TESTREPORT

Applicant Name :	Grandstream Networks, Inc.
Address :	126 Brookline Ave., 3rd Floor Boston, MA 02215, USA
Report Number :	RA221230-64612E-RF-00B
FCC ID:	YZZGWN7661

Test Standard (s)

FCC PART 15.407

Sample Description

Product Type:	In-Wall Wi-Fi 6 Access Point
Model No.:	GWN7661
Multiple Model(s) No.:	N/A
Trade Mark:	GRANDSTREAM
Date Received:	2022/12/30
Report Date:	2023/03/17

Test Result:	Pass*

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

Prepared and Checked By:

Andy Yu
EMC Engineer

Approved By:

Candy Li
EMC Engineer

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	RA221230-64612E-RF-00B	Original Report	2023-03-17

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

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: 21.89dBm(802.11a), 21.72dBm(802.11n-HT20), 24.77dBm(802.11n-HT40) 21.80dBm(802.11ac20), 24.76dBm(802.11ac40) , 19.68dBm(802.11ac80) 21.79dBm(802.11ax20), 24.34dBm(802.11ax40) , 20.60dBm(802.11ax80) 5250-5350MHz: 17.36dBm(802.11a), 18.13dBm(802.11n-HT20), 18.10dBm(802.11n-HT40) 18.11dBm(802.11ac20), 17.91dBm(802.11ac40) , 17.99dBm(802.11ac80) 18.00dBm(802.11ax20), 17.45dBm(802.11ax40) , 17.53dBm(802.11ax80) 5470-5725MHz: 16.68dBm(802.11a), 18.34dBm(802.11n-HT20), 18.20dBm(802.11n-HT40) 18.14dBm(802.11ac20), 18.05dBm(802.11ac40) , 18.36dBm(802.11ac80) 18.13dBm(802.11ax20), 18.06dBm(802.11ax40) , 17.98dBm(802.11ax80) 5725-5850 MHz: 21.42dBm(802.11a), 24.22dBm(802.11n-HT20), 25.01dBm(802.11n-HT40) 24.20dBm(802.11ac20), 24.52dBm(802.11ac40) , 22.21dBm(802.11ac80) 24.28dBm(802.11ax20), 24.13dBm(802.11ax40) , 21.66dBm(802.11ax80)
Modulation Technique	OFDM,OFDMA
Antenna Specification*	Antenna 1 : 4.79dBi, Antenna 2: 5.37dBi (It is provided by the applicant)
Beam-forming	Support (for 802.11n/ac/ax mode)
Voltage Range	DC48V from POE
Sample serial number	1X4N-1 for Conducted and Radiated Emissions 1X4R-2 for RF Conducted Test (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

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"* 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	20.5
		5200	6Mbps	20.5
		5240	6Mbps	20.5
	802.11 n20	5180	MCS0	17.5
		5200	MCS0	17.5
		5240	MCS0	17.5
	802.11 n40	5190	MCS0	18.5
		5230	MCS0	19.5
	802.11 ac20	5180	MCS0	17.5
		5200	MCS0	17.5
		5240	MCS0	17.5
	802.11 ac40	5190	MCS0	18.5
		5230	MCS0	19.5
	802.11 ac80	5210	MCS0	16

U-NII	Mode	RU Size	RU Index*	Power Level*		
				Low channel	Middle channel	High channel
5150 – 5250MHz	802.11 ax20	26	0	12	12	12
		52	37	11	11	11
		106	53	11	11	11
		242	61	17.5	17.5	17.5
	802.11 ax40	26	0	15	/	15
		52	37	14	/	13
		106	53	12	/	12
		242	61	11	/	10
		484	65	18.5	/	19.5
	802.11 ax80	26	0	/	10	/
		52	37	/	10	/
		106	53	/	13	/
		242	61	/	10	/
		484	65	/	11	/
		996	67	/	16	/

U-NII	Mode	Frequency (MHz)	Data Rate	Power Level*
5250 – 5350MHz	802.11 a	5260	6Mbps	16
		5280	6Mbps	16
		5320	6Mbps	16
	802.11 n20	5260	MCS0	14
		5280	MCS0	14
		5320	MCS0	14
	802.11 n40	5270	MCS0	13
		5310	MCS0	13
	802.11 ac20	5260	MCS0	14
		5280	MCS0	14
		5320	MCS0	14
	802.11 ac40	5270	MCS0	13
		5310	MCS0	13
	802.11 ac80	5290	MCS0	14

U-NII	Mode	RU Size	RU Index*	Power Level*		
				Low channel	Middle channel	High channel
5250 – 5350MHz	802.11 ax20	26	0	11	11	11
		52	37	10	10	10
		106	53	10	10	10
		242	61	14	14	14
	802.11 ax40	26	0	14	/	13
		52	37	13	/	13
		106	53	11	/	11
		242	61	10	/	10
		484	65	13	/	13
	802.11 ax80	26	0	/	8	/
		52	37	/	8	/
		106	53	/	11	/
		242	61	/	8	/
		484	65	/	9	/
		996	67	/	14	/

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

U-NII	Mode	RU Size	RU Index*	Power Level*		
				Low channel	Middle channel	High channel
5470 – 5725MHz	802.11 ax20	26	0	11	11	11
		52	37	10	10	10
		106	53	10	10	9
		242	61	15	15	15
	802.11 ax40	26	0	14	13	13
		52	37	13	12	12
		106	53	11	10	10
		242	61	10	9	9
		484	65	14	14	14
	802.11 ax80	26	0	9	/	8
		52	37	9	/	9
		106	53	12	/	12
		242	61	9	/	8
		484	65	9	/	9
		996	67	15	/	15

U-NII	Mode	Frequency (MHz)	Data Rate	Power Level*
5725 – 5850MHz	802.11 a	5745	6Mbps	20.5
		5785	6Mbps	20.5
		5825	6Mbps	20.5
	802.11 n20	5745	MCS0	20.5
		5785	MCS0	20.5
		5825	MCS0	20.5
	802.11 n40	5755	MCS0	20.5
		5795	MCS0	20.5
	802.11 ac20	5745	MCS0	20.5
		5785	MCS0	20.5
		5825	MCS0	20.5
	802.11 ac40	5755	MCS0	20
		5795	MCS0	20
	802.11 ac80	5775	MCS0	18

U-NII	Mode	RU Size	RU Index*	Power Level*		
				Low channel	Middle channel	High channel
5725 – 5850MHz	802.11 ax20	26	0	12	12	11
		52	37	11	11	10
		106	53	11	11	10
		242	61	20.5	20.5	20.5
	802.11 ax40	26	0	14	/	14
		52	37	13	/	13
		106	53	11	/	11
		242	61	10	/	10
		484	65	20	/	20
	802.11 ax80	26	0	/	9	/
		52	37	/	10	/
		106	53	/	13	/
		242	61	/	10	/
		484	65	/	11	/
		996	67	/	18	/

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 EUT support SISO for all mode, MIMO for 802.11n/ac/ax mode, for MIMO, EUT support beamforming and non-beamforming, according to prescan, the worst case MIMO with beamforming was selected to test for 802.11n/ac/ax mode.

For 802.11ax mode, it's support difference RU configuration, the output power was test with difference RU configuration, other item was only test the full RU mode which was the worst case.

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
DELL	NoteBook	Latitude E4710	PC201911252059
Grandstream	IP Phone	GXV3450	Unknown
YEALINK	Camera	UVC84	Unknown
Yealink	POE	Unknown	Unknown

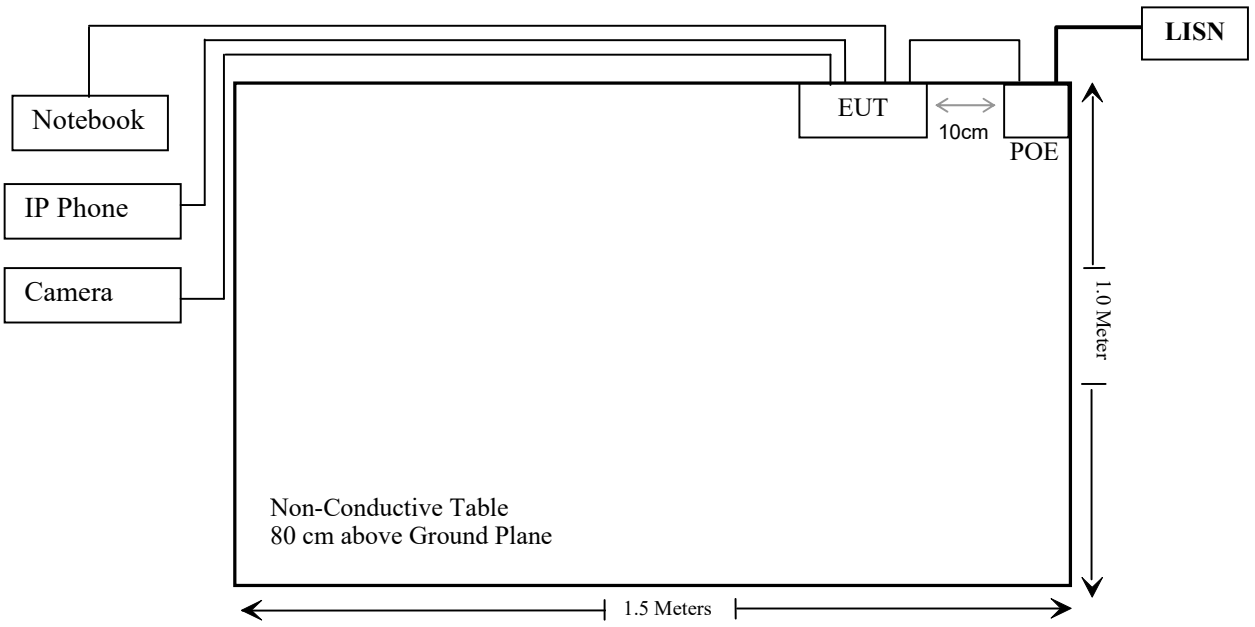
External I/O Cable

Cable Description	Length (m)	From/Port	To
Un-shielded detachable AC cable	1.5	POE	LISN
Un-shielded detachable RJ45 cable	1.5	POE	EUT
Un-shielded detachable RJ45 cable	8.0	EUT	NoteBook
Un-shielded detachable RJ45 cable	8.0	EUT	IP Phone
Un-shielded detachable RJ45 cable	8.0	EUT	Camera

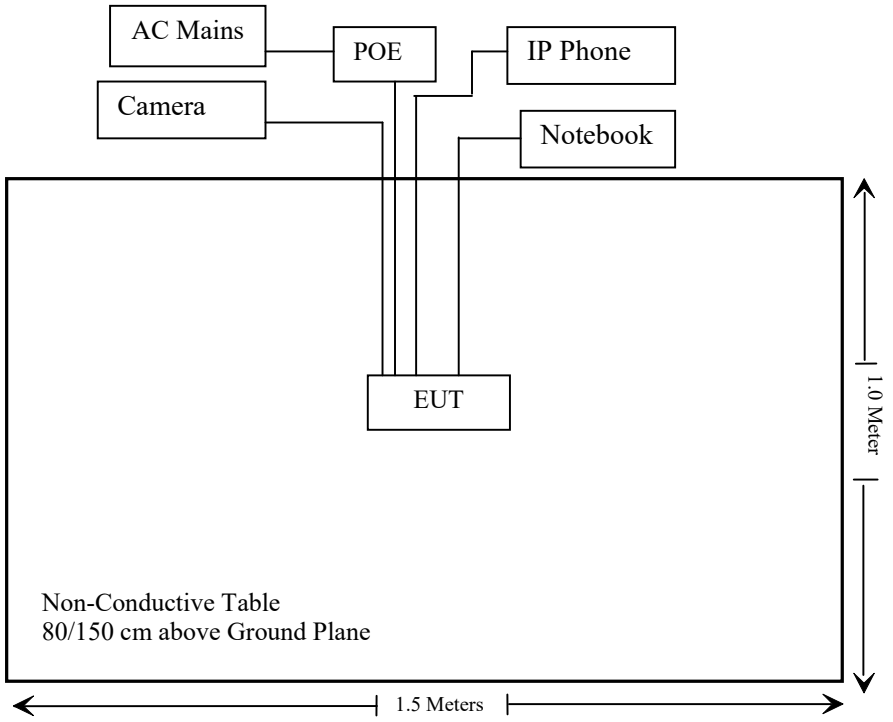
Block Diagram of Test Setup

For conducted emission

Powered by POE:



For radiated emission:



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§1.1307 (b) (3) & §2.1091	RF Exposure	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: RA221230-64612E-RFC

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Conducted Emissions Test					
Rohde& Schwarz	EMI Test Receiver	ESCI	100784	2022/11/25	2023/11/24
Rohde & Schwarz	L.I.S.N.	ENV216	101314	2022/11/25	2023/11/24
Anritsu Corp	50 Coaxial Switch	MP59B	6100237248	2022/12/07	2023/12/06
Unknown	RF Coaxial Cable	No.17	N0350	2022/11/25	2023/11/24
Conducted Emission Test Software: e3 19821b (V9)					
Radiated Emissions Test					
Rohde& Schwarz	Test Receiver	ESR	102725	2022/11/25	2023/11/24
Rohde&Schwarz	Spectrum Analyzer	FSV40	101949	2022/11/25	2023/11/24
SONOMA INSTRUMENT	Amplifier	310 N	186131	2022/11/08	2023/11/07
A.H. Systems, inc.	Preamplifier	PAM-0118P	135	2022/11/08	2023/11/07
Quinstar	Amplifier	QLW-18405536-J0	15964001002	2022/11/08	2023/11/07
Schwarzbeck	Bilog Antenna	VULB9163	9163-323	2021/07/06	2024/07/05
Schwarzbeck	Horn Antenna	BBHA9120D	9120D-1067	2022/11/30	2025/11/29
Schwarzbeck	HORN ANTENNA	BBHA9170	9170-359	2022/12/26	2025/12/25
Radiated Emission Test Software: e3 19821b (V9)					
Unknown	RF Coaxial Cable	No.10	N050	2022/11/25	2023/11/24
Unknown	RF Coaxial Cable	No.11	N1000	2022/11/25	2023/11/24
Unknown	RF Coaxial Cable	No.12	N040	2022/11/25	2023/11/24
Unknown	RF Coaxial Cable	No.13	N300	2022/11/25	2023/11/24
Unknown	RF Coaxial Cable	No.14	N800	2022/11/25	2023/11/24
Unknown	RF Coaxial Cable	No.15	N600	2022/11/25	2023/11/24
Unknown	RF Coaxial Cable	No.16	N650	2022/11/25	2023/11/24
CD	Band Reject Filter	BRM-5.15/5.35g-45	075	2022/11/25	2023/11/24
CD	Band Reject Filter	BRM-5.47/5.725G-45	055	2022/11/25	2023/11/24
CD	Band Reject Filter	BRM-5.725/5.875G-45	065	2022/11/25	2023/11/24

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
RF Conducted Test					
Rohde&Schwarz	Spectrum Analyzer	FSV-40	101495	2022/11/25	2023/11/24
Rohde&Schwarz	Spectrum Analyzer	FSV-40	101948	2022/11/25	2023/11/24
Tonscend	RF Control Unit	JS0806-2	19G8060182	2022/10/24	2023/10/23
Agilent	USB wideband power sensor	U2021XA	MY54250003	2022/6/27	2023/6/26
WEINSCHEL	10dB Attenuator	5324	AU 3842	2022/11/25	2023/11/24
Unknown	RF Coaxial Cable	No.31	RF-01	Each time	/

*** 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).

FCC§1.1307 (b) (3) &§2.1091 – RF EXPOSURE

Applicable Standard

According to FCC §2.1091 and §1.1307(b) (3), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

According to KDB 447498 D04 Interim General RF Exposure Guidance

SAR-Based Exemption:

SAR-based thresholds are derived based on frequency, power, and separation distance of the RF source. The formula defines the thresholds in general for either available maximum timeaveraged power or maximum time-averaged ERP, whichever is greater.

Per § 1.1307(b)(3)(i)(B), for single RF sources (i.e., any single fixed RF source, mobile device, or portable device, as defined in paragraph (b)(2) of this section): A single RF source is exempt if:

the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by:

$$P_{th}\ (\text{mW}) = \begin{cases} ERP_{20\ cm}(d/20\ \text{cm})^{x} & d \le 20\ \text{cm} \\ ERP_{20\ cm} & 20\ \text{cm} < d \le 40\ \text{cm} \end{cases}$$

Where

$$x = -\log_{10}\left(\frac{60}{ERP_{20\ cm}\sqrt{f}}\right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20\ cm}\ (\text{mW}) = \begin{cases} 2040f & 0.3\ \text{GHz} \le f < 1.5\ \text{GHz} \\ 3060 & 1.5\ \text{GHz} \le f \le 6\ \text{GHz} \end{cases}$$

d = the separation distance (cm);

For multiple RF sources: Multiple RF sources are exempt if:

in the case of fixed RF sources operating in the same time-averaging period, or of multiple mobile or portable RF sources within a device operating in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation:

$$\sum_{i=1}^{a}\frac{P_i}{P_{th,i}} + \sum_{j=1}^{b}\frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^{c}\frac{Evaluated_k}{Exposure\ Limit_k} \le 1$$

Result

For worst case:

Mode	Frequency (MHz)	Tune up conducted power		Antenna Gain		ERP		Evaluation Distance (m)	Pth (mW)
		(dBm)	(mW)	(dBi)	(dBd)	(dBm)	(mW)		
2.4G Wi-Fi	2412-2462	24.0	251.19	6.51	4.36	28.36	685.49	0.2	3060
5G Wi-Fi	5180-5240	25.0	316.23	8.37	6.22	31.22	1324.34	0.2	3060
	5260-5280	19.0	79.43	8.37	6.22	25.22	332.66	0.2	3060
	5500-5700	19.0	79.43	8.37	6.22	25.22	332.66	0.2	3060
	5745-5825	25.5	354.81	8.37	6.22	31.72	1485.94	0.2	3060

Note 1: The tune-up power and antenna gain was declared by the applicant.
Note 2: 0dBd=2.15dBi.
Note 3: the 2.4G Wi-Fi and 5G Wi-Fi can transmit at same time
Note 4. The device employ beamforming for 802.11n/ac/ax mode.
Direction Gain = G_{ANT} + 10*log(N_{ANT}/N_{SS})
For EUT, N_{ANT}=2, for the worst case, N_{SS}=1
For 5G Wi-Fi, G_{ANT1}=4.79dBi, G_{ANT2}=5.37dBi, use the higher gain 5.37dBi for the calculate
So, the direction Gain=5.37dBi+10*log(2/1)=8.37dBi
For 2.4G Wi-Fi, *GANT1=3.3dBi, GANT2=3.51dBi, use the higher gain 3.51dBi for the calculate*
*So, the direction Gain=3.51dBi+10*log(2/1)=6.51dBi*

Simultaneous transmitting consideration (worst case):

The ratio=$P_{2.4G}$/Pth+P_{5G}/Pth=685.49/3060+1485.94/3060=0.71＜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:

a. Antenna must be permanently attached to the unit.
b. 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 internal antenna arrangement which was permanently attached for 5GHz Wi-Fi, fulfill the requirement of this section. Please refer to the EUT photos.

ANT	Type	Antenna Gain	Impedance
ANT 1	Dipole	4.79dBi	50 Ω
ANT 2	Dipole	5.37dBi	50 Ω

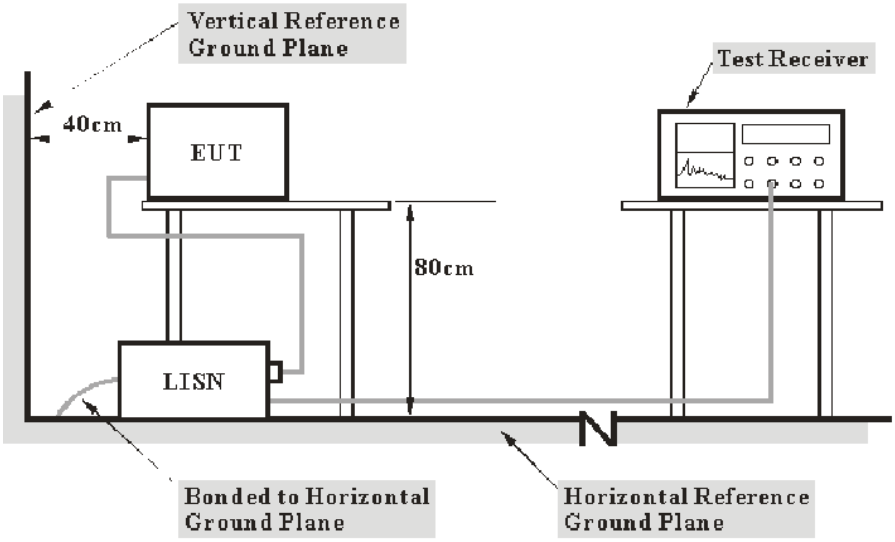
Result: Compliant.

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. The basic equation is as follows:

Factor = LISN VDF + Cable Loss

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

Over Limit = Level – Limit
Level = Reading level + Factor

Test Data

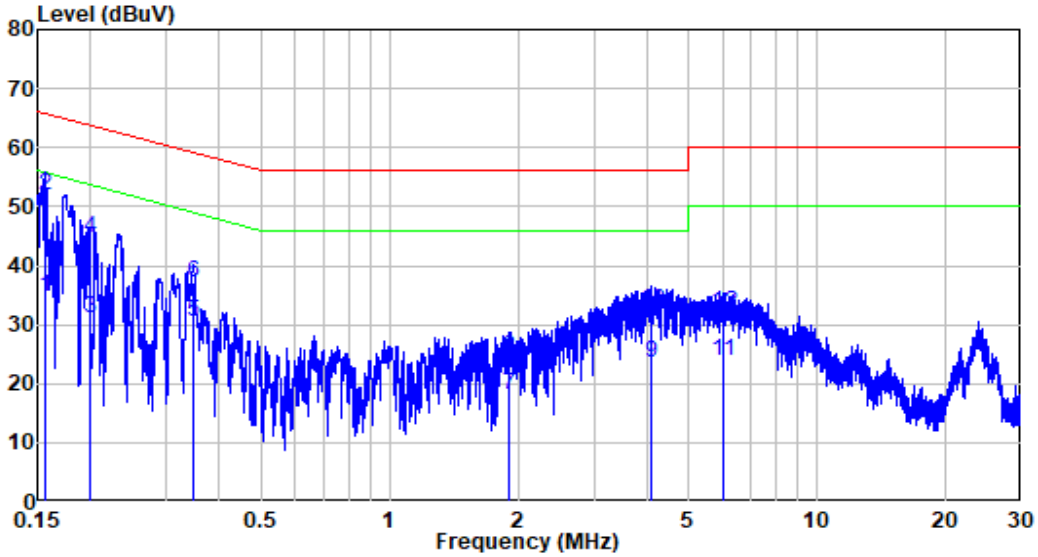
Environmental Conditions

Temperature:	23°C
Relative Humidity:	52%
ATM Pressure:	101.0 kPa

The testing was performed by Lipa on 2023-02-08.

EUT operation mode: Transmitting (worst case for 802.11 n40 5755MHz)

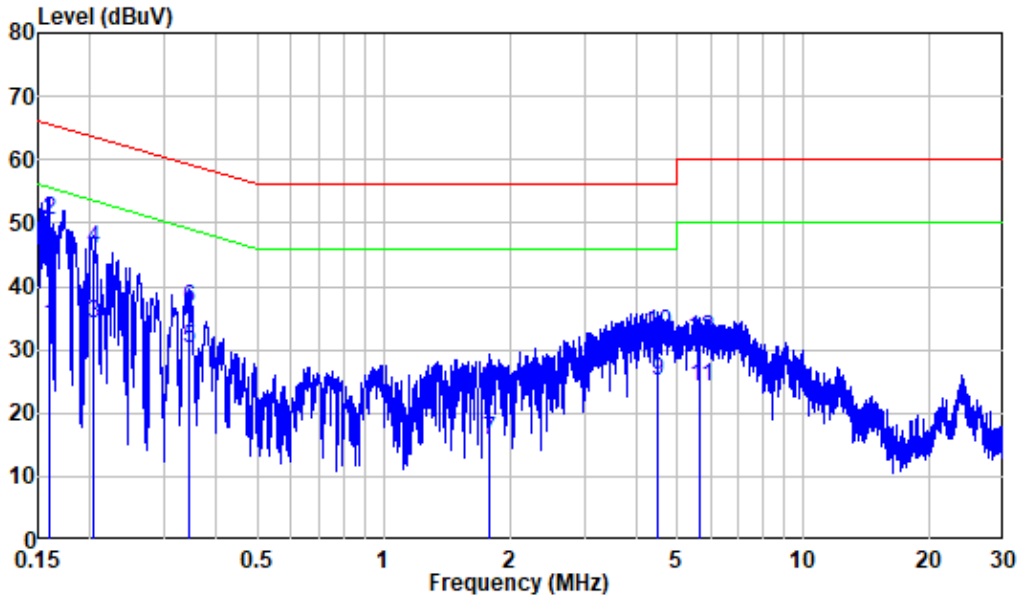
AC 120V/60 Hz, Line



Site : Shielding Room
Condition: Line
Job No. : RA221230-64612E-RF
Mode : 5G WIFi
Power : AC 120V 60Hz

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dBuV	dBuV	dB	
1	0.156	9.90	24.70	34.60	55.69	-21.09	Average
2	0.156	9.90	42.02	51.92	65.69	-13.77	QP
3	0.200	9.90	21.13	31.03	53.61	-22.58	Average
4	0.200	9.90	34.66	44.56	63.61	-19.05	QP
5	0.347	9.84	20.79	30.63	49.03	-18.40	Average
6	0.347	9.84	27.43	37.27	59.03	-21.76	QP
7	1.909	9.91	8.33	18.24	46.00	-27.76	Average
8	1.909	9.91	14.61	24.52	56.00	-31.48	QP
9	4.100	9.94	13.51	23.45	46.00	-22.55	Average
10	4.100	9.94	22.24	32.18	56.00	-23.82	QP
11	6.016	9.96	13.75	23.71	50.00	-26.29	Average
12	6.016	9.96	21.91	31.87	60.00	-28.13	QP

AC 120V/60 Hz, Neutral



Site : Shielding Room
Condition: Neutral
Job No. : RA221230-64612E-RF
Mode : 5G WIFi
Power : AC 120V 60Hz

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dBuV	dBuV	dB	
1	0.159	9.80	23.94	33.74	55.52	-21.78	Average
2	0.159	9.80	40.76	50.56	65.52	-14.96	QP
3	0.203	9.80	24.26	34.06	53.48	-19.42	Average
4	0.203	9.80	36.06	45.86	63.48	-17.62	QP
5	0.345	9.86	20.20	30.06	49.08	-19.02	Average
6	0.345	9.86	26.55	36.41	59.08	-22.67	QP
7	1.781	9.82	6.00	15.82	46.00	-30.18	Average
8	1.781	9.82	13.94	23.76	56.00	-32.24	QP
9	4.495	9.88	15.15	25.03	46.00	-20.97	Average
10	4.495	9.88	22.84	32.72	56.00	-23.28	QP
11	5.680	9.99	14.03	24.02	50.00	-25.98	Average
12	5.680	9.99	21.83	31.82	60.00	-28.18	QP

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

Applicable Standard

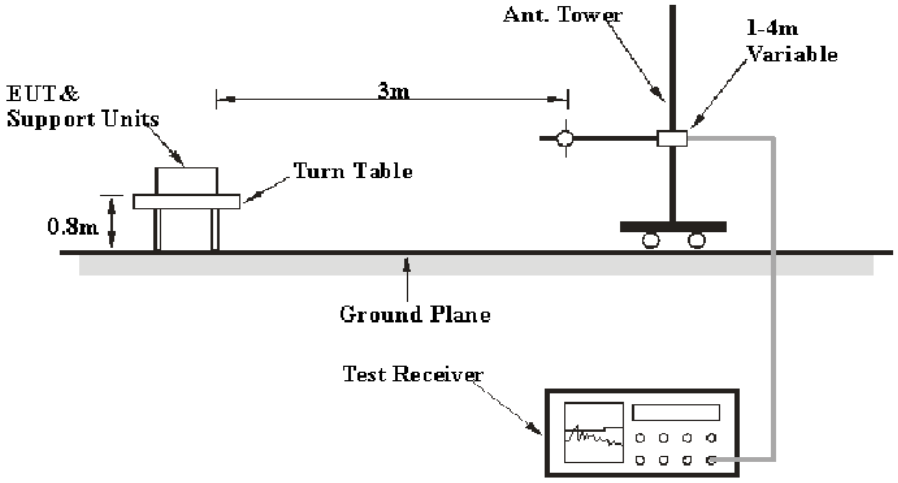
FCC §15.407 (b); §15.209; §15.205;

(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.

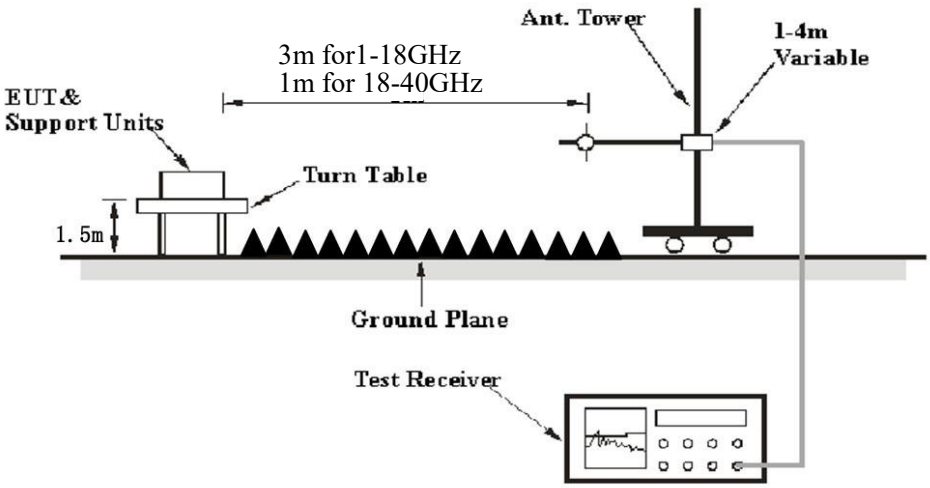
Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209.

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.

According to ANSI C63.10-2013,9.4: For field strength measurements made at other than the distance at which the applicable limit is specified,extrapolate the measured field strength to the field strength at the distance specified by the limit using an inverse distance correction factor (20 dB/decade of distance). In some cases, a different distance correction factor may be required;

$$E_{\mathrm{SpecLimit}} = E_{\mathrm{Meas}} + 20\log\left(\frac{d_{\mathrm{Meas}}}{d_{\mathrm{SpecLimit}}}\right)$$

where

$E_{\mathrm{SpecLimit}}$	is the field strength of the emission at the distance specified by the limit, in dBμV/m
E_{Meas}	is the field strength of the emission at the measurement distance, in dBμV/m
d_{Meas}	is the measurement distance, in m
$d_{\mathrm{SpecLimit}}$	is the distance specified by the limit, in m

So the extrapolation factor of 1m is 20*log(1/3)= -9.5 dB, for 18-40GHz range, the limit of 1m distance was added by 9.5dB from limit of 3m to compared with the result measurement at 1m distance.

Corrected Factor & Margin Calculation

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

Corrected Amplitude = Antenna Factor + Cable Loss - Amplifier Gain

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

Margin/Over limit = Corrected Amplitude/Level - Limit
Corrected Amplitude/Level = Reading + Factor

Test Data

Environmental Conditions

Temperature:	24~25.5℃
Relative Humidity:	52~58%
ATM Pressure:	101.0 kPa

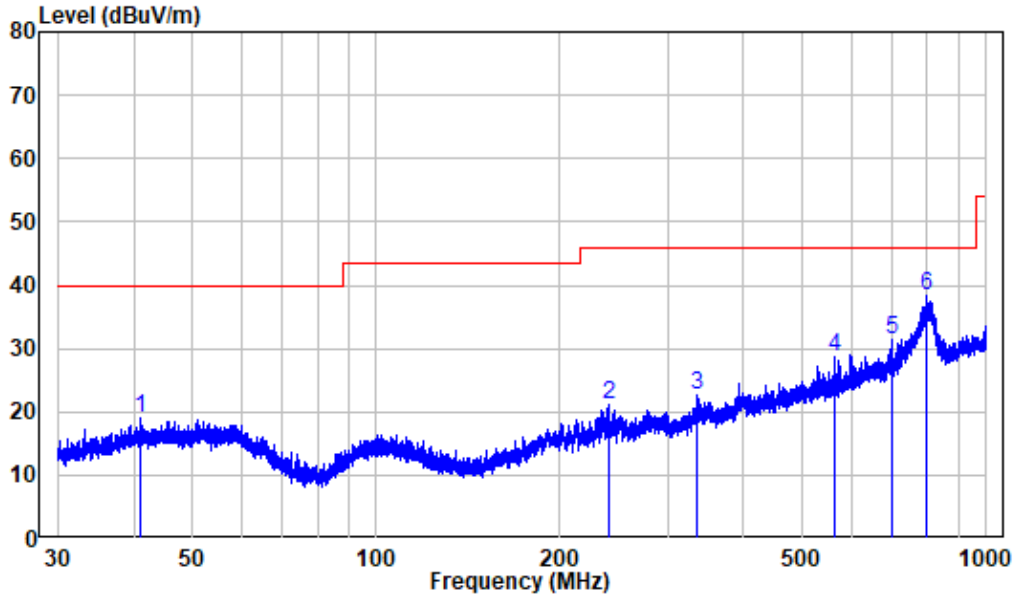
The testing was performed by Jimi Zheng on 2023-02-07 for below 1GHz, on 2023-01-15 and 2023-02-26 for above 1GHz.

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

30MHz-1GHz: (worst case for 802.11 n40 5755MHz)

Note: When the test result of Peak was less than the limit of QP, just the peak value was recorded.

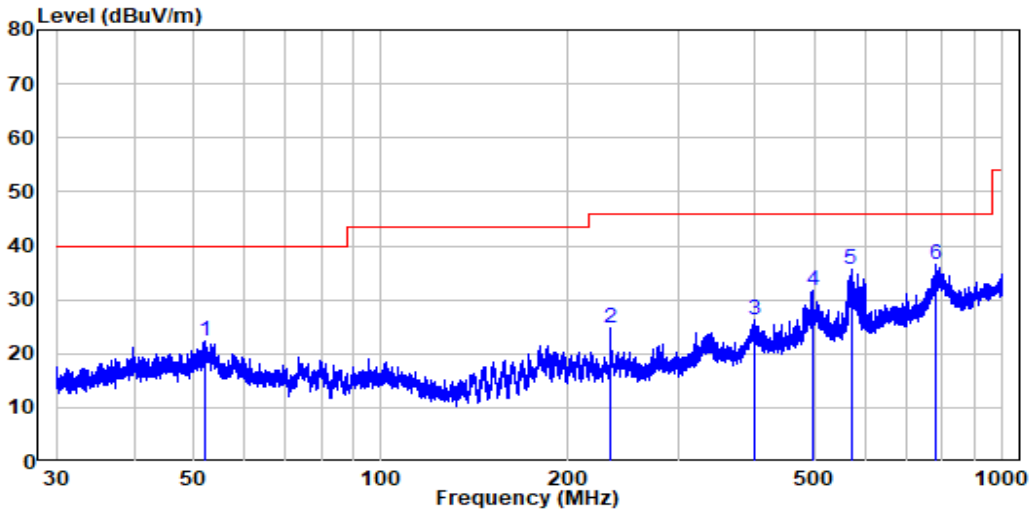
Horizontal



Site : chamber
Condition: 3m HORIZONTAL
Job No. : RA221230-64612E-RF
Test Mode: 5G WIFI

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	40.898	-10.20	29.24	19.04	40.00	-20.96	Peak
2	240.936	-10.84	31.87	21.03	46.00	-24.97	Peak
3	336.477	-7.56	30.17	22.61	46.00	-23.39	Peak
4	565.134	-3.90	32.53	28.63	46.00	-17.37	Peak
5	701.761	-1.57	32.93	31.36	46.00	-14.64	Peak
6	798.980	-0.33	38.55	38.22	46.00	-7.78	Peak

Vertical



Site : chamber
Condition: 3m VERTICAL
Job No. : RA221230-64612E-RF
Test Mode: 5G WIFI

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	51.911	-9.98	32.41	22.43	40.00	-17.57	Peak
2	233.656	-11.00	35.84	24.84	46.00	-21.16	Peak
3	400.081	-6.73	33.12	26.39	46.00	-19.61	Peak
4	495.283	-4.45	36.12	31.67	46.00	-14.33	Peak
5	570.360	-3.85	39.49	35.64	46.00	-10.36	Peak
6	783.375	0.01	36.66	36.67	46.00	-9.33	Peak

Above 1GHz: *(worst case)*

5150-5250 MHz:

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11A(worst case ANT1)									
5180MHz									
4500	64.62	PK	153	1.9	H	-4.72	59.90	74	-14.10
4500	52.55	AV	153	1.9	H	-4.72	47.83	54	-6.17
4500	64.49	PK	96	1.3	V	-4.72	59.77	74	-14.23
4500	52.44	AV	96	1.3	V	-4.72	47.72	54	-6.28
5150	67.96	PK	340	1.3	H	-2.73	65.23	74	-8.77
5150	53.45	AV	340	1.3	H	-2.73	50.72	54	-3.28
5150	67.79	PK	329	1.8	V	-2.73	65.06	74	-8.94
5150	53.31	AV	329	1.8	V	-2.73	50.58	54	-3.42
10360	52.46	PK	328	2.5	H	8.12	60.58	68.2	-7.62
10360	52.07	PK	196	2.5	V	8.12	60.19	68.2	-8.01
5200MHz									
10400	52.57	PK	70	2.4	H	8.24	60.81	68.2	-7.39
10400	52.44	PK	51	2.4	V	8.24	60.68	68.2	-7.52
5240MHz									
5350	64.42	PK	259	1.8	H	-2.33	62.09	74	-11.91
5350	50.64	AV	259	1.8	H	-2.33	48.31	54	-5.69
5350	64.29	PK	275	2	V	-2.33	61.96	74	-12.04
5350	50.53	AV	275	2	V	-2.33	48.20	54	-5.80
5460	62.48	PK	358	1.4	H	-2.26	60.22	74	-13.78
5460	48.67	AV	358	1.4	H	-2.26	46.41	54	-7.59
5460	62.35	PK	143	2.4	V	-2.26	60.09	74	-13.91
5460	48.54	AV	143	2.4	V	-2.26	46.28	54	-7.72
10480	52.80	PK	94	1.5	H	8.56	61.36	68.2	-6.84
10480	52.45	PK	330	1.5	V	8.56	61.01	68.2	-7.19

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11N20									
5180MHz									
4500	64.92	PK	197	1.7	H	-4.72	60.20	74	-13.80
4500	51.98	AV	197	1.7	H	-4.72	47.26	54	-6.74
4500	64.74	PK	356	2.2	V	-4.72	60.02	74	-13.98
4500	51.86	AV	356	2.2	V	-4.72	47.14	54	-6.86
5150	67.87	PK	3	1.9	H	-2.73	65.14	74	-8.86
5150	52.81	AV	3	1.9	H	-2.73	50.08	54	-3.92
5150	67.65	PK	229	1.6	V	-2.73	64.92	74	-9.08
5150	52.68	AV	229	1.6	V	-2.73	49.95	54	-4.05
10360	52.95	PK	259	2.4	H	8.12	61.07	68.2	-7.13
10360	52.51	PK	177	2.4	V	8.12	60.63	68.2	-7.57
5200MHz									
10400	52.89	PK	176	1.8	H	8.24	61.13	68.2	-7.07
10400	52.58	PK	66	1.8	V	8.24	60.82	68.2	-7.38
5240MHz									
5350	64.71	PK	33	1.2	H	-2.33	62.38	74	-11.62
5350	50.10	AV	33	1.2	H	-2.33	47.77	54	-6.23
5350	64.59	PK	161	2	V	-2.33	62.26	74	-11.74
5350	49.98	AV	161	2	V	-2.33	47.65	54	-6.35
5460	62.82	PK	24	2.4	H	-2.26	60.56	74	-13.44
5460	48.19	AV	24	2.4	H	-2.26	45.93	54	-8.07
5460	62.70	PK	155	1.1	V	-2.26	60.44	74	-13.56
5460	48.06	AV	155	1.1	V	-2.26	45.80	54	-8.20
10480	52.93	PK	311	2.4	H	8.56	61.49	68.2	-6.71
10480	52.62	PK	195	2.4	V	8.56	61.18	68.2	-7.02

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11N40									
5190MHz									
4500	64.81	PK	336	2	H	-4.72	60.09	74	-13.91
4500	52.44	AV	336	2	H	-4.72	47.72	54	-6.28
4500	64.69	PK	113	2.3	V	-4.72	59.97	74	-14.03
4500	52.33	AV	113	2.3	V	-4.72	47.61	54	-6.39
5150	66.92	PK	11	2.5	H	-2.73	64.19	74	-9.81
5150	53.38	AV	11	2.5	H	-2.73	50.65	54	-3.35
5150	66.71	PK	162	1.6	V	-2.73	63.98	74	-10.02
5150	53.24	AV	162	1.6	V	-2.73	50.51	54	-3.49
10380	52.76	PK	6	1.4	H	8.18	60.94	68.2	-7.26
10380	52.65	PK	104	1.4	V	8.18	60.83	68.2	-7.37
5230MHz									
5350	64.01	PK	265	2.2	H	-2.33	61.68	74	-12.32
5350	50.22	AV	265	2.2	H	-2.33	47.89	54	-6.11
5350	63.89	PK	201	2	V	-2.33	61.56	74	-12.44
5350	50.10	AV	201	2	V	-2.33	47.77	54	-6.23
5460	62.03	PK	75	1.3	H	-2.26	59.77	74	-14.23
5460	48.36	AV	75	1.3	H	-2.26	46.10	54	-7.90
5460	61.89	PK	334	2.5	V	-2.26	59.63	74	-14.37
5460	48.25	AV	334	2.5	V	-2.26	45.99	54	-8.01
10460	53.13	PK	330	1.6	H	8.47	61.60	68.2	-6.60
10460	52.74	PK	349	1.6	V	8.47	61.21	68.2	-6.99

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AC20									
5180MHz									
4500	64.86	PK	150	1.4	H	-4.72	60.14	74	-13.86
4500	52.10	AV	150	1.4	H	-4.72	47.38	54	-6.62
4500	64.71	PK	25	1.8	V	-4.72	59.99	74	-14.01
4500	51.99	AV	25	1.8	V	-4.72	47.27	54	-6.73
5150	68.04	PK	261	2.3	H	-2.73	65.31	74	-8.69
5150	52.99	AV	261	2.3	H	-2.73	50.26	54	-3.74
5150	67.92	PK	40	1.4	V	-2.73	65.19	74	-8.81
5150	52.78	AV	40	1.4	V	-2.73	50.05	54	-3.95
10360	52.83	PK	98	2.4	H	8.12	60.95	68.2	-7.25
10360	52.60	PK	132	2.4	V	8.12	60.72	68.2	-7.48
5200MHz									
10400	52.92	PK	88	2.2	H	8.24	61.16	68.2	-7.04
10400	52.69	PK	32	2.2	V	8.24	60.93	68.2	-7.27
5240MHz									
5350	64.85	PK	52	2.3	H	-2.33	62.52	74	-11.48
5350	50.31	AV	52	2.3	H	-2.33	47.98	54	-6.02
5350	64.72	PK	293	2	V	-2.33	62.39	74	-11.61
5350	50.14	AV	293	2	V	-2.33	47.81	54	-6.19
5460	63.05	PK	192	1.6	H	-2.26	60.79	74	-13.21
5460	48.32	AV	192	1.6	H	-2.26	46.06	54	-7.94
5460	62.90	PK	275	1.3	V	-2.26	60.64	74	-13.36
5460	48.19	AV	275	1.3	V	-2.26	45.93	54	-8.07
10480	53.02	PK	121	1.2	H	8.56	61.58	68.2	-6.62
10480	52.73	PK	156	1.2	V	8.56	61.29	68.2	-6.91

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AC40									
5190MHz									
4500	64.74	PK	168	1.9	H	-4.72	60.02	74	-13.98
4500	52.53	AV	168	1.9	H	-4.72	47.81	54	-6.19
4500	64.62	PK	226	2.3	V	-4.72	59.90	74	-14.10
4500	52.41	AV	226	2.3	V	-4.72	47.69	54	-6.31
5150	67.52	PK	259	2.4	H	-2.73	64.79	74	-9.21
5150	53.51	AV	259	2.4	H	-2.73	50.78	54	-3.22
5150	67.16	PK	46	1.6	V	-2.73	64.43	74	-9.57
5150	53.34	AV	46	1.6	V	-2.73	50.61	54	-3.39
10380	52.83	PK	88	1.3	H	8.18	61.01	68.2	-7.19
10380	52.60	PK	271	1.3	V	8.18	60.78	68.2	-7.42
5230MHz									
5350	64.22	PK	297	2.2	H	-2.33	61.89	74	-12.11
5350	50.45	AV	297	2.2	H	-2.33	48.12	54	-5.88
5350	64.06	PK	36	2.2	V	-2.33	61.73	74	-12.27
5350	50.24	AV	36	2.2	V	-2.33	47.91	54	-6.09
5460	62.17	PK	56	1.9	H	-2.26	59.91	74	-14.09
5460	48.48	AV	56	1.9	H	-2.26	46.22	54	-7.78
5460	62.00	PK	155	1.7	V	-2.26	59.74	74	-14.26
5460	48.36	AV	155	1.7	V	-2.26	46.10	54	-7.90
10460	53.08	PK	81	2.1	H	8.47	61.55	68.2	-6.65
10460	52.73	PK	349	2.1	V	8.47	61.20	68.2	-7.00

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AC80									
5210MHz									
4500	64.62	PK	331	2	H	-4.72	59.90	74	-14.10
4500	52.31	AV	331	2	H	-4.72	47.59	54	-6.41
4500	64.50	PK	269	1.1	V	-4.72	59.78	74	-14.22
4500	52.18	AV	269	1.1	V	-4.72	47.46	54	-6.54
5150	69.05	PK	125	1.5	H	-2.73	66.32	74	-7.68
5150	55.01	AV	125	1.5	H	-2.73	52.28	54	-1.72
5150	68.87	PK	160	1.1	V	-2.73	66.14	74	-7.86
5150	54.60	AV	160	1.1	V	-2.73	51.87	54	-2.13
5350	64.34	PK	145	1	H	-2.33	62.01	74	-11.99
5350	49.81	AV	145	1	H	-2.33	47.48	54	-6.52
5350	64.19	PK	40	1.6	V	-2.33	61.86	74	-12.14
5350	49.68	AV	40	1.6	V	-2.33	47.35	54	-6.65
5460	62.20	PK	124	2.3	H	-2.26	59.94	74	-14.06
5460	48.29	AV	124	2.3	H	-2.26	46.03	54	-7.97
5460	62.07	PK	136	1.3	V	-2.26	59.81	74	-14.19
5460	48.18	AV	136	1.3	V	-2.26	45.92	54	-8.08
10420	52.64	PK	162	1.2	H	8.32	60.96	68.2	-7.24
10420	52.43	PK	66	1.2	V	8.32	60.75	68.2	-7.45

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AX20									
5180MHz									
4500	65.11	PK	166	1.6	H	-4.72	60.39	74	-13.61
4500	52.29	AV	166	1.6	H	-4.72	47.57	54	-6.43
4500	65.00	PK	246	2	V	-4.72	60.28	74	-13.72
4500	52.16	AV	246	2	V	-4.72	47.44	54	-6.56
5150	68.58	PK	175	2.4	H	-2.73	65.85	74	-8.15
5150	53.17	AV	175	2.4	H	-2.73	50.44	54	-3.56
5150	68.20	PK	284	1.9	V	-2.73	65.47	74	-8.53
5150	53.02	AV	284	1.9	V	-2.73	50.29	54	-3.71
10360	52.87	PK	223	2	H	8.12	60.99	68.2	-7.21
10360	52.71	PK	323	2	V	8.12	60.83	68.2	-7.37
5200MHz									
10400	52.98	PK	318	1.8	H	8.24	61.22	68.2	-6.98
10400	52.80	PK	235	1.8	V	8.24	61.04	68.2	-7.16
5240MHz									
5350	65.04	PK	196	2.3	H	-2.33	62.71	74	-11.29
5350	50.56	AV	196	2.3	H	-2.33	48.23	54	-5.77
5350	64.89	PK	39	1.7	V	-2.33	62.56	74	-11.44
5350	50.35	AV	39	1.7	V	-2.33	48.02	54	-5.98
5460	63.03	PK	91	1.3	H	-2.26	60.77	74	-13.23
5460	48.40	AV	91	1.3	H	-2.26	46.14	54	-7.86
5460	62.86	PK	20	2.4	V	-2.26	60.60	74	-13.40
5460	48.28	AV	20	2.4	V	-2.26	46.02	54	-7.98
10480	53.04	PK	234	2	H	8.56	61.60	68.2	-6.60
10480	52.86	PK	246	2	V	8.56	61.42	68.2	-6.78

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AX40									
5190MHz									
4500	65.06	PK	326	1.7	H	-4.72	60.34	74	-13.66
4500	52.71	AV	326	1.7	H	-4.72	47.99	54	-6.01
4500	64.89	PK	222	1.5	V	-4.72	60.17	74	-13.83
4500	52.55	AV	222	1.5	V	-4.72	47.83	54	-6.17
5150	67.99	PK	180	2.4	H	-2.73	65.26	74	-8.74
5150	53.68	AV	180	2.4	H	-2.73	50.95	54	-3.05
5150	57.74	PK	336	1.9	V	-2.73	55.01	74	-18.99
5150	53.45	AV	336	1.9	V	-2.73	50.72	54	-3.28
10380	52.96	PK	173	1.2	H	8.18	61.14	68.2	-7.06
10380	52.77	PK	272	1.2	V	8.18	60.95	68.2	-7.25
5230MHz									
5350	64.41	PK	310	1.3	H	-2.33	62.08	74	-11.92
5350	50.62	AV	310	1.3	H	-2.33	48.29	54	-5.71
5350	64.28	PK	176	1.8	V	-2.33	61.95	74	-12.05
5350	50.49	AV	176	1.8	V	-2.33	48.16	54	-5.84
5460	62.41	PK	191	1.6	H	-2.26	60.15	74	-13.85
5460	48.62	AV	191	1.6	H	-2.26	46.36	54	-7.64
5460	62.27	PK	27	1.1	V	-2.26	60.01	74	-13.99
5460	48.49	AV	27	1.1	V	-2.26	46.23	54	-7.77
10460	53.14	PK	177	1.3	H	8.47	61.61	68.2	-6.59
10460	52.79	PK	170	1.3	V	8.47	61.26	68.2	-6.94

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AX80									
5210MHz									
4500	65.52	PK	27	1.9	H	-4.72	60.80	74	-13.20
4500	52.61	AV	27	1.9	H	-4.72	47.89	54	-6.11
4500	65.30	PK	251	2.2	V	-4.72	60.58	74	-13.42
4500	52.49	AV	251	2.2	V	-4.72	47.77	54	-6.23
5150	70.14	PK	51	1.8	H	-2.73	67.41	74	-6.59
5150	55.52	AV	51	1.8	H	-2.73	52.79	54	-1.21
5150	69.11	PK	316	2.4	V	-2.73	66.38	74	-7.62
5150	54.90	AV	316	2.4	V	-2.73	52.17	54	-1.83
5350	64.56	PK	47	1.4	H	-2.33	62.23	74	-11.77
5350	50.04	AV	47	1.4	H	-2.33	47.71	54	-6.29
5350	64.42	PK	109	1.9	V	-2.33	62.09	74	-11.91
5350	49.90	AV	109	1.9	V	-2.33	47.57	54	-6.43
5460	62.46	PK	290	1.2	H	-2.26	60.20	74	-13.80
5460	48.52	AV	290	1.2	H	-2.26	46.26	54	-7.74
5460	62.35	PK	28	1.6	V	-2.26	60.09	74	-13.91
5460	48.38	AV	28	1.6	V	-2.26	46.12	54	-7.88
10420	52.56	PK	129	1.7	H	8.32	60.88	68.2	-7.32
10420	52.35	PK	210	1.7	V	8.32	60.67	68.2	-7.53

5250-5350 MHz:

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11A (worst case ANT1)									
5260MHz									
4500	64.46	PK	102	2.5	H	-4.72	59.74	74	-14.26
4500	52.60	AV	102	2.5	H	-4.72	47.88	54	-6.12
4500	64.34	PK	339	1.9	V	-4.72	59.62	74	-14.38
4500	52.49	AV	339	1.9	V	-4.72	47.77	54	-6.23
5150	66.86	PK	72	1.4	H	-2.73	64.13	74	-9.87
5150	53.38	AV	72	1.4	H	-2.73	50.65	54	-3.35
5150	66.61	PK	116	2.3	V	-2.73	63.88	74	-10.12
5150	53.22	AV	116	2.3	V	-2.73	50.49	54	-3.51
10520	52.57	PK	14	1.7	H	8.65	61.22	68.2	-6.98
10520	52.26	PK	45	1.7	V	8.65	60.91	68.2	-7.29
5280MHz									
10560	53.27	PK	182	1.3	H	8.69	61.96	68.2	-6.24
10560	53.01	PK	271	1.3	V	8.69	61.7	68.2	-6.50
5320MHz									
5350	64.49	PK	100	2.5	H	-2.33	62.16	74	-11.84
5350	50.58	AV	100	2.5	H	-2.33	48.25	54	-5.75
5350	64.37	PK	233	1.9	V	-2.33	62.04	74	-11.96
5350	50.46	AV	233	1.9	V	-2.33	48.13	54	-5.87
5460	61.99	PK	209	2	H	-2.26	59.73	74	-14.27
5460	48.72	AV	209	2	H	-2.26	46.46	54	-7.54
5460	61.87	PK	262	2.1	V	-2.26	59.61	74	-14.39
5460	48.60	AV	262	2.1	V	-2.26	46.34	54	-7.66
10640	53.29	PK	236	1.2	H	8.92	62.21	74	-11.79
10640	40.23	AV	124	1.2	H	8.92	49.15	54	-4.85
10640	53.04	PK	238	2.4	V	8.92	61.96	74	-12.04
10640	39.90	AV	221	2.4	V	8.92	48.82	54	-5.18

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11N20									
5260MHz									
4500	64.62	PK	6	1.8	H	-4.72	59.90	74	-14.10
4500	52.23	AV	6	1.8	H	-4.72	47.51	54	-6.49
4500	64.50	PK	348	1.6	V	-4.72	59.78	74	-14.22
4500	52.11	AV	348	1.6	V	-4.72	47.39	54	-6.61
5150	66.81	PK	197	1.3	H	-2.73	64.08	74	-9.92
5150	52.90	AV	197	1.3	H	-2.73	50.17	54	-3.83
5150	66.69	PK	178	2	V	-2.73	63.96	74	-10.04
5150	52.78	AV	178	2	V	-2.73	50.05	54	-3.95
10520	52.68	PK	274	1.1	H	8.65	61.33	68.2	-6.87
10520	52.41	PK	202	1.1	V	8.65	61.06	68.2	-7.14
5280MHz									
10560	53.43	PK	301	1.4	H	8.69	62.12	68.2	-6.08
10560	53.14	PK	300	1.4	V	8.69	61.83	68.2	-6.37
5320MHz									
5350	64.86	PK	80	1.5	H	-2.33	62.53	74	-11.47
5350	49.90	AV	80	1.5	H	-2.33	47.57	54	-6.43
5350	64.74	PK	22	2.4	V	-2.33	62.41	74	-11.59
5350	49.78	AV	22	2.4	V	-2.33	47.45	54	-6.55
5460	62.22	PK	55	2.4	H	-2.26	59.96	74	-14.04
5460	48.38	AV	55	2.4	H	-2.26	46.12	54	-7.88
5460	62.11	PK	140	1.1	V	-2.26	59.85	74	-14.15
5460	48.26	AV	140	1.1	V	-2.26	46.00	54	-8.00
10640	53.45	PK	80	1.9	H	8.92	62.37	74	-11.63
10640	39.60	AV	251	1.9	H	8.92	48.52	54	-5.48
10640	53.14	PK	257	2	V	8.92	62.06	74	-11.94
10640	39.41	AV	61	2	V	8.92	48.33	54	-5.67

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11N40									
5270MHz									
4500	64.85	PK	333	2.3	H	-4.72	60.13	74	-13.87
4500	52.22	AV	333	2.3	H	-4.72	47.50	54	-6.50
4500	64.74	PK	345	1.7	V	-4.72	60.02	74	-13.98
4500	52.10	AV	345	1.7	V	-4.72	47.38	54	-6.62
5150	67.87	PK	189	1.7	H	-2.73	65.14	74	-8.86
5150	52.81	AV	189	1.7	H	-2.73	50.08	54	-3.92
5150	67.59	PK	355	2.2	V	-2.73	64.86	74	-9.14
5150	52.65	AV	355	2.2	V	-2.73	49.92	54	-4.08
10540	52.35	PK	35	2.5	H	8.65	61.00	68.2	-7.20
10540	52.14	PK	135	2.5	V	8.65	60.79	68.2	-7.41
5310MHz									
5350	68.50	PK	208	1.9	H	-2.33	66.17	74	-7.83
5350	53.22	AV	208	1.9	H	-2.33	50.89	54	-3.11
5350	68.25	PK	99	2.5	V	-2.33	65.92	74	-8.08
5350	53.03	AV	99	2.5	V	-2.33	50.70	54	-3.30
5460	63.56	PK	94	2	H	-2.26	61.30	74	-12.70
5460	49.31	AV	94	2	H	-2.26	47.05	54	-6.95
5460	63.43	PK	286	1.3	V	-2.26	61.17	74	-12.83
5460	49.18	AV	286	1.3	V	-2.26	46.92	54	-7.08
10620	52.96	PK	15	1.9	H	8.89	61.85	74	-12.15
10620	39.33	AV	246	1.9	H	8.89	48.22	54	-5.78
10620	52.77	PK	339	2.4	V	8.89	61.66	74	-12.34
10620	39.12	AV	220	2.4	V	8.89	48.01	54	-5.99

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AC20									
5260MHz									
4500	64.71	PK	64	1.5	H	-4.72	59.99	74	-14.01
4500	52.36	AV	64	1.5	H	-4.72	47.64	54	-6.36
4500	64.59	PK	45	2.1	V	-4.72	59.87	74	-14.13
4500	52.22	AV	45	2.1	V	-4.72	47.50	54	-6.50
5150	67.20	PK	62	1.6	H	-2.73	64.47	74	-9.53
5150	53.02	AV	62	1.6	H	-2.73	50.29	54	-3.71
5150	66.97	PK	272	2.5	V	-2.73	64.24	74	-9.76
5150	52.91	AV	272	2.5	V	-2.73	50.18	54	-3.82
10520	52.48	PK	317	1.9	H	8.65	61.13	68.2	-7.07
10520	52.25	PK	49	1.9	V	8.65	60.90	68.2	-7.30
5280MHz									
10560	53.23	PK	161	2.1	H	8.69	61.92	68.2	-6.28
10560	53.04	PK	53	2.1	V	8.69	61.73	68.2	-6.47
5320MHz									
5350	65.04	PK	341	2.3	H	-2.33	62.71	74	-11.29
5350	50.08	AV	341	2.3	H	-2.33	47.75	54	-6.25
5350	64.89	PK	250	1.9	V	-2.33	62.56	74	-11.44
5350	49.97	AV	250	1.9	V	-2.33	47.64	54	-6.36
5460	62.38	PK	38	2.4	H	-2.26	60.12	74	-13.88
5460	48.59	AV	38	2.4	H	-2.26	46.33	54	-7.67
5460	62.27	PK	10	1.8	V	-2.26	60.01	74	-13.99
5460	48.46	AV	10	1.8	V	-2.26	46.20	54	-7.80
10640	53.33	PK	254	2	H	8.92	62.25	74	-11.75
10640	39.54	AV	290	2	H	8.92	48.46	54	-5.54
10640	53.08	PK	248	2.4	V	8.92	62.00	74	-12.00
10640	39.37	AV	324	2.4	V	8.92	48.29	54	-5.71

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AC40									
5270MHz									
4500	65.03	PK	349	1.2	H	-4.72	60.31	74	-13.69
4500	52.42	AV	349	1.2	H	-4.72	47.70	54	-6.30
4500	64.90	PK	343	2.3	V	-4.72	60.18	74	-13.82
4500	52.31	AV	343	2.3	V	-4.72	47.59	54	-6.41
5150	68.48	PK	106	1.9	H	-2.73	65.75	74	-8.25
5150	52.97	AV	106	1.9	H	-2.73	50.24	54	-3.76
5150	68.10	PK	234	1.5	V	-2.73	65.37	74	-8.63
5150	52.81	AV	234	1.5	V	-2.73	50.08	54	-3.92
10540	52.54	PK	312	2.5	H	8.65	61.19	68.2	-7.01
10540	52.35	PK	112	2.5	V	8.65	61.00	68.2	-7.20
5310MHz									
5350	68.86	PK	67	1.4	H	-2.33	66.53	74	-7.47
5350	53.29	AV	67	1.4	H	-2.33	50.96	54	-3.04
5350	68.41	PK	210	2.5	V	-2.33	66.08	74	-7.92
5350	53.12	AV	210	2.5	V	-2.33	50.79	54	-3.21
5460	63.71	PK	303	1.5	H	-2.26	61.45	74	-12.55
5460	49.42	AV	303	1.5	H	-2.26	47.16	54	-6.84
5460	63.57	PK	339	2.4	V	-2.26	61.31	74	-12.69
5460	49.29	AV	339	2.4	V	-2.26	47.03	54	-6.97
10620	53.07	PK	37	1.3	H	8.89	61.96	74	-12.04
10620	39.44	AV	346	1.3	H	8.89	48.33	54	-5.67
10620	52.81	PK	82	2.4	V	8.89	61.70	74	-12.30
10620	39.23	AV	75	2.4	V	8.89	48.12	54	-5.88

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AC80									
5290MHz									
4500	64.35	PK	116	1.4	H	-4.72	59.63	74	-14.37
4500	52.42	AV	116	1.4	H	-4.72	47.70	54	-6.30
4500	64.23	PK	67	1.7	V	-4.72	59.51	74	-14.49
4500	52.30	AV	67	1.7	V	-4.72	47.58	54	-6.42
5150	68.02	PK	77	1.5	H	-2.73	65.29	74	-8.71
5150	52.87	AV	77	1.5	H	-2.73	50.14	54	-3.86
5150	67.80	PK	90	1.9	V	-2.73	65.07	74	-8.93
5150	52.72	AV	90	1.9	V	-2.73	49.99	54	-4.01
5350	69.85	PK	95	1.4	H	-2.33	67.52	74	-6.48
5350	53.62	AV	95	1.4	H	-2.33	51.29	54	-2.71
5350	68.36	PK	317	1.7	V	-2.33	66.03	74	-7.97
5350	53.31	AV	317	1.7	V	-2.33	50.98	54	-3.02
5460	62.41	PK	212	2.2	H	-2.26	60.15	74	-13.85
5460	49.22	AV	212	2.2	H	-2.26	46.96	54	-7.04
5460	62.27	PK	1	2.2	V	-2.26	60.01	74	-13.99
5460	49.10	AV	1	2.2	V	-2.26	46.84	54	-7.16
10580	53.02	PK	305	2.5	H	8.77	61.79	68.2	-6.41
10580	52.75	PK	41	2.5	V	8.77	61.52	68.2	-6.68

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AX20									
5260MHz									
4500	64.86	PK	354	1	H	-4.72	60.14	74	-13.86
4500	52.49	AV	354	1	H	-4.72	47.77	54	-6.23
4500	64.74	PK	267	2	V	-4.72	60.02	74	-13.98
4500	52.38	AV	267	2	V	-4.72	47.66	54	-6.34
5150	67.57	PK	358	1.4	H	-2.73	64.84	74	-9.16
5150	53.19	AV	358	1.4	H	-2.73	50.46	54	-3.54
5150	67.32	PK	303	2.3	V	-2.73	64.59	74	-9.41
5150	53.05	AV	303	2.3	V	-2.73	50.32	54	-3.68
10520	52.59	PK	314	2.2	H	8.65	61.24	68.2	-6.96
10520	52.38	PK	4	2.2	V	8.65	61.03	68.2	-7.17
5280MHz									
10560	53.28	PK	181	2.5	H	8.69	61.97	68.2	-6.23
10560	53.07	PK	240	2.5	V	8.69	61.76	68.2	-6.44
5320MHz									
5350	65.29	PK	59	2.4	H	-2.33	62.96	74	-11.04
5350	50.26	AV	59	2.4	H	-2.33	47.93	54	-6.07
5350	65.11	PK	27	1.1	V	-2.33	62.78	74	-11.22
5350	50.13	AV	27	1.1	V	-2.33	47.80	54	-6.20
5460	62.52	PK	132	2.2	H	-2.26	60.26	74	-13.74
5460	48.71	AV	132	2.2	H	-2.26	46.45	54	-7.55
5460	62.40	PK	231	1.9	V	-2.26	60.14	74	-13.86
5460	48.59	AV	231	1.9	V	-2.26	46.33	54	-7.67
10640	53.48	PK	157	1.1	H	8.92	62.40	74	-11.60
10640	39.65	AV	74	1.1	H	8.92	48.57	54	-5.43
10640	53.24	PK	250	1.8	V	8.92	62.16	74	-11.84
10640	39.41	AV	358	1.8	V	8.92	48.33	54	-5.67

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AX40									
5270MHz									
4500	65.19	PK	331	1.8	H	-4.72	60.47	74	-13.53
4500	52.51	AV	331	1.8	H	-4.72	47.79	54	-6.21
4500	65.06	PK	123	2.1	V	-4.72	60.34	74	-13.66
4500	52.40	AV	123	2.1	V	-4.72	47.68	54	-6.32
5150	68.69	PK	234	2.4	H	-2.73	65.96	74	-8.04
5150	53.11	AV	234	2.4	H	-2.73	50.38	54	-3.62
5150	68.30	PK	29	1.7	V	-2.73	65.57	74	-8.43
5150	52.88	AV	29	1.7	V	-2.73	50.15	54	-3.85
10540	52.51	PK	271	1.9	H	8.65	61.16	68.2	-7.04
10540	52.28	PK	195	1.9	V	8.65	60.93	68.2	-7.27
5310MHz									
5350	69.15	PK	293	1.5	H	-2.33	66.82	74	-7.18
5350	53.32	AV	293	1.5	H	-2.33	50.99	54	-3.01
5350	68.56	PK	262	2	V	-2.33	66.23	74	-7.77
5350	53.18	AV	262	2	V	-2.33	50.85	54	-3.15
5460	63.80	PK	113	1.4	H	-2.26	61.54	74	-12.46
5460	49.48	AV	113	1.4	H	-2.26	47.22	54	-6.78
5460	63.67	PK	68	1.5	V	-2.26	61.41	74	-12.59
5460	49.36	AV	68	1.5	V	-2.26	47.10	54	-6.90
10620	53.14	PK	220	2	H	8.89	62.03	74	-11.97
10620	39.41	AV	214	2	H	8.89	48.30	54	-5.70
10620	52.93	PK	211	1.8	V	8.89	61.82	74	-12.18
10620	39.26	AV	281	1.8	V	8.89	48.15	54	-5.85

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AX80									
5290MHz									
4500	64.44	PK	195	1.6	H	-4.72	59.72	74	-14.28
4500	52.49	AV	195	1.6	H	-4.72	47.77	54	-6.23
4500	64.31	PK	223	1.6	V	-4.72	59.59	74	-14.41
4500	52.38	AV	223	1.6	V	-4.72	47.66	54	-6.34
5150	68.19	PK	46	1.4	H	-2.73	65.46	74	-8.54
5150	53.02	AV	46	1.4	H	-2.73	50.29	54	-3.71
5150	67.98	PK	113	1.1	V	-2.73	65.25	74	-8.75
5150	52.85	AV	113	1.1	V	-2.73	50.12	54	-3.88
5350	70.71	PK	246	1.8	H	-2.33	68.38	74	-5.62
5350	53.83	AV	246	1.8	H	-2.33	51.50	54	-2.50
5350	68.62	PK	48	1.7	V	-2.33	66.29	74	-7.71
5350	53.44	AV	48	1.7	V	-2.33	51.11	54	-2.89
5460	62.62	PK	75	1.7	H	-2.26	60.36	74	-13.64
5460	49.35	AV	75	1.7	H	-2.26	47.09	54	-6.91
5460	62.47	PK	63	1.2	V	-2.26	60.21	74	-13.79
5460	49.24	AV	63	1.2	V	-2.26	46.98	54	-7.02
10580	52.93	PK	147	2.4	H	8.77	61.7	68.2	-6.50
10580	52.70	PK	194	2.4	V	8.77	61.47	68.2	-6.73

5470-5725MHz:

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11A (worst case ANT1)									
5500MHz									
5460	62.15	PK	187	1.6	H	-2.26	59.89	74	-14.11
5460	47.79	AV	187	1.6	H	-2.26	45.53	54	-8.47
5460	61.97	PK	272	1.2	V	-2.26	59.71	74	-14.29
5460	47.76	AV	272	1.2	V	-2.26	45.50	54	-8.50
5470	63.05	PK	1	1.8	H	-2.22	60.83	68.2	-7.37
5470	62.84	PK	308	1.1	V	-2.22	60.62	68.2	-7.58
11000	51.10	PK	274	2.1	H	9.67	60.77	74	-13.23
11000	39.66	AV	194	2.1	H	9.67	49.33	54	-4.67
11000	51.41	PK	321	1.4	V	9.67	61.08	74	-12.92
11000	39.63	AV	154	1.4	V	9.67	49.30	54	-4.70
5580MHz									
11160	51.98	PK	68	1.5	H	8.68	60.66	74	-13.34
11160	39.94	AV	6	1.5	H	8.68	48.62	54	-5.38
11160	53.23	PK	290	1.7	V	8.68	61.91	74	-12.09
11160	40.79	AV	277	1.7	V	8.68	49.47	54	-4.53
5700MHz									
5725	65.33	PK	174	2.3	H	-1.96	63.37	68.2	-4.83
5725	65.49	PK	173	1.7	V	-1.96	63.53	68.2	-4.67
5745	63.28	PK	179	1	H	-1.91	61.37	68.2	-6.83
5745	63.25	PK	306	1.7	V	-1.91	61.34	68.2	-6.86
11400	54.08	PK	112	2	H	7.26	61.34	74	-12.66
11400	41.73	AV	25	2	H	7.26	48.99	54	-5.01
11400	54.16	PK	276	2	V	7.26	61.42	74	-12.58
11400	41.95	AV	342	2	V	7.26	49.21	54	-4.79

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11N20									
5500MHz									
5460	61.96	PK	54	1.9	H	-2.26	59.70	74	-14.30
5460	47.86	AV	54	1.9	H	-2.26	45.60	54	-8.40
5460	62.18	PK	50	1	V	-2.26	59.92	74	-14.08
5460	47.76	AV	50	1	V	-2.26	45.50	54	-8.50
5470	63.04	PK	243	1.6	H	-2.22	60.82	68.2	-7.38
5470	62.94	PK	236	1.2	V	-2.22	60.72	68.2	-7.48
11000	51.20	PK	295	1.1	H	9.67	60.87	74	-13.13
11000	38.64	AV	193	1.1	H	9.67	48.31	54	-5.69
11000	51.63	PK	220	1.9	V	9.67	61.30	74	-12.70
11000	39.63	AV	180	1.9	V	9.67	49.30	54	-4.70
5580MHz									
11160	52.23	PK	258	1.7	H	8.68	60.91	74	-13.09
11160	40.13	AV	267	1.7	H	8.68	48.81	54	-5.19
11160	53.35	PK	240	1.4	V	8.68	62.03	74	-11.97
11160	40.99	AV	126	1.4	V	8.68	49.67	54	-4.33
5700MHz									
5725	64.75	PK	285	1.2	H	-1.96	62.79	68.2	-5.41
5725	65.21	PK	265	1.7	V	-1.96	63.25	68.2	-4.95
5745	63.39	PK	314	1.9	H	-1.91	61.48	68.2	-6.72
5745	63.41	PK	103	1.8	V	-1.91	61.50	68.2	-6.70
11400	53.86	PK	73	1.4	H	7.26	61.12	74	-12.88
11400	40.94	AV	125	1.4	H	7.26	48.20	54	-5.80
11400	54.15	PK	84	1.3	V	7.26	61.41	74	-12.59
11400	41.62	AV	307	1.3	V	7.26	48.88	54	-5.12

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11N40									
5510MHz									
5460	62.06	PK	231	1.5	H	-2.26	59.80	74	-14.20
5460	48.08	AV	231	1.5	H	-2.26	45.82	54	-8.18
5460	62.11	PK	146	1.7	V	-2.26	59.85	74	-14.15
5460	47.94	AV	146	1.7	V	-2.26	45.68	54	-8.32
5470	62.72	PK	223	1.5	H	-2.22	60.50	68.2	-7.70
5470	62.77	PK	49	2	V	-2.22	60.55	68.2	-7.65
11020	50.61	PK	16	1.8	H	9.57	60.18	74	-13.82
11020	37.16	AV	224	1.8	H	9.57	46.73	54	-7.27
11020	51.30	PK	309	1.7	V	9.57	60.87	74	-13.13
11020	38.53	AV	137	1.7	V	9.57	48.10	54	-5.90
5550MHz									
11100	51.17	PK	50	1.2	H	9.12	60.29	74	-13.71
11100	37.56	AV	110	1.2	H	9.12	46.68	54	-7.32
11100	50.54	PK	59	1.2	V	9.12	59.66	74	-14.34
11100	38.03	AV	264	1.2	V	9.12	47.15	54	-6.85
5670MHz									
5725	64.90	PK	237	1.7	H	-1.96	62.94	68.2	-5.26
5725	64.98	PK	299	2.2	V	-1.96	63.02	68.2	-5.18
5745	63.10	PK	64	1.2	H	-1.91	61.19	68.2	-7.01
5745	63.38	PK	68	2.4	V	-1.91	61.47	68.2	-6.73
11340	53.28	PK	136	2.3	H	7.67	60.95	74	-13.05
11340	40.14	AV	193	2.3	H	7.67	47.81	54	-6.19
11340	53.82	PK	136	1.9	V	7.67	61.49	74	-12.51
11340	40.61	AV	189	1.9	V	7.67	48.28	54	-5.72

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AC20									
5500MHz									
5460	62.13	PK	70	2	H	-2.26	59.87	74	-14.13
5460	47.91	AV	70	2	H	-2.26	45.65	54	-8.35
5460	61.88	PK	24	1.8	V	-2.26	59.62	74	-14.38
5460	47.83	AV	24	1.8	V	-2.26	45.57	54	-8.43
5470	62.80	PK	50	1.2	H	-2.22	60.58	68.2	-7.62
5470	62.80	PK	93	1.4	V	-2.22	60.58	68.2	-7.62
11000	51.18	PK	87	1.6	H	9.67	60.85	74	-13.15
11000	38.58	AV	26	1.6	H	9.67	48.25	54	-5.75
11000	51.44	PK	315	2.5	V	9.67	61.11	74	-12.89
11000	38.99	AV	96	2.5	V	9.67	48.66	54	-5.34
5580MHz									
11160	52.52	PK	137	2.4	H	8.68	61.20	74	-12.80
11160	40.37	AV	204	2.4	H	8.68	49.05	54	-4.95
11160	53.57	PK	138	1.9	V	8.68	62.25	74	-11.75
11160	41.05	AV	55	1.9	V	8.68	49.73	54	-4.27
5700MHz									
5725	65.33	PK	320	1.3	H	-1.96	63.37	68.2	-4.83
5725	65.60	PK	297	1.5	V	-1.96	63.64	68.2	-4.56
5745	63.12	PK	291	2.1	H	-1.91	61.21	68.2	-6.99
5745	63.11	PK	328	1.7	V	-1.91	61.20	68.2	-7.00
11400	53.85	PK	10	2.2	H	7.26	61.11	74	-12.89
11400	40.66	AV	322	2.2	H	7.26	47.92	54	-6.08
11400	54.36	PK	51	1.4	V	7.26	61.62	74	-12.38
11400	41.51	AV	338	1.4	V	7.26	48.77	54	-5.23

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AC40									
5510MHz									
5460	61.98	PK	358	1.4	H	-2.26	59.72	74	-14.28
5460	48.23	AV	358	1.4	H	-2.26	45.97	54	-8.03
5460	61.93	PK	90	1.2	V	-2.26	59.67	74	-14.33
5460	48.15	AV	90	1.2	V	-2.26	45.89	54	-8.11
5470	64.92	PK	93	1.3	H	-2.22	62.70	68.2	-5.50
5470	65.13	PK	102	1.6	V	-2.22	62.91	68.2	-5.29
11020	50.45	PK	237	2.3	H	9.57	60.02	74	-13.98
11020	37.62	AV	20	2.3	H	9.57	47.19	54	-6.81
11020	51.20	PK	152	1.6	V	9.57	60.77	74	-13.23
11020	38.70	AV	16	1.6	V	9.57	48.27	54	-5.73
5550MHz									
11100	51.25	PK	241	1.1	H	9.12	60.37	74	-13.63
11100	36.89	AV	306	1.1	H	9.12	46.01	54	-7.99
11100	50.74	PK	46	2.3	V	9.12	59.86	74	-14.14
11100	38.11	AV	137	2.3	V	9.12	47.23	54	-6.77
5670MHz									
5725	65.38	PK	104	1.2	H	-1.96	63.42	68.2	-4.78
5725	65.63	PK	233	1.5	V	-1.96	63.67	68.2	-4.53
5745	63.24	PK	135	1.7	H	-1.91	61.33	68.2	-6.87
5745	63.52	PK	190	1.6	V	-1.91	61.61	68.2	-6.59
11340	53.39	PK	158	2	H	7.67	61.06	74	-12.94
11340	40.11	AV	300	2	H	7.67	47.78	54	-6.22
11340	54.03	PK	109	2.5	V	7.67	61.70	74	-12.30
11340	40.78	AV	87	2.5	V	7.67	48.45	54	-5.55

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AC80									
5530MHz									
5460	62.03	PK	343	2.2	H	-2.26	59.77	74	-14.23
5460	48.11	AV	343	2.2	H	-2.26	45.85	54	-8.15
5460	61.87	PK	215	1	V	-2.26	59.61	74	-14.39
5460	47.83	AV	215	1	V	-2.26	45.57	54	-8.43
5470	66.00	PK	219	1.5	H	-2.22	63.78	68.2	-4.42
5470	66.00	PK	73	1.1	V	-2.22	63.78	68.2	-4.42
11060	50.72	PK	312	2.4	H	9.37	60.09	74	-13.91
11060	36.72	AV	298	2.4	H	9.37	46.09	54	-7.91
11060	51.01	PK	188	2	V	9.37	60.38	74	-13.62
11060	38.28	AV	68	2	V	9.37	47.65	54	-6.35
5610MHz									
5725	65.32	PK	268	2.4	H	-1.96	63.36	68.2	-4.84
5725	64.66	PK	315	1.9	V	-1.96	62.70	68.2	-5.50
5745	63.14	PK	268	1.4	H	-1.91	61.23	68.2	-6.97
5745	63.15	PK	75	1.6	V	-1.91	61.24	68.2	-6.96
11220	52.62	PK	191	1.2	H	8.33	60.95	74	-13.05
11220	39.32	AV	130	1.2	H	8.33	47.65	54	-6.35
11220	52.85	PK	129	2	V	8.33	61.18	74	-12.82
11220	39.53	AV	247	2	V	8.33	47.86	54	-6.14

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AX20									
5500MHz									
5460	61.98	PK	5	2.4	H	-2.26	59.72	74	-14.28
5460	48.07	AV	5	2.4	H	-2.26	45.81	54	-8.19
5460	61.80	PK	219	1.9	V	-2.26	59.54	74	-14.46
5460	48.08	AV	219	1.9	V	-2.26	45.82	54	-8.18
5470	62.96	PK	66	1.6	H	-2.22	60.74	68.2	-7.46
5470	62.88	PK	82	1.9	V	-2.22	60.66	68.2	-7.54
11000	50.90	PK	351	2.5	H	9.67	60.57	74	-13.43
11000	38.08	AV	233	2.5	H	9.67	47.75	54	-6.25
11000	51.37	PK	19	2.2	V	9.67	61.04	74	-12.96
11000	38.87	AV	158	2.2	V	9.67	48.54	54	-5.46
5580MHz									
11160	52.20	PK	291	1.3	H	8.68	60.88	74	-13.12
11160	39.59	AV	195	1.3	H	8.68	48.27	54	-5.73
11160	53.55	PK	110	1.1	V	8.68	62.23	74	-11.77
11160	40.89	AV	173	1.1	V	8.68	49.57	54	-4.43
5700MHz									
5725	65.41	PK	318	2.1	H	-1.96	63.45	68.2	-4.75
5725	65.04	PK	115	1.2	V	-1.96	63.08	68.2	-5.12
5745	63.38	PK	165	1	H	-1.91	61.47	68.2	-6.73
5745	63.42	PK	307	1.3	V	-1.91	61.51	68.2	-6.69
11400	53.82	PK	136	1.7	H	7.26	61.08	74	-12.92
11400	41.39	AV	200	1.7	H	7.26	48.65	54	-5.35
11400	53.94	PK	297	1.7	V	7.26	61.20	74	-12.80
11400	42.05	AV	197	1.7	V	7.26	49.31	54	-4.69

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AX40									
5510MHz									
5460	61.92	PK	174	1.3	H	-2.26	59.66	74	-14.34
5460	48.13	AV	174	1.3	H	-2.26	45.87	54	-8.13
5460	61.99	PK	8	1	V	-2.26	59.73	74	-14.27
5460	47.78	AV	8	1	V	-2.26	45.52	54	-8.48
5470	63.71	PK	191	2	H	-2.22	61.49	68.2	-6.71
5470	63.81	PK	334	1.9	V	-2.22	61.59	68.2	-6.61
11020	50.76	PK	75	1.2	H	9.57	60.33	74	-13.67
11020	36.99	AV	70	1.2	H	9.57	46.56	54	-7.44
11020	51.11	PK	153	1.3	V	9.57	60.68	74	-13.32
11020	38.58	AV	175	1.3	V	9.57	48.15	54	-5.85
5550MHz									
11100	51.67	PK	248	1.3	H	9.12	60.79	74	-13.21
11100	37.17	AV	130	1.3	H	9.12	46.29	54	-7.71
11100	50.24	PK	228	1.7	V	9.12	59.36	74	-14.64
11100	37.81	AV	176	1.7	V	9.12	46.93	54	-7.07
5670MHz									
5725	65.31	PK	311	1.6	H	-1.96	63.35	68.2	-4.85
5725	65.66	PK	150	1.7	V	-1.96	63.70	68.2	-4.50
5745	63.11	PK	353	2.2	H	-1.91	61.20	68.2	-7.00
5745	63.42	PK	115	2.3	V	-1.91	61.51	68.2	-6.69
11340	53.45	PK	124	1.7	H	7.67	61.12	74	-12.88
11340	40.57	AV	124	1.7	H	7.67	48.24	54	-5.76
11340	54.14	PK	9	1.4	V	7.67	61.81	74	-12.19
11340	42.87	AV	9	1.4	V	7.67	50.54	54	-3.46

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AX80									
5530MHz									
5460	61.89	PK	250	1.8	H	-2.26	59.63	74	-14.37
5460	48.12	AV	250	1.8	H	-2.26	45.86	54	-8.14
5460	61.83	PK	219	2.2	V	-2.26	59.57	74	-14.43
5460	47.99	AV	219	2.2	V	-2.26	45.73	54	-8.27
5470	67.77	PK	87	1.2	H	-2.22	65.55	68.2	-2.65
5470	66.73	PK	3	2.5	V	-2.22	64.51	68.2	-3.69
11060	50.77	PK	125	1.2	H	9.37	60.14	74	-13.86
11060	36.81	AV	125	1.2	H	9.37	46.18	54	-7.82
11060	50.72	PK	28	2.2	V	9.37	60.09	74	-13.91
11060	38.38	AV	28	2.2	V	9.37	47.75	54	-6.25
5610MHz									
5725	64.92	PK	350	1.4	H	-1.96	62.96	68.2	-5.24
5725	65.12	PK	295	1.7	V	-1.96	63.16	68.2	-5.04
5745	63.52	PK	114	2.3	H	-1.91	61.61	68.2	-6.59
5745	63.47	PK	320	2	V	-1.91	61.56	68.2	-6.64
11220	52.39	PK	157	2	H	8.33	60.72	74	-13.28
11220	40.64	AV	282	2	H	8.33	48.97	54	-5.03
11220	53.16	PK	305	1.2	V	8.33	61.49	74	-12.51
11220	42.20	AV	185	1.2	V	8.33	50.53	54	-3.47

5725-5850 MHz:

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11A (worst case ANT1)									
5745MHz									
5650	62.50	PK	107	1.9	H	-1.95	60.55	68.2	-7.65
5700	61.82	PK	103	2.4	H	-2.02	59.80	105.2	-45.40
5720	63.02	PK	262	1.7	H	-1.97	61.05	110.8	-49.75
5725	67.92	PK	313	1.4	H	-1.96	65.96	122.2	-56.24
5650	62.79	PK	198	1.6	V	-1.95	60.84	68.2	-7.36
5700	63.26	PK	190	1.2	V	-2.02	61.24	105.2	-43.96
5720	72.49	PK	57	2	V	-1.97	70.52	110.8	-40.28
5725	77.15	PK	270	1.3	V	-1.96	75.19	122.2	-47.01
11490	54.27	PK	134	1.7	H	6.63	60.90	74	-13.10
11490	43.67	AV	124	1.7	H	6.63	50.30	54	-3.70
11490	54.71	PK	316	1.6	V	6.63	61.34	74	-12.66
11490	45.46	AV	146	1.6	V	6.63	52.09	54	-1.91
5785MHz									
11570	55.82	PK	52	1.5	H	6.59	62.41	74	-11.59
11570	44.27	AV	75	1.5	H	6.59	50.86	54	-3.14
11570	57.63	PK	151	2	V	6.59	64.22	74	-9.78
11570	46.67	AV	140	2	V	6.59	53.26	54	-0.74
5825MHz									
5850	63.46	PK	254	1.1	H	-1.81	61.65	122.2	-60.55
5855	62.60	PK	109	2	H	-1.82	60.78	110.8	-50.02
5875	62.62	PK	337	1	H	-1.84	60.78	105.2	-44.42
5925	63.32	PK	273	1.4	H	-1.82	61.50	68.2	-6.70
5850	70.57	PK	299	2.1	V	-1.81	68.76	122.2	-53.44
5855	69.03	PK	227	1.1	V	-1.82	67.21	110.8	-43.59
5875	64.50	PK	215	2.1	V	-1.84	62.66	105.2	-42.54
5925	63.71	PK	106	1.8	V	-1.82	61.89	68.2	-6.31
11650	55.06	PK	279	1.8	H	6.77	61.83	74	-12.17
11650	43.97	AV	183	1.8	H	6.77	50.74	54	-3.26
11650	56.77	PK	311	1.1	V	6.77	63.54	74	-10.46
11650	46.64	AV	12	1.1	V	6.77	53.41	54	-0.59

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11N20									
5745MHz									
5650	61.06	PK	33	2.3	H	-1.95	59.11	68.2	-9.09
5700	61.43	PK	332	1.7	H	-2.02	59.41	105.2	-45.79
5720	63.61	PK	343	1.3	H	-1.97	61.64	110.8	-49.16
5725	69.34	PK	56	2.2	H	-1.96	67.38	122.2	-54.82
5650	64.11	PK	61	2	V	-1.95	62.16	68.2	-6.04
5700	65.00	PK	98	1.8	V	-2.02	62.98	105.2	-42.22
5720	75.29	PK	212	1.7	V	-1.97	73.32	110.8	-37.48
5725	79.29	PK	300	2.3	V	-1.96	77.33	122.2	-44.87
11490	53.62	PK	289	1.5	H	6.63	60.25	74	-13.75
11490	41.40	AV	169	1.5	H	6.63	48.03	54	-5.97
11490	54.02	PK	268	1.8	V	6.63	60.65	74	-13.35
11490	44.46	AV	174	1.8	V	6.63	51.09	54	-2.91
5785MHz									
11570	55.37	PK	161	1.6	H	6.59	61.96	74	-12.04
11570	43.73	AV	17	1.6	H	6.59	50.32	54	-3.68
11570	56.95	PK	317	1.3	V	6.59	63.54	74	-10.46
11570	46.67	AV	270	1.3	V	6.59	53.26	54	-0.74
5825MHz									
5850	64.00	PK	197	1.2	H	-1.81	62.19	122.2	-60.01
5855	61.90	PK	343	1.2	H	-1.82	60.08	110.8	-50.72
5875	63.12	PK	137	1.8	H	-1.84	61.28	105.2	-43.92
5925	62.48	PK	105	1.3	H	-1.82	60.66	68.2	-7.54
5850	71.08	PK	305	1.6	V	-1.81	69.27	122.2	-52.93
5855	68.28	PK	42	1.9	V	-1.82	66.46	110.8	-44.34
5875	63.35	PK	192	1.8	V	-1.84	61.51	105.2	-43.69
5925	63.79	PK	295	1.6	V	-1.82	61.97	68.2	-6.23
11650	54.48	PK	195	1.8	H	6.77	61.25	74	-12.75
11650	42.93	AV	14	1.8	H	6.77	49.70	54	-4.30
11650	57.22	PK	213	2.2	V	6.77	63.99	74	-10.01
11650	46.35	AV	37	2.2	V	6.77	53.12	54	-0.88

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11N40									
5755MHz									
5650	63.27	PK	95	1.9	H	-1.95	61.32	68.2	-6.88
5700	70.56	PK	72	1.8	H	-2.02	68.54	105.2	-36.66
5720	76.14	PK	121	1.7	H	-1.97	74.17	110.8	-36.63
5725	78.32	PK	71	2.4	H	-1.96	76.36	122.2	-45.84
5650	67.59	PK	262	1.6	V	-1.95	65.64	68.2	-2.56
5700	79.16	PK	287	2	V	-2.02	77.14	105.2	-28.06
5720	85.50	PK	88	1.9	V	-1.97	83.53	110.8	-27.27
5725	87.56	PK	106	2.2	V	-1.96	85.60	122.2	-36.60
11510	53.98	PK	175	2.3	H	6.59	60.57	74	-13.43
11510	41.01	AV	299	2.3	H	6.59	47.60	54	-6.40
11510	54.85	PK	32	1.3	V	6.59	61.44	74	-12.56
11510	44.38	AV	25	1.3	V	6.59	50.97	54	-3.03
5795MHz									
5850	66.73	PK	278	1.4	H	-1.81	64.92	122.2	-57.28
5855	64.92	PK	156	1.6	H	-1.82	63.10	110.8	-47.70
5875	62.67	PK	115	1.2	H	-1.84	60.83	105.2	-44.37
5925	62.16	PK	103	1.5	H	-1.82	60.34	68.2	-7.86
5850	80.26	PK	54	2.3	V	-1.81	78.45	122.2	-43.75
5855	78.37	PK	228	1.7	V	-1.82	76.55	110.8	-34.25
5875	73.87	PK	111	2.4	V	-1.84	72.03	105.2	-33.17
5925	67.17	PK	247	2.1	V	-1.82	65.35	68.2	-2.85
11590	53.86	PK	189	1.4	H	6.57	60.43	74	-13.57
11590	41.99	AV	103	1.4	H	6.57	48.56	54	-5.44
11590	56.17	PK	120	2.4	V	6.57	62.74	74	-11.26
11590	45.92	AV	263	2.4	V	6.57	52.49	54	-1.51

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AC20									
5745MHz									
5650	61.55	PK	185	1.1	H	-1.95	59.60	68.2	-8.60
5700	62.48	PK	212	1.6	H	-2.02	60.46	105.2	-44.74
5720	64.79	PK	285	1.4	H	-1.97	62.82	110.8	-47.98
5725	68.24	PK	209	1.4	H	-1.96	66.28	122.2	-55.92
5650	62.74	PK	172	1.8	V	-1.95	60.79	68.2	-7.41
5700	62.57	PK	160	1.1	V	-2.02	60.55	105.2	-44.65
5720	75.52	PK	232	1.3	V	-1.97	73.55	110.8	-37.25
5725	81.56	PK	134	1.2	V	-1.96	79.60	122.2	-42.60
11490	53.59	PK	260	2.4	H	6.63	60.22	74	-13.78
11490	41.41	AV	134	2.4	H	6.63	48.04	54	-5.96
11490	54.53	PK	190	1.4	V	6.63	61.16	74	-12.84
11490	42.81	AV	116	1.4	V	6.63	49.44	54	-4.56
5785MHz									
11570	55.87	PK	262	1.5	H	6.59	62.46	74	-11.54
11570	42.02	AV	242	1.5	H	6.59	48.61	54	-5.39
11570	57.28	PK	7	1.2	V	6.59	63.87	74	-10.13
11570	46.11	AV	329	1.2	V	6.59	52.70	54	-1.30
5825MHz									
5850	64.98	PK	106	1.4	H	-1.81	63.17	122.2	-59.03
5855	63.10	PK	168	1.8	H	-1.82	61.28	110.8	-49.52
5875	63.37	PK	156	1.1	H	-1.84	61.53	105.2	-43.67
5925	62.17	PK	188	1	H	-1.82	60.35	68.2	-7.85
5850	72.25	PK	80	1.6	V	-1.81	70.44	122.2	-51.76
5855	68.44	PK	219	2.3	V	-1.82	66.62	110.8	-44.18
5875	63.78	PK	86	2	V	-1.84	61.94	105.2	-43.26
5925	63.27	PK	136	1.6	V	-1.82	61.45	68.2	-6.75
11650	55.38	PK	163	1.8	H	6.77	62.15	74	-11.85
11650	42.43	AV	220	1.8	H	6.77	49.20	54	-4.80
11650	57.05	PK	92	1.8	V	6.77	63.82	74	-10.18
11650	46.18	AV	214	1.8	V	6.77	52.95	54	-1.05

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AC40									
5755MHz									
5650	61.33	PK	132	1.4	H	-1.95	59.38	68.2	-8.82
5700	67.91	PK	12	1.7	H	-2.02	65.89	105.2	-39.31
5720	71.40	PK	70	2.1	H	-1.97	69.43	110.8	-41.37
5725	73.02	PK	259	1	H	-1.96	71.06	122.2	-51.14
5650	66.46	PK	135	1.5	V	-1.95	64.51	68.2	-3.69
5700	76.50	PK	47	1.5	V	-2.02	74.48	105.2	-30.72
5720	81.65	PK	183	1.3	V	-1.97	79.68	110.8	-31.12
5725	87.32	PK	132	1.7	V	-1.96	85.36	122.2	-36.84
11510	53.81	PK	187	1.4	H	6.59	60.40	74	-13.60
11510	40.94	AV	128	1.4	H	6.59	47.53	54	-6.47
11510	54.80	PK	224	2.2	V	6.59	61.39	74	-12.61
11510	43.89	AV	307	2.2	V	6.59	50.48	54	-3.52
5795MHz									
5850	62.74	PK	259	1.5	H	-1.81	60.93	122.2	-61.27
5855	62.15	PK	208	1.6	H	-1.82	60.33	110.8	-50.47
5875	61.99	PK	20	1.7	H	-1.84	60.15	105.2	-45.05
5925	62.65	PK	105	2.2	H	-1.82	60.83	68.2	-7.37
5850	75.34	PK	260	2.5	V	-1.81	73.53	122.2	-48.67
5855	70.33	PK	167	1.1	V	-1.82	68.51	110.8	-42.29
5875	65.27	PK	108	2	V	-1.84	63.43	105.2	-41.77
5925	64.39	PK	107	2.2	V	-1.82	62.57	68.2	-5.63
11590	55.14	PK	8	1.1	H	6.57	61.71	74	-12.29
11590	41.66	AV	76	1.1	H	6.57	48.23	54	-5.77
11590	54.99	PK	273	1.8	V	6.57	61.56	74	-12.44
11590	45.58	AV	148	1.8	V	6.57	52.15	54	-1.85

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AC80									
5775MHz									
5650	61.24	PK	212	1.4	H	-1.95	59.29	68.2	-8.91
5700	61.65	PK	325	1.8	H	-2.02	59.63	105.2	-45.57
5720	62.47	PK	290	2	H	-1.97	60.50	110.8	-50.30
5725	62.31	PK	312	1	H	-1.96	60.35	122.2	-61.85
5650	68.35	PK	84	2.2	V	-1.95	66.40	68.2	-1.80
5700	71.14	PK	288	2	V	-2.02	69.12	105.2	-36.08
5720	72.88	PK	328	1.1	V	-1.97	70.91	110.8	-39.89
5725	73.19	PK	337	1.6	V	-1.96	71.23	122.2	-50.97
5850	64.05	PK	306	2.4	H	-1.81	62.24	122.2	-59.96
5855	63.02	PK	198	1	H	-1.82	61.20	110.8	-49.60
5875	63.00	PK	83	1.3	H	-1.84	61.16	105.2	-44.04
5925	62.44	PK	305	1.7	H	-1.82	60.62	68.2	-7.58
5850	74.48	PK	65	1.8	V	-1.81	72.67	122.2	-49.53
5855	70.11	PK	107	2.4	V	-1.82	68.29	110.8	-42.51
5875	67.93	PK	78	2.5	V	-1.84	66.09	105.2	-39.11
5925	64.00	PK	225	1	V	-1.82	62.18	68.2	-6.02
11550	54.33	PK	181	1.4	H	6.61	60.94	74	-13.06
11550	41.73	AV	177	1.4	H	6.61	48.34	54	-5.66
11550	54.52	PK	165	2.3	V	6.61	61.13	74	-12.87
11550	45.36	AV	153	2.3	V	6.61	51.97	54	-2.03

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AX20									
5745MHz									
5650	61.22	PK	260	2.5	H	-1.95	59.27	68.2	-8.93
5700	61.66	PK	209	1.2	H	-2.02	59.64	105.2	-45.56
5720	64.53	PK	19	2.5	H	-1.97	62.56	110.8	-48.24
5725	66.45	PK	333	1.5	H	-1.96	64.49	122.2	-57.71
5650	62.75	PK	249	2	V	-1.95	60.80	68.2	-7.40
5700	66.01	PK	217	2.2	V	-2.02	63.99	105.2	-41.21
5720	79.71	PK	356	1.1	V	-1.97	77.74	110.8	-33.06
5725	84.12	PK	95	1.4	V	-1.96	82.16	122.2	-40.04
11490	53.84	PK	43	1.5	H	6.63	60.47	74	-13.53
11490	41.55	AV	268	1.5	H	6.63	48.18	54	-5.82
11490	54.01	PK	37	2.2	V	6.63	60.64	74	-13.36
11490	42.98	AV	158	2.2	V	6.63	49.61	54	-4.39
5785MHz									
11570	54.27	PK	316	2.2	H	6.59	60.86	74	-13.14
11570	42.91	AV	186	2.2	H	6.59	49.50	54	-4.50
11570	54.80	PK	181	2.2	V	6.59	61.39	74	-12.61
11570	44.91	AV	135	2.2	V	6.59	51.50	54	-2.50
5825MHz									
5850	63.83	PK	159	2.4	H	-1.81	62.02	122.2	-60.18
5855	62.88	PK	277	2.3	H	-1.82	61.06	110.8	-49.74
5875	62.76	PK	333	1.4	H	-1.84	60.92	105.2	-44.28
5925	61.87	PK	93	2.2	H	-1.82	60.05	68.2	-8.15
5850	70.79	PK	298	2	V	-1.81	68.98	122.2	-53.22
5855	69.19	PK	27	1	V	-1.82	67.37	110.8	-43.43
5875	63.92	PK	93	2.5	V	-1.84	62.08	105.2	-43.12
5925	63.87	PK	10	2.3	V	-1.82	62.05	68.2	-6.15
11650	55.90	PK	313	2.1	H	6.77	62.67	74	-11.33
11650	41.48	AV	128	2.1	H	6.77	48.25	54	-5.75
11650	56.90	PK	280	1.4	V	6.77	63.67	74	-10.33
11650	45.93	AV	11	1.4	V	6.77	52.70	54	-1.30

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AX40									
5755MHz									
5650	61.67	PK	0	2.4	H	-1.95	59.72	68.2	-8.48
5700	69.62	PK	235	2	H	-2.02	67.60	105.2	-37.60
5720	76.28	PK	143	1	H	-1.97	74.31	110.8	-36.49
5725	75.46	PK	22	1.5	H	-1.96	73.50	122.2	-48.70
5650	69.17	PK	214	1.6	V	-1.95	67.22	68.2	-0.98
5700	79.03	PK	114	2.1	V	-2.02	77.01	105.2	-28.19
5720	84.03	PK	336	2	V	-1.97	82.06	110.8	-28.74
5725	88.22	PK	309	2.2	V	-1.96	86.26	122.2	-35.94
11510	53.96	PK	197	2.4	H	6.59	60.55	74	-13.45
11510	42.18	AV	113	2.4	H	6.59	48.77	54	-5.23
11510	54.07	PK	198	1.3	V	6.59	60.66	74	-13.34
11510	43.39	AV	159	1.3	V	6.59	49.98	54	-4.02
5795MHz									
5850	65.09	PK	353	1.8	H	-1.81	63.28	122.2	-58.92
5855	63.32	PK	191	2	H	-1.82	61.50	110.8	-49.30
5875	63.16	PK	91	1	H	-1.84	61.32	105.2	-43.88
5925	62.61	PK	316	1.1	H	-1.82	60.79	68.2	-7.41
5850	74.96	PK	293	1	V	-1.81	73.15	122.2	-49.05
5855	71.12	PK	31	2.3	V	-1.82	69.30	110.8	-41.50
5875	65.21	PK	129	1.3	V	-1.84	63.37	105.2	-41.83
5925	63.19	PK	68	2.5	V	-1.82	61.37	68.2	-6.83
11590	54.46	PK	356	1.7	H	6.57	61.03	74	-12.97
11590	41.88	AV	152	1.7	H	6.57	48.45	54	-5.55
11590	55.46	PK	114	2.2	V	6.57	62.03	74	-11.97
11590	46.00	AV	226	2.2	V	6.57	52.57	54	-1.43

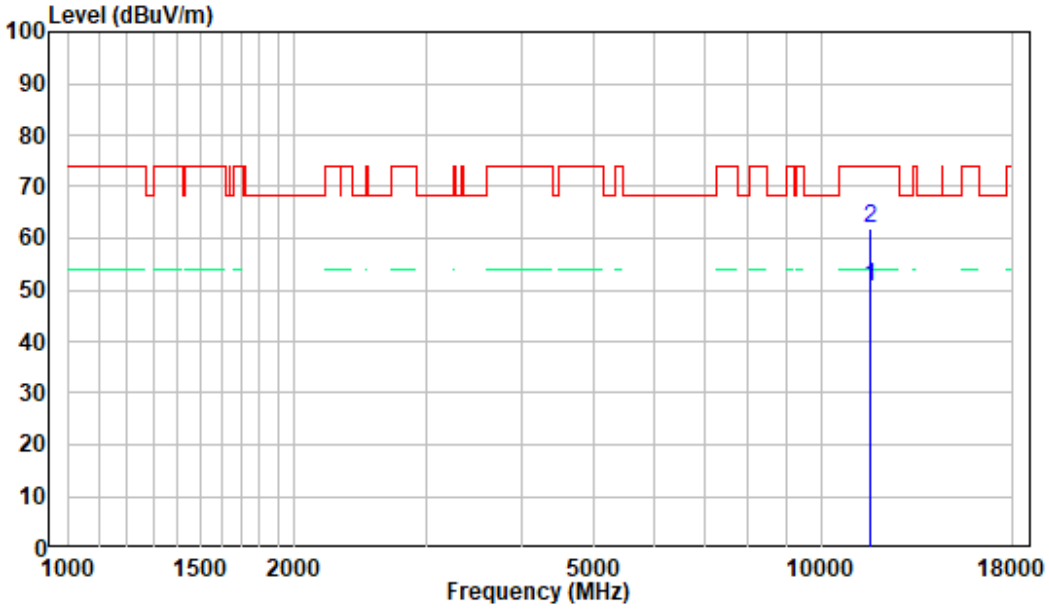
Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AX80									
5775MHz									
5650	61.57	PK	59	1	H	-1.95	59.62	68.2	-8.58
5700	64.45	PK	129	1.5	H	-2.02	62.43	105.2	-42.77
5720	67.02	PK	324	1.3	H	-1.97	65.05	110.8	-45.75
5725	67.94	PK	180	2	H	-1.96	65.98	122.2	-56.22
5650	69.62	PK	131	2.4	V	-1.95	67.67	68.2	-0.53
5700	75.33	PK	64	2.2	V	-2.02	73.31	105.2	-31.89
5720	78.64	PK	343	2.2	V	-1.97	76.67	110.8	-34.13
5725	79.93	PK	338	1.5	V	-1.96	77.97	122.2	-44.23
5850	63.46	PK	261	1.2	H	-1.81	61.65	122.2	-60.55
5855	63.56	PK	31	1.1	H	-1.82	61.74	110.8	-49.06
5875	62.96	PK	246	2.1	H	-1.84	61.12	105.2	-44.08
5925	62.30	PK	192	1.2	H	-1.82	60.48	68.2	-7.72
5850	75.10	PK	5	2.5	V	-1.81	73.29	122.2	-48.91
5855	73.67	PK	15	1.3	V	-1.82	71.85	110.8	-38.95
5875	70.30	PK	189	2.1	V	-1.84	68.46	105.2	-36.74
5925	64.89	PK	178	2.2	V	-1.82	63.07	68.2	-5.13
11550	54.06	PK	22	2.3	H	6.61	60.67	74	-13.33
11550	41.22	AV	231	2.3	H	6.61	47.83	54	-6.17
11550	55.59	PK	265	2.4	V	6.61	62.20	74	-11.80
11550	45.12	AV	128	2.4	V	6.61	51.73	54	-2.27

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.

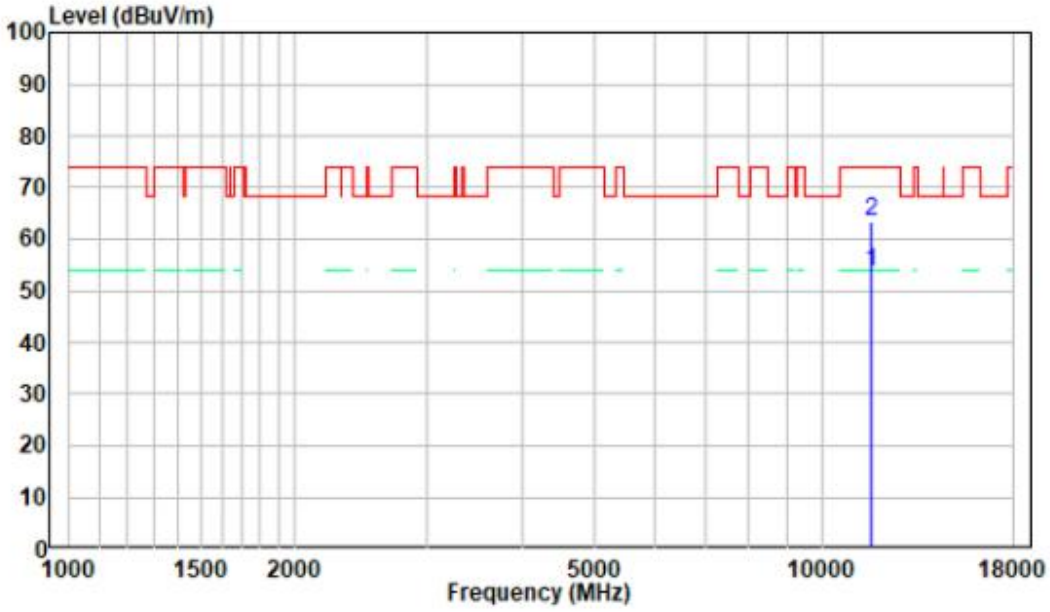
1-18 GHz:

Pre-scan Plots:

802.11a 5825MHz ANT 1
Horizontal



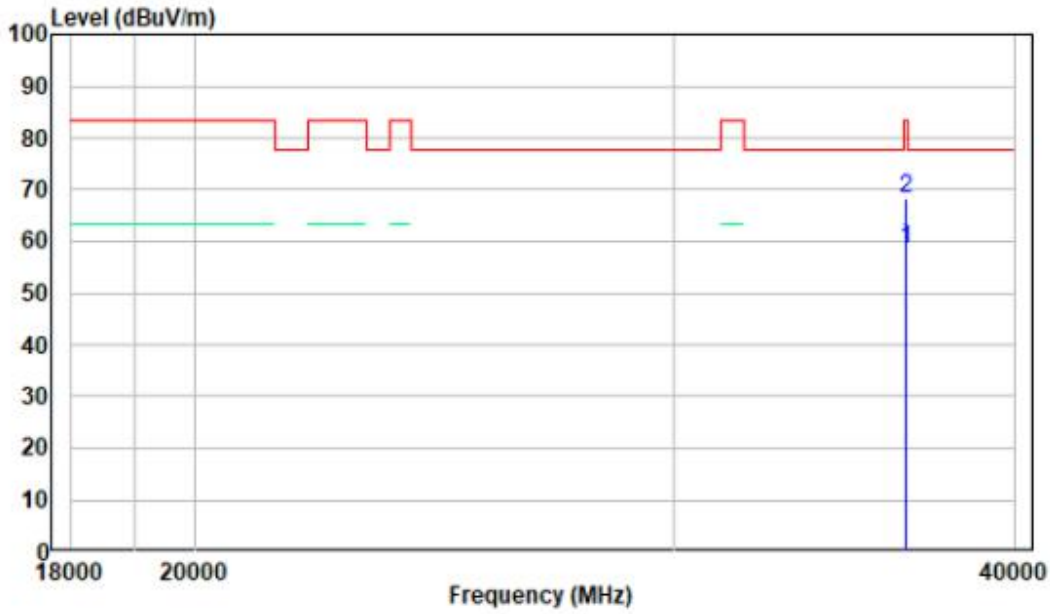
Vertical



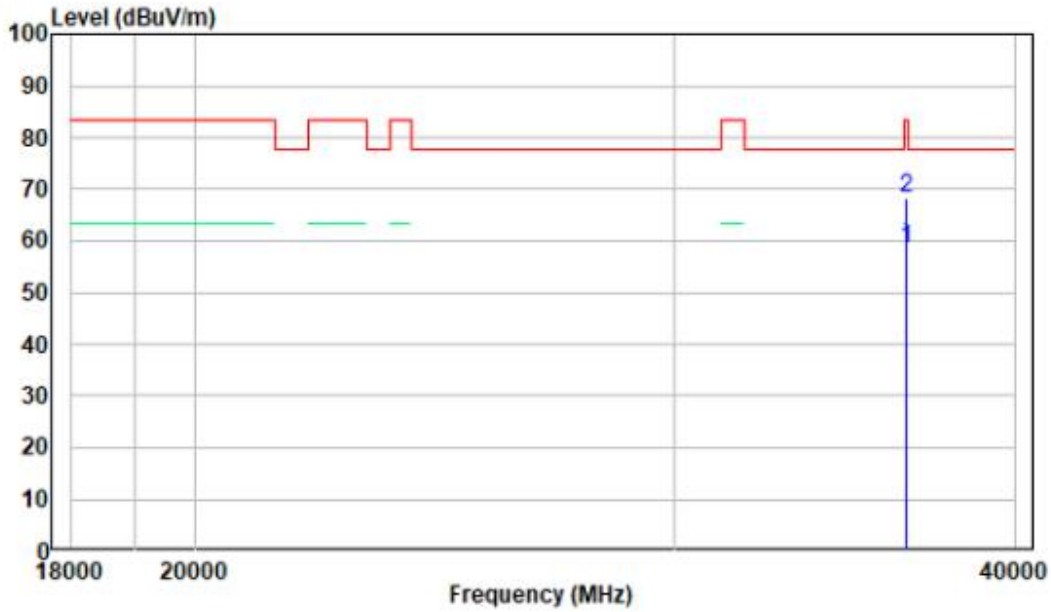
18 -40GHz:

Pre-scan Plots:

802.11a 5825MHz ANT 1
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.

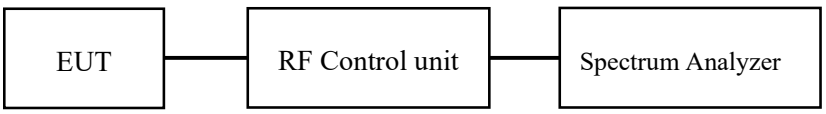
Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

Test Procedure

According to KDB789033 D02 section II.C and section II.D

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:	24~26℃
Relative Humidity:	50~55 %
ATM Pressure:	101.0 kPa

The testing was performed by Roger Ling from 2023-02-11 to 2023-02-15.

EUT operation mode: Transmitting

Test Result: Pass

Please refer to the Appendix.

FCC §15.407(a) – CONDUCTED TRANSMITTER OUTPUT POWER

Applicable Standard

For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. 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.

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.

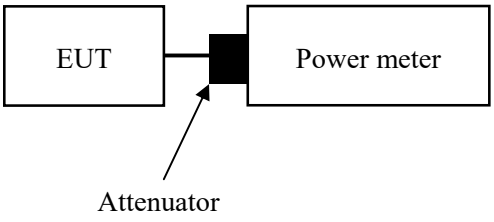
Test Procedure

According to ANSI C63.10-2013 section 12.3.3.2

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

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

e. Add a correction factor to the display.



Test Data

Environmental Conditions

Temperature:	24~26℃
Relative Humidity:	50~55 %
ATM Pressure:	101.0 kPa

The testing was performed by Roger Ling from 2023-02-10 to 2023-03-16.

EUT operation mode: Transmitting

Test Result: Pass

Please refer to the Appendix.

FCC §15.407(a) - POWER SPECTRAL DENSITY

For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. 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.

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.

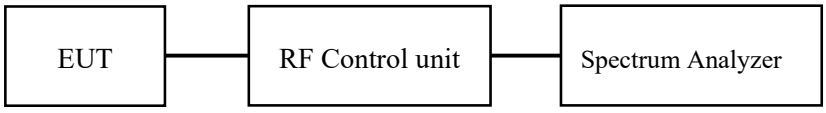
For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum 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

According to ANSI C63.10-2013 section 12.5

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:	24~26℃
Relative Humidity:	50~55 %
ATM Pressure:	101.0 kPa

The testing was performed by Roger Ling from 2023-02-11 to 2023-03-16.

EUT operation mode: Transmitting

Test Result: Pass

Please refer to the Appendix.

APPENDIX

Appendix A1: Emission Bandwidth

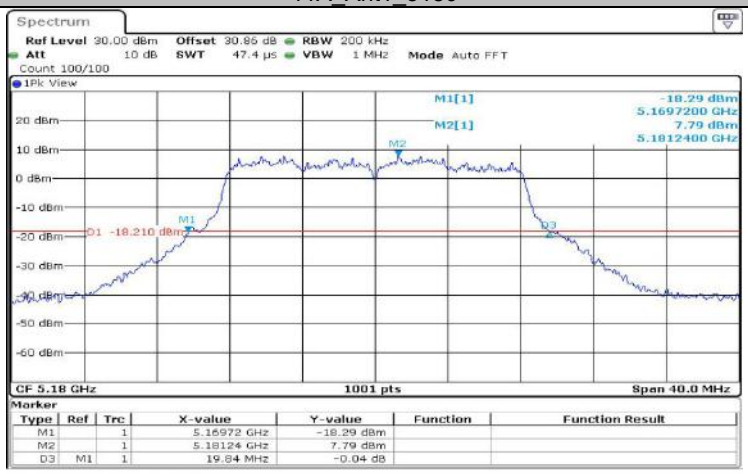
Test Result

Test Mode	Antenna	Frequency[MHz]	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	19.84	5169.72	5189.56	---	---
	Ant1	5200	20.40	5189.68	5210.08	---	---
	Ant1	5240	20.36	5229.72	5250.08	---	---
	Ant1	5260	20.12	5249.76	5269.88	---	---
	Ant1	5280	20.36	5269.72	5290.08	---	---
	Ant1	5320	20.36	5309.68	5330.04	---	---
	Ant1	5500	20.00	5489.84	5509.84	---	---
	Ant1	5580	20.48	5569.76	5590.24	---	---
	Ant1	5700	20.36	5689.72	5710.08	---	---
11N20MIMO	Ant1	5180	20.68	5169.76	5190.44	---	---
	Ant1	5200	20.72	5189.72	5210.44	---	---
	Ant1	5240	20.68	5229.72	5250.40	---	---
	Ant1	5260	20.56	5249.88	5270.44	---	---
	Ant1	5280	20.40	5269.72	5290.12	---	---
	Ant1	5320	20.76	5309.72	5330.48	---	---
	Ant1	5500	20.60	5489.88	5510.48	---	---
	Ant1	5580	20.64	5569.80	5590.44	---	---
	Ant1	5700	20.40	5689.88	5710.28	---	---
11N40MIMO	Ant1	5190	41.36	5169.28	5210.64	---	---
	Ant1	5230	41.20	5209.44	5250.64	---	---
	Ant1	5270	41.04	5249.52	5290.56	---	---
	Ant1	5310	40.72	5289.76	5330.48	---	---
	Ant1	5510	40.72	5489.84	5530.56	---	---
	Ant1	5550	40.88	5529.68	5570.56	---	---
	Ant1	5670	40.64	5649.84	5690.48	---	---
11AC20MIMO	Ant1	5180	20.88	5169.52	5190.40	---	---
	Ant1	5200	20.76	5189.72	5210.48	---	---
	Ant1	5240	20.76	5229.72	5250.48	---	---
	Ant1	5260	20.72	5249.72	5270.44	---	---
	Ant1	5280	20.68	5269.72	5290.40	---	---
	Ant1	5320	20.64	5309.80	5330.44	---	---
	Ant1	5500	20.44	5489.88	5510.32	---	---
	Ant1	5580	20.36	5569.96	5590.32	---	---
	Ant1	5700	20.48	5689.84	5710.32	---	---
11AC40MIMO	Ant1	5190	41.12	5169.52	5210.64	---	---
	Ant1	5230	40.48	5209.92	5250.40	---	---
	Ant1	5270	41.04	5249.60	5290.64	---	---
	Ant1	5310	41.20	5289.28	5330.48	---	---
	Ant1	5510	41.36	5489.44	5530.80	---	---
	Ant1	5550	41.04	5529.52	5570.56	---	---
	Ant1	5670	40.80	5649.76	5690.56	---	---
11AC80MIMO	Ant1	5210	82.08	5169.04	5251.12	---	---
	Ant1	5290	82.40	5248.88	5331.28	---	---
	Ant1	5530	81.92	5489.04	5570.96	---	---
	Ant1	5610	82.08	5569.04	5651.12	---	---
11AX20MIMO_242Tone_RU61	Ant1	5180	21.00	5169.60	5190.60	---	---
	Ant1	5200	21.12	5189.44	5210.56	---	---
	Ant1	5240	21.08	5229.48	5250.56	---	---
	Ant1	5260	21.08	5249.64	5270.72	---	---
	Ant1	5280	21.08	5269.52	5290.60	---	---
	Ant1	5320	21.00	5309.60	5330.60	---	---

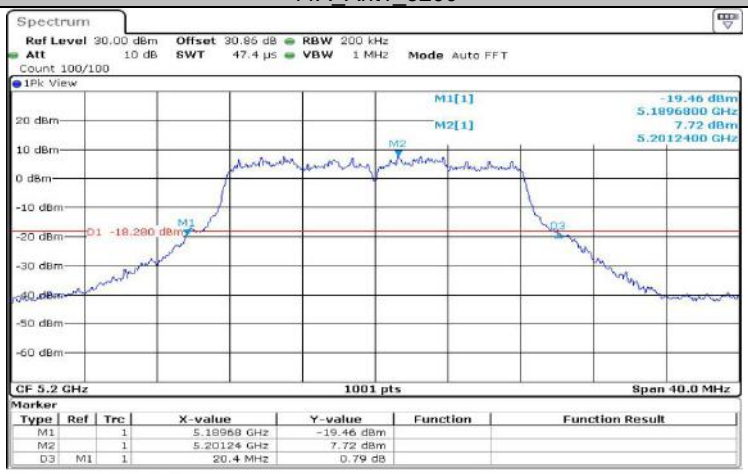
	Ant1	5500	21.12	5489.56	5510.68	---	---
	Ant1	5580	21.16	5569.60	5590.76	---	---
	Ant1	5700	21.04	5689.60	5710.64	---	---
11AX40MIMO_484Tone_RU65	Ant1	5190	41.52	5169.20	5210.72	---	---
	Ant1	5230	41.44	5209.20	5250.64	---	---
	Ant1	5270	41.44	5249.36	5290.80	---	---
	Ant1	5310	41.36	5289.20	5330.56	---	---
	Ant1	5510	41.20	5489.60	5530.80	---	---
	Ant1	5550	41.36	5529.52	5570.88	---	---
	Ant1	5670	41.36	5649.36	5690.72	---	---
11AX80MIMO_996Tone_RU67	Ant1	5210	83.20	5168.56	5251.76	---	---
	Ant1	5290	82.40	5248.88	5331.28	---	---
	Ant1	5530	82.72	5488.72	5571.44	---	---
	Ant1	5610	82.88	5568.40	5651.28	---	---

Test Graphs

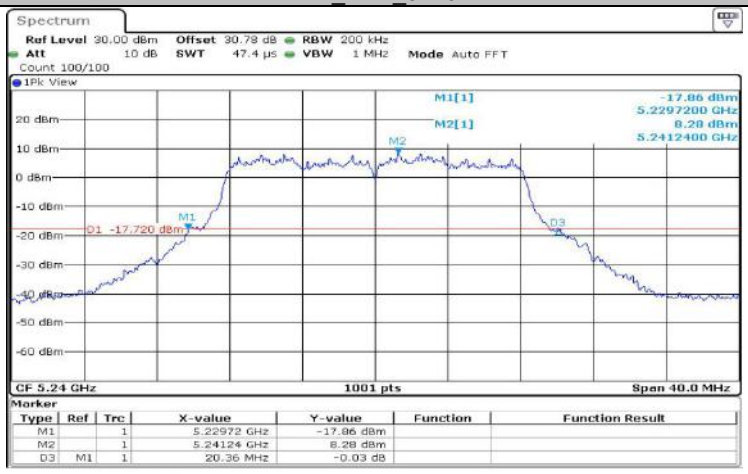
11A_Ant1_5180



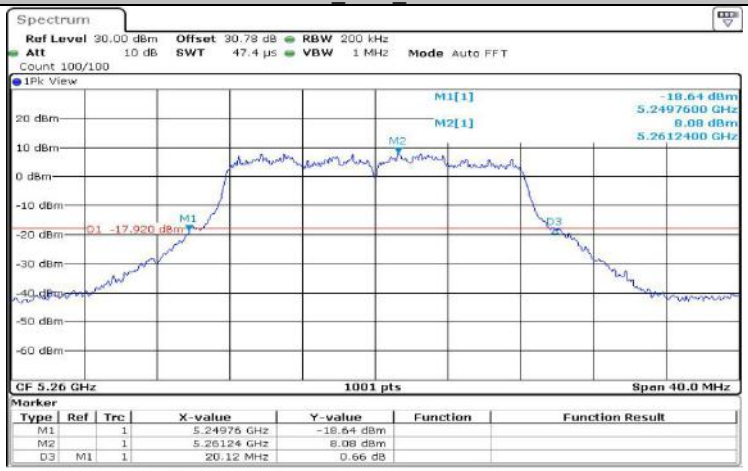
11A_Ant1_5200



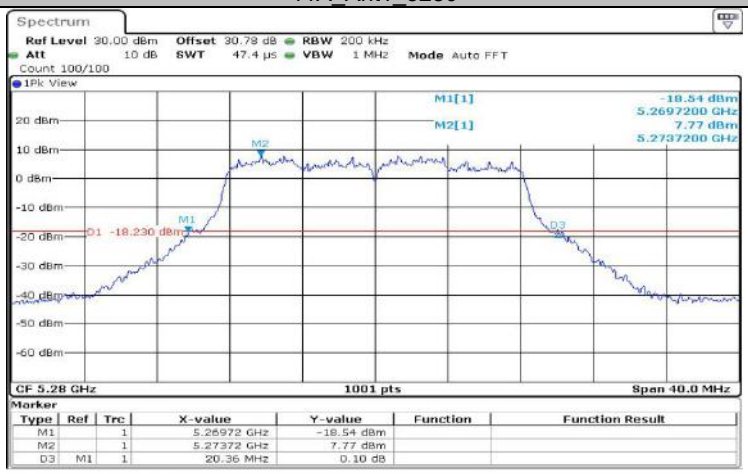
11A_Ant1_5240



11A_Ant1_5260



11A_Ant1_5280



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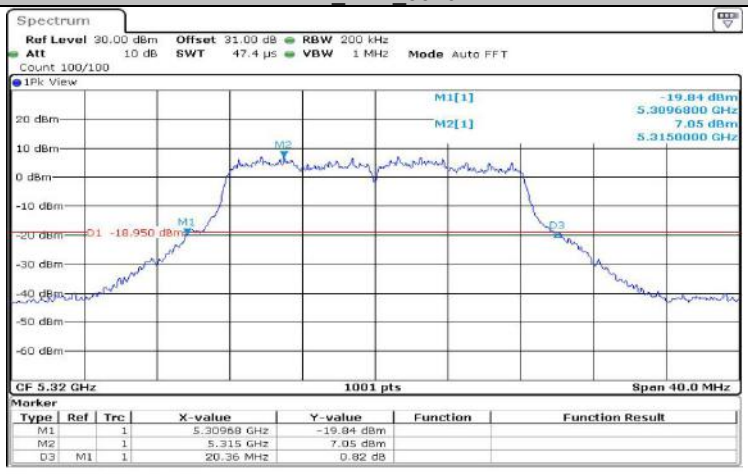
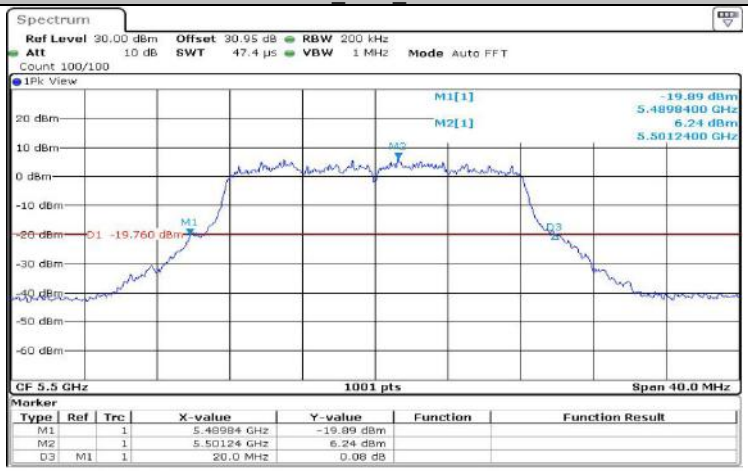


11A_Ant1_5500



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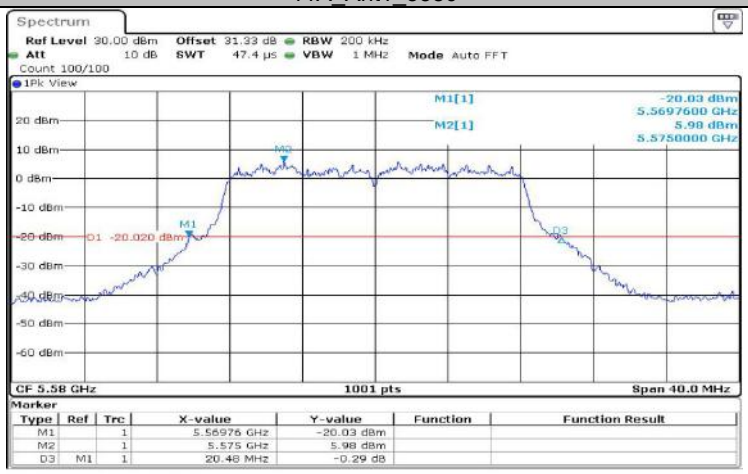

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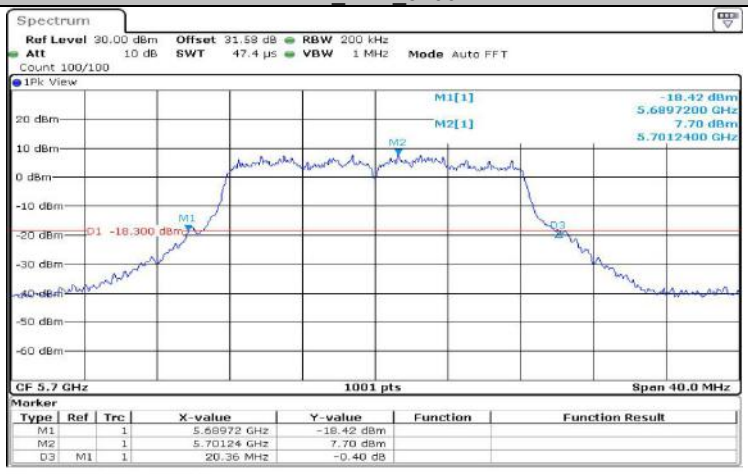
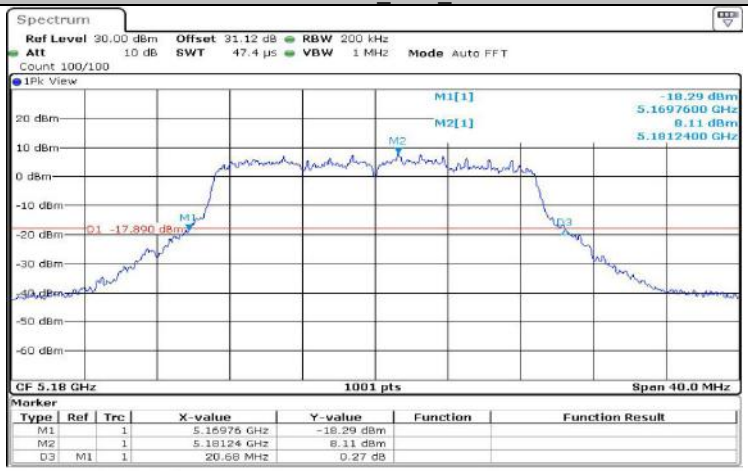


11N20MIMO_Ant1_5180



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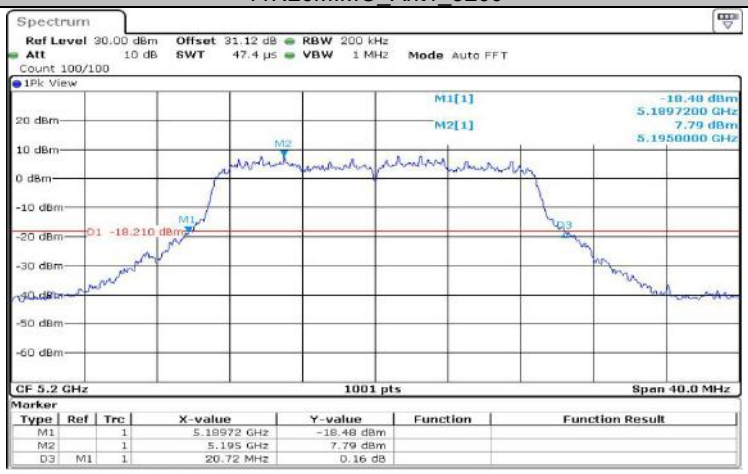
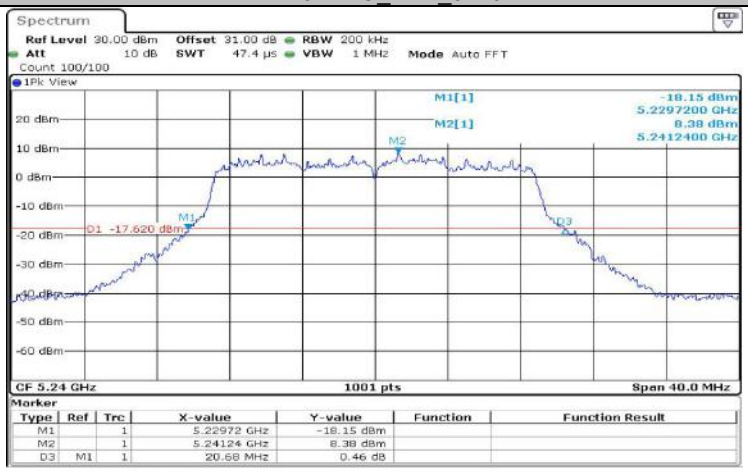


11N20MIMO_Ant1_5240



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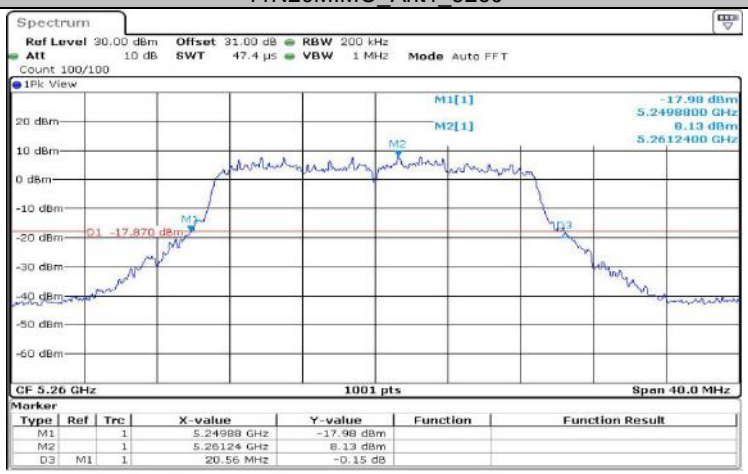

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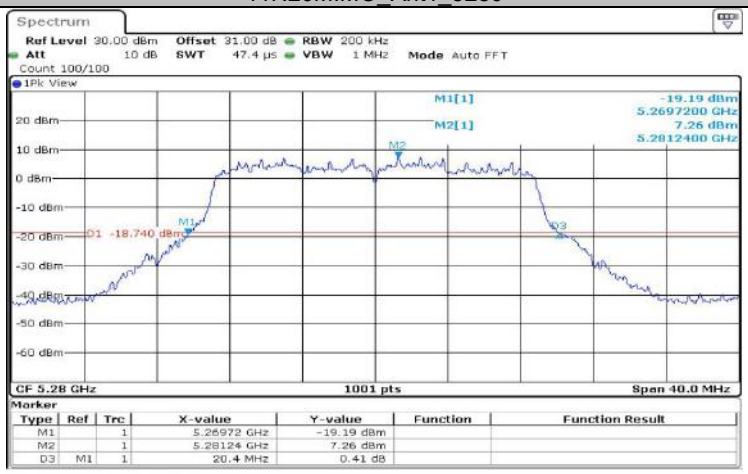

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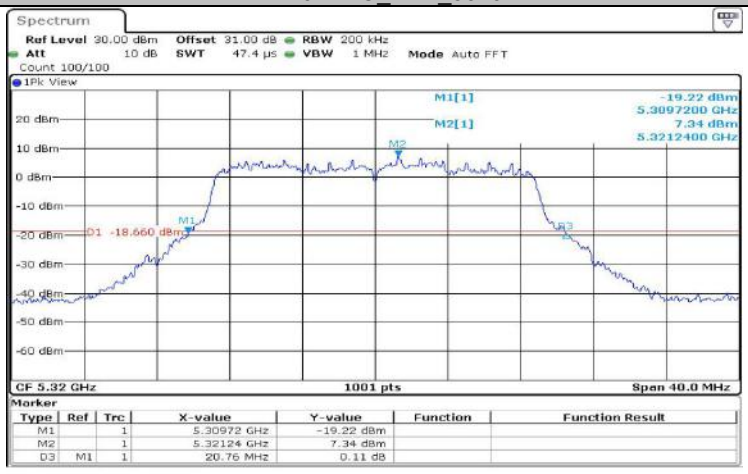

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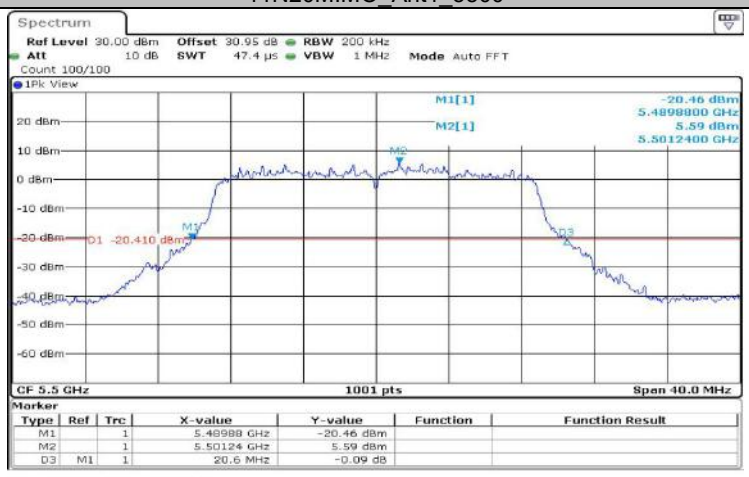

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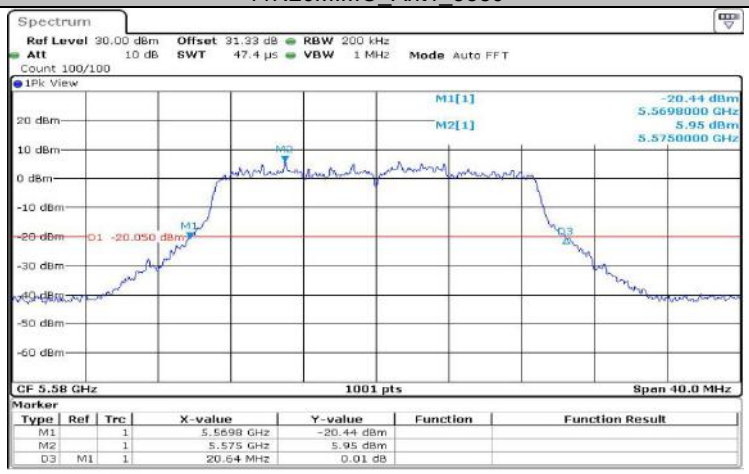

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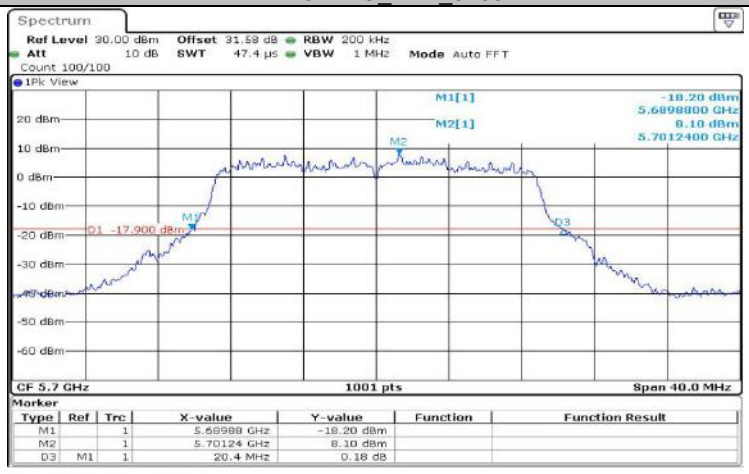
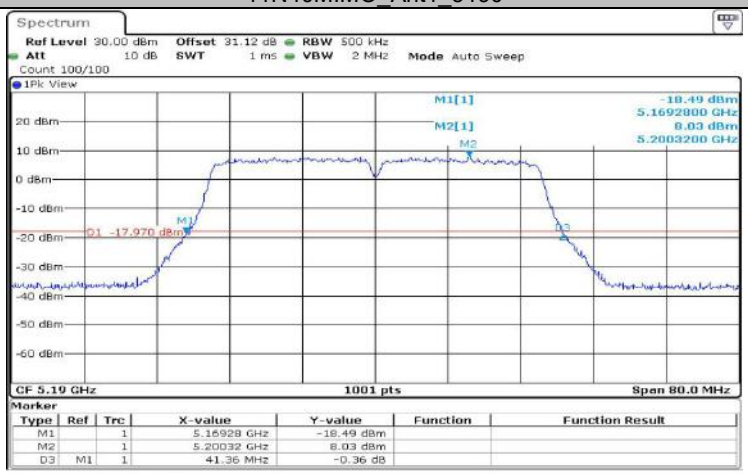
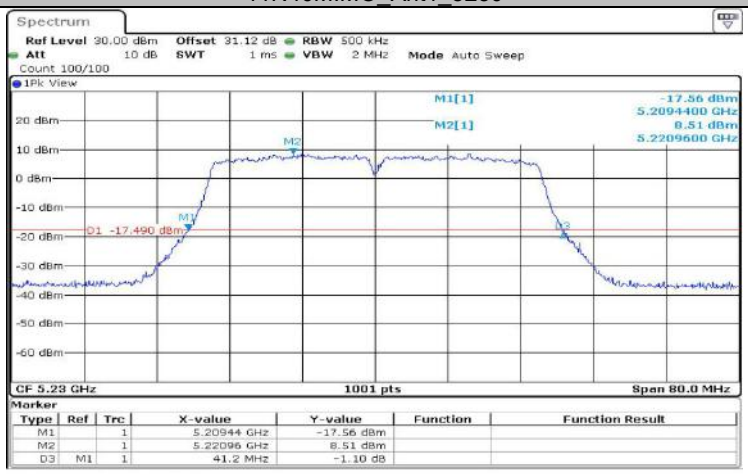


11N40MIMO_Ant1_5190



11N40MIMO_Ant1_5230



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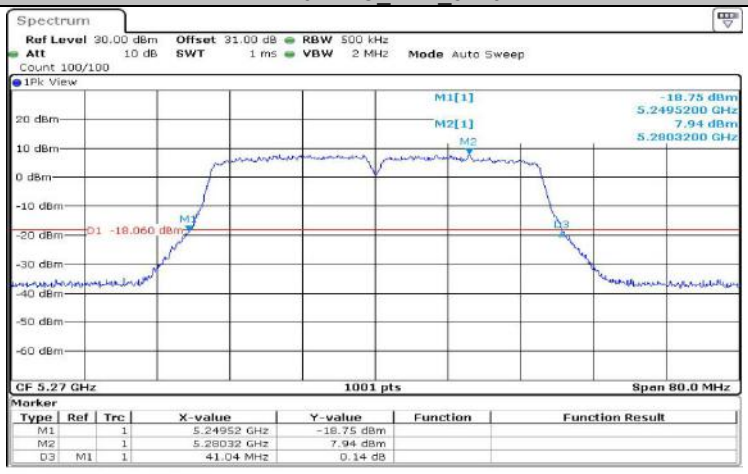
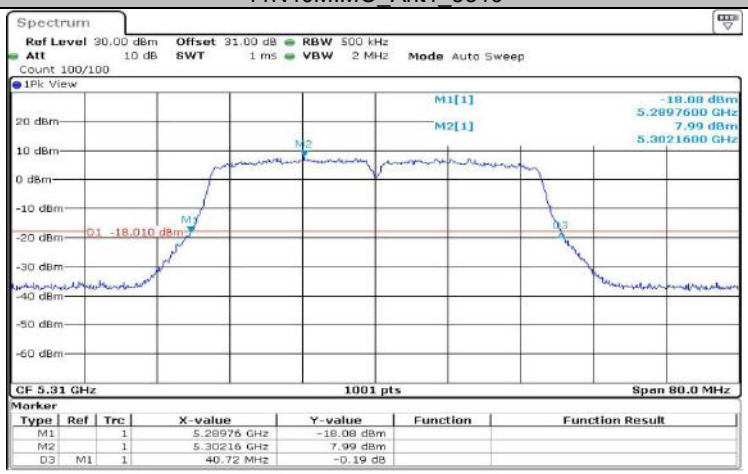


11N40MIMO_Ant1_5310



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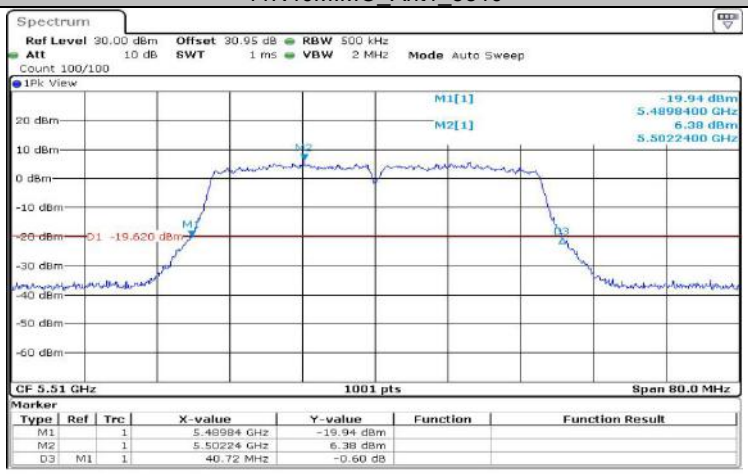
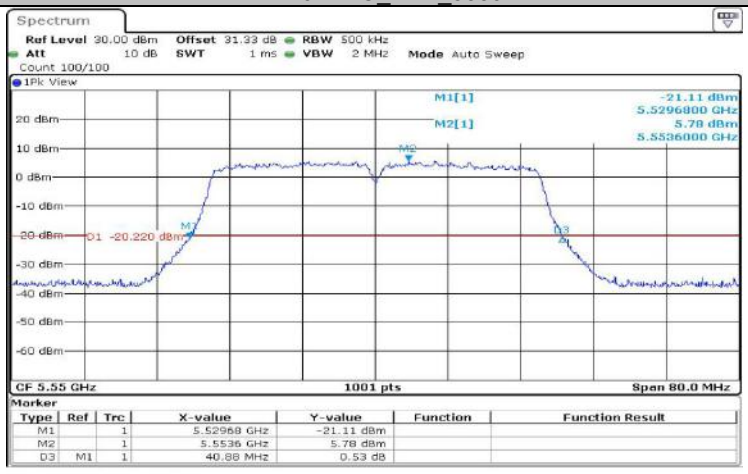


11N40MIMO_Ant1_5550



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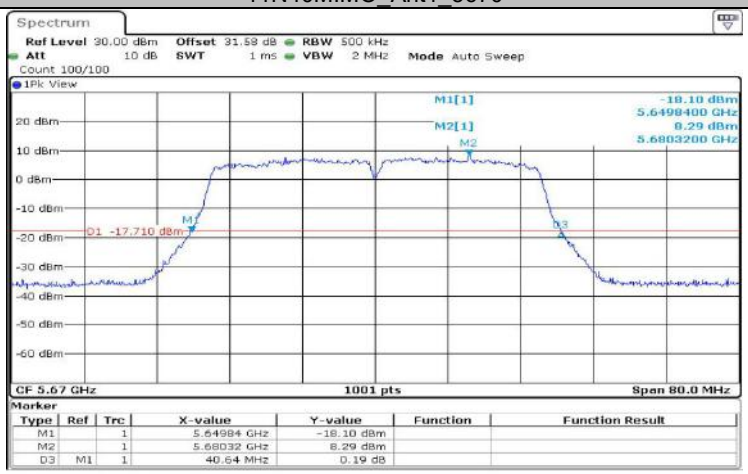
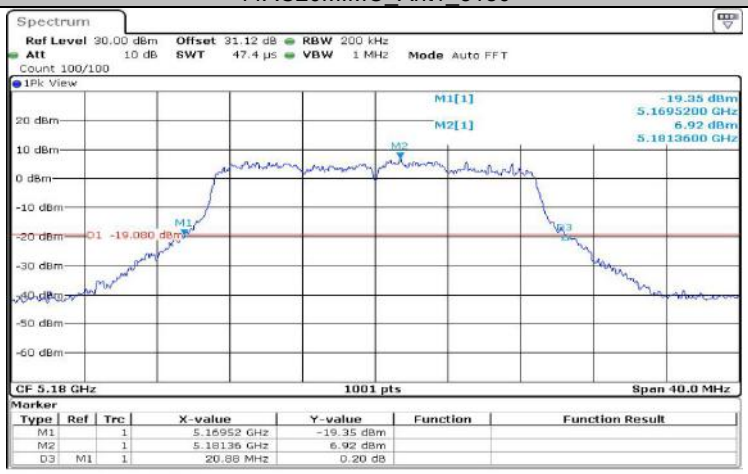
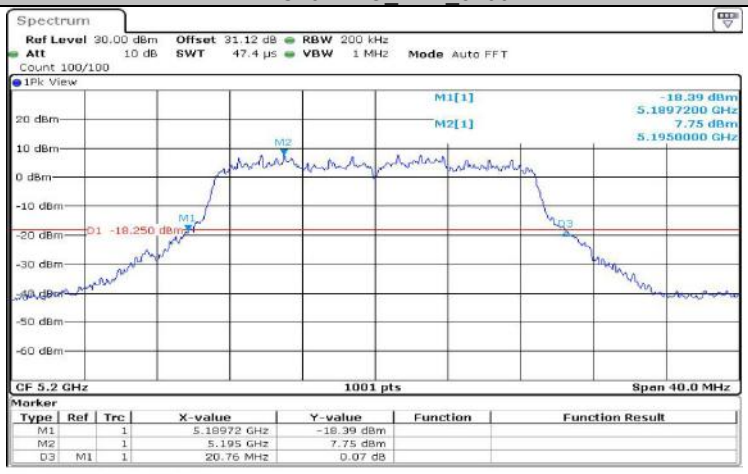


11AC20MIMO_Ant1_5180



11AC20MIMO_Ant1_5200



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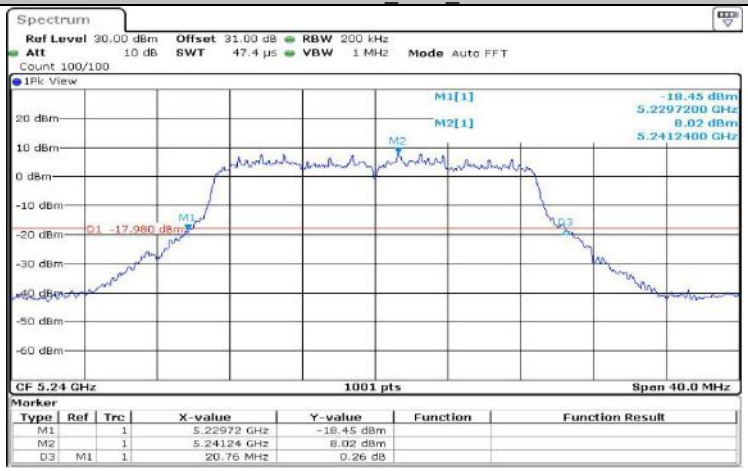

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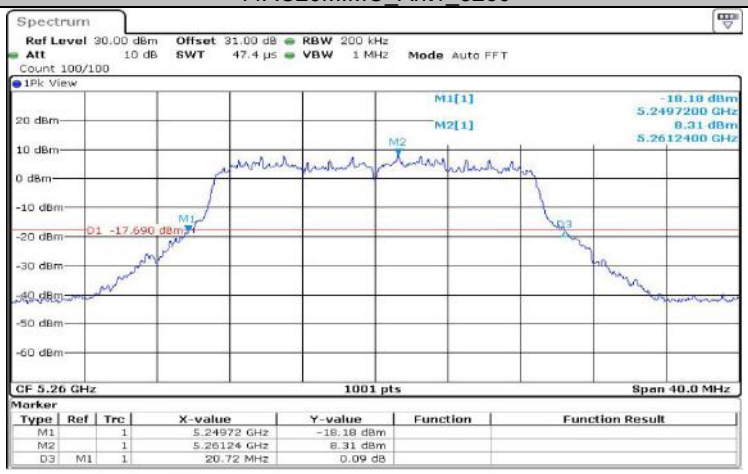

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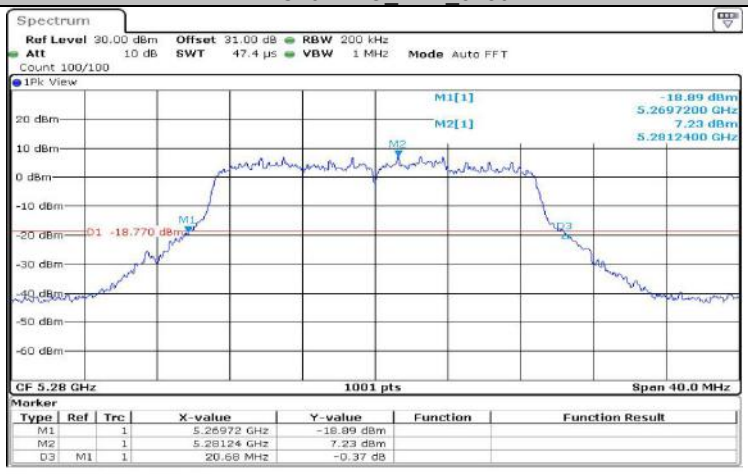

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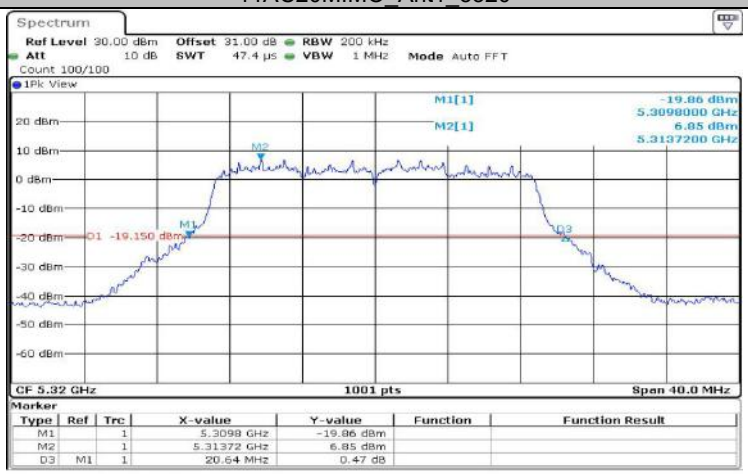
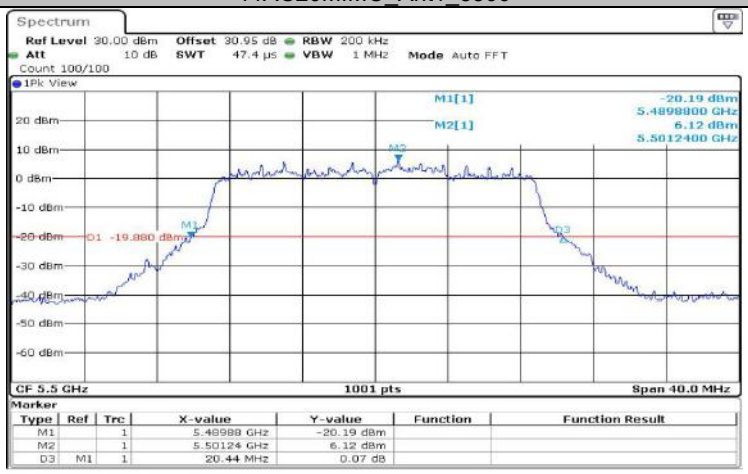


11AC20MIMO_Ant1_5500



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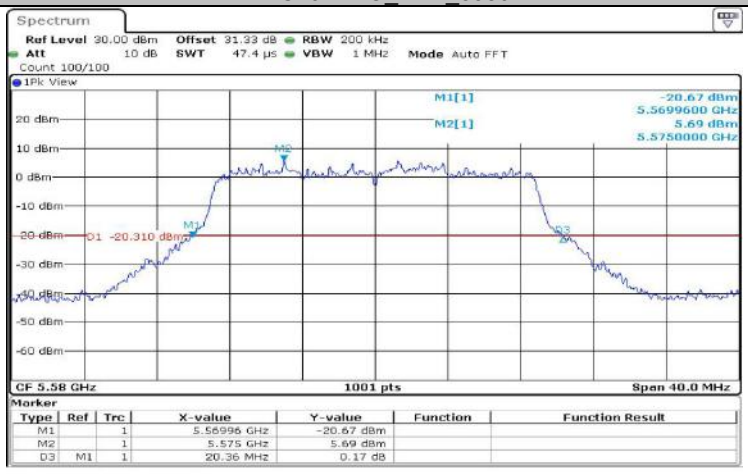

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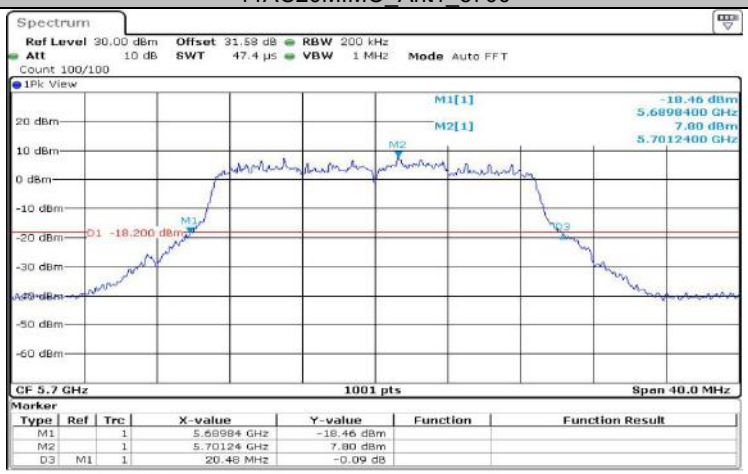

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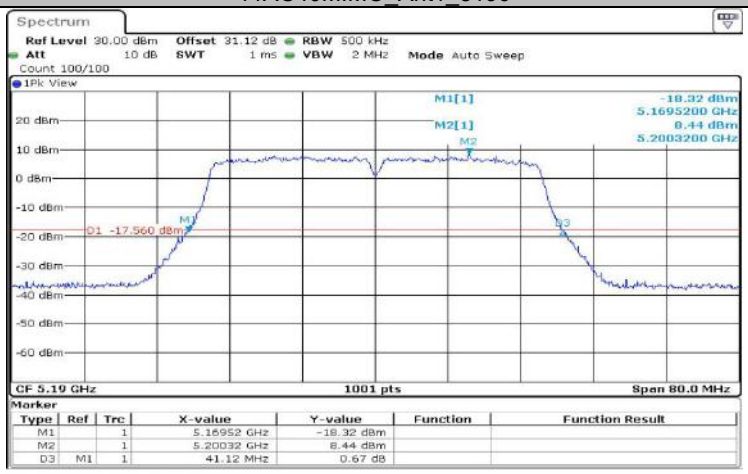
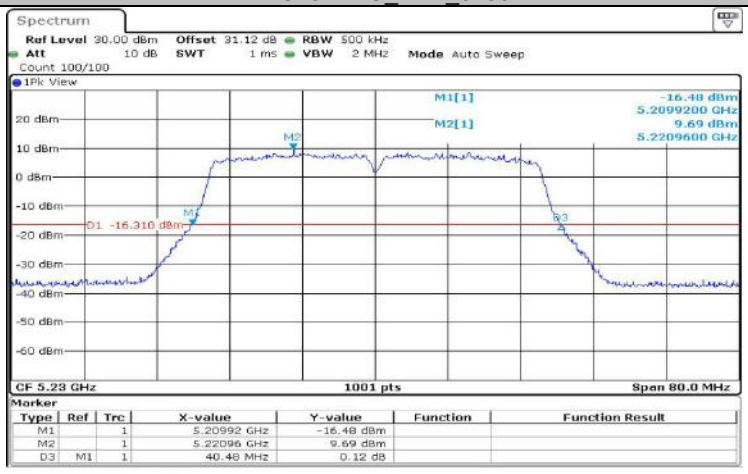


11AC40MIMO_Ant1_5230



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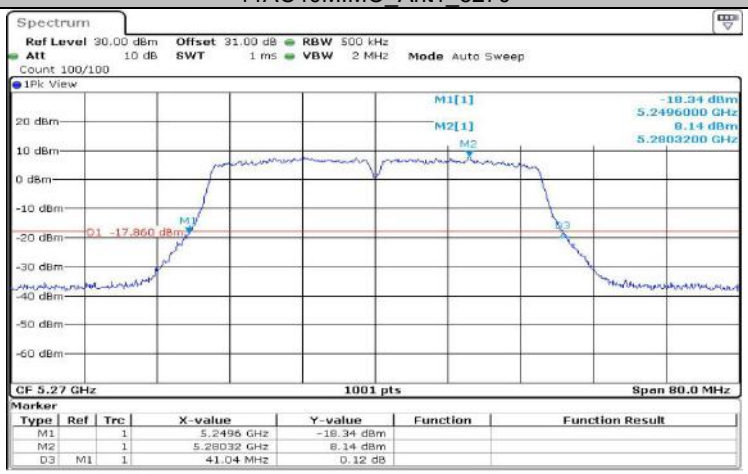

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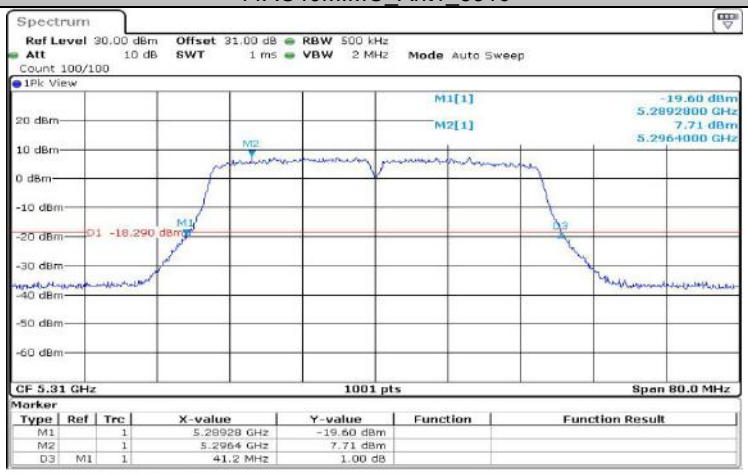

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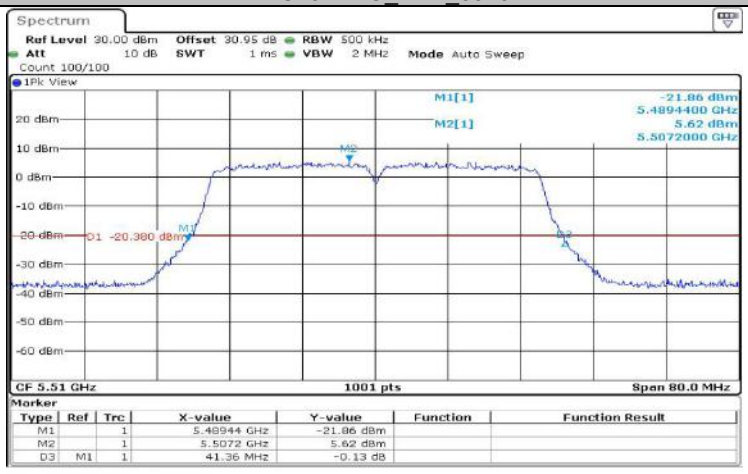
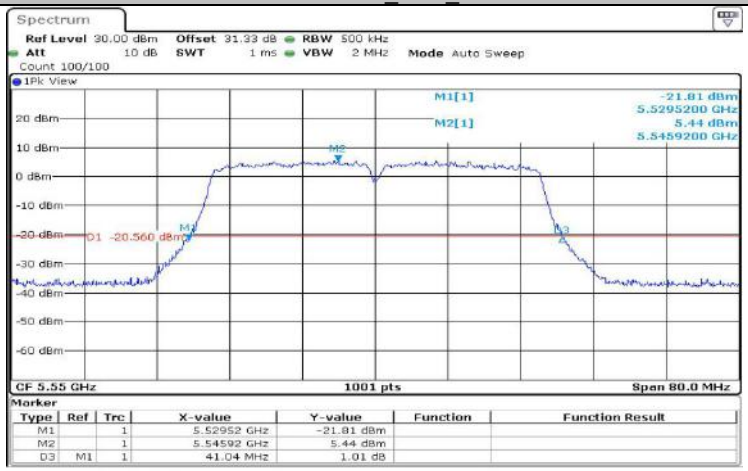


11AC40MIMO_Ant1_5550



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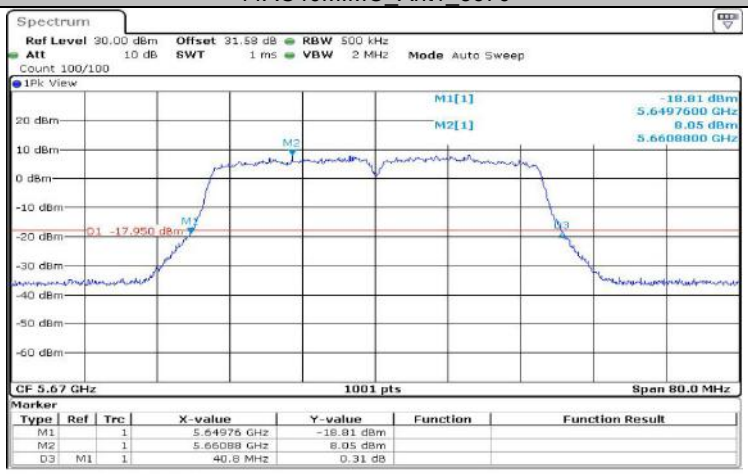

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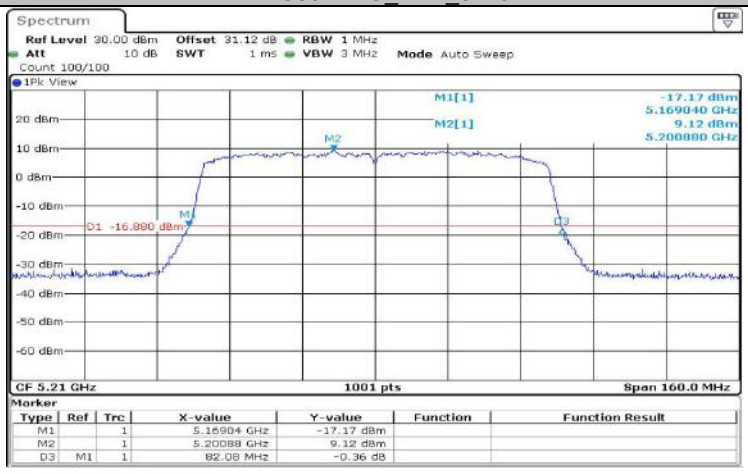

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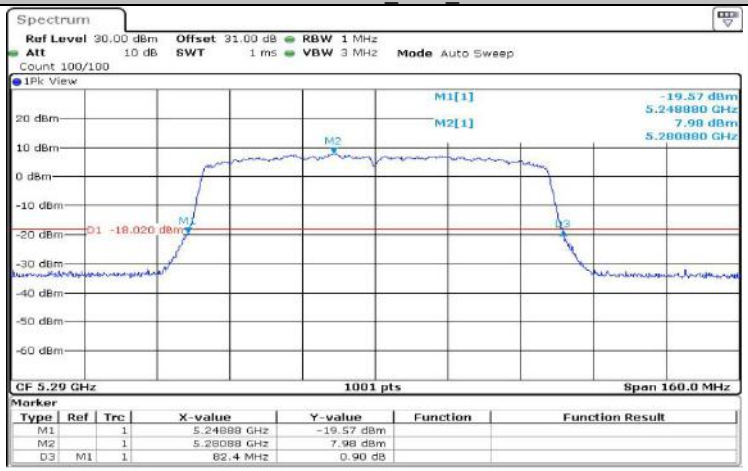

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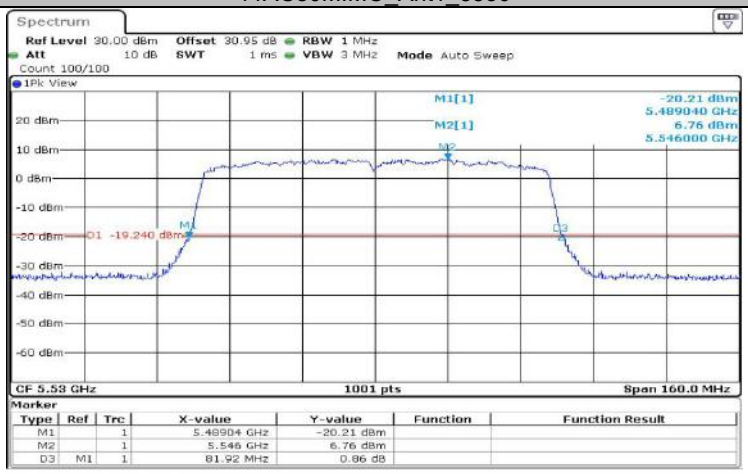
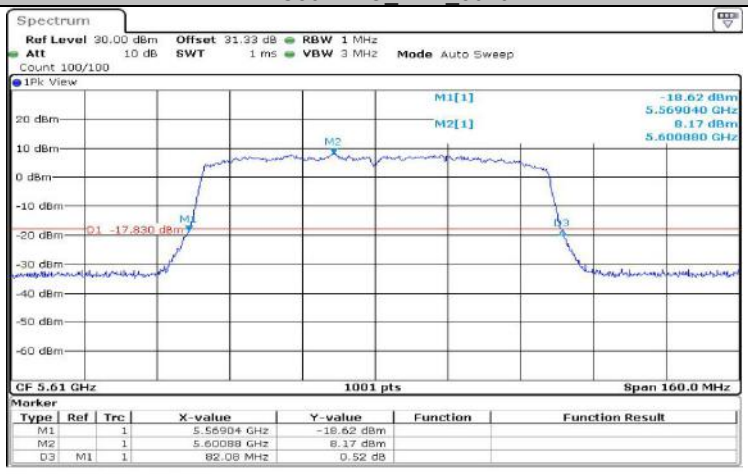
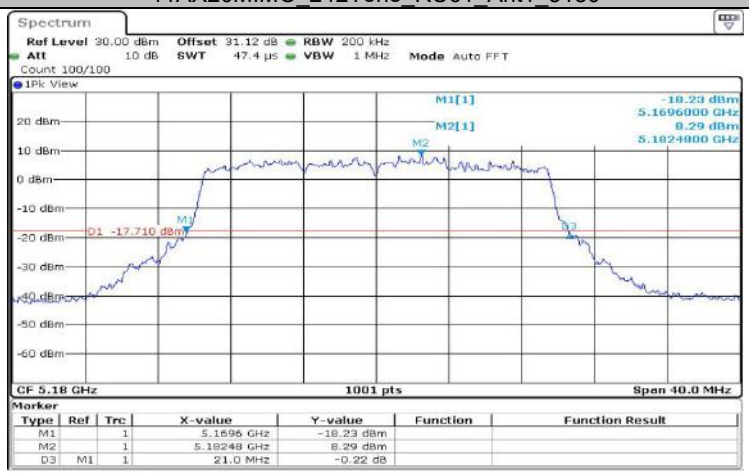


11AC80MIMO_Ant1_5610



11AX20MIMO_242Tone_RU61_Ant1_5180



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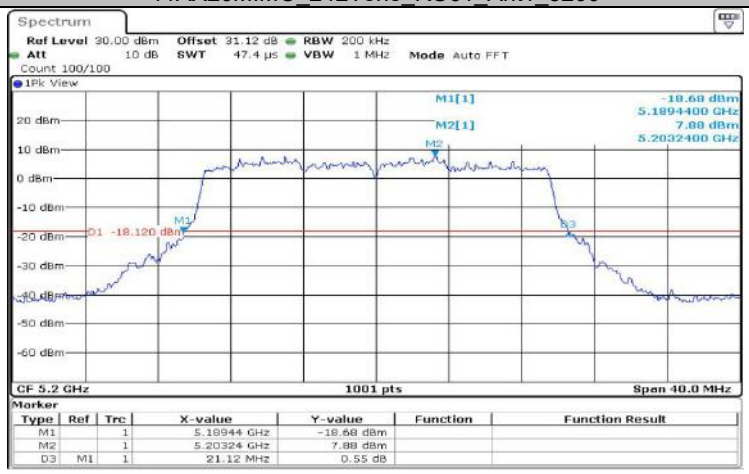

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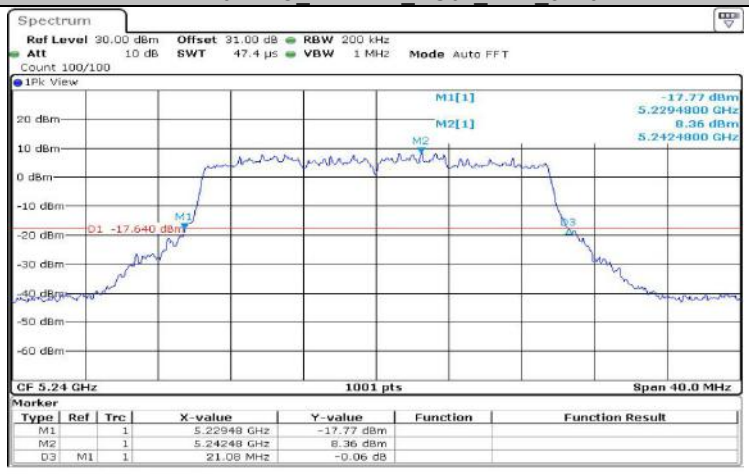

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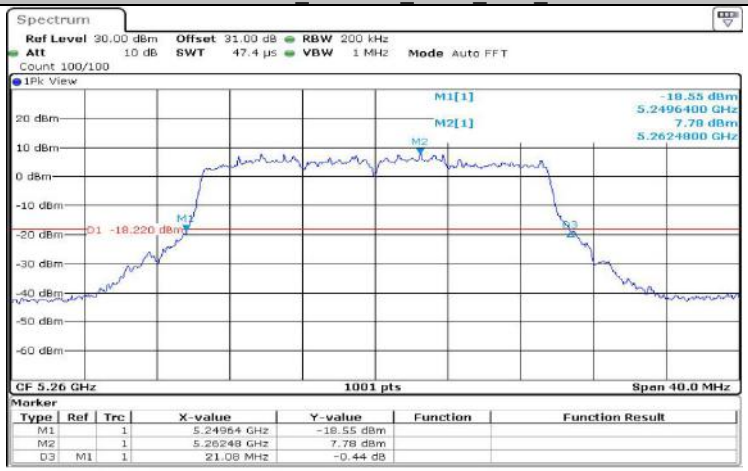

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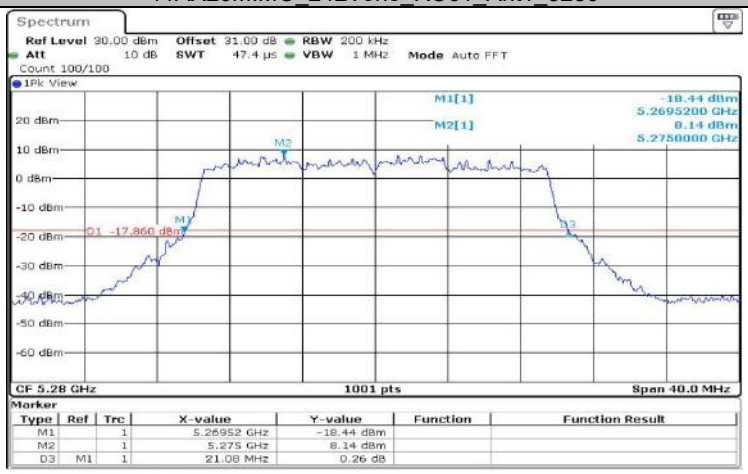

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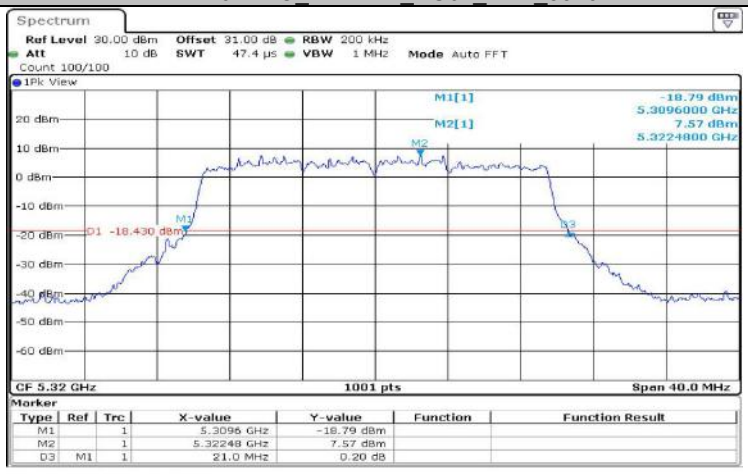
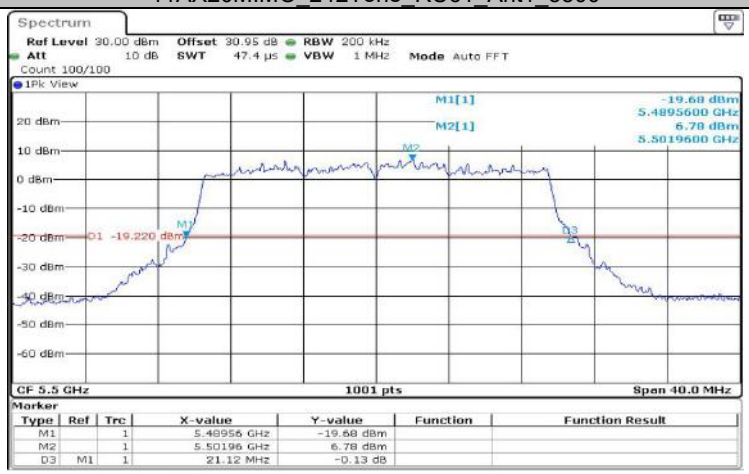


11AX20MIMO_242Tone_RU61_Ant1_5500



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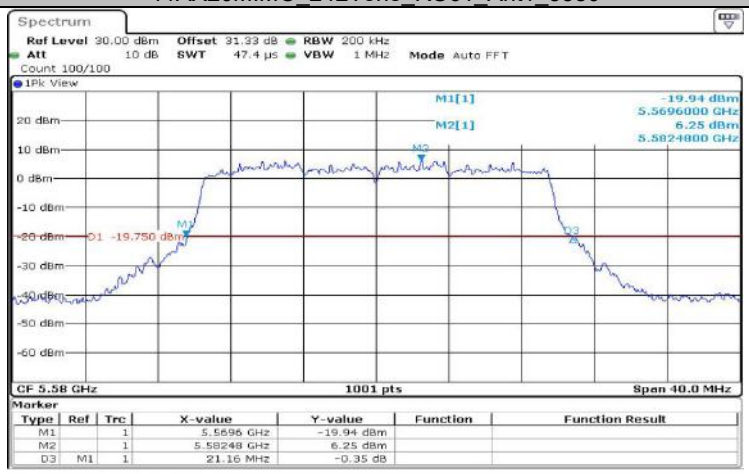
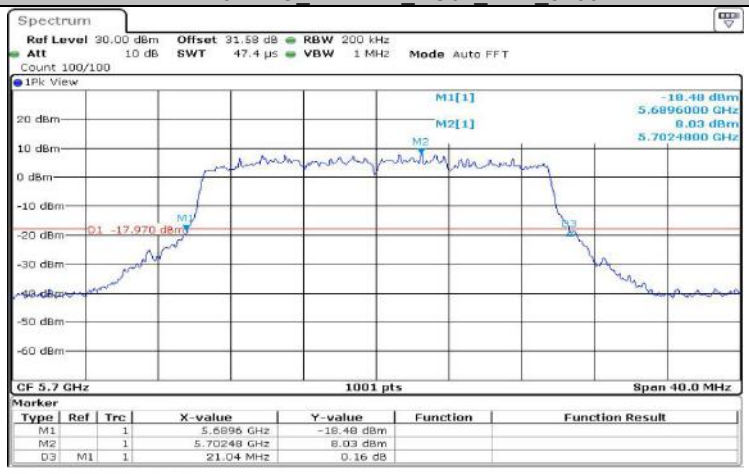
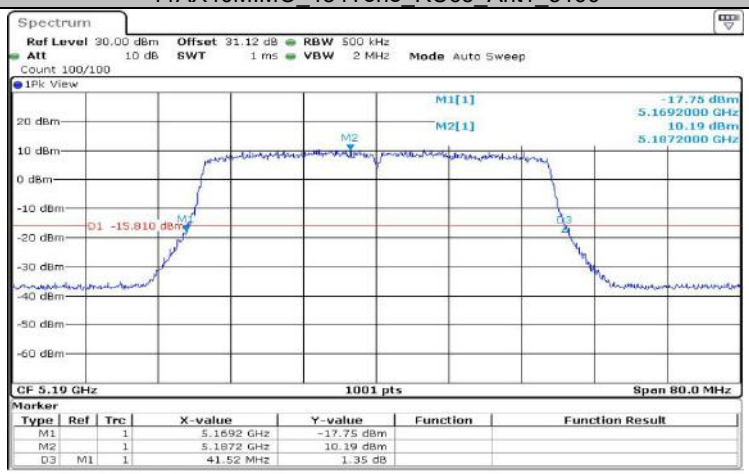


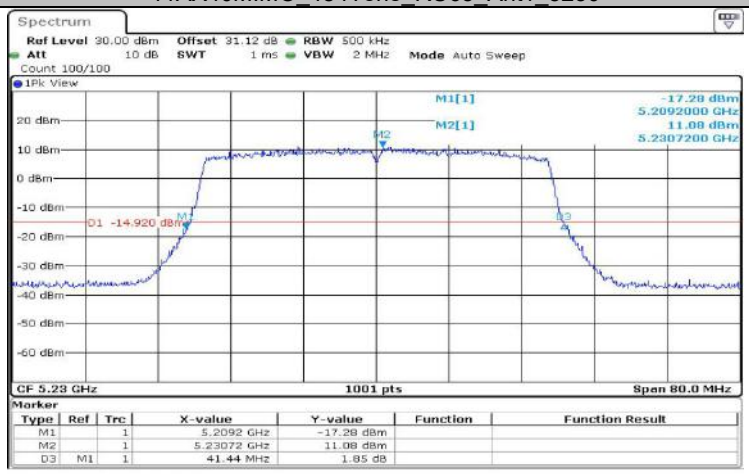
11AX20MIMO_242Tone_RU61_Ant1_5700



11AX40MIMO_484Tone_RU65_Ant1_5190



11AX40MIMO_484Tone_RU65_Ant1_5230



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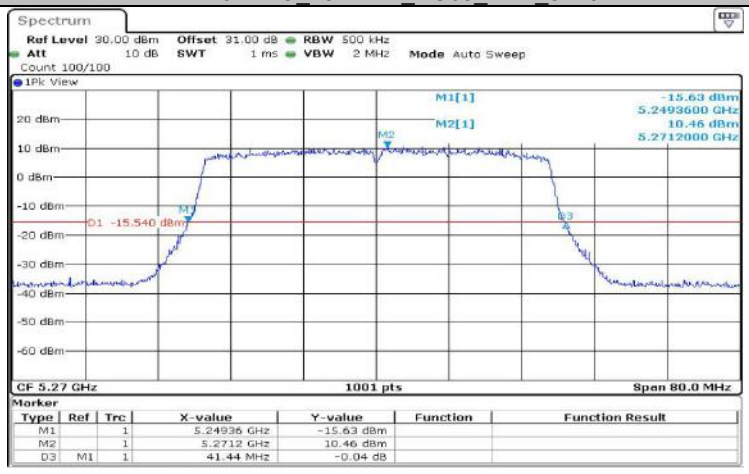

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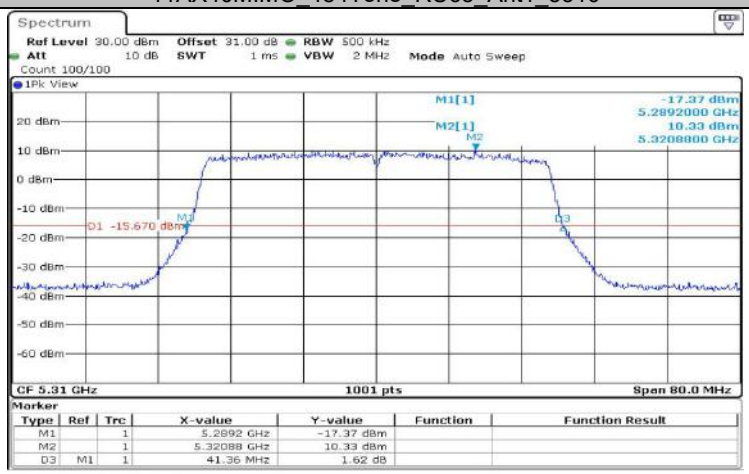
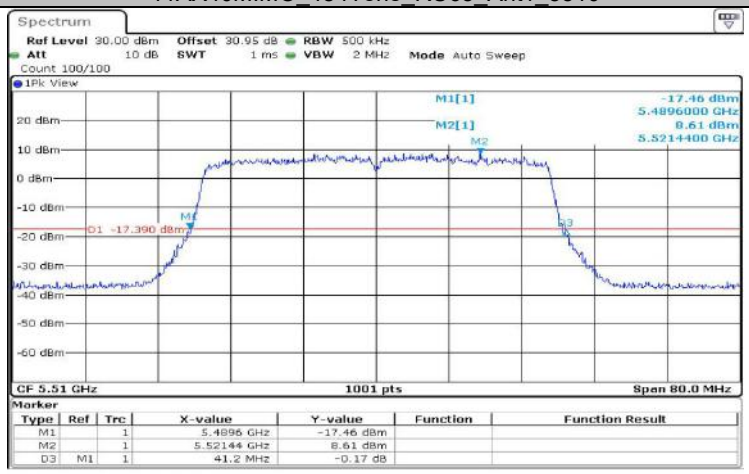
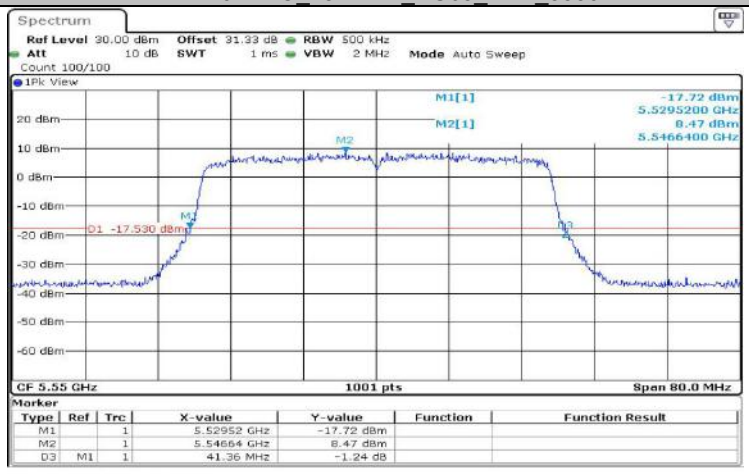


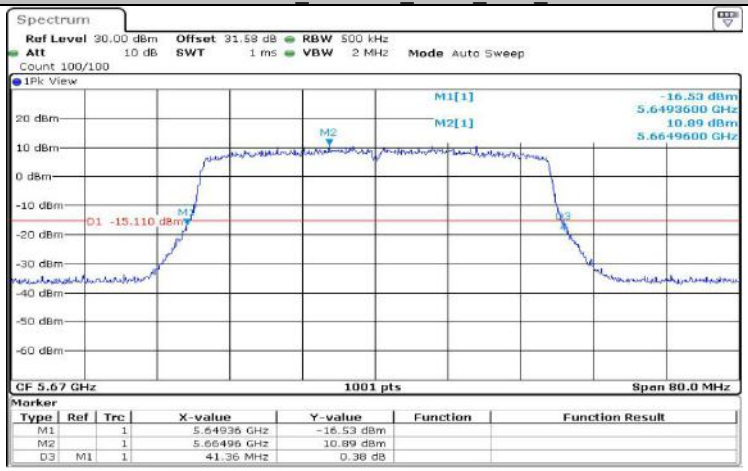
11AX40MIMO_484Tone_RU65_Ant1_5510



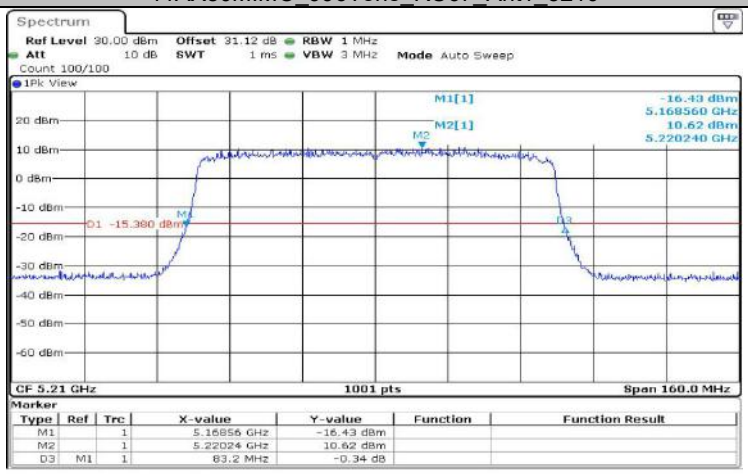
11AX40MIMO_484Tone_RU65_Ant1_5550



11AX40MIMO_484Tone_RU65_Ant1_5670



11AX80MIMO_996Tone_RU67_Ant1_5210



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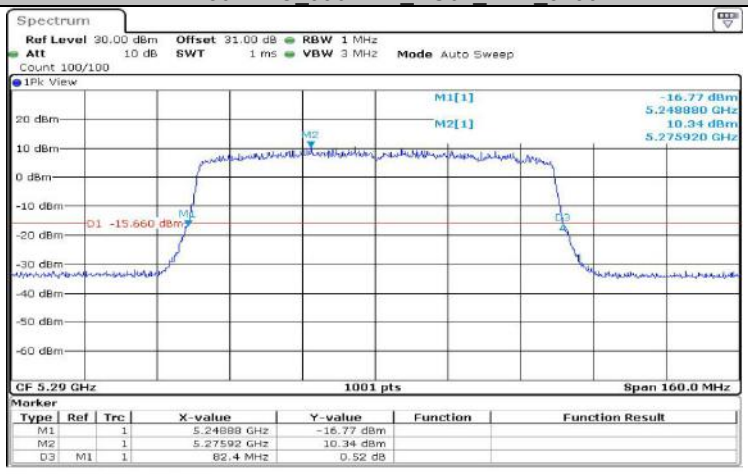

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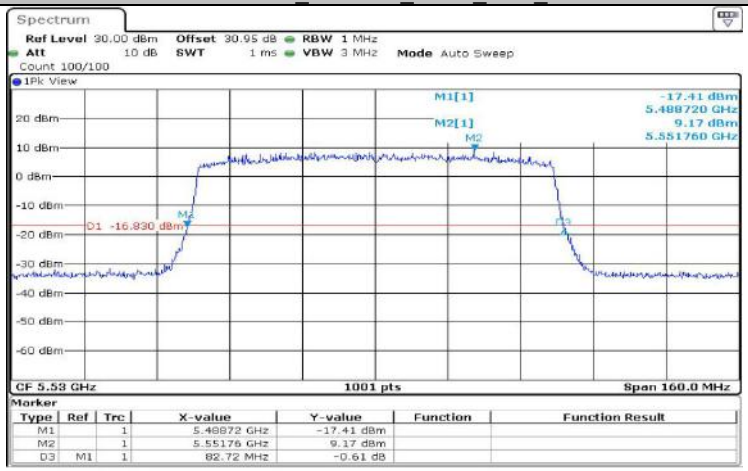

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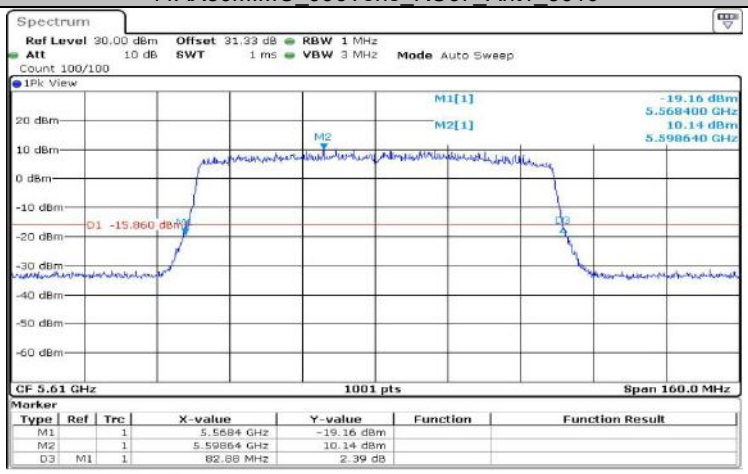


Appendix A2: Occupied channel bandwidth

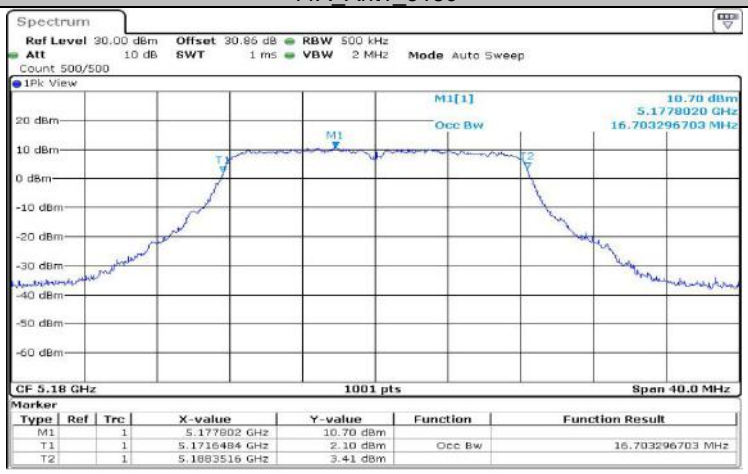
Test Result

Test Mode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	16.703	5171.648	5188.352	---	---
	Ant1	5200	16.703	5191.688	5208.392	---	---
	Ant1	5240	16.703	5231.688	5248.392	---	---
	Ant1	5260	16.703	5251.648	5268.352	---	---
	Ant1	5280	16.703	5271.648	5288.352	---	---
	Ant1	5320	16.703	5311.648	5328.352	---	---
	Ant1	5500	16.623	5491.728	5508.352	---	---
	Ant1	5580	16.663	5571.688	5588.352	---	---
	Ant1	5700	16.743	5691.648	5708.392	---	---
	Ant1	5745	16.703	5736.648	5753.352	---	---
	Ant1	5785	16.663	5776.688	5793.352	---	---
	Ant1	5825	16.663	5816.688	5833.352	---	---
11N20MIMO	Ant1	5180	17.822	5171.089	5188.911	---	---
	Ant1	5200	17.782	5191.169	5208.951	---	---
	Ant1	5240	17.822	5231.129	5248.951	---	---
	Ant1	5260	17.742	5251.169	5268.911	---	---
	Ant1	5280	17.782	5271.129	5288.911	---	---
	Ant1	5320	17.822	5311.089	5328.911	---	---
	Ant1	5500	17.782	5491.129	5508.911	---	---
	Ant1	5580	17.822	5571.129	5588.951	---	---
	Ant1	5700	17.822	5691.089	5708.911	---	---
	Ant1	5745	17.822	5736.129	5753.951	---	---
	Ant1	5785	17.782	5776.129	5793.911	---	---
	Ant1	5825	17.822	5816.129	5833.951	---	---
11N40MIMO	Ant1	5190	36.284	5171.938	5208.222	---	---
	Ant1	5230	36.284	5211.938	5248.222	---	---
	Ant1	5270	36.284	5251.938	5288.222	---	---
	Ant1	5310	36.284	5291.938	5328.222	---	---
	Ant1	5510	36.284	5491.938	5528.222	---	---
	Ant1	5550	36.204	5532.018	5568.222	---	---
	Ant1	5670	36.124	5652.018	5688.142	---	---
	Ant1	5755	36.284	5736.938	5773.222	---	---
	Ant1	5795	36.284	5776.938	5813.222	---	---
11AC20MIMO	Ant1	5180	17.822	5171.089	5188.911	---	---
	Ant1	5200	17.822	5191.129	5208.951	---	---
	Ant1	5240	17.822	5231.129	5248.951	---	---
	Ant1	5260	17.782	5251.129	5268.911	---	---
	Ant1	5280	17.822	5271.129	5288.951	---	---
	Ant1	5320	17.782	5311.129	5328.911	---	---
	Ant1	5500	17.822	5491.129	5508.951	---	---
	Ant1	5580	17.782	5571.129	5588.911	---	---
	Ant1	5700	17.822	5691.089	5708.911	---	---
	Ant1	5745	17.822	5736.089	5753.911	---	---
	Ant1	5785	17.782	5776.129	5793.911	---	---
	Ant1	5825	17.782	5816.129	5833.911	---	---
11AC40MIMO	Ant1	5190	36.284	5171.938	5208.222	---	---
	Ant1	5230	36.204	5211.938	5248.142	---	---
	Ant1	5270	36.204	5251.938	5288.142	---	---
	Ant1	5310	36.204	5291.938	5328.142	---	---
	Ant1	5510	36.284	5491.938	5528.222	---	---
	Ant1	5550	36.284	5531.938	5568.222	---	---
	Ant1	5670	36.204	5652.018	5688.222	---	---
	Ant1	5755	36.284	5736.938	5773.222	---	---
	Ant1	5795	36.364	5776.938	5813.302	---	---
11AC80MIMO	Ant1	5210	75.125	5172.438	5247.562	---	---

	Ant1	5290	75.125	5252.438	5327.562	---	---
	Ant1	5530	75.125	5492.597	5567.722	---	---
	Ant1	5610	75.125	5572.438	5647.562	---	---
	Ant1	5775	75.125	5737.597	5812.722	---	---
11AX20MIMO_242Tone_RU61	Ant1	5180	18.941	5170.569	5189.510	---	---
	Ant1	5200	18.981	5190.529	5209.510	---	---
	Ant1	5240	18.941	5230.569	5249.510	---	---
	Ant1	5260	18.981	5250.569	5269.550	---	---
	Ant1	5280	18.981	5270.529	5289.510	---	---
	Ant1	5320	18.941	5310.569	5329.510	---	---
	Ant1	5500	19.021	5490.529	5509.550	---	---
	Ant1	5580	18.941	5570.569	5589.510	---	---
	Ant1	5700	18.941	5690.569	5709.510	---	---
	Ant1	5745	18.981	5735.529	5754.510	---	---
	Ant1	5785	18.981	5775.529	5794.510	---	---
	Ant1	5825	18.981	5815.529	5834.510	---	---
11AX40MIMO_484Tone_RU65	Ant1	5190	37.882	5171.139	5209.021	---	---
	Ant1	5230	37.802	5211.139	5248.941	---	---
	Ant1	5270	37.882	5251.139	5289.021	---	---
	Ant1	5310	37.962	5291.059	5329.021	---	---
	Ant1	5510	37.882	5491.139	5529.021	---	---
	Ant1	5550	37.962	5531.139	5569.101	---	---
	Ant1	5670	37.802	5651.139	5688.941	---	---
	Ant1	5755	37.962	5736.139	5774.101	---	---
	Ant1	5795	37.962	5776.059	5814.021	---	---
11AX80MIMO_996Tone_RU67	Ant1	5210	77.203	5171.479	5248.681	---	---
	Ant1	5290	77.203	5251.479	5328.681	---	---
	Ant1	5530	77.363	5491.479	5568.841	---	---
	Ant1	5610	77.363	5571.319	5648.681	---	---
	Ant1	5775	77.363	5736.479	5813.841	---	---

Test Graphs

11A_Ant1_5180



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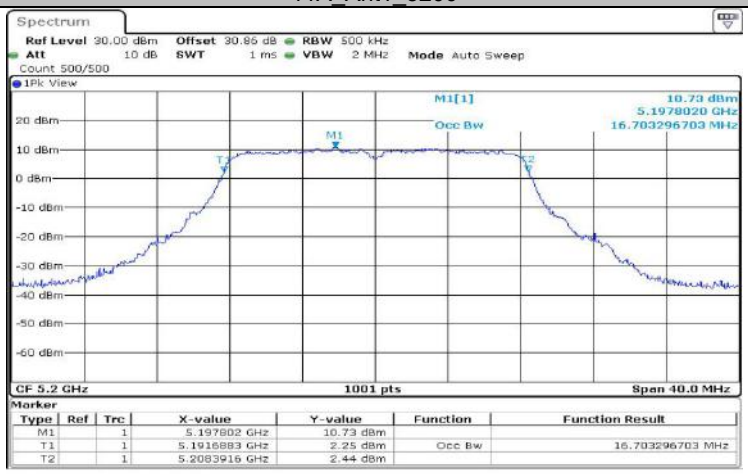

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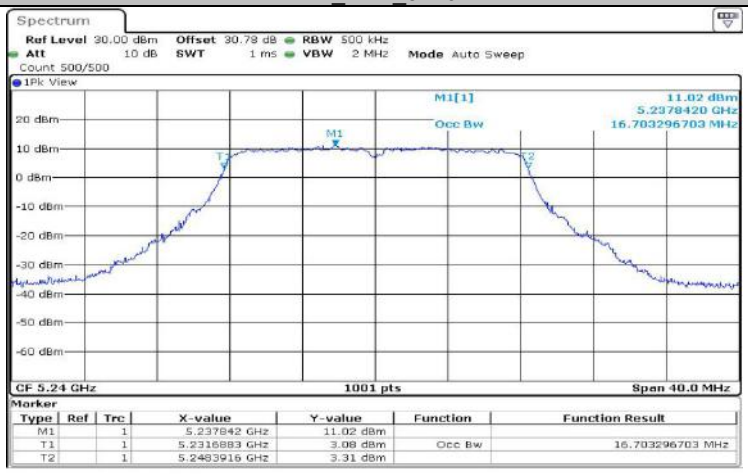

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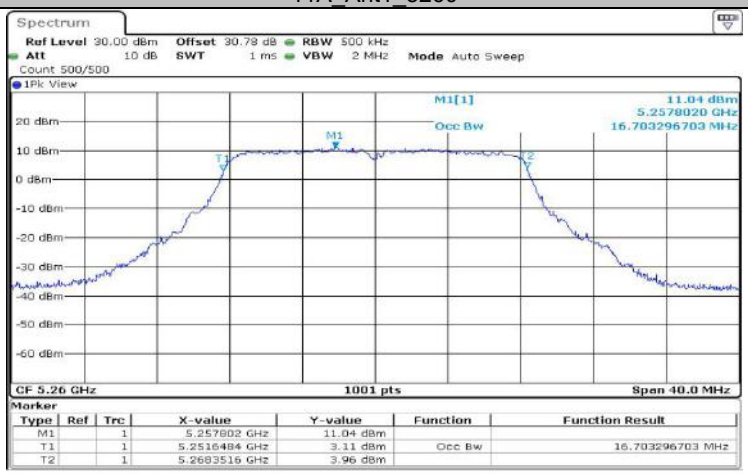

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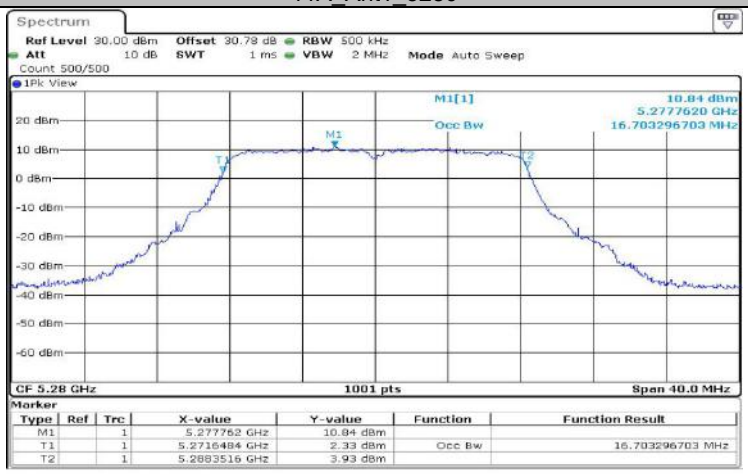

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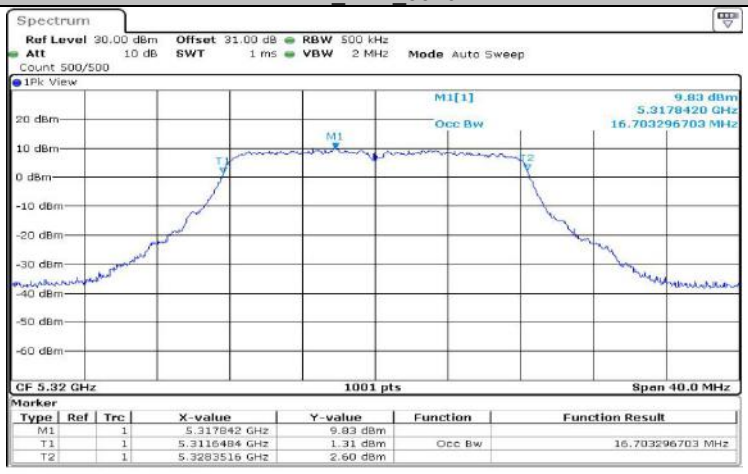

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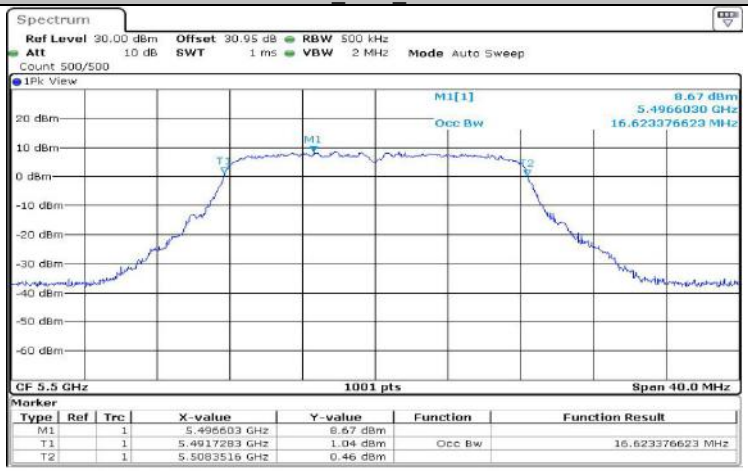

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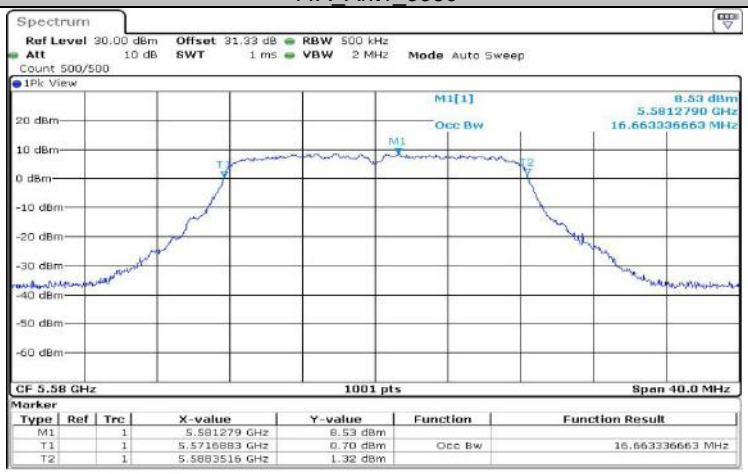

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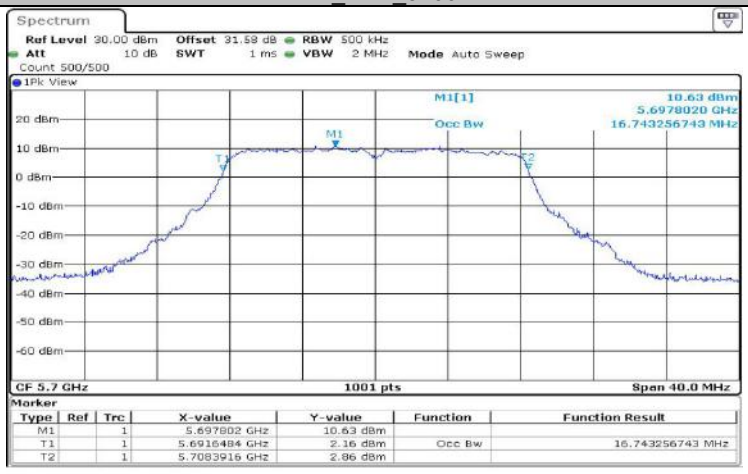

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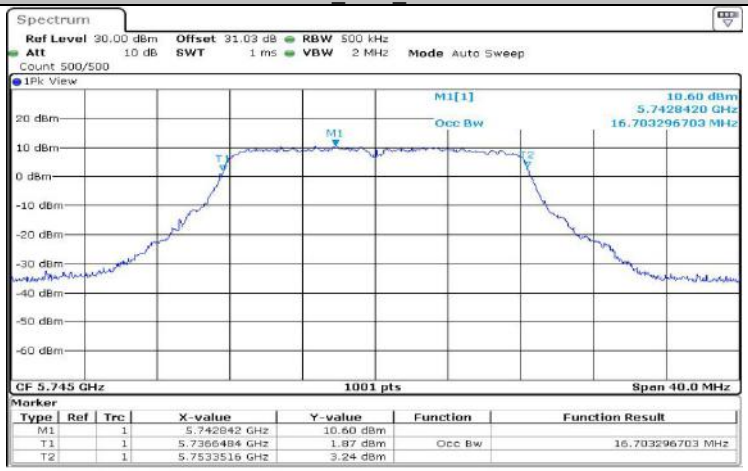

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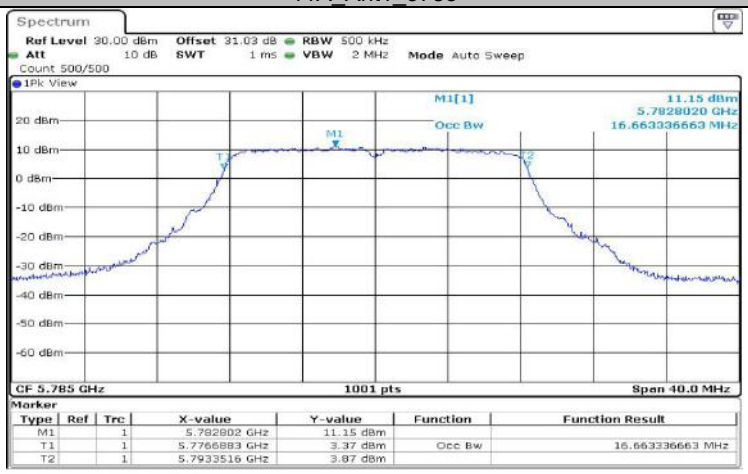

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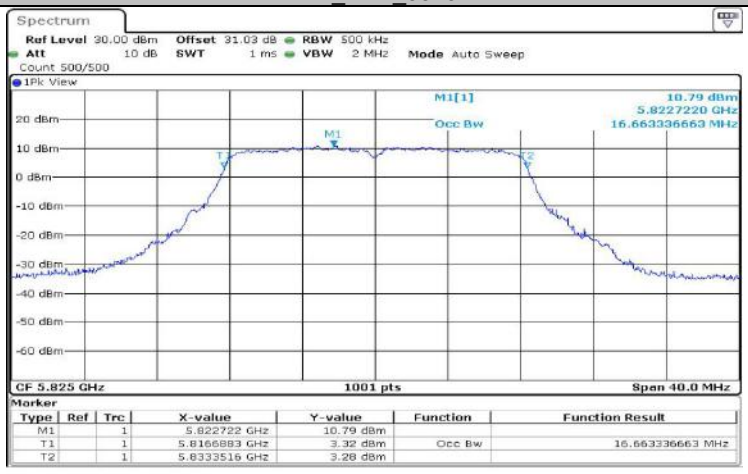

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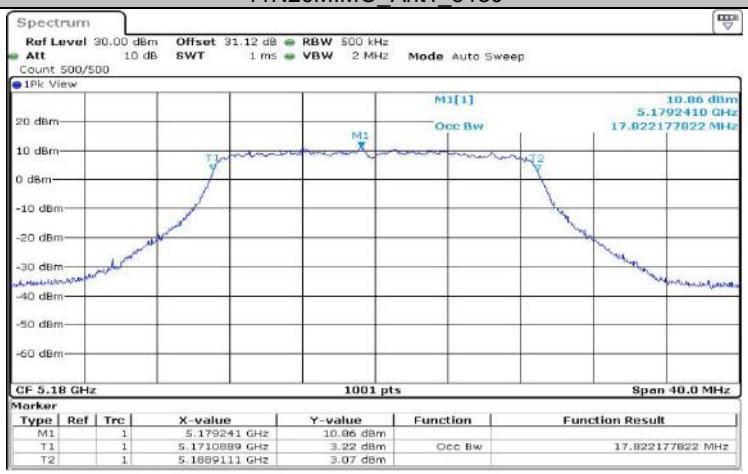

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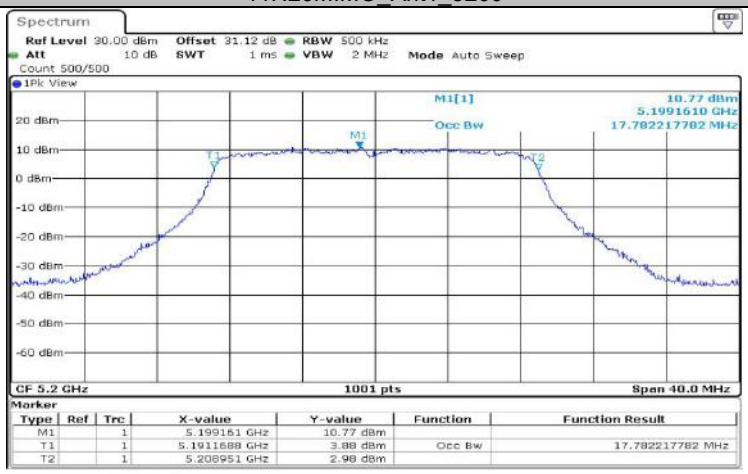

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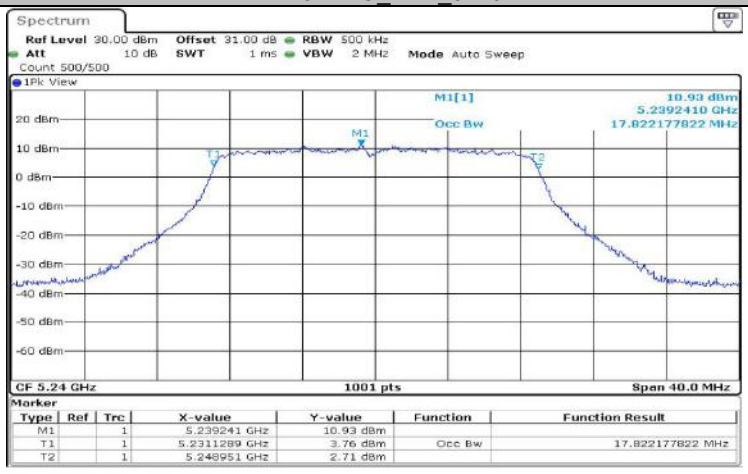

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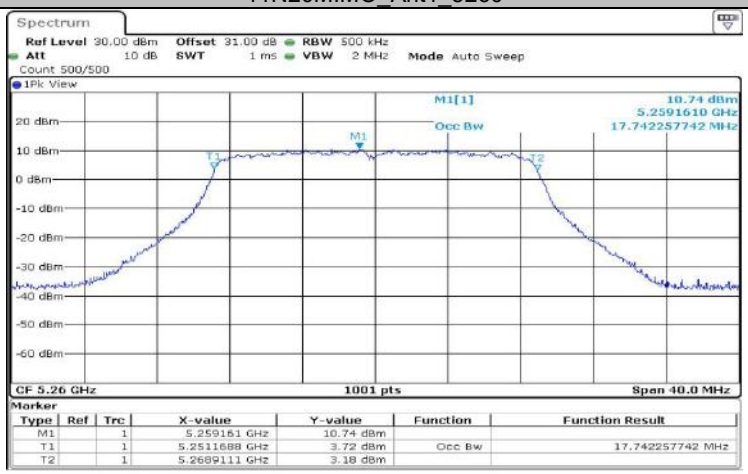

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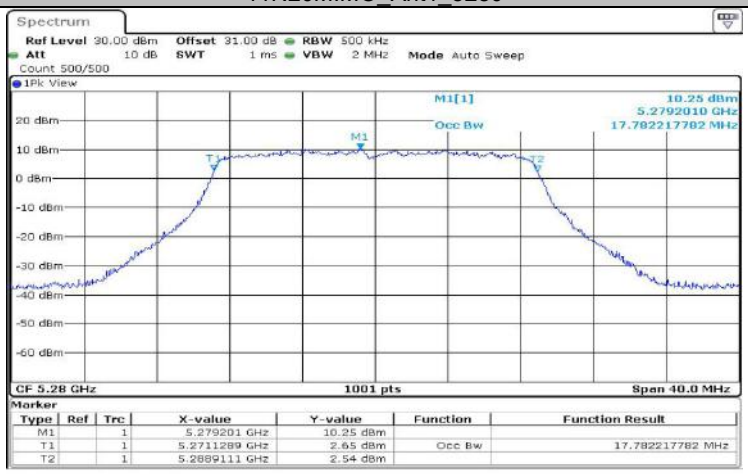

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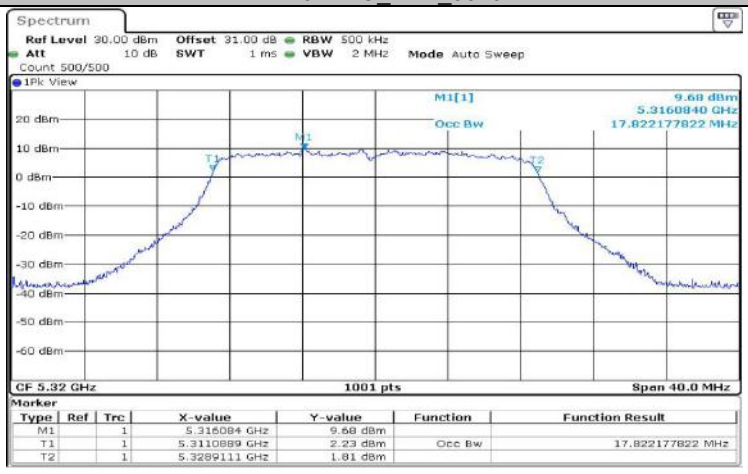

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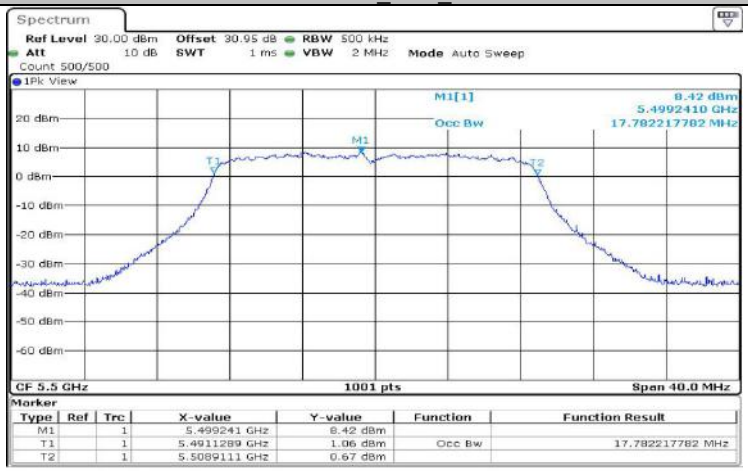

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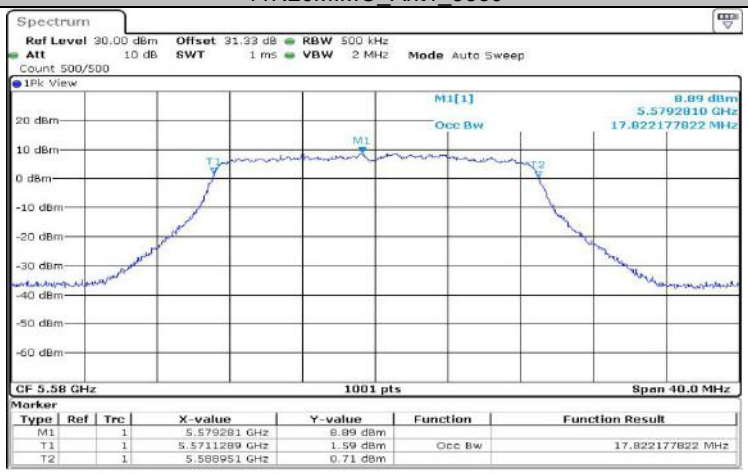

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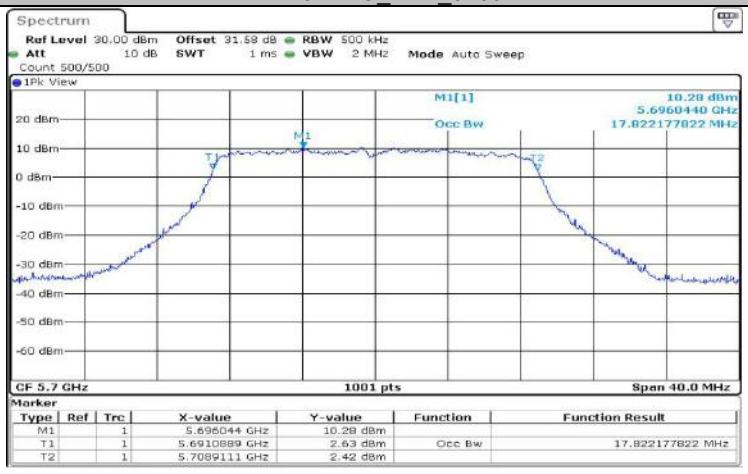

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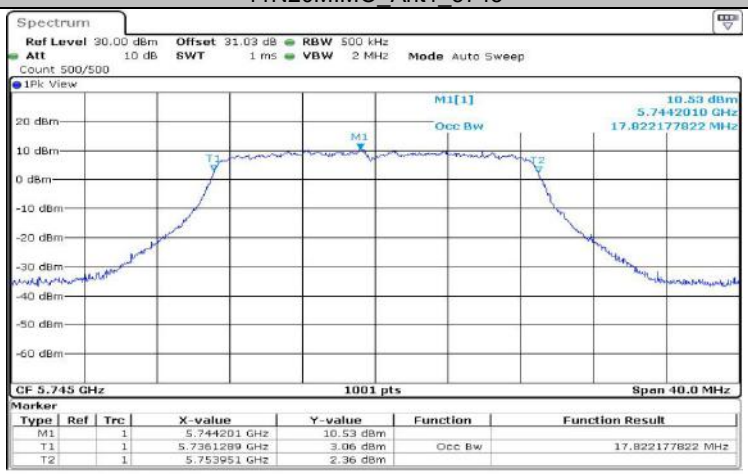

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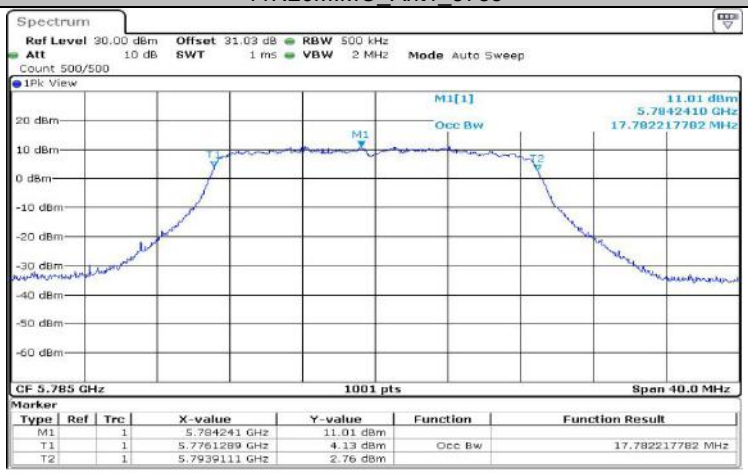

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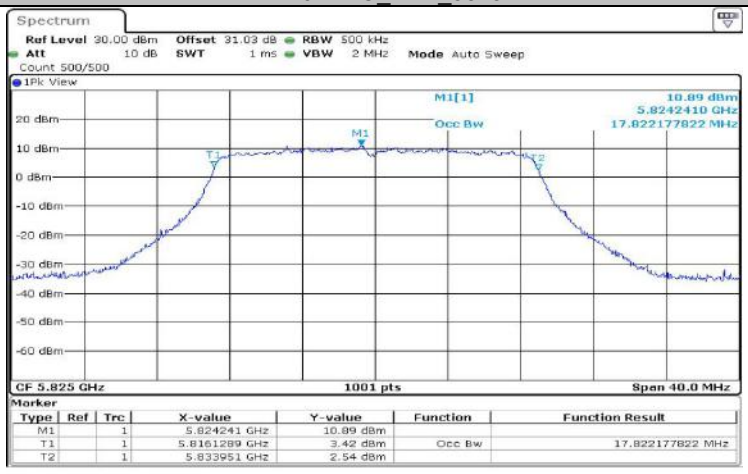

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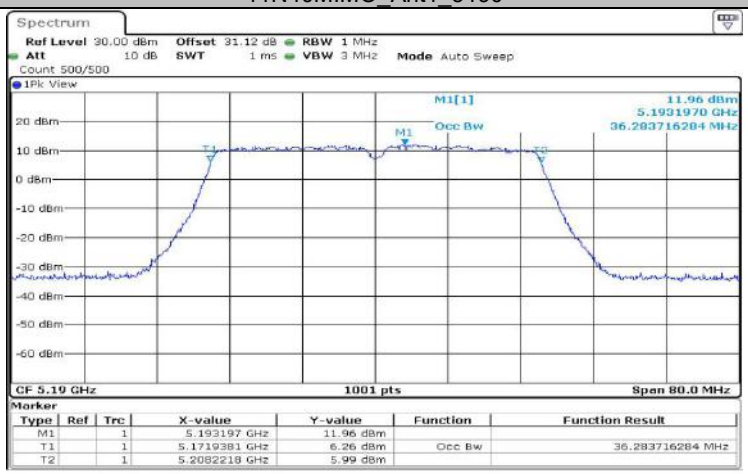

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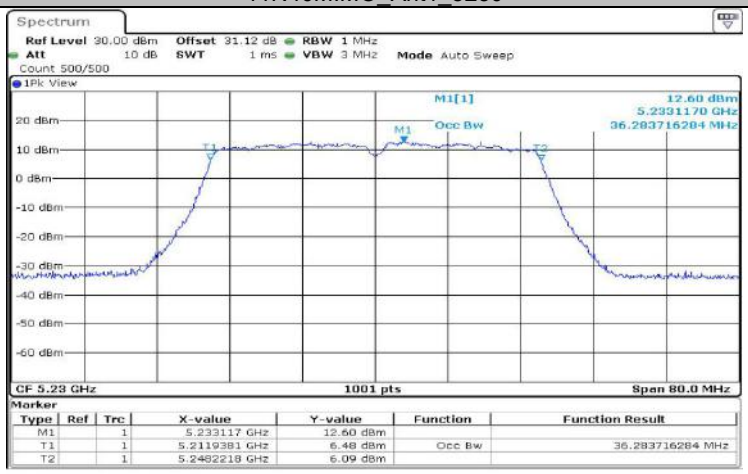

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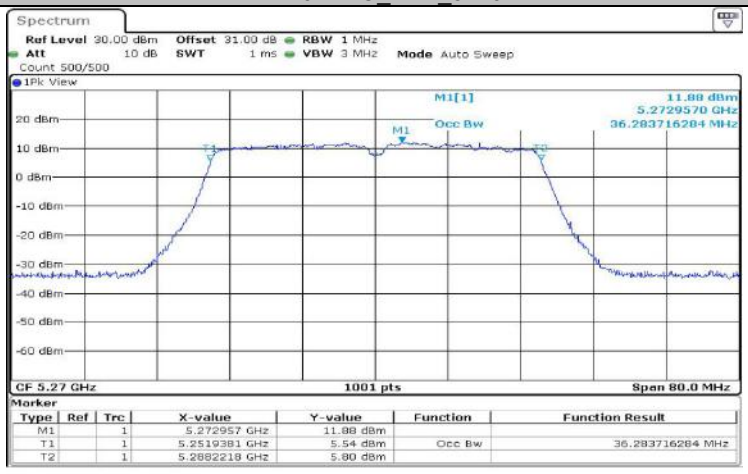

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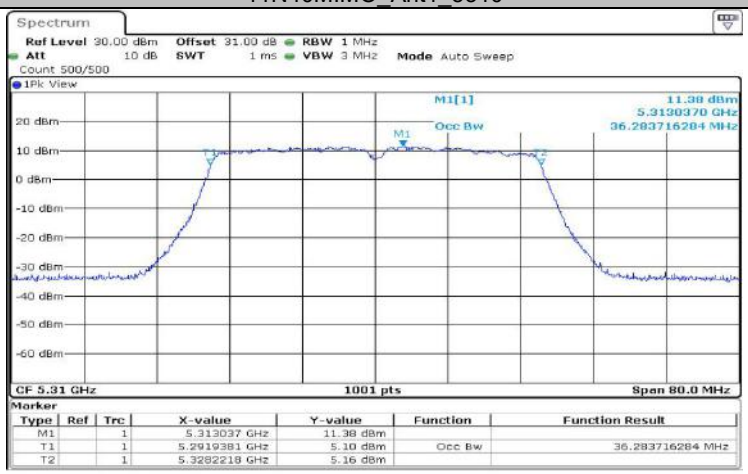

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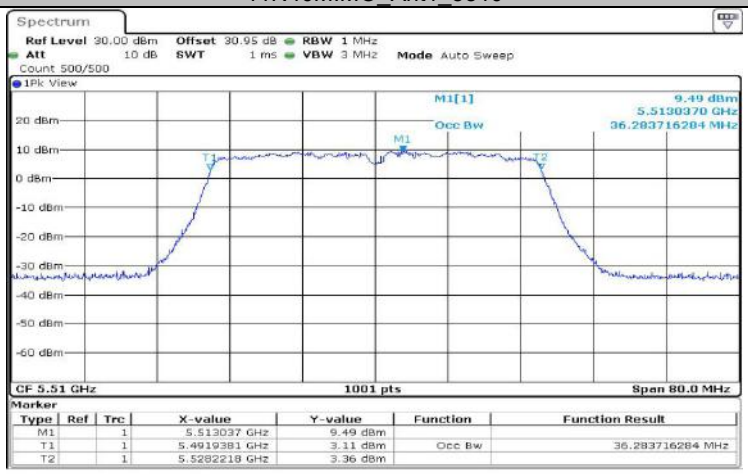

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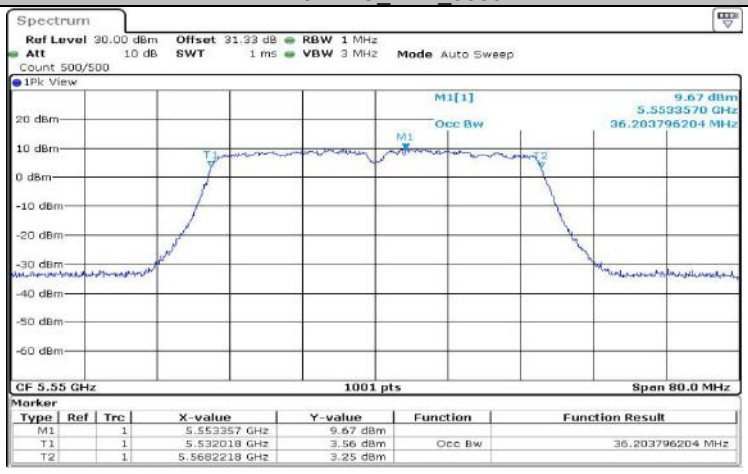

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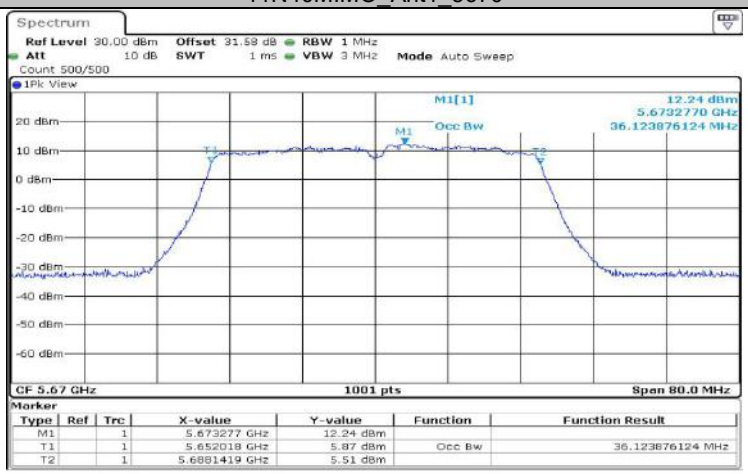

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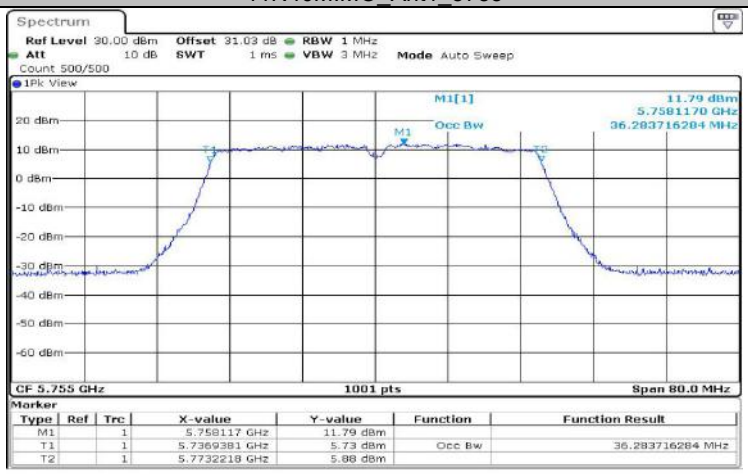

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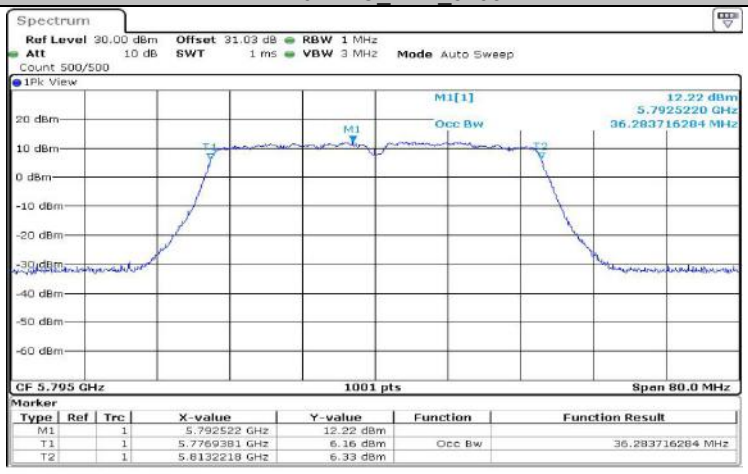
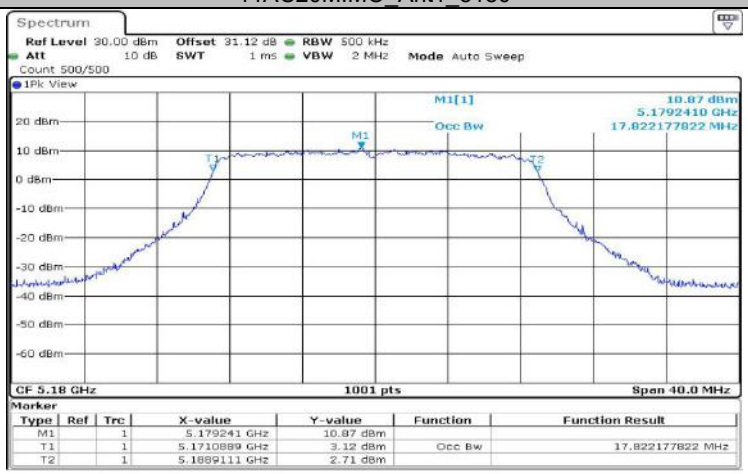
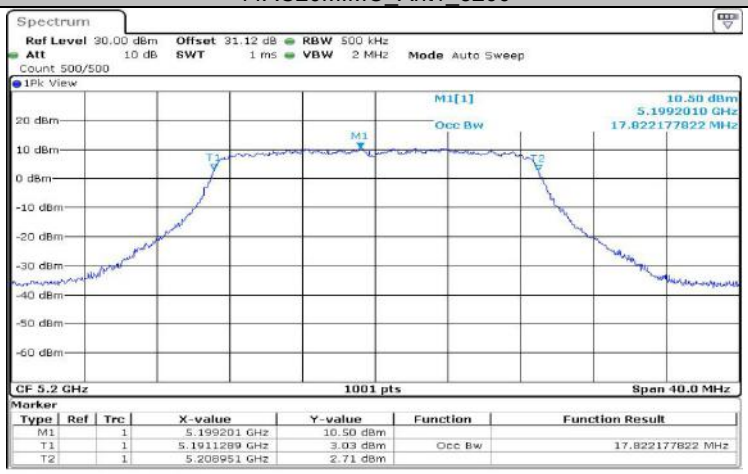


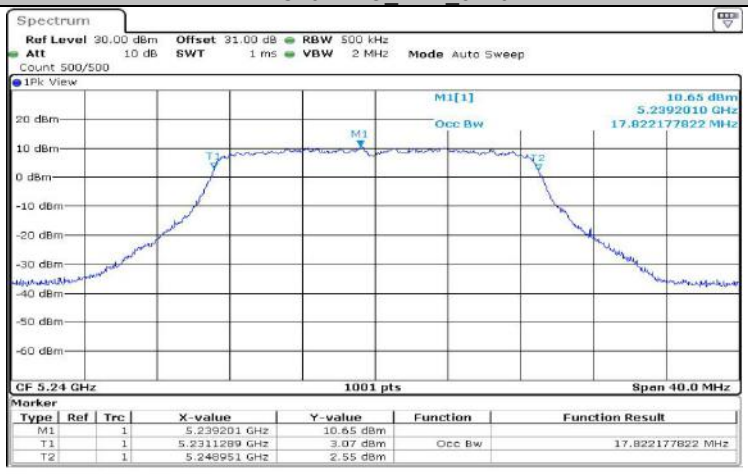
11AC20MIMO_Ant1_5180



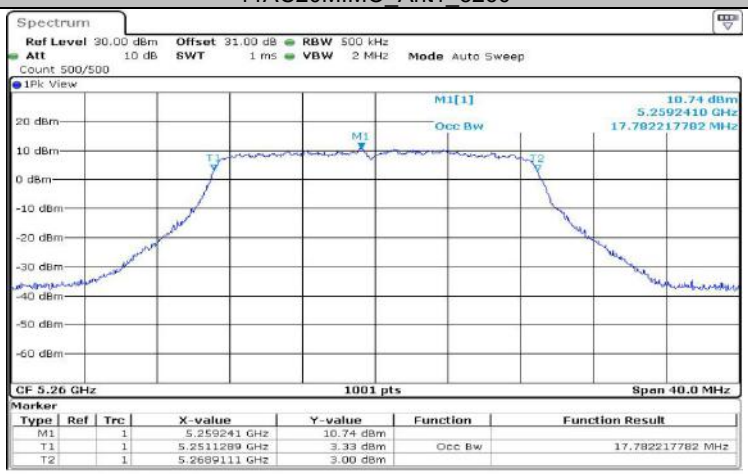
11AC20MIMO_Ant1_5200



11AC20MIMO_Ant1_5240



11AC20MIMO_Ant1_5260



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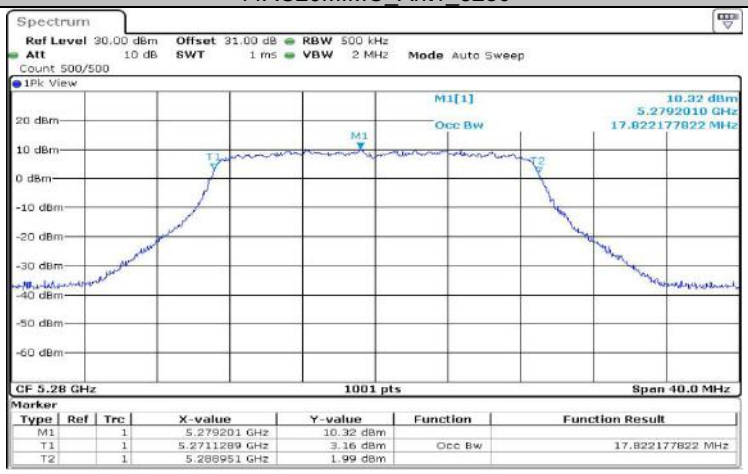

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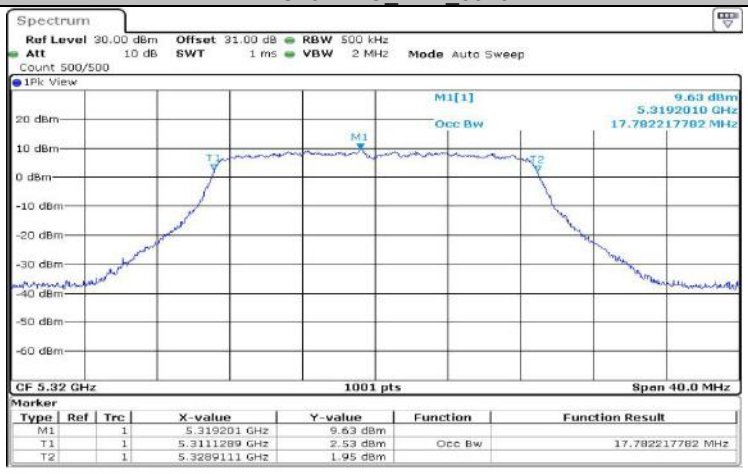
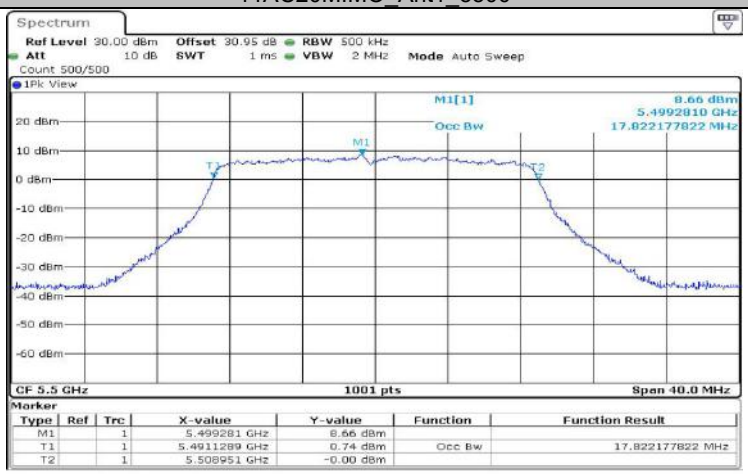


11AC20MIMO_Ant1_5500



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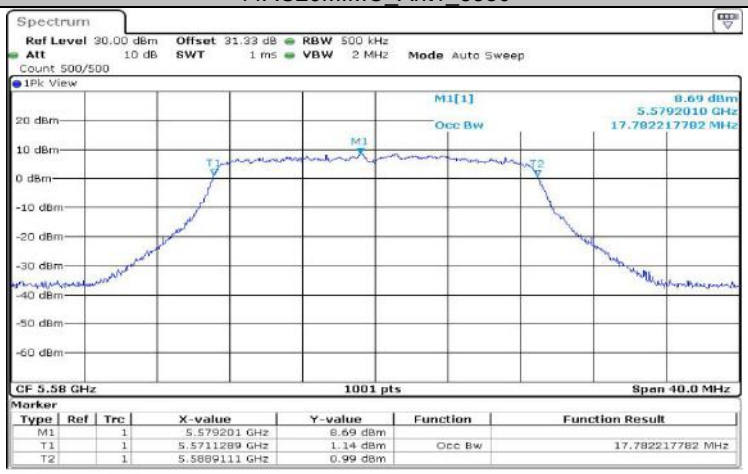

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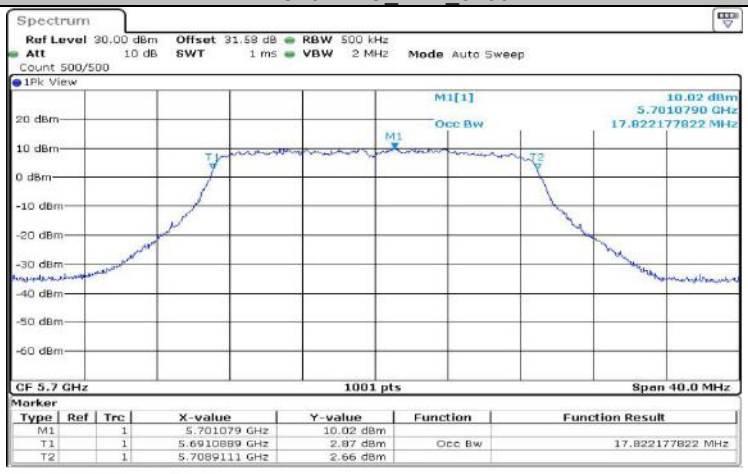

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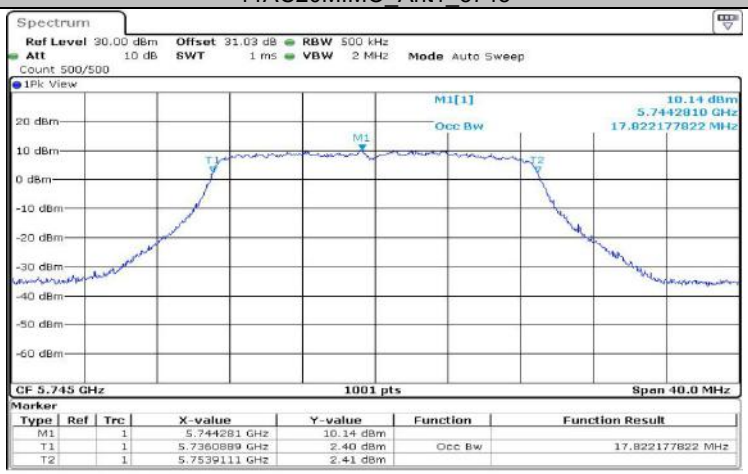

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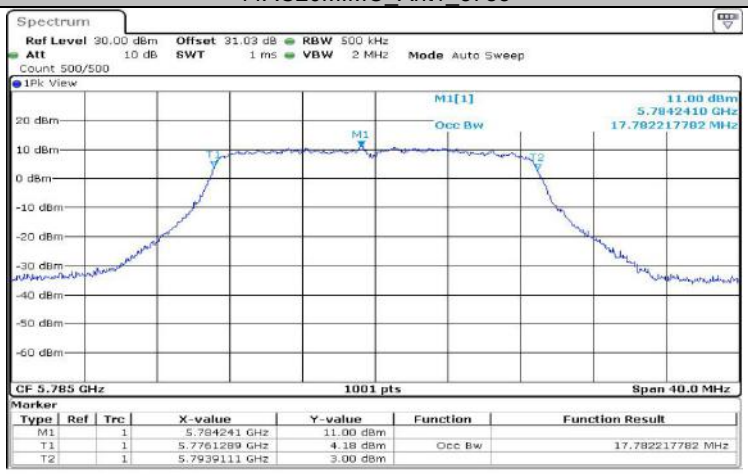
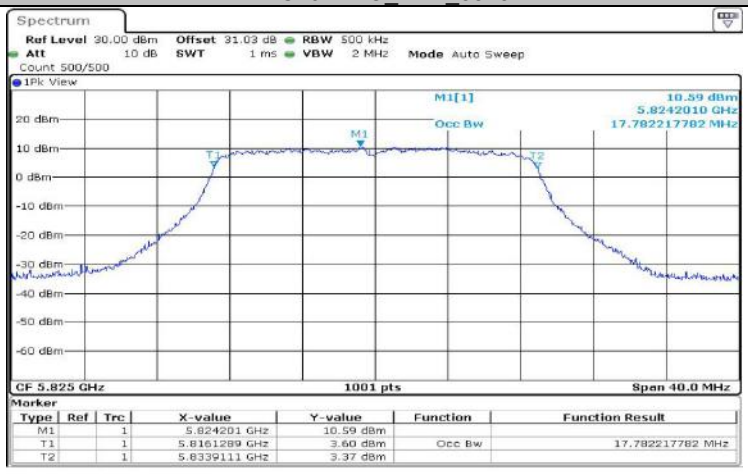
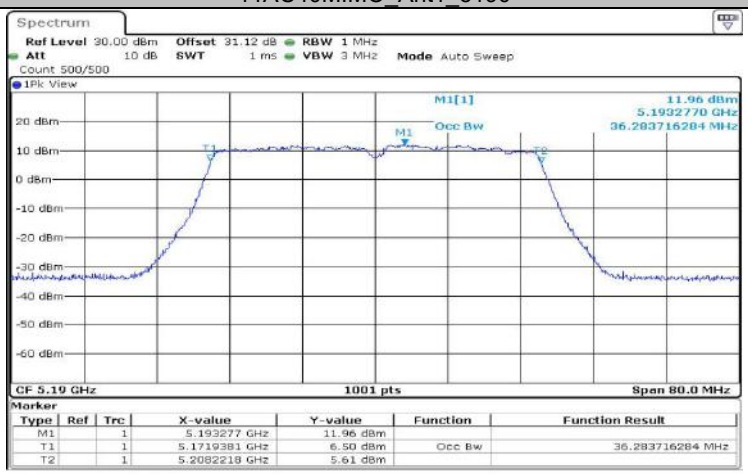


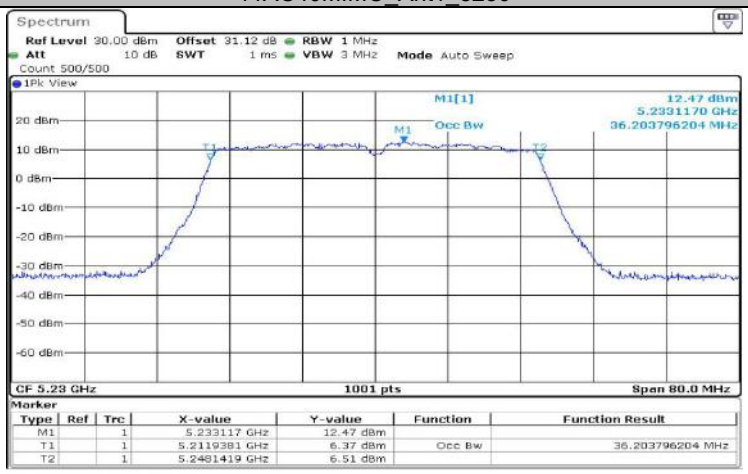
11AC20MIMO_Ant1_5825



11AC40MIMO_Ant1_5190



11AC40MIMO_Ant1_5230



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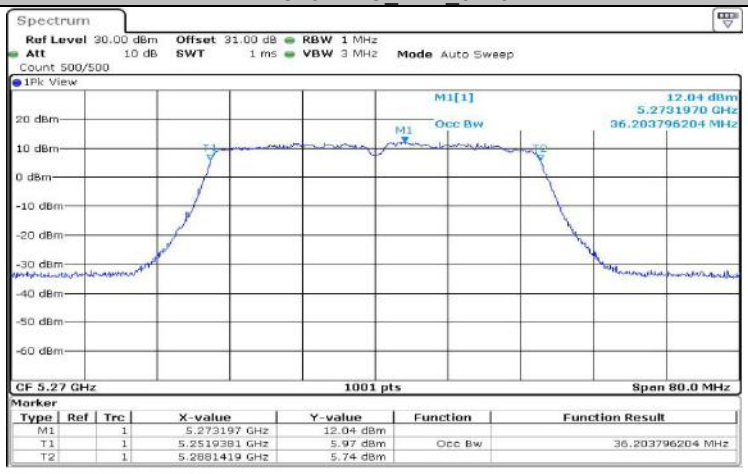
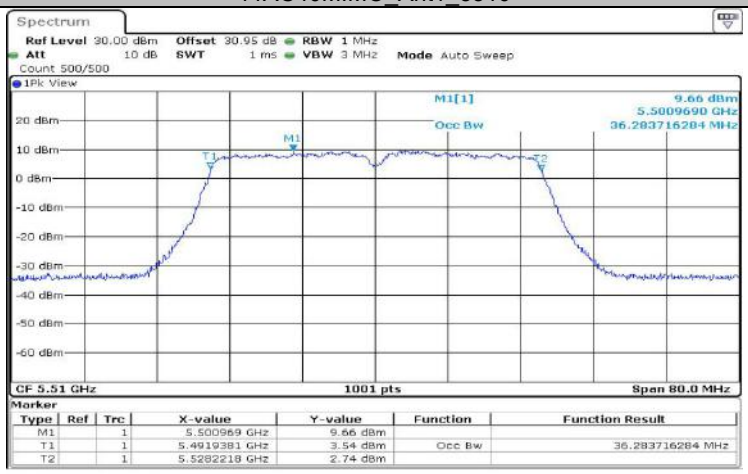


11AC40MIMO_Ant1_5310

11AC40MIMO_Ant1_5510



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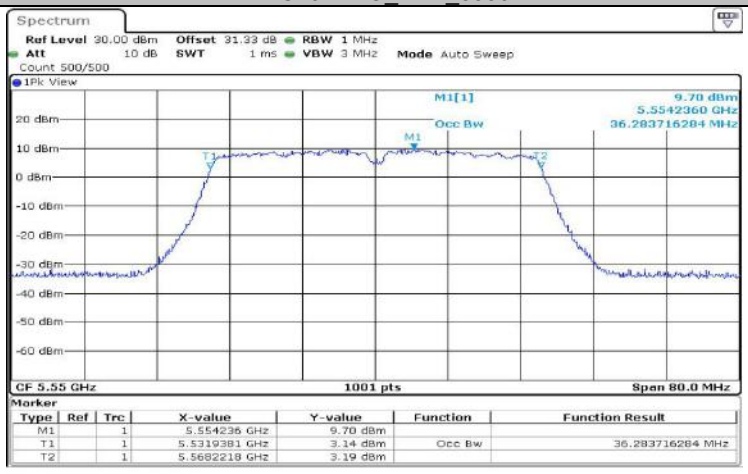
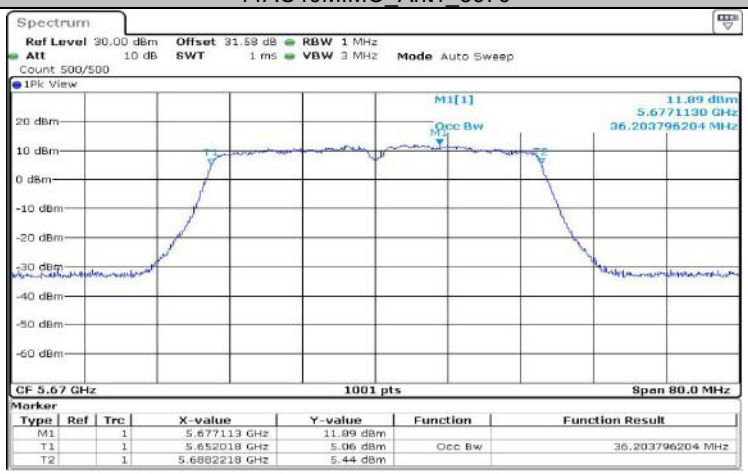
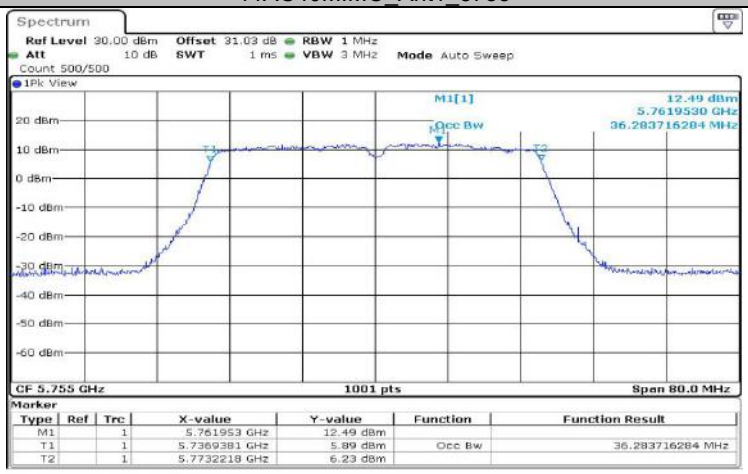


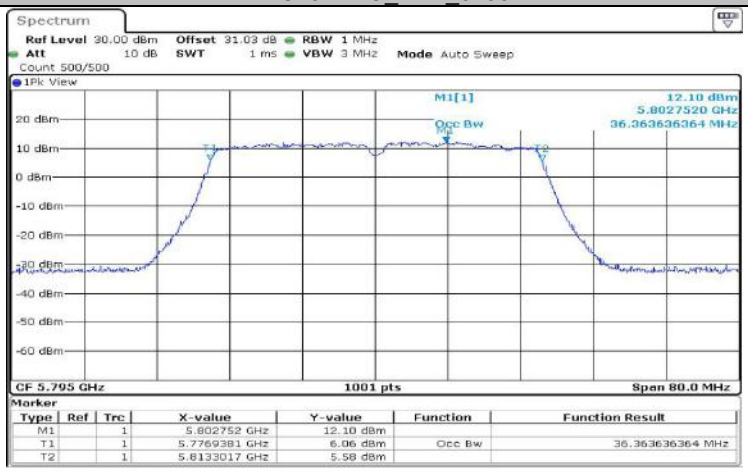
11AC40MIMO_Ant1_5670



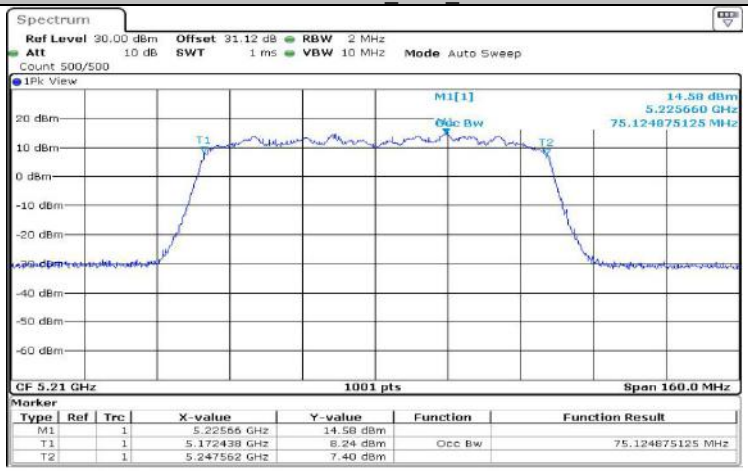
11AC40MIMO_Ant1_5755



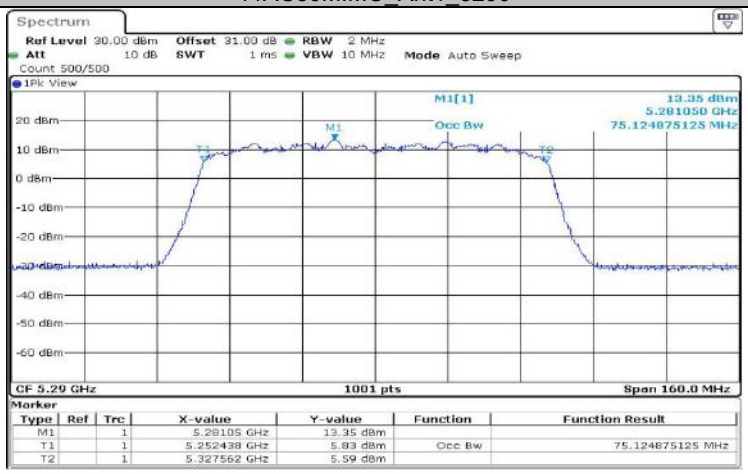
11AC40MIMO_Ant1_5795



11AC80MIMO_Ant1_5210



11AC80MIMO_Ant1_5290



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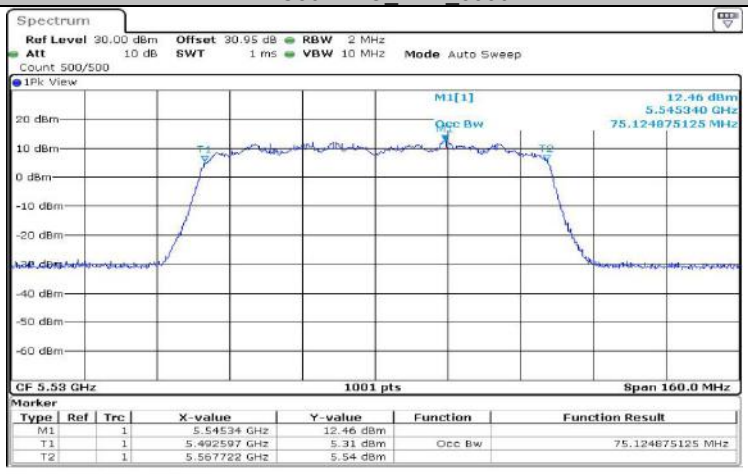
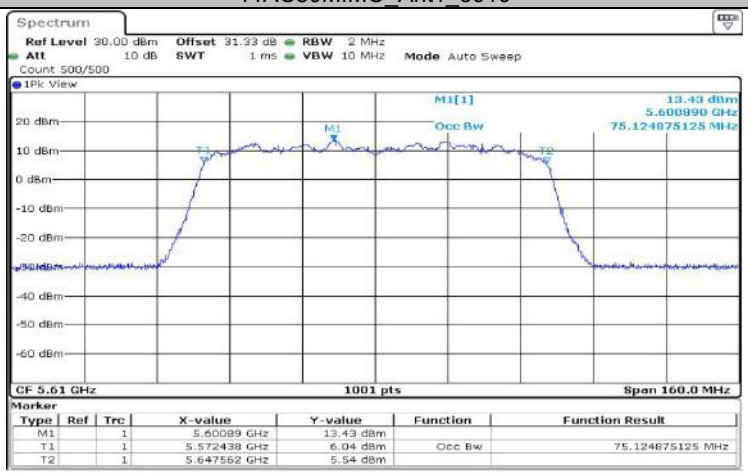


11AC80MIMO_Ant1_5610



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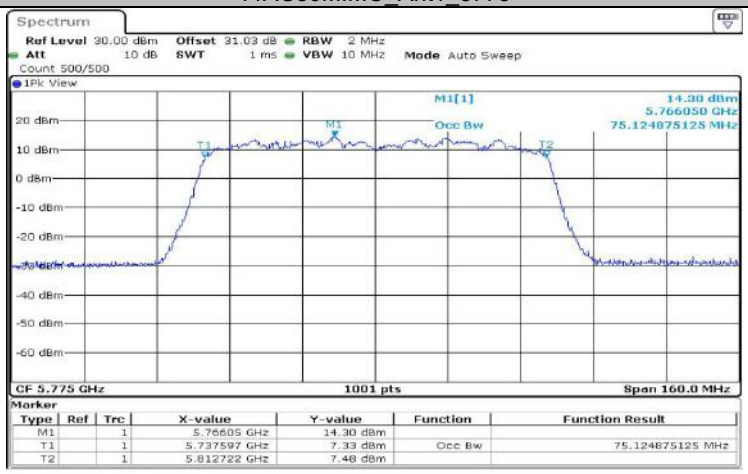
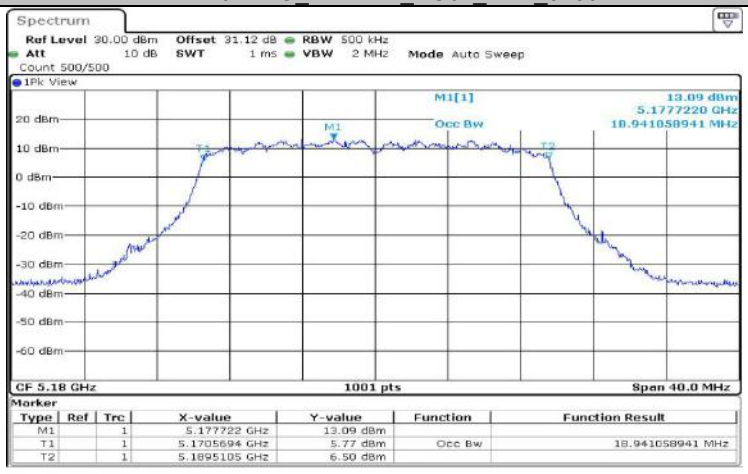
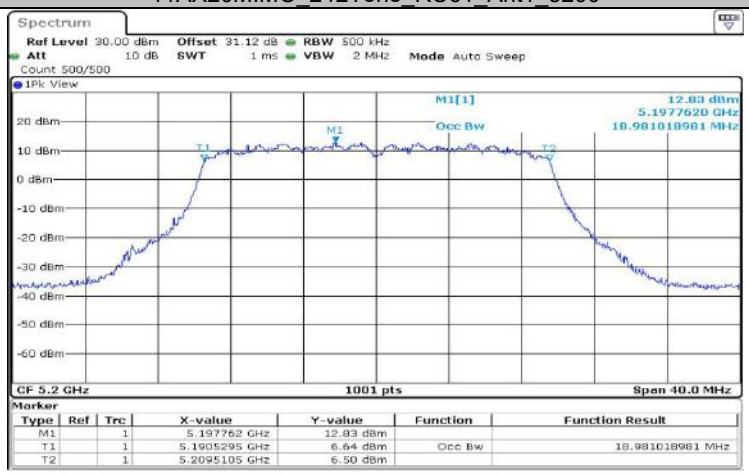


11AX20MIMO_242Tone_RU61_Ant1_5180



11AX20MIMO_242Tone_RU61_Ant1_5200



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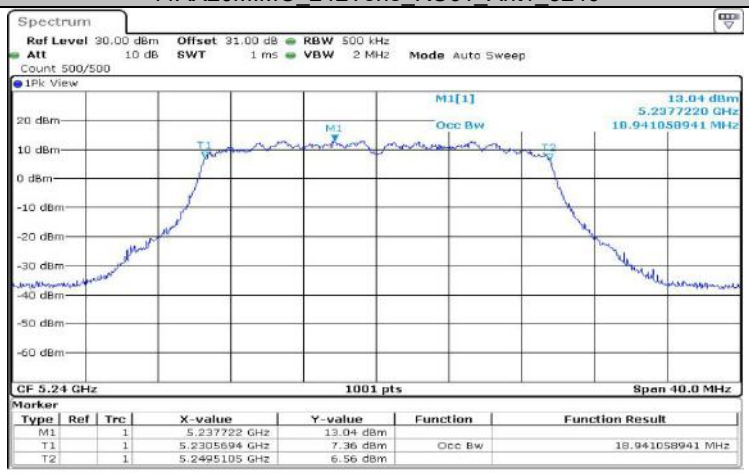
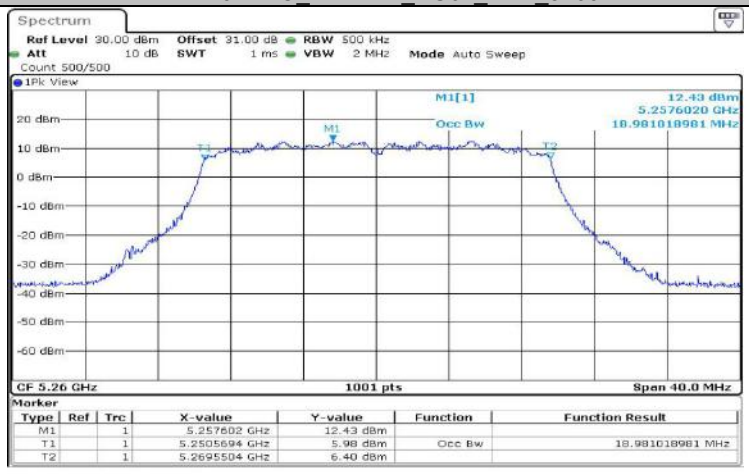
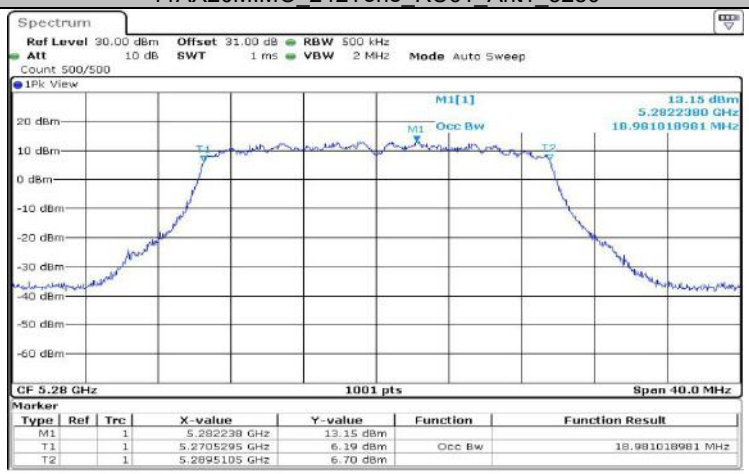


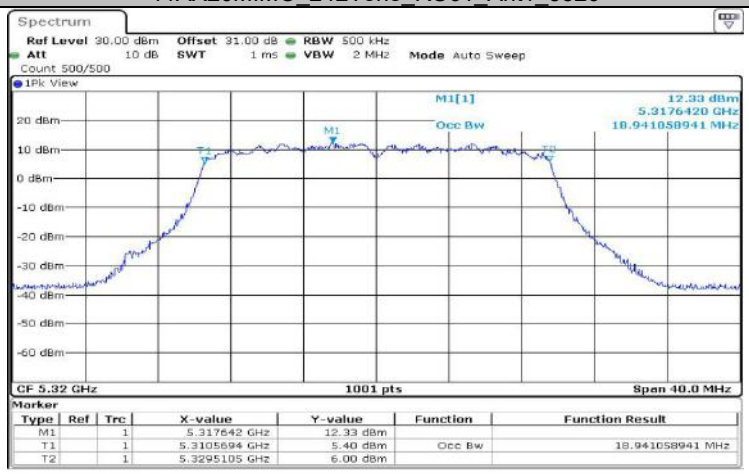
11AX20MIMO_242Tone_RU61_Ant1_5260



11AX20MIMO_242Tone_RU61_Ant1_5280



11AX20MIMO_242Tone_RU61_Ant1_5320



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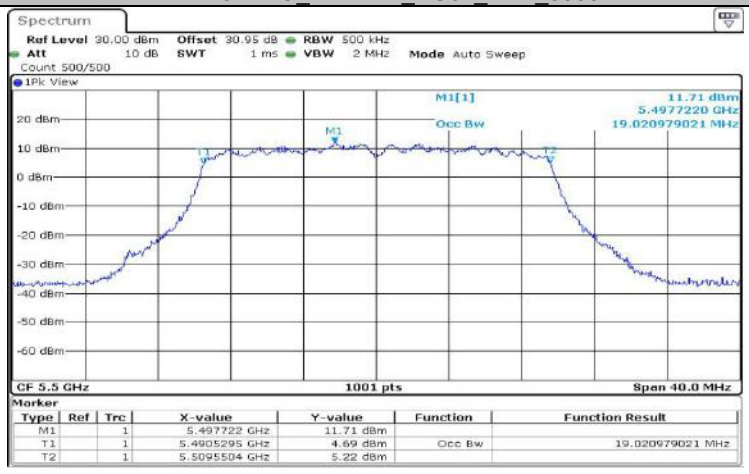

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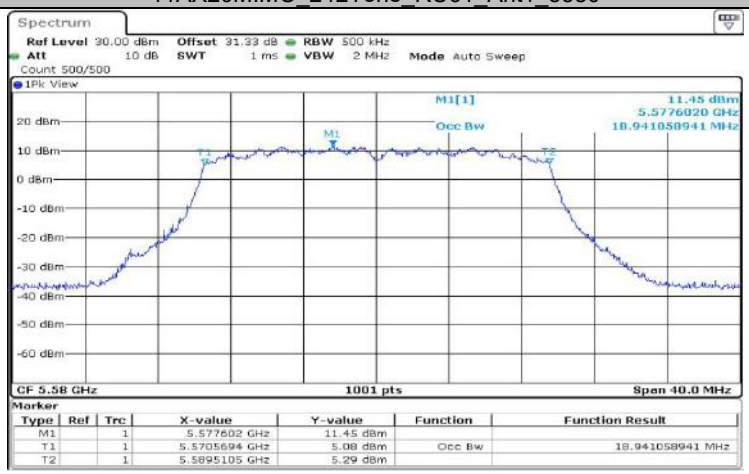

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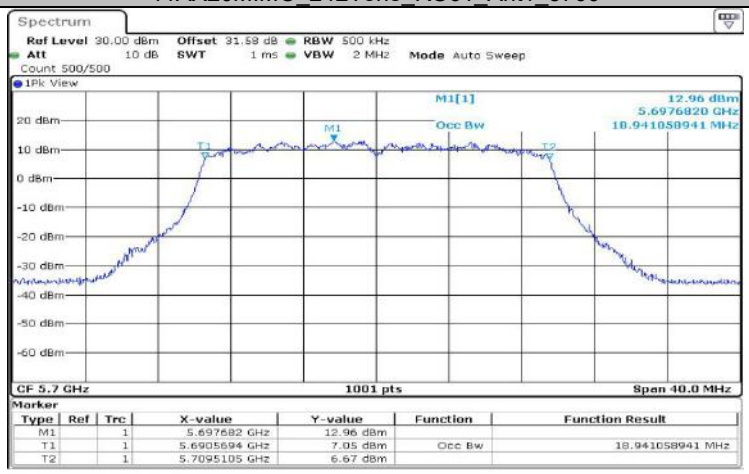

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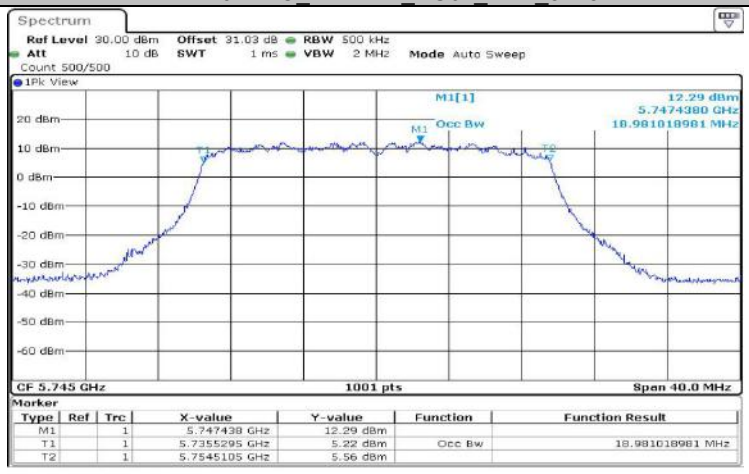
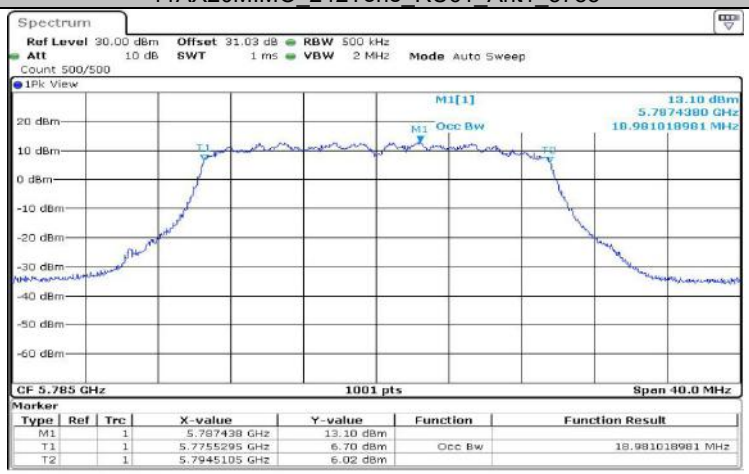
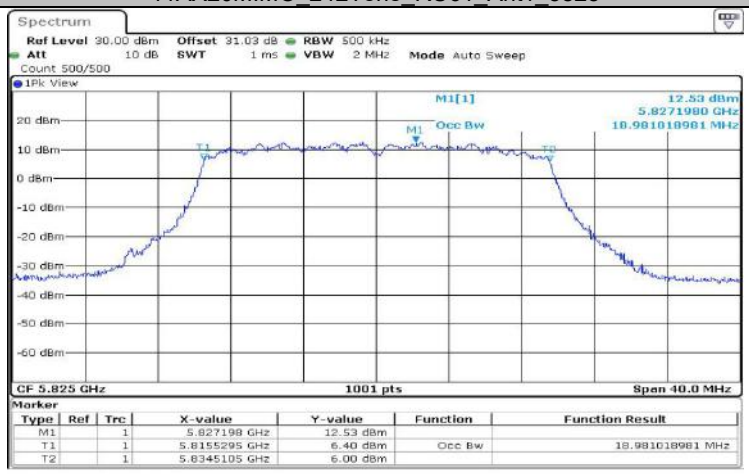


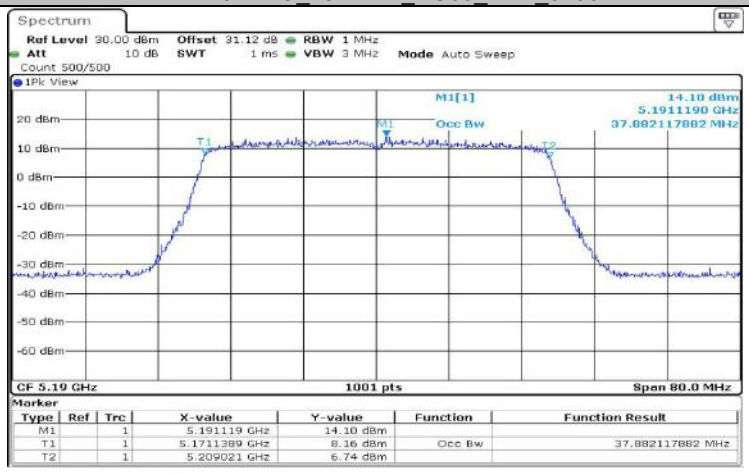
11AX20MIMO_242Tone_RU61_Ant1_5785



11AX20MIMO_242Tone_RU61_Ant1_5825



11AX40MIMO_484Tone_RU65_Ant1_5190



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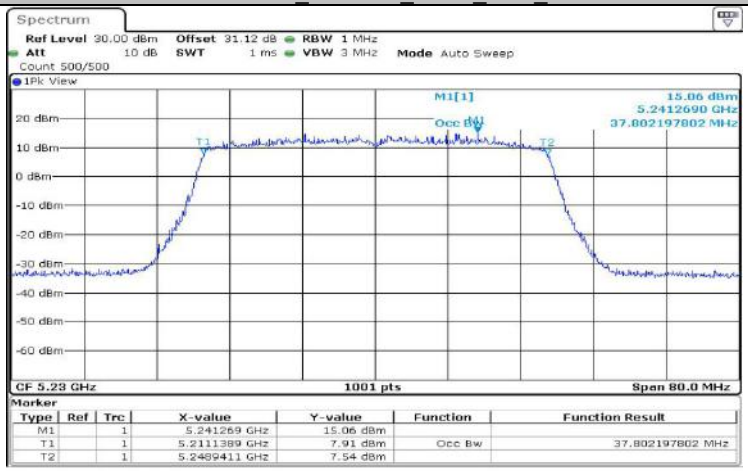
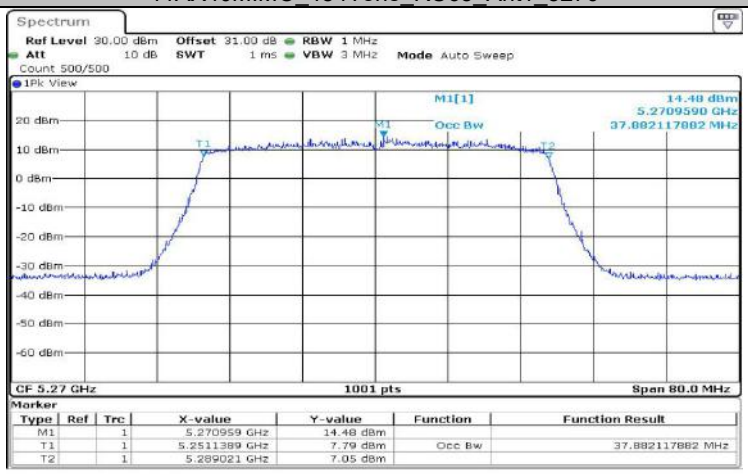
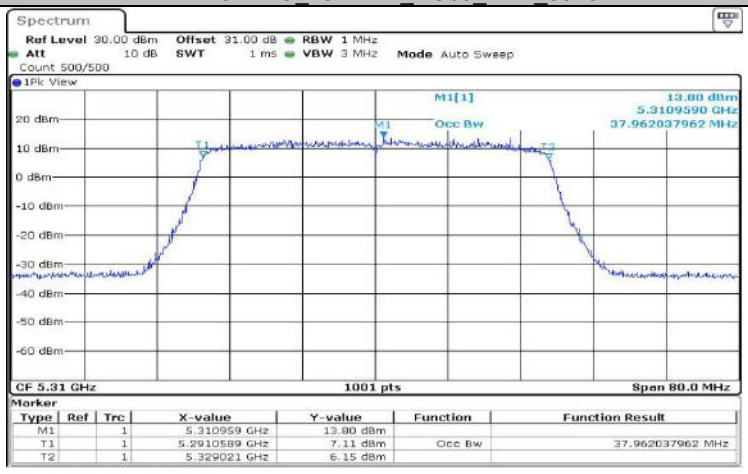


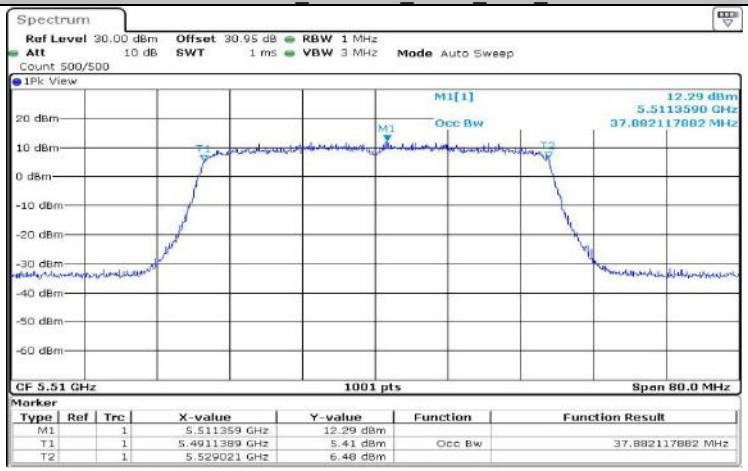
11AX40MIMO_484Tone_RU65_Ant1_5270



11AX40MIMO_484Tone_RU65_Ant1_5310



11AX40MIMO_484Tone_RU65_Ant1_5510



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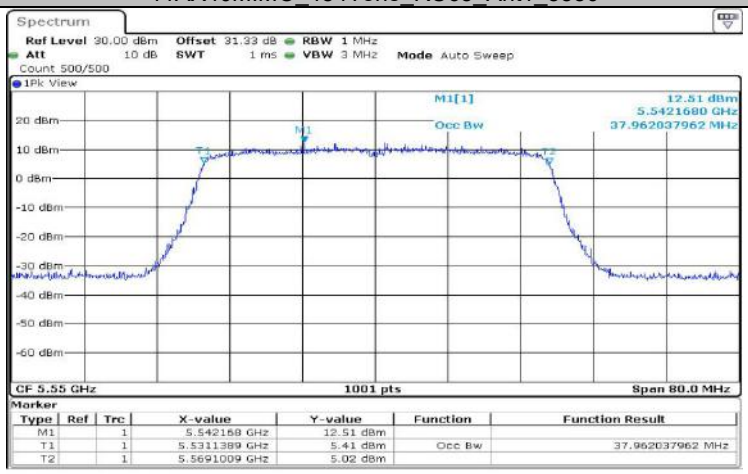

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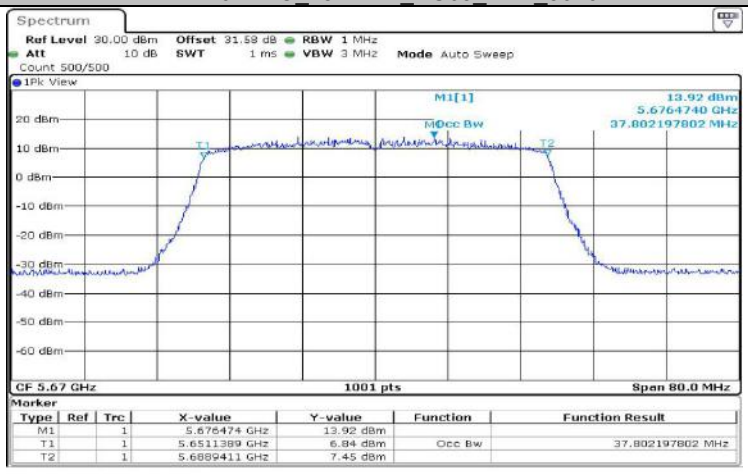

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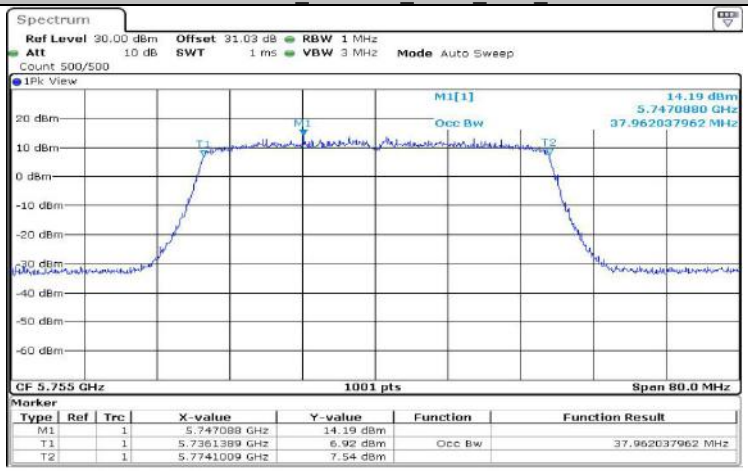

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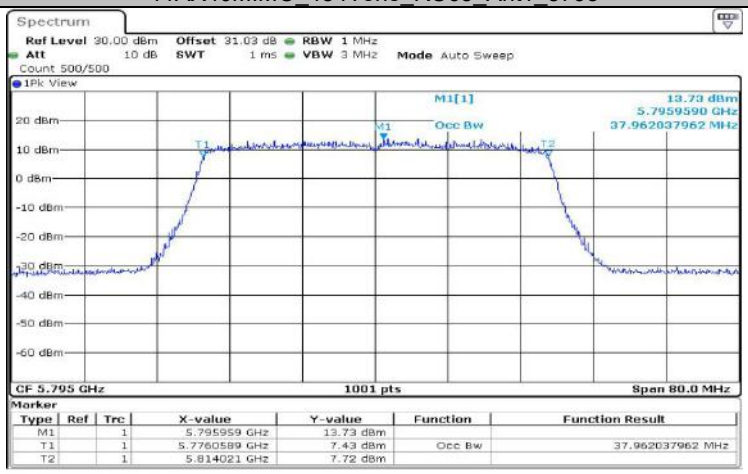
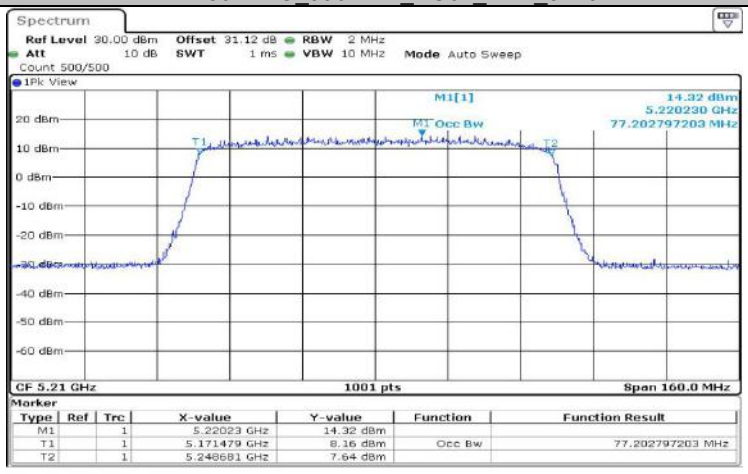
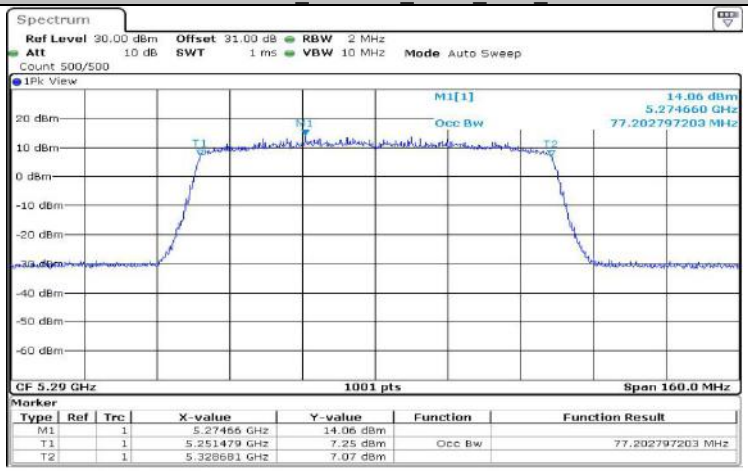


11AX80MIMO_996Tone_RU67_Ant1_5210



11AX80MIMO_996Tone_RU67_Ant1_5290



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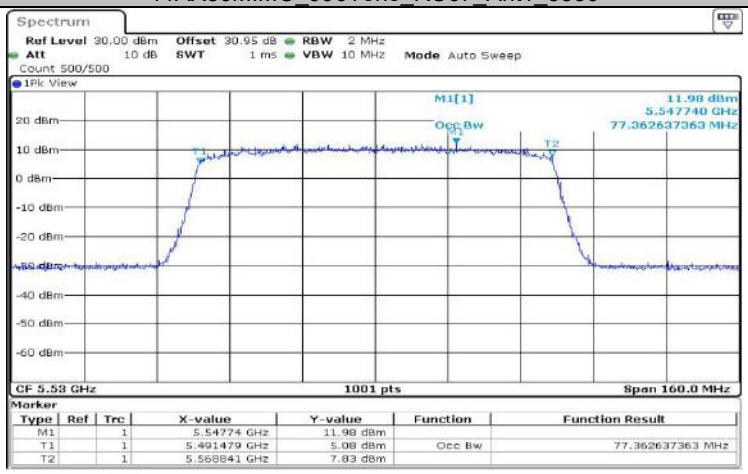

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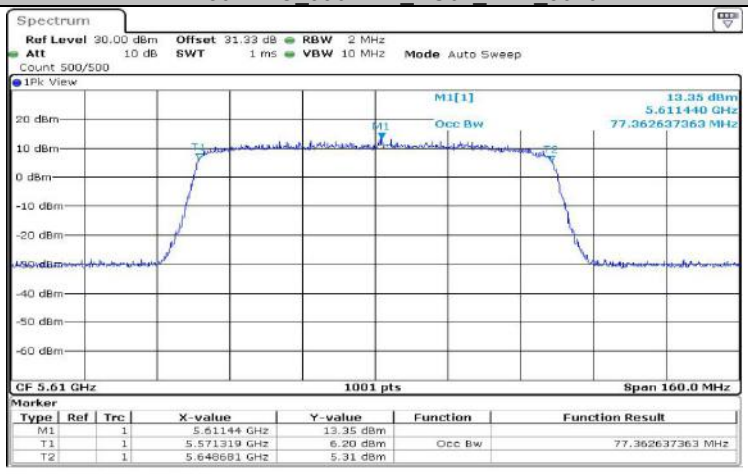
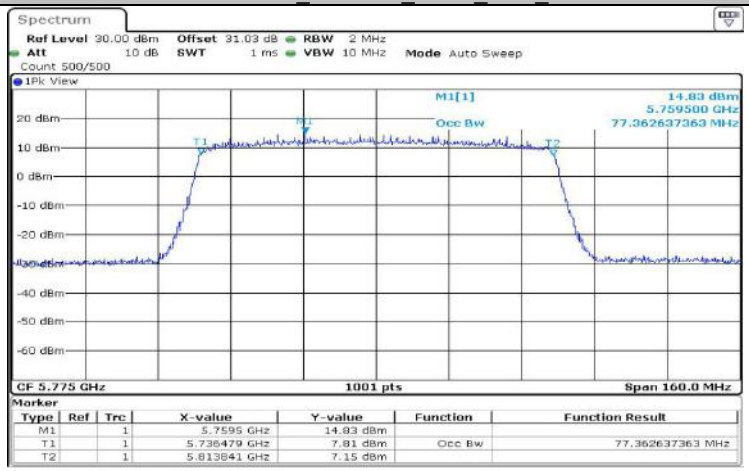


11AX80MIMO_996Tone_RU67_Ant1_5775



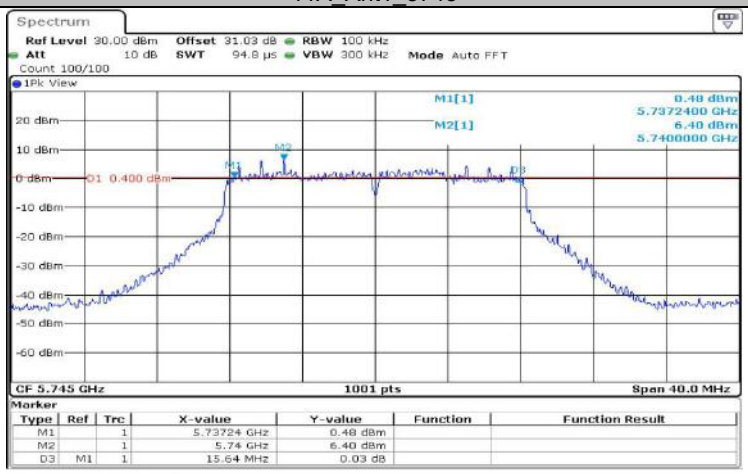
Appendix A3: Min emission bandwidth

Test Result B4

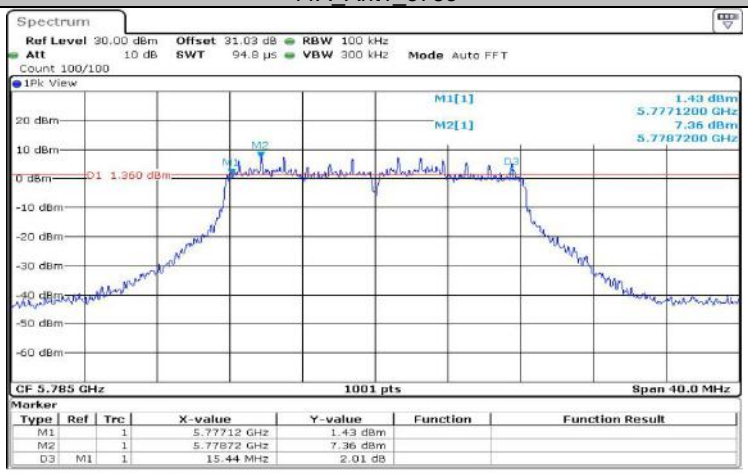
Test Mode	Antenna	Frequency[MHz]	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	15.64	5737.24	5752.88	0.5	PASS
	Ant1	5785	15.44	5777.12	5792.56	0.5	PASS
	Ant1	5825	15.48	5817.40	5832.88	0.5	PASS
11N20MIMO	Ant1	5745	15.96	5737.44	5753.40	0.5	PASS
	Ant1	5785	15.96	5776.60	5792.56	0.5	PASS
	Ant1	5825	17.24	5816.56	5833.80	0.5	PASS
11N40MIMO	Ant1	5755	35.68	5737.24	5772.92	0.5	PASS
	Ant1	5795	35.92	5777.24	5813.16	0.5	PASS
11AC20MIMO	Ant1	5745	16.80	5736.60	5753.40	0.5	PASS
	Ant1	5785	16.64	5776.48	5793.12	0.5	PASS
	Ant1	5825	17.60	5816.20	5833.80	0.5	PASS
11AC40MIMO	Ant1	5755	35.92	5737.24	5773.16	0.5	PASS
	Ant1	5795	35.92	5777.24	5813.16	0.5	PASS
11AC80MIMO	Ant1	5775	73.28	5739.32	5812.60	0.5	PASS
11AX20MIMO_242Tone_RU61	Ant1	5745	18.00	5736.20	5754.20	0.5	PASS
	Ant1	5785	18.60	5775.72	5794.32	0.5	PASS
	Ant1	5825	17.64	5816.60	5834.24	0.5	PASS
11AX40MIMO_484Tone_RU65	Ant1	5755	37.60	5736.20	5773.80	0.5	PASS
	Ant1	5795	37.92	5776.04	5813.96	0.5	PASS
11AX80MIMO_996Tone_RU67	Ant1	5775	76.32	5736.28	5812.60	0.5	PASS

Test Graphs B4

11A_Ant1_5745



11A_Ant1_5785



11A_Ant1_5825