

TEST REPORT

Applicant Name : Vuzix Corporation
Address : 25 Hendrix Rd, West Henrietta, New York, United States 14586
Report Number : SZNS220425-16463E-RF-00
FCC ID: 2AA9D-514

Test Standard (s)

FCC PART 15.407

Sample Description

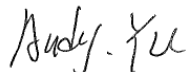
Product Type: Blade 2
Model No.: Model 514
Multiple Model(s) No.: N/A
Trade Mark: Vuzix
Date Received: 2022/04/25
Report Date: 2022/07/12

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards above.

Prepared and Checked By:

Approved By:



Andy Yu
EMC Engineer

Candy Li
EMC Engineer

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

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Frequency Range	5G Wi-Fi: 5150-5250MHz; 5250-5350MHz ; 5470-5725MHz ; 5725-5850MHz
Mode	802.11a/n20/n40/ac20/ac40/ac80
Maximum Conducted Average Output Power	5150-5250MHz: 12.04dBm 5250-5350MHz: 11.59dBm 5470-5725MHz: 12.07dBm 5725-5850MHz: 10.81dBm
Modulation Technique	OFDM
Antenna Specification*	2.3 dBi (It is provided by the applicant)
Voltage Range	DC3.7V from battery
Sample serial number	SZNS220425-16463E-RF-S1 for Conducted and Radiated Emissions SZNS220425-16463E-RF-S2 for RF Conducted Test (Assigned by ATC)
Sample/EUT Status	Good condition

Objective

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

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

Test Methodology

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

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

Each test item follows test standards and with no deviation.

Measurement Uncertainty

Parameter		Uncertainty
Occupied Channel Bandwidth		5%
RF Frequency		0.082×10^{-7}
RF output power, conducted		0.73dB
Unwanted Emission, conducted		1.6dB
AC Power Lines Conducted Emissions		2.72dB
Emissions, Radiated	9kHz - 30MHz	2.66dB
	30MHz - 1GHz	4.28dB
	1GHz - 18GHz	4.98dB
	18GHz - 26.5GHz	5.06dB
	26.5GHz - 40GHz	4.72dB
Temperature		1°C
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 4297.01.

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

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in an engineering mode, which was provided by manufacturer.

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/n20/ac20 mode: channel 36, 40, 48 were tested;

For 802.11n40/ac40 mode: channel 38, 46 were tested;

For 802.11ac80 mode, channel 42 was tested.

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

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

For 802.11a, 802.11n20/ac20 mode: channel 52, 56, 64 were tested;

For 802.11n40/ac40 mode: channel 54, 62 were tested;

For 802.11ac80 mode, channel 58 was tested.

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

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

For 802.11a, 802.11n20/ac20 mode: channel 100, 116, 140 were tested;

For 802.11n40/ac400 mode: channel 102, 110, 134 were tested.

For 802.11ac80 mode, channel 106, 122 was tested.

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

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

For 802.11a/n20/ac20 mode: channel 149, 157, 165 were tested;

For 802.11n40/ac40 mode: channel 151, 159 were tested;

For 802.11ac80 mode, channel 155 was tested.

EUT Exercise Software

“QRCT”* exercise software was used. The power level was provided by the applicant.

The worst case was performed under:

U-NII	Mode	Data rate	Power Level*		
			Low Channel	Middle Channel	High Channel
5150 – 5250MHz	802.11a	6Mbps	10	10	10
	802.11n-HT20	MCS0	10	10	10
	802.11n-HT40	MCS0	10	/	10
	802.11ac20	MCS0	10	10	10
	802.11ac40	MCS0	10	/	10
	802.11ac80	MCS0	/	10	/
5250-5350MHz	802.11a	6Mbps	10	10	10
	802.11n-HT20	MCS0	10	10	10
	802.11n-HT40	MCS0	10	/	10
	802.11ac20	MCS0	10	10	10
	802.11ac40	MCS0	10	/	10
	802.11ac80	MCS0	/	10	/
5470 – 5725MHz	802.11a	6Mbps	10	10	10
	802.11n-HT20	MCS0	10	10	10
	802.11n-HT40	MCS0	10	10	10
	802.11ac20	MCS0	10	10	10
	802.11ac40	MCS0	10	10	10
	802.11ac80	MCS0	10	/	10
5725 – 5850MHz	802.11a	6Mbps	10	10	10
	802.11n-HT20	MCS0	10	10	10
	802.11n-HT40	MCS0	10	/	10
	802.11ac20	MCS0	10	10	10
	802.11ac40	MCS0	10	/	10
	802.11ac80	MCS0	/	10	/

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

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

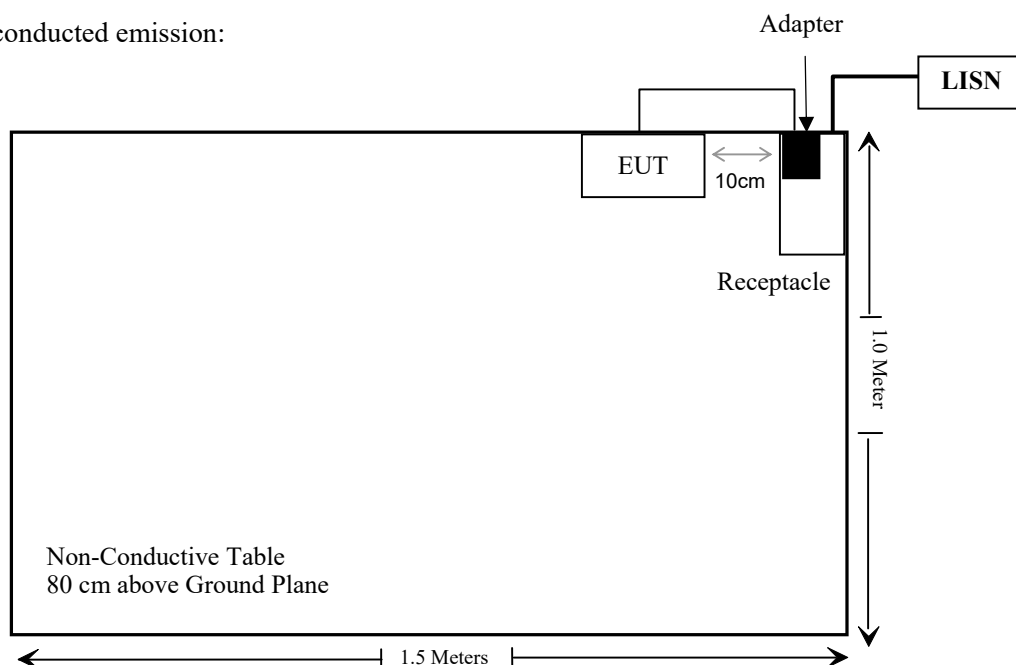
Manufacturer	Description	Model	Serial Number
Chillax Care Limited	Adapter	S005CAU0500 100	Unknown

External I/O Cable

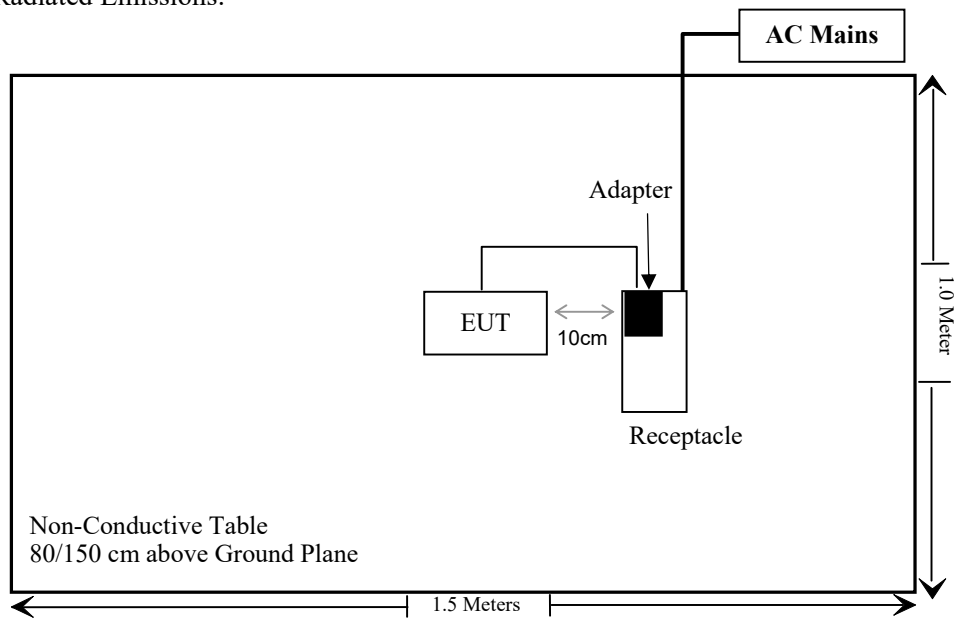
Cable Description	Length (m)	From/Port	To
Un-shielding Detachable USB Cable	1.0	EUT	Adapter

Block Diagram of Test Setup

For conducted emission:



For Radiated Emissions:



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§1.1307 (b) (1) & §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)	Compliant*

Not Applicable: the applicant declared the device not support TPC function.

Compliant*: please refer to DFS report: SZNS220425-16463E-RFC

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Conducted Emissions Test					
Rohde& Schwarz	EMI Test Receiver	ESCI	100784	2021/12/13	2022/12/12
Anritsu Corp	50 Coaxial Switch	MP59B	6100237248	2021/12/13	2022/12/12
Rohde & Schwarz	Absorbing Clamp	MDS21	100142	2021/12/22	2022/12/21
NARDA	Magnetic field tester	2300/90.10	B-0137	2021/12/22	2022/12/21
Unknown	RF Coaxial Cable	No.17	N0350	2021/12/14	2022/12/13
Conducted Emission Test Software: e3 19821b (V9)					
Radiated Emissions Test					
Rohde& Schwarz	Test Receiver	ESR	102725	2021/12/13	2022/12/12
Rohde&Schwarz	Spectrum Analyzer	FSV40	101949	2021/12/13	2022/12/12
SONOMA INSTRUMENT	Amplifier	310 N	186131	2021/11/09	2022/11/08
A.H. Systems, inc.	Preamplifier	PAM-0118P	135	2021/11/09	2022/11/08
Quinstar	Amplifier	QLW-18405536-J0	15964001002	2021/11/11	2022/11/10
Schwarzbeck	Bilog Antenna	VULB9163	9163-323	2021/07/06	2024/07/05
Schwarzbeck	Horn Antenna	BBHA9120D	9120D-1067	2020/01/05	2023/01/04
Schwarzbeck	HORN ANTENNA	BBHA9170	9170-359	2020/01/05	2023/01/04
Radiated Emission Test Software: e3 19821b (V9)					
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.12	N040	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.13	N300	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.14	N800	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
CD	Band Reject Filter	BRM-5.15/5.35g-45	075	2021/12/14	2022/12/13
CD	Band Reject Filter	BRM-5.47/5.725G-45	055	2021/12/14	2022/12/13
CD	Band Reject Filter	BRM-5.725/5.875G-45	065	2021/12/14	2022/12/13
RF Conducted Test					
Rohde&Schwarz	Spectrum Analyzer	FSV-40	101590	2022/01/19	2023/01/18
Tonscend	RF Control Unit	JS0806-2	19G8060182	2021/10/26	2022/10/25
Unknown	RF Coaxial Cable	No.31	RF-01	Each time	/
Unknown	RF Cable	Unknown	1	Each time	/

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

FCC §1.1307&§2.1093 - RF EXPOSURE

Applicable Standard

FCC§1.1310 and §2.1093.

Test Result

Compliance, please refer to the SAR report: SZNS220425-16463E-20.

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 one internal antenna arrangement for 5G Wi-Fi which were permanently attached. Please refer to the EUT photos.

Type	Antenna Gain	Impedance	Frequency Range
FPC	2.3dBi	50 Ω	5150-5850MHz

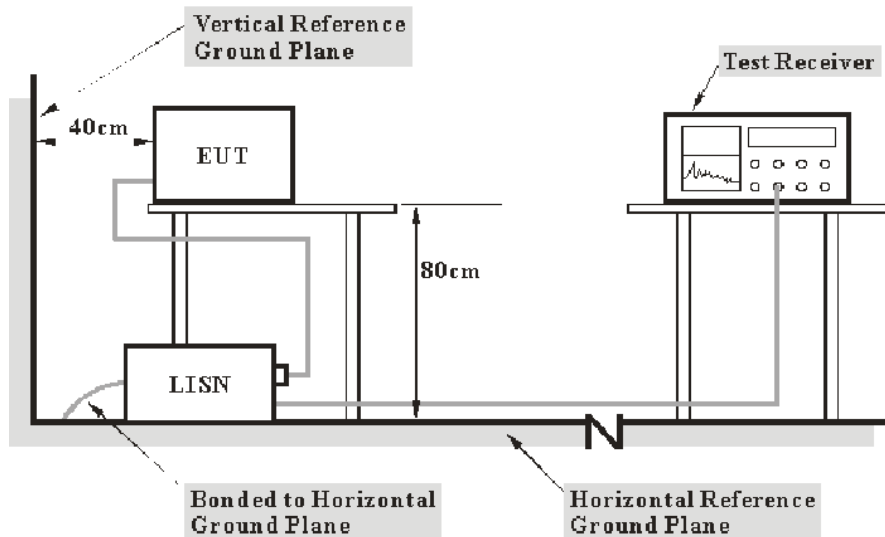
Result: Compliant.

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 Transd factor is calculated by adding LISN VDF (Voltage Division Factor) and Cable Loss. The basic equation is as follows:

$$\text{Transd Factor} = \text{LISN VDF} + \text{Cable Loss}$$

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 calculation is as follows:

$$\begin{aligned}\text{Over Limit} &= \text{Level} - \text{Limit} \\ \text{Level} &= \text{Read Level} + \text{Factor}\end{aligned}$$

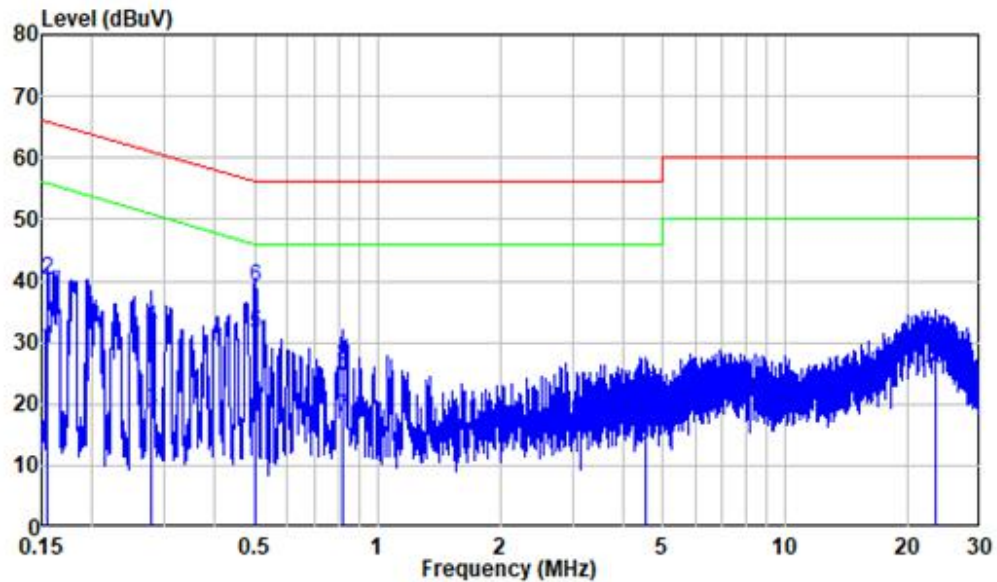
Test Data

Environmental Conditions

Temperature:	23 °C
Relative Humidity:	55 %
ATM Pressure:	101.0 kPa

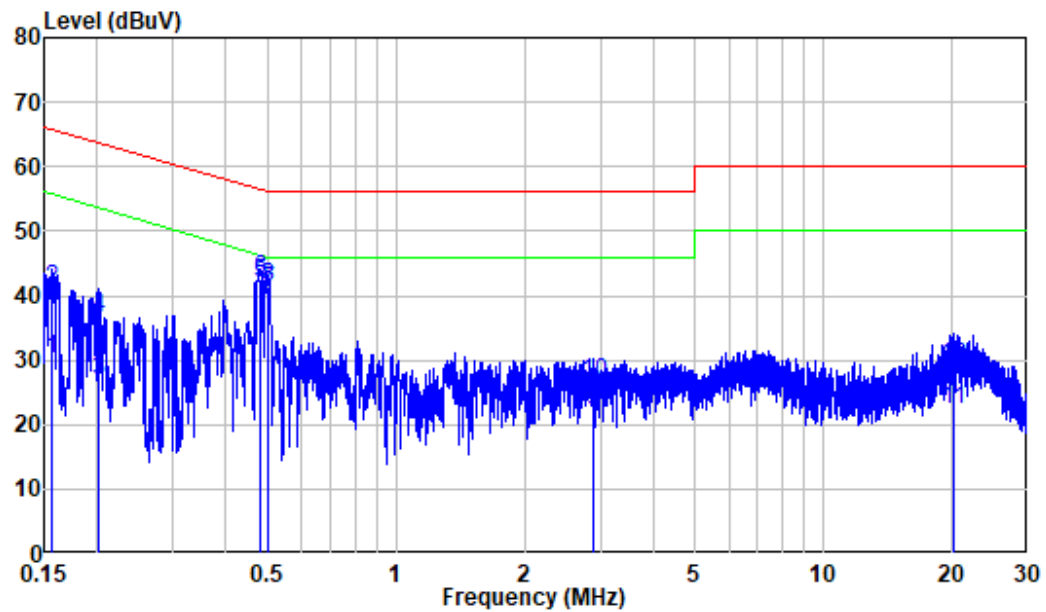
The testing was performed by Jason on 2022-06-14.

EUT operation mode: Transmitting (worst case is 802.11n40, 5670MHz)

AC 120V/60 Hz, Line

Site : Shielding Room
 Condition: Line
 Mode : 5G WIFI
 Model : Model 514
 Power : AC 120V 60Hz

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dBuV	dBuV	dB	
1	0.155	9.80	19.32	29.12	55.74	-26.62	Average
2	0.155	9.80	30.37	40.17	65.74	-25.57	QP
3	0.279	9.80	8.91	18.71	50.85	-32.14	Average
4	0.279	9.80	22.40	32.20	60.85	-28.65	QP
5	0.500	9.80	21.70	31.50	46.00	-14.50	Average
6	0.500	9.80	29.23	39.03	56.00	-16.97	QP
7	0.820	9.81	8.14	17.95	46.00	-28.05	Average
8	0.820	9.81	16.56	26.37	56.00	-29.63	QP
9	4.516	9.85	3.39	13.24	46.00	-32.76	Average
10	4.516	9.85	11.45	21.30	56.00	-34.70	QP
11	23.310	10.03	13.85	23.88	50.00	-26.12	Average
12	23.310	10.03	20.47	30.50	60.00	-29.50	QP

AC 120V/60 Hz, Neutral

Site : Shielding Room
 Condition: Neutral
 Mode : 5G WIFI
 Model : Model 514
 Power : AC 120V 60Hz

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dBuV	dBuV	dBuV	dB	
1	0.157	9.80	20.47	30.27	55.63	-25.36	Average
2	0.157	9.80	31.13	40.93	65.63	-24.70	QP
3	0.200	9.80	17.13	26.93	53.60	-26.67	Average
4	0.200	9.80	26.63	36.43	63.60	-27.17	QP
5	0.482	9.80	32.31	42.11	46.30	-4.19	Average
6	0.482	9.80	32.81	42.61	56.30	-13.69	QP
7	0.500	9.80	30.89	40.69	46.00	-5.31	Average
8	0.500	9.80	31.47	41.27	56.00	-14.73	QP
9	2.888	9.83	12.12	21.95	46.00	-24.05	Average
10	2.888	9.83	16.71	26.54	56.00	-29.46	QP
11	20.043	10.10	12.32	22.42	50.00	-27.58	Average
12	20.043	10.10	19.02	29.12	60.00	-30.88	QP

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

Applicable Standard

FCC §15.407 (b); §15.209; §15.205;

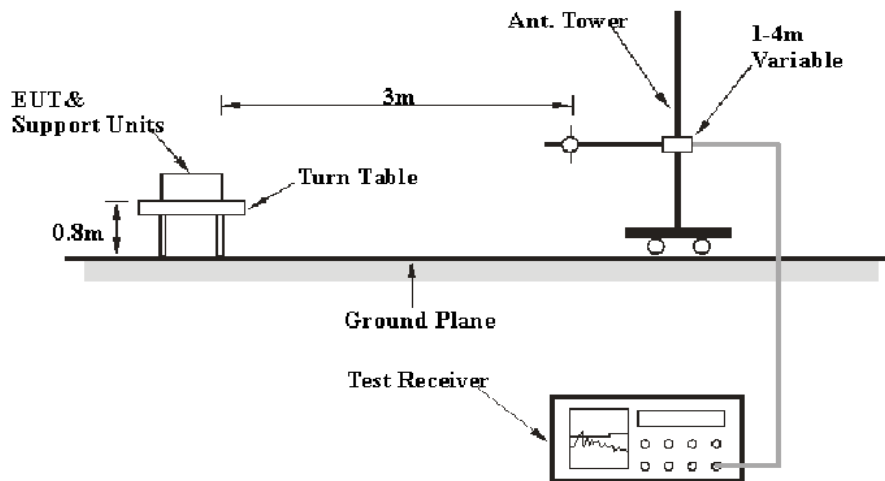
(b) Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

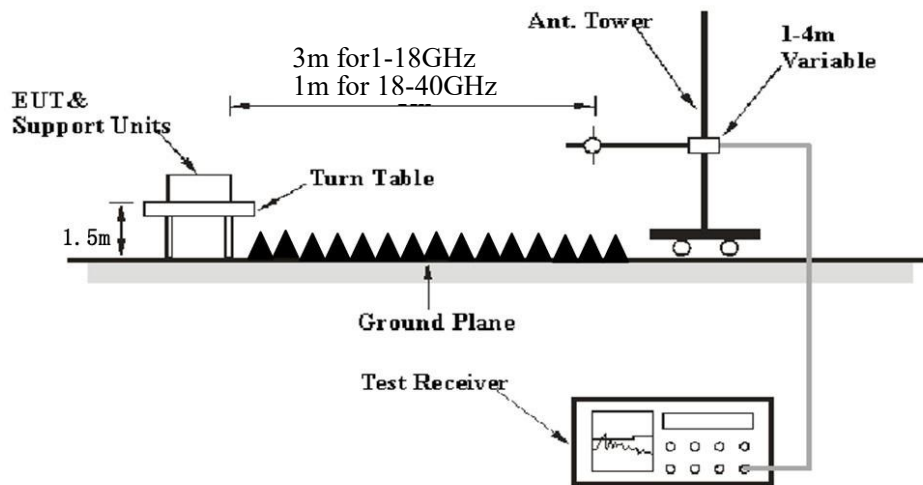
- (1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (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}	/	Ave.erage
	1MHz	> 1/T ^{Note 2}	/	Ave.erage

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 Ave.erage 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;

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

where

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

So the extrapolation factor of 1m is $20 \cdot \log(1/3) = -9.5$ 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.

Factor & Margin Calculation

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

$$\text{Factor} = \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

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

$$\begin{aligned} \text{Over Limit/Margin} &= \text{Level / Corrected Amplitude} - \text{Limit} \\ \text{Level / Corrected Amplitude} &= \text{Read Level} + \text{Factor} \end{aligned}$$

Test Data

Environmental Conditions

Temperature:	25~28°C
Relative Humidity:	55~61 %
ATM Pressure:	101.0 kPa

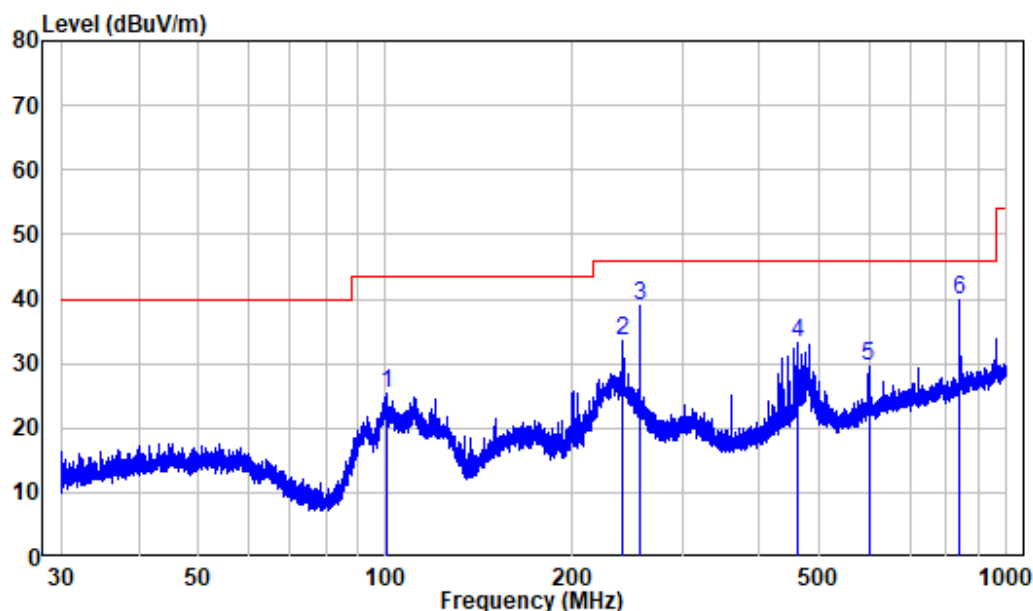
The testing was performed by Level on 2022-06-17 for below 1GHz ,by Jeff Jiang on 2022-07-06 for above 1GHz.

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

30 MHz – 1 GHz: (worst case is 802.11n40, 5670MHz)

Note: When the result of Peak less than the limit of QP by more than 6dB, just the peak value was recorded.

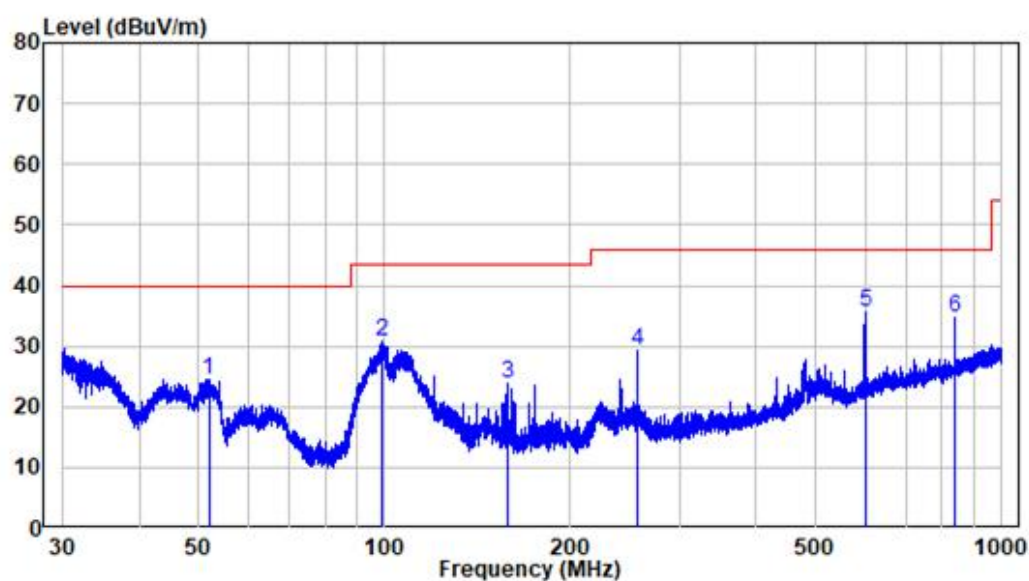
Horizontal



Site : chamber
Condition: 3m HORIZONTAL
Job No. : SZNS220425-16463E-RF
Test Mode: 5G WIFI

	Freq Factor		Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	100.273	-11.77	37.01	25.24	43.50	-18.26	Peak
2	240.303	-10.89	44.53	33.64	46.00	-12.36	Peak
3	256.296	-10.60	49.54	38.94	46.00	-7.06	Peak
4	462.346	-5.44	38.73	33.29	46.00	-12.71	Peak
5	599.847	-2.44	32.02	29.58	46.00	-16.42	Peak
6	840.286	0.28	39.59	39.87	46.00	-6.13	Peak

Vertical



Site : chamber

Condition: 3m VERTICAL

Job No. : SZNS220425-16463E-RF

Test Mode: 5G WIFI

	Freq	Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dBuV	dBuV/m	dBuV/m	dB	
1	51.866	-9.97	34.50	24.53	40.00	-15.47	Peak
2	99.049	-12.02	42.90	30.88	43.50	-12.62	Peak
3	158.529	-14.42	38.35	23.93	43.50	-19.57	Peak
4	256.296	-10.60	39.99	29.39	46.00	-16.61	Peak
5	600.373	-2.43	37.99	35.56	46.00	-10.44	Peak
6	840.286	0.28	34.49	34.77	46.00	-11.23	Peak

Above 1GHz:**5150-5250 MHz:**

Frequency (MHz)	Receiver		Turn- Table Angle Degree	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	PK/QP/AV		Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11a									
5180MHz									
4500	63.1	PK	120	1.6	H	-4.72	58.38	74	-15.62
4500	50.21	AV	120	1.6	H	-4.72	45.49	54	-8.51
4500	62.98	PK	20	2	V	-4.72	58.26	74	-15.74
4500	50.12	AV	20	2	V	-4.72	45.4	54	-8.6
5150	65.1	PK	246	1.2	H	-2.73	62.37	74	-11.63
5150	50.92	AV	246	1.2	H	-2.73	48.19	54	-5.81
5150	64.46	PK	229	1.8	V	-2.73	61.73	74	-12.27
5150	50.81	AV	229	1.8	V	-2.73	48.08	54	-5.92
10360	47.24	PK	67	2	H	8.12	55.36	68.2	-12.84
10360	46.23	PK	247	1.5	V	8.12	54.35	68.2	-13.85
5200 MHz									
10400	47.01	PK	40	1.6	H	8.24	55.25	68.2	-12.95
10400	45.86	PK	233	1.5	V	8.24	54.1	68.2	-14.1
5240 MHz									
5350	64.75	PK	57	1.6	H	-2.33	62.42	74	-11.58
5350	51.01	AV	57	1.6	H	-2.33	48.68	54	-5.32
5350	64.6	PK	62	1.4	V	-2.33	62.27	74	-11.73
5350	50.93	AV	62	1.4	V	-2.33	48.6	54	-5.4
5460	63.67	PK	231	1.4	H	-2.26	61.41	74	-12.59
5460	50.95	AV	231	1.4	H	-2.26	48.69	54	-5.31
5460	63.56	PK	257	1.4	V	-2.26	61.3	74	-12.7
5460	50.85	AV	257	1.4	V	-2.26	48.59	54	-5.41
10480	46.29	PK	212	2.3	H	8.56	54.85	68.2	-13.35
10480	45.42	PK	261	1.6	V	8.56	53.98	68.2	-14.22

Frequency (MHz)	Receiver		Turn- Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	PK/QP/AV	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11n20									
5180MHz									
4500	62.88	PK	278	1.1	H	-4.72	58.16	74	-15.84
4500	50.14	AV	278	1.1	H	-4.72	45.42	54	-8.58
4500	62.79	PK	325	2.2	V	-4.72	58.07	74	-15.93
4500	50.03	AV	325	2.2	V	-4.72	45.31	54	-8.69
5150	63.99	PK	101	1.8	H	-2.73	61.26	74	-12.74
5150	50.52	AV	101	1.8	H	-2.73	47.79	54	-6.21
5150	63.88	PK	253	1.3	V	-2.73	61.15	74	-12.85
5150	50.41	AV	253	1.3	V	-2.73	47.68	54	-6.32
10360	47.03	PK	210	2.5	H	8.12	55.15	68.2	-13.05
10360	46.22	PK	287	1.6	V	8.12	54.34	68.2	-13.86
5200 MHz									
10400	46.84	PK	26	2.4	H	8.24	55.08	68.2	-13.12
10400	46	PK	248	1.1	V	8.24	54.24	68.2	-13.96
5240 MHz									
5350	65.07	PK	158	1.3	H	-2.33	62.74	74	-11.26
5350	51.04	AV	158	1.3	H	-2.33	48.71	54	-5.29
5350	64.88	PK	304	1.8	V	-2.33	62.55	74	-11.45
5350	50.95	AV	304	1.8	V	-2.33	48.62	54	-5.38
5460	63.82	PK	338	2.2	H	-2.26	61.56	74	-12.44
5460	50.91	AV	338	2.2	H	-2.26	48.65	54	-5.35
5460	63.67	PK	304	2.2	V	-2.26	61.41	74	-12.59
5460	50.84	AV	304	2.2	V	-2.26	48.58	54	-5.42
10480	46.56	PK	90	2	H	8.56	55.12	68.2	-13.08
10480	45.54	PK	355	2.2	V	8.56	54.1	68.2	-14.1

Frequency (MHz)	Receiver		Turn- Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	PK/QP/AV	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11n40									
5190MHz									
4500	63.89	PK	30	2.3	H	-4.72	59.17	74	-14.83
4500	50.63	AV	30	2.3	H	-4.72	45.91	54	-8.09
4500	63.98	PK	8	1.8	V	-4.72	59.26	74	-14.74
4500	50.72	AV	8	1.8	V	-4.72	46	54	-8
5150	63.37	PK	325	2.5	H	-2.73	60.64	74	-13.36
5150	51.53	AV	325	2.5	H	-2.73	48.8	54	-5.2
5150	63.59	PK	160	1.3	V	-2.73	60.86	74	-13.14
5150	51.39	AV	160	1.3	V	-2.73	48.66	54	-5.34
10380	47.74	PK	260	1.1	H	8.18	55.92	68.2	-12.28
10380	45.96	PK	12	1.9	V	8.18	54.14	68.2	-14.06
5230 MHz									
5350	65.07	PK	23	1.1	H	-2.33	62.74	74	-11.26
5350	51.5	AV	23	1.1	H	-2.33	49.17	54	-4.83
5350	65.41	PK	359	2.1	V	-2.33	63.08	74	-10.92
5350	51.54	AV	359	2.1	V	-2.33	49.21	54	-4.79
5460	63.81	PK	147	1.7	H	-2.26	61.55	74	-12.45
5460	51.4	AV	147	1.7	H	-2.26	49.14	54	-4.86
5460	63.99	PK	64	2.5	V	-2.26	61.73	74	-12.27
5460	51.45	AV	64	2.5	V	-2.26	49.19	54	-4.81
10460	46.75	PK	168	1	H	8.47	55.22	68.2	-12.98
10460	46.11	PK	203	1.6	V	8.47	54.58	68.2	-13.62

Frequency (MHz)	Receiver		Turn- Table Angle Degree	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	PK/QP/AV		Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11ac20									
5180MHz									
4500	63.2	PK	329	1.7	H	-4.72	58.48	74	-15.52
4500	50.33	AV	329	1.7	H	-4.72	45.61	54	-8.39
4500	63.08	PK	244	1.7	V	-4.72	58.36	74	-15.64
4500	50.24	AV	244	1.7	V	-4.72	45.52	54	-8.48
5150	64.48	PK	201	1.4	H	-2.73	61.75	74	-12.25
5150	50.94	AV	201	1.4	H	-2.73	48.21	54	-5.79
5150	64.32	PK	288	1.3	V	-2.73	61.59	74	-12.41
5150	50.85	AV	288	1.3	V	-2.73	48.12	54	-5.88
10360	47.67	PK	132	1.4	H	8.12	55.79	68.2	-12.41
10360	46.52	PK	74	2	V	8.12	54.64	68.2	-13.56
5200 MHz									
10400	47.36	PK	351	2	H	8.24	55.6	68.2	-12.6
10400	46.31	PK	328	2.2	V	8.24	54.55	68.2	-13.65
5240 MHz									
5350	64.81	PK	237	1.3	H	-2.33	62.48	74	-11.52
5350	50.99	AV	237	1.3	H	-2.33	48.66	54	-5.34
5350	64.67	PK	191	1.7	V	-2.33	62.34	74	-11.66
5350	50.88	AV	191	1.7	V	-2.33	48.55	54	-5.45
5460	63.68	PK	350	1.2	H	-2.26	61.42	74	-12.58
5460	50.94	AV	350	1.2	H	-2.26	48.68	54	-5.32
5460	63.56	PK	142	1.9	V	-2.26	61.3	74	-12.7
5460	50.82	AV	142	1.9	V	-2.26	48.56	54	-5.44
10480	47.15	PK	251	1.6	H	8.56	55.71	68.2	-12.49
10480	45.79	PK	307	1.3	V	8.56	54.35	68.2	-13.85

Frequency (MHz)	Receiver		Turn- Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	PK/QP/AV	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11ac40									
5190MHz									
4500	63.85	PK	57	1	H	-4.72	59.13	74	-14.87
4500	50.68	AV	57	1	H	-4.72	45.96	54	-8.04
4500	63.94	PK	133	2.3	V	-4.72	59.22	74	-14.78
4500	50.79	AV	133	2.3	V	-4.72	46.07	54	-7.93
5150	68.6	PK	79	2.4	H	-2.73	65.87	74	-8.13
5150	53.38	AV	79	2.4	H	-2.73	50.65	54	-3.35
5150	68.79	PK	346	1.2	V	-2.73	66.06	74	-7.94
5150	53.61	AV	346	1.2	V	-2.73	50.88	54	-3.12
10380	46.83	PK	292	2.5	H	8.18	55.01	68.2	-13.19
10380	46.1	PK	349	1.7	V	8.18	54.28	68.2	-13.92
5230 MHz									
5350	64.75	PK	286	1.3	H	-2.33	62.42	74	-11.58
5350	51.39	AV	286	1.3	H	-2.33	49.06	54	-4.94
5350	64.88	PK	76	1.7	V	-2.33	62.55	74	-11.45
5350	51.47	AV	76	1.7	V	-2.33	49.14	54	-4.86
5460	63.85	PK	321	1.1	H	-2.26	61.59	74	-12.41
5460	51.24	AV	321	1.1	H	-2.26	48.98	54	-5.02
5460	63.97	PK	215	1.7	V	-2.26	61.71	74	-12.29
5460	51.33	AV	215	1.7	V	-2.26	49.07	54	-4.93
10460	46.38	PK	133	2.5	H	8.47	54.85	68.2	-13.35
10460	45.66	PK	117	1.2	V	8.47	54.13	68.2	-14.07

Frequency (MHz)	Receiver		Turn- Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	PK/QP/AV	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11ac80									
5210MHz									
4500	63.42	PK	44	1.5	H	-4.72	58.7	74	-15.3
4500	51.31	AV	44	1.5	H	-4.72	46.59	54	-7.41
4500	63.54	PK	339	1.4	V	-4.72	58.82	74	-15.18
4500	51.4	AV	339	1.4	V	-4.72	46.68	54	-7.32
5150	65.85	PK	285	1.1	H	-2.73	63.12	74	-10.88
5150	54.1	AV	285	1.1	H	-2.73	51.37	54	-2.63
5150	67.21	PK	359	1.1	V	-2.73	64.48	74	-9.52
5150	54.66	AV	359	1.1	V	-2.73	51.93	54	-2.07
5350	64.87	PK	261	1.7	H	-2.33	62.54	74	-11.46
5350	52.23	AV	261	1.7	H	-2.33	49.9	54	-4.1
5350	65.15	PK	77	1.6	V	-2.33	62.82	74	-11.18
5350	52.34	AV	77	1.6	V	-2.33	50.01	54	-3.99
5460	64	PK	185	2.4	H	-2.26	61.74	74	-12.26
5460	52.07	AV	185	2.4	H	-2.26	49.81	54	-4.19
5460	64.11	PK	299	2.1	V	-2.26	61.85	74	-12.15
5460	52.18	AV	299	2.1	V	-2.26	49.92	54	-4.08
10420	47.17	PK	300	1.2	H	8.32	55.49	68.2	-12.71
10420	46.34	PK	258	2.1	V	8.32	54.66	68.2	-13.54

5250-5350 MHz:

Frequency (MHz)	Receiver		Turn- Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	PK/QP/AV	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11a									
5260MHz									
4500	63.34	PK	103	1.8	H	-4.72	58.62	74	-15.38
4500	50.18	AV	103	1.8	H	-4.72	45.46	54	-8.54
4500	63.22	PK	119	1.8	V	-4.72	58.5	74	-15.5
4500	50.09	AV	119	1.8	V	-4.72	45.37	54	-8.63
5150	64.27	PK	10	2.5	H	-2.73	61.54	74	-12.46
5150	50.42	AV	10	2.5	H	-2.73	47.69	54	-6.31
5150	64.15	PK	159	1.8	V	-2.73	61.42	74	-12.58
5150	50.3	AV	159	1.8	V	-2.73	47.57	54	-6.43
10520	47.01	PK	160	2.2	H	8.65	55.66	68.2	-12.54
10520	45.56	PK	226	2.3	V	8.65	54.21	68.2	-13.99
5280 MHz									
10560	46.84	PK	75	1.2	H	8.69	55.53	68.2	-12.67
10560	46.58	PK	351	1.3	V	8.69	55.27	68.2	-12.93
5320 MHz									
5350	64.75	PK	104	1.7	H	-2.33	62.42	74	-11.58
5350	50.98	AV	104	1.7	H	-2.33	48.65	54	-5.35
5350	64.64	PK	264	1.1	V	-2.33	62.31	74	-11.69
5350	50.86	AV	264	1.1	V	-2.33	48.53	54	-5.47
5460	63.41	PK	204	2	H	-2.26	61.15	74	-12.85
5460	50.98	AV	204	2	H	-2.26	48.72	54	-5.28
5460	63.3	PK	230	1.4	V	-2.26	61.04	74	-12.96
5460	50.89	AV	230	1.4	V	-2.26	48.63	54	-5.37
10640	46.65	PK	15	2.5	H	8.92	55.57	74	-18.43
10640	42.95	AV	15	2.5	H	8.92	51.87	54	-2.13
10640	45.37	PK	54	2	V	8.92	54.29	74	-19.71
10640	42.13	AV	54	2	V	8.92	51.05	54	-2.95

Frequency (MHz)	Receiver		Turn- Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	PK/QP/AV	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11n20									
5260MHz									
4500	63.43	PK	169	1.3	H	-4.72	58.71	74	-15.29
4500	50.37	AV	169	1.3	H	-4.72	45.65	54	-8.35
4500	63.31	PK	162	1.6	V	-4.72	58.59	74	-15.41
4500	50.28	AV	162	1.6	V	-4.72	45.56	54	-8.44
5150	64.32	PK	316	2.2	H	-2.73	61.59	74	-12.41
5150	50.6	AV	316	2.2	H	-2.73	47.87	54	-6.13
5150	64.21	PK	180	1.1	V	-2.73	61.48	74	-12.52
5150	50.49	AV	180	1.1	V	-2.73	47.76	54	-6.24
10520	46.72	PK	64	2.1	H	8.65	55.37	68.2	-12.83
10520	45.8	PK	121	1.4	V	8.65	54.45	68.2	-13.75
5280 MHz									
10560	47	PK	279	2.5	H	8.69	55.69	68.2	-12.51
10560	45.91	PK	289	1.1	V	8.69	54.6	68.2	-13.6
5320 MHz									
5350	64.61	PK	106	2.3	H	-2.33	62.28	74	-11.72
5350	51.17	AV	106	2.3	H	-2.33	48.84	54	-5.16
5350	64.49	PK	109	1.8	V	-2.33	62.16	74	-11.84
5350	51.08	AV	109	1.8	V	-2.33	48.75	54	-5.25
5460	63.67	PK	64	1.7	H	-2.26	61.41	74	-12.59
5460	50.99	AV	64	1.7	H	-2.26	48.73	54	-5.27
5460	63.56	PK	218	2.3	V	-2.26	61.3	74	-12.7
5460	50.9	AV	218	2.3	V	-2.26	48.64	54	-5.36
10640	46.85	PK	89	1.9	H	8.92	55.77	74	-18.23
10640	43.14	AV	89	1.9	H	8.92	52.06	54	-1.94
10640	45.69	PK	67	1.8	V	8.92	54.61	74	-19.39
10640	43.27	AV	67	1.8	V	8.92	52.19	54	-1.81

Frequency (MHz)	Receiver		Turn- Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	PK/QP/AV	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11n40									
5270MHz									
4500	63.41	PK	108	1.7	H	-4.72	58.69	74	-15.31
4500	50.47	AV	108	1.7	H	-4.72	45.75	54	-8.25
4500	63.52	PK	273	1.6	V	-4.72	58.8	74	-15.2
4500	50.6	AV	273	1.6	V	-4.72	45.88	54	-8.12
5150	64.45	PK	266	2.2	H	-2.73	61.72	74	-12.28
5150	50.8	AV	266	2.2	H	-2.73	48.07	54	-5.93
5150	64.61	PK	62	1	V	-2.73	61.88	74	-12.12
5150	50.96	AV	62	1	V	-2.73	48.23	54	-5.77
10540	46.3	PK	275	2.1	H	8.65	54.95	68.2	-13.25
10540	45.89	PK	220	2.3	V	8.65	54.54	68.2	-13.66
5310 MHz									
5350	65.08	PK	13	1.7	H	-2.33	62.75	74	-11.25
5350	51.35	AV	13	1.7	H	-2.33	49.02	54	-4.98
5350	65.31	PK	20	2.4	V	-2.33	62.98	74	-11.02
5350	51.54	AV	20	2.4	V	-2.33	49.21	54	-4.79
5460	63.68	PK	89	1.5	H	-2.26	61.42	74	-12.58
5460	51.34	AV	89	1.5	H	-2.26	49.08	54	-4.92
5460	63.81	PK	182	1.7	V	-2.26	61.55	74	-12.45
5460	51.45	AV	182	1.7	V	-2.26	49.19	54	-4.81
10620	47.09	PK	108	1.4	H	8.89	55.98	74	-18.02
10620	43.27	AV	108	1.4	H	8.89	52.16	54	-1.84
10620	45.63	PK	140	1	V	8.89	54.52	74	-19.48
10620	42.84	AV	140	1	V	8.89	51.73	54	-2.27

Frequency (MHz)	Receiver		Turn- Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBµV/m)	FCC Part 15.407	
	Reading (dBµV)	PK/QP/AV	Angle Degree	Height (m)	Polar (H / V)			Limit (dBµV/m)	Margin (dB)
802.11ac20									
5260MHz									
4500	63.5	PK	71	2.2	H	-4.72	58.78	74	-15.22
4500	50.48	AV	71	2.2	H	-4.72	45.76	54	-8.24
4500	63.39	PK	129	1.2	V	-4.72	58.67	74	-15.33
4500	50.37	AV	129	1.2	V	-4.72	45.65	54	-8.35
5150	64.5	PK	239	1.5	H	-2.73	61.77	74	-12.23
5150	50.69	AV	239	1.5	H	-2.73	47.96	54	-6.04
5150	64.38	PK	119	1.3	V	-2.73	61.65	74	-12.35
5150	50.57	AV	119	1.3	V	-2.73	47.84	54	-6.16
10520	47	PK	207	1.3	H	8.65	55.65	68.2	-12.55
10520	45.9	PK	90	1.8	V	8.65	54.55	68.2	-13.65
5280 MHz									
10560	47.49	PK	201	1.3	H	8.69	56.18	68.2	-12.02
10560	46.17	PK	222	1.5	V	8.69	54.86	68.2	-13.34
5320 MHz									
5350	64.81	PK	272	1.6	H	-2.33	62.48	74	-11.52
5350	51.27	AV	272	1.6	H	-2.33	48.94	54	-5.06
5350	64.6	PK	52	1.7	V	-2.33	62.27	74	-11.73
5350	51.16	AV	52	1.7	V	-2.33	48.83	54	-5.17
5460	62.76	PK	253	1.2	H	-2.26	60.5	74	-13.5
5460	51.08	AV	253	1.2	H	-2.26	48.82	54	-5.18
5460	63.65	PK	91	1.8	V	-2.26	61.39	74	-12.61
5460	50.94	AV	91	1.8	V	-2.26	48.68	54	-5.32
10640	47.17	PK	230	1.2	H	8.92	56.09	74	-17.91
10640	43.49	AV	230	1.2	H	8.92	52.41	54	-1.59
10640	45.91	PK	121	2	V	8.92	54.83	74	-19.17
10640	43.1	AV	121	2	V	8.92	52.02	54	-1.98

Frequency (MHz)	Receiver		Turn- Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	PK/QP/AV	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11ac40									
5270MHz									
4500	63.5	PK	107	1.2	H	-4.72	58.78	74	-15.22
4500	50.58	AV	107	1.2	H	-4.72	45.86	54	-8.14
4500	63.67	PK	10	1.5	V	-4.72	58.95	74	-15.05
4500	50.69	AV	10	1.5	V	-4.72	45.97	54	-8.03
5150	64.58	PK	38	1.3	H	-2.73	61.85	74	-12.15
5150	50.91	AV	38	1.3	H	-2.73	48.18	54	-5.82
5150	64.75	PK	45	1.6	V	-2.73	62.02	74	-11.98
5150	51.08	AV	45	1.6	V	-2.73	48.35	54	-5.65
10540	46.25	PK	350	2.2	H	8.65	54.9	68.2	-13.3
10540	45.74	PK	95	1.7	V	8.65	54.39	68.2	-13.81
5310 MHz									
5350	65.17	PK	340	2.4	H	-2.33	62.84	74	-11.16
5350	51.46	AV	340	2.4	H	-2.33	49.13	54	-4.87
5350	65.4	PK	207	1.3	V	-2.33	63.07	74	-10.93
5350	51.61	AV	207	1.3	V	-2.33	49.28	54	-4.72
5460	63.76	PK	284	1.3	H	-2.26	61.5	74	-12.5
5460	51.44	AV	284	1.3	H	-2.26	49.18	54	-4.82
5460	63.87	PK	40	2.5	V	-2.26	61.61	74	-12.39
5460	51.55	AV	40	2.5	V	-2.26	49.29	54	-4.71
10620	47.01	PK	253	1.4	H	8.89	55.9	74	-18.1
10620	43.35	AV	253	1.4	H	8.89	52.24	54	-1.76
10620	45.9	PK	106	1.6	V	8.89	54.79	74	-19.21
10620	43.55	AV	106	1.6	V	8.89	52.44	54	-1.56

Frequency (MHz)	Receiver		Turn- Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	PK/QP/AV	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11ac80									
5290MHz									
4500	63.24	PK	6	1.7	H	-4.72	58.52	74	-15.48
4500	51.27	AV	6	1.7	H	-4.72	46.55	54	-7.45
4500	63.35	PK	79	1.5	V	-4.72	58.63	74	-15.37
4500	51.39	AV	79	1.5	V	-4.72	46.67	54	-7.33
5150	64.08	PK	201	2.4	H	-2.73	61.35	74	-12.65
5150	51.9	AV	201	2.4	H	-2.73	49.17	54	-4.83
5150	64.25	PK	90	1.1	V	-2.73	61.52	74	-12.48
5150	51.99	AV	90	1.1	V	-2.73	49.26	54	-4.74
5350	64.81	PK	184	1.4	H	-2.33	62.48	74	-11.52
5350	52.3	AV	184	1.4	H	-2.33	49.97	54	-4.03
5350	64.98	PK	238	1.2	V	-2.33	62.65	74	-11.35
5350	52.43	AV	238	1.2	V	-2.33	50.1	54	-3.9
5460	63.77	PK	41	2.4	H	-2.26	61.51	74	-12.49
5460	52.08	AV	41	2.4	H	-2.26	49.82	54	-4.18
5460	63.89	PK	328	2.1	V	-2.26	61.63	74	-12.37
5460	52.2	AV	328	2.1	V	-2.26	49.94	54	-4.06
10580	46.68	PK	54	1.6	H	8.77	55.45	68.2	-12.75
10580	45.76	PK	289	1.1	V	8.77	54.53	68.2	-13.67

5470-5725 MHz:

Frequency (MHz)	Receiver		Turn- Table Angle Degree	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	PK/QP/AV		Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11a									
5500MHz									
5460	64.43	PK	217	1.4	H	-2.26	62.17	74	-11.83
5460	50.93	AV	217	1.4	H	-2.26	48.67	54	-5.33
5460	64.24	PK	346	1.3	V	-2.26	61.98	74	-12.02
5460	51	AV	346	1.3	V	-2.26	48.74	54	-5.26
5470	64.93	PK	322	1.1	H	-2.22	62.71	68.2	-5.49
5470	64.7	PK	119	1.1	V	-2.22	62.48	68.2	-5.72
11000	48.9	PK	200	1.3	H	9.67	58.57	74	-15.43
11000	44.03	AV	200	1.3	H	9.67	53.7	54	-0.3
11000	47.13	PK	133	1.1	V	9.67	56.8	74	-17.2
11000	43.33	AV	133	1.1	V	9.67	53	54	-1
5580 MHz									
11160	49.47	PK	158	1.7	H	8.68	58.15	74	-15.85
11160	45.09	AV	158	1.7	H	8.68	53.77	54	-0.23
11160	47.55	PK	241	1.1	V	8.68	56.23	74	-17.77
11160	43.73	AV	241	1.1	V	8.68	52.41	54	-1.59
5700 MHz									
5725	65.5	PK	88	1.2	H	-1.96	63.54	68.2	-4.66
5725	65.76	PK	189	2.5	V	-1.96	63.8	68.2	-4.4
5745	64.92	PK	9	1.2	H	-1.91	63.01	68.2	-5.19
5745	65.33	PK	157	1	V	-1.91	63.42	68.2	-4.78
11400	51.68	PK	110	1.9	H	7.26	58.94	74	-15.06
11400	46.62	AV	110	1.9	H	7.26	53.88	54	-0.12
11400	49.9	PK	104	1.4	V	7.26	57.16	74	-16.84
11400	45.5	AV	104	1.4	V	7.26	52.76	54	-1.24

Frequency (MHz)	Receiver		Turn- Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	PK/QP/AV	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11n20									
5500MHz									
5460	64.31	PK	221	1.7	H	-2.26	62.05	74	-11.95
5460	50.91	AV	221	1.7	H	-2.26	48.65	54	-5.35
5460	64.32	PK	303	1.5	V	-2.26	62.06	74	-11.94
5460	50.86	AV	303	1.5	V	-2.26	48.6	54	-5.4
5470	64.94	PK	316	2.5	H	-2.22	62.72	68.2	-5.48
5470	64.63	PK	141	1.3	V	-2.22	62.41	68.2	-5.79
11000	48.9	PK	296	2	H	9.67	58.57	74	-15.43
11000	43.82	AV	296	2	H	9.67	53.49	54	-0.51
11000	46.71	PK	357	1.3	V	9.67	56.38	74	-17.62
11000	43.24	AV	357	1.3	V	9.67	52.91	54	-1.09
5580 MHz									
11160	49.65	PK	245	1.9	H	8.68	58.33	74	-15.67
11160	44.58	AV	245	1.9	H	8.68	53.26	54	-0.74
11160	47.72	PK	175	1.9	V	8.68	56.4	74	-17.6
11160	43.72	AV	175	1.9	V	8.68	52.4	54	-1.6
5700 MHz									
5725	65.55	PK	149	1.1	H	-1.96	63.59	68.2	-4.61
5725	65.87	PK	358	1.6	V	-1.96	63.91	68.2	-4.29
5745	65.35	PK	283	2.1	H	-1.91	63.44	68.2	-4.76
5745	65.18	PK	268	2	V	-1.91	63.27	68.2	-4.93
11400	51.04	PK	215	1	H	7.26	58.3	74	-15.7
11400	46.28	AV	215	1	H	7.26	53.54	54	-0.46
11400	49.73	PK	192	1.6	V	7.26	56.99	74	-17.01
11400	45.66	AV	192	1.6	V	7.26	52.92	54	-1.08

Frequency (MHz)	Receiver		Turn- Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	PK/QP/AV	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11n40									
5510MHz									
5460	64.61	PK	64	1.7	H	-2.26	62.35	74	-11.65
5460	51.08	AV	64	1.7	H	-2.26	48.82	54	-5.18
5460	64.31	PK	330	1.7	V	-2.26	62.05	74	-11.95
5460	51.03	AV	330	1.7	V	-2.26	48.77	54	-5.23
5470	64.78	PK	94	1	H	-2.22	62.56	68.2	-5.64
5470	64.78	PK	36	1.3	V	-2.22	62.56	68.2	-5.64
11020	48.63	PK	227	1.1	H	9.57	58.2	74	-15.8
11020	44.35	AV	227	1.1	H	9.57	53.92	54	-0.08
11020	47.03	PK	43	1.3	V	9.57	56.6	74	-17.4
11020	43.13	AV	43	1.3	V	9.57	52.7	54	-1.3
5550 MHz									
11100	47.94	PK	25	1.6	H	9.12	57.06	74	-16.94
11100	44.41	AV	25	1.6	H	9.12	53.53	54	-0.47
11100	46.67	PK	119	2.2	V	9.12	55.79	74	-18.21
11100	42.86	AV	119	2.2	V	9.12	51.98	54	-2.02
5670 MHz									
5725	65.92	PK	278	2	H	-1.96	63.96	68.2	-4.24
5725	65.52	PK	272	1.4	V	-1.96	63.56	68.2	-4.64
5745	64.95	PK	57	1.1	H	-1.91	63.04	68.2	-5.16
5745	65.21	PK	10	2.1	V	-1.91	63.3	68.2	-4.9
11340	49.91	PK	250	1.7	H	7.67	57.58	74	-16.42
11340	45.79	AV	250	1.7	H	7.67	53.46	54	-0.54
11340	49.14	PK	26	1.5	V	7.67	56.81	74	-17.19
11340	45.08	AV	26	1.5	V	7.67	52.75	54	-1.25

Frequency (MHz)	Receiver		Turn- Table Angle Degree	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	PK/QP/AV		Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11ac20									
5260MHz									
5460	64.15	PK	202	1.1	H	-2.26	61.89	74	-12.11
5460	51.12	AV	202	1.1	H	-2.26	48.86	54	-5.14
5460	64.54	PK	280	1	V	-2.26	62.28	74	-11.72
5460	50.87	AV	280	1	V	-2.26	48.61	54	-5.39
5470	64.6	PK	346	2	H	-2.22	62.38	68.2	-5.82
5470	65.06	PK	75	1.3	V	-2.22	62.84	68.2	-5.36
11000	48.54	PK	254	1.1	H	9.67	58.21	74	-15.79
11000	44.17	AV	254	1.1	H	9.67	53.84	54	-0.16
11000	46.94	PK	311	1.6	V	9.67	56.61	74	-17.39
11000	43.04	AV	311	1.6	V	9.67	52.71	54	-1.29
5580 MHz									
11160	49.69	PK	33	1.6	H	8.68	58.37	74	-15.63
11160	45.1	AV	33	1.6	H	8.68	53.78	54	-0.22
11160	47.44	PK	353	2.4	V	8.68	56.12	74	-17.88
11160	44.19	AV	353	2.4	V	8.68	52.87	54	-1.13
5700 MHz									
5725	65.68	PK	210	2.4	H	-1.96	63.72	68.2	-4.48
5725	65.69	PK	102	2.4	V	-1.96	63.73	68.2	-4.47
5745	65.02	PK	44	1.5	H	-1.91	63.11	68.2	-5.09
5745	64.91	PK	59	1.2	V	-1.91	63	68.2	-5.2
11400	51.19	PK	247	1.8	H	7.26	58.45	74	-15.55
11400	46.59	AV	247	1.8	H	7.26	53.85	54	-0.15
11400	49.84	PK	250	1	V	7.26	57.1	74	-16.9
11400	45.49	AV	250	1	V	7.26	52.75	54	-1.25

Frequency (MHz)	Receiver		Turn- Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	PK/QP/AV	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11ac40									
5270MHz									
5460	64.52	PK	89	1.2	H	-2.26	62.26	74	-11.74
5460	51.07	AV	89	1.2	H	-2.26	48.81	54	-5.19
5460	64.35	PK	34	1.8	V	-2.26	62.09	74	-11.91
5460	50.86	AV	34	1.8	V	-2.26	48.6	54	-5.4
5470	64.69	PK	48	1.1	H	-2.22	62.47	68.2	-5.73
5470	64.9	PK	280	1.8	V	-2.22	62.68	68.2	-5.52
11020	48.62	PK	6	2.2	H	9.57	58.19	74	-15.81
11020	44.11	AV	6	2.2	H	9.57	53.68	54	-0.32
11020	46.84	PK	215	1.2	V	9.57	56.41	74	-17.59
11020	43.24	AV	215	1.2	V	9.57	52.81	54	-1.19
5550 MHz									
11100	48.31	PK	15	1.9	H	9.12	57.43	74	-16.57
11100	44.21	AV	15	1.9	H	9.12	53.33	54	-0.67
11100	46.41	PK	265	1.8	V	9.12	55.53	74	-18.47
11100	42.91	AV	265	1.8	V	9.12	52.03	54	-1.97
5670 MHz									
5725	65.76	PK	17	2.4	H	-1.96	63.8	68.2	-4.4
5725	65.88	PK	75	1.9	V	-1.96	63.92	68.2	-4.28
5745	65.04	PK	308	2.3	H	-1.91	63.13	68.2	-5.07
5745	65.4	PK	38	1.5	V	-1.91	63.49	68.2	-4.71
11340	50.74	PK	216	1.1	H	7.67	58.41	74	-15.59
11340	46.05	AV	216	1.1	H	7.67	53.72	54	-0.28
11340	49.13	PK	196	1.9	V	7.67	56.8	74	-17.2
11340	44.97	AV	196	1.9	V	7.67	52.64	54	-1.36

Frequency (MHz)	Receiver		Turn- Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	PK/QP/AV	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11ac80									
5530MHz									
5460	64.18	PK	89	2.1	H	-2.26	61.92	74	-12.08
5460	51.36	AV	89	2.1	H	-2.26	49.1	54	-4.9
5460	64.5	PK	124	1.4	V	-2.26	62.24	74	-11.76
5460	51.15	AV	124	1.4	V	-2.26	48.89	54	-5.11
5470	64.89	PK	217	1.5	H	-2.22	62.67	68.2	-5.53
5470	64.89	PK	196	2	V	-2.22	62.67	68.2	-5.53
11060	47.8	PK	85	1.8	H	9.37	57.17	74	-16.83
11060	44.09	AV	85	1.8	H	9.37	53.46	54	-0.54
11060	46.51	PK	310	1.9	V	9.37	55.88	74	-18.12
11060	42.64	AV	310	1.9	V	9.37	52.01	54	-1.99
5610 MHz									
5725	65.58	PK	312	2.2	H	-1.96	63.62	68.2	-4.58
5725	65.73	PK	193	2.3	V	-1.96	63.77	68.2	-4.43
5745	65.27	PK	278	2.2	H	-1.91	63.36	68.2	-4.84
5745	65	PK	58	1.9	V	-1.91	63.09	68.2	-5.11
11220	49.84	PK	105	1.2	H	8.33	58.17	74	-15.83
11220	45.26	AV	105	1.2	H	8.33	53.59	54	-0.41
11220	47.92	PK	173	1.3	V	8.33	56.25	74	-17.75
11220	44.4	AV	173	1.3	V	8.33	52.73	54	-1.27

5725-5850 MHz:

Frequency (MHz)	Receiver		Turn- Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	PK/QP/AV	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11a									
5745MHz									
5650	65.16	PK	287	1.5	H	-1.95	63.21	68.2	-4.99
5700	65.28	PK	310	1.6	H	-2.02	63.26	105.2	-41.94
5720	65.35	PK	174	2	H	-1.97	63.38	110.8	-47.42
5725	65.99	PK	60	1.5	H	-1.96	64.03	122.2	-58.17
5650	65.21	PK	310	2.4	V	-1.95	63.26	68.2	-4.94
5700	65.47	PK	158	1.8	V	-2.02	63.45	105.2	-41.75
5720	65.07	PK	183	1.7	V	-1.97	63.1	110.8	-47.7
5725	66.16	PK	227	1.1	V	-1.96	64.2	122.2	-58
11490	49.23	PK	8	1.3	H	6.63	55.86	74	-18.14
11490	46.17	AV	8	1.3	H	6.63	52.8	54	-1.2
11490	50.32	PK	199	2.3	V	6.63	56.95	74	-17.05
11490	47.15	AV	199	2.3	V	6.63	53.78	54	-0.22
5785 MHz									
11570	49.38	PK	148	2	H	6.59	55.97	74	-18.03
11570	46.3	AV	148	2	H	6.59	52.89	54	-1.11
11570	50.15	PK	174	2.1	V	6.59	56.74	74	-17.26
11570	47.36	AV	174	2.1	V	6.59	53.95	54	-0.05
5825 MHz									
5850	66.57	PK	82	1.6	H	-1.81	64.76	122.2	-57.44
5855	66.61	PK	72	2.2	H	-1.82	64.79	110.8	-46.01
5875	65.96	PK	52	1.9	H	-1.84	64.12	105.2	-41.08
5925	66.05	PK	121	2	H	-1.82	64.23	68.2	-3.97
5850	66.63	PK	150	2	V	-1.81	64.82	122.2	-57.38
5855	66.57	PK	273	1.9	V	-1.82	64.75	110.8	-46.05
5875	65.67	PK	149	1.2	V	-1.84	63.83	105.2	-41.37
5925	66.26	PK	256	1.4	V	-1.82	64.44	68.2	-3.76
11650	47.84	PK	248	2.1	H	6.77	54.61	74	-19.39
11650	45.28	AV	248	2.1	H	6.77	52.05	54	-1.95
11650	49.44	PK	85	1.6	V	6.77	56.21	74	-17.79
5650	65.16	PK	287	1.5	H	-1.95	63.21	68.2	-4.99

Frequency (MHz)	Receiver		Turn- Table Angle Degree	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBµV/m)	FCC Part 15.407	
	Reading (dBµV)	PK/QP/AV		Height (m)	Polar (H / V)			Limit (dBµV/m)	Margin (dB)
802.11n20									
5745MHz									
5650	65.29	PK	41	1.1	H	-1.95	63.34	68.2	-4.86
5700	65.21	PK	216	1.3	H	-2.02	63.19	105.2	-42.01
5720	65.2	PK	77	1.3	H	-1.97	63.23	110.8	-47.57
5725	66.28	PK	95	2.4	H	-1.96	64.32	122.2	-57.88
5650	65.38	PK	328	1.1	V	-1.95	63.43	68.2	-4.77
5700	65.07	PK	146	1.5	V	-2.02	63.05	105.2	-42.15
5720	65.08	PK	258	1.6	V	-1.97	63.11	110.8	-47.69
5725	66.27	PK	346	1.3	V	-1.96	64.31	122.2	-57.89
11490	49.09	PK	160	1.1	H	6.63	55.72	74	-18.28
11490	46.02	AV	160	1.1	H	6.63	52.65	54	-1.35
11490	50.96	PK	93	2.2	V	6.63	57.59	74	-16.41
11490	47.13	AV	93	2.2	V	6.63	53.76	54	-0.24
5785 MHz									
11570	49.17	PK	20	1.2	H	6.59	55.76	74	-18.24
11570	46.72	AV	20	1.2	H	6.59	53.31	54	-0.69
11570	51.14	PK	17	1.2	V	6.59	57.73	74	-16.27
11570	47.32	AV	17	1.2	V	6.59	53.91	54	-0.09
5825 MHz									
5850	66.71	PK	331	1.4	H	-1.81	64.9	122.2	-57.3
5855	66.38	PK	87	1.6	H	-1.82	64.56	110.8	-46.24
5875	66.13	PK	349	1.2	H	-1.84	64.29	105.2	-40.91
5925	66.08	PK	135	1	H	-1.82	64.26	68.2	-3.94
5850	66.72	PK	4	1.1	V	-1.81	64.91	122.2	-57.29
5855	66.5	PK	205	2.1	V	-1.82	64.68	110.8	-46.12
5875	65.66	PK	178	2.1	V	-1.84	63.82	105.2	-41.38
5925	65.5	PK	320	1.5	V	-1.82	63.68	68.2	-4.52
11650	47.74	PK	134	1.7	H	6.77	54.51	74	-19.49
11650	44.42	AV	134	1.7	H	6.77	51.19	54	-2.81
11650	49.1	PK	273	2.4	V	6.77	55.87	74	-18.13
11650	46.15	AV	273	2.4	V	6.77	52.92	54	-1.08

Frequency (MHz)	Receiver		Turn- Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBµV/m)	FCC Part 15.407	
	Reading (dBµV)	PK/QP/AV	Angle Degree	Height (m)	Polar (H / V)			Limit (dBµV/m)	Margin (dB)
802.11n40									
5755MHz									
5650	65.43	PK	207	1.5	H	-1.95	63.48	68.2	-4.72
5700	65.46	PK	302	2.1	H	-2.02	63.44	105.2	-41.76
5720	65.33	PK	166	1.8	H	-1.97	63.36	110.8	-47.44
5725	66.08	PK	153	1.3	H	-1.96	64.12	122.2	-58.08
5650	65.1	PK	143	1.2	V	-1.95	63.15	68.2	-5.05
5700	65.1	PK	80	1.6	V	-2.02	63.08	105.2	-42.12
5720	65.22	PK	85	1.3	V	-1.97	63.25	110.8	-47.55
5725	66.21	PK	289	2	V	-1.96	64.25	122.2	-57.95
11510	49.26	PK	98	1.7	H	6.59	55.85	74	-18.15
11510	46.47	AV	98	1.7	H	6.59	53.06	54	-0.94
11510	50.79	PK	199	1.4	V	6.59	57.38	74	-16.62
11510	47.14	AV	199	1.4	V	6.59	53.73	54	-0.27
5795 MHz									
5850	66.9	PK	50	2.2	H	-1.81	65.09	122.2	-57.11
5855	66.58	PK	299	1.7	H	-1.82	64.76	110.8	-46.04
5875	65.37	PK	188	2	H	-1.84	63.53	105.2	-41.67
5925	66.05	PK	266	2	H	-1.82	64.23	68.2	-3.97
5850	67	PK	224	1.8	V	-1.81	65.19	122.2	-57.01
5855	66.38	PK	6	1.5	V	-1.82	64.56	110.8	-46.24
5875	65.3	PK	151	1.5	V	-1.84	63.46	105.2	-41.74
5925	65.82	PK	16	1.2	V	-1.82	64	68.2	-4.2
11590	49.76	PK	298	2.1	H	6.57	56.33	74	-17.67
11590	46.91	AV	298	2.1	H	6.57	53.48	54	-0.52
11590	51.34	PK	316	1.1	V	6.57	57.91	74	-16.09
11590	46.96	AV	316	1.1	V	6.57	53.53	54	-0.47

Frequency (MHz)	Receiver		Turn- Table Angle Degree	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBµV/m)	FCC Part 15.407	
	Reading (dBµV)	PK/QP/AV		Height (m)	Polar (H / V)			Limit (dBµV/m)	Margin (dB)
802.11ac20									
5745MHz									
5650	65.4	PK	337	1.3	H	-1.95	63.45	68.2	-4.75
5700	65.03	PK	219	2.4	H	-2.02	63.01	105.2	-42.19
5720	65.1	PK	311	1.6	H	-1.97	63.13	110.8	-47.67
5725	66.19	PK	17	1.5	H	-1.96	64.23	122.2	-57.97
5650	65.27	PK	291	1.3	V	-1.95	63.32	68.2	-4.88
5700	65.45	PK	228	1.7	V	-2.02	63.43	105.2	-41.77
5720	65.4	PK	123	1.8	V	-1.97	63.43	110.8	-47.37
5725	66.24	PK	102	1.3	V	-1.96	64.28	122.2	-57.92
11490	49.48	PK	80	2.4	H	6.63	56.11	74	-17.89
11490	46.65	AV	80	2.4	H	6.63	53.28	54	-0.72
11490	50.64	PK	261	1.1	V	6.63	57.27	74	-16.73
11490	47.29	AV	261	1.1	V	6.63	53.92	54	-0.08
5785 MHz									
11570	49.9	PK	225	1	H	6.59	56.49	74	-17.51
11570	46.77	AV	225	1	H	6.59	53.36	54	-0.64
11570	50.86	PK	27	1.1	V	6.59	57.45	74	-16.55
11570	47.12	AV	27	1.1	V	6.59	53.71	54	-0.29
5825 MHz									
5850	66.95	PK	143	1.6	H	-1.81	65.14	122.2	-57.06
5855	66.69	PK	115	1.9	H	-1.82	64.87	110.8	-45.93
5875	65.87	PK	180	1.8	H	-1.84	64.03	105.2	-41.17
5925	65.88	PK	116	1.4	H	-1.82	64.06	68.2	-4.14
5850	66.91	PK	305	2.5	V	-1.81	65.1	122.2	-57.1
5855	66.64	PK	271	1.3	V	-1.82	64.82	110.8	-45.98
5875	65.53	PK	205	2.2	V	-1.84	63.69	105.2	-41.51
5925	65.64	PK	326	1.4	V	-1.82	63.82	68.2	-4.38
11650	48.24	PK	151	1.9	H	6.77	55.01	74	-18.99
11650	45.45	AV	151	1.9	H	6.77	52.22	54	-1.78
11650	49.02	PK	281	1.1	V	6.77	55.79	74	-18.21
11650	46.38	AV	281	1.1	V	6.77	53.15	54	-0.85

Frequency (MHz)	Receiver		Turn- Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	PK/QP/AV	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11ac40									
5755MHz									
5650	65.43	PK	238	2.3	H	-1.95	63.48	68.2	-4.72
5700	65.38	PK	316	1.4	H	-2.02	63.36	105.2	-41.84
5720	65.35	PK	357	2.2	H	-1.97	63.38	110.8	-47.42
5725	66.1	PK	180	1.5	H	-1.96	64.14	122.2	-58.06
5650	65.42	PK	297	1.3	V	-1.95	63.47	68.2	-4.73
5700	65.36	PK	145	1.1	V	-2.02	63.34	105.2	-41.86
5720	65.31	PK	322	1.2	V	-1.97	63.34	110.8	-47.46
5725	66.22	PK	337	1.1	V	-1.96	64.26	122.2	-57.94
11510	51.22	PK	110	1.4	H	6.59	57.81	74	-16.19
11510	47.21	AV	110	1.4	H	6.59	53.8	54	-0.2
11510	50.61	PK	180	2.1	V	6.59	57.2	74	-16.8
11510	46.97	AV	180	2.1	V	6.59	53.56	54	-0.44
5795 MHz									
5850	66.84	PK	122	1.5	H	-1.81	65.03	122.2	-57.17
5855	66.61	PK	202	1.8	H	-1.82	64.79	110.8	-46.01
5875	65.3	PK	295	1.3	H	-1.84	63.46	105.2	-41.74
5925	65.46	PK	332	2.1	H	-1.82	63.64	68.2	-4.56
5850	66.92	PK	229	2.2	V	-1.81	65.11	122.2	-57.09
5855	66.35	PK	233	1.7	V	-1.82	64.53	110.8	-46.27
5875	65.46	PK	292	1.8	V	-1.84	63.62	105.2	-41.58
5925	65.69	PK	350	2.3	V	-1.82	63.87	68.2	-4.33
11590	50.69	PK	103	1.3	H	6.57	57.26	74	-16.74
11590	47.35	AV	103	1.3	H	6.57	53.92	54	-0.08
11590	50.72	PK	274	1.5	V	6.57	57.29	74	-16.71
11590	47.07	AV	274	1.5	V	6.57	53.64	54	-0.36

Frequency (MHz)	Receiver		Turn- Table	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	FCC Part 15.407	
	Reading (dBμV)	PK/QP/AV	Angle Degree	Height (m)	Polar (H / V)			Limit (dBμV/m)	Margin (dB)
802.11ac80									
5650	64.95	PK	93	2.2	H	-1.95	63	68.2	-5.2
5700	65.29	PK	154	2.5	H	-2.02	63.27	105.2	-41.93
5720	65.24	PK	24	1.2	H	-1.97	63.27	110.8	-47.53
5725	66.24	PK	340	1.8	H	-1.96	64.28	122.2	-57.92
5650	65.37	PK	282	1.4	V	-1.95	63.42	68.2	-4.78
5700	65.01	PK	79	2.3	V	-2.02	62.99	105.2	-42.21
5720	65.1	PK	93	1.1	V	-1.97	63.13	110.8	-47.67
5725	66.21	PK	62	1.2	V	-1.96	64.25	122.2	-57.95
5850	66.88	PK	40	2.3	H	-1.81	65.07	122.2	-57.13
5855	66.54	PK	240	1.6	H	-1.82	64.72	110.8	-46.08
5875	65.69	PK	31	1.7	H	-1.84	63.85	105.2	-41.35
5925	65.91	PK	280	1.2	H	-1.82	64.09	68.2	-4.11
5850	66.8	PK	293	1.4	V	-1.81	64.99	122.2	-57.21
5855	66.47	PK	117	1	V	-1.82	64.65	110.8	-46.15
5875	65.89	PK	201	1	V	-1.84	64.05	105.2	-41.15
5925	66.24	PK	302	2.1	V	-1.82	64.42	68.2	-3.78
11550	51.27	PK	151	2.2	H	6.61	57.88	74	-16.12
11550	46.91	AV	151	2.2	H	6.61	53.52	54	-0.48
11550	50.94	PK	301	1.9	V	6.61	57.55	74	-16.45
11550	47.24	AV	301	1.9	V	6.61	53.85	54	-0.15

Note:

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

Corrected Amplitude = Corrected Factor + Reading

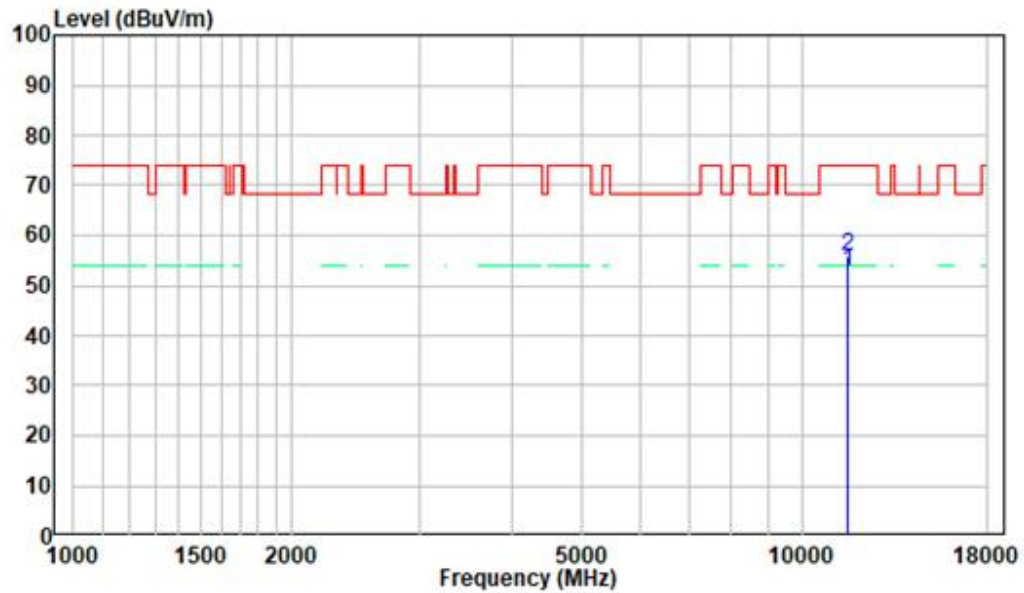
Margin = Corrected. Amplitude - Limit

The other spurious emission which is in the noise floor level was not recorded.

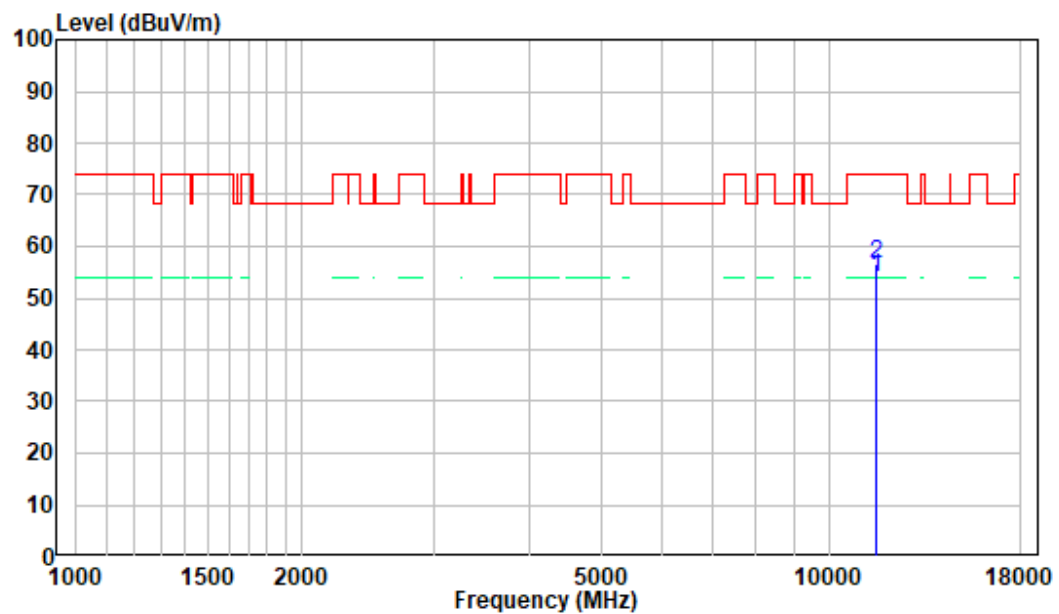
1 GHz - 18 GHz: (Pre-Scan plots)

802.11a, 5785MHz

Horizontal



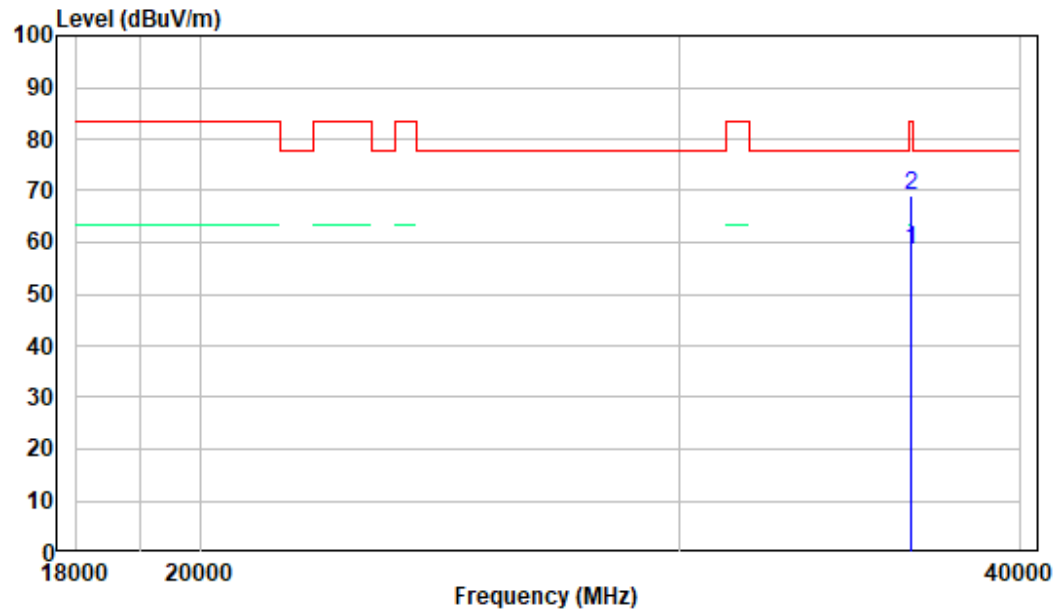
Vertical



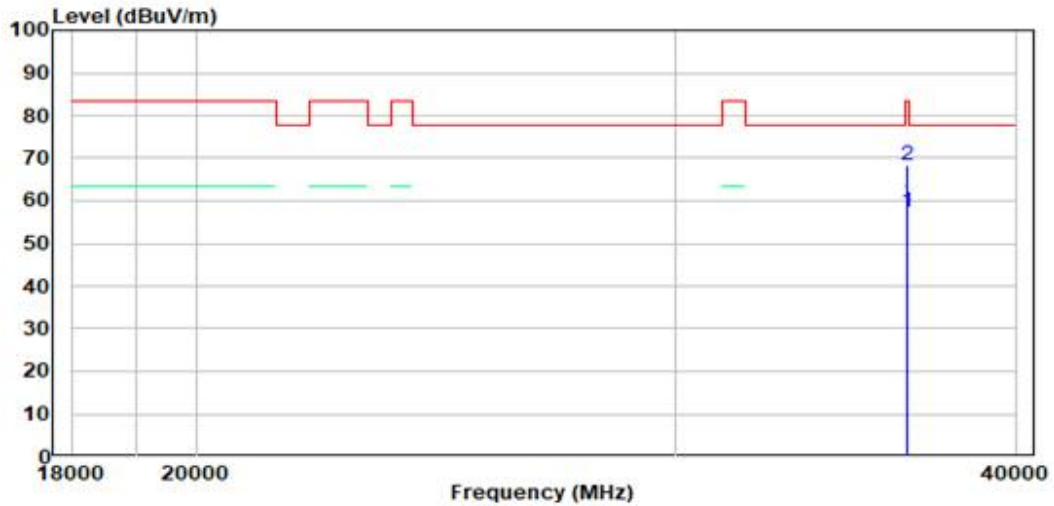
18-40GHz: (Pre-Scan plots)

802.11a, 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

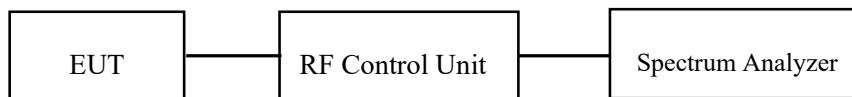
1. Emission Bandwidth (EBW)

- 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) $\geq 3 \times$ 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:	25.8~26.5℃
Relative Humidity:	54~62 %
ATM Pressure:	101.0 kPa

The testing was performed by Roger Ling from 2022-07-03 to 2022-07-07

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.

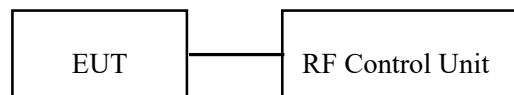
For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, 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 a built-in power sensor.

Test Data**Environmental Conditions**

Temperature:	25.8~26.5℃
Relative Humidity:	54~62 %
ATM Pressure:	101.0 kPa

The testing was performed by Roger Ling from 2022-07-03 to 2022-07-07

EUT operation mode: Transmitting

Test Result: Pass

Please refer to the Appendix.

FCC §15.407(a) - POWER SPECTRAL DENSITY

For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, 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 ($< 1 \text{ MHz}$, or $< 500 \text{ kHz}$) and integrated over 1 MHz, or 500 kHz bandwidth, the following adjustments to the procedures apply:

- a) Set $\text{RBW} \geq 1/T$, where T is defined in section II.B.1.a).
- b) Set $\text{VBW} \geq 3 \text{ RBW}$.
- c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add $10 \log (500 \text{ kHz}/\text{RBW})$ to the measured result, whereas $\text{RBW} (< 500 \text{ kHz})$ 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 $10 \log (1\text{MHz}/\text{RBW})$ to the measured result, whereas $\text{RBW} (< 1 \text{ MHz})$ 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:	25.8~26.5℃
Relative Humidity:	54~62 %
ATM Pressure:	101.0 kPa

The testing was performed by Roger Ling from 2022-07-03 to 2022-07-07

EUT operation mode: Transmitting

Test Result: Pass

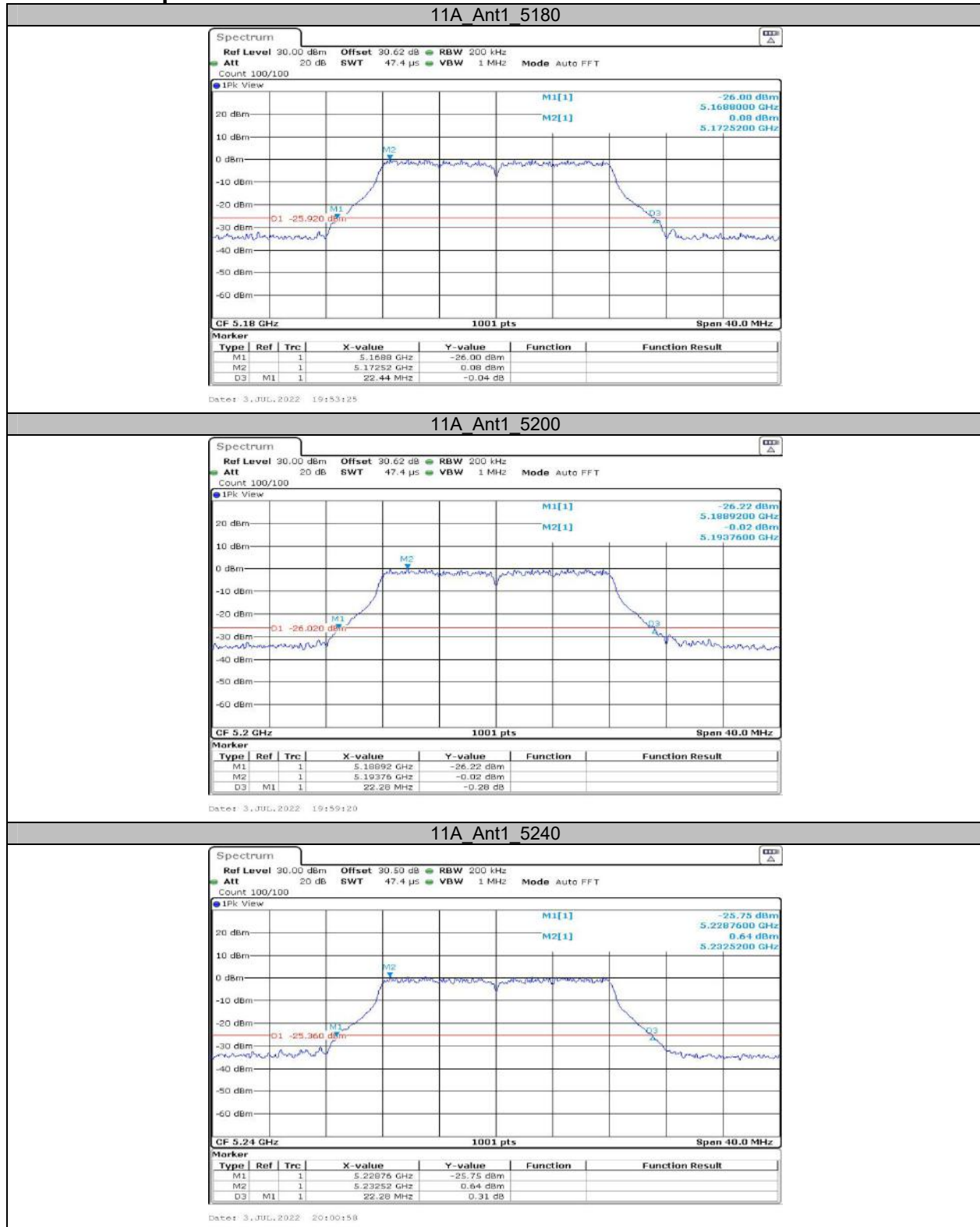
Please refer to the Appendix.

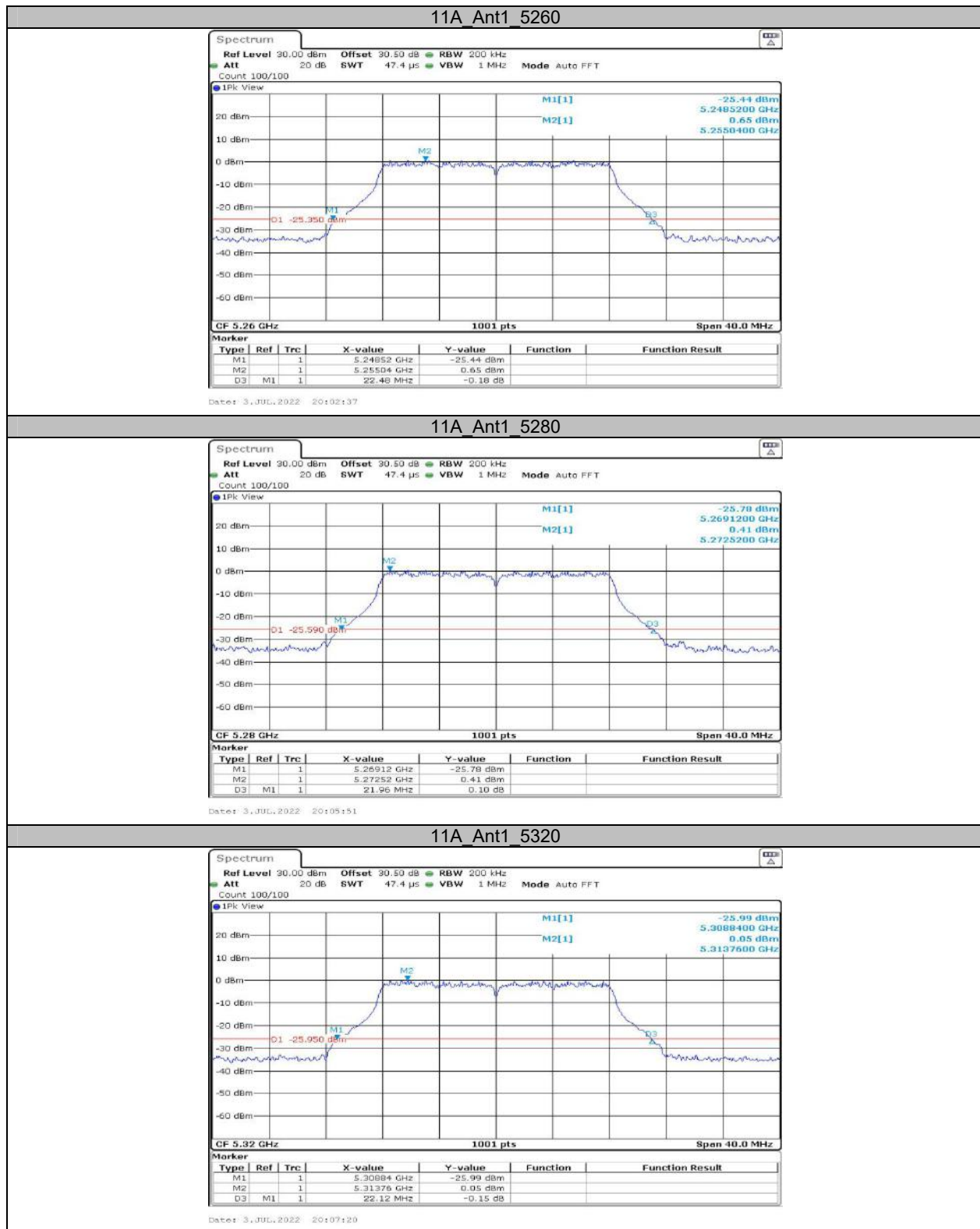
APPENDIX

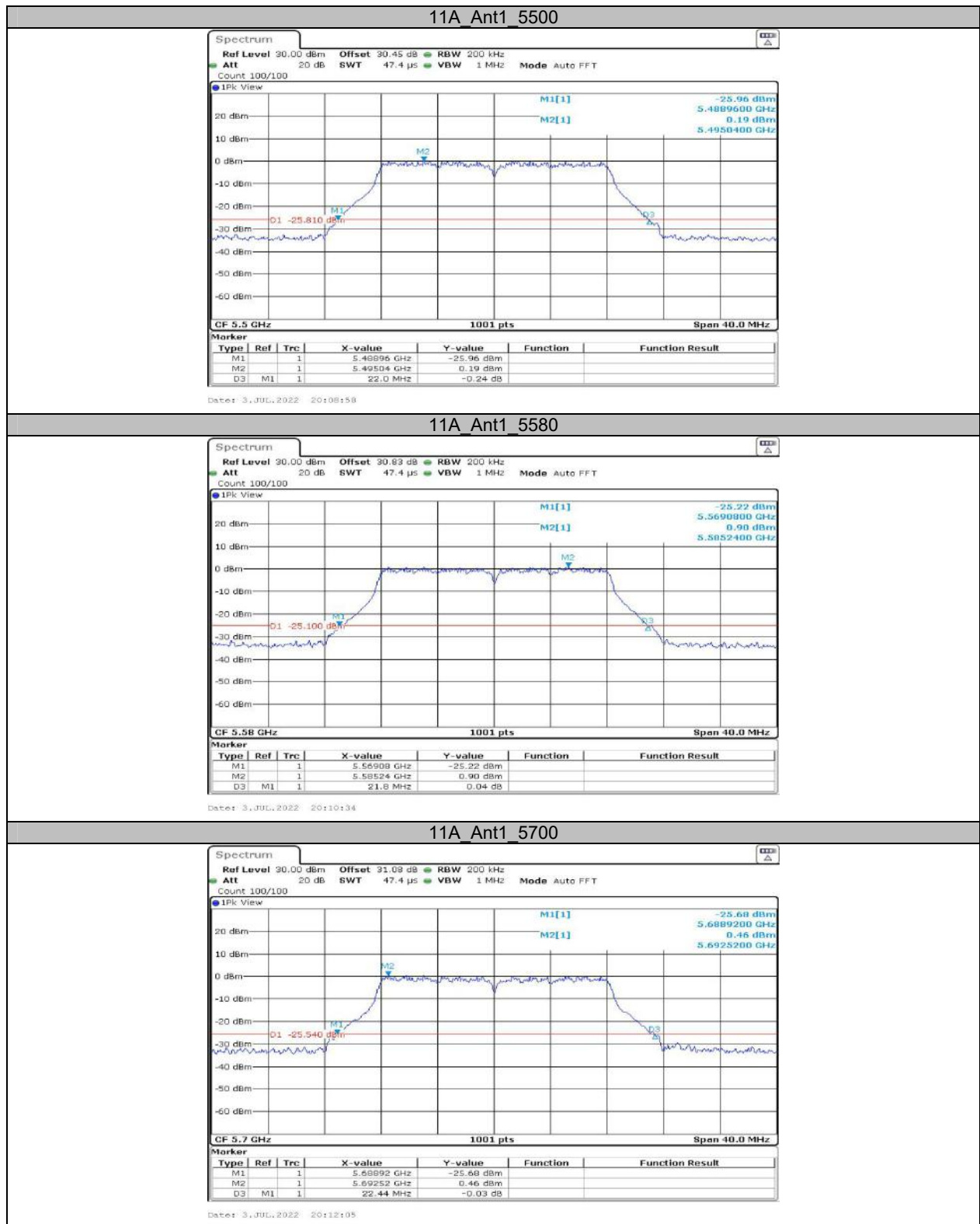
Appendix A1: Emission Bandwidth Test Result

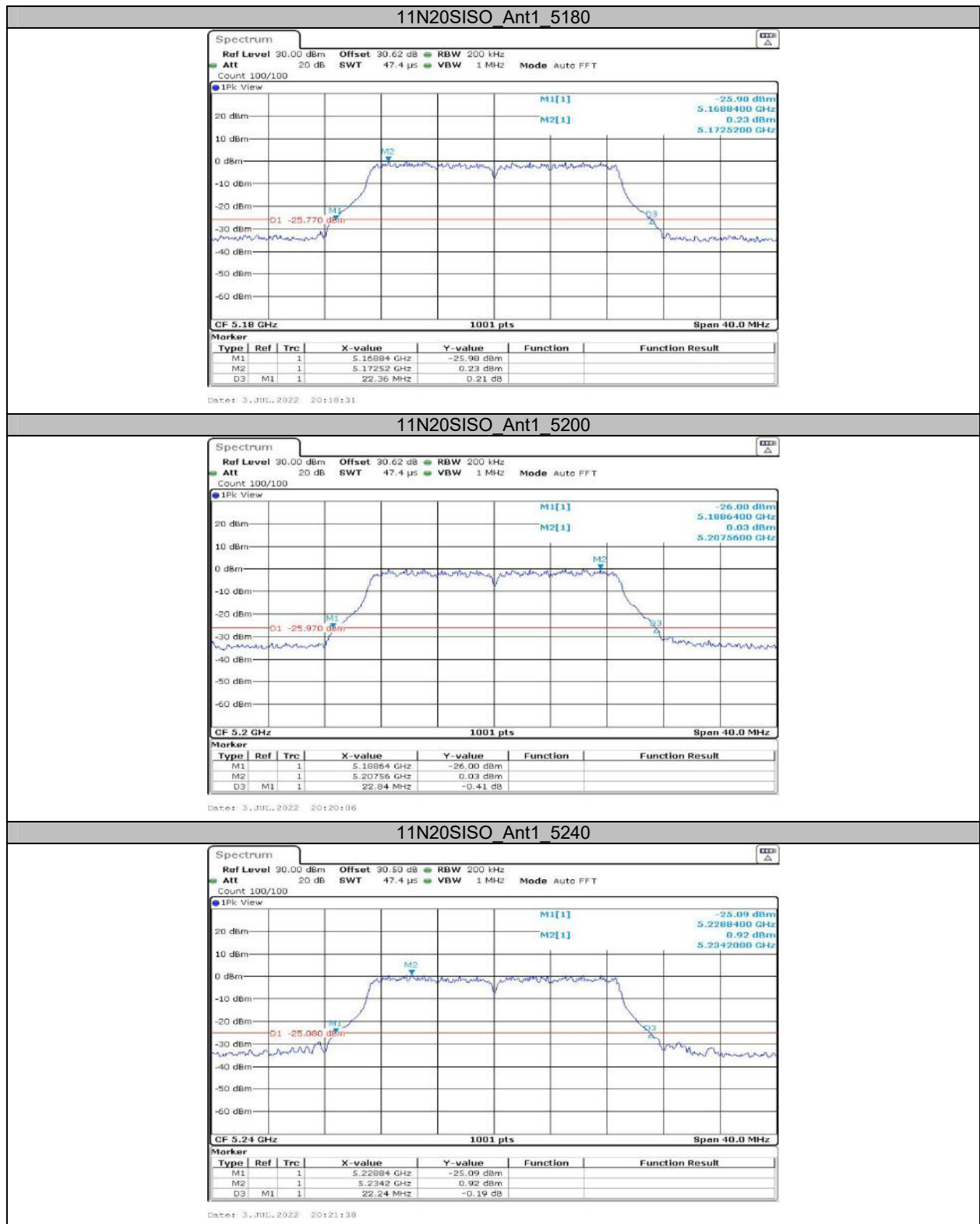
Test Mode	Antenna	Channel	26db EBW [MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	22.44	---	---
		5200	22.28	---	---
		5240	22.28	---	---
		5260	22.48	---	---
		5280	21.96	---	---
		5320	22.12	---	---
		5500	22.00	---	---
		5580	21.80	---	---
		5700	22.44	---	---
11N20SISO	Ant1	5180	22.36	---	---
		5200	22.84	---	---
		5240	22.24	---	---
		5260	22.32	---	---
		5280	22.48	---	---
		5320	22.28	---	---
		5500	21.96	---	---
		5580	22.40	---	---
		5700	22.52	---	---
11N40SISO	Ant1	5190	45.20	---	---
		5230	44.80	---	---
		5270	45.12	---	---
		5310	45.44	---	---
		5510	44.72	---	---
		5550	44.96	---	---
		5670	44.80	---	---
11AC20SISO	Ant1	5180	22.08	---	---
		5200	22.12	---	---
		5240	22.20	---	---
		5260	22.08	---	---
		5280	22.04	---	---
		5320	21.92	---	---
		5500	22.04	---	---
		5580	22.24	---	---
		5700	22.72	---	---
11AC40SISO	Ant1	5190	44.88	---	---
		5230	44.88	---	---
		5270	44.64	---	---
		5310	44.32	---	---
		5510	44.96	---	---
		5550	44.88	---	---
		5670	43.36	---	---
11AC80SISO	Ant1	5210	87.68	---	---
		5290	86.72	---	---
		5530	85.12	---	---
		5610	85.12	---	---

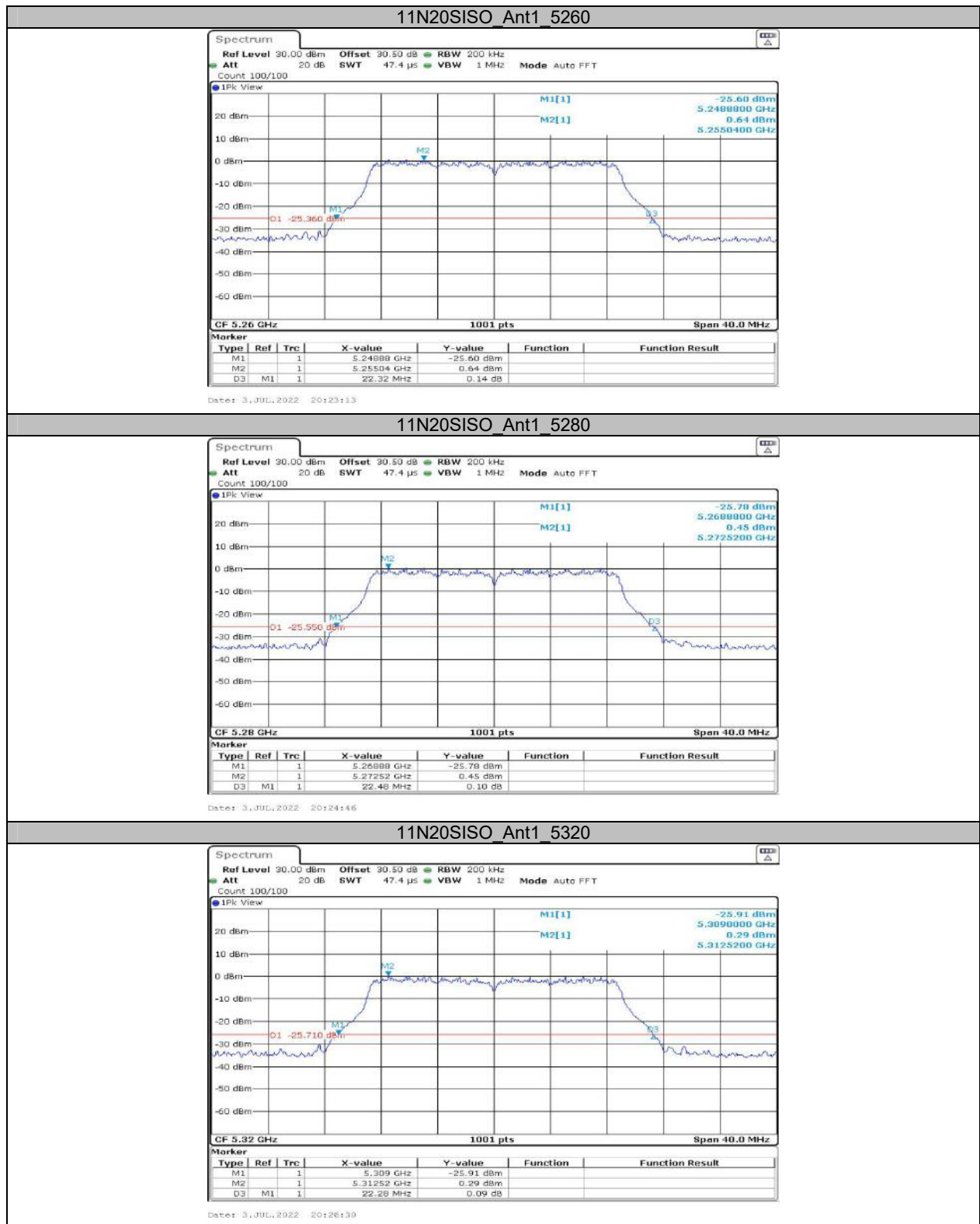
Test Graphs

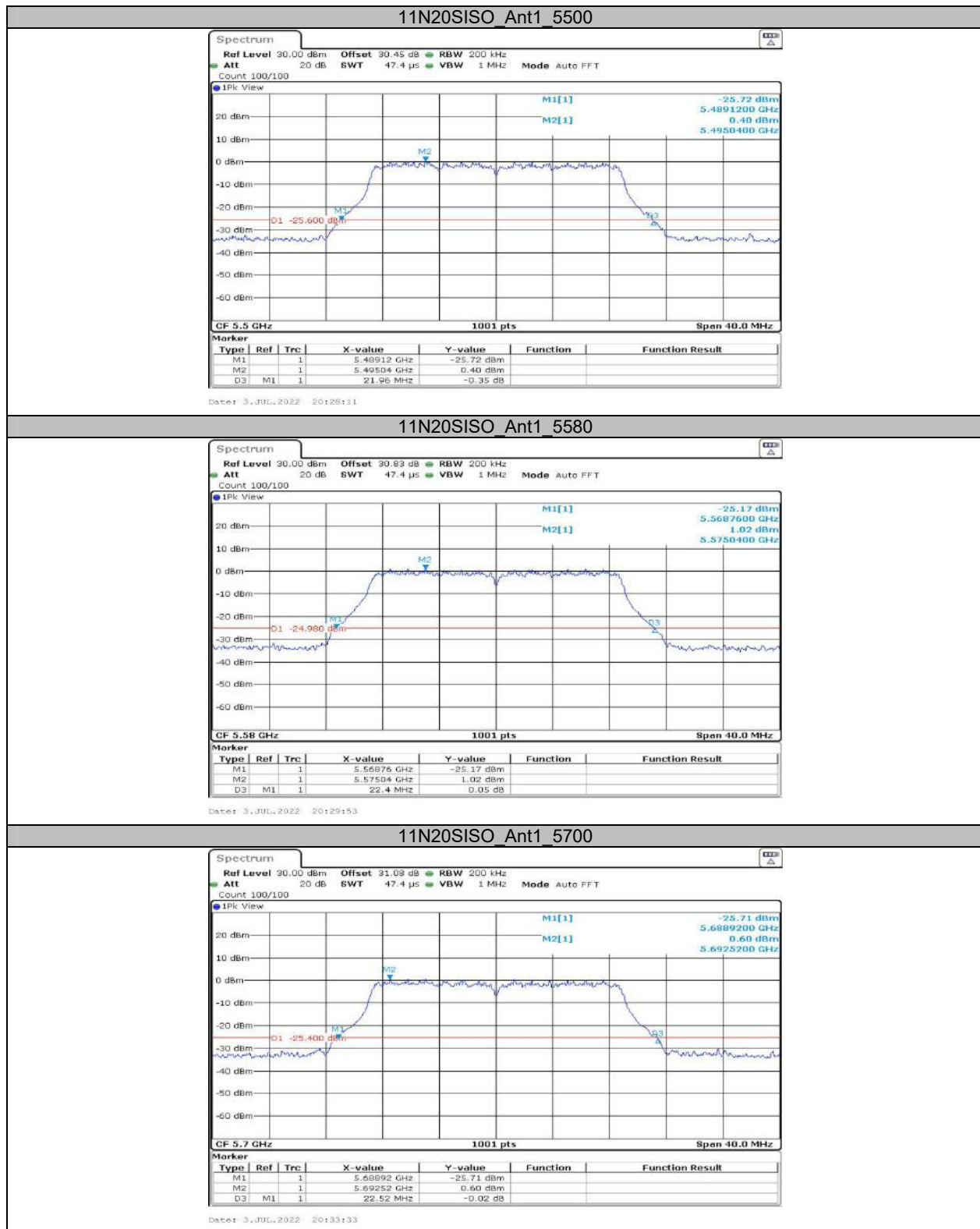


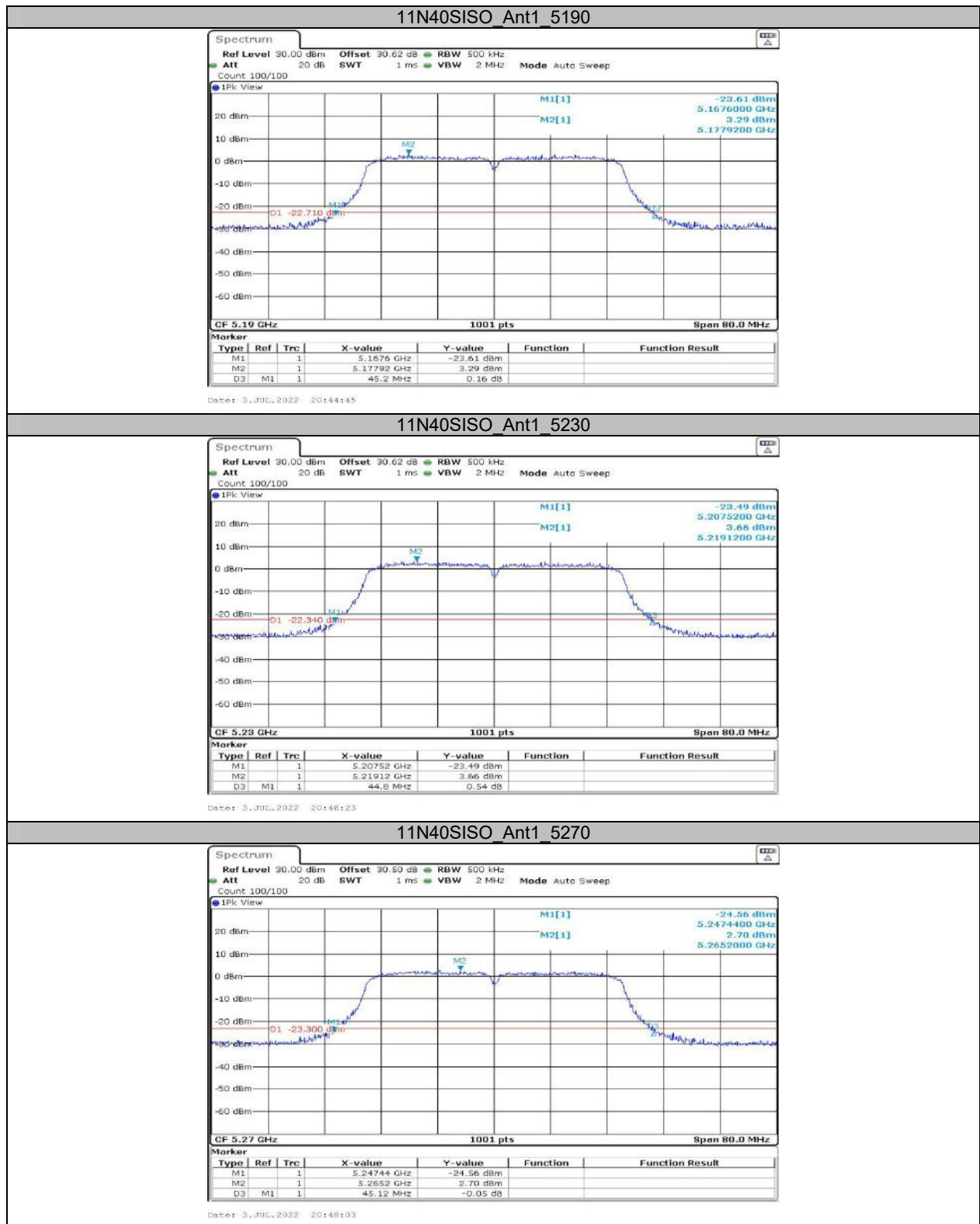


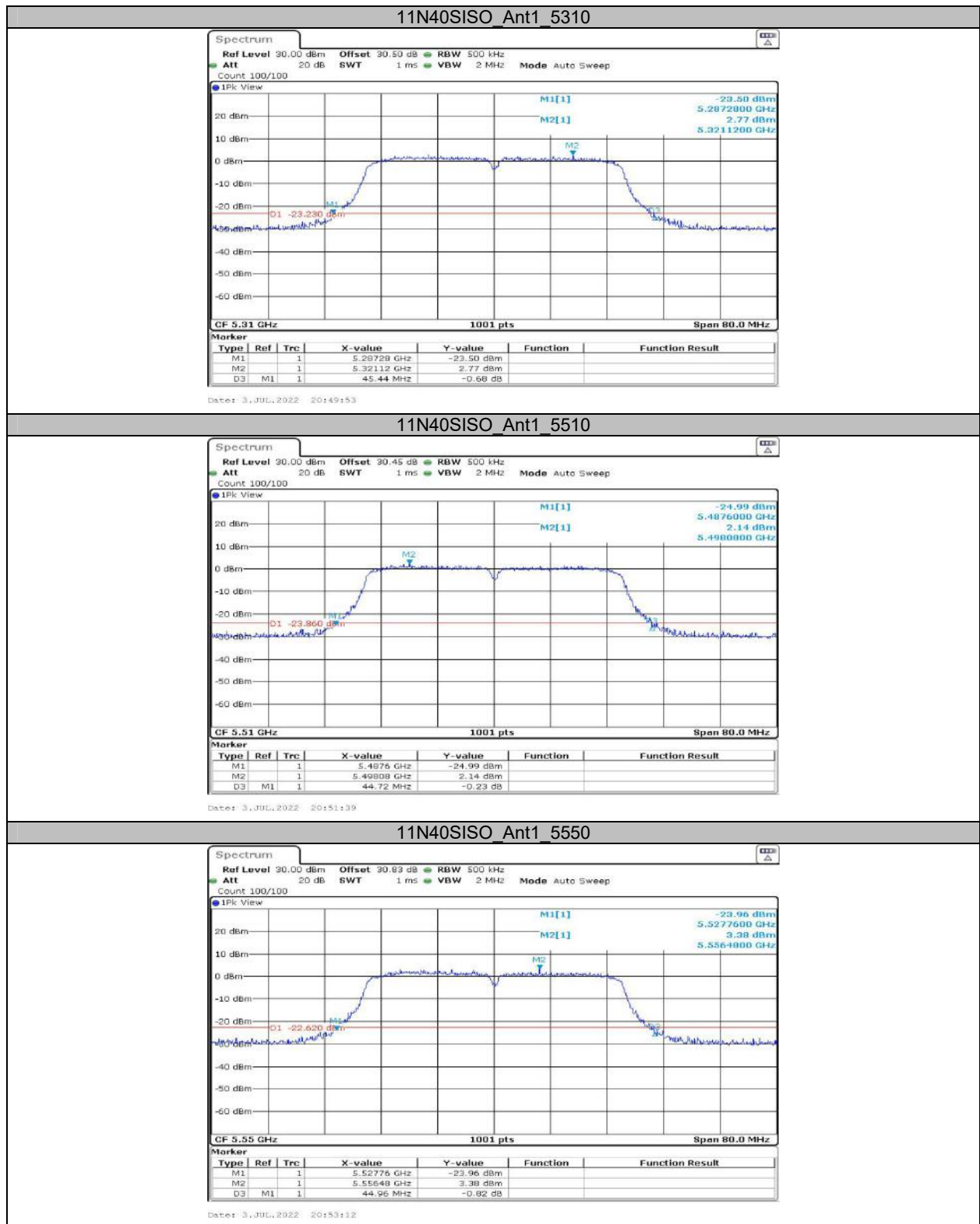


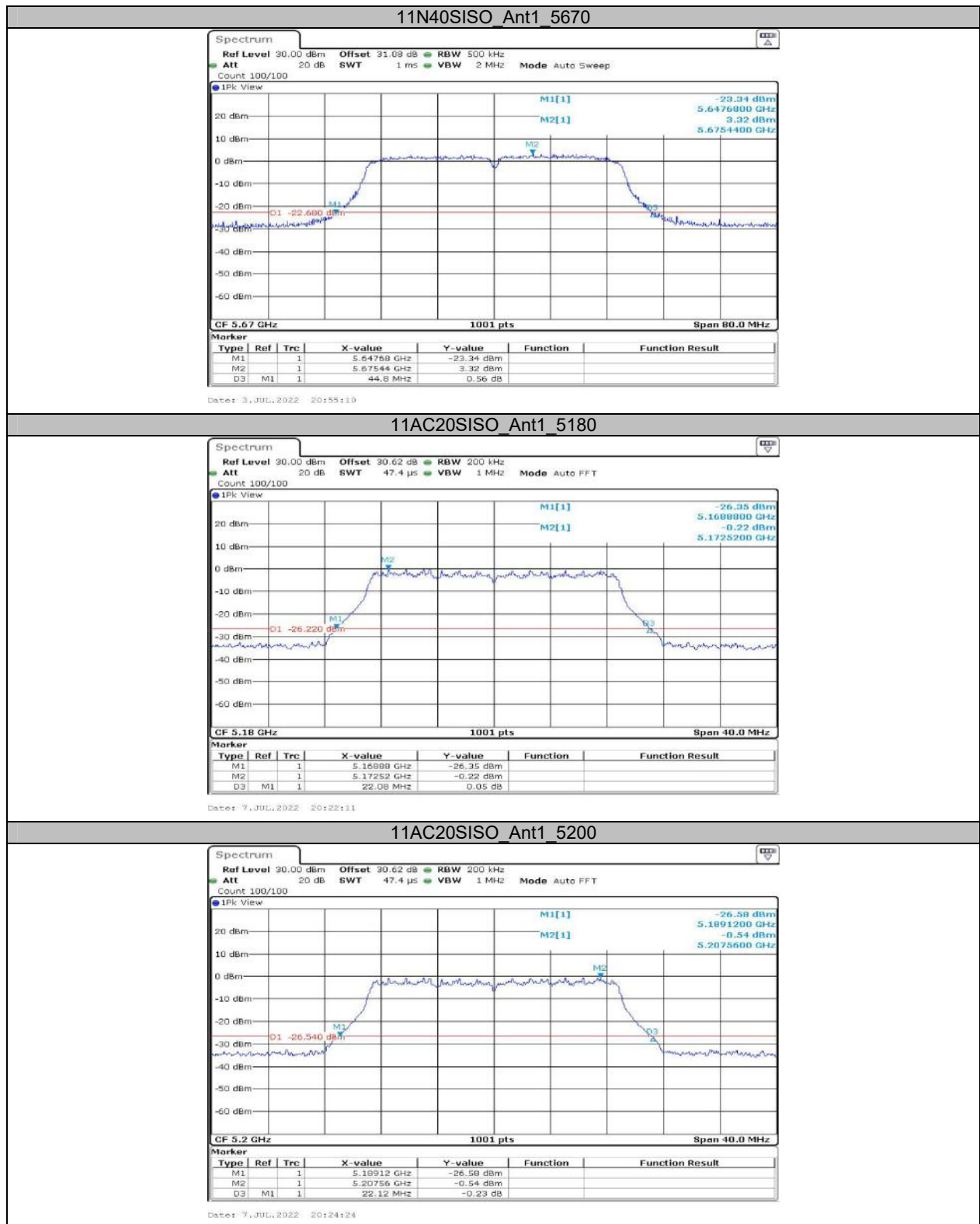




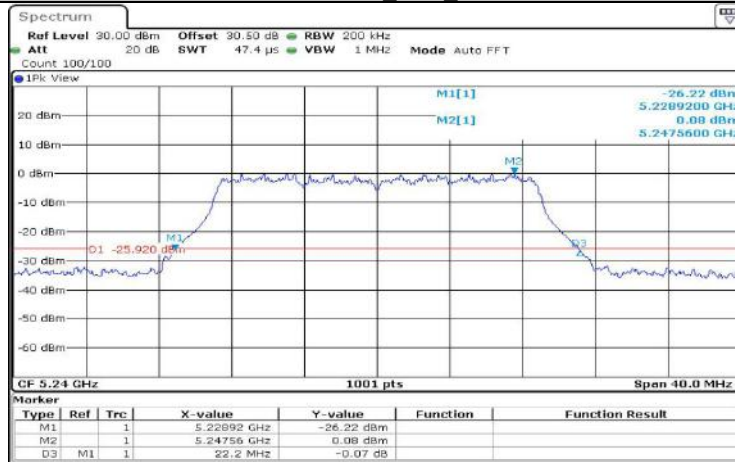






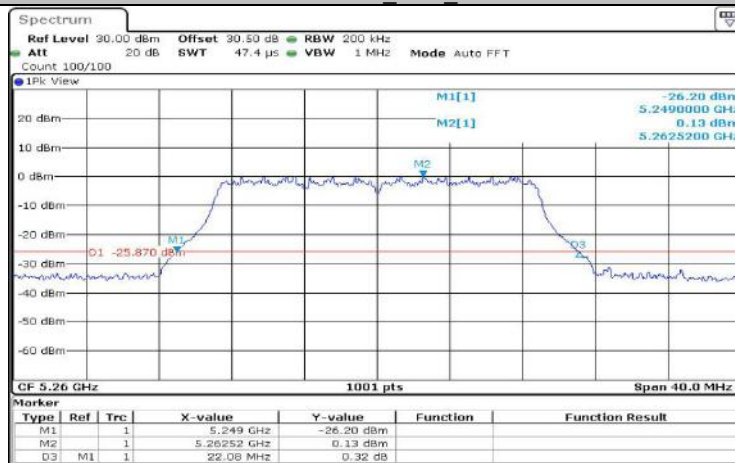


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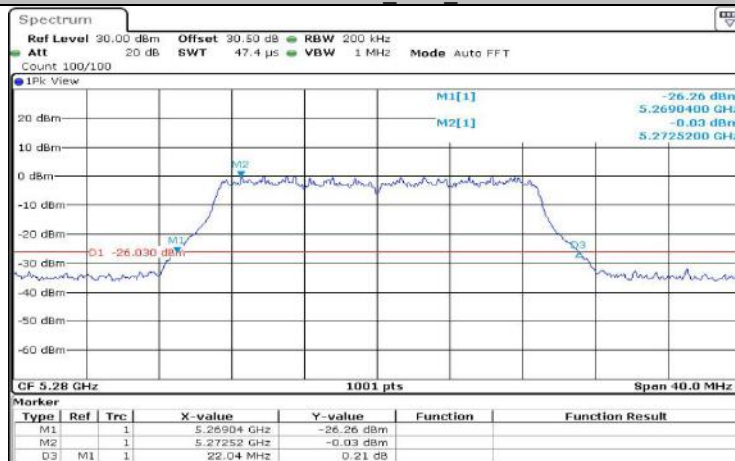
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11AC20SISO_Ant1_5260



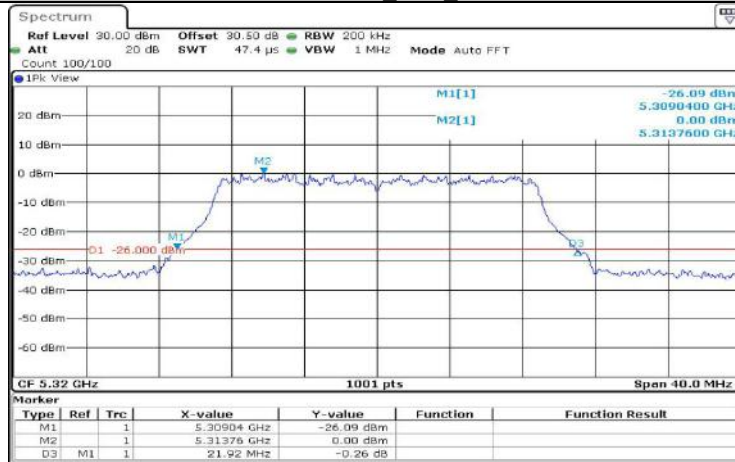
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11AC20SISO_Ant1_5280



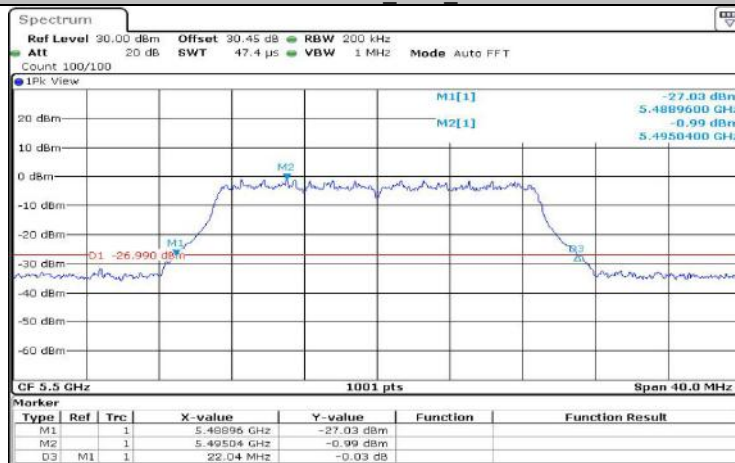
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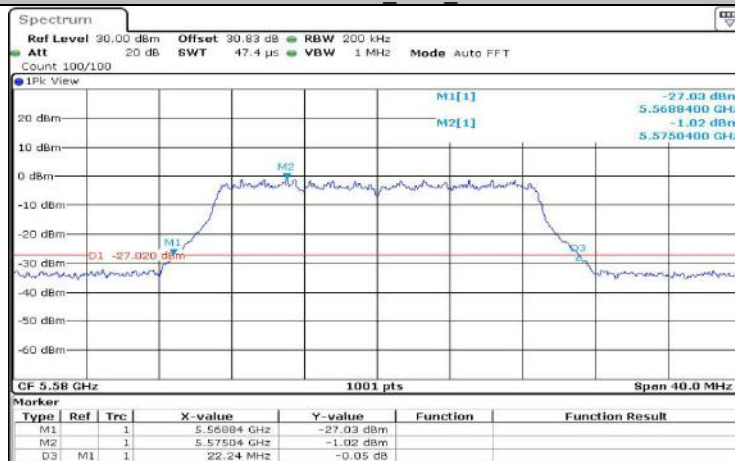
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11AC20SISO_Ant1_5500

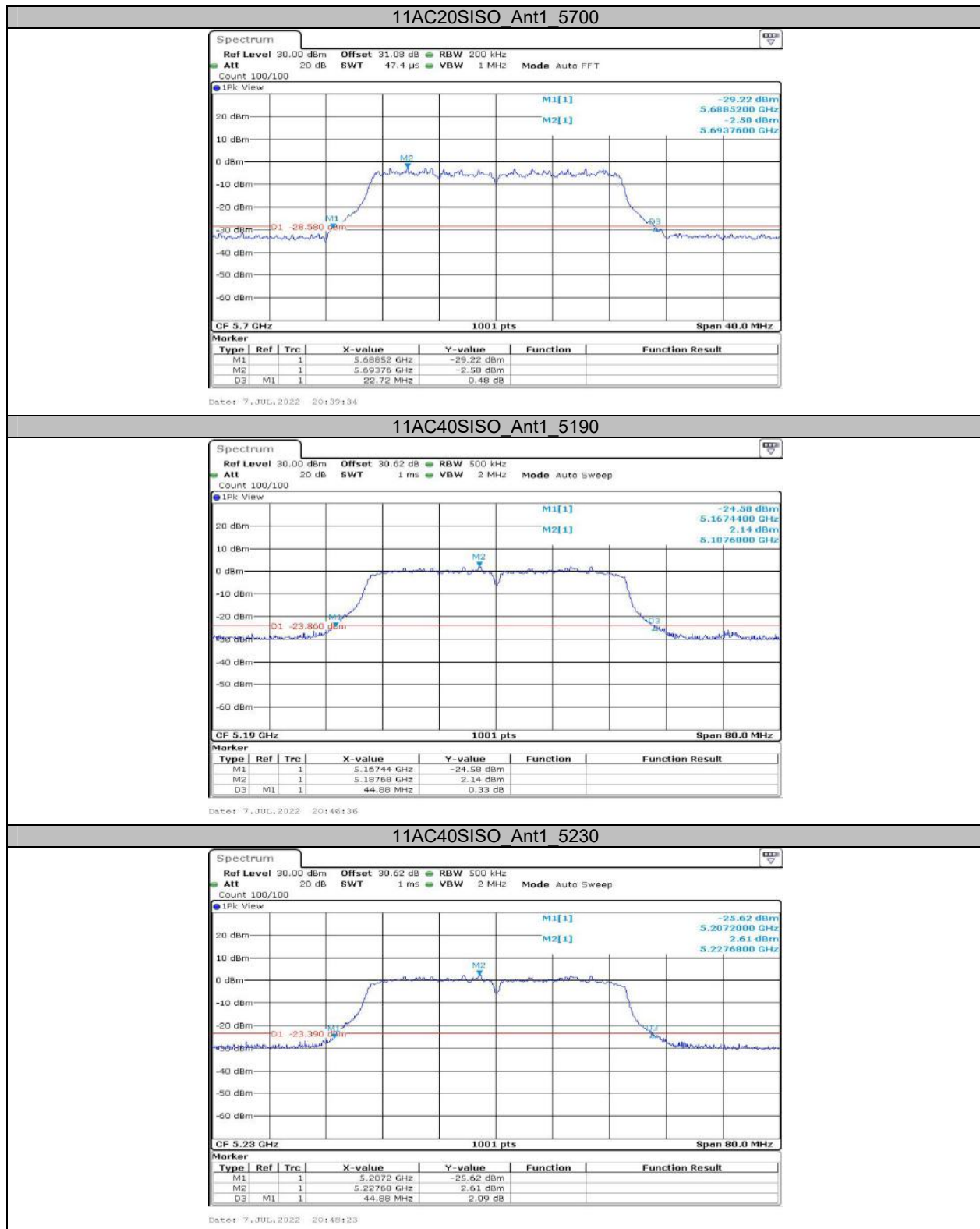


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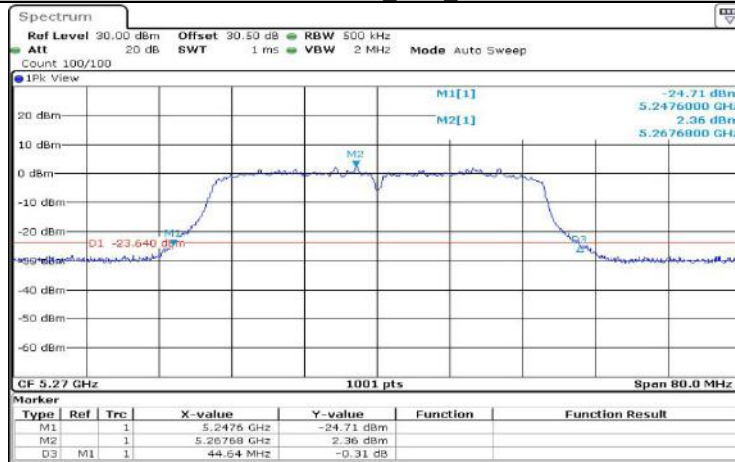
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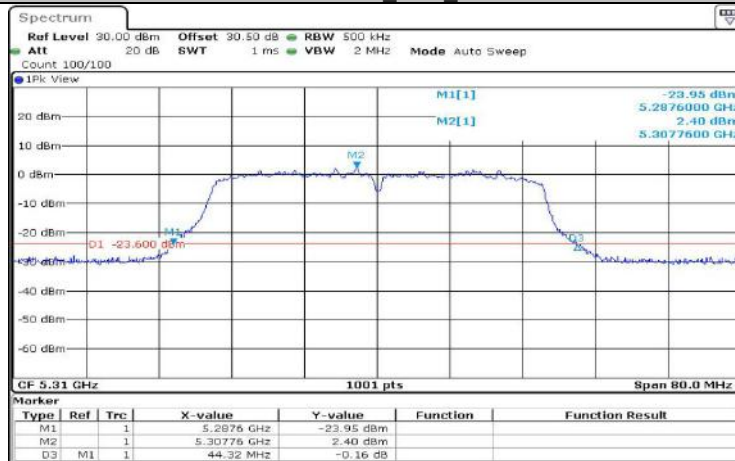


11AC40SISO_Ant1_5270



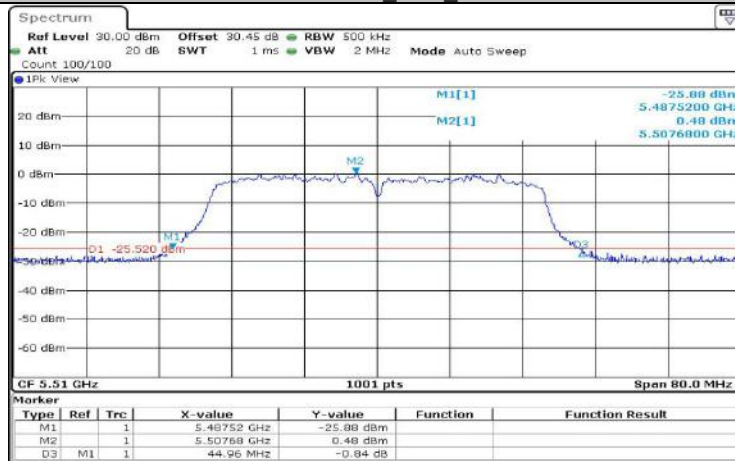
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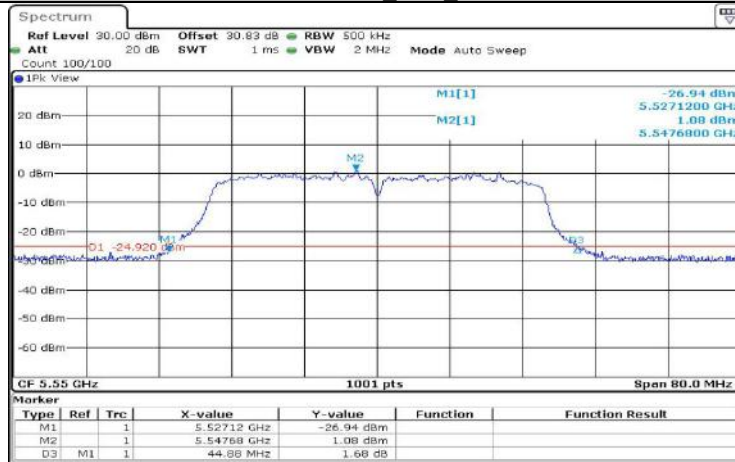
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11AC40SISO_Ant1_5510



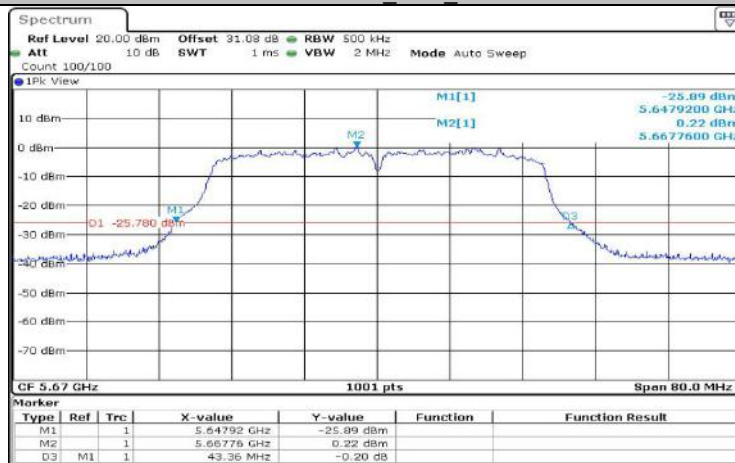
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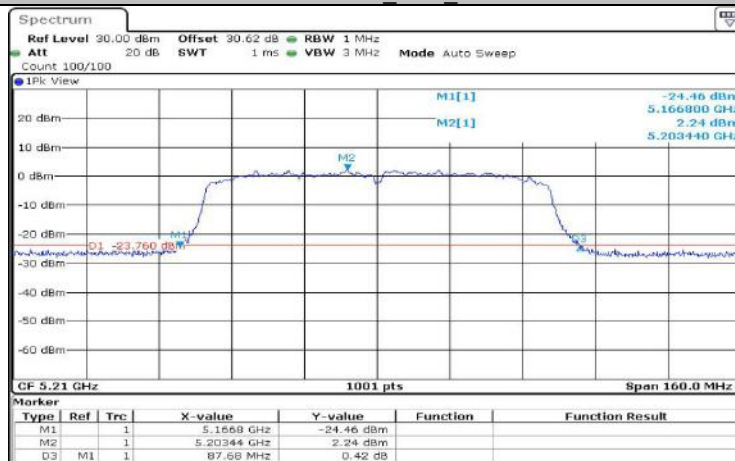
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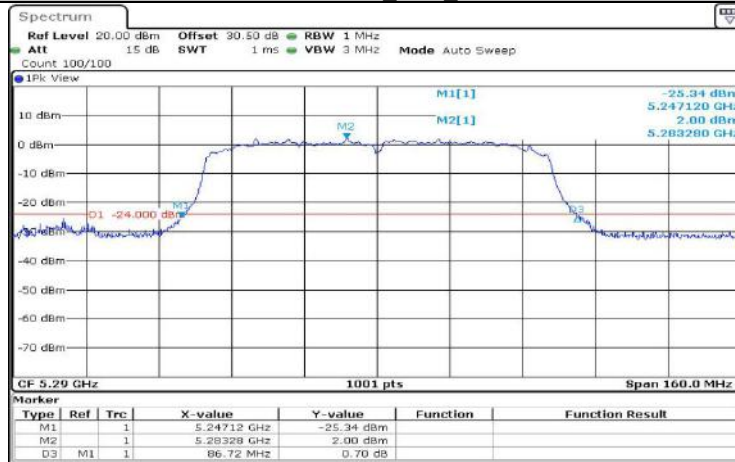
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11AC80SISO_Ant1_5210



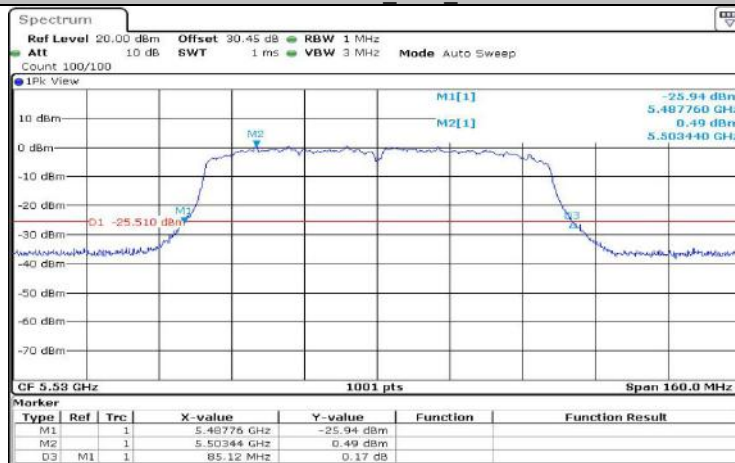
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11AC80SISO_Ant1_5290



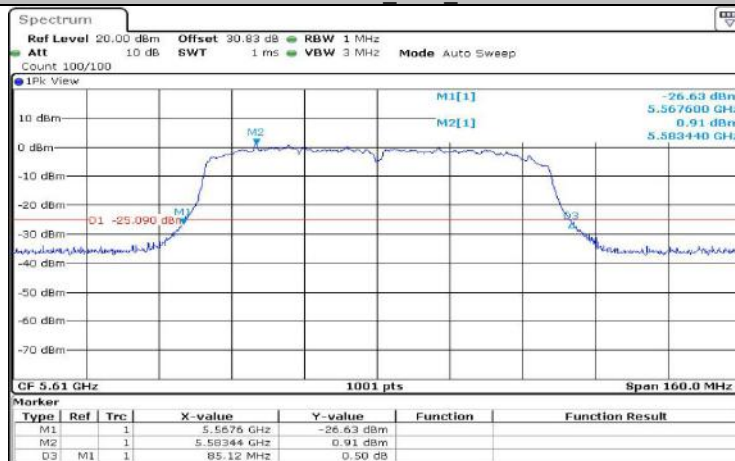
Date: 7, JUL, 2022 22:21:36

11AC80SISO_Ant1_5530



Date: 7, JUL, 2022 21:08:12

11AC80SISO_Ant1_5610



Date: 7, JUL, 2022 21:09:43