



FCC RF Test Report

APPLICANT : Magne AI Global tech limited
EQUIPMENT : MAG1
BRAND NAME : MaQ
MODEL NAME : MA1
FCC ID : 2BVCPGC603606
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure
TEST DATE(S) : Feb. 04, 2026 ~ Apr. 16, 2026

We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Kunshan), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia



Sporton International Inc. (Kunshan)

**No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China**



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SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit for U-NII-1/2A/2C	Limit for U-NII-3	Result	Remark
3.1	2.1049 & 15.403(i)	6dB, 26dB & 99% Bandwidth	-	6dB Bandwidth > 500kHz	Pass	-
3.2	15.407(a)	Maximum Conducted Output Power	≤ 24 dBm	≤ 30 dBm	Pass	-
3.3	15.407(a)	Power Spectral Density	≤ 11 dBm/MHz	≤ 30 dBm/500kHz	Pass	-
3.4	15.407(b)	Unwanted Emissions	15.407(b) & 15.209(a)	15.407(b)(4)(i) & 15.209(a)	Pass	Under limit 3.48 dB at 5729.00 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	15.207(a)	Pass	Under limit 8.78 dB at 0.150 MHz
3.6	15.203 & 15.407(a)	Antenna Requirement	15.203 & 15.407(a)	15.203 & 15.407(a)	Pass	-

Conformity Assessment Condition:

- The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
- The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty"

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.



1 General Description

1.1 Applicant

Magne AI Global tech limited

FLAT 1019B,10/F,LIVEN HOUSE,NO.61-63 KING YIP STREET KWUN TONG HK

1.2 Manufacturer

FIH Precision Electronics(Lang Fang)Co.,Ltd.

No. 18 Furao Road, Longhe High tech Industrial Development Zone, Anci District, Langfang City, Hebei Province

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	MAG1
Brand Name	MaQ
Model Name	MA1
FCC ID	2BVCPGC603606
IMEI / SN Code	Conducted: MGUGLM54300121 Conduction: 016813000001873/016813000001881 Radiation: 016813000003432/016813000003440
EUT Stage	Production Unit

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.



1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency Range	5180 MHz ~ 5240 MHz 5260 MHz ~ 5320 MHz 5500 MHz ~ 5700 MHz 5745 MHz ~ 5825 MHz
Maximum Output Power to Antenna	<p><5180 MHz ~ 5240 MHz> 802.11a : 13.12 dBm / 0.0205 W 802.11n HT20 : 13.42 dBm / 0.0220 W 802.11n HT40 : 9.29 dBm / 0.0085 W 802.11ac VHT20: 10.04 dBm / 0.0101 W 802.11ac VHT40: 9.05 dBm / 0.0080 W 802.11ac VHT80: 8.41 dBm / 0.0069 W</p> <p><5260 MHz ~ 5320 MHz> 802.11a : 13.87 dBm / 0.0244 W 802.11n HT20 : 14.13 dBm / 0.0259 W 802.11n HT40 : 10.16 dBm / 0.0104 W 802.11ac VHT20: 10.85 dBm / 0.0122 W 802.11ac VHT40: 10.04 dBm / 0.0101 W 802.11ac VHT80: 9.39 dBm / 0.0087 W</p> <p><5500 MHz ~ 5700 MHz > 802.11a : 14.48 dBm / 0.0281 W 802.11n HT20 : 13.51 dBm / 0.0224 W 802.11n HT40 : 10.94 dBm / 0.0124 W 802.11ac VHT20: 11.57 dBm / 0.0144 W 802.11ac VHT40: 10.87 dBm / 0.0122 W 802.11ac VHT80: 8.57 dBm / 0.0072 W</p> <p><5745 MHz ~ 5825 MHz> 802.11a : 15.24 dBm / 0.0334 W 802.11n HT20 : 15.54 dBm / 0.0358 W 802.11n HT40 : 11.50 dBm / 0.0141 W 802.11ac VHT20: 12.64 dBm / 0.0184 W 802.11ac VHT40: 11.37 dBm / 0.0137 W 802.11ac VHT80: 10.78 dBm / 0.0120 W</p>
99% Occupied Bandwidth	<p><5180 MHz ~ 5240 MHz> 802.11a : 17.238 MHz 802.11n HT20 : 18.038 MHz 802.11n HT40 : 36.648 MHz 802.11ac VHT80 : 76.114 MHz</p> <p><5260 MHz ~ 5320 MHz> 802.11a : 17.276 MHz 802.11n HT20 : 18.057 MHz 802.11n HT40 : 36.648 MHz 802.11ac VHT80 : 76.114 MHz</p> <p><5500 MHz ~ 5700 MHz> 802.11a : 17.314 MHz 802.11n HT20 : 18.095 MHz 802.11n HT40 : 36.686 MHz 802.11ac VHT80 : 76.038 MHz</p> <p><5745 MHz ~ 5825 MHz> 802.11a : 17.295 MHz 802.11n HT20 : 18.076 MHz 802.11n HT40 : 36.686 MHz 802.11ac VHT80 : 76.114 MHz</p>



Antenna Type / Gain	<p><5180 MHz ~ 5240 MHz> LDS Antenna type with gain 3 dBi</p> <p><5260 MHz ~ 5320 MHz> LDS Antenna type with gain 3 dBi</p> <p><5500 MHz ~ 5700 MHz> LDS Antenna type with gain 4 dBi</p> <p><5745 MHz ~ 5825 MHz> LDS Antenna type with gain 4 dBi</p>
Type of Modulation	<p>802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)</p> <p>802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)</p>

Note:

1. WLAN operation in 5600 MHz ~ 5650 MHz is notched.
2. For 802.11n HT20 / ac VHT20 and 802.11n HT40 / ac VHT40 mode, the whole testing has assessed only 802.11n HT20/ HT40 by referring to their higher conducted power.

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Testing Location

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	CO01-KS 03CH06-KS TH01-KS	CN1257	314309



1.7 Test Software

Item	Site	Manufacturer	Name	Version
1.	TH01-KS	Tonscend	JS1120-3 test system China_210602	3.3.10
2.	03CH06-KS	AUDIX	E3	210616
3.	CO01-KS	AUDIX	E3	6.2009-8-24

1.8 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR Part 15 Subpart E
- ♦ FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- ♦ ANSI C63.10-2020+Cor.1-2023

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.



2 Test Configuration of Equipment Under Test

- a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.
- b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq.(MHz)	Channel	Freq. (MHz)
5180-5240 MHz U-NII-1	36	5180	44	5220
	38*	5190	46*	5230
	40	5200	48	5240
	42#	5210	-	-

Frequency Band	Channel	Freq.(MHz)	Channel	Freq. (MHz)
5260-5320 MHz U-NII-2A	52	5260	60	5300
	54*	5270	62*	5310
	56	5280	64	5320
	58#	5290	-	-

Frequency Band	Channel	Freq.(MHz)	Channel	Freq. (MHz)
5500-5700MHz U-NII-2C	100	5500	112	5560
	102*	5510	116	5580
	104	5520	132	5660
	106#	5530	134*	5670
	108	5540	136	5680
	110*	5550	140	5700

Frequency Band	Channel	Freq.(MHz)	Channel	Freq. (MHz)
5745-5825 MHz U-NII-3	149	5745	157	5785
	151*	5755	159*	5795
	153	5765	161	5805
	155#	5775	165	5825

Note:

- 1. The above Frequency and Channel in "*" are 40MHz bandwidth.
- 2. The above Frequency and Channel in "#" are 80MHz bandwidth.



2.2 Test Mode

Final test modes are considering the modulation and worse data rates as below table.

SISO Mode

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0
802.11ac VHT80	MCS0

AC Conducted Emission	Mode 1 : GSM 850 Idle + Bluetooth Link + WLAN Link (5G) + USB Cable (Charging from Adapter) + Earphone
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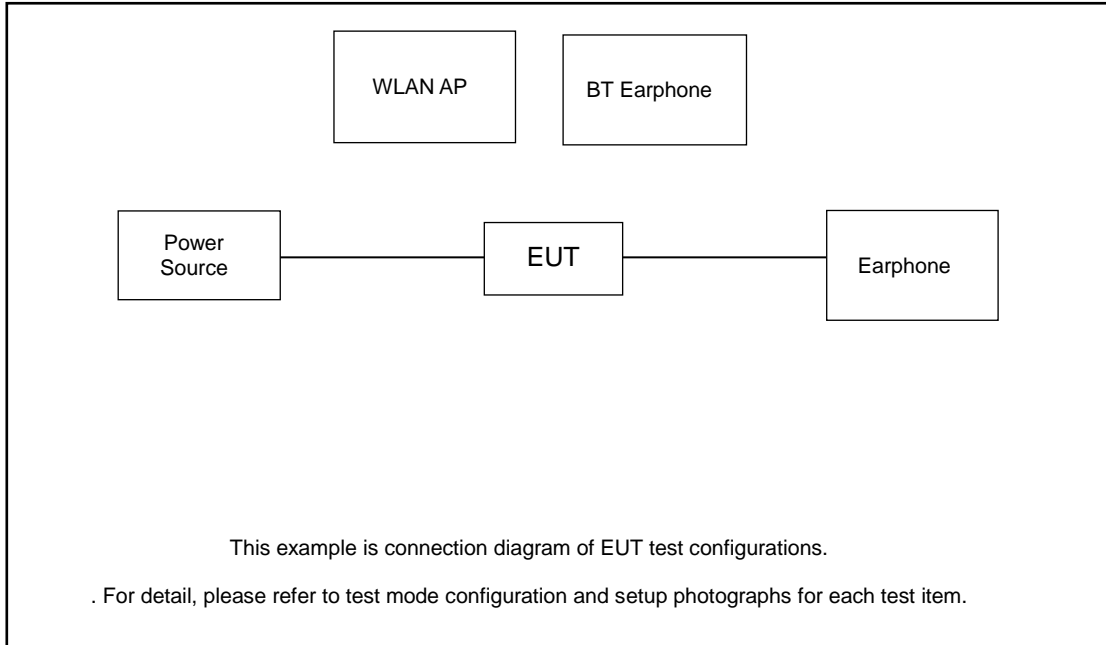
Ch. #		U-NII-1	U-NII-2A	U-NII-2C	U-NII-3
		20M BW	20M BW	20M BW	20M BW
L	Low	36	52	100	149
M	Middle	44	60	116	157
H	High	48	64	140	165

Ch. #		U-NII-1	U-NII-2A	U-NII-2C	U-NII-3
		40M BW	40M BW	40M BW	40M BW
L	Low	38	54	102	151
M	Middle	-	-	110	-
H	High	46	62	134	159

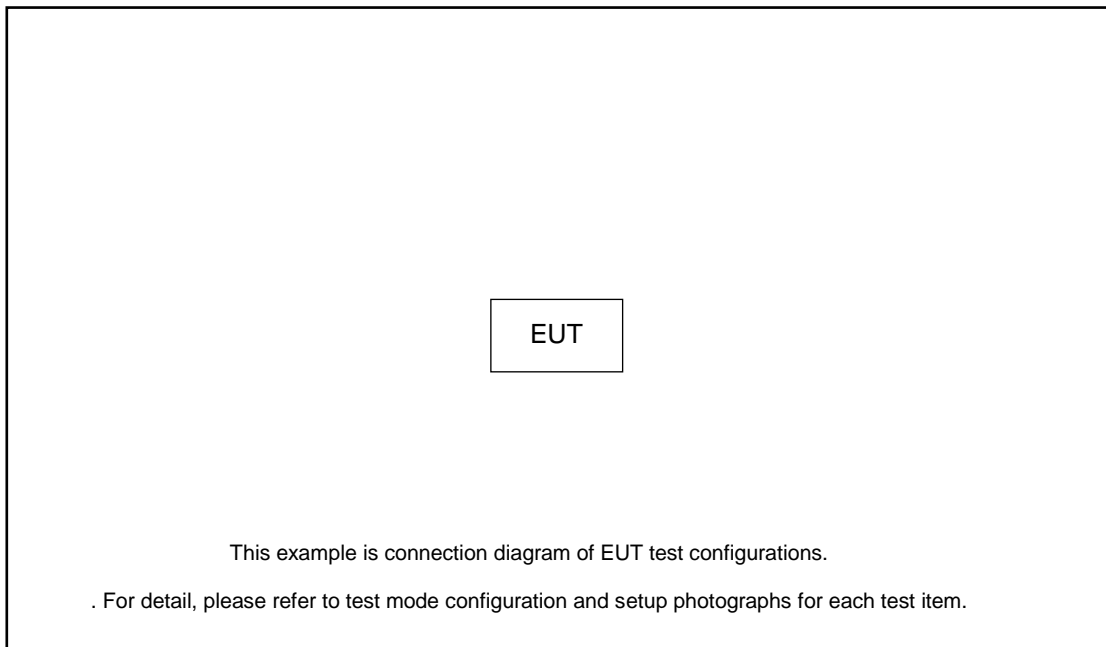
Ch. #		U-NII-1	U-NII-2A	U-NII-2C	U-NII-3
		80M BW	80M BW	80M BW	80M BW
L	Low	-	-	106	-
M	Middle	42	58	-	155
H	High	-	-	-	-

2.3 Connection Diagram of Test System

AC Conducted Emission:



Radiated Emission:



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Bluetooth Earphone	Lenovo	thinkplus-BH3	N/A	N/A	N/A
2.	LTE Base Station	Anritus	MT8821C	N/A	N/A	Unshielded,1.8m
3.	Notebook	Lenovo	G480	QDS-BRCM1050I	N/A	shielded cable DC O/P 1.8m , Unshielded AC I/P cable 1.8m
4.	WLAN AP	D-link	DIR-655	KA21R655B1	N/A	Unshielded,1.8m
5.	Earphone	N/A	N/A	N/A	N/A	N/A

2.5 EUT Operation Test Setup

For WLAN RF test items, an engineering test program was provided and enabled to make EUT continuously transmit.

For AC power line conducted emissions, the EUT was set to connect with the WLAN AP under large package sizes transmission.

2.6 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example :

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 14.66 dB and 10dB attenuator.

$$\begin{aligned} \text{Offset}(dB) &= \text{RF cable loss}(dB) + \text{attenuator factor}(dB). \\ &= 14.66 + 10 = 24.66 \text{ (dB)} \end{aligned}$$



3 Test Result

3.1 6dB and 26dB and 99% Occupied Bandwidth Measurement

3.1.1 Description of 6dB and 26dB and 99% Occupied Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

26dB and 99% Occupied bandwidth are reporting only.

3.1.2 Measuring Instruments

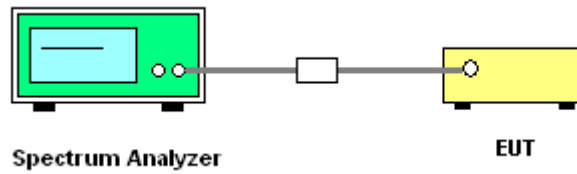
The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedures

- The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01 & ANSI C63.10-2020 clause 12.5.1 for 6dB BW and 12.5.2 for 26dB BW and 6.9.3 for 99% occupied bandwidth measurements.

<input checked="" type="checkbox"/>	Section C) Bandwidth Measurement 1. Emission Bandwidth (EBW) and 99% OBW
	<ol style="list-style-type: none"> Set RBW = shall be in the range of 1% to 5% 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 peak 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 in the range of 1% to 5%. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set to 1%~5% of the OBW and set the Video bandwidth (VBW) ≥ 3 * RBW. Measure and record the results in the test report.
<input checked="" type="checkbox"/>	Section C) Bandwidth Measurement 2. Minimum Emission Bandwidth for the band 5.725 - 5.85 GHz
	<ol style="list-style-type: none"> Set RBW = 100 kHz. Set the VBW ≥ 3 x RBW. Detector = Peak. Trace mode = max hold Measure the maximum width of the emission that is 6 dB down from the peak of the emission. Measure and record the results in the test report.

3.1.4 Test Setup



3.1.5 Test Result of 6dB and 26dB and 99% Occupied Bandwidth

Please refer to Appendix A.



3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

<CFR 15.407>

For mobile and portable 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.

For the 5.25–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log_{10} B$, where B is the 26 dB emission bandwidth in megahertz.

For the band 5.725–5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Note that U-NII-2 band, devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

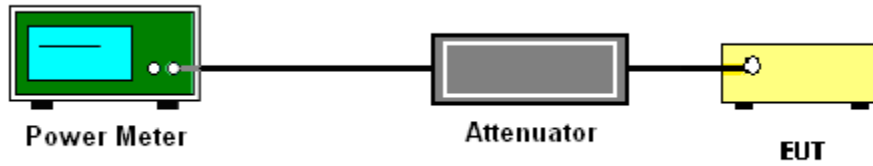
3.2.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

Method PM (Measurement using an RF average power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit continuously with a consistent duty cycle at its maximum power control level.
3. Measure the average power of the transmitter, and the average power is corrected with duty factor, $10 \log(1/x)$, where x is the duty cycle.

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

FCC U-NII-1													
Mode						Power Setting	Average Conducted Power with duty factor(dBm)	Conducted Power Limit (dBm)	Gain(dBi)		EIRP Power (dBm)		Pass/Fail
Band	SISO	N _{rx}	Channel	Freq (MHz)	Data Rate				Ant6	Ant6	Ant6		
11a	SISO	1	36	5180	6Mbps	12.00	13.12	24.00	3.00	16.12	-	Pass	
11a	SISO	1	44	5220	6Mbps	12.00	12.95	24.00	3.00	15.95	-	Pass	
11a	SISO	1	48	5240	6Mbps	12.00	12.96	24.00	3.00	15.96	-	Pass	
HT20	SISO	1	36	5180	MCS0	12.00	13.42	24.00	3.00	16.42	-	Pass	
HT20	SISO	1	44	5220	MCS0	12.00	13.21	24.00	3.00	16.21	-	Pass	
HT20	SISO	1	48	5240	MCS0	12.00	13.14	24.00	3.00	16.14	-	Pass	
HT40	SISO	1	38	5190	MCS0	9.00	9.29	24.00	3.00	12.29	-	Pass	
HT40	SISO	1	46	5230	MCS0	9.00	9.10	24.00	3.00	12.10	-	Pass	
VHT20	SISO	1	36	5180	MCS0	9.00	10.04	24.00	3.00	13.04	-	Pass	
VHT20	SISO	1	44	5220	MCS0	9.00	9.83	24.00	3.00	12.83	-	Pass	
VHT20	SISO	1	48	5240	MCS0	9.00	9.79	24.00	3.00	12.79	-	Pass	
VHT40	SISO	1	38	5190	MCS0	9.00	9.05	24.00	3.00	12.05	-	Pass	
VHT40	SISO	1	46	5230	MCS0	9.00	8.97	24.00	3.00	11.97	-	Pass	
VHT80	SISO	1	42	5210	MCS0	9.00	8.41	24.00	3.00	11.41	-	Pass	



FCC U-NII-2A												
Mode						Power Setting	Average Conducted Power with duty factor(dBm)	FCC Conducted Power Limit (dBm)	Gain(dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass/Fail
Band	SISO	N _{TX}	Channel	Freq (MHz)	Data Rate							
11a	SISO	1	52	5260	6Mbps	12.00	13.44	23.98	3.00	16.44	26.99	Pass
11a	SISO	1	60	5300	6Mbps	12.00	13.81	23.98	3.00	16.81	26.99	Pass
11a	SISO	1	64	5320	6Mbps	12.00	13.87	23.98	3.00	16.87	26.99	Pass
HT20	SISO	1	52	5260	MCS0	12.00	13.63	23.98	3.00	16.63	26.99	Pass
HT20	SISO	1	60	5300	MCS0	12.00	14.09	23.98	3.00	17.09	26.99	Pass
HT20	SISO	1	64	5320	MCS0	12.00	14.13	23.98	3.00	17.13	26.99	Pass
HT40	SISO	1	54	5270	MCS0	9.00	9.69	23.98	3.00	12.69	26.99	Pass
HT40	SISO	1	62	5310	MCS0	9.00	10.16	23.98	3.00	13.16	26.99	Pass
VHT20	SISO	1	52	5260	MCS0	9.00	10.38	23.98	3.00	13.38	26.99	Pass
VHT20	SISO	1	60	5300	MCS0	9.00	10.85	23.98	3.00	13.85	26.99	Pass
VHT20	SISO	1	64	5320	MCS0	9.00	10.80	23.98	3.00	13.80	26.99	Pass
VHT40	SISO	1	54	5270	MCS0	9.00	9.58	23.98	3.00	12.58	26.99	Pass
VHT40	SISO	1	62	5310	MCS0	9.00	10.04	23.98	3.00	13.04	26.99	Pass
VHT80	SISO	1	58	5290	MCS0	9.00	9.39	23.98	3.00	12.39	26.99	Pass

FCC U-NII-2C												
Mode						Power Setting	Average Conducted Power with duty factor(dBm)	FCC Conducted Power Limit (dBm)	Gain(dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass/Fail
Band	SISO	N _{TX}	Channel	Freq (MHz)	Data Rate							
11a	SISO	1	100	5500	6Mbps	12.00	12.86	23.98	4.00	16.86	26.99	Pass
11a	SISO	1	116	5580	6Mbps	12.00	13.26	23.98	4.00	17.26	26.99	Pass
11a	SISO	1	140	5700	6Mbps	12.00	14.48	23.98	4.00	18.48	26.99	Pass
HT20	SISO	1	100	5500	MCS0	12.00	13.10	23.98	4.00	17.10	26.99	Pass
HT20	SISO	1	116	5580	MCS0	12.00	13.51	23.98	4.00	17.51	26.99	Pass
HT20	SISO	1	140	5700	MCS0	9.00	11.85	23.98	4.00	15.85	26.99	Pass
HT40	SISO	1	102	5510	MCS0	9.00	9.46	23.98	4.00	13.46	26.99	Pass
HT40	SISO	1	110	5550	MCS0	9.00	9.67	23.98	4.00	13.67	26.99	Pass
HT40	SISO	1	134	5670	MCS0	9.00	10.94	23.98	4.00	14.94	26.99	Pass
VHT20	SISO	1	100	5500	MCS0	9.00	9.59	23.98	4.00	13.59	26.99	Pass
VHT20	SISO	1	118	5580	MCS0	9.00	10.36	23.98	4.00	14.36	26.99	Pass
VHT20	SISO	1	140	5700	MCS0	9.00	11.57	23.98	4.00	15.57	26.99	Pass
VHT40	SISO	1	102	5510	MCS0	9.00	9.40	23.98	4.00	13.40	26.99	Pass
VHT40	SISO	1	110	5550	MCS0	9.00	9.58	23.98	4.00	13.58	26.99	Pass
VHT40	SISO	1	134	5670	MCS0	9.00	10.87	23.98	4.00	14.87	26.99	Pass
VHT80	SISO	1	106	5530	MCS0	9.00	8.57	23.98	4.00	12.57	26.99	Pass



FCC-U-NII-3												
Mode						Power Setting	Average Conducted Power with duty factor(dBm)	Conducted Power Limit (dBm)	Gain(dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass/Fail
Band	SISO	N _{Tx}	Channel	Freq (MHz)	Data Rate		Ant6		Ant6	Ant6		
11a	SISO	1	149	5745	6Mbps	12.00	15.24	30.00	4.00	19.24	36.00	Pass
11a	SISO	1	157	5785	6Mbps	12.00	14.84	30.00	4.00	18.84	36.00	Pass
11a	SISO	1	165	5825	6Mbps	12.00	14.67	30.00	4.00	18.67	36.00	Pass
HT20	SISO	1	149	5745	MCS0	12.00	15.54	30.00	4.00	19.54	36.00	Pass
HT20	SISO	1	157	5785	MCS0	12.00	15.24	30.00	4.00	19.24	36.00	Pass
HT20	SISO	1	165	5825	MCS0	12.00	14.91	30.00	4.00	18.91	36.00	Pass
HT40	SISO	1	151	5755	MCS0	9.00	11.50	30.00	4.00	15.50	36.00	Pass
HT40	SISO	1	159	5795	MCS0	9.00	11.36	30.00	4.00	15.36	36.00	Pass
VHT20	SISO	1	149	5745	MCS0	9.00	12.64	30.00	4.00	16.64	36.00	Pass
VHT20	SISO	1	157	5785	MCS0	9.00	12.17	30.00	4.00	16.17	36.00	Pass
VHT20	SISO	1	165	5825	MCS0	9.00	12.04	30.00	4.00	16.04	36.00	Pass
VHT40	SISO	1	151	5755	MCS0	9.00	11.37	30.00	4.00	15.37	36.00	Pass
VHT40	SISO	1	159	5795	MCS0	9.00	11.29	30.00	4.00	15.29	36.00	Pass
VHT80	SISO	1	155	5775	MCS0	9.00	10.78	30.00	4.00	14.78	36.00	Pass



3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

<CFR 15.407>

For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum power spectral density shall not exceed 11dBm in any 1 megahertz band.

For the 5.25–5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

For the band 5.725–5.85 GHz, 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, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.



3.3.3 Test Procedures

The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
Section F) Maximum power spectral density.

For devices operating in the bands UNII-1/2A/2C

Method SA-2

(trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

- Measure the duty cycle.
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz.
- Set VBW \geq 3 MHz.
- Number of points in sweep \geq 2 Span / RBW.
- Sweep time = auto.
- Detector = RMS
- Trace average at least 100 traces in power averaging mode.
- Add $10 \log(1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add $10 \log(1/0.25) = 6$ dB if the duty cycle is 25 percent.

For devices operating in the band UNII-3

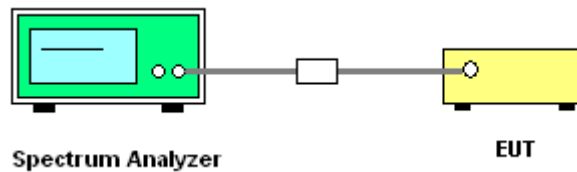
Method SA-2

(trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

- Measure the duty cycle.
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 500KHz (or 300 kHz if the SA can't set RBW=500KHz).
- Set VBW \geq 1 MHz.
- Number of points in sweep \geq 2 Span / RBW.
- Sweep time = auto.
- Detector = RMS
- Trace average at least 100 traces in power averaging mode.
- If the SA can't set RBW=500KHz, then add $10 \log(500\text{kHz}/\text{RBW})$ to the test result.
- Add $10 \log(1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add $10 \log(1/0.25) = 6$ dB if the duty cycle is 25 percent.

1. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
2. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.



3.4 Unwanted Emissions Measurement

This section as specified in FCC Part 15.407(b) is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement. The unwanted emissions shall comply with 15.407(b)(1) to (6), and restricted bands per FCC Part 15.205.

3.4.1 Limit of Unwanted Emissions

- (1) For transmitters operating in the 5150-5250 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27 dBm/MHz.

For transmitters operating in the 5250-5350 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5250-5350 MHz band that generate emissions in the 5150-5250 MHz band must meet all applicable technical requirements for operation in the 5150-5250 MHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5150-5250 MHz band.

For transmitters operating in the 5470-5600 MHz and 5650-5725 MHz band: all emissions outside of the 5470-5600 MHz and 5650-5725 MHz band shall not exceed an EIRP of -27 dBm/MHz.

- (2) For transmitters operating in the 5.725-5.85 GHz band:
15.407(b)(4)(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.



(3) Unwanted spurious emissions fallen in restricted bands shall comply with the general field strength limits as below table,

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

EIRP (dBm)	Field Strength at 3m (dBµV/m)
- 27	68.2

Note: The following formula is used to convert the EIRP to field strength.

$$EIRP = E_{Meas} + 20\log (d_{Meas}) - 104.7$$

where

EIRP is the equivalent isotropically radiated power, in dBm

E_{Meas} is the field strength of the emission at the measurement distance, in dBµV/m

d_{Meas} is the measurement distance, in m

3.4.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

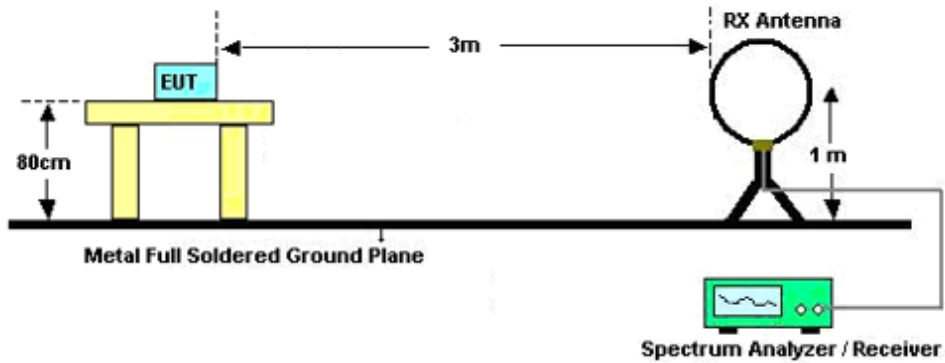


3.4.3 Test Procedures

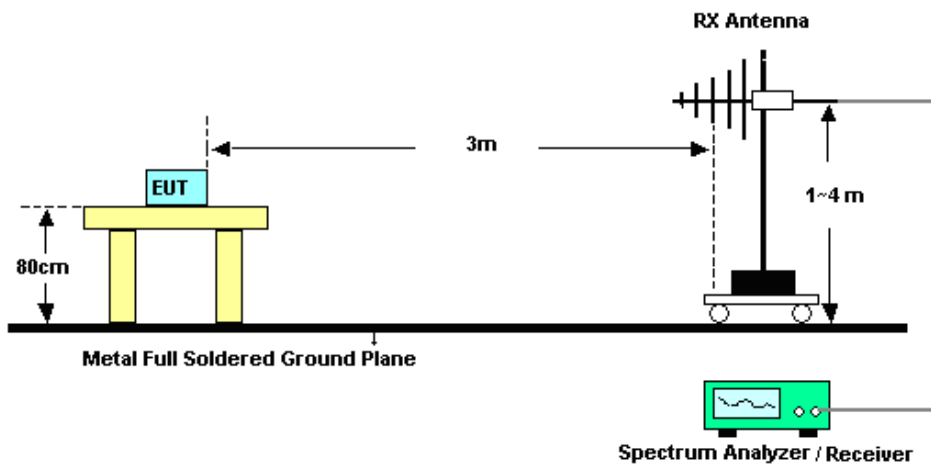
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section G) Unwanted emissions measurement.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz
 - RBW = 1 MHz
 - VBW \geq 3 MHz
 - Detector = Peak
 - Sweep time = auto
 - Trace mode = max hold
 - (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz
 - RBW = 1 MHz
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW \geq 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on.
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

3.4.4 Test Setup

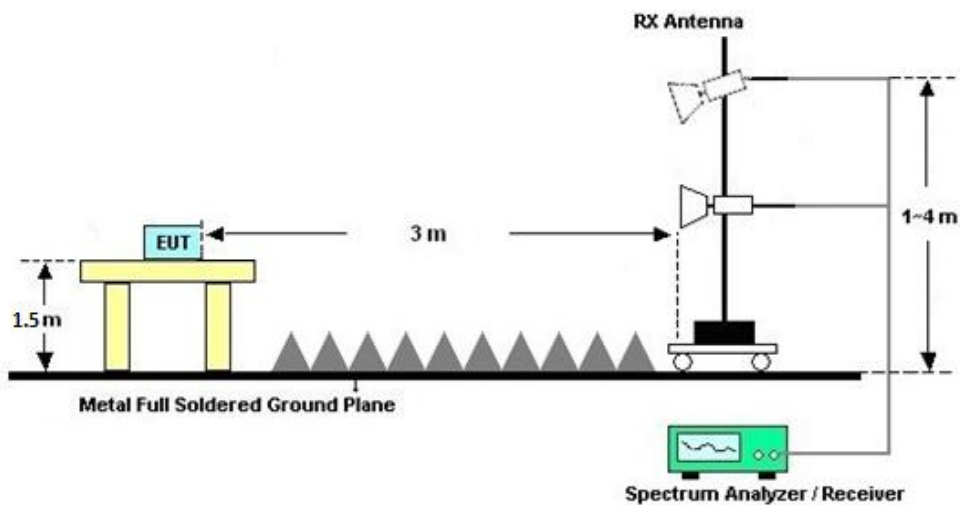
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz





3.4.5 Test Results of Radiated Spurious Emissions (9 kHz ~ 30 MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

3.4.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C.

3.4.7 Duty Cycle

Please refer to Appendix D.

3.4.8 Test Result of Radiated Spurious Emissions (30MHz ~ 10th Harmonic)

Please refer to Appendix C.



3.5 AC Conducted Emission Measurement

3.5.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission (MHz)	Conducted limit (dBµV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

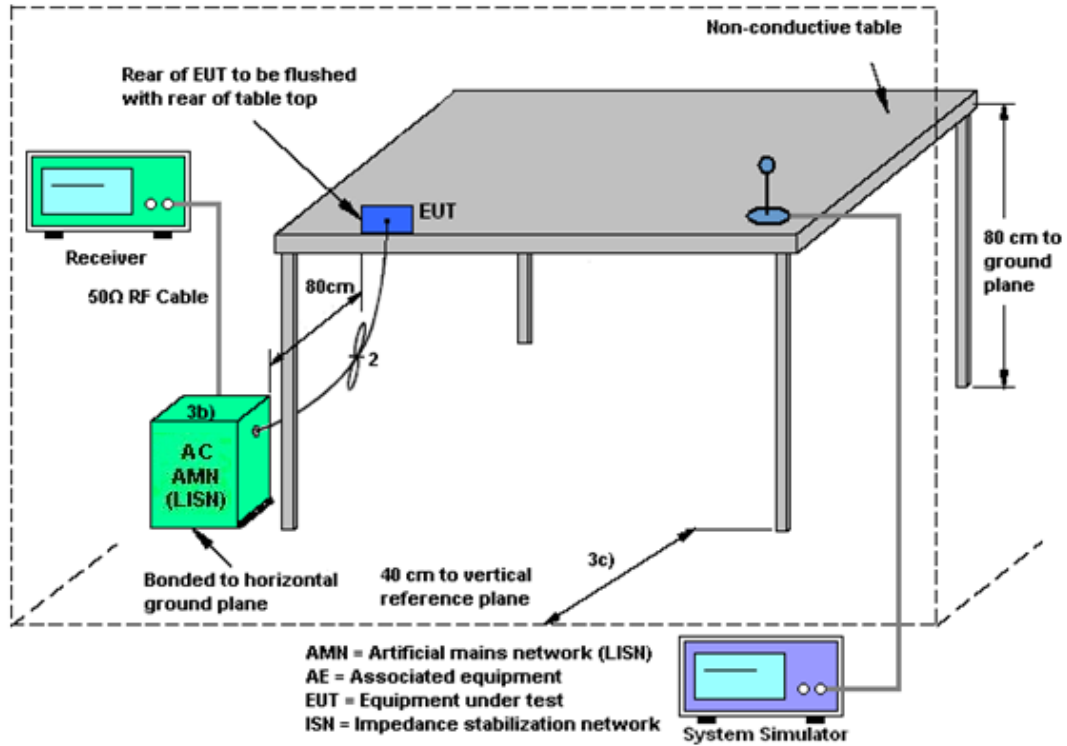
3.5.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.5.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

3.5.4 Test Setup



3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.



3.6 Antenna Requirements

3.6.1 Standard Applicable

According to FCC 47 CFR Section 15.407(a)(1)(2), if transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.6.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.6.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver	Keysight	N9038A	MY57290157	3Hz~8.5GHz;Max 30dBm	Feb. 22, 2025	Feb. 04, 2026	Feb. 21, 2026	Radiation (03CH06-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471084	10Hz~44GHz	Jul. 03, 2025	Feb. 04, 2026	Jul. 02, 2026	Radiation (03CH06-KS)
Active loop antenna	R&S	HFH2-Z2E	101125	9kHz~30MHz	Aug. 10, 2025	Feb. 04, 2026	Aug. 09, 2026	Radiation (03CH06-KS)
Bilog Antenna	TeseQ	CBL6111D	49921	30MHz~1GHz	Mar. 24, 2025	Feb. 04, 2026	Mar. 23, 2026	Radiation (03CH06-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00218652	1GHz~18GHz	Apr. 14, 2025	Feb. 04, 2026	Apr. 13, 2026	Radiation (03CH06-KS)
SHF-EHF Horn	Com-power	AH-840	101116	18GHz~40GHz	Oct. 18, 2025	Feb. 04, 2026	Oct. 17, 2026	Radiation (03CH06-KS)
Amplifier	SONOMA	310N	380827	9KHz ~1GHZ	Jul. 03, 2025	Feb. 04, 2026	Jul. 02, 2026	Radiation (03CH06-KS)
Amplifier	EM	EM18G40GA	060728	18~40GHz	Dec. 26, 2025	Feb. 04, 2026	Dec. 25, 2026	Radiation (03CH06-KS)
high gain Amplifier	EM	EM01G18GA	060845	1Ghz-18Ghz	Dec. 25, 2025	Feb. 04, 2026	Dec. 24, 2026	Radiation (03CH06-KS)
Amplifier	Keysight	83017A	MY57280119	500MHz~26.5GHz	Oct. 10, 2025	Feb. 04, 2026	Oct. 09, 2026	Radiation (03CH06-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Feb. 04, 2026	NCR	Radiation (03CH06-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Feb. 04, 2026	NCR	Radiation (03CH06-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Feb. 04, 2026	NCR	Radiation (03CH06-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	Apr 16, 2025	Feb. 28, 2026	Apr 15, 2026	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060103	9kHz~30MHz	Jul. 03, 2025	Feb. 28, 2026	Jul. 02, 2026	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060105	9kHz~30MHz	Dec. 24, 2025	Feb. 28, 2026	Dec. 23, 2026	Conduction (CO01-KS)
AC Power Source	Ouhan	APW-130NYT	202201040060	AC 0V~300V,45Hz~1000Hz	Apr. 16, 2025	Feb. 28, 2026	Apr. 15, 2026	Conduction (CO01-KS)
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Jul. 07, 2025	Feb. 06, 2026~Apr. 16, 2026	Jul. 06, 2026	Conducted (TH01-KS)
Pulse Power Sensor	Anritsu	MA2411B	0917070	300MHz~40GHz	Dec. 25, 2025	Feb. 06, 2026~Apr. 16, 2026	Dec. 24, 2026	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Dec. 25, 2025	Feb. 06, 2026~Apr. 16, 2026	Dec. 24, 2026	Conducted (TH01-KS)

NCR: No Calibration Required



5 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.10. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Conducted Measurement

Conducted Spurious Emission & Bandedge	±2.00 dB
Occupied Channel Bandwidth	±0.384%
Conducted Power	±0.90 dB
Conducted Power Spectral Density	±1.70 dB
Frequency	±0.38 Hz

Uncertainty of AC Conducted Emission Measurement (0.15 MHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.84 dB
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Uncertainty of Radiated Emission Measurement (9 KHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.30 dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	6.18 dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.88 dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.36 dB
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----- THE END -----



Appendix A. Conducted Test Results



Ambient Condition: 25 °C, 45 %RH	
Test Date: 2026-2-6~2026-4-16	Test Engineer: Yang

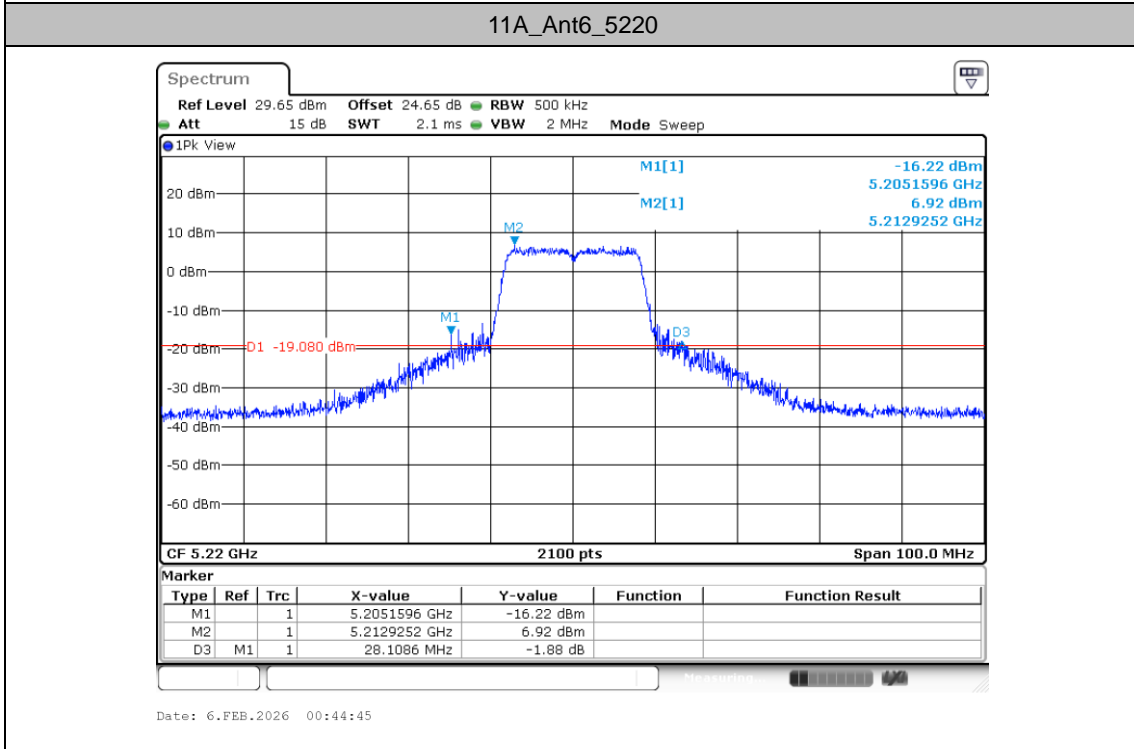
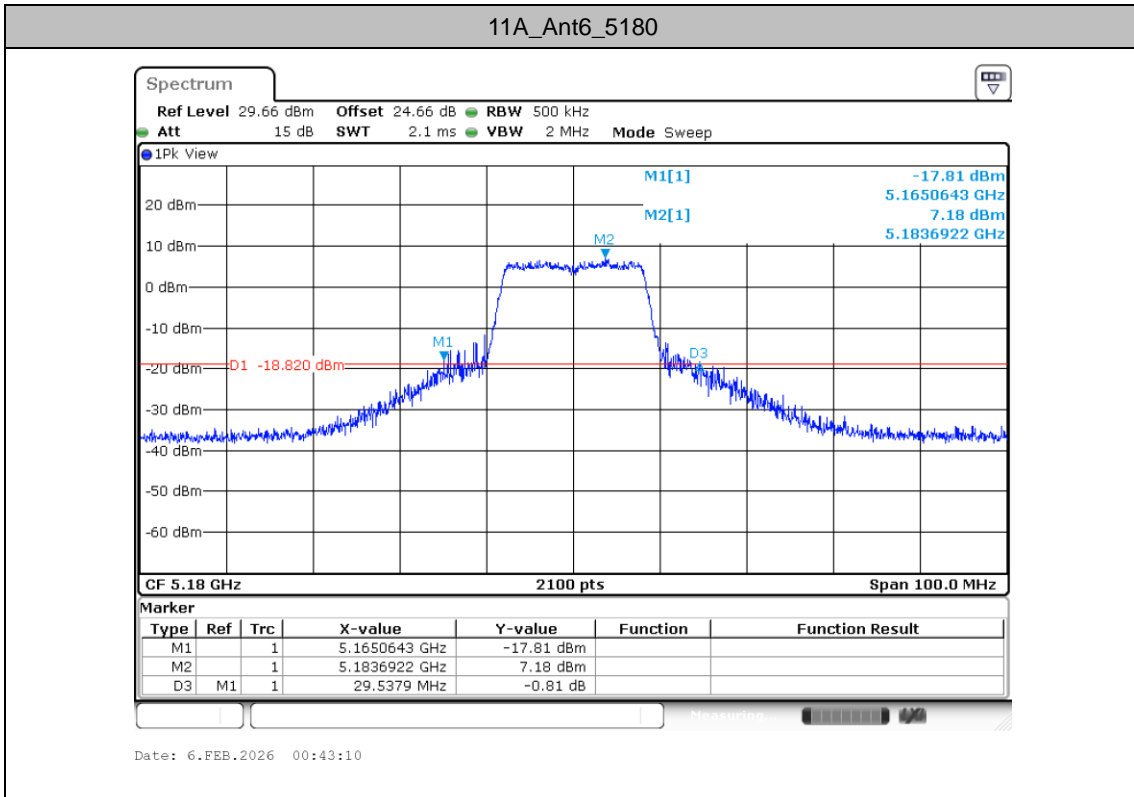
Emission Bandwidth

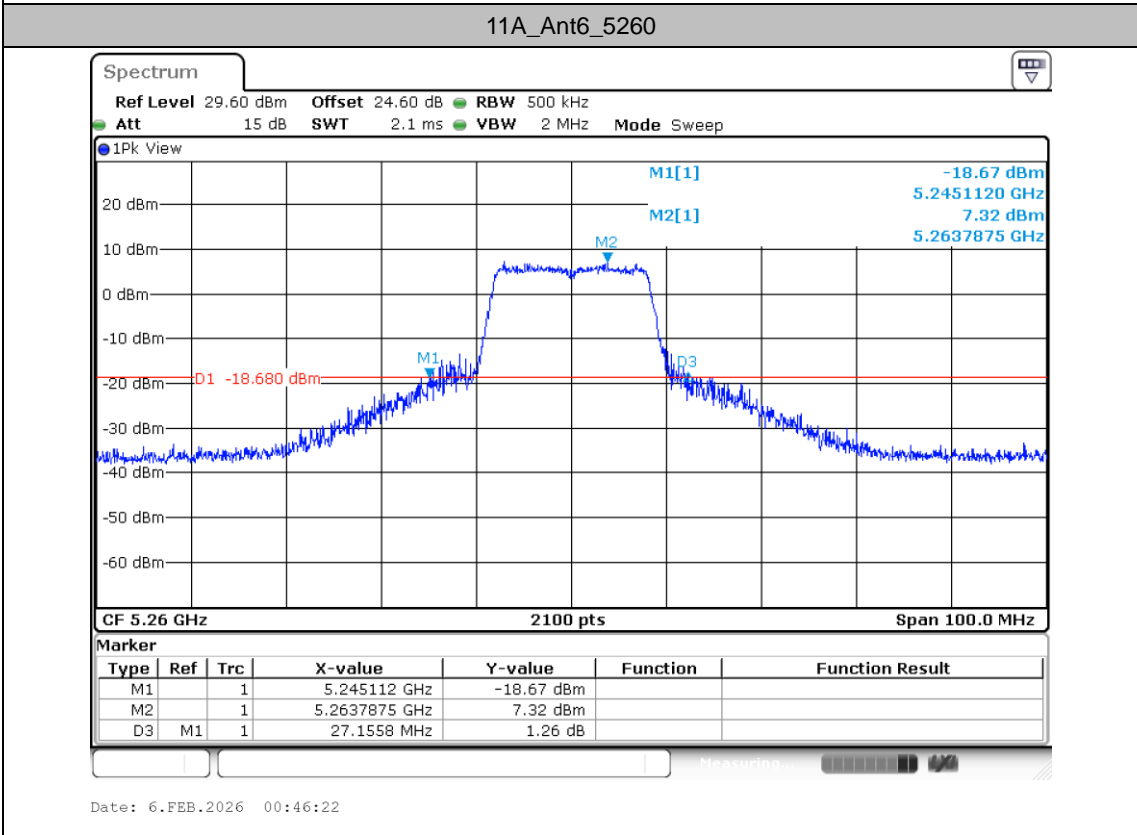
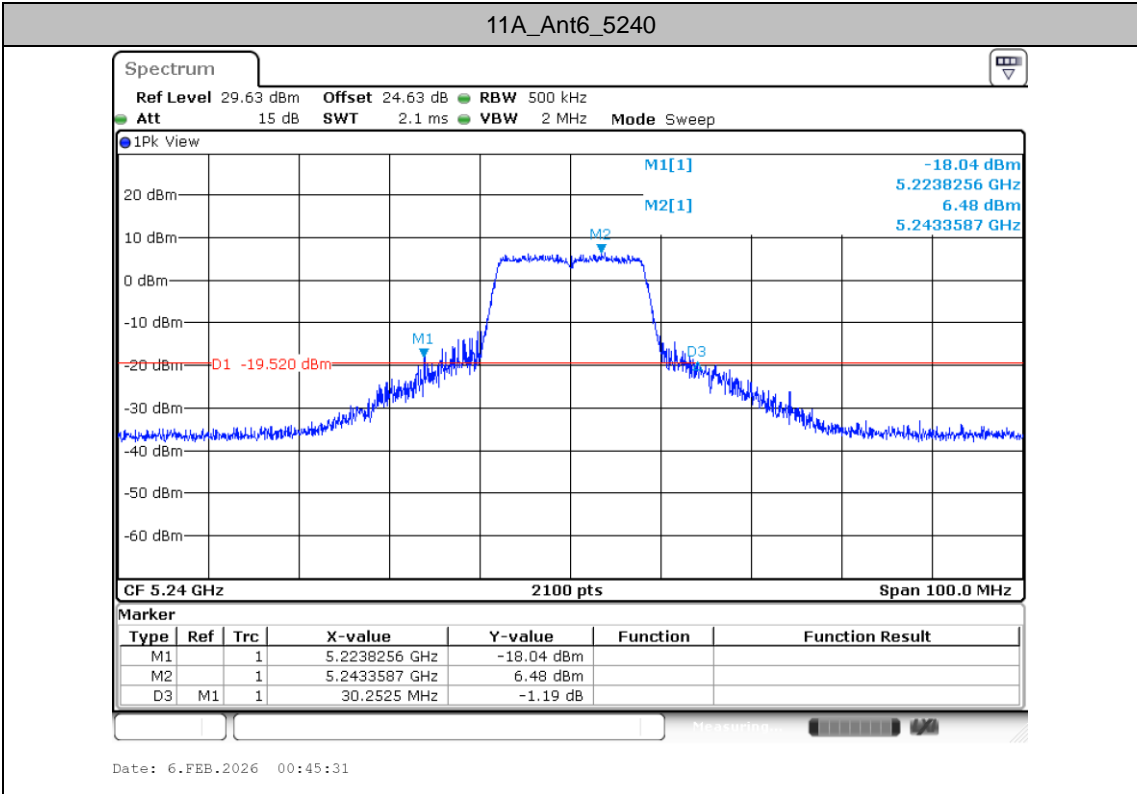
Test Result

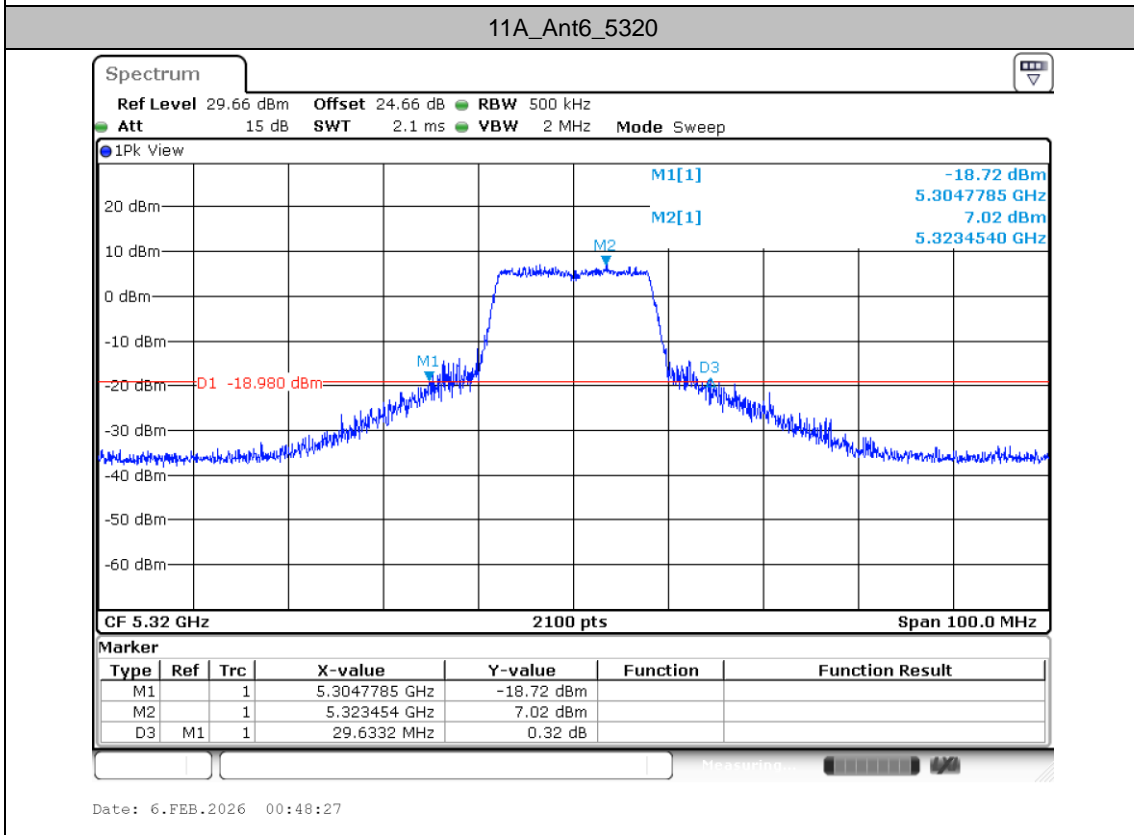
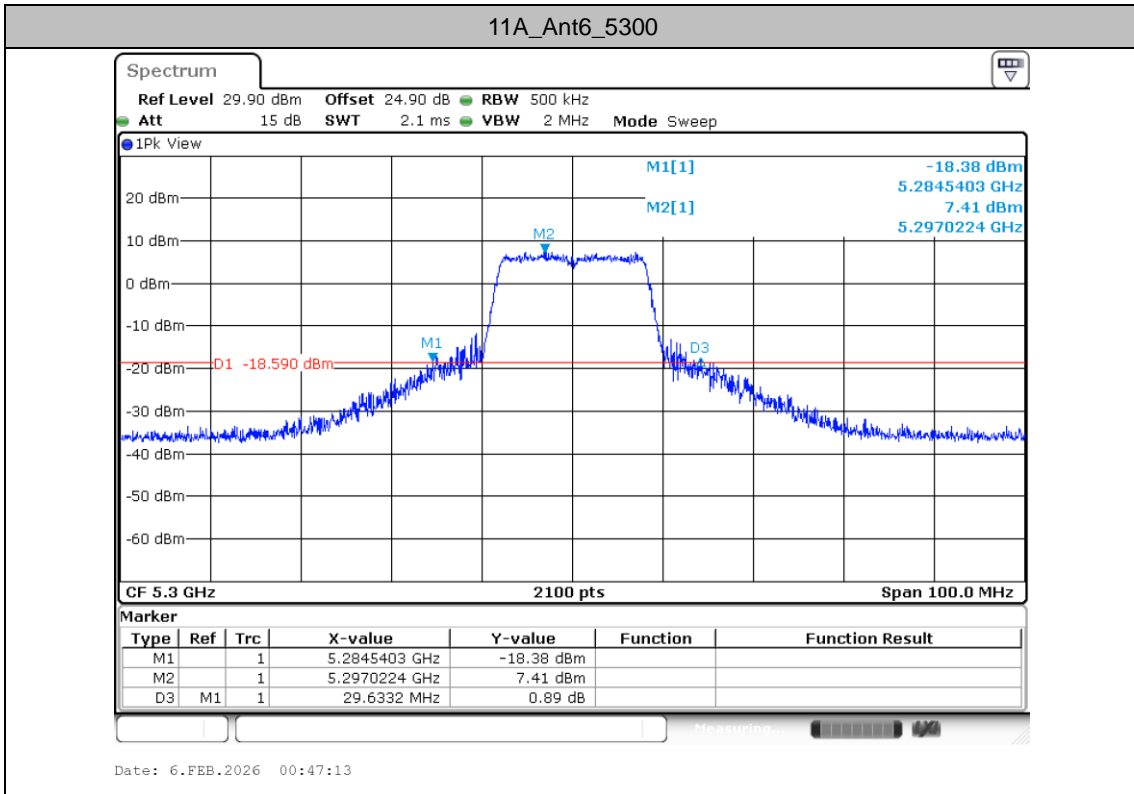
TestMode	Antenna	Freq(MHz)	26dB EBW [MHz]	FL[MHz]	FH[MHz]
11A	Ant6	5180	29.54	5165.06	5194.60
		5220	28.11	5205.16	5233.27
		5240	30.25	5223.83	5254.08
		5260	27.16	5245.11	5272.27
		5300	29.63	5284.54	5314.17
		5320	29.63	5304.78	5334.41
		5500	31.73	5484.21	5515.94
		5580	29.97	5564.83	5594.79
		5700	31.21	5684.11	5715.32
		5745	30.35	5728.49	5758.84
		5785	31.97	5768.87	5800.84
11N20SISO	Ant6	5825	31.59	5809.30	5840.89
		5180	30.68	5165.16	5195.84
		5220	33.83	5203.21	5237.03
		5240	36.35	5221.35	5257.70
		5260	32.40	5243.11	5275.51
		5300	33.59	5282.87	5316.46
		5320	30.87	5304.21	5335.08
		5500	37.54	5481.40	5518.94
		5580	34.25	5564.21	5598.46
		5700	33.92	5683.25	5717.17
		5745	37.68	5726.35	5764.03
11N40SISO	Ant6	5785	36.83	5768.44	5805.27
		5825	34.11	5806.49	5840.60
		5190	46.69	5168.32	5215.01
		5230	48.02	5204.89	5252.92
		5270	46.50	5248.04	5294.54
		5310	48.40	5285.37	5333.77
		5510	48.69	5488.42	5537.11
		5550	46.97	5527.08	5574.06
		5670	45.35	5645.94	5691.30
11AC80SISO	Ant6	5755	46.40	5734.09	5780.49
		5795	42.12	5774.09	5816.20
		5210	88.04	5166.65	5254.69
		5290	94.90	5241.88	5336.78
		5530	91.28	5485.69	5576.97
		5775	90.71	5729.36	5820.07

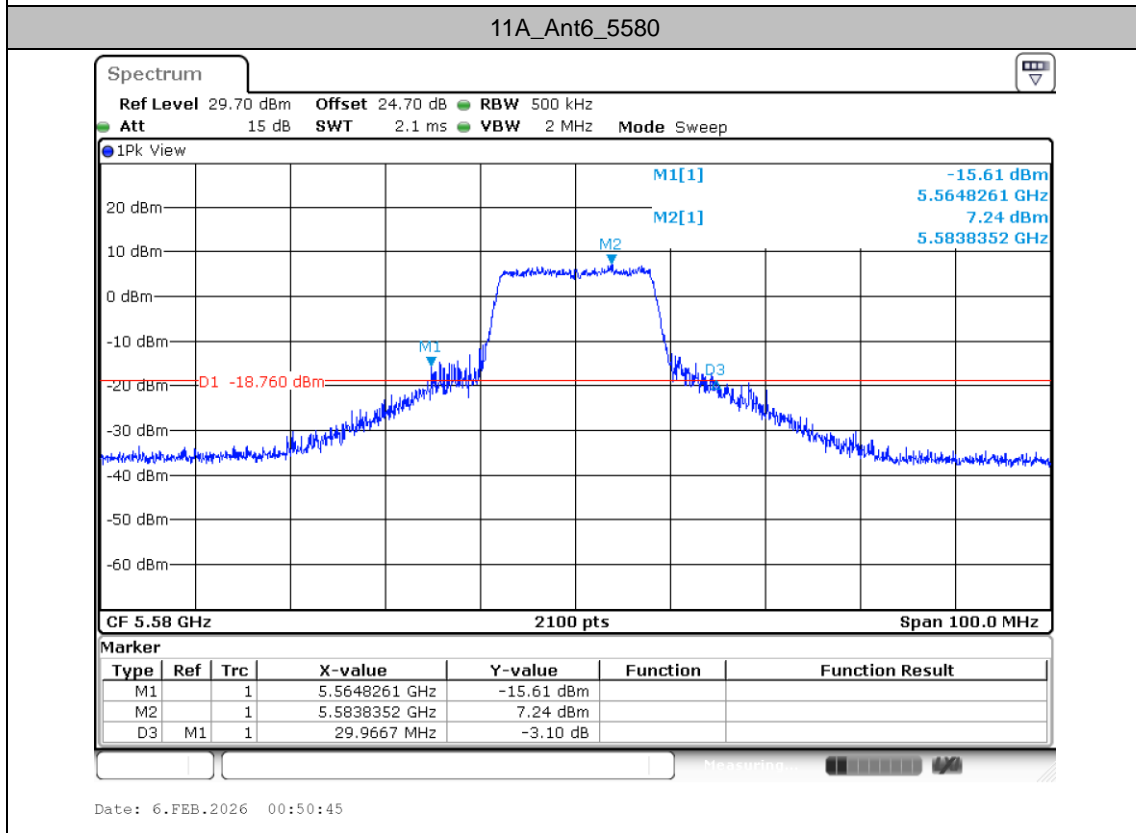
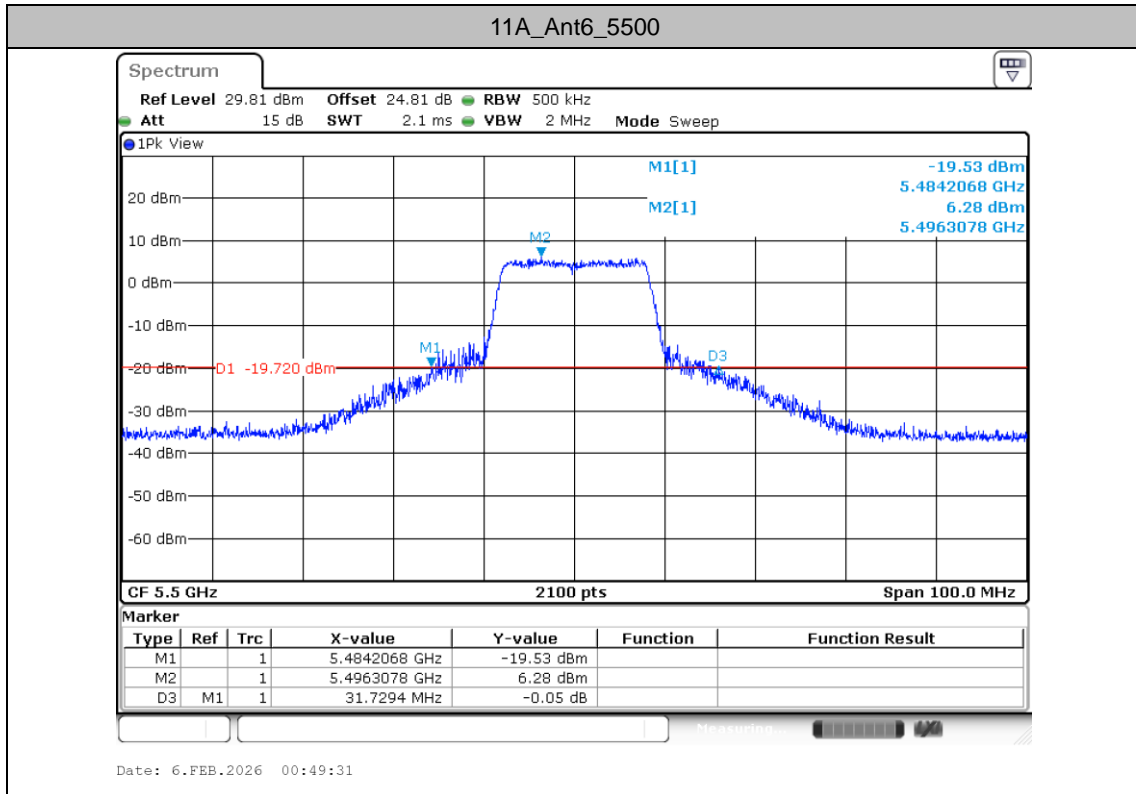


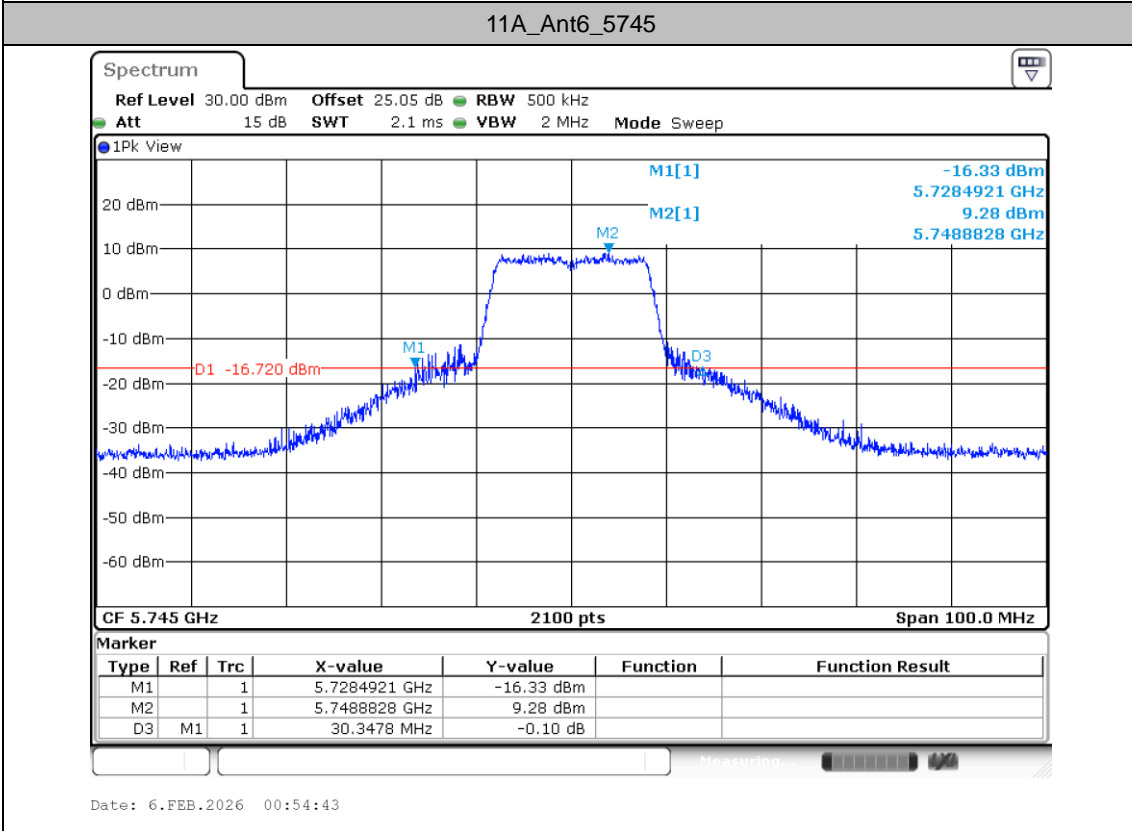
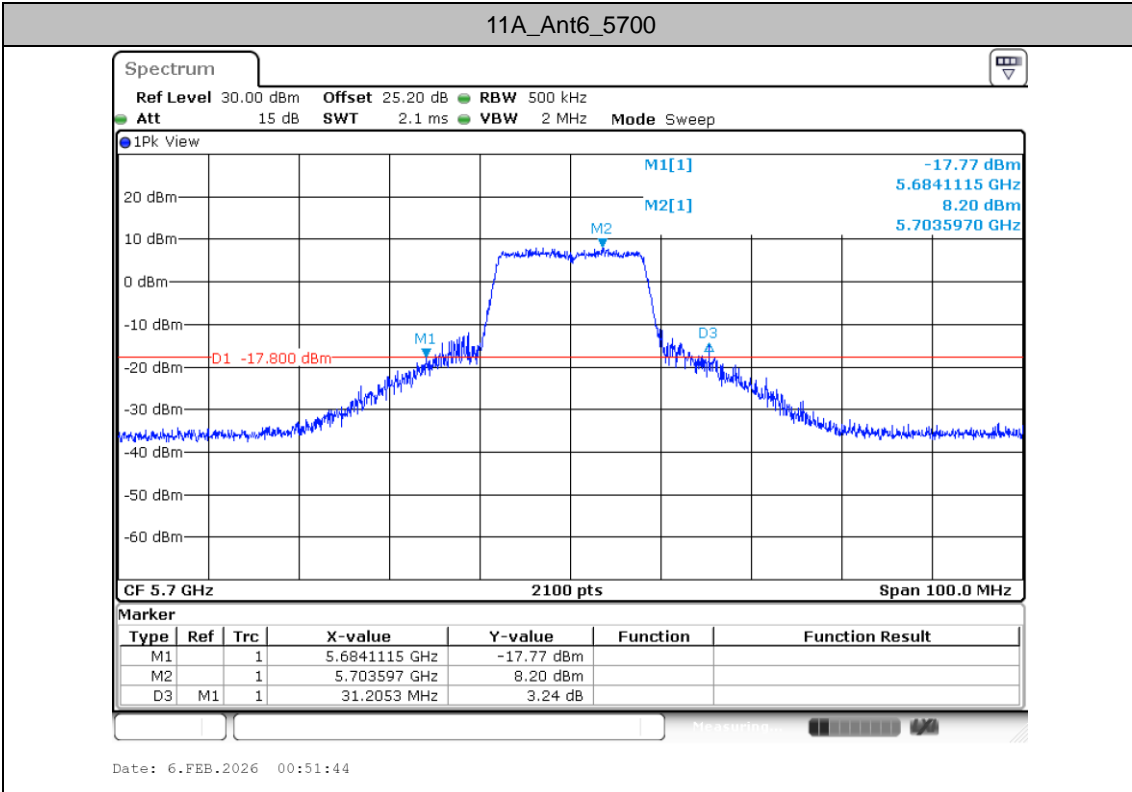
Test Graphs

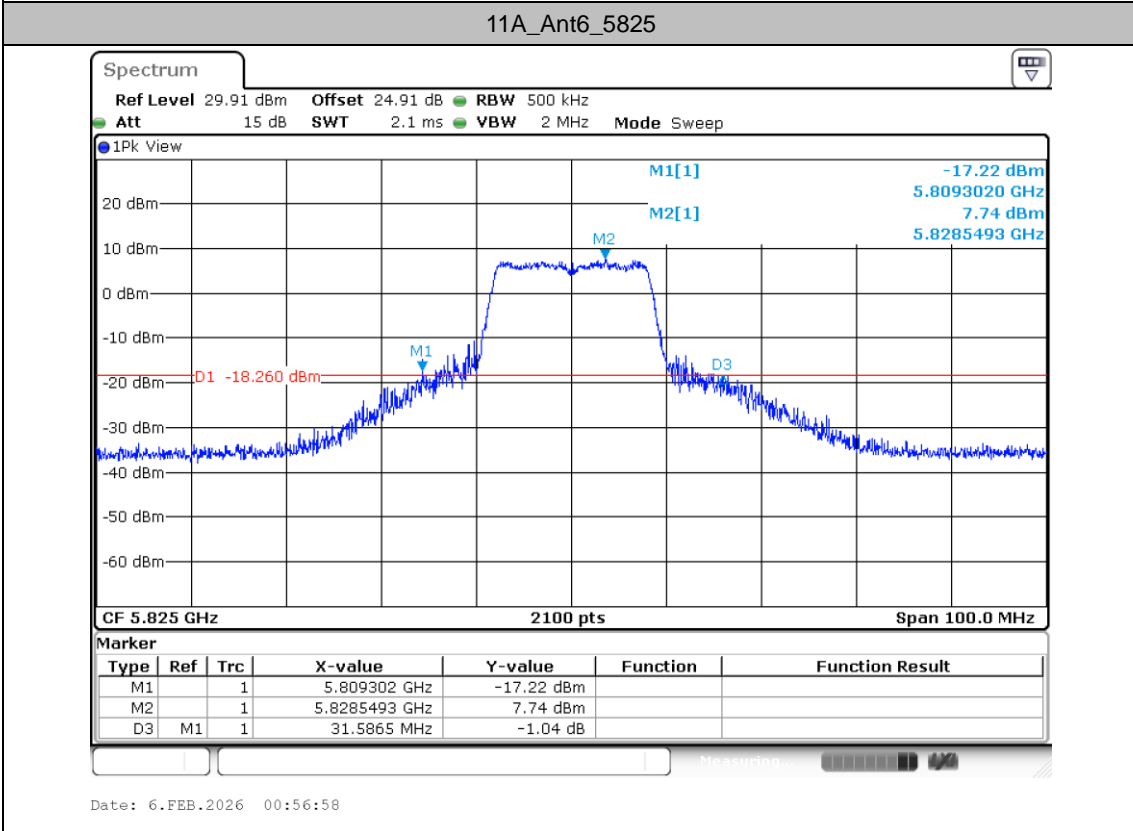
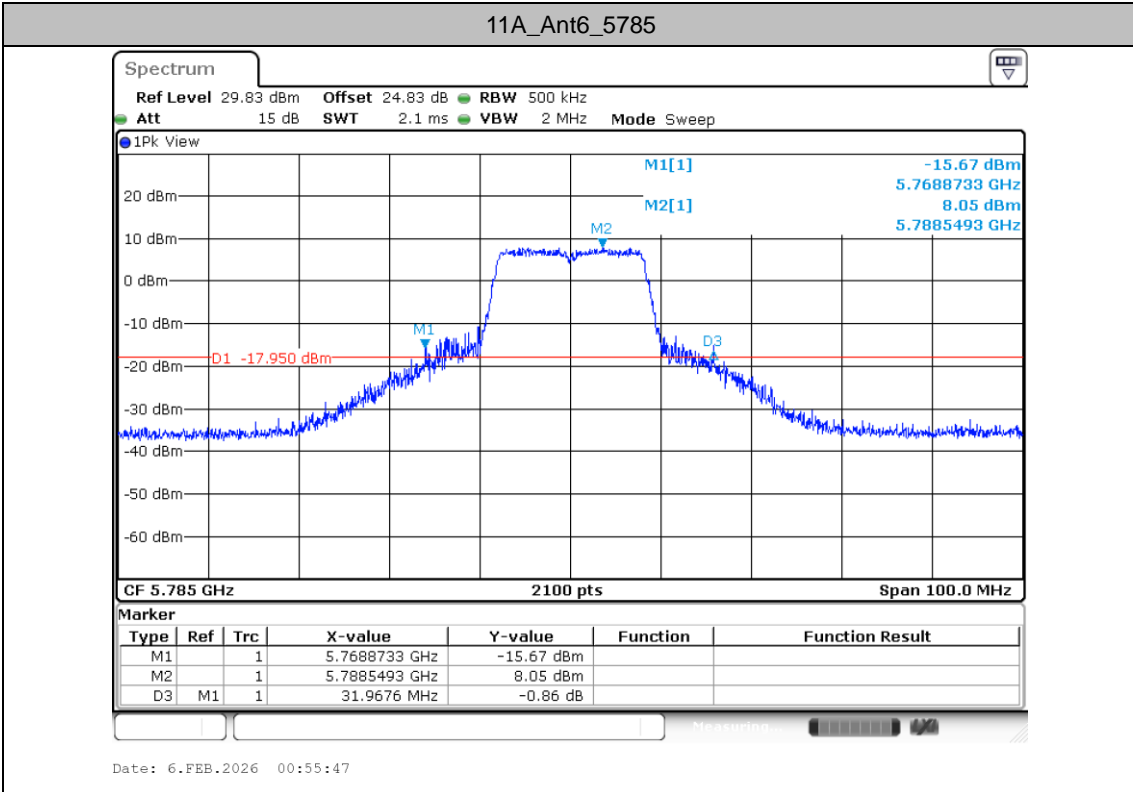


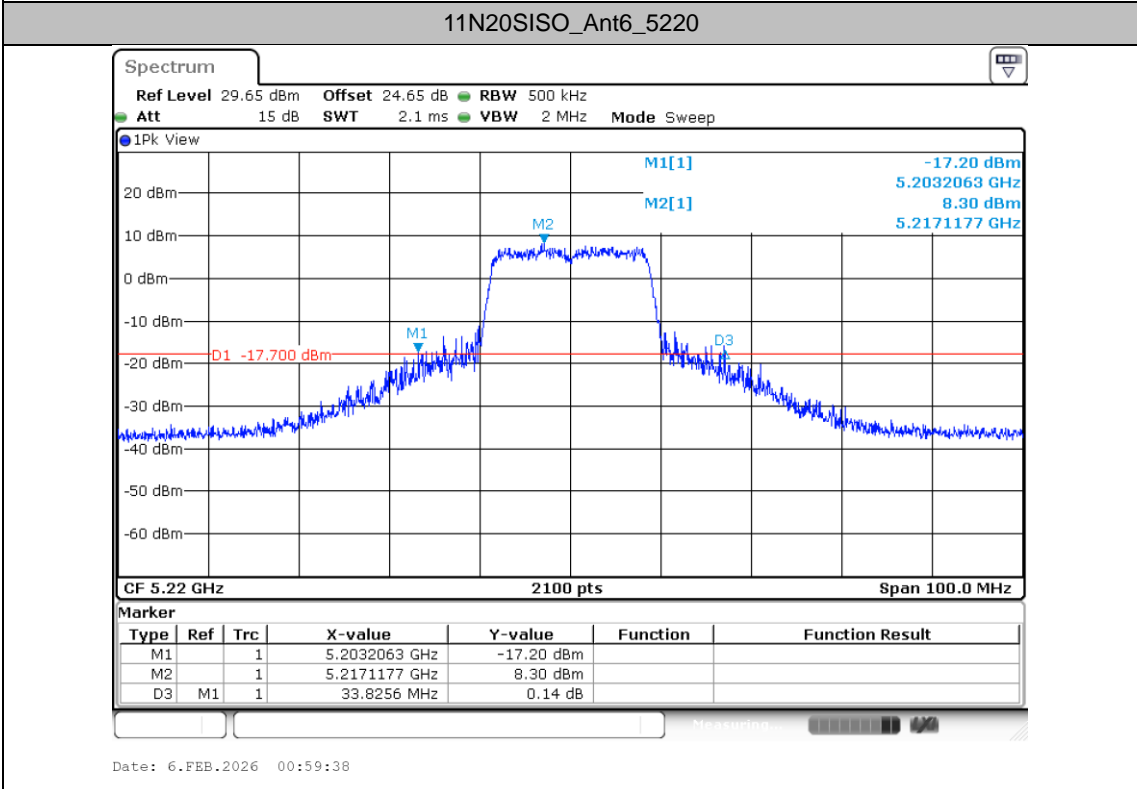
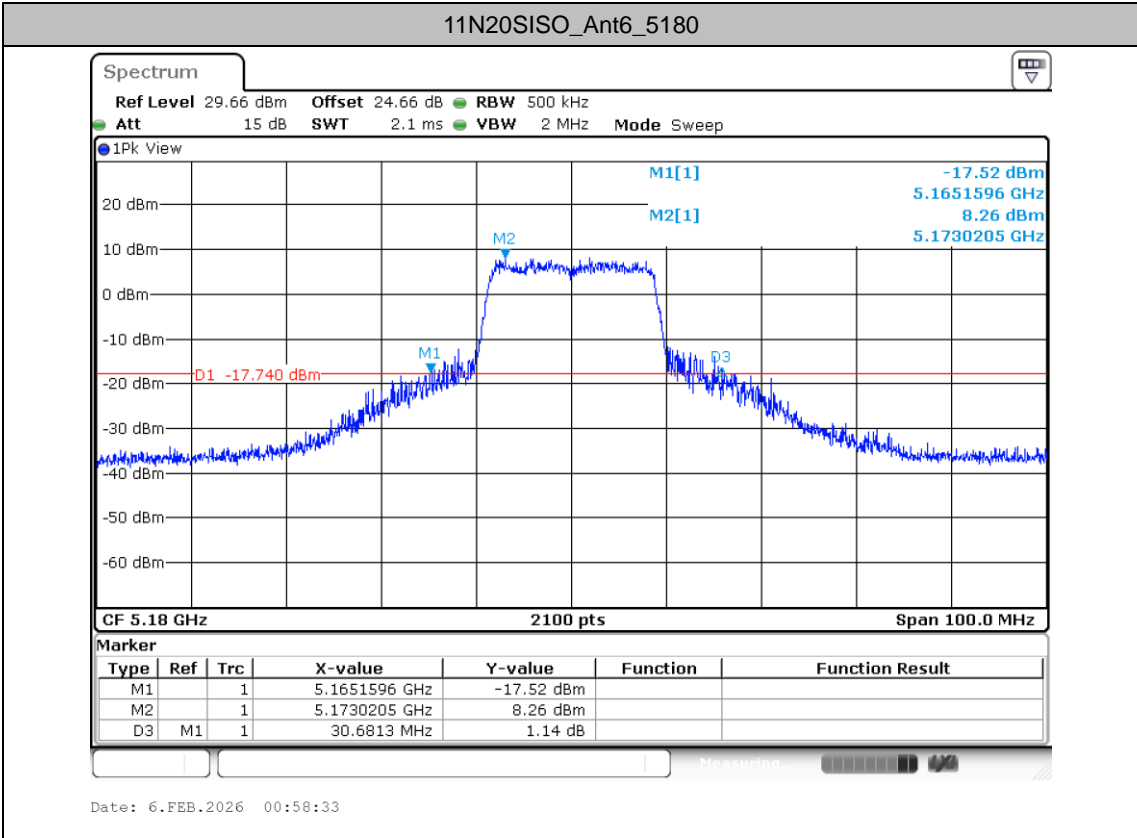


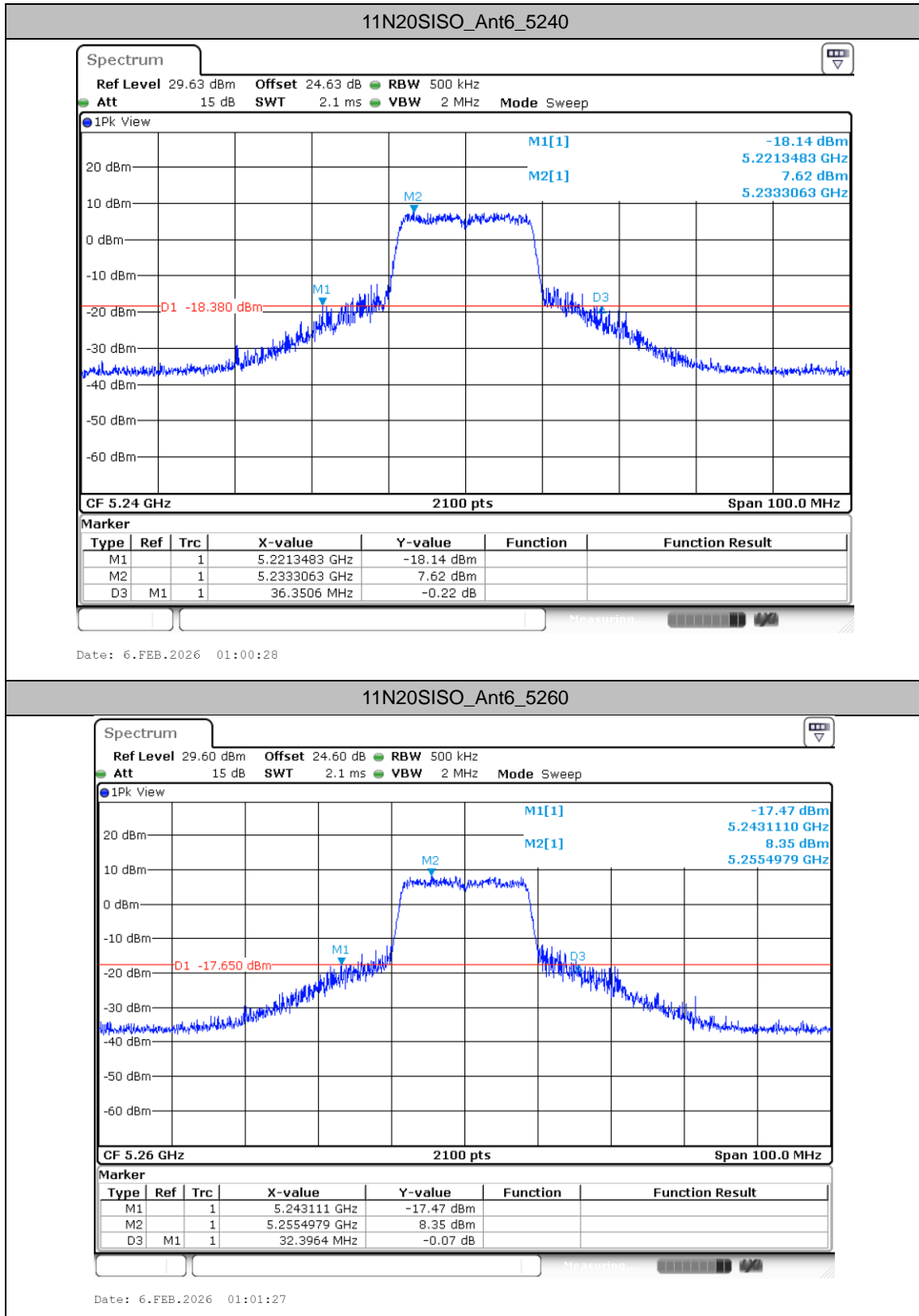


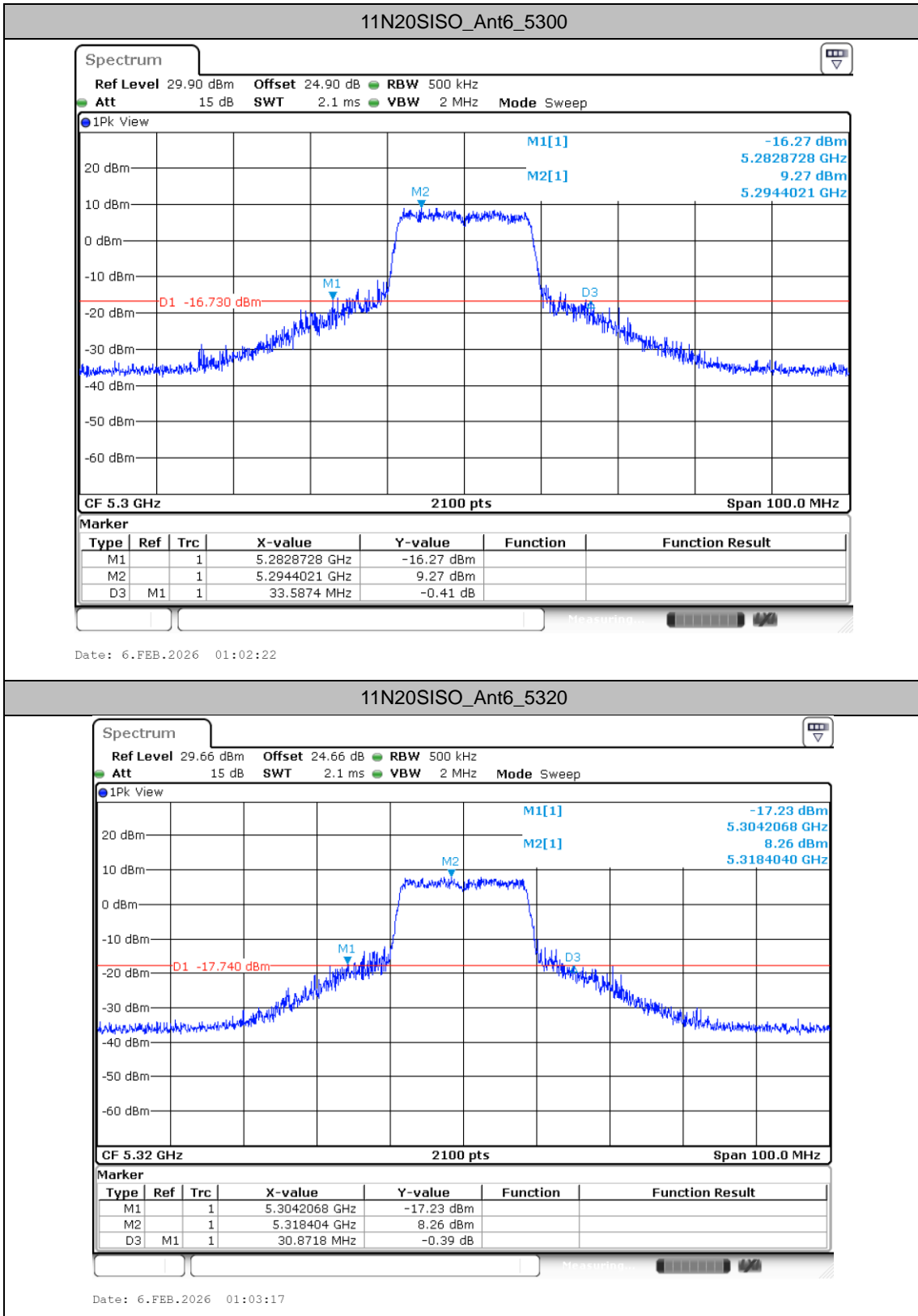


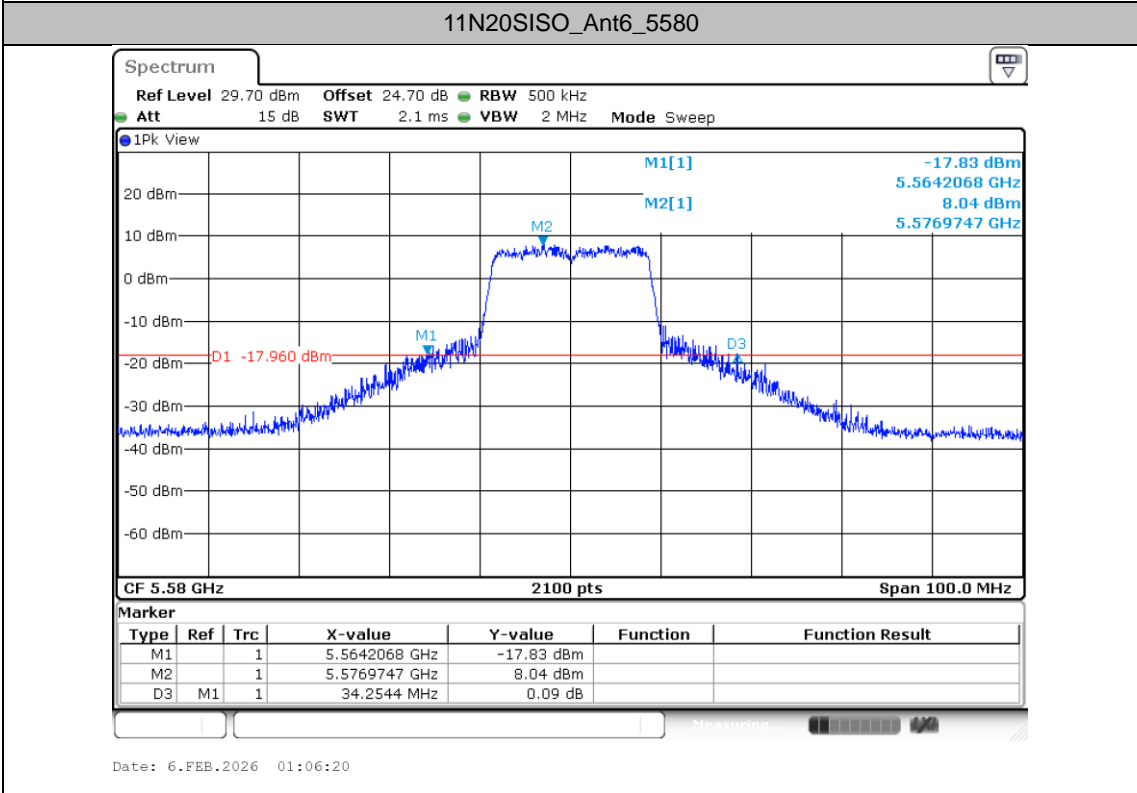
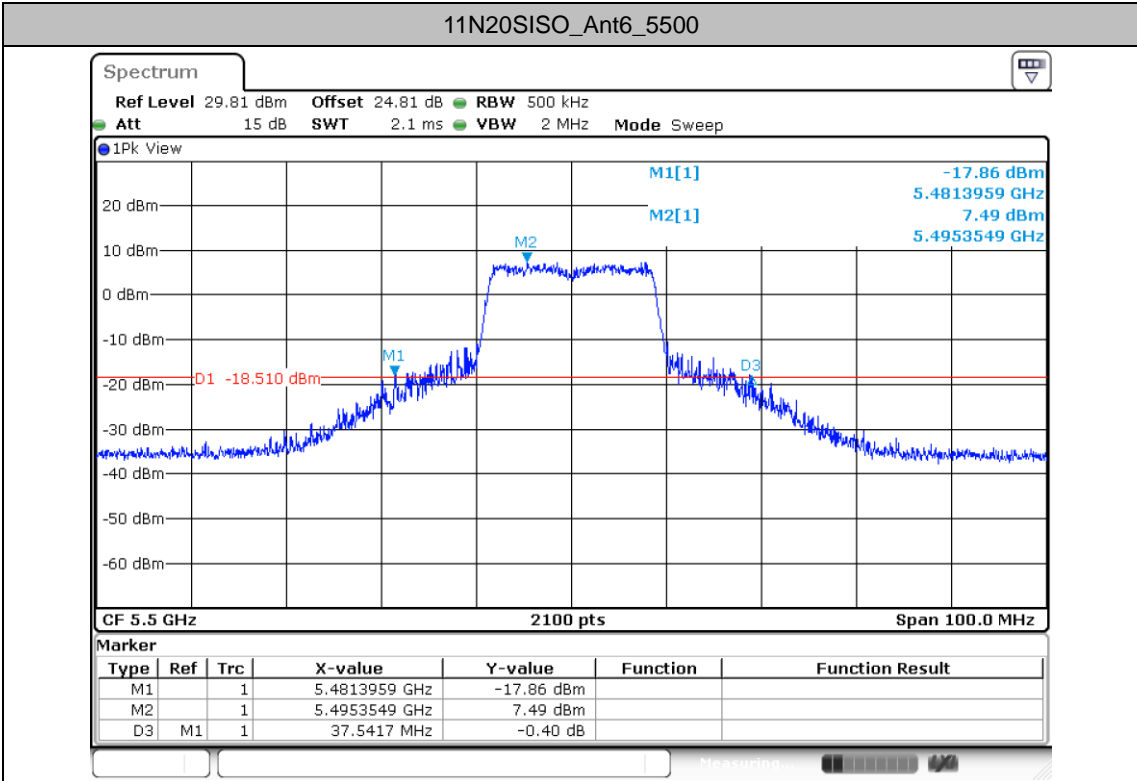


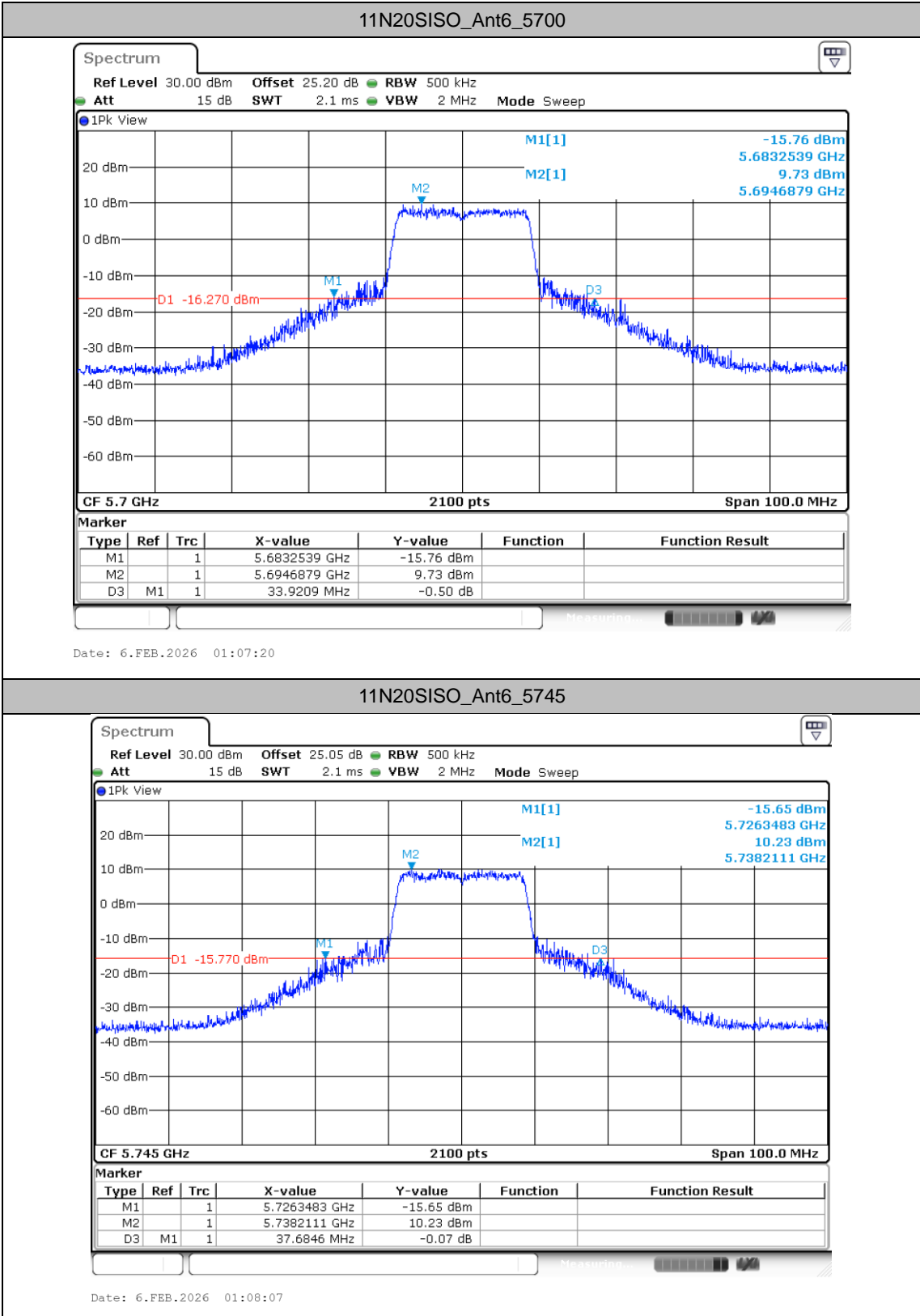


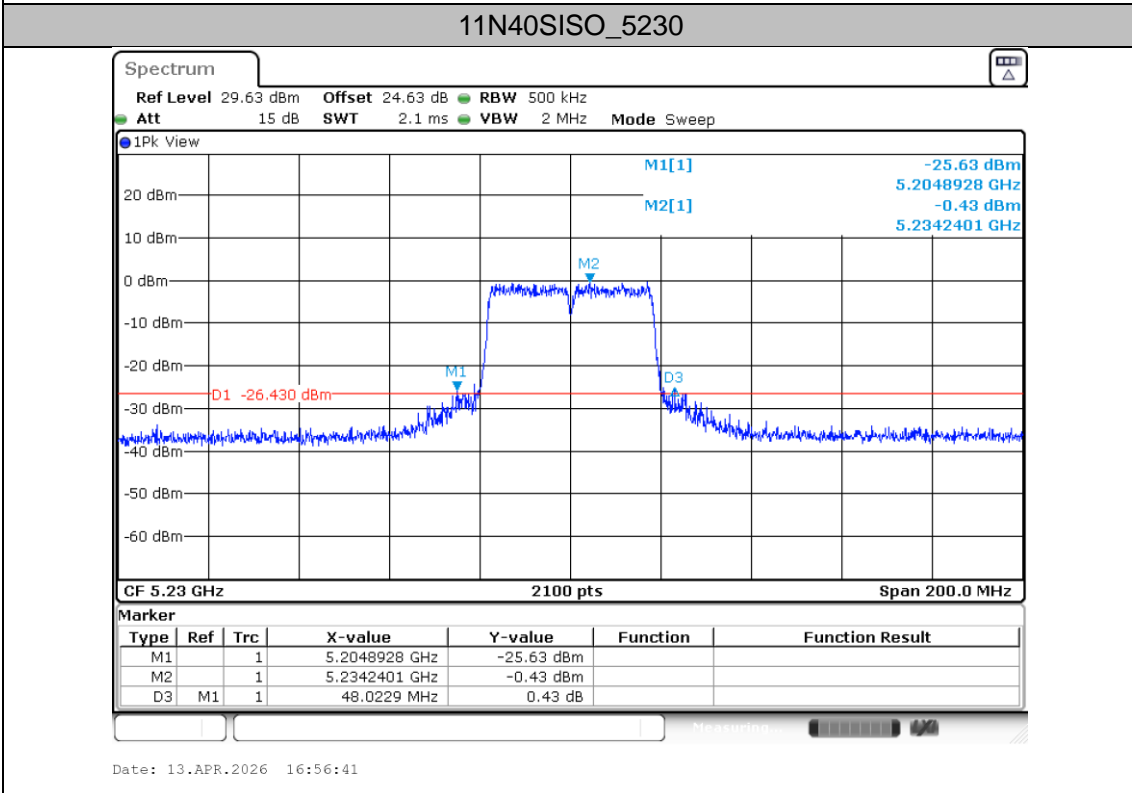
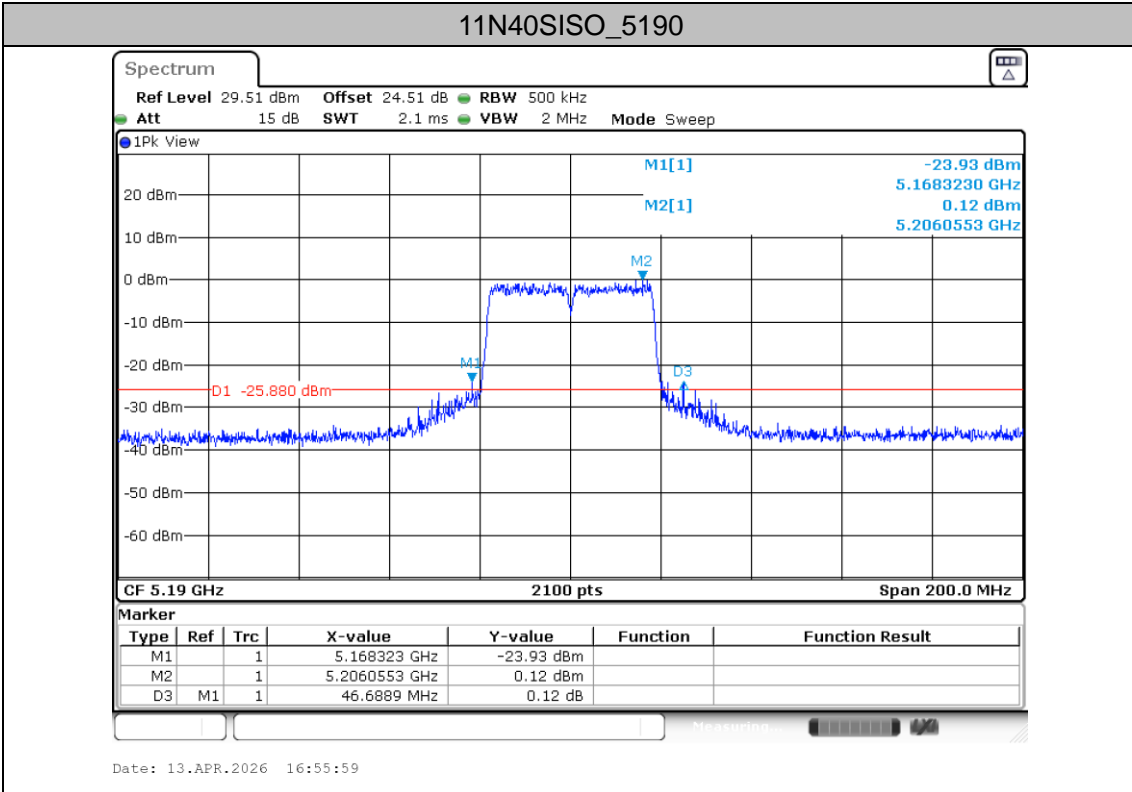


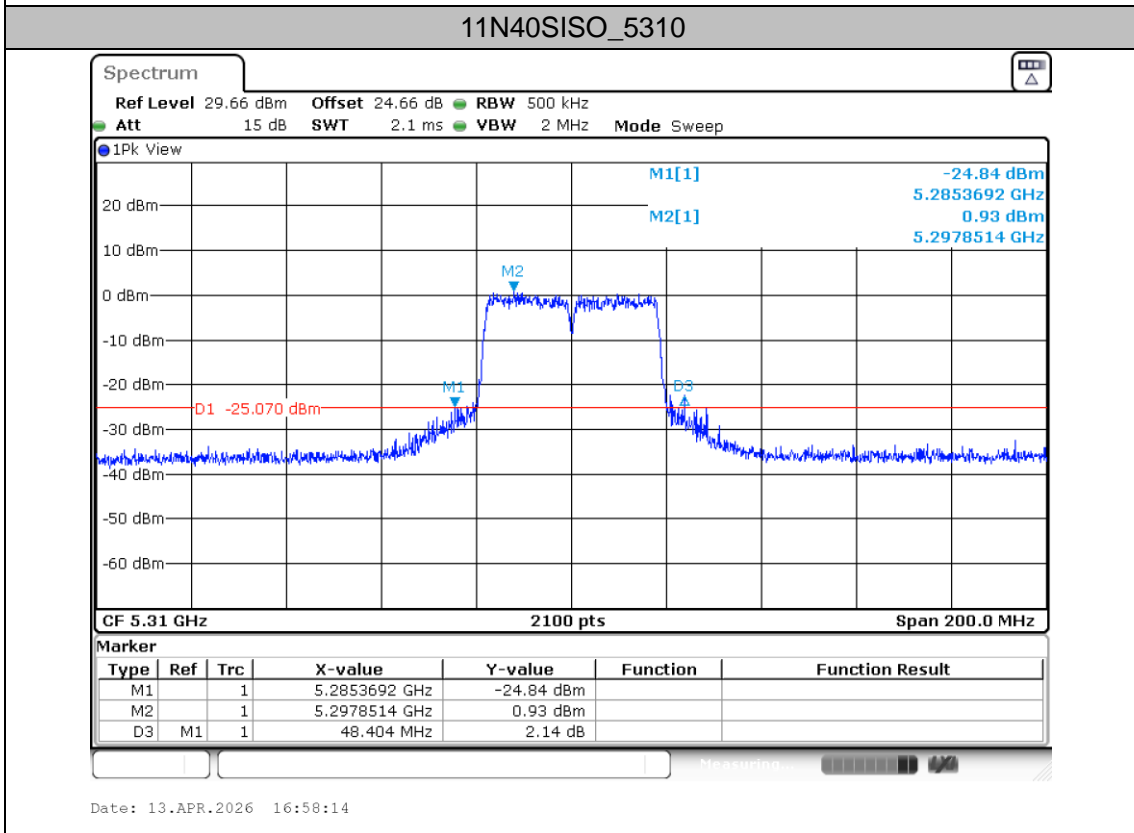
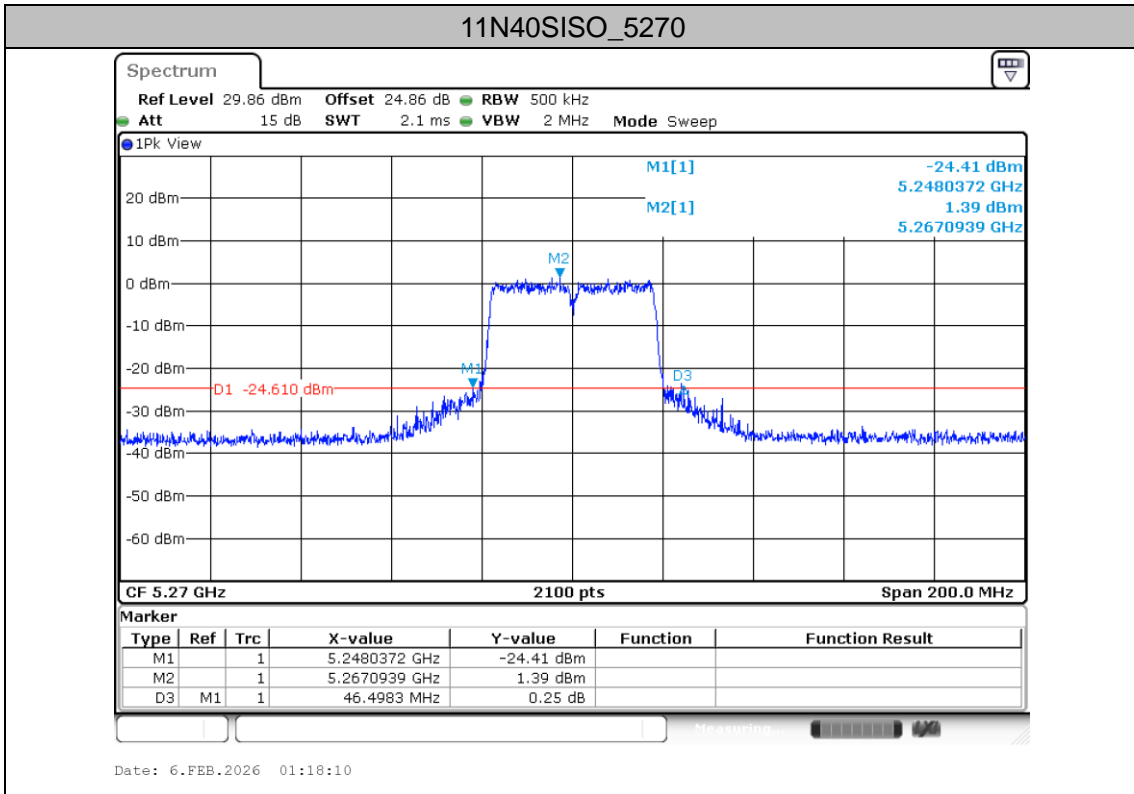


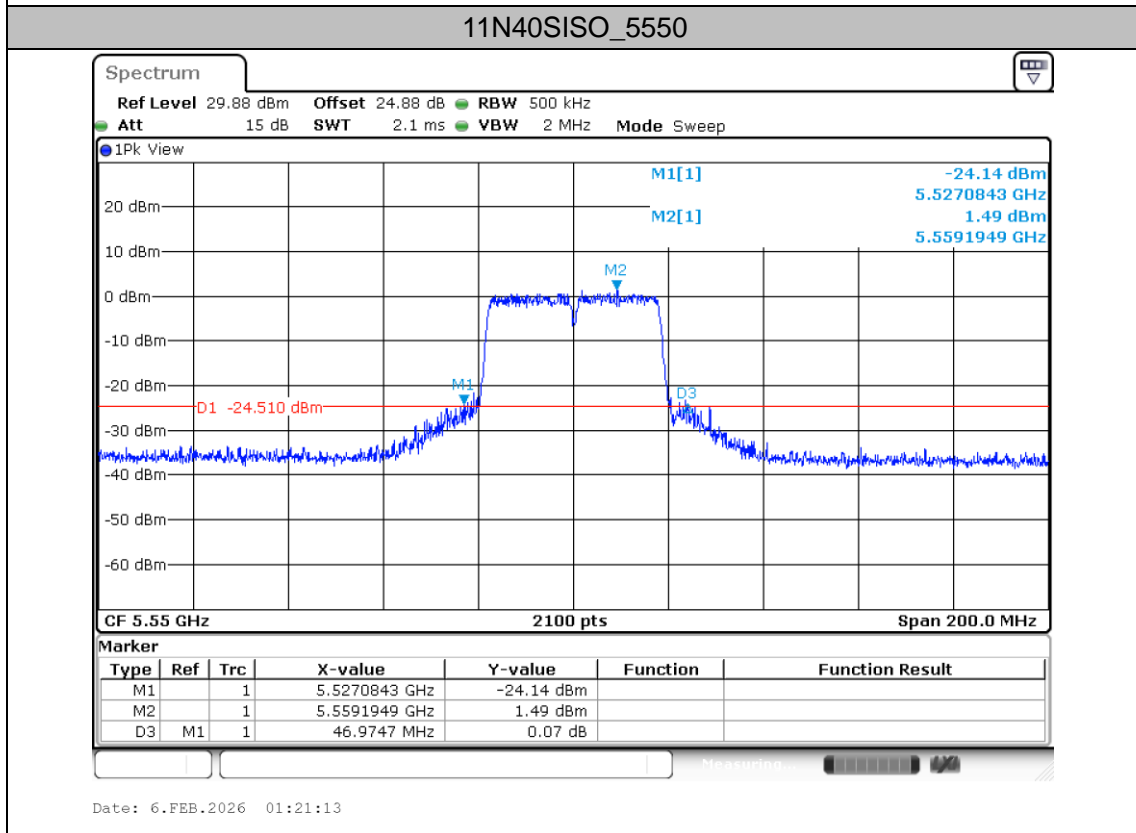
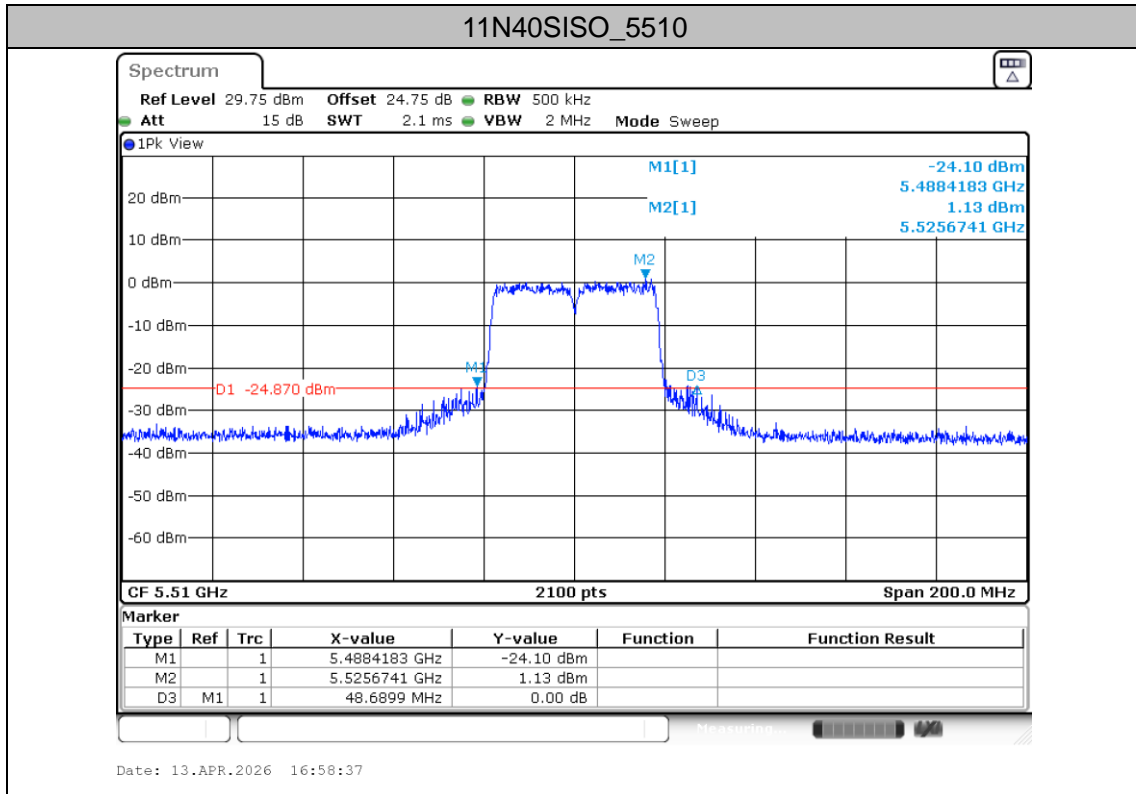


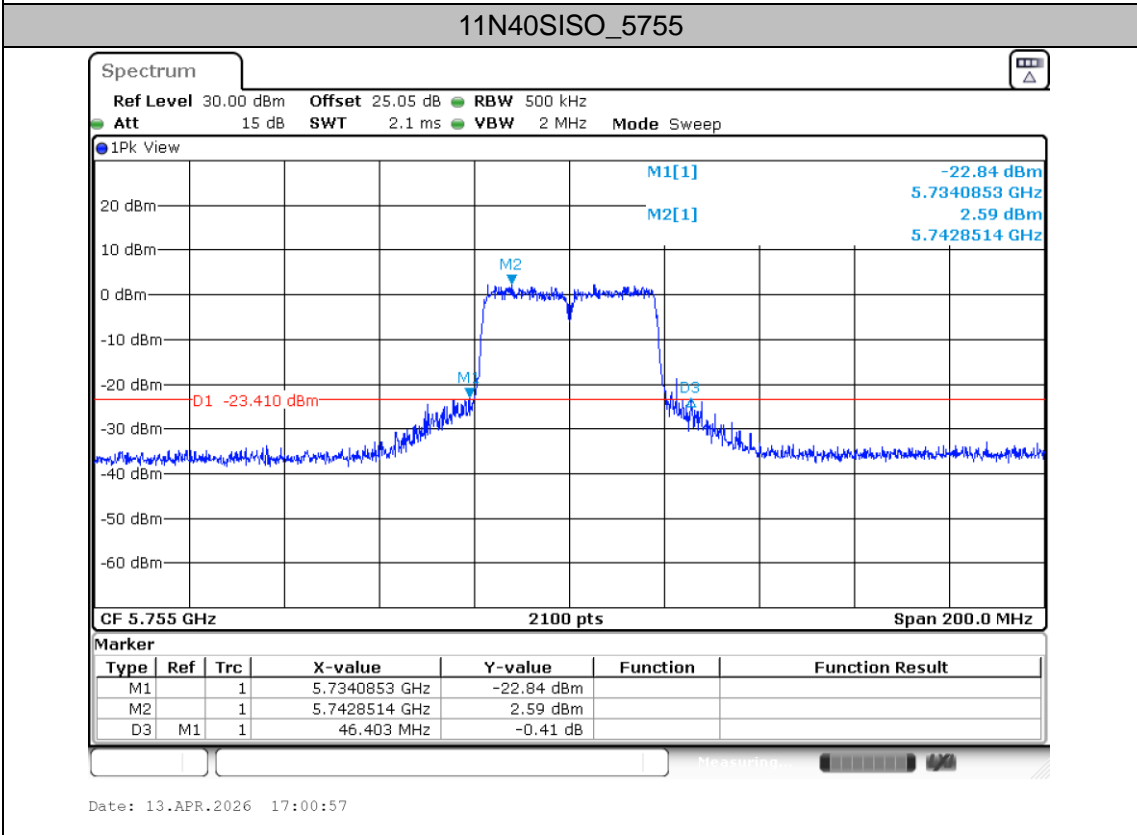
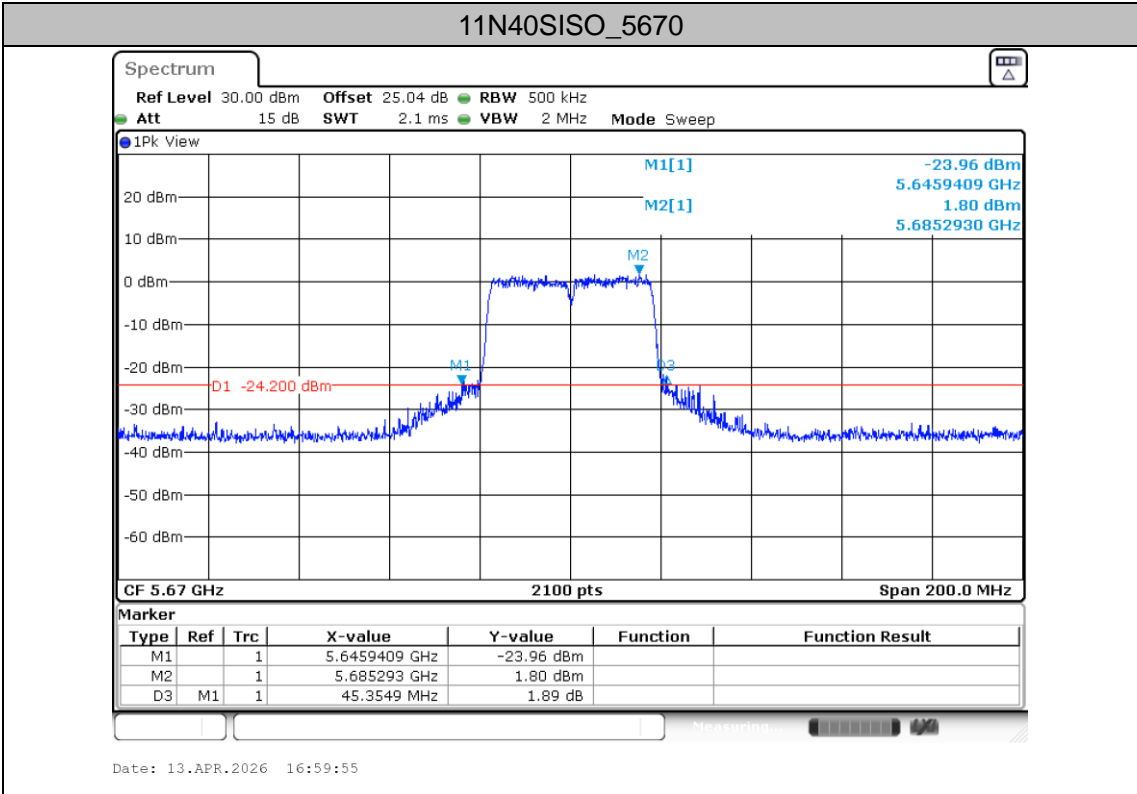


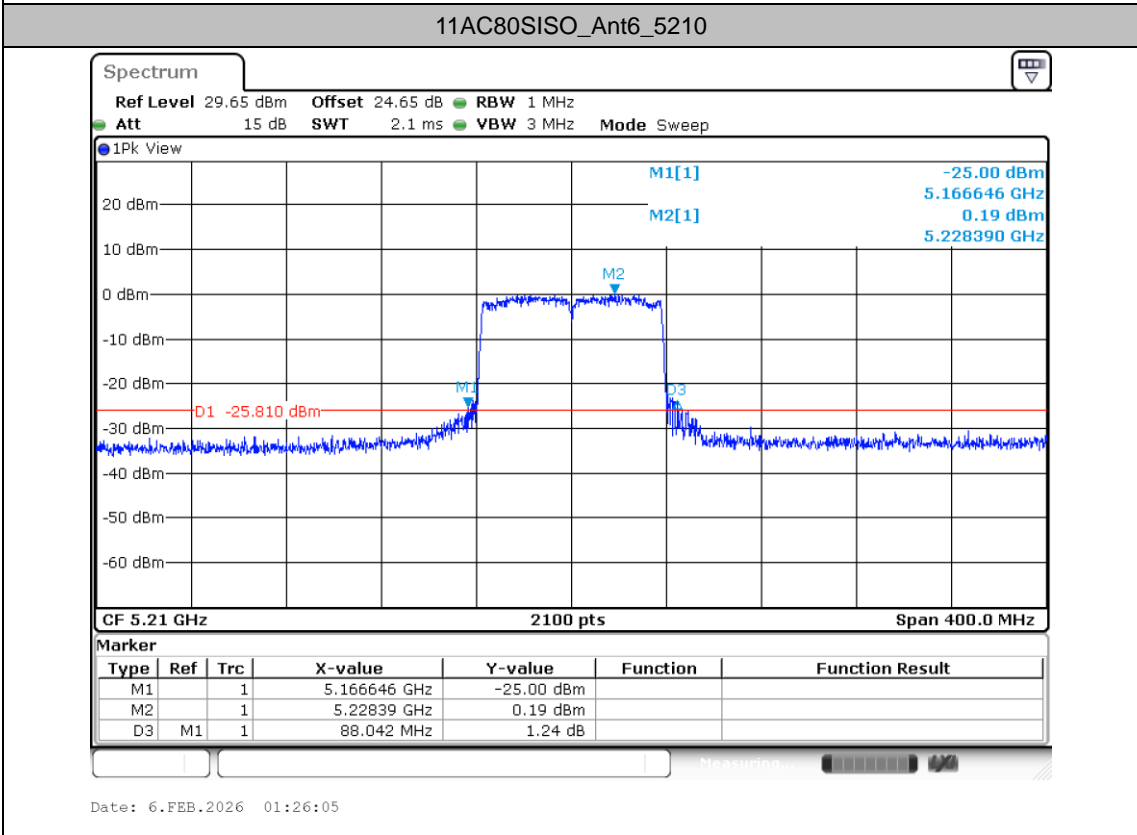
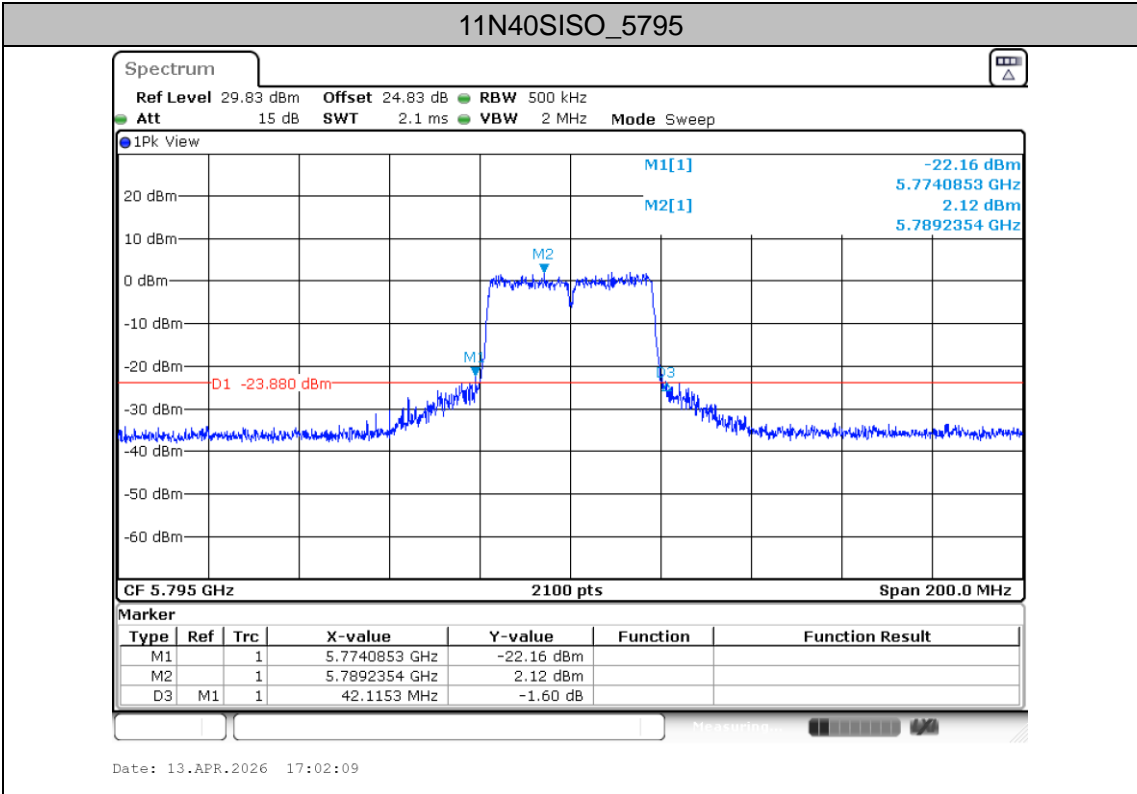


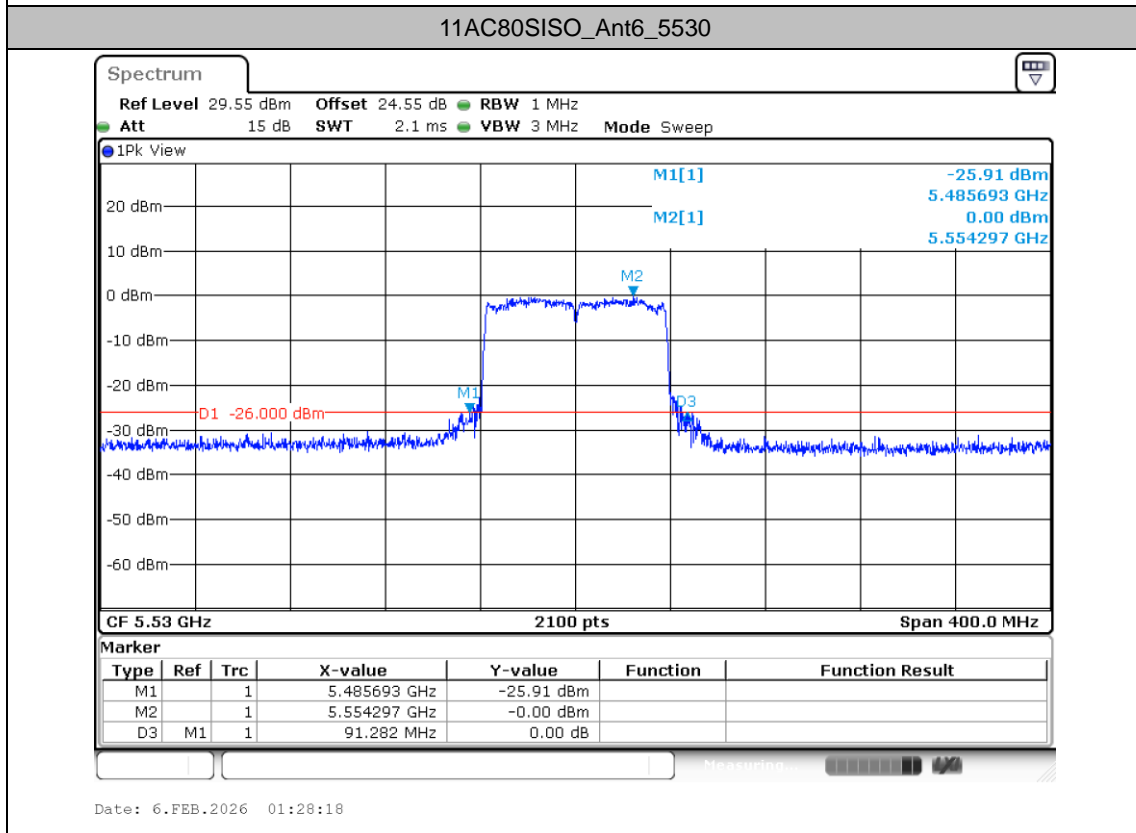
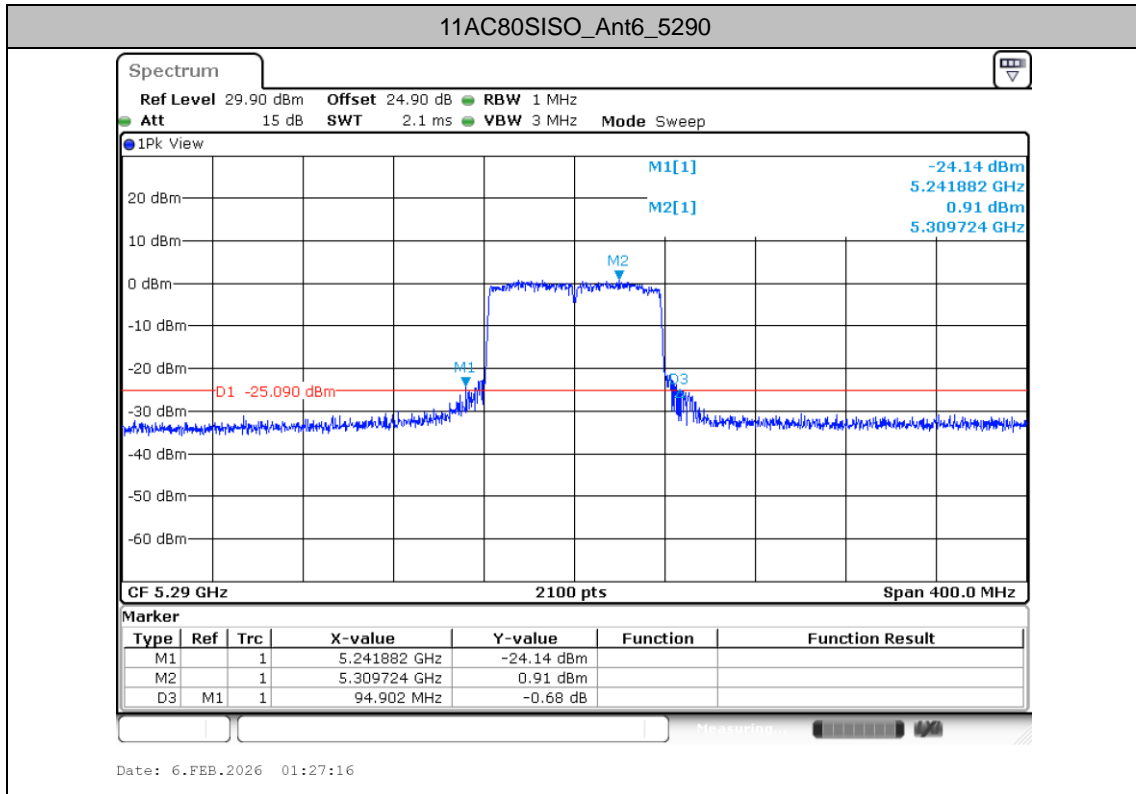














Occupied channel bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]
11A	Ant6	5180	17.181	5171.4381	5188.6190
		5220	17.238	5211.3810	5228.6190
		5240	17.219	5231.4000	5248.6190
		5260	17.257	5251.3429	5268.6000
		5300	17.238	5291.3619	5308.6000
		5320	17.276	5311.3619	5328.6381
		5500	17.314	5491.3238	5508.6381
		5580	17.257	5571.3810	5588.6381
		5700	17.295	5691.3429	5708.6381
		5745	17.257	5736.3429	5753.6000
		5785	17.238	5776.3810	5793.6190
		5825	17.295	5816.3238	5833.6190
11N20SISO	Ant6	5180	17.981	5171.0190	5189.0000
		5220	18	5210.9810	5228.9810
		5240	18.038	5230.9810	5249.0190
		5260	17.981	5251.0000	5268.9810
		5300	18	5290.9619	5308.9619
		5320	18.057	5310.9810	5329.0381
		5500	18.095	5490.9429	5509.0381
		5580	18.019	5571.0000	5589.0190
		5700	18.057	5690.9619	5709.0190
		5745	18.076	5735.9619	5754.0381
		5785	18.057	5775.9429	5794.0000
		5825	18.057	5815.9429	5834.0000
11N40SISO	Ant6	5190	36.648	5171.6952	5208.3429
		5230	36.571	5211.6952	5248.2667
		5270	36.61	5251.6952	5288.3048
		5310	36.648	5291.6571	5328.3048
		5510	36.648	5491.6952	5528.3429
		5550	36.571	5531.7333	5568.3048
		5670	36.686	5651.6952	5688.3810
		5755	36.686	5736.6571	5773.3429
		5795	36.61	5776.6952	5813.3048



11AC80SISO	Ant6	5210	76.114	5171.9429	5248.0571
		5290	76.114	5251.9429	5328.0571
		5530	76.038	5491.9429	5567.9810
		5775	76.114	5736.9429	5813.0571



Test Graphs

