

TEST REPORT

Applicant Name : Hearth Display Inc.
Address : 364 Lincoln Pl, #E7, Brooklyn, NY, NY 11238 United States
Report Number : SZNS221021-48560E-RF-00
FCC ID: 2A896-E0027

Test Standard (s)

FCC PART 15.407

Sample Description

Product Type: Hearth Display
Model No.: Hearth Display Matte White 27" (HD-SALE-HDP-DSP-MW-27)
Multiple Model(s) No.:
Hearth Display Matte Black 27" (HD-SALE-HDP-DSP-MB-27)
Hearth Display Light Wood 27" (HD-SALE-HDP-DSP-LW-27)
Trade Mark: N/A
Date Received: 2022/10/21
Report Date: 2022/12/16

Test Result:	Pass*
--------------	-------

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

Prepared and Checked By:

Approved By:

Roger Ling

Candy Li

Roger Ling
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 "★".

Shenzhen Accurate Technology Co., Ltd. is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with an asterisk "★". Customer model name, addresses, names, trademarks etc. are not considered data.

This report cannot be reproduced except in full, without prior written approval of the Company. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.

Shenzhen Accurate Technology Co., Ltd.

1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China
Tel: +86 755-26503290 Fax: +86 755-26503396 Web: www.atc-lab.com

TABLE OF CONTENTS

GENERAL INFORMATION.....	4
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	4
OBJECTIVE	4
TEST METHODOLOGY	4
MEASUREMENT UNCERTAINTY	5
TEST FACILITY	5
SYSTEM TEST CONFIGURATION.....	6
DESCRIPTION OF TEST CONFIGURATION	6
EUT EXERCISE SOFTWARE	7
DUTY CYCLE	8
EQUIPMENT MODIFICATIONS	8
SUPPORT EQUIPMENT LIST AND DETAILS	8
EXTERNAL I/O CABLE.....	8
BLOCK DIAGRAM OF TEST SETUP	9
SUMMARY OF TEST RESULTS.....	10
TEST EQUIPMENT LIST	11
FCC §1.1307 (B) (3) & §2.1091- MPE-BASED EXEMPTION.....	13
FCC §15.203 – ANTENNA REQUIREMENT.....	15
APPLICABLE STANDARD	15
ANTENNA CONNECTOR CONSTRUCTION	15
FCC §15.407 (B) (6) §15.207 (A) – CONDUCTED EMISSIONS	16
APPLICABLE STANDARD	16
EUT SETUP	16
EMI TEST RECEIVER SETUP.....	16
TEST PROCEDURE	16
CORRECTED FACTOR & MARGIN CALCULATION	17
TEST DATA	17
§15.205 & §15.209 & §15.407(B)– UNDESIRABLE EMISSION	20
APPLICABLE STANDARD	20
EUT SETUP	20
EMI TEST RECEIVER & SPECTRUM ANALYZER SETUP	21
TEST PROCEDURE	21
FACTOR & MARGIN CALCULATION	22
TEST DATA	22
FCC §15.407(A),(E) – 26 DB & 6DB EMISSION BANDWIDTH.....	51
APPLICABLE STANDARD	51
TEST PROCEDURE	51
TEST DATA	52
FCC §15.407(A) – CONDUCTED TRANSMITTER OUTPUT POWER.....	53
APPLICABLE STANDARD	53
TEST PROCEDURE	53
TEST DATA	54

FCC §15.407(A) - POWER SPECTRAL DENSITY	55
TEST PROCEDURE	55
TEST DATA	56
APPENDIX	57
APPENDIX A1: EMISSION BANDWIDTH	57
APPENDIX A2: OCCUPIED CHANNEL BANDWIDTH	76
APPENDIX A3: MIN EMISSION BANDWIDTH.....	100
APPENDIX B: DUTY CYCLE	106
APPENDIX C: MAXIMUM CONDUCTED OUTPUT POWER	130
APPENDIX D: MAXIMUM POWER SPECTRAL DENSITY	136

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product	Hearth Display
Tested Model	Hearth Display Matte White 27"(HD-SALE-HDP-DSP-MW-27)
Multiple Models	Hearth Display Matte Black 27" (HD-SALE-HDP-DSP-MB-27) Hearth Display Light Wood 27"(HD-SALE-HDP-DSP-LW-27) (model difference see product declaration letter of similarity)
Frequency Range	5G Wi-Fi: 5150~5250MHz ; 5250-5350MHz ;5470-5725MHz ; 5725~5850 MHz
Mode	802.11a/n20/n40/ac20/ac40/ac80
Maximum Conducted Average Output Power	5150-5250MHz: 14.67dBm 5250-5350MHz: 15.17dBm 5470-5725MHz: 11.24dBm 5725-5850MHz: 12.76dBm
Modulation Technique	OFDM
Antenna Specification*	2.48dBi (It is provided by the applicant)
Voltage Range	DC 12V from adapter
Sample serial number	1N85-2 for Conducted and Radiated Emissions 1N84-1 for RF Conducted Test (Assigned by ATC)
Sample/EUT Status	Good condition
Adapter information	Model: FJ-SW729C1205000U Input: AC 100-240V, 50/60Hz, 1.5A Max Output: DC 12.0V, 5.0A ,60.0W

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, 21 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
100	5500	124	5620
102	5510	126	5630
104	5520	128	5640
106	5530	132	5660
108	5540	134	5670
110	5550	136	5680
112	5560	138	5690
116	5580	140	5700
118	5590	142	5710
120	5600	144	5720
122	5610	/	/

For 802.11a, 802.11n20/ac20 mode: channel 100, 116, 140, 144 were tested;

For 802.11n40/ac40 mode: channel 102, 110, 134, 142 were tested.

For 802.11ac80 mode, channel 106, 122, 138 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

Test by CMD Command. The command and 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	Default	Default	Default
	802.11n-HT20	MCS0	Default	Default	Default
	802.11n-HT40	MCS0	Default	/	Default
	802.11ac20	MCS0	Default	Default	Default
	802.11ac40	MCS0	Default	/	Default
	802.11ac80	MCS0	/	Default	/
5250-5350MHz	802.11a	6Mbps	Default	Default	Default
	802.11n-HT20	MCS0	Default	Default	Default
	802.11n-HT40	MCS0	Default	/	Default
	802.11ac20	MCS0	Default	Default	Default
	802.11ac40	MCS0	Default	/	Default
	802.11ac80	MCS0	/	Default	/
5470 – 5725MHz	802.11a	6Mbps	Default	Default	Default
	802.11n-HT20	MCS0	Default	Default	Default
	802.11n-HT40	MCS0	Default	Default	Default
	802.11ac20	MCS0	Default	Default	Default
	802.11ac40	MCS0	Default	Default	Default
	802.11ac80	MCS0	Default	Default	Default
5725 – 5850MHz	802.11a	6Mbps	Default	Default	Default
	802.11n-HT20	MCS0	Default	Default	Default
	802.11n-HT40	MCS0	Default	/	Default
	802.11ac20	MCS0	Default	Default	Default
	802.11ac40	MCS0	Default	/	Default
	802.11ac80	MCS0	/	Default	/

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

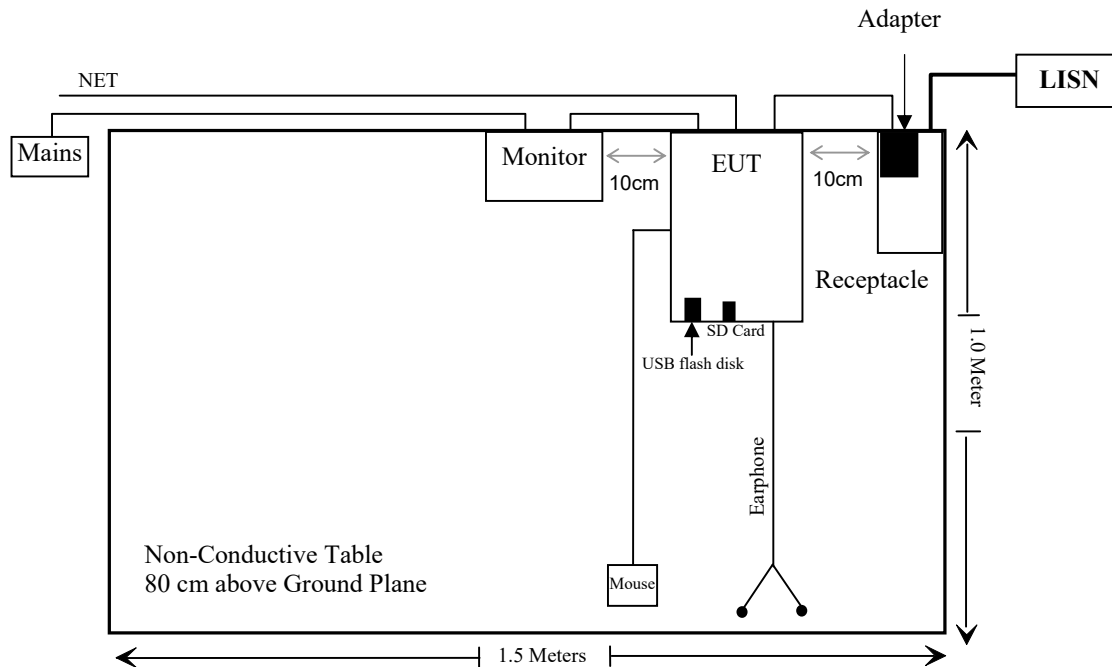
Manufacturer	Description	Model	Serial Number
PHILIPS	Monitor	275M8C	BZ31124354785
Kingston	USB flash disk	DTXM-32G	100022769267
Kingston	SD Card	SDS2/32G	100009388878
Unknown	Mouse	Unknown	Unknown
Unknown	Earphone	Unknown	Unknown

External I/O Cable

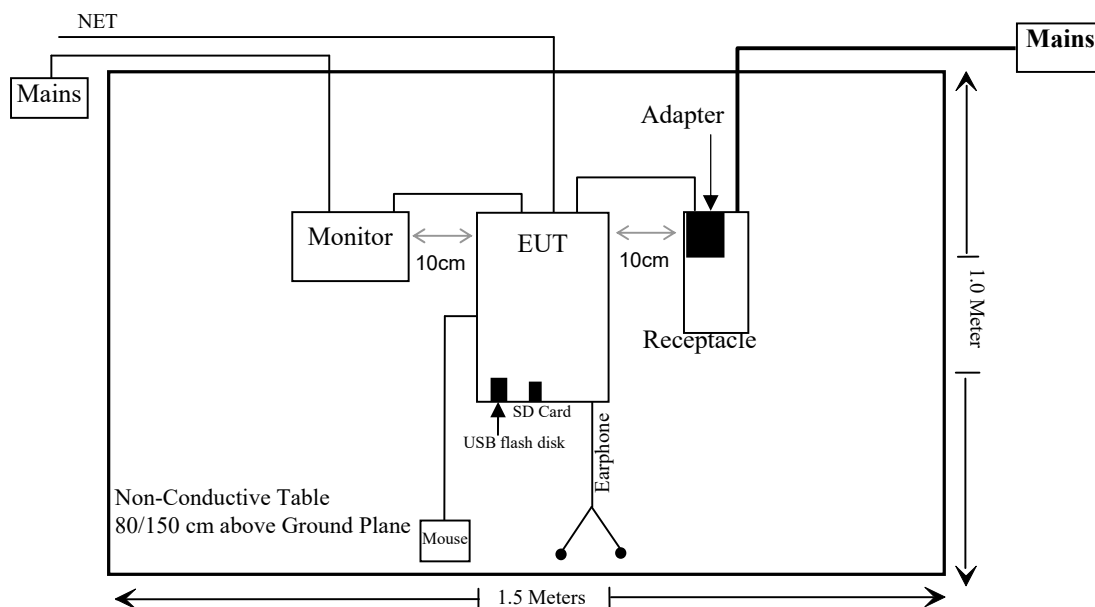
Cable Description	Length (m)	From/Port	To
Shielding Un-Detachable DC Cable	2.0	EUT	Adapter
Un-Shielding Detachable HDMI Cable	1.0	EUT	Monitor
Un-Shielding Un-Detachable RJ45 Cable	5.0	EUT	NET
Un-Shielding Detachable AC Cable	1.5	Monitor	Mains
Un-Shielding Un-Detachable USB Cable	1.2	Mouse	EUT
Un-Shielding Un-Detachable Audio Cable	1.2	Earphone	EUT

Block Diagram of Test Setup

For conducted emission:



For radiated emission:



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
FCC §1.1307 (b) (3) & §2.1091	MPE-Based Exemption	Compliant
§15.203	Antenna Requirement	Compliant
§15.407(b)(9)& §15.207(a)	Conducted Emissions	Compliant
§15.205& §15.209 & §15.407(b)	Undesirable Emission& Restricted Bands	Compliant
§15.407(a) (e)	26 dB Emission Bandwidth & 6dB Bandwidth	Compliant
§15.407(a)	Conducted Transmitter Output Power	Compliant
§15.407 (a)	Power Spectral Density	Compliant
§15.407 (h)	Transmit Power Control (TPC)	Not Applicable
§15.407 (h)	Dynamic Frequency Selection (DFS)	Compliant*

Not Applicable: the EUT has no TPC function which was declared by the applicant.

Compliant*: Please refer to the report: SZNS221021-48560E-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
Rohde & Schwarz	L.I.S.N.	ENV216	101314	2021/12/13	2022/12/12
Anritsu Corp	50 Coaxial Switch	MP59B	6100237248	2021/12/13	2022/12/12
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	2022/11/08	2023/11/07
A.H. Systems, inc.	Preamplifier	PAM-0118P	135	2022/11/08	2023/11/07
Quinstar	Amplifier	QLW-18405536-J0	15964001002	2022/11/08	2023/11/07
Schwarzbeck	Bilog Antenna	VULB9163	9163-323	2021/07/06	2024/07/05
Schwarzbeck	Horn Antenna	BBHA9120D	9120D-1067	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

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
RF Conducted Test					
Rohde&Schwarz	Spectrum Analyzer	FSV-40	101590	2022/01/19	2023/01/18
Tonscend	RF Control Unit	JS0806-2	19G8060182	2022/07/06	2023/07/05
HP	20dB Attenuator	8491A	53857	2021/12/14	2022/12/13
WEINSCHEL	10dB Attenuator	5324	AU 3842	2021/12/14	2022/12/13
Unknown	RF Coaxial Cable	No.31	RF-01	Each time	Each time

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

FCC §1.1307 (b) (3) & §2.1091- MPE-Based Exemption

Applicable Standard

According to subpart 15.247 (i) and subpart 2.1091 systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

According to KDB 447498 D04 Interim General RF Exposure Guidance

MPE-Based Exemption:

General frequency and separation-distance dependent MPE-based effective radiated power(ERP) thresholds are in Table B.1 [Table 1 of § 1.1307(b)(1)(i)(C)] to support an exemption from further evaluation from 300 kHz through 100 GHz.

Table 1 to § 1.1307(b)(3)(i)(C) - Single RF Sources Subject to Routine Environmental Evaluation

RF Source frequency (MHz)	Threshold ERP (watts)
0.3-1.34	$1,920 R^2$.
1.34-30	$3,450 R^2/f^2$.
30-300	$3.83 R^2$.
300-1,500	$0.0128 R^2 f$.
1,500-100,000	$19.2 R^2$.

R is the minimum separation distance in meters

f = frequency in MHz

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

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

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

Result

Mode	Frequency (MHz)	Tune up conducted power	Antenna Gain		ERP		Evaluation Distance (m)	ERP Limit (W)
		(dBm)	(dBi)	(dBd)	(dBm)	(W)		
BT	2402-2480	1.0	2.12	-0.03	0.97	0.001	0.2	0.768
BLE	2402-2480	5.5	2.12	-0.03	5.47	0.004	0.2	0.768
2.4G Wi-Fi	2412-2462	20.0	2.12	-0.03	19.97	0.099	0.2	0.768
5G Wi-Fi	5150-5250	15.0	2.48	0.33	15.33	0.034	0.2	0.768
	5250-5350	15.5	2.48	0.33	15.83	0.038	0.2	0.768
	5470-5725	11.5	2.48	0.33	11.83	0.015	0.2	0.768
	5725-5850	13.0	2.48	0.33	13.33	0.022	0.2	0.768

Note: 1. The tune up conducted power and antenna gain was declared by the applicant.
 2. The BT can transmit at the same time with the Wi-Fi, the 2.4G Wi-Fi and 5G Wi-Fi cannot Simultaneous transmitting
 3. 0dBd=2.15dBi

Simultaneous transmitting consideration (worst case):

The ratio= $ERP_{BLE}/limit + ERP_{Wi-Fi}/limit = 0.004/0.768 + 0.099/0.768 = 0.134 < 1.0$, so simultaneous exposure is compliant.

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

Result: Compliant.

FCC §15.203 – ANTENNA REQUIREMENT

Applicable Standard

According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

- 1) Antenna must be permanently attached to the unit.
- 2) 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	2.48dBi	50 Ω	5150-5850MHz

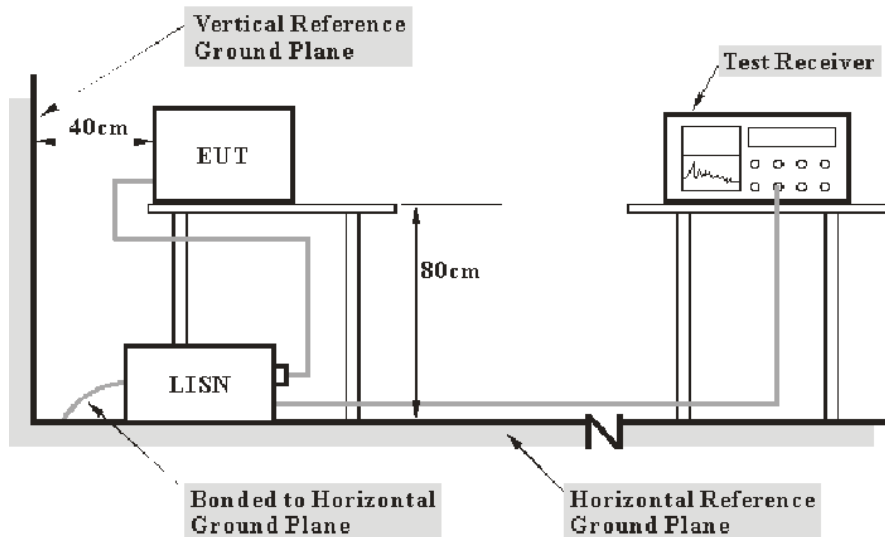
Result: Compliant.

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:

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

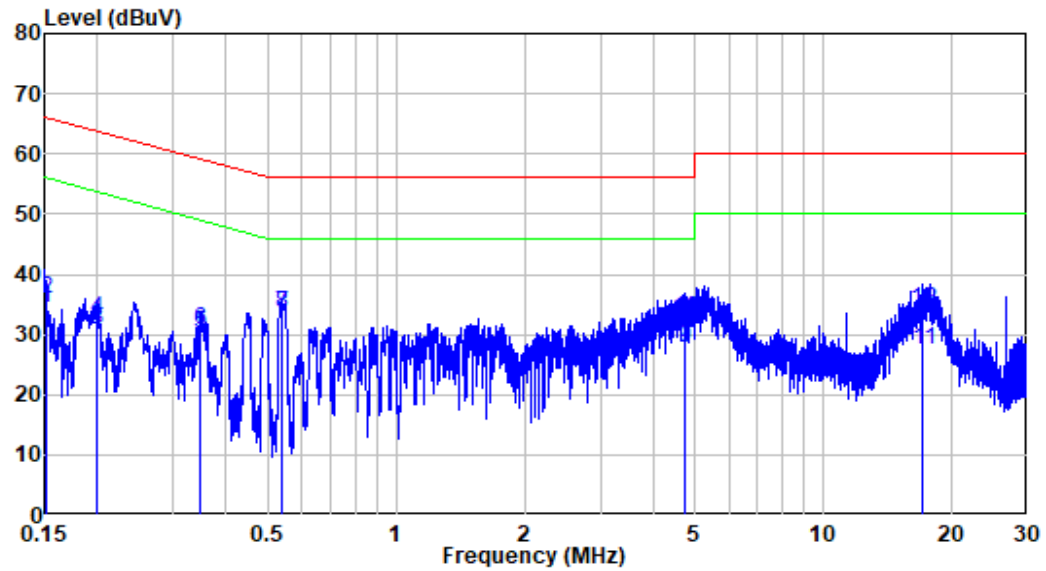
Test Data

Environmental Conditions

Temperature:	24 °C
Relative Humidity:	59 %
ATM Pressure:	101.0 kPa

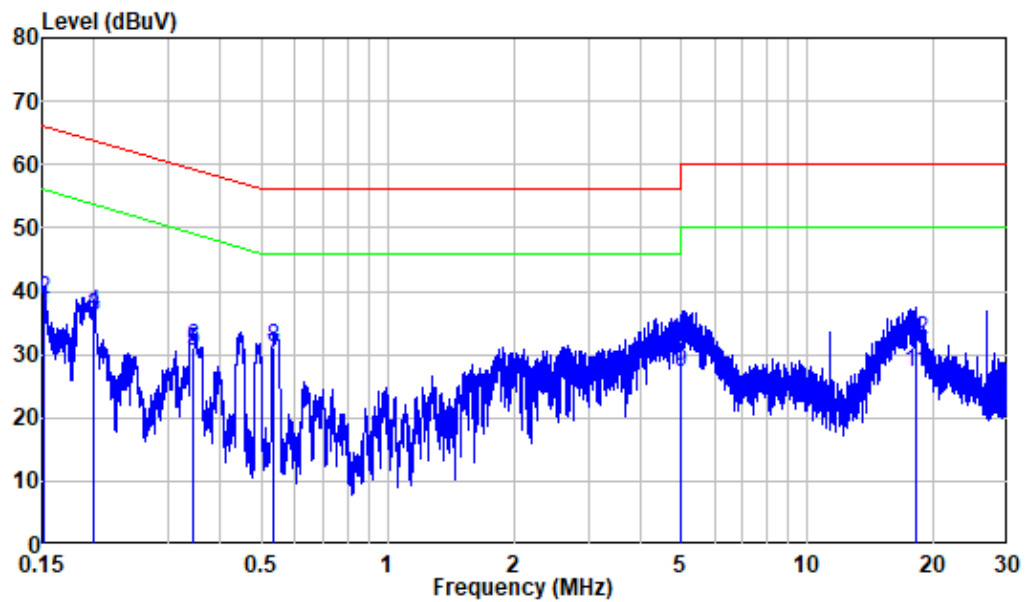
The testing was performed by Jason Liu on 2022-11-07.

EUT operation mode: Transmitting (worst case is 802.11a, 5200MHz)

AC 120V/60 Hz, Line

Site : Shielding Room
 Condition: Line
 Job No. : SZNS221021-48560E-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	0.151	9.80	24.53	34.33	55.94	-21.61	Average
2	0.151	9.80	26.20	36.00	65.94	-29.94	QP
3	0.200	9.80	20.96	30.76	53.61	-22.85	Average
4	0.200	9.80	22.89	32.69	63.61	-30.92	QP
5	0.349	9.80	20.40	30.20	48.99	-18.79	Average
6	0.349	9.80	20.97	30.77	58.99	-28.22	QP
7	0.537	9.81	23.60	33.41	46.00	-12.59	Average
8	0.537	9.81	23.61	33.42	56.00	-22.58	QP
9	4.756	9.85	17.80	27.65	46.00	-18.35	Average
10	4.756	9.85	22.63	32.48	56.00	-23.52	QP
11	17.052	9.97	17.62	27.59	50.00	-22.41	Average
12	17.052	9.97	24.04	34.01	60.00	-25.99	QP

AC 120V/60 Hz, Neutral

Site : Shielding Room
 Condition: Neutral
 Job No. : SZNS221021-48560E-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	0.152	9.80	27.35	37.15	55.91	-18.76	Average
2	0.152	9.80	28.98	38.78	65.91	-27.13	QP
3	0.200	9.80	25.98	35.78	53.61	-17.83	Average
4	0.200	9.80	26.88	36.68	63.61	-26.93	QP
5	0.343	9.80	20.74	30.54	49.13	-18.59	Average
6	0.343	9.80	21.34	31.14	59.13	-27.99	QP
7	0.534	9.81	19.86	29.67	46.00	-16.33	Average
8	0.534	9.81	21.32	31.13	56.00	-24.87	QP
9	4.981	9.89	17.30	27.19	46.00	-18.81	Average
10	4.981	9.89	22.14	32.03	56.00	-23.97	QP
11	18.051	10.08	17.00	27.08	50.00	-22.92	Average
12	18.051	10.08	22.26	32.34	60.00	-27.66	QP

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

Applicable Standard

FCC §15.407 (b); §15.209; §15.205;

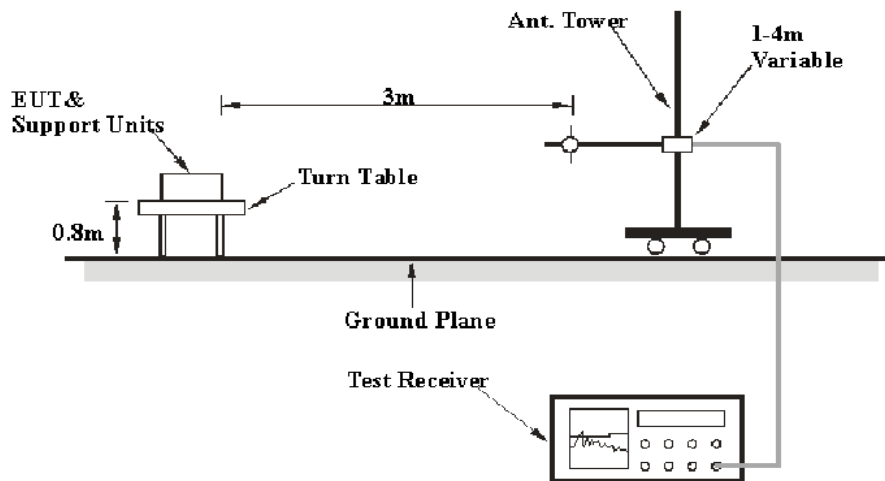
(b) Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

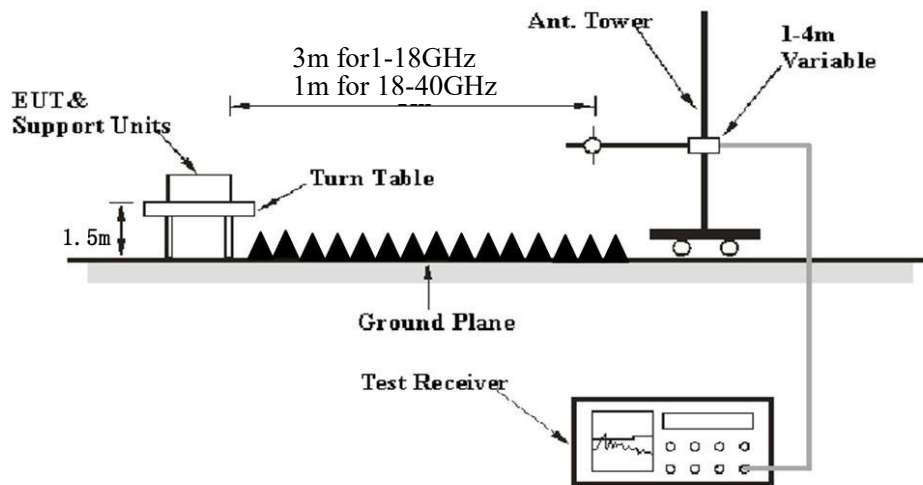
- (1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (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:	24~25.5°C
Relative Humidity:	52~58%
ATM Pressure:	101.0 kPa

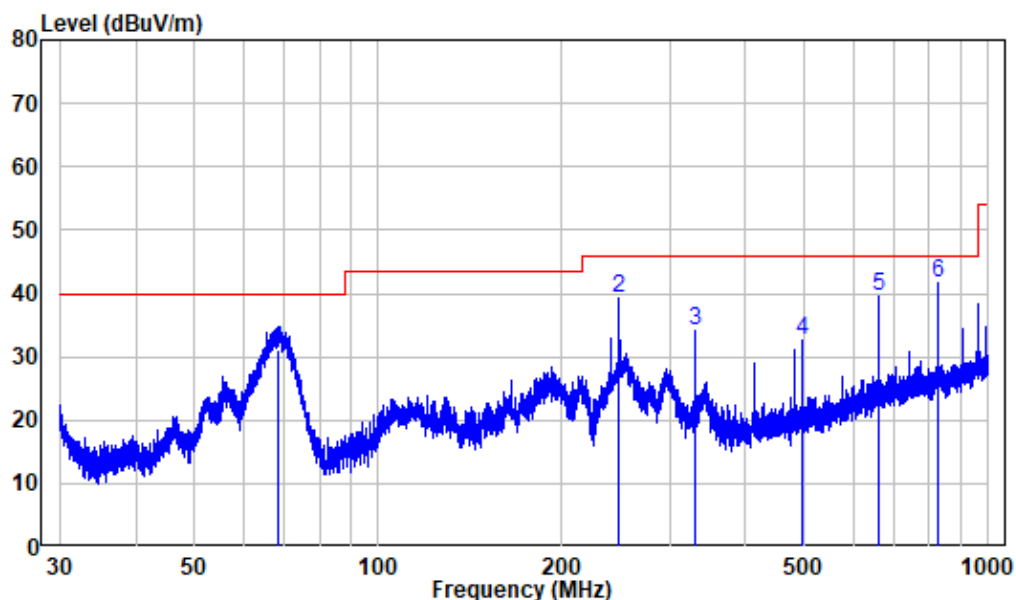
The testing was performed by Level Li on 2022-11-16 for below 1GHz ,by Level Li on 2022-11-17 for above 1GHz.

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

30 MHz – 1 GHz: (worst case is 802.11a, 5200MHz)

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

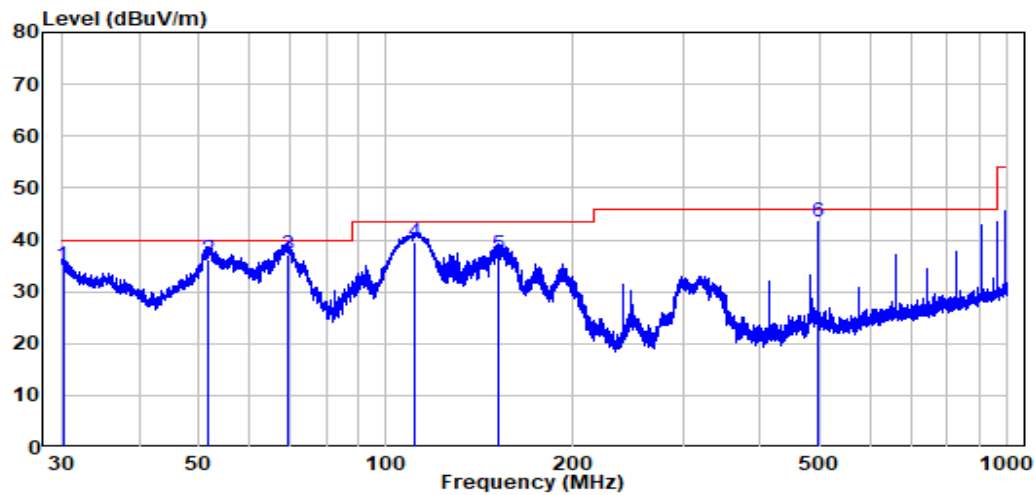
Condition: 3m HORIZONTAL

Job No. : SZNS221021-48560E-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	68.691	-14.16	45.20	31.04	40.00	-8.96	QP
2	247.465	-10.66	49.94	39.28	46.00	-6.72	Peak
3	330.050	-8.00	42.01	34.01	46.00	-11.99	Peak
4	495.066	-4.46	37.17	32.71	46.00	-13.29	Peak
5	659.992	-1.64	41.21	39.57	46.00	-6.43	Peak
6	825.320	0.07	41.50	41.57	46.00	-4.43	QP

Vertical



Site : chamber
Condition: 3m VERTICAL
Job No. : SZNS221021-48560E-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	30.171	-12.38	47.50	35.12	40.00	-4.88	QP
2	51.707	-9.97	46.10	36.13	40.00	-3.87	QP
3	69.357	-14.48	51.50	37.02	40.00	-2.98	QP
4	111.201	-12.13	51.70	39.57	43.50	-3.93	QP
5	151.730	-15.17	52.20	37.03	43.50	-6.47	QP
6	495.066	-4.46	47.90	43.44	46.00	-2.56	QP

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)				
802.11A									
5180MHz									
4500	64.78	PK	226	1.3	H	-4.72	60.06	74	-13.94
4500	50.96	AV	226	1.3	H	-4.72	46.24	54	-7.76
4500	65.20	PK	209	1.6	V	-4.72	60.48	74	-13.52
4500	50.50	AV	209	1.6	V	-4.72	45.78	54	-8.22
5150	71.98	PK	206	2.3	H	-2.73	69.25	74	-4.75
5150	52.32	AV	206	2.3	H	-2.73	49.59	54	-4.41
5150	68.86	PK	146	1.1	V	-2.73	66.13	74	-7.87
5150	51.56	AV	146	1.1	V	-2.73	48.83	54	-5.17
10360	53.57	PK	238	2.1	H	8.12	61.69	68.2	-6.51
10360	53.43	PK	331	2.1	V	8.12	61.55	68.2	-6.65
5200MHz									
10400	53.45	PK	274	1.9	H	8.24	61.69	68.2	-6.51
10400	53.28	PK	138	1.9	V	8.24	61.52	68.2	-6.68
5240MHz									
5350	64.06	PK	172	1.3	H	-2.33	61.73	74	-12.27
5350	49.03	AV	172	1.3	H	-2.33	46.70	54	-7.30
5350	64.20	PK	328	1.4	V	-2.33	61.87	74	-12.13
5350	49.21	AV	328	1.4	V	-2.33	46.88	54	-7.12
5460	62.02	PK	119	1.1	H	-2.26	59.76	74	-14.24
5460	48.51	AV	119	1.1	H	-2.26	46.25	54	-7.75
5460	61.76	PK	120	1.9	V	-2.26	59.50	74	-14.50
5460	48.70	AV	120	1.9	V	-2.26	46.44	54	-7.56
10480	53.98	PK	125	1.7	H	8.56	62.54	68.2	-5.66
10480	53.57	PK	162	1.7	V	8.56	62.13	68.2	-6.07

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11N20									
5180MHz									
4500	64.87	PK	23	1.2	H	-4.72	60.15	74	-13.85
4500	51.32	AV	23	1.2	H	-4.72	46.60	54	-7.40
4500	64.88	PK	137	1.1	V	-4.72	60.16	74	-13.84
4500	50.43	AV	137	1.1	V	-4.72	45.71	54	-8.29
5150	67.14	PK	200	1	H	-2.73	64.41	74	-9.59
5150	50.85	AV	200	1	H	-2.73	48.12	54	-5.88
5150	66.50	PK	349	1.3	V	-2.73	63.77	74	-10.23
5150	51.35	AV	349	1.3	V	-2.73	48.62	54	-5.38
10360	53.76	PK	176	2	H	8.12	61.88	68.2	-6.32
10360	53.53	PK	275	2	V	8.12	61.65	68.2	-6.55
5200MHz									
10400	53.48	PK	297	1	H	8.24	61.72	68.2	-6.48
10400	53.31	PK	236	1	V	8.24	61.55	68.2	-6.65
5240MHz									
5350	64.41	PK	360	1.1	H	-2.33	62.08	74	-11.92
5350	49.84	AV	360	1.1	H	-2.33	47.51	54	-6.49
5350	64.17	PK	225	2	V	-2.33	61.84	74	-12.16
5350	49.63	AV	225	2	V	-2.33	47.30	54	-6.70
5460	61.85	PK	304	1.2	H	-2.26	59.59	74	-14.41
5460	48.27	AV	304	1.2	H	-2.26	46.01	54	-7.99
5460	62.16	PK	94	2.1	V	-2.26	59.90	74	-14.10
5460	48.68	AV	94	2.1	V	-2.26	46.42	54	-7.58
10480	53.97	PK	15	2.4	H	8.56	62.53	68.2	-5.67
10480	53.64	PK	67	2.4	V	8.56	62.20	68.2	-6.00

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11N40									
5190MHz									
4500	64.38	PK	108	2.4	H	-4.72	59.66	74	-14.34
4500	50.41	AV	108	2.4	H	-4.72	45.69	54	-8.31
4500	65.33	PK	182	2.1	V	-4.72	60.61	74	-13.39
4500	50.68	AV	182	2.1	V	-4.72	45.96	54	-8.04
5150	67.18	PK	82	1.3	H	-2.73	64.45	74	-9.55
5150	51.51	AV	82	1.3	H	-2.73	48.78	54	-5.22
5150	66.58	PK	187	2	V	-2.73	63.85	74	-10.15
5150	50.86	AV	187	2	V	-2.73	48.13	54	-5.87
10380	53.76	PK	193	1.6	H	8.18	61.94	68.2	-6.26
10380	53.57	PK	71	1.6	V	8.18	61.75	68.2	-6.45
5230MHz									
5350	64.04	PK	100	2	H	-2.33	61.71	74	-12.29
5350	49.57	AV	100	2	H	-2.33	47.24	54	-6.76
5350	64.16	PK	273	2.2	V	-2.33	61.83	74	-12.17
5350	49.46	AV	273	2.2	V	-2.33	47.13	54	-6.87
5460	62.07	PK	39	1.5	H	-2.26	59.81	74	-14.19
5460	48.61	AV	39	1.5	H	-2.26	46.35	54	-7.65
5460	62.13	PK	101	1.7	V	-2.26	59.87	74	-14.13
5460	48.64	AV	101	1.7	V	-2.26	46.38	54	-7.62
10460	54.09	PK	31	1.2	H	8.47	62.56	68.2	-5.64
10460	53.88	PK	4	1.2	V	8.47	62.35	68.2	-5.85

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AC20									
5180MHz									
4500	64.61	PK	341	1.5	H	-4.72	59.89	74	-14.11
4500	51.30	AV	341	1.5	H	-4.72	46.58	54	-7.42
4500	64.63	PK	63	1.9	V	-4.72	59.91	74	-14.09
4500	50.62	AV	63	1.9	V	-4.72	45.90	54	-8.10
5150	70.18	PK	322	1.1	H	-2.73	67.45	74	-6.55
5150	51.34	AV	322	1.1	H	-2.73	48.61	54	-5.39
5150	67.60	PK	199	2.3	V	-2.73	64.87	74	-9.13
5150	51.11	AV	199	2.3	V	-2.73	48.38	54	-5.62
10360	53.72	PK	94	1.2	H	8.12	61.84	68.2	-6.36
10360	53.51	PK	291	1.2	V	8.12	61.63	68.2	-6.57
5200MHz									
10400	53.51	PK	97	1.6	H	8.24	61.75	68.2	-6.45
10400	53.32	PK	210	1.6	V	8.24	61.56	68.2	-6.64
5240MHz									
5350	64.06	PK	206	1.3	H	-2.33	61.73	74	-12.27
5350	49.33	AV	206	1.3	H	-2.33	47.00	54	-7.00
5350	64.42	PK	180	1.8	V	-2.33	62.09	74	-11.91
5350	49.80	AV	180	1.8	V	-2.33	47.47	54	-6.53
5460	62.15	PK	339	1.3	H	-2.26	59.89	74	-14.11
5460	48.45	AV	339	1.3	H	-2.26	46.19	54	-7.81
5460	61.96	PK	100	2.2	V	-2.26	59.70	74	-14.30
5460	48.66	AV	100	2.2	V	-2.26	46.40	54	-7.60
10480	53.95	PK	129	1.7	H	8.56	62.51	68.2	-5.69
10480	53.72	PK	210	1.7	V	8.56	62.28	68.2	-5.92

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	64.12	PK	343	2.2	H	-4.72	59.40	74	-14.60
4500	50.95	AV	343	2.2	H	-4.72	46.23	54	-7.77
4500	63.78	PK	269	2	V	-4.72	59.06	74	-14.94
4500	50.39	AV	269	2	V	-4.72	45.67	54	-8.33
5150	65.99	PK	261	1.7	H	-2.73	63.26	74	-10.74
5150	51.54	AV	261	1.7	H	-2.73	48.81	54	-5.19
5150	65.16	PK	171	1.8	V	-2.73	62.43	74	-11.57
5150	50.97	AV	171	1.8	V	-2.73	48.24	54	-5.76
10380	53.71	PK	177	1.7	H	8.18	61.89	68.2	-6.31
10380	53.54	PK	153	1.7	V	8.18	61.72	68.2	-6.48
5230MHz									
5350	64.24	PK	127	1.7	H	-2.33	61.91	74	-12.09
5350	49.44	AV	127	1.7	H	-2.33	47.11	54	-6.89
5350	64.20	PK	189	2.1	V	-2.33	61.87	74	-12.13
5350	48.98	AV	189	2.1	V	-2.33	46.65	54	-7.35
5460	62.00	PK	214	2	H	-2.26	59.74	74	-14.26
5460	48.44	AV	214	2	H	-2.26	46.18	54	-7.82
5460	62.23	PK	172	1.1	V	-2.26	59.97	74	-14.03
5460	48.48	AV	172	1.1	V	-2.26	46.22	54	-7.78
10460	54.05	PK	99	1.4	H	8.47	62.52	68.2	-5.68
10460	53.91	PK	176	1.4	V	8.47	62.38	68.2	-5.82

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)				
802.11AC80									
5210MHz									
4500	64.26	PK	227	2.4	H	-4.72	59.54	74	-14.46
4500	50.93	AV	227	2.4	H	-4.72	46.21	54	-7.79
4500	63.92	PK	337	1.9	V	-4.72	59.20	74	-14.80
4500	51.01	AV	337	1.9	V	-4.72	46.29	54	-7.71
5150	64.50	PK	32	2.2	H	-2.73	61.77	74	-12.23
5150	51.56	AV	32	2.2	H	-2.73	48.83	54	-5.17
5150	64.59	PK	103	2.4	V	-2.73	61.86	74	-12.14
5150	51.32	AV	103	2.4	V	-2.73	48.59	54	-5.41
5350	64.04	PK	234	1.4	H	-2.33	61.71	74	-12.29
5350	49.21	AV	234	1.4	H	-2.33	46.88	54	-7.12
5350	64.43	PK	298	2	V	-2.33	62.10	74	-11.90
5350	49.28	AV	298	2	V	-2.33	46.95	54	-7.05
5460	61.89	PK	214	1.9	H	-2.26	59.63	74	-14.37
5460	48.69	AV	214	1.9	H	-2.26	46.43	54	-7.57
5460	61.97	PK	24	1.4	V	-2.26	59.71	74	-14.29
5460	48.61	AV	24	1.4	V	-2.26	46.35	54	-7.65
10420	53.94	PK	103	2.4	H	8.32	62.26	68.2	-5.94
10420	53.39	PK	147	2.4	V	8.32	61.71	68.2	-6.49

5250-5350 MHz:

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11A									
5260MHz									
4500	63.43	PK	16	2.2	H	-4.72	58.71	74	-15.29
4500	50.89	AV	16	2.2	H	-4.72	46.17	54	-7.83
4500	63.58	PK	340	2	V	-4.72	58.86	74	-15.14
4500	51.01	AV	340	2	V	-4.72	46.29	54	-7.71
5150	64.54	PK	266	1.3	H	-2.73	61.81	74	-12.19
5150	50.99	AV	266	1.3	H	-2.73	48.26	54	-5.74
5150	63.76	PK	136	1.6	V	-2.73	61.03	74	-12.97
5150	51.13	AV	136	1.6	V	-2.73	48.40	54	-5.60
10520	53.11	PK	137	2	H	8.65	61.76	68.2	-6.44
10520	52.90	PK	58	2	V	8.65	61.55	68.2	-6.65
5280MHz									
10560	53.61	PK	98	1.3	H	8.69	62.3	68.2	-5.90
10560	53.34	PK	139	1.3	V	8.69	62.03	68.2	-6.17
5320MHz									
5350	67.22	PK	66	1.2	H	-2.33	64.89	74	-9.11
5350	53.02	AV	66	1.2	H	-2.33	50.69	54	-3.31
5350	66.04	PK	58	1.7	V	-2.33	63.71	74	-10.29
5350	52.78	AV	58	1.7	V	-2.33	50.45	54	-3.55
5460	61.83	PK	163	1.7	H	-2.26	59.57	74	-14.43
5460	48.55	AV	163	1.7	H	-2.26	46.29	54	-7.71
5460	62.24	PK	153	2.4	V	-2.26	59.98	74	-14.02
5460	48.46	AV	153	2.4	V	-2.26	46.20	54	-7.80
10640	53.40	PK	250	2.1	H	8.92	62.32	74	-11.68
10640	40.08	AV	25	2.1	H	8.92	49.00	54	-5.00
10640	53.15	PK	174	2.4	V	8.92	62.07	74	-11.93
10640	39.89	AV	241	2.4	V	8.92	48.81	54	-5.19

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11N20									
5260MHz									
4500	64.01	PK	218	1.4	H	-4.72	59.29	74	-14.71
4500	51.30	AV	218	1.4	H	-4.72	46.58	54	-7.42
4500	64.31	PK	275	1.1	V	-4.72	59.59	74	-14.41
4500	50.84	AV	275	1.1	V	-4.72	46.12	54	-7.88
5150	64.33	PK	143	1.9	H	-2.73	61.60	74	-12.40
5150	50.77	AV	143	1.9	H	-2.73	48.04	54	-5.96
5150	64.06	PK	258	2.2	V	-2.73	61.33	74	-12.67
5150	51.47	AV	258	2.2	V	-2.73	48.74	54	-5.26
10520	53.47	PK	16	1.5	H	8.65	62.12	68.2	-6.08
10520	53.20	PK	303	1.5	V	8.65	61.85	68.2	-6.35
5280MHz									
10560	53.70	PK	153	1.1	H	8.69	62.39	68.2	-5.81
10560	53.51	PK	257	1.1	V	8.69	62.2	68.2	-6.00
5320MHz									
5350	66.17	PK	126	1.1	H	-2.33	63.84	74	-10.16
5350	51.89	AV	126	1.1	H	-2.33	49.56	54	-4.44
5350	65.14	PK	14	2.3	V	-2.33	62.81	74	-11.19
5350	52.01	AV	14	2.3	V	-2.33	49.68	54	-4.32
5460	61.92	PK	198	2	H	-2.26	59.66	74	-14.34
5460	48.56	AV	198	2	H	-2.26	46.30	54	-7.70
5460	61.85	PK	82	1.4	V	-2.26	59.59	74	-14.41
5460	48.67	AV	82	1.4	V	-2.26	46.41	54	-7.59
10640	53.44	PK	95	2.4	H	8.92	62.36	74	-11.64
10640	40.15	AV	148	2.4	H	8.92	49.07	54	-4.93
10640	53.28	PK	96	1.8	V	8.92	62.20	74	-11.80
10640	40.01	AV	288	1.8	V	8.92	48.93	54	-5.07

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11N40									
5270MHz									
4500	63.69	PK	51	1.9	H	-4.72	58.97	74	-15.03
4500	50.95	AV	51	1.9	H	-4.72	46.23	54	-7.77
4500	63.44	PK	200	1.5	V	-4.72	58.72	74	-15.28
4500	50.46	AV	200	1.5	V	-4.72	45.74	54	-8.26
5150	63.95	PK	313	2.1	H	-2.73	61.22	74	-12.78
5150	50.89	AV	313	2.1	H	-2.73	48.16	54	-5.84
5150	63.72	PK	175	2.1	V	-2.73	60.99	74	-13.01
5150	51.11	AV	175	2.1	V	-2.73	48.38	54	-5.62
10540	53.10	PK	101	1.5	H	8.65	61.75	68.2	-6.45
10540	52.87	PK	84	1.5	V	8.65	61.52	68.2	-6.68
5310MHz									
5350	65.25	PK	67	2.4	H	-2.33	62.92	74	-11.08
5350	51.91	AV	67	2.4	H	-2.33	49.58	54	-4.42
5350	64.99	PK	127	1.2	V	-2.33	62.66	74	-11.34
5350	52.10	AV	127	1.2	V	-2.33	49.77	54	-4.23
5460	61.89	PK	189	2.3	H	-2.26	59.63	74	-14.37
5460	48.38	AV	189	2.3	H	-2.26	46.12	54	-7.88
5460	62.23	PK	6	2.4	V	-2.26	59.97	74	-14.03
5460	48.57	AV	6	2.4	V	-2.26	46.31	54	-7.69
10620	53.41	PK	143	2.1	H	8.89	62.30	74	-11.70
10620	40.57	AV	172	2.1	H	8.89	49.46	54	-4.54
10620	53.26	PK	165	2.2	V	8.89	62.15	74	-11.85
10620	40.38	AV	358	2.2	V	8.89	49.27	54	-4.73

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AC20									
5260MHz									
4500	63.72	PK	265	1.4	H	-4.72	59.00	74	-15.00
4500	50.88	AV	265	1.4	H	-4.72	46.16	54	-7.84
4500	63.88	PK	140	2.1	V	-4.72	59.16	74	-14.84
4500	50.91	AV	140	2.1	V	-4.72	46.19	54	-7.81
5150	64.19	PK	306	1.3	H	-2.73	61.46	74	-12.54
5150	50.66	AV	306	1.3	H	-2.73	47.93	54	-6.07
5150	64.06	PK	212	1	V	-2.73	61.33	74	-12.67
5150	51.58	AV	212	1	V	-2.73	48.85	54	-5.15
10520	53.38	PK	55	1.7	H	8.65	62.03	68.2	-6.17
10520	53.21	PK	213	1.7	V	8.65	61.86	68.2	-6.34
5280MHz									
10560	53.80	PK	293	2.3	H	8.69	62.49	68.2	-5.71
10560	53.57	PK	53	2.3	V	8.69	62.26	68.2	-5.94
5320MHz									
5350	66.08	PK	43	2.1	H	-2.33	63.75	74	-10.25
5350	51.72	AV	43	2.1	H	-2.33	49.39	54	-4.61
5350	66.34	PK	317	1.4	V	-2.33	64.01	74	-9.99
5350	51.75	AV	317	1.4	V	-2.33	49.42	54	-4.58
5460	62.05	PK	122	2.3	H	-2.26	59.79	74	-14.21
5460	48.44	AV	122	2.3	H	-2.26	46.18	54	-7.82
5460	62.14	PK	206	1.1	V	-2.26	59.88	74	-14.12
5460	48.68	AV	206	1.1	V	-2.26	46.42	54	-7.58
10640	53.59	PK	260	1.2	H	8.92	62.51	74	-11.49
10640	40.24	AV	293	1.2	H	8.92	49.16	54	-4.84
10640	53.33	PK	232	2.3	V	8.92	62.25	74	-11.75
10640	40.05	AV	134	2.3	V	8.92	48.97	54	-5.03

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AC40									
5270MHz									
4500	64.29	PK	163	2	H	-4.72	59.57	74	-14.43
4500	50.83	AV	163	2	H	-4.72	46.11	54	-7.89
4500	64.22	PK	48	1.1	V	-4.72	59.50	74	-14.50
4500	50.99	AV	48	1.1	V	-4.72	46.27	54	-7.73
5150	64.68	PK	237	2.3	H	-2.73	61.95	74	-12.05
5150	51.05	AV	237	2.3	H	-2.73	48.32	54	-5.68
5150	64.33	PK	2	2.2	V	-2.73	61.60	74	-12.40
5150	50.91	AV	2	2.2	V	-2.73	48.18	54	-5.82
10540	53.17	PK	250	1.2	H	8.65	61.82	68.2	-6.38
10540	53.00	PK	278	1.2	V	8.65	61.65	68.2	-6.55
5310MHz									
5350	66.05	PK	130	1.1	H	-2.33	63.72	74	-10.28
5350	52.33	AV	130	1.1	H	-2.33	50.00	54	-4.00
5350	66.08	PK	41	1.6	V	-2.33	63.75	74	-10.25
5350	52.31	AV	41	1.6	V	-2.33	49.98	54	-4.02
5460	61.76	PK	292	1.8	H	-2.26	59.50	74	-14.50
5460	48.43	AV	292	1.8	H	-2.26	46.17	54	-7.83
5460	62.05	PK	19	1.4	V	-2.26	59.79	74	-14.21
5460	48.72	AV	19	1.4	V	-2.26	46.46	54	-7.54
10620	53.51	PK	7	2	H	8.89	62.40	74	-11.60
10620	40.62	AV	201	2	H	8.89	49.51	54	-4.49
10620	53.38	PK	210	1.6	V	8.89	62.27	74	-11.73
10620	40.43	AV	340	1.6	V	8.89	49.32	54	-4.68

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AC80									
5290MHz									
4500	64.36	PK	322	1.6	H	-4.72	59.64	74	-14.36
4500	50.97	AV	322	1.6	H	-4.72	46.25	54	-7.75
4500	63.50	PK	138	1.9	V	-4.72	58.78	74	-15.22
4500	50.52	AV	138	1.9	V	-4.72	45.80	54	-8.20
5150	63.63	PK	297	2.1	H	-2.73	60.90	74	-13.10
5150	50.96	AV	297	2.1	H	-2.73	48.23	54	-5.77
5150	63.64	PK	183	2.1	V	-2.73	60.91	74	-13.09
5150	50.88	AV	183	2.1	V	-2.73	48.15	54	-5.85
5350	66.06	PK	1	2.1	H	-2.33	63.73	74	-10.27
5350	51.82	AV	1	2.1	H	-2.33	49.49	54	-4.51
5350	66.00	PK	143	1.2	V	-2.33	63.67	74	-10.33
5350	51.80	AV	143	1.2	V	-2.33	49.47	54	-4.53
5460	61.84	PK	89	2.3	H	-2.26	59.58	74	-14.42
5460	48.54	AV	89	2.3	H	-2.26	46.28	54	-7.72
5460	61.90	PK	215	2.4	V	-2.26	59.64	74	-14.36
5460	48.42	AV	215	2.4	V	-2.26	46.16	54	-7.84
10580	53.70	PK	294	1.2	H	8.77	62.47	68.2	-5.73
10580	53.53	PK	323	1.2	V	8.77	62.3	68.2	-5.90

5470-5725MHz:

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11A									
5500MHz									
5460	62.46	PK	329	2.4	H	-2.26	60.20	74	-13.80
5460	48.41	AV	329	2.4	H	-2.26	46.15	54	-7.85
5460	62.32	PK	131	1.7	V	-2.26	60.06	74	-13.94
5460	48.29	AV	131	1.7	V	-2.26	46.03	54	-7.97
5470	65.54	PK	5	1.1	H	-2.22	63.32	68.2	-4.88
5470	65.03	PK	114	2.5	V	-2.22	62.81	68.2	-5.39
11000	52.46	PK	139	1.1	H	9.67	62.13	74	-11.87
11000	38.52	AV	212	1.1	H	9.67	48.19	54	-5.81
11000	52.28	PK	255	1.2	V	9.67	61.95	74	-12.05
11000	38.31	AV	200	1.2	V	9.67	47.98	54	-6.02
5580MHz									
11160	53.60	PK	32	1.7	H	8.68	62.28	74	-11.72
11160	39.56	AV	299	1.7	H	8.68	48.24	54	-5.76
11160	53.37	PK	324	1.8	V	8.68	62.05	74	-11.95
11160	39.39	AV	357	1.8	V	8.68	48.07	54	-5.93
5700MHz									
5725	66.47	PK	329	1.8	H	-1.96	64.51	68.2	-3.69
5725	66.19	PK	99	1.6	V	-1.96	64.23	68.2	-3.97
5745	63.51	PK	76	1.2	H	-1.91	61.60	68.2	-6.60
5745	63.33	PK	273	1.2	V	-1.91	61.42	68.2	-6.78
11400	55.15	PK	263	2.5	H	7.26	62.41	74	-11.59
11400	41.19	AV	143	2.5	H	7.26	48.45	54	-5.55
11400	55.01	PK	237	2.1	V	7.26	62.27	74	-11.73
11400	41.02	AV	8	2.1	V	7.26	48.28	54	-5.72
5720MHz									
5850	65.33	PK	174	2	H	-1.81	63.52	68.2	-4.68
5850	64.89	PK	99	1.6	V	-1.81	63.08	68.2	-5.12
6000	63.44	PK	270	1.7	H	-1.71	61.73	68.2	-6.47
6000	63.06	PK	158	2.2	V	-1.71	61.35	68.2	-6.85
11440	55.41	PK	301	1.2	H	6.91	62.32	74	-11.68
11440	41.42	AV	301	1.2	H	6.91	48.33	54	-5.67
11440	55.24	PK	184	1.6	V	6.91	62.15	74	-11.85
11440	41.22	AV	184	1.6	V	6.91	48.13	54	-5.87

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11N20									
5500MHz									
5460	62.86	PK	195	2.3	H	-2.26	60.60	74	-13.40
5460	48.67	AV	195	2.3	H	-2.26	46.41	54	-7.59
5460	62.70	PK	272	1.3	V	-2.26	60.44	74	-13.56
5460	48.49	AV	272	1.3	V	-2.26	46.23	54	-7.77
5470	65.91	PK	31	1.6	H	-2.22	63.69	68.2	-4.51
5470	65.48	PK	289	2.2	V	-2.22	63.26	68.2	-4.94
11000	52.53	PK	270	1.7	H	9.67	62.20	74	-11.80
11000	38.64	AV	116	1.7	H	9.67	48.31	54	-5.69
11000	52.35	PK	51	1	V	9.67	62.02	74	-11.98
11000	38.48	AV	139	1	V	9.67	48.15	54	-5.85
5580MHz									
11160	53.63	PK	242	1.5	H	8.68	62.31	74	-11.69
11160	39.54	AV	54	1.5	H	8.68	48.22	54	-5.78
11160	53.40	PK	144	1.5	V	8.68	62.08	74	-11.92
11160	39.37	AV	202	1.5	V	8.68	48.05	54	-5.95
5700MHz									
5725	66.65	PK	244	1.6	H	-1.96	64.69	68.2	-3.51
5725	66.30	PK	83	1.5	V	-1.96	64.34	68.2	-3.86
5745	63.69	PK	149	2.2	H	-1.91	61.78	68.2	-6.42
5745	63.44	PK	272	2.1	V	-1.91	61.53	68.2	-6.67
11400	55.05	PK	5	2	H	7.26	62.31	74	-11.69
11400	41.08	AV	126	2	H	7.26	48.34	54	-5.66
11400	54.89	PK	111	1.3	V	7.26	62.15	74	-11.85
11400	40.90	AV	193	1.3	V	7.26	48.16	54	-5.84
5720MHz									
5850	65.36	PK	345	1.9	H	-1.81	63.55	68.2	-4.65
5850	65.04	PK	332	2.2	V	-1.81	63.23	68.2	-4.97
6000	63.07	PK	320	2	H	-1.71	61.36	68.2	-6.84
6000	62.98	PK	183	1.6	V	-1.71	61.27	68.2	-6.93
11440	55.35	PK	38	2.1	H	6.91	62.26	74	-11.74
11440	41.32	AV	38	2.1	H	6.91	48.23	54	-5.77
11440	55.21	PK	55	1.2	V	6.91	62.12	74	-11.88
11440	41.18	AV	55	1.2	V	6.91	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									
5510MHz									
5460	63.19	PK	351	1.2	H	-2.26	60.93	74	-13.07
5460	50.57	AV	351	1.2	H	-2.26	48.31	54	-5.69
5460	63.03	PK	215	1.4	V	-2.26	60.77	74	-13.23
5460	50.28	AV	215	1.4	V	-2.26	48.02	54	-5.98
5470	67.02	PK	227	2	H	-2.22	64.80	68.2	-3.40
5470	66.48	PK	51	1.4	V	-2.22	64.26	68.2	-3.94
11020	52.36	PK	73	2.4	H	9.57	61.93	74	-12.07
11020	38.84	AV	207	2.4	H	9.57	48.41	54	-5.59
11020	52.17	PK	148	1.1	V	9.57	61.74	74	-12.26
11020	38.70	AV	112	1.1	V	9.57	48.27	54	-5.73
5550MHz									
11100	52.43	PK	172	1.7	H	9.12	61.55	74	-12.45
11100	38.79	AV	223	1.7	H	9.12	47.91	54	-6.09
11100	52.18	PK	141	1.8	V	9.12	61.30	74	-12.70
11100	38.61	AV	296	1.8	V	9.12	47.73	54	-6.27
5670MHz									
5725	66.00	PK	272	1.1	H	-1.96	64.04	68.2	-4.16
5725	65.38	PK	74	2	V	-1.96	63.42	68.2	-4.78
5745	62.74	PK	95	2.3	H	-1.91	60.83	68.2	-7.37
5745	62.51	PK	232	1.2	V	-1.91	60.60	68.2	-7.60
11340	54.42	PK	231	1.7	H	7.67	62.09	74	-11.91
11340	40.67	AV	174	1.7	H	7.67	48.34	54	-5.66
11340	54.21	PK	102	1.3	V	7.67	61.88	74	-12.12
11340	40.46	AV	18	1.3	V	7.67	48.13	54	-5.87
5710MHz									
5850	65.56	PK	162	1.3	H	-1.81	63.75	68.2	-4.45
5850	65.44	PK	263	1.4	V	-1.81	63.63	68.2	-4.57
6000	62.93	PK	334	1.8	H	-1.71	61.22	68.2	-6.98
6000	62.86	PK	168	1.6	V	-1.71	61.15	68.2	-7.05
11420	54.91	PK	298	1.1	H	7.08	61.99	74	-12.01
11420	41.16	AV	298	1.1	H	7.08	48.24	54	-5.76
11420	54.78	PK	242	2.4	V	7.08	61.86	74	-12.14
11420	41.00	AV	242	2.4	V	7.08	48.08	54	-5.92

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AC20									
5500MHz									
5460	63.09	PK	182	2.1	H	-2.26	60.83	74	-13.17
5460	48.98	AV	182	2.1	H	-2.26	46.72	54	-7.28
5460	62.90	PK	225	2.1	V	-2.26	60.64	74	-13.36
5460	48.81	AV	225	2.1	V	-2.26	46.55	54	-7.45
5470	66.38	PK	218	2.3	H	-2.22	64.16	68.2	-4.04
5470	65.99	PK	128	1.3	V	-2.22	63.77	68.2	-4.43
11000	52.20	PK	151	1.6	H	9.67	61.87	74	-12.13
11000	38.51	AV	134	1.6	H	9.67	48.18	54	-5.82
11000	52.04	PK	83	2	V	9.67	61.71	74	-12.29
11000	38.37	AV	268	2	V	9.67	48.04	54	-5.96
5580MHz									
11160	53.50	PK	355	1.3	H	8.68	62.18	74	-11.82
11160	39.45	AV	346	1.3	H	8.68	48.13	54	-5.87
11160	53.31	PK	233	1.2	V	8.68	61.99	74	-12.01
11160	39.32	AV	336	1.2	V	8.68	48.00	54	-6.00
5700MHz									
5725	66.97	PK	214	2.2	H	-1.96	65.01	68.2	-3.19
5725	66.63	PK	331	1.1	V	-1.96	64.67	68.2	-3.53
5745	63.51	PK	33	1	H	-1.91	61.60	68.2	-6.60
5745	63.32	PK	177	1.1	V	-1.91	61.41	68.2	-6.79
11400	55.12	PK	82	1.1	H	7.26	62.38	74	-11.62
11400	41.19	AV	249	1.1	H	7.26	48.45	54	-5.55
11400	54.93	PK	178	2.2	V	7.26	62.19	74	-11.81
11400	41.01	AV	279	2.2	V	7.26	48.27	54	-5.73
5720MHz									
5850	65.61	PK	349	1.7	H	-1.81	63.80	68.2	-4.40
5850	65.27	PK	236	2.4	V	-1.81	63.46	68.2	-4.74
6000	63.25	PK	167	2.2	H	-1.71	61.54	68.2	-6.66
6000	63.28	PK	247	1.1	V	-1.71	61.57	68.2	-6.63
11440	55.51	PK	193	1.5	H	6.91	62.42	74	-11.58
11440	41.47	AV	193	1.5	H	6.91	48.38	54	-5.62
11440	55.35	PK	231	1.3	V	6.91	62.26	74	-11.74
11440	41.40	AV	231	1.3	V	6.91	48.31	54	-5.69

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AC40									
5510MHz									
5460	63.42	PK	160	1.8	H	-2.26	61.16	74	-12.84
5460	50.87	AV	160	1.8	H	-2.26	48.61	54	-5.39
5460	63.21	PK	334	2.4	V	-2.26	60.95	74	-13.05
5460	50.63	AV	334	2.4	V	-2.26	48.37	54	-5.63
5470	67.25	PK	36	1.5	H	-2.22	65.03	68.2	-3.17
5470	66.91	PK	247	1.6	V	-2.22	64.69	68.2	-3.51
11020	52.42	PK	202	2	H	9.57	61.99	74	-12.01
11020	38.87	AV	347	2	H	9.57	48.44	54	-5.56
11020	52.23	PK	9	2.1	V	9.57	61.80	74	-12.20
11020	38.66	AV	231	2.1	V	9.57	48.23	54	-5.77
5550MHz									
11100	52.55	PK	13	1.5	H	9.12	61.67	74	-12.33
11100	38.86	AV	33	1.5	H	9.12	47.98	54	-6.02
11100	52.32	PK	35	1.2	V	9.12	61.44	74	-12.56
11100	38.67	AV	260	1.2	V	9.12	47.79	54	-6.21
5670MHz									
5725	66.26	PK	57	1.2	H	-1.96	64.30	68.2	-3.90
5725	65.87	PK	159	2.1	V	-1.96	63.91	68.2	-4.29
5745	62.93	PK	236	1.3	H	-1.91	61.02	68.2	-7.18
5745	62.75	PK	9	1.7	V	-1.91	60.84	68.2	-7.36
11340	54.50	PK	92	1.7	H	7.67	62.17	74	-11.83
11340	40.71	AV	302	1.7	H	7.67	48.38	54	-5.62
11340	54.32	PK	13	2.4	V	7.67	61.99	74	-12.01
11340	40.49	AV	280	2.4	V	7.67	48.16	54	-5.84
5710MHz									
5850	65.44	PK	333	2.4	H	-1.81	63.63	68.2	-4.57
5850	65.17	PK	300	1.1	V	-1.81	63.36	68.2	-4.84
6000	63.23	PK	209	2.2	H	-1.71	61.52	68.2	-6.68
6000	62.89	PK	157	1.5	V	-1.71	61.18	68.2	-7.02
11420	55.17	PK	306	1.8	H	7.08	62.25	74	-11.75
11420	41.28	AV	306	1.8	H	7.08	48.36	54	-5.64
11420	54.96	PK	124	1.9	V	7.08	62.04	74	-11.96
11420	41.16	AV	124	1.9	V	7.08	48.24	54	-5.76

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AC80									
5530MHz									
5460	63.60	PK	28	1.8	H	-2.26	61.34	74	-12.66
5460	52.28	AV	28	1.8	H	-2.26	50.02	54	-3.98
5460	63.35	PK	171	2	V	-2.26	61.09	74	-12.91
5460	51.87	AV	171	2	V	-2.26	49.61	54	-4.39
5470	67.42	PK	131	1.8	H	-2.22	65.20	68.2	-3.00
5470	67.15	PK	59	1.8	V	-2.22	64.93	68.2	-3.27
11060	52.33	PK	70	1.3	H	9.37	61.70	74	-12.30
11060	39.79	AV	77	1.3	H	9.37	49.16	54	-4.84
11060	52.18	PK	23	1.1	V	9.37	61.55	74	-12.45
11060	39.66	AV	90	1.1	V	9.37	49.03	54	-4.97
5610MHz									
5725	65.80	PK	141	2	H	-1.96	63.84	68.2	-4.36
5725	65.47	PK	238	1.7	V	-1.96	63.51	68.2	-4.69
5745	62.90	PK	149	1.6	H	-1.91	60.99	68.2	-7.21
5745	62.71	PK	132	1.1	V	-1.91	60.80	68.2	-7.40
11220	54.07	PK	57	1.2	H	8.33	62.40	74	-11.60
11220	41.38	AV	208	1.2	H	8.33	49.71	54	-4.29
11220	53.89	PK	89	1.6	V	8.33	62.22	74	-11.78
11220	41.22	AV	98	1.6	V	8.33	49.55	54	-4.45
5690MHz									
5850	65.35	PK	300	2	H	-1.81	63.54	68.2	-4.66
5850	65.24	PK	68	1.7	V	-1.81	63.43	68.2	-4.77
6000	63.37	PK	15	2.1	H	-1.71	61.66	68.2	-6.54
6000	62.99	PK	245	2	V	-1.71	61.28	68.2	-6.92
11380	54.85	PK	99	1.1	H	7.40	62.25	74	-11.75
11380	41.93	AV	99	1.1	H	7.40	49.33	54	-4.67
11380	54.73	PK	153	2.3	V	7.40	62.13	74	-11.87
11380	41.81	AV	153	2.3	V	7.40	49.21	54	-4.79

5725-5850 MHz:

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11A									
5745MHz									
5650	62.86	PK	239	1.9	H	-1.95	60.91	68.2	-7.29
5700	66.85	PK	18	1.9	H	-2.02	64.83	105.2	-40.37
5720	76.39	PK	121	1.7	H	-1.97	74.42	110.8	-36.38
5725	79.06	PK	218	1.6	H	-1.96	77.10	122.2	-45.10
5650	62.73	PK	255	1.8	V	-1.95	60.78	68.2	-7.42
5700	65.62	PK	250	2.5	V	-2.02	63.60	105.2	-41.60
5720	70.63	PK	156	2.1	V	-1.97	68.66	110.8	-42.14
5725	75.35	PK	284	2	V	-1.96	73.39	122.2	-48.81
11490	55.54	PK	287	1.8	H	6.63	62.17	74	-11.83
11490	41.23	AV	273	1.8	H	6.63	47.86	54	-6.14
11490	55.29	PK	193	1.7	V	6.63	61.92	74	-12.08
11490	41.11	AV	66	1.7	V	6.63	47.74	54	-6.26
5785MHz									
11570	55.48	PK	127	1.3	H	6.59	62.07	74	-11.93
11570	41.29	AV	175	1.3	H	6.59	47.88	54	-6.12
11570	55.23	PK	268	1.4	V	6.59	61.82	74	-12.18
11570	41.12	AV	132	1.4	V	6.59	47.71	54	-6.29
5825MHz									
5850	75.85	PK	252	2.1	H	-1.81	74.04	122.2	-48.16
5855	72.75	PK	1	2	H	-1.82	70.93	110.8	-39.87
5875	65.33	PK	50	1.9	H	-1.84	63.49	105.2	-41.71
5925	64.28	PK	342	1.2	H	-1.82	62.46	68.2	-5.74
5850	71.26	PK	101	2	V	-1.81	69.45	122.2	-52.75
5855	69.11	PK	256	1.4	V	-1.82	67.29	110.8	-43.51
5875	64.90	PK	271	1.9	V	-1.84	63.06	105.2	-42.14
5925	64.06	PK	145	2.3	V	-1.82	62.24	68.2	-5.96
11650	54.58	PK	107	2.3	H	6.77	61.35	74	-12.65
11650	40.51	AV	216	2.3	H	6.77	47.28	54	-6.72
11650	54.37	PK	244	2.2	V	6.77	61.14	74	-12.86
11650	40.36	AV	190	2.2	V	6.77	47.13	54	-6.87

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	63.24	PK	41	2.2	H	-1.95	61.29	68.2	-6.91
5700	67.74	PK	162	1.3	H	-2.02	65.72	105.2	-39.48
5720	77.58	PK	231	2.3	H	-1.97	75.61	110.8	-35.19
5725	80.26	PK	151	1.4	H	-1.96	78.30	122.2	-43.90
5650	63.08	PK	268	2.2	V	-1.95	61.13	68.2	-7.07
5700	66.42	PK	140	2.3	V	-2.02	64.40	105.2	-40.80
5720	71.66	PK	353	1.4	V	-1.97	69.69	110.8	-41.11
5725	76.98	PK	160	1.6	V	-1.96	75.02	122.2	-47.18
11490	55.37	PK	38	1.6	H	6.63	62.00	74	-12.00
11490	41.14	AV	336	1.6	H	6.63	47.77	54	-6.23
11490	55.23	PK	346	1.2	V	6.63	61.86	74	-12.14
11490	40.99	AV	132	1.2	V	6.63	47.62	54	-6.38
5785MHz									
11570	55.38	PK	103	1.4	H	6.59	61.97	74	-12.03
11570	41.22	AV	302	1.4	H	6.59	47.81	54	-6.19
11570	55.16	PK	193	2.2	V	6.59	61.75	74	-12.25
11570	41.07	AV	338	2.2	V	6.59	47.66	54	-6.34
5825MHz									
5850	76.78	PK	84	1.2	H	-1.81	74.97	122.2	-47.23
5855	73.68	PK	187	1.3	H	-1.82	71.86	110.8	-38.94
5875	65.89	PK	137	1.6	H	-1.84	64.05	105.2	-41.15
5925	64.71	PK	243	1.8	H	-1.82	62.89	68.2	-5.31
5850	72.06	PK	116	2.2	V	-1.81	70.25	122.2	-51.95
5855	70.30	PK	204	2.3	V	-1.82	68.48	110.8	-42.32
5875	65.36	PK	60	2.3	V	-1.84	63.52	105.2	-41.68
5925	64.42	PK	331	2.4	V	-1.82	62.60	68.2	-5.60
11650	54.49	PK	143	2.5	H	6.77	61.26	74	-12.74
11650	40.40	AV	318	2.5	H	6.77	47.17	54	-6.83
11650	54.31	PK	284	2.5	V	6.77	61.08	74	-12.92
11650	40.25	AV	100	2.5	V	6.77	47.02	54	-6.98

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11N40									
5755MHz									
5650	63.37	PK	225	2.5	H	-1.95	61.42	68.2	-6.78
5700	71.20	PK	83	1.2	H	-2.02	69.18	105.2	-36.02
5720	78.76	PK	312	1.9	H	-1.97	76.79	110.8	-34.01
5725	83.30	PK	82	2	H	-1.96	81.34	122.2	-40.86
5650	63.22	PK	324	2.2	V	-1.95	61.27	68.2	-6.93
5700	68.04	PK	311	2.1	V	-2.02	66.02	105.2	-39.18
5720	72.66	PK	247	1.4	V	-1.97	70.69	110.8	-40.11
5725	75.80	PK	199	1.4	V	-1.96	73.84	122.2	-48.36
11510	55.27	PK	351	1.9	H	6.59	61.86	74	-12.14
11510	41.35	AV	98	1.9	H	6.59	47.94	54	-6.06
11510	55.06	PK	124	1.4	V	6.59	61.65	74	-12.35
11510	41.18	AV	12	1.4	V	6.59	47.77	54	-6.23
5795MHz									
5850	71.26	PK	226	1.4	H	-1.81	69.45	122.2	-52.75
5855	70.08	PK	257	1.3	H	-1.82	68.26	110.8	-42.54
5875	67.23	PK	88	1.1	H	-1.84	65.39	105.2	-39.81
5925	65.10	PK	188	1.1	H	-1.82	63.28	68.2	-4.92
5850	68.97	PK	212	1.1	V	-1.81	67.16	122.2	-55.04
5855	67.86	PK	312	1.7	V	-1.82	66.04	110.8	-44.76
5875	66.31	PK	87	2.4	V	-1.84	64.47	105.2	-40.73
5925	64.92	PK	110	2.2	V	-1.82	63.10	68.2	-5.10
11590	55.26	PK	278	1.4	H	6.57	61.83	74	-12.17
11590	41.34	AV	129	1.4	H	6.57	47.91	54	-6.09
11590	55.07	PK	257	1	V	6.57	61.64	74	-12.36
11590	41.18	AV	191	1	V	6.57	47.75	54	-6.25

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AC20									
5745MHz									
5650	63.37	PK	271	1.9	H	-1.95	61.42	68.2	-6.78
5700	68.36	PK	37	1.8	H	-2.02	66.34	105.2	-38.86
5720	76.60	PK	236	1.4	H	-1.97	74.63	110.8	-36.17
5725	81.80	PK	316	2.2	H	-1.96	79.84	122.2	-42.36
5650	63.25	PK	34	2.2	V	-1.95	61.30	68.2	-6.90
5700	67.41	PK	243	1.8	V	-2.02	65.39	105.2	-39.81
5720	72.18	PK	351	1.8	V	-1.97	70.21	110.8	-40.59
5725	77.63	PK	7	1.5	V	-1.96	75.67	122.2	-46.53
11490	55.14	PK	329	1.8	H	6.63	61.77	74	-12.23
11490	40.99	AV	263	1.8	H	6.63	47.62	54	-6.38
11490	54.93	PK	168	1.7	V	6.63	61.56	74	-12.44
11490	40.81	AV	192	1.7	V	6.63	47.44	54	-6.56
5785MHz									
11570	55.22	PK	39	1.8	H	6.59	61.81	74	-12.19
11570	41.13	AV	247	1.8	H	6.59	47.72	54	-6.28
11570	55.04	PK	52	2.4	V	6.59	61.63	74	-12.37
11570	40.96	AV	303	2.4	V	6.59	47.55	54	-6.45
5825MHz									
5850	75.97	PK	22	1.5	H	-1.81	74.16	122.2	-48.04
5855	71.89	PK	57	1	H	-1.82	70.07	110.8	-40.73
5875	64.84	PK	251	1.6	H	-1.84	63.00	105.2	-42.20
5925	64.40	PK	312	1.1	H	-1.82	62.58	68.2	-5.62
5850	71.31	PK	335	2	V	-1.81	69.50	122.2	-52.70
5855	69.88	PK	330	1.3	V	-1.82	68.06	110.8	-42.74
5875	64.59	PK	158	2.2	V	-1.84	62.75	105.2	-42.45
5925	64.16	PK	156	1.4	V	-1.82	62.34	68.2	-5.86
11650	54.51	PK	53	2	H	6.77	61.28	74	-12.72
11650	40.44	AV	105	2	H	6.77	47.21	54	-6.79
11650	54.35	PK	299	1.6	V	6.77	61.12	74	-12.88
11650	40.32	AV	43	1.6	V	6.77	47.09	54	-6.91

Frequency (MHz)	Receiver		Turntable Angle Degree	Rx Antenna		Factor (dB/m)	Absolute Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/Ave		Height (m)	Polar (H/V)				
802.11AC40									
5755MHz									
5650	63.48	PK	245	1.6	H	-1.95	61.53	68.2	-6.67
5700	71.73	PK	95	1.9	H	-2.02	69.71	105.2	-35.49
5720	79.81	PK	97	1.1	H	-1.97	77.84	110.8	-32.96
5725	82.94	PK	72	1.5	H	-1.96	80.98	122.2	-41.22
5650	63.35	PK	95	2.2	V	-1.95	61.40	68.2	-6.80
5700	68.31	PK	231	2	V	-2.02	66.29	105.2	-38.91
5720	73.48	PK	94	1.6	V	-1.97	71.51	110.8	-39.29
5725	76.98	PK	271	2	V	-1.96	75.02	122.2	-47.18
11510	55.22	PK	234	1.4	H	6.59	61.81	74	-12.19
11510	41.38	AV	183	1.4	H	6.59	47.97	54	-6.03
11510	55.03	PK	88	1.2	V	6.59	61.62	74	-12.38
11510	41.17	AV	253	1.2	V	6.59	47.76	54	-6.24
5795MHz									
5850	72.14	PK	90	1.4	H	-1.81	70.33	122.2	-51.87
5855	70.30	PK	255	2.1	H	-1.82	68.48	110.8	-42.32
5875	65.10	PK	321	2.4	H	-1.84	63.26	105.2	-41.94
5925	64.51	PK	334	2.2	H	-1.82	62.69	68.2	-5.51
5850	70.33	PK	153	2.1	V	-1.81	68.52	122.2	-53.68
5855	68.75	PK	47	1.1	V	-1.82	66.93	110.8	-43.87
5875	64.78	PK	176	1.2	V	-1.84	62.94	105.2	-42.26
5925	64.17	PK	268	2.4	V	-1.82	62.35	68.2	-5.85
11590	55.20	PK	319	1.2	H	6.57	61.77	74	-12.23
11590	41.35	AV	268	1.2	H	6.57	47.92	54	-6.08
11590	55.01	PK	41	1.6	V	6.57	61.58	74	-12.42
11590	41.17	AV	271	1.6	V	6.57	47.74	54	-6.26

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	63.73	PK	95	1.8	H	-1.95	61.78	68.2	-6.42
5700	74.88	PK	242	2.4	H	-2.02	72.86	105.2	-32.34
5720	77.96	PK	75	2.1	H	-1.97	75.99	110.8	-34.81
5725	80.07	PK	196	2.3	H	-1.96	78.11	122.2	-44.09
5650	63.58	PK	120	1.3	V	-1.95	61.63	68.2	-6.57
5700	69.71	PK	99	1.3	V	-2.02	67.69	105.2	-37.51
5720	71.99	PK	140	1.3	V	-1.97	70.02	110.8	-40.78
5725	75.03	PK	98	2.2	V	-1.96	73.07	122.2	-49.13
5850	78.99	PK	247	2.3	H	-1.81	77.18	122.2	-45.02
5855	75.51	PK	130	2	H	-1.82	73.69	110.8	-37.11
5875	70.11	PK	227	1.1	H	-1.84	68.27	105.2	-36.93
5925	64.98	PK	111	2.3	H	-1.82	63.16	68.2	-5.04
5850	73.38	PK	50	1.4	V	-1.81	71.57	122.2	-50.63
5855	70.68	PK	38	1.5	V	-1.82	68.86	110.8	-41.94
5875	68.39	PK	211	2.2	V	-1.84	66.55	105.2	-38.65
5925	64.80	PK	149	2.2	V	-1.82	62.98	68.2	-5.22
11550	55.12	PK	311	1.3	H	6.61	61.73	74	-12.27
11550	42.61	AV	2	1.3	H	6.61	49.22	54	-4.78
11550	55.00	PK	263	2.1	V	6.61	61.61	74	-12.39
11550	42.46	AV	61	2.1	V	6.61	49.07	54	-4.93

Note:

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

Corrected Amplitude = Corrected Factor + Reading

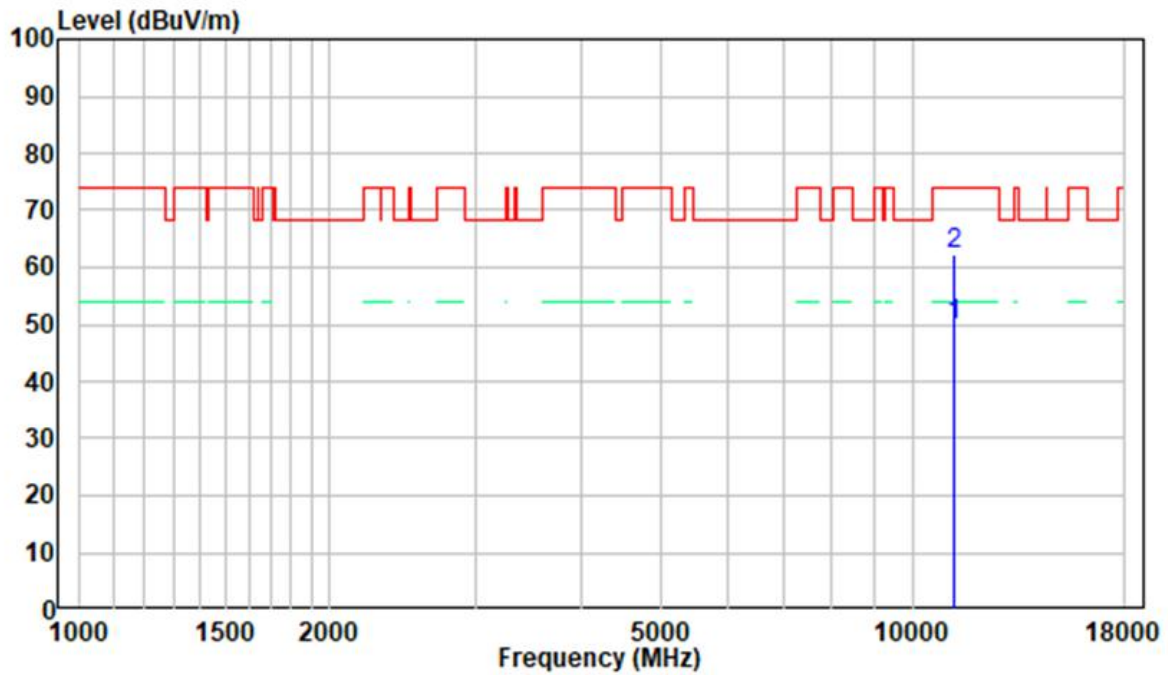
Margin = Corrected. Amplitude - Limit

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

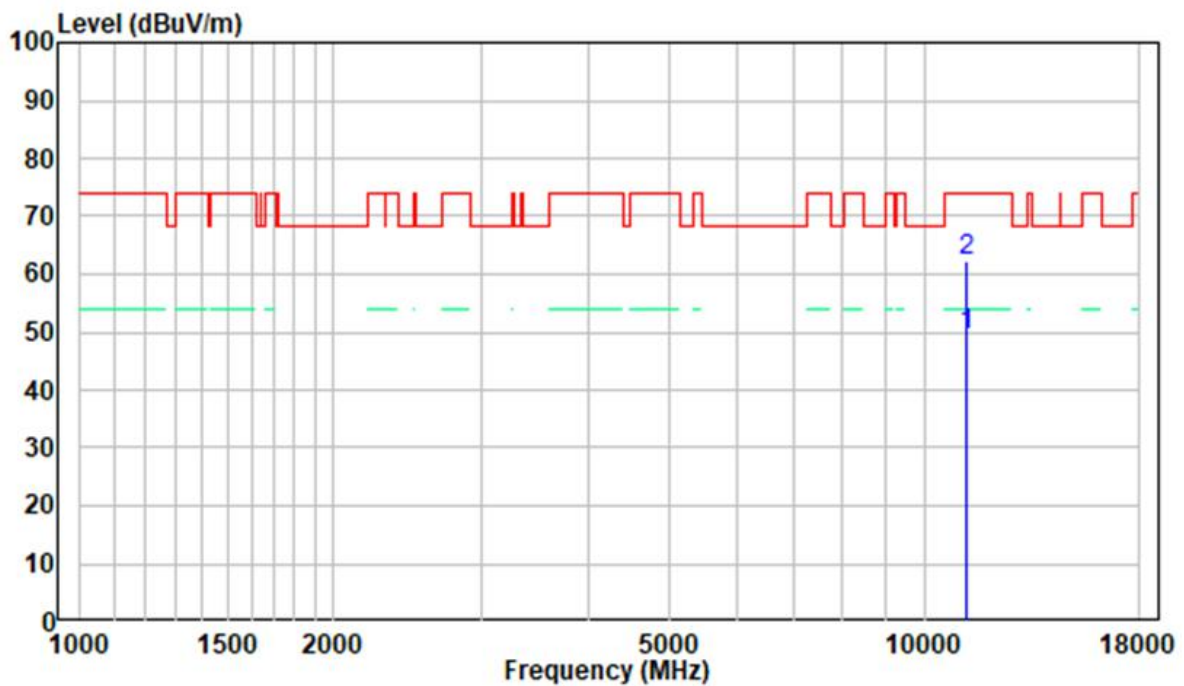
1 GHz - 18 GHz: (Pre-Scan plots)

802.11ac80, 5610MHz

Horizontal



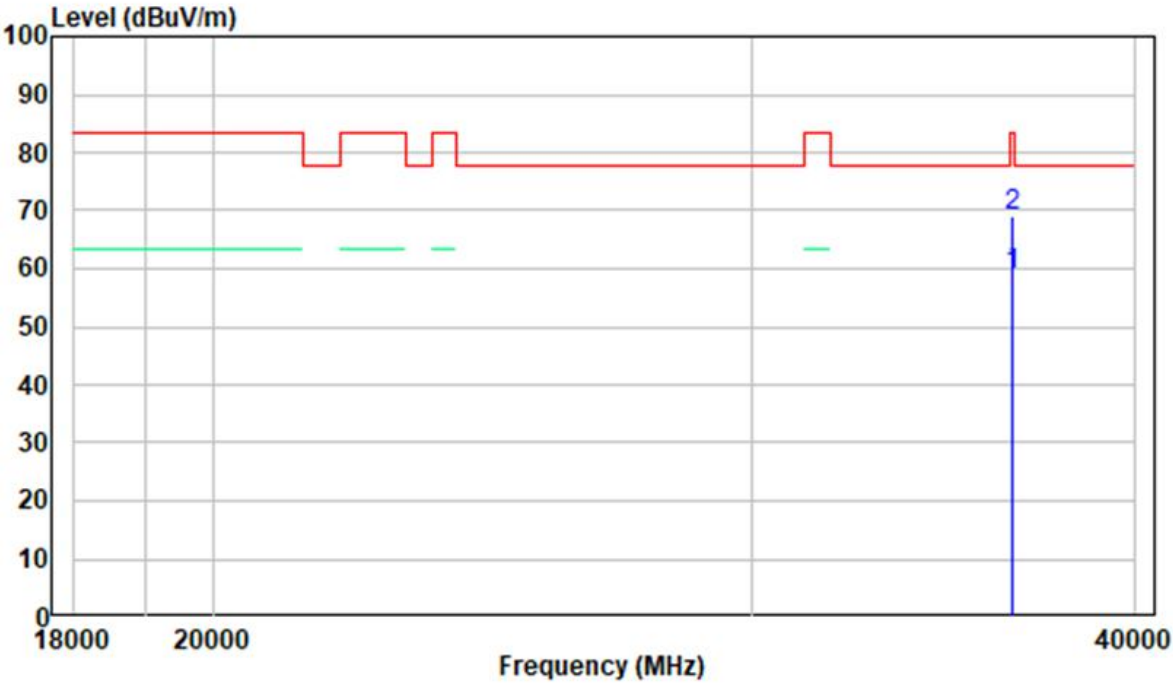
Vertical



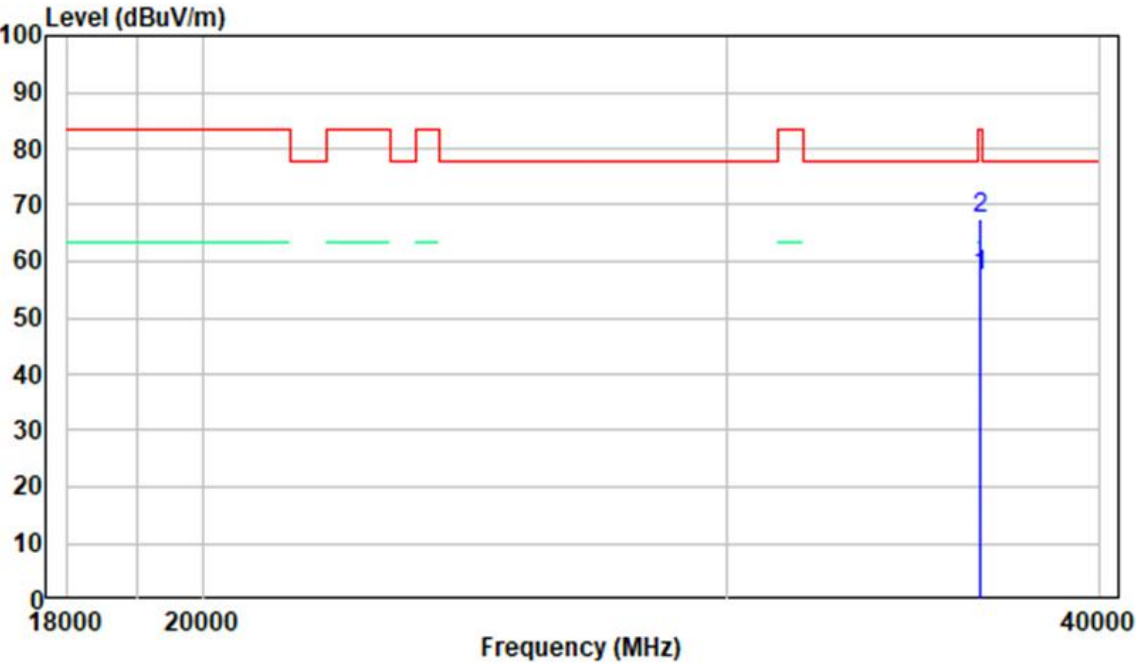
18-40GHz: (Pre-Scan plots)

802.11ac80, 5610MHz

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

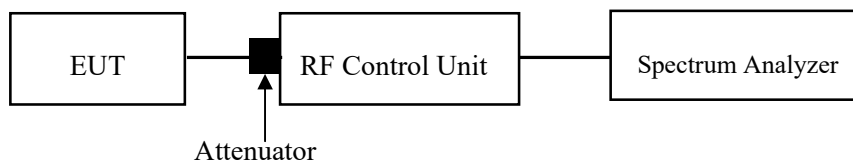
1. Emission Bandwidth (EBW)

- Set RBW = approximately 1% of the emission bandwidth.
- Set the VBW > RBW.
- Detector = Peak.
- Trace mode = max hold.
- 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:

- Set RBW = 100 kHz.
- Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
- Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- Allow the trace to stabilize.
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.



Test Data**Environmental Conditions**

Temperature:	24.5~28 °C
Relative Humidity:	54~29%
ATM Pressure:	101.0 kPa

The testing was performed by Cat Kang from 2022-11-09 to 2022-12-06.

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.

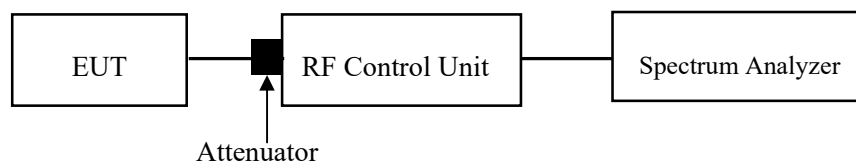
For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not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

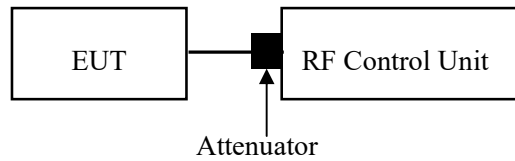
Test Procedure

- Place the EUT on a bench and set it in transmitting mode.
- Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to one test equipment.
- Add a correction factor to the display.

For cross band:



For other's:



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

Test Data

Environmental Conditions

Temperature:	24.5~28 °C
Relative Humidity:	54~29%
ATM Pressure:	101.0 kPa

The testing was performed by Cat Kang from 2022-11-09 to 2022-12-06.

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.

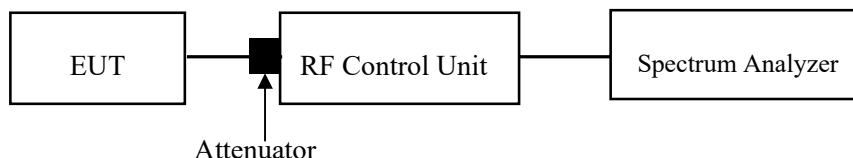
For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not 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 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 kHz bandwidth, the following adjustments to the procedures apply:

- Set $\text{RBW} \geq 1/T$, where T is defined in section II.B.1.a).
- Set $\text{VBW} \geq 3 \text{ RBW}$.
- 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.
- 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.
- Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.



Test Data**Environmental Conditions**

Temperature:	24.5~28 °C
Relative Humidity:	54~29%
ATM Pressure:	101.0 kPa

The testing was performed by Cat Kang from 2022-11-09 to 2022-11-24.

EUT operation mode: Transmitting

Test Result: Pass

Please refer to the Appendix.

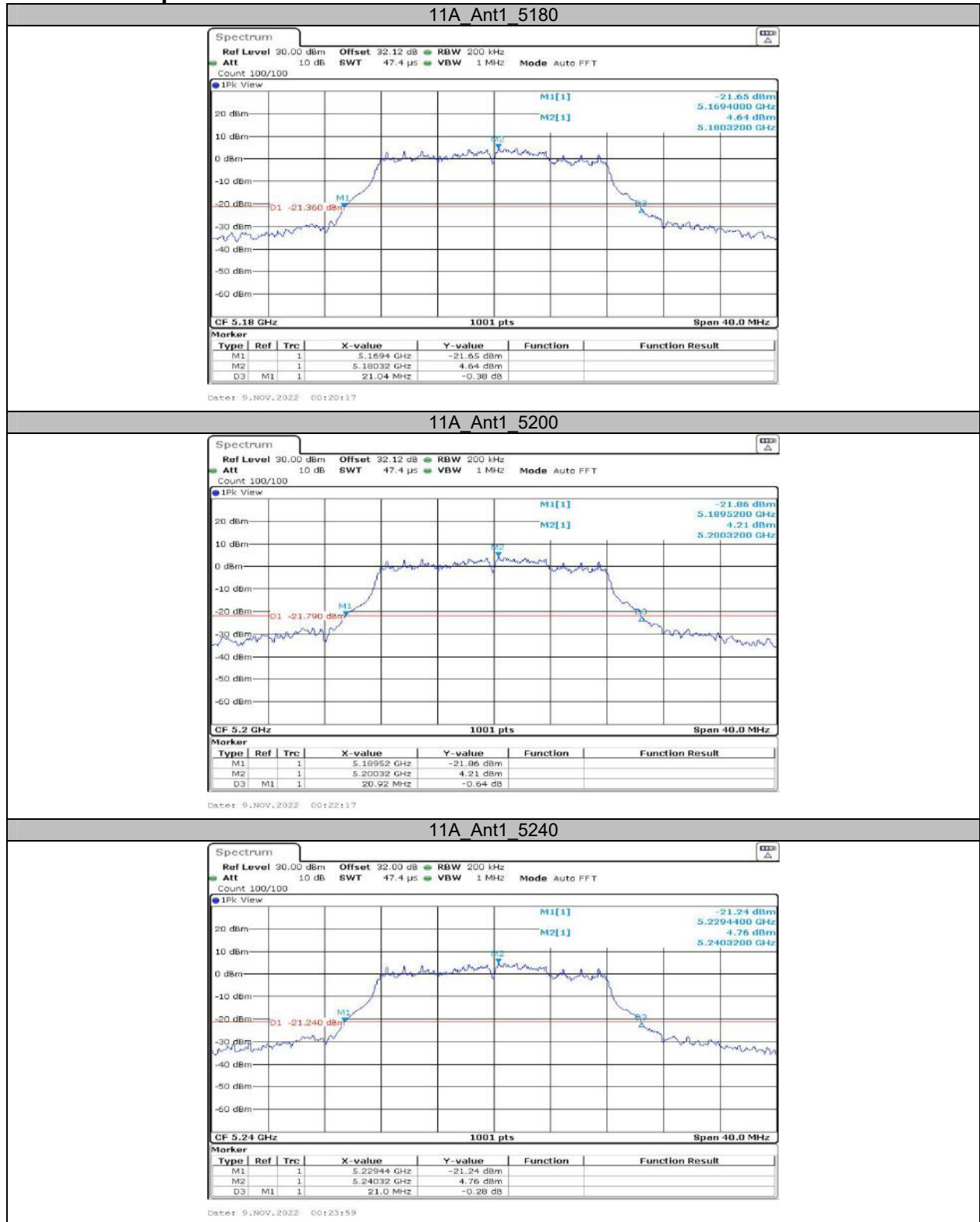
APPENDIX

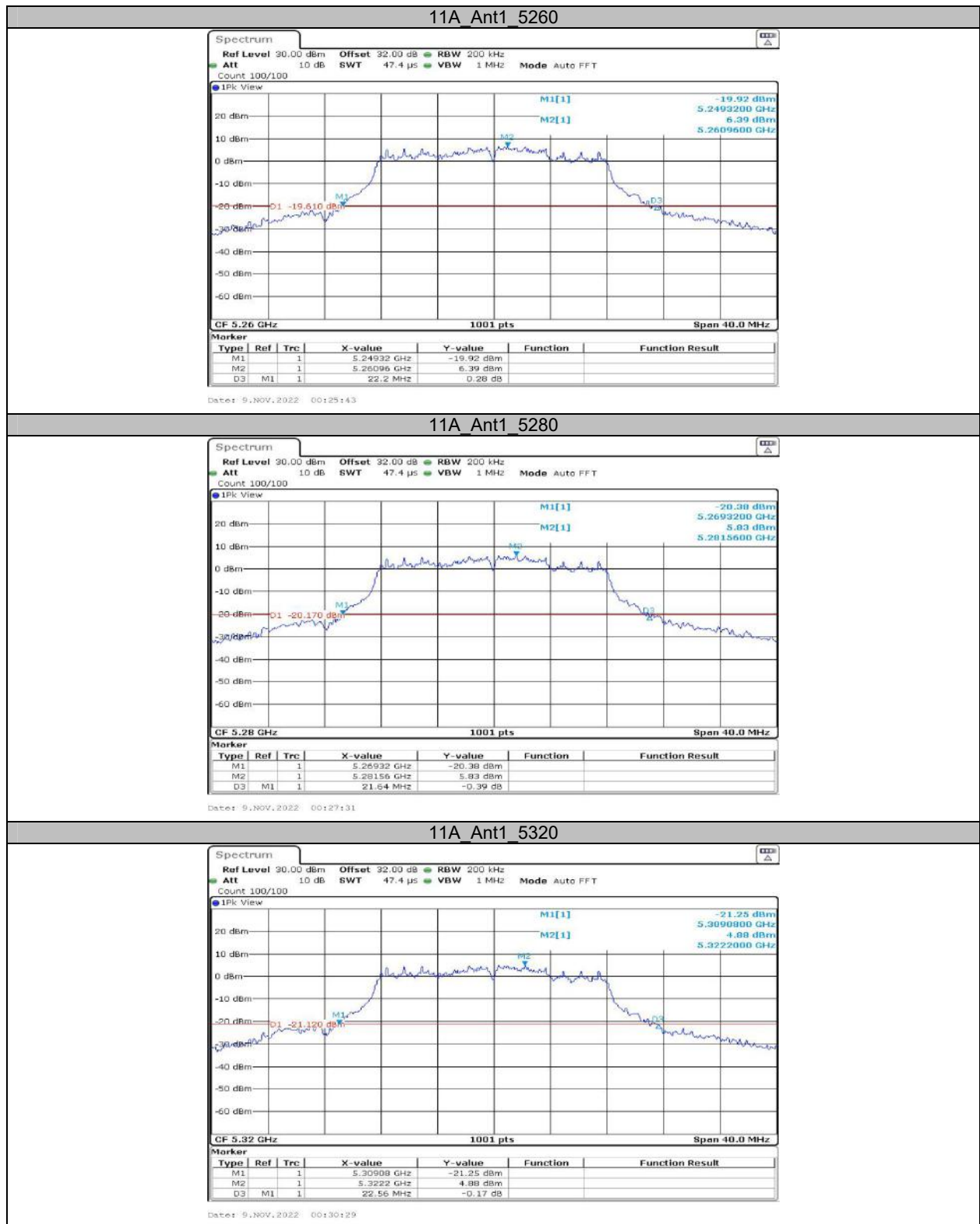
Appendix A1: Emission Bandwidth Test Result

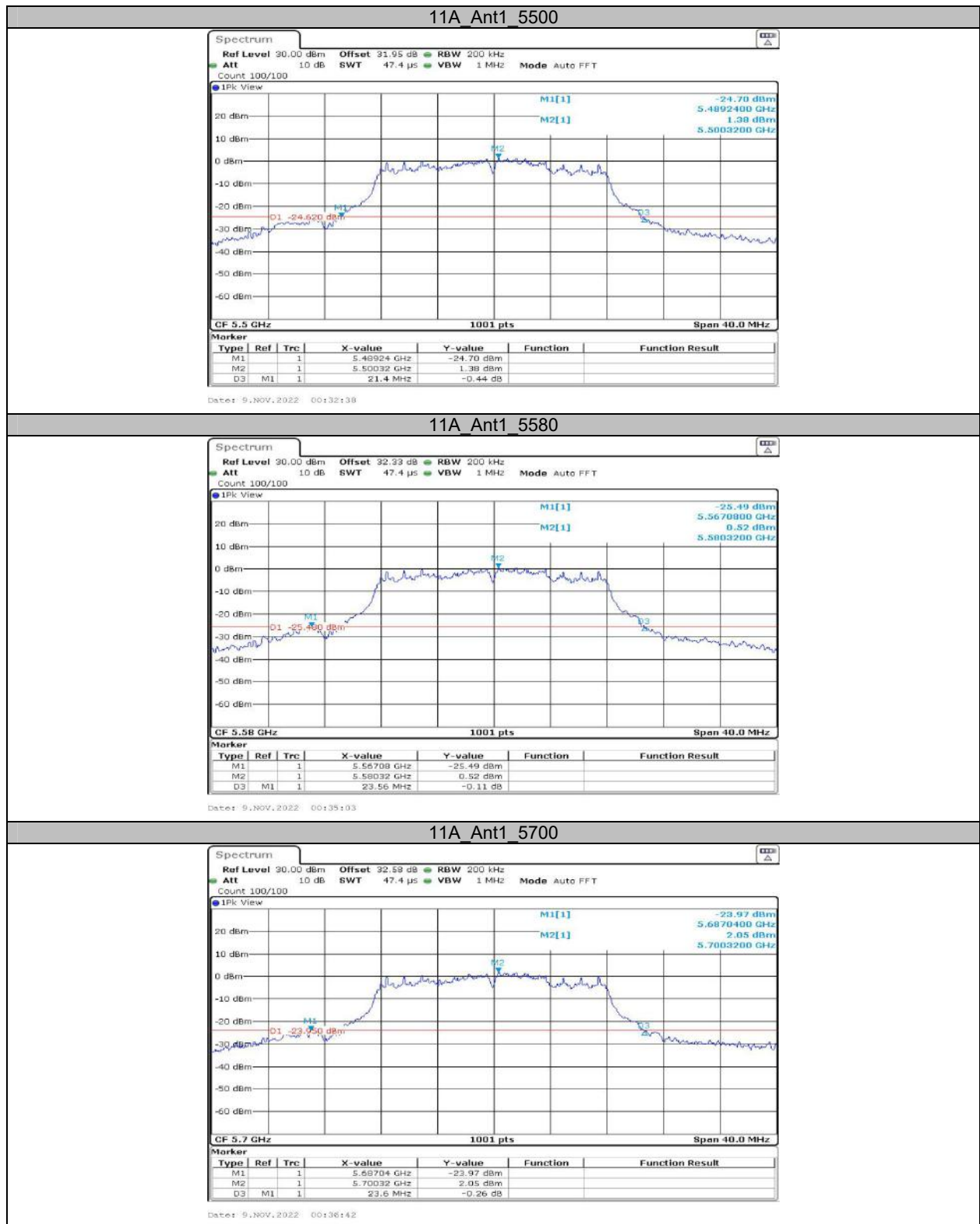
Test Mode	Antenna	Frequency[MHz]	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	21.04	5169.40	5190.44	---	---
		5200	20.92	5189.52	5210.44	---	---
		5240	21.00	5229.44	5250.44	---	---
		5260	22.20	5249.32	5271.52	---	---
		5280	21.64	5269.32	5290.96	---	---
		5320	22.56	5309.08	5331.64	---	---
		5500	21.40	5489.24	5510.64	---	---
		5580	23.56	5567.08	5590.64	---	---
		5700	23.60	5687.04	5710.64	---	---
		5720	26.80	5706.64	5733.44	---	---
		5720_UNII-2C	18.36	5706.64	5725	---	---
		5720_UNII-3	8.44	5725	5733.44	---	---
11N20SISO	Ant1	5180	21.24	5169.40	5190.64	---	---
		5200	22.00	5189.24	5211.24	---	---
		5240	21.44	5229.36	5250.80	---	---
		5260	22.48	5249.20	5271.68	---	---
		5280	22.36	5269.24	5291.60	---	---
		5320	23.24	5308.56	5331.80	---	---
		5500	23.84	5486.96	5510.80	---	---
		5580	23.64	5567.28	5590.92	---	---
		5700	24.52	5686.96	5711.48	---	---
		5720	25.24	5706.48	5731.72	---	---
		5720_UNII-2C	18.52	5706.48	5725	---	---
		5720_UNII-3	6.72	5725	5731.72	---	---
11N40SISO	Ant1	5190	48.88	5169.92	5218.80	---	---
		5230	46.88	5209.92	5256.80	---	---
		5270	53.92	5245.12	5299.04	---	---
		5310	54.48	5285.84	5340.32	---	---
		5510	56.32	5481.60	5537.92	---	---
		5550	56.72	5522.40	5579.12	---	---
		5670	56.56	5646.08	5702.64	---	---
		5710	39.76	5690.08	5729.84	---	---
		5710_UNII-2C	34.92	5690.08	5725	---	---
		5710_UNII-3	4.84	5725	5729.84	---	---
11AC20SISO	Ant1	5180	22.12	5169.36	5191.48	---	---
		5200	21.52	5189.24	5210.76	---	---
		5240	21.48	5229.16	5250.64	---	---
		5260	22.40	5249.20	5271.60	---	---

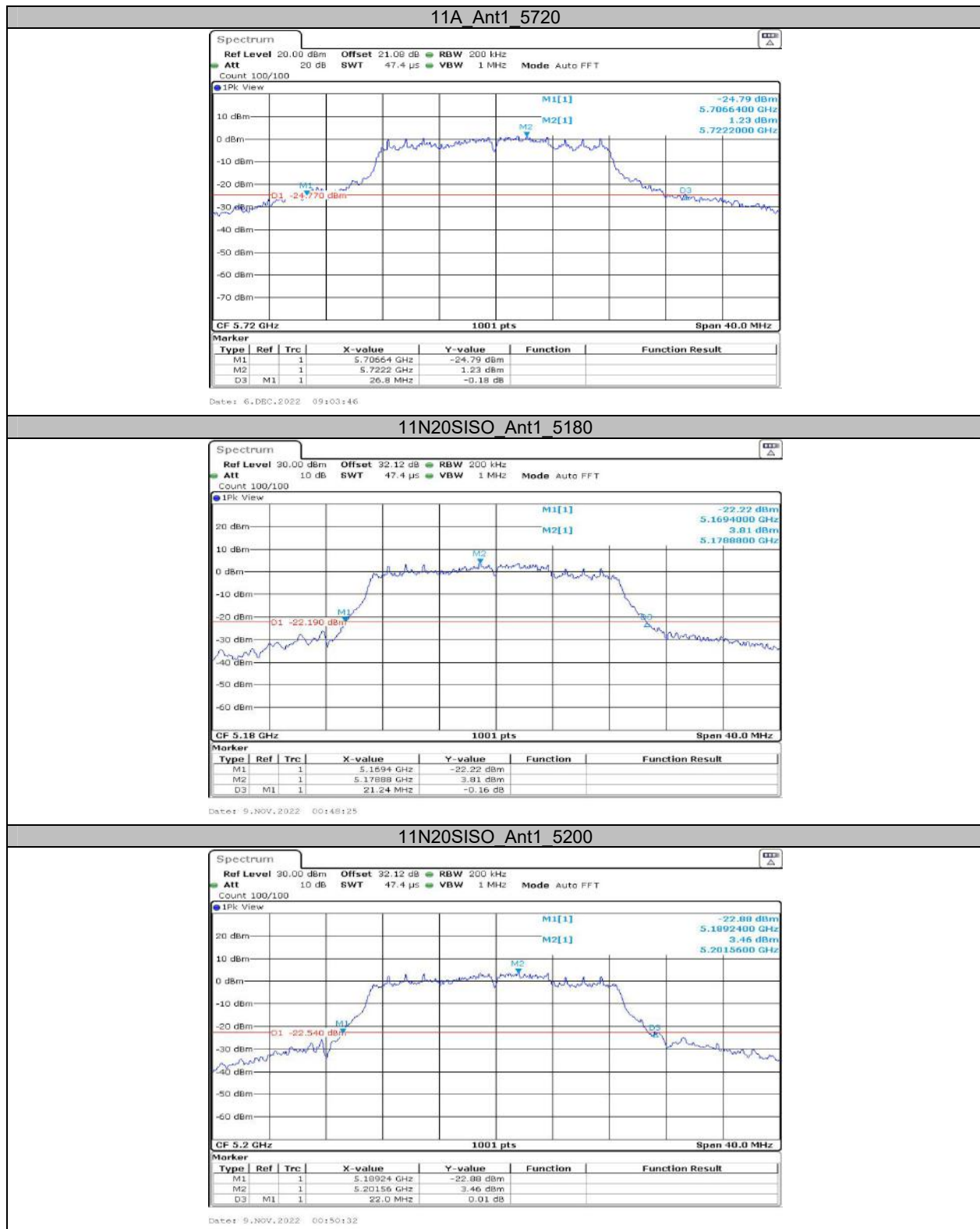
		5280	23.00	5268.84	5291.84	---	---
		5320	24.04	5307.60	5331.64	---	---
		5500	24.00	5487.36	5511.36	---	---
		5580	24.72	5567.08	5591.80	---	---
		5700	24.20	5687.32	5711.52	---	---
		5720	21.12	5709.52	5730.64	---	---
		5720_UNII-2C	15.48	5709.52	5725	---	---
		5720_UNII-3	5.64	5725	5730.64	---	---
11AC40SISO	Ant1	5190	47.76	5169.92	5217.68	---	---
		5230	45.68	5209.92	5255.60	---	---
		5270	54.24	5248.64	5302.88	---	---
		5310	51.04	5286.72	5337.76	---	---
		5510	52.72	5483.12	5535.84	---	---
		5550	58.16	5519.28	5577.44	---	---
		5670	60.16	5642.56	5702.72	---	---
		5710	39.84	5690.08	5729.92	---	---
		5710_UNII-2C	34.92	5690.08	5725	---	---
		5710_UNII-3	4.92	5725	5729.92	---	---
11AC80SISO	Ant1	5210	101.92	5169.36	5271.28	---	---
		5290	92.64	5249.04	5341.68	---	---
		5530	111.68	5468.56	5580.24	---	---
		5610	114.56	5555.60	5670.16	---	---
		5690	81.28	5649.84	5731.12	---	---
		5690_UNII-2C	75.16	5649.84	5725	---	---
		5690_UNII-3	6.12	5725	5731.12	---	---

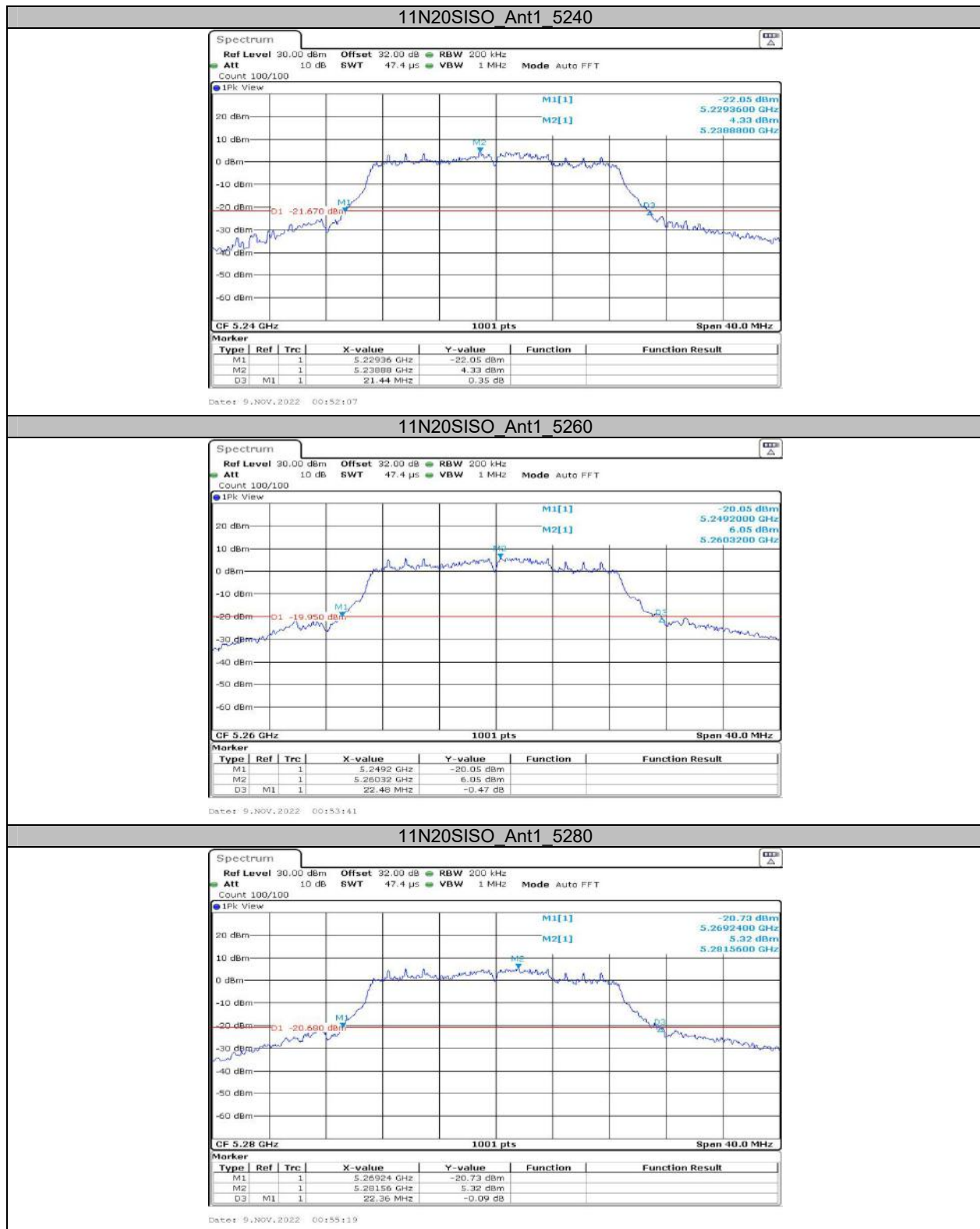
Test Graphs

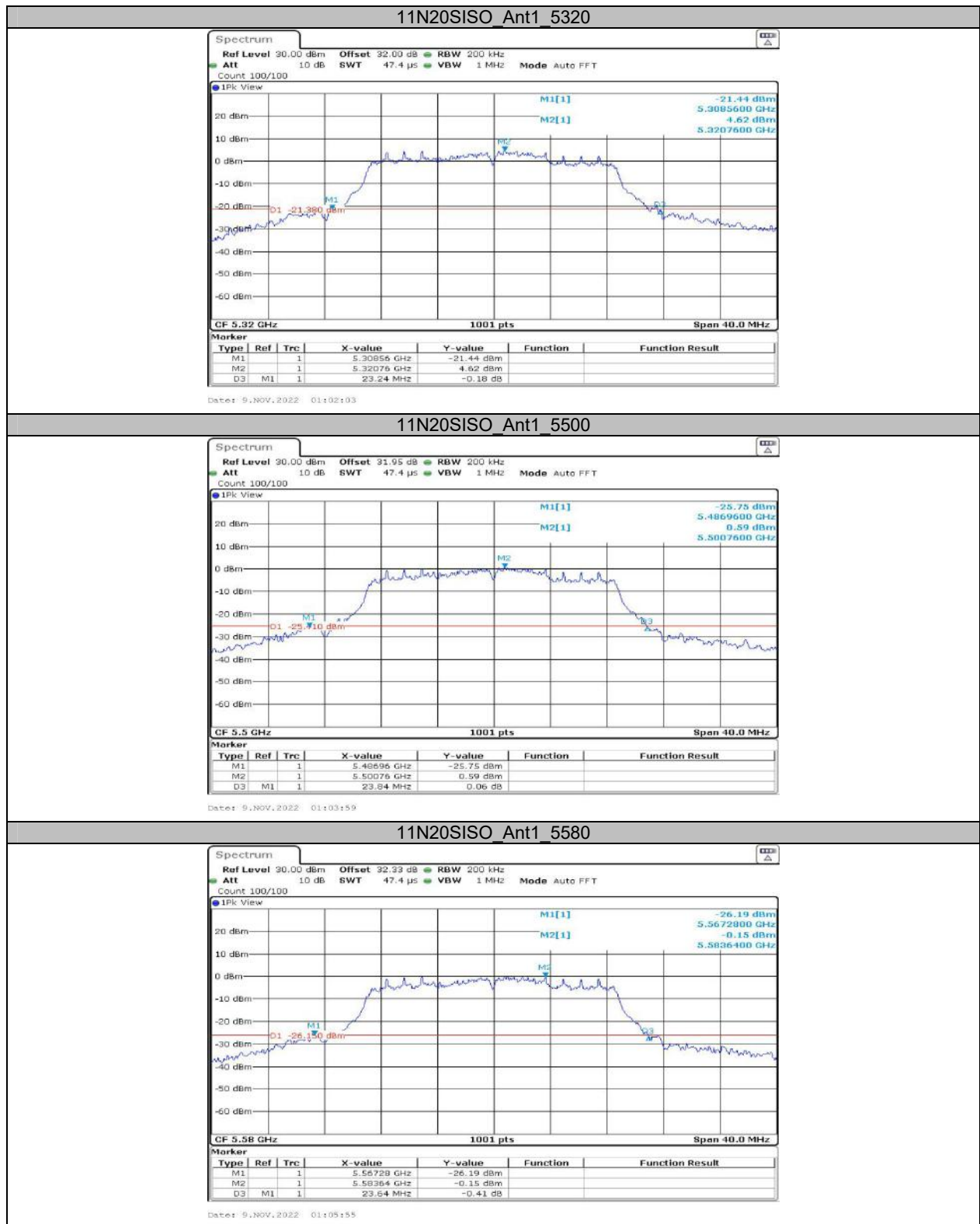


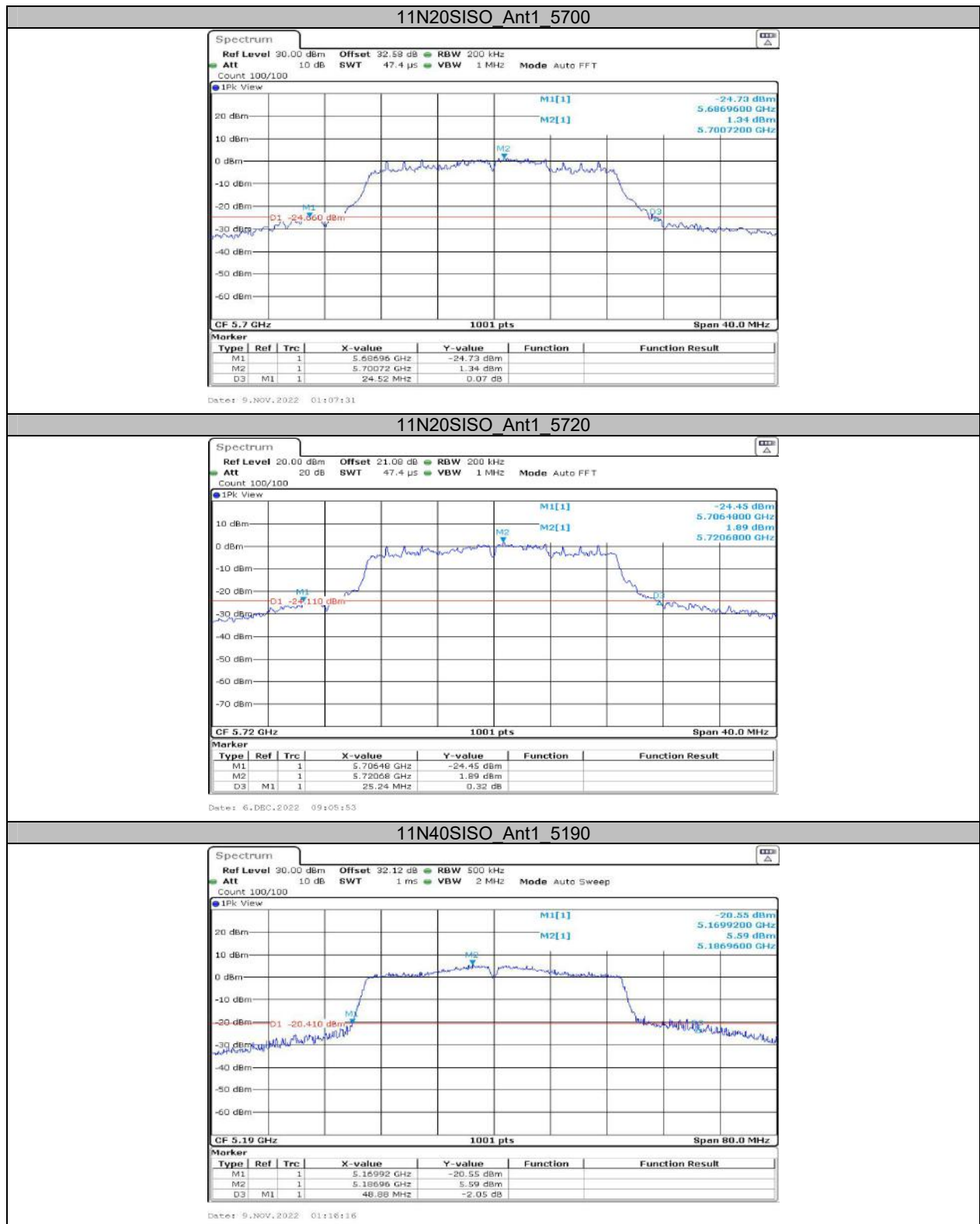


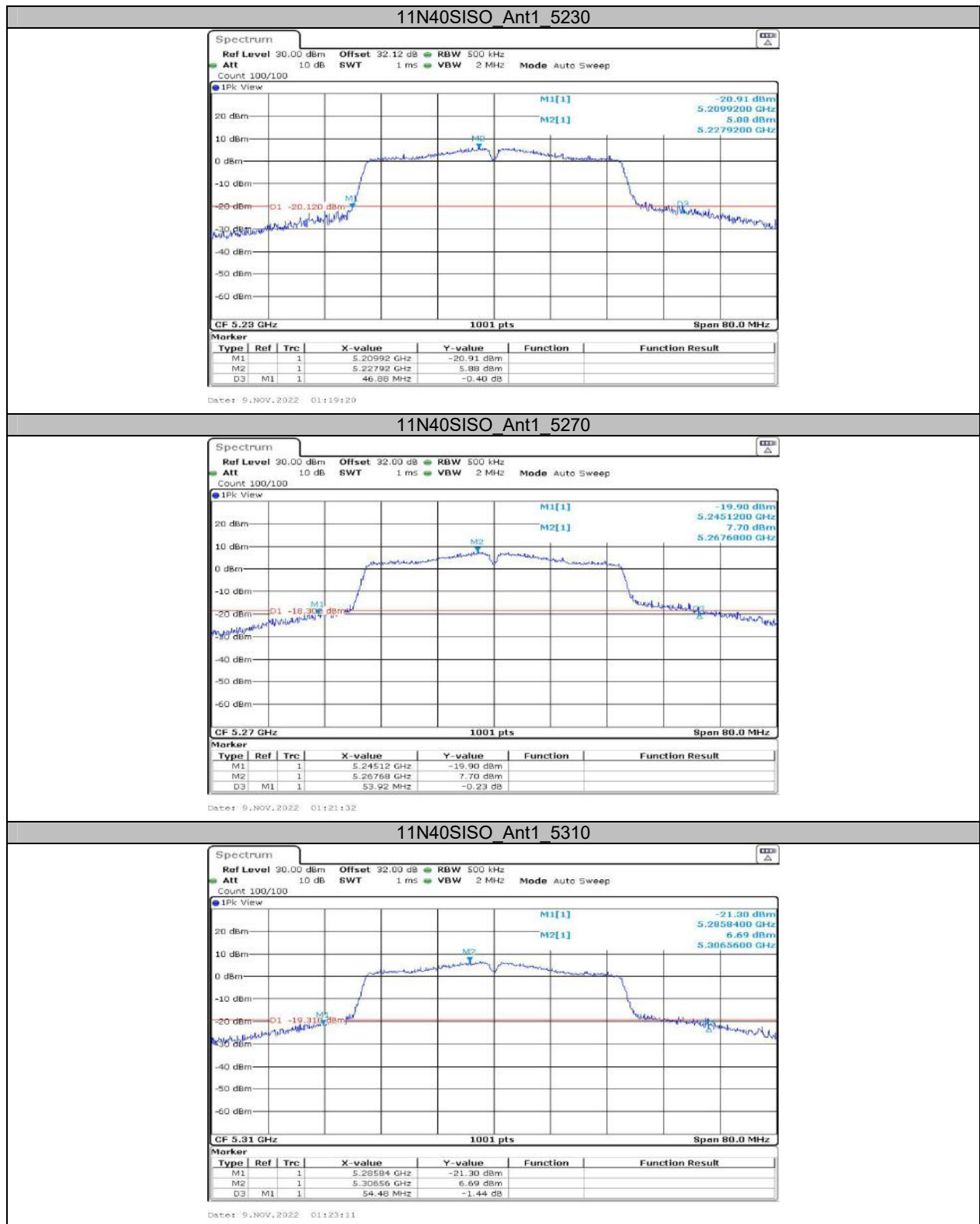


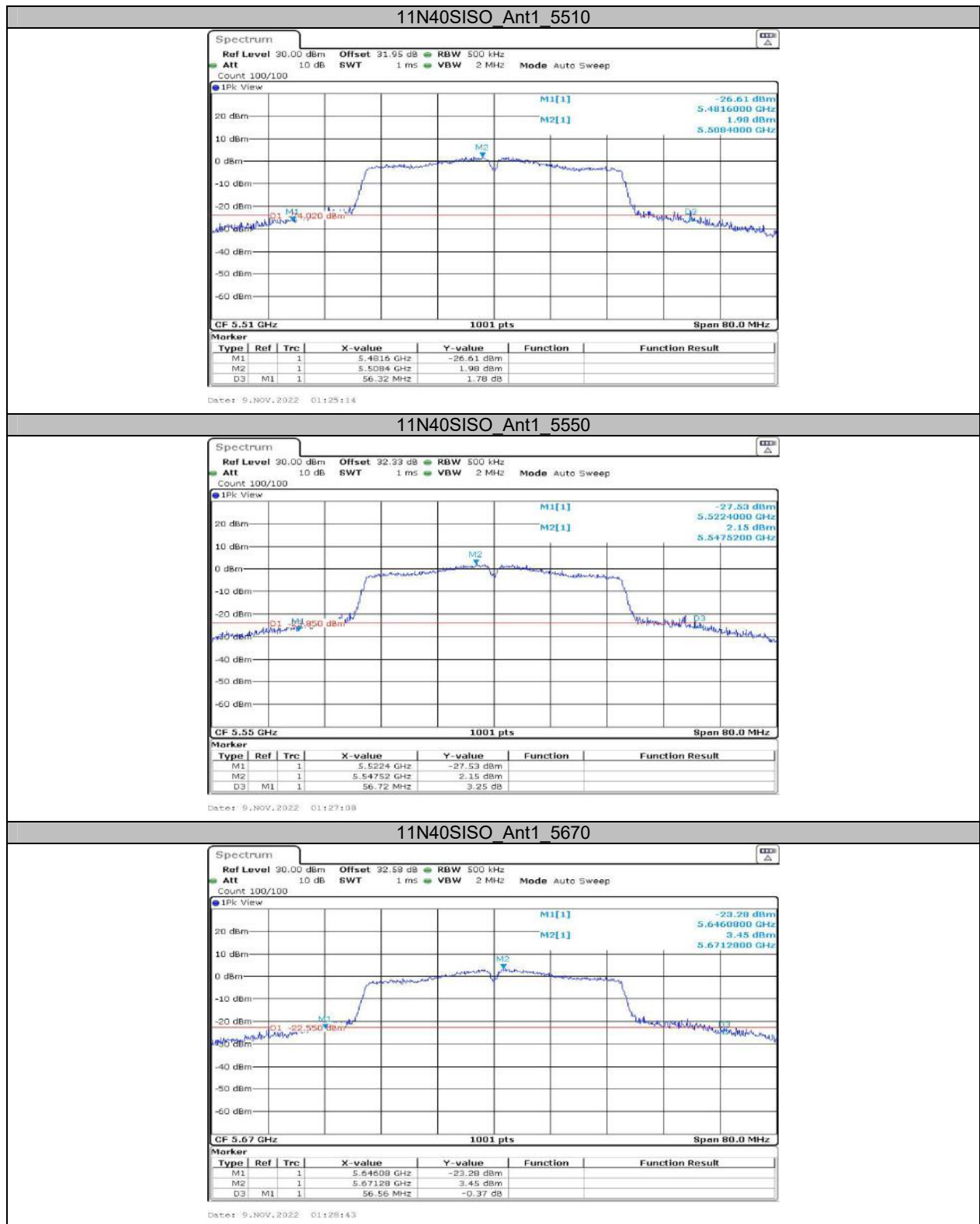


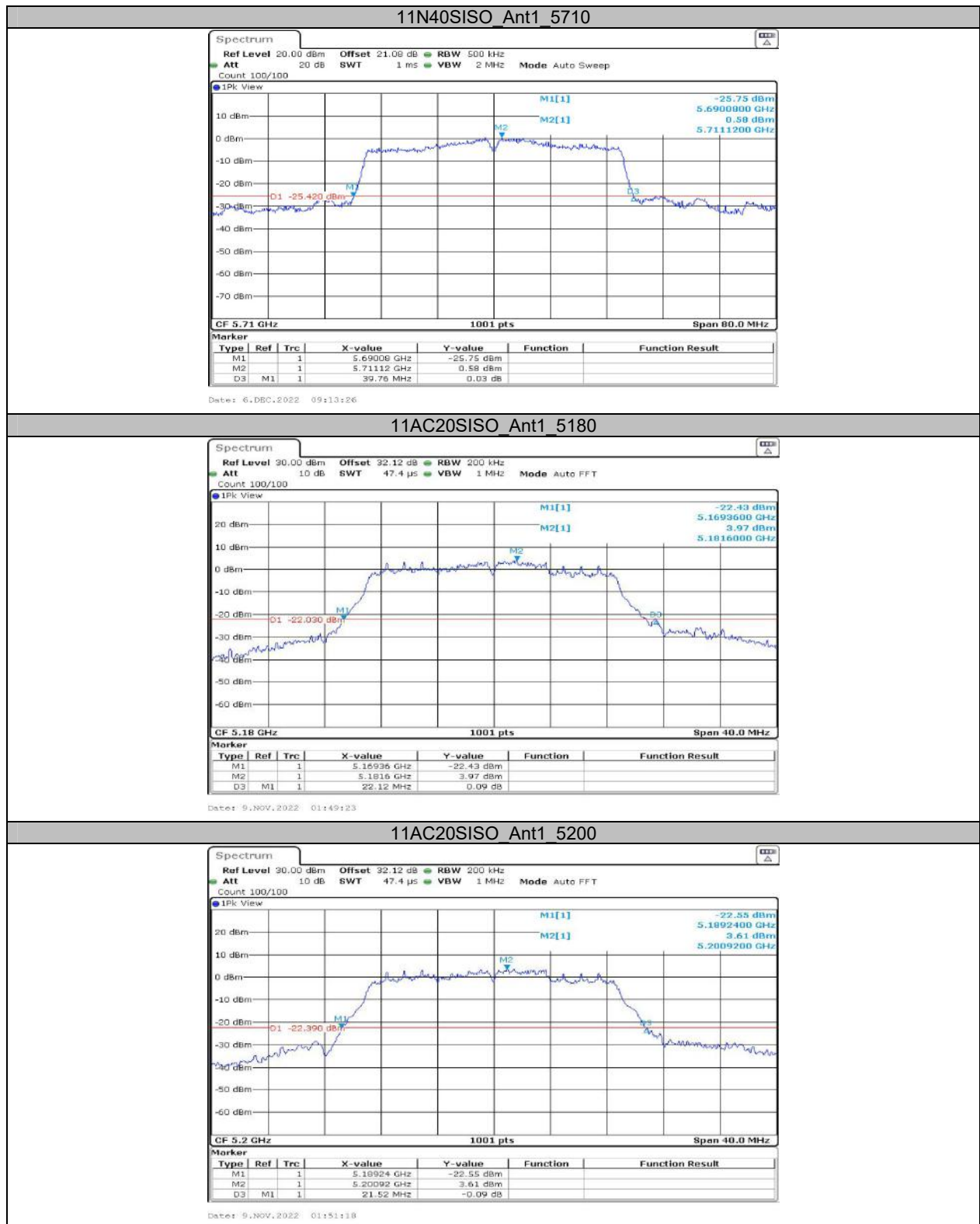


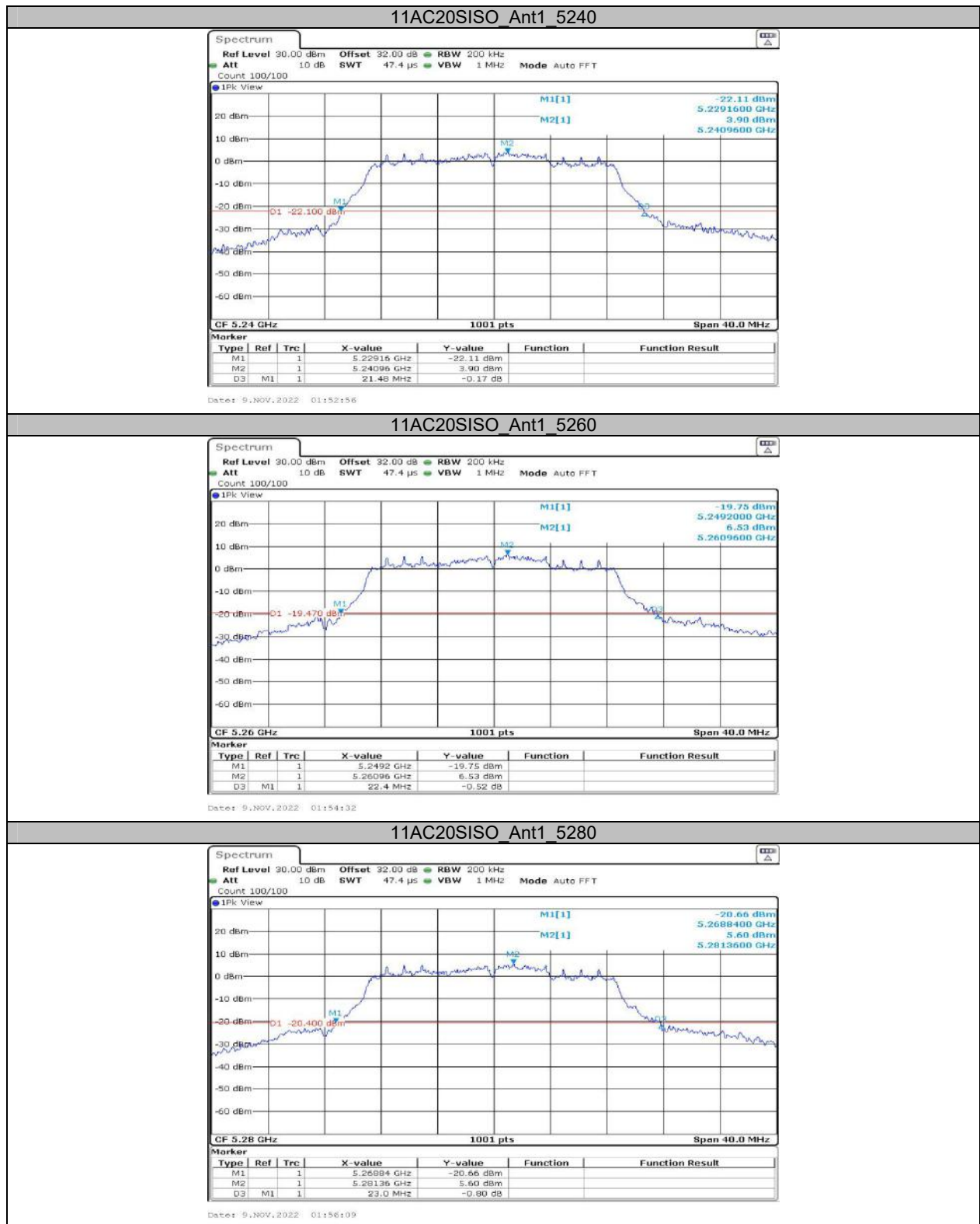


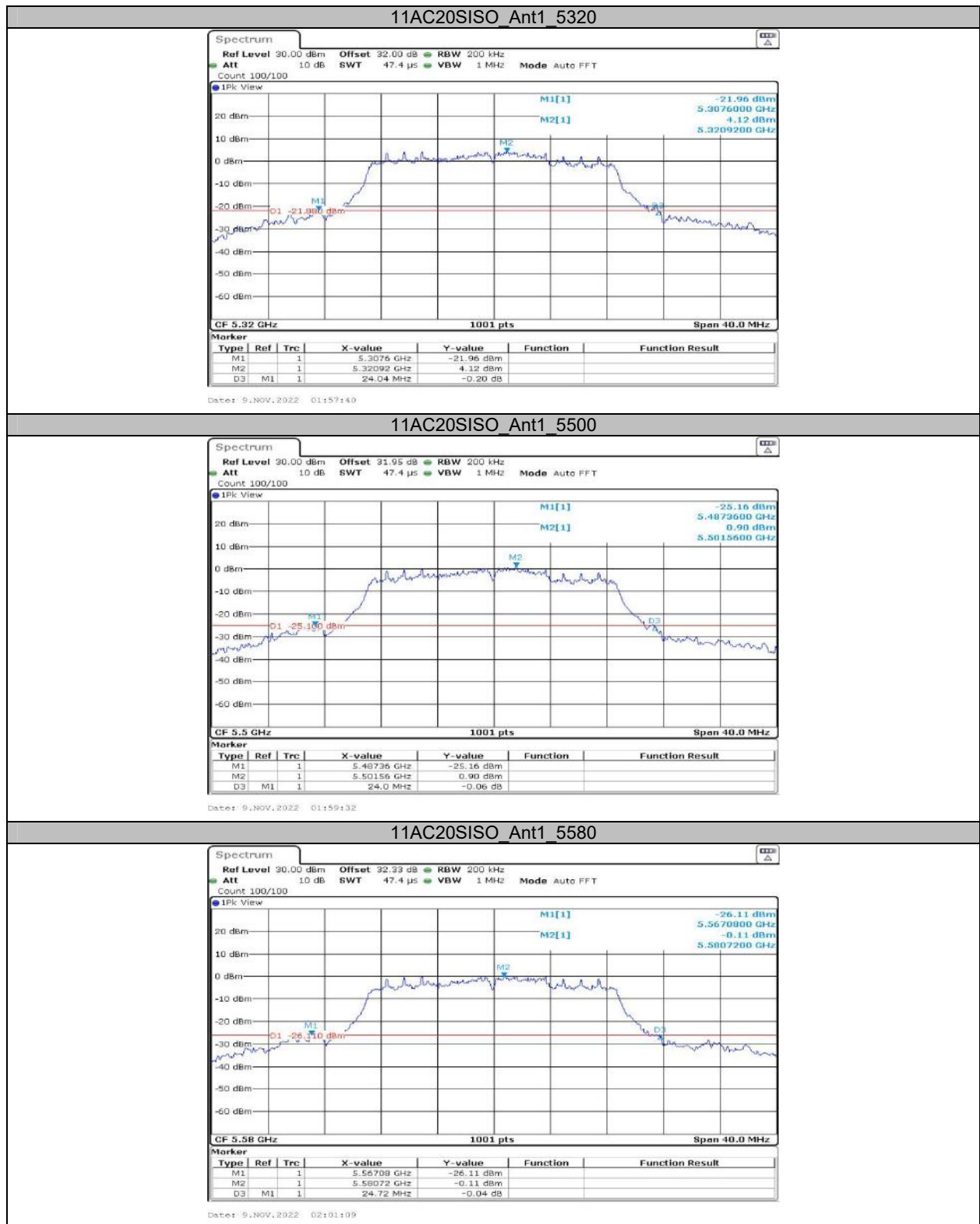


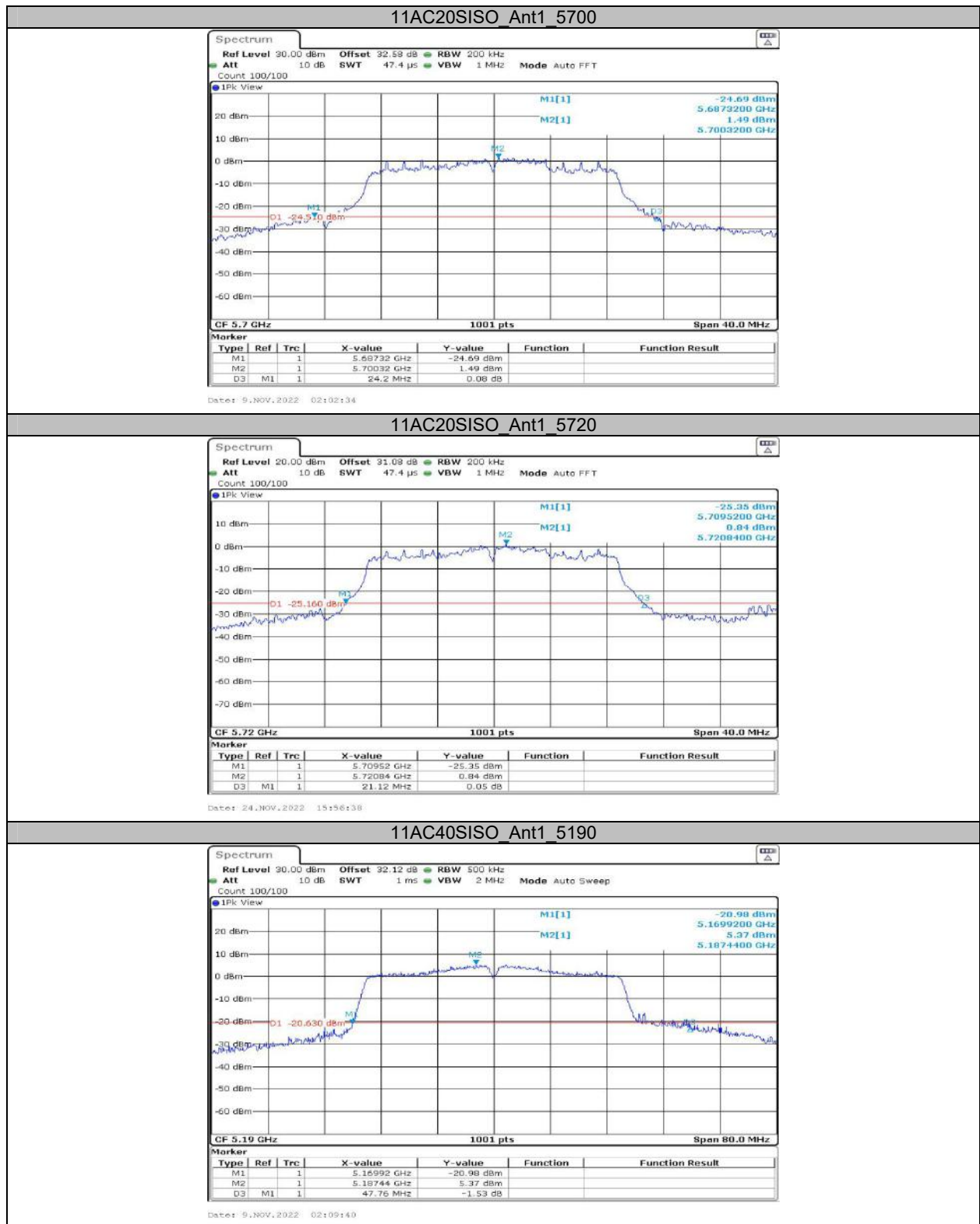


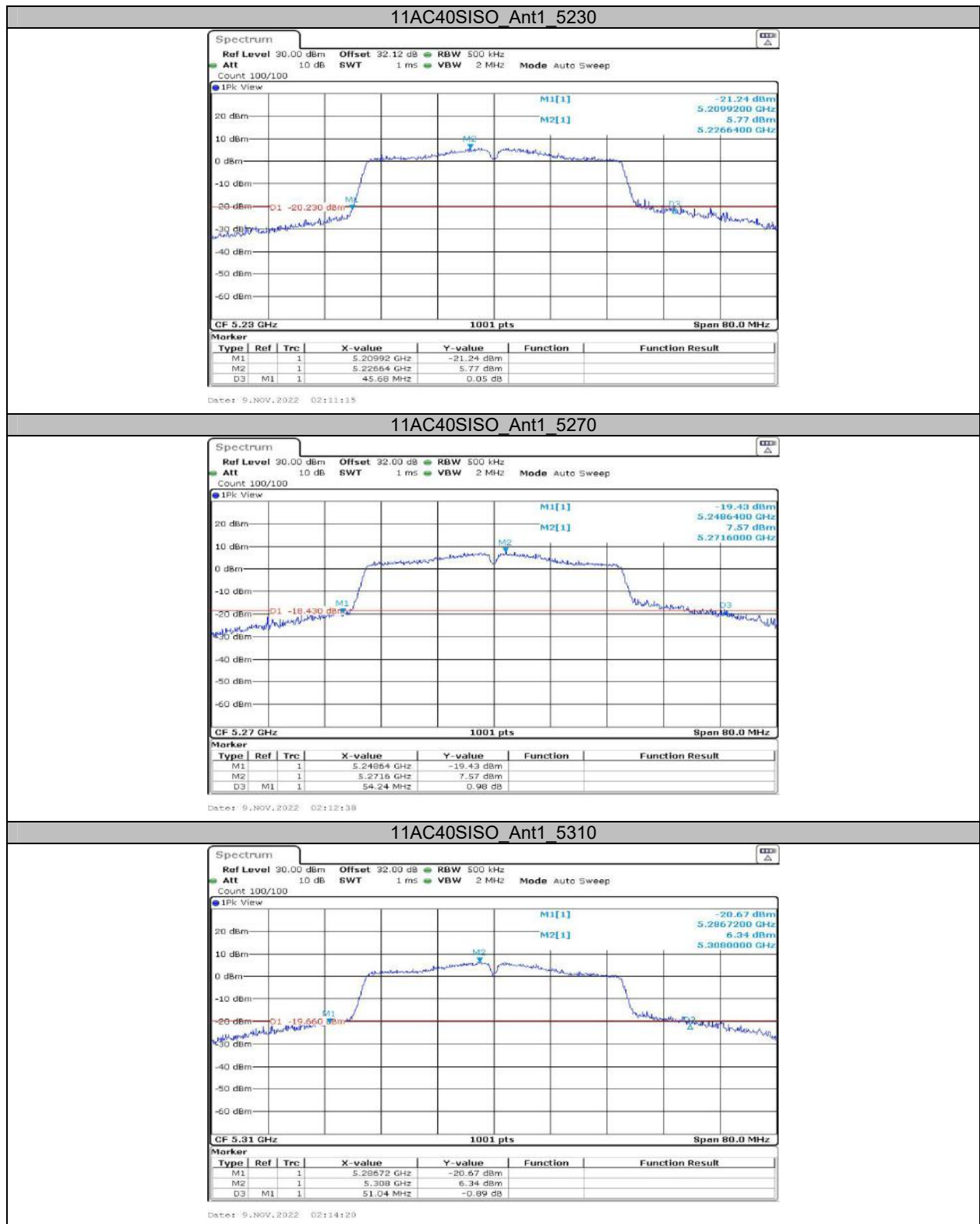


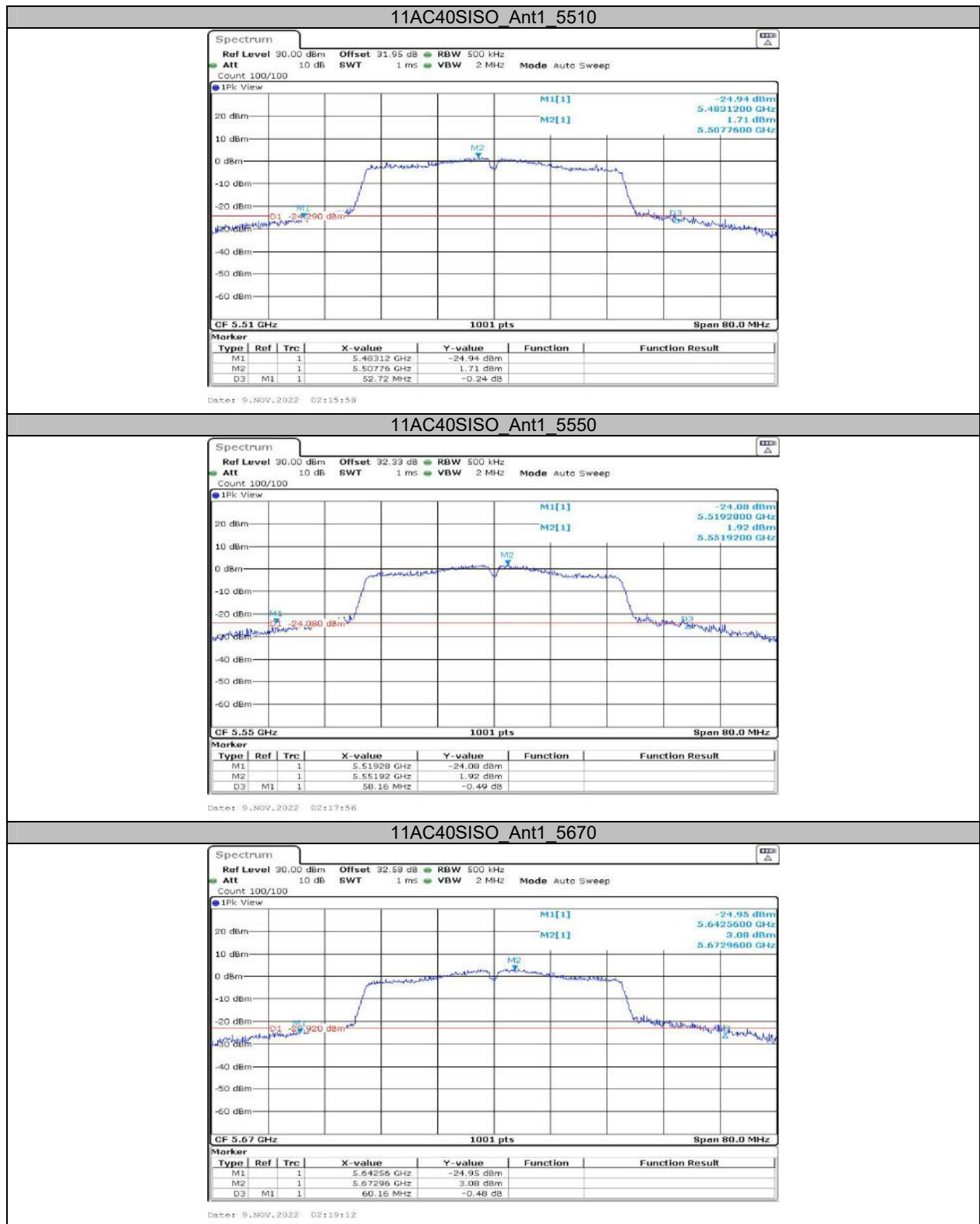


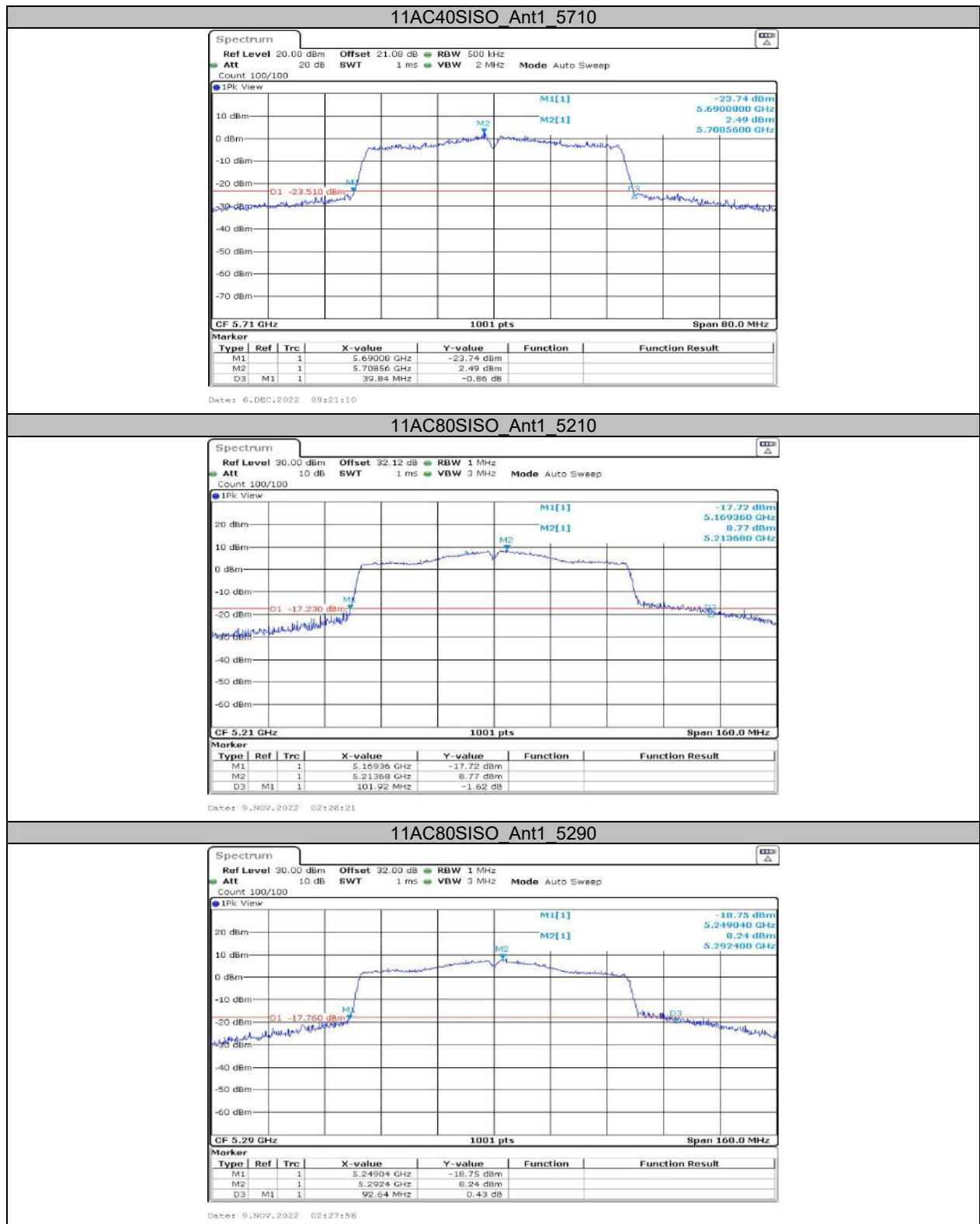


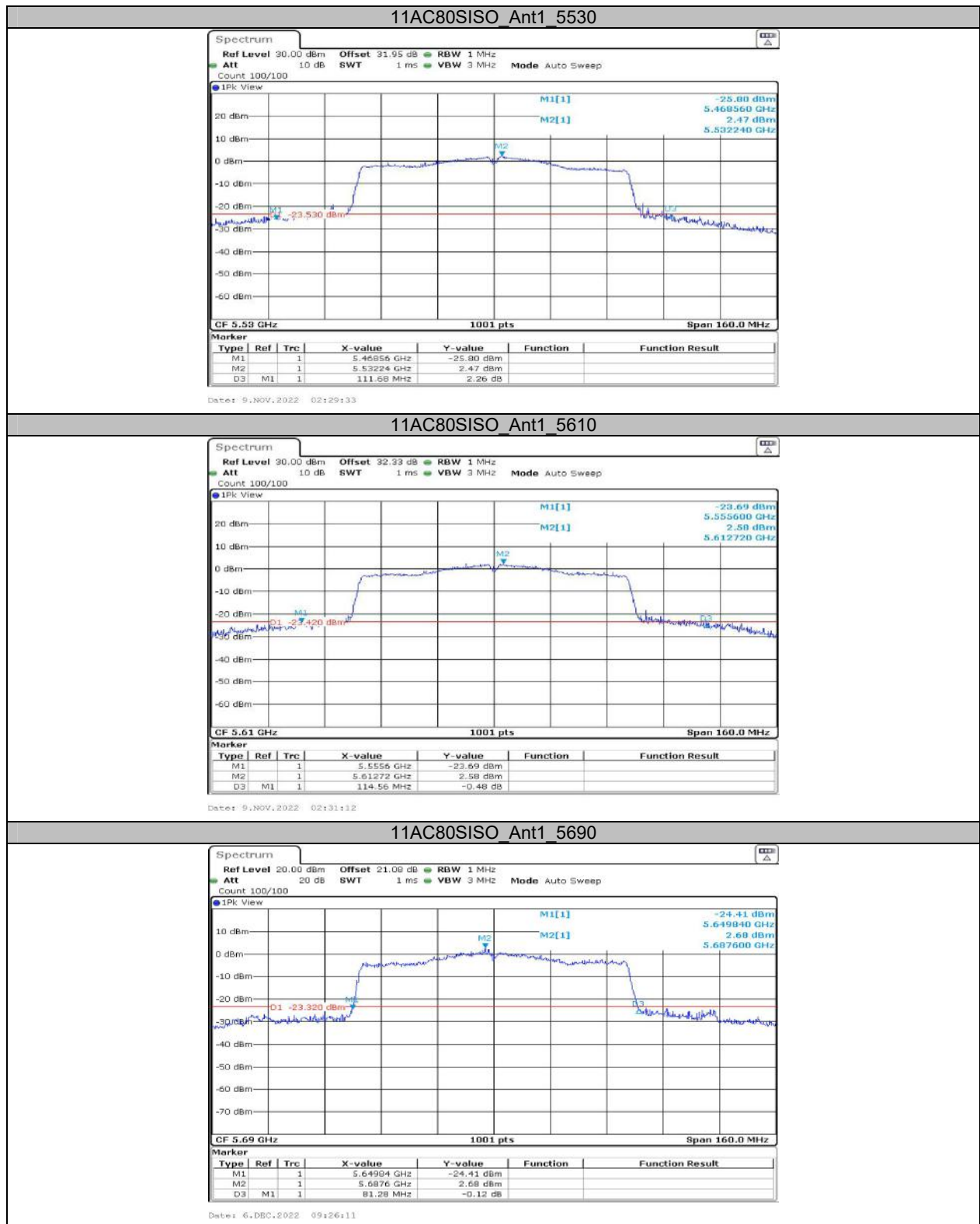












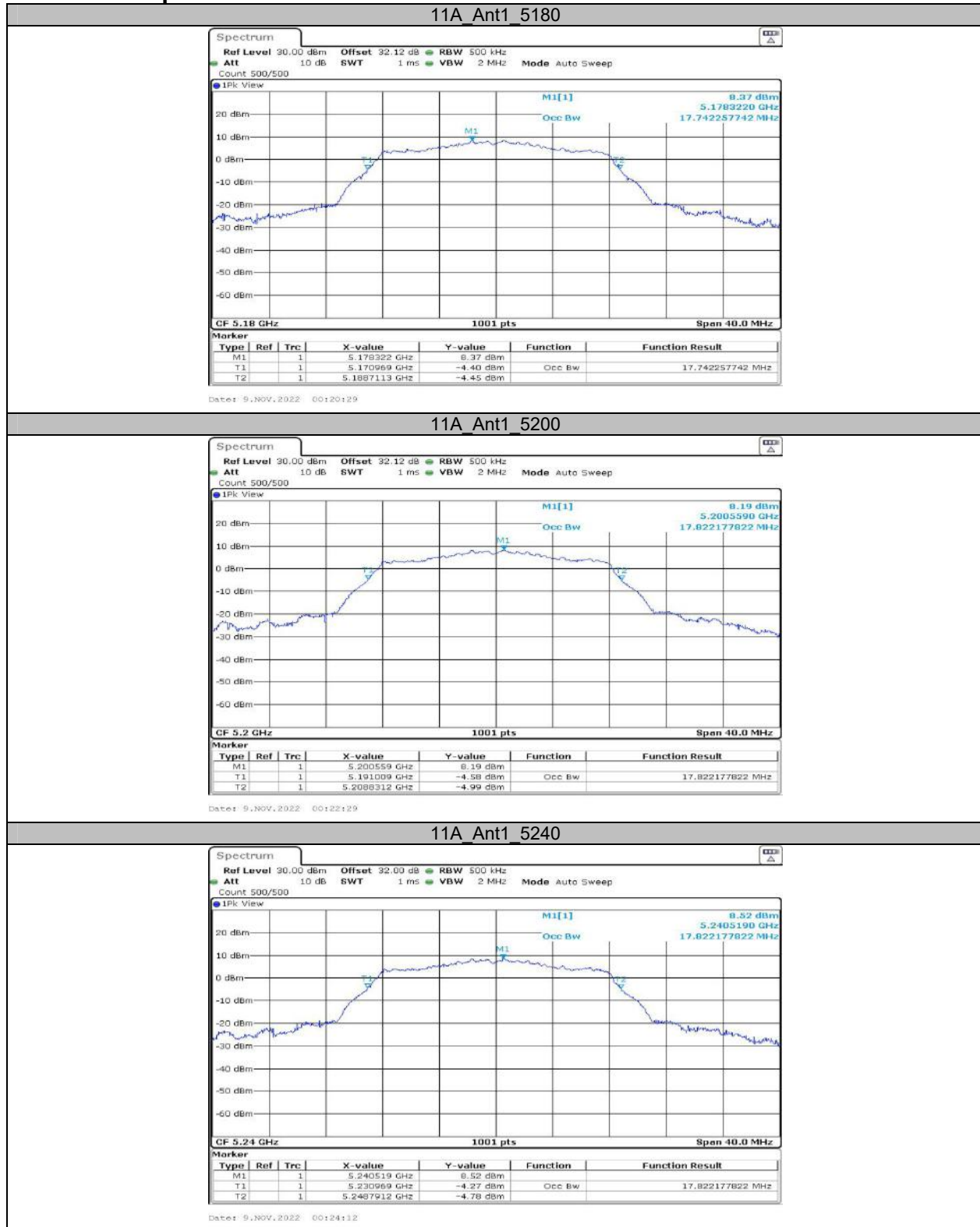
Appendix A2: Occupied channel bandwidth Test Result

Test Mode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	17.742	5170.969	5188.711	---	---
		5200	17.822	5191.009	5208.831	---	---
		5240	17.822	5230.969	5248.791	---	---
		5260	17.982	5250.889	5268.871	---	---
		5280	18.022	5270.849	5288.871	---	---
		5320	18.182	5310.649	5328.831	---	---
		5500	18.022	5490.649	5508.671	---	---
		5580	17.982	5570.769	5588.751	---	---
		5700	18.382	5690.569	5708.951	---	---
		5720	16.943	5711.449	5728.392		
		5720_UNII-2C	13.551	5711.449	5725		
		5720_UNII-3	3.392	5725	5728.392		
		5745	19.421	5735.130	5754.550	---	---
		5785	19.181	5775.330	5794.510	---	---
		5825	18.621	5815.609	5834.231	---	---
11N20SISO	Ant1	5180	18.701	5170.569	5189.271	---	---
		5200	18.701	5190.649	5209.351	---	---
		5240	18.661	5230.609	5249.271	---	---
		5260	18.941	5250.490	5269.431	---	---
		5280	18.901	5270.490	5289.391	---	---
		5320	18.981	5310.370	5329.351	---	---
		5500	18.901	5490.370	5509.271	---	---
		5580	18.901	5570.450	5589.351	---	---
		5700	19.261	5690.290	5709.550	---	---
		5720	18.262	5710.769	5729.031		
		5720_UNII-2C	14.231	5710.769	5725		
		5720_UNII-3	4.031	5725	5729.031		
		5745	19.78	5735.050	5754.830	---	---
		5785	19.58	5775.210	5794.790	---	---
		5825	19.381	5815.290	5834.670	---	---
11N40SISO	Ant1	5190	36.843	5171.698	5208.541	---	---
		5230	36.683	5211.778	5248.462	---	---
		5270	37.163	5251.618	5288.781	---	---
		5310	37.003	5291.459	5328.462	---	---
		5510	37.003	5491.379	5528.382	---	---
		5550	37.083	5531.379	5568.462	---	---
		5670	37.243	5651.538	5688.781	---	---
		5710	36.683	5691.618	5728.302		
		5710_UNII-2C	33.382	5691.618	5725		
		5710_UNII-3	3.302	5725	5728.302		
		5755	40.999	5736.299	5777.298	---	---

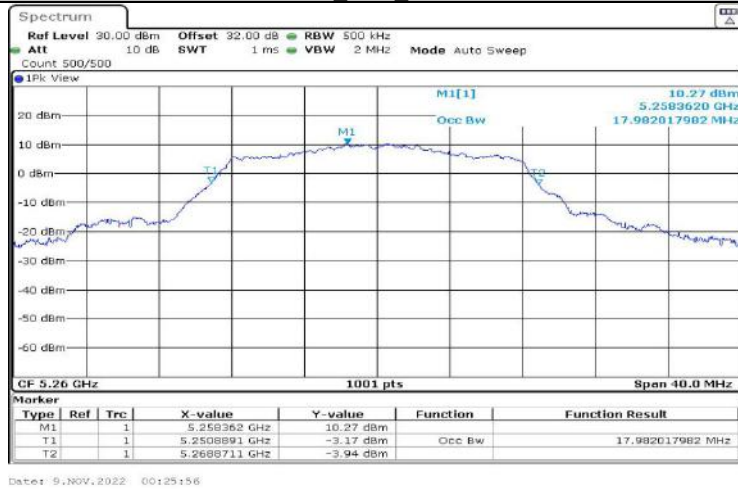
		5795	41.638	5776.379	5818.017	---	---
11AC20SISO	Ant1	5180	18.621	5170.649	5189.271	---	---
		5200	18.621	5190.649	5209.271	---	---
		5240	18.661	5230.649	5249.311	---	---
		5260	18.861	5250.569	5269.431	---	---
		5280	19.021	5270.490	5289.510	---	---
		5320	18.941	5310.410	5329.351	---	---
		5500	18.901	5490.370	5509.271	---	---
		5580	18.901	5570.410	5589.311	---	---
		5700	19.181	5690.330	5709.510	---	---
		5720	18.262	5710.729	5728.991		
		5720_UNII-2C	14.271	5710.729	5725		
		5720_UNII-3	3.991	5725	5728.991		
		5745	19.66	5735.090	5754.750	---	---
		5785	19.421	5775.250	5794.670	---	---
		5825	19.341	5815.330	5834.670	---	---
11AC40SISO	Ant1	5190	36.843	5171.698	5208.541	---	---
		5230	36.683	5211.698	5248.382	---	---
		5270	37.163	5251.538	5288.701	---	---
		5310	37.003	5291.459	5328.462	---	---
		5510	37.003	5491.379	5528.382	---	---
		5550	37.003	5531.459	5568.462	---	---
		5670	37.323	5651.538	5688.861	---	---
		5710	36.763	5691.459	5728.222		
		5710_UNII-2C	33.541	5691.459	5725		
		5710_UNII-3	3.222	5725	5728.222		
		5755	39.72	5736.459	5776.179	---	---
		5795	40.36	5776.459	5816.818	---	---
11AC80SISO	Ant1	5210	76.084	5172.278	5248.362	---	---
		5290	75.764	5252.118	5327.882	---	---
		5530	76.244	5491.638	5567.882	---	---
		5610	76.404	5571.958	5648.362	---	---
		5690	75.764	5651.958	5727.722		
		5690_UNII-2C	73.042	5651.958	5725		
		5690_UNII-3	2.722	5725	5727.722		
		5775	80.559	5737.438	5817.997	---	---

Note: For 5150-5250MHz and 5725-5850MHz band, no transmitted signal in the 99% bandwidth extends into the U-NII-2A band and U-NII-2C band.

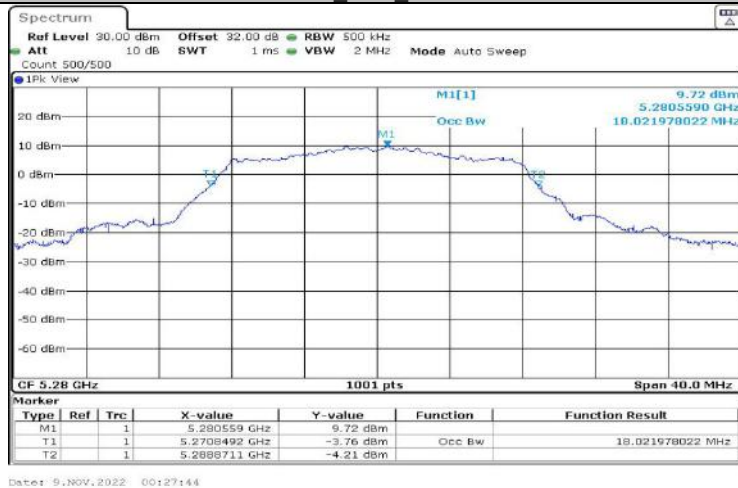
Test Graphs



11A_Ant1_5260

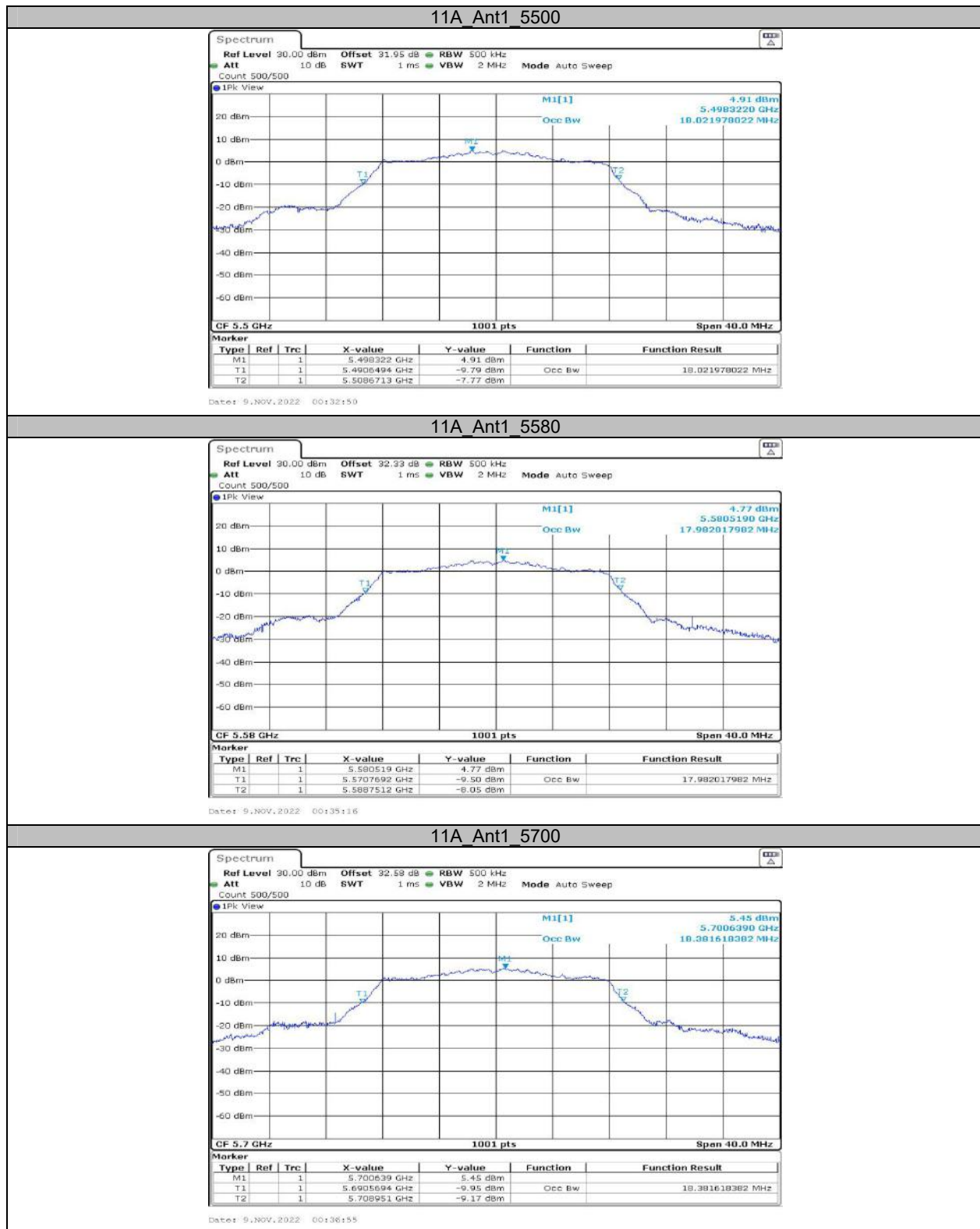


11A_Ant1_5280

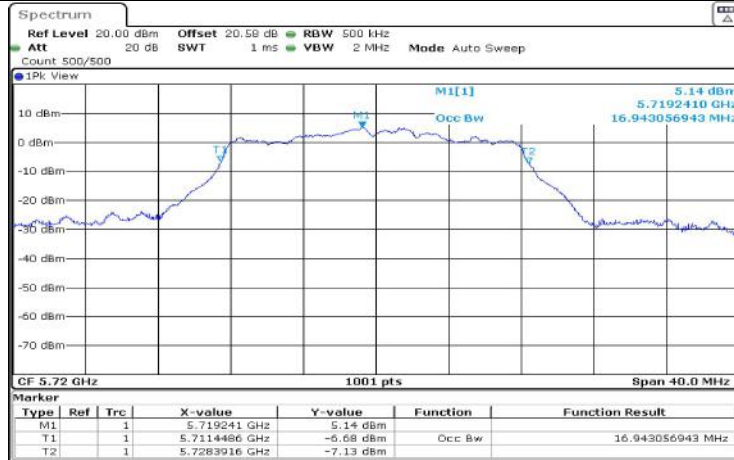


11A_Ant1_5320





11A_Ant1_5720



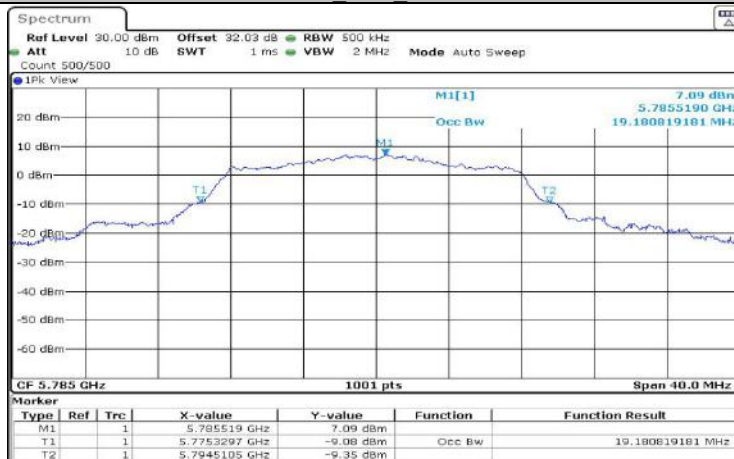
Date: 29.NOV.2022 15:41:51

11A_Ant1_5745

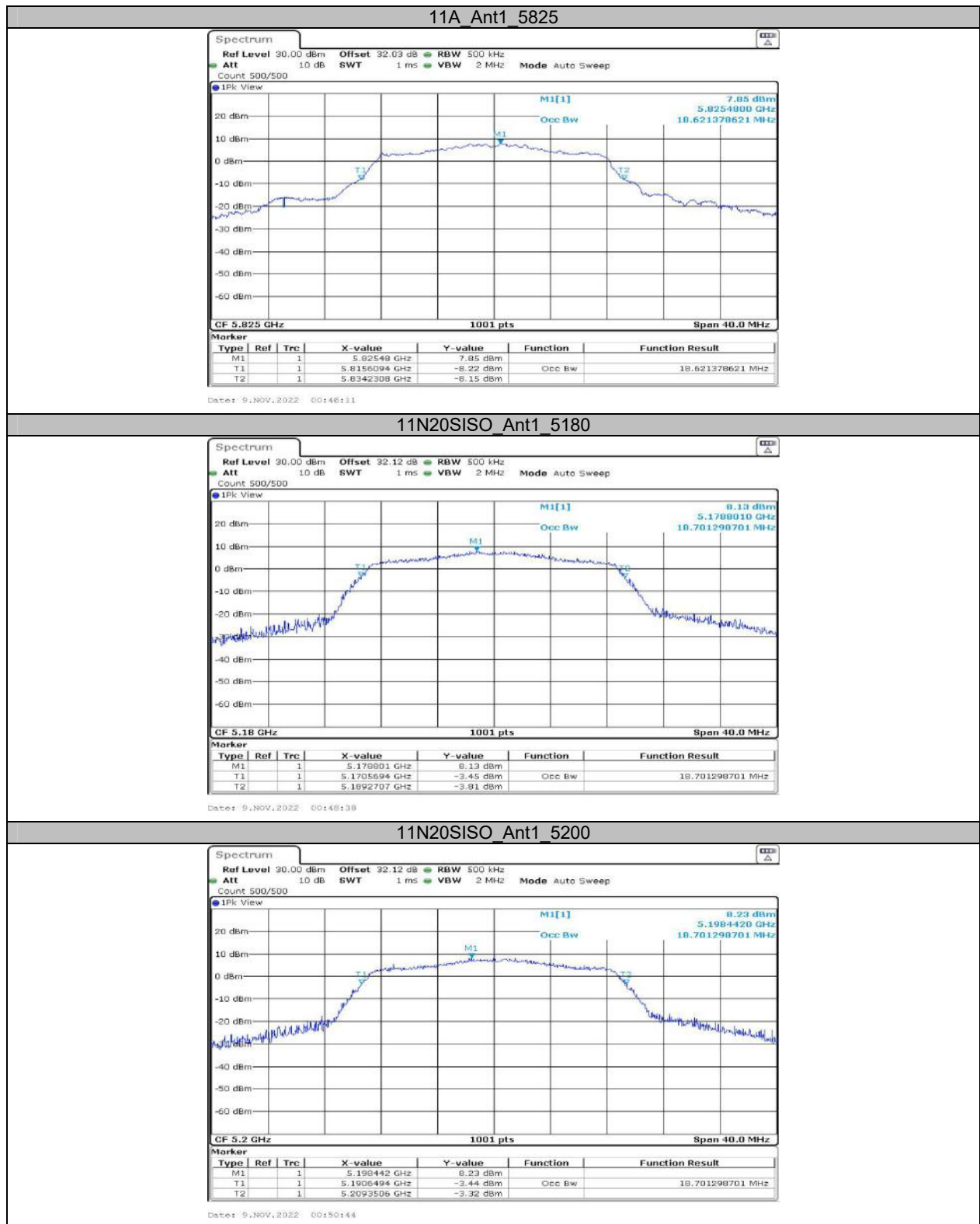


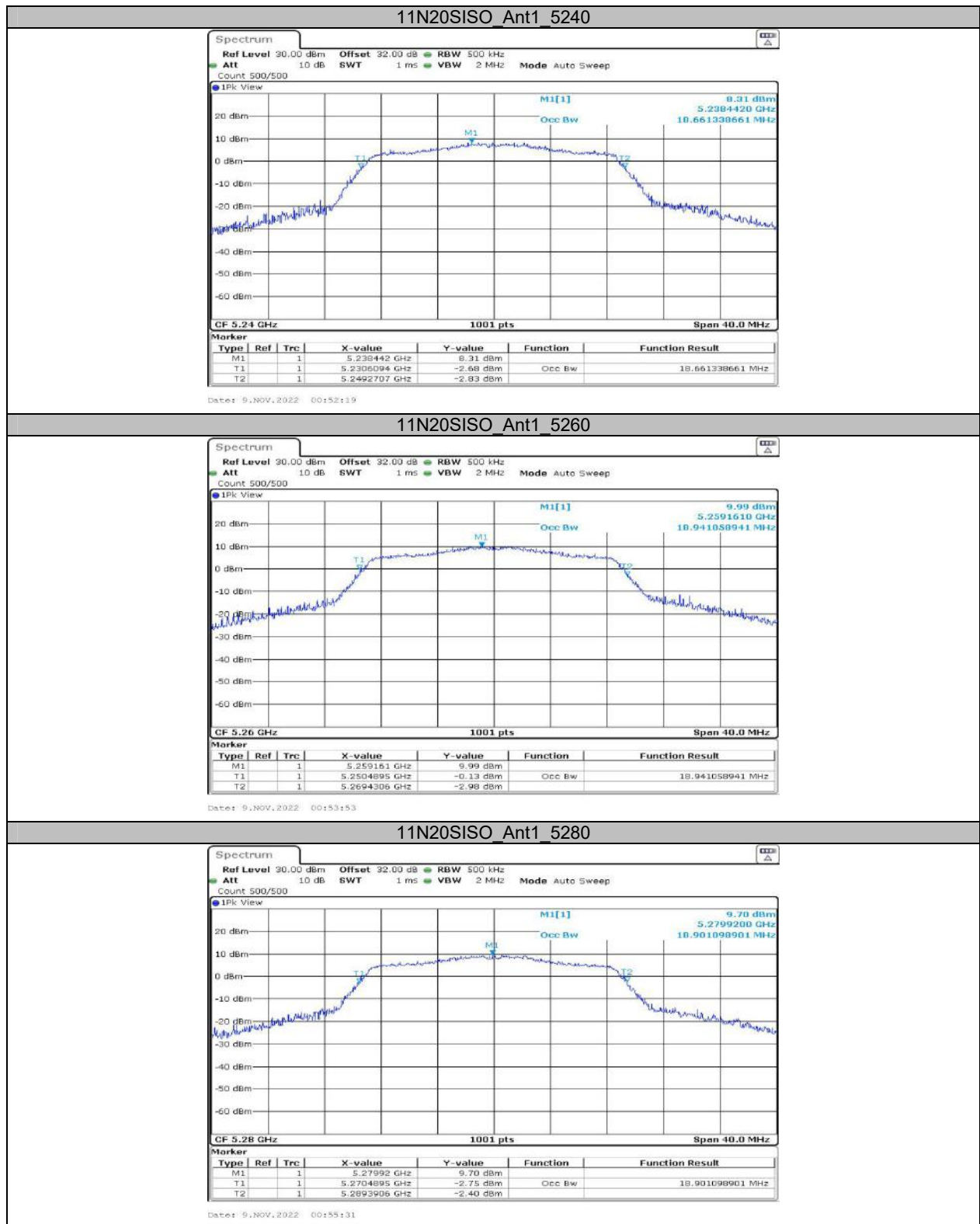
Date: 9.NOV.2022 00:39:26

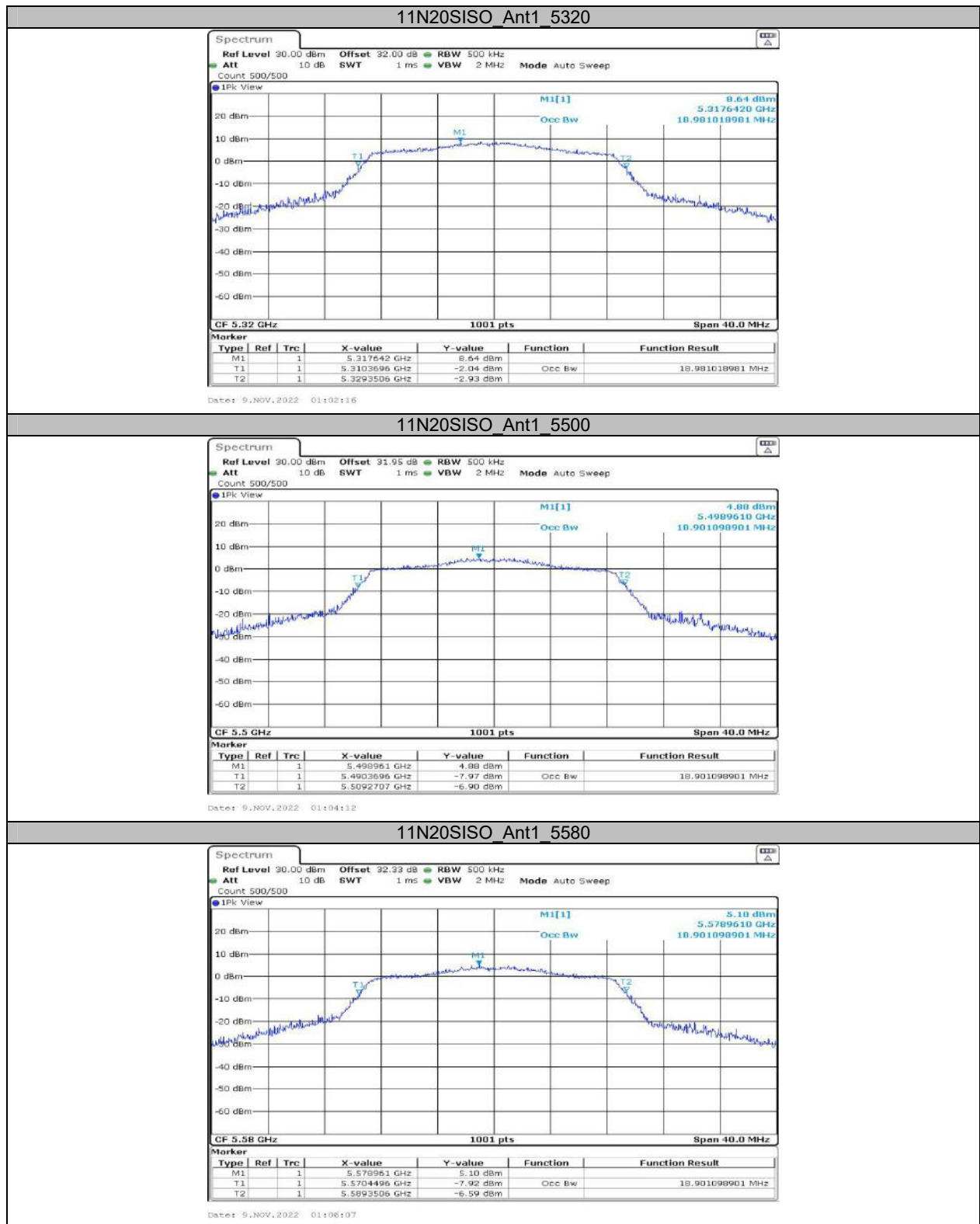
11A_Ant1_5785

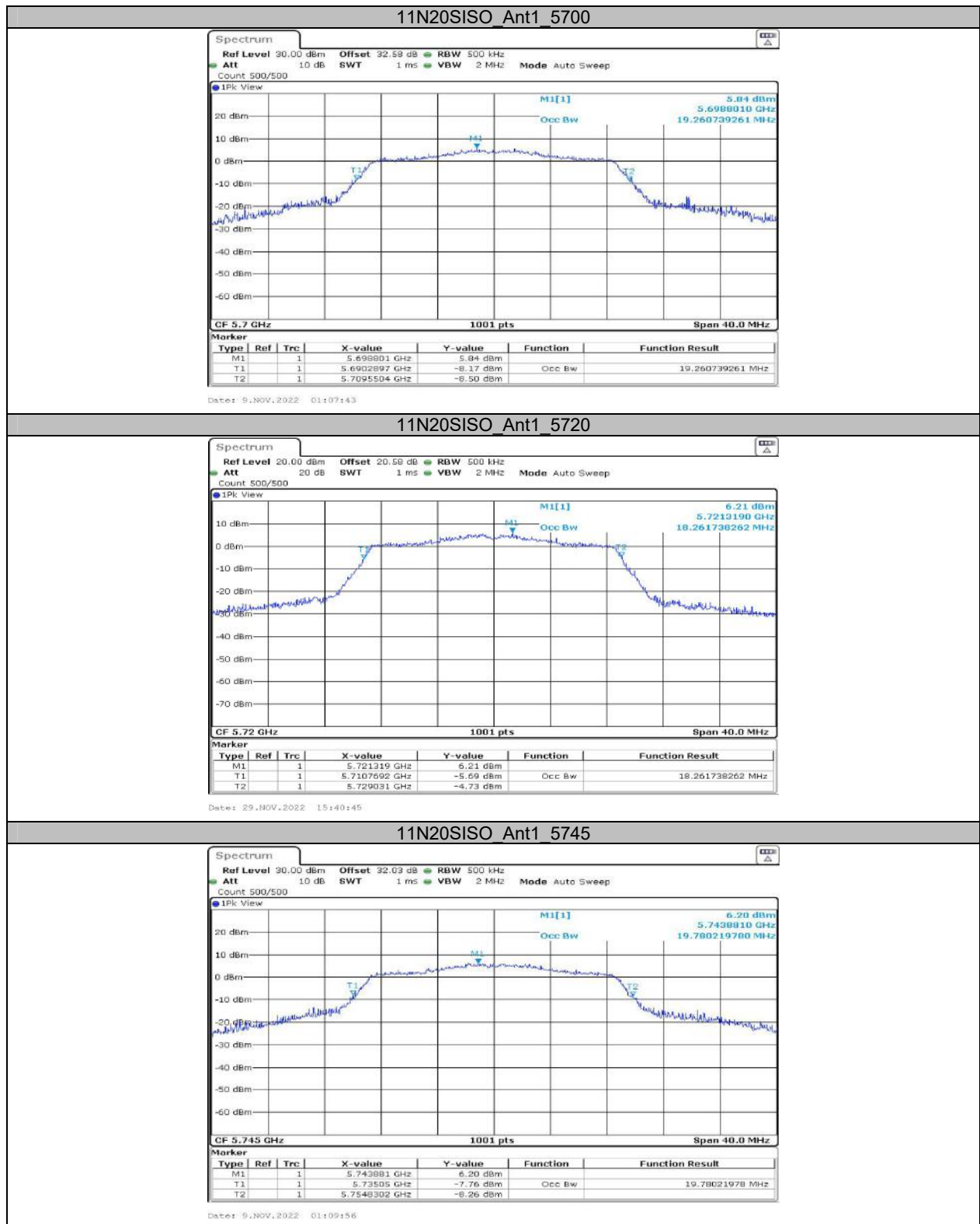


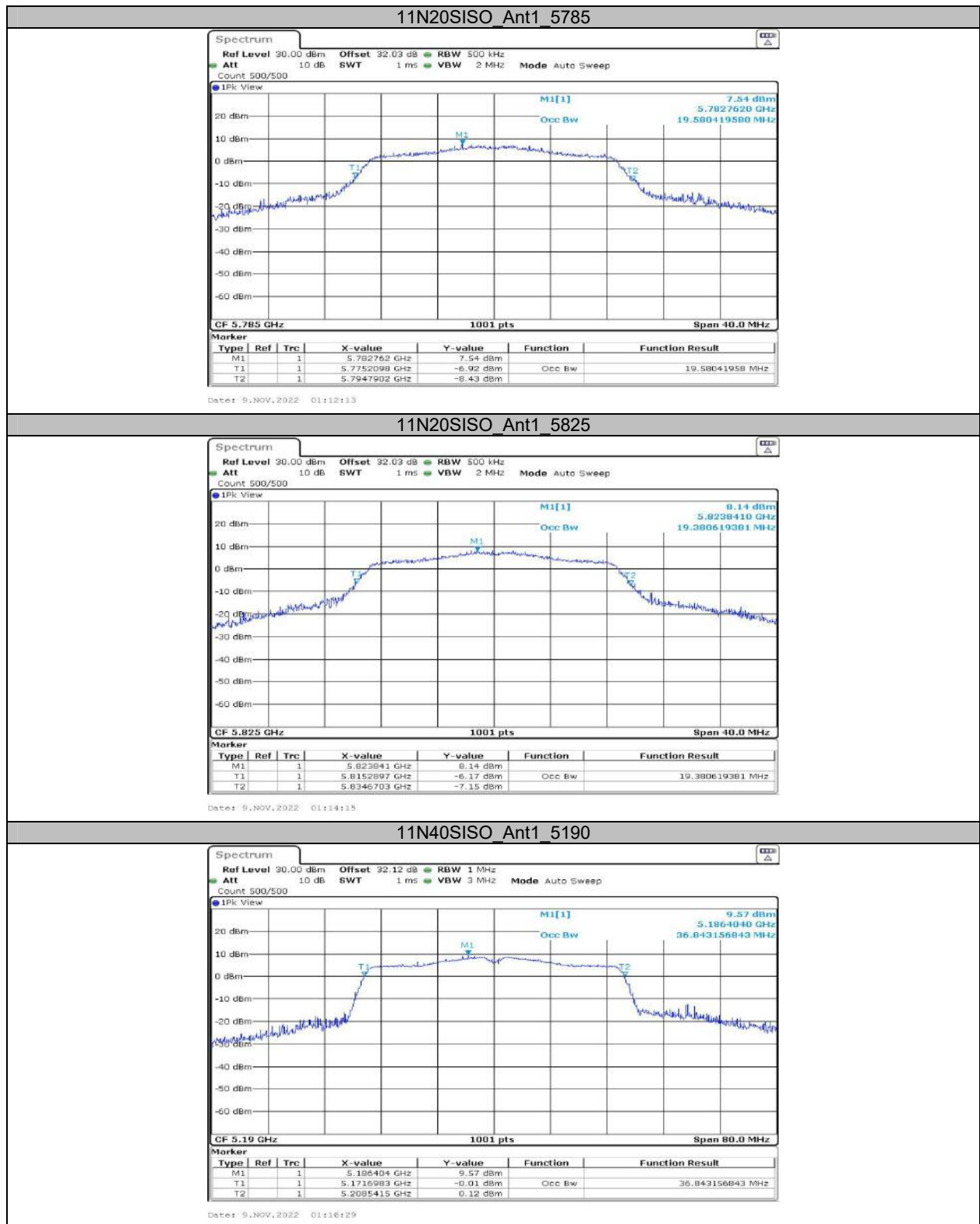
Date: 9.NOV.2022 00:41:37

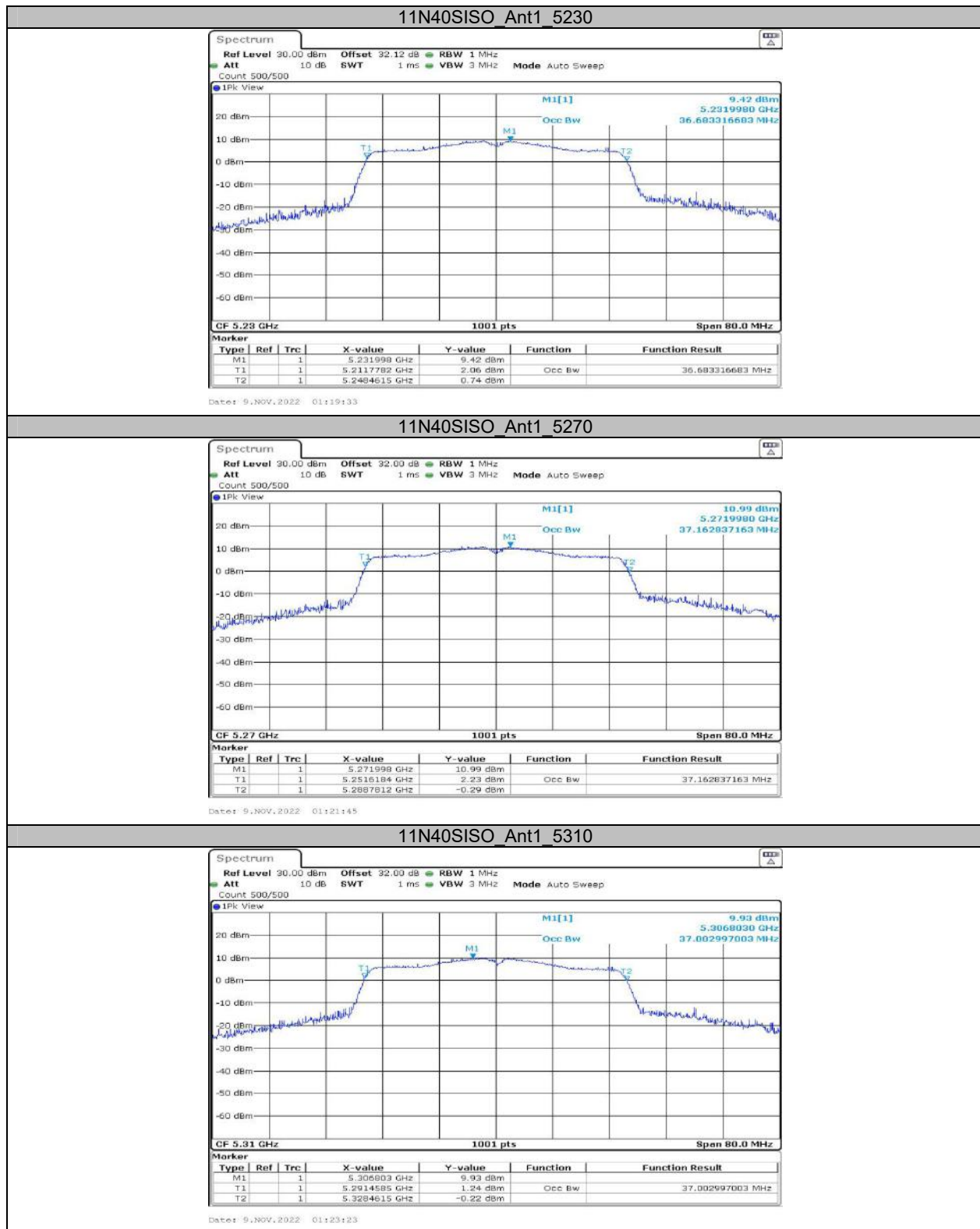


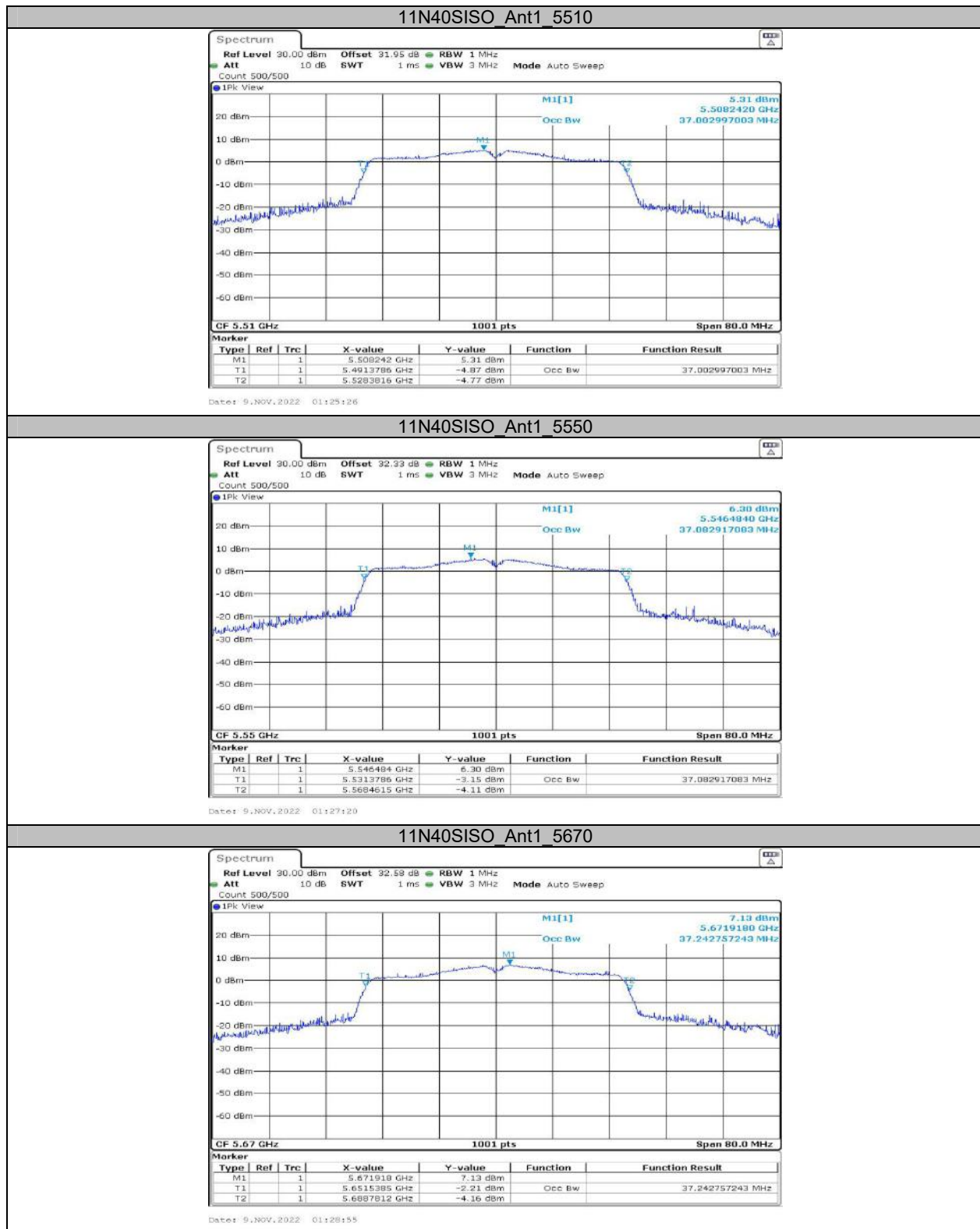


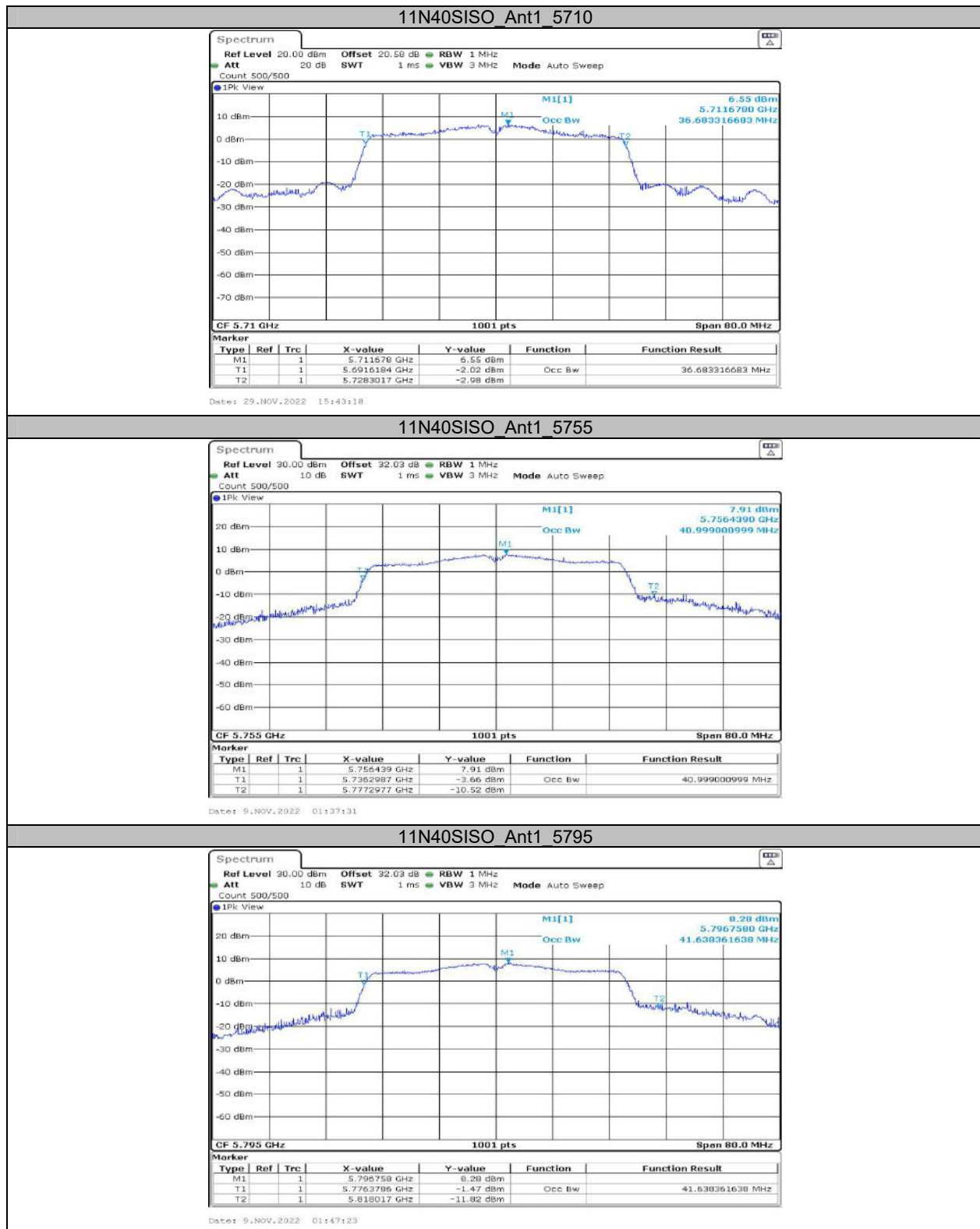


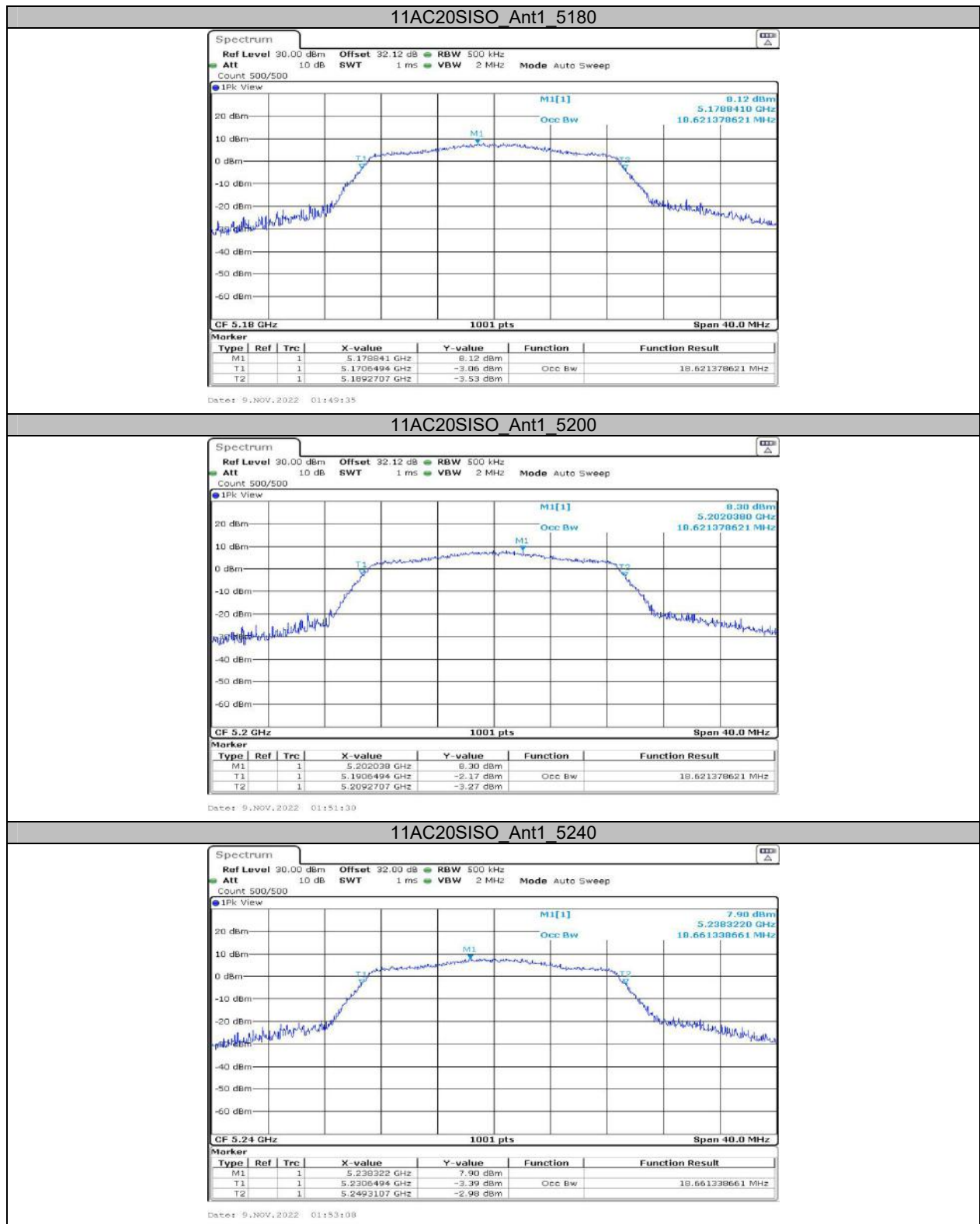


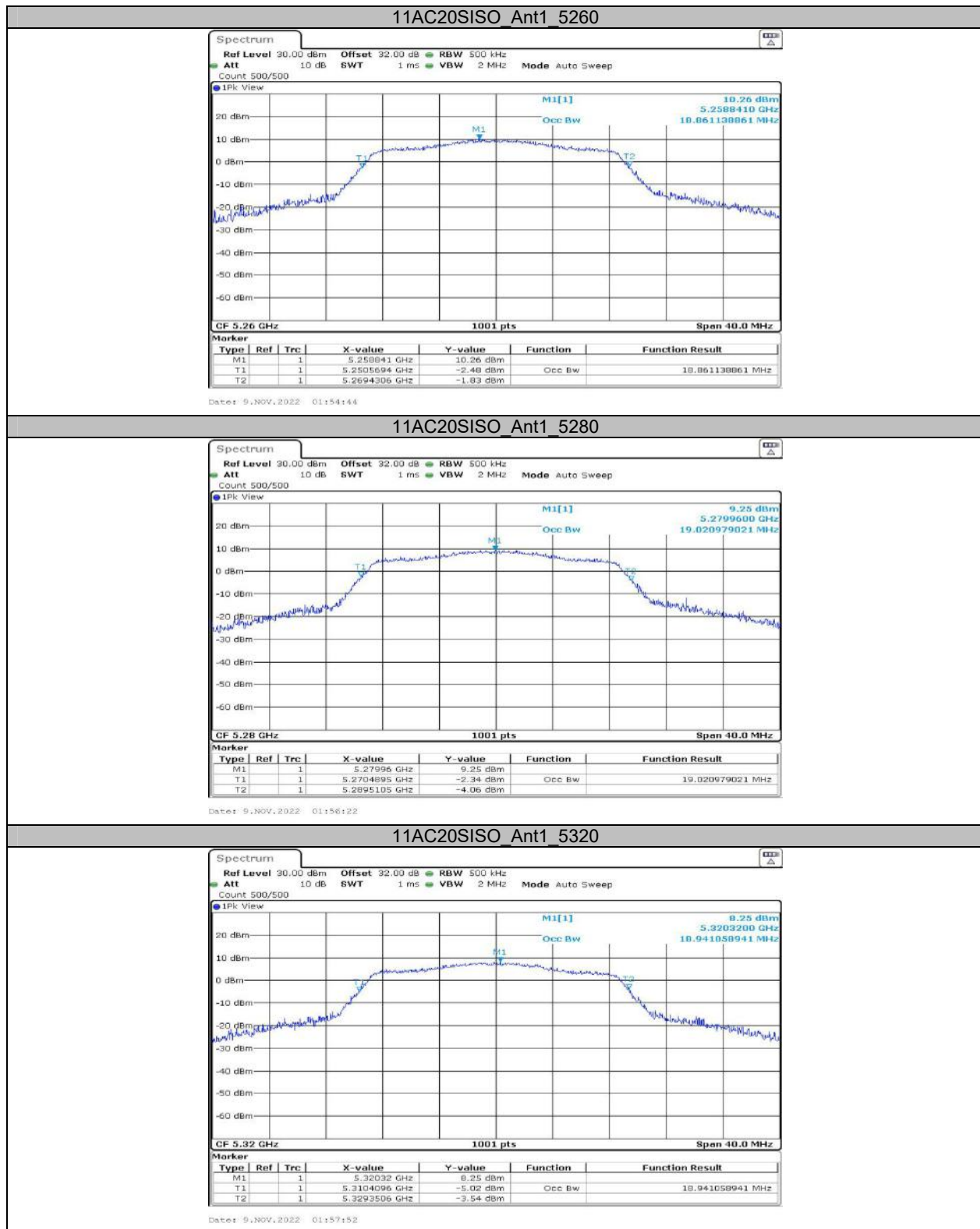


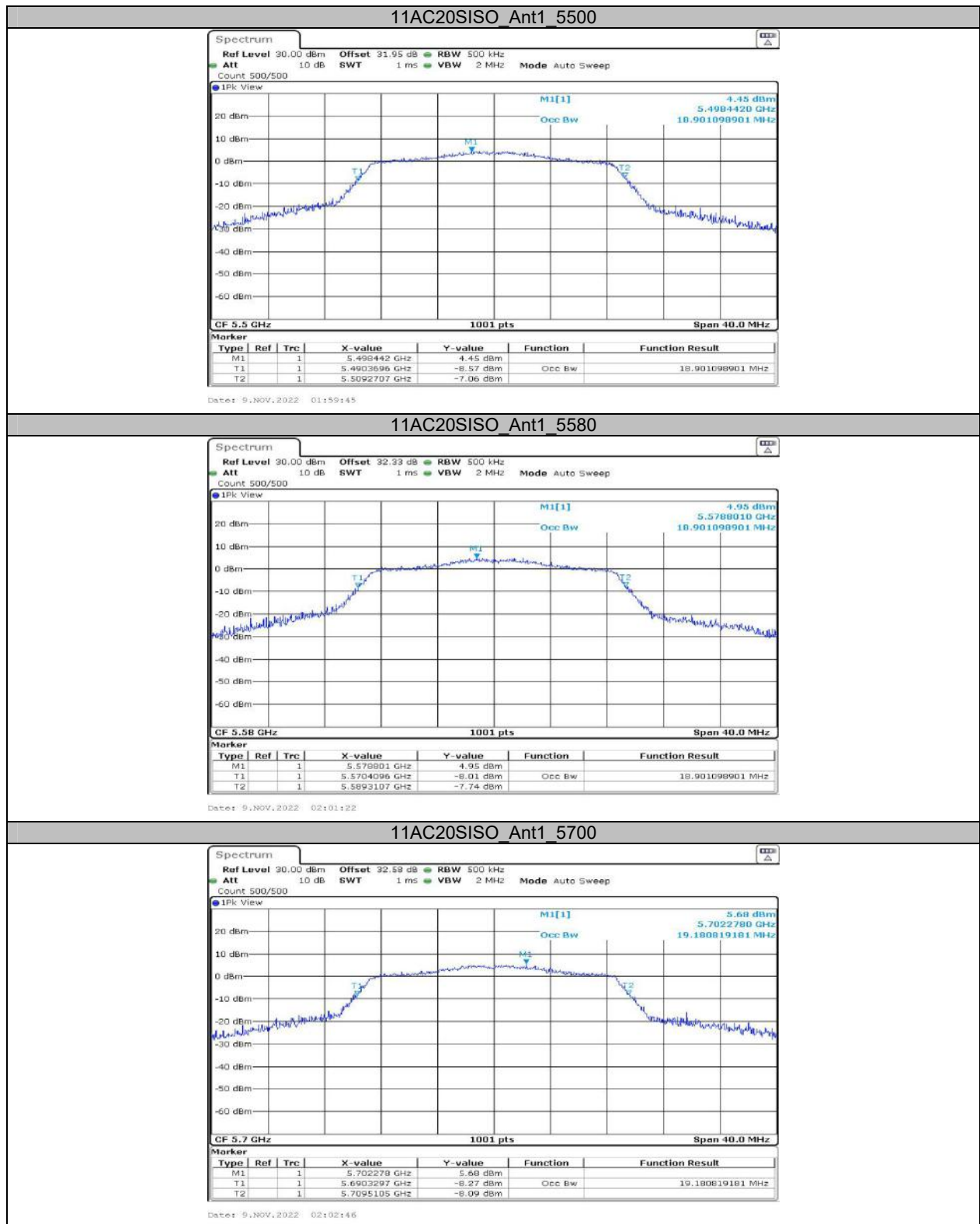




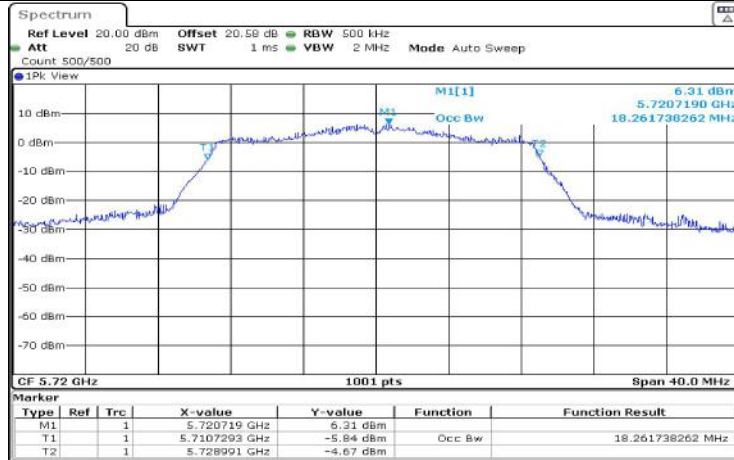






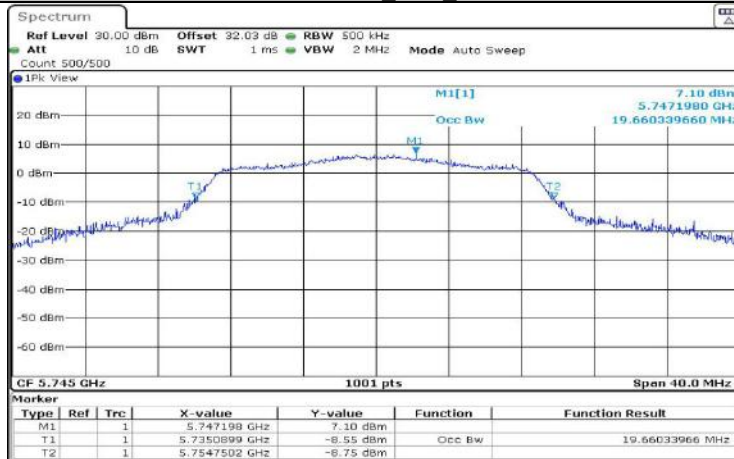


11AC20SISO_Ant1_5720



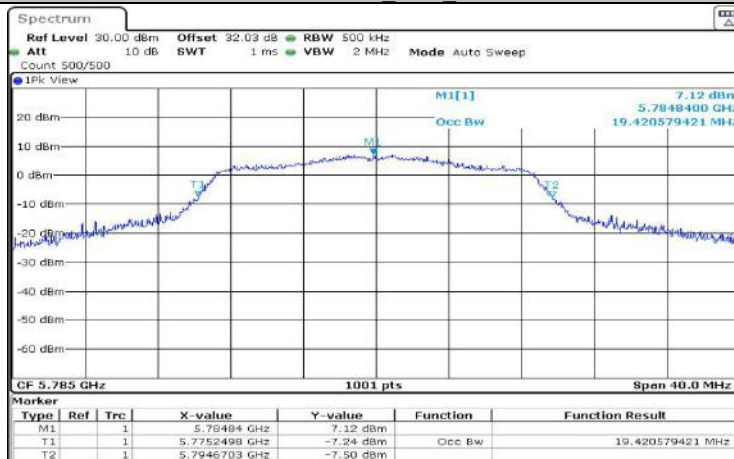
Date: 29.NOV.2022 15:45:42

11AC20SISO_Ant1_5745



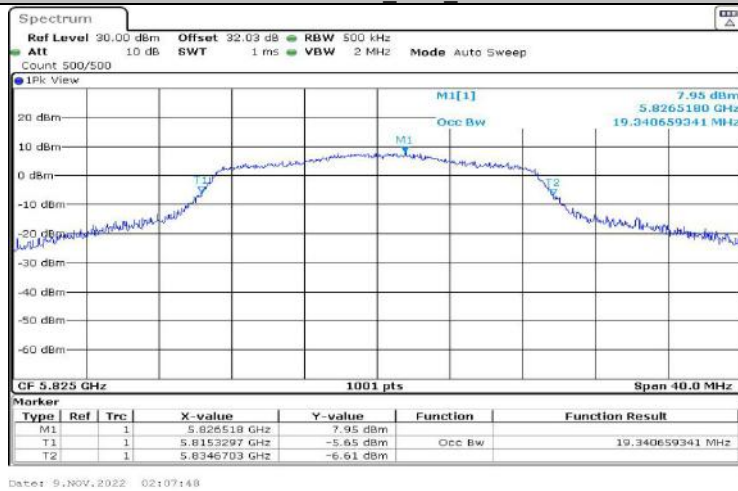
Date: 9.NOV.2022 02:04:31

11AC20SISO_Ant1_5785

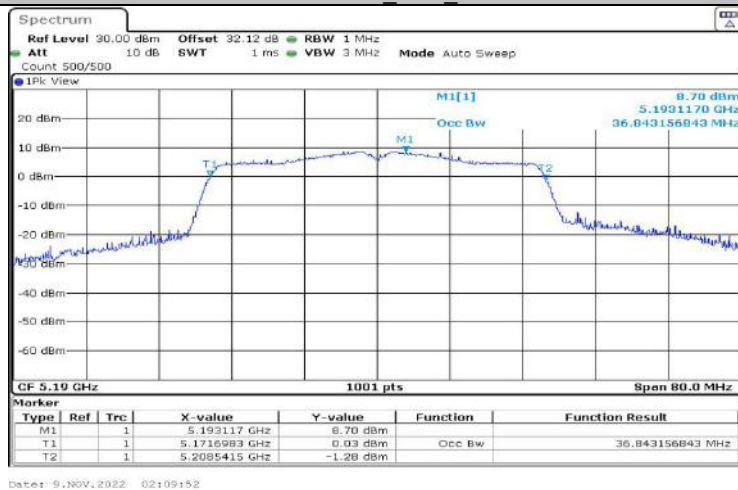


Date: 9.NOV.2022 02:06:20

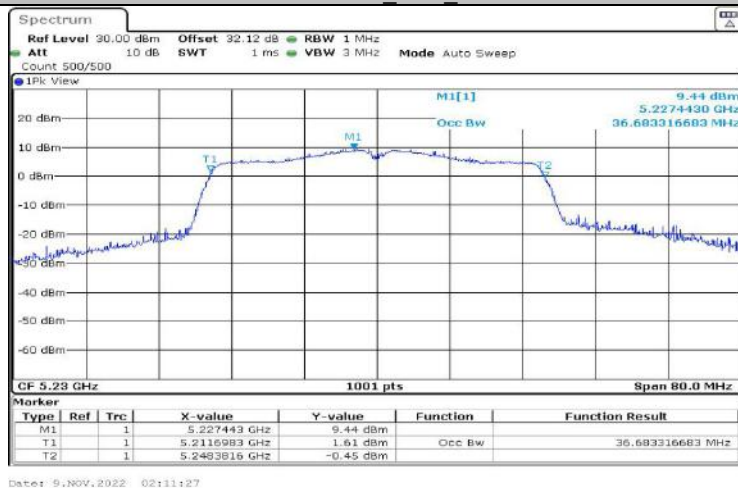
11AC20SISO_Ant1_5825

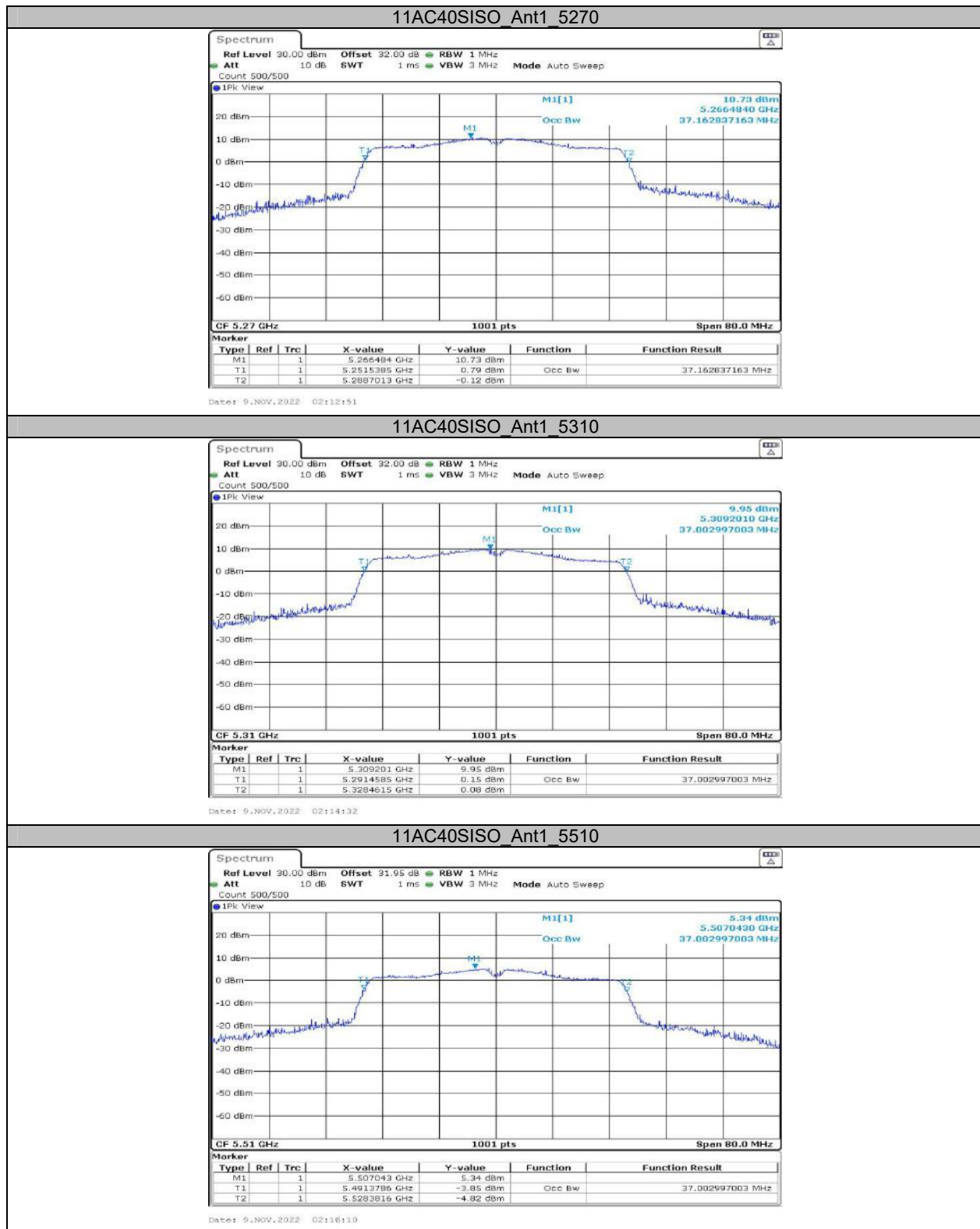


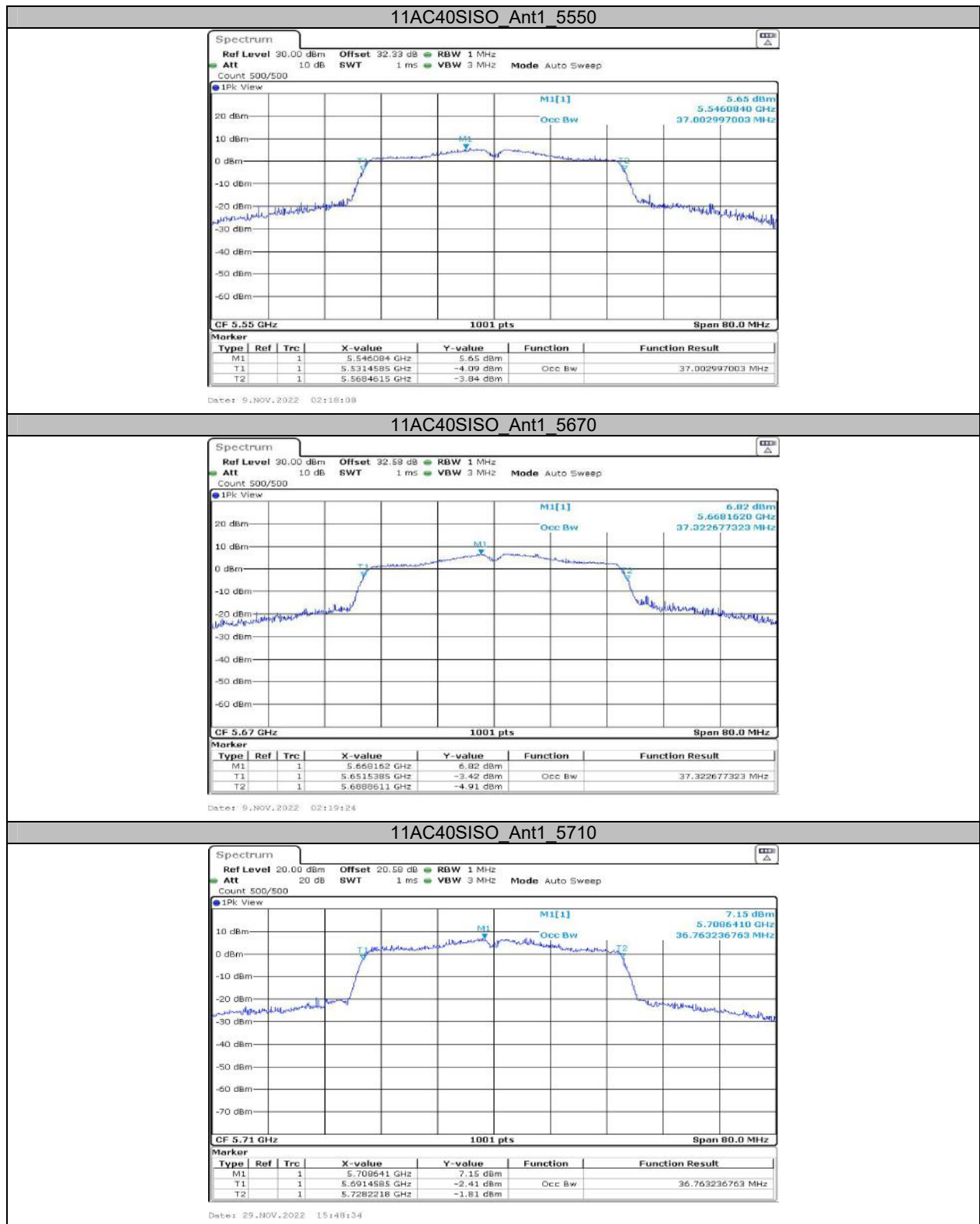
11AC40SISO_Ant1_5190

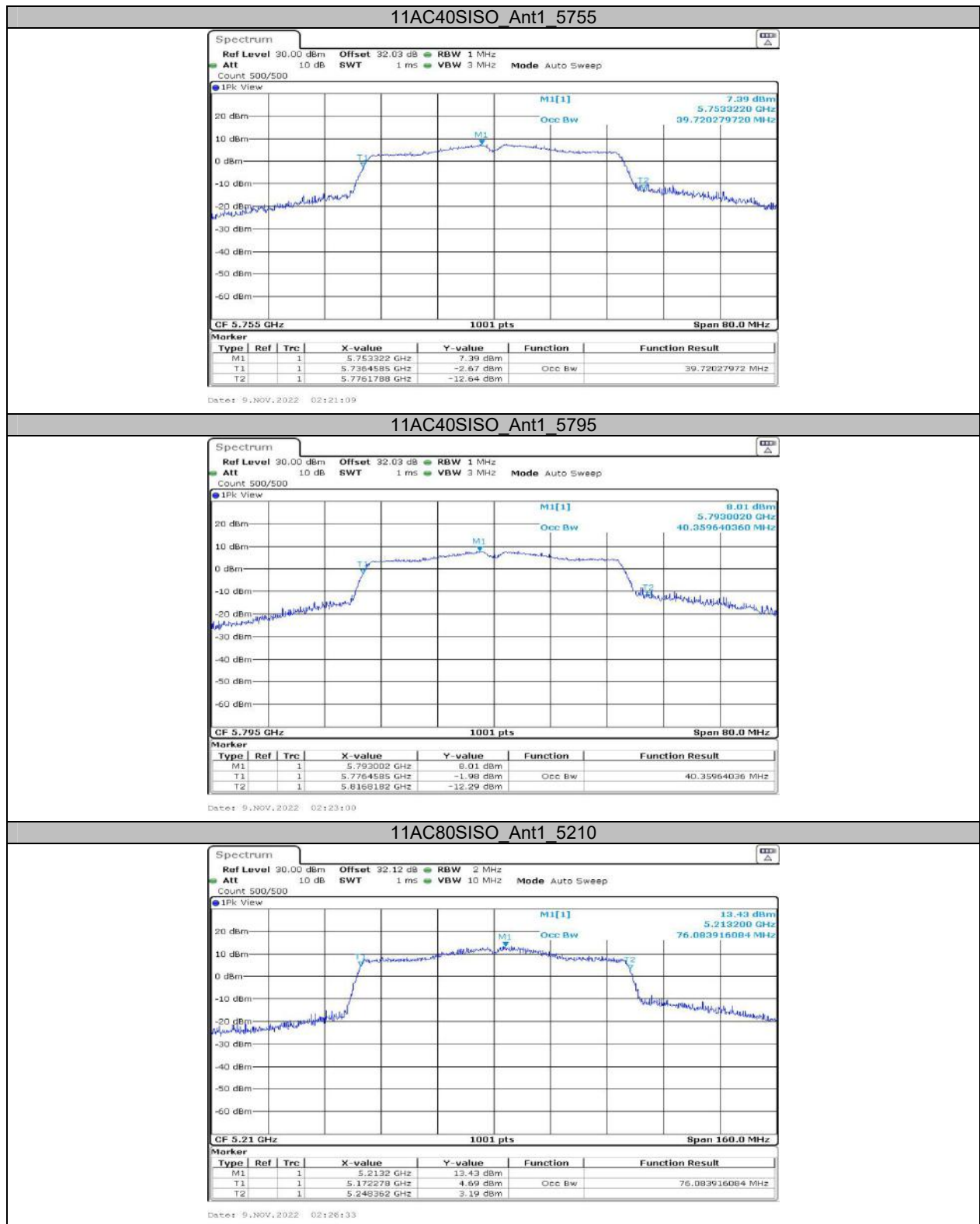


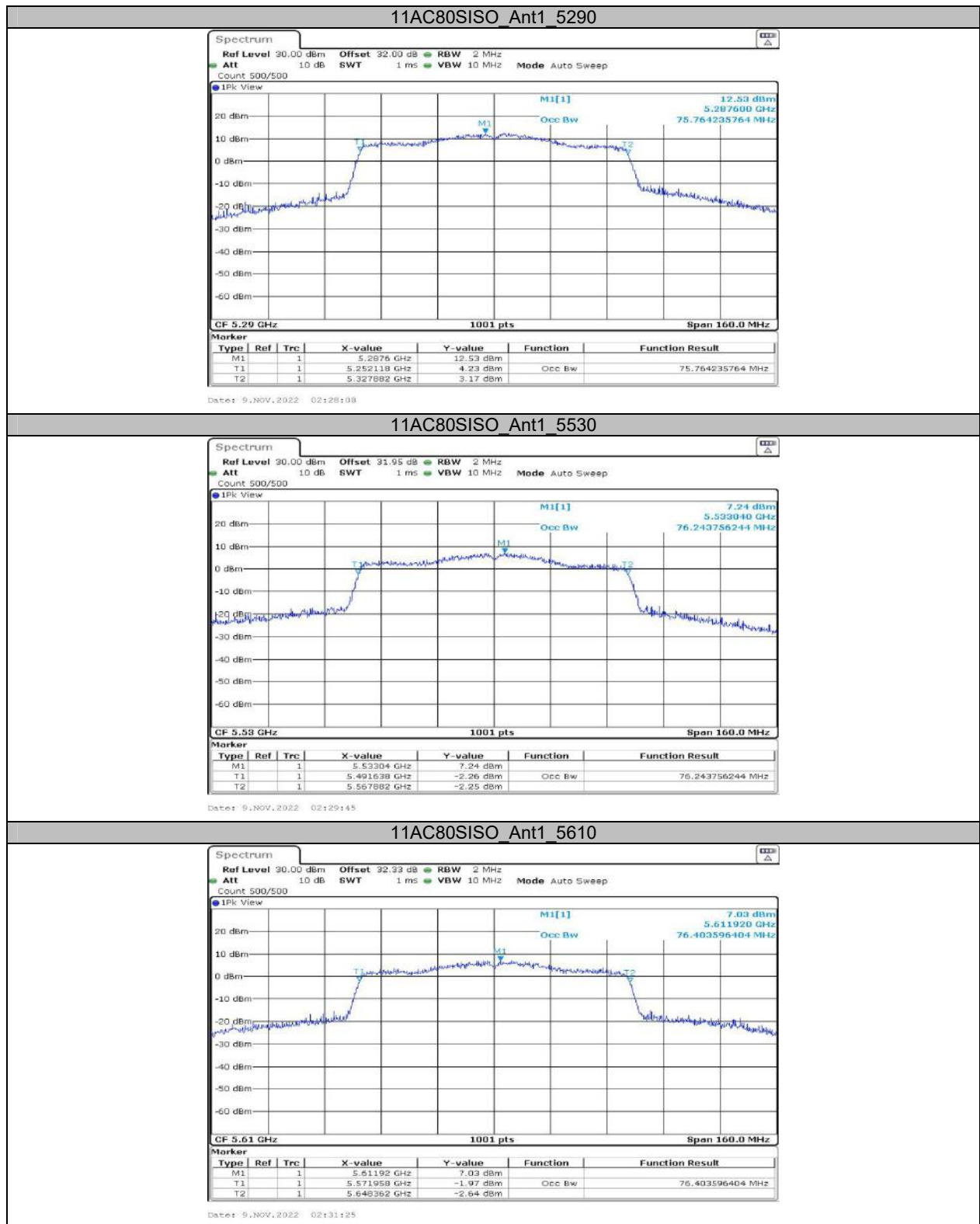
11AC40SISO_Ant1_5230

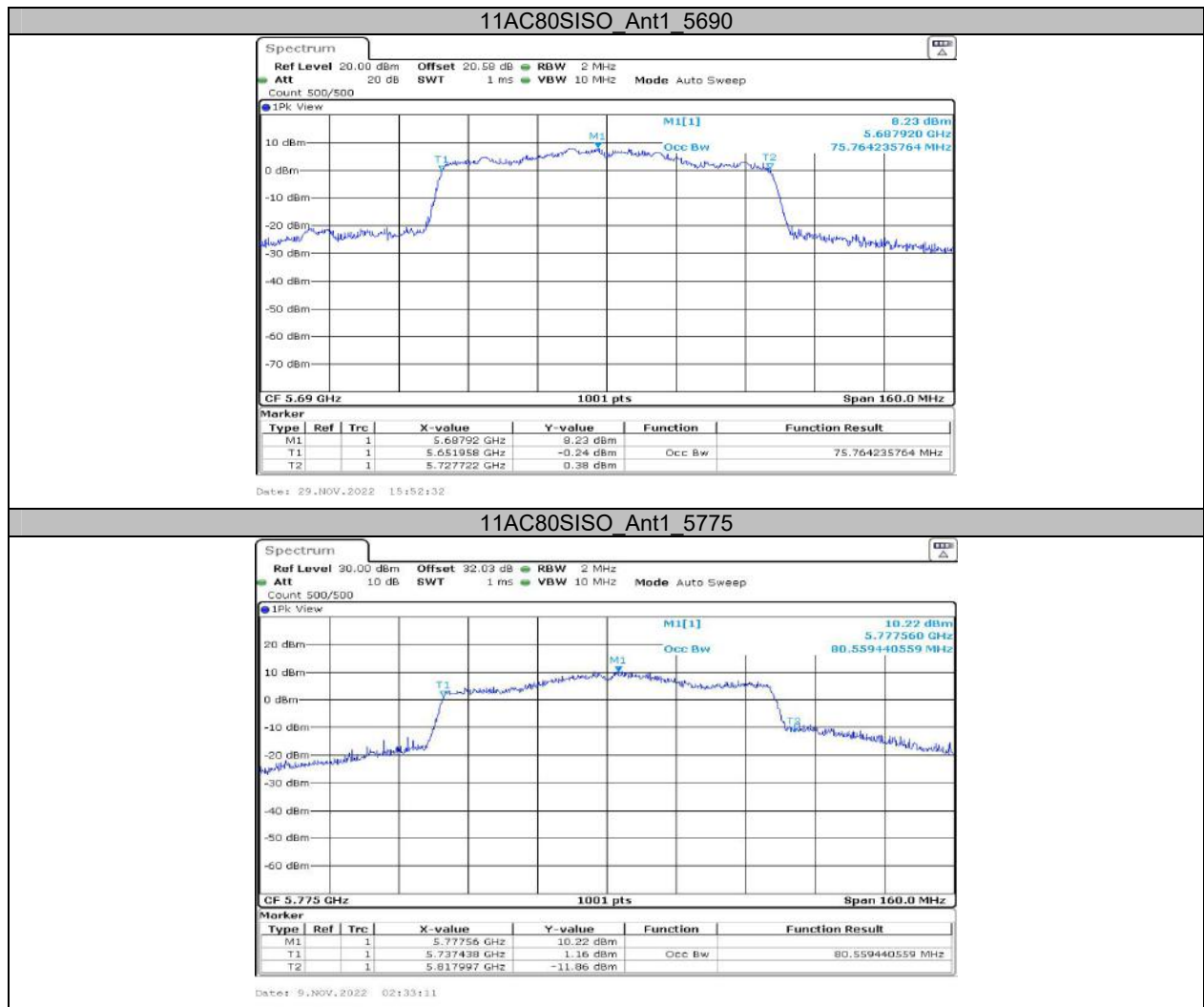












Appendix A3: Min emission bandwidth Test Result

Test Mode	Antenna	Frequency[MHz]	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	15.48	5737.32	5752.80	0.5	PASS
		5785	15.16	5777.32	5792.48	0.5	PASS
		5825	15.48	5817.32	5832.80	0.5	PASS
11N20SISO	Ant1	5745	15.16	5737.32	5752.48	0.5	PASS
		5785	15.16	5777.32	5792.48	0.5	PASS
		5825	15.32	5817.32	5832.64	0.5	PASS
11N40SISO	Ant1	5755	35.76	5737.32	5773.08	0.5	PASS
		5795	35.52	5777.32	5812.84	0.5	PASS
11AC20SISO	Ant1	5745	15.16	5737.32	5752.48	0.5	PASS
		5785	15.16	5777.32	5792.48	0.5	PASS
		5825	15.72	5817.32	5833.04	0.5	PASS
11AC40SISO	Ant1	5755	35.52	5737.32	5772.84	0.5	PASS
		5795	35.76	5777.32	5813.08	0.5	PASS
11AC80SISO	Ant1	5775	75.20	5737.40	5812.60	0.5	PASS