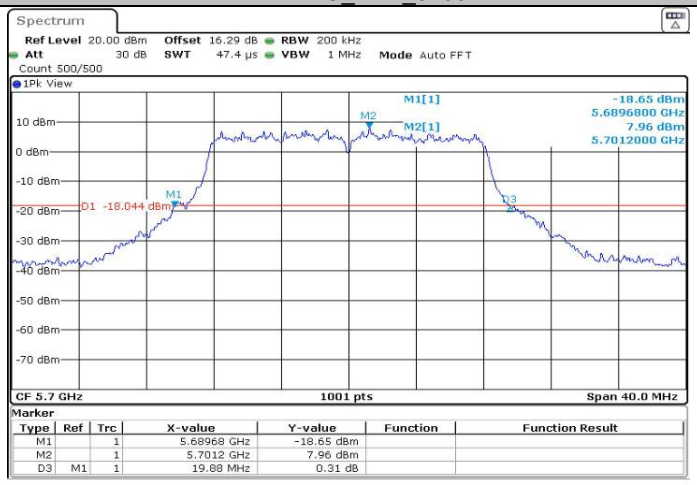

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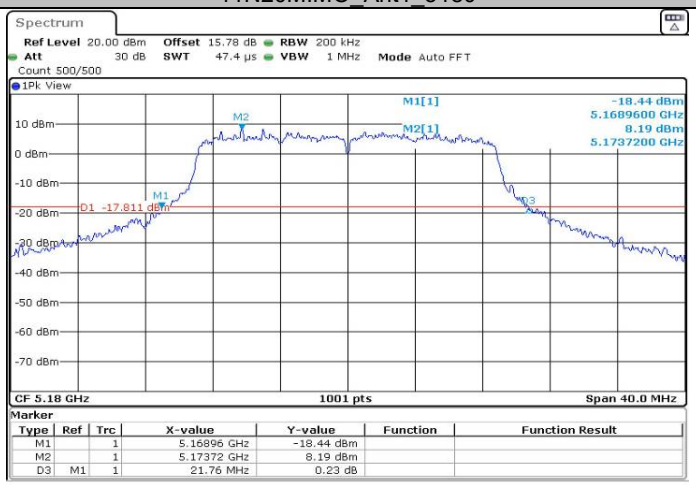

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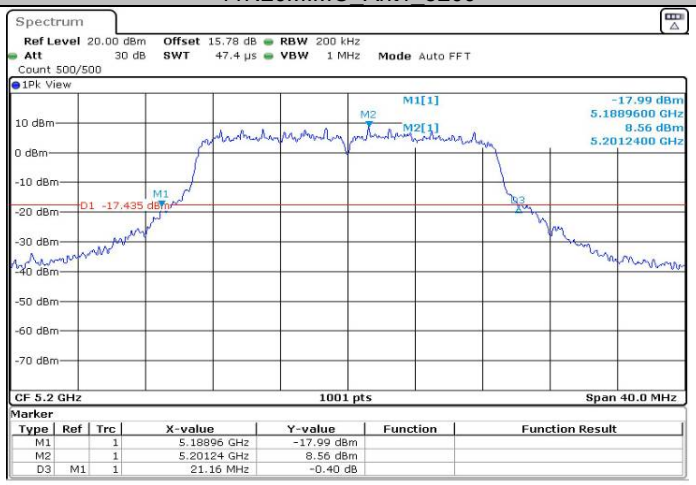

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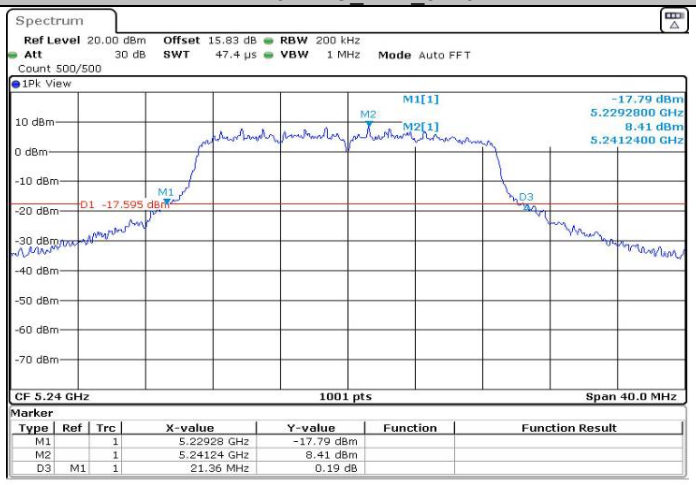

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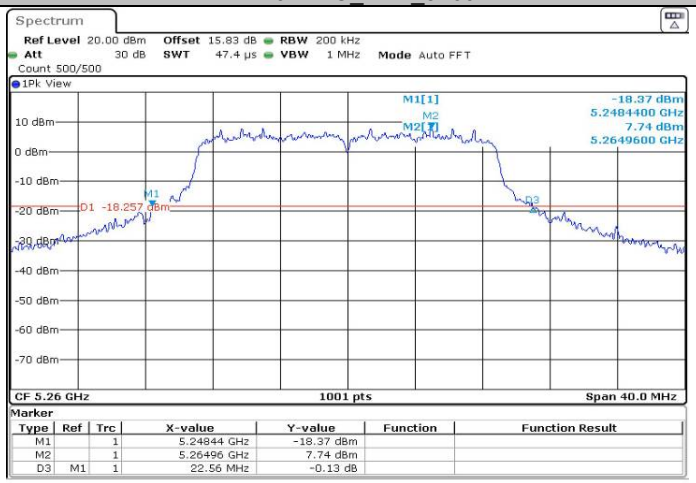

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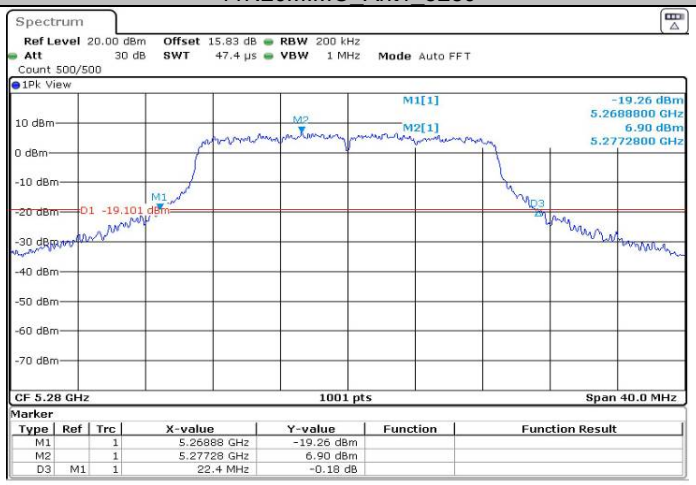

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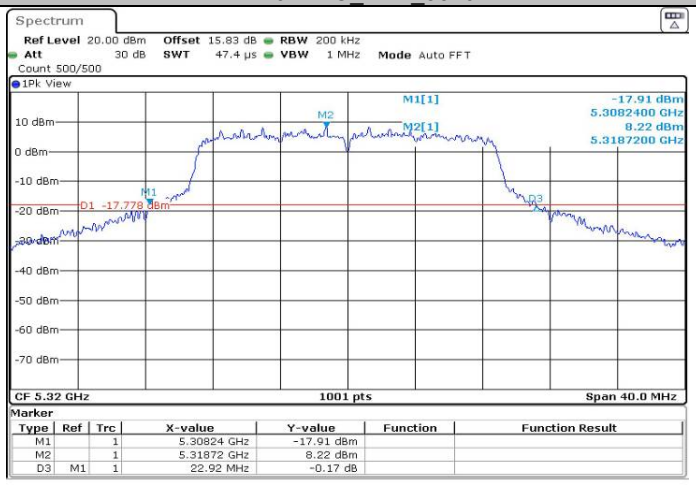

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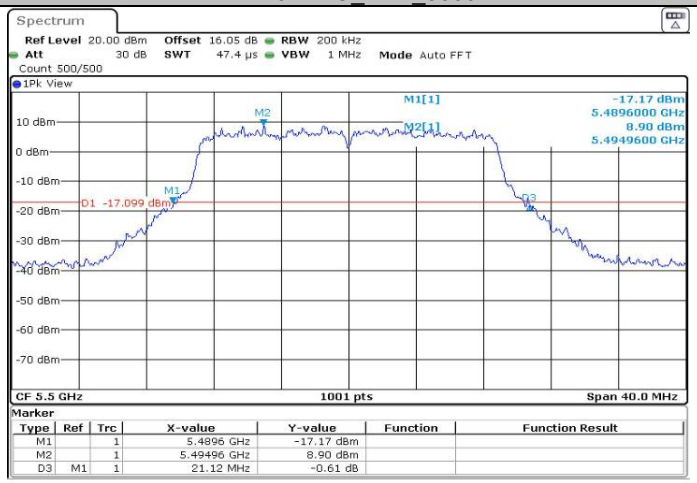

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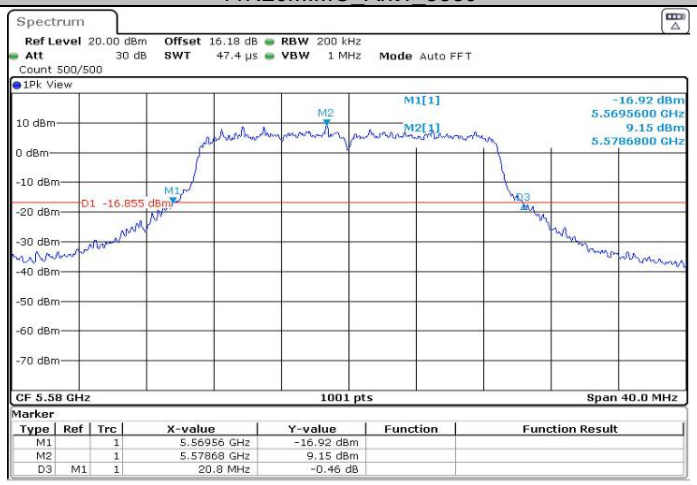

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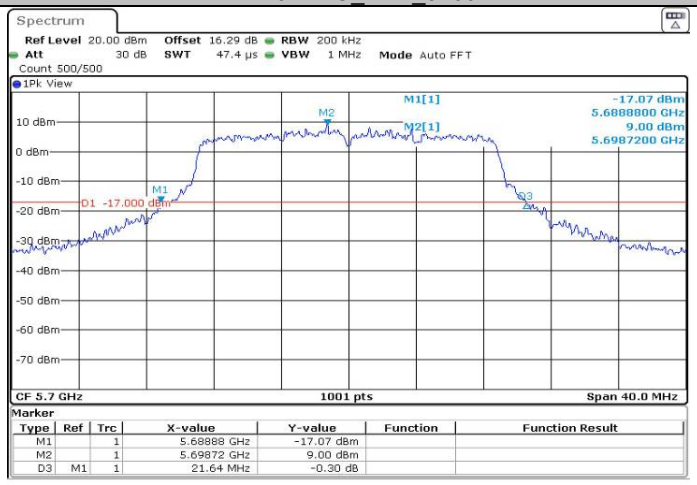

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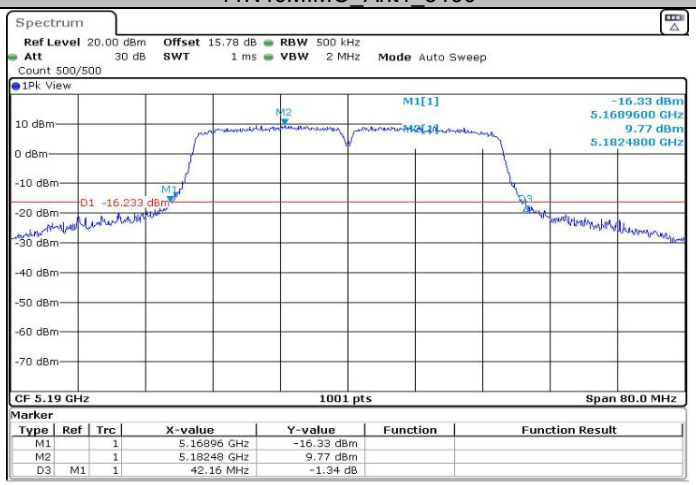

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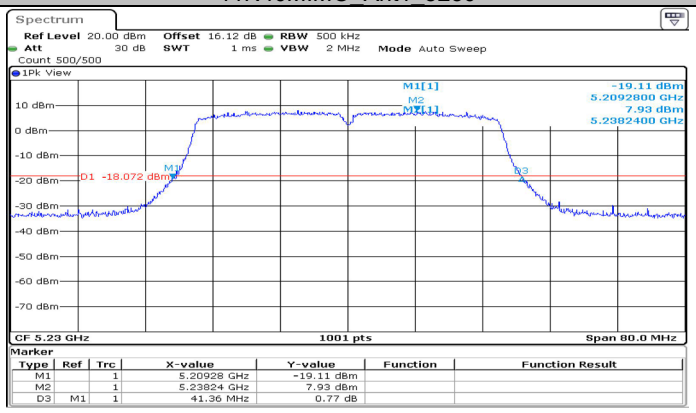

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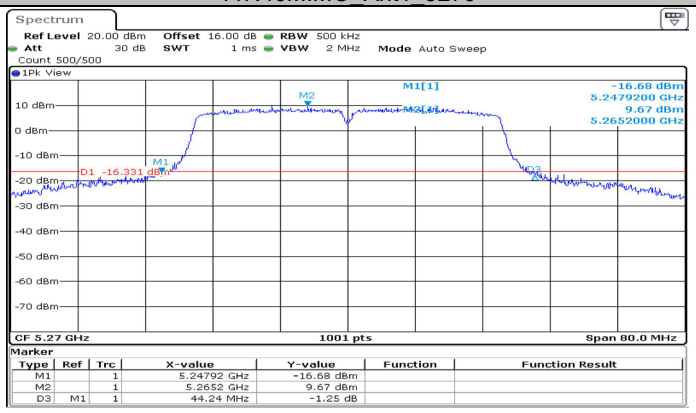

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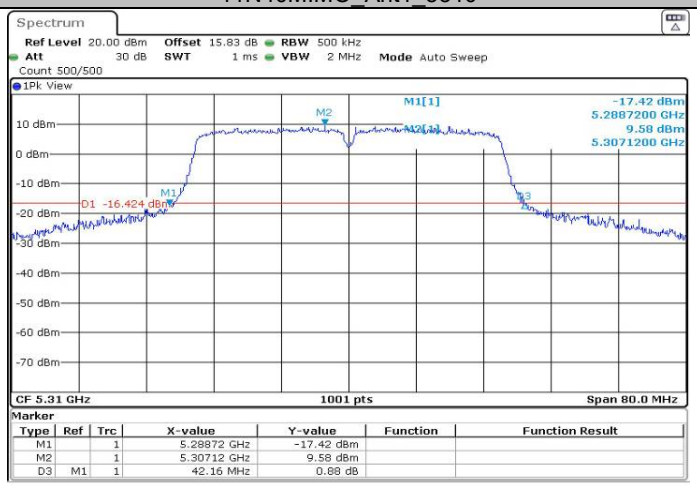

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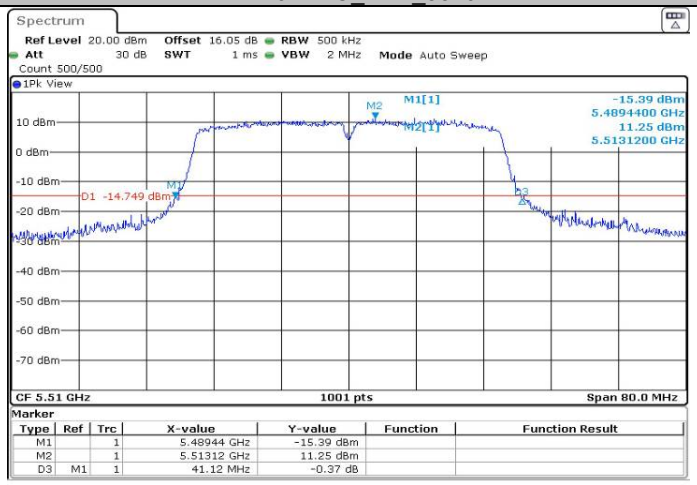

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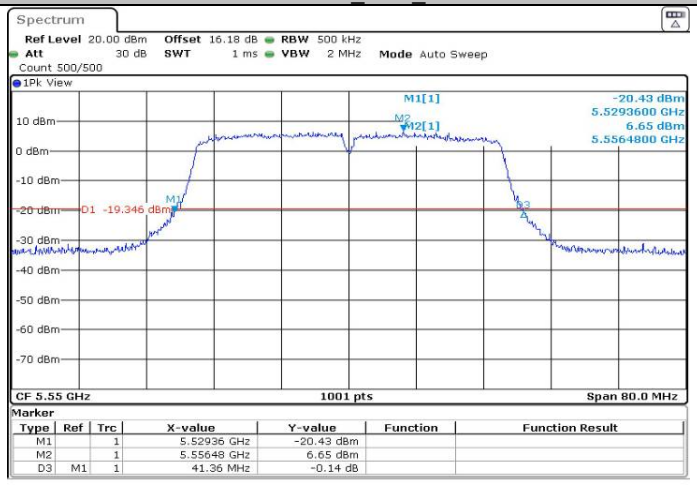

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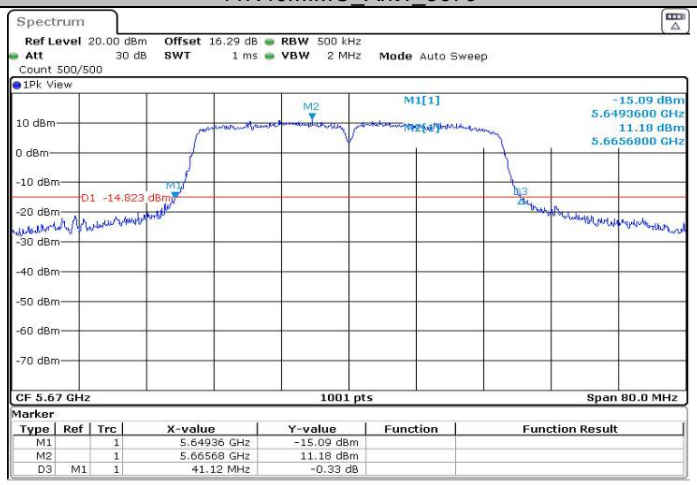

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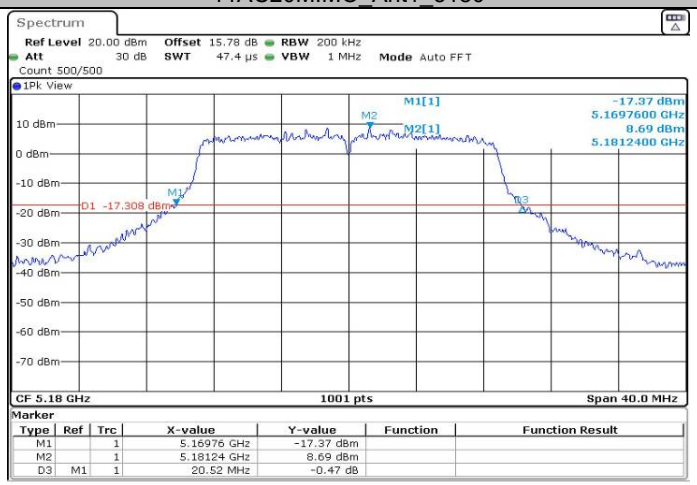

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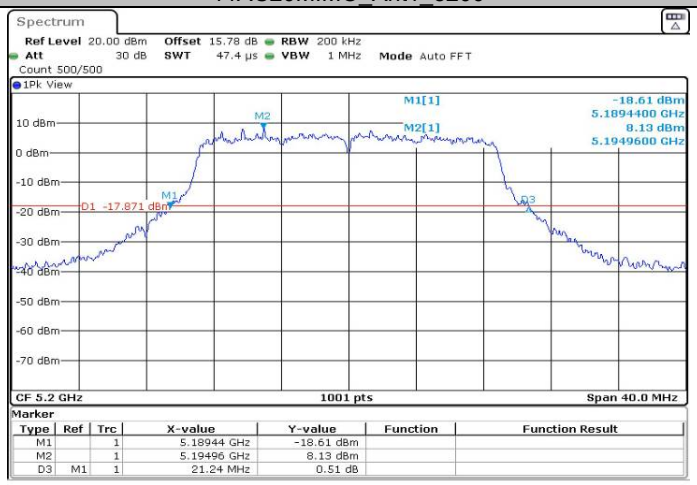

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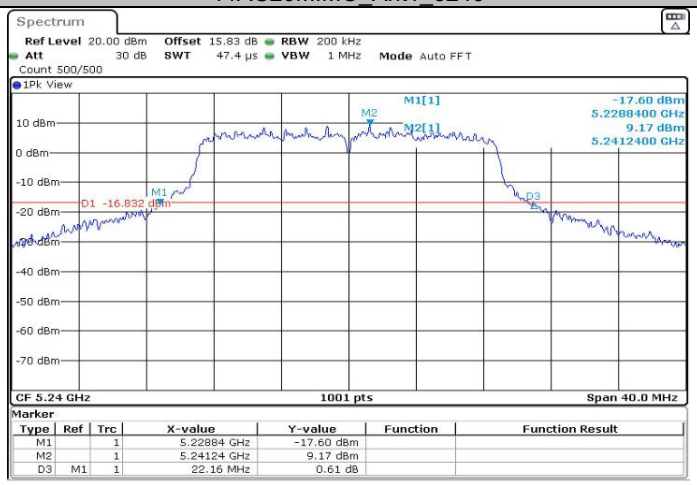

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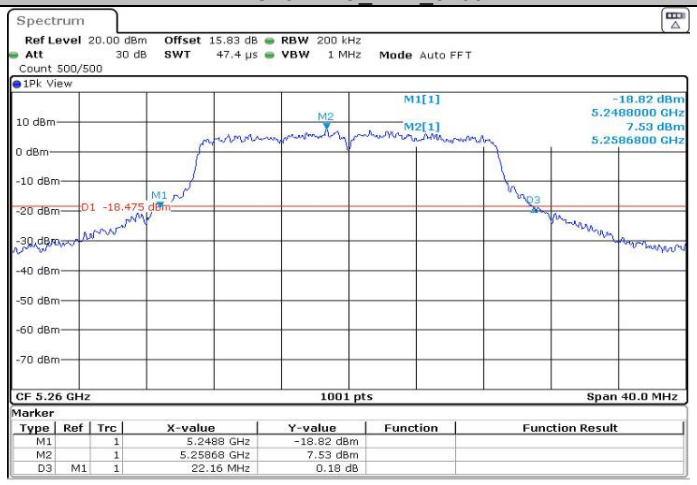

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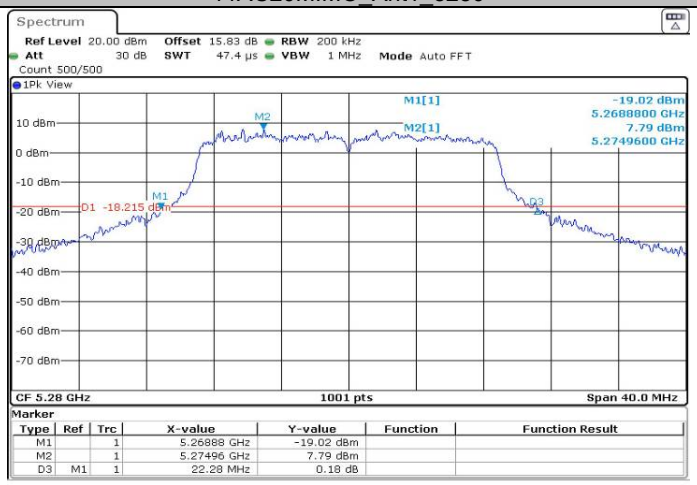

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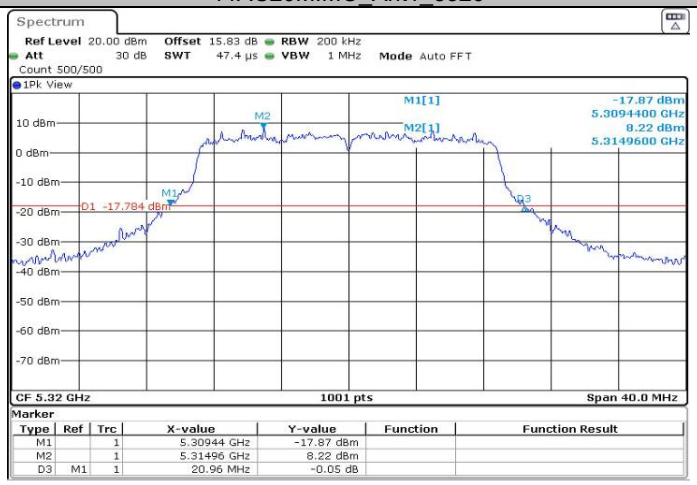

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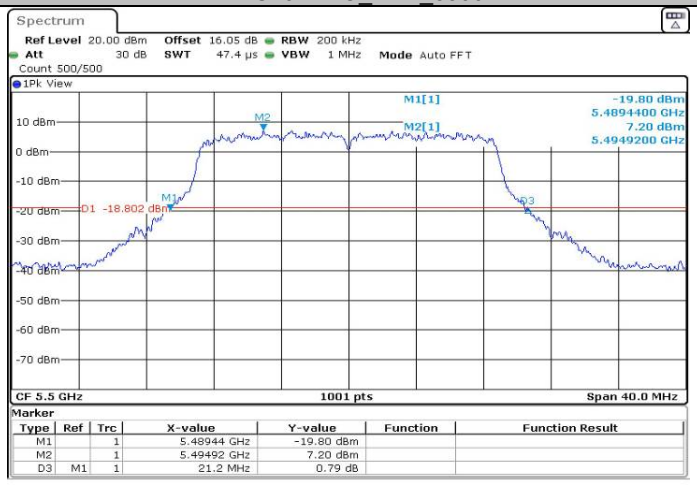

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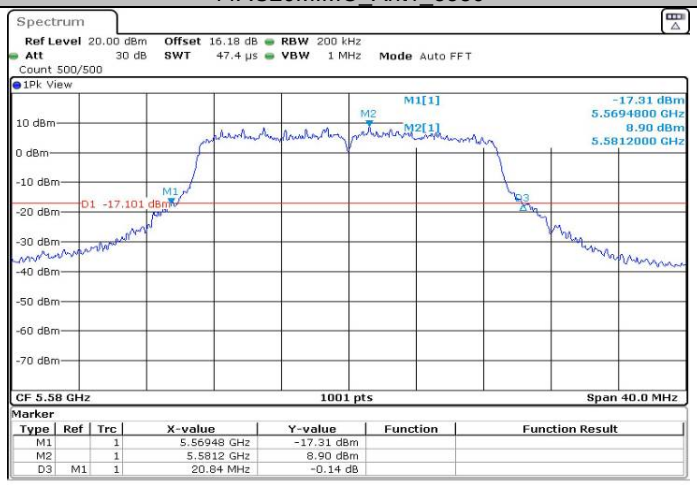

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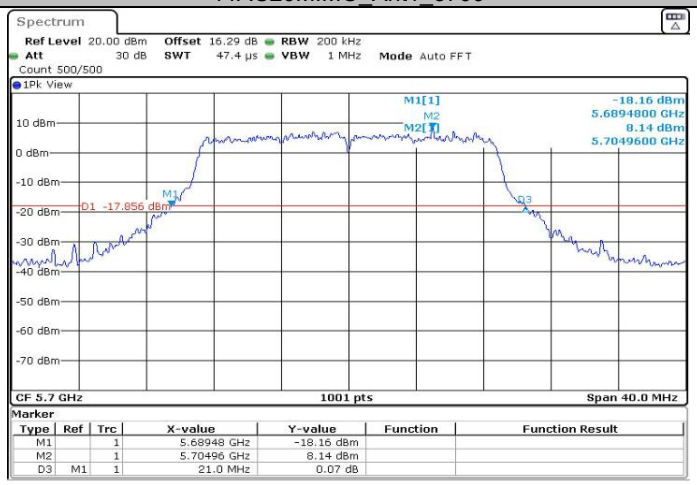

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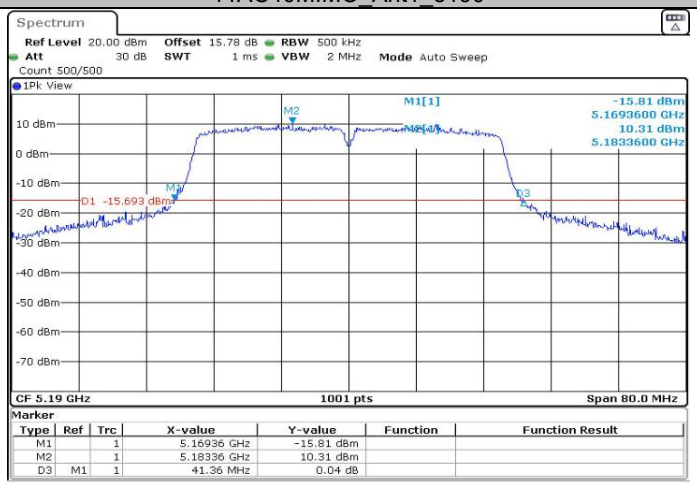

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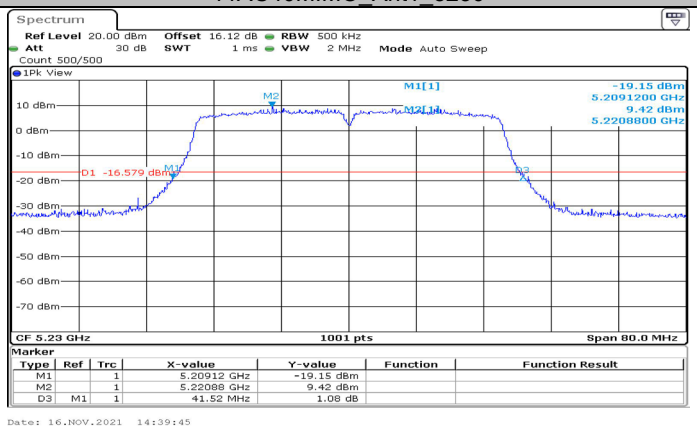

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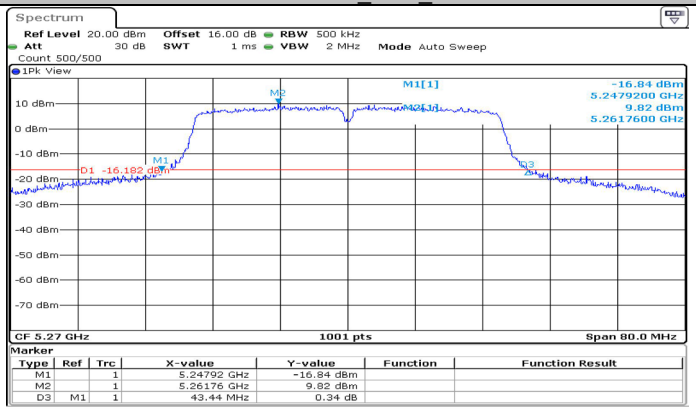

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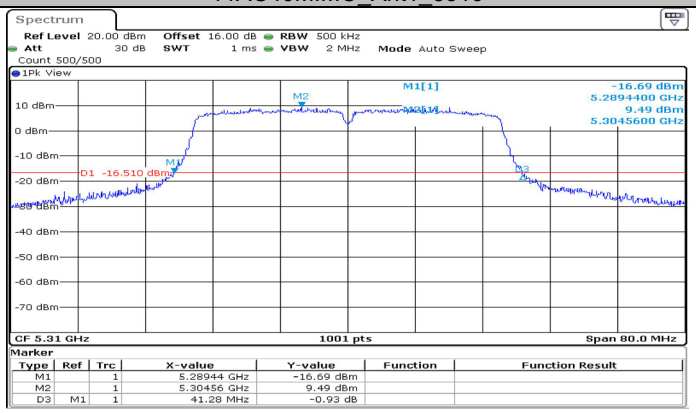

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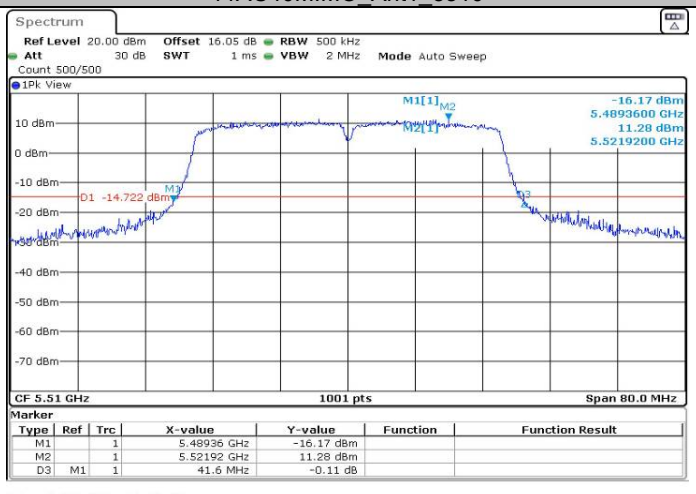

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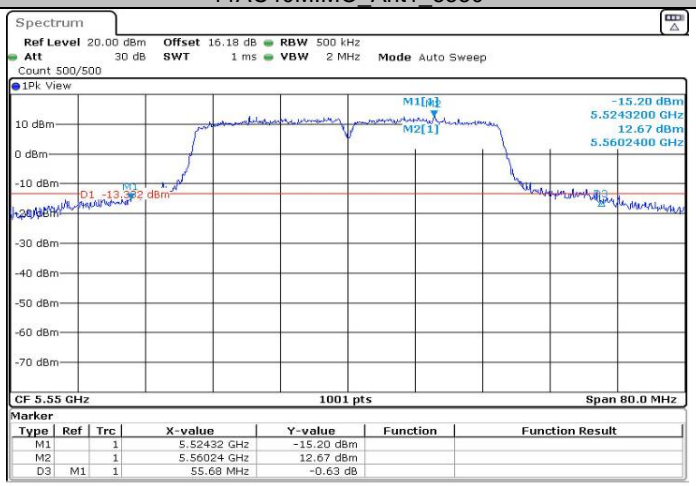

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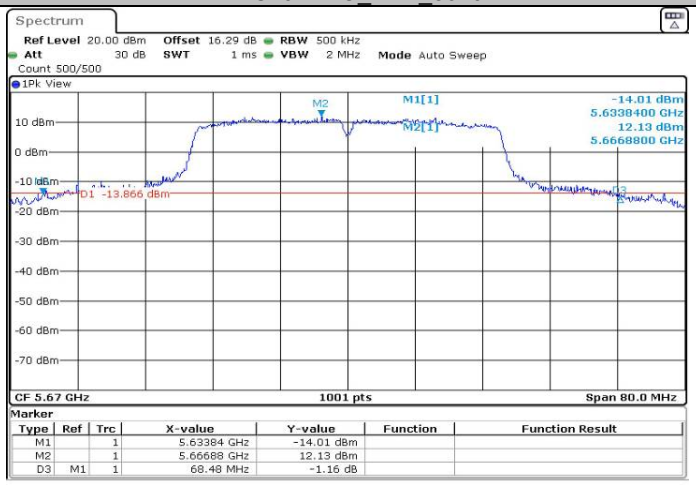

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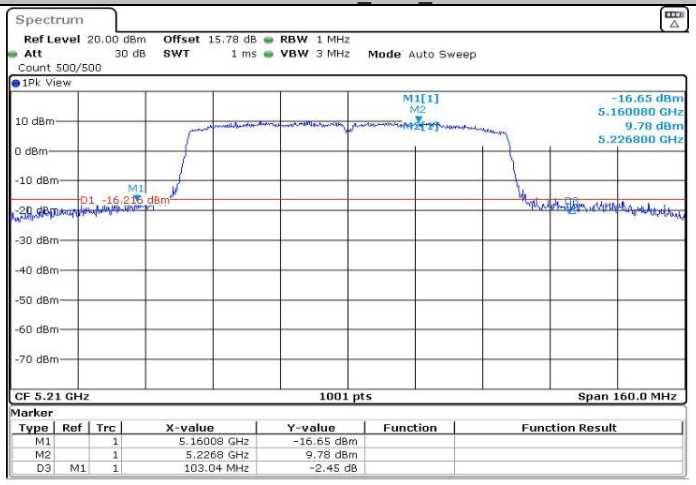
11AC80MIMO_Ant1_5210



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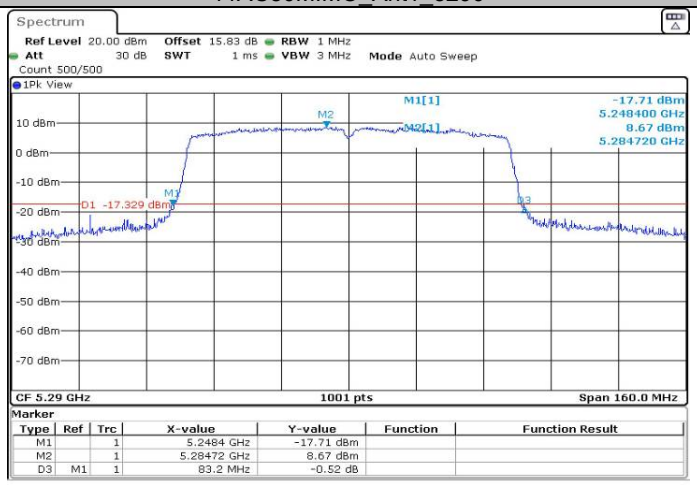

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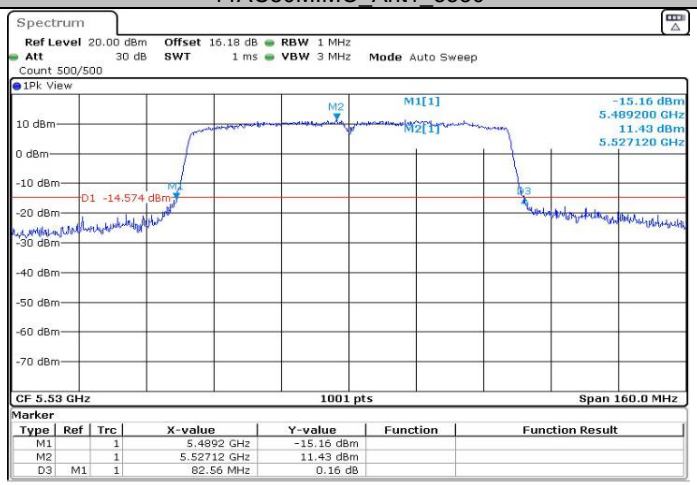

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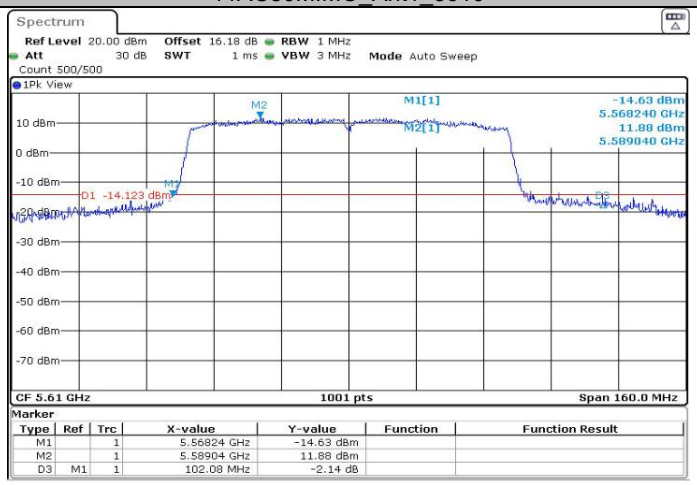

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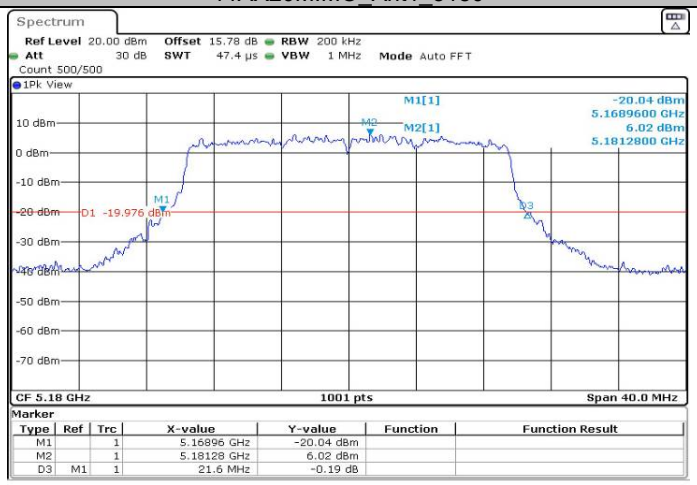

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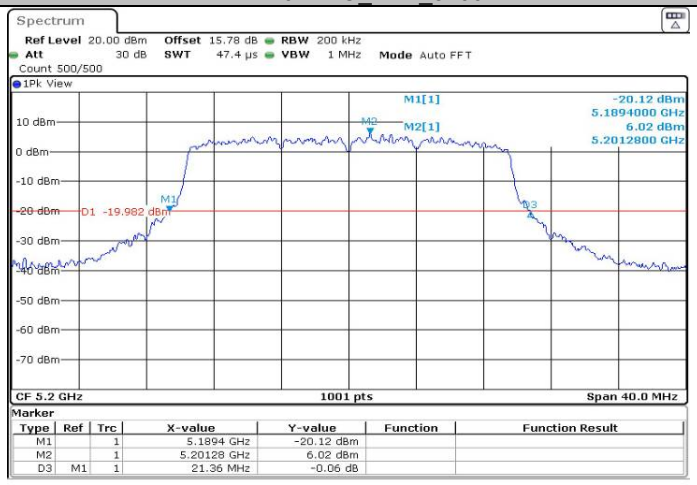

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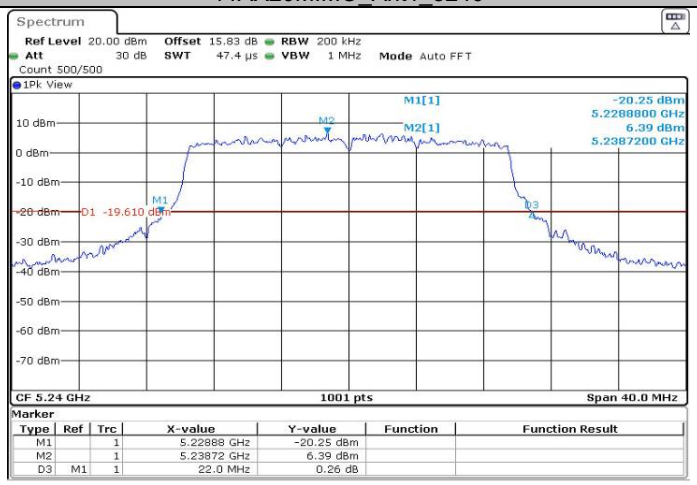

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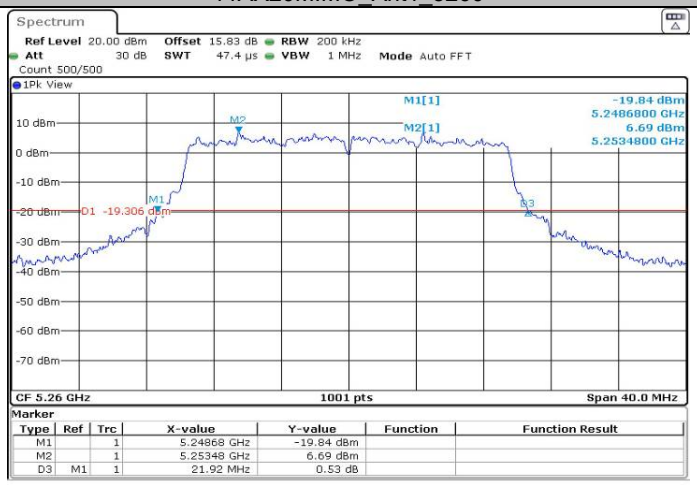

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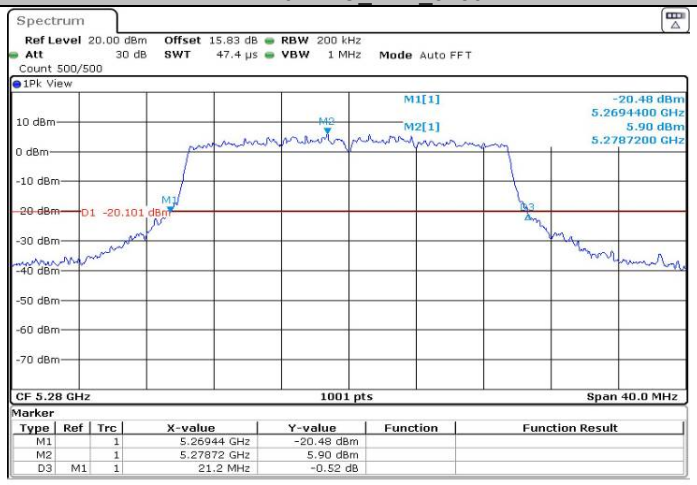

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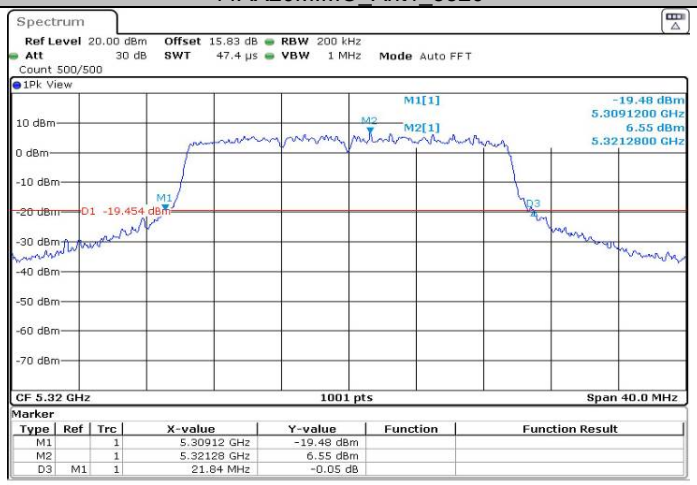

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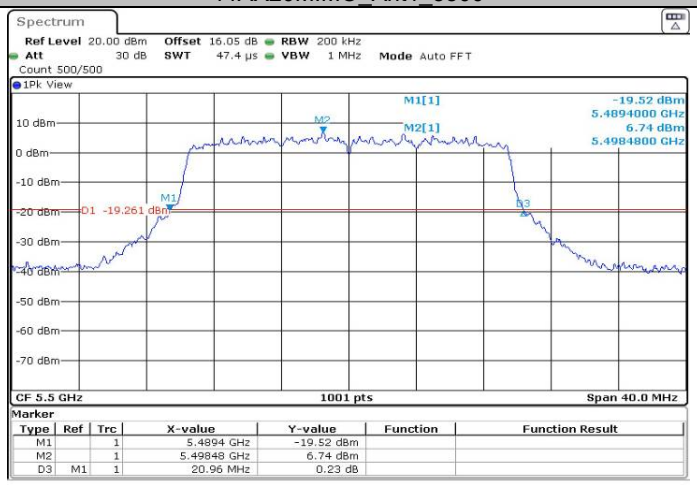
11AX20MIMO_Ant1_5500



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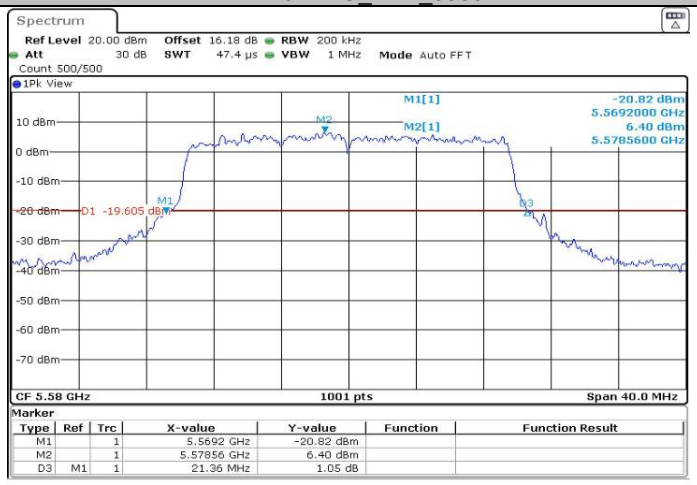

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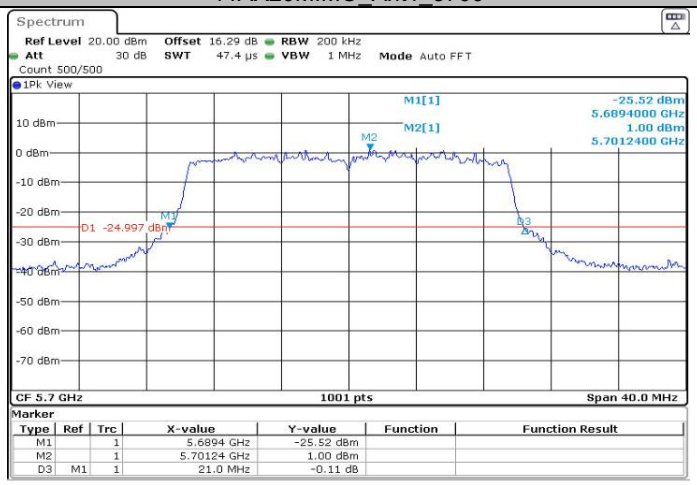
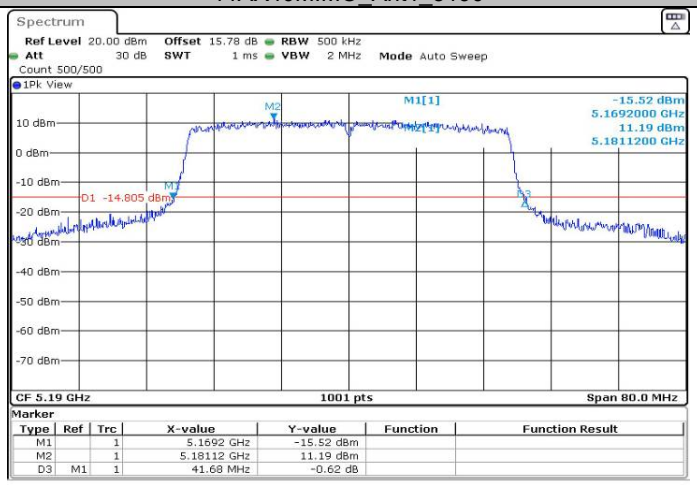


11AX40MIMO_Ant1_5190



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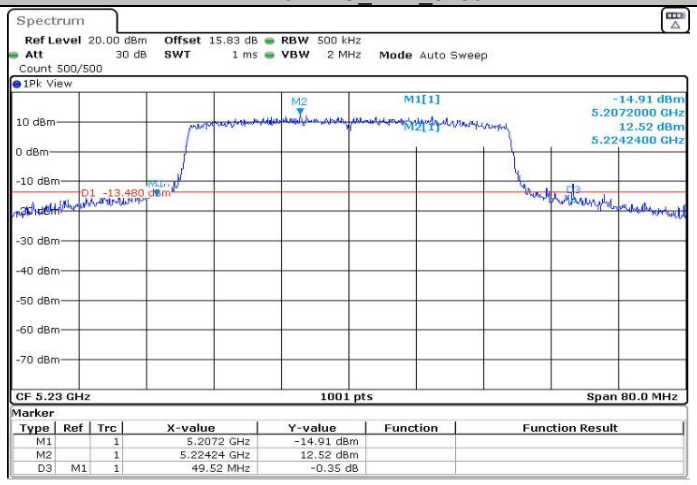

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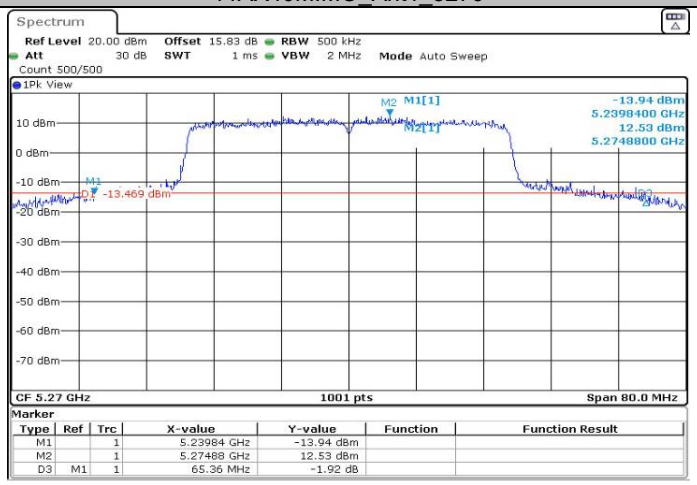

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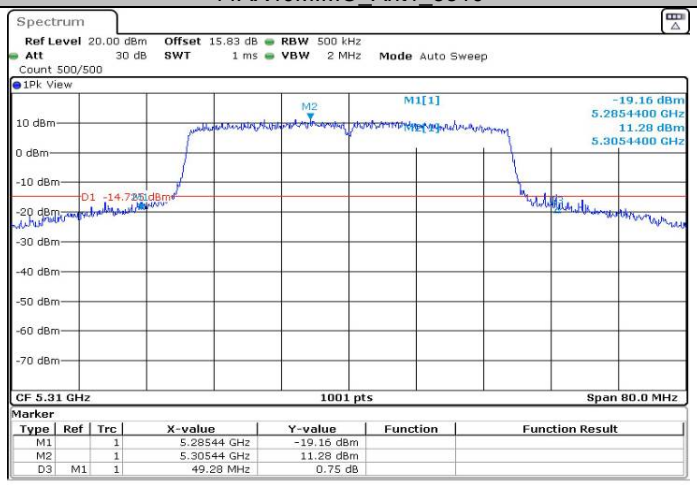

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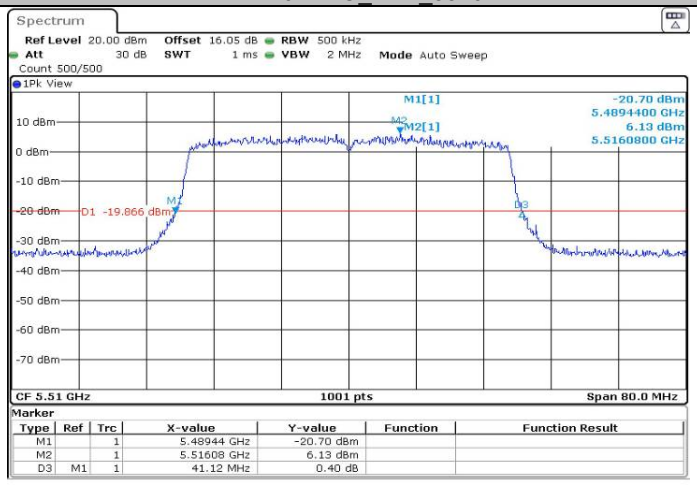

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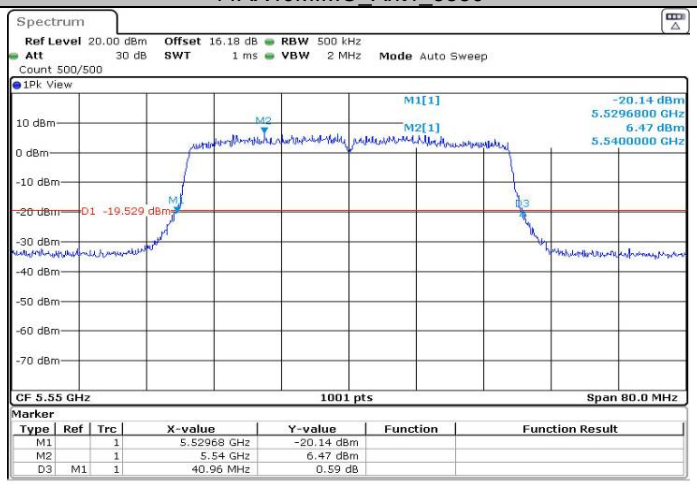

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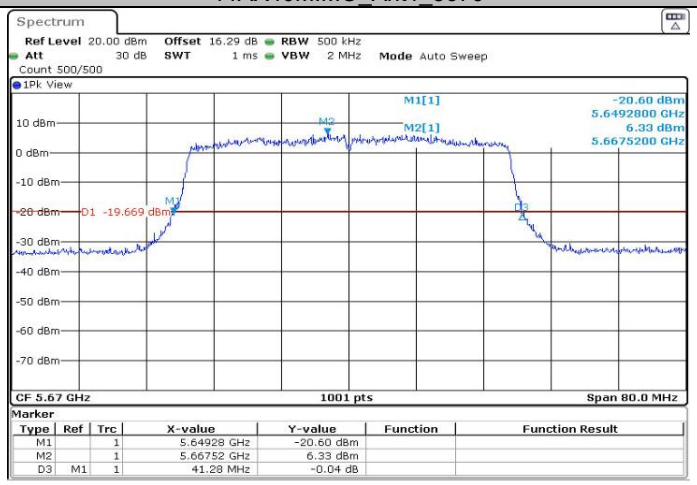

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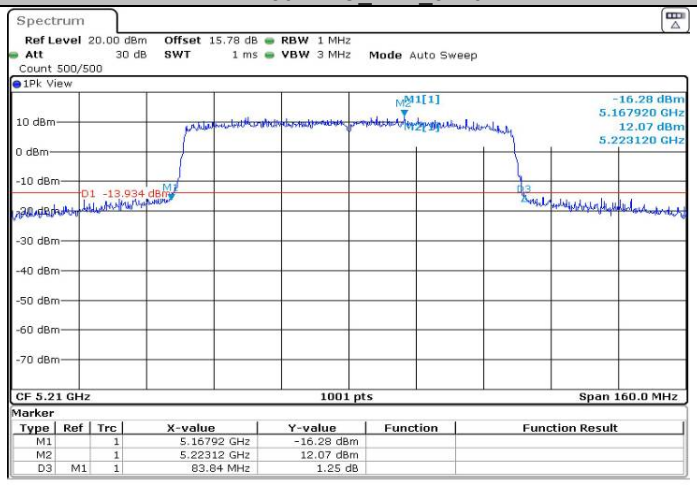

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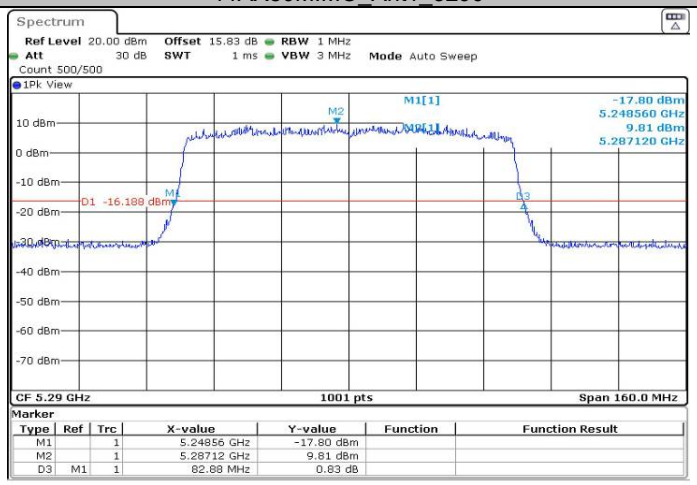

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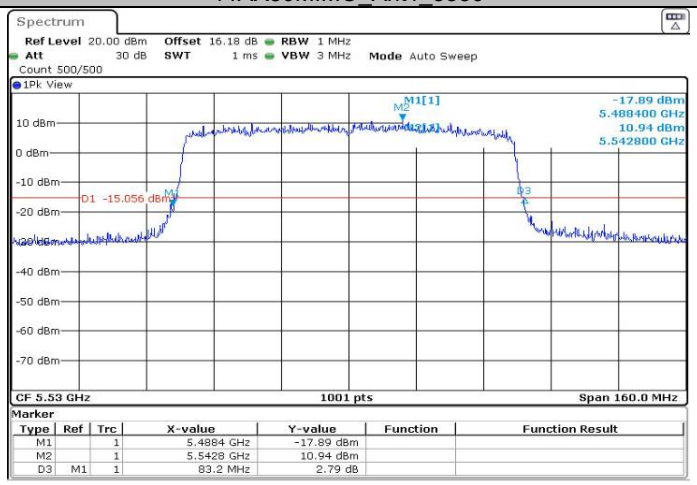

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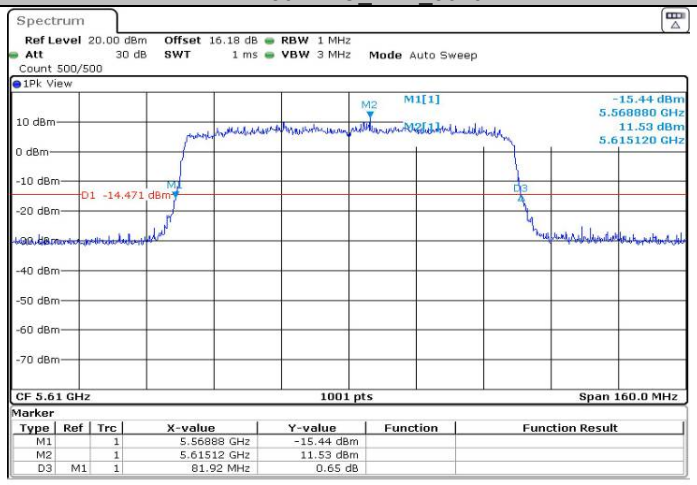

Appendix A2: Occupied channel bandwidth

Test Result

TestMode	Antenna	Channel	OCB [MHz]	Limit[MHz]	Verdict
11A-MIMO	Ant1	5180	16.743	---	PASS
	Ant1	5200	16.743	---	PASS
	Ant1	5240	16.863	---	PASS
	Ant1	5260	16.663	---	PASS
	Ant1	5280	16.703	---	PASS
	Ant1	5320	16.743	---	PASS
	Ant1	5500	16.663	---	PASS
	Ant1	5580	16.703	---	PASS
	Ant1	5700	16.783	---	PASS
	Ant1	5745	17.183	---	PASS
	Ant1	5785	17.223	---	PASS
	Ant1	5825	16.983	---	PASS
11N20MIMO	Ant1	5180	17.862	---	PASS
	Ant1	5200	17.822	---	PASS
	Ant1	5240	17.862	---	PASS
	Ant1	5260	17.822	---	PASS
	Ant1	5280	17.902	---	PASS
	Ant1	5320	17.862	---	PASS
	Ant1	5500	17.862	---	PASS
	Ant1	5580	17.862	---	PASS
	Ant1	5700	17.902	---	PASS
	Ant1	5745	17.942	---	PASS
	Ant1	5785	18.661	---	PASS
	Ant1	5825	18.501	---	PASS
11N40MIMO	Ant1	5190	36.364	---	PASS
	Ant1	5230	41.399	---	PASS
	Ant1	5270	36.284	---	PASS
	Ant1	5310	36.204	---	PASS
	Ant1	5510	36.284	---	PASS
	Ant1	5550	36.204	---	PASS
	Ant1	5670	36.284	---	PASS
	Ant1	5755	36.364	---	PASS
	Ant1	5795	36.364	---	PASS
11AC20MIMO	Ant1	5180	17.822	---	PASS
	Ant1	5200	17.902	---	PASS
	Ant1	5240	18.022	---	PASS
	Ant1	5260	17.822	---	PASS
	Ant1	5280	17.902	---	PASS
	Ant1	5320	17.862	---	PASS
	Ant1	5500	17.862	---	PASS
	Ant1	5580	17.862	---	PASS
	Ant1	5700	17.822	---	PASS
	Ant1	5745	17.822	---	PASS
	Ant1	5785	17.902	---	PASS
	Ant1	5825	17.782	---	PASS
11AC40MIMO	Ant1	5190	36.444	---	PASS
	Ant1	5230	36.444	---	PASS
	Ant1	5270	36.284	---	PASS
	Ant1	5310	36.284	---	PASS
	Ant1	5510	36.284	---	PASS
	Ant1	5550	36.204	---	PASS
	Ant1	5670	36.284	---	PASS
	Ant1	5755	36.364	---	PASS
	Ant1	5795	36.444	---	PASS
11AC80MIMO	Ant1	5210	75.764	---	PASS
	Ant1	5290	75.285	---	PASS