



FCC AND ISCED CERTIFICATION TEST REPORT

Applicant	:	Harman International Industries, Inc.
Address of Applicant	:	8500 Balboa Boulevard, Northridge, CA 91329, UNITED STATES
Manufacturer	:	Harman International Industries, Inc.
Address of Manufacturer	:	8500 Balboa Boulevard, Northridge, CA 91329, UNITED STATES
Equipment under Test	:	Multi-Channel Soundbar with wireless subwoofer
Model No.	:	BAR 1300XMK2
FCC ID	:	APIBAR1300MK2
IC	:	6132A-BAR1300MK2
Test Standard(s)	:	FCC Rules and Regulations Part 15 Subpart E, RSS-247 Issue 3 August 2023, ANSI C63.10:2013, 789033 D02 General U-NII Test Procedures New Rules v02r01, 662911 D01 Multiple Transmitter Output v02r01, RSS-Gen Issue 5 April 2018
Report No.	:	DDT-RE24111520-1E05
Issue Date	:	2025/03/14
Issue By	:	Guangdong Dongdian Testing Service Co., Ltd. Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808

REPORT

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Test Report Declare

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Test Standard Used:

FCC Rules and Regulations Part 15 Subpart E,
RSS-247 Issue 3 August 2023,
ANSI C63.10:2013,
789033 D02 General U-NII Test Procedures New Rules v02r01,
662911 D01 Multiple Transmitter Output v02r01,
RSS-Gen Issue 5 April 2018

We Declare:

The equipment described above is tested by Guangdong Dongdian Testing Service Co., Ltd. and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Guangdong Dongdian Testing Service Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

Report No.:	DDT-RE24111520-1E05		
Date of Receipt:	2024/11/26	Date of Test:	2024/11/26 - 2025/03/14

Created: Bobo Chen	Reviewed: Ella Gong	Approved: Damon Hu
		
2025/03/14	2025/03/14	2025/03/14

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Guangdong Dongdian Testing Service Co., Ltd.

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	2025/03/14	

1. Summary of Test Results

No.	Test Parameter	Clause No.	Condition	Result
1	6/26db Bandwidth and 99% Bandwidth	FCC 15.407 (e), RSS-247 Clause 6.2, RSS-GEN Clause 6.7	/	Pass
2	Output Power	FCC 15.407 (a) ; RSS-247 Clause 6.2	/	Pass
3	Power Spectral Density	FCC 15.407 (a) ; RSS-247 Clause 6.2	/	Pass
4	Frequency Stability Measurement	FCC 15.407 (g); RSS-247 Clause 6.2; RSS-GEN Clause 8.11	/	Pass
5	Radiated Emission	FCC 15.407 (b); FCC 15.209; FCC 15.205; RSS-247 Clause 6.2; RSS-GEN Clause 8.9	/	Pass
6	Band Edge Compliance	FCC 15.407 (b); FCC 15.209; FCC 15.205; RSS-247 Clause 6.2; RSS-GEN Clause 8.10	/	Pass
7	Power Line Conducted Emissions	FCC Part 15: 15.207(a), RSS-Gen Issue 5 clause 8.8	/	Pass
8	Antenna Requirement	FCC Part 15: 15.203, RSS-Gen Issue 5 clause 6.8	/	Pass
9	Dynamic Frequency Selection	FCC 15.407 (h); RSS-247 Clause 6.8	/	Pass

Note: N/A is an abbreviation for Not Applicable, and means this item is not applicable for this device or no need to test according to standard.

2. General Test Information

2.1. Description of EUT

EUT Name	: Multi-Channel Soundbar with wireless subwoofer
Model Number	: BAR 1300XMK2
EUT Function Description	: Please reference user manual of this device
Power Supply	: AC 100-240V, 50/60Hz, 160W
Antenna Type	: FPC
Max Antenna Gain(dBi)	: 2.40

Note: This EUT support Bluetooth BR/EDR/LE, 2.4 GHz WLAN, 5 GHz WLAN, 5 GHz Wireless, this report only for 5 GHz Wireless.

Radio Technology	: IEEE 802.11a/ax
Operation frequency	: U-NII-1: 5180 MHz to 5240 MHz U-NII-2A: 5260 MHz to 5320 MHz U-NII-2C: 5500 MHz to 5720 MHz U-NII-3: 5745 MHz to 5825 MHz
Modulation	: IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ax: OFDMA (64QAM, 16QAM, QPSK, BPSK)

Channel information							
IEEE 802.11a							
IEEE 802.11ax (HE20)							
UNII-1							
CH	Frequency (MHz)	CH	Frequency (MHz)	CH	Frequency (MHz)	CH	Frequency (MHz)
36	5180	40	5200	44	5220	48	5240
UNII-2A							
52	5260	56	5280	60	5300	64	5320
UNII-2C							
100	5500	112	5560	124	5620	136	5680
104	5520	116	5580	128	5640	140	5700
108	5540	120	5600	132	5660	144	5720
UNII-3							
149	5745	157	5785	161	5805	165	5825
153	5765	/	/	/	/	/	/
Note: Band 5600-5650MHz will be disabled when shipped to Canada.							

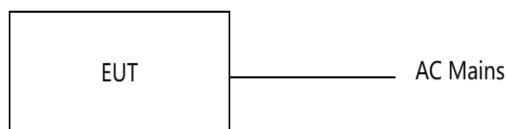
Note: The above EUT information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications or User's Manual. The above Antenna information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

“☑” means to be chosen or applicable; “☐” means don't to be chosen or not applicable; This note applies to entire report.

2.2. Accessories of EUT

Accessories	Manufacturer	Model number	Description
AC cable	Harman	N/A	Length: 150cm
HDMI cable	Harman	N/A	Length: 120cm, with two magnetic rings
Remote control	Harman	N/A	N/A

2.3. Block diagram of EUT configuration for test



2.4. Decision of final test mode

According pre-test, the worst test modes were reported as below:

Test software: main.exe

The test software was used to control EUT work in Continuous Tx mode, and select test channel, wireless mode as below table.

The pathloss of external cable: 2 dB (According to the manufacturer's claims)

Tested mode, Tx Power Setting, Data rate, Channel, and Frequency				
Tested mode	Tx Power Setting	Data rate (Mbps) (see Note)	Test Channel	Frequency (MHz)
	ANT1			
IEEE 802.11a	Default	6	LCH: CH36	5180
	Default	6	MCH: CH40	5200
	Default	6	HCH: CH48	5240
	Default	6	LCH: CH52	5260
	Default	6	MCH: CH56	5280
	Default	6	HCH: CH64	5320
	Default	6	LCH: CH100	5500
	Default	6	MCH: CH116	5580
	170	6	HCH: CH140	5700
	Default	6	Straddle: CH144	5720
	Default	6	LCH: CH149	5745
	Default	6	MCH: CH157	5785
	Default	6	HCH: CH165	5825
IEEE 802.11ax HE20	Default	MCS 0	LCH: CH36	5180
	Default	MCS 0	MCH: CH40	5200

Default	MCS 0	HCH: CH48	5240
Default	MCS 0	LCH: CH52	5260
Default	MCS 0	MCH: CH56	5280
Default	MCS 0	HCH: CH64	5320
Default	MCS 0	LCH: CH100	5500
Default	MCS 0	MCH: CH116	5580
170	MCS 0	HCH: CH140	5700
Default	MCS 0	Straddle: CH144	5720
Default	MCS 0	LCH: CH149	5745
Default	MCS 0	MCH: CH157	5785
Default	MCS 0	HCH: CH165	5825

Note: According exploratory test, EUT will have maximum output power in those data rate, so those data rate were used for all test.

2.5. Deviations of test standard

No deviation.

2.6. Test environment conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature range:	+15°C to +35 °C
Humidity range:	20% to 75%
Pressure range:	86 kPa to 106 kPa

Note: The specific temperature and humidity information of each test item refers to the temperature and humidity record in the corresponding test data.

2.7. Test laboratory

Guangdong Dongdian Testing Service Co., Ltd.

Add.: Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808.

Tel.: +86-0769-38826678, <http://www.dgddt.com>, Email: ddt@dgddt.com.

CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01

FCC Designation Number: CN1182, Test Firm Registration Number: 540522

Innovation, Science and Economic Development Canada Site Registration Number: 10288A

Conformity Assessment Body identifier: CN0048

VCCI facility registration number: C-20087, T-20088, R-20123, R-20240, G-20118

2.8. Measurement uncertainty

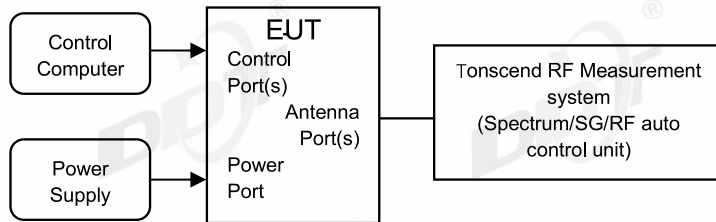
Test Item	Uncertainty
Bandwidth	1.1%
Peak Output Power (Conducted) (Spectrum analyzer)	0.86 dB ($10 \text{ MHz} \leq f < 3.6 \text{ GHz}$); 1.38 dB ($3.6 \text{ GHz} \leq f < 8 \text{ GHz}$)
Peak Output Power (Conducted) (Power Sensor)	0.74 dB
Power Spectral Density	0.74 dB ($10 \text{ MHz} \leq f < 3.6 \text{ GHz}$); 1.38 dB ($3.6 \text{ GHz} \leq f < 8 \text{ GHz}$)
Frequencies Stability	6.7×10^{-8} (Antenna couple method) 5.5×10^{-8} (Conducted method)
Conducted spurious emissions	0.86 dB ($10 \text{ MHz} \leq f < 3.6 \text{ GHz}$); 1.40 dB ($3.6 \text{ GHz} \leq f < 8 \text{ GHz}$) 1.66 dB ($8 \text{ GHz} \leq f < 26.5 \text{ GHz}$)
Uncertainty for radio frequency (RBW < 20 kHz)	3×10^{-8}
Temperature	0.4 °C
Humidity	2 %
Uncertainty for Radiation Emission test (9 kHz – 30 MHz)	3.44 dB
Uncertainty for Radiation Emission test (30 MHz - 1 GHz)	4.70 dB (Antenna Polarize: V) 4.84 dB (Antenna Polarize: H)
Uncertainty for Radiation Emission test (1 GHz - 40 GHz)	4.10 dB (1 - 6 GHz) 4.40 dB (6 GHz - 18 GHz) 3.54 dB (18 GHz - 26 GHz) 4.30 dB (26 GHz - 40 GHz)
Uncertainty for Power line conduction emission test	3.34dB (150KHz-30MHz) 3.72dB (9KHz-150KHz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

3. Equipment Used During Conductive Test

Equipment	Manufacturer	Model No.	Serial Number	Due Date
☒ RF Connected Test (RF Measurement System 1#)				
SIGNAL ANALYZER	R&S	FSQ26	101272	2025/03/31
Wideband Radio Communication Tester	R&S	CMW500	120259	2025/07/08
MXG Vector Signal Generator	KEYSIGHT	N5182B	MY59100192	2025/03/31
MXG Vector Signal Generator	Agilent	N5182A	MY19060405	2025/03/31
RF Control Unit	Tonsend	JS0806-2	158060010	2025/03/31
TEMP&HUMI Programmable Chamber	ZHIXIANG	ZXGDJS-150L	ZX170110-A	2025/04/22
Test Software	Tonscend	JS1120-3	Ver.3.2.22	N/A

4. 26dB Bandwidth

4.1. Block diagram of test setup



4.2. Limits

FCC Part15, Subpart E/ RSS-247		
Test Item	Limit	Frequency Range (MHz)
26 dB Bandwidth	---	5150 - 5250
	---	5250 - 5350
	---	For FCC: 5470 - 5725 For IC: 5470 - 5600 5650 - 5725

4.3. Test procedure

Connect EUT's antenna output to spectrum analyzer by RF cable.

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	approximately 1% of the emission bandwidth.
VBW	> RBW
Trace	Max hold
Sweep	Auto couple

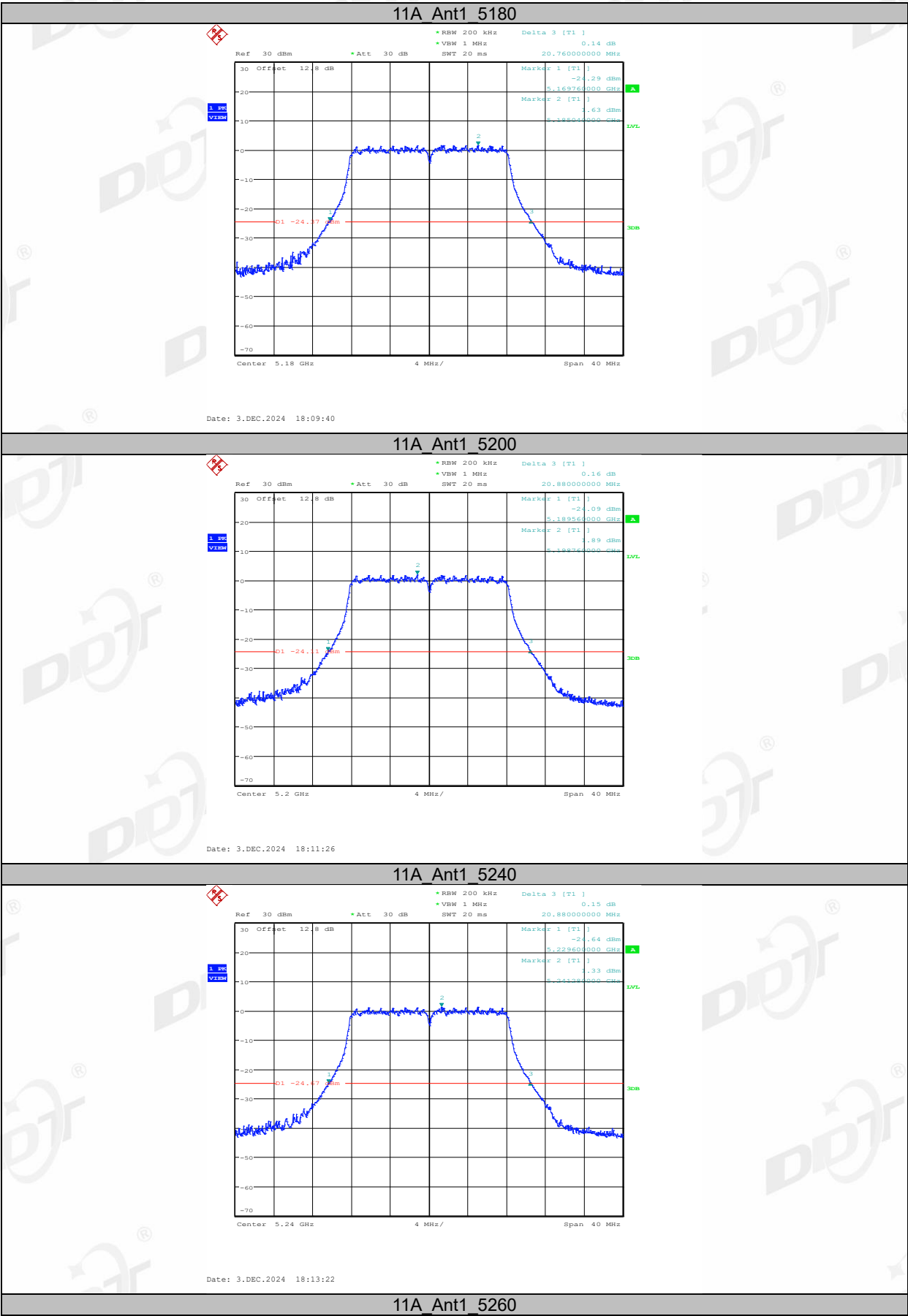
Allow the trace to stabilize, measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 26 dB relative to the maximum level measured in the fundamental emission.

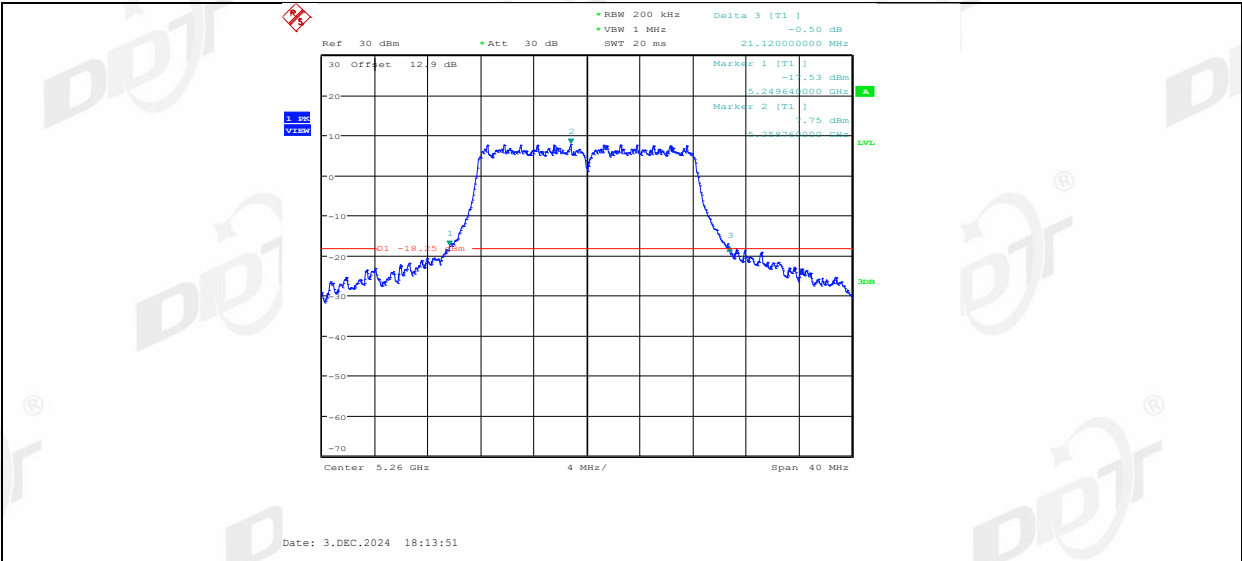
4.4. Test result

Test Engineer:	Zora Zhang	Test Site:	RF Measurement System 1#
Ambient Condition:	24.9℃,54%RH	Test Date:	2024.12.03-2025.02.25
Test Power Supply:	AC 120V/60Hz	Sample Number:	S24111520-011

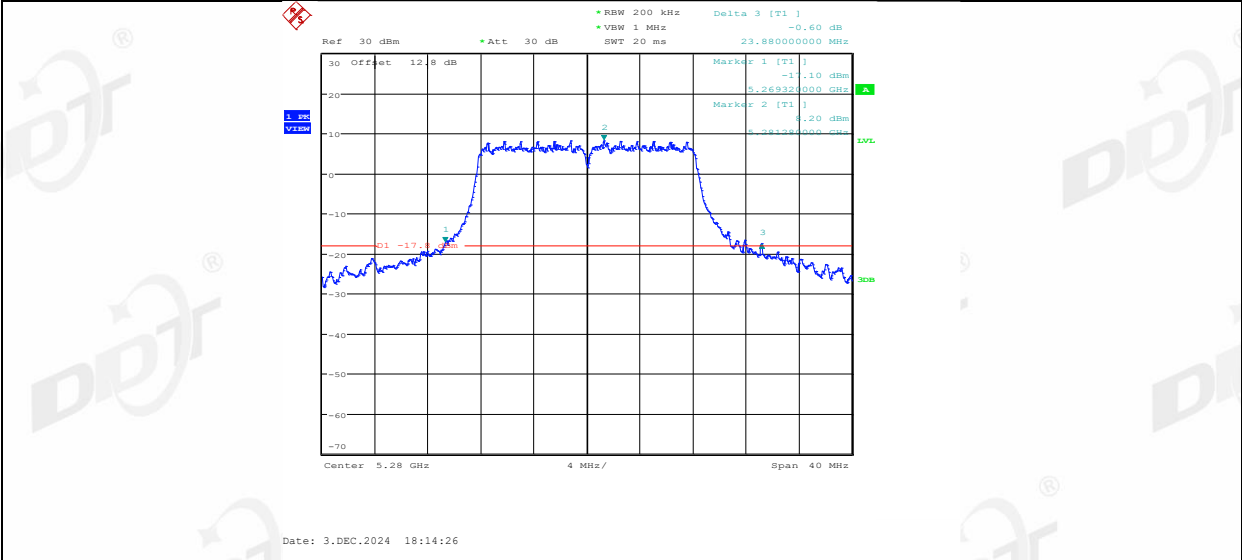
Test Mode	Antenna	Frequency[MHz]	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	20.76	5169.76	5190.52	---	---
		5200	20.88	5189.56	5210.44	---	---
		5240	20.88	5229.60	5250.48	---	---
		5260	21.12	5249.64	5270.76	---	---
		5280	23.88	5269.32	5293.20	---	---
		5320	20.76	5309.64	5330.40	---	---
		5500	21.44	5489.36	5510.80	---	---
		5580	21.36	5569.40	5590.76	---	---
		5700	21.16	5689.60	5710.76	---	---
		5720	25.64	5707.48	5733.12	---	---
		5720 UNII-2C	17.52	5707.48	5725	---	---
		5720 UNII-3	8.12	5725	5733.12	---	---
		5745	20.84	5734.72	5755.56	---	---
		5785	20.72	5774.76	5795.48	---	---
		5825	20.64	5814.76	5835.40	---	---
11AX20SISO	Ant1	5180	22.32	5168.88	5191.20	---	---
		5200	22.32	5188.84	5211.16	---	---
		5240	22.32	5228.84	5251.16	---	---
		5260	22.36	5248.88	5271.24	---	---
		5280	22.32	5268.92	5291.24	---	---
		5320	22.24	5308.88	5331.12	---	---
		5500	22.76	5488.40	5511.16	---	---
		5580	22.64	5568.52	5591.16	---	---
		5700	22.40	5688.88	5711.28	---	---
		5720	25.64	5705.80	5731.44	---	---
		5720 UNII-2C	19.2	5705.80	5725	---	---
		5720 UNII-3	6.44	5725	5731.44	---	---
		5745	22.36	5733.88	5756.24	---	---
		5785	22.24	5774.00	5796.24	---	---
		5825	22.32	5813.84	5836.16	---	---

4.5. Test graphs

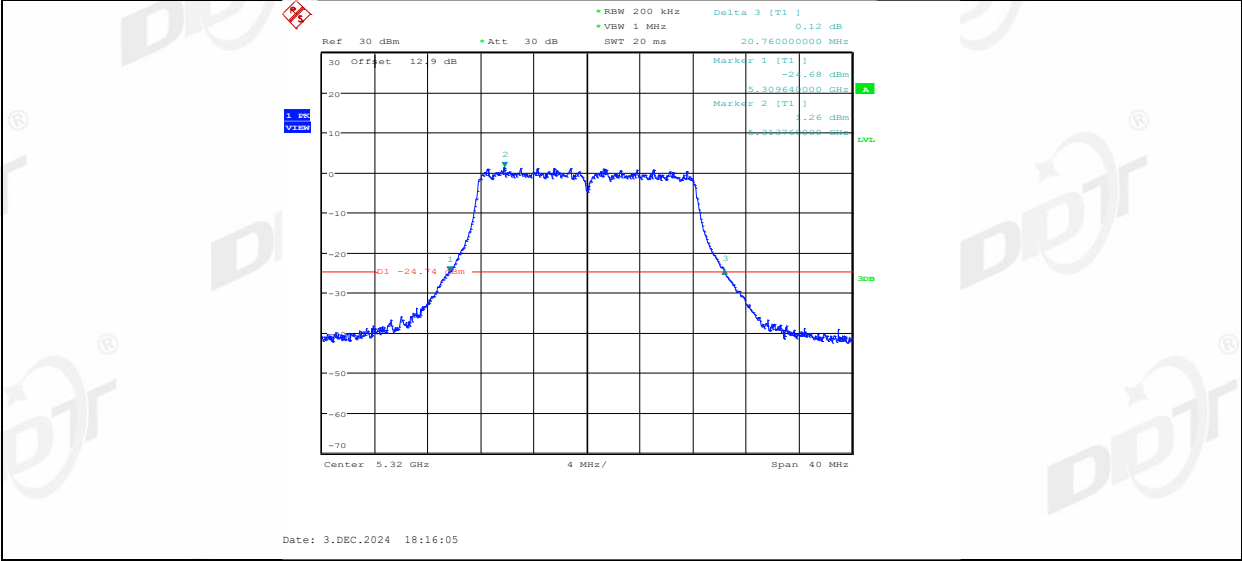




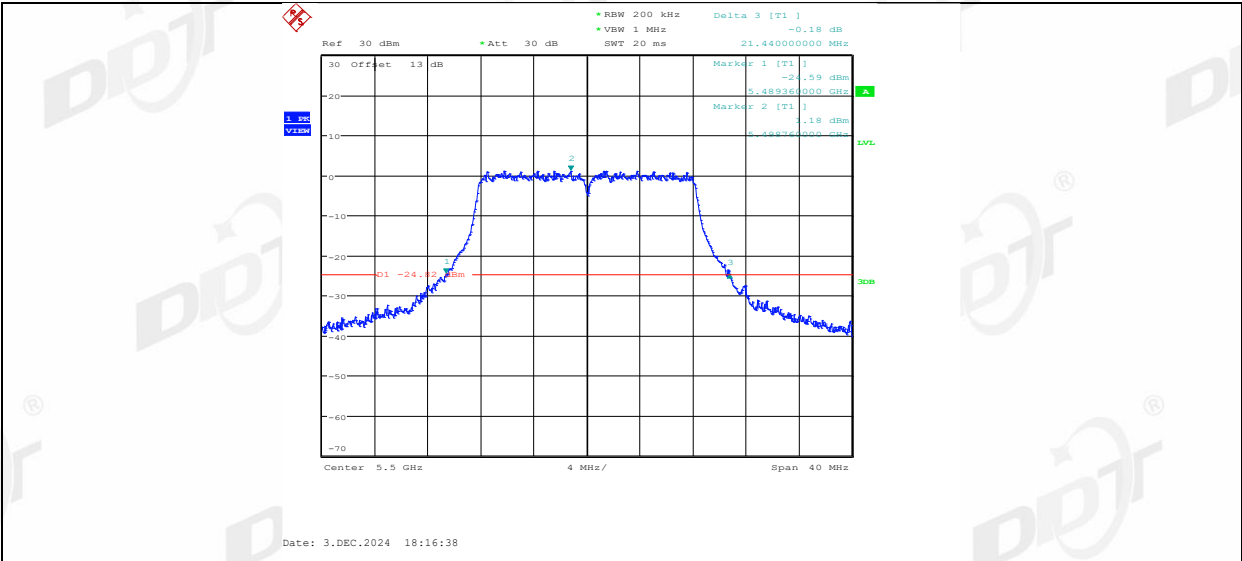
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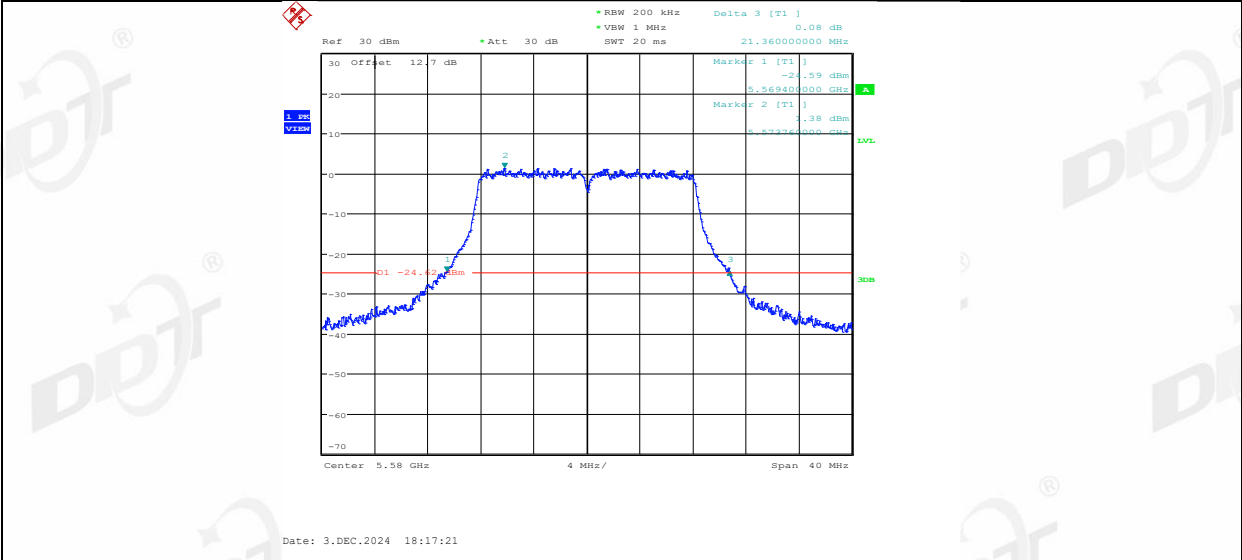
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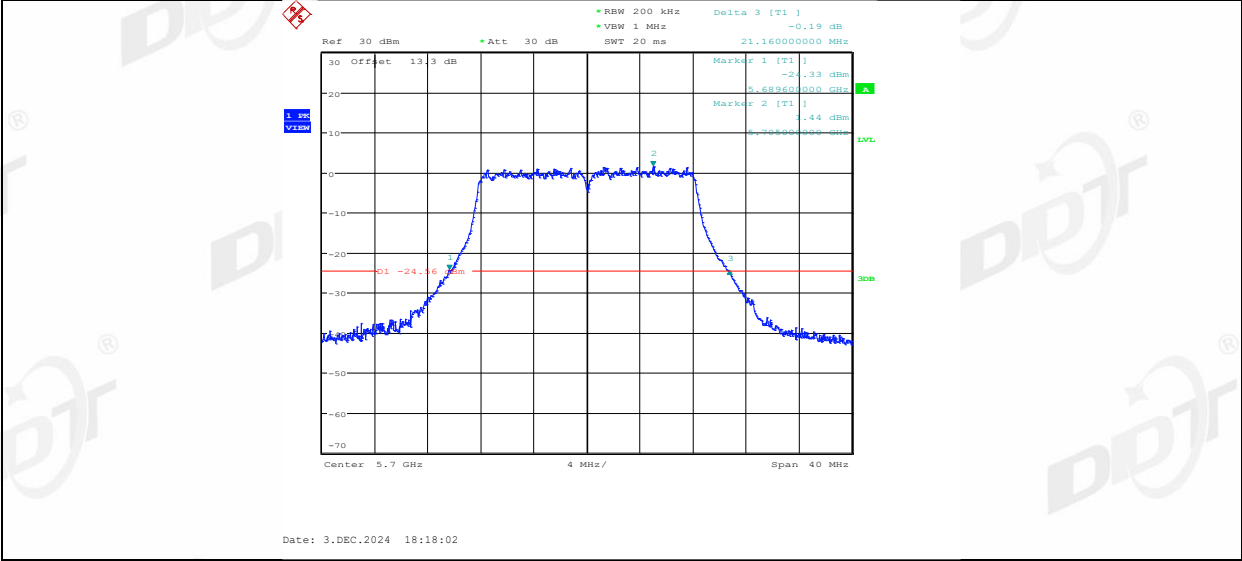
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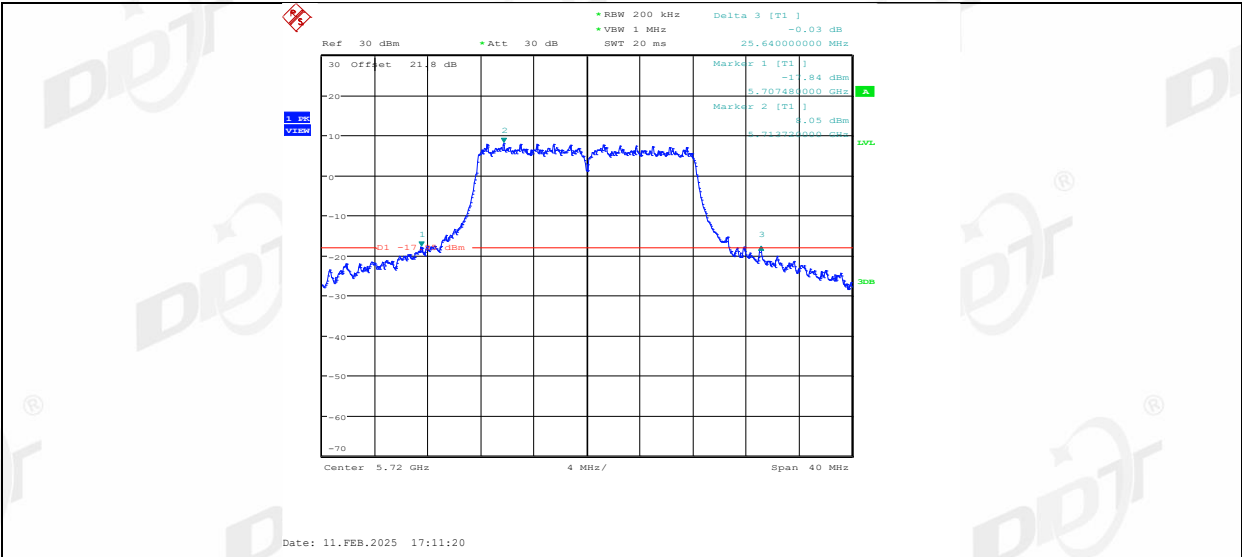
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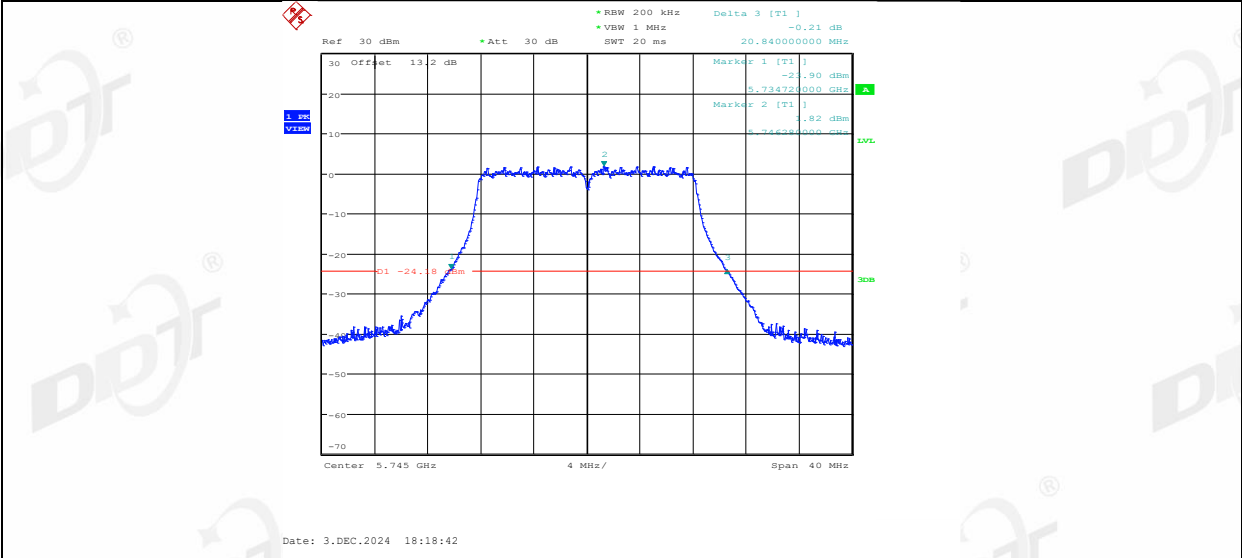
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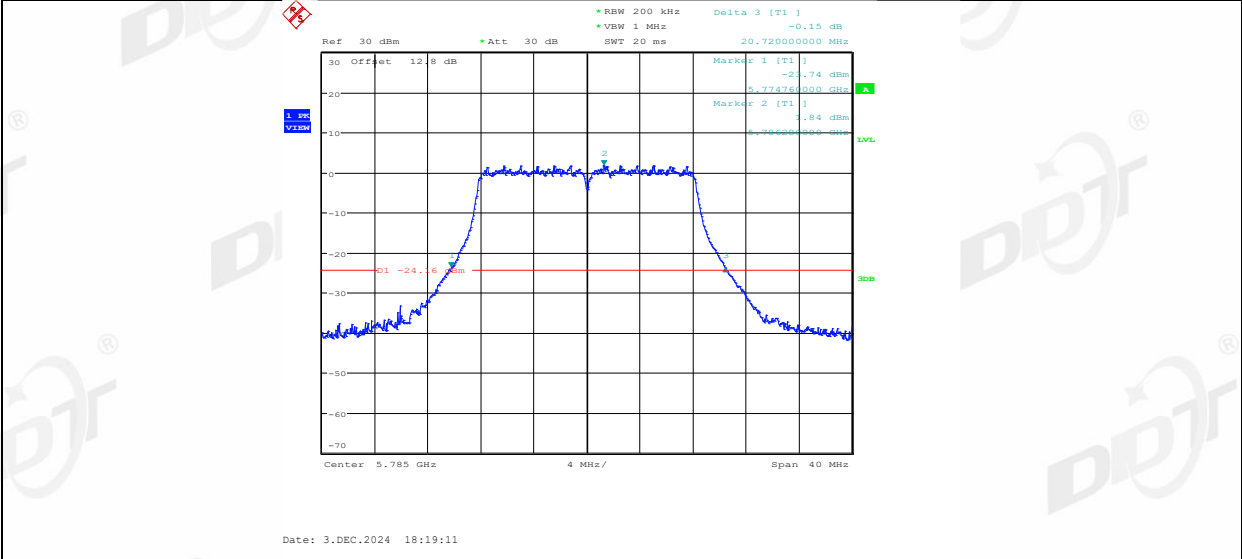
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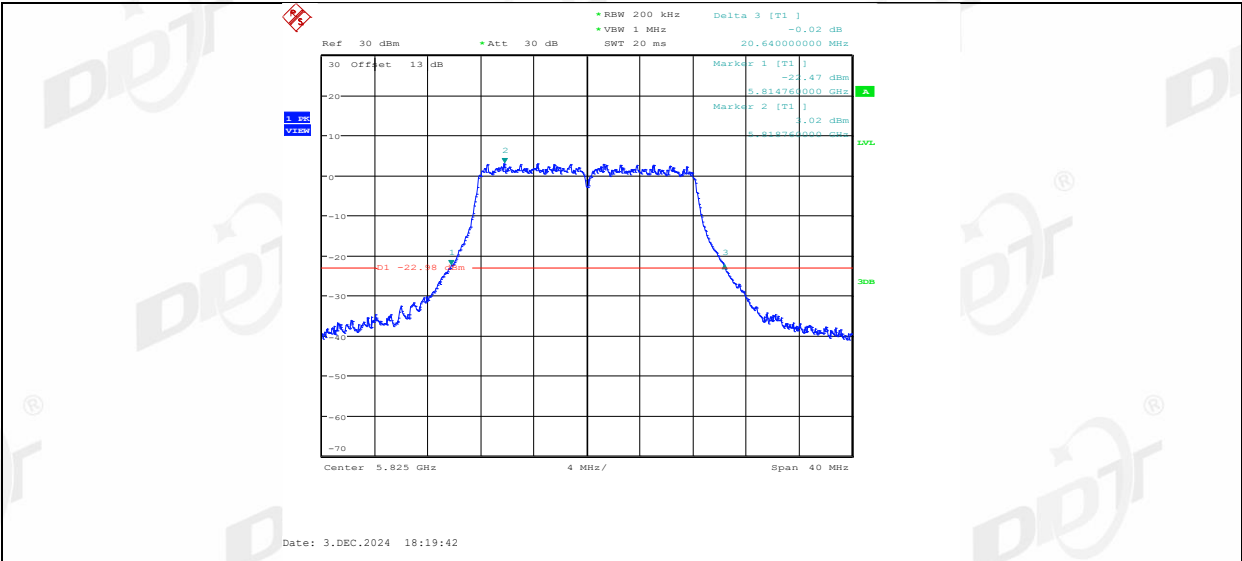
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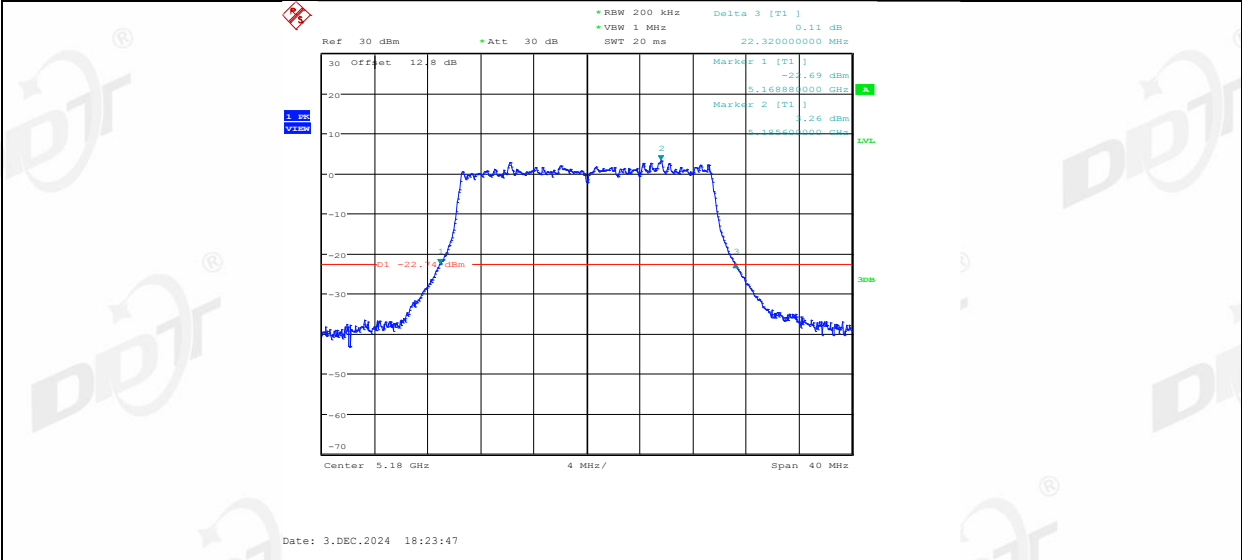
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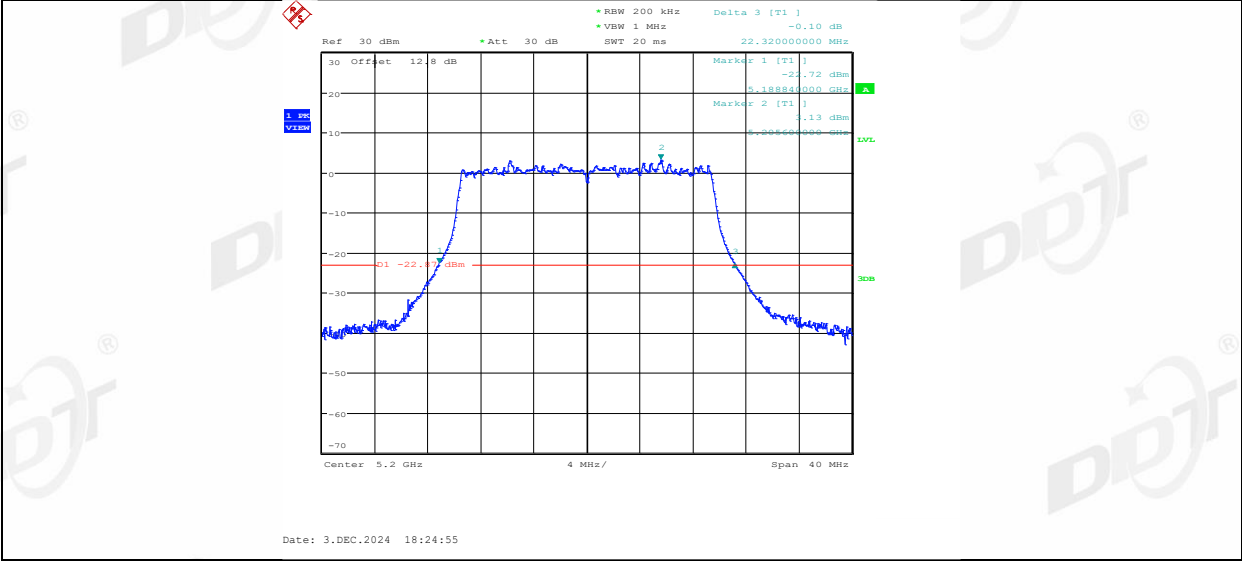
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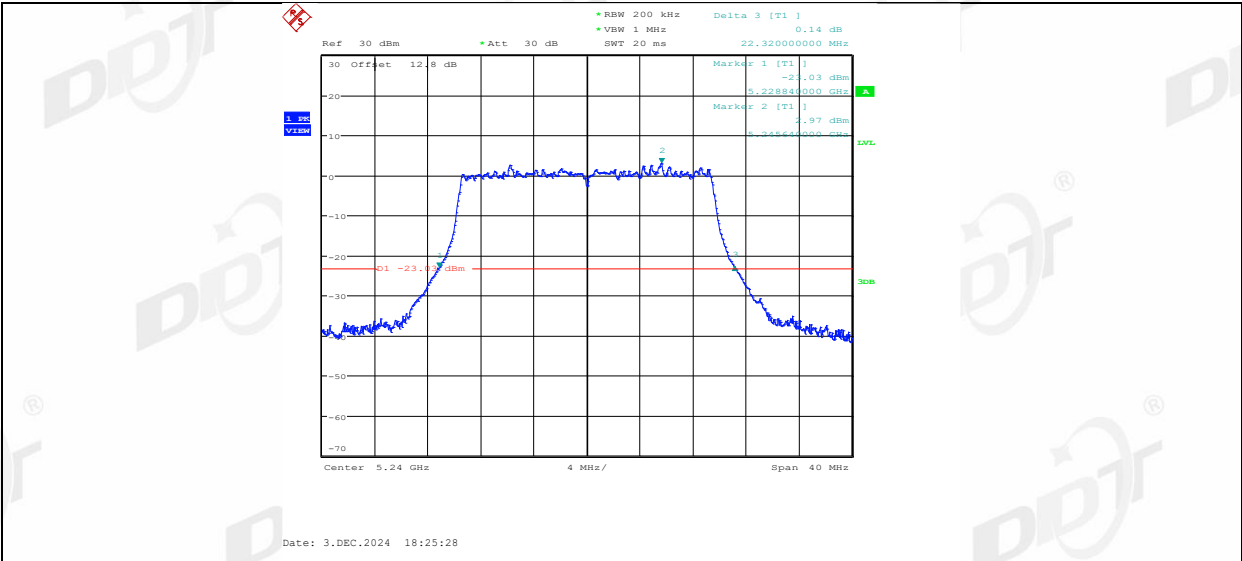
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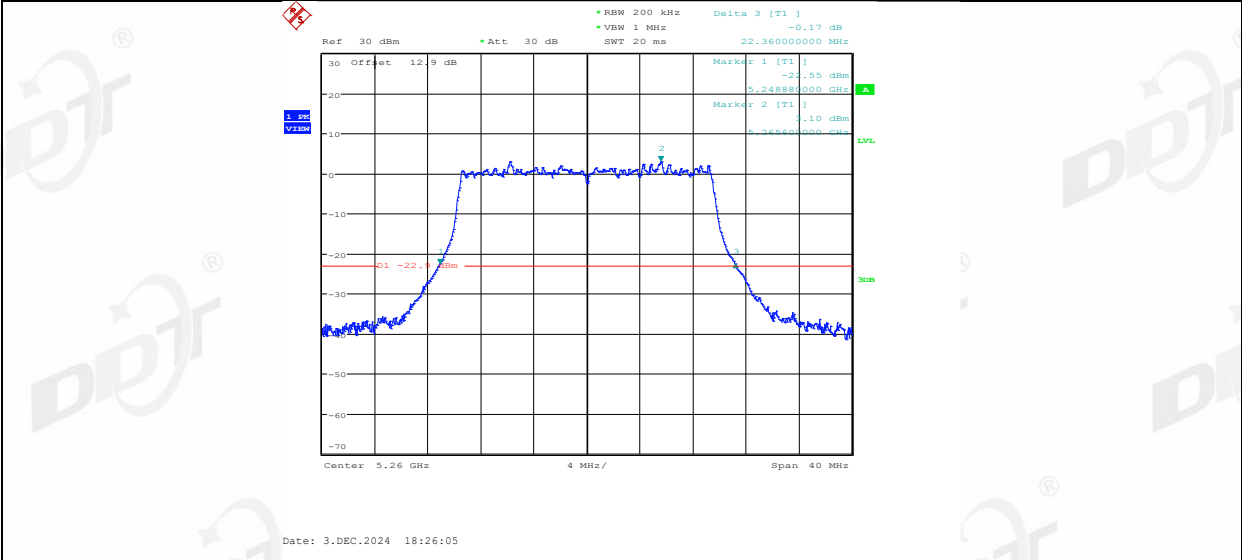
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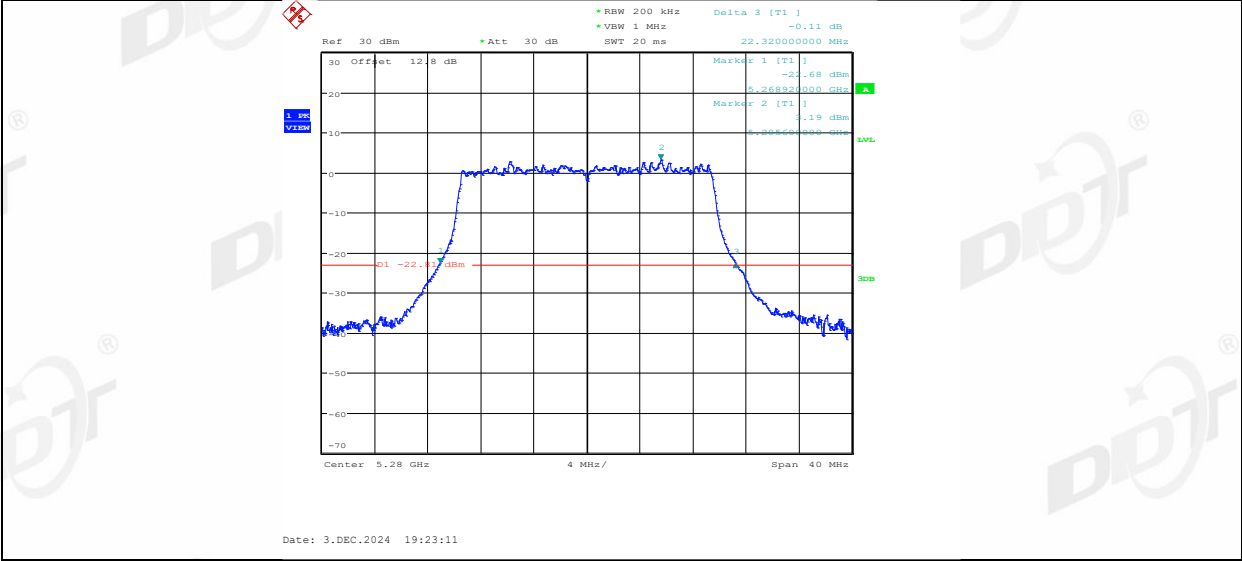
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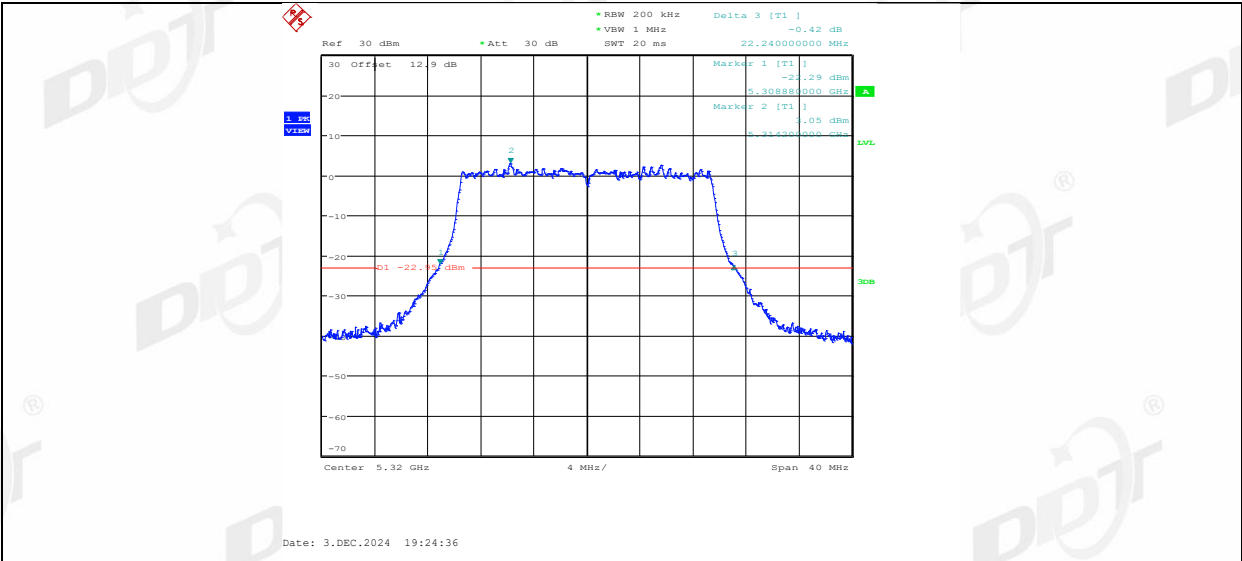
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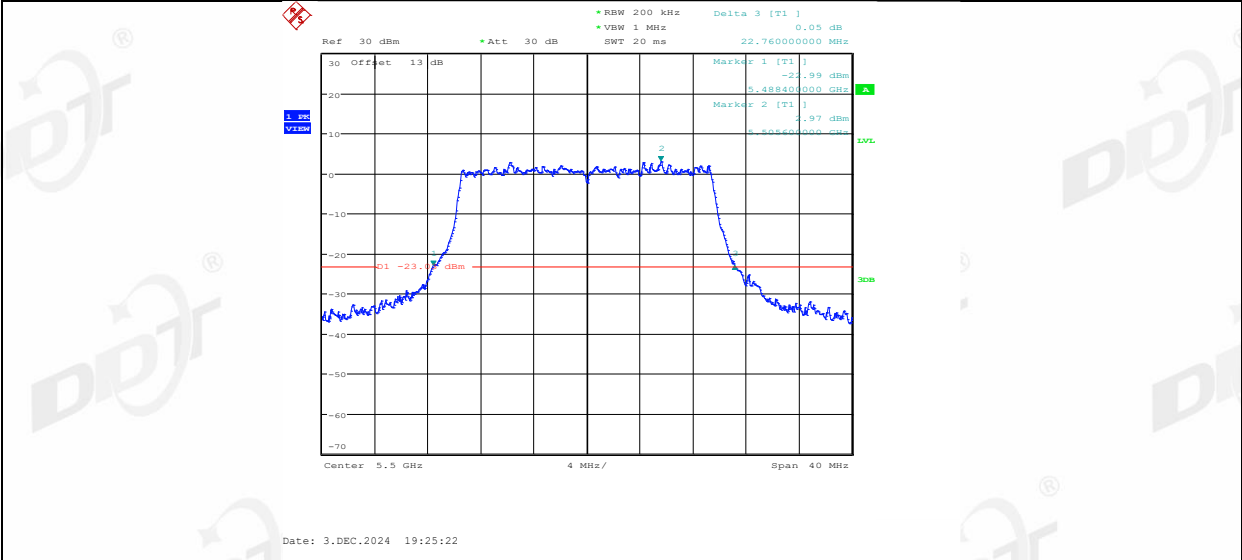
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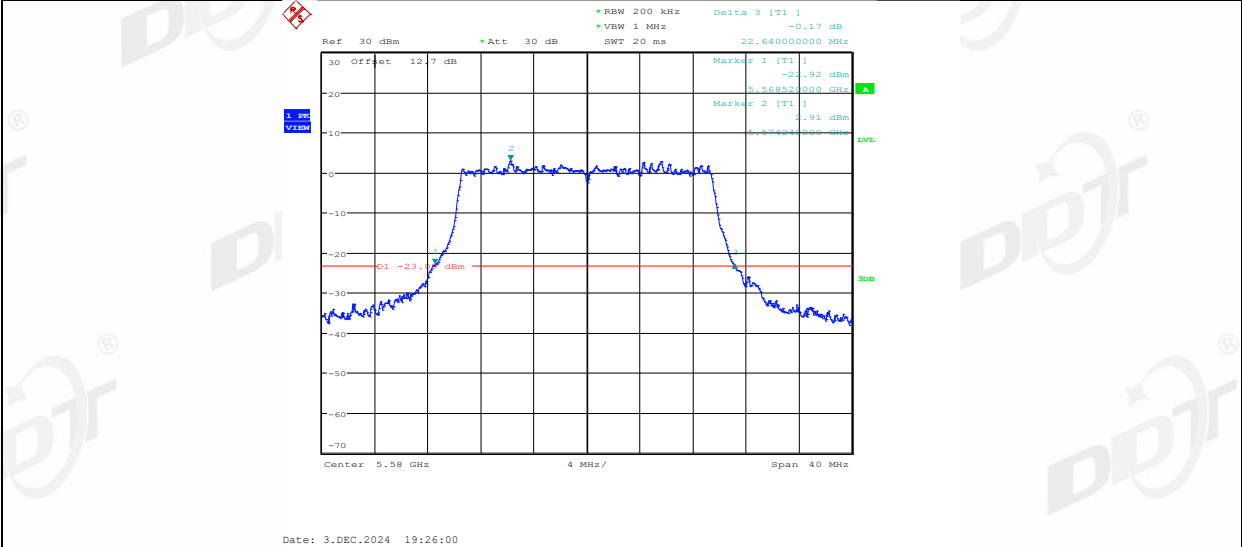
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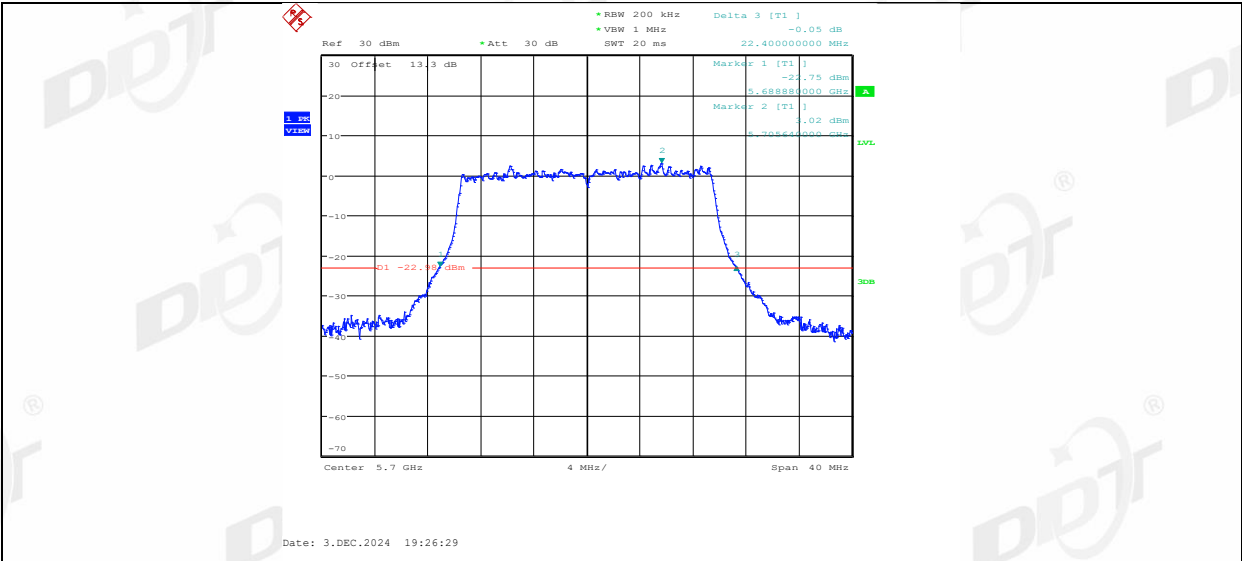
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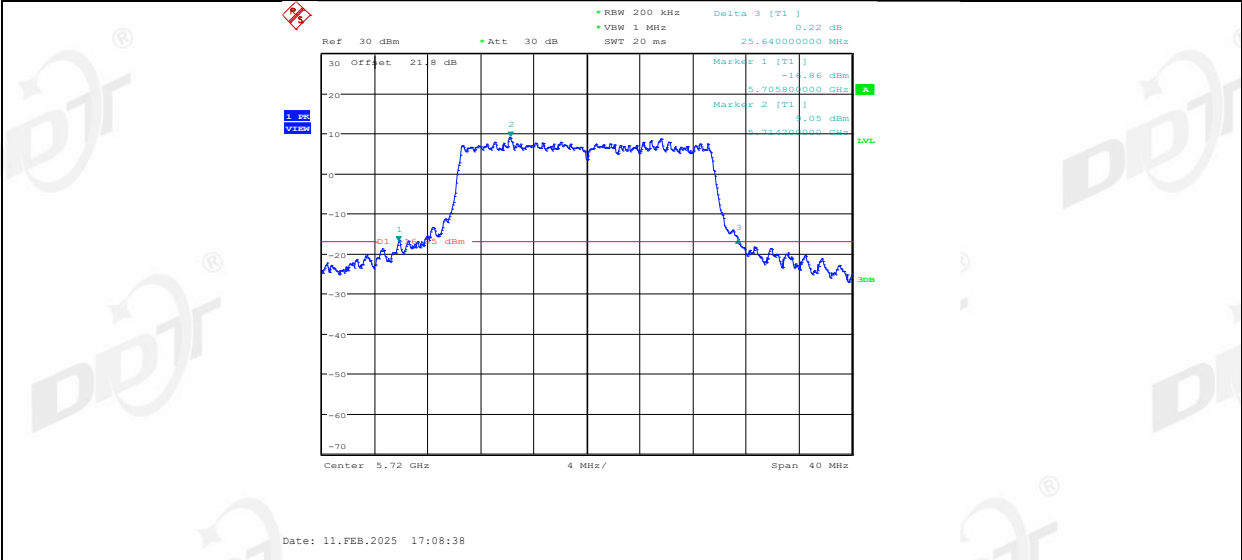
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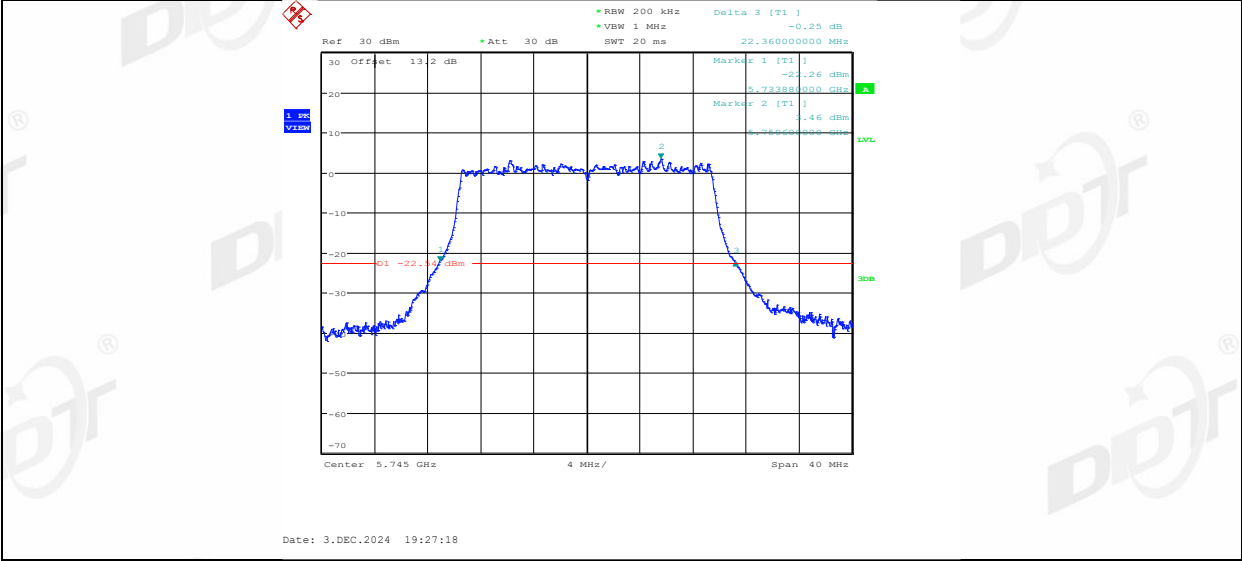
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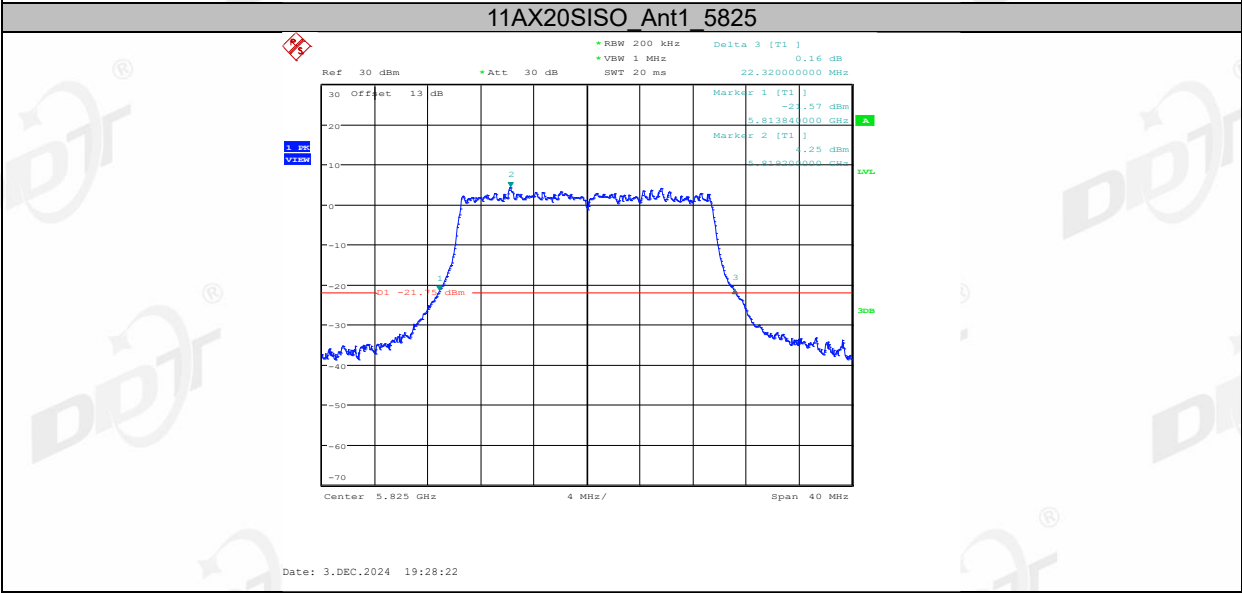
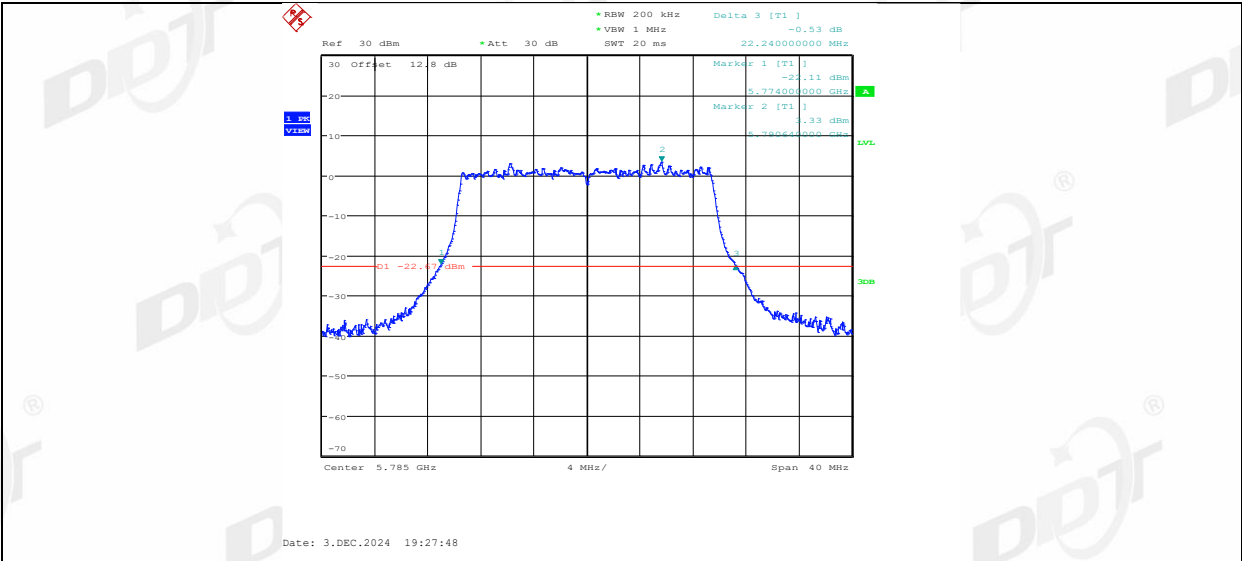
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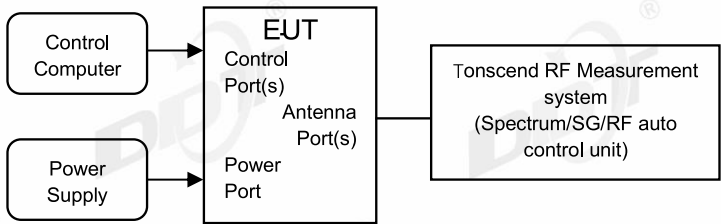


11AX20SISO_Ant1_5785



5. 6dB Bandwidth

5.1. Block diagram of test setup



5.2. Limits

FCC Part15, Subpart E/ RSS-247		
Test Item	Limit	Frequency Range (MHz)
6 dB Bandwidth	Minimum 500 kHz	5725 - 5850

5.3. Test procedure

Connect EUT's antenna output to spectrum analyzer by RF cable.

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	For 6 dB Bandwidth: RBW=100 kHz For 26 dB Bandwidth: approximately 1% of the emission bandwidth.
VBW	For 6 dB Bandwidth: VBW=300 kHz For 26 dB Bandwidth: >3 RBW
Trace	Max hold
Sweep	Auto couple

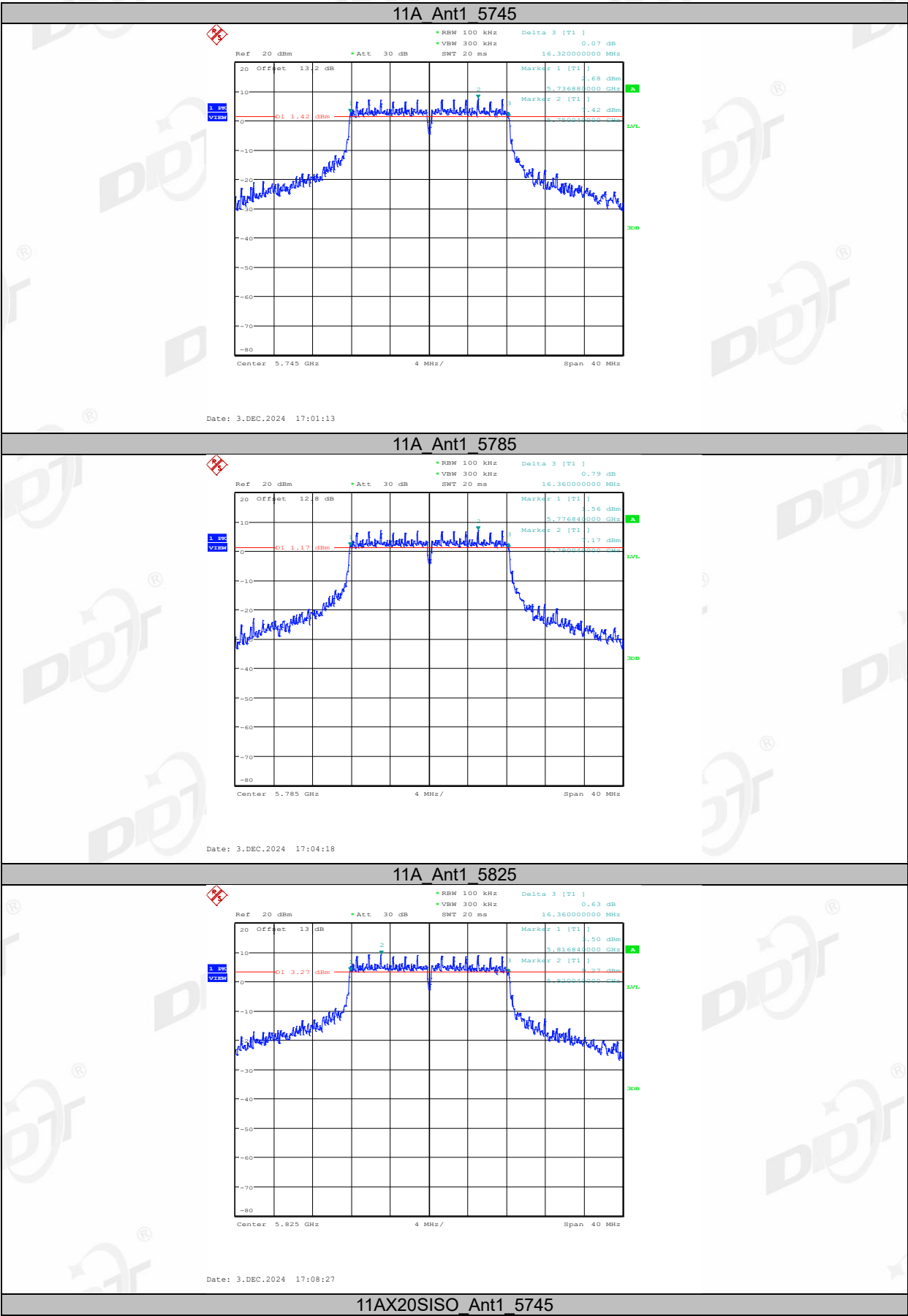
Allow the trace to stabilize, measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

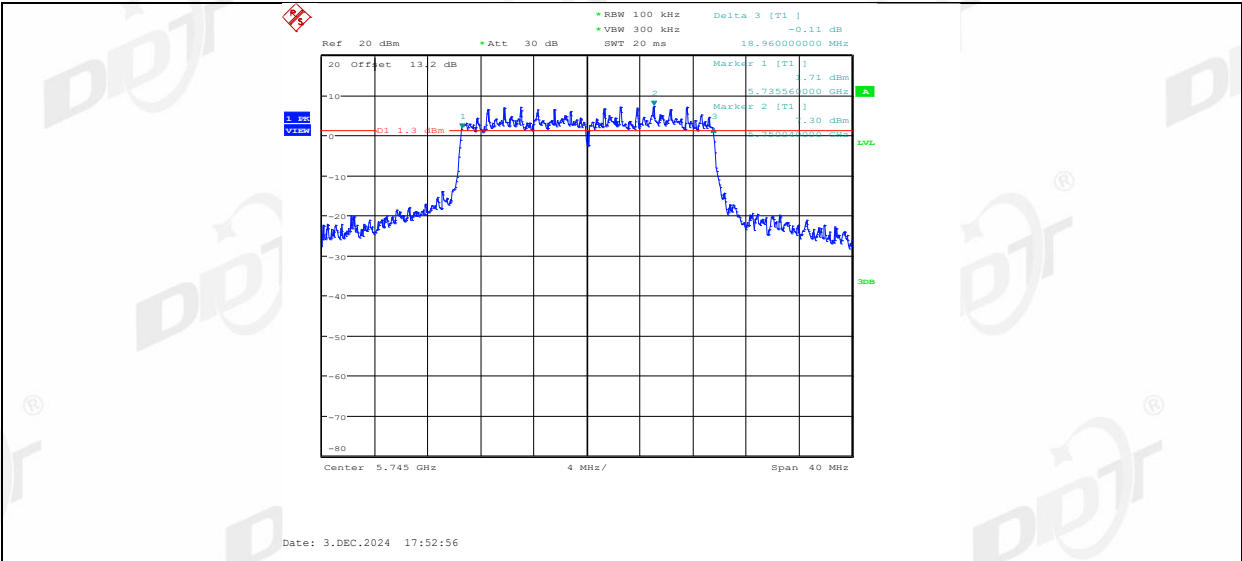
5.4. Test result B4

Test Engineer:	Zora Zhang	Test Site:	RF Measurement System 1#
Ambient Condition:	24.9℃,54%RH	Test Date:	2024.12.03-2025.02.25
Test Power Supply:	AC 120V/60Hz	Sample Number:	S24111520-011

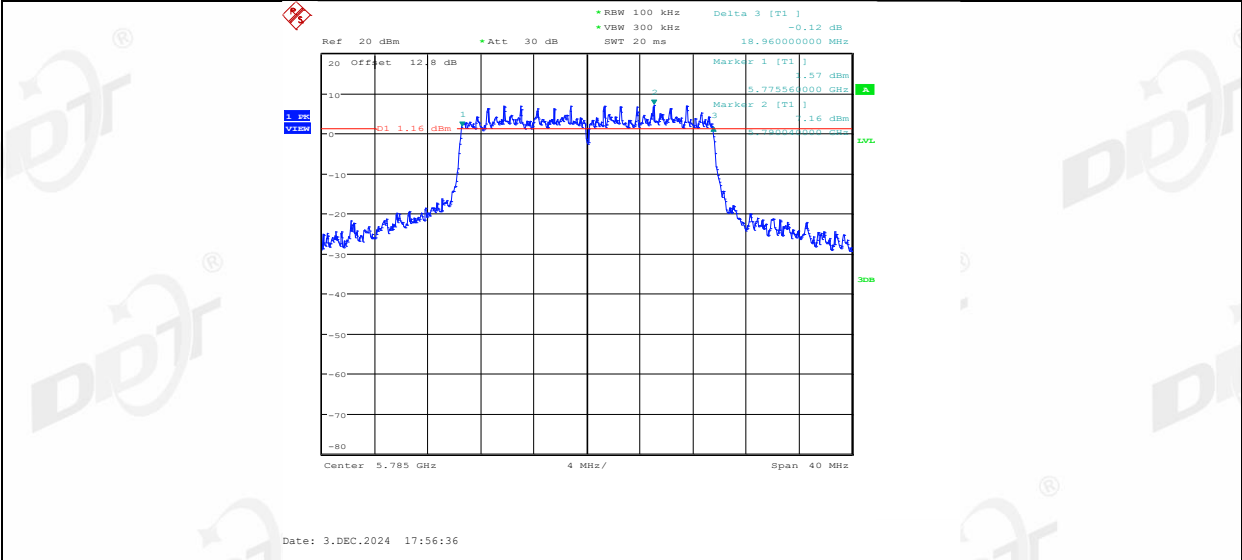
Test Mode	Antenna	Frequency[MHz]	6db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5745	16.32	5736.88	5753.20	0.5	PASS
		5785	16.36	5776.84	5793.20	0.5	PASS
		5825	16.36	5816.84	5833.20	0.5	PASS
11AX20SISO	Ant1	5745	18.96	5735.56	5754.52	0.5	PASS
		5785	18.96	5775.56	5794.52	0.5	PASS
		5825	18.92	5815.56	5834.48	0.5	PASS

5.5. Test graphs B4

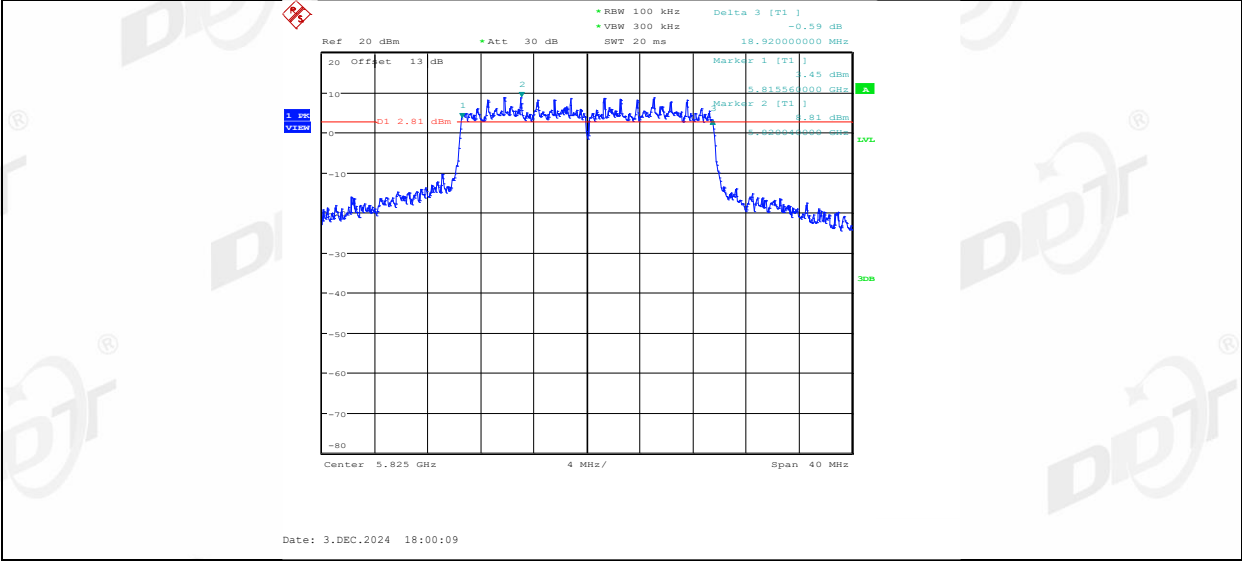




11AX20SISO_Ant1_5785

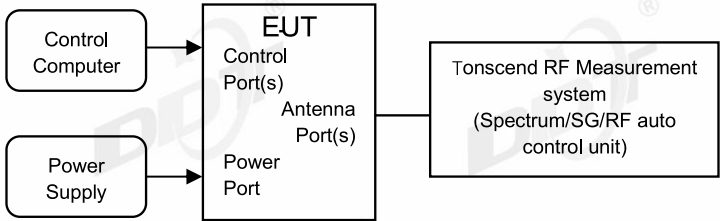


11AX20SISO_Ant1_5825



6. 99% Bandwidth

6.1. Block diagram of test setup



6.2. Limits

Just for Report.

6.3. Test procedure

(1) Connect EUT's antenna output to spectrum analyzer by RF cable.

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	1% to 5% of the OBW
VBW	approximately three times the RBW
Trace	Max hold

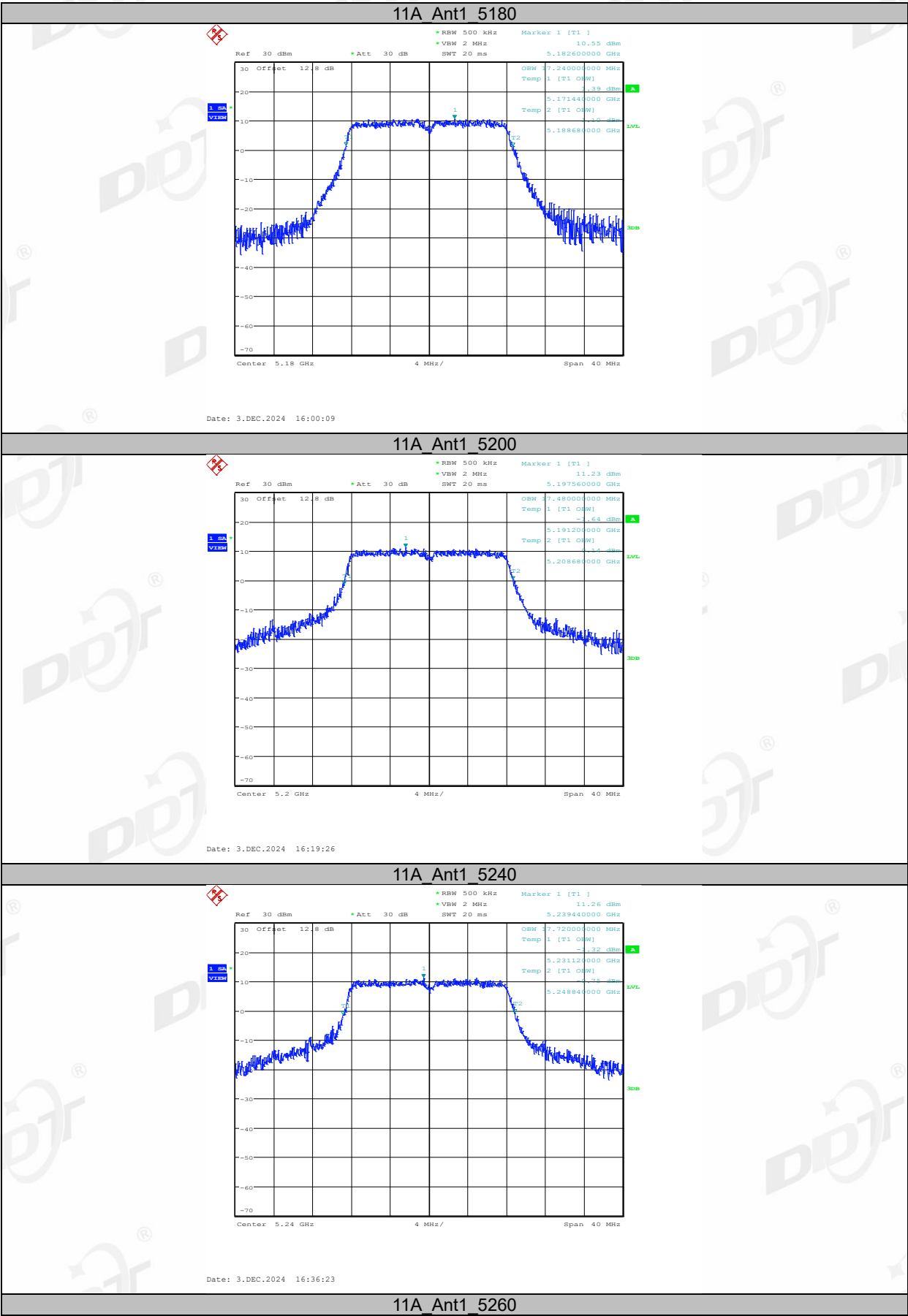
Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.

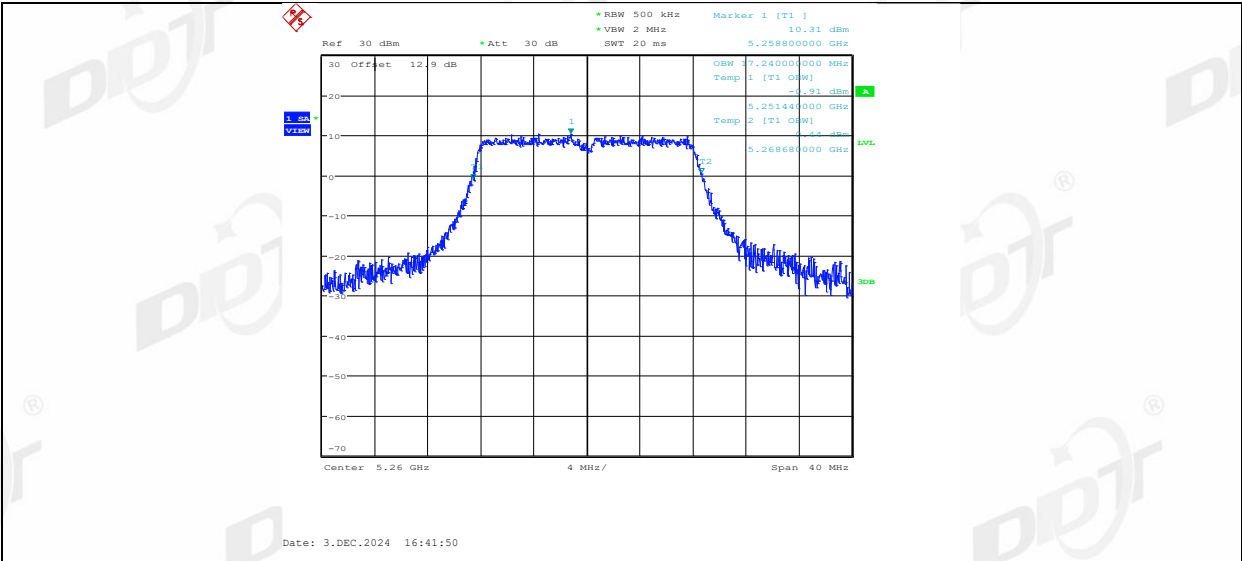
6.4. Test result

Test Engineer:	Zora Zhang	Test Site:	RF Measurement System 1#
Ambient Condition:	24.9℃,54%RH	Test Date:	2024.12.03-2025.02.25
Test Power Supply:	AC 120V/60Hz	Sample Number:	S24111520-011

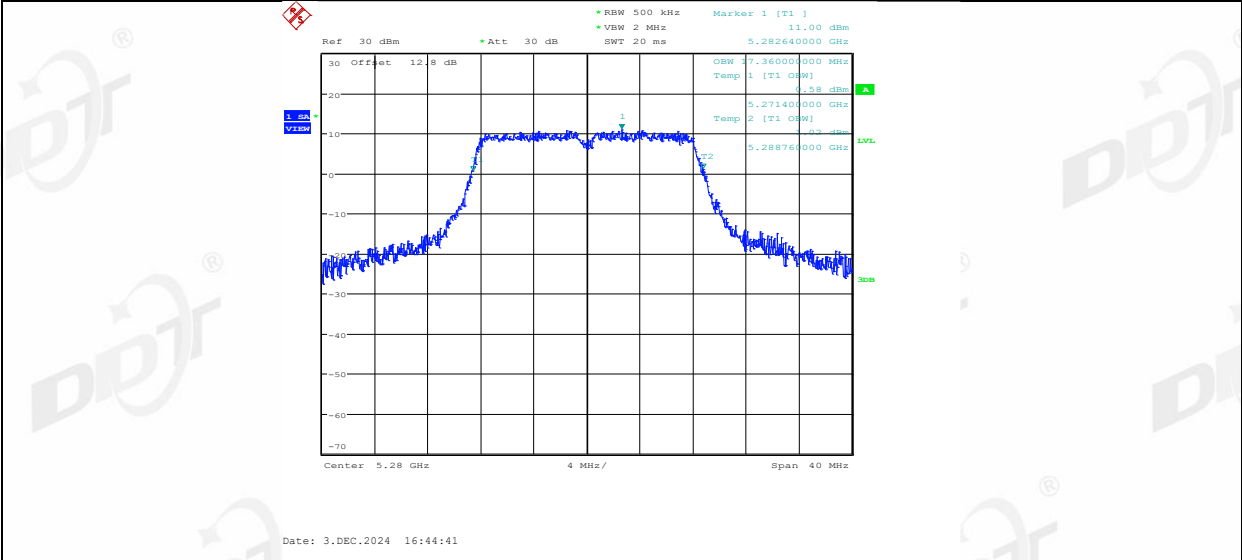
Test Mode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	17.24	5171.4400	5188.6800	---	---
		5200	17.48	5191.2000	5208.6800	---	---
		5240	17.72	5231.1200	5248.8400	---	---
		5260	17.24	5251.4400	5268.6800	---	---
		5280	17.36	5271.4000	5288.7600	---	---
		5320	17.6	5311.0800	5328.6800	---	---
		5500	18.52	5490.4000	5508.9200	---	---
		5580	18.76	5570.2000	5588.9600	---	---
		5700	18.04	5690.9600	5709.0000	---	---
		5720	17.36	5711.2400	5728.6000	---	---
		5720 UNII-2C	13.76	5711.2400	5725	---	---
		5720 UNII-3	3.6	5725	5728.6000	---	---
		5745	17.64	5736.1600	5753.8000	---	---
		5785	17.44	5776.2800	5793.7200	---	---
		5825	18.64	5815.3200	5833.9600	---	---
11AX20SISO	Ant1	5180	19.36	5170.3600	5189.7200	---	---
		5200	19.48	5190.2000	5209.6800	---	---
		5240	19.56	5230.2000	5249.7600	---	---
		5260	19.36	5250.3200	5269.6800	---	---
		5280	19.44	5270.2800	5289.7200	---	---
		5320	19.44	5310.2000	5329.6400	---	---
		5500	19.8	5490.0000	5509.8000	---	---
		5580	19.8	5569.9600	5589.7600	---	---
		5700	19.56	5690.2400	5709.8000	---	---
		5720	19.4	5710.2400	5729.6400	---	---
		5720 UNII-2C	14.76	5710.2400	5725	---	---
		5720 UNII-3	4.64	5725	5729.6400	---	---
		5745	19.6	5735.1600	5754.7600	---	---
		5785	19.48	5775.2400	5794.7200	---	---
		5825	19.76	5815.0000	5834.7600	---	---

6.5. Test graphs

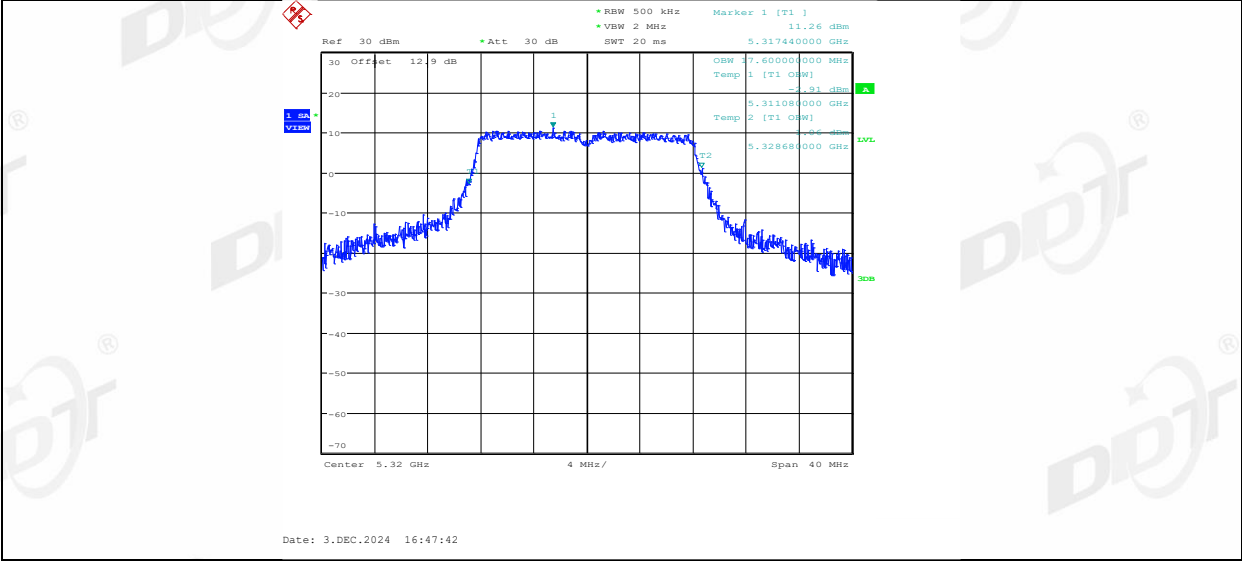




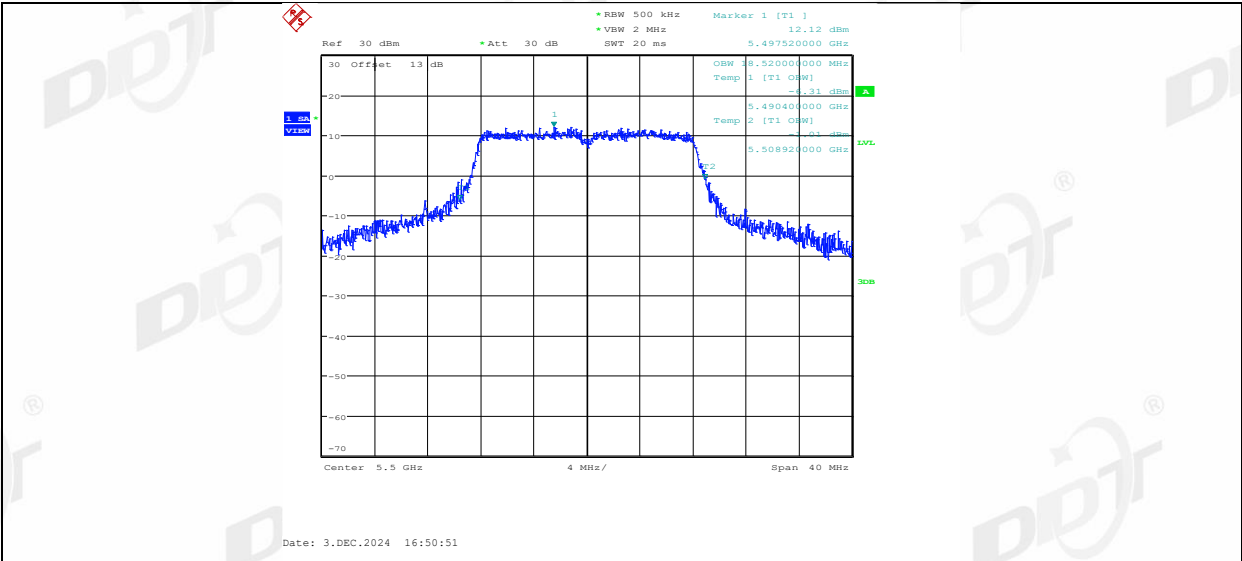
11A_Ant1_5280



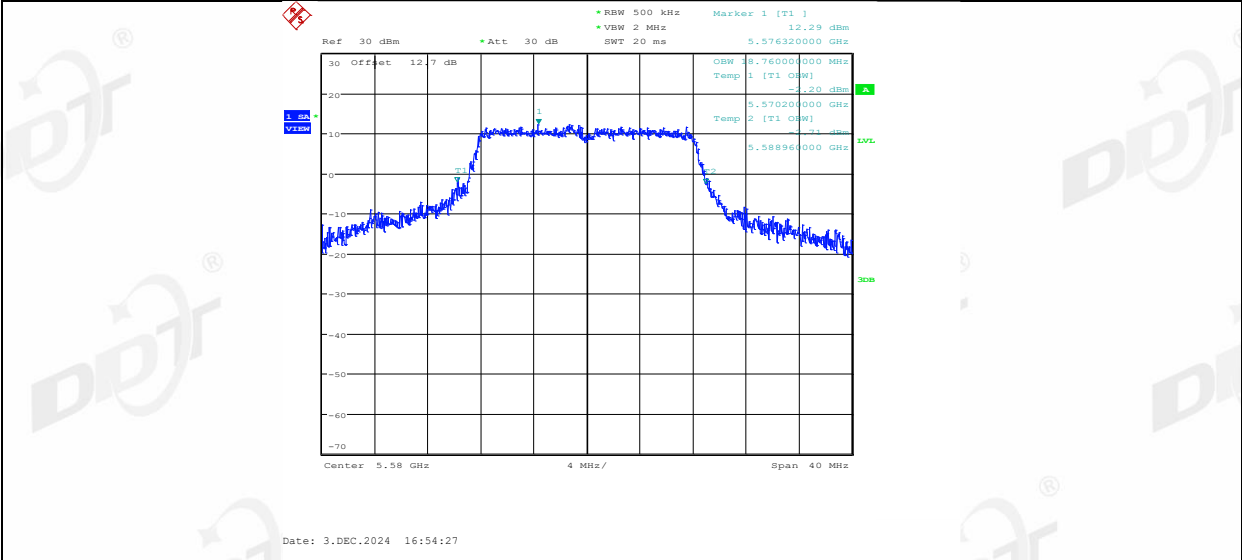
11A_Ant1_5320



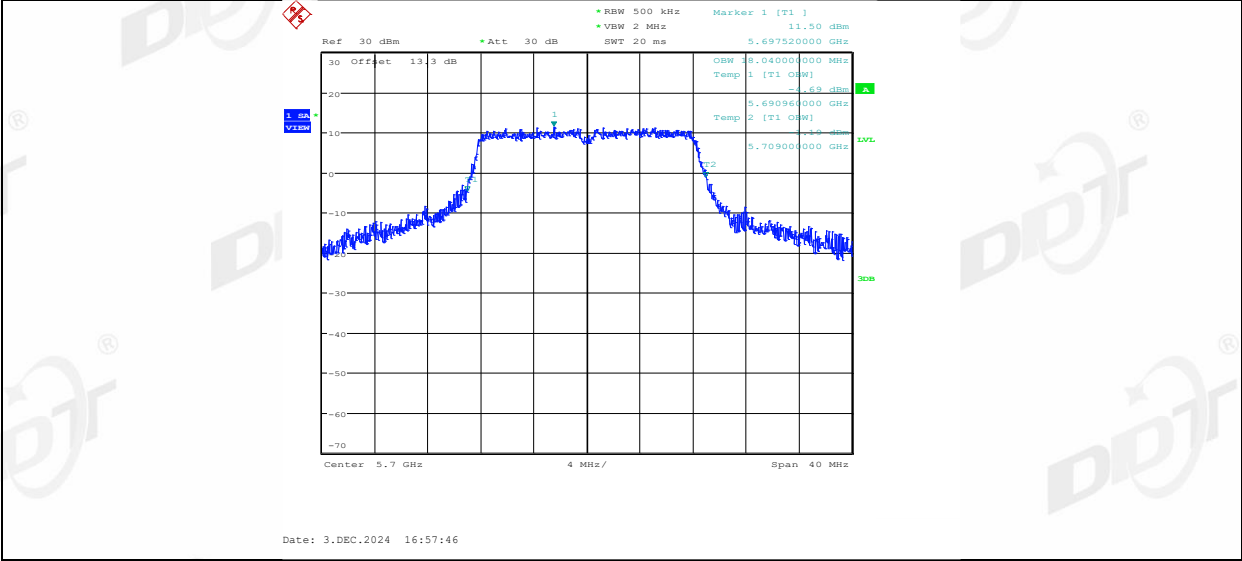
11A_Ant1_5500



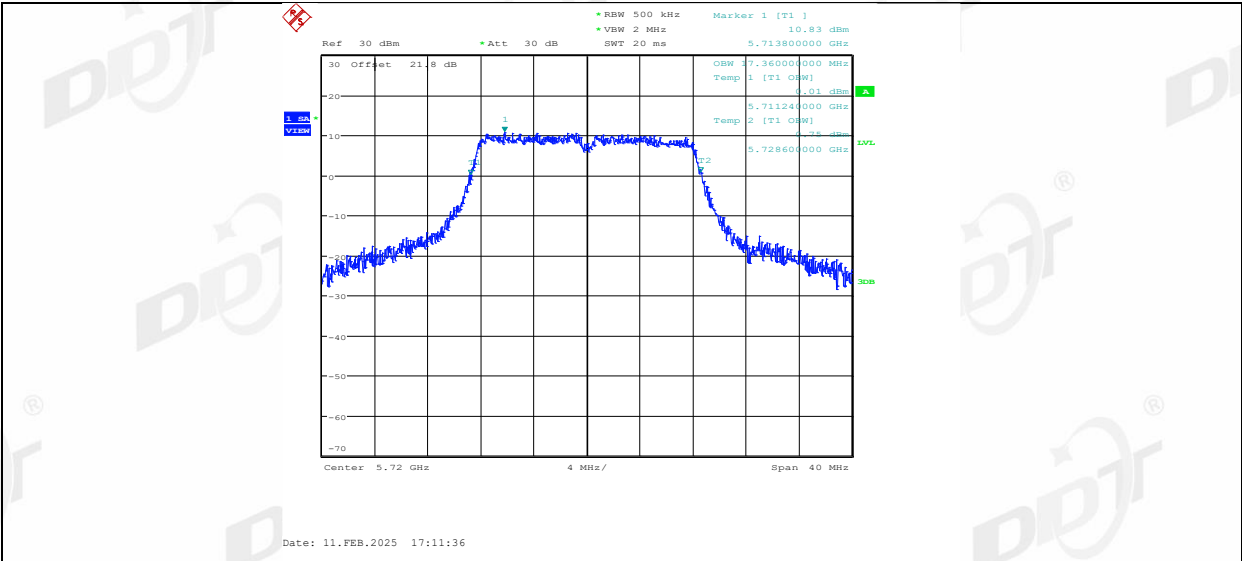
11A_Ant1_5580



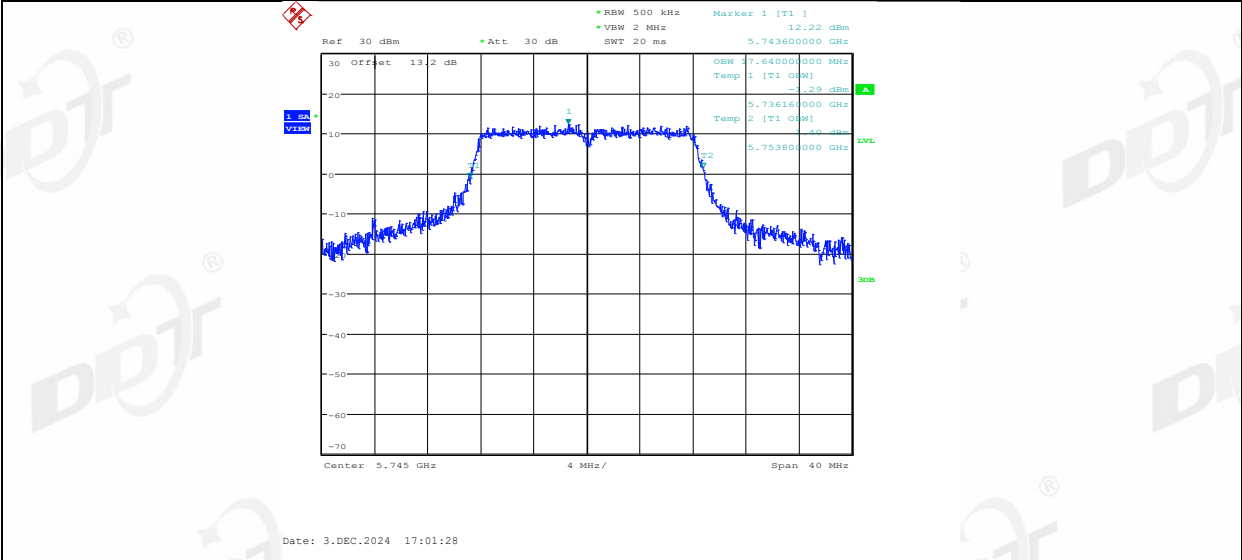
11A_Ant1_5700



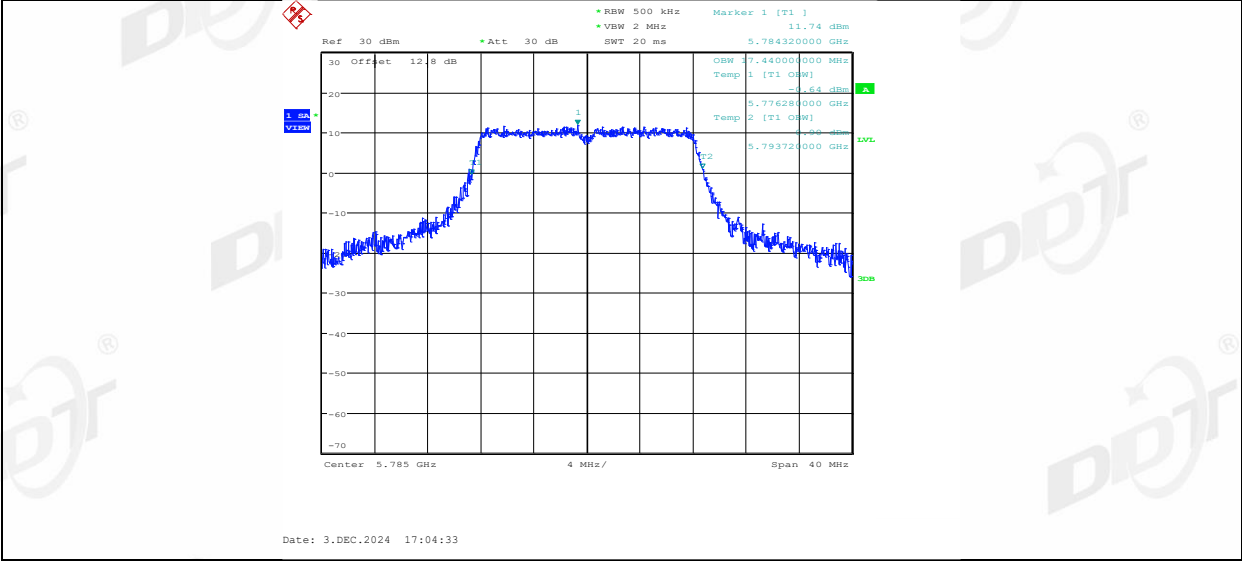
11A_Ant1_5720



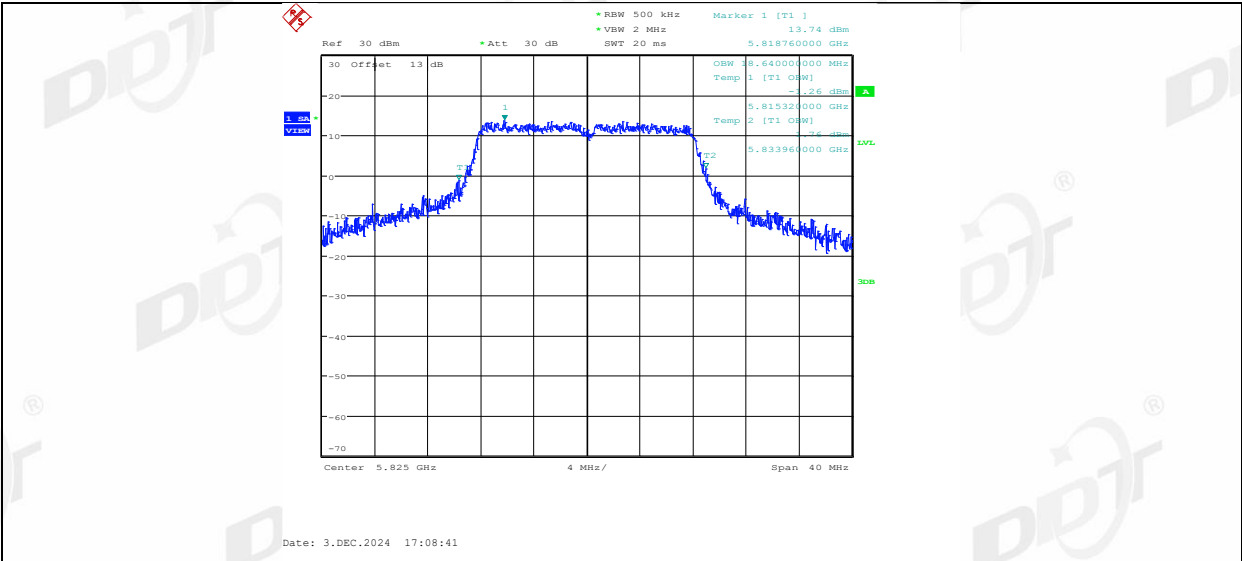
11A_Ant1_5745



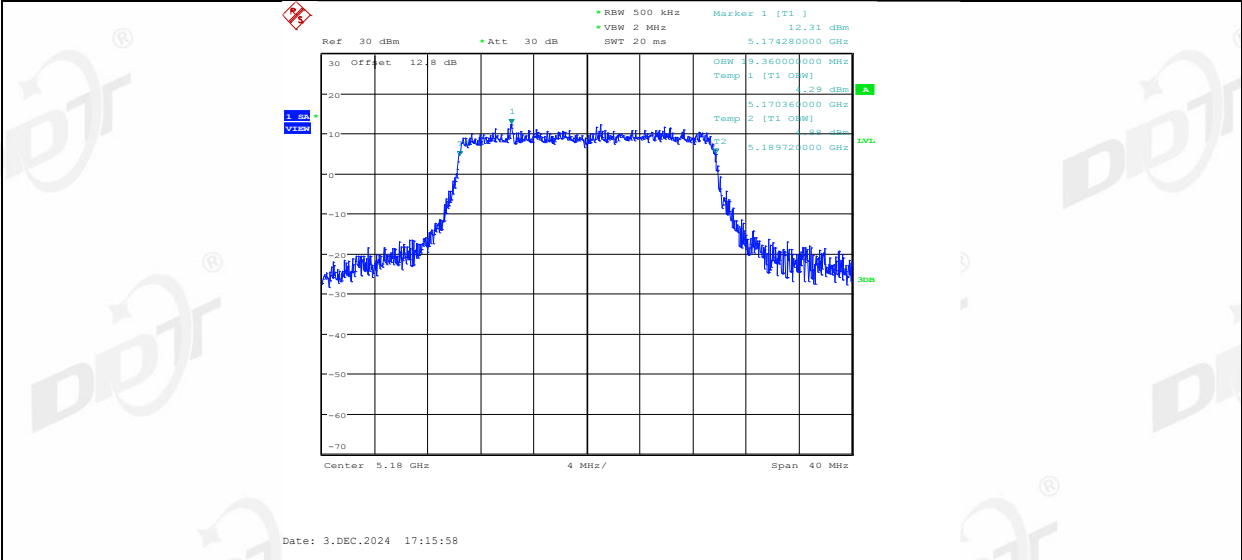
11A_Ant1_5785



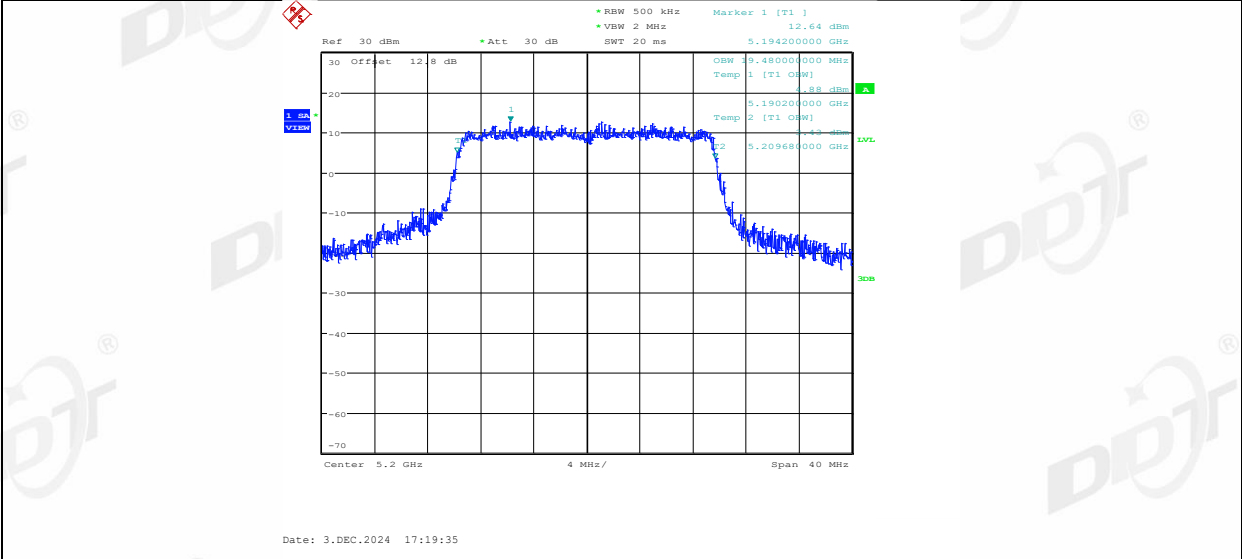
11A_Ant1_5825



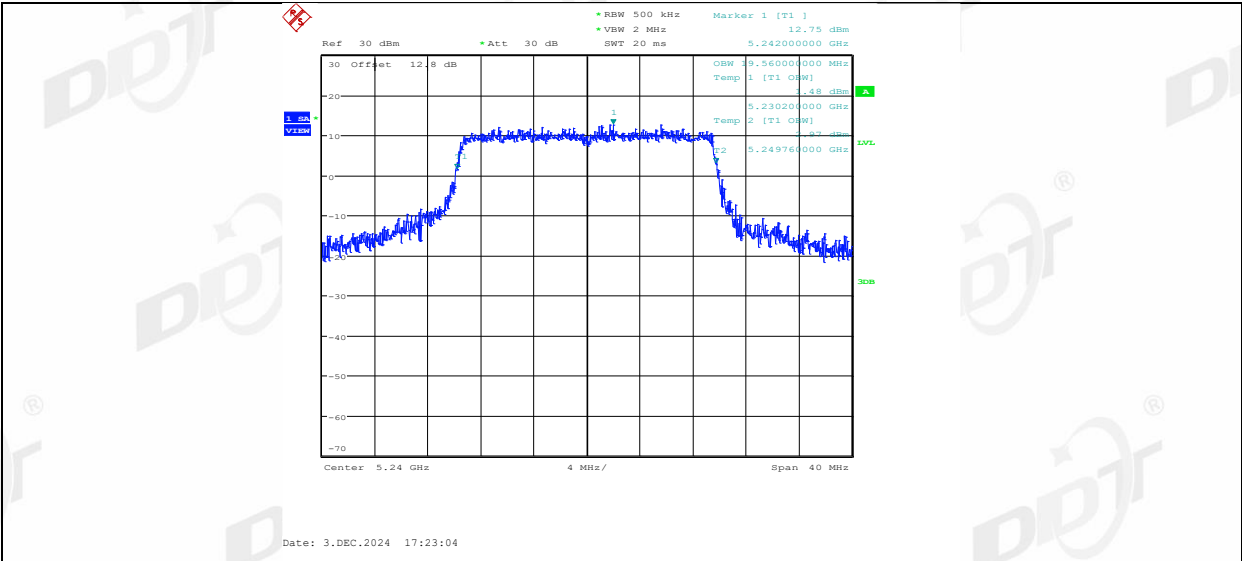
11AX20SISO_Ant1_5180



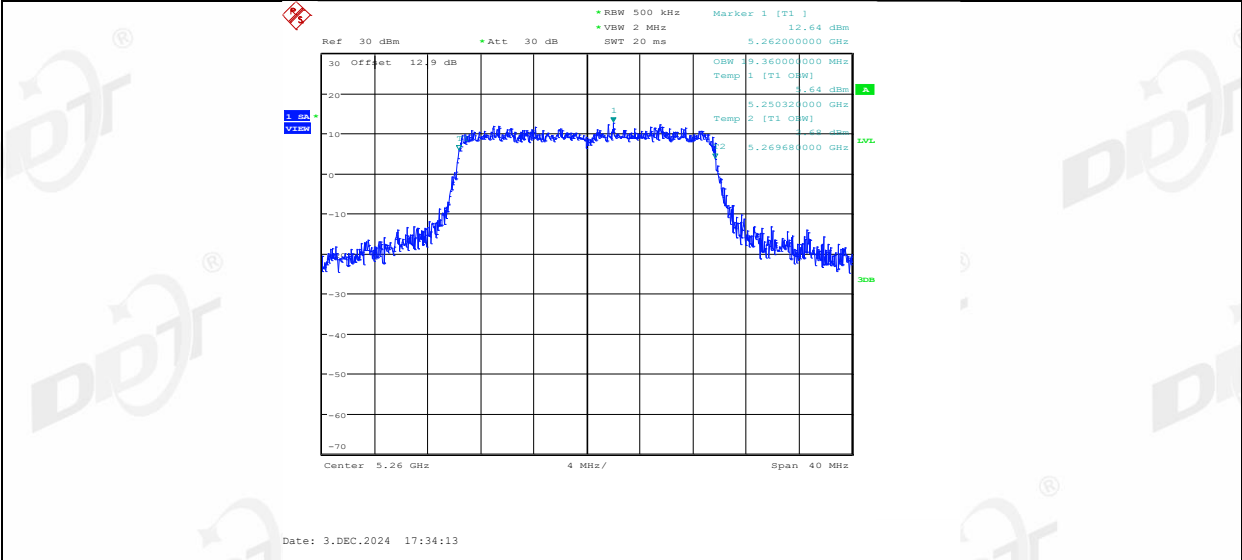
11AX20SISO_Ant1_5200



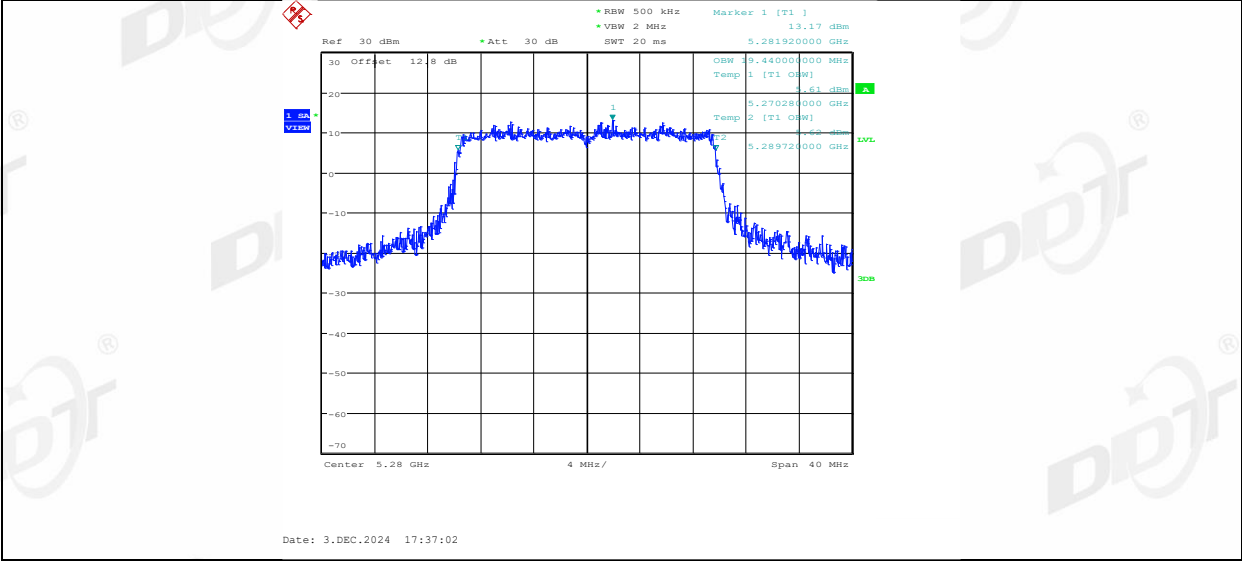
11AX20SISO_Ant1_5240



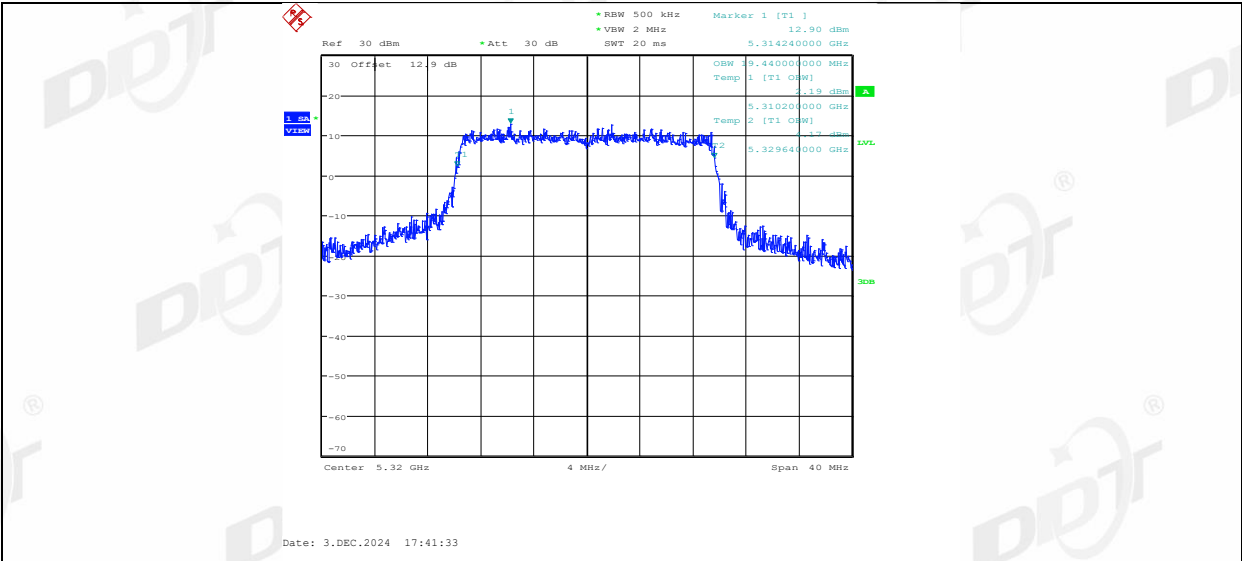
11AX20SISO_Ant1_5260



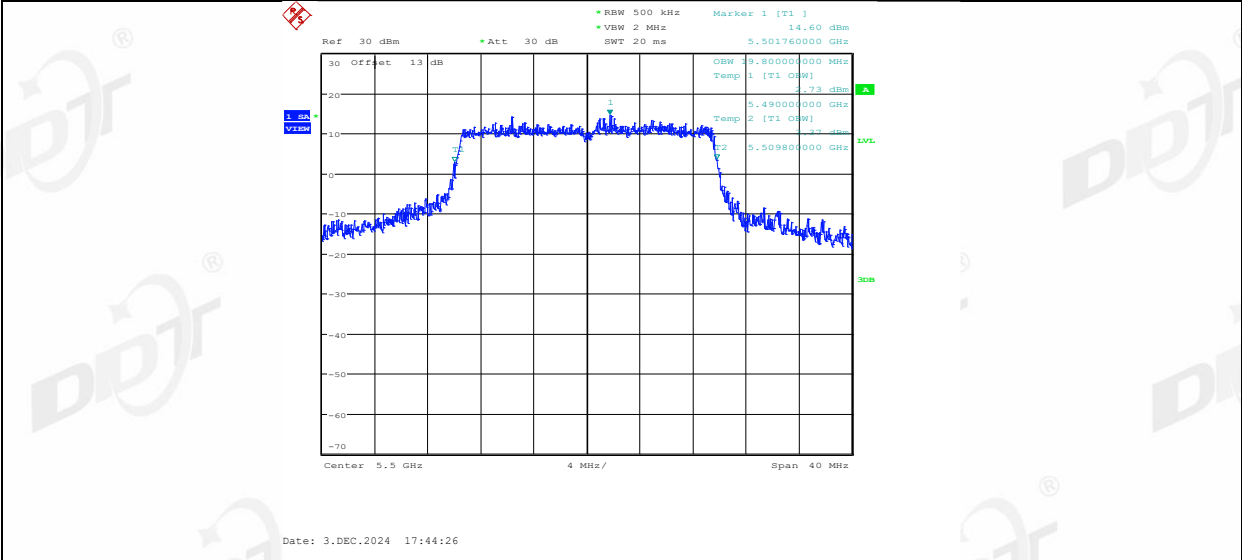
11AX20SISO_Ant1_5280



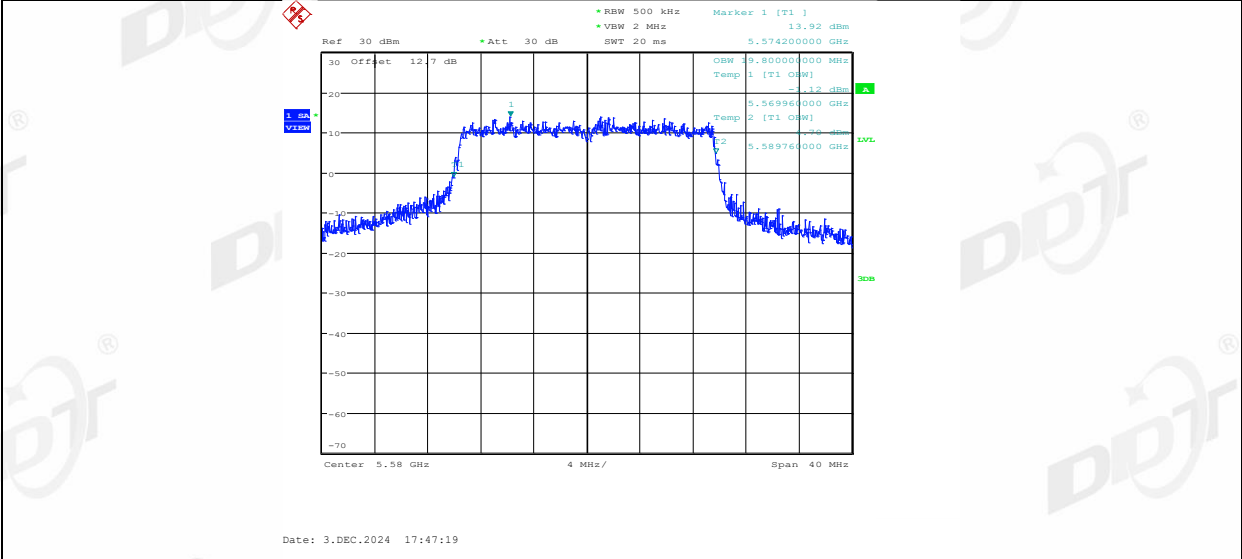
11AX20SISO_Ant1_5320



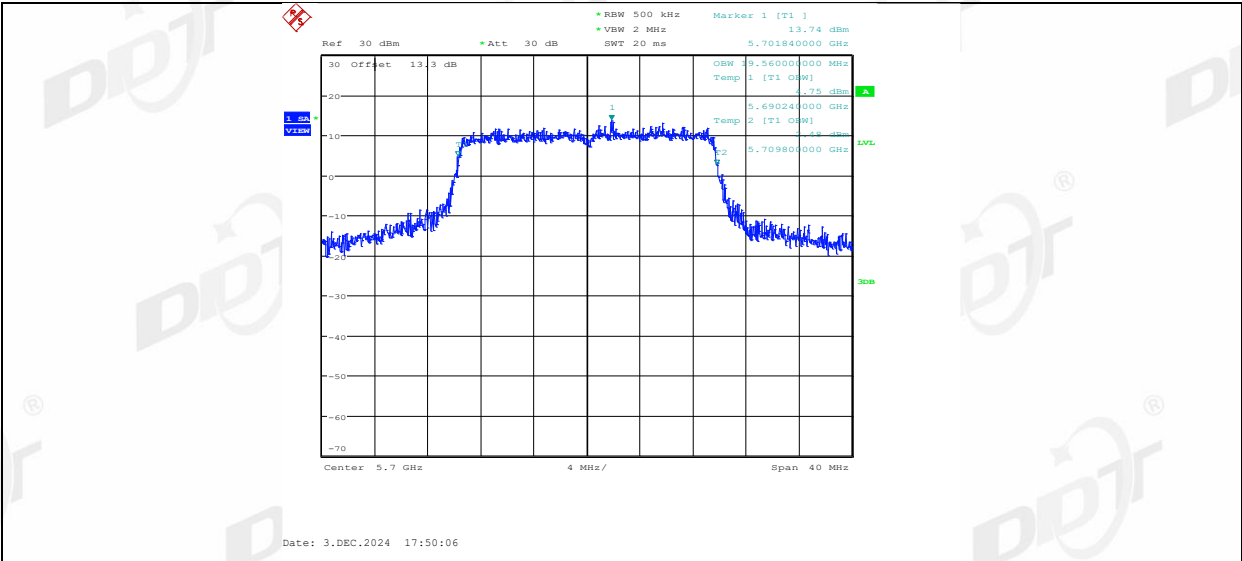
11AX20SISO_Ant1_5500



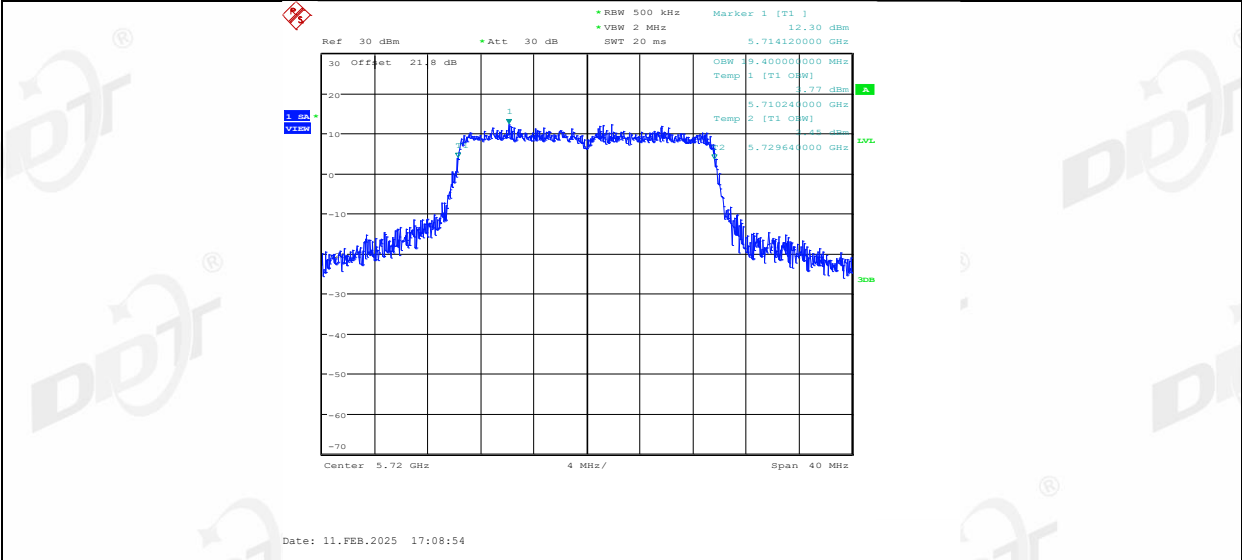
11AX20SISO_Ant1_5580



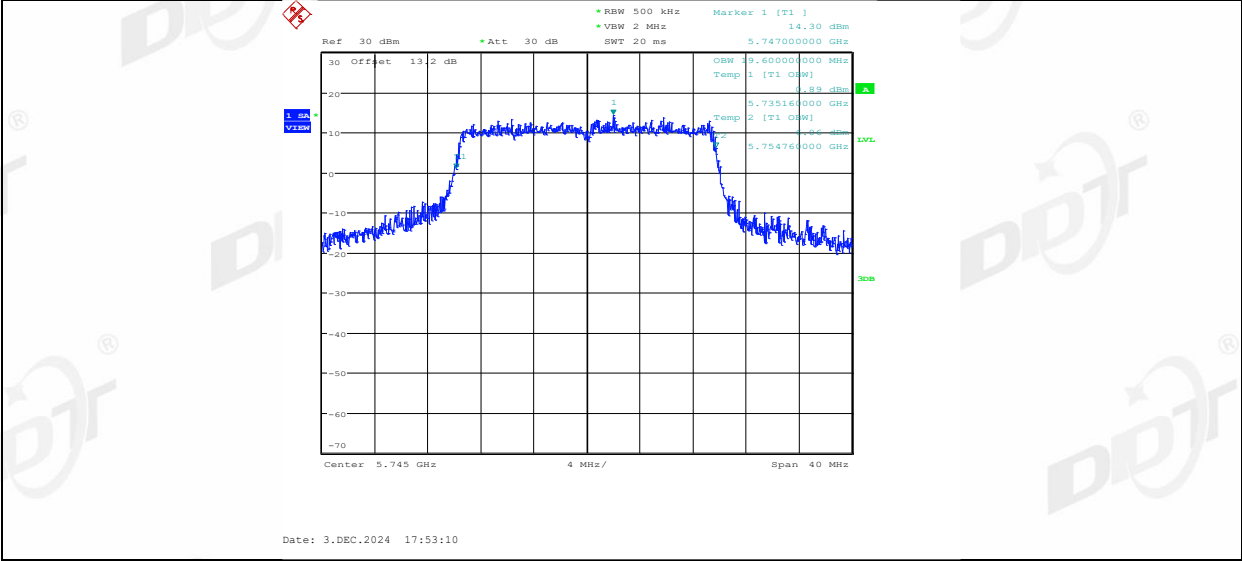
11AX20SISO_Ant1_5700



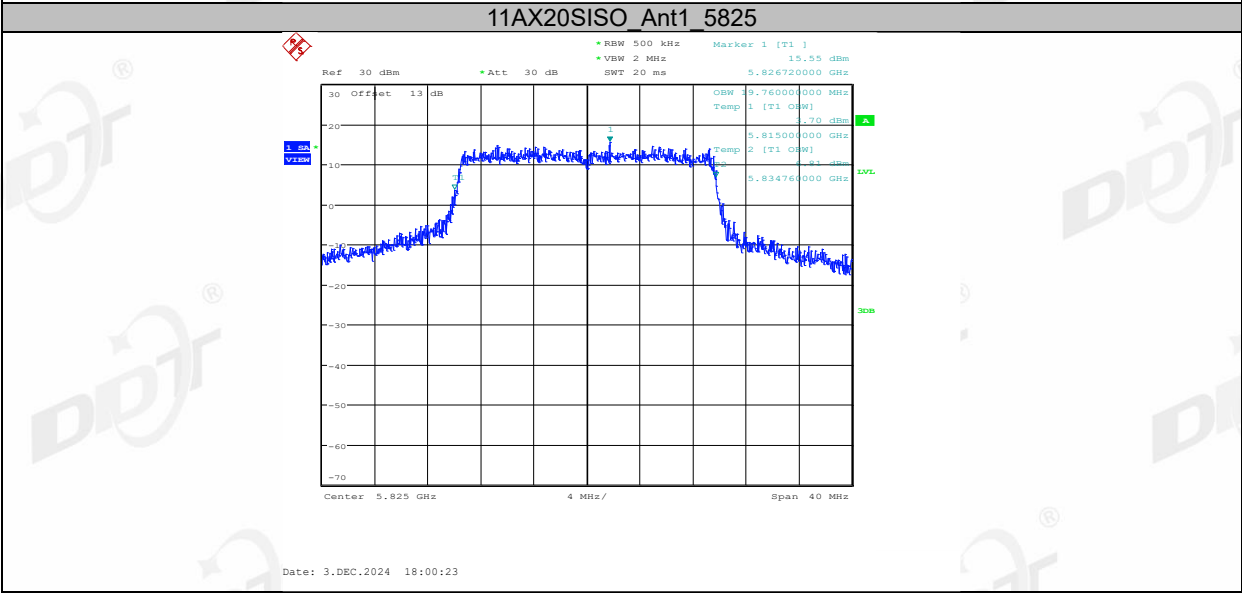
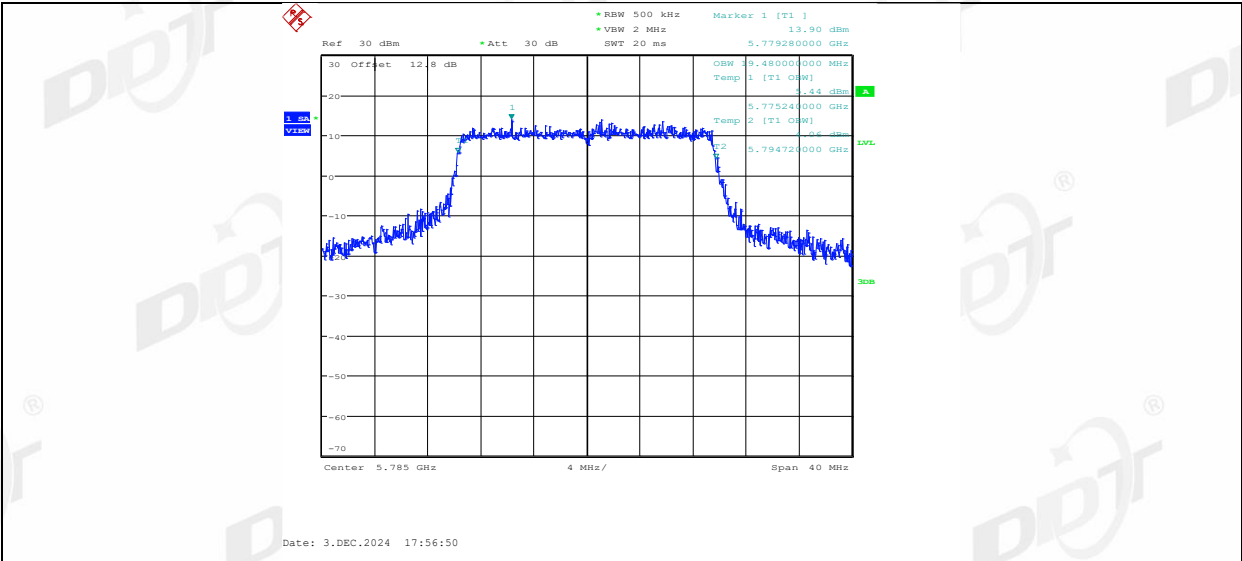
11AX20SISO_Ant1_5720



11AX20SISO_Ant1_5745

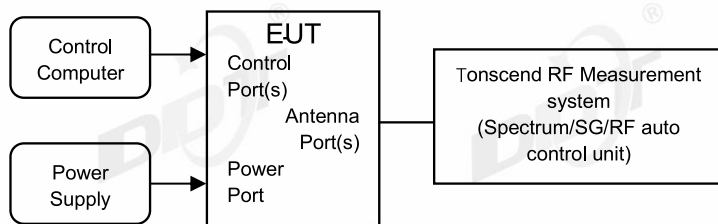


11AX20SISO_Ant1_5785



7. Duty Cycle

7.1. Block diagram of test setup



7.2. Limit

Just for Report.

7.3. Test procedure

- (1) Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator, The cable loss and attenuator loss have been put into spectrum analyzer as amplitude offset.

set the Spectrum Analyzer as below:

Centre Frequency: The centre frequency of the middle hopping channel.

Resolution BW: 10 MHz.

Video BW: 10 MHz.

Span: Zero span.

Detector: Peak.

Trace Mode: Clear Write.

Sweep: Video Trigger

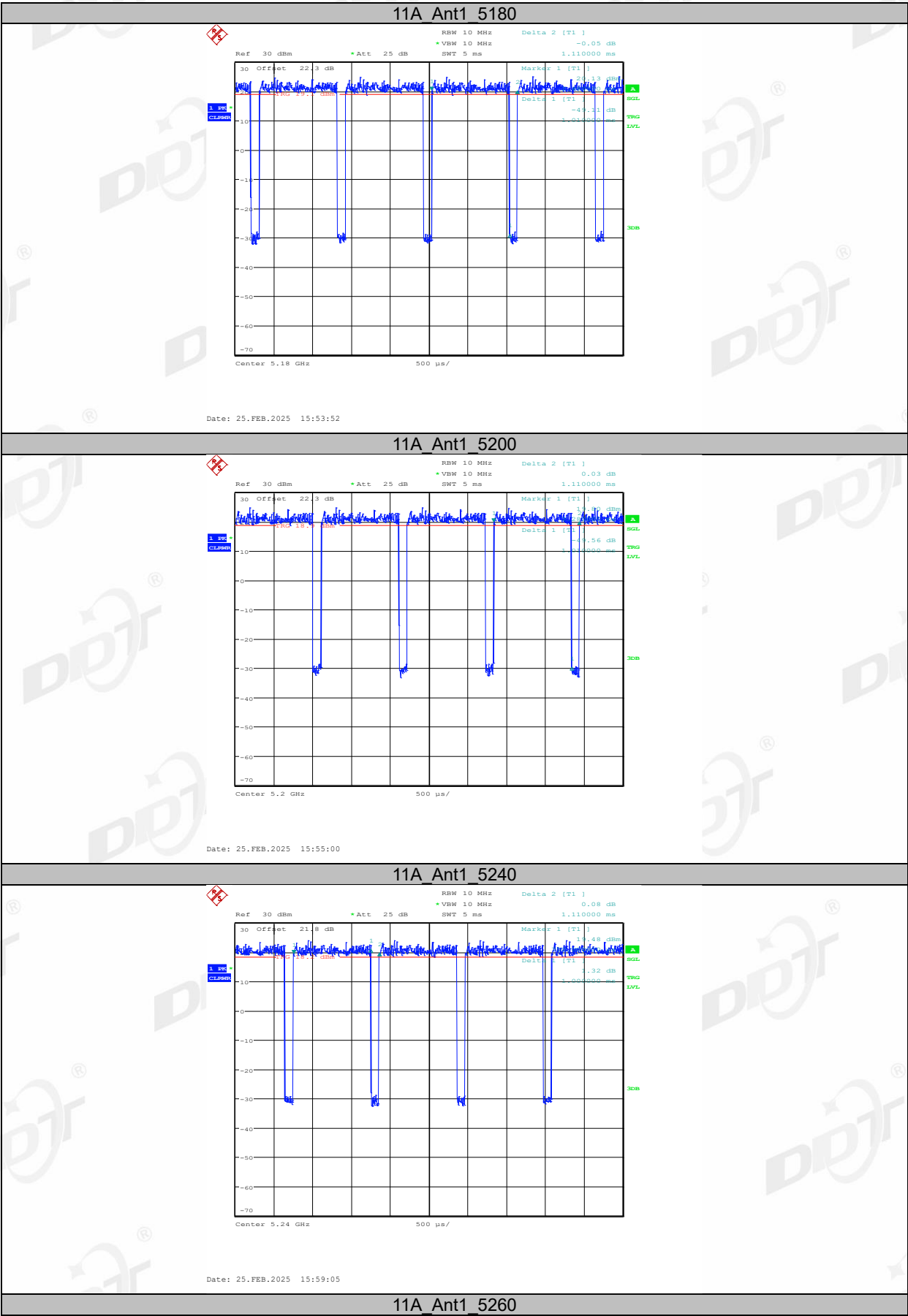
- (2) When the trace is complete, measure the sending time of 1 burst and the duty cycle of 1 burst cycle.
- (3) Calculate dwell time follow below formula:
Duty cycle= Pulse's on time / Burst cycle

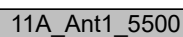
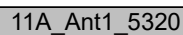
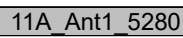
7.4. Test result

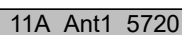
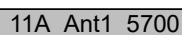
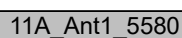
Test Engineer:	Zora Zhang	Test Site:	RF Measurement System 1#
Ambient Condition:	24.9℃,54%RH	Test Date:	2024.12.03-2025.02.25
Test Power Supply:	AC 120V/60Hz	Sample Number:	S24111520-011

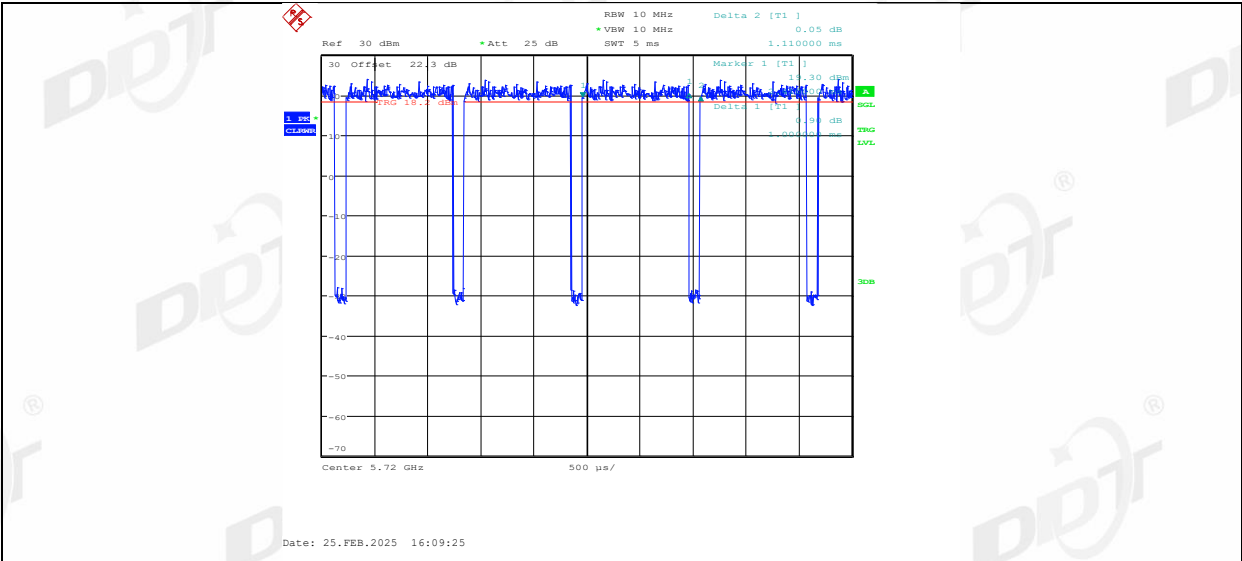
Test Mode	Antenna	Frequency[MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
11A	Ant1	5180	1.01	1.11	90.99
		5200	1.01	1.11	90.99
		5240	1.00	1.11	90.09
		5260	1.00	1.11	90.09
		5280	1.00	1.11	90.09
		5320	1.00	1.11	90.09
		5500	1.01	1.11	90.99
		5580	1.00	1.11	90.09
		5700	1.01	1.11	90.99
		5720	1.00	1.11	90.09
		5745	1.00	1.11	90.09
		5785	1.01	1.11	90.99
		5825	1.00	1.11	90.09
11AX20SISO	Ant1	5180	1.00	1.11	90.09
		5200	1.01	1.11	90.99
		5240	1.00	1.11	90.09
		5260	1.01	1.11	90.99
		5280	1.00	1.11	90.09
		5320	1.00	1.11	90.09
		5500	1.01	1.11	90.99
		5580	1.01	1.11	90.99
		5700	1.00	1.11	90.09
		5720	1.01	1.11	90.99
		5745	1.01	1.11	90.99
		5785	1.00	1.11	90.09
		5825	1.01	1.11	90.99

7.5. Test graphs

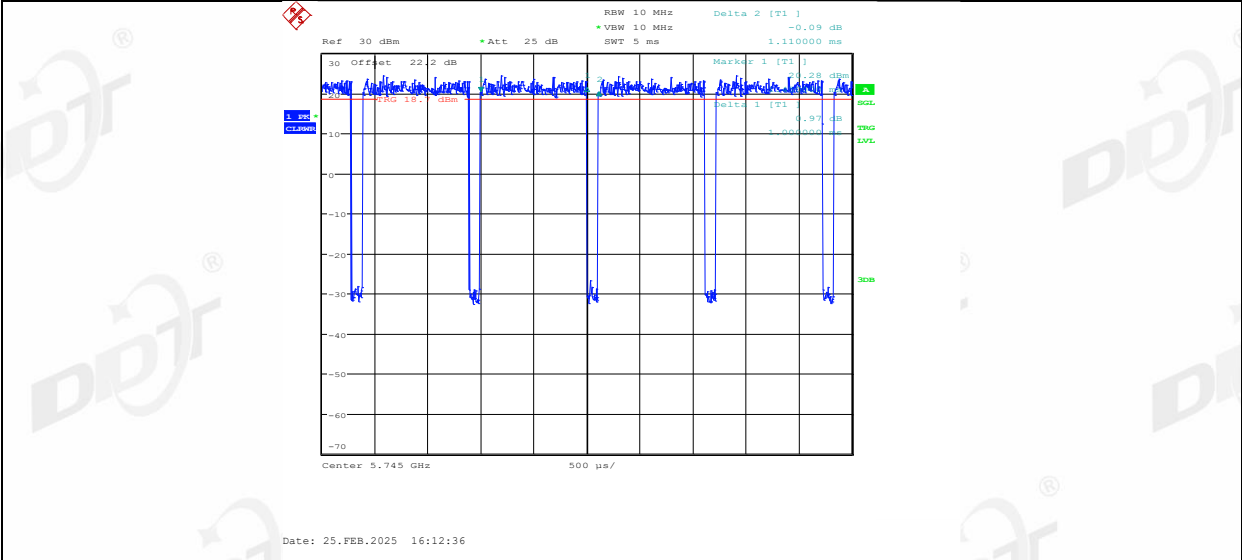




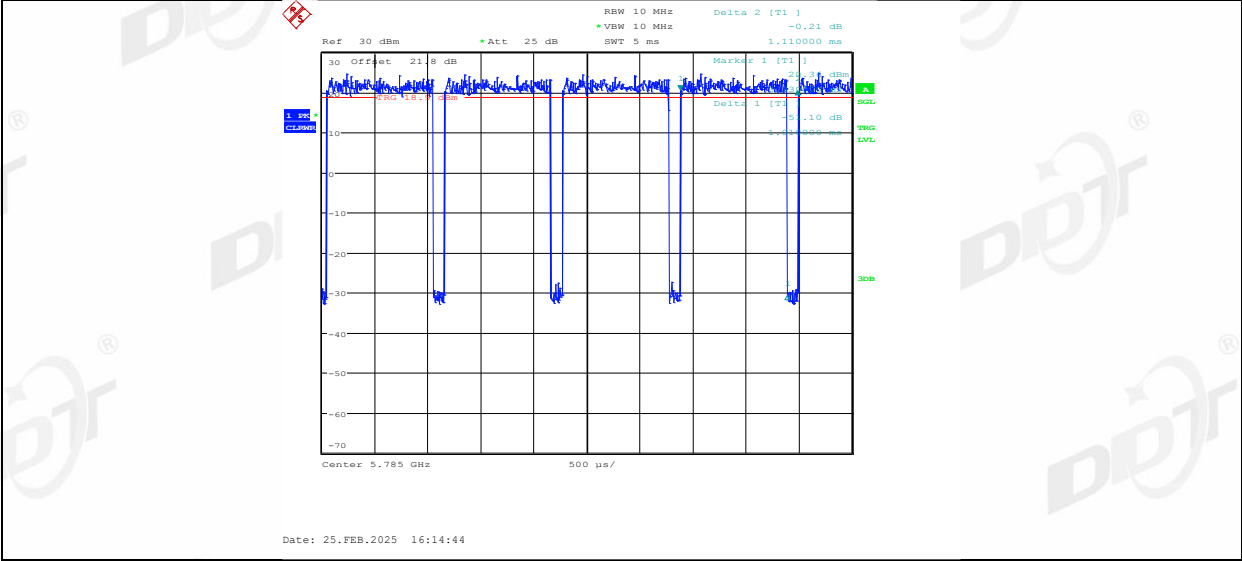




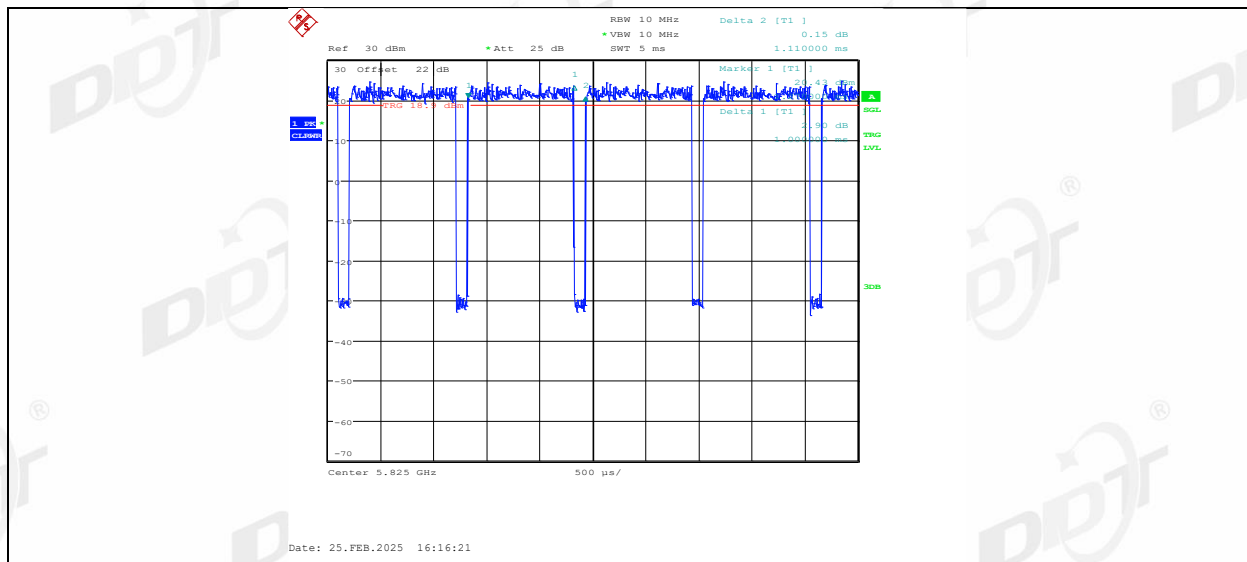
11A_Ant1_5745



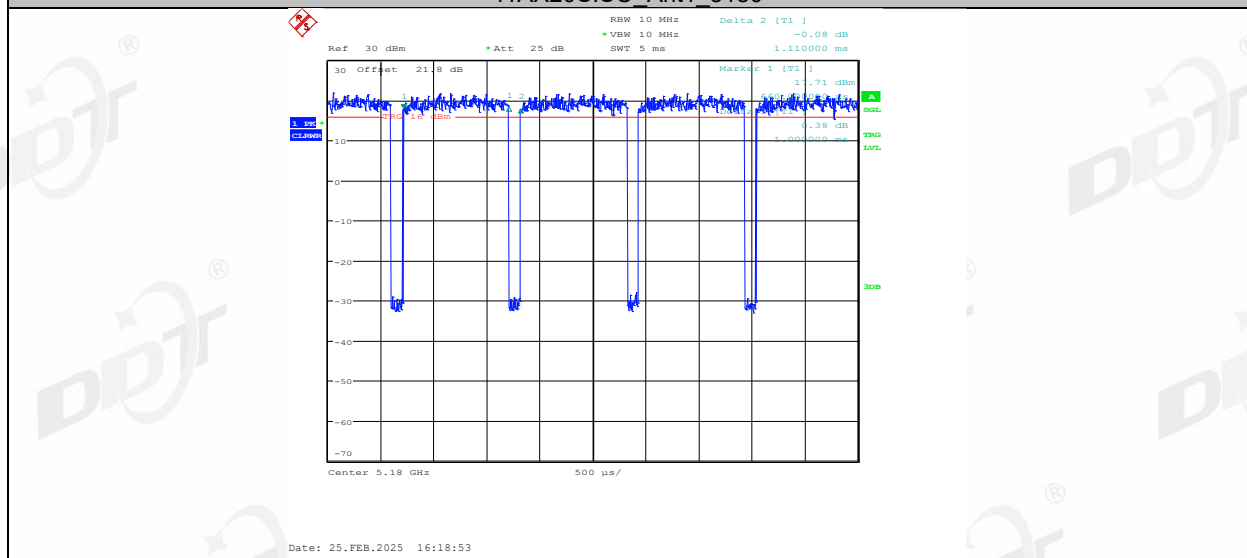
11A_Ant1_5785



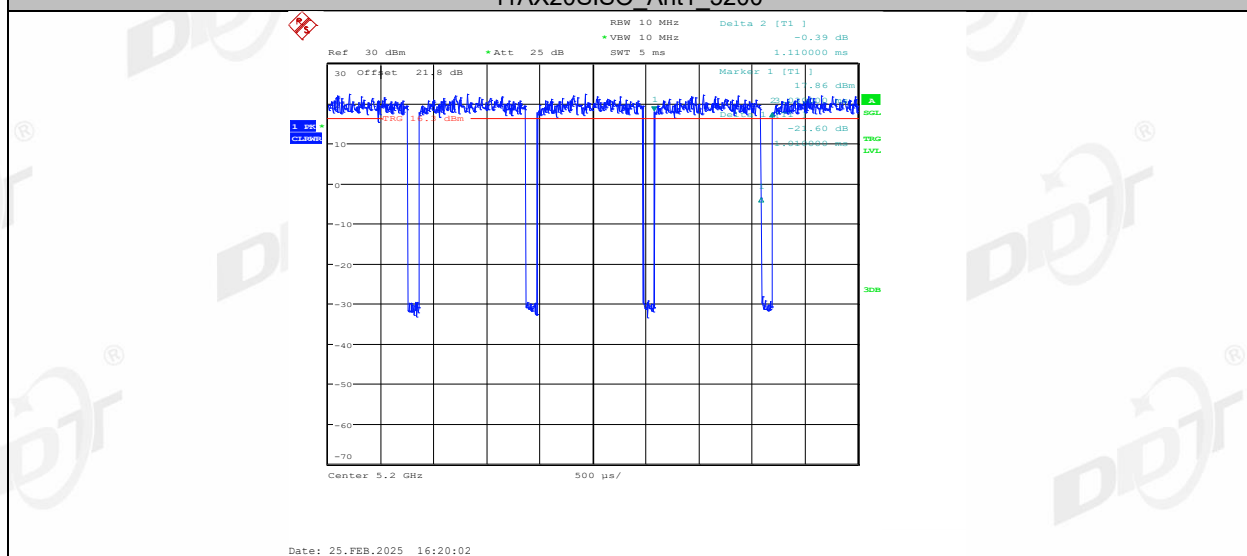
11A_Ant1_5825



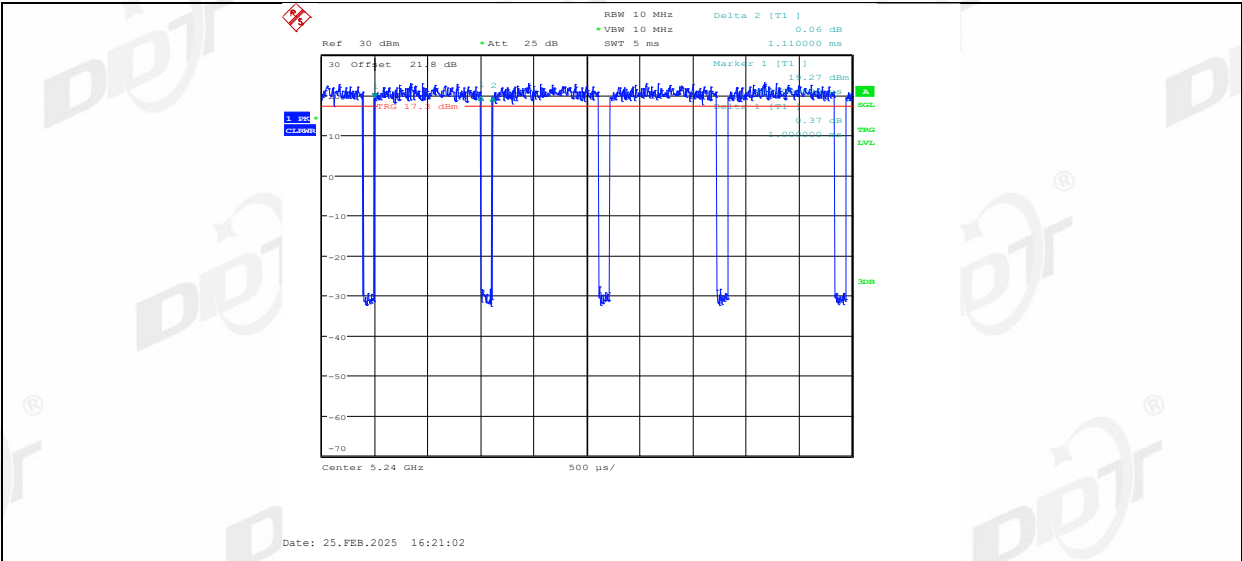
11AX20SISO_Ant1_5180



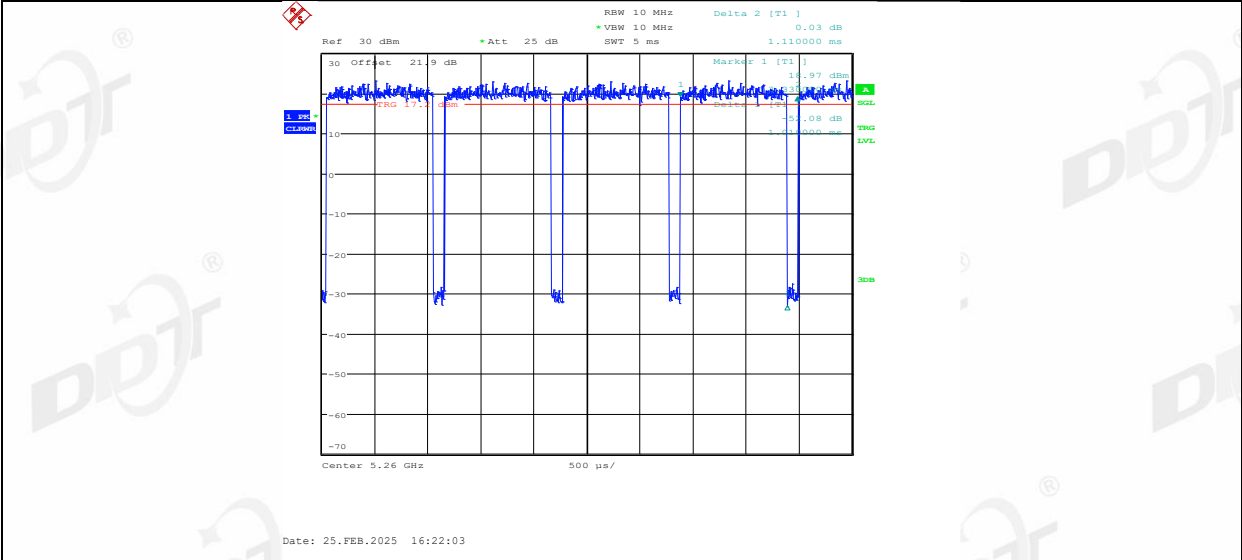
11AX20SISO_Ant1_5200



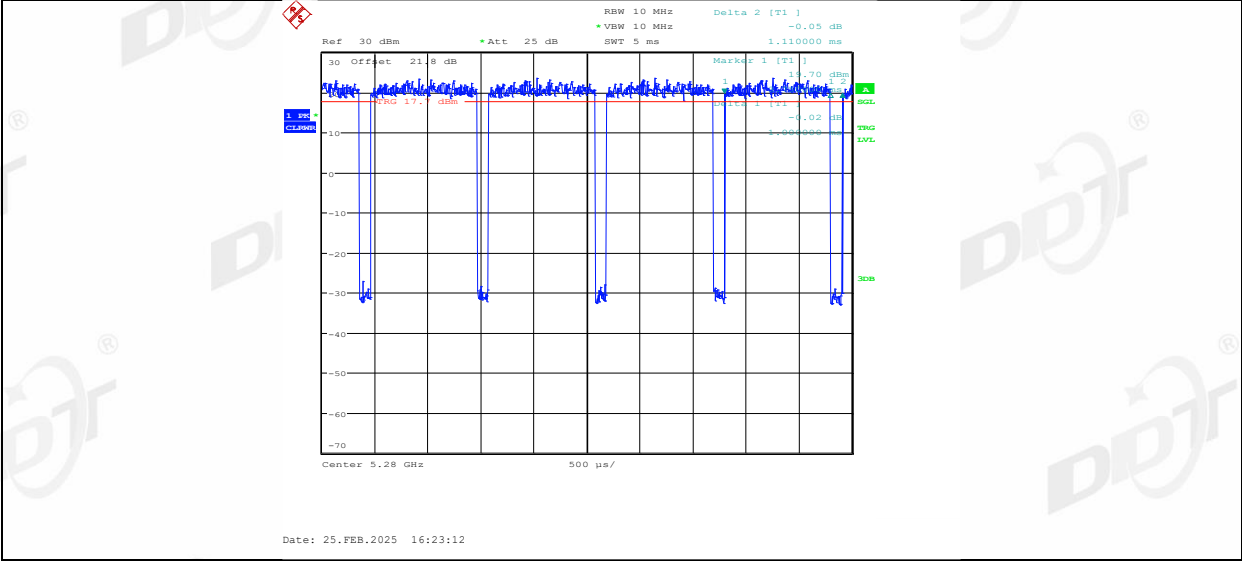
11AX20SISO Ant1 5240



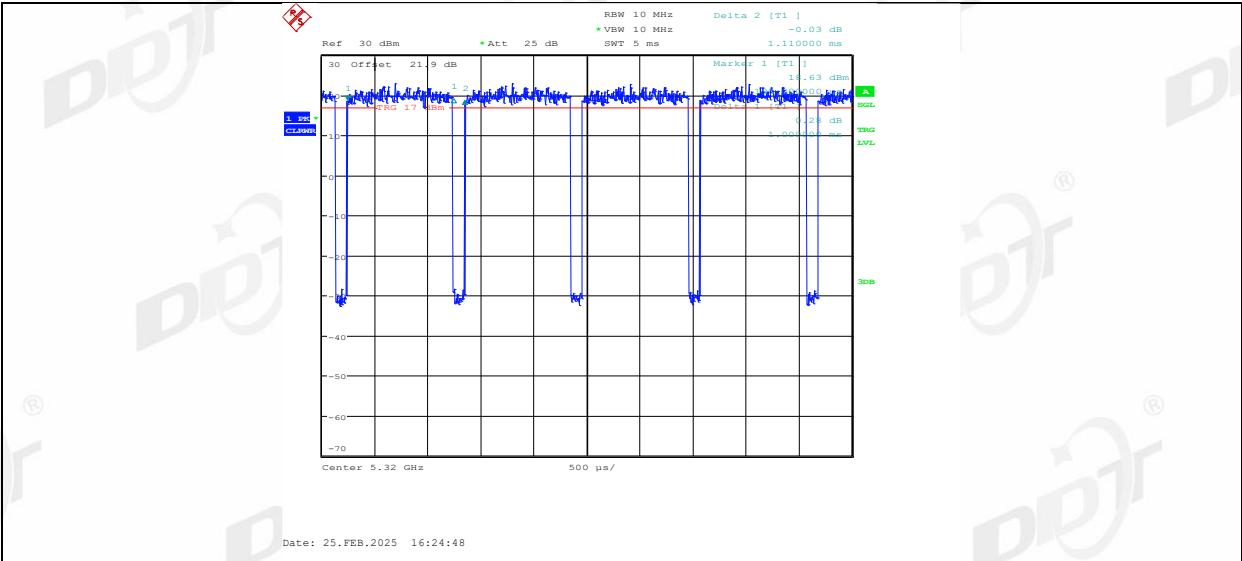
11AX20SISO_Ant1_5260



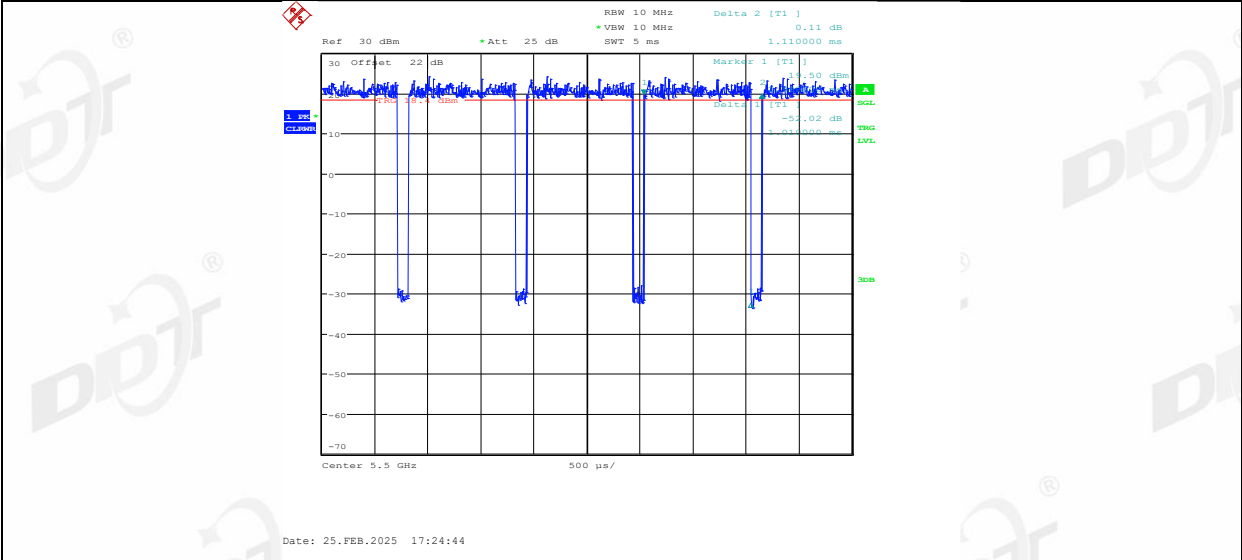
11AX20SISO_Ant1_5280



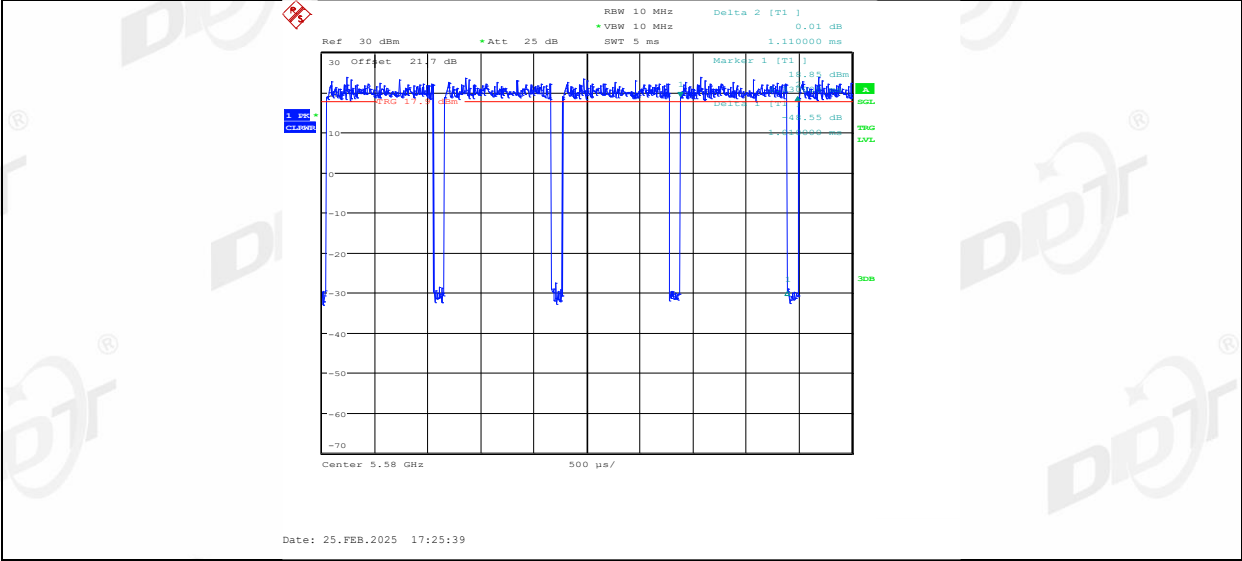
11AX20SISO_Ant1_5320



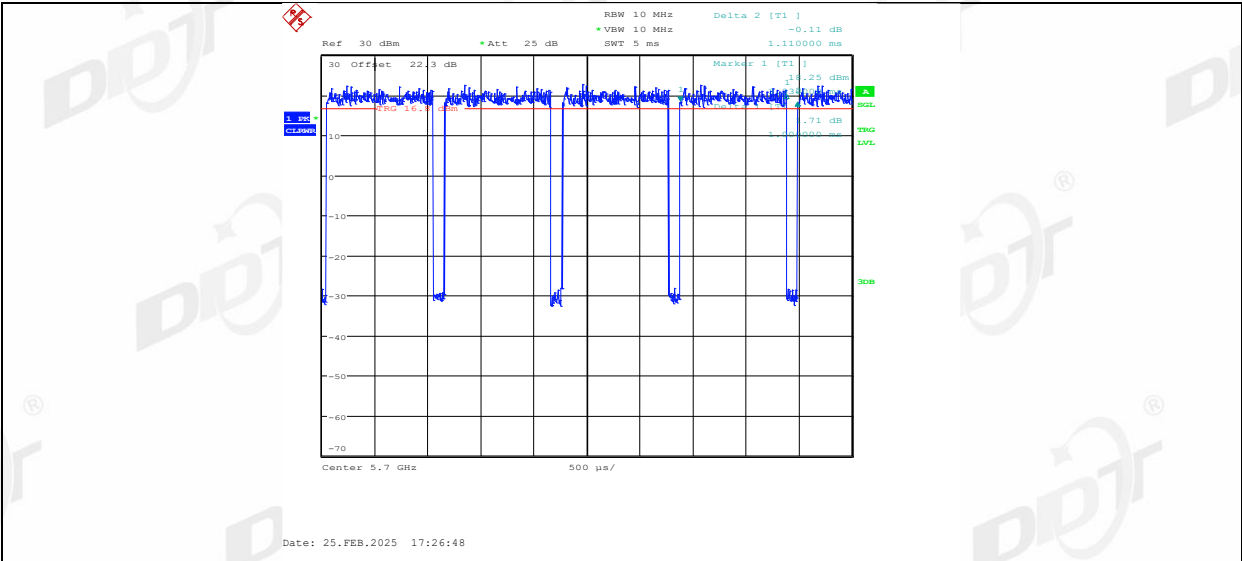
11AX20SISO_Ant1_5500



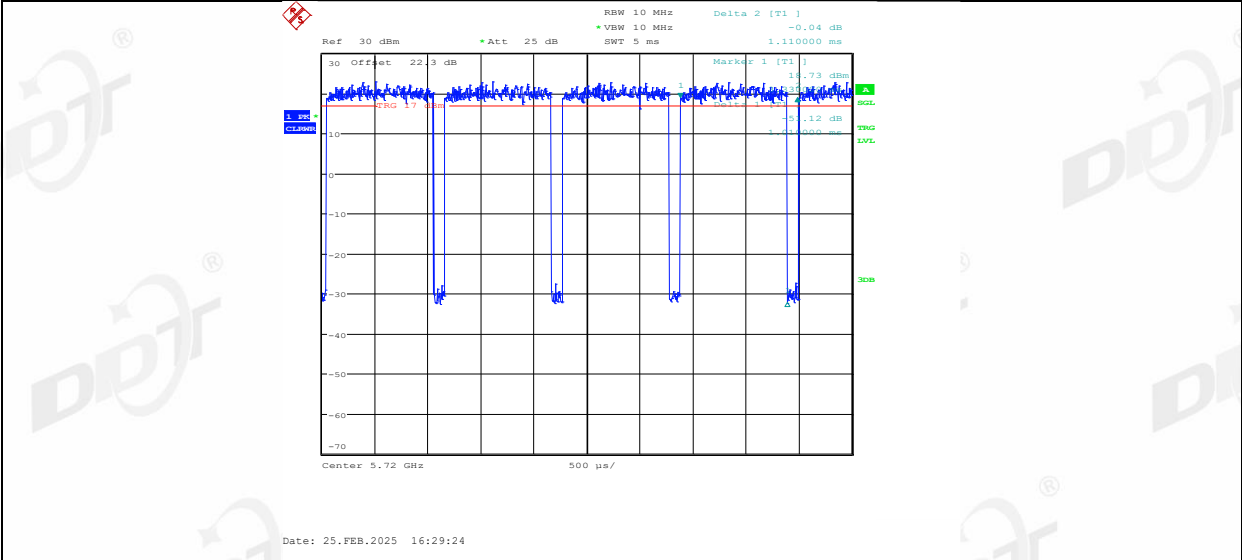
11AX20SISO_Ant1_5580



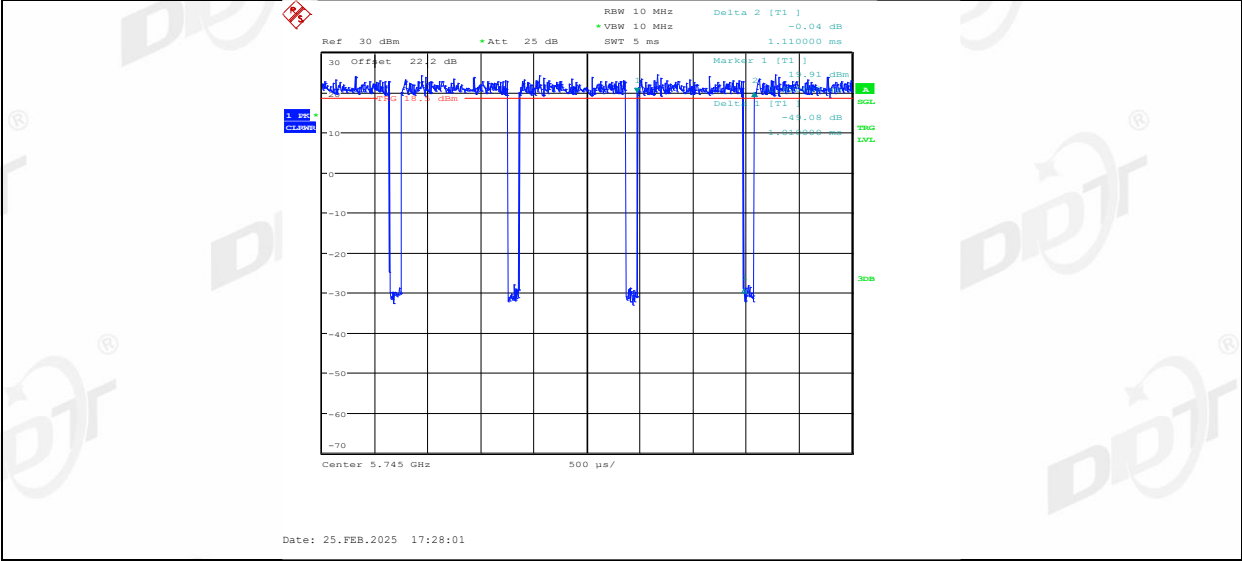
11AX20SISO_Ant1_5700



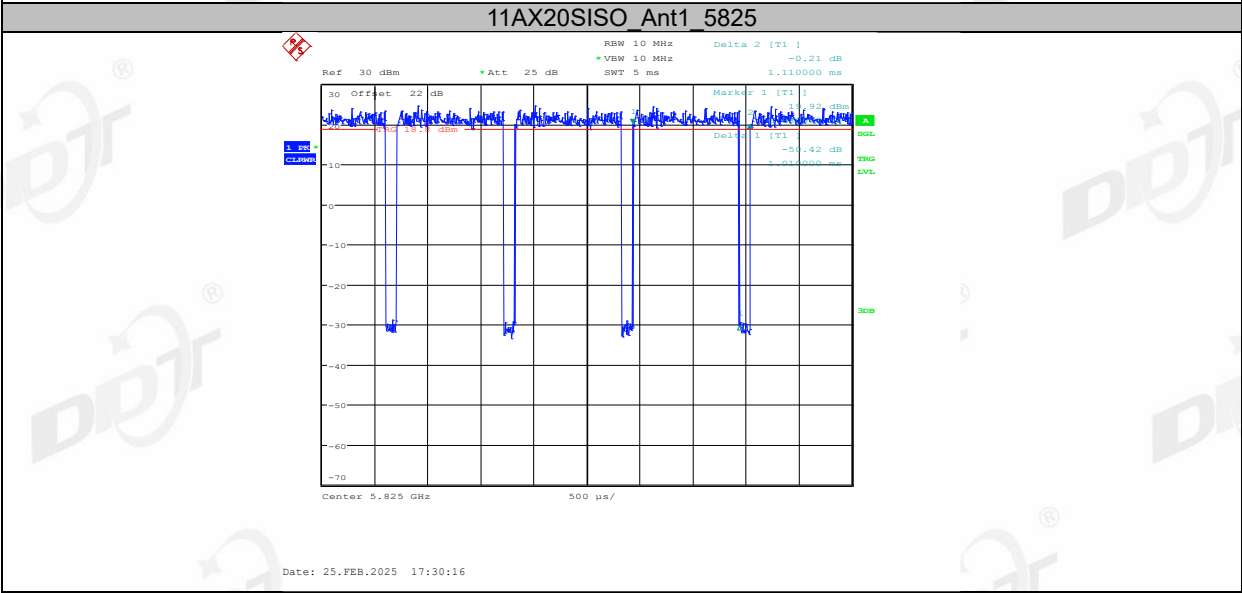
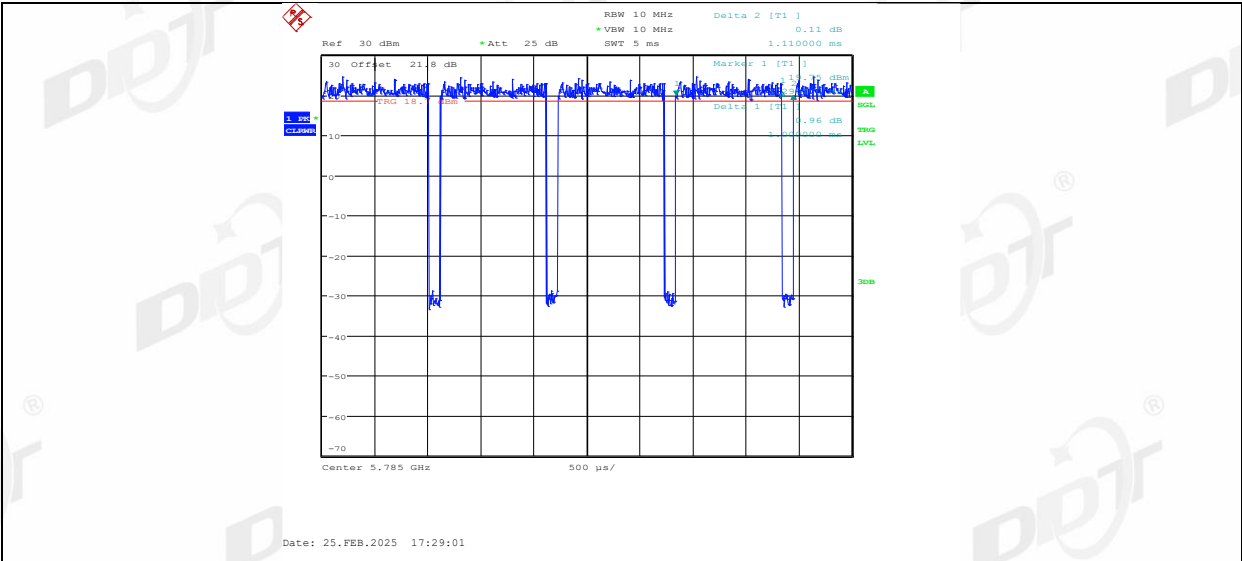
11AX20SISO_Ant1_5720



11AX20SISO_Ant1_5745

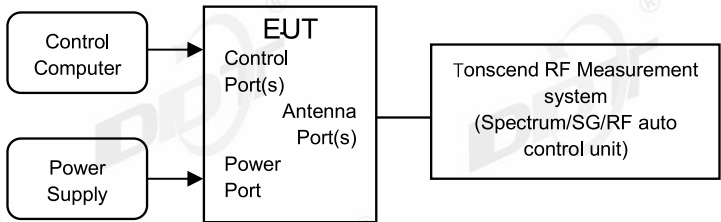


11AX20SISO_Ant1_5785



8. Maximum Output Power

8.1. Block diagram of test setup



8.2. Limits

FCC Part15, Subpart E/ RSS-247		
Test Item	Limit	Frequency Range (MHz)
Maximum Output Power	For FCC: outdoor access point: 1 W(30 dBm) indoor access point: 1 W(30 dBm) fixed point-to-point access points1 W(30 dBm) client devices: 250 mW (24 dBm)	5150-5250
	For RSS: e.i.r.p. power: not exceed 200 mW (23 dBm) or $10 + 10 \log_{10} B$	
	For FCC: 250 mW (24 dBm) or $11 + 10 \log_{10} B$	
	For RSS: For conducted output power: 250 mW (24 dBm) or $11 + 10 \log_{10} B$	5250-5350
	For RSS: e.i.r.p. power: not exceed 1.0 W (30 dBm) or $17 + 10 \log_{10} B$	
	For FCC: 250 mW (24 dBm) or $11 + 10 \log_{10} B$	
	For RSS: For conducted output power: 250 mW (24 dBm) or $11 + 10 \log_{10} B$	For FCC:5470 - 5725 For IC:5470 - 5600
	For RSS: e.i.r.p. power: not exceed 1.0 W (30 dBm) or $17 + 10 \log_{10} B$	5650 - 5725
1 Watt (30 dBm)		5725-5850
Note: For FCC: B=26 bandwidth; For ISDE: B=99% bandwidth.		

8.3. Test procedure

Connect each EUT’s antenna output to power sensor by RF cable and attenuator
Measure the output power of each antenna port by power sensor.

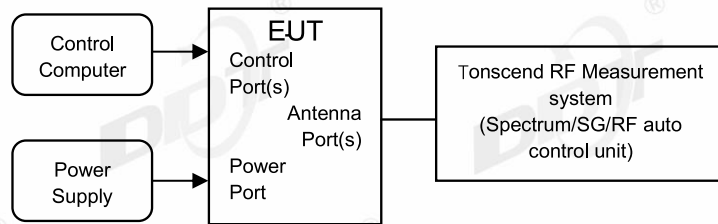
8.4. Test result channel power

Test Engineer:	Zora Zhang	Test Site:	RF Measurement System 1#
Ambient Condition:	24.9℃,54%RH	Test Date:	2024.12.03-2025.02.25
Test Power Supply:	AC 120V/60Hz	Sample Number:	S24111520-011

Test Mode	Antenna	Freq (MHz)	Channel Power [dBm]	Duty Cycle [%]	DC Factor [dBm]	Conducted Output Power [dBm]	Conducted FCC Limit [dBm]	Conducted RSS Limit [dBm]	EIRP RSS [dBm]	EIRP RSS Limit [dBm]	Verdict
11A	Ant1	5180	18.42	90.99	0.41	18.83	24	---	21.23	22.37	PASS
		5200	18.76	90.99	0.41	19.17	24	---	21.57	22.37	PASS
		5240	18.18	90.09	0.45	18.63	24	---	21.03	22.37	PASS
		5260	18.36	90.09	0.45	18.81	24	23.37	21.21	29.37	PASS
		5280	18.75	90.09	0.45	19.20	24	23.37	21.60	29.37	PASS
		5320	17.98	90.09	0.45	18.43	24	23.37	20.83	29.37	PASS
		5500	17.47	90.99	0.41	17.88	24	23.56	20.28	29.56	PASS
		5580	17.38	90.09	0.45	17.83	24	23.56	20.23	29.56	PASS
		5700	16.47	90.99	0.41	16.88	24	23.56	19.28	29.56	PASS
		5720	18.24	90.09	0.45	18.69	24	23.56	21.09	29.56	PASS
		5745	18.38	90.09	0.45	18.83	30	30	21.23	---	PASS
		5785	18.85	90.99	0.41	19.26	30	30	21.66	---	PASS
11AX20SISO	Ant1	5825	19.13	90.09	0.45	19.58	30	30	21.98	---	PASS
		5180	16.91	90.09	0.45	17.36	24	---	19.76	22.87	PASS
		5200	17.02	90.99	0.41	17.43	24	---	19.83	22.87	PASS
		5240	18.36	90.09	0.45	18.81	24	---	21.21	22.87	PASS
		5260	17.74	90.99	0.41	18.15	24	23.87	20.55	29.87	PASS
		5280	18.15	90.09	0.45	18.60	24	23.87	21.00	29.87	PASS
		5320	17.44	90.09	0.45	17.89	24	23.87	20.29	29.87	PASS
		5500	17.60	90.99	0.41	18.01	24	23.88	20.41	29.88	PASS
		5580	17.47	90.99	0.41	17.88	24	23.88	20.28	29.88	PASS
		5700	16.63	90.09	0.45	17.08	24	23.88	19.48	29.88	PASS
		5720	17.95	90.99	0.41	18.36	24	23.88	20.76	29.88	PASS
		5745	18.07	90.99	0.41	18.48	30	30	20.88	---	PASS
		5785	18.43	90.09	0.45	18.88	30	30	21.28	---	PASS
		5825	18.72	90.99	0.41	19.13	30	30	21.53	---	PASS

9. Power Spectral Density

9.1. Block diagram of test setup



9.2. Limits

FCC Part15, Subpart E/ RSS-247		
Test Item	Limit	Frequency Range (MHz)
Power Spectral Density	For FCC: Other than Mobile and portable:17 dBm/MHz Mobile and portable client devices:11 dBm/MHz For RSS eirp: 10 dBm/MHz	5150-5250
	11 dBm/MHz	5250-5350
	11 dBm/MHz	For FCC: 5470 - 5725 For ISDE: 5470 - 5600 5650 - 5725
	30 dBm/500 kHz	5725-5850

9.3. Test procedure

The transmitter output was connected to a spectrum analyzer. Power density was measured by spectrum analyzer with 1MHz RBW and 3MHz VBW.

Connect the UUT to the spectrum analyser and use the following settings:

5150 MHz~5250 MHz, 5250 MHz~5350 MHz, 5470 MHz~5725 MHz

Center Frequency	The centre frequency of the channel under test
Detector	RMS
RBW	1MHz
VBW	$\geq 3 \times \text{RBW}$
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

5725 MHz-5850 MHz

Center Frequency	The centre frequency of the channel under test
Detector	RMS
RBW	500 kHz

VBW	$\geq 3 \times \text{RBW}$
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

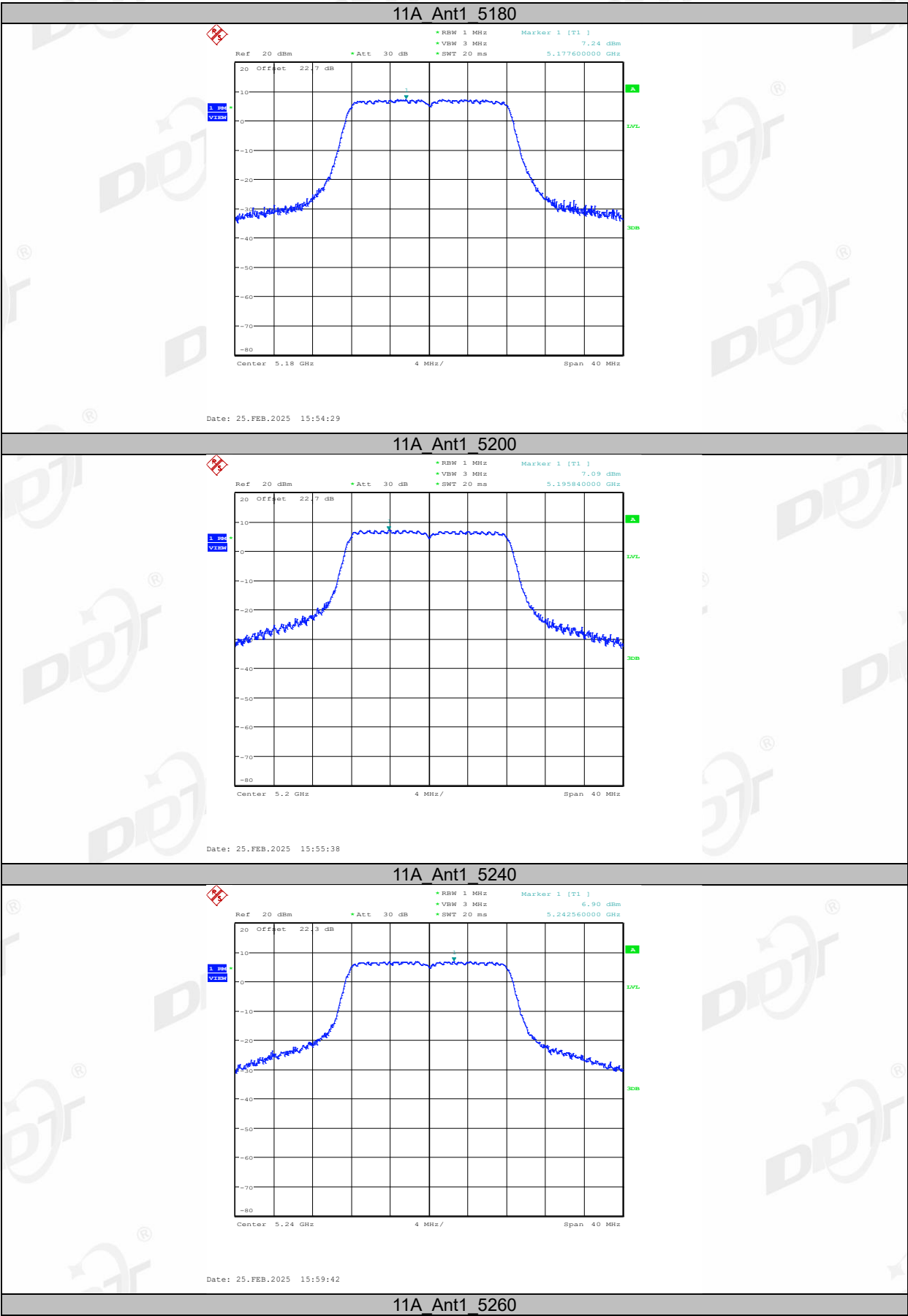
9.4. Test result

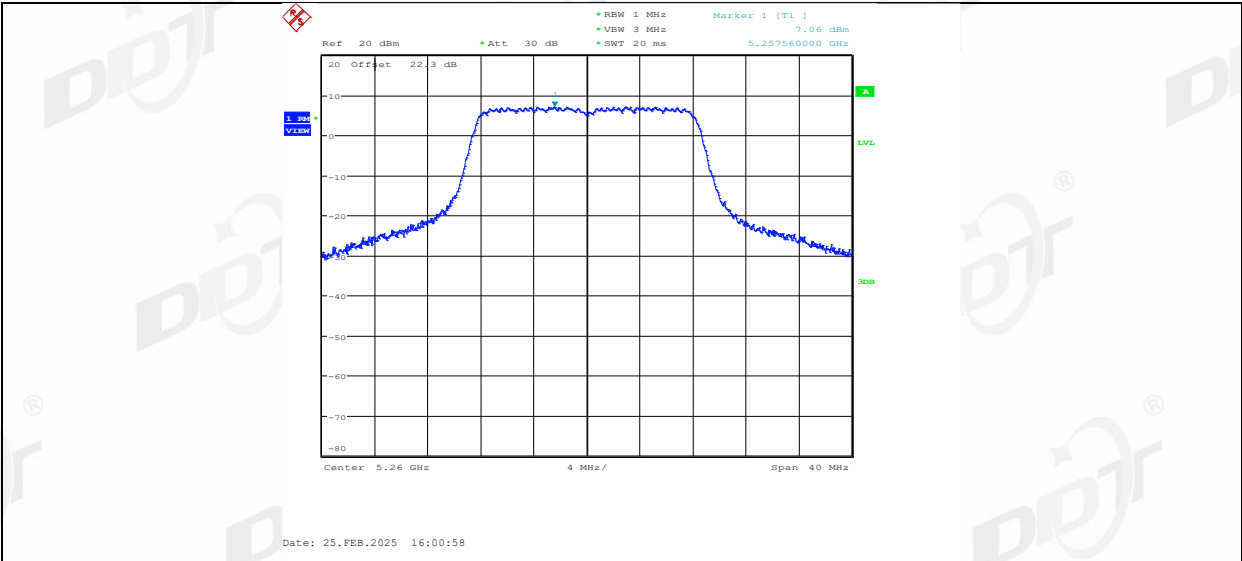
Test Engineer:	Zora Zhang	Test Site:	RF Measurement System 1#
Ambient Condition:	24.9℃,54%RH	Test Date:	2024.12.03-2025.02.25
Test Power Supply:	AC 120V/60Hz	Sample Number:	S24111520-011

Test Mode	Antenna	Freq(MHz)	Result [dBm/MHz]	Limit [dBm/MHz]	EIRP [dBm/MHz]	RSS EIRP Limit [dBm/MHz]	Verdict
11A	Ant1	5180	7.24	≤11.00	9.64	≤10.00	PASS
		5200	7.09	≤11.00	9.49	≤10.00	PASS
		5240	6.90	≤11.00	9.30	≤10.00	PASS
		5260	7.06	≤11.00	9.46	---	PASS
		5280	7.73	≤11.00	10.13	---	PASS
		5320	6.79	≤11.00	9.19	---	PASS
		5500	6.76	≤11.00	9.16	---	PASS
		5580	6.18	≤11.00	8.58	---	PASS
		5700	5.55	≤11.00	7.95	---	PASS
		5720 UNII-2C	6.99	≤11.00	9.39	---	PASS
		5720 UNII-3	3.13	≤30.00	5.53	---	PASS
		5745	4.67	≤30.00	7.07	---	PASS
		5785	4.88	≤30.00	7.28	---	PASS
		5825	4.97	≤30.00	7.37	---	PASS
11AX20SISO	Ant1	5180	5.04	≤11.00	7.44	≤10.00	PASS
		5200	5.13	≤11.00	7.53	≤10.00	PASS
		5240	6.55	≤11.00	8.95	≤10.00	PASS
		5260	6.01	≤11.00	8.41	---	PASS
		5280	6.65	≤11.00	9.05	---	PASS
		5320	5.70	≤11.00	8.10	---	PASS
		5500	6.75	≤11.00	9.15	---	PASS
		5580	6.16	≤11.00	8.56	---	PASS
		5700	5.78	≤11.00	8.18	---	PASS
		5720 UNII-2C	6.17	≤11.00	8.57	---	PASS
		5720 UNII-3	2.39	≤30.00	4.79	---	PASS
		5745	4.51	≤30.00	6.91	---	PASS
		5785	4.45	≤30.00	6.85	---	PASS
		5825	4.60	≤30.00	7.00	---	PASS

Note: 1.The Result and Limit Unit is dBm/500 kHz in the band 5.725–5.85 GHz.
2.The Duty Cycle Factor is compensated in the graph.

9.5. Test graphs

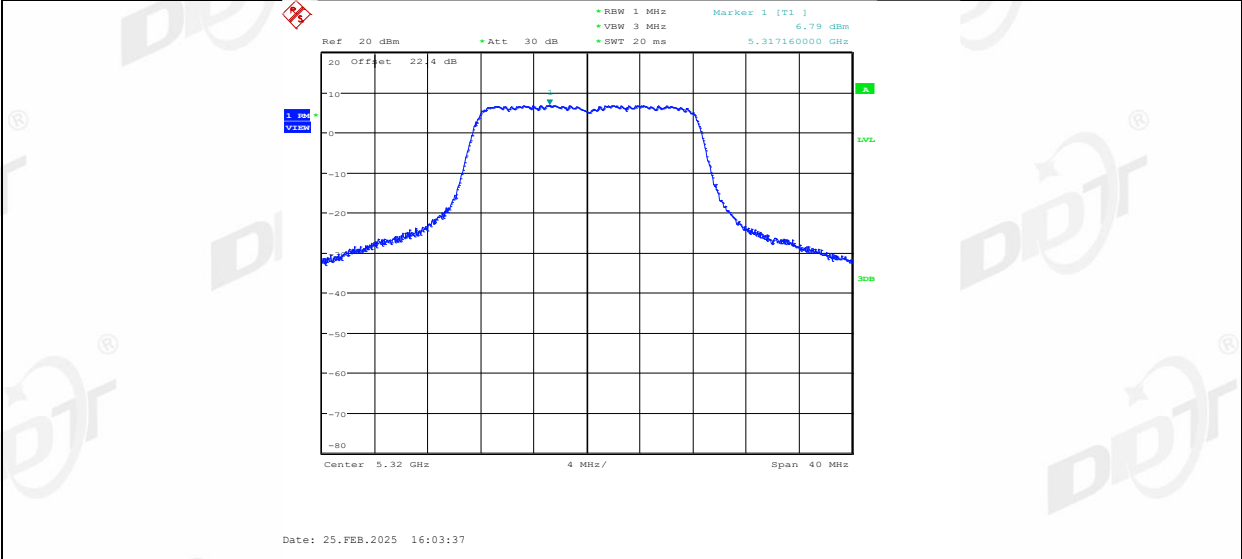




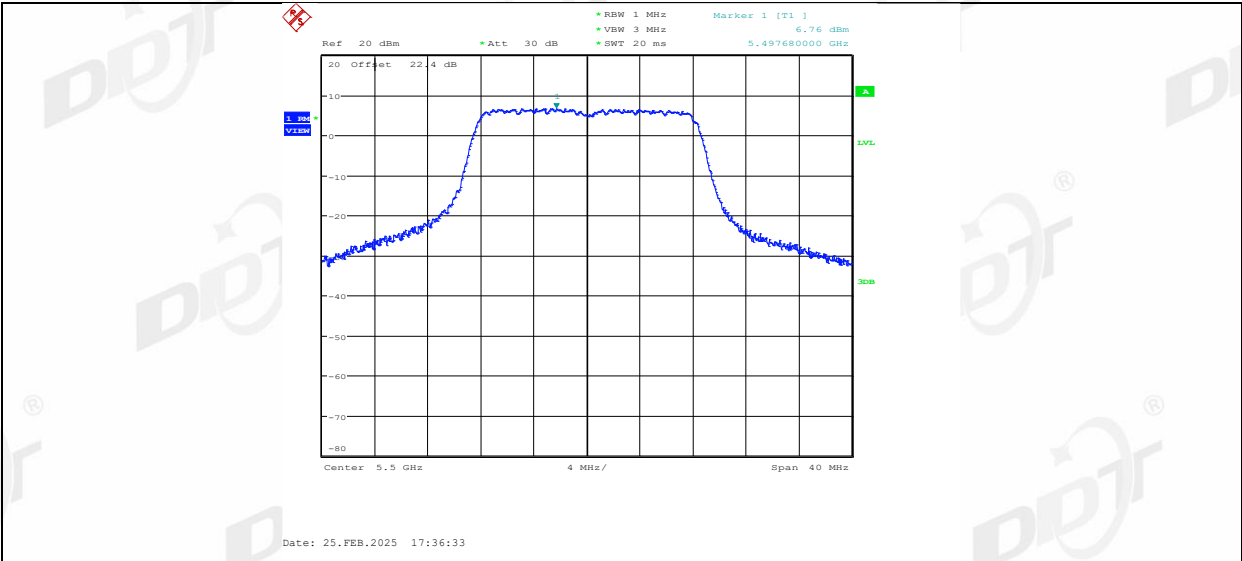
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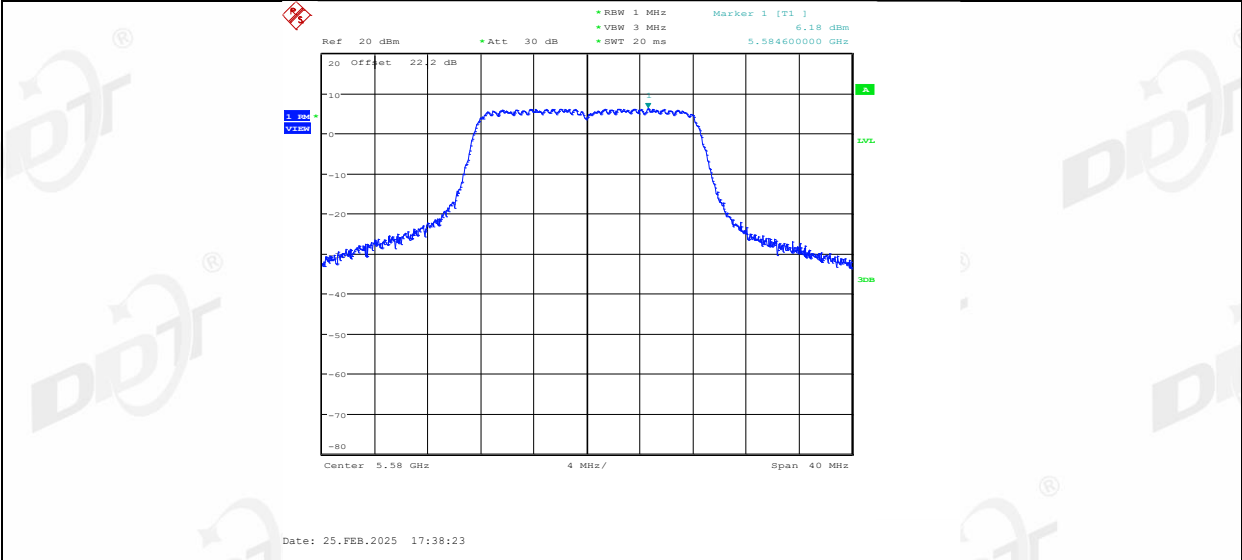
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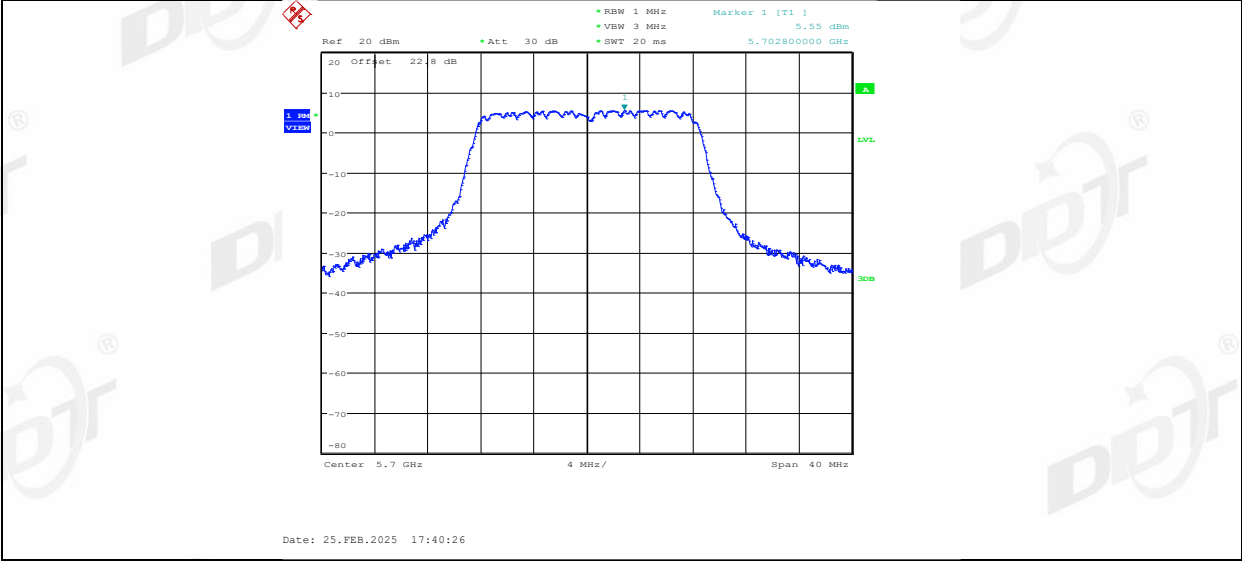
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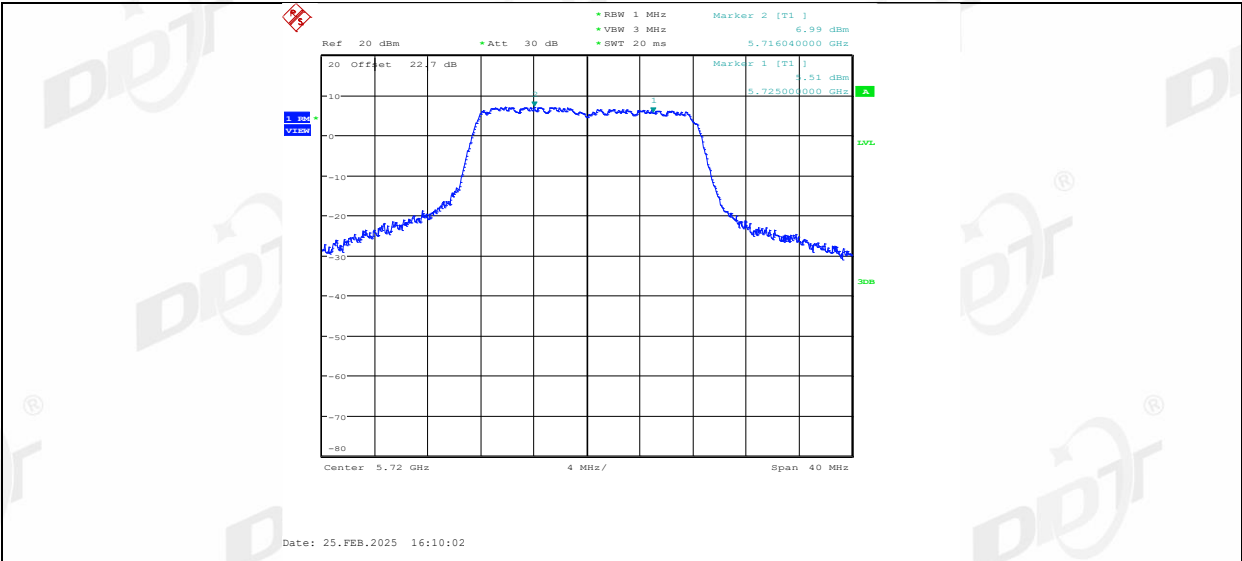
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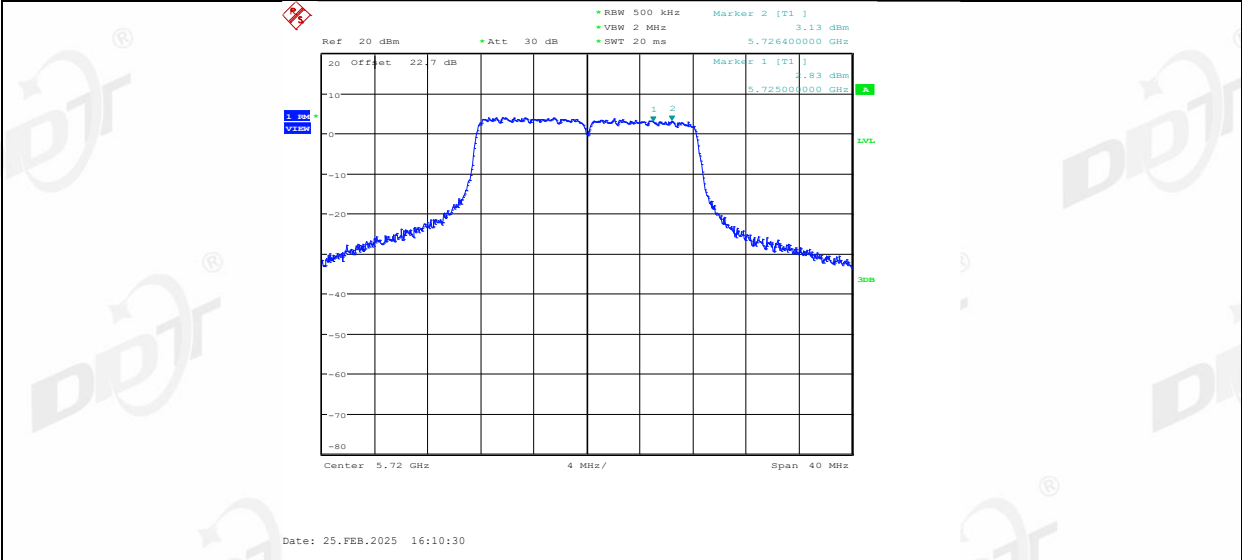
11A_Ant1_5700



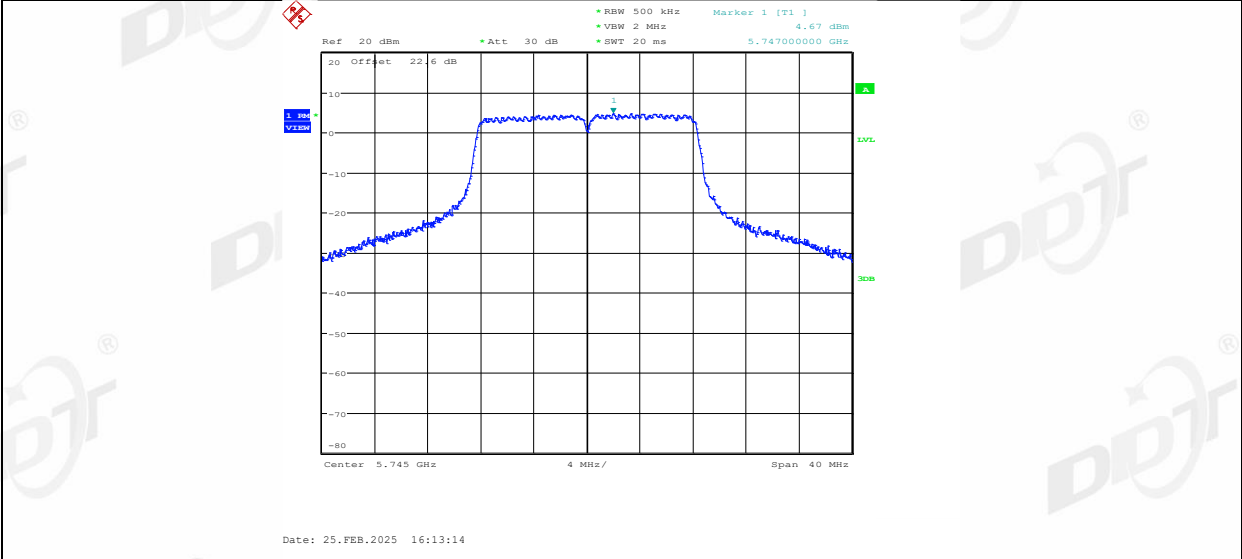
11A_Ant1_5720_UNII-2C



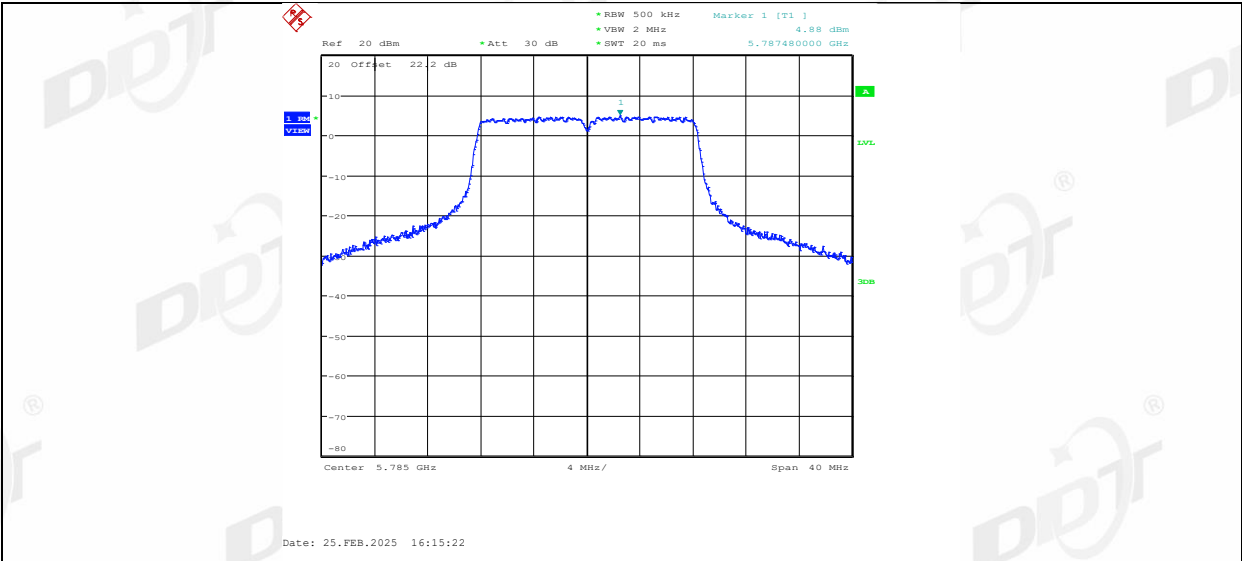
11A Ant1_5720_UNII-3



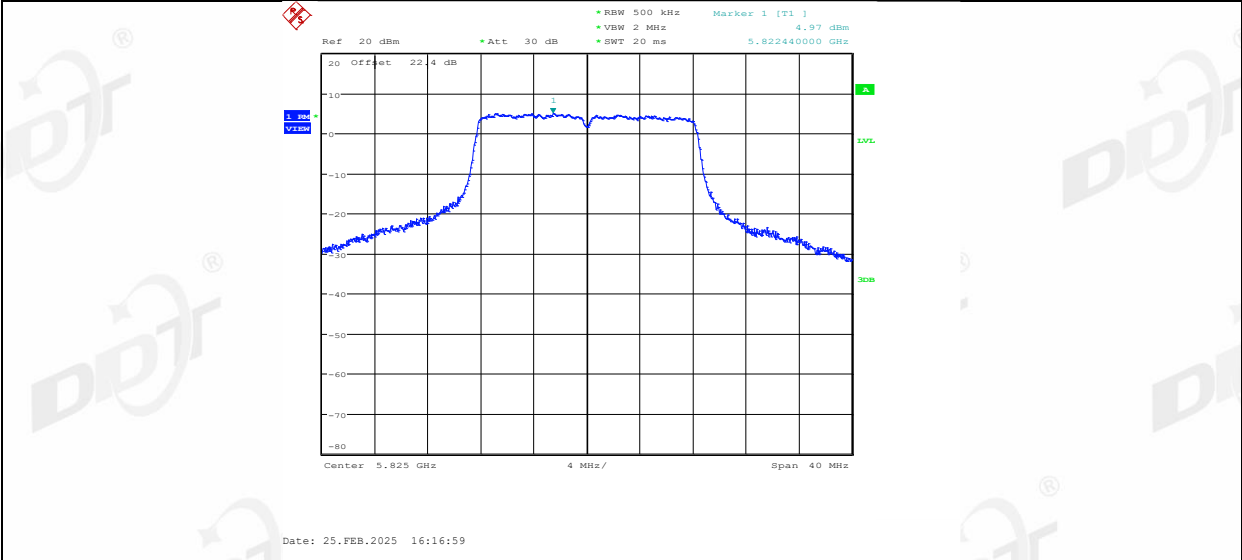
11A Ant1_5745



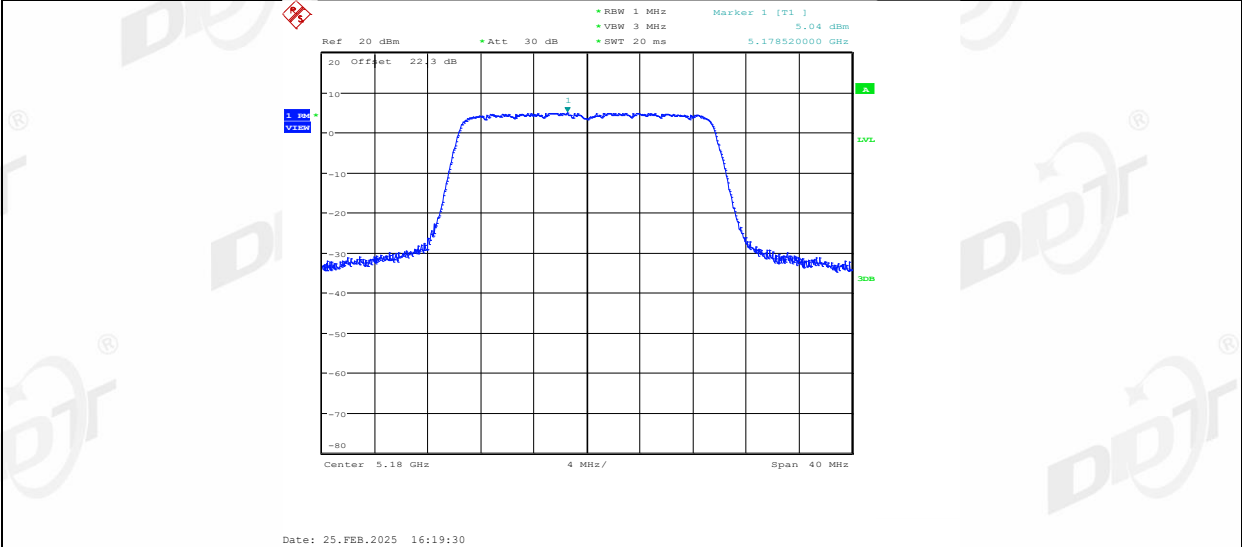
11A Ant1_5785



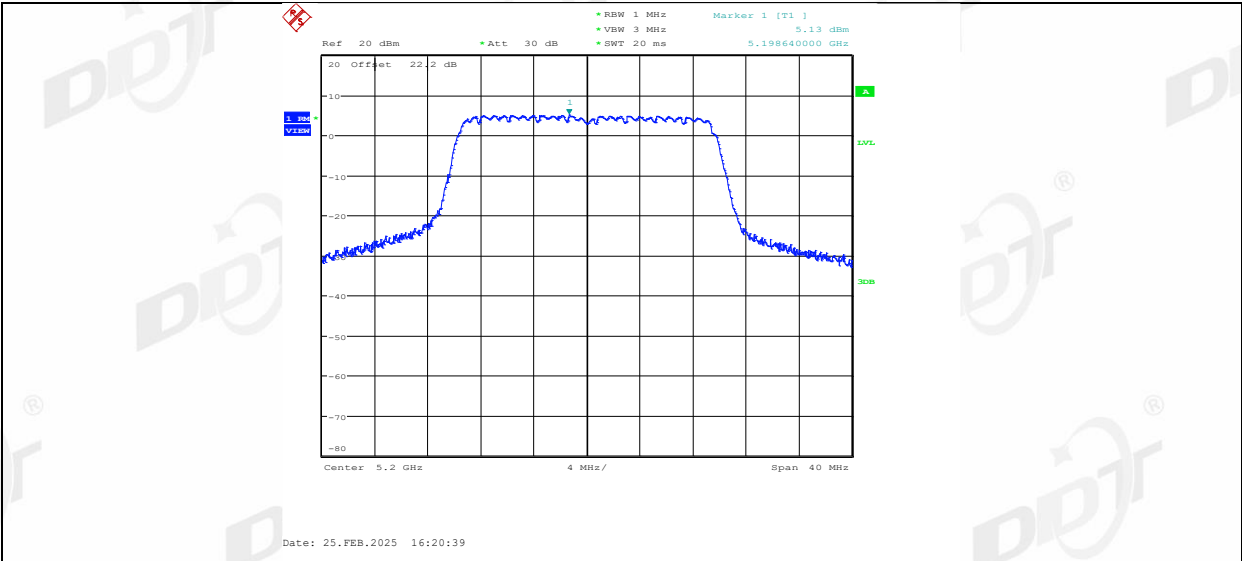
11A_Ant1_5825



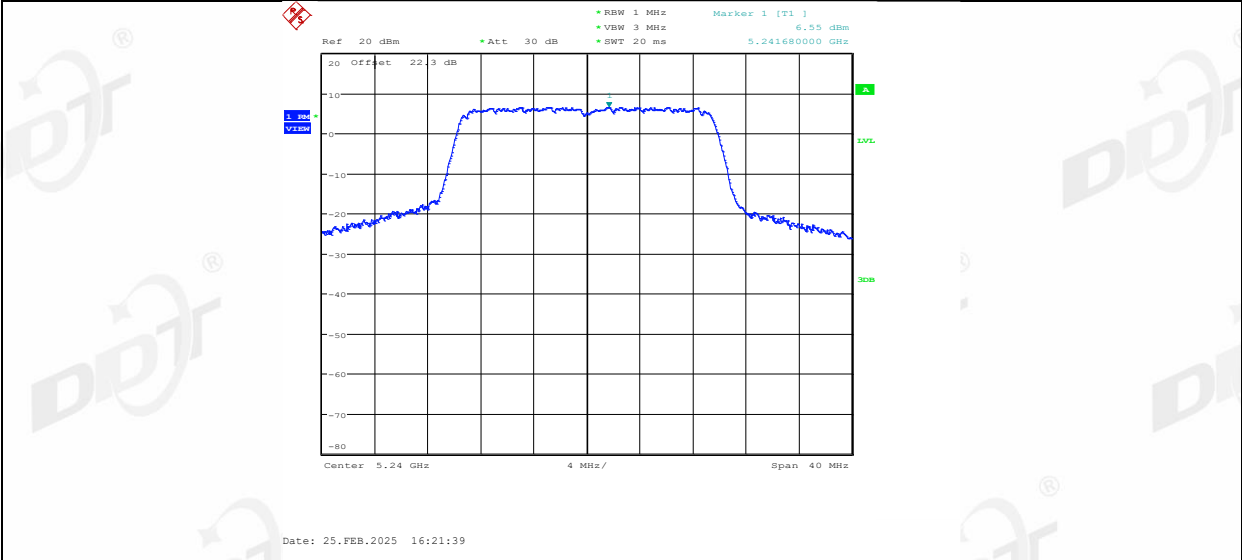
11AX20SISO_Ant1_5180



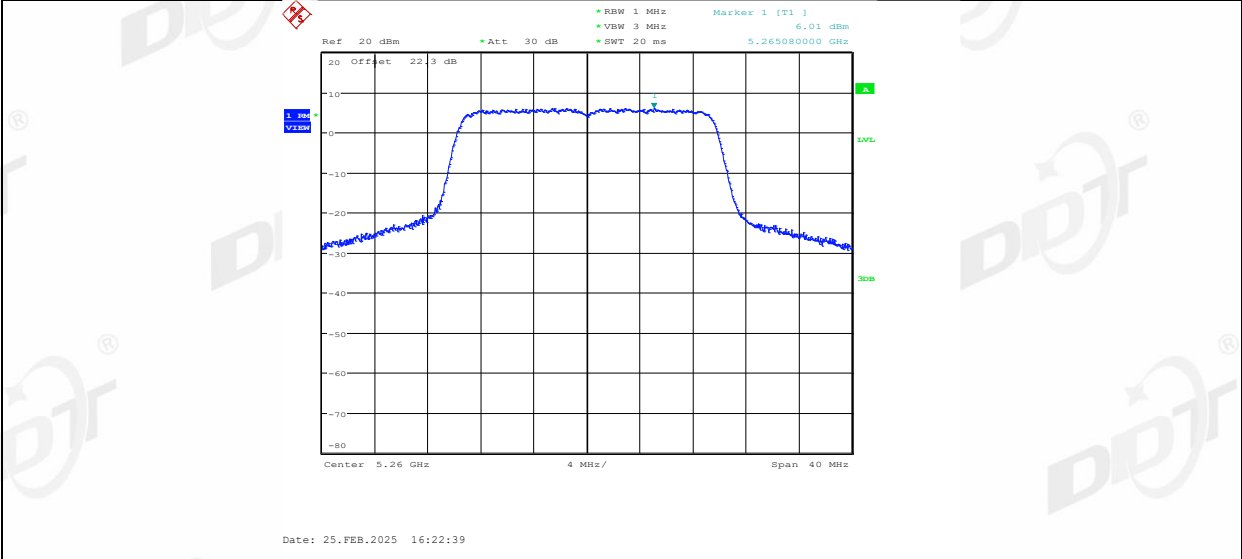
11AX20SISO_Ant1_5200



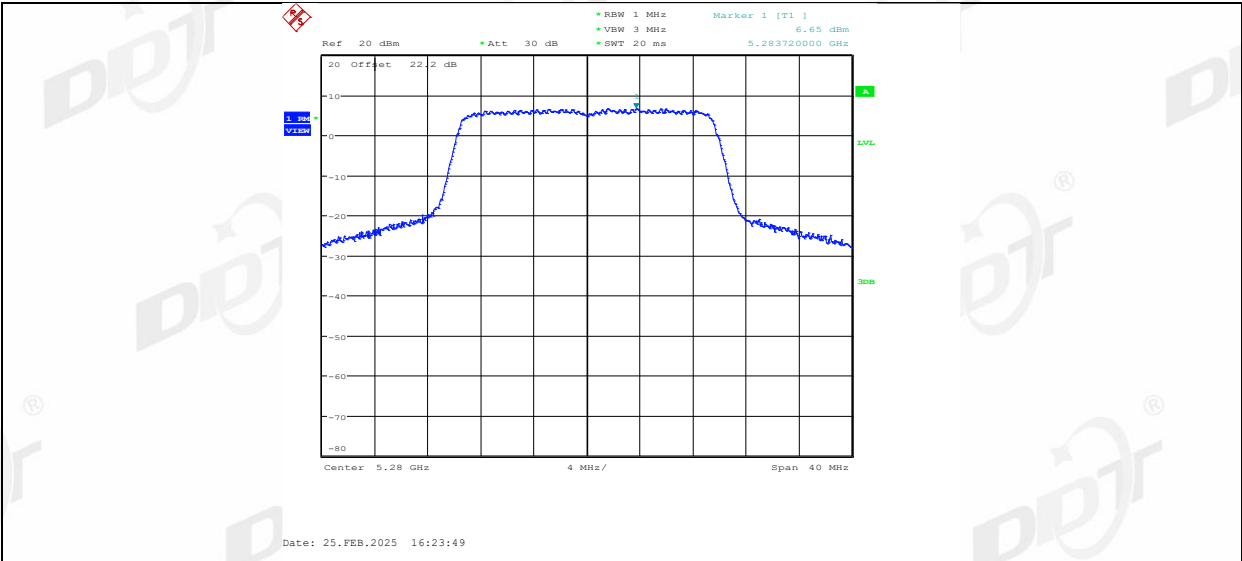
11AX20SISO_Ant1_5240



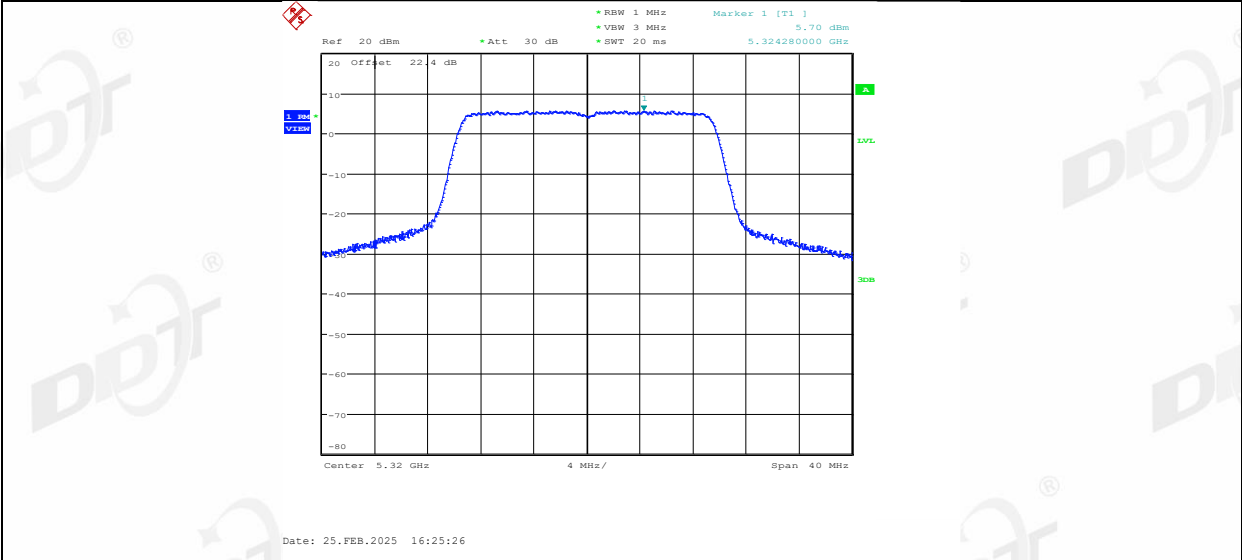
11AX20SISO_Ant1_5260



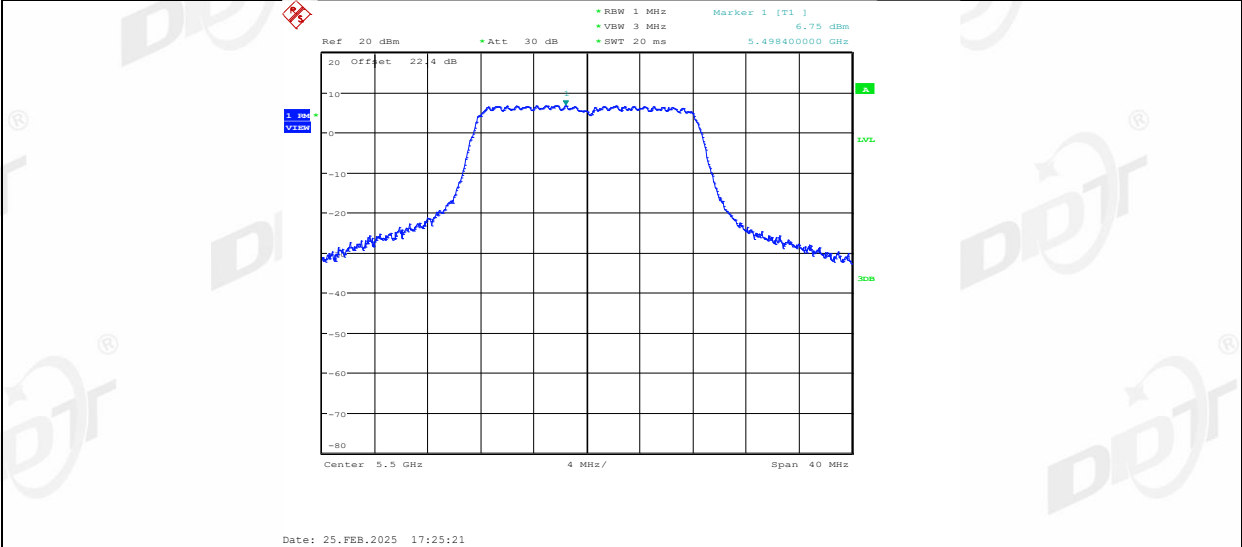
11AX20SISO_Ant1_5280



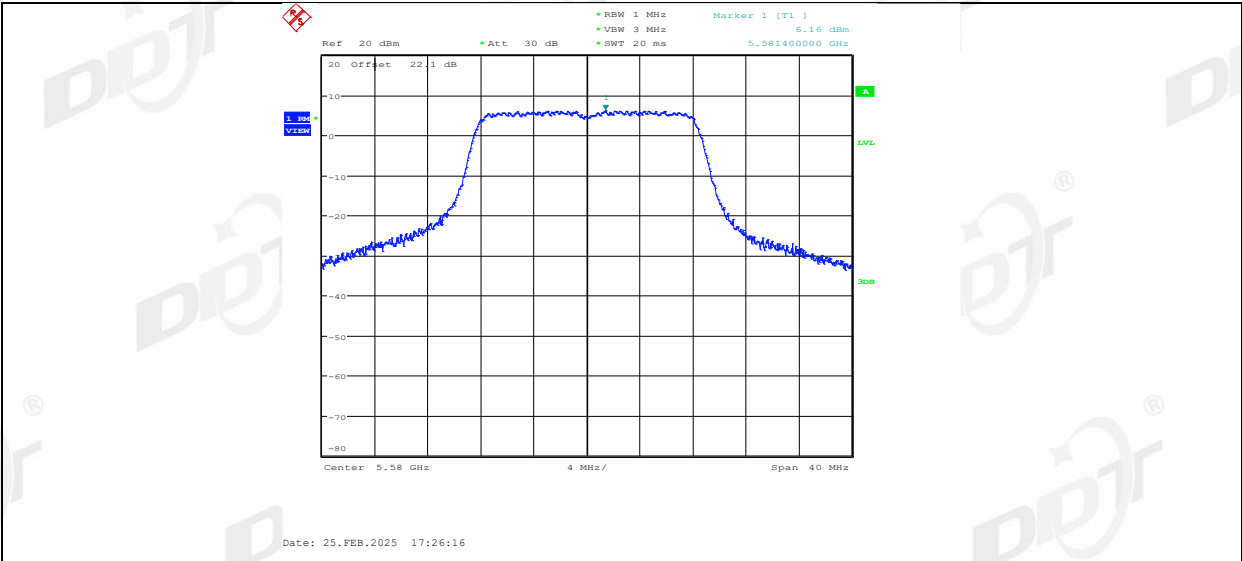
11AX20SISO_Ant1_5320



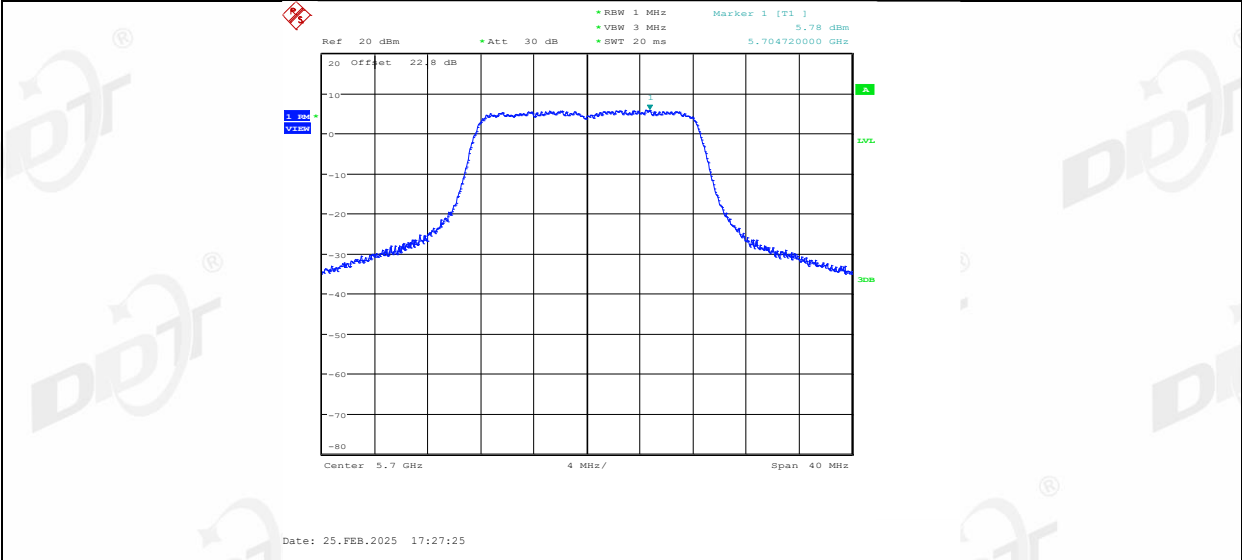
11AX20SISO_Ant1_5500



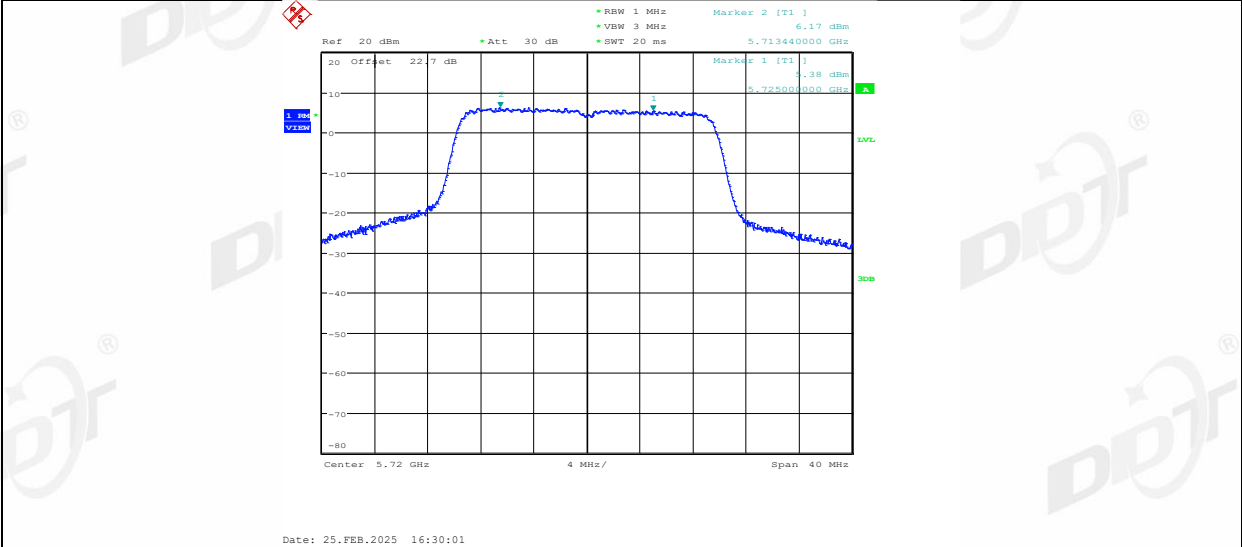
11AX20SISO_Ant1_5580



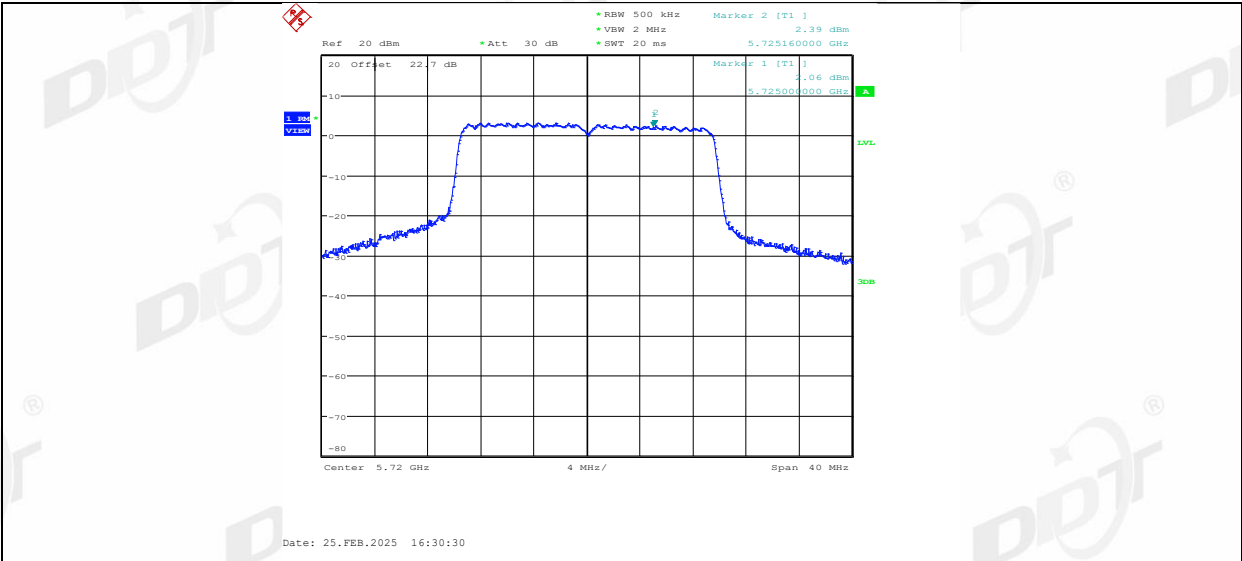
11AX20SISO_Ant1_5700



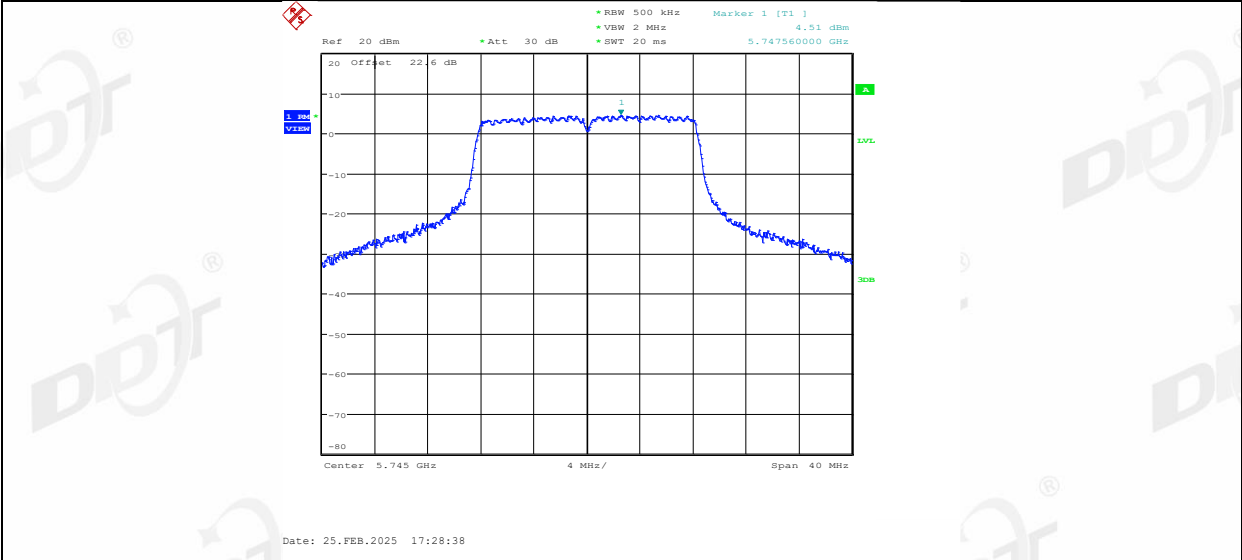
11AX20SISO_Ant1_5720_UNII-2C



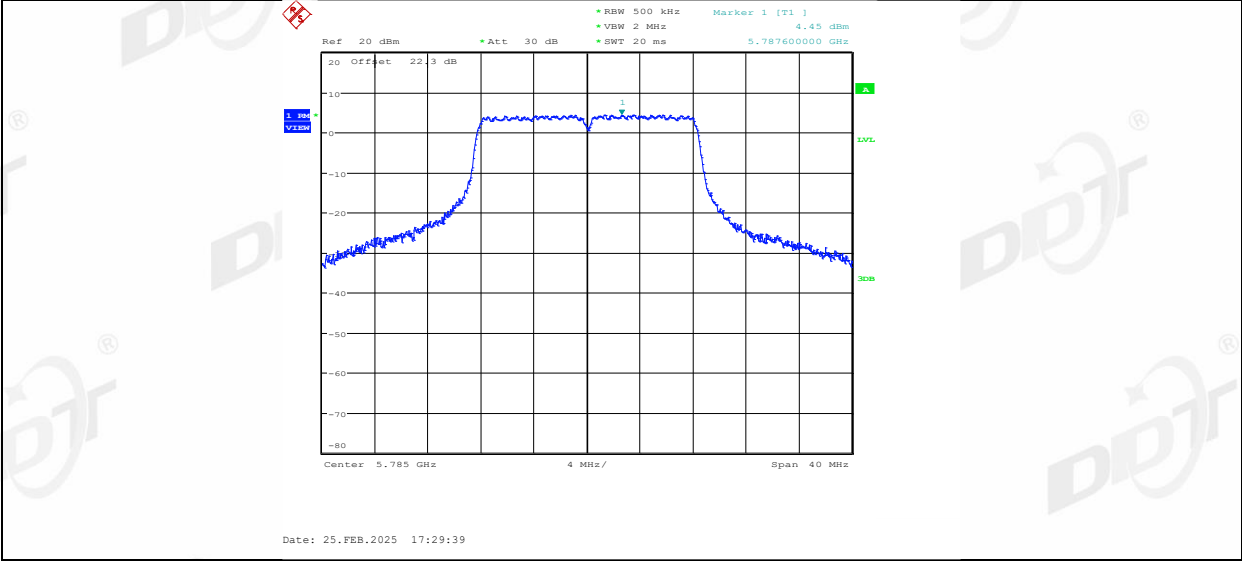
11AX20SISO_Ant1_5720_UNII-3



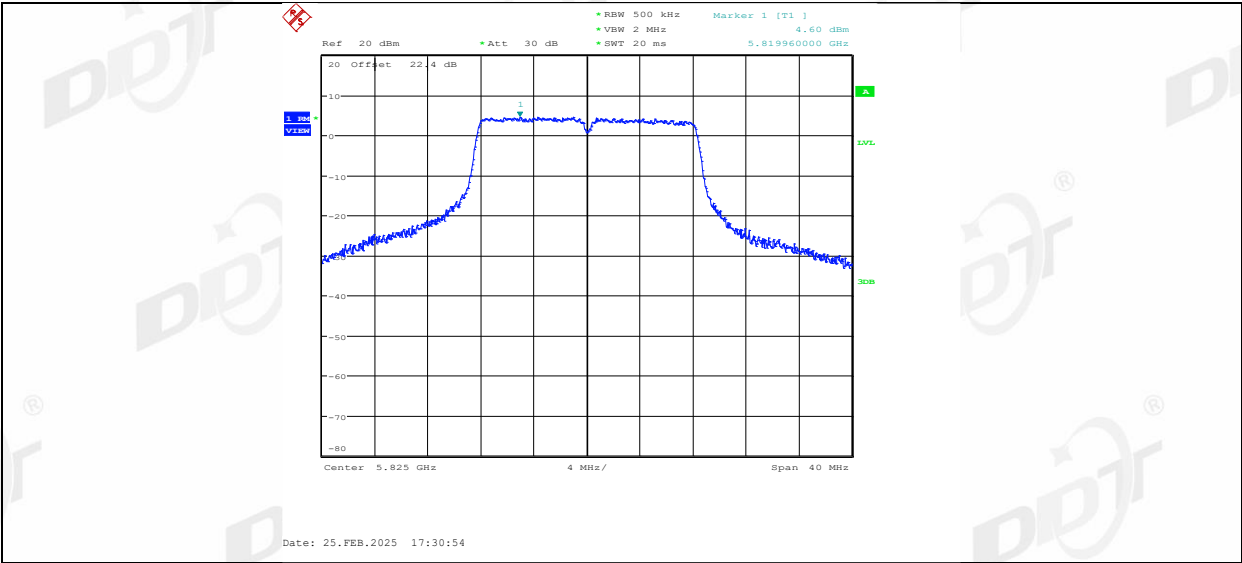
11AX20SISO_Ant1_5745



11AX20SISO_Ant1_5785



11AX20SISO_Ant1_5825



10. Frequency Stability Measurement

10.1. Limit of Frequency Stability

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user’s manual.

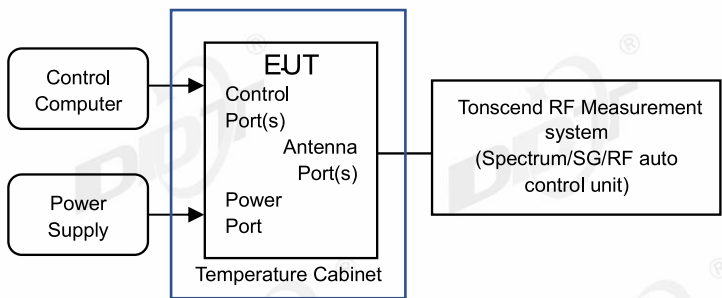
10.2. Measuring Instruments

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

10.3. Test procedures

- (1) To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
- (2) The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10 dB lower than the measured peak value.
- (3) The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

10.4. Test setup



10.5. Test result

Test Engineer:	Zora Zhang	Test Site:	RF Measurement System 1#
Ambient Condition:	24.9℃,54%RH	Test Date:	2024.12.03-2025.02.25
Test Power Supply:	AC 120V/60Hz	Sample Number:	S24111520-011

Voltage								
Test Mode	Antenna	Frequency [MHz]	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5180	NV	NT	-20000.00	-3.861004	20	PASS
			LV	NT	-20000.00	-3.861004	20	PASS
			HV	NT	-20000.00	-3.861004	20	PASS
		5200	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	0.00	0.000000	20	PASS
		5240	NV	NT	40000.00	7.633588	20	PASS
			LV	NT	40000.00	7.633588	20	PASS
			HV	NT	40000.00	7.633588	20	PASS
		5260	NV	NT	20000.00	3.802281	20	PASS
			LV	NT	40000.00	7.604563	20	PASS
			HV	NT	40000.00	7.604563	20	PASS
		5280	NV	NT	20000.00	3.787879	20	PASS
			LV	NT	40000.00	7.575758	20	PASS
			HV	NT	40000.00	7.575758	20	PASS
		5320	NV	NT	20000.00	3.759398	20	PASS
			LV	NT	20000.00	3.759398	20	PASS
			HV	NT	40000.00	7.518797	20	PASS
		5500	NV	NT	60000.00	10.909091	20	PASS
			LV	NT	40000.00	7.272727	20	PASS
			HV	NT	60000.00	10.909091	20	PASS
		5580	NV	NT	40000.00	7.168459	20	PASS
			LV	NT	40000.00	7.168459	20	PASS
			HV	NT	60000.00	10.752688	20	PASS
		5700	NV	NT	60000.00	10.526316	20	PASS
			LV	NT	60000.00	10.526316	20	PASS
			HV	NT	40000.00	7.017544	20	PASS
		5720	NV	NT	0.00	0.000000	20	PASS
			LV	NT	0.00	0.000000	20	PASS
			HV	NT	-20000.00	-3.496503	20	PASS
		5745	NV	NT	40000.00	6.962576	20	PASS
			LV	NT	40000.00	6.962576	20	PASS
			HV	NT	20000.00	3.481288	20	PASS
		5785	NV	NT	40000.00	6.914434	20	PASS
			LV	NT	40000.00	6.914434	20	PASS
			HV	NT	40000.00	6.914434	20	PASS
		5825	NV	NT	40000.00	6.866953	20	PASS
			LV	NT	40000.00	6.866953	20	PASS
			HV	NT	40000.00	6.866953	20	PASS
11AX20SISO	Ant1	5180	NV	NT	20000.00	3.861004	20	PASS
			LV	NT	20000.00	3.861004	20	PASS
			HV	NT	20000.00	3.861004	20	PASS
		5200	NV	NT	20000.00	3.846154	20	PASS
			LV	NT	20000.00	3.846154	20	PASS
			HV	NT	20000.00	3.846154	20	PASS
		5240	NV	NT	20000.00	3.816794	20	PASS
			LV	NT	20000.00	3.816794	20	PASS
			HV	NT	20000.00	3.816794	20	PASS
		5260	NV	NT	20000.00	3.802281	20	PASS
			LV	NT	20000.00	3.802281	20	PASS
			HV	NT	20000.00	3.802281	20	PASS
		5280	NV	NT	20000.00	3.787879	20	PASS
			LV	NT	20000.00	3.787879	20	PASS
			HV	NT	20000.00	3.787879	20	PASS

		5320	NV	NT	20000.00	3.759398	20	PASS
			LV	NT	20000.00	3.759398	20	PASS
			HV	NT	20000.00	3.759398	20	PASS
		5500	NV	NT	40000.00	7.272727	20	PASS
			LV	NT	40000.00	7.272727	20	PASS
			HV	NT	40000.00	7.272727	20	PASS
		5580	NV	NT	40000.00	7.168459	20	PASS
			LV	NT	60000.00	10.752688	20	PASS
			HV	NT	60000.00	10.752688	20	PASS
		5700	NV	NT	40000.00	7.017544	20	PASS
			LV	NT	40000.00	7.017544	20	PASS
			HV	NT	40000.00	7.017544	20	PASS
		5745	NV	NT	40000.00	6.962576	20	PASS
			LV	NT	40000.00	6.962576	20	PASS
			HV	NT	40000.00	6.962576	20	PASS
		5785	NV	NT	20000.00	3.457217	20	PASS
			LV	NT	20000.00	3.457217	20	PASS
			HV	NT	20000.00	3.457217	20	PASS
		5825	NV	NT	40000.00	6.866953	20	PASS
			LV	NT	40000.00	6.866953	20	PASS
			HV	NT	40000.00	6.866953	20	PASS

Temperature								
Test Mode	Antenna	Frequency [MHz]	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5180	NV	-30	-20000.00	-3.861004	20	PASS
			NV	-20	-20000.00	-3.861004	20	PASS
			NV	-10	-20000.00	-3.861004	20	PASS
			NV	0	-20000.00	-3.861004	20	PASS
			NV	10	-20000.00	-3.861004	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	-20000.00	-3.861004	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS
		5200	NV	-30	0.00	0.000000	20	PASS
			NV	-20	20000.00	3.846154	20	PASS
			NV	-10	0.00	0.000000	20	PASS
			NV	0	20000.00	3.846154	20	PASS
			NV	10	0.00	0.000000	20	PASS
			NV	20	0.00	0.000000	20	PASS
			NV	30	20000.00	3.846154	20	PASS
			NV	40	20000.00	3.846154	20	PASS
			NV	50	20000.00	3.846154	20	PASS
		5240	NV	-30	40000.00	7.633588	20	PASS
			NV	-20	40000.00	7.633588	20	PASS
			NV	-10	40000.00	7.633588	20	PASS
			NV	0	40000.00	7.633588	20	PASS
			NV	10	40000.00	7.633588	20	PASS
			NV	20	40000.00	7.633588	20	PASS
			NV	30	40000.00	7.633588	20	PASS
			NV	40	20000.00	3.816794	20	PASS
			NV	50	20000.00	3.816794	20	PASS
		5260	NV	-30	20000.00	3.802281	20	PASS
			NV	-20	40000.00	7.604563	20	PASS
			NV	-10	20000.00	3.802281	20	PASS
			NV	0	40000.00	7.604563	20	PASS
			NV	10	40000.00	7.604563	20	PASS
			NV	20	40000.00	7.604563	20	PASS
			NV	30	60000.00	11.406844	20	PASS
			NV	40	20000.00	3.802281	20	PASS
			NV	50	20000.00	3.802281	20	PASS
		5280	NV	-30	40000.00	7.575758	20	PASS
			NV	-20	40000.00	7.575758	20	PASS
			NV	-10	40000.00	7.575758	20	PASS

			NV	0	40000.00	7.575758	20	PASS
			NV	10	40000.00	7.575758	20	PASS
			NV	20	40000.00	7.575758	20	PASS
			NV	30	40000.00	7.575758	20	PASS
			NV	40	20000.00	3.787879	20	PASS
		5320	NV	50	40000.00	7.575758	20	PASS
			NV	-30	40000.00	7.518797	20	PASS
			NV	-20	40000.00	7.518797	20	PASS
			NV	-10	40000.00	7.518797	20	PASS
			NV	0	40000.00	7.518797	20	PASS
			NV	10	40000.00	7.518797	20	PASS
		5500	NV	20	40000.00	7.518797	20	PASS
			NV	30	20000.00	3.759398	20	PASS
			NV	40	40000.00	7.518797	20	PASS
			NV	50	20000.00	3.759398	20	PASS
			NV	-30	40000.00	7.272727	20	PASS
			NV	-20	40000.00	7.272727	20	PASS
		5580	NV	-10	40000.00	7.272727	20	PASS
			NV	0	40000.00	7.272727	20	PASS
			NV	10	40000.00	7.272727	20	PASS
			NV	20	40000.00	7.272727	20	PASS
			NV	30	60000.00	10.909091	20	PASS
			NV	40	40000.00	7.272727	20	PASS
		5700	NV	50	40000.00	7.272727	20	PASS
			NV	-30	40000.00	7.168459	20	PASS
			NV	-20	20000.00	3.584229	20	PASS
			NV	-10	40000.00	7.168459	20	PASS
			NV	0	60000.00	10.752688	20	PASS
			NV	10	40000.00	7.168459	20	PASS
		5720	NV	20	40000.00	7.168459	20	PASS
			NV	30	40000.00	7.168459	20	PASS
			NV	40	40000.00	7.168459	20	PASS
			NV	50	40000.00	7.168459	20	PASS
			NV	-30	40000.00	7.017544	20	PASS
			NV	-20	60000.00	10.526316	20	PASS
		5745	NV	-10	40000.00	7.017544	20	PASS
			NV	0	40000.00	7.017544	20	PASS
			NV	10	40000.00	7.017544	20	PASS
			NV	20	60000.00	10.526316	20	PASS
			NV	30	40000.00	7.017544	20	PASS
			NV	40	40000.00	7.017544	20	PASS
		5785	NV	50	40000.00	7.017544	20	PASS
			NV	-30	0.00	0.000000	20	PASS
			NV	-20	-20000.00	-3.496503	20	PASS
			NV	-10	0.00	0.000000	20	PASS
			NV	0	0.00	0.000000	20	PASS
			NV	10	0.00	0.000000	20	PASS
		5785	NV	20	0.00	0.000000	20	PASS
			NV	30	0.00	0.000000	20	PASS
			NV	40	0.00	0.000000	20	PASS
			NV	50	0.00	0.000000	20	PASS
			NV	-30	40000.00	6.962576	20	PASS
			NV	-20	40000.00	6.962576	20	PASS
			NV	-10	40000.00	6.962576	20	PASS
			NV	0	40000.00	6.962576	20	PASS
			NV	10	40000.00	6.962576	20	PASS
			NV	20	40000.00	6.962576	20	PASS
			NV	30	40000.00	6.962576	20	PASS
			NV	40	40000.00	6.962576	20	PASS
			NV	50	40000.00	6.962576	20	PASS
			NV	-30	40000.00	6.914434	20	PASS
			NV	-20	40000.00	6.914434	20	PASS
			NV	-10	40000.00	6.914434	20	PASS
			NV	0	40000.00	6.914434	20	PASS

11AX20SISO	Ant1	5825	NV	10	40000.00	6.914434	20	PASS
			NV	20	40000.00	6.914434	20	PASS
			NV	30	40000.00	6.914434	20	PASS
			NV	40	40000.00	6.914434	20	PASS
			NV	50	20000.00	3.457217	20	PASS
			NV	-30	40000.00	6.866953	20	PASS
			NV	-20	40000.00	6.866953	20	PASS
			NV	-10	40000.00	6.866953	20	PASS
			NV	0	40000.00	6.866953	20	PASS
			NV	10	40000.00	6.866953	20	PASS
			NV	20	40000.00	6.866953	20	PASS
			NV	30	40000.00	6.866953	20	PASS
			NV	40	40000.00	6.866953	20	PASS
			NV	50	40000.00	6.866953	20	PASS
		5180	NV	-30	20000.00	3.861004	20	PASS
			NV	-20	20000.00	3.861004	20	PASS
			NV	-10	20000.00	3.861004	20	PASS
			NV	0	20000.00	3.861004	20	PASS
			NV	10	20000.00	3.861004	20	PASS
			NV	20	20000.00	3.861004	20	PASS
			NV	30	20000.00	3.861004	20	PASS
			NV	40	20000.00	3.861004	20	PASS
			NV	50	20000.00	3.861004	20	PASS
		5200	NV	-30	20000.00	3.846154	20	PASS
			NV	-20	20000.00	3.846154	20	PASS
			NV	-10	20000.00	3.846154	20	PASS
			NV	0	20000.00	3.846154	20	PASS
			NV	10	20000.00	3.846154	20	PASS
			NV	20	20000.00	3.846154	20	PASS
			NV	30	20000.00	3.846154	20	PASS
			NV	40	20000.00	3.846154	20	PASS
			NV	50	20000.00	3.846154	20	PASS
		5240	NV	-30	20000.00	3.816794	20	PASS
			NV	-20	20000.00	3.816794	20	PASS
			NV	-10	20000.00	3.816794	20	PASS
			NV	0	20000.00	3.816794	20	PASS
			NV	10	20000.00	3.816794	20	PASS
			NV	20	20000.00	3.816794	20	PASS
			NV	30	20000.00	3.816794	20	PASS
			NV	40	20000.00	3.816794	20	PASS
			NV	50	20000.00	3.816794	20	PASS
		5260	NV	-30	40000.00	7.604563	20	PASS
			NV	-20	40000.00	7.604563	20	PASS
			NV	-10	20000.00	3.802281	20	PASS
			NV	0	20000.00	3.802281	20	PASS
			NV	10	20000.00	3.802281	20	PASS
			NV	20	20000.00	3.802281	20	PASS
			NV	30	20000.00	3.802281	20	PASS
			NV	40	20000.00	3.802281	20	PASS
		5280	NV	50	20000.00	3.802281	20	PASS
			NV	-30	20000.00	3.787879	20	PASS
			NV	-20	20000.00	3.787879	20	PASS
			NV	-10	20000.00	3.787879	20	PASS
			NV	0	20000.00	3.787879	20	PASS
			NV	10	40000.00	7.575758	20	PASS
			NV	20	20000.00	3.787879	20	PASS
			NV	30	20000.00	3.787879	20	PASS
		5320	NV	40	20000.00	3.787879	20	PASS
			NV	50	20000.00	3.787879	20	PASS
			NV	-30	20000.00	3.759398	20	PASS
			NV	-20	20000.00	3.759398	20	PASS
			NV	-10	20000.00	3.759398	20	PASS
			NV	0	20000.00	3.759398	20	PASS
			NV	10	20000.00	3.759398	20	PASS

			NV	20	20000.00	3.759398	20	PASS
			NV	30	20000.00	3.759398	20	PASS
			NV	40	40000.00	7.518797	20	PASS
			NV	50	20000.00	3.759398	20	PASS
		5500	NV	-30	40000.00	7.272727	20	PASS
			NV	-20	40000.00	7.272727	20	PASS
			NV	-10	40000.00	7.272727	20	PASS
			NV	0	40000.00	7.272727	20	PASS
			NV	10	40000.00	7.272727	20	PASS
			NV	20	40000.00	7.272727	20	PASS
			NV	30	40000.00	7.272727	20	PASS
			NV	40	40000.00	7.272727	20	PASS
			NV	50	40000.00	7.272727	20	PASS
		5580	NV	-30	60000.00	10.752688	20	PASS
			NV	-20	60000.00	10.752688	20	PASS
			NV	-10	60000.00	10.752688	20	PASS
			NV	0	60000.00	10.752688	20	PASS
			NV	10	60000.00	10.752688	20	PASS
			NV	20	40000.00	7.168459	20	PASS
			NV	30	40000.00	7.168459	20	PASS
			NV	40	60000.00	10.752688	20	PASS
			NV	50	40000.00	7.168459	20	PASS
		5700	NV	-30	40000.00	7.017544	20	PASS
			NV	-20	40000.00	7.017544	20	PASS
			NV	-10	40000.00	7.017544	20	PASS
			NV	0	40000.00	7.017544	20	PASS
			NV	10	40000.00	7.017544	20	PASS
			NV	20	40000.00	7.017544	20	PASS
			NV	30	40000.00	7.017544	20	PASS
			NV	40	40000.00	7.017544	20	PASS
			NV	50	40000.00	7.017544	20	PASS
		5745	NV	-30	40000.00	6.962576	20	PASS
			NV	-20	40000.00	6.962576	20	PASS
			NV	-10	20000.00	3.481288	20	PASS
			NV	0	40000.00	6.962576	20	PASS
			NV	10	40000.00	6.962576	20	PASS
			NV	20	40000.00	6.962576	20	PASS
			NV	30	40000.00	6.962576	20	PASS
			NV	40	20000.00	3.481288	20	PASS
			NV	50	40000.00	6.962576	20	PASS
		5785	NV	-30	20000.00	3.457217	20	PASS
			NV	-20	40000.00	6.914434	20	PASS
			NV	-10	40000.00	6.914434	20	PASS
			NV	0	40000.00	6.914434	20	PASS
			NV	10	20000.00	3.457217	20	PASS
			NV	20	20000.00	3.457217	20	PASS
			NV	30	40000.00	6.914434	20	PASS
			NV	40	40000.00	6.914434	20	PASS
			NV	50	40000.00	6.914434	20	PASS
		5825	NV	-30	40000.00	6.866953	20	PASS
			NV	-20	40000.00	6.866953	20	PASS
			NV	-10	40000.00	6.866953	20	PASS
			NV	0	40000.00	6.866953	20	PASS
			NV	10	40000.00	6.866953	20	PASS
			NV	20	40000.00	6.866953	20	PASS
			NV	30	40000.00	6.866953	20	PASS
			NV	40	40000.00	6.866953	20	PASS
			NV	50	40000.00	6.866953	20	PASS

11. Antenna Requirements

11.1. Limit

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For intentional device, according to RSS-Gen issue 5 section 6.8.

The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list.

11.2. Result

The antenna used for this product as Antenna information described in section 2.1 of the report, and there is no other antenna than that furnished by the responsible party shall be used with the device.

12.Radiated Emission

12.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal Due To
RF cable	Yuhu Technology	ZT26S-SMAJ-SMAJ-1M	DDT-ZC02037	2025/03/31
RF cable	Zhongke Junchuang	JCT26S-NJ-NJ-1.5M	DDT-ZC02762	2025/03/31
Micro-Tronics filters	REBES	BRM50716	DDT-ZC03240	/
RF cable	Yuhu Technology	JCTB810-NJ-NJ-9M	DDT-ZC02538	2025/03/31
RF Cable	N/A	W13.02 AP1-X2	DDT-ZC04023	2025/03/31
High pass filter	Micro-Tronics	HPM50102	DDT-ZC00561	2025/04/22
High Pass filter	Xi'an Xingbo	XBLBQ-GTA67	DDT-ZC02179	2025/04/22
Trilog Broadband Antenna	Schwarzbeck	VULB 9163	DDT-ZC02050	2025/07/11
Pre-amplifier	COM-POWER	PAM-118A	DDT-ZC01293	2025/08/25
PSA Series Spectrum Analyzer	Agilent	E4447A	DDT-ZC00517	2025/03/31
Active Loop Antenna	Schwarzbeck	FMZB1519	DDT-ZC00524	2025/09/11
RF Cable	N/A	W24.02 HL-562	DDT-ZC04022	2025/03/31
Micro-Tronics filters	REBES	BRM50702	DDT-ZC03242	/
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	DDT-ZC00506	2025/04/26
Pre-amplifier	COM-POWER	PAM-840A	DDT-ZC01693	2025/03/31
EMI TEST RECEIVER	R&S	ESU26	DDT-ZC01909	2025/03/31
High pass filter	Micro-Tronics	HPM50108	DDT-ZC00560	2025/04/22
Hochgewinn-Hornantenne	SCHWARZBEC K	BBHA 9120 D	DDT-ZC02129	2025/09/18

12.2. Block diagram of test setup

