FCC CERTIFICATION TEST REPORT

Applicant	:	Shenzhen SDMC Technology Co., Ltd.
Address of Applicant	:	Room 1022, Floor 10, Building A, Customs Building, No. 2, Xin'an 3rd Road, Dalang Community, Xin'an Street, Bao'an District, Shenzhen, China
Manufacturer	:	Shenzhen SDMC Technology Co., Ltd.
Address of Manufacturer	:	Room 1022, Floor 10, Building A, Customs Building, No. 2, Xin'an 3rd Road, Dalang Community, Xin'an Street, Bao'an District, Shenzhen, China
Equipment under Test	:	4K OTT BOX
Model No.	:	DV9187
FCC ID	:	2AW68-DV9187
Test Standard(s)	:	FCC Rules and Regulations Part 15 Subpart C, ANSI C63.10:2013
Report No.	:	DDT-RE24062520-1E03
Issue Date	:	2024/07/25
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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Equipment under Test	:	4K OTT BOX
Model No.	:	DV9187
Manufacturer	:	Shenzhen SDMC Technology Co., Ltd.
Address of Manufacturer	:	Room 1022, Floor 10, Building A, Customs Building, No. 2, Xin'an 3rd Road, Dalang Community, Xin'an Street, Bao'an District, Shenzhen, China

Test Standard Used:

FCC Rules and Regulations Part 15 Subpart C,
ANSI C63.10:2013

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-RE24062520-1E03		
Date of Receipt:	2024/07/02	**Date of Test:**	2024/07/02~2024/07/25

Prepared By:	**Approved By:**
Tiger Mo	Damon Hu
Tiger Mo/Engineer	**Damon Hu/EMC Manager**

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	2024/07/25	

1. Summary of Test Results

No.	Test Parameter	Clause No.	Condition	Result
1	6 dB Bandwidth and 99% Bandwidth	FCC Part 15: 15.247(a)(2)	/	Pass
2	Peak Output Power	FCC Part 15: 15.247(b)(3)	/	Pass
3	Power Spectral Density	FCC Part 15:15.247(e)	/	Pass
4	RF Conducted Spurious Emissions	FCC Part 15: 15.247(d)	/	Pass
5	Radiated Emission	FCC Part 15: 15.205, FCC Part 15: 15.209, FCC Part 15: 15.247(d)	/	Pass
6	Band Edge Compliance	FCC Part 15: 15.205, FCC Part 15: 15.209, FCC Part 15: 15.247(d)	/	Pass
7	Power Line Conducted Emissions	FCC Part 15: 15.207(a)	/	Pass
8	Antenna Requirement	FCC Part 15: 15.203	/	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	:	4K OTT BOX
Model Number	:	DV9187
EUT Function Description	:	Please reference user manual of this device
Power Supply	:	DC 12V powered by an external adapter

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

Radio Technology	:	IEEE 802.11b/g/n
Operation frequency	:	IEEE 802.11b: 2412MHz-2462MHz IEEE 802.11g: 2412MHz-2462MHz IEEE 802.11n HT20: 2412MHz-2462MHz IEEE 802.11n HT40: 2422MHz-2452MHz
Modulation	:	IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK)

Antenna information				
Antenna Type	PIFA			
Max Antenna Gain(dBi)		Ant1 gain	Ant2 gain	Directional gain
	IEEE 802.11b	3.64	3.64	/
	IEEE 802.11g	3.64	3.64	/
	IEEE 802.11n HT20	3.64	3.64	6.65
	IEEE 802.11n HT40	3.64	3.64	6.65
Note: The EUT supports MIMO 2X2, any transmit signals are correlated with each other. So the Directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2/2$] =6.65dBi				

Channel information					
CH	Frequency (MHz)	CH	Frequency (MHz)	CH	Frequency (MHz)
1	2412	5	2432	9	2452
2	2417	6	2437	10	2457
3	2422	7	2442	11	2462
4	2427	8	2447	/	/

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
Remoted controller	/	/	Infrared/Bluetooth/voice
HDMI cable	/	/	Length: 1.50m, Shielded
AV cable	/	/	Length: 1.20m, Unshielded
Adapter	CHENZHOU FRECOM	F12L33-120100SPAU	Input: 100-240V~ 50/60Hz 0.3A Output: DC 12.0V/1.0A 12.0W
Internet cable	/	/	Length: 1.50m, Unshielded

2.3. Block diagram of EUT configuration for test

Configuration diagram

2.4. Decision of final test mode

According pre-test, the worst test modes were reported as below:
Test software: adb.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: 0.5dB (According to the manufacturer's claims)

Tested mode, channel, and data rate information					
Mode	Setting Tx Power		Data rate (Mbps) (see Note)	Channel	Frequency (MHz)
	ANT1	ANT2			
IEEE 802.11b	90	96	1	LCH: CH1	2412
	90	96	1	MCH: CH6	2437
	90	96	1	HCH: CH11	2462
IEEE 802.11g	60	70	6	LCH: CH1	2412
	60	70	6	MCH: CH6	2437
	60	70	6	HCH: CH11	2462
IEEE 802.11n HT20	65	65	MCS 8	LCH: CH1	2412
	65	65	MCS 8	MCH: CH6	2437
	65	65	MCS 8	HCH: CH11	2462
IEEE 802.11n HT40	60	60	MCS 8	LCH: CH3	2422
	60	60	MCS 8	MCH: CH6	2437
	60	60	MCS 8	HCH: CH9	2452
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℃ to +35 ℃
Humidity range:	20% to 75%
Pressure range:	86 kPa to106 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-20155, G-20118

2.8. Measurement uncertainty

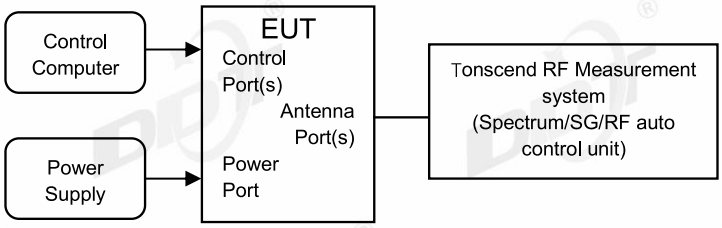
Test Item	Uncertainty
Bandwidth	1.1%
Peak Output Power (Conducted) (Spectrum analyzer)	0.86 dB (10 MHz ≤ f < 3.6 GHz);
	1.38 dB (3.6 GHz ≤ f < 8 GHz)
Peak Output Power (Conducted) (Power Sensor)	0.74 dB
Power Spectral Density	0.74 dB (10 MHz ≤ f < 3.6 GHz);
	1.38 dB (3.6 GHz ≤ f < 8 GHz)
Frequencies Stability	6.7 x 10^{-8} (Antenna couple method)
	5.5 x 10^{-8} (Conducted method)
Conducted spurious emissions	0.86 dB (10 MHz ≤ f < 3.6 GHz);
	1.40 dB (3.6 GHz ≤ f < 8 GHz)
	1.66 dB (8 GHz ≤ f < 26.5 GHz)
Uncertainty for radio frequency (RBW < 20 kHz)	3×10^{-8}
Temperature	0.4 ℃
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 3#)				
SIGNAL ANALYZER	R&S	FSV40	101407	2025/07/08
Wideband Radio Communication Tester	R&S	CMW500	117491	2025/03/31
EXG Analog Signal Generator	KEYSIGHT	N5173B	MY62153058	2025/07/08
MXG Vector Signal Generator	Agilent	N5182A	MY48180912	2025/03/31
RF Control Unit	Tonscend	JS0806-2	20C8060230	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. 6dB Bandwidth

4.1. Block diagram of test setup



4.2. Limits

For direct sequence systems, the minimum 6 dB bandwidth shall be at least 500 kHz

4.3. Test procedure

(1) The test according to ANSI C63.10-2013 clause 11.8.
(2) Connect EUT's antenna output to spectrum analyzer by RF cable, the path loss was compensated to the results
(3) Set the EUT as maximum power setting and enable the EUT transmit continuously
(4) Use the following spectrum analyzer settings for 6 dB Bandwidth:

RBW:	100 kHz
VBW:	≥ [3 × RBW]
Detector Mode:	peak
Sweep time:	auto
Trace mode	max hold

Allow the trace to stabilize, measure the 6 dB bandwidth of signal, and record the results in the report

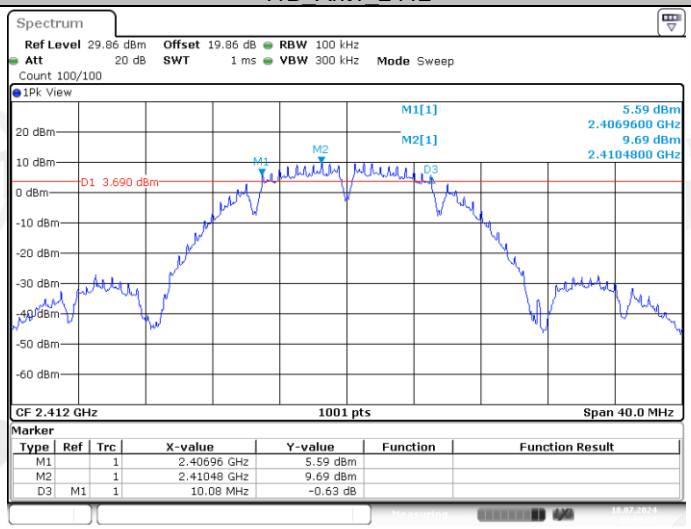
4.4. Test result

Test Engineer:	Zhongyao	Test Site:	RF Measurement System 3#
Ambient Condition:	26.1℃,38.6%RH	Test Date:	2024.07.07-2024.07.19
Test Power Supply:	DC 12V	Sample Number:	S24062520-003

Test Mode	Antenna	Frequency [MHz]	DTS BW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11B	Ant1	2412	10.08	2406.96	2417.04	0.5	PASS
	Ant2	2412	10.08	2406.96	2417.04	0.5	PASS
	Ant1	2437	10.08	2431.96	2442.04	0.5	PASS
	Ant2	2437	10.08	2431.96	2442.04	0.5	PASS
	Ant1	2462	10.08	2456.96	2467.04	0.5	PASS
	Ant2	2462	10.08	2456.96	2467.04	0.5	PASS
11G	Ant1	2412	16.04	2403.88	2419.92	0.5	PASS
	Ant2	2412	16.00	2403.88	2419.88	0.5	PASS
	Ant1	2437	15.84	2429.08	2444.92	0.5	PASS
	Ant2	2437	15.80	2429.08	2444.88	0.5	PASS
	Ant1	2462	15.64	2454.24	2469.88	0.5	PASS
	Ant2	2462	15.64	2454.12	2469.76	0.5	PASS
11N20MIMO	Ant1	2412	16.16	2403.60	2419.76	0.5	PASS
	Ant2	2412	16.56	2403.60	2420.16	0.5	PASS
	Ant1	2437	16.32	2429.08	2445.40	0.5	PASS
	Ant2	2437	16.92	2428.60	2445.52	0.5	PASS
	Ant1	2462	15.56	2454.20	2469.76	0.5	PASS
	Ant2	2462	16.92	2453.84	2470.76	0.5	PASS
11N40MIMO	Ant1	2422	35.12	2404.48	2439.60	0.5	PASS
	Ant2	2422	35.12	2404.48	2439.60	0.5	PASS
	Ant1	2437	35.20	2419.40	2454.60	0.5	PASS
	Ant2	2437	35.20	2419.40	2454.60	0.5	PASS
	Ant1	2452	35.12	2434.48	2469.60	0.5	PASS
	Ant2	2452	35.12	2434.48	2469.60	0.5	PASS

4.5. Test graphs

11B_Ant1_2412



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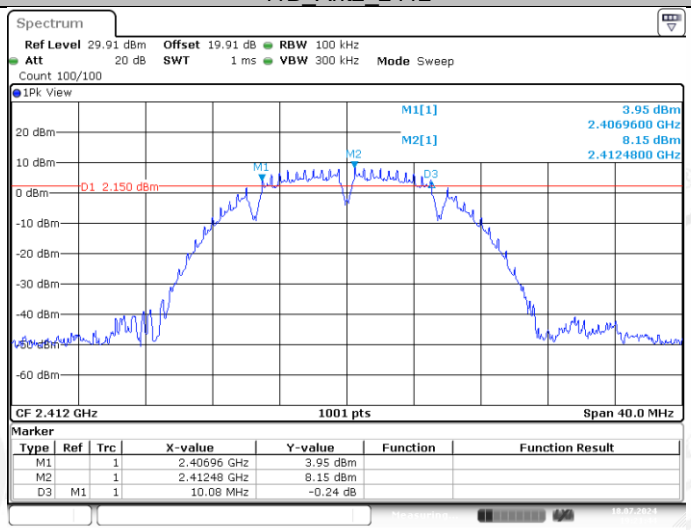

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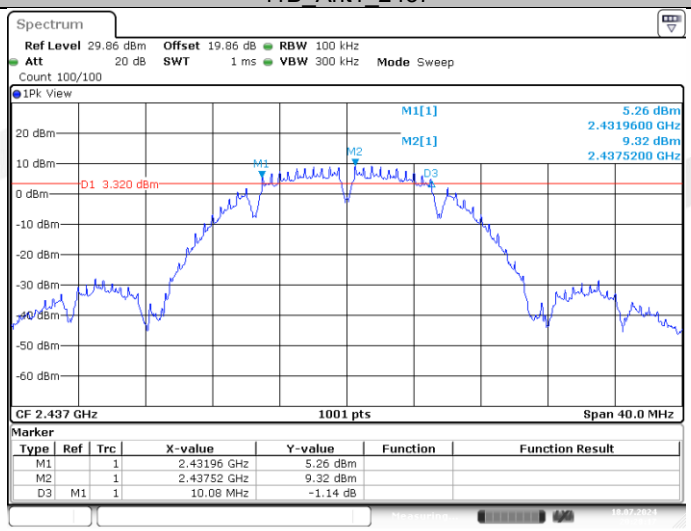

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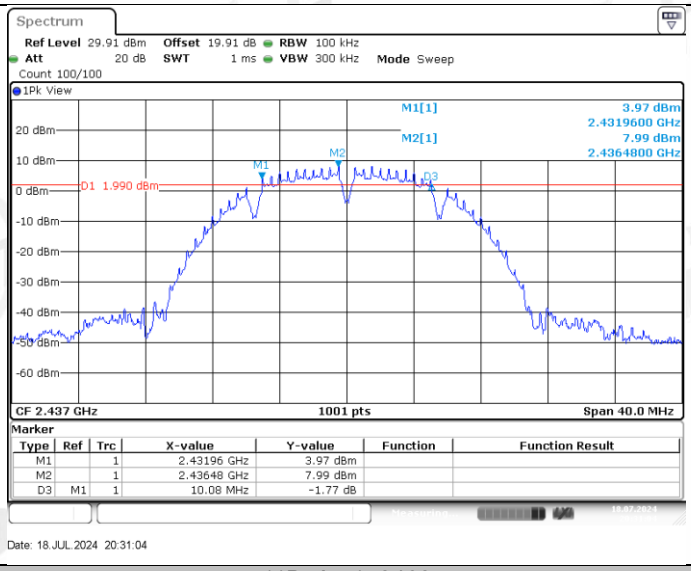

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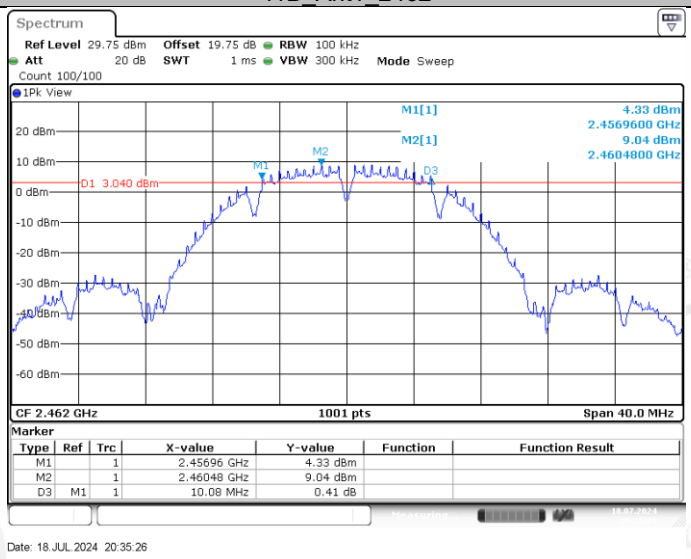

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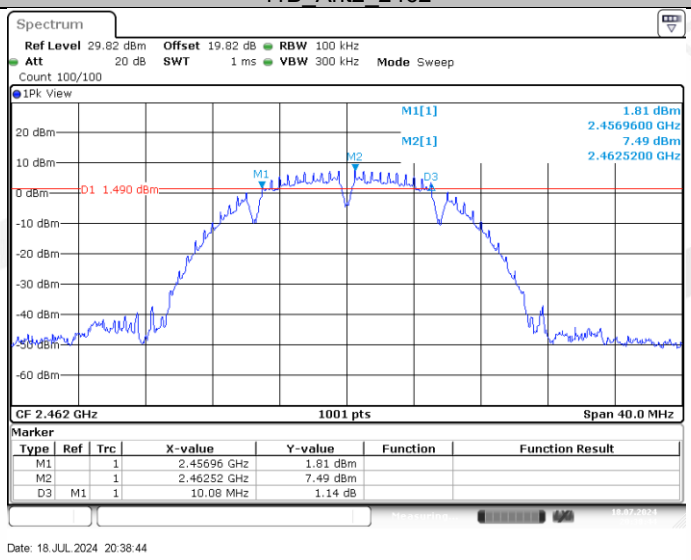

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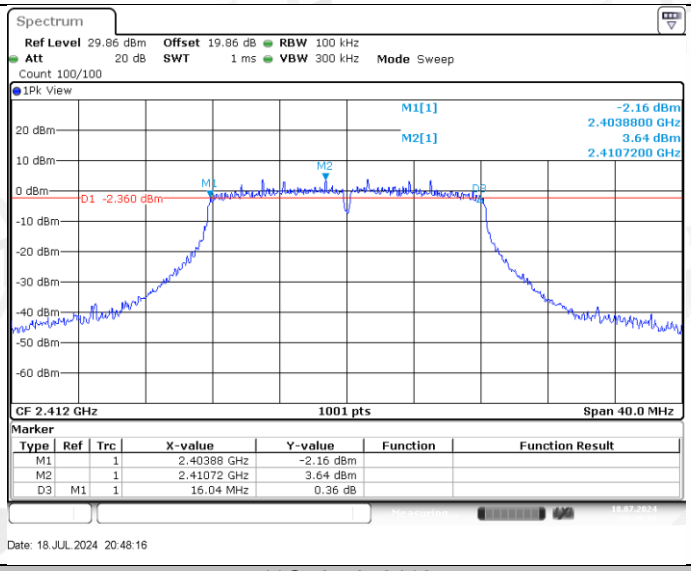

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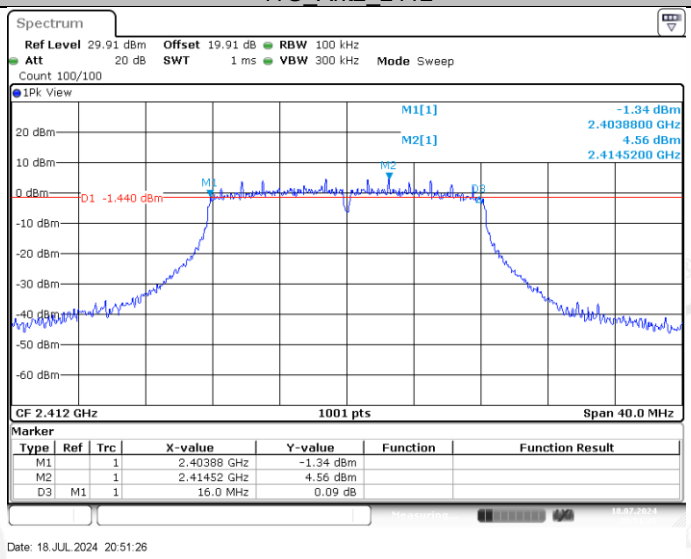

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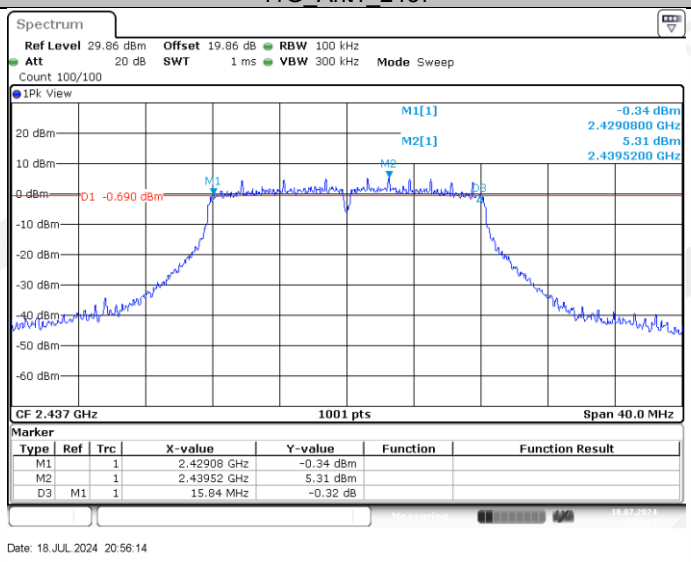

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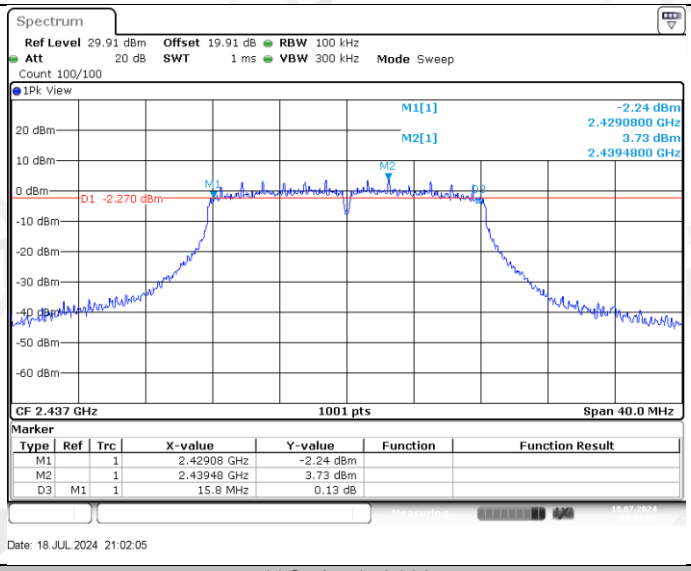

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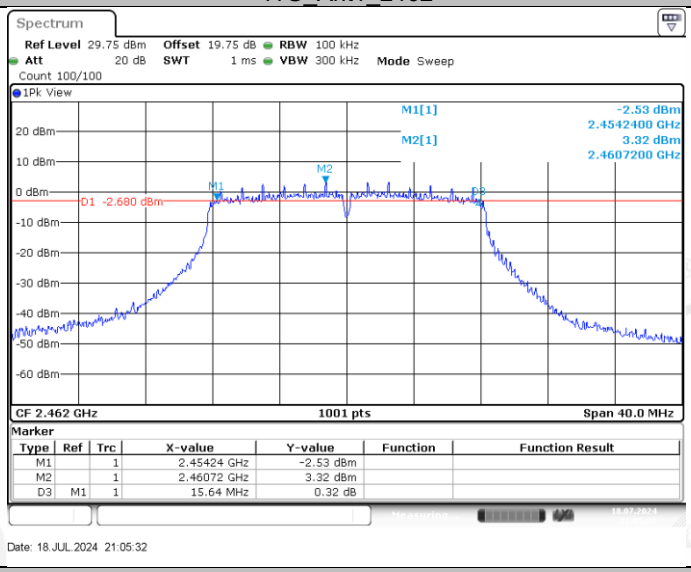

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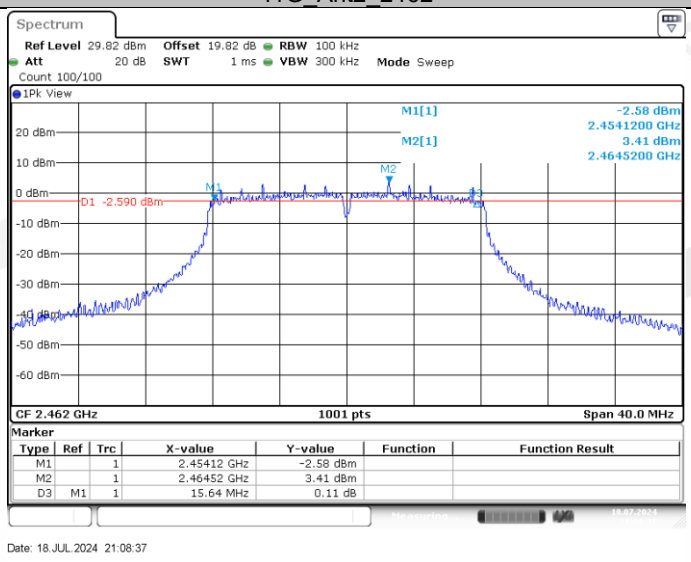

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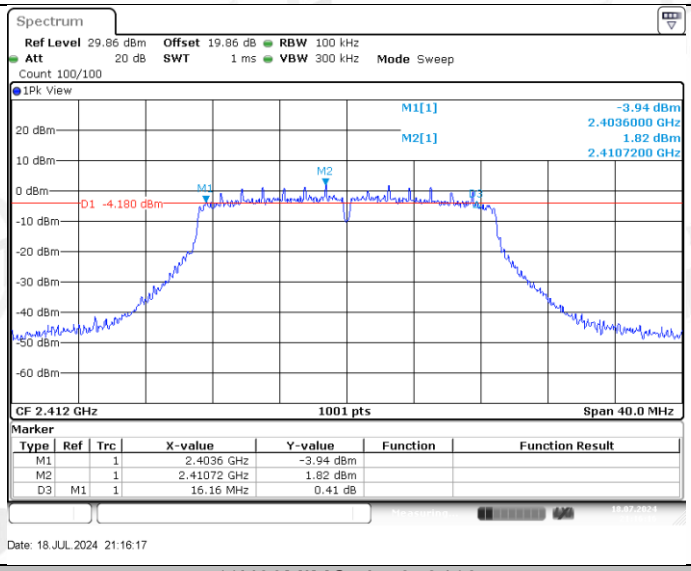

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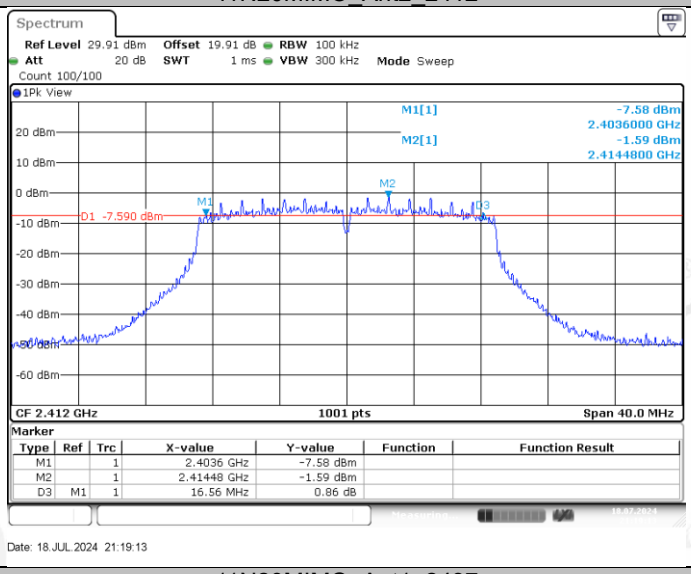

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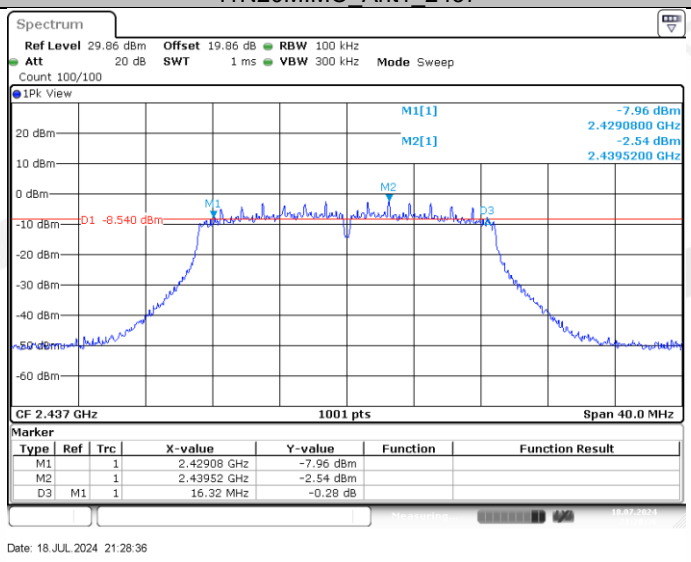

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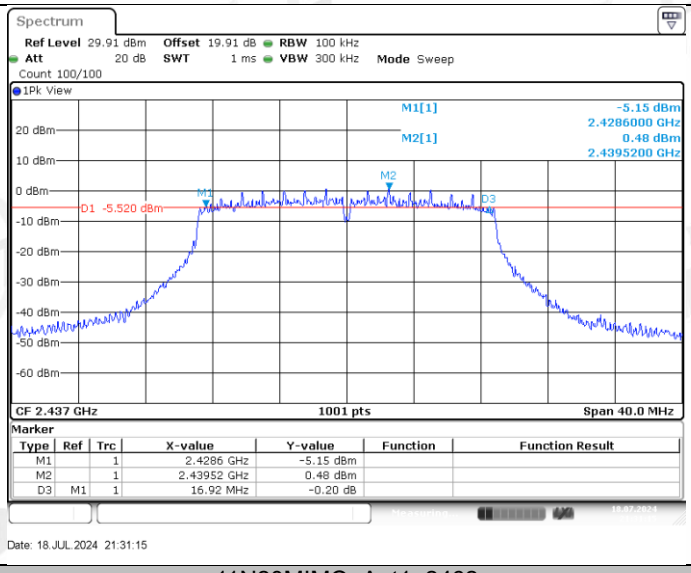

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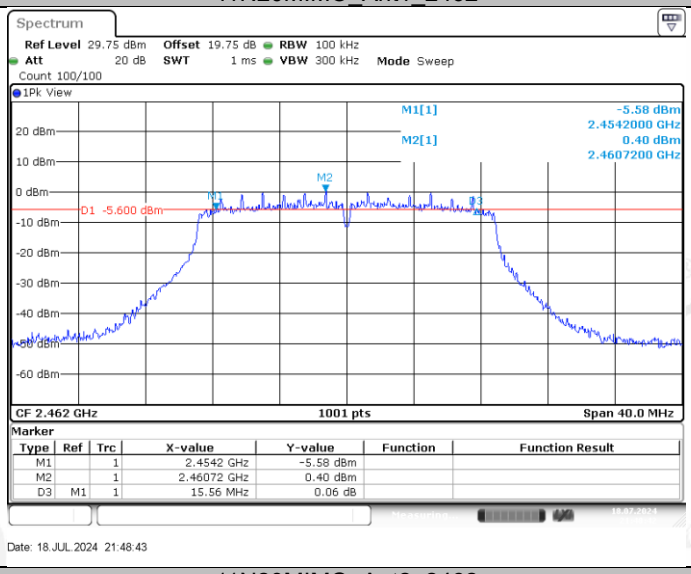

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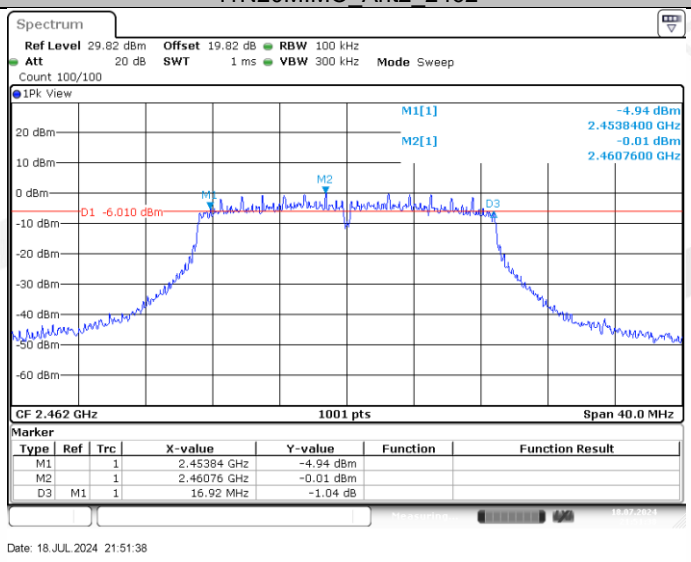

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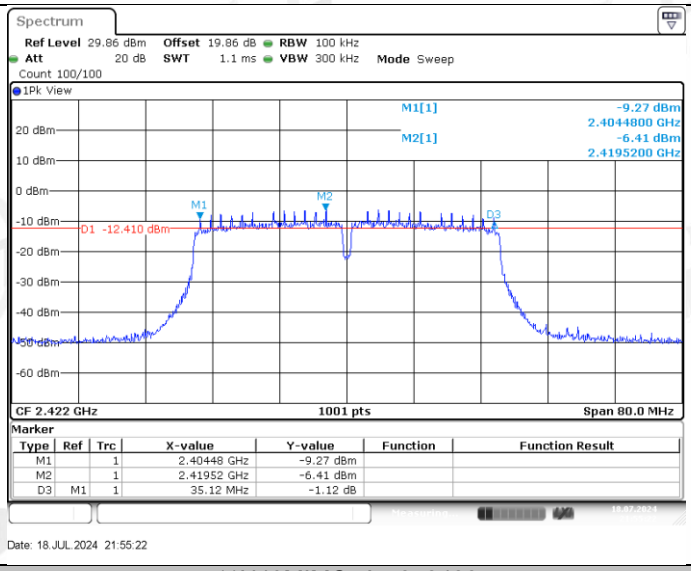

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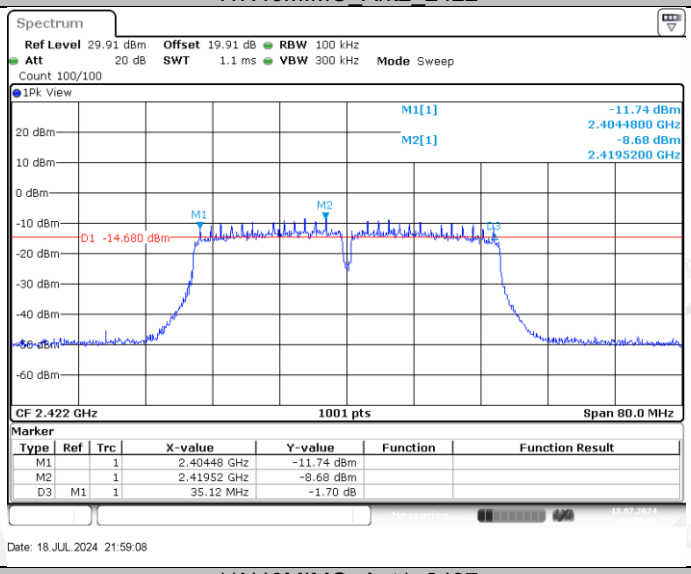

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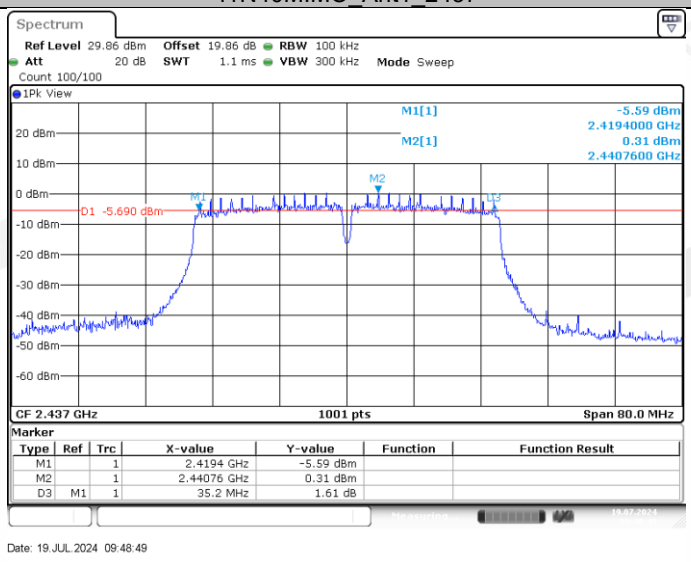

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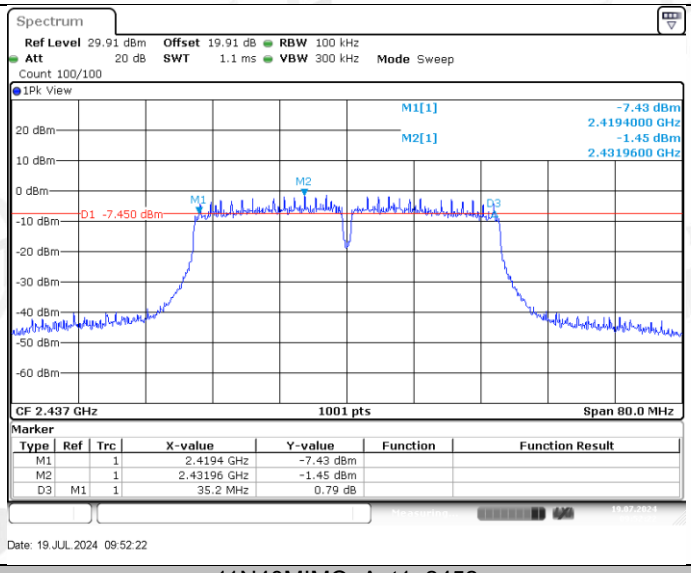

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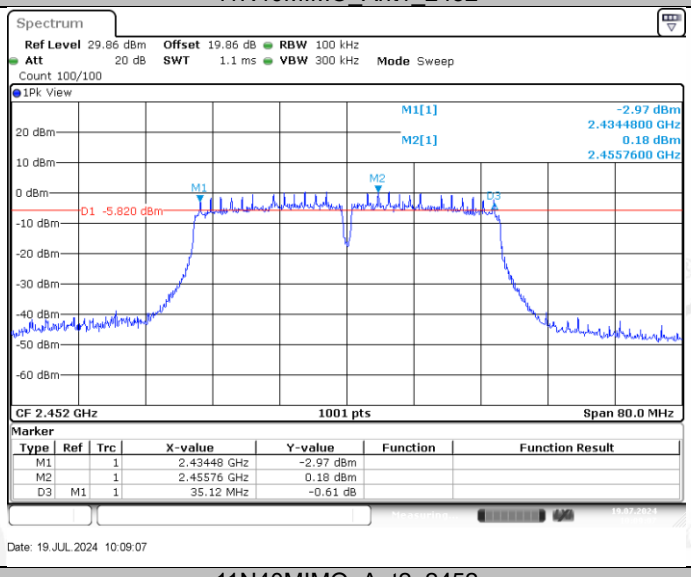

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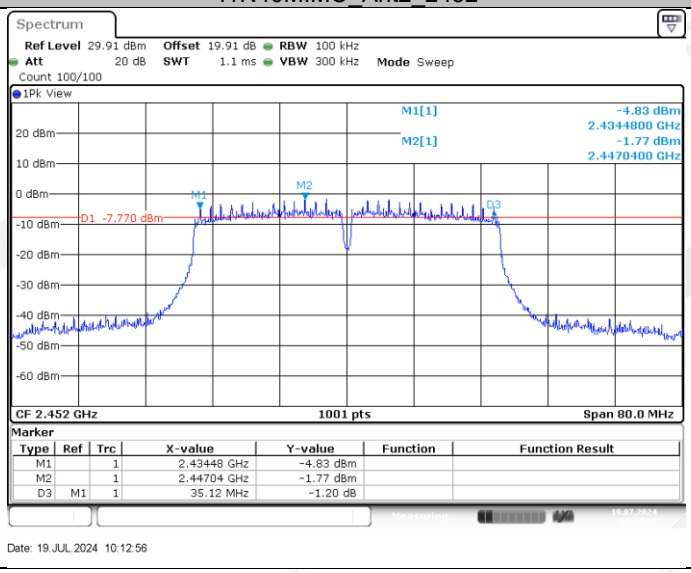
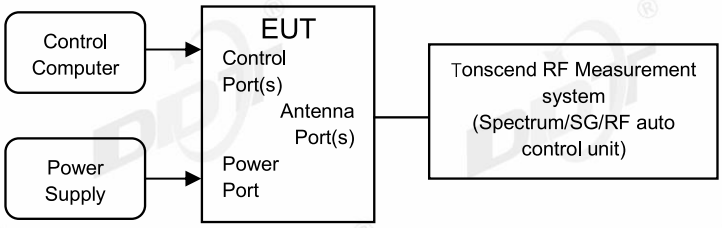


5. 99% Bandwidth

5.1. Block diagram of test setup



5.2. Limits

Just for Report.

5.3. Test procedure

(1) The test according to ANSI C63.10-2013 clause 6.9.3.
(2) Connect EUT's antenna output to spectrum analyzer by RF cable, the path loss was compensated to the results
(3) Set the EUT as maximum power setting and enable the EUT transmit continuously
(4) Use the following spectrum analyzer settings for the 99% Bandwidth:

RBW:	1% to 5% of the OBW
VBW:	approximately three times RBW
Span:	between 1.5 times and 5.0 times the OBW
Detector Mode:	peak
Sweep time:	auto
Trace mode	max hold

Allow the trace to stabilize, measure the 99% bandwidth of signal, and record the results in the report.

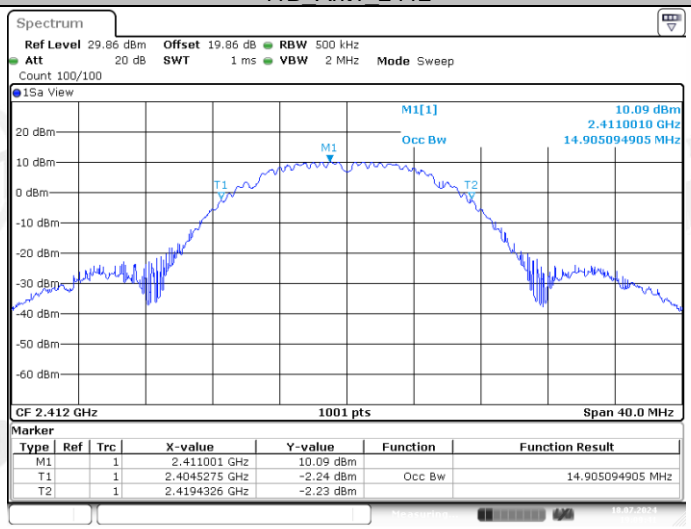
5.4. Test result

Test Engineer:	Zhongyao	Test Site:	RF Measurement System 3#
Ambient Condition:	26.1℃,38.6%RH	Test Date:	2024.07.07-2024.07.19
Test Power Supply:	DC 12V	Sample Number:	S24062520-003

TestMode	Antenna	Channel Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	14.905	2404.5275	2419.4326	---	---
	Ant2	2412	14.665	2404.6474	2419.3127	---	---
	Ant1	2437	14.825	2429.5674	2444.3926	---	---
	Ant2	2437	14.665	2429.6474	2444.3127	---	---
	Ant1	2462	14.825	2454.5674	2469.3926	---	---
	Ant2	2462	14.625	2454.6873	2469.3127	---	---
11G	Ant1	2412	16.983	2403.4885	2420.4715	---	---
	Ant2	2412	16.983	2403.4486	2420.4316	---	---
	Ant1	2437	17.023	2428.4885	2445.5115	---	---
	Ant2	2437	17.103	2428.4486	2445.5514	---	---
	Ant1	2462	16.983	2453.5285	2470.5115	---	---
	Ant2	2462	17.023	2453.4885	2470.5115	---	---
11N20MIMO	Ant1	2412	18.262	2402.8092	2421.0709	---	---
	Ant2	2412	17.742	2403.0889	2420.8312	---	---
	Ant1	2437	18.142	2427.9690	2446.1109	---	---
	Ant2	2437	17.822	2428.0889	2445.9111	---	---
	Ant1	2462	18.182	2452.8092	2470.9910	---	---
	Ant2	2462	17.782	2453.1289	2470.9111	---	---
11N40MIMO	Ant1	2422	36.284	2403.8581	2440.1419	---	---
	Ant2	2422	36.364	2403.7782	2440.1419	---	---
	Ant1	2437	36.284	2418.7782	2455.0619	---	---
	Ant2	2437	36.284	2418.7782	2455.0619	---	---
	Ant1	2452	36.284	2433.8581	2470.1419	---	---
	Ant2	2452	36.284	2433.7782	2470.0619	---	---

5.5. Test graphs

11B_Ant1_2412



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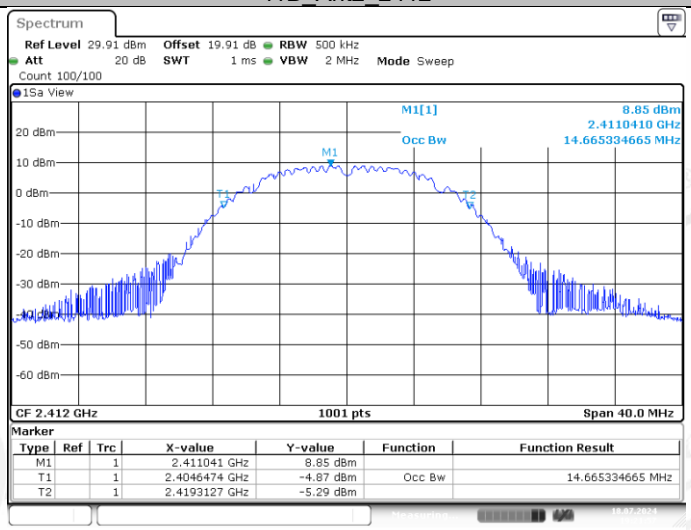

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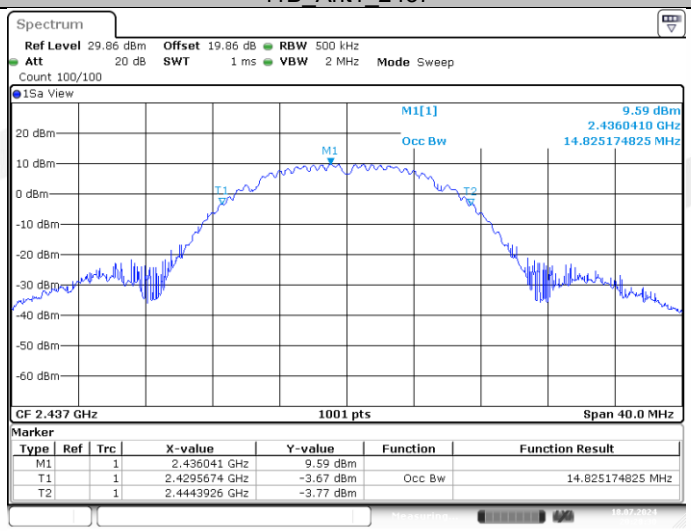

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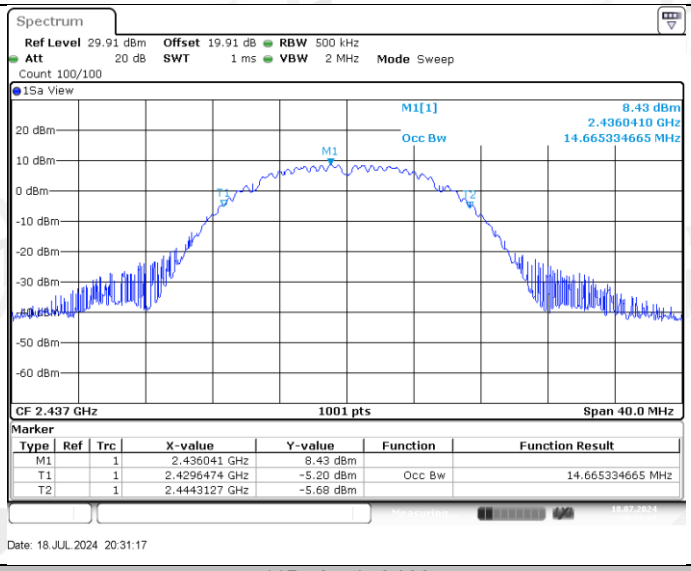

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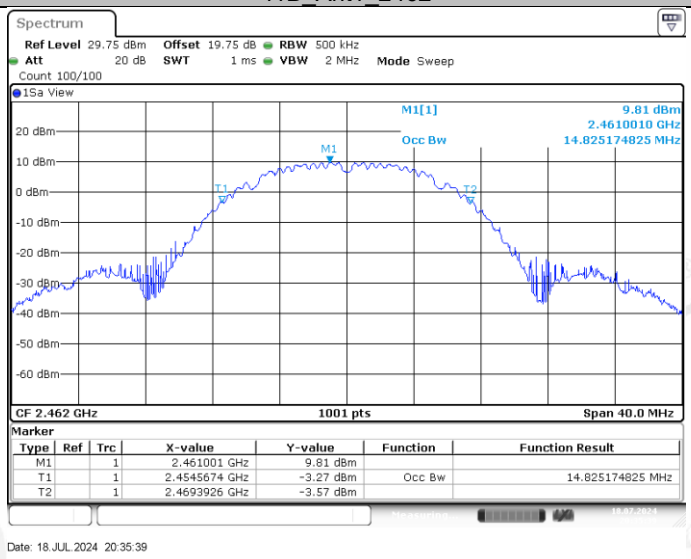

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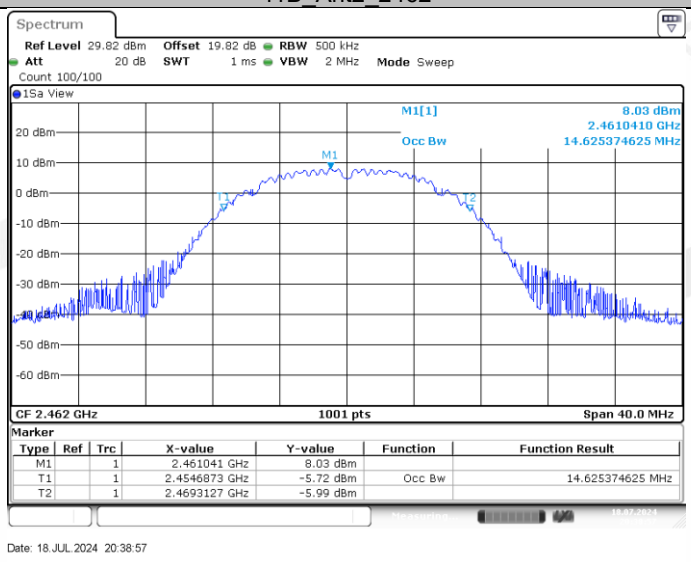

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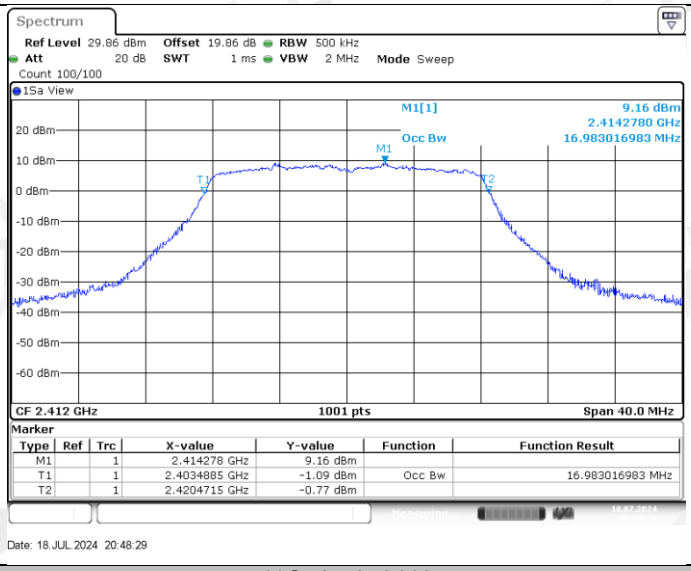

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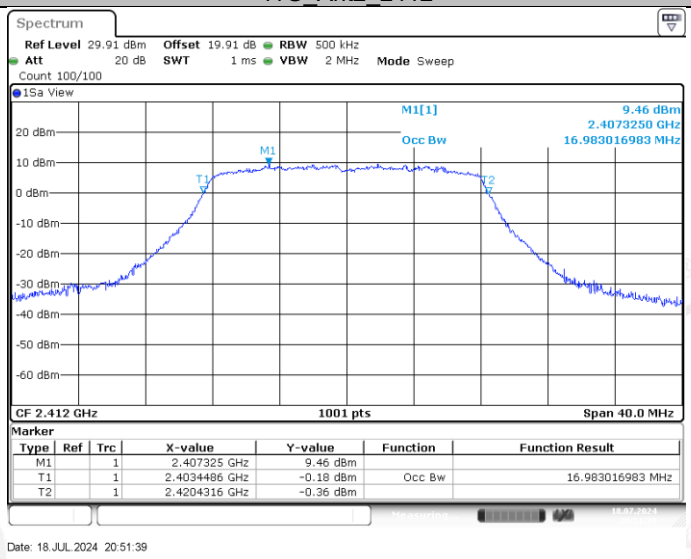

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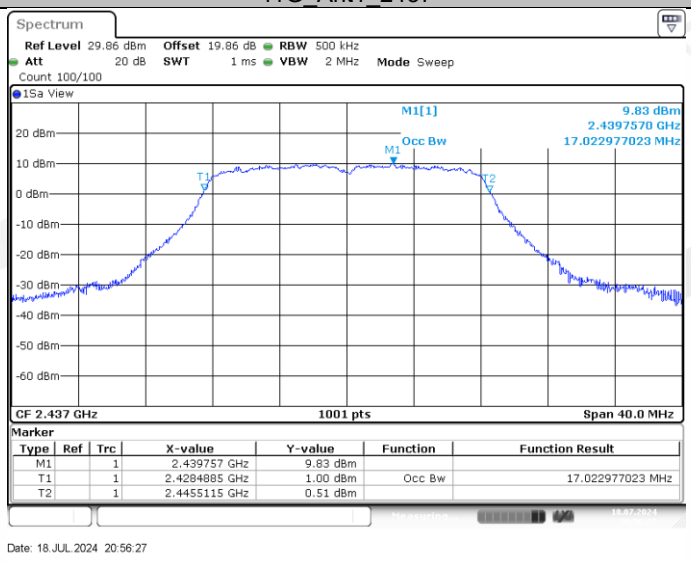

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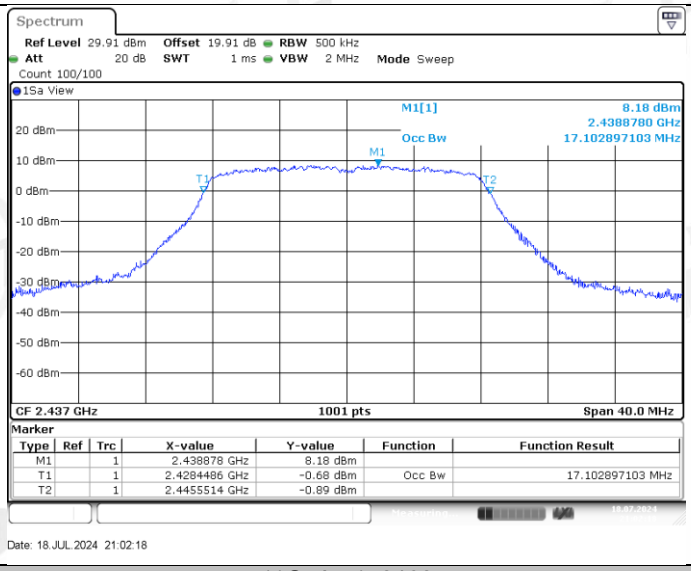

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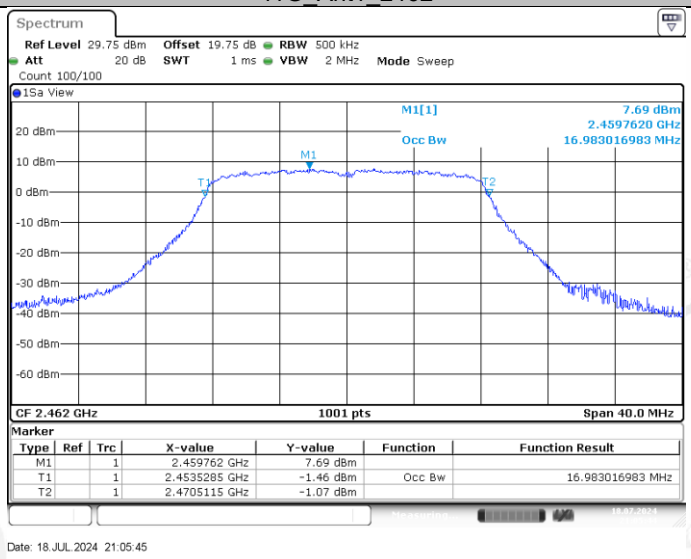

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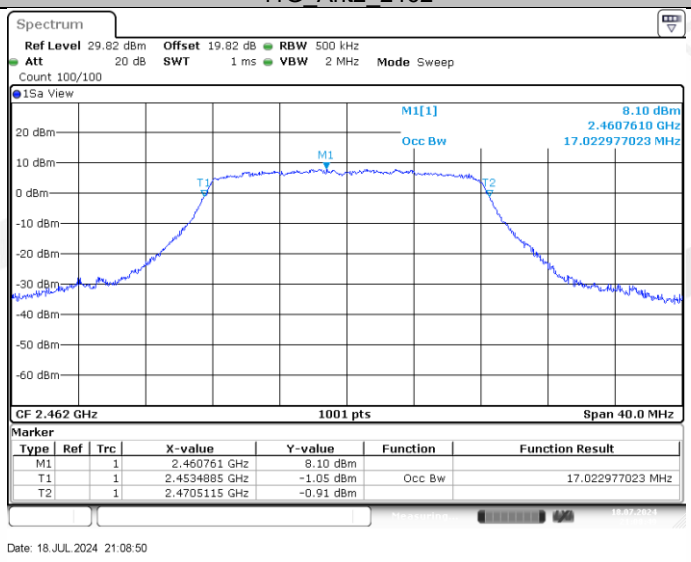

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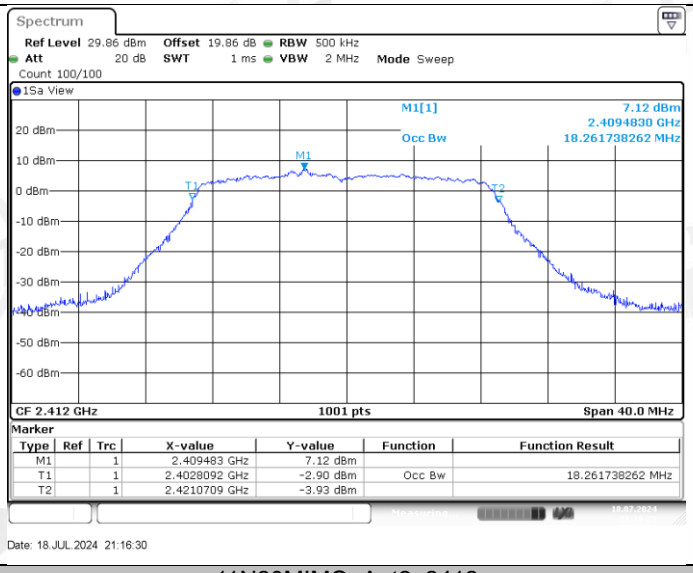

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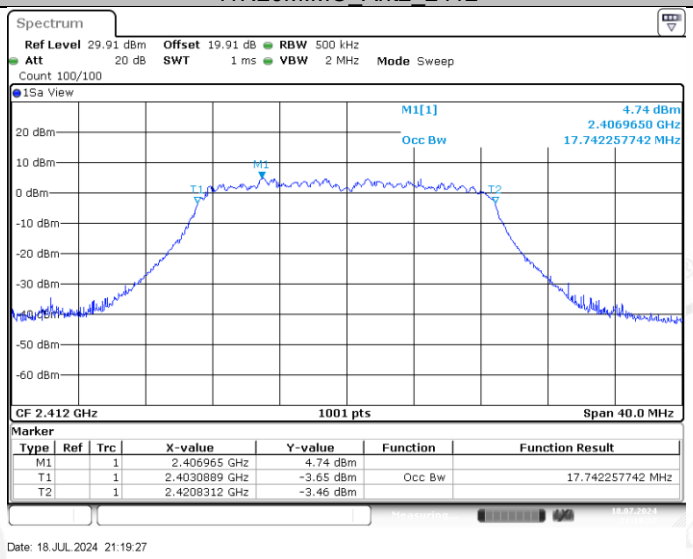

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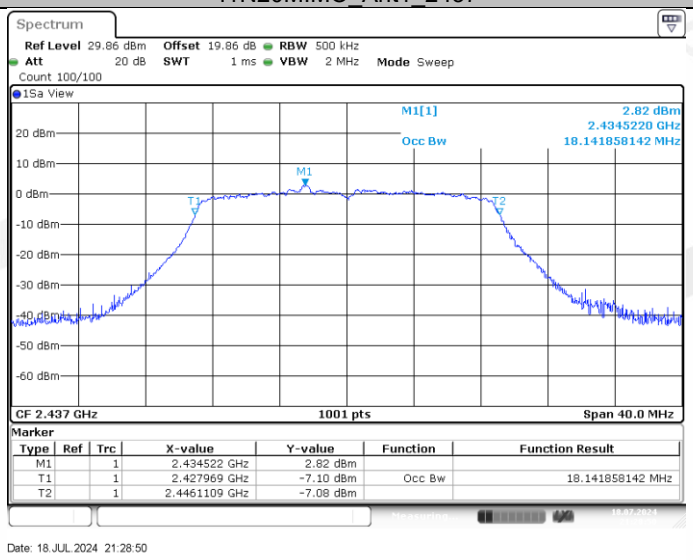

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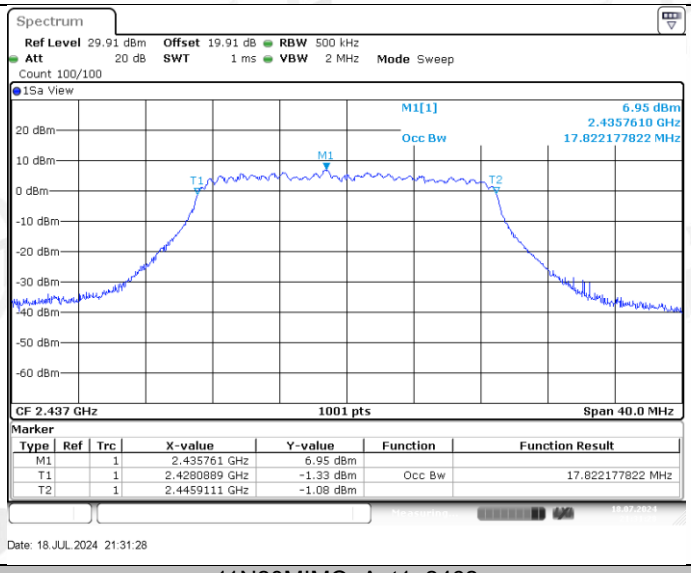

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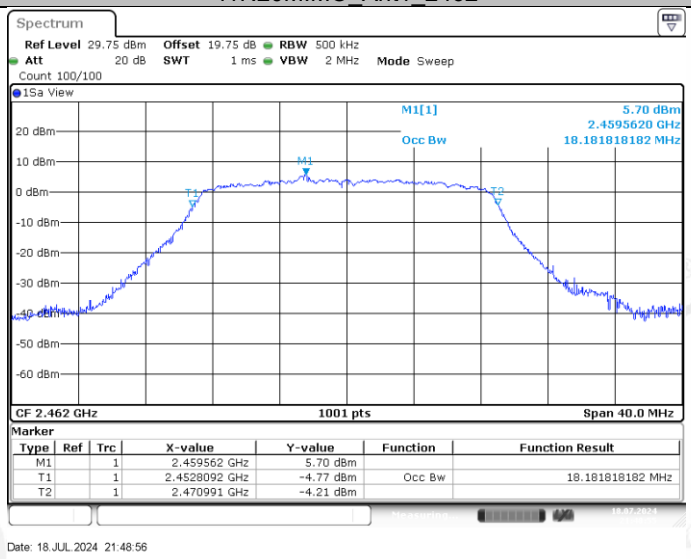

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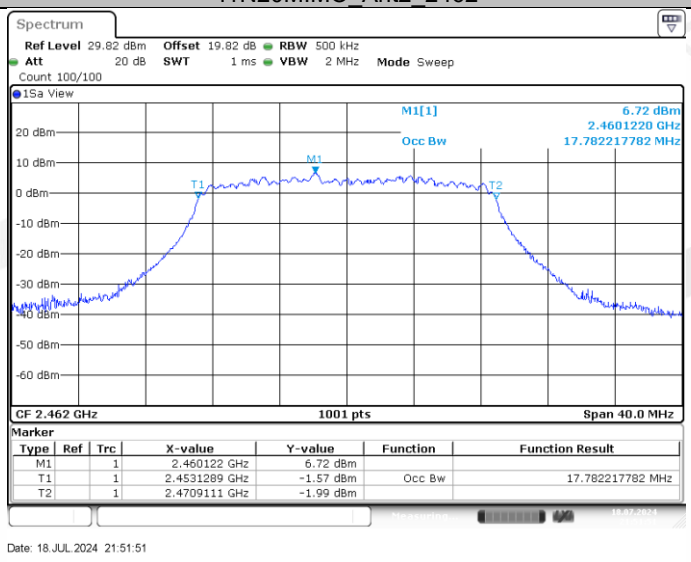

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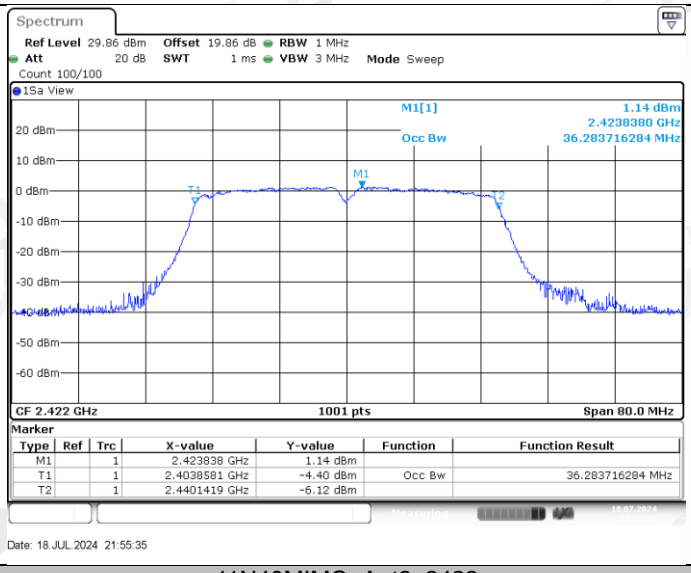

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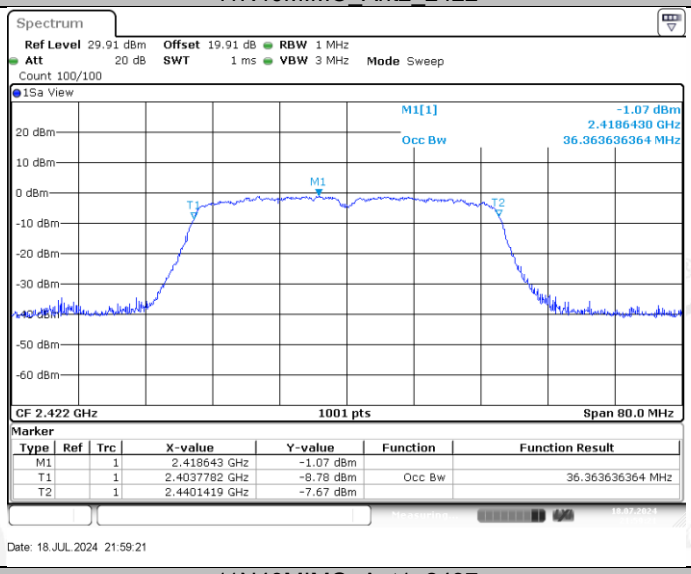

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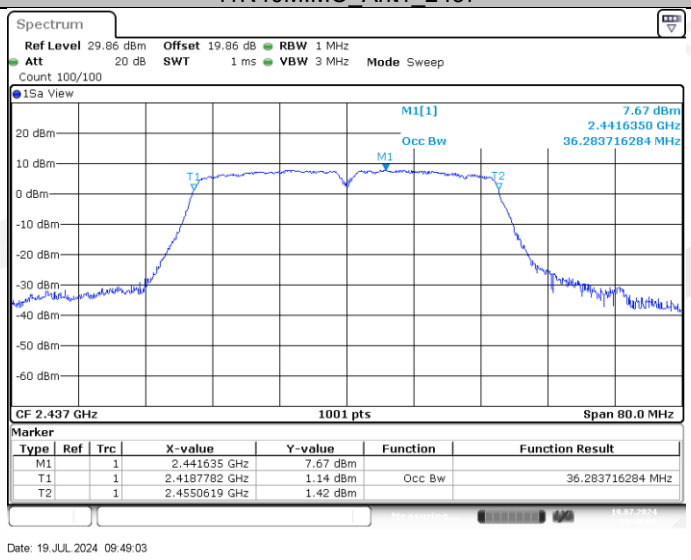

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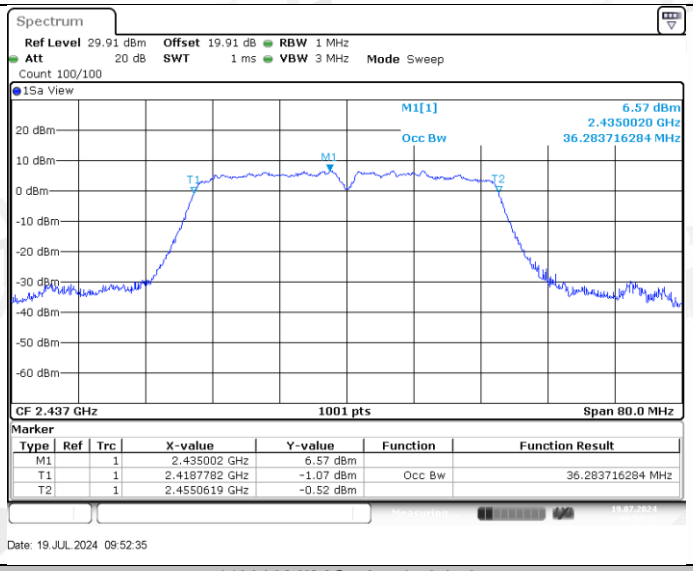

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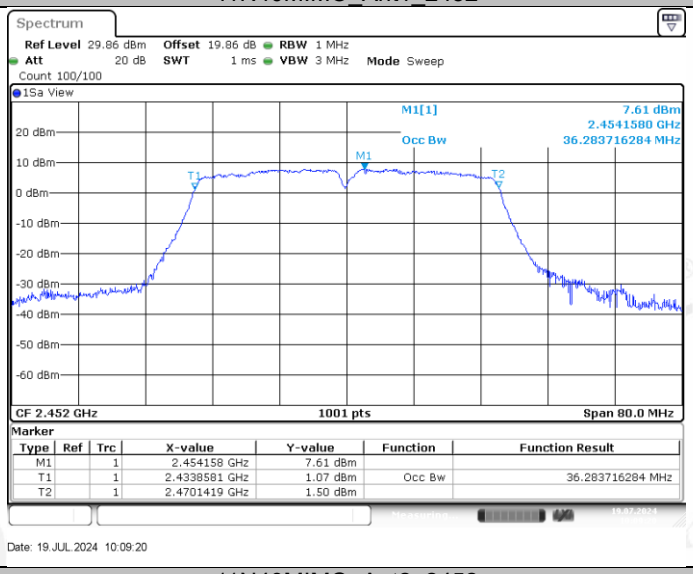
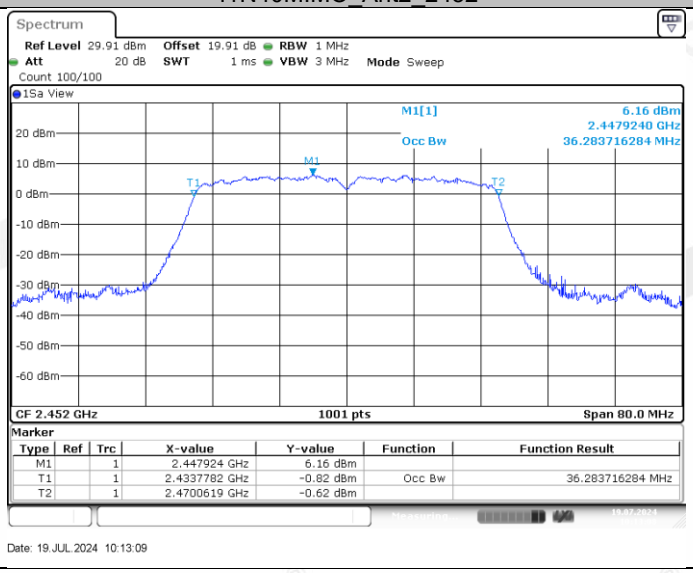
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