TESTREPORT

Applicant Name :	Franklin Technology Inc.
Address :	906 JEI Platz, 186, Gasan digital 1-ro, Gumcheon-Gu Seoul, South Korea
Report Number :	RA221101-50847E-RF-00B
FCC ID:	XHG-RG2102

Test Standard (s)

FCC PART 15.407

Sample Description

Product Type:	Mobile Hotspot
Model No.:	RG2102
Multiple Model(s) No.:	N/A
Trade Mark:	N/A
Date Received:	2022/11/01
Report Date:	2022/12/20

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

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

Revision Number	Report Number	Description of Revision	Date of Revision
0	RA221101-50847E-RF-00B	Original Report	2022/12/20

TABLE OF CONTENTS

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Frequency Range	5G Wi-Fi: 5150-5250MHz; 5725-5850MHz
Mode	802.11n20/n40/ac20/ac40/ac80/ ax20/ax40/ax80
Maximum Conducted Average Ouput Power	5150-5250 MHz: 16.51dBm 5725-5850 MHz: 16.24dBm
Modulation Technique	OFDM,OFDMA
Antenna Specification*	ANT 1: -3.00dBi ANT 2: -2.84dBi (provided by the applicant)
Voltage Range	DC 3.8V from battery or DC 5/9/12V from adapter
Sample serial number	1OJ3-1 for Conducted and Radiated Emissions 1OJ4-2 for RF Conducted Test (Assigned by ATC)
Sample/EUT Status	Good condition
Adapter Information	Model：PD018W-G Input：100-240V,50/60Hz,0.5A Max Output:5.0V,3.0A;9.0V,2.0A;12V,1.5A

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 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	Data Rate	Power Level*		
			Low	Middle	High
5150 – 5250MHz	802.11 n20	MCS0	15	15	15
	802.11 n40	MCS0	15	/	15
	802.11 ac20	MCS0	15	15	15
	802.11 ac40	MCS0	15	/	15
	802.11 ac80	MCS0	/	14	/
	802.11 ax20	MCS0	15	15	15
	802.11 ax40	MCS0	15	/	15
	802.11 ax80	MCS0	/	14	/

U-NII	Mode	Data Rate	Power Level*		
			Low	Middle	High
5725 – 5850MHz	802.11 n20	MCS0	15	15	15
	802.11 n40	MCS0	14	/	14
	802.11 ac20	MCS0	15	15	15
	802.11 ac40	MCS0	14	/	14
	802.11 ac80	MCS0	/	14	/
	802.11 ax20	MCS0	15	15	15
	802.11 ax40	MCS0	14	/	14
	802.11 ax80	MCS0	/	14	/

The worse-case data rates are determined to be as above for each mode based upon investigations by measuring the output power and PSD across all data rates, bandwidths and modulations.

The device have two antennas and support SISO/MIMO transmit, scan SISO/MIMO, the worst case MIMO was selected to test.

For 802.11 ax mode, the device only support full RU mode, not support partial RU mode.

The two antennas have same power setting.

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

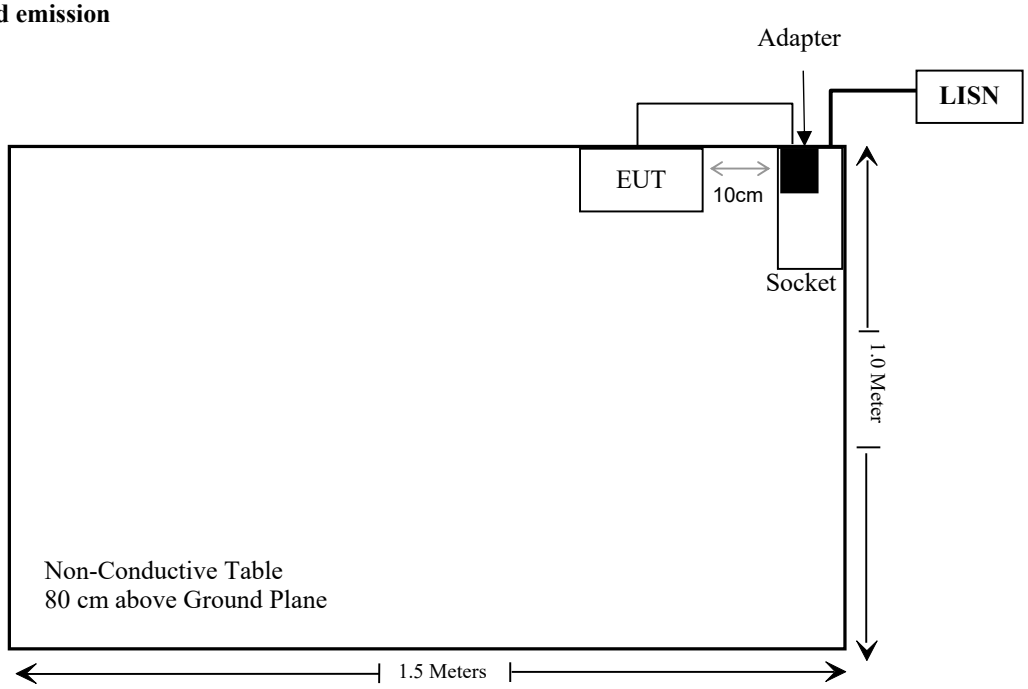
Manufacturer	Description	Model	Serial Number
/	/	/	/

External I/O Cable

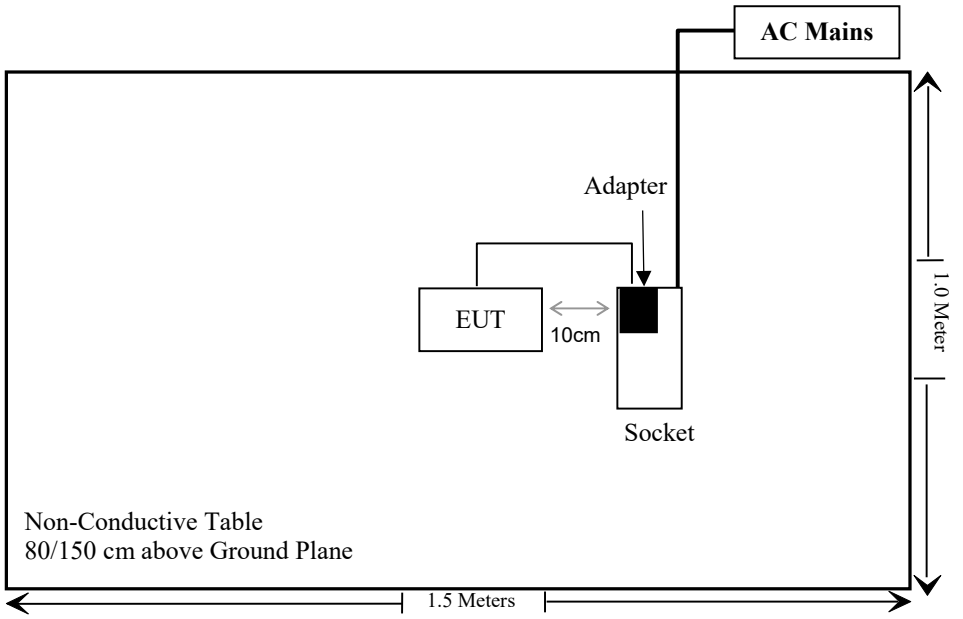
Cable Description	Length (m)	From/Port	To
Un-shielded detachable DC Cable	1.0	Adapter	EUT

Block Diagram of Test Setup

For conducted emission



For radiated emission:



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§1.1310, §2.1093	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)	Not Applicable*

Not Applicable: the EUT has no TPC function which was declared by the applicant.
Not Applicable *: The EUT is not support the DFS frequcy band.

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	2021/12/13	2022/12/12
Unknown	RF Coaxial Cable	No.17	N0350	2022/11/25	2023/11/24
Conducted Emission Test Software: e3 19821b (V9)					
Radiated Emissions Test (30MHz-1GHz)					
Rohde& Schwarz	Test Receiver	ESR	102725	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
SONOMA INSTRUMENT	Amplifier	310 N	186131	2022/11/08	2023/11/07
Schwarzbeck	Bilog Antenna	VULB9163	9163-323	2021/07/06	2024/07/05
Radiated Emission Test Software: e3 19821b (V9)					
Radiated Emissions Test (Above 1GHz)					
Rohde&Schwarz	Spectrum Analyzer	FSV40	101949	2021/12/13	2022/12/12
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	Horn Antenna	BBHA9120D	9120D-1067	2020/01/05	2023/01/04
Schwarzbeck	HORN ANTENNA	BBHA9170	9170-359	2020/01/05	2023/01/04
Unknown	RF Coaxial Cable	No.10	N050	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.11	N1000	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.15	N600	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.16	N650	2021/12/14	2022/12/13
Wainwright	High Pass Filter	WHKX3.6/18 G-10SS	5	2021/12/14	2022/12/13
Radiated Emission Test Software: e3 19821b (V9)					

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
RF Conducted Test					
Rohde&Schwarz	Spectrum Analyzer	FSV-40	101590	2022/11/25	2023/11/24
Tonscend	RF Control Unit	JS0806-2	19G8060182	2022/10/24	2023/10/23
WEINSCHEL	10dB Attenuator	5324	AU 3842	2021/12/14	2022/12/13
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 §1.1310&§2.1093 - RF EXPOSURE

Applicable Standard

FCC§1.1310 and §2.1093.

Test Result

Compliance, please refer to the SAR report: RA221101-50847E-SA.

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 antennas arrangement for 5G Wi-Fi, which were permanently attached to the EUT. Please refer to the EUT photos.

Antenna	Type	Antenna Gain	Impedance	Frequency Range
ANT 1	PIFA	-3.00dBi	50 Ω	5150-5850MHz
ANT 2	PIFA	-2.84dBi	50 Ω	5150-5850MHz

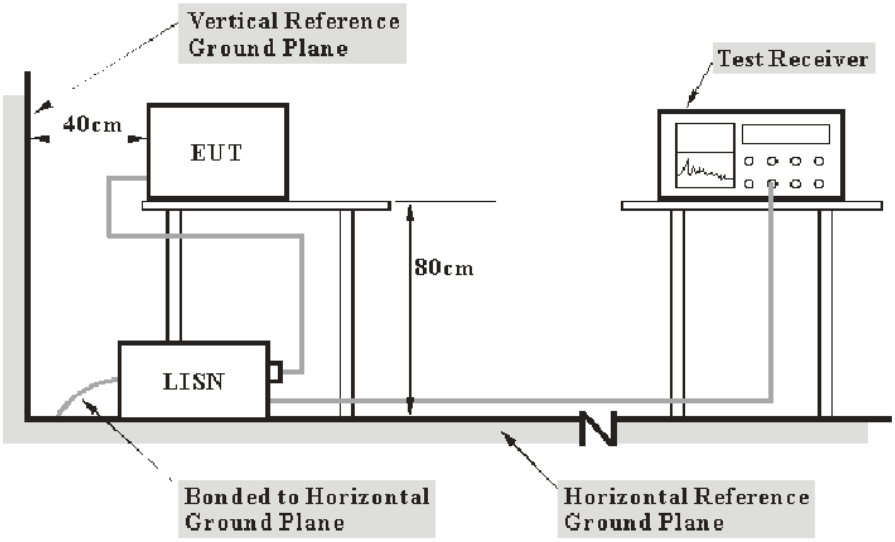
Result: Compliant.

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

Applicable Standard

FCC §15.207, §15.407(b) (6)

EUT Setup



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

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

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

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

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

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

Test Procedure

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

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

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

Corrected Factor & Margin Calculation

The Corrected factor is calculated by adding LISN VDF (Voltage Division Factor), Cable Loss. 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

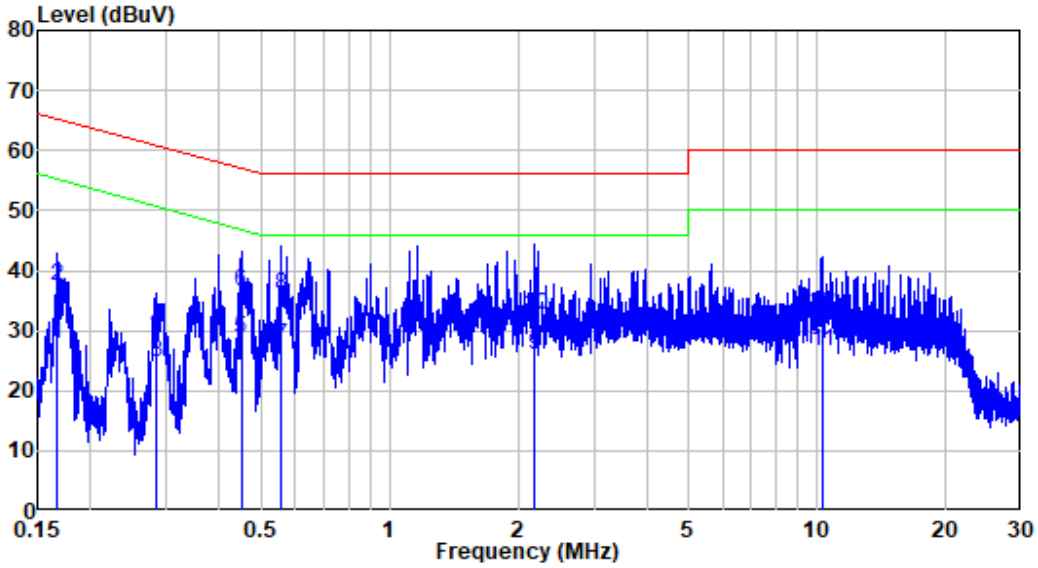
Environmental Conditions

Temperature:	25°C
Relative Humidity:	47 %
ATM Pressure:	101.0 kPa

The testing was performed by Lipa on 2022-12-06.

EUT operation mode: Transmitting (worst case for 802.11 ac40 5230MHz)

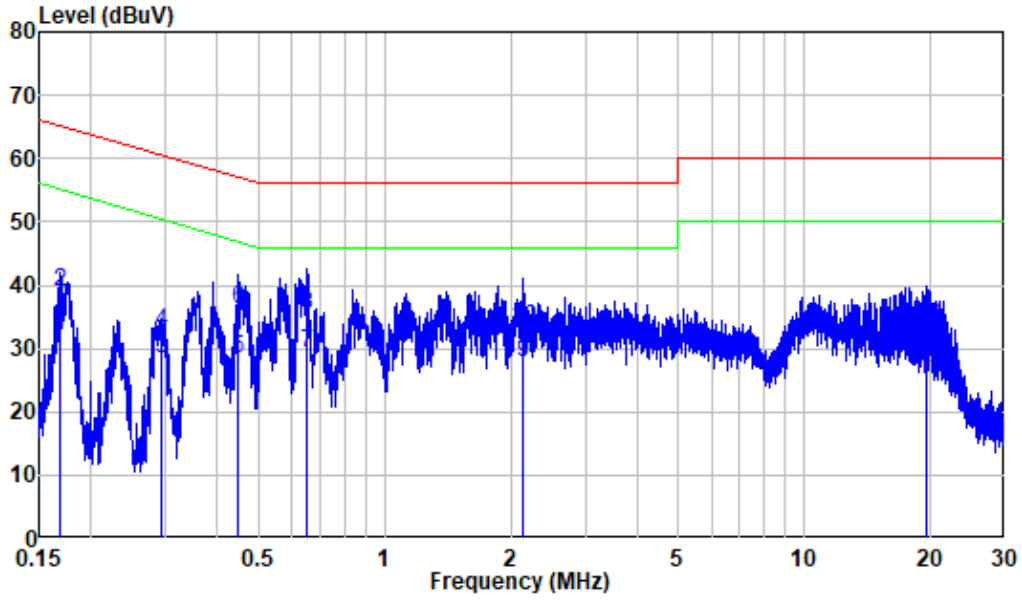
AC 120V/60 Hz, Line



Site : Shielding Room
Condition: Line
Job No. : RA221101-50847E-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	0.167	9.80	18.01	27.81	55.12	-27.31	Average
2	0.167	9.80	27.76	37.56	65.12	-27.56	QP
3	0.283	9.80	15.00	24.80	50.72	-25.92	Average
4	0.283	9.80	20.42	30.22	60.72	-30.50	QP
5	0.449	9.80	18.78	28.58	46.89	-18.31	Average
6	0.449	9.80	26.70	36.50	56.89	-20.39	QP
7	0.557	9.81	17.62	27.43	46.00	-18.57	Average
8	0.557	9.81	26.25	36.06	56.00	-19.94	QP
9	2.173	9.82	16.05	25.87	46.00	-20.13	Average
10	2.173	9.82	22.87	32.69	56.00	-23.31	QP
11	10.240	9.90	16.81	26.71	50.00	-23.29	Average
12	10.240	9.90	23.08	32.98	60.00	-27.02	QP

AC 120V/60 Hz, Neutral



Site : Shielding Room
Condition: Neutral
Job No. : RA221101-50847E-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	0.169	9.80	22.21	32.01	55.00	-22.99	Average
2	0.169	9.80	29.08	38.88	65.00	-26.12	QP
3	0.293	9.80	18.54	28.34	50.44	-22.10	Average
4	0.293	9.80	22.69	32.49	60.44	-27.95	QP
5	0.446	9.80	18.58	28.38	46.95	-18.57	Average
6	0.446	9.80	26.58	36.38	56.95	-20.57	QP
7	0.655	9.81	19.52	29.33	46.00	-16.67	Average
8	0.655	9.81	25.55	35.36	56.00	-20.64	QP
9	2.134	9.82	17.92	27.74	46.00	-18.26	Average
10	2.134	9.82	23.44	33.26	56.00	-22.74	QP
11	19.545	10.10	14.82	24.92	50.00	-25.08	Average
12	19.545	10.10	23.30	33.40	60.00	-26.60	QP

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

Applicable Standard

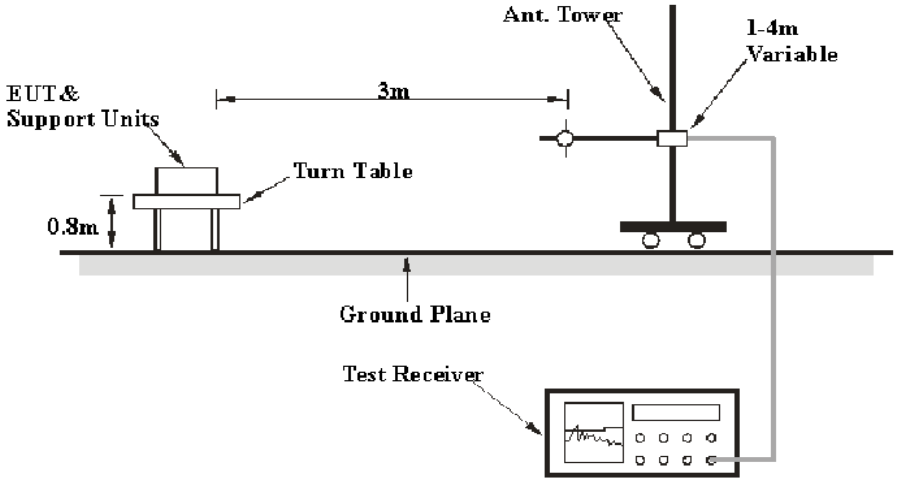
FCC §15.407 (b); §15.209; §15.205;

(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.

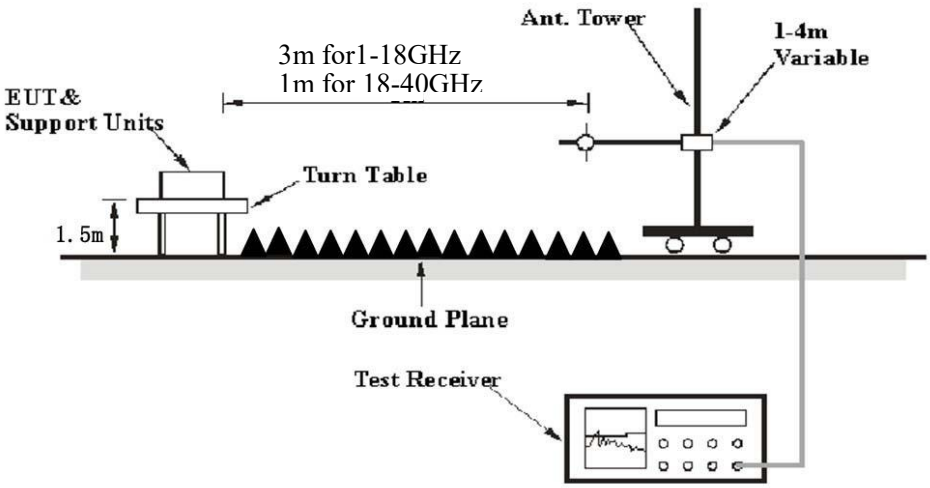
Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209.

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:	52~57%
ATM Pressure:	101.0 kPa

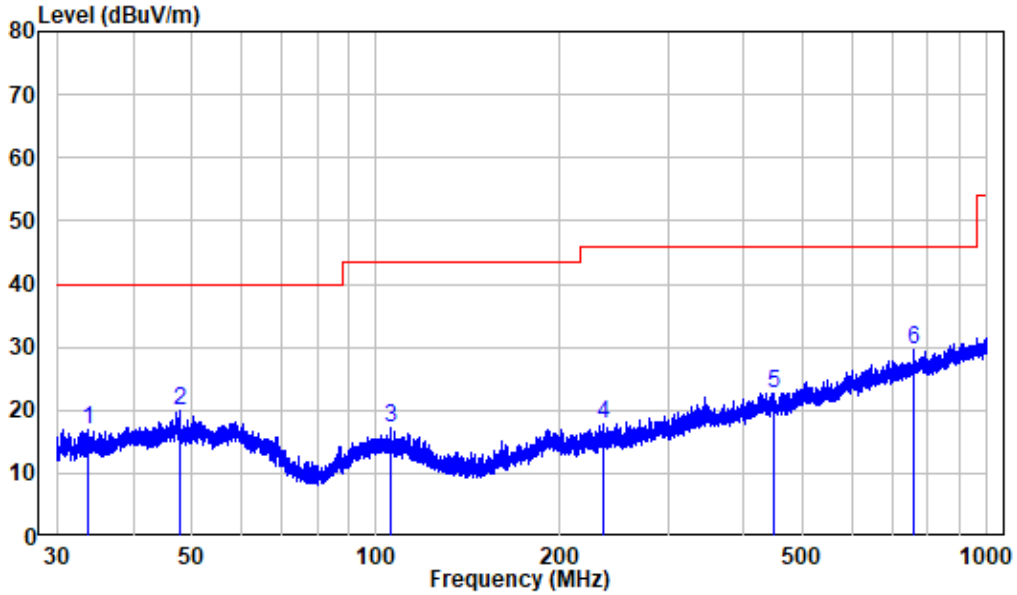
The testing was performed by Level Li on 2022-12-08 for below 1GHz,Jimi Zheng on 2022-11-16~ 2022-11-17 for above 1GHz.

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 n20 5230MHz)

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

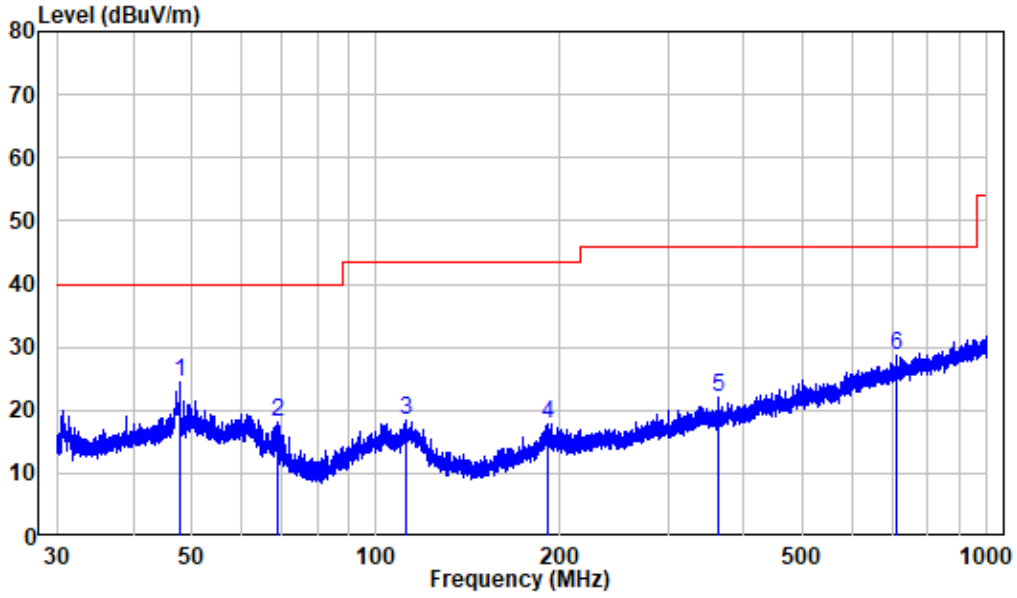
Horizontal



Site : chamber
Condition: 3m HORIZONTAL
Job No. : RA221101-50847E-RF
Test Mode: 5G WIFI transmitting

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	33.651	-11.90	28.93	17.03	40.00	-22.97	Peak
2	47.826	-10.00	29.90	19.90	40.00	-20.10	Peak
3	105.781	-11.91	29.13	17.22	43.50	-26.28	Peak
4	235.403	-10.96	28.85	17.89	46.00	-28.11	Peak
5	446.218	-5.63	28.37	22.74	46.00	-23.26	Peak
6	759.038	-0.59	30.06	29.47	46.00	-16.53	Peak

Vertical



Site : chamber
Condition: 3m VERTICAL
Job No. : RA221101-50847E-RF
Test Mode: 5G WIFI transmitting

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	47.805	-10.00	34.37	24.37	40.00	-15.63	Peak
2	68.963	-14.28	32.50	18.22	40.00	-21.78	Peak
3	111.640	-12.19	30.71	18.52	43.50	-24.98	Peak
4	190.322	-11.52	29.43	17.91	43.50	-25.59	Peak
5	363.781	-7.57	29.72	22.15	46.00	-23.85	Peak
6	713.235	-1.38	29.98	28.60	46.00	-17.40	Peak

Above 1GHz:

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)				
802.11n20									
5180 MHz									
4500	65.13	PK	245	2	H	-4.72	60.41	74	-13.59
4500	51.23	Ave.	245	2	H	-4.72	46.51	54	-7.49
4500	64.50	PK	7	1.2	V	-4.72	59.78	74	-14.22
4500	50.38	Ave.	7	1.2	V	-4.72	45.66	54	-8.34
5150	69.69	PK	229	1.8	H	-2.73	66.96	74	-7.04
5150	52.75	Ave.	229	1.8	H	-2.73	50.02	54	-3.98
5150	66.65	PK	71	1.2	V	-2.73	63.92	74	-10.08
5150	51.53	Ave.	71	1.2	V	-2.73	48.80	54	-5.20
10360	52.46	PK	5	2.1	H	8.12	60.58	68.2	-7.62
10360	52.43	PK	265	2.1	V	8.12	60.55	68.2	-7.65
5200 MHz									
10400	52.17	PK	33	2.3	H	8.24	60.41	68.2	-7.79
10400	52.28	PK	153	2.3	V	8.24	60.52	68.2	-7.68
5240 MHz									
5350	64.34	PK	245	1.2	H	-2.33	62.01	74	-11.99
5350	50.36	Ave.	245	1.2	H	-2.33	48.03	54	-5.97
5350	64.11	PK	287	2	V	-2.33	61.78	74	-12.22
5350	50.34	Ave.	287	2	V	-2.33	48.01	54	-5.99
5460	64.75	PK	178	2.3	H	-2.26	62.49	74	-11.51
5460	49.15	Ave.	178	2.3	H	-2.26	46.89	54	-7.11
5460	64.83	PK	225	1.2	V	-2.26	62.57	74	-11.43
5460	49.12	Ave.	225	1.2	V	-2.26	46.86	54	-7.14
10480	52.24	PK	67	1.7	H	8.56	60.80	68.2	-7.40
10480	52.18	PK	48	1.7	V	8.56	60.74	68.2	-7.46

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)				
802.11N40									
5190 MHz									
4500	65.30	PK	102	2.5	H	-4.72	60.58	74	-13.42
4500	50.38	Ave.	102	2.5	H	-4.72	45.66	54	-8.34
4500	64.82	PK	320	1.9	V	-4.72	60.10	74	-13.90
4500	50.41	Ave.	320	1.9	V	-4.72	45.69	54	-8.31
5150	71.15	PK	77	1.1	H	-2.73	68.42	74	-5.58
5150	51.88	Ave.	77	1.1	H	-2.73	49.15	54	-4.85
5150	67.41	PK	291	1.4	V	-2.73	64.68	74	-9.32
5150	51.53	Ave.	291	1.4	V	-2.73	48.80	54	-5.20
10380	52.41	PK	44	1	H	8.18	60.59	68.2	-7.61
10380	52.27	PK	222	1	V	8.18	60.45	68.2	-7.75
5230 MHz									
5350	66.35	PK	17	2	H	-2.33	64.02	74	-9.98
5350	50.37	Ave.	17	2	H	-2.33	48.04	54	-5.96
5350	66.45	PK	176	1.9	V	-2.33	64.12	74	-9.88
5350	50.23	Ave.	176	1.9	V	-2.33	47.90	54	-6.10
5460	64.06	PK	309	2.1	H	-2.26	61.80	74	-12.20
5460	48.79	Ave.	309	2.1	H	-2.26	46.53	54	-7.47
5460	64.15	PK	5	1.1	V	-2.26	61.89	74	-12.11
5460	48.79	Ave.	5	1.1	V	-2.26	46.53	54	-7.47
10460	52.32	PK	208	1.2	H	8.46	60.78	68.2	-7.42
10460	52.21	PK	238	1.2	V	8.46	60.67	68.2	-7.53

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									
5180 MHz									
4500	65.32	PK	163	1.8	H	-4.72	60.60	74	-13.40
4500	52.89	Ave.	163	1.8	H	-4.72	48.17	54	-5.83
4500	65.20	PK	180	2.4	V	-4.72	60.48	74	-13.52
4500	52.78	Ave.	180	2.4	V	-4.72	48.06	54	-5.94
5150	67.00	PK	103	1.7	H	-2.73	64.27	74	-9.73
5150	52.72	Ave.	103	1.7	H	-2.73	49.99	54	-4.01
5150	66.87	PK	232	1.6	V	-2.73	64.14	74	-9.86
5150	52.60	Ave.	232	1.6	V	-2.73	49.87	54	-4.13
10360	53.04	PK	288	1.4	H	8.12	61.16	68.2	-7.04
10360	52.87	PK	258	1.4	V	8.12	60.99	68.2	-7.21
5200 MHz									
10400	52.87	PK	21	1.8	H	8.24	61.11	68.2	-7.09
10400	52.72	PK	97	1.8	V	8.24	60.96	68.2	-7.24
5240MHz									
5350	63.74	PK	237	1.9	H	-2.33	61.41	74	-12.59
5350	49.42	Ave.	237	1.9	H	-2.33	47.09	54	-6.91
5350	63.61	PK	295	1	V	-2.33	61.28	74	-12.72
5350	49.29	Ave.	295	1	V	-2.33	46.96	54	-7.04
5460	62.12	PK	227	1.4	H	-2.26	59.86	74	-14.14
5460	48.63	Ave.	227	1.4	H	-2.26	46.37	54	-7.63
5460	62.01	PK	332	1.8	V	-2.26	59.75	74	-14.25
5460	48.49	Ave.	332	1.8	V	-2.26	46.23	54	-7.77
10480	53.05	PK	126	2	H	8.56	61.61	68.2	-6.59
10480	52.84	PK	39	2	V	8.56	61.40	68.2	-6.80

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	64.91	PK	240	2.1	H	-4.72	60.19	74	-13.81
4500	52.79	Ave.	240	2.1	H	-4.72	48.07	54	-5.93
4500	64.76	PK	3	2.5	V	-4.72	60.04	74	-13.96
4500	52.68	Ave.	3	2.5	V	-4.72	47.96	54	-6.04
5150	66.38	PK	266	1.3	H	-2.73	63.65	74	-10.35
5150	52.61	Ave.	266	1.3	H	-2.73	49.88	54	-4.12
5150	66.26	PK	157	1.4	V	-2.73	63.53	74	-10.47
5150	52.50	Ave.	157	1.4	V	-2.73	49.77	54	-4.23
10380	52.98	PK	64	1.6	H	8.18	61.16	68.2	-7.04
10380	52.77	PK	80	1.6	V	8.18	60.95	68.2	-7.25
5230MHz									
5350	63.94	PK	67	1.1	H	-2.33	61.61	74	-12.39
5350	49.51	Ave.	67	1.1	H	-2.33	47.18	54	-6.82
5350	63.82	PK	112	1.1	V	-2.33	61.49	74	-12.51
5350	49.40	Ave.	112	1.1	V	-2.33	47.07	54	-6.93
5460	62.43	PK	252	2	H	-2.26	60.17	74	-13.83
5460	48.60	Ave.	252	2	H	-2.26	46.34	54	-7.66
5460	62.31	PK	16	1	V	-2.26	60.05	74	-13.95
5460	48.48	Ave.	16	1	V	-2.26	46.22	54	-7.78
10460	53.33	PK	56	1.6	H	8.47	61.80	68.2	-6.40
10460	53.02	PK	15	1.6	V	8.47	61.49	68.2	-6.71

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)				
802.11ac80									
5210MHz									
4500	65.54	PK	10	2	H	-4.72	60.82	74	-13.18
4500	52.93	Ave.	10	2	H	-4.72	48.21	54	-5.79
4500	65.41	PK	189	1.2	V	-4.72	60.69	74	-13.31
4500	52.80	Ave.	189	1.2	V	-4.72	48.08	54	-5.92
5150	70.55	PK	72	1.3	H	-2.73	67.82	74	-6.18
5150	53.68	Ave.	72	1.3	H	-2.73	50.95	54	-3.05
5150	70.16	PK	270	1.8	V	-2.73	67.43	74	-6.57
5150	53.61	Ave.	270	1.8	V	-2.73	50.88	54	-3.12
5350	65.24	PK	50	1.2	H	-2.33	62.91	74	-11.09
5350	50.65	Ave.	50	1.2	H	-2.33	48.32	54	-5.68
5350	65.12	PK	196	1.7	V	-2.33	62.79	74	-11.21
5350	50.53	Ave.	196	1.7	V	-2.33	48.20	54	-5.80
5460	63.02	PK	162	1.7	H	-2.26	60.76	74	-13.24
5460	48.88	Ave.	162	1.7	H	-2.26	46.62	54	-7.38
5460	62.90	PK	151	1.1	V	-2.26	60.64	74	-13.36
5460	48.77	Ave.	151	1.1	V	-2.26	46.51	54	-7.49
10420	52.96	PK	15	2.4	H	8.32	61.28	68.2	-6.92
10420	52.65	PK	208	2.4	V	8.32	60.97	68.2	-7.23

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)				
802.11AX20									
5180MHz									
4500	65.43	PK	118	1.8	H	-4.72	60.71	74	-13.29
4500	53.01	Ave.	118	1.8	H	-4.72	48.29	54	-5.71
4500	65.30	PK	347	1.4	V	-4.72	60.58	74	-13.42
4500	52.89	Ave.	347	1.4	V	-4.72	48.17	54	-5.83
5150	67.08	PK	263	1.3	H	-2.73	64.35	74	-9.65
5150	52.81	Ave.	263	1.3	H	-2.73	50.08	54	-3.92
5150	66.99	PK	26	2.4	V	-2.73	64.26	74	-9.74
5150	52.70	Ave.	26	2.4	V	-2.73	49.97	54	-4.03
10360	53.12	PK	100	2.3	H	8.12	61.24	68.2	-6.96
10360	52.91	PK	135	2.3	V	8.12	61.03	68.2	-7.17
5200MHz									
10400	52.94	PK	307	1.1	H	8.24	61.18	68.2	-7.02
10400	52.79	PK	31	1.1	V	8.24	61.03	68.2	-7.17
5240MHz									
5350	63.93	PK	181	1.5	H	-2.33	61.60	74	-12.40
5350	49.51	Ave.	181	1.5	H	-2.33	47.18	54	-6.82
5350	63.82	PK	1	1.5	V	-2.33	61.49	74	-12.51
5350	49.40	Ave.	1	1.5	V	-2.33	47.07	54	-6.93
5460	62.22	PK	357	1.1	H	-2.26	59.96	74	-14.04
5460	48.71	Ave.	357	1.1	H	-2.26	46.45	54	-7.55
5460	62.13	PK	274	2.2	V	-2.26	59.87	74	-14.13
5460	48.59	Ave.	274	2.2	V	-2.26	46.33	54	-7.67
10480	53.19	PK	62	2.1	H	8.56	61.75	68.2	-6.45
10480	52.98	PK	262	2.1	V	8.56	61.54	68.2	-6.66

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	65.15	PK	291	1.2	H	-4.72	60.43	74	-13.57
4500	52.90	Ave.	291	1.2	H	-4.72	48.18	54	-5.82
4500	65.02	PK	301	1.1	V	-4.72	60.30	74	-13.70
4500	52.79	Ave.	301	1.1	V	-4.72	48.07	54	-5.93
5150	66.52	PK	150	1.7	H	-2.73	63.79	74	-10.21
5150	52.76	Ave.	150	1.7	H	-2.73	50.03	54	-3.97
5150	66.40	PK	79	1.3	V	-2.73	63.67	74	-10.33
5150	52.65	Ave.	79	1.3	V	-2.73	49.92	54	-4.08
10380	53.05	PK	295	2	H	8.18	61.23	68.2	-6.97
10380	52.90	PK	123	2	V	8.18	61.08	68.2	-7.12
5230MHz									
5350	64.09	PK	206	2.1	H	-2.33	61.76	74	-12.24
5350	49.66	Ave.	206	2.1	H	-2.33	47.33	54	-6.67
5350	63.98	PK	90	2.3	V	-2.33	61.65	74	-12.35
5350	49.54	Ave.	90	2.3	V	-2.33	47.21	54	-6.79
5460	62.52	PK	185	2.1	H	-2.26	60.26	74	-13.74
5460	48.72	Ave.	185	2.1	H	-2.26	46.46	54	-7.54
5460	62.39	PK	12	2.3	V	-2.26	60.13	74	-13.87
5460	48.61	Ave.	12	2.3	V	-2.26	46.35	54	-7.65
10460	53.28	PK	343	1.4	H	8.47	61.75	68.2	-6.45
10460	53.05	PK	179	1.4	V	8.47	61.52	68.2	-6.68
802.11AX80									
5210MHz									
4500	65.65	PK	248	1.6	H	-4.72	60.93	74	-13.07
4500	53.02	Ave.	248	1.6	H	-4.72	48.30	54	-5.70
4500	65.53	PK	309	2.5	V	-4.72	60.81	74	-13.19
4500	52.91	Ave.	309	2.5	V	-4.72	48.19	54	-5.81
5150	72.16	PK	23	2.3	H	-2.73	69.43	74	-4.57
5150	53.72	Ave.	23	2.3	H	-2.73	50.99	54	-3.01
5150	71.68	PK	332	1.5	V	-2.73	68.95	74	-5.05
5150	53.55	Ave.	332	1.5	V	-2.73	52.82	54	-3.18
5350	67.51	PK	321	1.6	H	-2.33	65.18	74	-8.82
5350	52.12	Ave.	321	1.6	H	-2.33	49.79	54	-4.21
5350	67.29	PK	121	1.8	V	-2.33	64.96	74	-9.04
5350	51.95	Ave.	121	1.8	V	-2.33	49.62	54	-4.38
5460	63.13	PK	78	2.4	H	-2.26	60.87	74	-13.13
5460	49.00	Ave.	78	2.4	H	-2.26	46.74	54	-7.26
5460	63.01	PK	266	1.5	V	-2.26	60.75	74	-13.25
5460	48.87	Ave.	266	1.5	V	-2.26	46.61	54	-7.39
10420	53.13	PK	79	2.1	H	8.32	61.45	68.2	-6.75
10420	52.94	PK	243	2.1	V	8.32	61.26	68.2	-6.94

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)				
802.11n20									
5745MHz									
5650	62.53	PK	344	2.4	H	-1.95	60.58	68.2	-7.62
5700	71.39	PK	253	1.9	H	-2.02	69.37	105.2	-35.83
5720	82.34	PK	163	1.1	H	-1.97	80.37	110.8	-30.43
5725	84.31	PK	253	1.5	H	-1.96	82.35	122.2	-39.85
5650	62.48	PK	93	2.2	V	-1.95	60.53	68.2	-7.67
5700	67.65	PK	61	2	V	-2.02	65.63	105.2	-39.57
5720	79.30	PK	308	1.9	V	-1.97	77.33	110.8	-33.47
5725	82.53	PK	33	1.9	V	-1.96	80.57	122.2	-41.63
11490	54.00	PK	258	1.2	H	6.63	60.63	74	-13.37
11490	41.66	Ave.	264	1.2	H	6.63	48.29	54	-5.71
11490	54.20	PK	332	2.4	V	6.63	60.83	74	-13.17
11490	41.65	Ave.	129	2.4	V	6.63	48.28	54	-5.72
5785MHz									
11570	54.28	PK	197	2	H	6.59	60.87	74	-13.13
11570	41.70	Ave.	344	2	H	6.59	48.29	54	-5.71
11570	54.59	PK	250	2.2	V	6.59	61.18	74	-12.82
11570	41.98	Ave.	143	2.2	V	6.59	48.57	54	-5.43
5825MHz									
5850	83.89	PK	189	1.7	H	-1.81	82.08	122.2	-40.12
5855	80.58	PK	163	1.2	H	-1.82	78.76	110.8	-32.04
5875	73.21	PK	270	1.5	H	-1.84	71.37	105.2	-33.83
5925	64.84	PK	289	1.8	H	-1.82	63.02	68.2	-5.18
5850	80.83	PK	277	1.1	V	-1.81	79.02	122.2	-43.18
5855	77.60	PK	246	1.1	V	-1.82	75.78	110.8	-35.02
5875	70.12	PK	262	1.8	V	-1.84	68.28	105.2	-36.92
5925	65.37	PK	210	2.3	V	-1.82	63.55	68.2	-4.65
11650	53.65	PK	187	2.4	H	6.77	60.42	74	-13.58
11650	41.37	Ave.	116	2.4	H	6.77	48.14	54	-5.86
11650	54.03	PK	318	1.1	V	6.77	60.80	74	-13.20
11650	41.32	Ave.	47	1.1	V	6.77	48.09	54	-5.91

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)				
802.11N40									
5755MHz									
5650	62.58	PK	276	2.3	H	-1.95	60.63	68.2	-7.57
5700	71.52	PK	270	2.4	H	-2.02	69.50	105.2	-35.70
5720	75.56	PK	221	1.1	H	-1.97	73.59	110.8	-37.21
5725	78.17	PK	43	1.4	H	-1.96	76.21	122.2	-45.99
5650	62.59	PK	358	1	V	-1.95	60.64	68.2	-7.56
5700	69.52	PK	250	1.9	V	-2.02	67.50	105.2	-37.70
5720	75.19	PK	334	1.2	V	-1.97	73.22	110.8	-37.58
5725	76.50	PK	281	2	V	-1.96	74.54	122.2	-47.66
11510	54.06	PK	12	1.7	H	6.59	60.65	74	-13.35
11510	40.62	Ave.	171	1.7	H	6.59	47.21	54	-6.79
11510	54.44	PK	315	2	V	6.59	61.03	74	-12.97
11510	40.71	Ave.	315	2	V	6.59	47.30	54	-6.70
5795MHz									
5850	72.54	PK	22	2.4	H	-1.81	70.73	122.2	-51.47
5855	69.64	PK	151	2.2	H	-1.82	67.82	110.8	-42.98
5875	66.63	PK	183	2.4	H	-1.84	64.79	105.2	-40.41
5925	64.53	PK	317	2.1	H	-1.82	62.71	68.2	-5.49
5850	69.81	PK	250	2.4	V	-1.81	68.00	122.2	-54.20
5855	67.52	PK	329	1.5	V	-1.82	65.70	110.8	-45.10
5875	65.66	PK	264	1.7	V	-1.84	63.82	105.2	-41.38
5925	63.56	PK	75	2.3	V	-1.82	61.74	68.2	-6.46
11590	54.62	PK	122	1.7	H	6.61	61.23	74	-12.77
11590	40.70	Ave.	356	1.7	H	6.61	47.31	54	-6.69
11590	54.48	PK	23	1.5	V	6.61	61.09	74	-12.91
11590	40.77	Ave.	146	1.5	V	6.61	47.38	54	-6.62

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									
5745 MHz									
5650	63.62	PK	241	1.3	H	-1.95	61.67	68.2	-6.53
5700	77.00	PK	34	1.1	H	-2.02	74.98	105.2	-30.22
5720	85.48	PK	32	1.3	H	-1.97	83.51	110.8	-27.29
5725	89.06	PK	333	1.2	H	-1.96	87.10	122.2	-35.10
5650	63.49	PK	188	1.6	V	-1.95	61.54	68.2	-6.66
5700	73.95	PK	342	2.4	V	-2.02	71.93	105.2	-33.27
5720	82.76	PK	317	1.1	V	-1.97	80.79	110.8	-30.01
5725	85.36	PK	277	2.4	V	-1.96	83.40	122.2	-38.80
11490	55.33	PK	144	1.4	H	6.63	61.96	74	-12.04
11490	41.04	Ave.	330	1.4	H	6.63	47.67	54	-6.33
11490	55.14	PK	156	1.9	V	6.63	61.77	74	-12.23
11490	40.92	Ave.	23	1.9	V	6.63	47.55	54	-6.45
5785MHz									
11570	55.46	PK	12	1.8	H	6.59	62.05	74	-11.95
11570	41.18	Ave.	97	1.8	H	6.59	47.77	54	-6.23
11570	55.27	PK	202	1.4	V	6.59	61.86	74	-12.14
11570	41.05	Ave.	270	1.4	V	6.59	47.64	54	-6.36
5825MHz									
5850	87.01	PK	52	1	H	-1.81	85.20	122.2	-37.00
5855	82.07	PK	89	2.5	H	-1.82	80.25	110.8	-30.55
5875	74.40	PK	147	1.6	H	-1.84	72.56	105.2	-32.64
5925	65.69	PK	295	1	H	-1.82	63.87	68.2	-4.33
5850	83.87	PK	140	2.4	V	-1.81	82.06	122.2	-40.14
5855	79.32	PK	276	1.6	V	-1.82	77.50	110.8	-33.30
5875	71.69	PK	9	2.4	V	-1.84	69.85	105.2	-35.35
5925	65.51	PK	277	1.8	V	-1.82	63.69	68.2	-4.51
11650	54.77	PK	53	1.7	H	6.77	61.54	74	-12.46
11650	40.52	Ave.	292	1.7	H	6.77	47.29	54	-6.71
11650	54.65	PK	181	2.1	V	6.77	61.42	74	-12.58
11650	40.41	Ave.	86	2.1	V	6.77	47.18	54	-6.82

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	63.97	PK	348	1.5	H	-1.95	62.02	68.2	-6.18
5700	71.65	PK	137	1.2	H	-2.02	69.63	105.2	-35.57
5720	76.66	PK	212	2	H	-1.97	74.69	110.8	-36.11
5725	79.74	PK	143	2	H	-1.96	77.78	122.2	-44.42
5650	63.78	PK	185	1.1	V	-1.95	61.83	68.2	-6.37
5700	69.74	PK	267	1.3	V	-2.02	67.72	105.2	-37.48
5720	73.51	PK	354	1.2	V	-1.97	71.54	110.8	-39.26
5725	76.97	PK	39	2	V	-1.96	75.01	122.2	-47.19
11510	55.18	PK	267	1.7	H	6.59	61.77	74	-12.23
11510	40.97	Ave.	145	1.7	H	6.59	47.56	54	-6.44
11510	55.05	PK	352	1.5	V	6.59	61.64	74	-12.36
11510	40.84	Ave.	105	1.5	V	6.59	47.43	54	-6.57
5795MHz									
5850	73.17	PK	232	1.7	H	-1.81	71.36	122.2	-50.84
5855	69.79	PK	0	2.2	H	-1.82	67.97	110.8	-42.83
5875	66.93	PK	24	1.8	H	-1.84	65.09	105.2	-40.11
5925	65.37	PK	228	1.4	H	-1.82	63.55	68.2	-4.65
5850	70.29	PK	154	1.7	V	-1.81	68.48	122.2	-53.72
5855	68.18	PK	76	1.3	V	-1.82	66.36	110.8	-44.44
5875	66.38	PK	36	1.8	V	-1.84	64.54	105.2	-40.66
5925	65.21	PK	113	1.9	V	-1.82	63.39	68.2	-4.81
11590	55.26	PK	29	2	H	6.57	61.83	74	-12.17
11590	41.04	Ave.	157	2	H	6.57	47.61	54	-6.39
11590	55.13	PK	287	2.3	V	6.57	61.70	74	-12.30
11590	40.91	Ave.	183	2.3	V	6.57	47.48	54	-6.52

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	66.43	PK	276	1.2	H	-1.95	64.48	68.2	-3.72
5700	73.06	PK	285	2.4	H	-2.02	71.04	105.2	-34.16
5720	77.20	PK	220	2.1	H	-1.97	75.23	110.8	-35.57
5725	79.48	PK	16	2.4	H	-1.96	77.52	122.2	-44.68
5650	66.22	PK	106	1.3	V	-1.95	64.27	68.2	-3.93
5700	69.92	PK	130	1.9	V	-2.02	67.90	105.2	-37.30
5720	74.08	PK	287	2.2	V	-1.97	72.11	110.8	-38.69
5725	76.38	PK	341	2.5	V	-1.96	74.42	122.2	-47.78
5850	74.17	PK	41	2	H	-1.81	72.36	122.2	-49.84
5855	72.11	PK	296	2	H	-1.82	70.29	110.8	-40.51
5875	69.29	PK	278	1.4	H	-1.84	67.45	105.2	-37.75
5925	65.32	PK	118	1.5	H	-1.82	63.50	68.2	-4.70
5850	71.31	PK	125	1.6	V	-1.81	69.50	122.2	-52.70
5855	69.36	PK	266	2.5	V	-1.82	67.54	110.8	-43.26
5875	67.72	PK	358	1.1	V	-1.84	65.88	105.2	-39.32
5925	65.17	PK	136	1.8	V	-1.82	63.35	68.2	-4.85
11550	55.54	PK	157	2.2	H	6.61	62.15	74	-11.85
11550	41.22	Ave.	98	2.2	H	6.61	47.83	54	-6.17
11550	55.41	PK	43	2	V	6.61	62.02	74	-11.98
11550	41.10	Ave.	167	2	V	6.61	47.71	54	-6.29

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	64.82	PK	60	1.5	H	-1.95	62.87	68.2	-5.33
5700	78.32	PK	298	1.8	H	-2.02	76.30	105.2	-28.90
5720	87.68	PK	348	1.6	H	-1.97	85.71	110.8	-25.09
5725	90.55	PK	39	1.8	H	-1.96	88.59	122.2	-33.61
5650	64.64	PK	172	1.7	V	-1.95	62.69	68.2	-5.51
5700	76.15	PK	118	1.8	V	-2.02	74.13	105.2	-31.07
5720	84.81	PK	132	2.3	V	-1.97	82.84	110.8	-27.96
5725	87.48	PK	294	1.2	V	-1.96	85.52	122.2	-36.68
11490	55.42	PK	13	2.2	H	6.63	62.05	74	-11.95
11490	41.17	Ave.	202	2.2	H	6.63	47.80	54	-6.20
11490	55.29	PK	165	1.8	V	6.63	61.92	74	-12.08
11490	41.04	Ave.	169	1.8	V	6.63	47.67	54	-6.33
5785MHz									
11570	55.55	PK	50	1.7	H	6.59	62.14	74	-11.86
11570	41.33	Ave.	6	1.7	H	6.59	47.92	54	-6.08
11570	55.41	PK	126	1.3	V	6.59	62.00	74	-12.00
11570	41.22	Ave.	70	1.3	V	6.59	47.81	54	-6.19
5825MHz									
5850	90.11	PK	51	1.7	H	-1.81	88.30	122.2	-33.90
5855	85.00	PK	354	1.1	H	-1.82	83.18	110.8	-27.62
5875	77.29	PK	22	1	H	-1.84	75.45	105.2	-29.75
5925	66.31	PK	141	1.8	H	-1.82	64.49	68.2	-3.71
5850	86.90	PK	29	1.7	V	-1.81	85.09	122.2	-37.11
5855	82.08	PK	17	1.6	V	-1.82	80.26	110.8	-30.54
5875	74.89	PK	170	2.4	V	-1.84	73.05	105.2	-32.15
5925	66.10	PK	79	2.1	V	-1.82	64.28	68.2	-3.92
11650	54.82	PK	333	2	H	6.77	61.59	74	-12.41
11650	40.64	Ave.	187	2	H	6.77	47.41	54	-6.59
11650	54.70	PK	186	2.2	V	6.77	61.47	74	-12.53
11650	40.49	Ave.	355	2.2	V	6.77	47.26	54	-6.74

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμ V/m)	Limit (dBμ V/m)	Margin (dB)
	Reading (dBμ V)	PK/Ave		Height (m)	Polar (H/V)				
802.11AX40									
5755MHz									
5650	64.73	PK	235	1.4	H	-1.95	62.78	68.2	-5.42
5700	73.09	PK	90	2	H	-2.02	71.07	105.2	-34.13
5720	79.57	PK	256	2.1	H	-1.97	77.60	110.8	-33.20
5725	82.65	PK	157	1.7	H	-1.96	80.69	122.2	-41.51
5650	64.49	PK	278	1	V	-1.95	62.54	68.2	-5.66
5700	69.32	PK	295	1.9	V	-2.02	67.30	105.2	-37.90
5720	76.53	PK	251	1	V	-1.97	74.56	110.8	-36.24
5725	79.38	PK	54	2.4	V	-1.96	77.42	122.2	-44.78
11510	55.27	PK	45	2	H	6.59	61.86	74	-12.14
11510	41.08	Ave.	32	2	H	6.59	47.67	54	-6.33
11510	55.12	PK	307	2.4	V	6.59	61.71	74	-12.29
11510	40.95	Ave.	62	2.4	V	6.59	47.54	54	-6.46
5795MHz									
5850	75.96	PK	160	2	H	-1.81	74.15	122.2	-48.05
5855	72.82	PK	291	1.6	H	-1.82	71.00	110.8	-39.80
5875	69.30	PK	140	1.8	H	-1.84	67.46	105.2	-37.74
5925	65.70	PK	167	2	H	-1.82	63.88	68.2	-4.32
5850	73.63	PK	199	1.5	V	-1.81	71.82	122.2	-50.38
5855	70.39	PK	38	1.1	V	-1.82	68.57	110.8	-42.23
5875	67.69	PK	78	2.5	V	-1.84	65.85	105.2	-39.35
5925	65.40	PK	137	2.2	V	-1.82	63.58	68.2	-4.62
11590	55.36	PK	180	2	H	6.57	61.93	74	-12.07
11590	41.15	Ave.	66	2	H	6.57	47.72	54	-6.28
11590	55.24	PK	84	2.1	V	6.57	61.81	74	-12.19
11590	41.03	Ave.	268	2.1	V	6.57	47.60	54	-6.40

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμ V/m)	Limit (dBμ V/m)	Margin (dB)
	Reading (dBμ V)	PK/Ave		Height (m)	Polar (H/V)				
802.11AX80									
5775MHz									
5650	67.15	PK	309	1.3	H	-1.95	65.20	68.2	-3.00
5700	77.83	PK	312	2.2	H	-2.02	75.81	105.2	-29.39
5720	79.36	PK	27	2.1	H	-1.97	77.39	110.8	-33.41
5725	81.59	PK	171	2.4	H	-1.96	79.63	122.2	-42.57
5650	66.94	PK	262	1.5	V	-1.95	64.99	68.2	-3.21
5700	74.92	PK	239	2.1	V	-2.02	72.90	105.2	-32.30
5720	76.81	PK	213	1.1	V	-1.97	74.84	110.8	-35.96
5725	78.68	PK	126	1.8	V	-1.96	76.72	122.2	-45.48
5850	77.40	PK	51	1.2	H	-1.81	75.59	122.2	-46.61
5855	74.60	PK	102	1.4	H	-1.82	72.78	110.8	-38.02
5875	72.34	PK	81	2.2	H	-1.84	70.50	105.2	-34.70
5925	65.78	PK	61	1.9	H	-1.82	63.96	68.2	-4.24
5850	74.29	PK	268	1.8	V	-1.81	72.48	122.2	-49.72
5855	71.88	PK	130	1.3	V	-1.82	70.06	110.8	-40.74
5875	69.41	PK	193	1	V	-1.84	67.57	105.2	-37.63
5925	65.55	PK	288	1.2	V	-1.82	63.73	68.2	-4.47
11550	55.62	PK	133	1.6	H	6.61	62.23	74	-11.77
11550	41.33	Ave.	178	1.6	H	6.61	47.94	54	-6.06
11550	55.47	PK	112	1.2	V	6.61	62.08	74	-11.92
11550	41.19	Ave.	292	1.2	V	6.61	47.80	54	-6.20

Note:

Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor

Absolute Level (Corrected Amplitude） = Factor + Reading

Margin = Absolute Level - Limit

The other spurious emission which is 20dB below to the limit was not recorded.

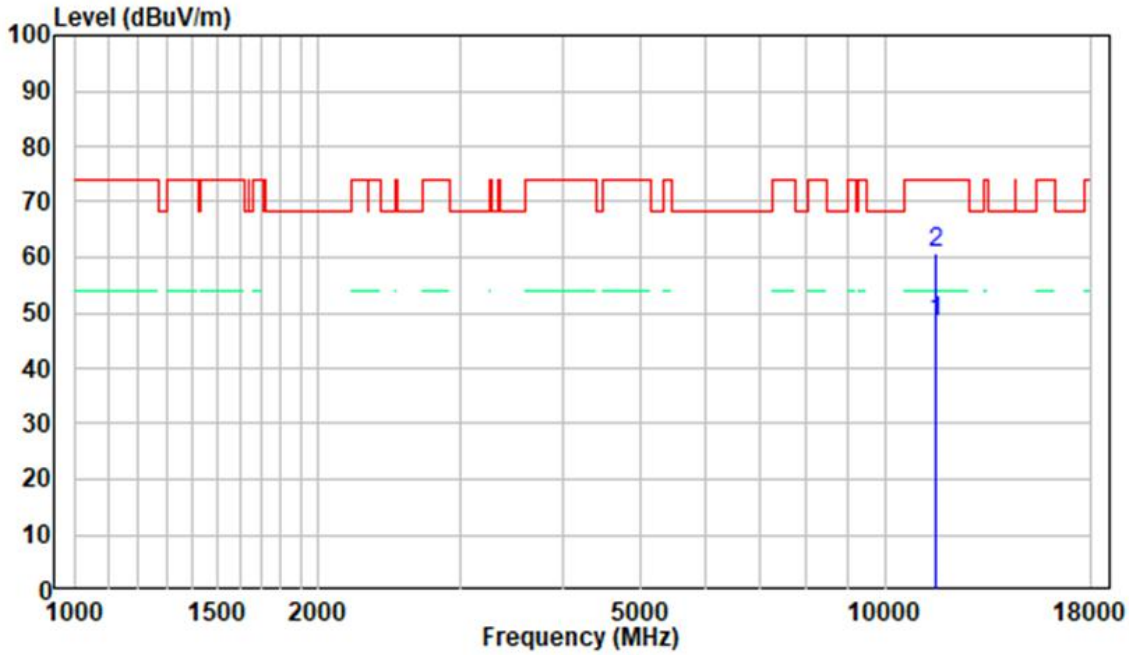
The test result of peak was less than the limit of average, so just peak values were recorded.

For WWAN and WLAN transmit simultaneously condition, please refer to DTS report.

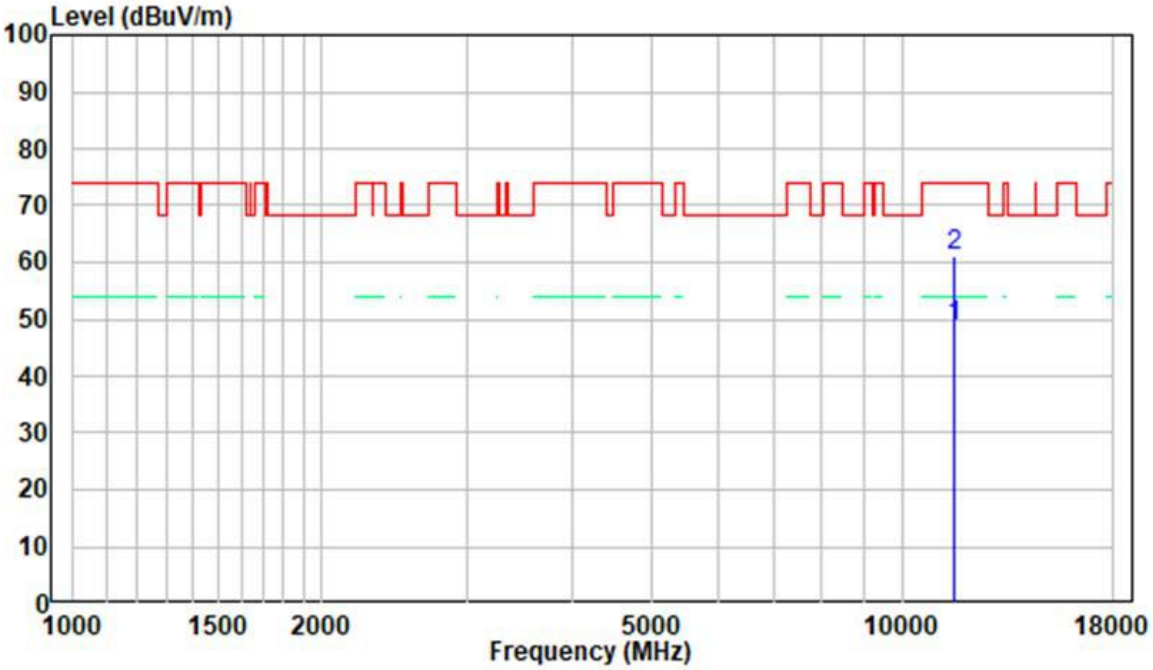
1-18 GHz:

Pre-scan Plots:

802.11n20 5785MHz
Horizontal



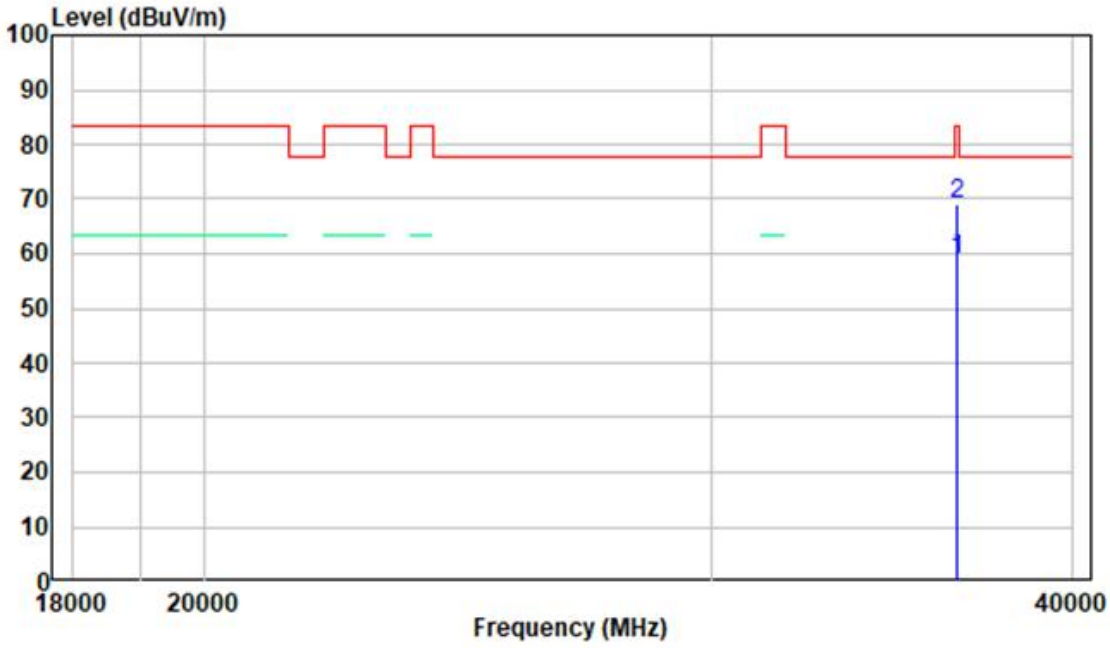
Vertical



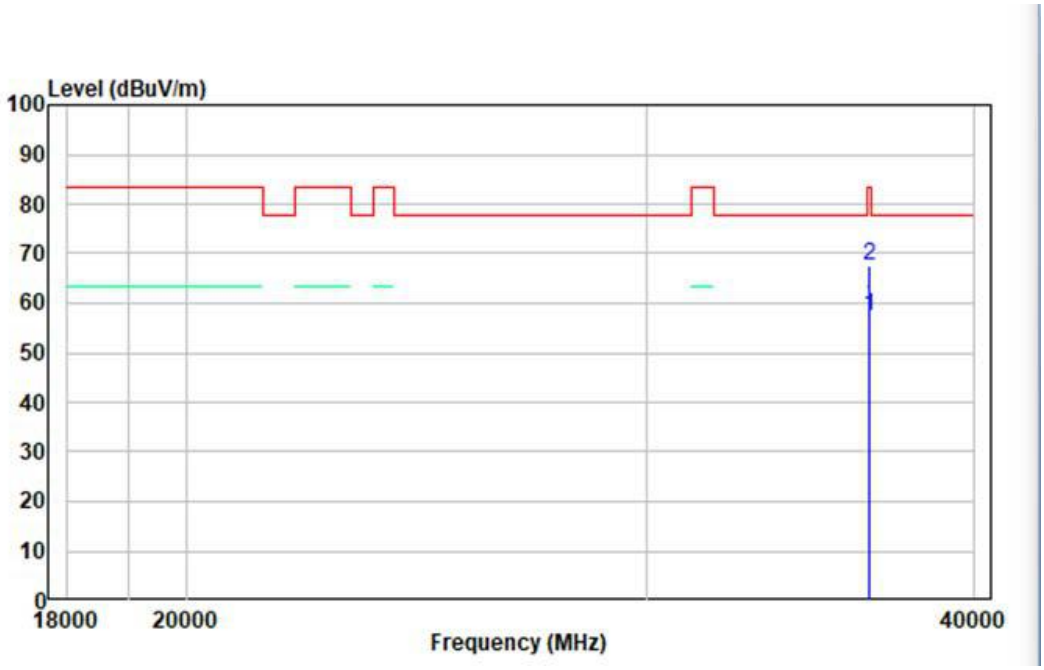
18 -40GHz:

Pre-scan Plots:

802.11n20 5785MHz
Horizontal



Vertical



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

Applicable Standard

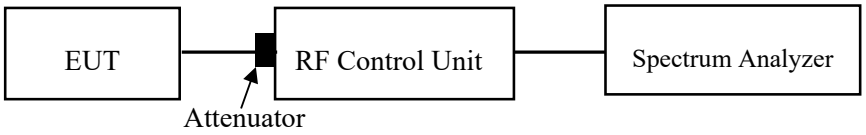
The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.725-5.85 GHz band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

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

Test Procedure

1. Emission Bandwidth (EBW)
a) Set RBW = approximately 1% of the emission bandwidth.
b) Set the VBW > RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

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



Test Data

Environmental Conditions

Temperature:	25℃
Relative Humidity:	55 %
ATM Pressure:	101.0 kPa

The testing was performed by Glenna Jiang on 2022-12-01.

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.

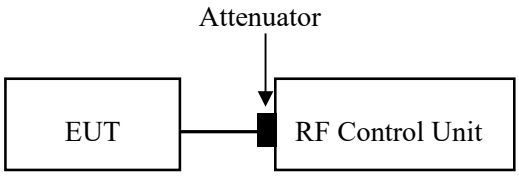
For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum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

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.



Note: the RF control unit has built-in power sensor.

Test Data

Environmental Conditions

Temperature:	25℃
Relative Humidity:	55 %
ATM Pressure:	101.0 kPa

The testing was performed by Glenna Jiang on 2022-12-01.

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.

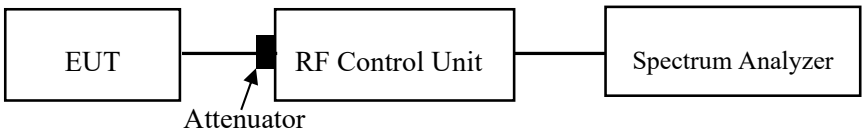
For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11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

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:	25℃
Relative Humidity:	55 %
ATM Pressure:	101.0 kPa

The testing was performed by Glenna Jiang on 2022-12-01.

EUT operation mode: Transmitting

Test Result: Pass

Please refer to the Appendix.

APPENDIX

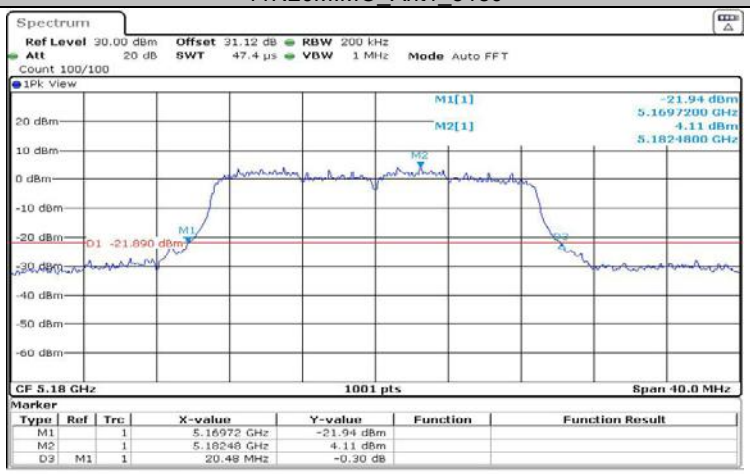
AppendixA1: Emission Bandwidth

Test Result

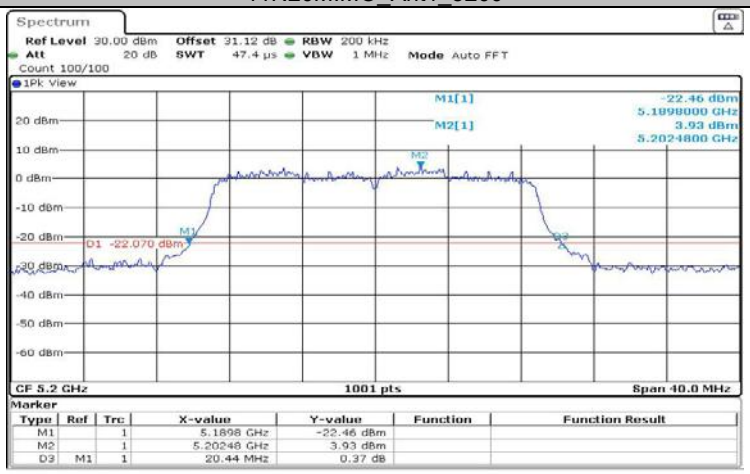
Test Mode	Antenna	Frequency[MHz]	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11N20MIMO	Ant1	5180	20.48	5169.72	5190.20	---	---
	Ant1	5200	20.44	5189.80	5210.24	---	---
	Ant1	5240	20.44	5229.88	5250.32	---	---
11N40MIMO	Ant1	5190	40.40	5169.92	5210.32	---	---
	Ant1	5230	40.88	5209.92	5250.80	---	---
11AC20MIMO	Ant1	5180	20.40	5169.72	5190.12	---	---
	Ant1	5200	20.12	5189.92	5210.04	---	---
	Ant1	5240	20.36	5229.80	5250.16	---	---
11AC40MIMO	Ant1	5190	40.40	5169.84	5210.24	---	---
	Ant1	5230	40.48	5209.52	5250.00	---	---
11AC80MIMO	Ant1	5210	83.04	5168.56	5251.60	---	---
11AX20MIMO	Ant1	5180	24.44	5167.20	5191.64	---	---
	Ant1	5200	21.12	5189.48	5210.60	---	---
	Ant1	5240	21.40	5229.32	5250.72	---	---
11AX40MIMO	Ant1	5190	41.36	5169.36	5210.72	---	---
	Ant1	5230	45.20	5209.36	5254.56	---	---
11AX80MIMO	Ant1	5210	83.52	5168.24	5251.76	---	---

Test Graphs

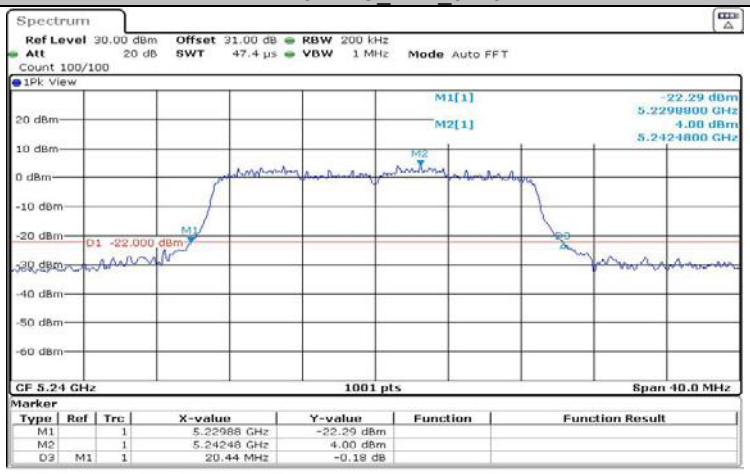
11N20MIMO_Ant1_5180



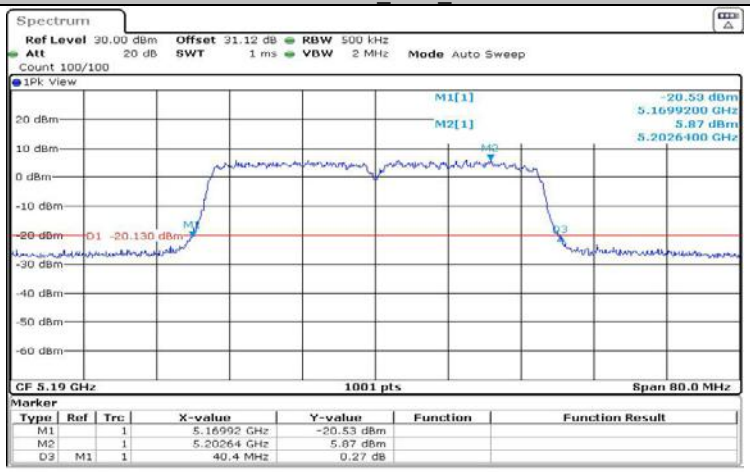
11N20MIMO_Ant1_5200



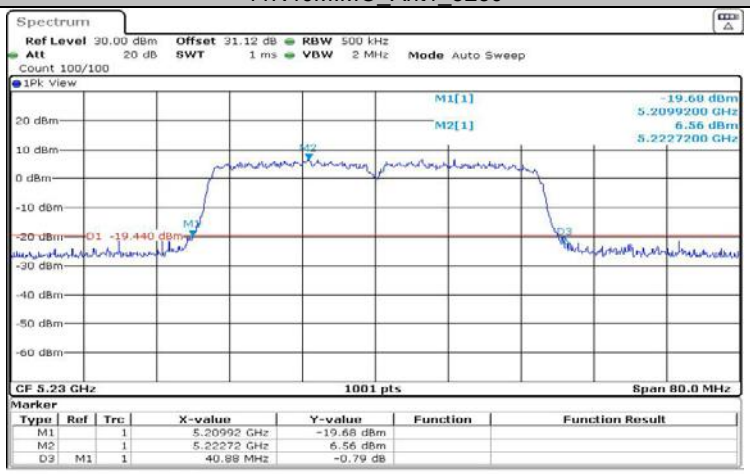
11N20MIMO_Ant1_5240



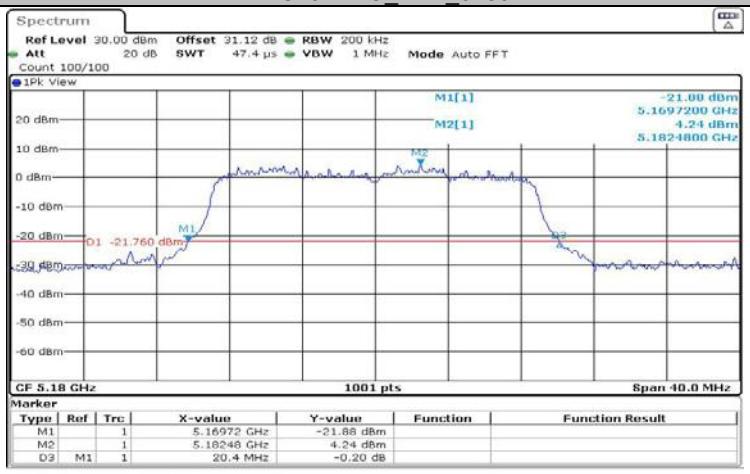
11N40MIMO_Ant1_5190



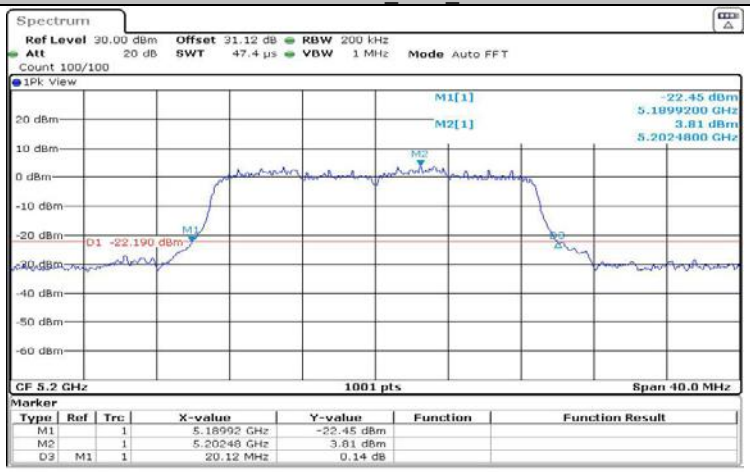
11N40MIMO_Ant1_5230



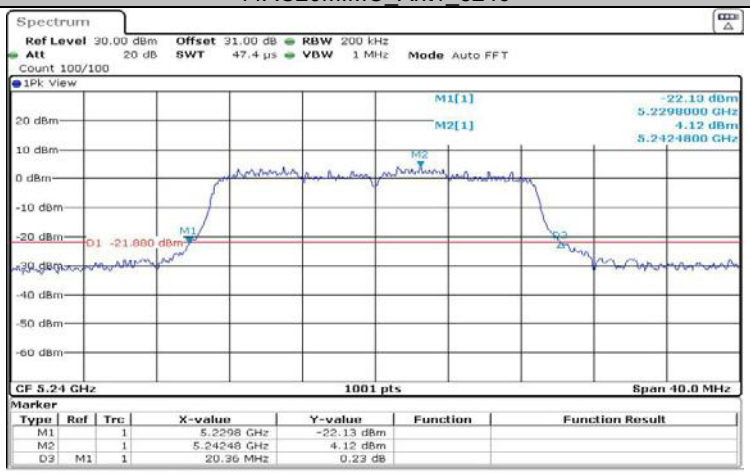
11AC20MIMO_Ant1_5180



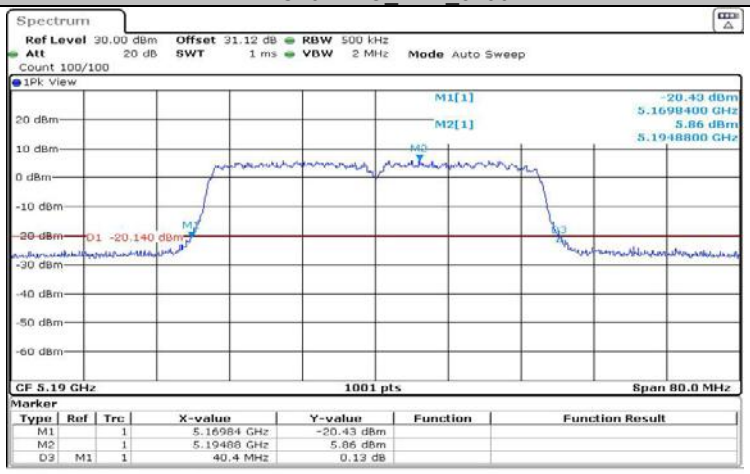
11AC20MIMO_Ant1_5200



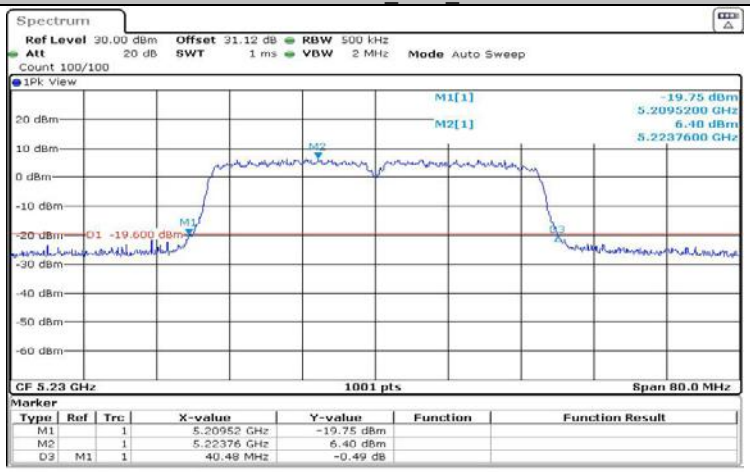
11AC20MIMO_Ant1_5240



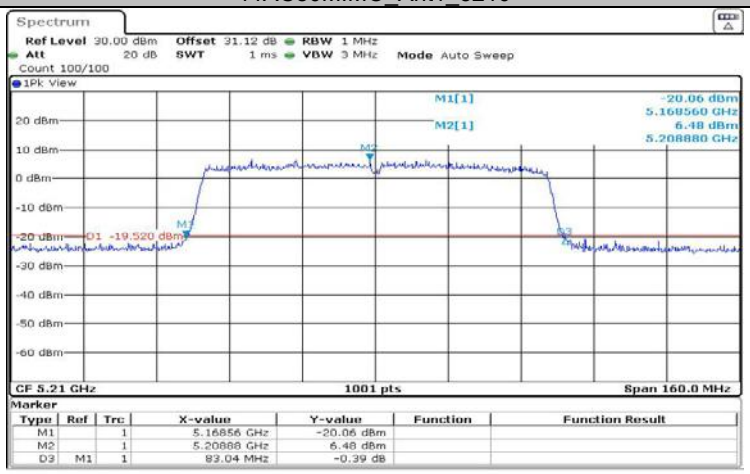
11AC40MIMO_Ant1_5190



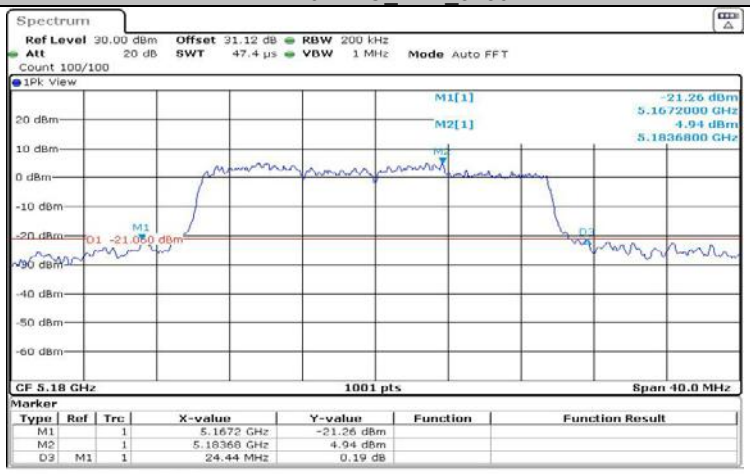
11AC40MIMO_Ant1_5230



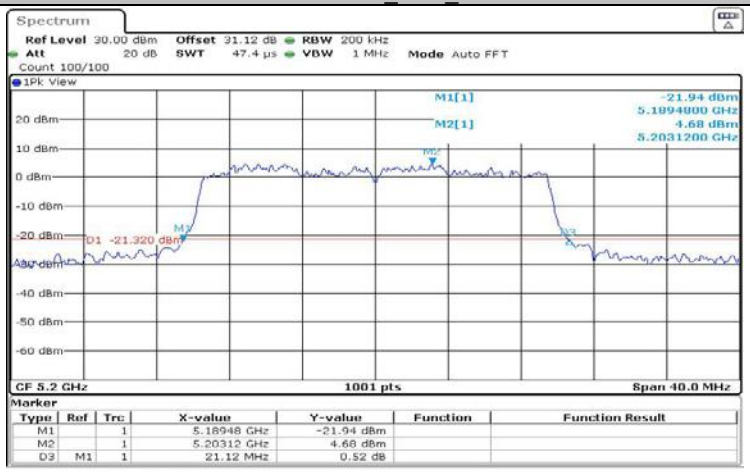
11AC80MIMO_Ant1_5210



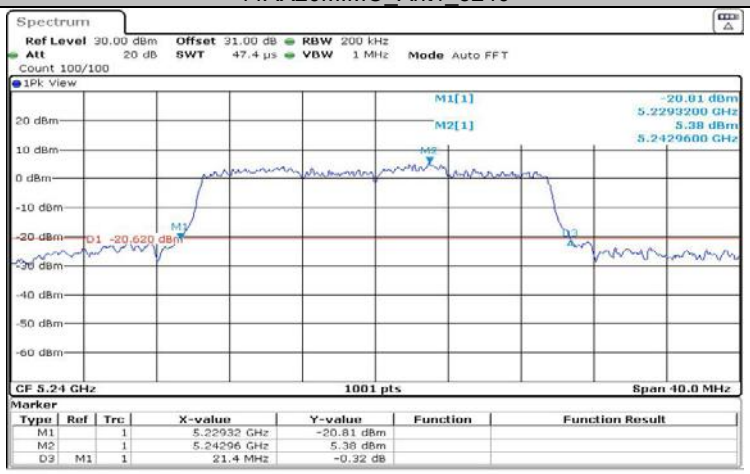
11AX20MIMO_Ant1_5180



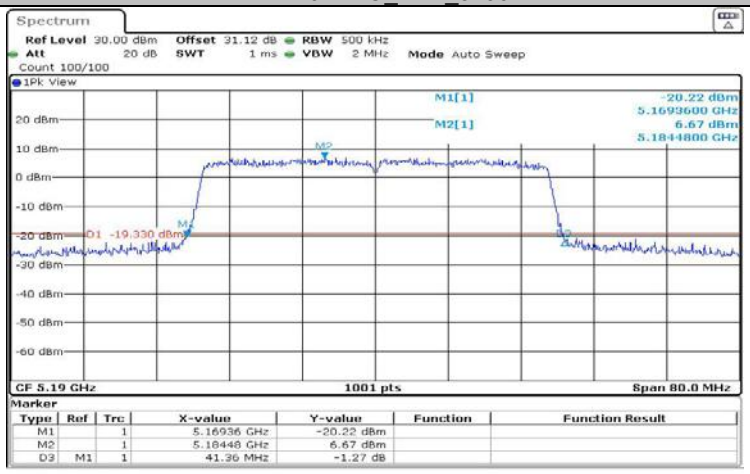
11AX20MIMO_Ant1_5200

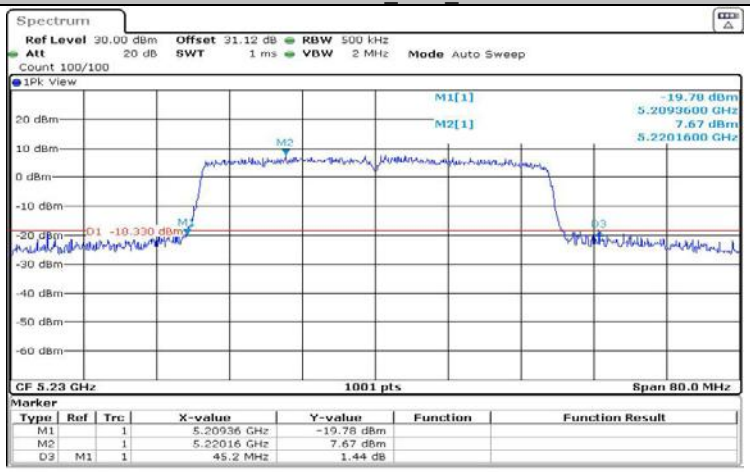


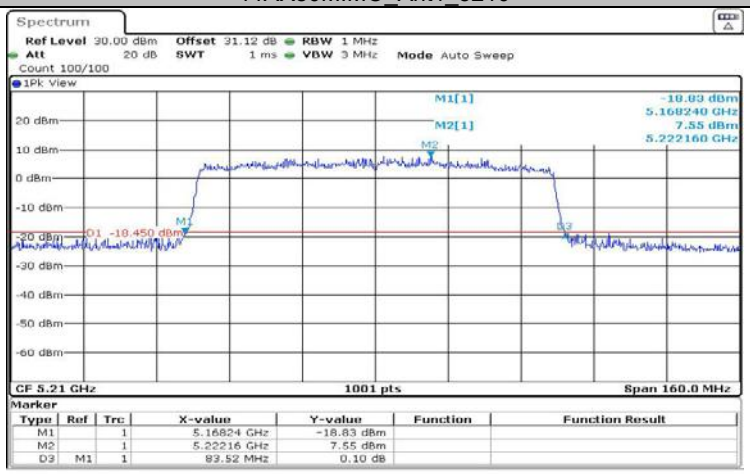
11AX20MIMO_Ant1_5240



11AX40MIMO_Ant1_5190



11AX40MIMO_Ant1_5230


11AX80MIMO_Ant1_5210


AppendixA2: Occupied channel bandwidth

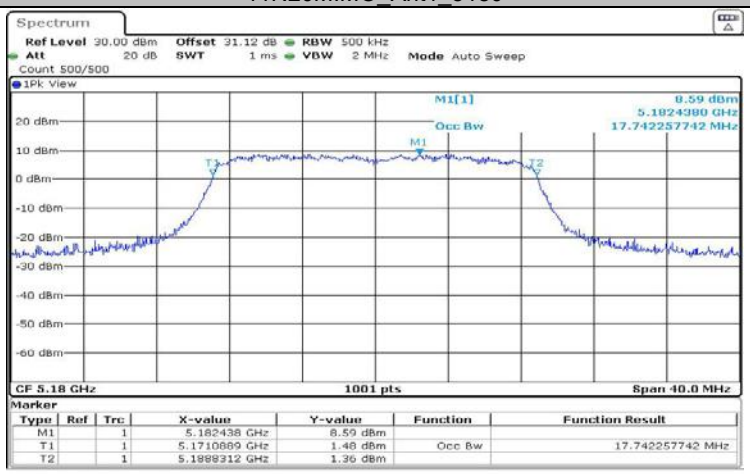
Test Result

Test Mode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11N20MIMO	Ant1	5180	17.742	5171.089	5188.831	---	---
	Ant1	5200	17.742	5191.129	5208.871	---	---
	Ant1	5240	17.862	5231.049	5248.911	---	---
	Ant1	5745	26.533	5731.653	5758.187	---	---
	Ant1	5785	25.734	5772.173	5797.907	---	---
	Ant1	5825	25.215	5812.453	5837.667	---	---
11N40MIMO	Ant1	5190	36.364	5171.778	5208.142	---	---
	Ant1	5230	36.284	5211.858	5248.142	---	---
	Ant1	5755	37.483	5736.379	5773.861	---	---
	Ant1	5795	37.403	5776.379	5813.781	---	---
11AC20MIMO	Ant1	5180	17.822	5171.049	5188.871	---	---
	Ant1	5200	17.742	5191.129	5208.871	---	---
	Ant1	5240	17.822	5231.089	5248.911	---	---
	Ant1	5745	27.612	5730.974	5758.586	---	---
	Ant1	5785	26.134	5771.893	5798.027	---	---
	Ant1	5825	25.894	5811.973	5837.867	---	---
11AC40MIMO	Ant1	5190	36.364	5171.778	5208.142	---	---
	Ant1	5230	36.284	5211.858	5248.142	---	---
	Ant1	5755	37.562	5736.299	5773.861	---	---
	Ant1	5795	37.003	5776.618	5813.621	---	---
11AC80MIMO	Ant1	5210	75.924	5171.958	5247.882	---	---
	Ant1	5775	77.203	5736.479	5813.681	---	---
11AX20MIMO	Ant1	5180	19.181	5170.370	5189.550	---	---
	Ant1	5200	19.181	5190.410	5209.590	---	---
	Ant1	5240	19.301	5230.330	5249.630	---	---
	Ant1	5745	28.651	5730.455	5759.106	---	---
	Ant1	5785	28.052	5770.694	5798.746	---	---
	Ant1	5825	27.173	5811.374	5838.546	---	---
11AX40MIMO	Ant1	5190	38.202	5170.899	5209.101	---	---
	Ant1	5230	38.202	5210.899	5249.101	---	---
	Ant1	5755	39.8	5735.100	5774.900	---	---
	Ant1	5795	39.081	5775.579	5814.660	---	---
11AX80MIMO	Ant1	5210	78.002	5170.999	5249.001	---	---
	Ant1	5775	91.109	5725.290	5816.399	---	---

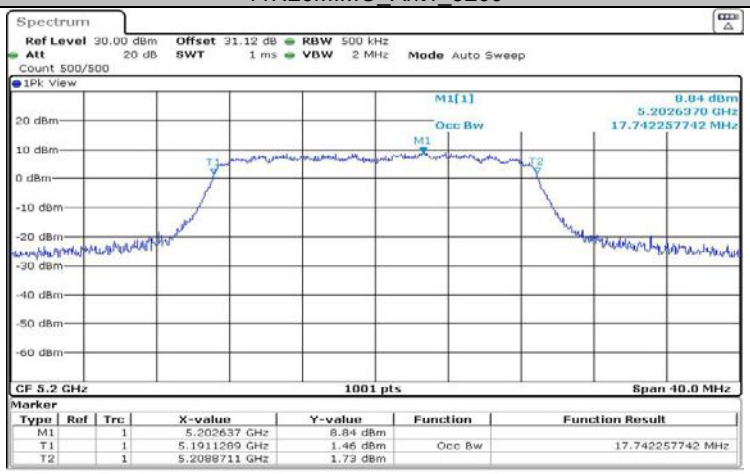
Note: the device will not operate with any part of OBW fall within 5250-5350MHz and 5470-5725MHz range.

Test Graphs

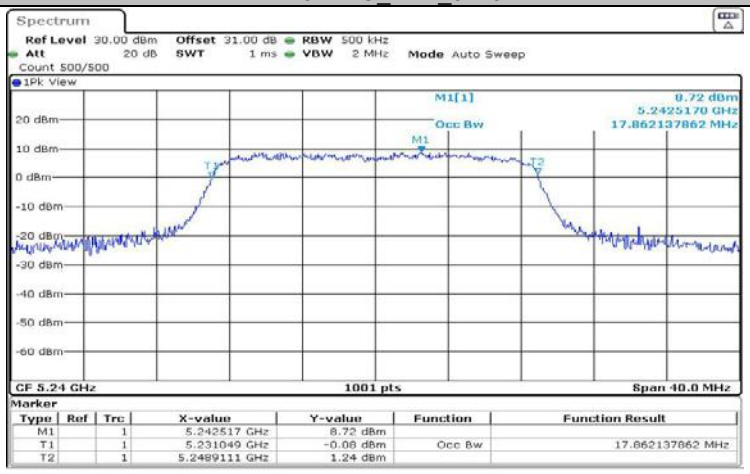
11N20MIMO_Ant1_5180



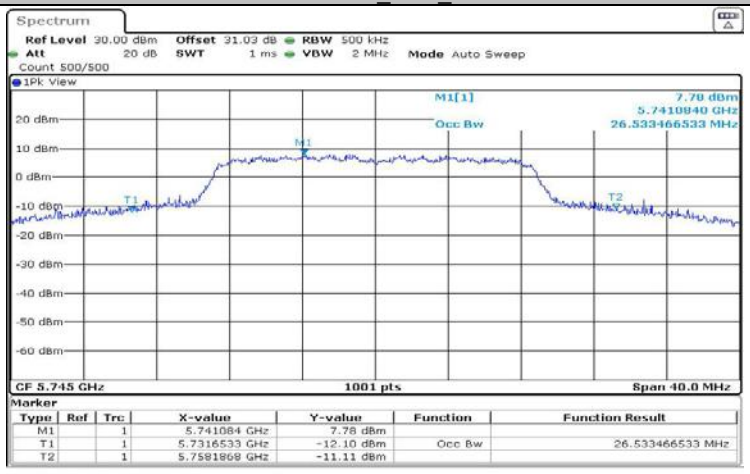
11N20MIMO_Ant1_5200



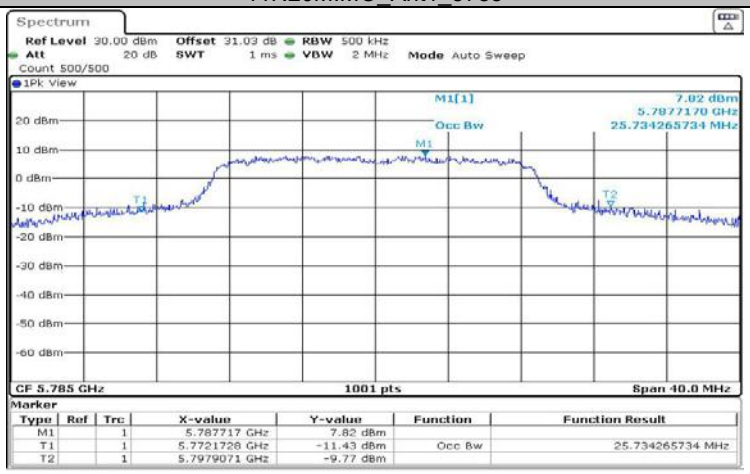
11N20MIMO_Ant1_5240



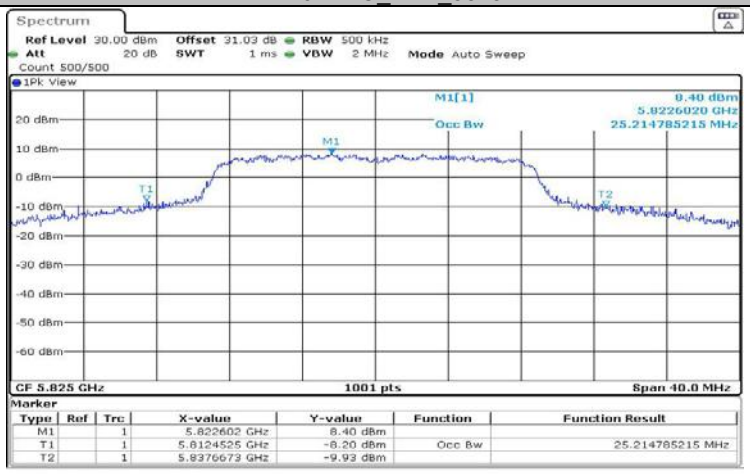
11N20MIMO_Ant1_5745



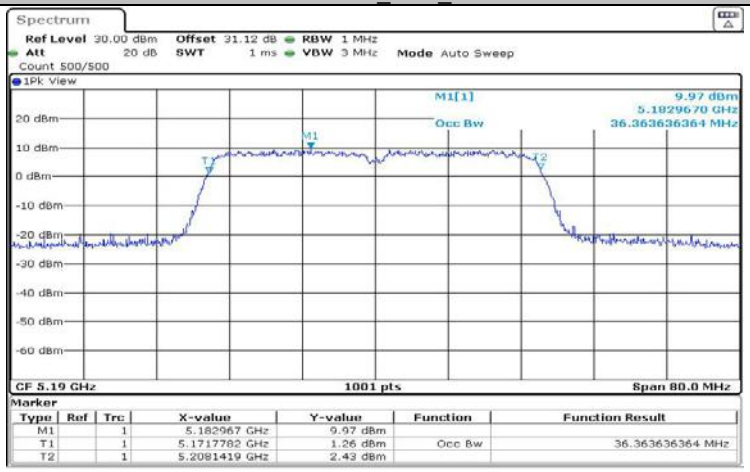
11N20MIMO_Ant1_5785



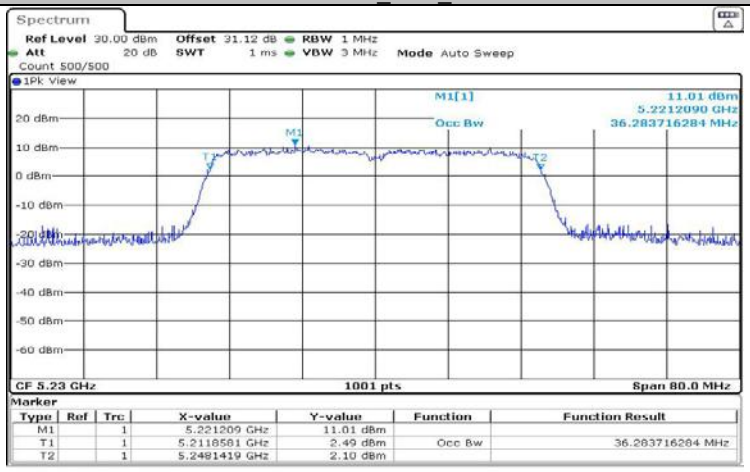
11N20MIMO_Ant1_5825



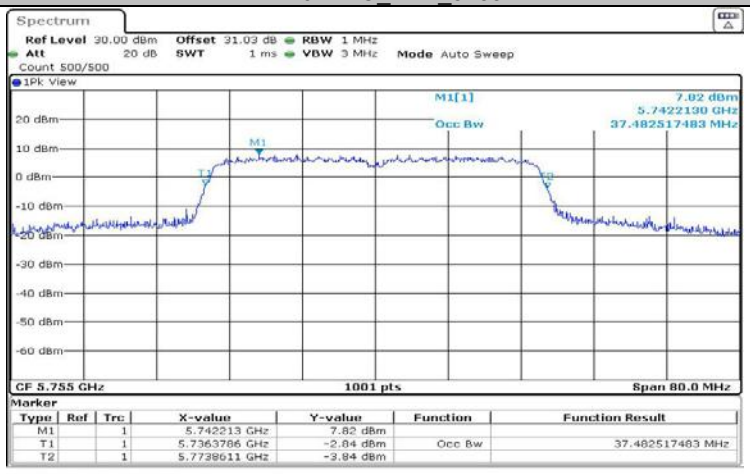
11N40MIMO_Ant1_5190



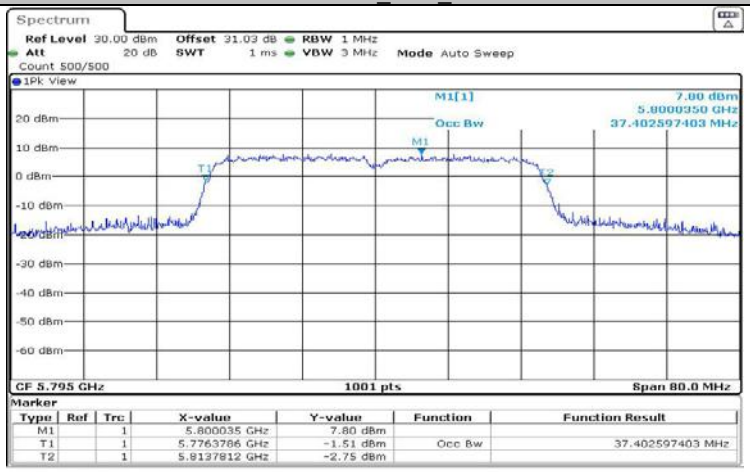
11N40MIMO_Ant1_5230



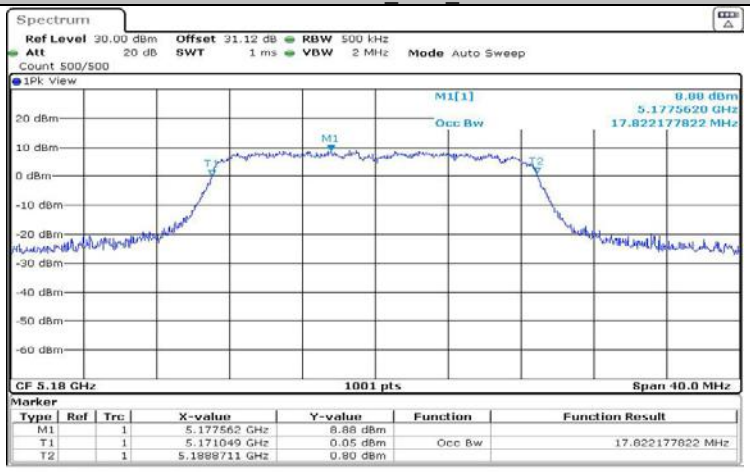
11N40MIMO_Ant1_5755



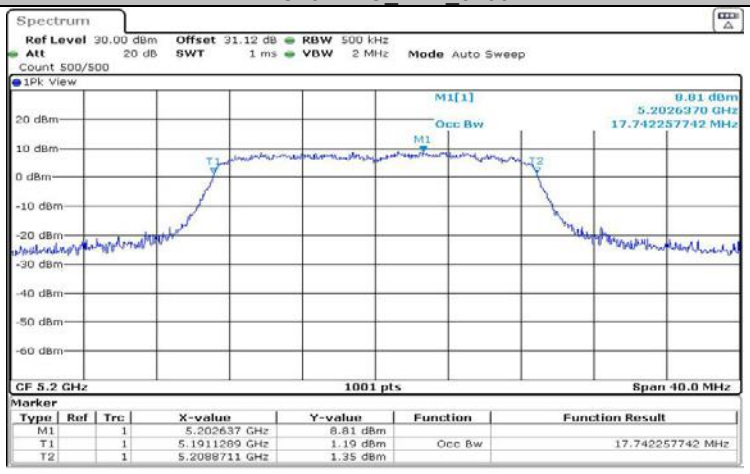
11N40MIMO_Ant1_5795



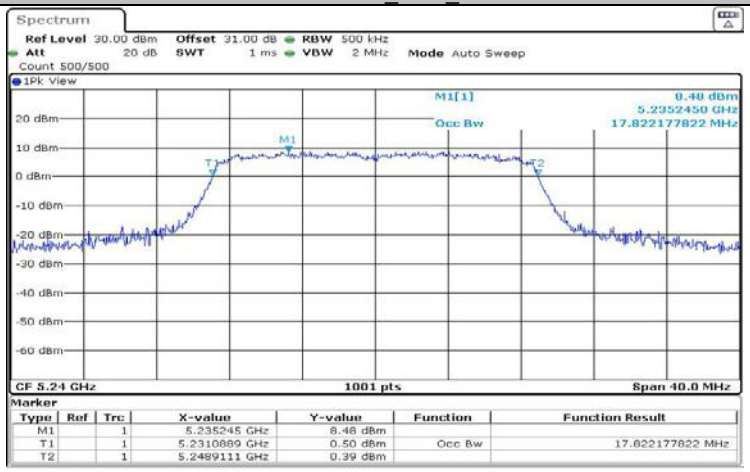
11AC20MIMO_Ant1_5180



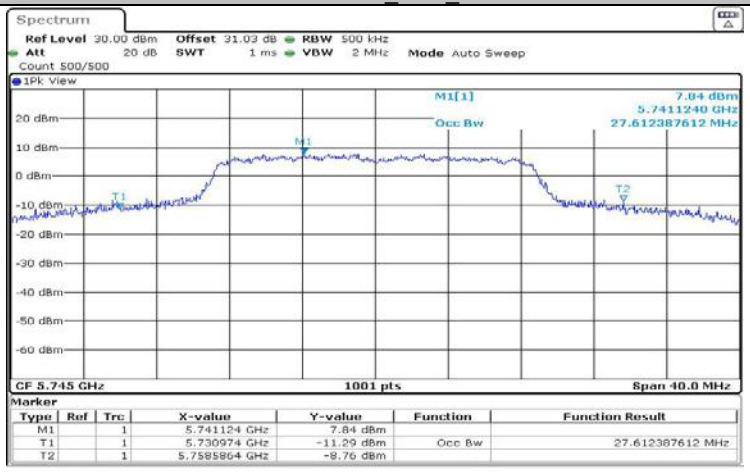
11AC20MIMO_Ant1_5200



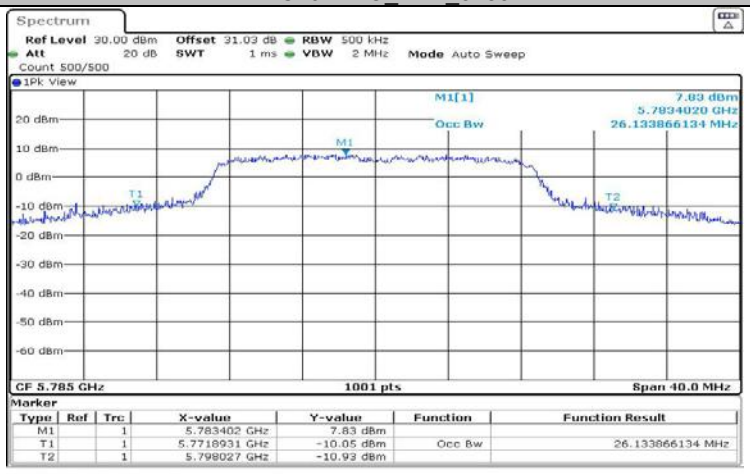
11AC20MIMO_Ant1_5240



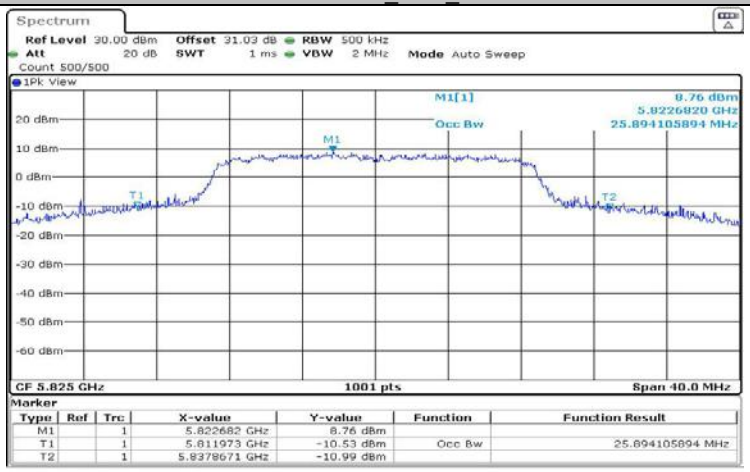
11AC20MIMO_Ant1_5745



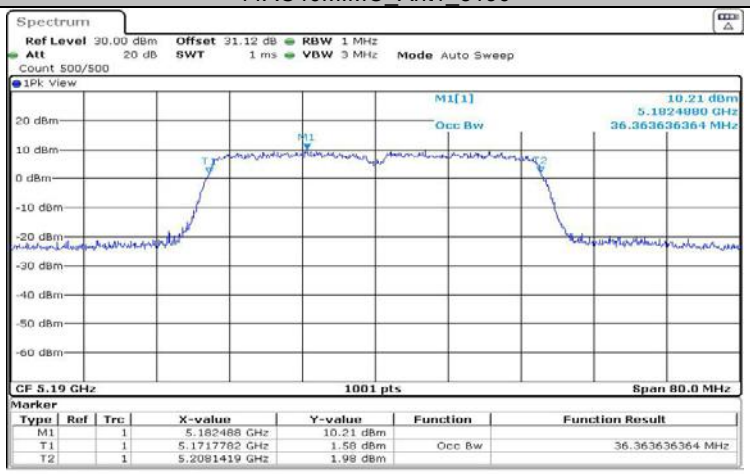
11AC20MIMO_Ant1_5785



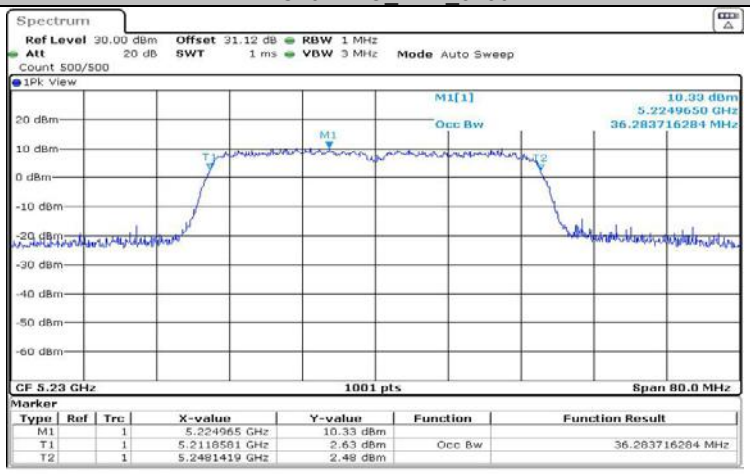
11AC20MIMO_Ant1_5825



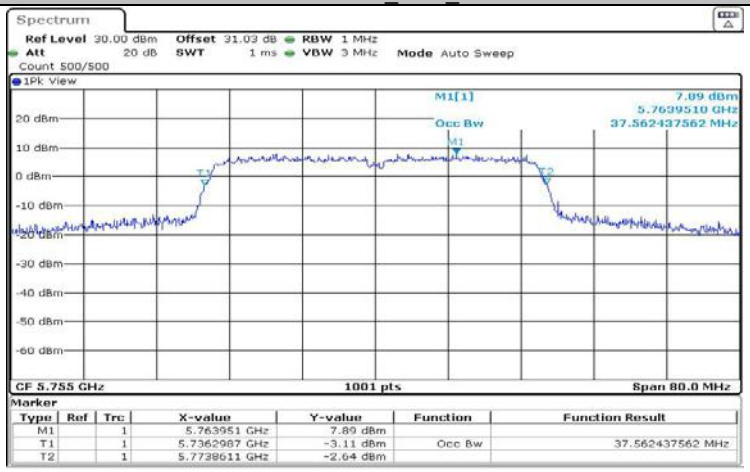
11AC40MIMO_Ant1_5190



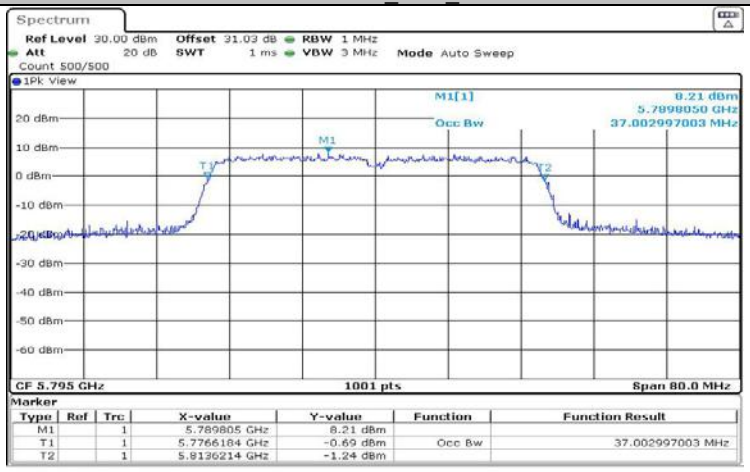
11AC40MIMO_Ant1_5230



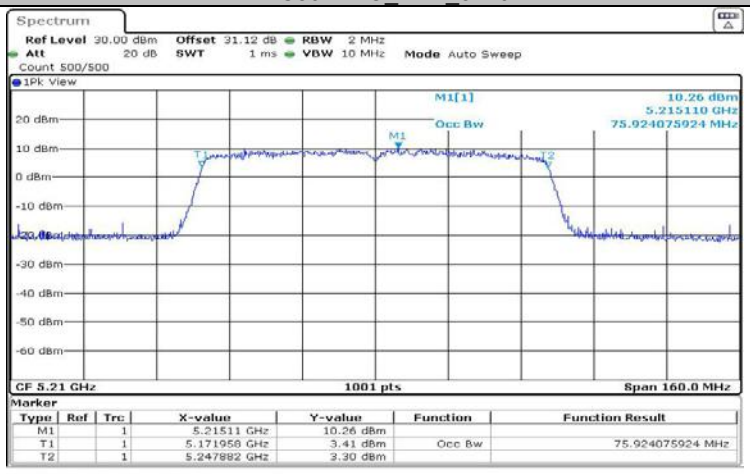
11AC40MIMO_Ant1_5755



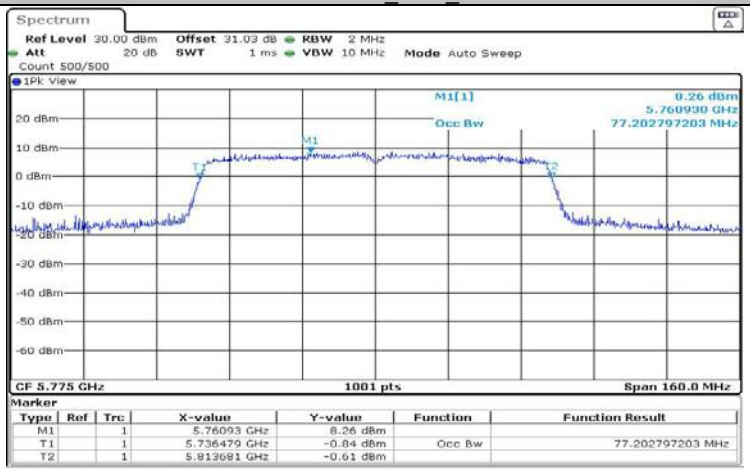
11AC40MIMO_Ant1_5795



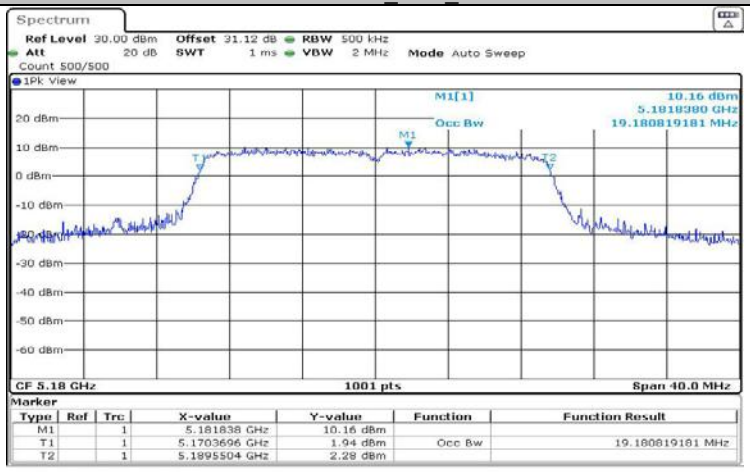
11AC80MIMO_Ant1_5210



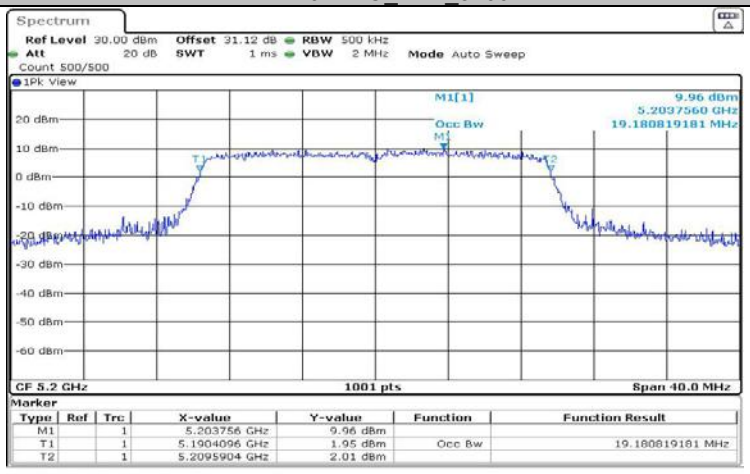
11AC80MIMO_Ant1_5775



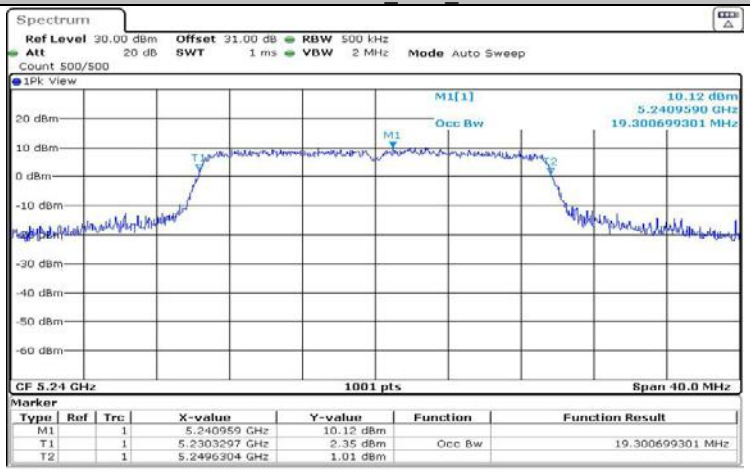
11AX20MIMO_Ant1_5180



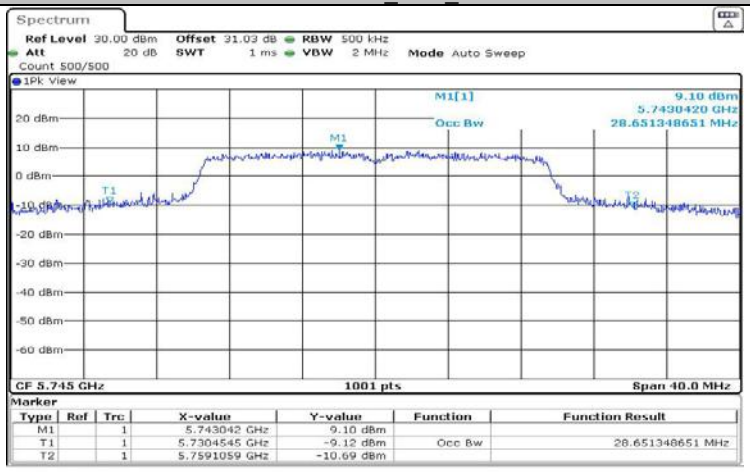
11AX20MIMO_Ant1_5200



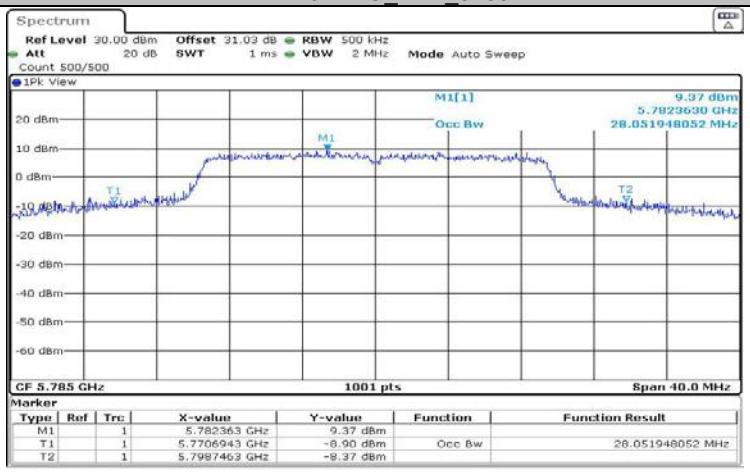
11AX20MIMO_Ant1_5240



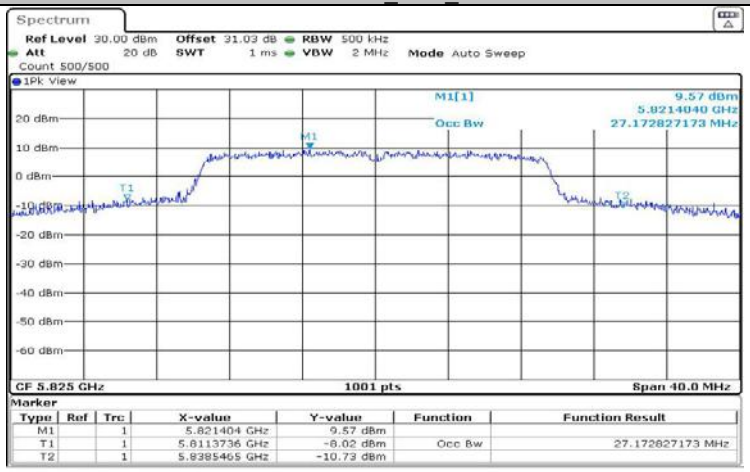
11AX20MIMO_Ant1_5745



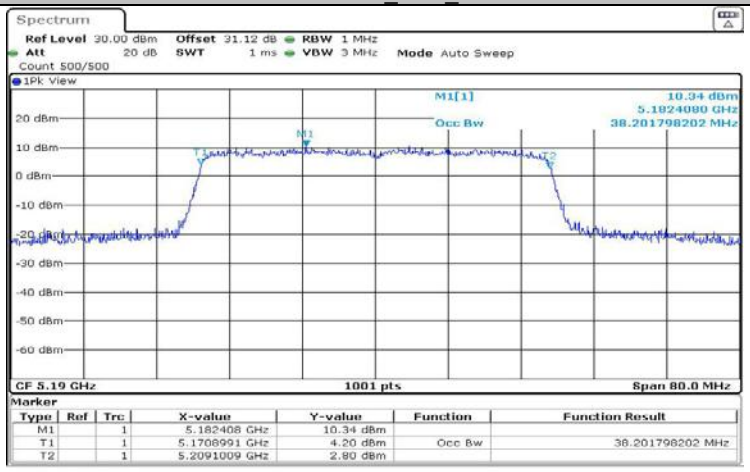
11AX20MIMO_Ant1_5785



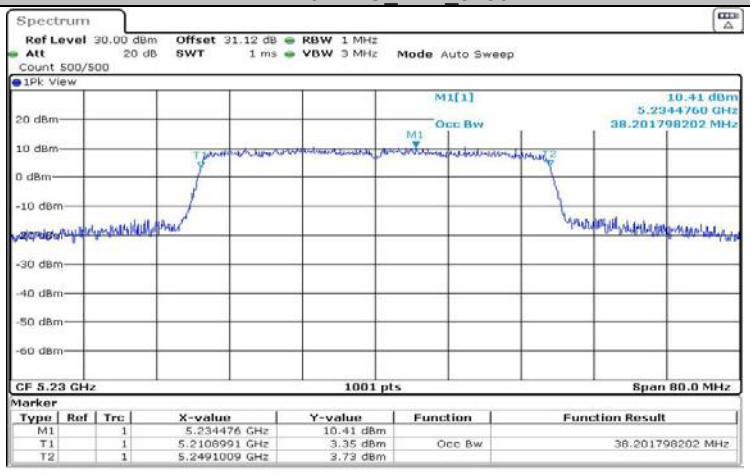
11AX20MIMO_Ant1_5825



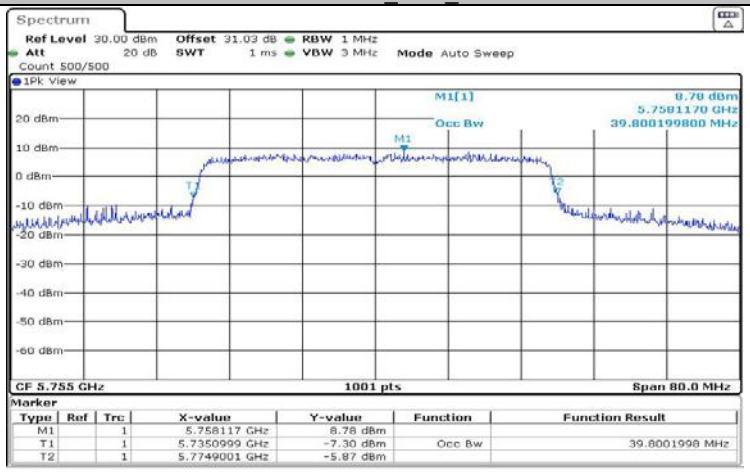
11AX40MIMO_Ant1_5190



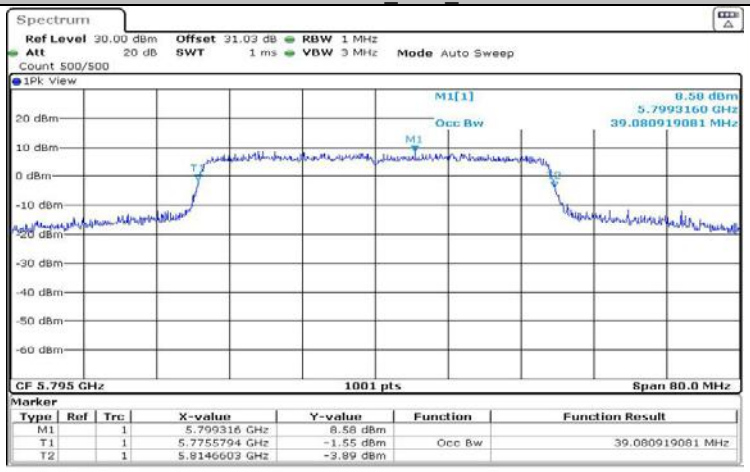
11AX40MIMO_Ant1_5230



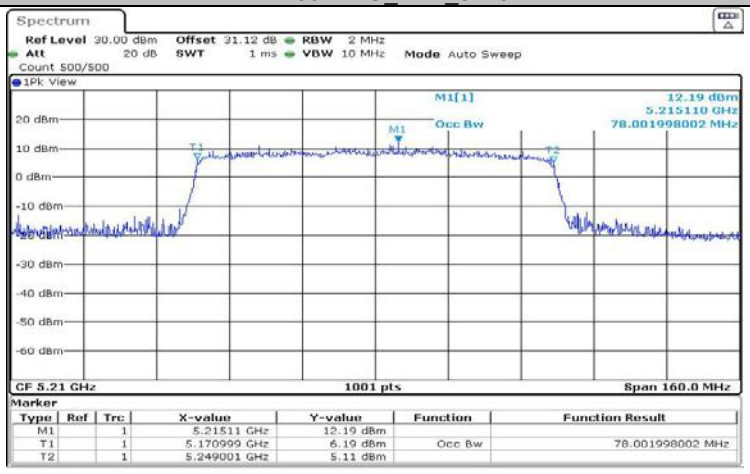
11AX40MIMO_Ant1_5755



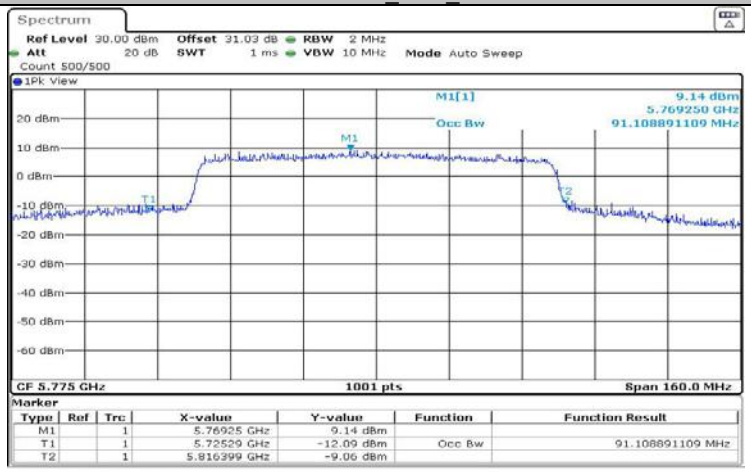
11AX40MIMO_Ant1_5795



11AX80MIMO_Ant1_5210



11AX80MIMO_Ant1_5775



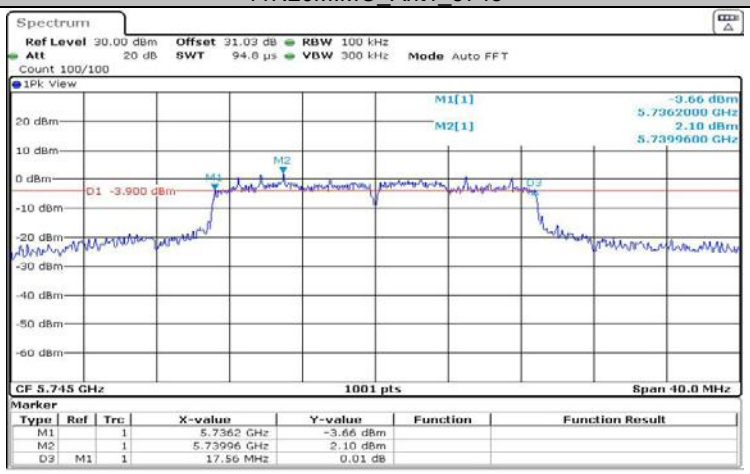
AppendixA3: Min emission bandwidth

Test Result B4

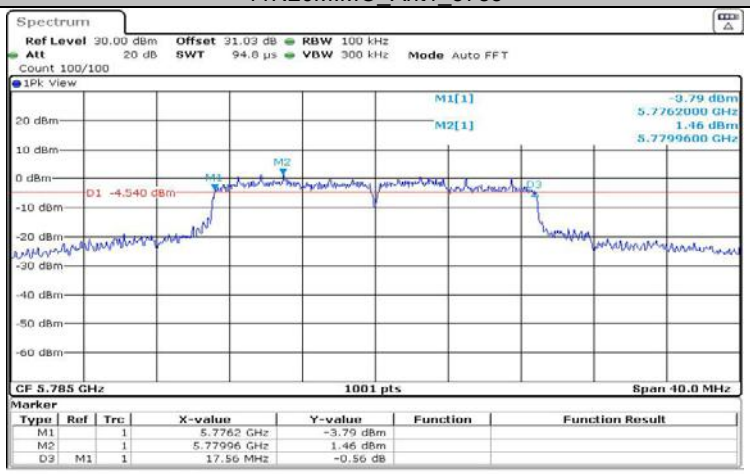
Test Mode	Antenna	Frequency[MHz]	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11N20MIMO	Ant1	5745	17.56	5736.20	5753.76	0.5	PASS
	Ant1	5785	17.56	5776.20	5793.76	0.5	PASS
	Ant1	5825	17.00	5816.76	5833.76	0.5	PASS
11N40MIMO	Ant1	5755	35.92	5737.08	5773.00	0.5	PASS
	Ant1	5795	36.48	5776.76	5813.24	0.5	PASS
11AC20MIMO	Ant1	5745	17.28	5736.48	5753.76	0.5	PASS
	Ant1	5785	17.24	5776.20	5793.44	0.5	PASS
	Ant1	5825	17.16	5816.60	5833.76	0.5	PASS
11AC40MIMO	Ant1	5755	35.92	5737.08	5773.00	0.5	PASS
	Ant1	5795	35.84	5777.08	5812.92	0.5	PASS
11AC80MIMO	Ant1	5775	73.76	5738.84	5812.60	0.5	PASS
11AX20MIMO	Ant1	5745	18.64	5735.72	5754.36	0.5	PASS
	Ant1	5785	18.20	5775.72	5793.92	0.5	PASS
	Ant1	5825	18.40	5815.88	5834.28	0.5	PASS
11AX40MIMO	Ant1	5755	37.76	5736.20	5773.96	0.5	PASS
	Ant1	5795	37.84	5776.04	5813.88	0.5	PASS
11AX80MIMO	Ant1	5775	76.00	5736.44	5812.44	0.5	PASS

Test Graphs B4

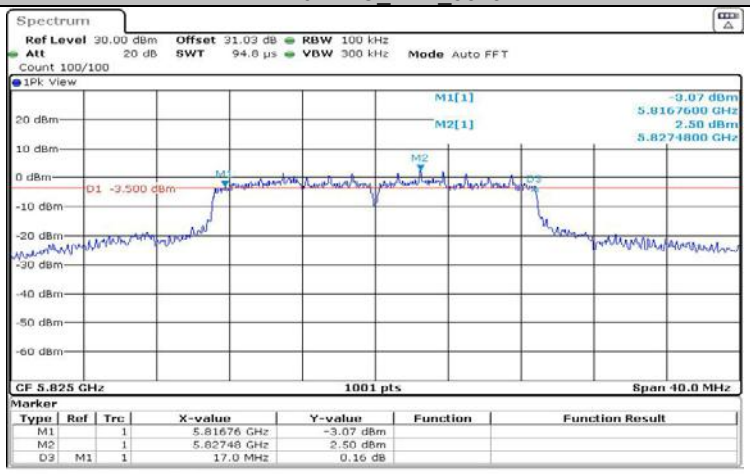
11N20MIMO_Ant1_5745



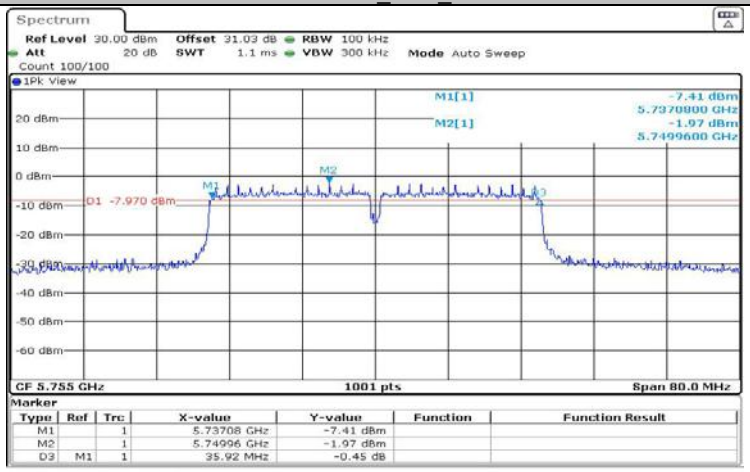
11N20MIMO_Ant1_5785



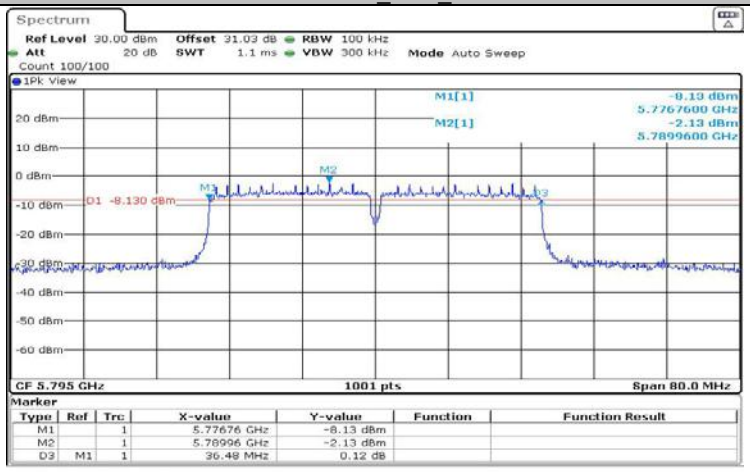
11N20MIMO_Ant1_5825



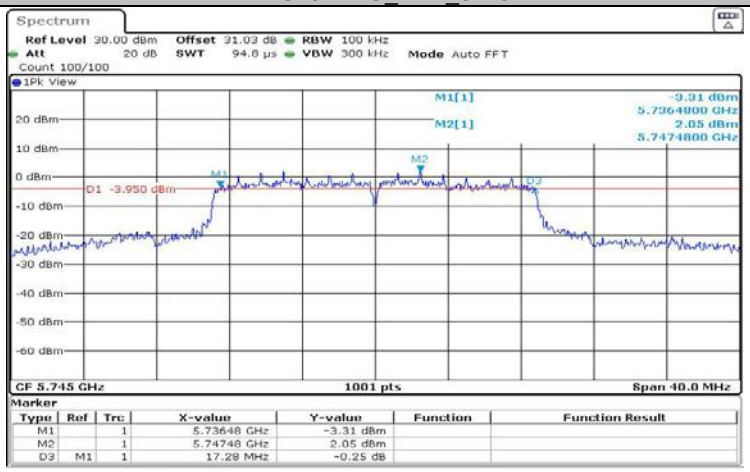
11N40MIMO_Ant1_5755



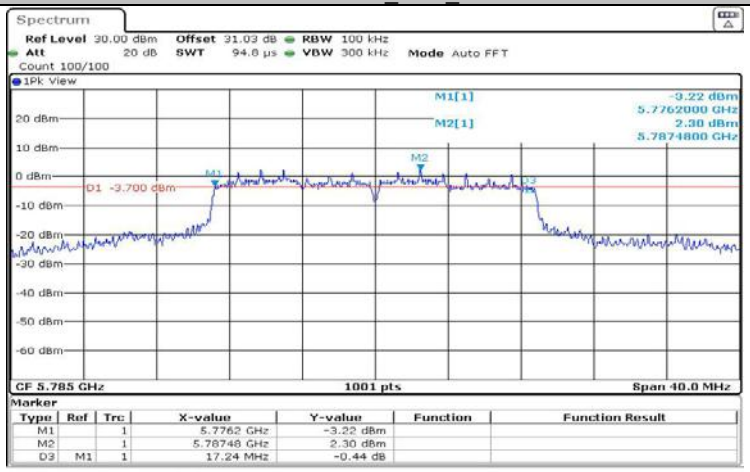
11N40MIMO_Ant1_5795



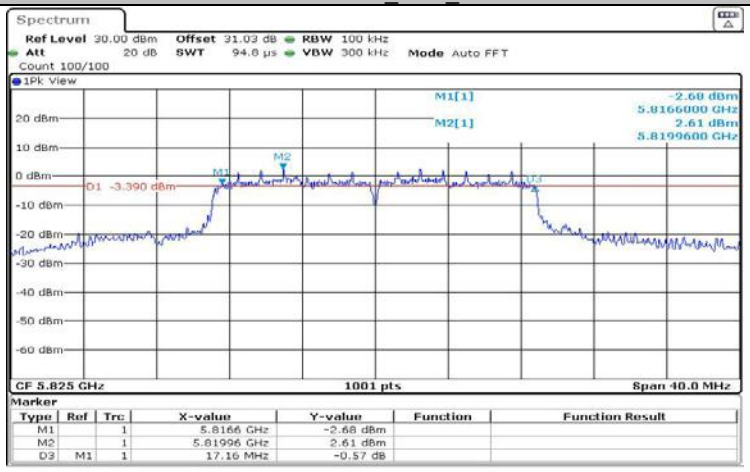
11AC20MIMO_Ant1_5745



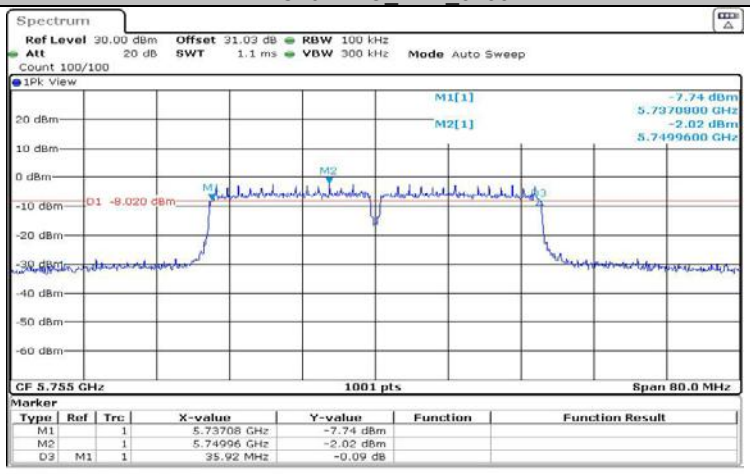
11AC20MIMO_Ant1_5785



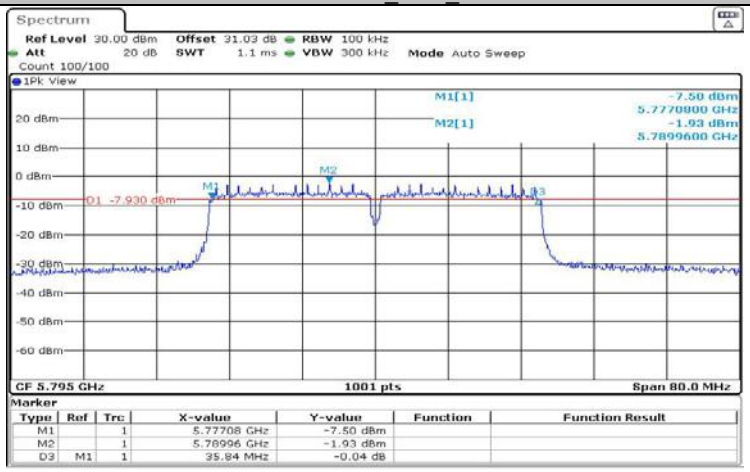
11AC20MIMO_Ant1_5825



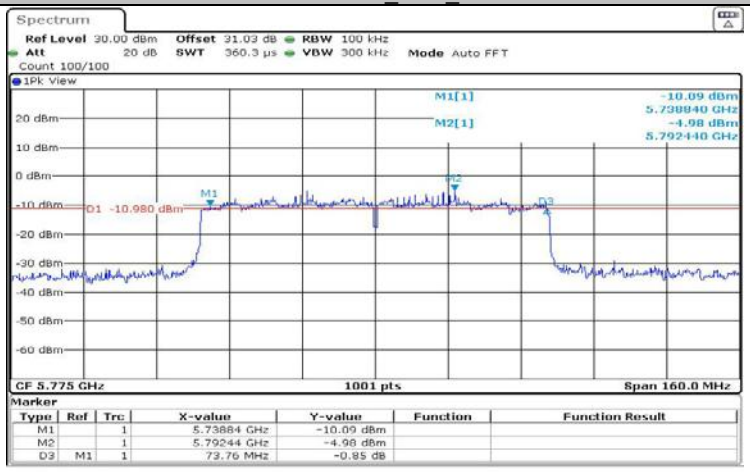
11AC40MIMO_Ant1_5755



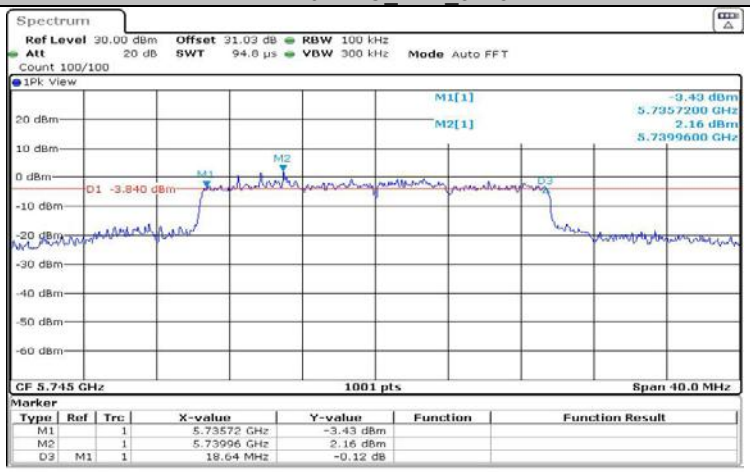
11AC40MIMO_Ant1_5795



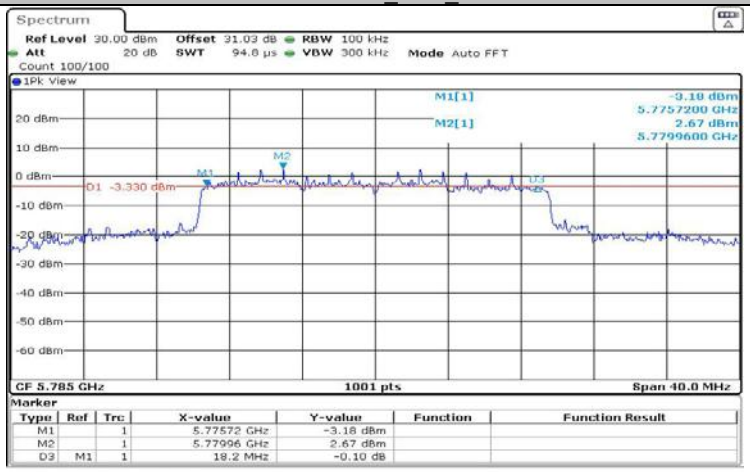
11AC80MIMO_Ant1_5775



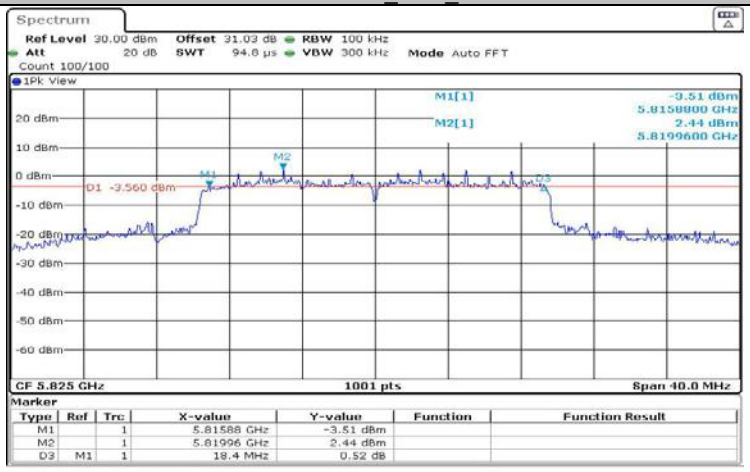
11AX20MIMO_Ant1_5745



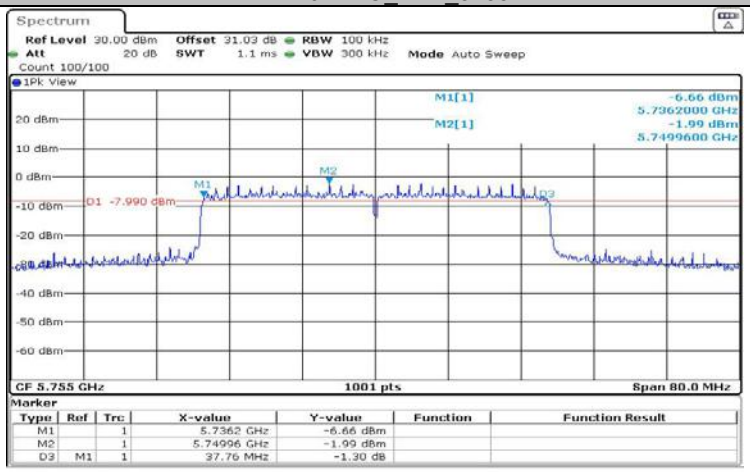
11AX20MIMO_Ant1_5785



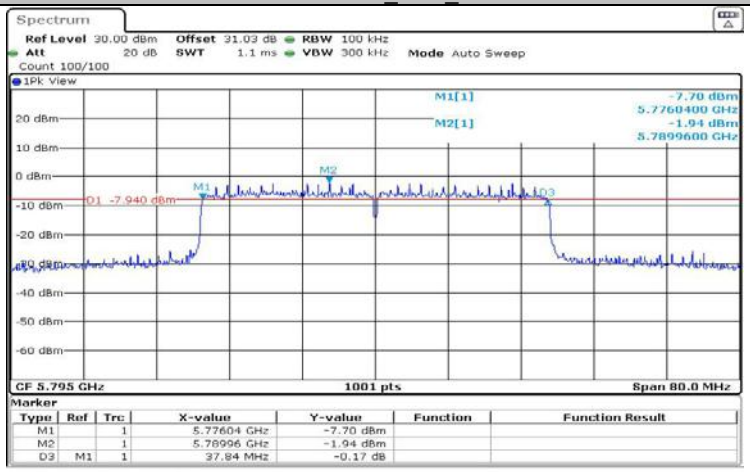
11AX20MIMO_Ant1_5825



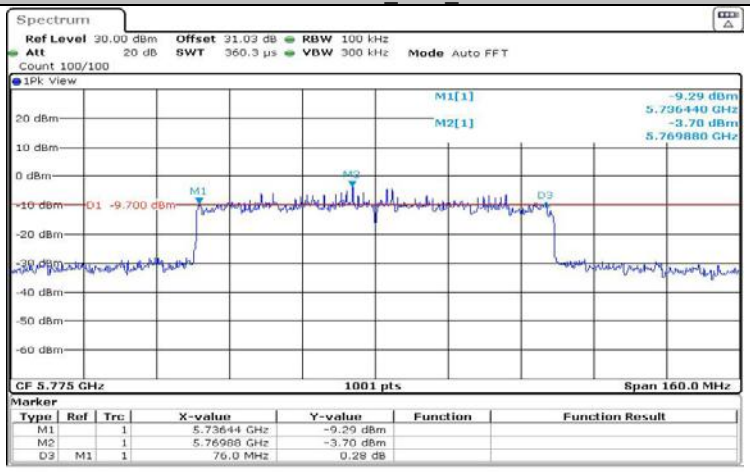
11AX40MIMO_Ant1_5755



11AX40MIMO_Ant1_5795



11AX80MIMO_Ant1_5775



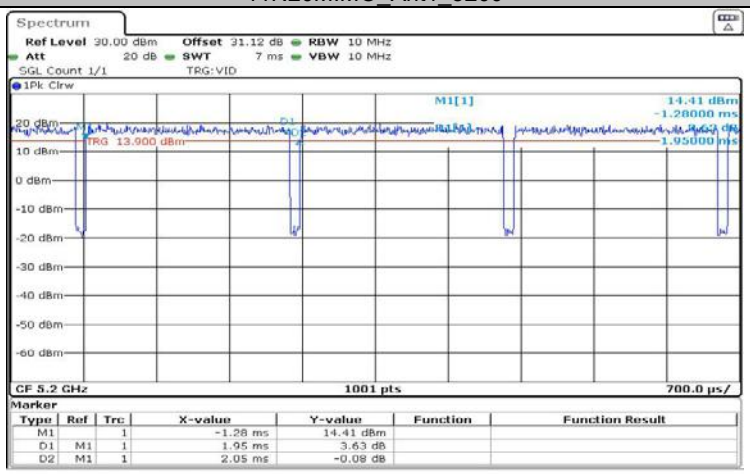
Appendix B: Duty Cycle

Test Result

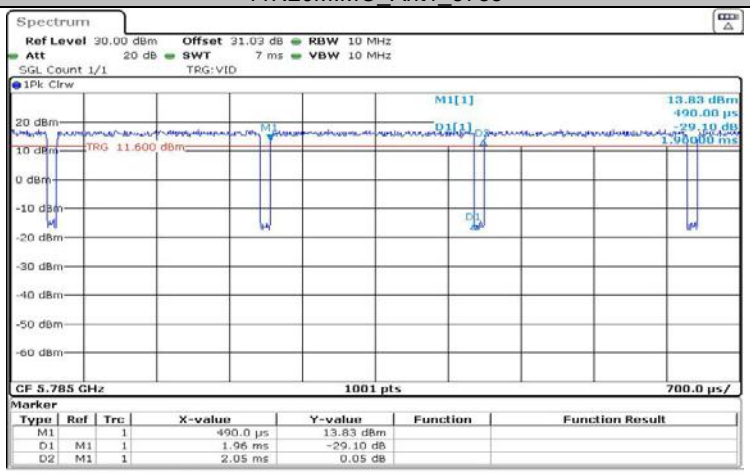
Test Mode	Antenna	Frequency[MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
11N20MIMO	Ant1	5200	1.95	2.05	95.12
	Ant1	5785	1.96	2.05	95.61
11N40MIMO	Ant1	5190	1.99	2.09	95.22
	Ant1	5755	1.99	2.09	95.22
11AC20MIMO	Ant1	5200	1.96	2.06	95.15
	Ant1	5785	1.95	2.05	95.12
11AC40MIMO	Ant1	5190	1.99	2.09	95.22
	Ant1	5755	1.99	2.09	95.22
11AC80MIMO	Ant1	5210	1.99	2.08	95.67
	Ant1	5775	1.98	2.08	95.19
11AX20MIMO	Ant1	5200	1.96	2.06	95.15
	Ant1	5785	1.96	2.06	95.15
11AX40MIMO	Ant1	5190	1.99	2.08	95.67
	Ant1	5755	1.98	2.08	95.19
11AX80MIMO	Ant1	5210	1.98	2.08	95.19
	Ant1	5775	1.99	2.08	95.67

Test Graphs

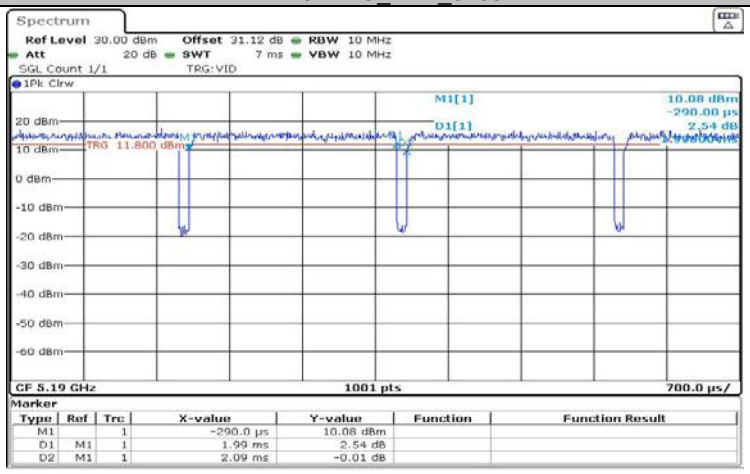
11N20MIMO_Ant1_5200



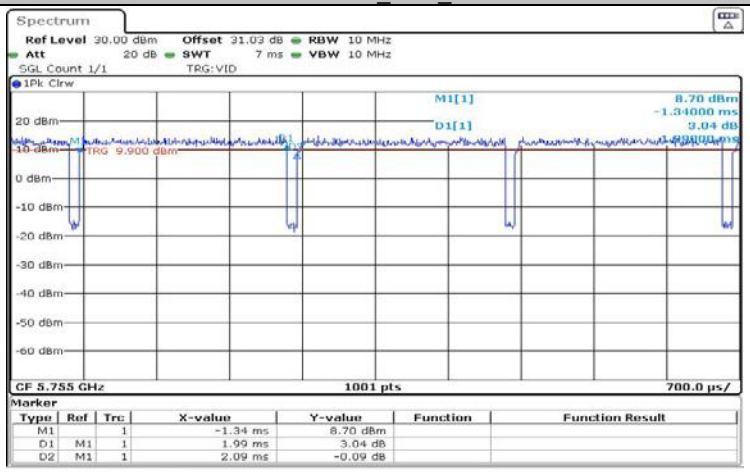
11N20MIMO_Ant1_5785



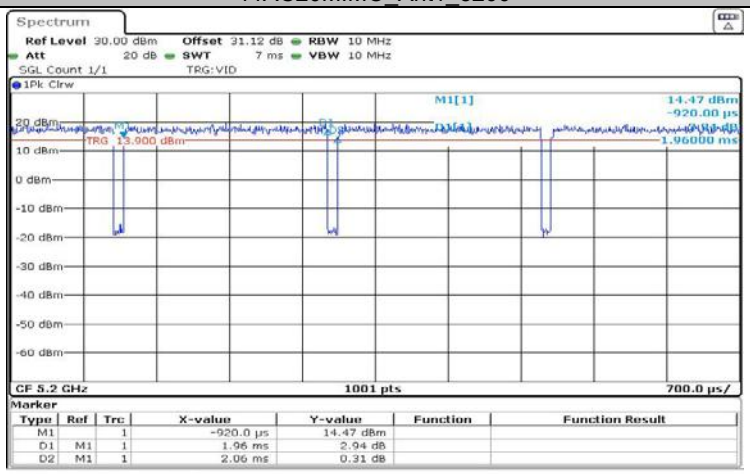
11N40MIMO_Ant1_5190



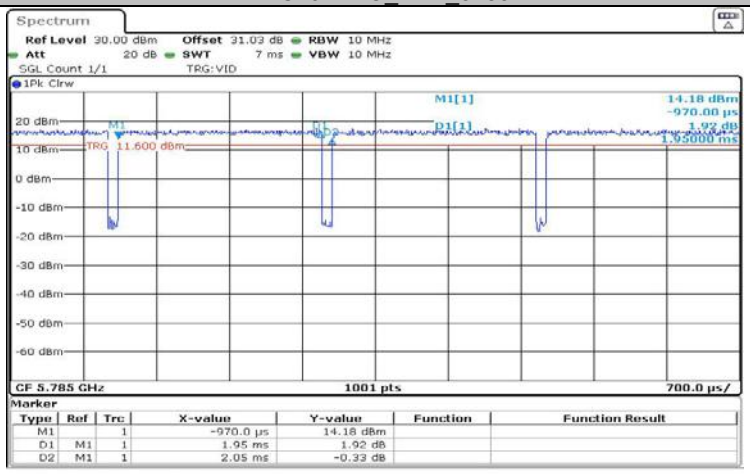
11N40MIMO_Ant1_5755



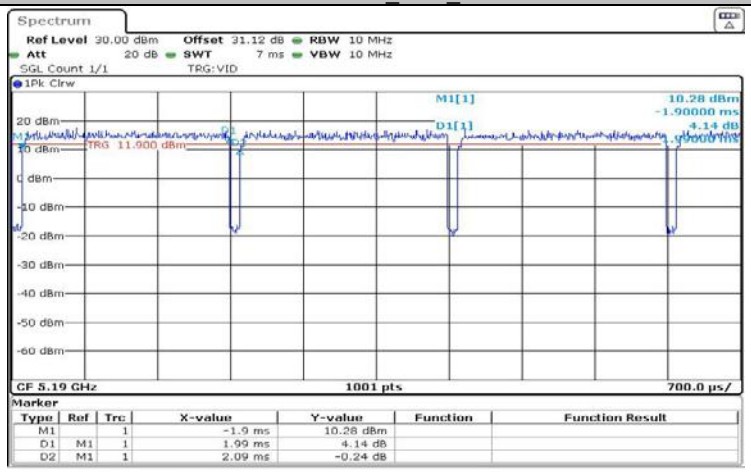
11AC20MIMO_Ant1_5200



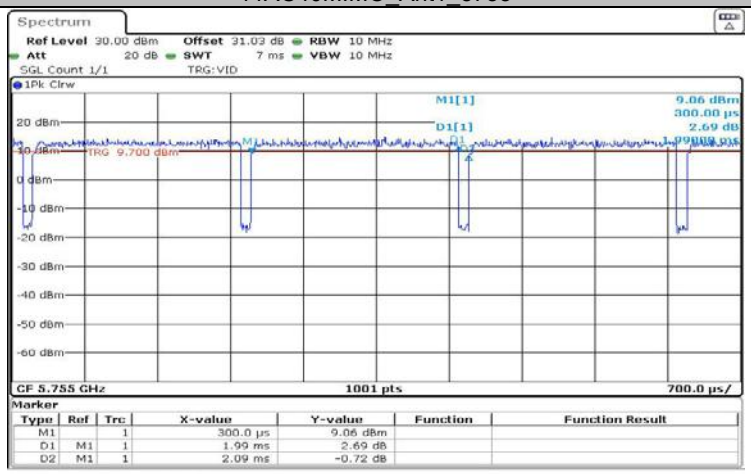
11AC20MIMO_Ant1_5785



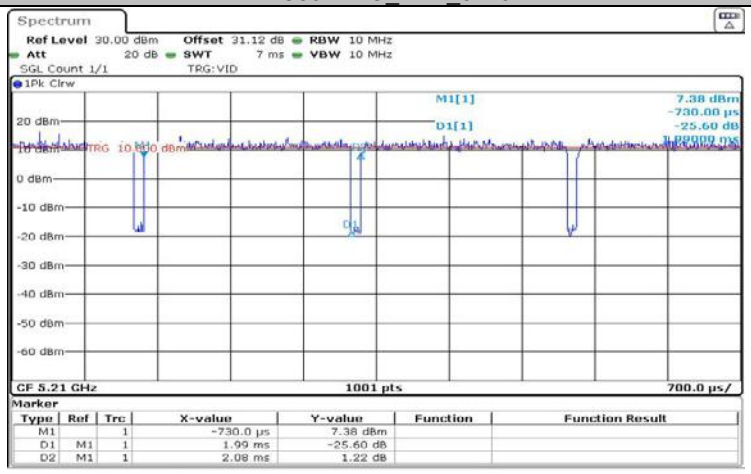
11AC40MIMO_Ant1_5190



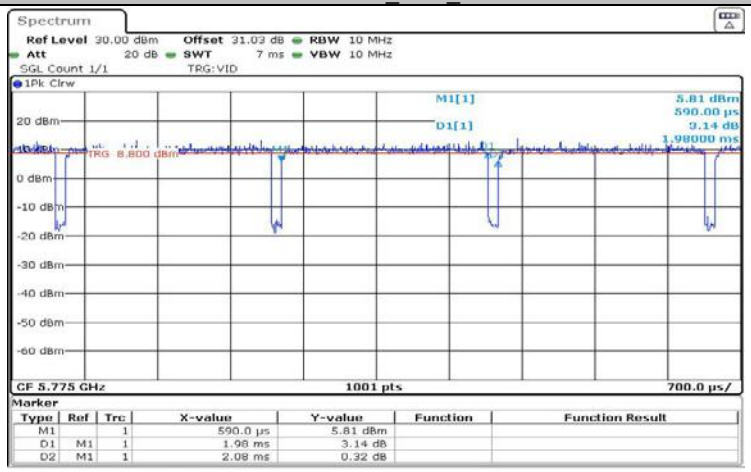
11AC40MIMO_Ant1_5755



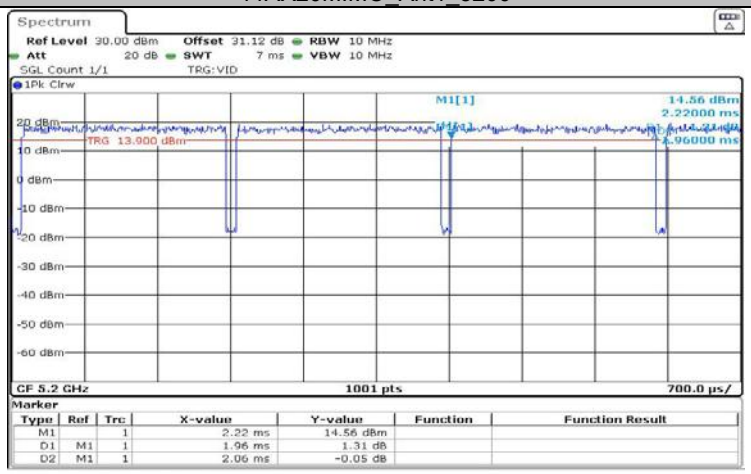
11AC80MIMO_Ant1_5210



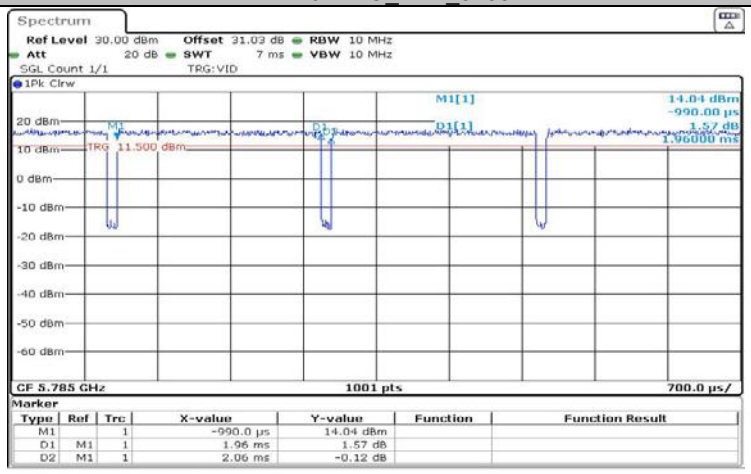
11AC80MIMO_Ant1_5775



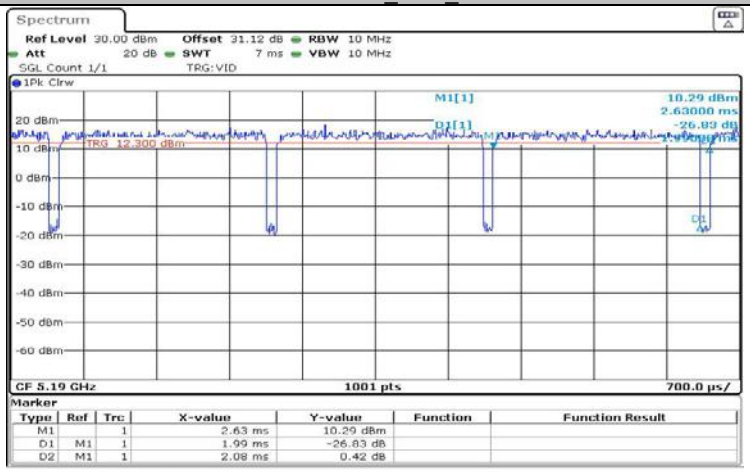
11AX20MIMO_Ant1_5200



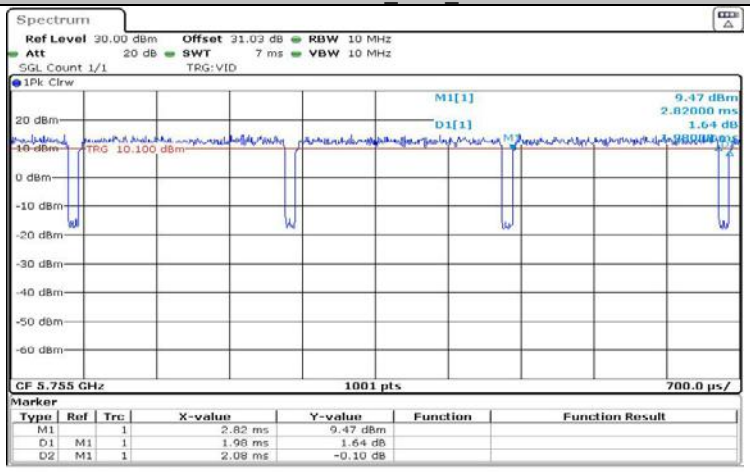
11AX20MIMO_Ant1_5785



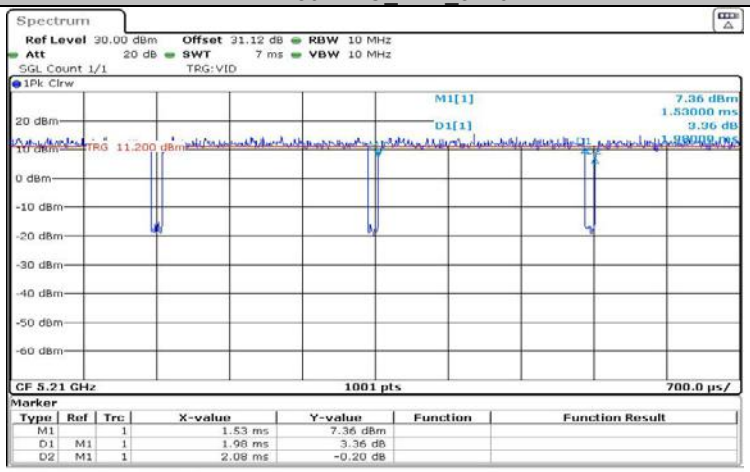
11AX40MIMO_Ant1_5190



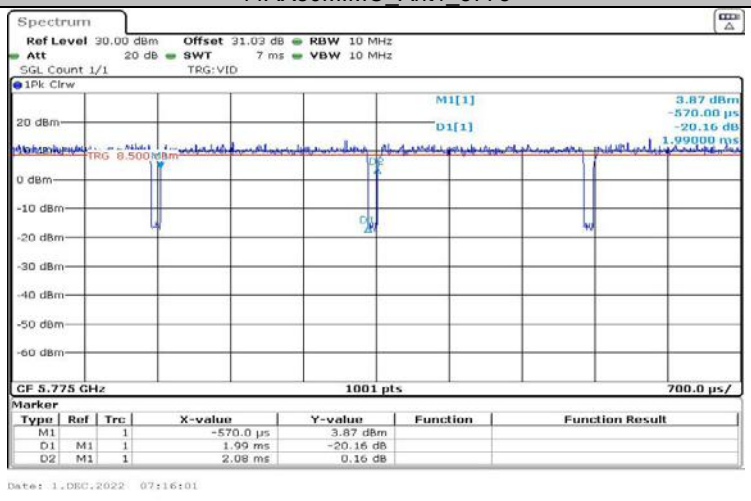
11AX40MIMO_Ant1_5755



11AX80MIMO_Ant1_5210



11AX80MIMO_Ant1_5775



Appendix C: Maximum conducted output power

Test Result Channel Power

Test Mode	Antenna	Frequency[MHz]	Result [dBm]	Limit [dBm]	Verdict
11N20MIMO	Ant1	5180	13.58	≤30.00	PASS
	Ant2	5180	12.65	≤30.00	PASS
	total	5180	16.15	≤30.00	PASS
	Ant1	5200	13.47	≤30.00	PASS
	Ant2	5200	12.49	≤30.00	PASS
	total	5200	16.02	≤30.00	PASS
	Ant1	5240	13.46	≤30.00	PASS
	Ant2	5240	12.55	≤30.00	PASS
	total	5240	16.04	≤30.00	PASS
	Ant1	5745	12.57	≤30.00	PASS
	Ant2	5745	12.76	≤30.00	PASS
	total	5745	15.68	≤30.00	PASS
	Ant1	5785	12.80	≤30.00	PASS
	Ant2	5785	12.76	≤30.00	PASS
	total	5785	15.79	≤30.00	PASS
	Ant1	5825	13.18	≤30.00	PASS
	Ant2	5825	13.14	≤30.00	PASS
	total	5825	16.17	≤30.00	PASS
11N40MIMO	Ant1	5190	13.60	≤30.00	PASS
	Ant2	5190	12.58	≤30.00	PASS
	total	5190	16.13	≤30.00	PASS
	Ant1	5230	13.94	≤30.00	PASS
	Ant2	5230	12.99	≤30.00	PASS
	total	5230	16.50	≤30.00	PASS
	Ant1	5755	11.72	≤30.00	PASS
	Ant2	5755	12.19	≤30.00	PASS
	total	5755	14.97	≤30.00	PASS
	Ant1	5795	11.74	≤30.00	PASS
	Ant2	5795	11.94	≤30.00	PASS
	total	5795	14.85	≤30.00	PASS
11AC20MIMO	Ant1	5180	13.59	≤30.00	PASS
	Ant2	5180	12.59	≤30.00	PASS
	total	5180	16.13	≤30.00	PASS
	Ant1	5200	13.47	≤30.00	PASS
	Ant2	5200	12.46	≤30.00	PASS
	total	5200	16.00	≤30.00	PASS
	Ant1	5240	13.48	≤30.00	PASS
	Ant2	5240	12.57	≤30.00	PASS
	total	5240	16.06	≤30.00	PASS
	Ant1	5745	12.62	≤30.00	PASS
	Ant2	5745	12.76	≤30.00	PASS
	total	5745	15.70	≤30.00	PASS
	Ant1	5785	12.86	≤30.00	PASS
	Ant2	5785	12.77	≤30.00	PASS
	total	5785	15.83	≤30.00	PASS
	Ant1	5825	13.25	≤30.00	PASS
	Ant2	5825	13.14	≤30.00	PASS
	total	5825	16.21	≤30.00	PASS
11AC40MIMO	Ant1	5190	13.63	≤30.00	PASS
	Ant2	5190	12.60	≤30.00	PASS
	total	5190	16.16	≤30.00	PASS
	Ant1	5230	13.96	≤30.00	PASS
	Ant2	5230	12.98	≤30.00	PASS
	total	5230	16.51	≤30.00	PASS
	Ant1	5755	11.72	≤30.00	PASS

	Ant2	5755	12.20	≤30.00	PASS
	total	5755	14.98	≤30.00	PASS
	Ant1	5795	11.69	≤30.00	PASS
	Ant2	5795	11.92	≤30.00	PASS
	total	5795	14.82	≤30.00	PASS
11AC80MIMO	Ant1	5210	13.12	≤30.00	PASS
	Ant2	5210	12.07	≤30.00	PASS
	total	5210	15.64	≤30.00	PASS
	Ant1	5775	11.71	≤30.00	PASS
	Ant2	5775	12.00	≤30.00	PASS
	total	5775	14.87	≤30.00	PASS
11AX20MIMO	Ant1	5180	13.67	≤30.00	PASS
	Ant2	5180	12.60	≤30.00	PASS
	total	5180	16.18	≤30.00	PASS
	Ant1	5200	13.56	≤30.00	PASS
	Ant2	5200	12.50	≤30.00	PASS
	total	5200	16.07	≤30.00	PASS
	Ant1	5240	13.58	≤30.00	PASS
	Ant2	5240	12.66	≤30.00	PASS
	total	5240	16.15	≤30.00	PASS
	Ant1	5745	12.60	≤30.00	PASS
	Ant2	5745	12.88	≤30.00	PASS
	total	5745	15.75	≤30.00	PASS
	Ant1	5785	12.85	≤30.00	PASS
	Ant2	5785	12.88	≤30.00	PASS
	total	5785	15.88	≤30.00	PASS
	Ant1	5825	13.23	≤30.00	PASS
	Ant2	5825	13.23	≤30.00	PASS
	total	5825	16.24	≤30.00	PASS
11AX40MIMO	Ant1	5190	13.55	≤30.00	PASS
	Ant2	5190	12.49	≤30.00	PASS
	total	5190	16.06	≤30.00	PASS
	Ant1	5230	13.93	≤30.00	PASS
	Ant2	5230	12.91	≤30.00	PASS
	total	5230	16.46	≤30.00	PASS
	Ant1	5755	11.69	≤30.00	PASS
	Ant2	5755	12.17	≤30.00	PASS
	total	5755	14.95	≤30.00	PASS
	Ant1	5795	11.74	≤30.00	PASS
	Ant2	5795	11.89	≤30.00	PASS
	total	5795	14.83	≤30.00	PASS
11AX80MIMO	Ant1	5210	13.28	≤30.00	PASS
	Ant2	5210	12.16	≤30.00	PASS
	total	5210	15.77	≤30.00	PASS
	Ant1	5775	11.78	≤30.00	PASS
	Ant2	5775	12.12	≤30.00	PASS
	total	5775	14.96	≤30.00	PASS

Note 1: The Duty Cycle Factor is compensated in the result.

Note 2:

The EUT employ CDD for MIMO

Directional Gain = G_{ANT} + *Array Gain*

For Output Power Measurement, *Array Gain* = 0dB for $N_{ANT} \leqslant 4$

G_{ANT1} = -3.00dBi, G_{ANT2} = -2.84dBi, use the higher antenna gain to calculate the worst case:

Directional Gain = -2.84dBi + 0dB = -2.84dBi < 6dBi

Note 3: for 5150-5250MHz band, the maximum EIRP=16.51dBm-2.84dBi=13.16dBm<21dBm, so it's can compliance with the requirement of the maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

Appendix D: Maximum power spectral density

Test Result

Test Mode	Antenna	Frequency[MHz]	Result [dBm/MHz]	Limit[dBm/MHz]	Verdict
11N20MIMO	Ant1	5180	2.04	≤17.00	PASS
	Ant2	5180	1.47	≤17.00	PASS
	total	5180	4.77	≤17.00	PASS
	Ant1	5200	2.36	≤17.00	PASS
	Ant2	5200	1.39	≤17.00	PASS
	total	5200	4.91	≤17.00	PASS
	Ant1	5240	2.06	≤17.00	PASS
	Ant2	5240	1.15	≤17.00	PASS
	total	5240	4.64	≤17.00	PASS
	Ant1	5745	-1.84	≤30.00	PASS
	Ant2	5745	-0.97	≤30.00	PASS
	total	5745	1.63	≤30.00	PASS
	Ant1	5785	-2.09	≤30.00	PASS
	Ant2	5785	-0.89	≤30.00	PASS
	total	5785	1.56	≤30.00	PASS
	Ant1	5825	-1.07	≤30.00	PASS
	Ant2	5825	-0.42	≤30.00	PASS
	total	5825	2.28	≤30.00	PASS
11N40MIMO	Ant1	5190	-0.75	≤17.00	PASS
	Ant2	5190	-1.65	≤17.00	PASS
	total	5190	1.83	≤17.00	PASS
	Ant1	5230	-0.19	≤17.00	PASS
	Ant2	5230	-1.21	≤17.00	PASS
	total	5230	2.34	≤17.00	PASS
	Ant1	5755	-5.74	≤30.00	PASS
	Ant2	5755	-4.66	≤30.00	PASS
	total	5755	-2.16	≤30.00	PASS
	Ant1	5795	-5.74	≤30.00	PASS
	Ant2	5795	-4.86	≤30.00	PASS
	total	5795	-2.27	≤30.00	PASS
11AC20MIMO	Ant1	5180	2.34	≤17.00	PASS
	Ant2	5180	1.38	≤17.00	PASS
	total	5180	4.90	≤17.00	PASS
	Ant1	5200	2.27	≤17.00	PASS
	Ant2	5200	0.75	≤17.00	PASS
	total	5200	4.59	≤17.00	PASS
	Ant1	5240	2.21	≤17.00	PASS
	Ant2	5240	1.34	≤17.00	PASS
	total	5240	4.81	≤17.00	PASS
	Ant1	5745	-1.68	≤30.00	PASS
	Ant2	5745	-0.85	≤30.00	PASS
	total	5745	1.77	≤30.00	PASS
	Ant1	5785	-1.77	≤30.00	PASS
	Ant2	5785	-0.74	≤30.00	PASS
	total	5785	1.79	≤30.00	PASS
	Ant1	5825	-1.71	≤30.00	PASS
	Ant2	5825	-0.19	≤30.00	PASS
	total	5825	2.13	≤30.00	PASS
11AC40MIMO	Ant1	5190	-0.73	≤17.00	PASS
	Ant2	5190	-1.86	≤17.00	PASS
	total	5190	1.75	≤17.00	PASS
	Ant1	5230	-0.27	≤17.00	PASS
	Ant2	5230	-1.35	≤17.00	PASS

	total	5230	2.23	≤17.00	PASS
	Ant1	5755	-6.03	≤30.00	PASS
	Ant2	5755	-4.66	≤30.00	PASS
	total	5755	-2.28	≤30.00	PASS
	Ant1	5795	-5.92	≤30.00	PASS
	Ant2	5795	-4.86	≤30.00	PASS
	total	5795	-2.35	≤30.00	PASS
11AC80MIMO	Ant1	5210	-4.13	≤17.00	PASS
	Ant2	5210	-4.93	≤17.00	PASS
	total	5210	-1.50	≤17.00	PASS
	Ant1	5775	-8.58	≤30.00	PASS
	Ant2	5775	-7.69	≤30.00	PASS
	total	5775	-5.10	≤30.00	PASS
11AX20MIMO	Ant1	5180	2.16	≤17.00	PASS
	Ant2	5180	1.03	≤17.00	PASS
	total	5180	4.64	≤17.00	PASS
	Ant1	5200	1.99	≤17.00	PASS
	Ant2	5200	0.68	≤17.00	PASS
	total	5200	4.39	≤17.00	PASS
	Ant1	5240	2.1	≤17.00	PASS
	Ant2	5240	0.86	≤17.00	PASS
	total	5240	4.53	≤17.00	PASS
	Ant1	5745	-2.06	≤30.00	PASS
	Ant2	5745	-1.06	≤30.00	PASS
	total	5745	1.48	≤30.00	PASS
	Ant1	5785	-1.97	≤30.00	PASS
	Ant2	5785	-1.21	≤30.00	PASS
	total	5785	1.44	≤30.00	PASS
	Ant1	5825	-1.18	≤30.00	PASS
	Ant2	5825	-0.34	≤30.00	PASS
	total	5825	2.27	≤30.00	PASS
11AX40MIMO	Ant1	5190	-1.16	≤17.00	PASS
	Ant2	5190	-2.06	≤17.00	PASS
	total	5190	1.42	≤17.00	PASS
	Ant1	5230	-0.38	≤17.00	PASS
	Ant2	5230	-1.44	≤17.00	PASS
	total	5230	2.13	≤17.00	PASS
	Ant1	5755	-6.15	≤30.00	PASS
	Ant2	5755	-4.93	≤30.00	PASS
	total	5755	-2.49	≤30.00	PASS
	Ant1	5795	-5.89	≤30.00	PASS
	Ant2	5795	-5.16	≤30.00	PASS
	total	5795	-2.50	≤30.00	PASS
11AX80MIMO	Ant1	5210	-4.05	≤17.00	PASS
	Ant2	5210	-5.09	≤17.00	PASS
	total	5210	-1.53	≤17.00	PASS
	Ant1	5775	-8.75	≤30.00	PASS
	Ant2	5775	-7.56	≤30.00	PASS
	total	5775	-5.10	≤30.00	PASS

Note 1: The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.
Note 2: The Duty Cycle Factor is compensated in the graph.
Note 3: The EUT employ CDD for MIMO,*Directional Gain* = G_{ANT} + *Array Gain*
For PSD Measurement, *Array Gain* = $10*\log N_{ANT}=10*\log 2=3dB$
G_{ANT1} = -3.00dBi, G_{ANT2} = -2.84dBi, use the higher antenna gain to calculate the worst case:
Directional Gain = -2.84dBi + 3dB = 0.16dBi < 6dBi

Test Graphs

11N20MIMO_Ant1_5180

11N20MIMO_Ant2_5180

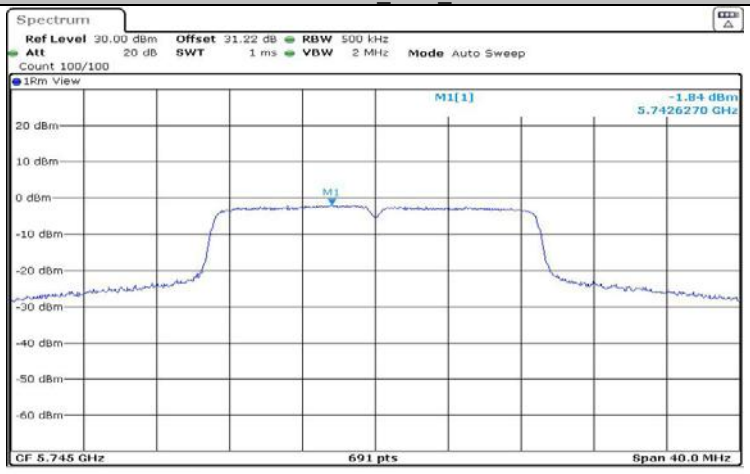
11N20MIMO_Ant1_5200

11N20MIMO_Ant2_5200

11N20MIMO_Ant1_5240

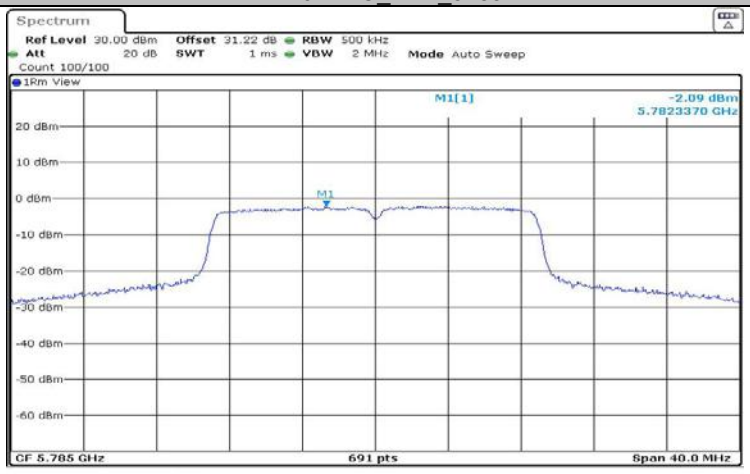
11N20MIMO_Ant2_5240

11N20MIMO_Ant1_5745



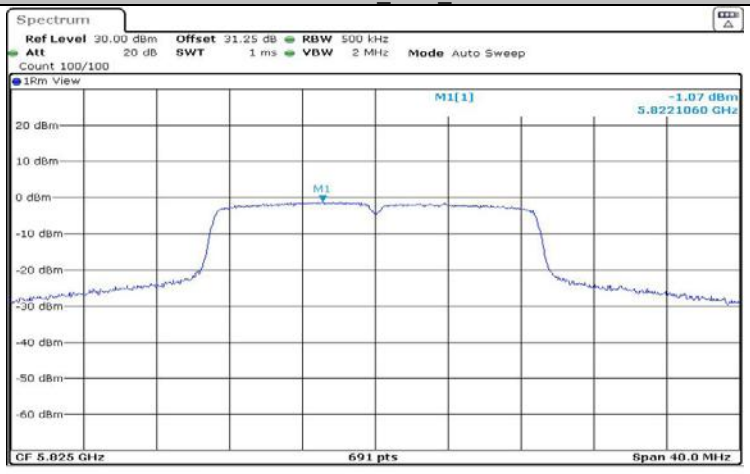
11N20MIMO_Ant2_5745

11N20MIMO_Ant1_5785



11N20MIMO_Ant2_5785

11N20MIMO_Ant1_5825

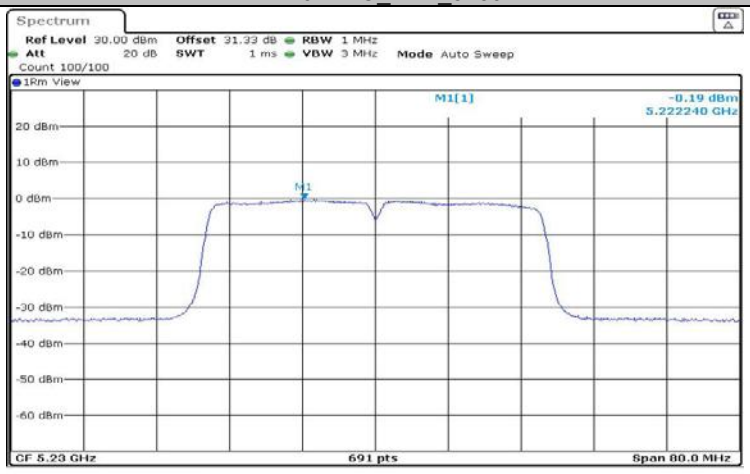


11N20MIMO_Ant2_5825

11N40MIMO_Ant1_5190

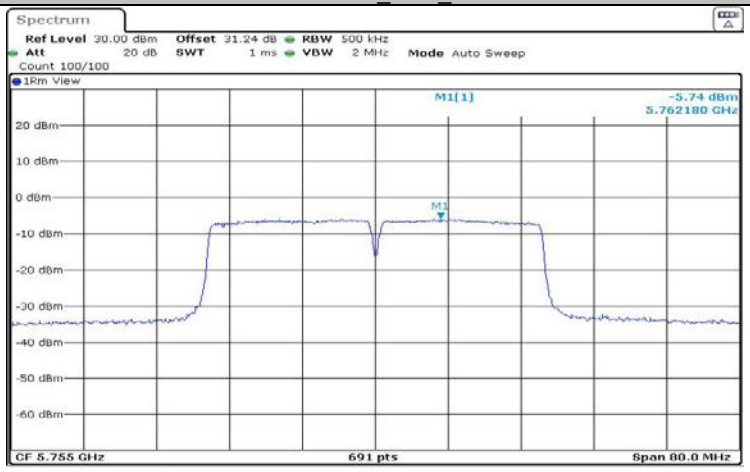
11N40MIMO_Ant2_5190

11N40MIMO_Ant1_5230



11N40MIMO_Ant2_5230

11N40MIMO_Ant1_5755

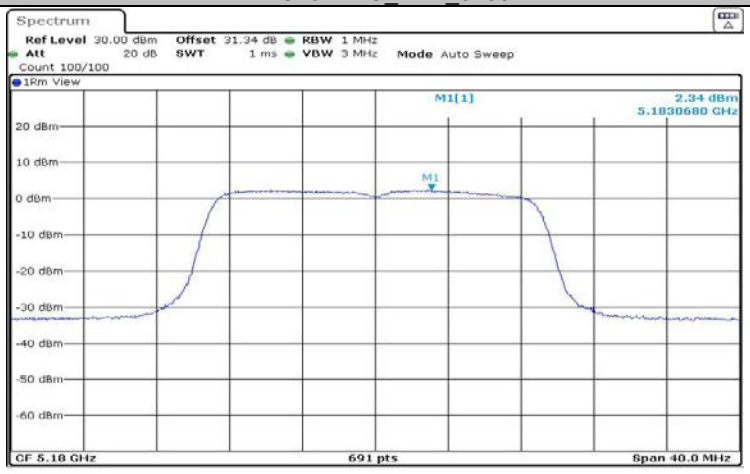


11N40MIMO_Ant2_5755

11N40MIMO_Ant1_5795

11N40MIMO_Ant2_5795

11AC20MIMO_Ant1_5180



11AC20MIMO_Ant2_5180

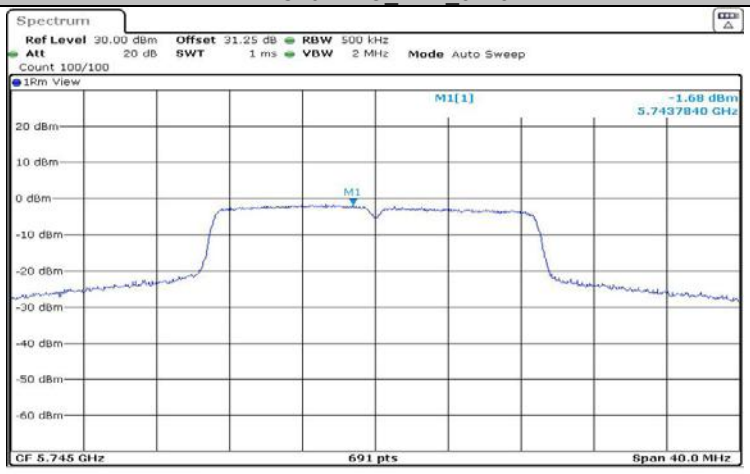
11AC20MIMO_Ant1_5200

11AC20MIMO_Ant2_5200

11AC20MIMO_Ant1_5240

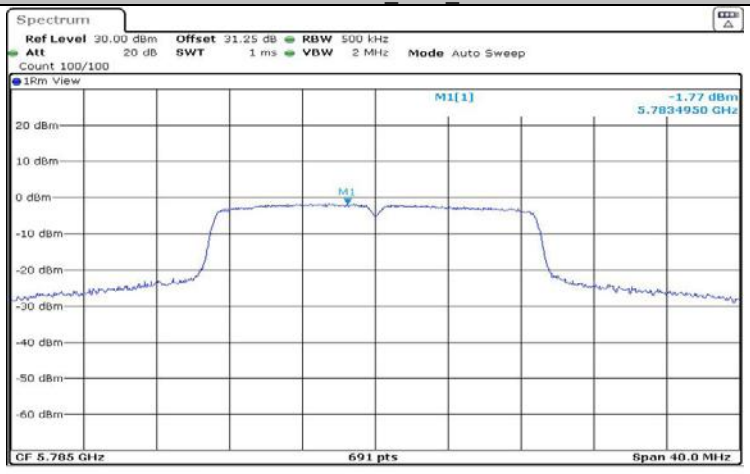
11AC20MIMO_Ant2_5240

11AC20MIMO_Ant1_5745



11AC20MIMO_Ant2_5745

11AC20MIMO_Ant1_5785

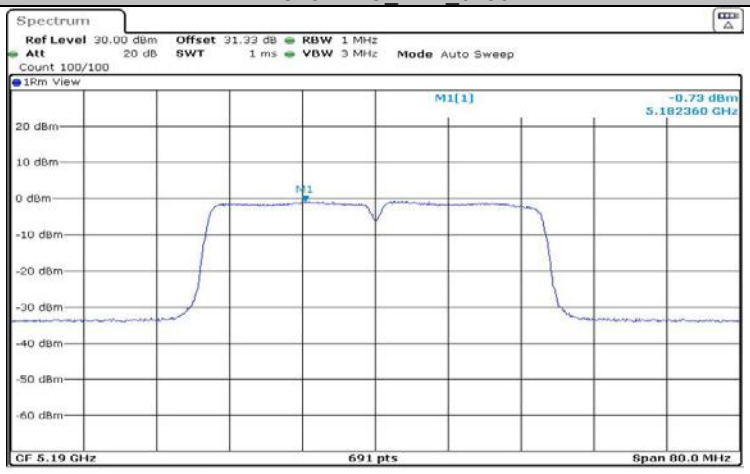


11AC20MIMO_Ant2_5785

11AC20MIMO_Ant1_5825

11AC20MIMO_Ant2_5825

11AC40MIMO_Ant1_5190



11AC40MIMO_Ant2_5190

11AC40MIMO_Ant1_5230

11AC40MIMO_Ant2_5230

11AC40MIMO_Ant1_5755

11AC40MIMO_Ant2_5755

11AC40MIMO_Ant1_5795

11AC40MIMO_Ant2_5795

11AC80MIMO_Ant1_5210

11AC80MIMO_Ant2_5210

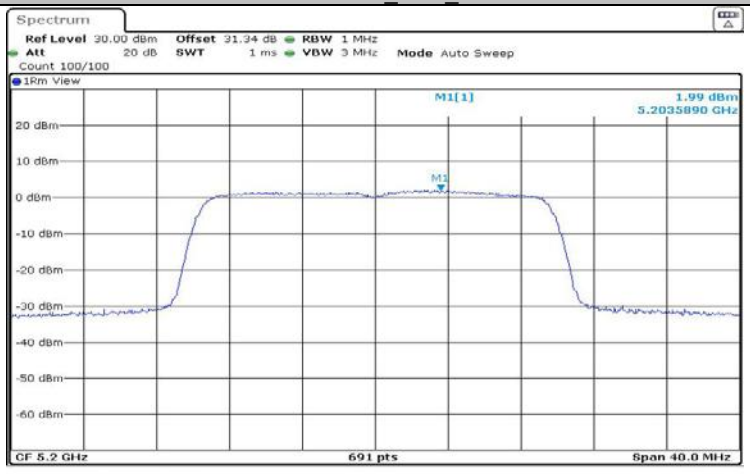
11AC80MIMO_Ant1_5775

11AC80MIMO_Ant2_5775

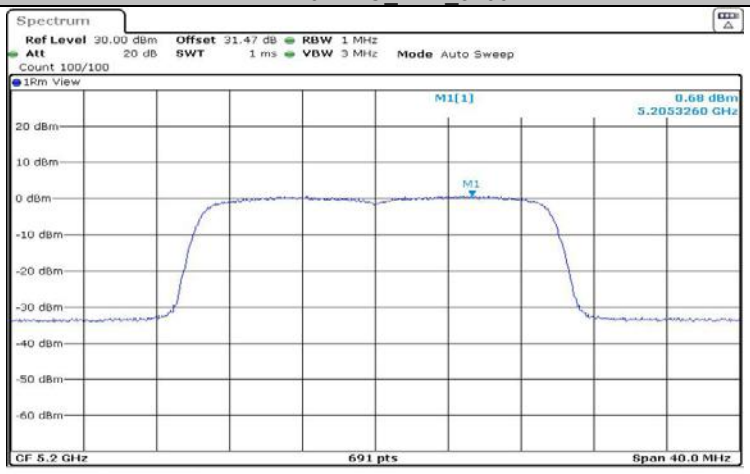
11AX20MIMO_Ant1_5180

11AX20MIMO_Ant2_5180

11AX20MIMO_Ant1_5200



11AX20MIMO_Ant2_5200



11AX20MIMO_Ant1_5240

11AX20MIMO_Ant2_5240

11AX20MIMO_Ant1_5745

11AX20MIMO_Ant2_5745

11AX20MIMO_Ant1_5785

11AX20MIMO_Ant2_5785

11AX20MIMO_Ant1_5825

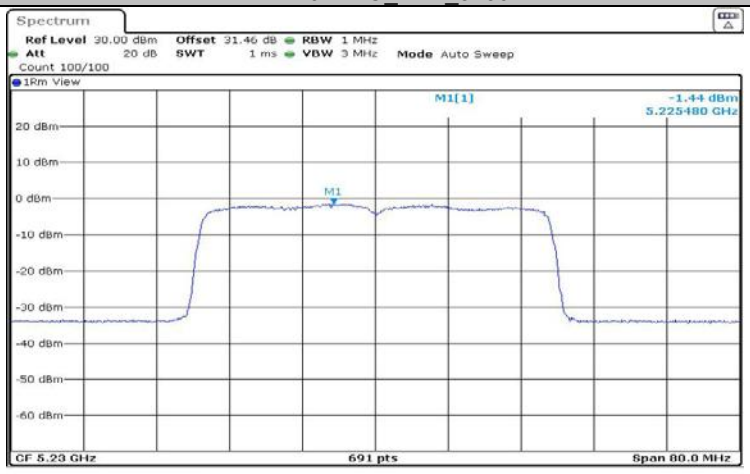
11AX20MIMO_Ant2_5825

11AX40MIMO_Ant1_5190

11AX40MIMO_Ant2_5190

11AX40MIMO_Ant1_5230

11AX40MIMO_Ant2_5230



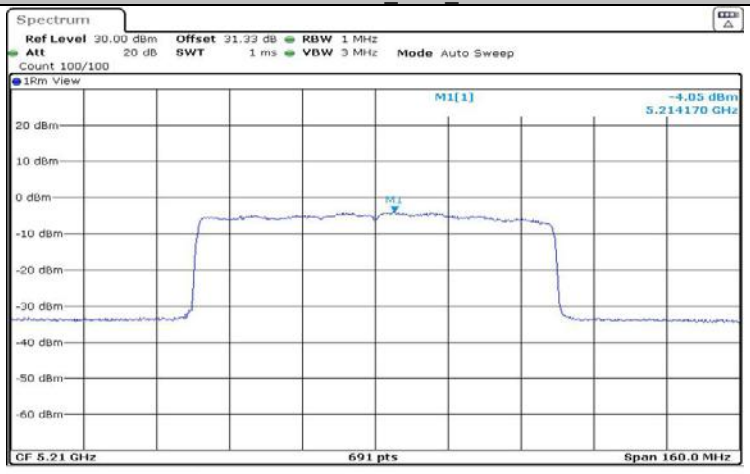
11AX40MIMO_Ant1_5755

11AX40MIMO_Ant2_5755

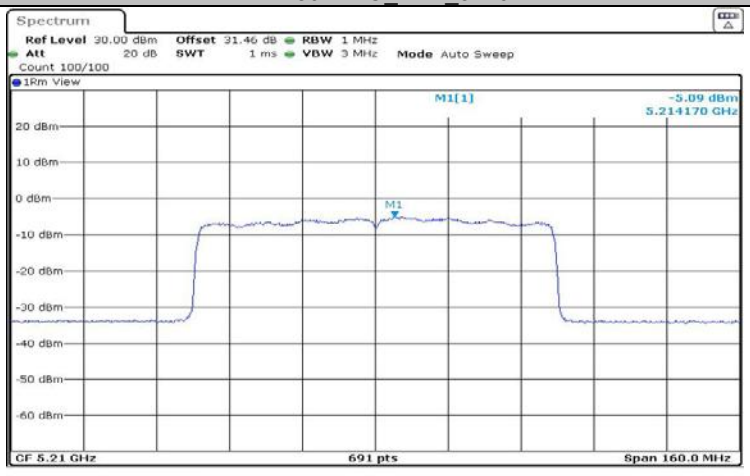
11AX40MIMO_Ant1_5795

11AX40MIMO_Ant2_5795

11AX80MIMO_Ant1_5210



11AX80MIMO_Ant2_5210



11AX80MIMO_Ant1_5775

11AX80MIMO_Ant2_5775

******* END OF REPORT *******