FCC RF Test Report

APPLICANT	:	Espressif Systems (Shanghai) Co.,Ltd.
EQUIPMENT	:	2.4GHz &5GHz Wifi&BLE&Zigbee module
BRAND NAME	:	ESPRESSIF
MODEL NAME	:	ESP32-C5-WROOM-1U
FCC ID	:	2AC7Z-ESPC5WROOMU
STANDARD	:	FCC Part 15 Subpart E §15.407
CLASSIFICATION	:	(NII) Unlicensed National Information Infrastructure
TEST DATE(S)	:	Dec. 11, 2024 ~ Dec. 28, 2024

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

ACCREDITED Cert #5145.02

Sporton International Inc. (Kunshan)
No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China

TABLE OF CONTENTS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR4N0707D	Rev. 01	Initial issue of report	Mar. 04, 2025

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 1.14 dB at 5468.01 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	15.207(a)	Pass	Under limit 9.98 dB at 0.479 MHz
3.6	15.203 & 15.407(a)	Antenna Requirement	15.203 & 15.407(a)	15.203 & 15.407(a)	Pass	-

Conformity Assessment Condition:

1. 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.
2. 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

Espressif Systems (Shanghai) Co.,Ltd.
Suite 204, Block 2, 690 Bibo Road, Zhang Jiang Hi-Tech Park, Shanghai, China

1.2 Manufacturer

Espressif Systems (Shanghai) Co.,Ltd.
Suite 204, Block 2, 690 Bibo Road, Zhang Jiang Hi-Tech Park, Shanghai, China

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	2.4GHz &5GHz Wifi&BLE&Zigbee module
Brand Name	ESPRESSIF
Model Name	ESP32-C5-WROOM-1U
FCC ID	2AC7Z-ESPC5WROOMU
SN Code	Conducted: 6055F9FAA8E0 Conduction: 6055F9FAA88C Radiation: 6055F9FAA8C4
HW Version	V1
SW Version	v1.1.3.4
EUT Stage	Identical Prototype

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 ~ 5720 MHz 5745 MHz ~ 5825 MHz
Maximum Output Power to Antenna	**<5180 MHz ~ 5240 MHz>** 802.11a : 18.45 dBm / 0.0700 W 802.11n HT20 : 18.32 dBm / 0.0679 W 802.11n HT40 : 17.81 dBm / 0.0604 W 802.11ac VHT20: 16.83 dBm / 0.0482 W 802.11ax HE20: 18.39 dBm / 0.0690 W **<5260 MHz ~ 5320 MHz>** 802.11a : 18.56 dBm / 0.0718 W 802.11n HT20 : 18.51 dBm / 0.0710 W 802.11n HT40 : 17.83 dBm / 0.0607 W 802.11ac VHT20: 17.61 dBm / 0.0577 W 802.11ax HE20: 18.57 dBm / 0.0719 W **<5500 MHz ~ 5720 MHz >** 802.11a : 18.00 dBm / 0.0631 W 802.11n HT20 : 17.96 dBm / 0.0625 W 802.11n HT40 : 17.40 dBm / 0.0550 W 802.11ac VHT20: 17.05 dBm / 0.0507 W 802.11ax HE20: 18.05 dBm / 0.0638 W **<5745 MHz ~ 5825 MHz>** 802.11a : 18.02 dBm / 0.0634 W 802.11n HT20 : 17.89 dBm / 0.0615 W 802.11n HT40 : 17.16 dBm / 0.0520 W 802.11ac VHT20: 16.50 dBm / 0.0447 W 802.11ax HE20: 17.95 dBm / 0.0624 W
99% Occupied Bandwidth	**<5180 MHz ~ 5240 MHz>** 802.11a : 17.333 MHz 802.11n HT20 : 18.133 MHz 802.11n HT40 : 36.457 MHz 802.11ax HE20: 18.933 MHz **<5260 MHz ~ 5320 MHz>** 802.11a : 17.333 MHz 802.11n HT20 : 18.190 MHz 802.11n HT40 : 36.533 MHz 802.11ax HE20: 18.952 MHz **<5500 MHz ~ 5720 MHz>** 802.11a : 17.181 MHz 802.11n HT20 : 18.038 MHz 802.11n HT40 : 36.457 MHz 802.11ax HE20: 18.895 MHz **<5745 MHz ~ 5825 MHz>** 802.11a : 17.067 MHz 802.11n HT20 : 17.962 MHz 802.11n HT40 : 36.419 MHz 802.11ax HE20: 18.895 MHz

Antenna Type / Gain	**<5180 MHz ~ 5240 MHz>** External PCB antenna type with gain 3.65 dBi **<5260 MHz ~ 5320 MHz>** External PCB antenna type with gain 3.45 dBi **<5500 MHz ~ 5720 MHz>** External PCB antenna type with gain 3.22 dBi **<5745 MHz ~ 5825 MHz>** External PCB antenna type with gain 3.22 dBi
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM) 802.11ax : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)

Note:

1. For 802.11ac VHT20 and 11n HT20 mode, the whole testing has assessed only 802.11n HT20 by referring to their higher conducted power.
2. The device only support full RU for 11ax.

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 03CH08-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.	03CH08-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 C63.10-2013

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

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

Frequency Band	Channel	Freq.(MHz)	Channel	Freq. (MHz)
5500-5720MHz U-NII-2C	100	5500	116	5580
	102*	5510	132	5660
	104	5520	134*	5670
	108	5540	136	5680
	110*	5550	140	5700
	112	5560	-	-

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

Frequency Band	Channel	Freq.(MHz)	Channel	Freq. (MHz)
TDWR Channel	118*	5590	126*	5630
	120	5600	128	5640
	124	5620	-	-

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
Straddle Channel	142*	5710	144	5720

Note: The above Frequency and Channel in "*" are 40MHz bandwidth.

2.2 Test Mode

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

Modulation	Data Rate
802.11a	**6 Mbps**
802.11n HT20	**MCS0**
802.11n HT40	**MCS0**
802.11ax HE20	**MCS0**

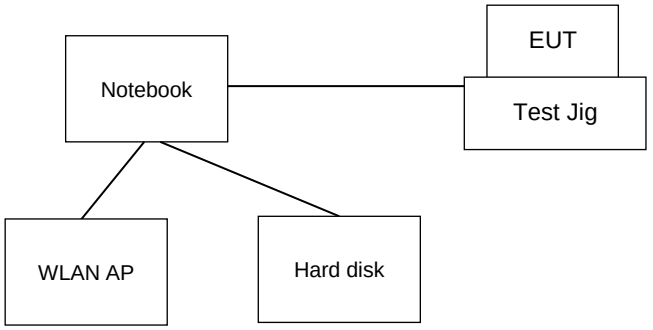
AC Conducted Emission	Mode 1 : WLAN TX(5G) + Charging from Notebook

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
Straddle		-	-	144	-

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
Straddle		-	-	142	-

2.3 Connection Diagram of Test System

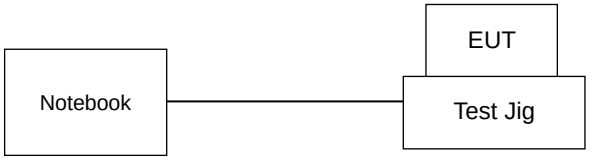
AC Conducted Emission:



This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

Radiated Emission:



This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Notebook	Lenovo	G480	QDS-BRCM1050I	N/A	Shielded cable DC O/P 1.8m, Unshielded AC I/P cable 1.8m
2.	WLAN AP	D-link	DIR-655	KA21R655B1	N/A	Unshielded,1.8m
3.	Hard disk	N/A	N/A	N/A	N/A	N/A
4.	Test Jig	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 4.38 dB and 20dB attenuator.

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 4.38 + 20 = 24.38 (dB)

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

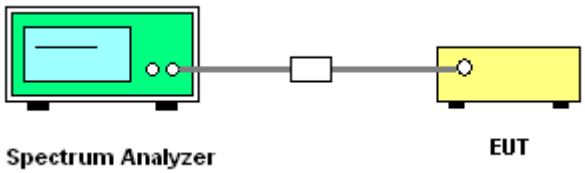
The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

☒	Section C) Bandwidth Measurement 1. Emission Bandwidth (EBW) and 99% OBW
	1. Set RBW = approximately 1% of the emission bandwidth. **2.** Set the VBW > RBW. **3.** Detector = Peak/Sample. **4.** Trace mode = max hold **5.** 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 approximately 1%. **6.** 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. **7.** Measure and record the results in the test report.
☒	Section C) Bandwidth Measurement 2. Minimum Emission Bandwidth for the band 5.725 - 5.85 GHz
	1. Set RBW = 100kHz. **2.** Set the VBW ≥ 3 x RBW. **3.** Detector = Peak. **4.** Trace mode = max hold **5.** Measure the maximum width of the emission that is 6 dB down from the peak of the emission. **6.** 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

<FCC 14-30 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 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.

For Straddle Channel, According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, If the power and PSD of the devices are uniform and comply with the lower limits specified for the U-NII-2 bands, a single measurement over the entire emission bandwidth can be performed to show compliance.

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

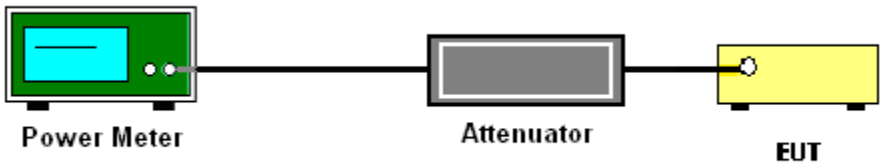
The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

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.

For Straddle Channel, According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, If the power and PSD of the devices are uniform and comply with the lower limits specified for the U-NII-2 bands, a single measurement over the entire emission bandwidth can be performed to show compliance.

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

FCC <5180 MHz ~ 5240 MHz>single antenna										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power with duty factor (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	Pass/Fail	Power Setting
11a	6Mbps	1	36	5180	0.00	17.09	24.00	3.65	Pass	6
11a	6Mbps	1	44	5220	0.00	18.45	24.00	3.65	Pass	0
11a	6Mbps	1	48	5240	0.00	18.38	24.00	3.65	Pass	0
HT20	MCS0	1	36	5180	0.00	16.37	24.00	3.65	Pass	8
HT20	MCS0	1	44	5220	0.00	18.32	24.00	3.65	Pass	0
HT20	MCS0	1	48	5240	0.00	18.28	24.00	3.65	Pass	0
HT40	MCS0	1	38	5190	0.00	8.84	24.00	3.65	Pass	30
HT40	MCS0	1	46	5230	0.00	17.81	24.00	3.65	Pass	0
VHT20	MCS0	1	36	5180	0.00	14.49	24.00	3.65	Pass	8
VHT20	MCS0	1	44	5220	0.00	16.77	24.00	3.65	Pass	0
VHT20	MCS0	1	48	5240	0.00	16.83	24.00	3.65	Pass	0

FCC <5180 MHz ~ 5240 MHz> single antenna										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)	Average Conducted Power with duty factor (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	Pass/Fail	Power Setting
HE20	MCS0	1	36	5180	Full	0.03	16.46	24.00	3.65	Pass	8
HE20	MCS0	1	44	5220	Full	0.03	18.39	24.00	3.65	Pass	0
HE20	MCS0	1	48	5240	Full	0.03	18.36	24.00	3.65	Pass	0

FCC <5260 MHz ~ 5320 MHz> single antenna											
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power with duty factor (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail	Power Setting
11a	6Mbps	1	52	5260	0.00	18.56	23.94	3.45	30	Pass	0
11a	6Mbps	1	60	5300	0.00	18.37	23.97	3.45	30	Pass	0
11a	6Mbps	1	64	5320	0.00	18.28	23.98	3.45	30	Pass	0
HT20	MCS0	1	52	5260	0.00	18.51	23.98	3.45	30	Pass	0
HT20	MCS0	1	60	5300	0.00	18.36	23.98	3.45	30	Pass	0
HT20	MCS0	1	64	5320	0.00	18.29	23.98	3.45	30	Pass	0
HT40	MCS0	1	54	5270	0.00	17.83	23.98	3.45	30	Pass	0
HT40	MCS0	1	62	5310	0.00	11.83	23.98	3.45	30	Pass	22
VHT20	MCS0	1	52	5260	0.00	16.88	23.98	3.45	30	Pass	0
VHT20	MCS0	1	60	5300	0.00	17.42	23.98	3.45	30	Pass	0
VHT20	MCS0	1	64	5320	0.00	17.61	23.98	3.45	30	Pass	0

FCC <5260 MHz ~ 5320 MHz> single antenna												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)	Average Conducted Power with duty factor (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail	Power Setting
HE20	MCS0	1	52	5260	Full	0.03	18.57	23.98	3.45	30	Pass	0
HE20	MCS0	1	60	5300	Full	0.03	18.42	23.98	3.45	30	Pass	0
HE20	MCS0	1	64	5320	Full	0.03	18.36	23.98	3.45	30	Pass	0

FCC <5500 MHz ~ 5720 MHz >single antenna											
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power with duty factor (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail	Power Setting
11a	6Mbps	1	100	5500	0.00	17.97	23.98	3.22	30	Pass	0
11a	6Mbps	1	116	5580	0.00	17.81	23.98	3.22	30	Pass	0
11a	6Mbps	1	140	5700	0.00	18.00	23.98	3.22	30	Pass	0
HT20	MCS0	1	100	5500	0.00	17.96	23.98	3.22	30	Pass	0
HT20	MCS0	1	116	5580	0.00	17.66	23.98	3.22	30	Pass	0
HT20	MCS0	1	140	5700	0.00	15.75	23.98	3.22	30	Pass	10
HT40	MCS0	1	102	5510	0.00	11.97	23.98	3.22	30	Pass	16
HT40	MCS0	1	110	5550	0.00	17.40	23.98	3.22	30	Pass	0
HT40	MCS0	1	134	5670	0.00	16.97	23.98	3.22	30	Pass	0
VHT20	MCS0	1	100	5500	0.00	16.97	23.98	3.22	30	Pass	0
VHT20	MCS0	1	116	5580	0.00	17.05	23.98	3.22	30	Pass	0
VHT20	MCS0	1	140	5700	0.00	14.28	23.98	3.22	30	Pass	10

FCC <5500 MHz ~ 5720 MHz >straddle channel single antenna											
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power with duty factor (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail	Power Setting
11a	6Mbps	1	144	5720	0.00	17.92	23.98	3.22	30	Pass	0
HT20	MCS0	1	144	5720	0.00	17.88	23.98	3.22	30	Pass	0
HT40	MCS0	1	142	5710	0.00	17.28	23.98	3.22	30	Pass	0
VHT20	MCS0	1	144	5720	0.00	16.53	23.98	3.22	30	Pass	0

FCC<5500 MHz ~ 5720 MHz > single antenna												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)	Average Conducted Power with duty factor (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail	Power Setting
HE20	MCS0	1	100	5500	Full	0.03	18.05	23.98	3.22	30	Pass	0
HE20	MCS0	1	116	5580	Full	0.03	17.74	23.98	3.22	30	Pass	0
HE20	MCS0	1	140	5700	Full	0.03	15.84	23.98	3.22	30	Pass	10

FCC<5500 MHz ~ 5720 MHz > straddle channel single antenna												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)	Average Conducted Power with duty factor (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	EIRP Power Limit (dBm)	Pass/Fail	Power Setting
HE20	MCS0	1	144	5720	Full	0.03	17.96	23.98	3.22	30	Pass	0

<5745 MHz ~ 5825 MHz> single antenna										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power with duty factor (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	Pass/Fail	Power Setting
11a	6Mbps	1	149	5745	0.00	18.02	30.00	3.22	Pass	0
11a	6Mbps	1	157	5785	0.00	17.96	30.00	3.22	Pass	0
11a	6Mbps	1	165	5825	0.00	17.71	30.00	3.22	Pass	0
HT20	MCS0	1	149	5745	0.00	17.57	30.00	3.22	Pass	0
HT20	MCS0	1	157	5785	0.00	17.89	30.00	3.22	Pass	0
HT20	MCS0	1	165	5825	0.00	17.50	30.00	3.22	Pass	0
HT40	MCS0	1	151	5755	0.00	17.07	30.00	3.22	Pass	0
HT40	MCS0	1	159	5795	0.00	17.16	30.00	3.22	Pass	0
VHT20	MCS0	1	149	5745	0.00	16.43	30.00	3.22	Pass	0
VHT20	MCS0	1	157	5785	0.00	16.45	30.00	3.22	Pass	0
VHT20	MCS0	1	165	5825	0.00	16.50	30.00	3.22	Pass	0

<5745 MHz ~ 5825 MHz> single antenna											
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)	Average Conducted Power with duty factor (dBm)	FCC Conducted Power Limit (dBm)	DG (dBi)	Pass/Fail	Power Setting
HE20	MCS0	1	149	5745	Full	0.03	17.64	30.00	3.22	Pass	0
HE20	MCS0	1	157	5785	Full	0.03	17.95	30.00	3.22	Pass	0
HE20	MCS0	1	165	5825	Full	0.03	17.57	30.00	3.22	Pass	0

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

<FCC 14-30 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.

For Straddle Channel, According to KDB 789033 D02 General UNII Test Procedures New Rules v02r01, If the power and PSD of the devices are uniform and comply with the lower limits specified for the U-NII-2 bands, a single measurement over the entire emission bandwidth can be performed to show compliance.

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 v01r04. 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 ≥ 3 MHz.
- Number of points in sweep ≥ 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

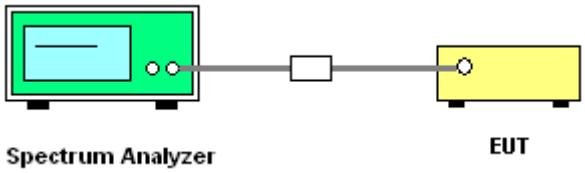
 # Method SA-2 #

(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 ≥ 1 MHz.
- Number of points in sweep ≥ 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(500kHz/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 Part15.205.

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 –27dBm/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 5650-5725MHz band: all emissions outside of the 5470-5600 MHz and 5650-5725MHz 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

(4) 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 v01r04. 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 ≥ 3 MHz
   - Detector = Peak
   - Sweep time = auto
   - Trace mode = max hold

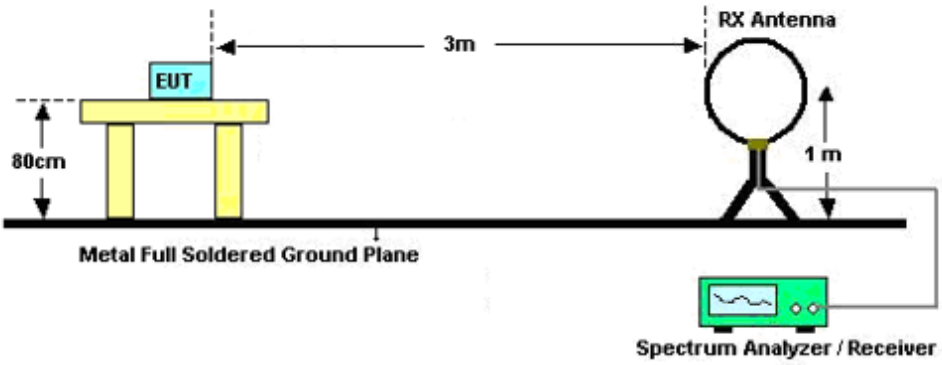
   (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

   - RBW = 1 MHz
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on.

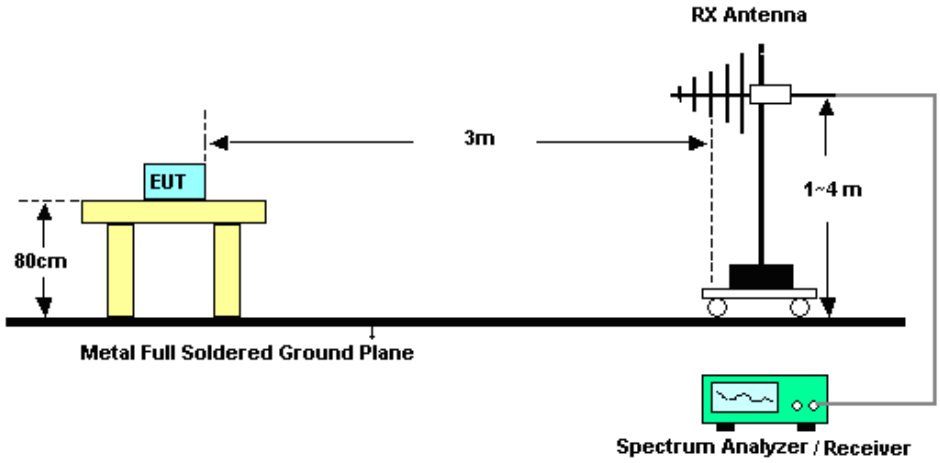
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband 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

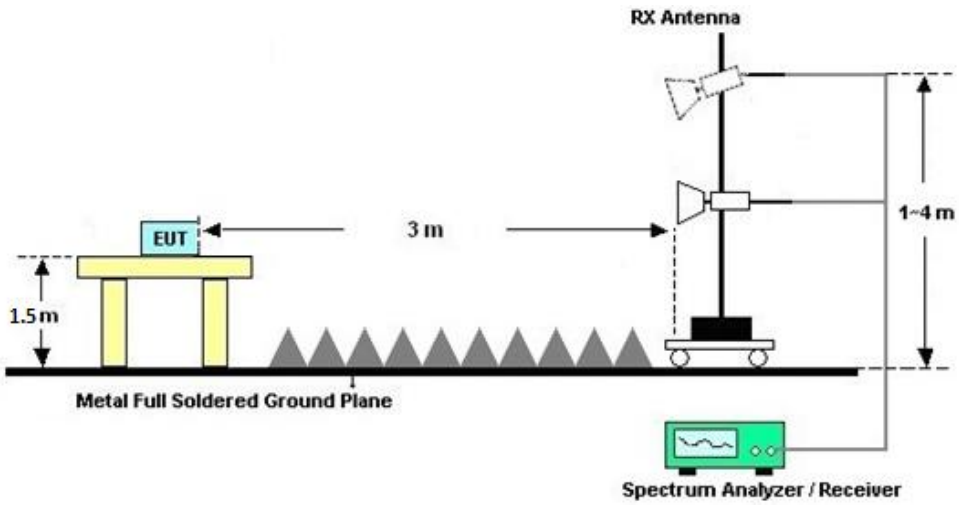
For radiated emissions below 30MHz



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.

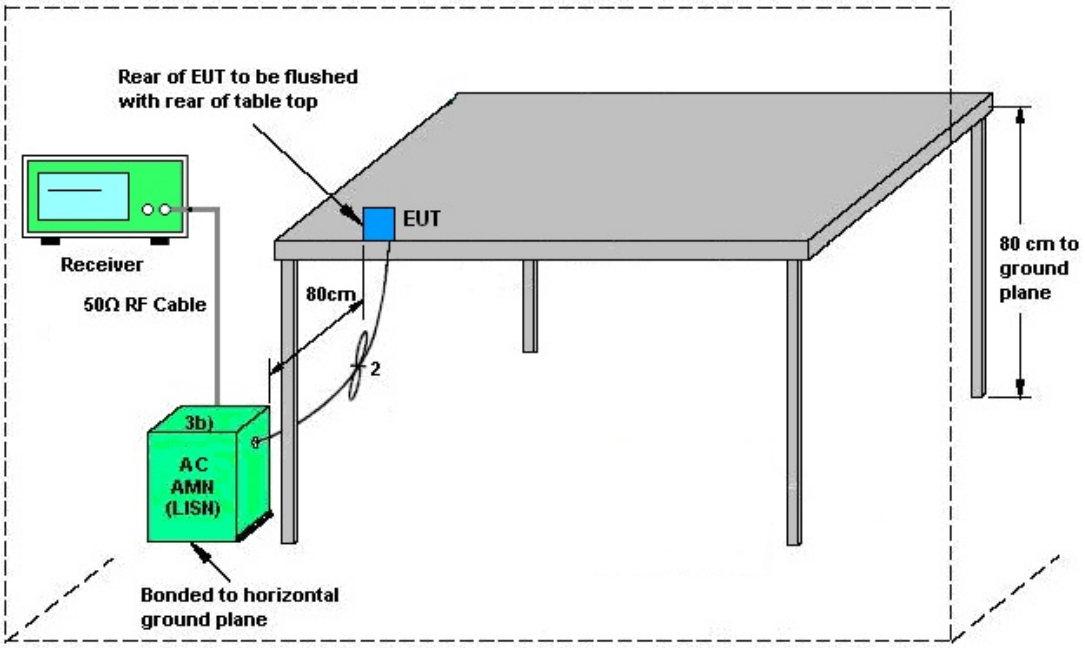
3.5.2 Measuring Instruments

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



AMN = Artificial mains network (LISN)
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network

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 Receiver	R&S	ESCI7	100768	9kHz~7GHz;	Apr. 18, 2024	Dec. 15, 2024	Apr. 17, 2025	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060103	9kHz~30MHz	Aug. 20, 2024	Dec. 15, 2024	Aug. 19, 2025	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060105	9kHz~30MHz	Apr. 18, 2024	Dec. 15, 2024	Apr. 17, 2025	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP00000 0811	AC 0V~300V, 45Hz~1000Hz	Oct. 09, 2024	Dec. 15, 2024	Oct. 08, 2025	Conduction (CO01-KS)
EMI Test Receiver	Keysight	N9038A	MY572901 51	3Hz~8.5GHz;Max 30dBm	Jul. 04, 2024	Dec. 11, 2024	Jul. 03, 2025	Radiation (03CH08-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY574410 79	10Hz-44GHz	Oct. 09, 2024	Dec. 11, 2024	Oct. 08, 2025	Radiation (03CH08-KS)
Loop Antenna	R&S	HFH2-Z2E	101125	9kHz~30MHz	Sep. 08, 2024	Dec. 11, 2024	Sep. 07, 2025	Radiation (03CH08-KS)
Bilog Antenna	TESEQ	CBL 6111D	59915	30MHz-1GHz	Aug. 18, 2024	Dec. 11, 2024	Aug.17, 2025	Radiation (03CH08-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00240138	1GHz~18GHz	Jul. 06, 2024	Dec. 11, 2024	Jul. 05, 2025	Radiation (03CH08-KS)
high gain Amplifier	EM	EM01G18GA	060890	1Ghz-18Ghz	Jul. 23, 2024	Dec. 11, 2024	Jul. 22, 2025	Radiation (03CH08-KS)
SHF-EHF Horn	Com-power	AH-840	101116	18GHz~40GHz	Oct. 22, 2024	Dec. 11, 2024	Oct. 21, 2025	Radiation (03CH08-KS)
Amplifier	SONOMA	310N	380826	9KHz-1GHz	Jul. 03, 2024	Dec. 11, 2024	Jul. 02, 2025	Radiation (03CH08-KS)
Amplifier	Keysight	83017A	MY532704 17	500MHz~26.5GHz	Oct. 09, 2024	Dec. 11, 2024	Oct. 08, 2025	Radiation (03CH08-KS)
Amplifier	EM	EM18G40GGA	060737	18~40GHz	Jan. 03, 2024	Dec. 11, 2024	Jan. 02, 2025	Radiation (03CH08-KS)
AC Power Source	Chroma	61601	616010002 473	N/A	NCR	Dec. 11, 2024	NCR	Radiation (03CH08-KS)
Turn Table	EM	EM 1000-T	N/A	0~360 degree	NCR	Dec. 11, 2024	NCR	Radiation (03CH08-KS)
Antenna Mast	EM	EM 1000-A	N/A	1 m~4 m	NCR	Dec. 11, 2024	NCR	Radiation (03CH08-KS)
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 10, 2024	Dec. 23, 2024~ Dec. 28, 2024	Oct. 09, 2025	Conducted (TH01-KS)
Pulse Power Senor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 02, 2024	Dec. 23, 2024~ Dec. 28, 2024	Jan. 01, 2025	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 02, 2024	Dec. 23, 2024~ Dec. 28, 2024	Jan. 01, 2025	Conducted (TH01-KS)

NCR: No Calibration Required

5 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.10-2013. 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	**±2.22 dB**
Occupied Channel Bandwidth	**±0.1%**
Conducted Power	**±0.50 dB**
Conducted Power Spectral Density	**±0.90 dB**
Frequency	**±0.04 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**

Uncertainty of Radiated Emission Measurement (9 KHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.30 dB**

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**6.04 dB**

Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.26 dB**

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.40 dB**

---------- THE END ----------

Appendix A. Conducted Test Results

Ambient Condition: 25 ℃, 45 %RH	
Test Date: 2024.12.23~12.28	**Test Engineer:** Zhang Zhizheng

Emission Bandwidth

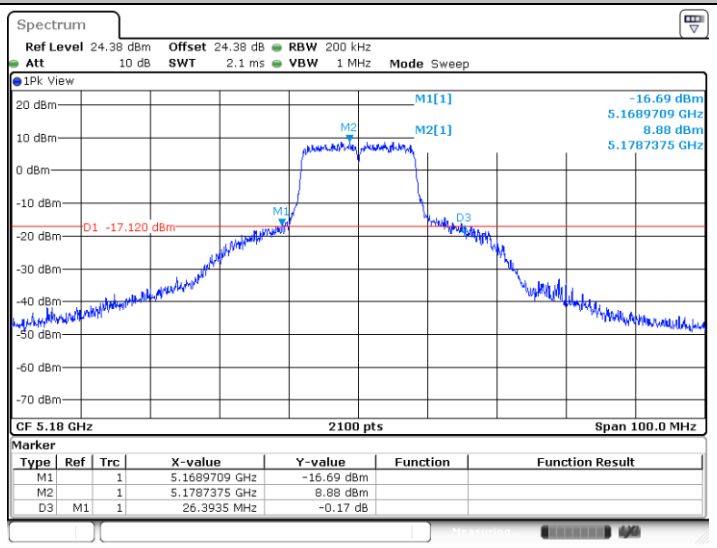
Test Result

TestMode	Freq(MHz)	26dB EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	5180	26.39	5168.97	5195.36	---	---
	5220	26.30	5209.02	5235.32	---	---
	5240	28.87	5227.40	5256.27	---	---
	5260	25.44	5247.49	5272.93	---	---
	5300	27.58	5287.45	5315.03	---	---
	5320	27.63	5307.40	5335.03	---	---
	5500	21.77	5489.83	5511.60	---	---
	5580	25.44	5569.78	5595.22	---	---
	5700	22.63	5689.83	5712.46	---	---
	5720	21.92	5710.02	5731.93	---	---
	5720_UNII-2C	14.98	5710.02	5725	---	---
	5720_UNII-3	6.93	5725	5731.93	---	---
	5745	20.39	5735.07	5755.46	---	---
	5785	21.30	5775.21	5796.51	---	---
	5825	20.25	5815.11	5835.36	---	---
11N20SISO	5180	24.44	5167.88	5192.32	---	---
	5220	22.34	5208.97	5231.31	---	---
	5240	26.16	5227.59	5253.74	---	---
	5260	24.82	5247.78	5272.60	---	---
	5300	24.49	5288.02	5312.51	---	---
	5320	27.87	5307.54	5335.41	---	---
	5500	24.01	5487.92	5511.93	---	---
	5580	21.87	5568.88	5590.74	---	---
	5700	22.87	5688.92	5711.79	---	---
	5720	24.01	5707.88	5731.89	---	---
	5720_UNII-2C	17.12	5707.88	5725	---	---
	5720_UNII-3	6.89	5725	5731.89	---	---
	5745	20.63	5734.78	5755.41	---	---

	5785	20.96	5774.64	5795.60	---	---
	5825	21.77	5813.97	5835.74	---	---
11N40SISO	5190	41.45	5169.28	5210.72	---	---
	5230	62.70	5200.03	5262.73	---	---
	5270	62.03	5239.56	5301.59	---	---
	5310	42.12	5288.89	5331.01	---	---
	5510	41.73	5489.18	5530.91	---	---
	5550	58.69	5522.70	5581.40	---	---
	5670	49.64	5648.99	5698.63	---	---
	5710	50.40	5688.13	5738.54	---	---
	5710_UNII-2C	36.87	5688.13	5725	---	---
	5710_UNII-3	13.54	5725	5738.54	---	---
	5755	49.74	5733.70	5783.44	---	---
	5795	49.64	5773.51	5823.16	---	---
11AX20SISO	5180	22.20	5169.30	5191.51	---	---
	5220	22.25	5209.26	5231.51	---	---
	5240	23.54	5229.35	5252.89	---	---
	5260	20.82	5249.45	5270.27	---	---
	5300	23.54	5289.40	5312.93	---	---
	5320	23.34	5308.16	5331.51	---	---
	5500	22.30	5489.26	5511.55	---	---
	5580	20.77	5569.54	5590.31	---	---
	5700	22.25	5689.26	5711.51	---	---
	5720	21.87	5709.26	5731.12	---	---
	5720_UNII-2C	15.74	5709.26	5725	---	---
	5720_UNII-3	6.12	5725	5731.12	---	---
	5745	20.91	5734.54	5755.46	---	---
	5785	20.96	5774.35	5795.31	---	---
	5825	21.15	5814.30	5835.46	---	---

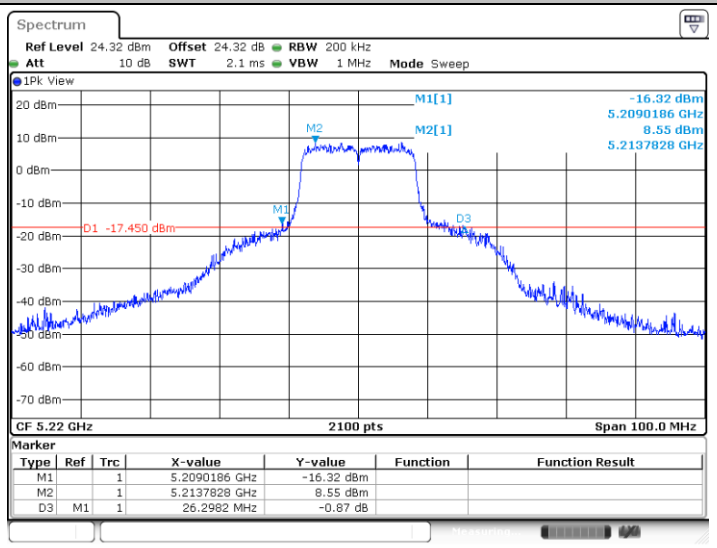
Test Graphs

11A_5180

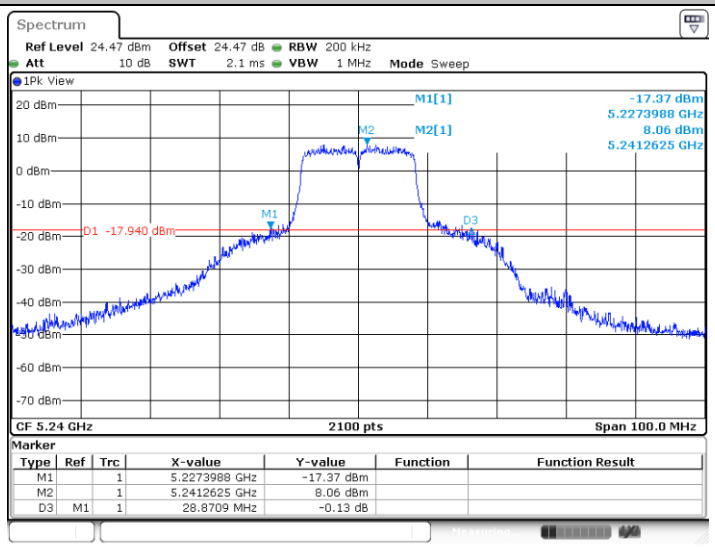


Date: 23.DEC.2024 09:03:00

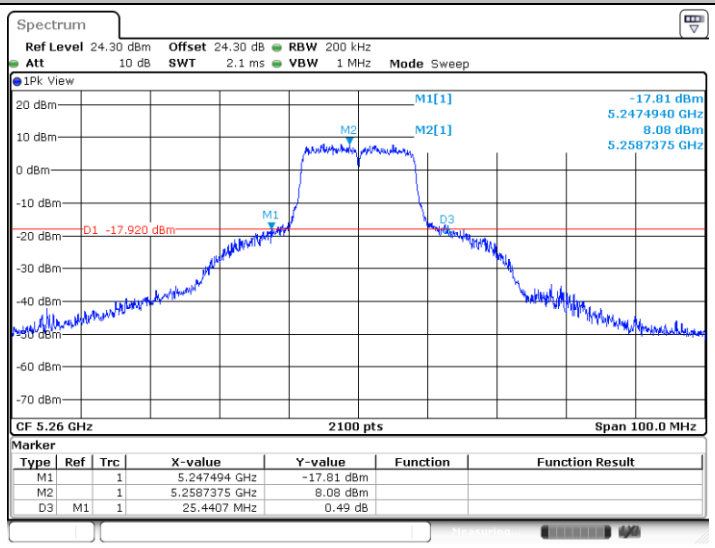
11A_5220



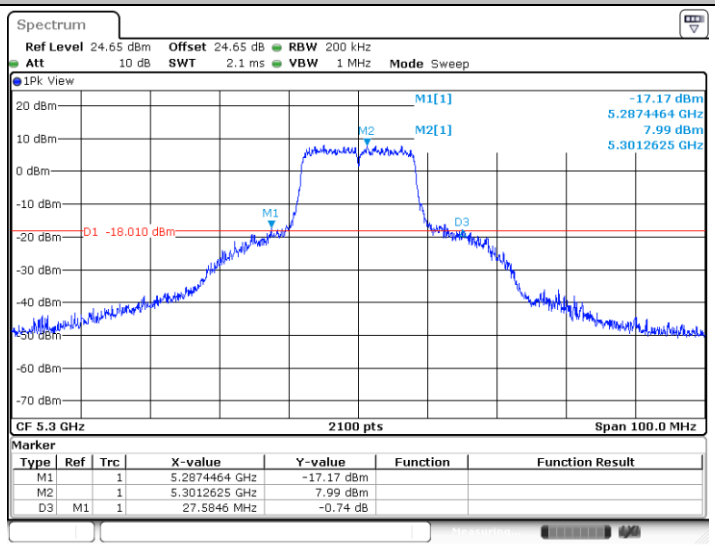
Date: 23.DEC.2024 09:03:46

11A_5240


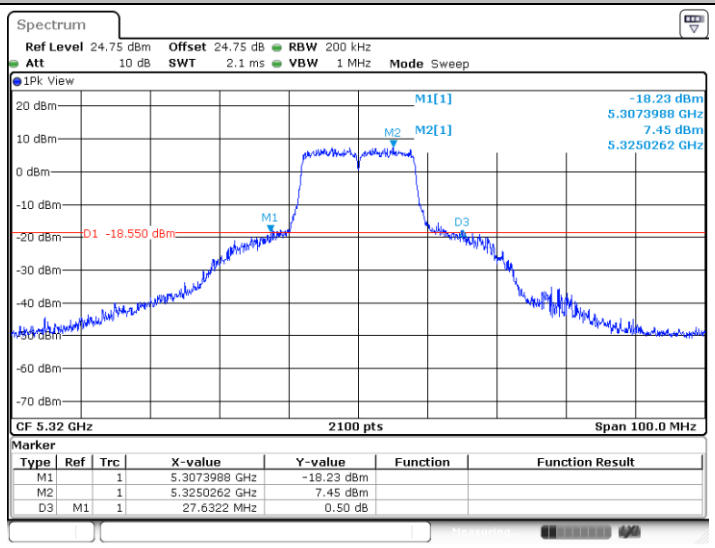
Date: 23.DEC.2024 09:04:55

11A_5260


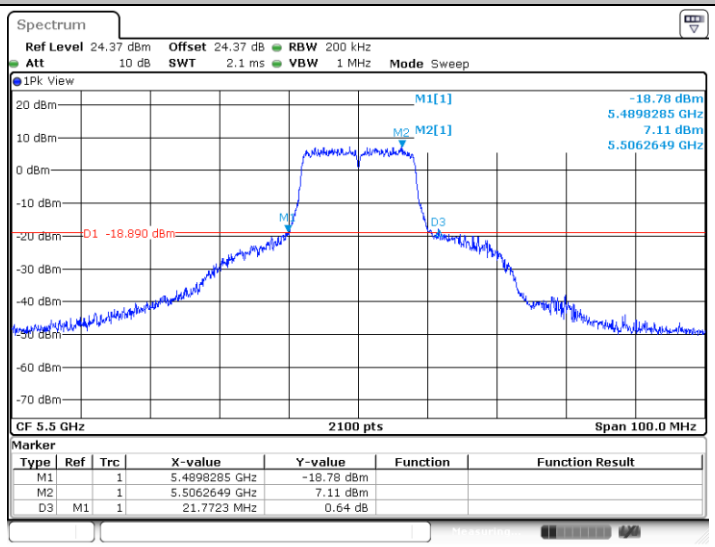
Date: 23.DEC.2024 09:05:58

11A_5300


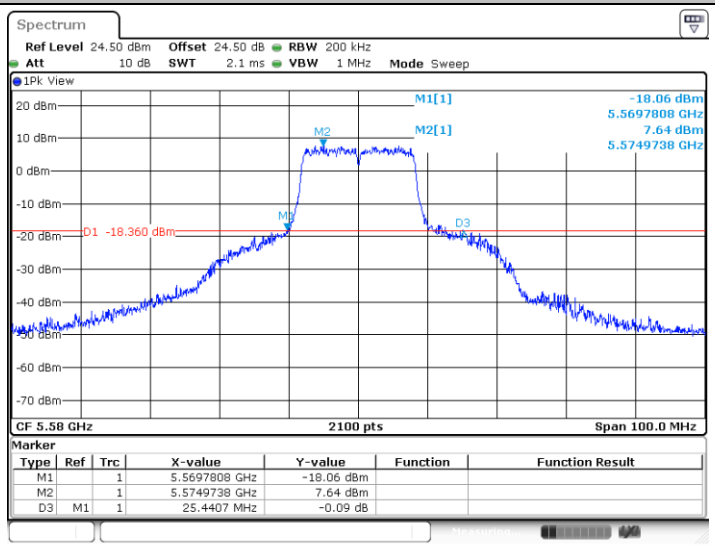
Date: 23.DEC.2024 09:07:01

11A_5320


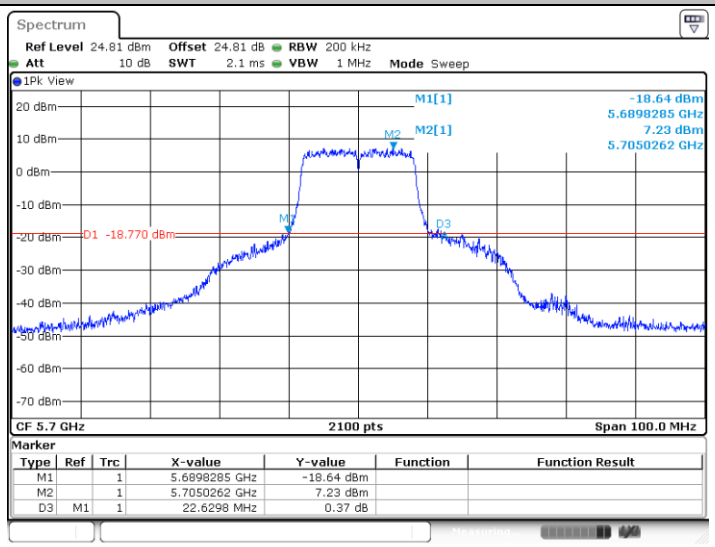
Date: 23.DEC.2024 09:07:34

11A_5500


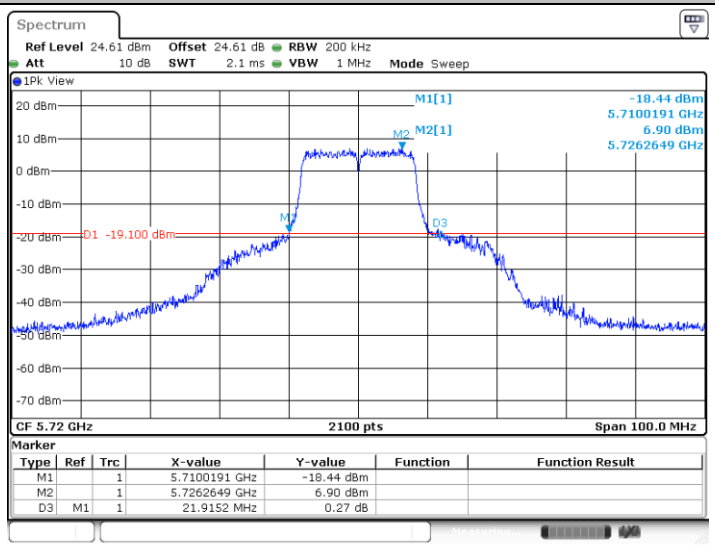
Date: 23.DEC.2024 09:08:28

11A_5580


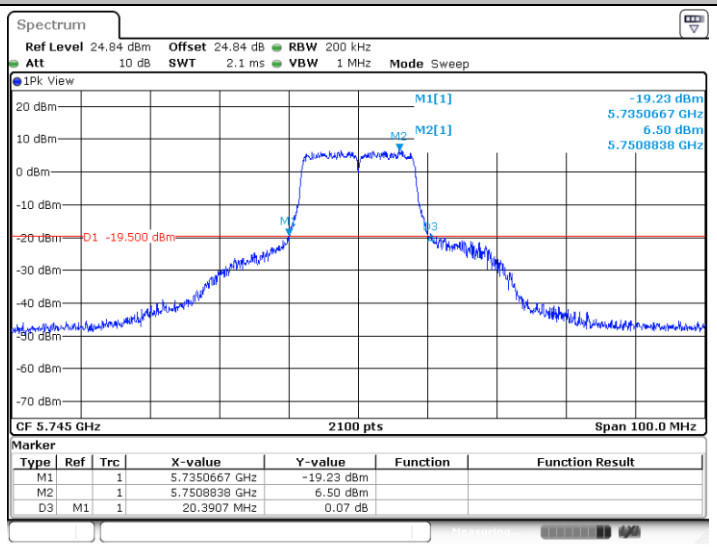
Date: 23.DEC.2024 09:09:45

11A_5700


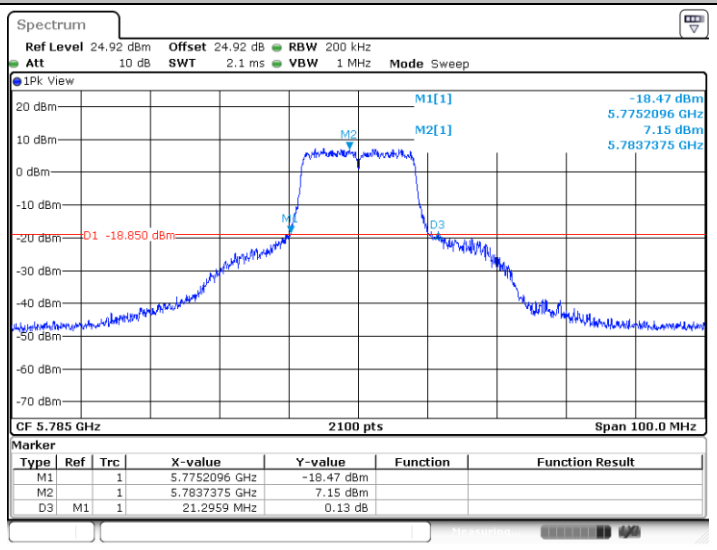
Date: 23.DEC.2024 09:10:24

11A_5720


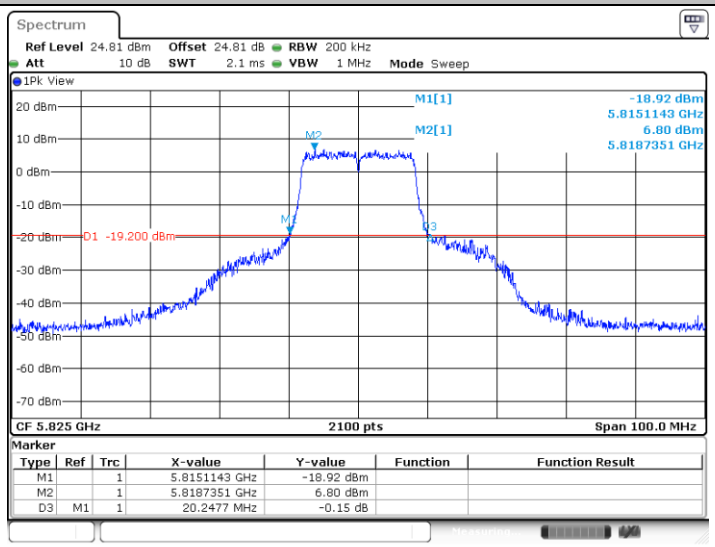
Date: 23.DEC.2024 09:10:55

11A_5745


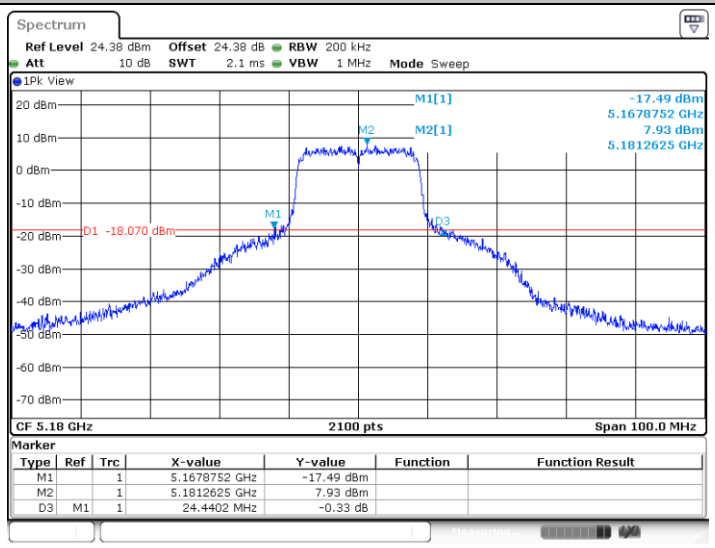
Date: 23.DEC.2024 09:11:54

11A_5785


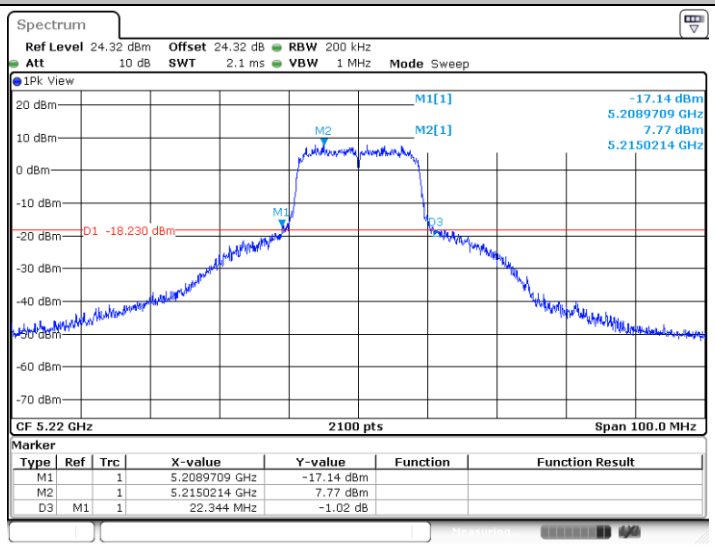
Date: 23.DEC.2024 09:12:56

11A_5825


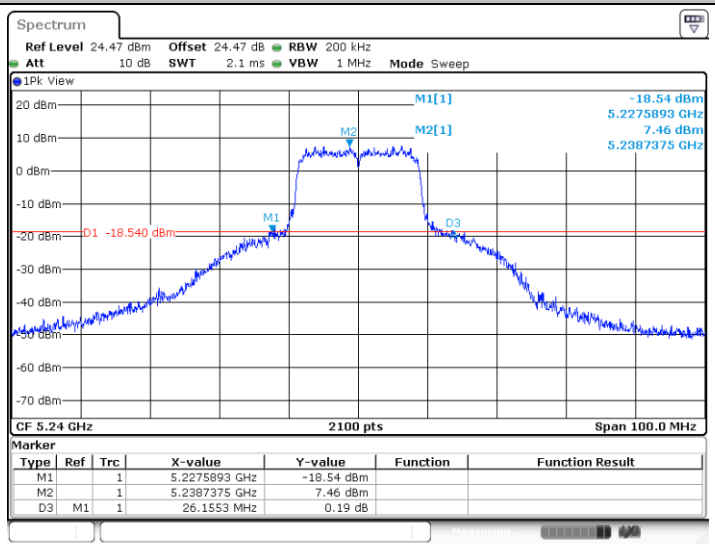
Date: 23.DEC.2024 09:14:01

11N20SISO_5180


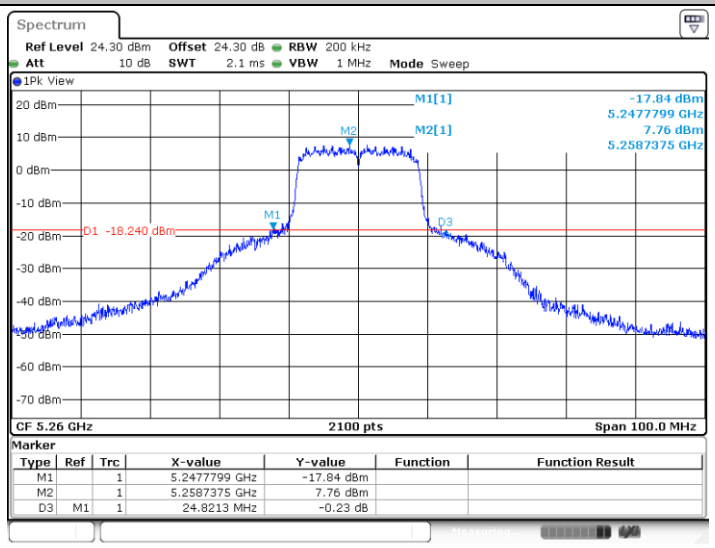
Date: 23.DEC.2024 09:14:55

11N20SISO_5220


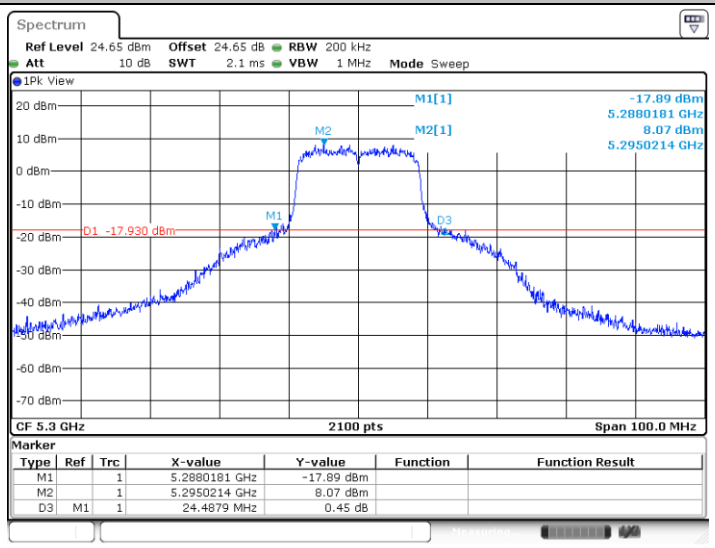
Date: 23.DEC.2024 09:15:50

11N20SISO_5240


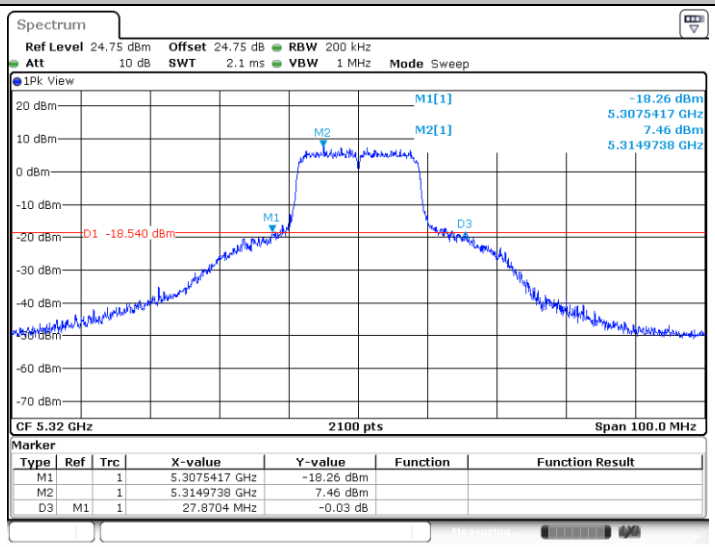
Date: 23.DEC.2024 09:16:21

11N20SISO_5260


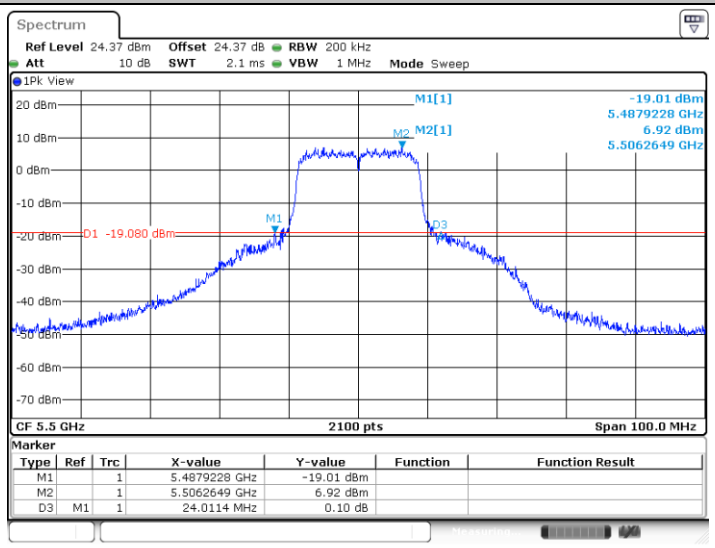
Date: 23.DEC.2024 09:16:53

11N20SISO_5300


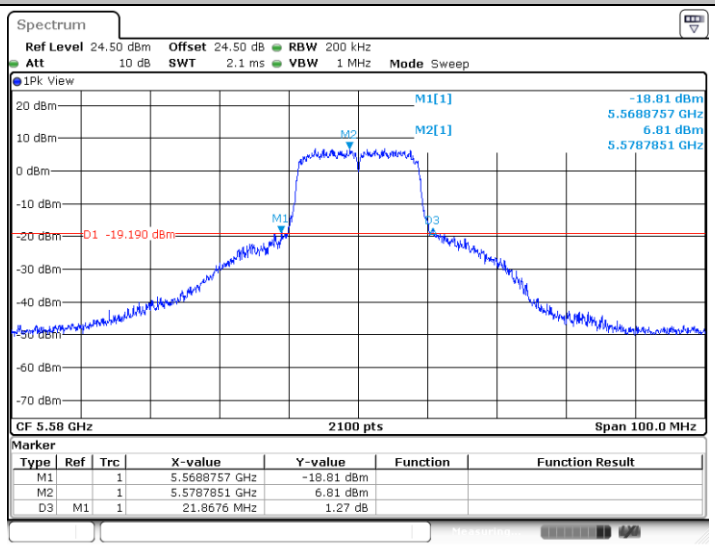
Date: 23.DEC.2024 09:17:40

11N20SISO_5320


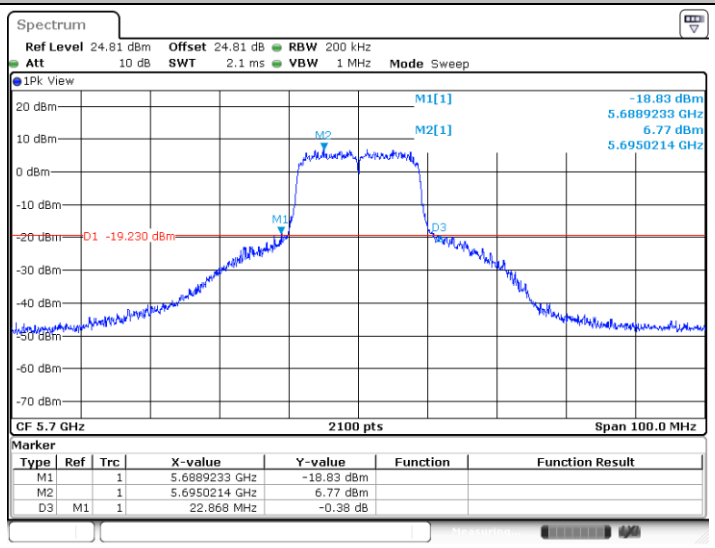
Date: 23.DEC.2024 09:18:20

11N20SISO_5500


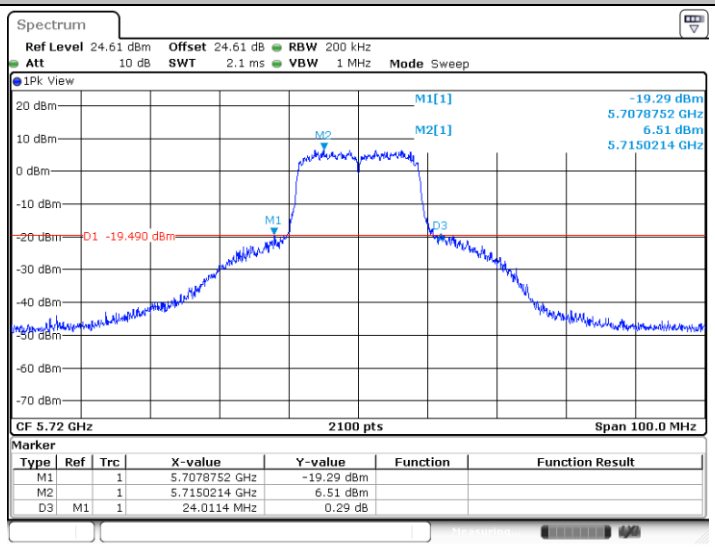
Date: 23.DEC.2024 09:19:21

11N20SISO_5580


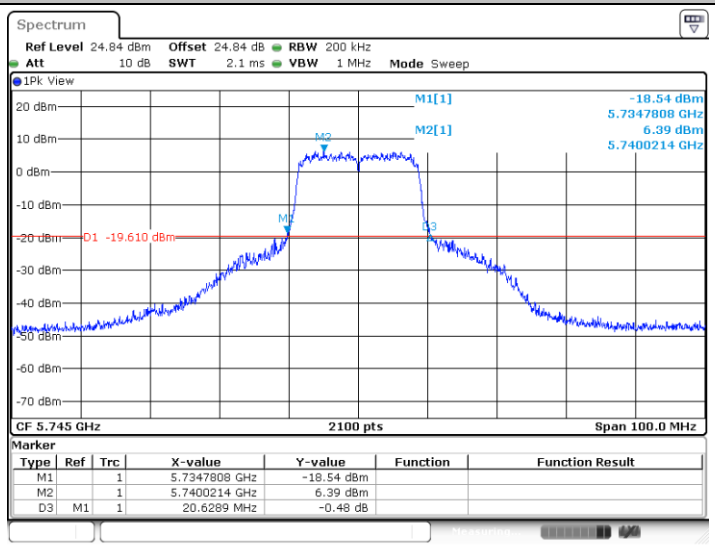
Date: 23.DEC.2024 09:20:36

11N20SISO_5700


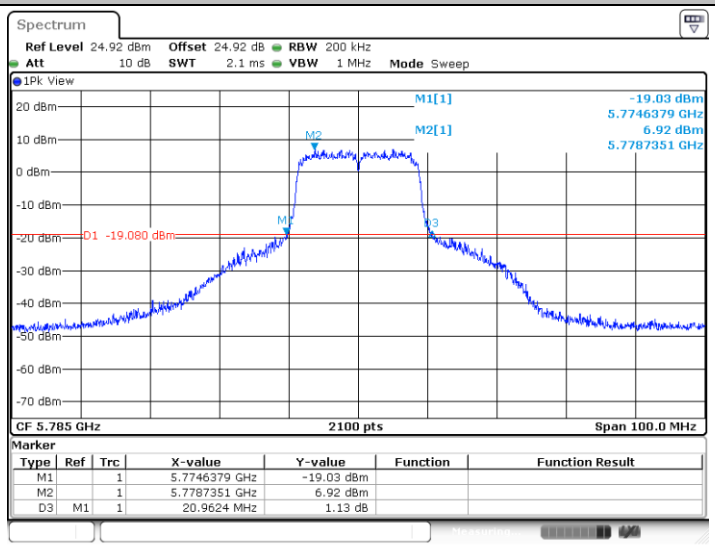
Date: 23.DEC.2024 09:22:57

11N20SISO_5720


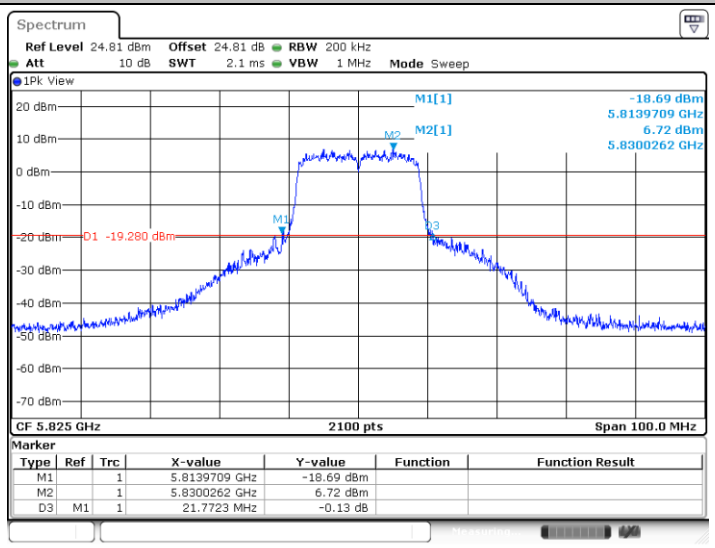
Date: 23.DEC.2024 09:23:34

11N20SISO_5745


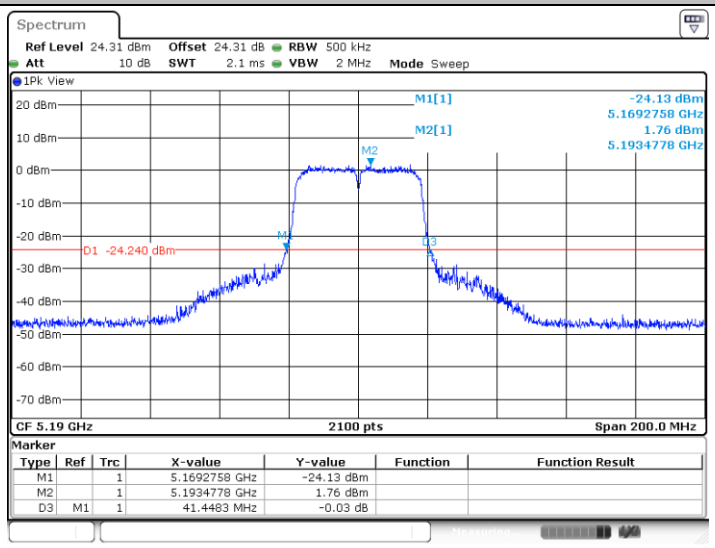
Date: 23.DEC.2024 09:24:15

11N20SISO_5785


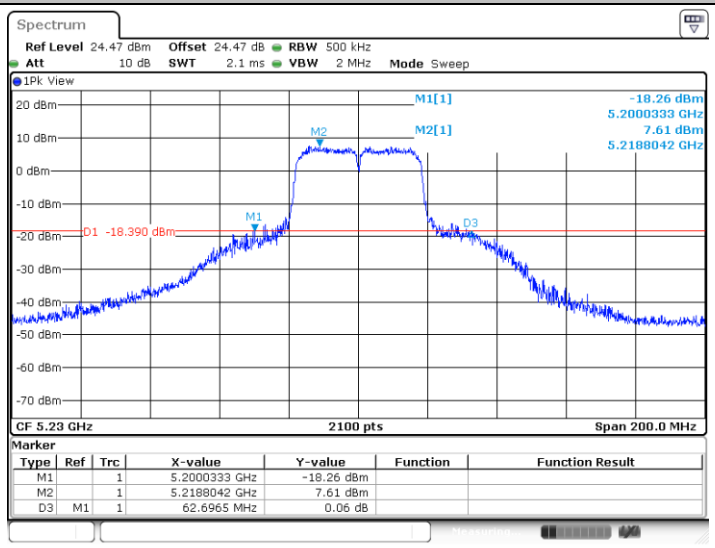
Date: 23.DEC.2024 09:24:57

11N20SISO_5825


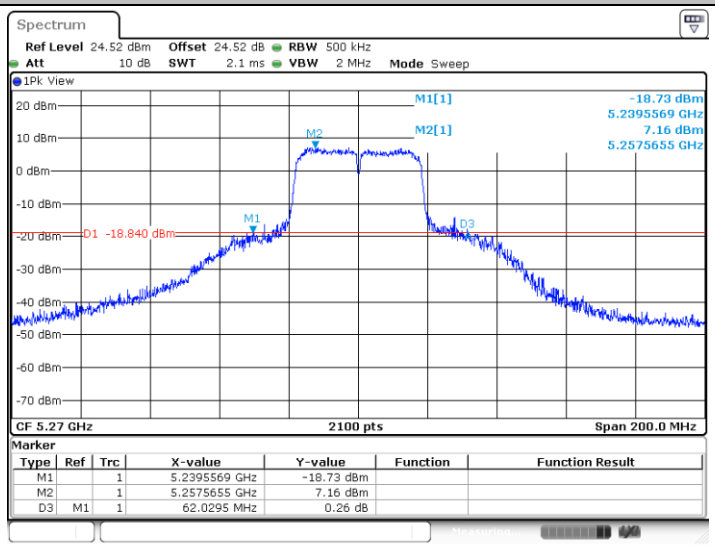
Date: 23.DEC.2024 09:25:37

11N40SISO_5190


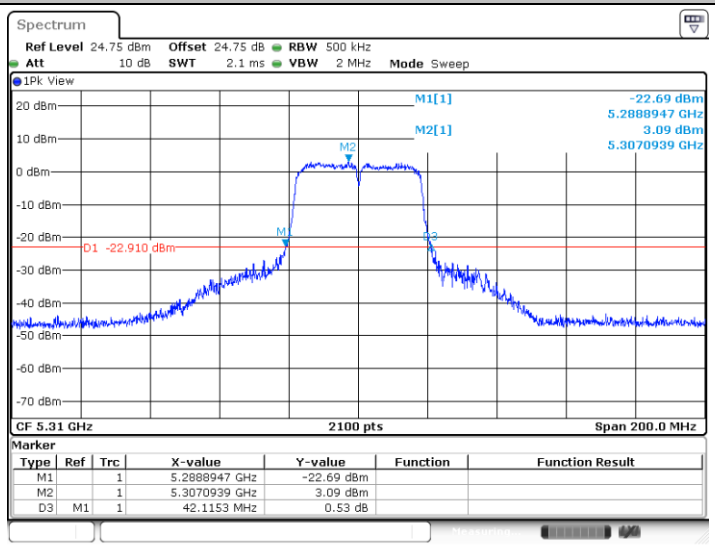
Date: 23.DEC.2024 09:26:28

11N40SISO_5230


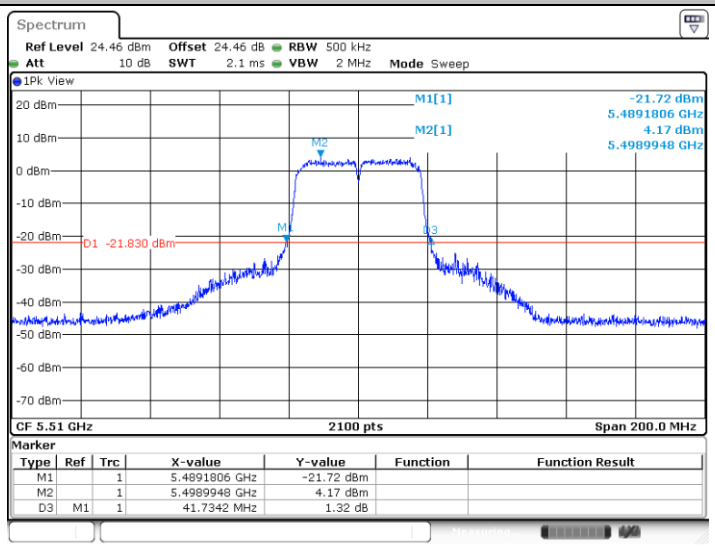
Date: 23.DEC.2024 09:27:13

11N40SISO_5270


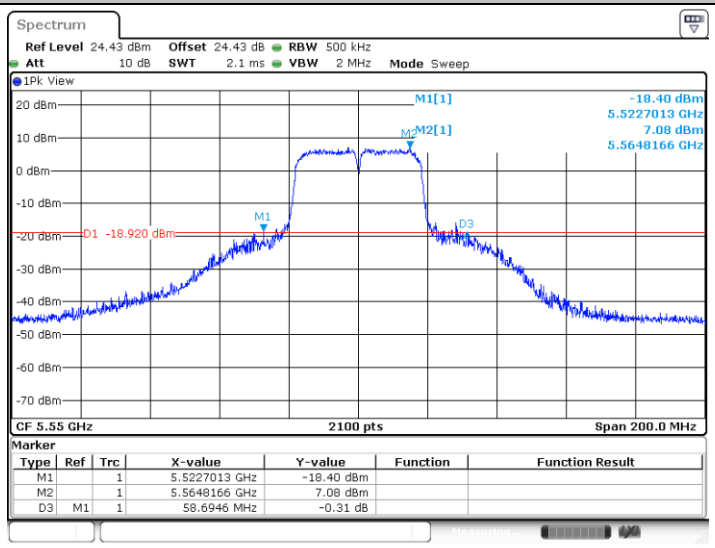
Date: 23.DEC.2024 09:28:04

11N40SISO_5310


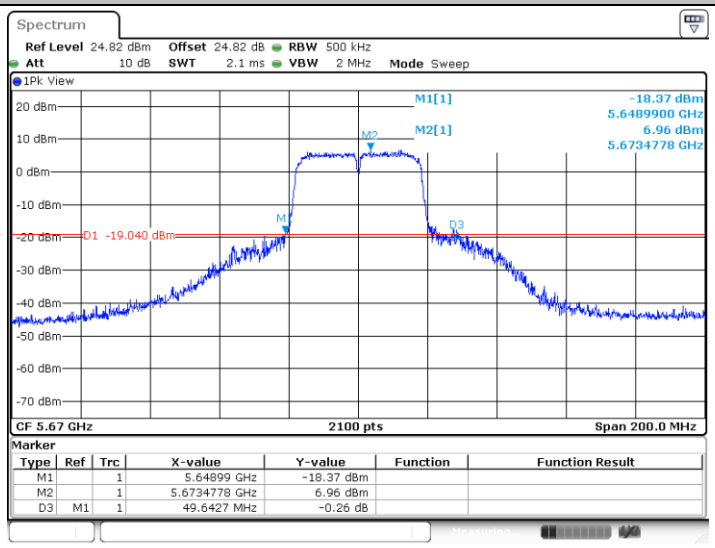
Date: 23.DEC.2024 09:30:17

11N40SISO_5510


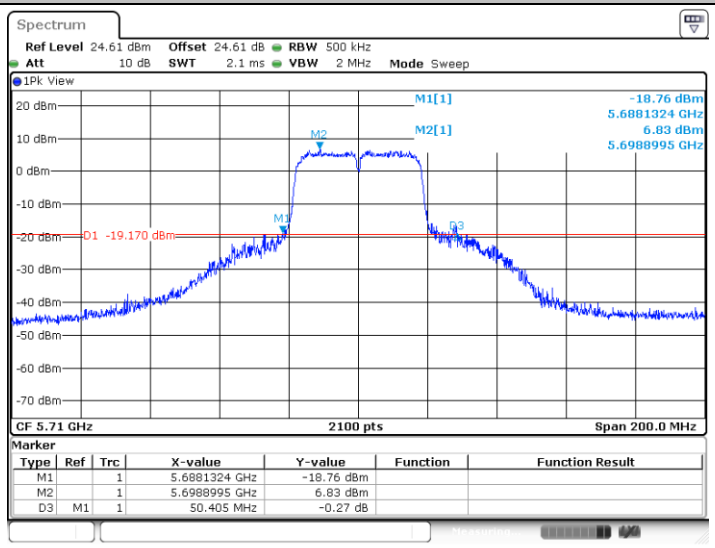
Date: 23.DEC.2024 09:30:53

11N40SISO_5550


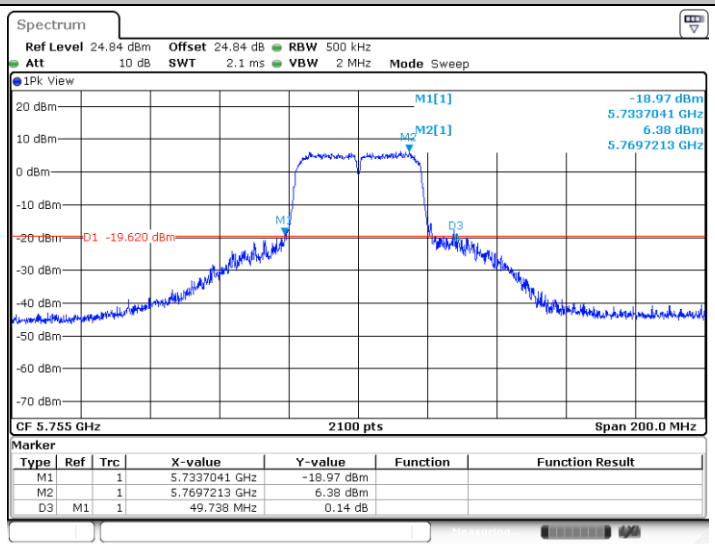
Date: 23.DEC.2024 09:31:56

11N40SISO_5670


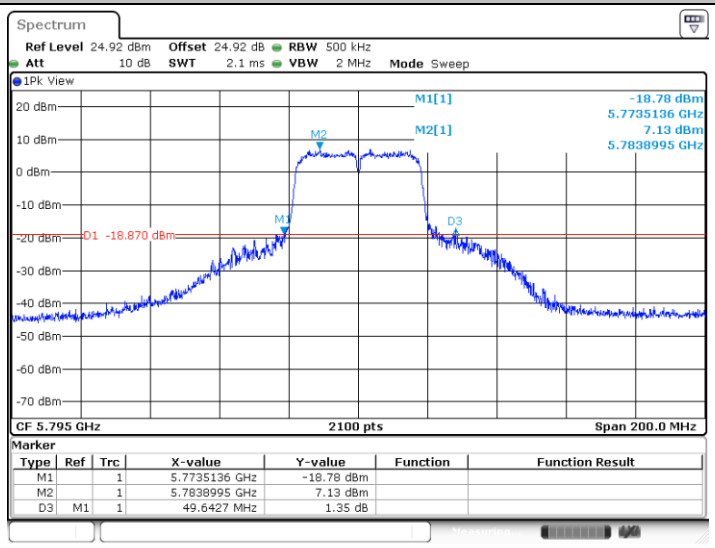
Date: 23.DEC.2024 09:32:32

11N40SISO_5710


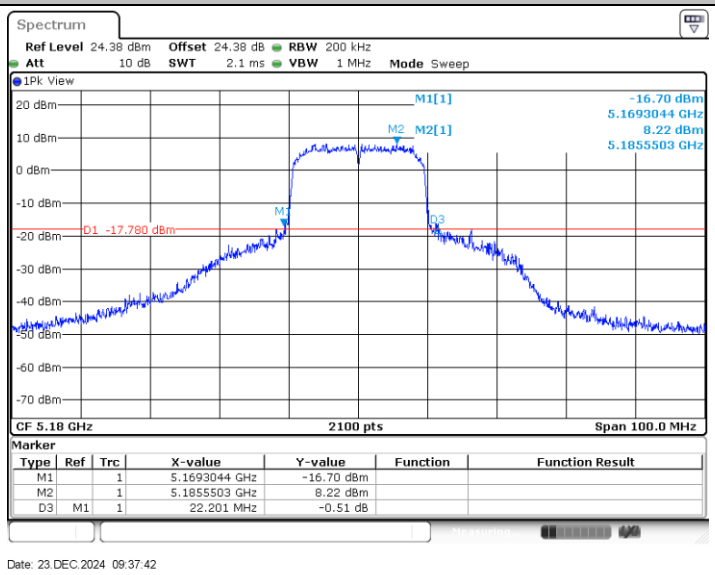
Date: 23.DEC.2024 09:34:04

11N40SISO_5755


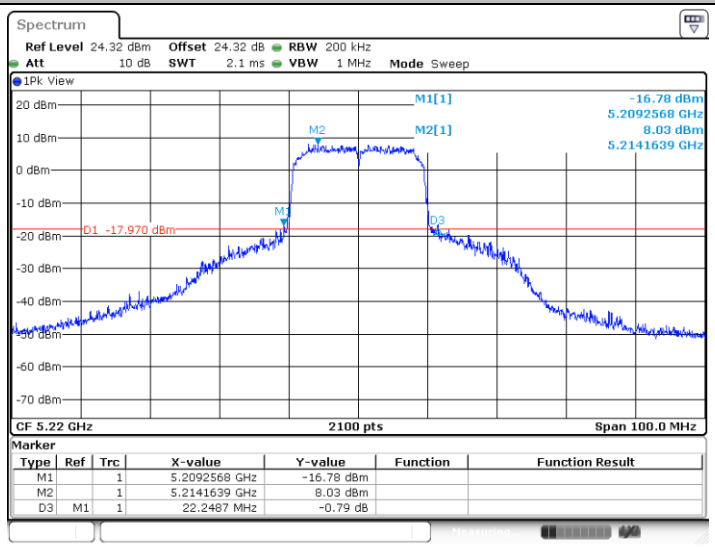
Date: 23.DEC.2024 09:35:56

11N40SISO_5795


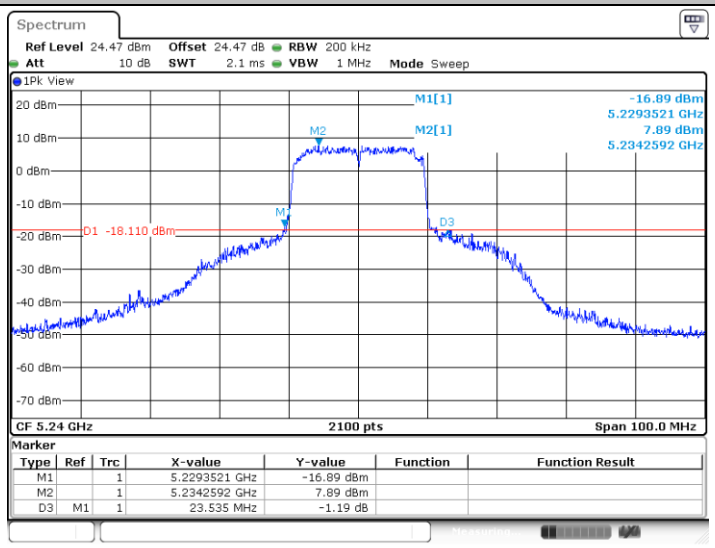
Date: 23.DEC.2024 09:36:51

11AX20SISO_5180


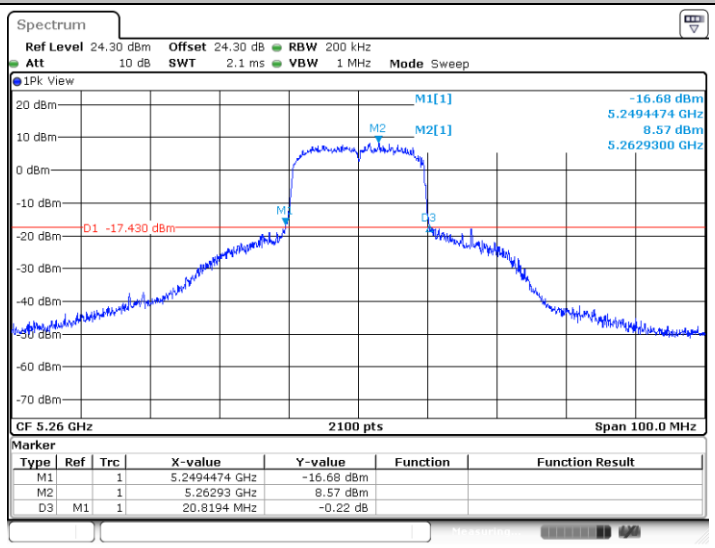
Date: 23.DEC.2024 09:37:42

11AX20SISO_5220


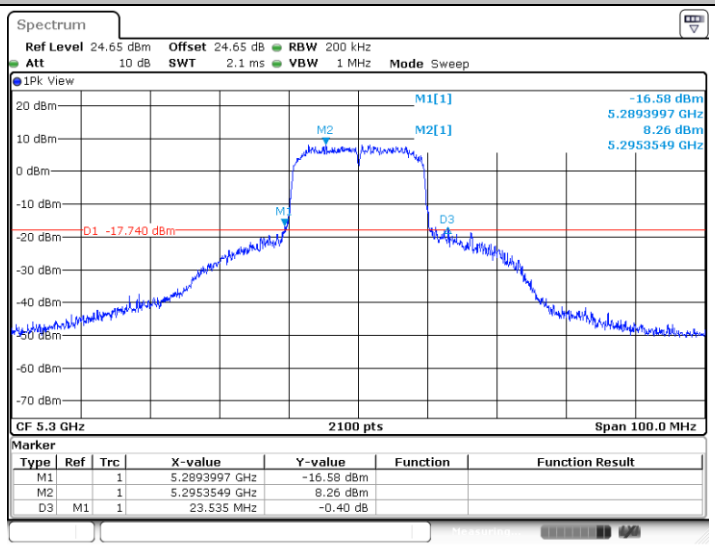
Date: 23.DEC.2024 09:38:21

11AX20SISO_5240


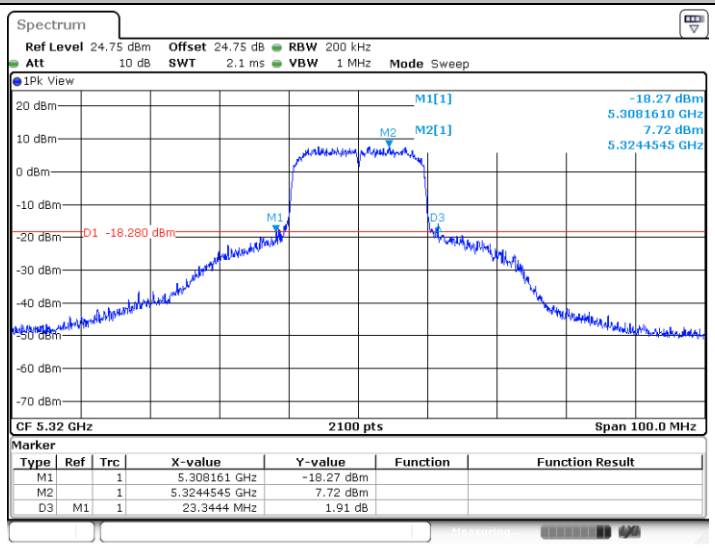
Date: 23.DEC.2024 09:38:53

11AX20SISO_5260


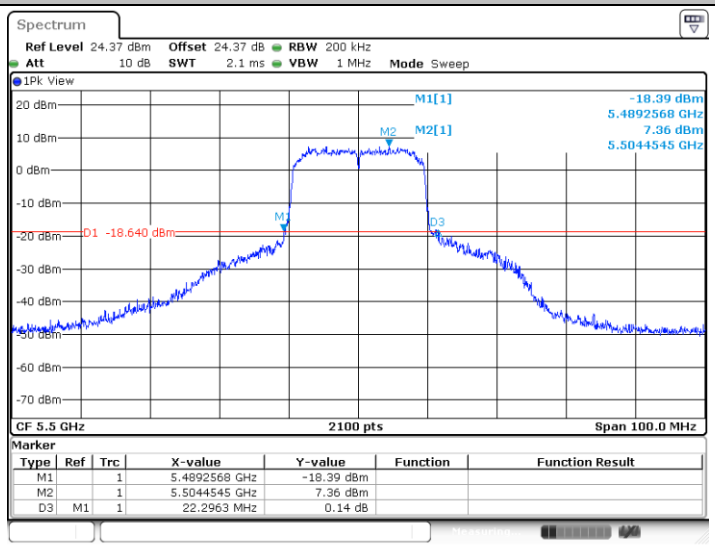
Date: 23.DEC.2024 09:39:23

11AX20SISO_5300


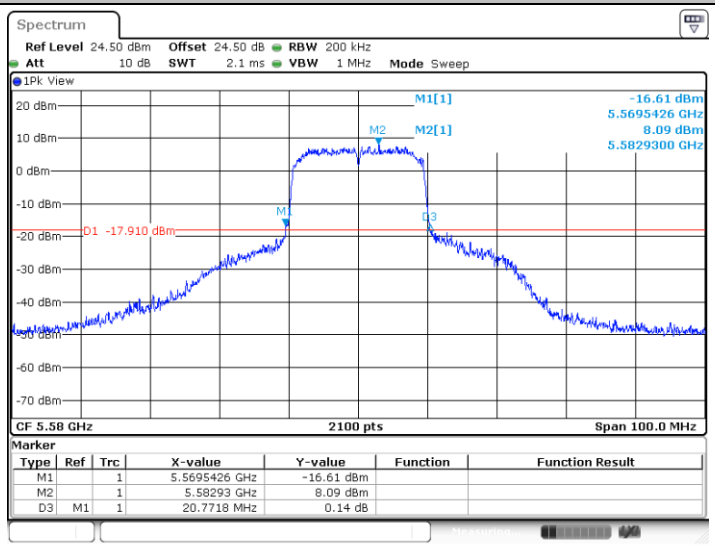
Date: 23.DEC.2024 09:39:57

11AX20SISO_5320


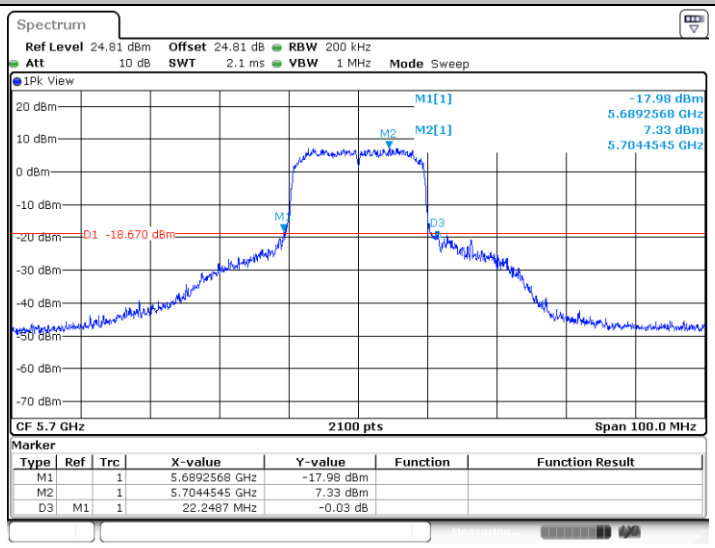
Date: 23.DEC.2024 09:40:25

11AX20SISO_5500


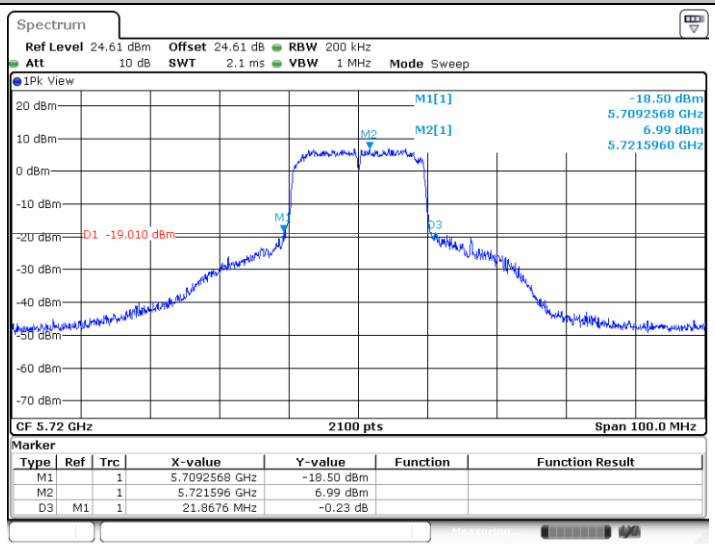
Date: 23.DEC.2024 09:41:44

11AX20SISO_5580


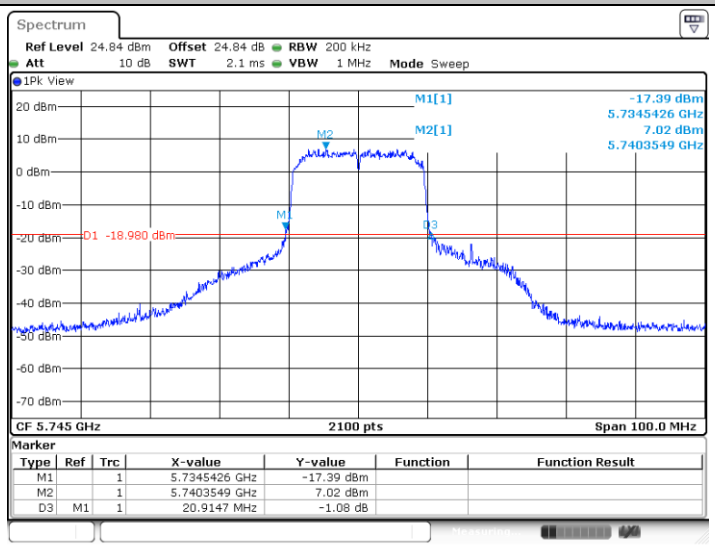
Date: 23.DEC.2024 09:42:21

11AX20SISO_5700


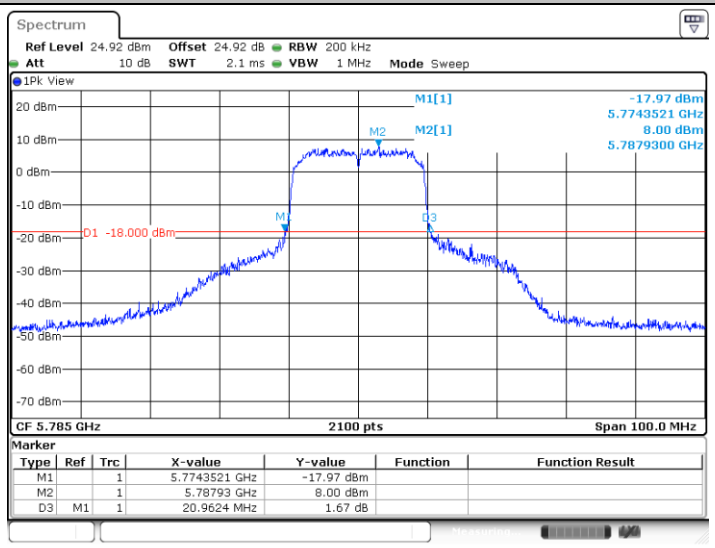
Date: 23.DEC.2024 09:43:13

11AX20SISO_5720


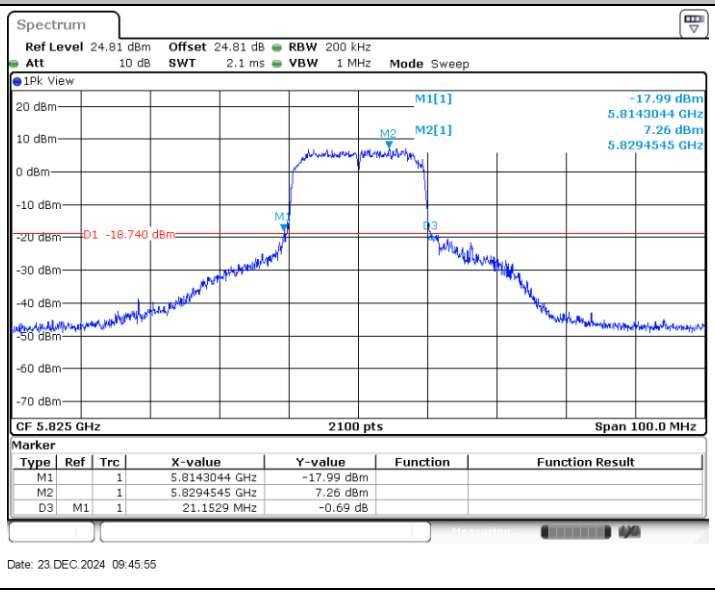
Date: 23.DEC.2024 09:43:52

11AX20SISO_5745


Date: 23.DEC.2024 09:44:38

11AX20SISO_5785


Date: 23.DEC.2024 09:45:17

11AX20SISO_5825


Occupied channel bandwidth

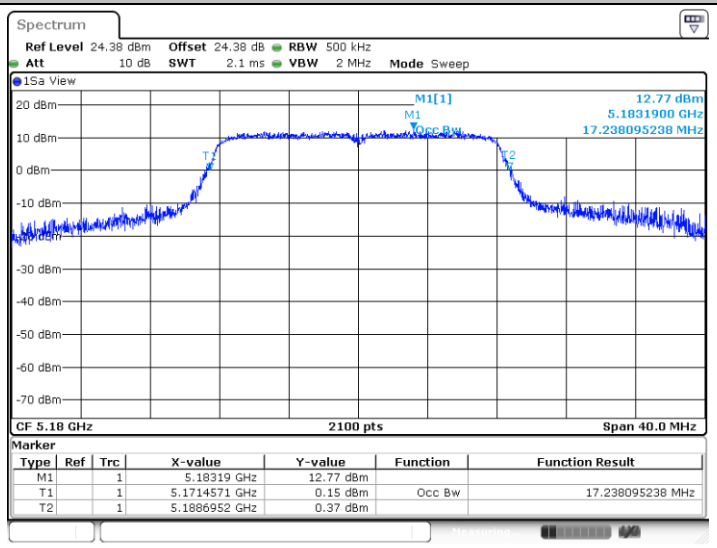
Test Result

TestMode	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	5180	17.238	5171.4571	5188.6952	---	---
	5220	17.276	5211.4381	5228.7143	---	---
	5240	17.333	5231.4190	5248.7524	---	---
	5260	17.238	5251.4000	5268.6381	---	---
	5300	17.2	5291.4381	5308.6381	---	---
	5320	17.333	5311.4000	5328.7333	---	---
	5500	17.124	5491.4952	5508.6190	---	---
	5580	17.181	5571.4762	5588.6571	---	---
	5700	17.105	5691.4952	5708.6000	---	---
	5720	17.181	5711.4762	5728.6571	---	---
	5720_UNII-2C	13.524	5711.4762	5725	---	---
	5720_UNII-3	3.657	5725	5728.6571	---	---
	5745	17.01	5736.5333	5753.5429	---	---
	5785	17.048	5776.5143	5793.5619	---	---
	5825	17.067	5816.5143	5833.5810	---	---
11N20SISO	5180	18.019	5171.0381	5189.0571	---	---
	5220	18.019	5211.0190	5229.0381	---	---
	5240	18.133	5230.9810	5249.1143	---	---
	5260	18.038	5250.9810	5269.0190	---	---
	5300	18.057	5290.9810	5309.0381	---	---
	5320	18.19	5310.9429	5329.1333	---	---
	5500	18	5491.0381	5509.0381	---	---
	5580	17.962	5571.0381	5589.0000	---	---
	5700	17.943	5691.0571	5709.0000	---	---
	5720	18.038	5711.0190	5729.0571	---	---
	5720_UNII-2C	13.981	5711.0190	5725	---	---
	5720_UNII-3	4.057	5725	5729.0571	---	---
	5745	17.905	5736.0571	5753.9619	---	---
	5785	17.924	5776.0571	5793.9810	---	---
	5825	17.962	5816.0571	5834.0190	---	---
11N40SISO	5190	36.229	5171.8857	5208.1143	---	---

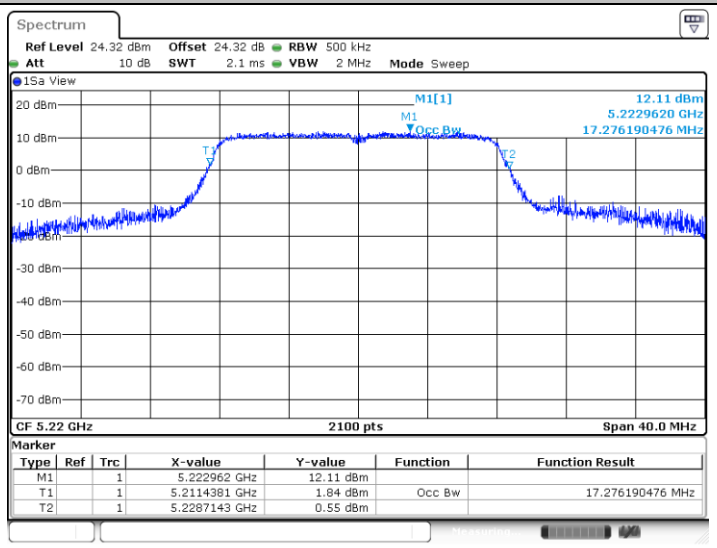
	5230	36.457	5211.7714	5248.2286	---	---
	5270	36.533	5251.7333	5288.2667	---	---
	5310	36.229	5291.8095	5328.0381	---	---
	5510	36.229	5491.8857	5528.1143	---	---
	5550	36.457	5531.7714	5568.2286	---	---
	5670	36.419	5651.8476	5688.2667	---	---
	5710	36.457	5691.8095	5728.2667	---	---
	5710_UNII-2C	33.19	5691.8095	5725	---	---
	5710_UNII-3	3.267	5725	5728.2667	---	---
	5755	36.419	5736.8476	5773.2667	---	---
	5795	36.381	5776.8476	5813.2286	---	---
11AX20SISO	5180	18.895	5170.5619	5189.4571	---	---
	5220	18.857	5210.5619	5229.4190	---	---
	5240	18.933	5230.5429	5249.4762	---	---
	5260	18.895	5250.5429	5269.4381	---	---
	5300	18.876	5290.5619	5309.4381	---	---
	5320	18.952	5310.5238	5329.4762	---	---
	5500	18.895	5490.5619	5509.4571	---	---
	5580	18.838	5570.5810	5589.4190	---	---
	5700	18.876	5690.5619	5709.4381	---	---
	5720	18.876	5710.5810	5729.4571	---	---
	5720_UNII-2C	14.419	5710.5810	5725	---	---
	5720_UNII-3	4.457	5725	5729.4571	---	---
	5745	18.819	5735.5810	5754.4000	---	---
	5785	18.838	5775.5810	5794.4190	---	---
	5825	18.895	5815.5619	5834.4571	---	---

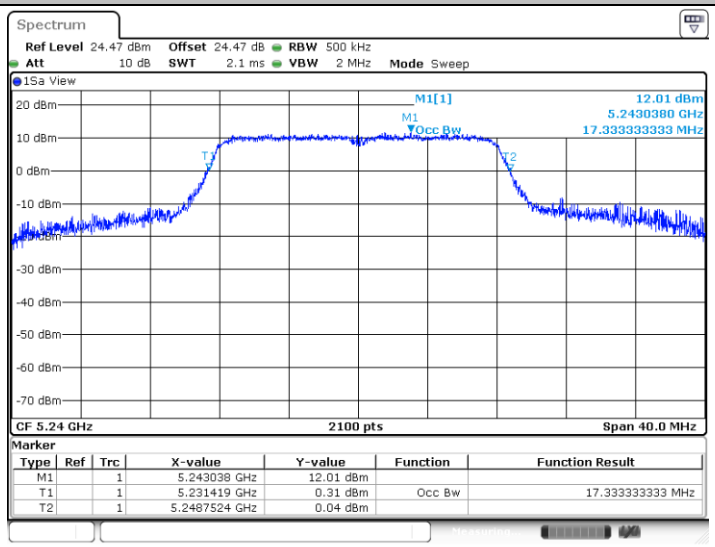
Test Graphs

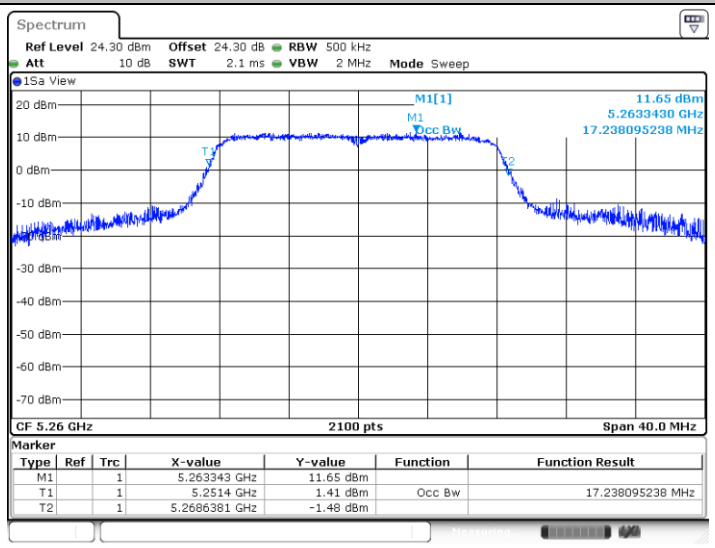
11A_5180

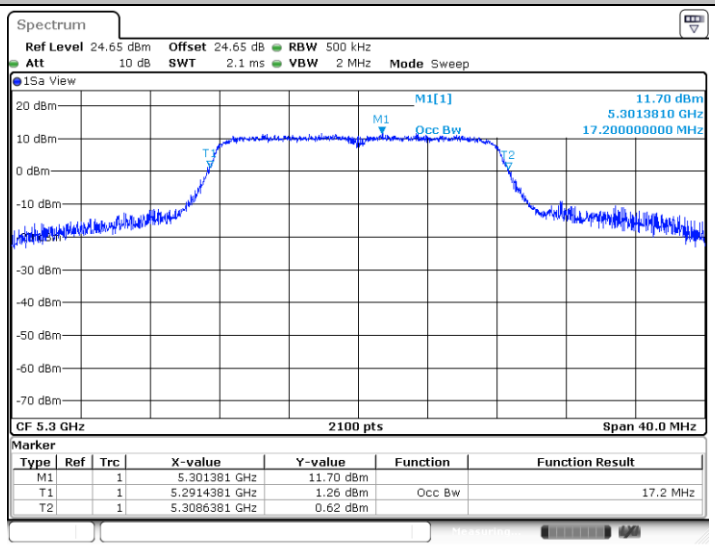


11A_5220

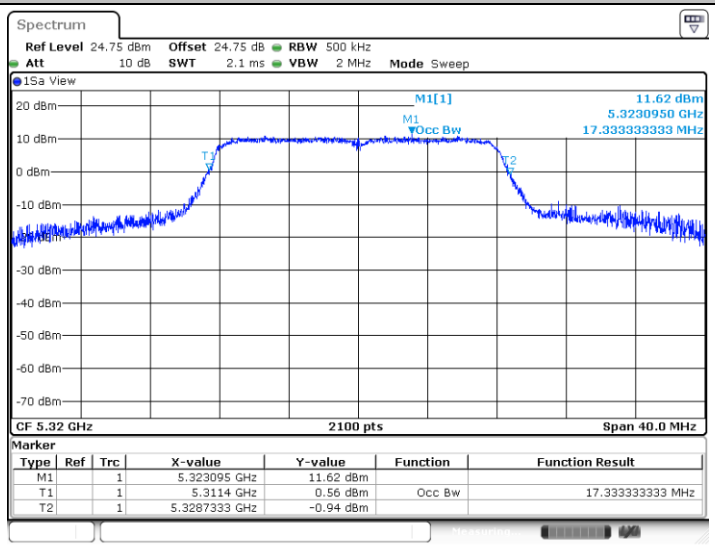


11A_5240


11A_5260


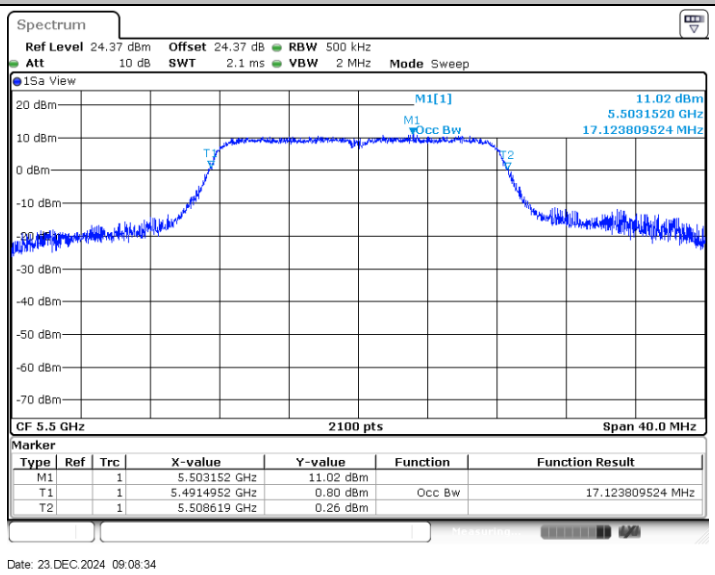
11A_5300


Date: 23.DEC.2024 09:07:07

11A_5320


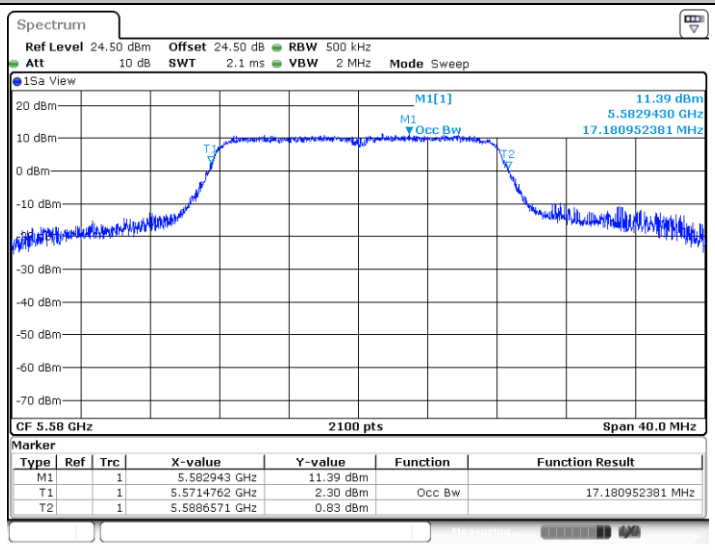
Date: 23.DEC.2024 09:07:40

11A_5500

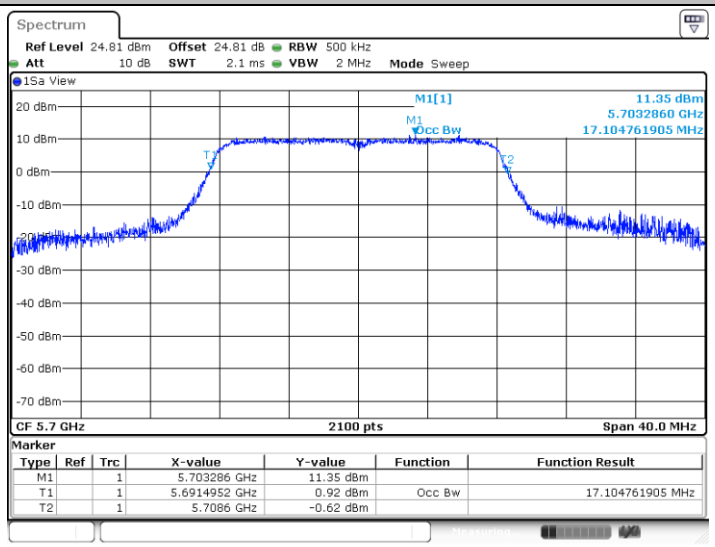


Date: 23.DEC.2024 09:08:34

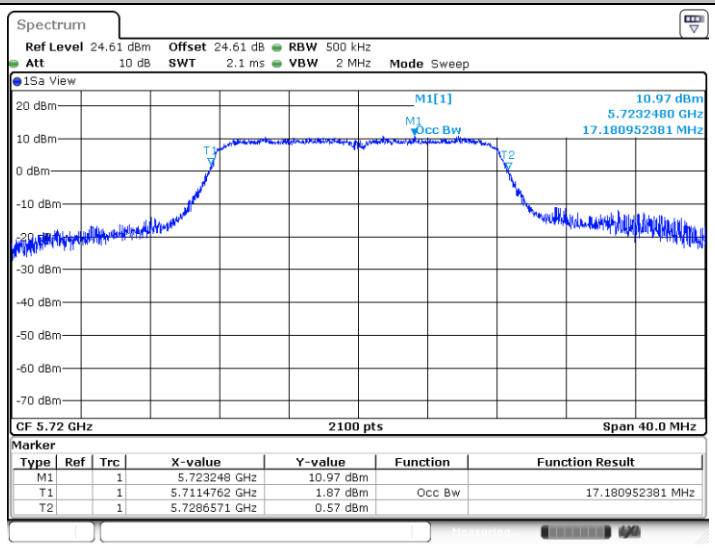
11A_5580



Date: 23.DEC.2024 09:09:51

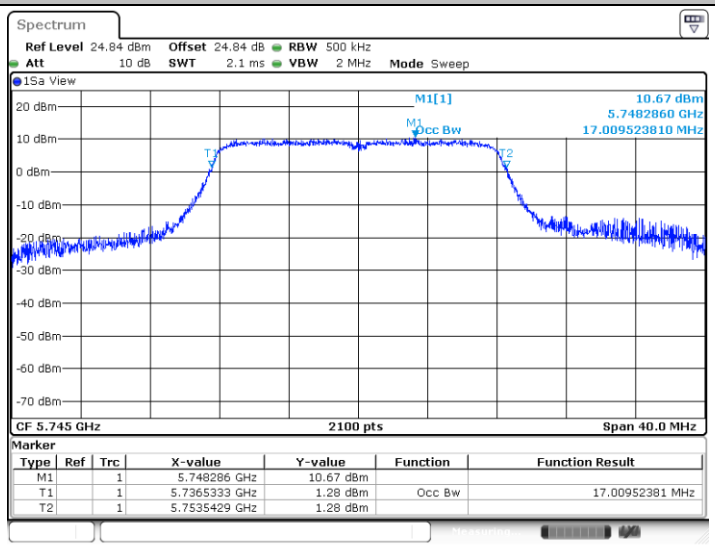
11A_5700


Date: 23.DEC.2024 09:10:31

11A_5720


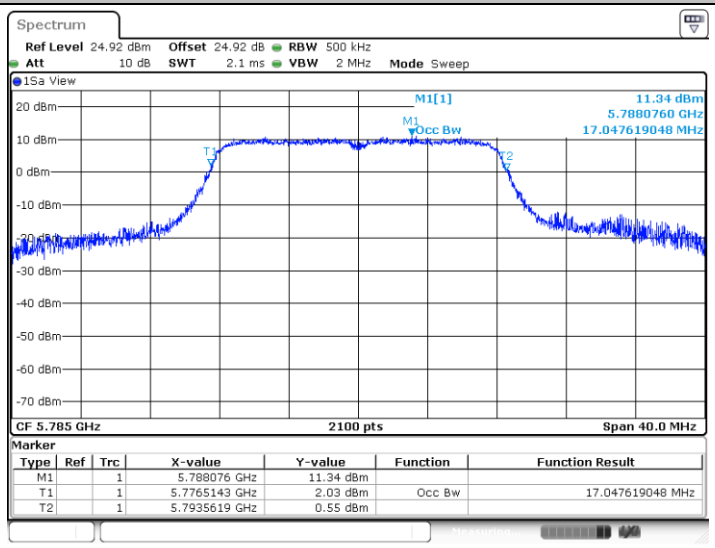
Date: 23.DEC.2024 09:11:03

11A_5745

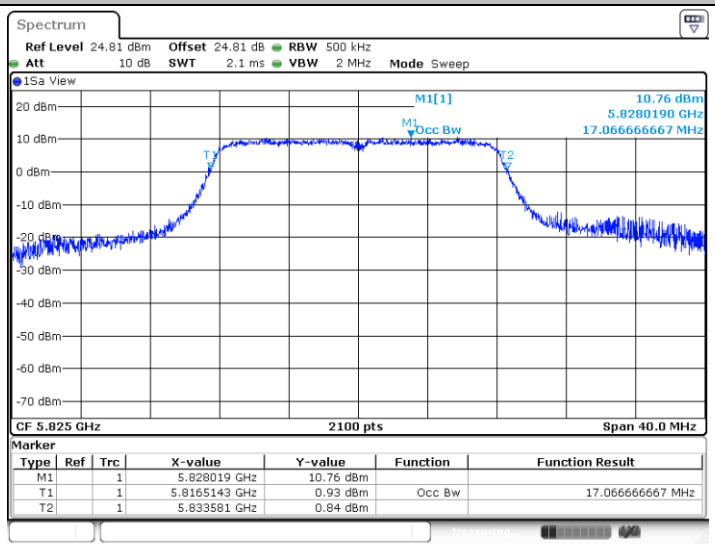


Date: 23.DEC.2024 09:12:08

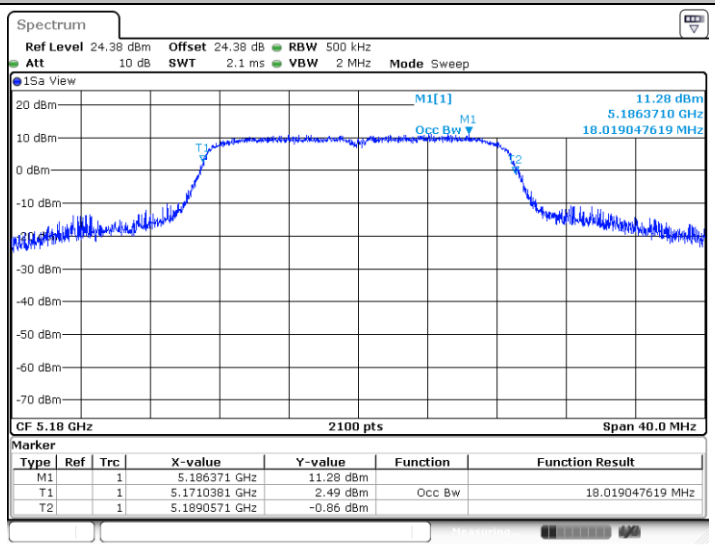
11A_5785



Date: 23.DEC.2024 09:13:11

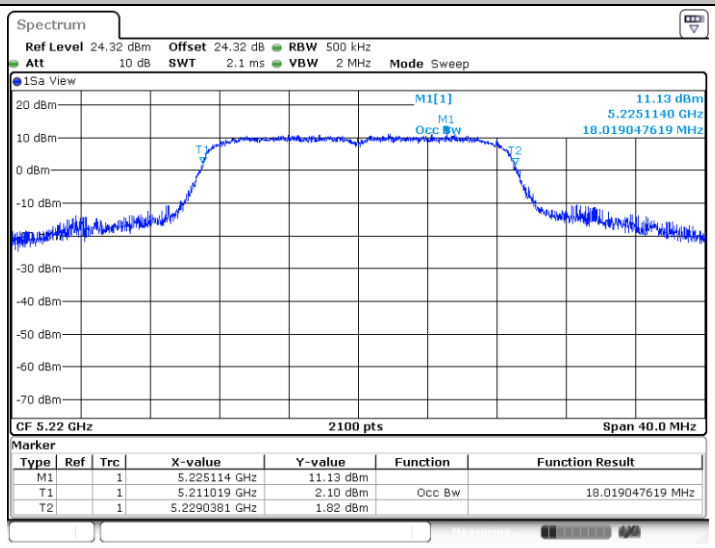
11A_5825


Date: 23.DEC.2024 09:14:16

11N20SISO_5180


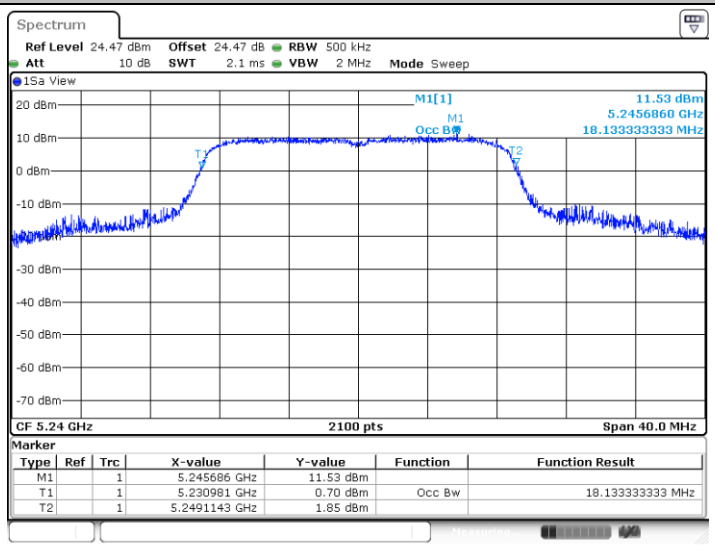
Date: 23.DEC.2024 09:15:01

11N20SISO_5220

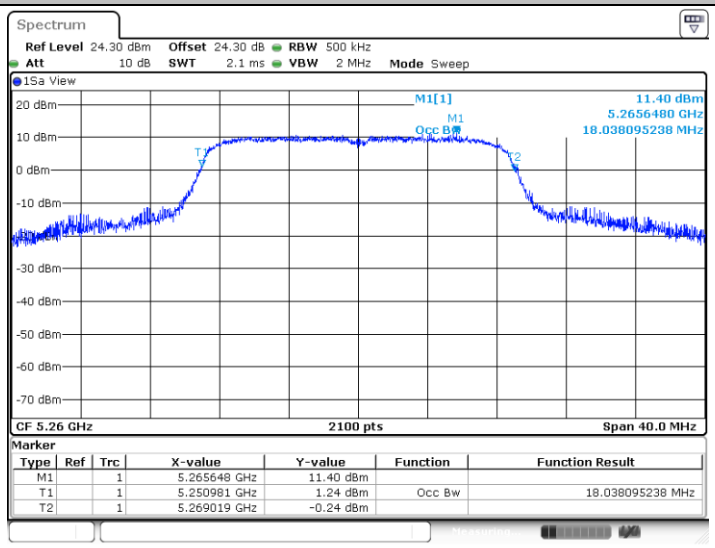


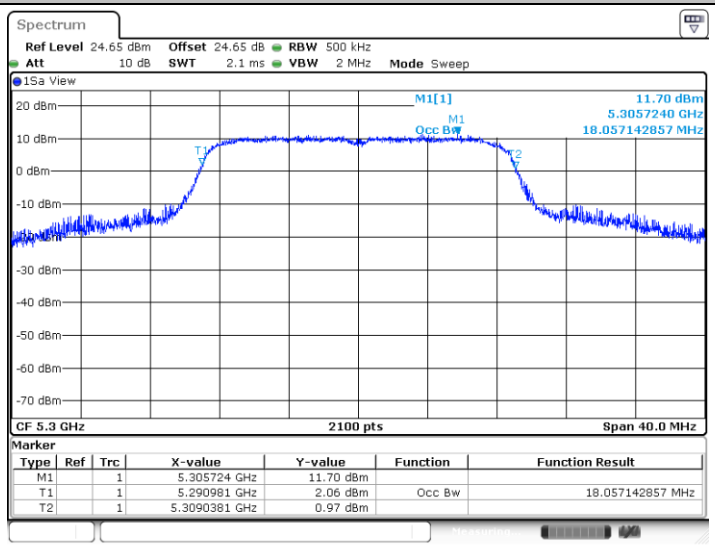
Date: 23.DEC.2024 09:15:56

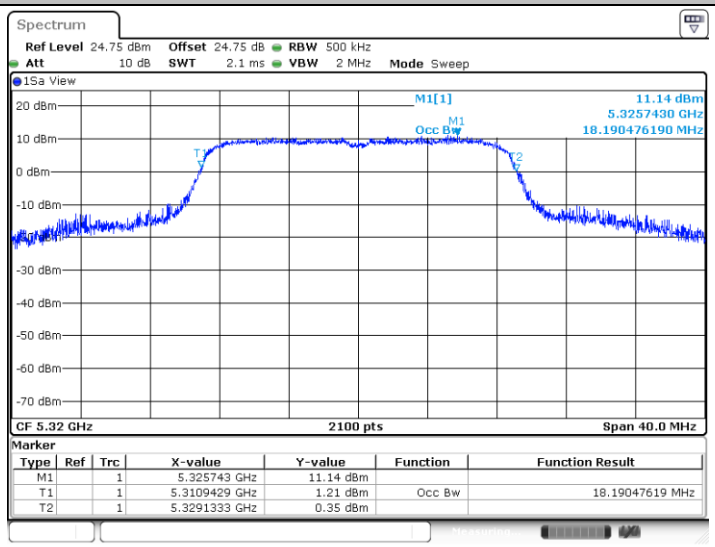
11N20SISO_5240

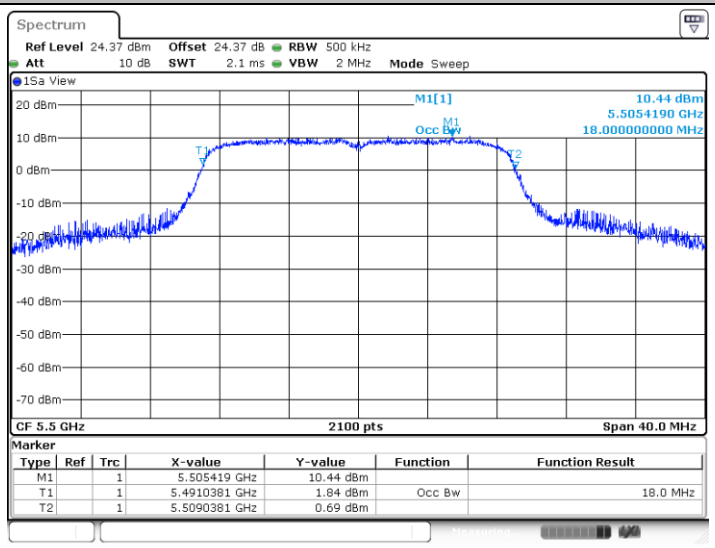


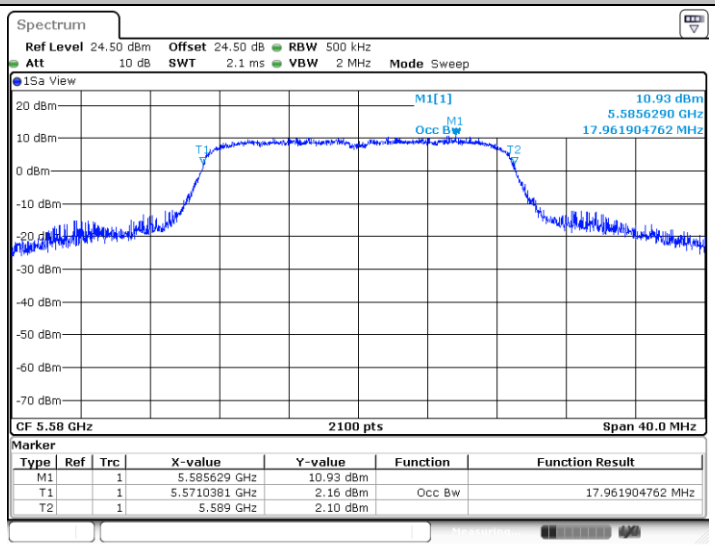
Date: 23.DEC.2024 09:16:27

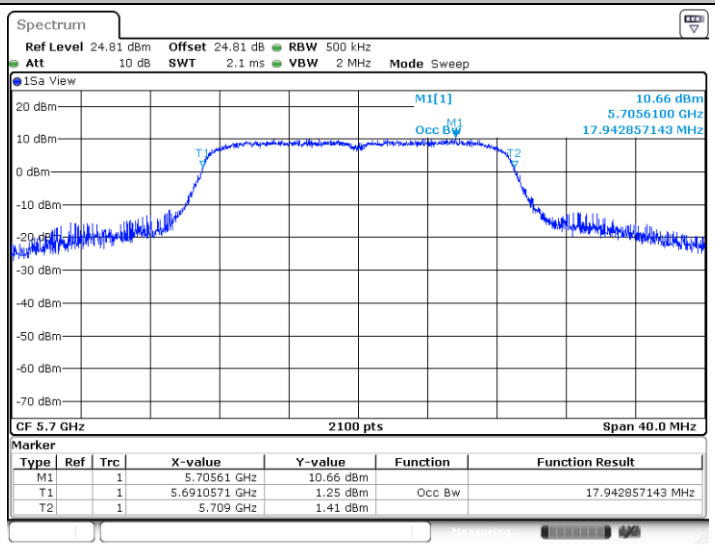
11N20SISO_5260


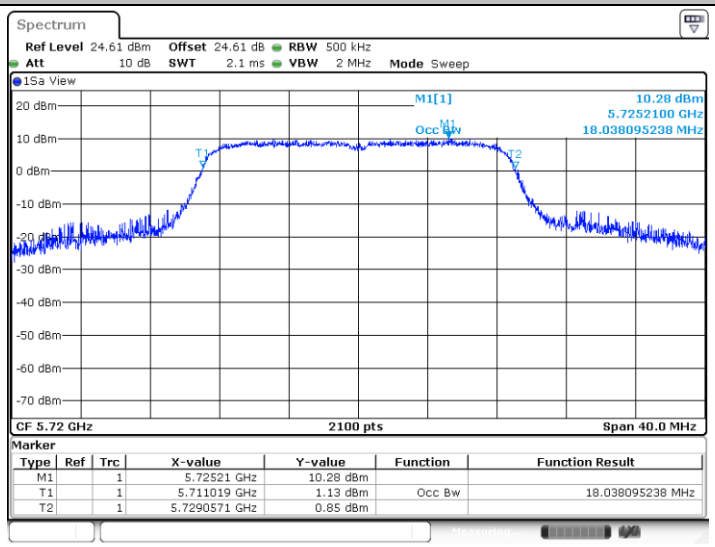
11N20SISO_5300


11N20SISO_5320


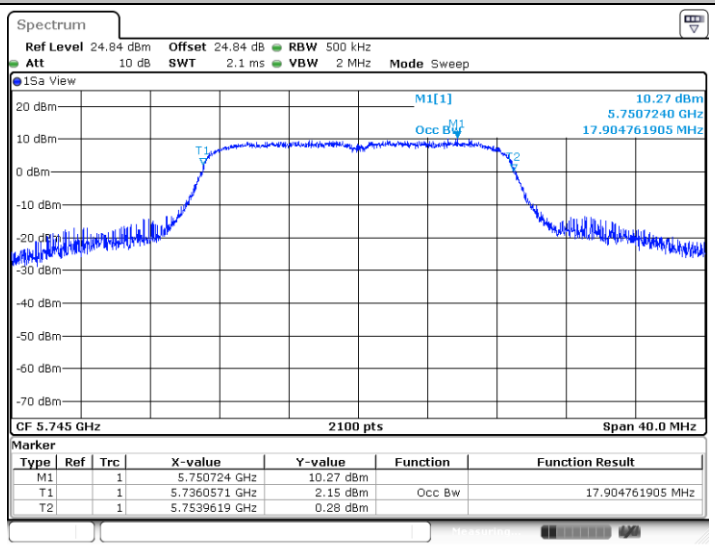
11N20SISO_5500


11N20SISO_5580


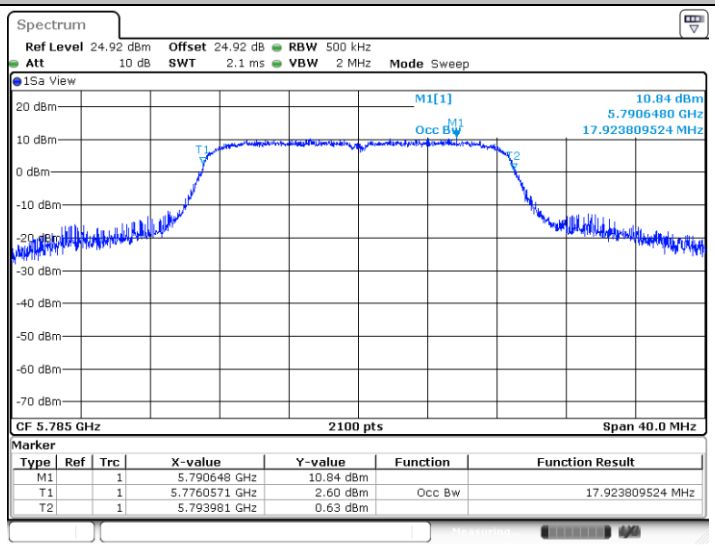
11N20SISO_5700


11N20SISO_5720


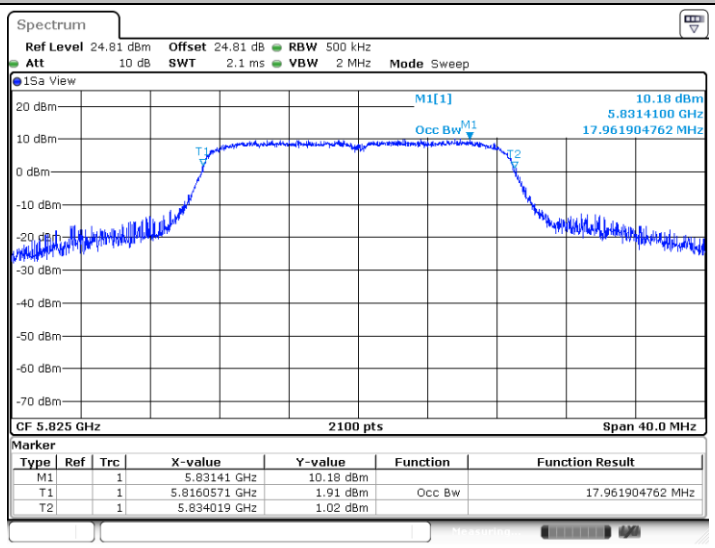
Date: 23.DEC.2024 09:23:41

11N20SISO_5745


Date: 23.DEC.2024 09:24:29

11N20SISO_5785


Date: 23.DEC.2024 09:25:11

11N20SISO_5825


Date: 23.DEC.2024 09:25:51