

FCC AND ISCED CERTIFICATION TEST REPORT

FOR

Applicant	:	XGIMI Technology Co., Ltd
Address	:	Building No.4, Zone A, No.1129, Shijicheng Road, Chengdu High-tech Zone, Sichuan Pilot Free Trade Zone, China
Equipment under Test	:	Projector
Model No.	:	XK03T, XK04T
Trade Mark	:	XGIMI
FCC ID	:	2AFENXK03T
IC	:	27045-XK03T
Manufacturer	:	XGIMI Technology Co., Ltd
Address	:	Building No.4, Zone A, No.1129, Shijicheng Road, Chengdu High-tech Zone, Sichuan Pilot Free Trade Zone, China

Issued By: Dongguan Dongdian Testing Service Co., Ltd.

Add.: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan
City, Guangdong Province, China, 523808

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

REPORT

Table of Contents

	Test report declares.....	4
1.	Summary of Test Results.....	7
2.	General test information.....	8
2.1.	Description of EUT	8
2.2.	Accessories of EUT.....	10
2.3.	Assistant equipment used for test.....	10
2.4.	Block diagram of EUT configuration for test.....	10
2.5.	Deviations of test standard.....	11
2.6.	Test environment conditions	12
2.7.	Test laboratory	12
2.8.	Measurement uncertainty.....	12
3.	Equipment Used During Test.....	13
4.	26dB Bandwidth	15
4.1.	Block diagram of test setup.....	15
4.2.	Limits	15
4.3.	Test procedure	15
4.4.	Test result.....	16
4.5.	Test graphs	18
5.	6dB Bandwidth	58
5.1.	Block diagram of test setup.....	58
5.2.	Limits	58
5.3.	Test procedure	58
5.4.	Test result.....	59
5.5.	Test graphs	60
6.	99% Bandwidth	70
6.1.	Block diagram of test setup.....	70
6.2.	Limits	70
6.3.	Test procedure	70
6.4.	Test result.....	71
6.5.	Test graphs	75
7.	Duty Cycle	115
7.1.	Block diagram of test setup.....	115
7.2.	Limit	115
7.3.	Test procedure	115
7.4.	Test result.....	116
7.5.	Test graphs	120
8.	Maximum Output Power.....	159

8.1.	Block diagram of test setup.....	159
8.2.	Limits	159
8.3.	Test procedure	159
8.4.	Test result channel power	160
9.	Power Spectral Density	165
9.1.	Block diagram of test setup.....	165
9.2.	Limits	165
9.3.	Test procedure	166
9.4.	Test result.....	167
9.5.	Test graphs	172
10.	Frequency Stability Measurement	212
10.1.	Limit of Frequency Stability	212
10.2.	Measuring Instruments.....	212
10.3.	Test procedures	212
10.4.	Test setup.....	212
10.5.	Test result.....	213
11.	Emissions in restricted frequency bands	228
11.1.	Block diagram of test setup.....	228
11.2.	Limit.....	229
11.3.	Test Procedure.....	231
11.4.	Test result.....	232
12.	Band Edge Compliance	247
12.1.	Block diagram of test setup.....	247
12.2.	Limit.....	247
12.3.	Test Procedure.....	247
12.4.	Test result.....	247
13.	Power Line Conducted Emission	324
13.1.	Block diagram of test setup.....	324
13.2.	Power Line Conducted Emission Limits (Class B)	324
13.3.	Test Procedure.....	324
13.4.	Test Result	325
14.	Dynamic Frequency Selection	330
14.1.	Applicability of DFS requirements.....	330
14.2.	Limit.....	331
14.3.	Parameters of radar test waveforms.....	332
14.4.	Calibration of radar waveform.....	333
14.5.	Channel closing transmission time, channel move time and non-occupancy period	335
14.6.	Test setup.....	336

14.7.	Test result.....	336
15.	Antenna Requirements	339
15.1.	Limit	339
15.2.	Result	339
16.	Test Setup Photograph	340
17.	Photos of the EUT	343

Test Report Declare

Applicant	:	XGIMI Technology Co., Ltd
Address	:	Building No.4, Zone A, No.1129, Shijicheng Road, Chengdu High-tech Zone, Sichuan Pilot Free Trade Zone, China
Equipment under Test	:	Projector
Model No.	:	XK03T, XK04T
Trade Mark	:	XGIMI
Manufacturer	:	XGIMI Technology Co., Ltd
Address	:	Building No.4, Zone A, No.1129, Shijicheng Road, Chengdu High-tech Zone, Sichuan Pilot Free Trade Zone, China

Test Standard Used:

FCC Rules and Regulations Part 15 Subpart E, RSS-247 Issue 2 February 2017.

Test procedure used: 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 Dongguan 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 Dongguan Dongdian Testing Service Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

After test and evaluation, our opinion is that the equipment provided for test compliance with the requirement of the above FCC&ISED standards.

Report No.:	DDT-R22122619-2E10		
Date of Receipt:	Dec. 26, 2022	Date of Test:	Dec. 26, 2022~ Feb. 15, 2023

Prepared By:

Jacky Huang

Jacky Huang/Engineer

Approved By:



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 Dongguan Dongdian Testing Service Co., Ltd.

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	Feb. 20, 2023	

1. Summary of Test Results

The EUT have been tested according to the applicable standards as referenced below.		
Description of Test Item	Standard	Results
6/26db Bandwidth and 99% Bandwidth	FCC 15.407 (e) RSS-247 Clause 6.2	Pass
Maximum Conducted Output Power	FCC 15.407 (a) RSS-247 Clause 6.2	Pass
Power Spectral Density	FCC 15.407 (a) RSS-247 Clause 6.2	Pass
Frequency Stability Measurement	FCC 15.407 (g) RSS-247 Clause 6.2 RSS-GEN Clause 8.9	Pass
Emissions in restricted frequency bands	FCC 15.407 (a) FCC 15.209 FCC 15.205 RSS-247 Clause 6.2 RSS-GEN Clause 8.9	Pass
Band Edge Compliance	FCC 15.407 (a) FCC 15.209 FCC 15.205 RSS-247 Clause 6.2 RSS-GEN Clause 8.9	Pass
Power Line Conducted Emission	FCC 15.207 RSS-GEN Clause 8.8	Pass
Antenna requirement	FCC 15.203 RSS-GEN Clause 8.3	Pass
Dynamic Frequency Selection	FCC 15.407 (h) RSS-247 Clause 6.3	Pass

2. General test information

2.1. Description of EUT

EUT* Name	: Projector
Model Number	: XK03T, XK04T
Model Differences	: XK03T and XK04T are mainly in appearance (XK04T with TOF camera), resolution (XK03T is 720P, XK04T is 1080P), optical machine, driver plate, hardware version and main plate material number are different, other places and wireless parts are completely consistent. According exploratory explorer test, the difference between the two models only affects Emissions in restricted frequency bands and Power Line Conducted Emission, so only these two items were tested on both models, the rest of the items tested only the worse model XK03T.
EUT function description	: Please reference user manual of this device
Power Supply	: DC 20V from external switching power supply
Radio Technology	: IEEE 802.11a/n/ac
Operation frequency	: IEEE 802.11a: 5180MHz-5240MHz, 5260MHz-5320MHz, 5500MHz-5700MHz, 5745MHz-5825MHz IEEE 802.11n HT20: 5180MHz-5240MHz, 5260MHz-5320MHz, 5500MHz-5700MHz, 5745MHz-5825MHz IEEE 802.11n HT40: 5190MHz-5230MHz, 5270MHz-5310MHz, 5510MHz-5670MHz, 5755MHz-5755MHz IEEE 802.11ac VHT20: 5180MHz-5240MHz, 5260MHz-5320MHz, 5500MHz-5700MHz, 5745MHz-5825MHz IEEE 802.11ac VHT40: 5190MHz-5230MHz, 5270MHz-5310MHz, 5510MHz-5670MHz, 5755MHz-5755MHz IEEE 802.11ac VHT80: 5210MHz, 5290MHz, 5530MHz, 5610MHz, 5775MHz
Modulation	: IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20, HT40: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac VHT20, VHT40, VHT80: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)
Transmitter rate	: IEEE 802.11a: up to 54 Mbps IEEE 802.11n HT20: up to 144.4 Mbps IEEE 802.11n HT40: up to 300 Mbps IEEE 802.11ac VHT20: up to 173.4 Mbps IEEE 802.11ac VHT40: up to 400 Mbps IEEE 802.11ac VHT80: up to 866.6 Mbps
Antenna Type	: Antenna 1: FPC antenna, Maximum PK gain: 3.4 dBi Antenna 2: FPC antenna, Maximum PK gain: 3.7 dBi
Sample Number	: S22122619-09 for conducted, S22122619-17 and S22122619-18 for radiated

Note 1: EUT is the ab. of equipment under test.

Note 2: Band 5600-5650MHz will be disabled when shipped to Canada.

Note 3: EUT does not support beamforming.

Note 4: EUT does not support simultaneous transmission of 2.4G WIFI and 5G WIFI.

Antenna information			
	Ant1 gain	Ant2 gain	Directional gain
IEEE 802.11a	3.4	3.7	/
IEEE 802.11n HT20	3.4	3.7	3.55
IEEE 802.11n HT40	3.4	3.7	3.55
IEEE 802.11ac VHT20	3.4	3.7	3.55
IEEE 802.11ac VHT40	3.4	3.7	3.55
IEEE 802.11ac VHT80	3.4	3.7	3.55

Note: Directional gain = $10 \log[(10G1/10 + 10G2/10 + \dots + 10GN/10)/NANT]$ dBi. The output signals of EUT are considered completely uncorrelated according to KDB 662911 D01, part F.

Channel information					
IEEE 802.11a IEEE 802.11n (HT20) IEEE 802.11ac (VHT20)		IEEE 802.11n (HT40) IEEE 802.11ac (VHT40)		IEEE 802.11ac (VHT80)	
UNII-1					
CH	Frequency (MHz)	CH	Frequency (MHz)	CH	Frequency (MHz)
36	5180	38	5190	42	5210
40	5200	46	5230	/	/
44	5220	/	/	/	/
48	5240	/	/	/	/
UNII-2A					
52	5260	54	5270	58	5290
56	5280	62	5310		/
60	5300	/	/	/	/
64	5320	/	/	/	/
UNII-2C					
100	5500	102	5510	106	5530
104	5520	110	5550	122	5610
108	5540	118	5590	/	/
112	5560	126	5630	/	/
116	5580	134	5670	/	/
120	5600	/	/	/	/
124	5620	/	/	/	/
128	5640	/	/	/	/
132	5660	/	/	/	/
134	5680	/	/	/	/
140	5700	/	/	/	/
UNII-3					
149	5745	151	5755	155	5725
153	5765	159	5795	/	/
157	5785	/	/	/	/
161	5805	/	/	/	/
165	5825	/	/	/	/

2.2. Accessories of EUT

Assistant equipment	Manufacturer	Model number	Serial No.	Other
Switching power supply	Huizhou Golden Lake Industrial Co., Ltd.	S065ARU200 0325	N/A	Input: 100-240V~, 50/60Hz, 1.8A MAX Output: 5V/3A, 9V/3A, 12V/3A, 15V/3A, 20V/3.25A
Remote	N/A	N/A	N/A	N/A

2.3. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	EMC Compliance	SN
N/A	N/A	N/A	N/A	N/A

2.4. Block diagram of EUT configuration for test



Test software: WCN Combo Tool

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, channel, and data rate information				
Mode	Setting Tx Power	data rate (Mbps) (see Note)	Channel	Frequency (MHz)
IEEE 802.11a	1E	6	Low: CH36	5180
	1E	6	Middle: CH40	5200
	1E	6	High: CH48	5240
	1E	6	Low: CH52	5260
	1E	6	Middle: CH56	5280
	1E	6	High: CH64	5320
	1E	6	Low: CH100	5500
	1E	6	Middle: CH116	5580
	1E	6	High: CH140	5700
	1C	6	Low: CH149	5745
	1C	6	Middle: CH157	5785
	1C	6	High: CH165	5825
IEEE 802.11n HT20	16	MCS 8	Low: CH36	5180
	16	MCS 8	Middle: CH40	5200
	16	MCS 8	High: CH48	5240
	16	MCS 8	Low: CH52	5260
	16	MCS 8	Middle: CH56	5280
	16	MCS 8	High: CH64	5320

	16	MCS 8	Low: CH100	5500
	16	MCS 8	Middle: CH116	5580
	16	MCS 8	High: CH140	5700
	1C	MCS 8	Low: CH149	5745
	1C	MCS 8	Middle: CH157	5785
	1C	MCS 8	High: CH165	5825
IEEE 802.11n HT40	16	MCS 8	Low: CH38	5190
	16	MCS 8	Middle: CH46	5230
	16	MCS 8	High: CH54	5270
	16	MCS 8	Low: CH62	5310
	16	MCS 8	Middle: CH102	5510
	16	MCS 8	High: CH110	5550
	16	MCS 8	Low: CH134	5670
	1C	MCS 8	Middle: CH151	5755
	1C	MCS 8	High: CH159	5795
IEEE 802.11ac VHT20	16	MCS 0	Low: CH36	5180
	16	MCS 0	Middle: CH40	5200
	16	MCS 0	High: CH48	5240
	16	MCS 0	Low: CH52	5260
	16	MCS 0	Middle: CH56	5280
	16	MCS 0	High: CH64	5320
	16	MCS 0	Low: CH100	5500
	16	MCS 0	Middle: CH116	5580
	16	MCS 0	High: CH140	5700
	1C	MCS 0	Low: CH149	5745
	1C	MCS 0	Middle: CH157	5785
	1C	MCS 0	High: CH165	5825
IEEE 802.11ac VHT40	16	MCS 0	Low: CH38	5190
	16	MCS 0	Middle: CH46	5230
	16	MCS 0	High: CH54	5270
	16	MCS 0	Low: CH62	5310
	16	MCS 0	Middle: CH102	5510
	16	MCS 0	High: CH110	5550
	16	MCS 0	Low: CH134	5670
	1C	MCS 0	Middle: CH151	5755
	1C	MCS 0	High: CH159	5795
IEEE 802.11ac VHT80	16	MCS 0	CH42	5210
	16	MCS 0	CH58	5290
	16	MCS 0	CH106	5530
	16	MCS 0	CH122	5610
	1C	MCS 0	CH155	5775

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

2.7. Test laboratory

Dongguan Dongdian Testing Service Co., Ltd.

Add.: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, 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 × 10 ⁻⁸ (Antenna couple method)
	5.5 × 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 °C
Humidity	2 %
Uncertainty for Radiation Emission Test (9kHz -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	3.32 dB (150 kHz-30 MHz)

Note:

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

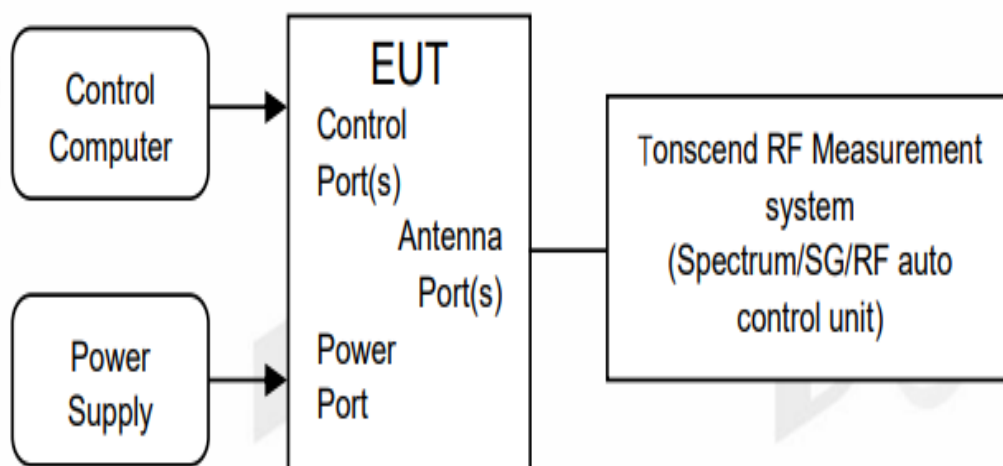
3. Equipment Used During Test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
☑RF Connected Test (Tonscend RF Measurement System 4#)					
MXA Signal Analyzer	Agilent	N9020A	MY49100362	Aug. 26, 2022	1 Year
Signal & Spectrum analyzer	R&S	FSV3044	101173	Apr. 13, 2022	1 Year
Wideband Radio Communication tester	R&S	CMW500	120259	May 26, 2022	1 Year
MXG Vector Signal Generator	Agilent	N5182B	MY59100192	May 18, 2022	1 Year
Vector Signal Generator	Agilent	E8267D	US49060192	Sep. 28, 2022	1 Year
RF Control Unit	Tonscend	JS0806-2	21I8060485	May 28, 2022	1 Year
Temp&Humi Programmable	ZHIXIANG	ZXGDJS-150L	ZX170110-A	May 26, 2022	1 Year
Test Software	JS Tonscend	JS1120-3	Ver.2.6.88.0346	N/A	N/A
☑Radiation 3#chamber					
EMI Test Receiver	R&S	ESU	100472	May 18, 2022	1 Year
Spectrum analyzer	Agilent	E4447A	MY50180031	May 18, 2022	1 Year
Active Loop antenna	Schwarzbeck	FMZB-1519	1519-038	Sep. 29, 2022	1 Year
Trilog Broadband Antenna	Schwarzbeck	VULB 9163	01429	Jul. 22, 2022	1 Year
Double Ridged Horn Antenna	Schwarzbeck	BBHA 9120 D	02468	Sep. 29, 2022	1 Year
Broad Band Horn Antenna	Schwarzbeck	BBHA 9170	790	May 06, 2022	1 Year
Pre-amplifier	COM-POWER	PAM-118A	18040084	Aug. 17, 2022	1 Year
Pre-amplifier	COM-POWER	PAM-840A	461369	Apr. 11, 2022	1 Year
RE Cable	N/A	W23.02 CP1-X2 +	4.5M+8M+1.5M+1.5M	Aug.17, 2022	1 Year
RF Cable	Yuhu Technology	JCTB810-NJ-N J-9M	21123964	May 19, 2022	1 Year
RF Cable	Yuhu Technology	ZT26S-SMAJ-S MAJ-1M	21073466	Aug.17, 2022	1 Year
Test software	Tonscend	JS32-RE	V 5.0.0.1	N/A	N/A

☑Power Line Conducted Emissions Test 1#					
Test Receiver	R&S	ESCI	100551	Aug. 26, 2022	1 Year
LISN 1	R&S	ENV216	101109	Aug. 26, 2022	1 Year
LISN 2	R&S	ESH2-Z5	100309	Aug. 26, 2022	1 Year
Pulse Limiter	R&S	ESH3-Z2	101242	Aug. 26, 2022	1 Year
CE Cable 1	HUBSER	N/A	W10.01	Aug. 26, 2022	1 Year
Test software	Audix	E3	V 6.11111b	N/A	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 Mode	Antenna	Frequency [MHz]	26db EBW [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11A	Ant1	5180	20.16	5169.84	5190.00	---	---
	Ant2	5180	20.12	5169.96	5190.08	---	---
	Ant1	5200	20.36	5189.72	5210.08	---	---
	Ant2	5200	20.28	5189.88	5210.16	---	---
	Ant1	5240	20.16	5229.84	5250.00	---	---
	Ant2	5240	20.32	5229.88	5250.20	---	---
	Ant1	5260	20.28	5249.84	5270.12	---	---
	Ant2	5260	20.12	5249.88	5270.00	---	---
	Ant1	5280	20.24	5269.84	5290.08	---	---
	Ant2	5280	20.16	5269.88	5290.04	---	---
	Ant1	5320	20.08	5309.96	5330.04	---	---
	Ant2	5320	20.04	5309.96	5330.00	---	---
	Ant1	5500	20.04	5490.00	5510.04	---	---
	Ant2	5500	20.16	5489.96	5510.12	---	---
	Ant1	5580	20.20	5569.84	5590.04	---	---
	Ant2	5580	20.28	5569.76	5590.04	---	---
	Ant1	5700	20.20	5689.88	5710.08	---	---
	Ant2	5700	20.12	5689.92	5710.04	---	---
	Ant1	5745	20.04	5735.04	5755.08	---	---
	Ant2	5745	20.24	5734.80	5755.04	---	---
	Ant1	5785	20.20	5774.84	5795.04	---	---
	Ant2	5785	20.28	5774.84	5795.12	---	---
	Ant1	5825	20.28	5814.84	5835.12	---	---
	Ant2	5825	20.92	5814.68	5835.60	---	---
11N20MIMO	Ant1	5180	20.28	5169.88	5190.16	---	---
	Ant2	5180	20.24	5169.88	5190.12	---	---
	Ant1	5200	20.20	5189.84	5210.04	---	---
	Ant2	5200	20.32	5189.80	5210.12	---	---
	Ant1	5240	20.24	5229.88	5250.12	---	---
	Ant2	5240	20.44	5229.72	5250.16	---	---
	Ant1	5260	20.60	5249.56	5270.16	---	---
	Ant2	5260	20.40	5249.76	5270.16	---	---
	Ant1	5280	20.36	5269.88	5290.24	---	---
	Ant2	5280	20.36	5269.80	5290.16	---	---
	Ant1	5320	20.32	5309.92	5330.24	---	---
	Ant2	5320	20.44	5309.76	5330.20	---	---
	Ant1	5500	20.36	5489.80	5510.16	---	---
	Ant2	5500	20.24	5489.88	5510.12	---	---
	Ant1	5580	20.36	5569.76	5590.12	---	---
	Ant2	5580	20.28	5569.88	5590.16	---	---
	Ant1	5700	20.24	5689.84	5710.08	---	---
	Ant2	5700	20.36	5689.80	5710.16	---	---
	Ant1	5745	20.32	5734.88	5755.20	---	---
	Ant2	5745	20.36	5734.84	5755.20	---	---
	Ant1	5785	20.44	5774.76	5795.20	---	---
	Ant2	5785	20.36	5774.80	5795.16	---	---
	Ant1	5825	20.88	5814.72	5835.60	---	---
	Ant2	5825	23.20	5813.36	5836.56	---	---
11N40MIMO	Ant1	5190	41.12	5169.52	5210.64	---	---
	Ant2	5190	40.56	5169.68	5210.24	---	---
	Ant1	5230	41.36	5209.28	5250.64	---	---

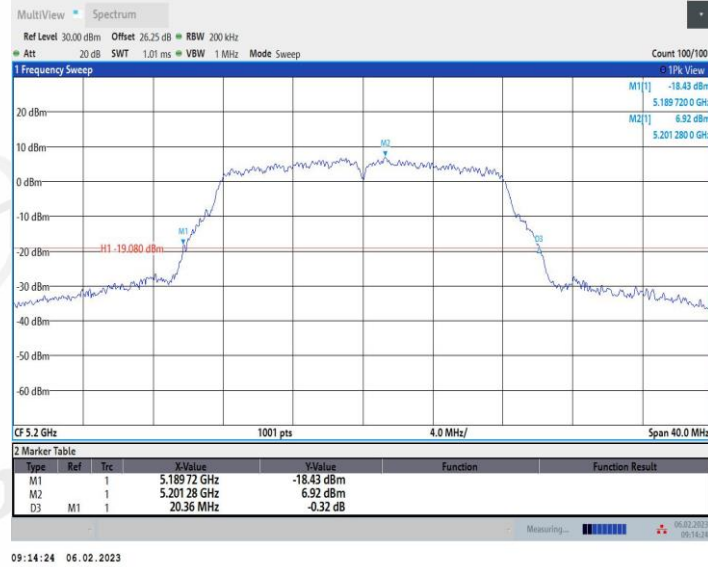
	Ant2	5230	40.72	5209.68	5250.40	---	---
	Ant1	5270	41.12	5249.44	5290.56	---	---
	Ant2	5270	40.48	5249.84	5290.32	---	---
	Ant1	5310	41.20	5289.44	5330.64	---	---
	Ant2	5310	40.56	5289.76	5330.32	---	---
	Ant1	5510	40.96	5489.52	5530.48	---	---
	Ant2	5510	40.40	5489.84	5530.24	---	---
	Ant1	5550	40.96	5529.52	5570.48	---	---
	Ant2	5550	40.56	5529.68	5570.24	---	---
	Ant1	5670	41.04	5649.44	5690.48	---	---
	Ant2	5670	40.40	5649.84	5690.24	---	---
	Ant1	5755	40.88	5734.52	5775.40	---	---
	Ant2	5755	41.04	5734.68	5775.72	---	---
	Ant1	5795	41.36	5774.44	5815.80	---	---
11AC20MIMO	Ant2	5795	40.80	5774.60	5815.40	---	---
	Ant1	5180	20.20	5169.92	5190.12	---	---
	Ant2	5180	20.28	5169.84	5190.12	---	---
	Ant1	5200	20.24	5189.80	5210.04	---	---
	Ant2	5200	20.28	5189.84	5210.12	---	---
	Ant1	5240	20.24	5229.88	5250.12	---	---
	Ant2	5240	20.28	5229.84	5250.12	---	---
	Ant1	5260	20.48	5249.80	5270.28	---	---
	Ant2	5260	20.44	5249.76	5270.20	---	---
	Ant1	5280	20.20	5269.88	5290.08	---	---
	Ant2	5280	20.32	5269.80	5290.12	---	---
	Ant1	5320	20.32	5309.84	5330.16	---	---
	Ant2	5320	20.16	5309.88	5330.04	---	---
	Ant1	5500	20.28	5489.88	5510.16	---	---
	Ant2	5500	20.28	5489.84	5510.12	---	---
	Ant1	5580	20.28	5569.80	5590.08	---	---
	Ant2	5580	20.48	5569.68	5590.16	---	---
	Ant1	5700	20.28	5689.80	5710.08	---	---
	Ant2	5700	20.24	5689.84	5710.08	---	---
	Ant1	5745	20.32	5734.80	5755.12	---	---
	Ant2	5745	20.32	5734.84	5755.16	---	---
	Ant1	5785	20.36	5774.80	5795.16	---	---
	Ant2	5785	20.52	5774.72	5795.24	---	---
11AC40MIMO	Ant1	5825	20.72	5814.64	5835.36	---	---
	Ant2	5825	20.52	5814.84	5835.36	---	---
	Ant1	5190	41.04	5169.52	5210.56	---	---
	Ant2	5190	40.64	5169.84	5210.48	---	---
	Ant1	5230	41.04	5209.36	5250.40	---	---
	Ant2	5230	40.64	5209.76	5250.40	---	---
	Ant1	5270	41.44	5249.20	5290.64	---	---
	Ant2	5270	40.64	5249.68	5290.32	---	---
	Ant1	5310	41.20	5289.36	5330.56	---	---
	Ant2	5310	40.64	5289.68	5330.32	---	---
	Ant1	5510	40.96	5489.52	5530.48	---	---
	Ant2	5510	40.80	5489.68	5530.48	---	---
	Ant1	5550	41.04	5529.52	5570.56	---	---
	Ant2	5550	40.64	5529.76	5570.40	---	---
	Ant1	5670	41.12	5649.36	5690.48	---	---
	Ant2	5670	40.56	5649.68	5690.24	---	---
	Ant1	5755	41.20	5734.44	5775.64	---	---
	Ant2	5755	40.96	5734.52	5775.48	---	---

11AC80MIMO	Ant1	5795	41.20	5774.44	5815.64	---	---
	Ant2	5795	41.04	5774.52	5815.56	---	---
	Ant1	5210	81.28	5169.36	5250.64	---	---
	Ant2	5210	81.12	5169.52	5250.64	---	---
	Ant1	5290	81.28	5249.36	5330.64	---	---
	Ant2	5290	81.12	5249.52	5330.64	---	---
	Ant1	5530	81.28	5489.36	5570.64	---	---
	Ant2	5530	81.12	5489.52	5570.64	---	---
	Ant1	5610	81.76	5569.20	5650.96	---	---
	Ant2	5610	80.96	5569.52	5650.48	---	---
	Ant1	5775	81.76	5734.20	5815.96	---	---
	Ant2	5775	84.00	5734.36	5818.36	---	---

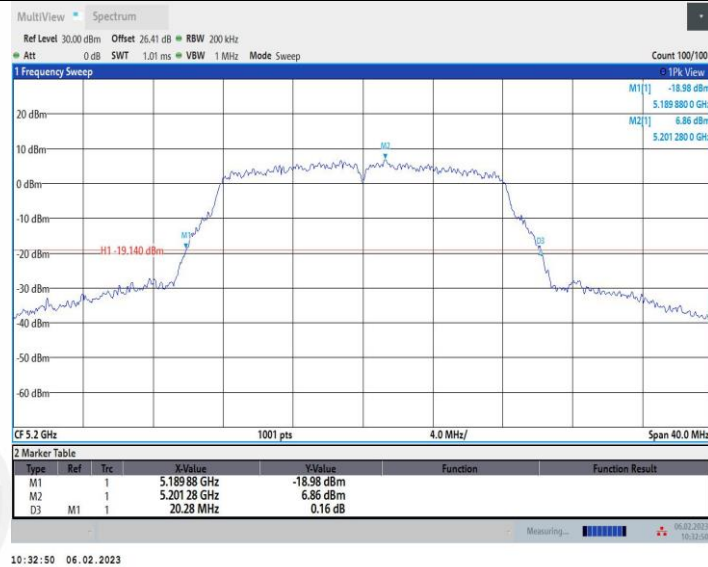
4.5. Test graphs



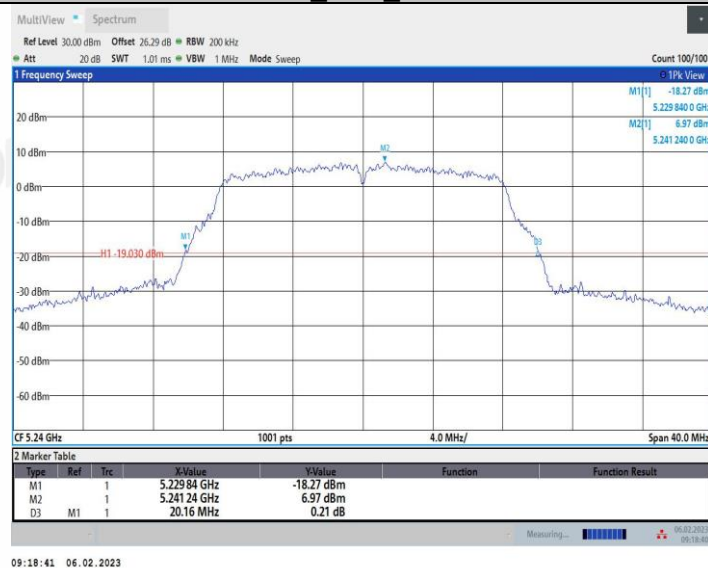
11A_Ant1_5200



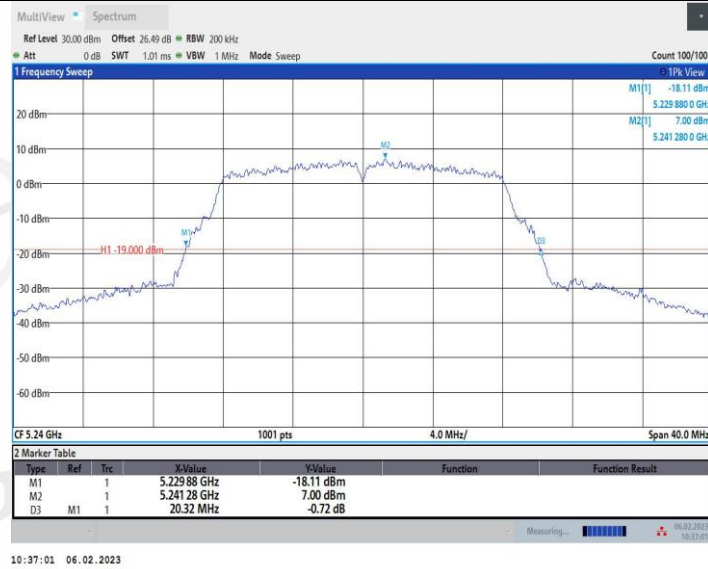
11A_Ant2_5200



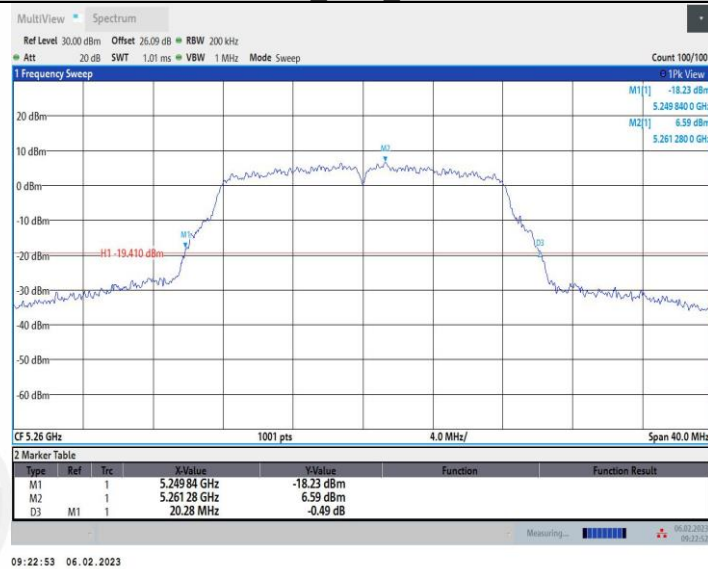
11A_Ant1_5240



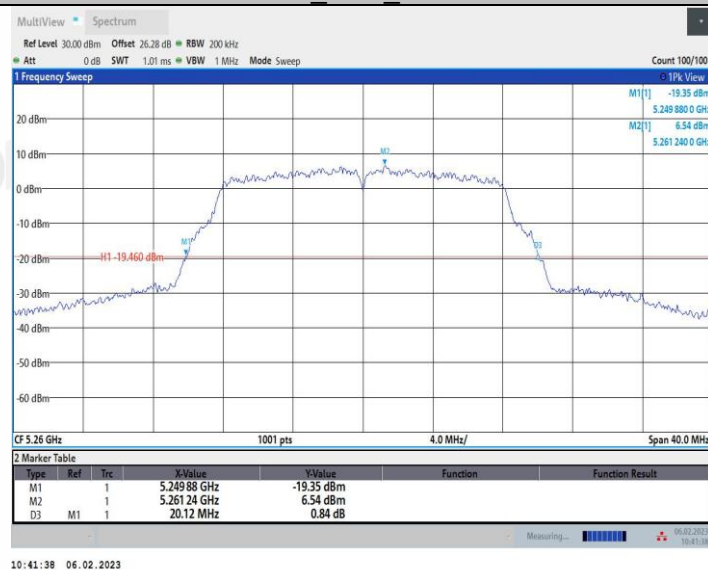
11A_Ant2_5240



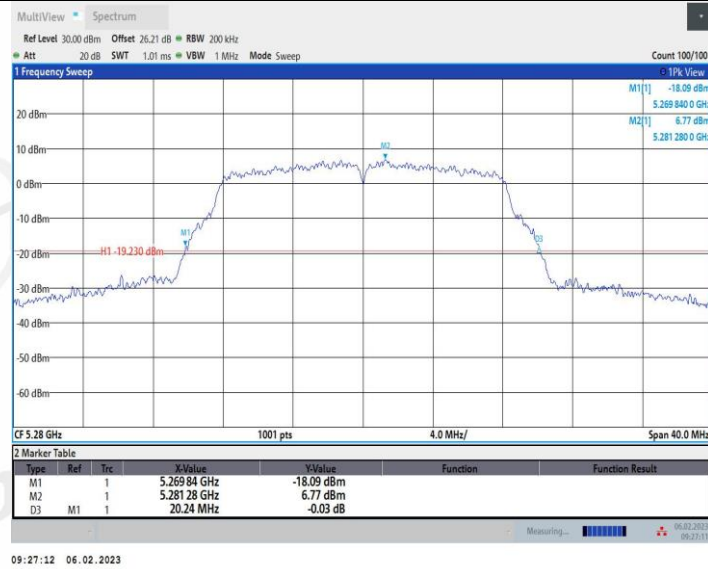
11A_Ant1_5260



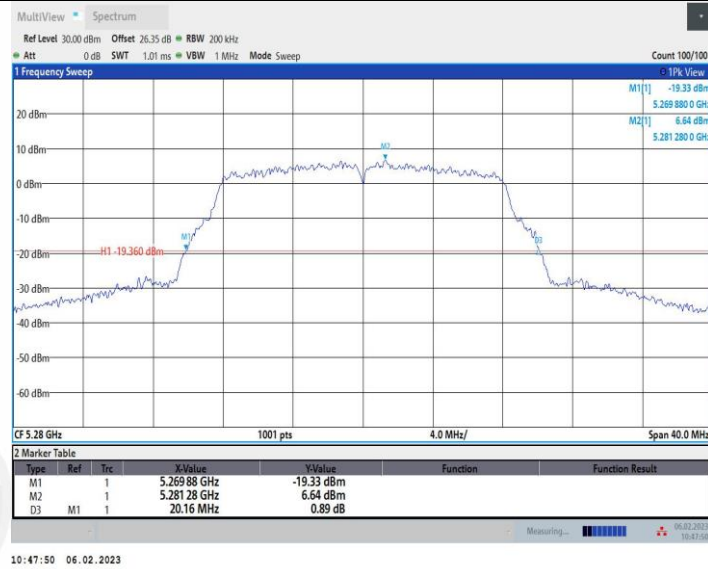
11A_Ant2_5260



11A_Ant1_5280



11A_Ant2_5280



11A_Ant1_5320



11A_Ant2_5320



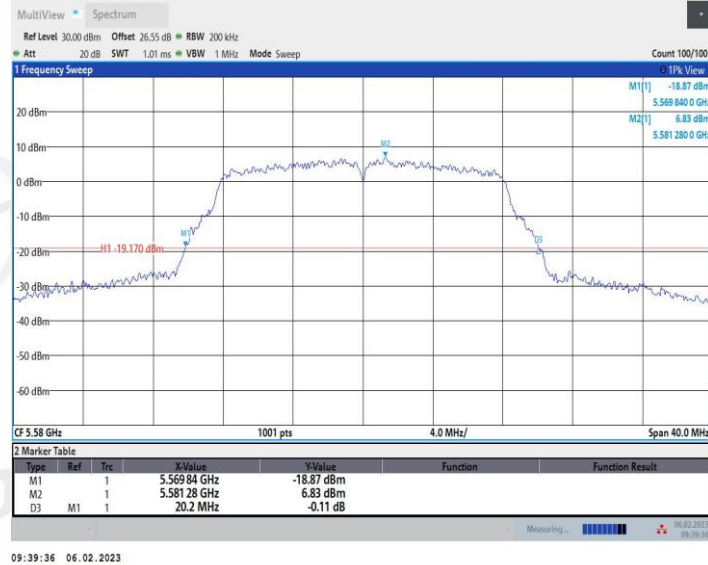
11A_Ant1_5500



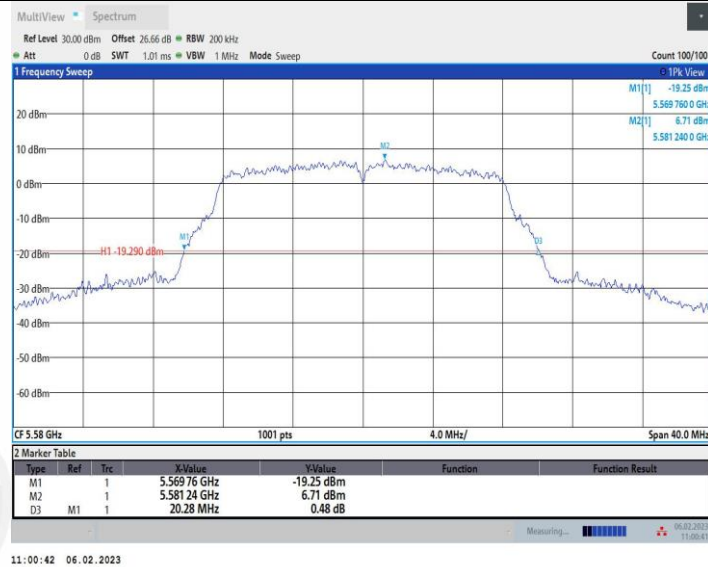
11A_Ant2_5500



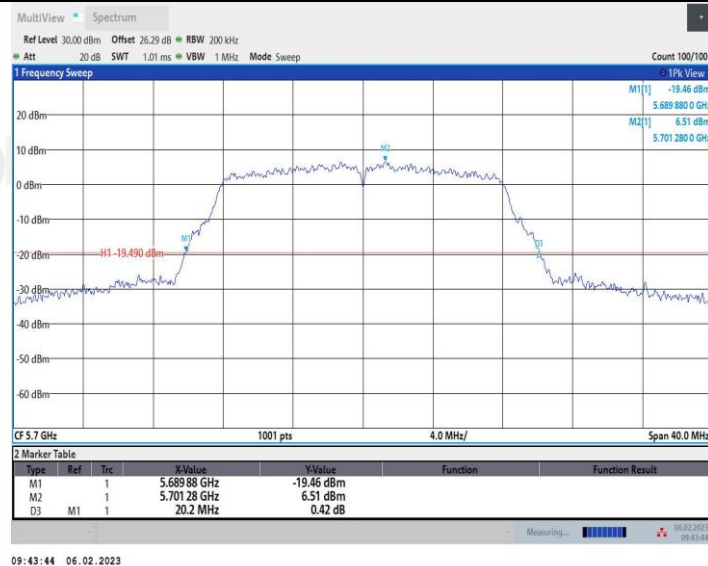
11A_Ant1_5580



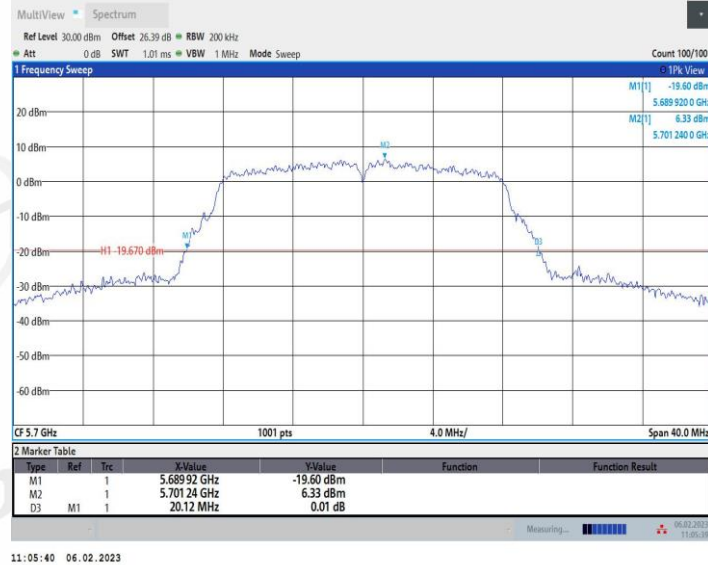
11A_Ant2_5580



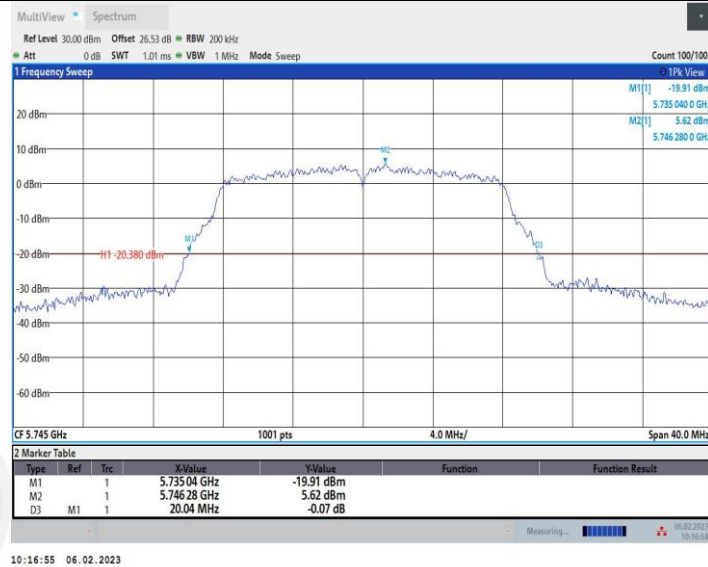
11A_Ant1_5700



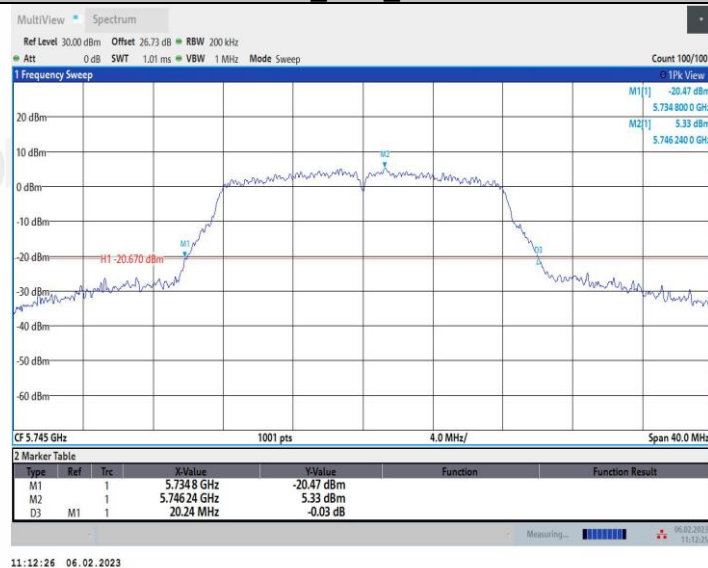
11A_Ant2_5700



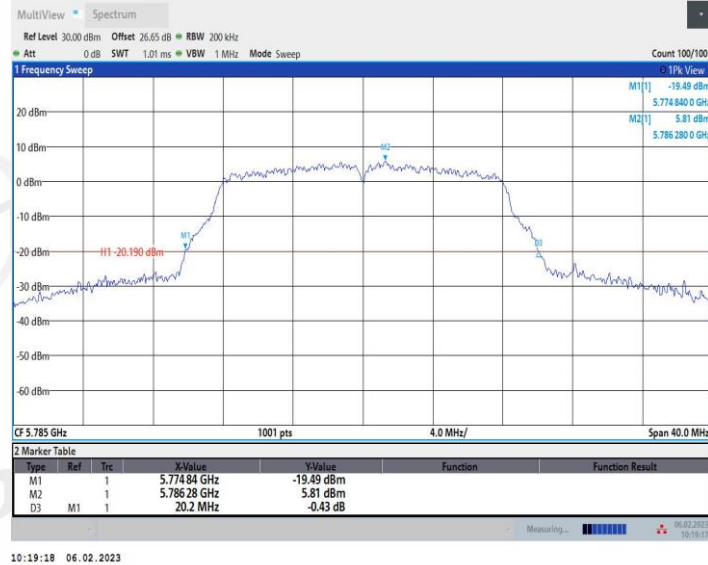
11A_Ant1_5745



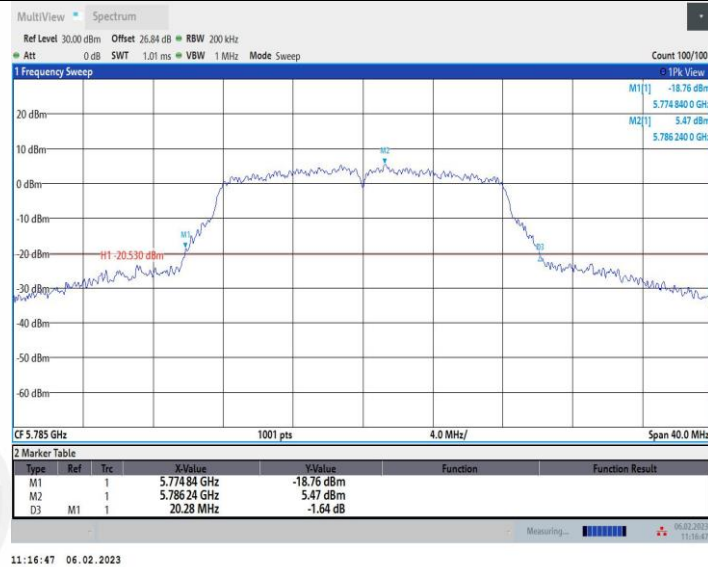
11A_Ant2_5745



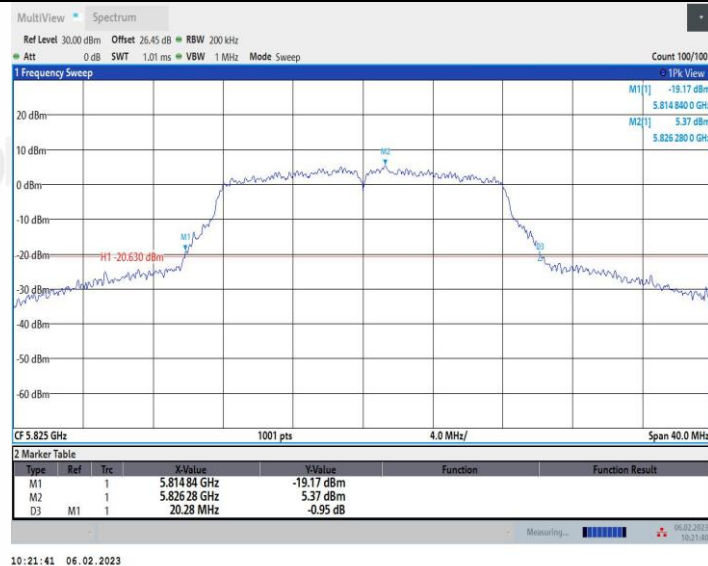
11A_Ant1_5785



11A_Ant2_5785



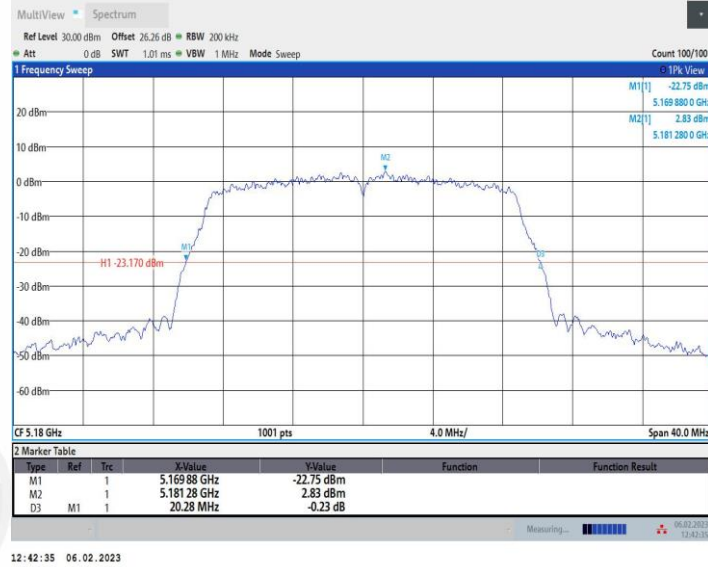
11A_Ant1_5825



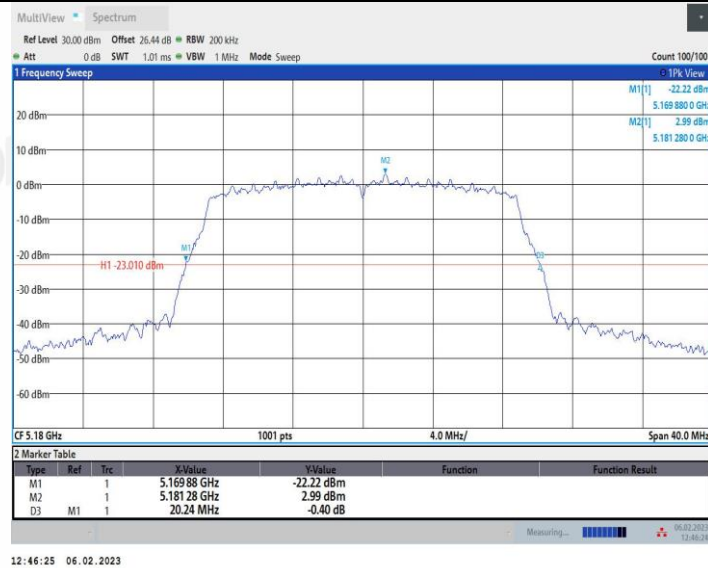
11A_Ant2_5825



11N20MIMO_Ant1_5180



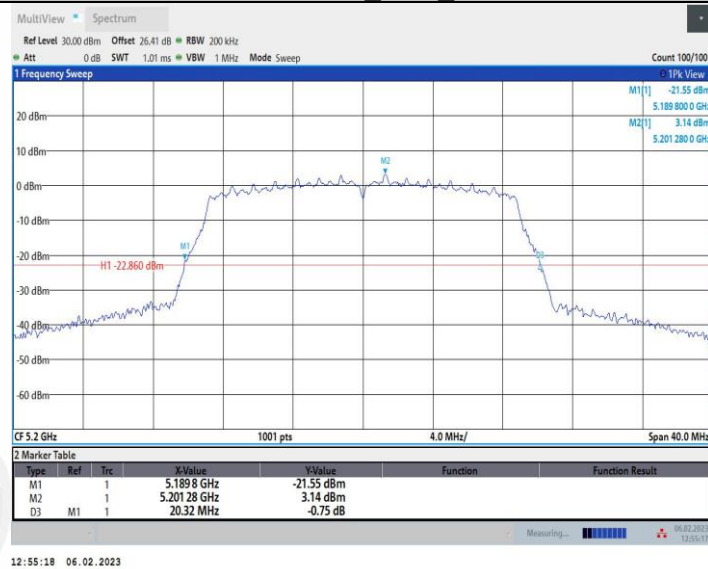
11N20MIMO_Ant2_5180



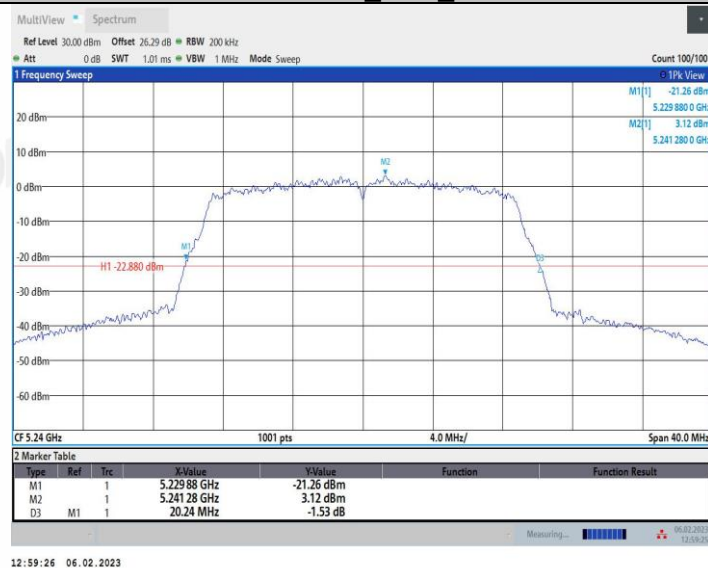
11N20MIMO_Ant1_5200



11N20MIMO_Ant2_5200



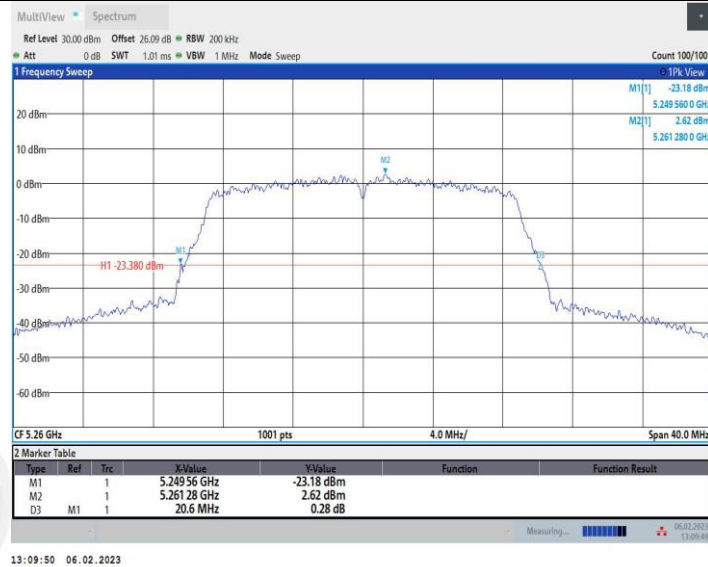
11N20MIMO_Ant1_5240



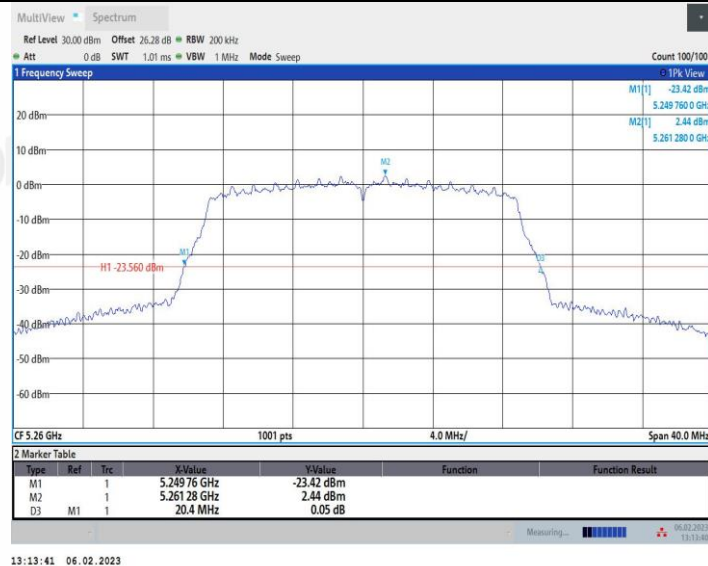
11N20MIMO_Ant2_5240



11N20MIMO_Ant1_5260



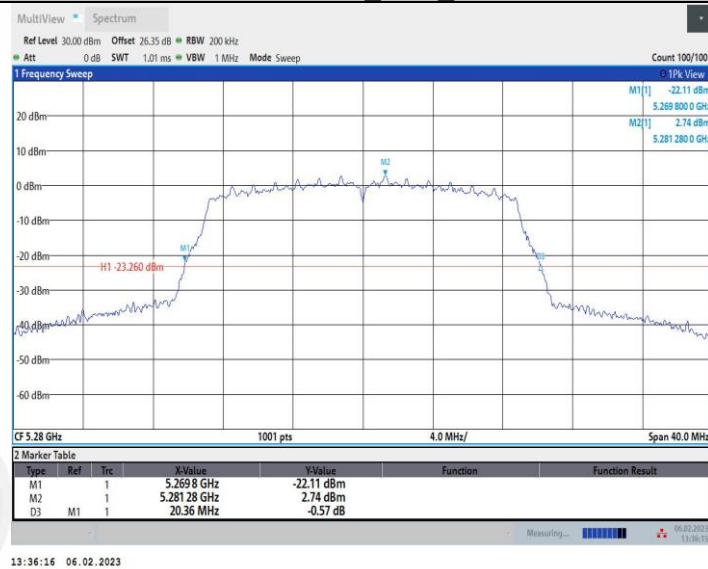
11N20MIMO_Ant2_5260



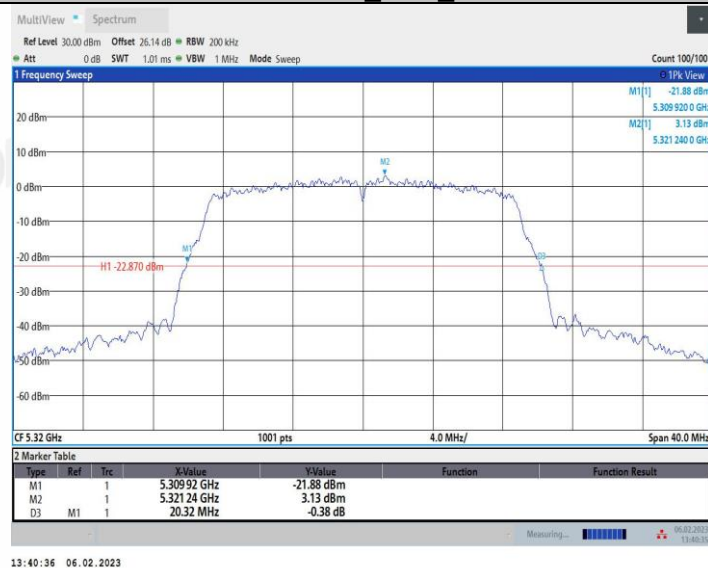
11N20MIMO_Ant1_5280



11N20MIMO_Ant2_5280



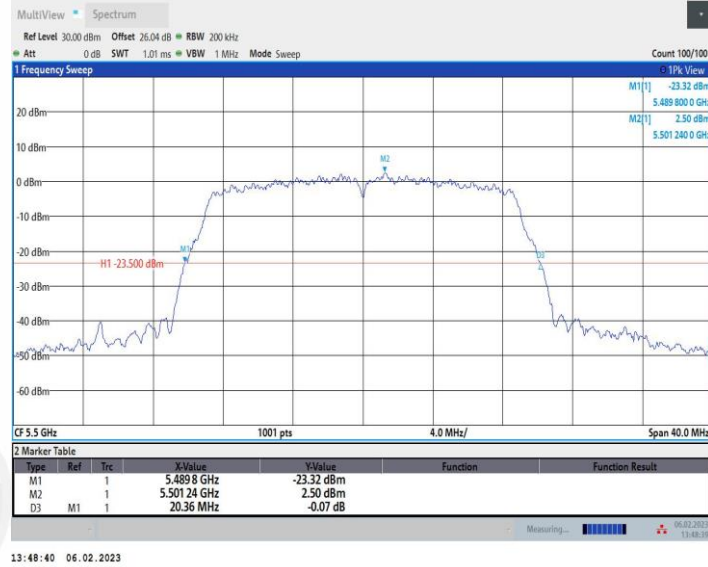
11N20MIMO_Ant1_5320



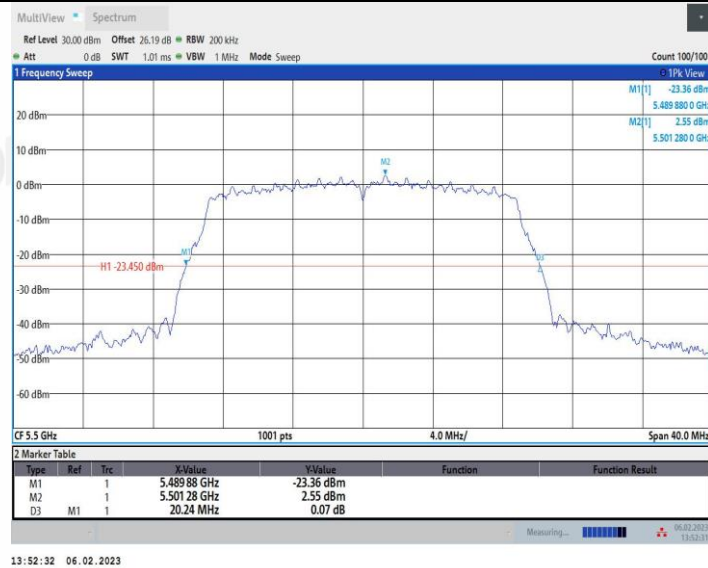
11N20MIMO_Ant2_5320



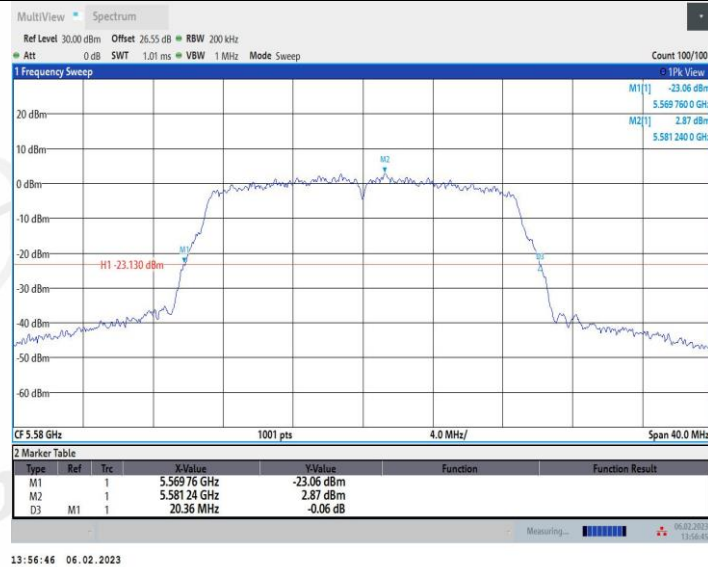
11N20MIMO_Ant1_5500



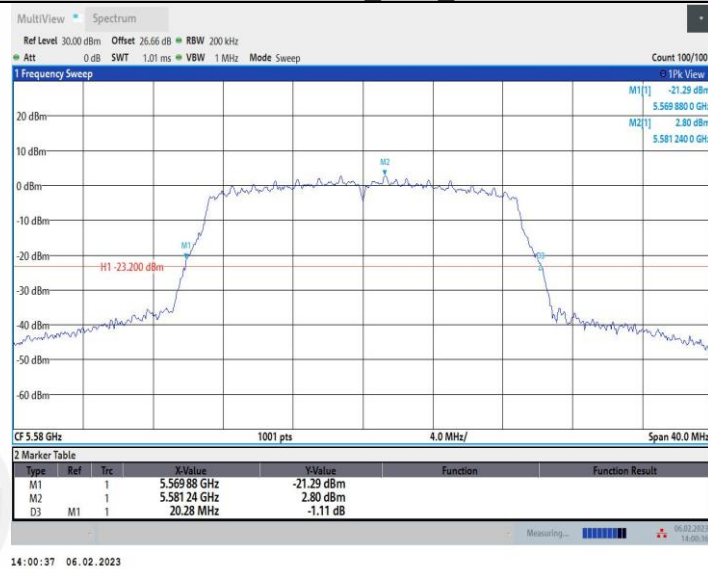
11N20MIMO_Ant2_5500



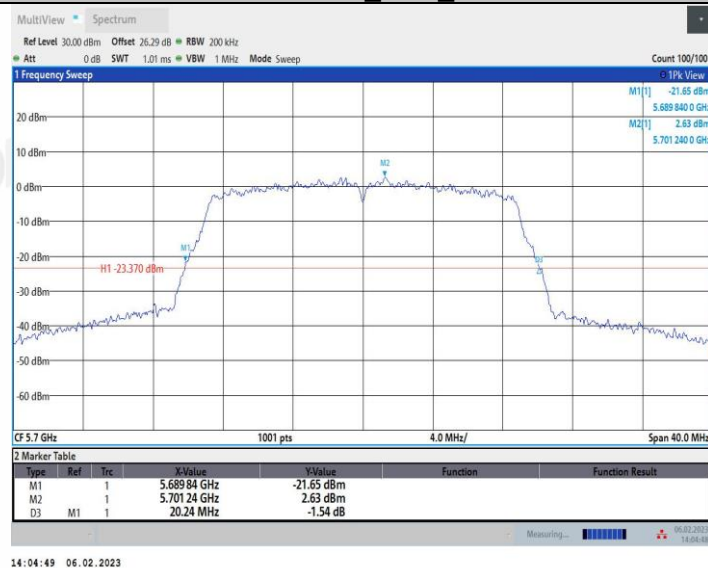
11N20MIMO_Ant1_5580



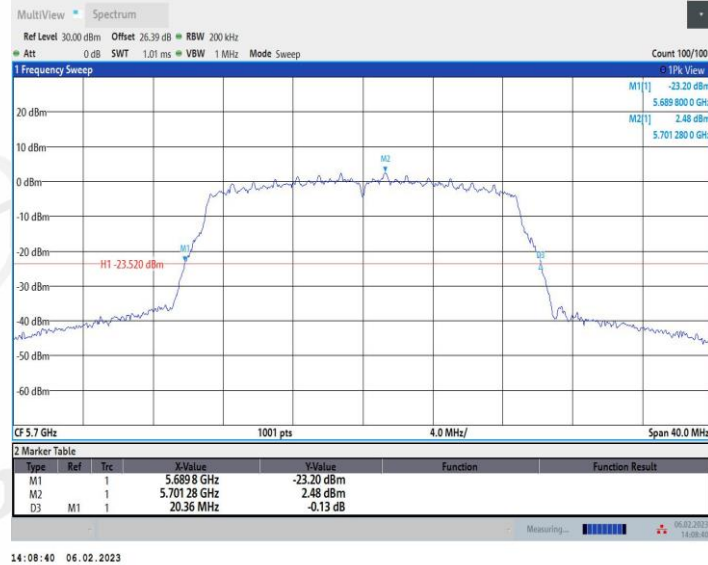
11N20MIMO_Ant2_5580



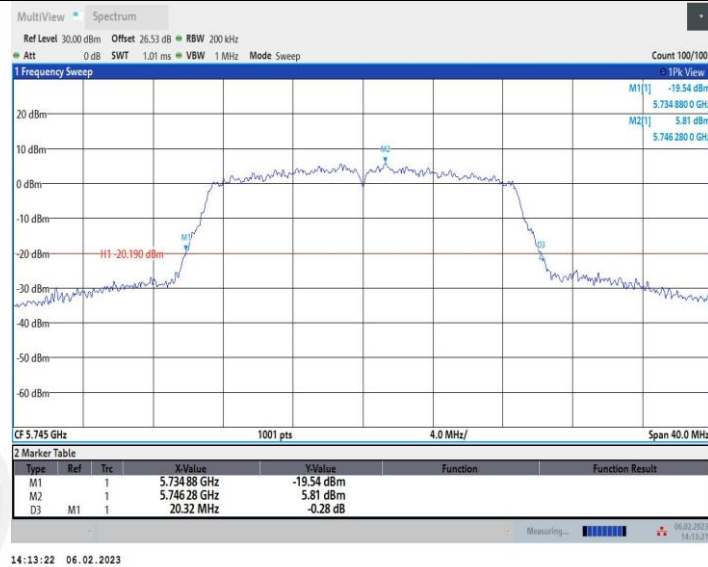
11N20MIMO_Ant1_5700



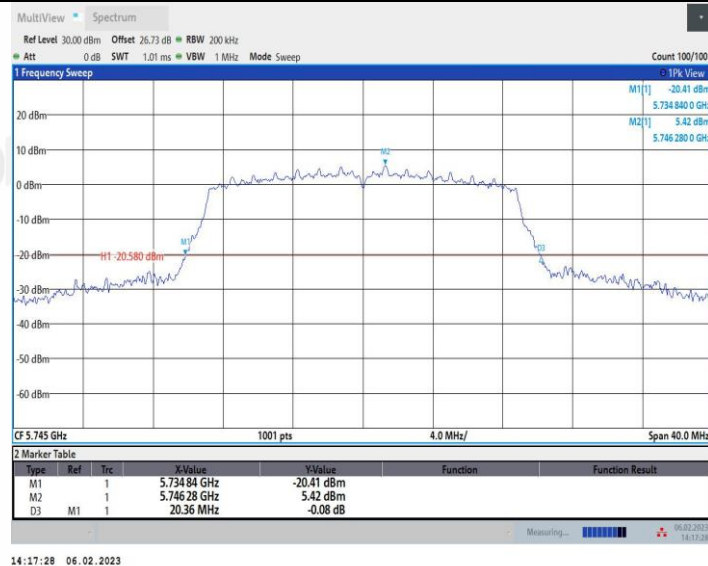
11N20MIMO_Ant2_5700



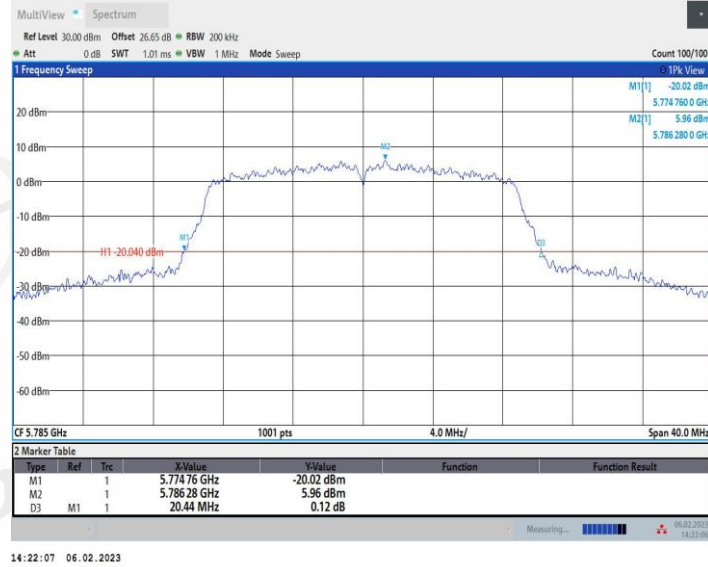
11N20MIMO_Ant1_5745



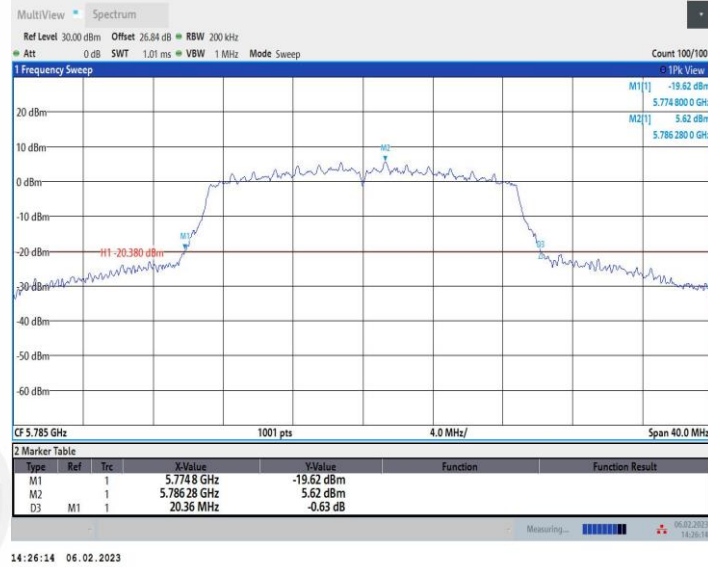
11N20MIMO_Ant2_5745



11N20MIMO_Ant1_5785



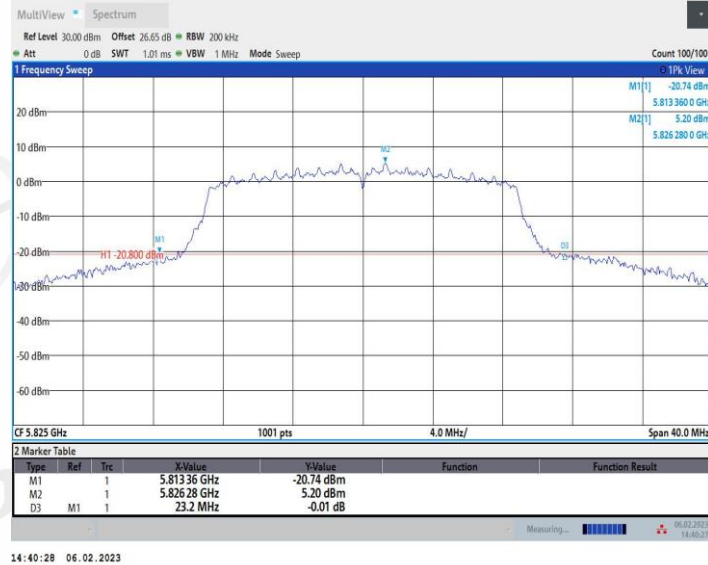
11N20MIMO_Ant2_5785



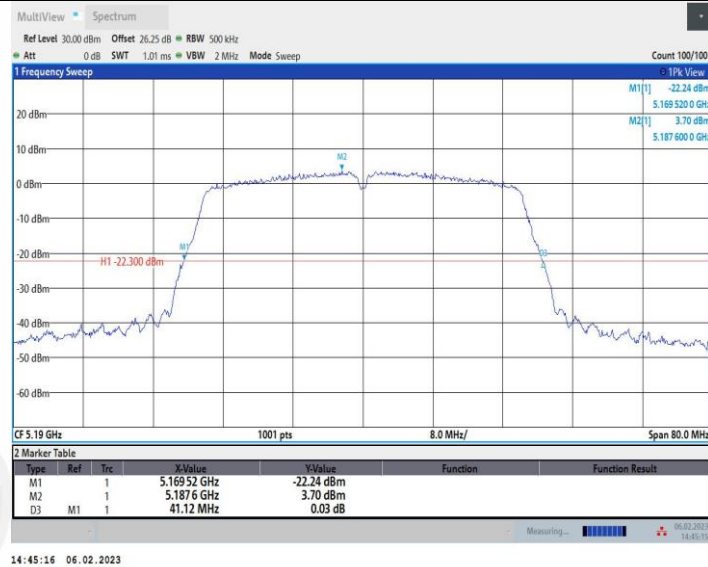
11N20MIMO_Ant1_5825



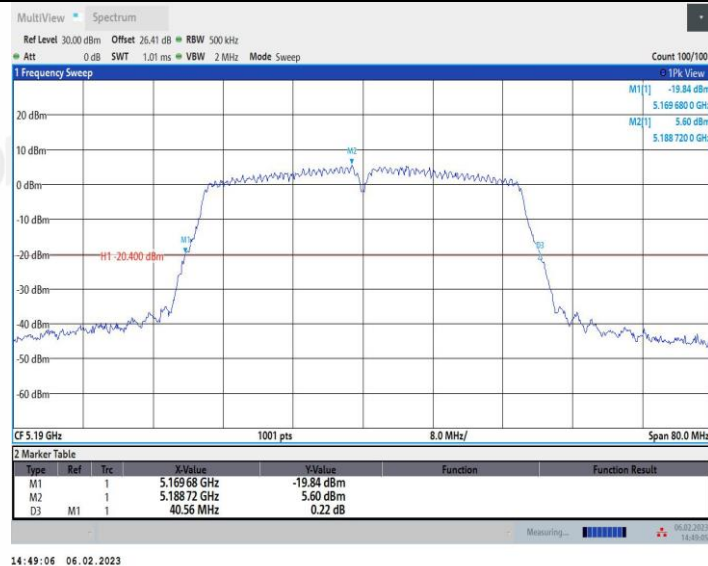
11N20MIMO_Ant2_5825



11N40MIMO_Ant1_5190



11N40MIMO_Ant2_5190



11N40MIMO_Ant1_5230



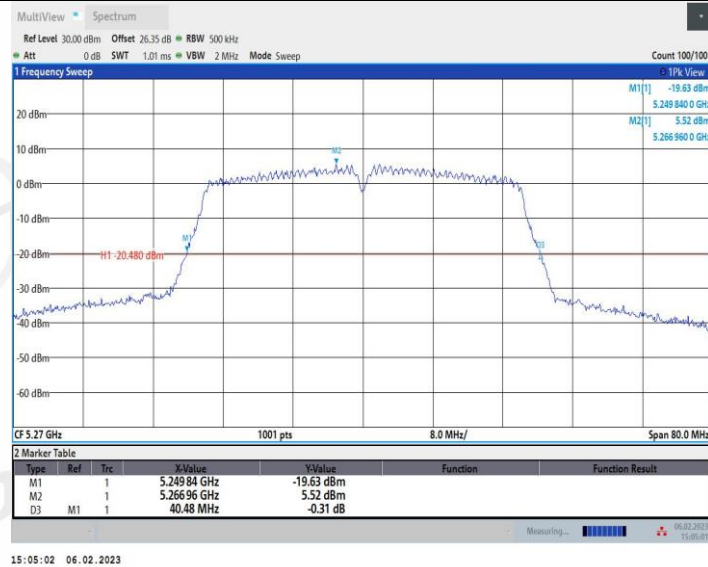
11N40MIMO_Ant2_5230



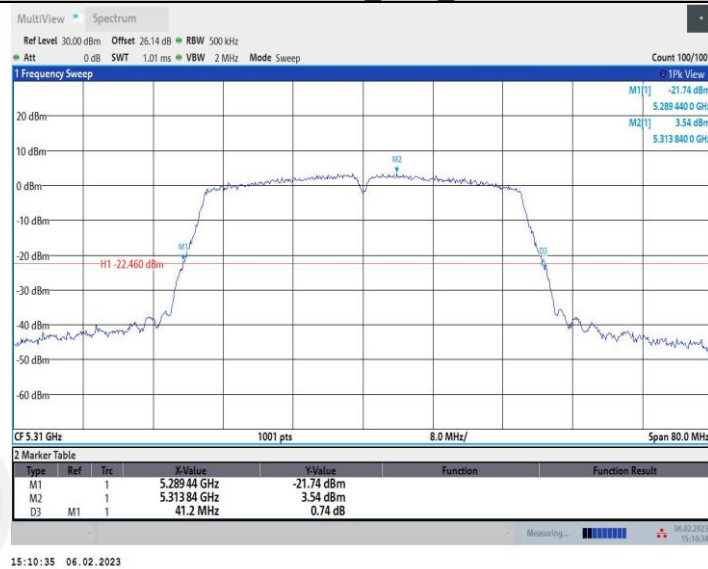
11N40MIMO_Ant1_5270



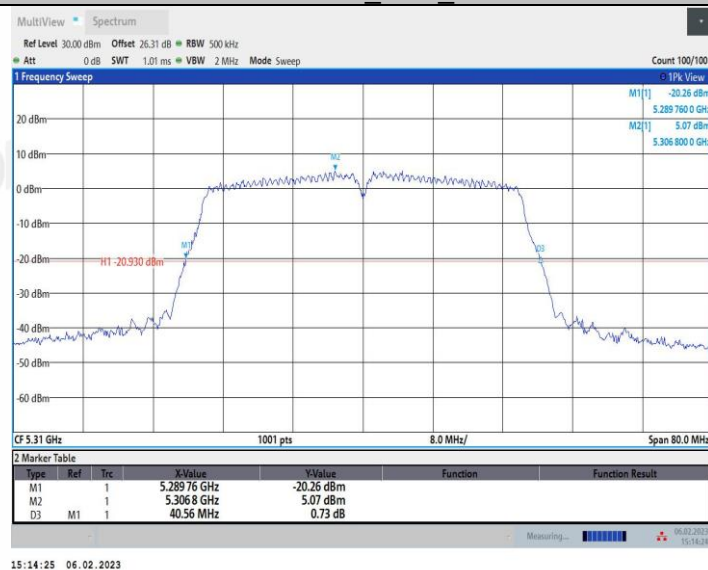
11N40MIMO_Ant2_5270



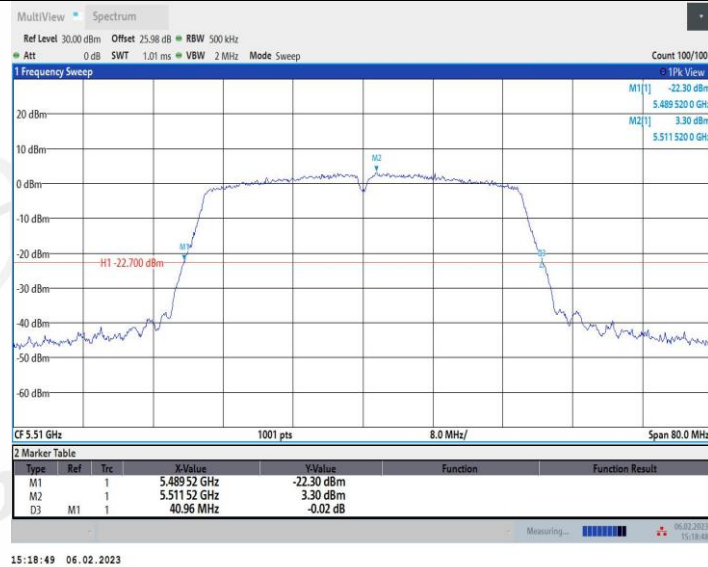
11N40MIMO_Ant1_5310



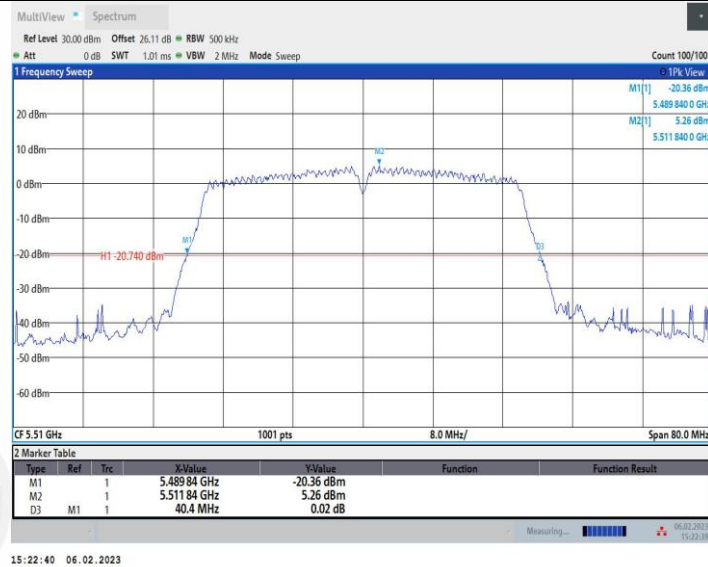
11N40MIMO_Ant2_5310



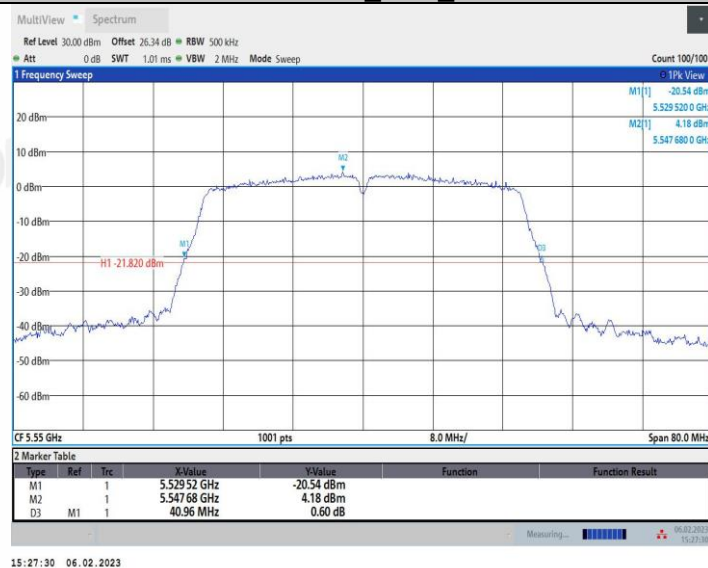
11N40MIMO_Ant1_5510



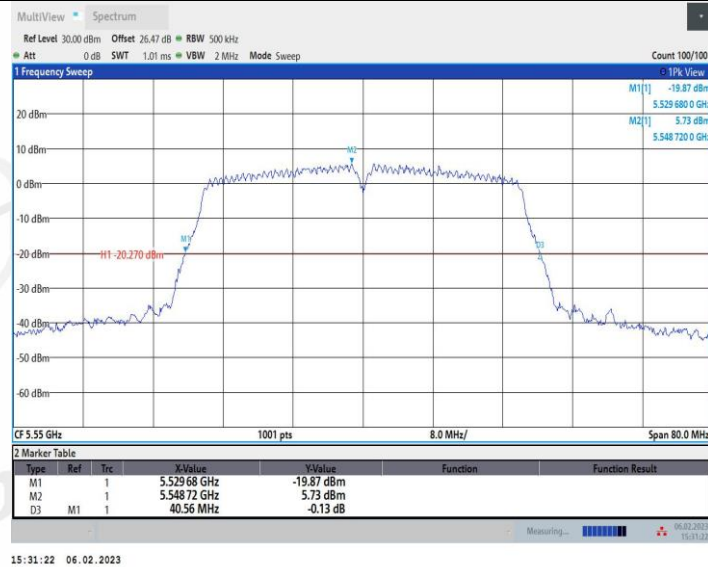
11N40MIMO_Ant2_5510



11N40MIMO_Ant1_5550



11N40MIMO_Ant2_5550



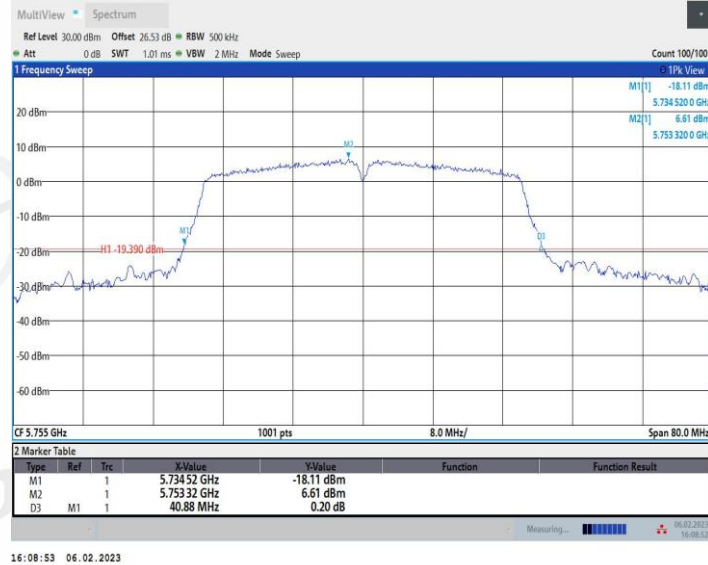
11N40MIMO_Ant1_5670



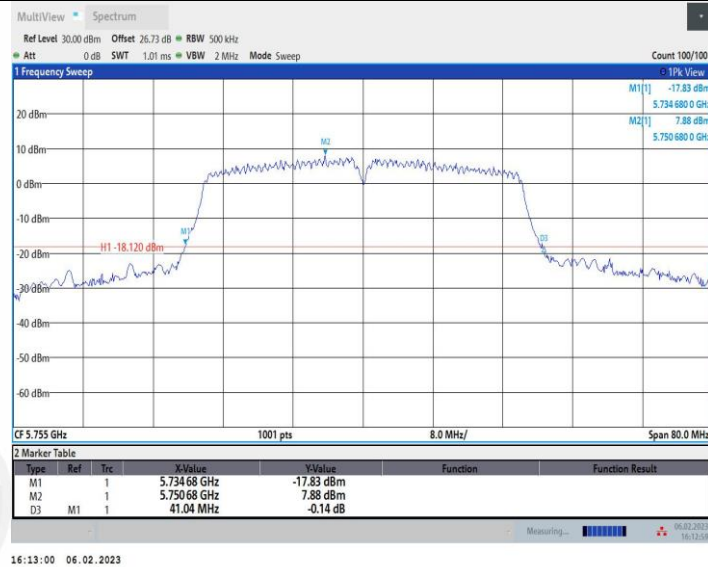
11N40MIMO_Ant2_5670



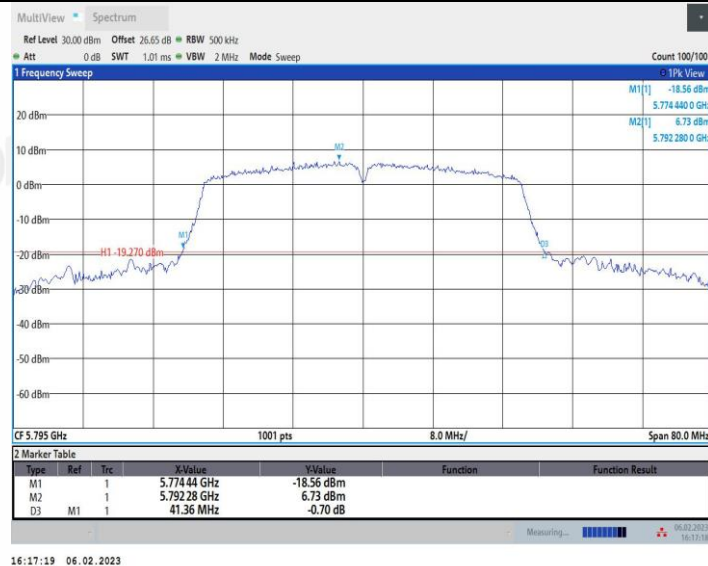
11N40MIMO_Ant1_5755



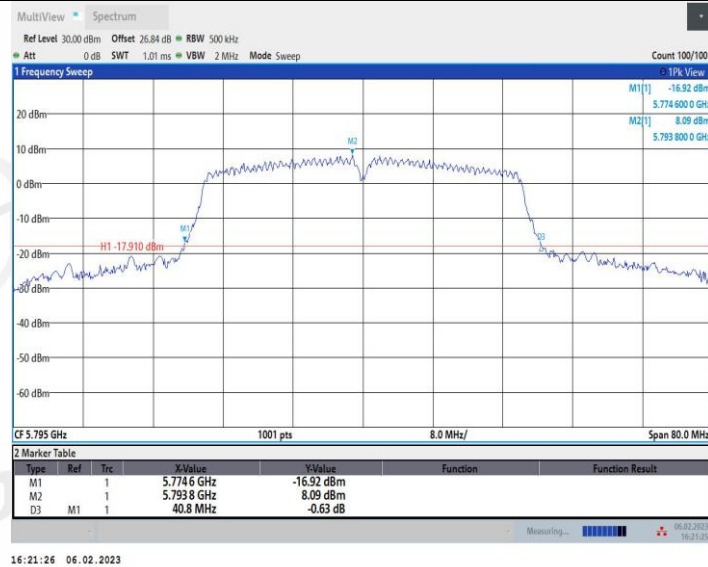
11N40MIMO_Ant2_5755



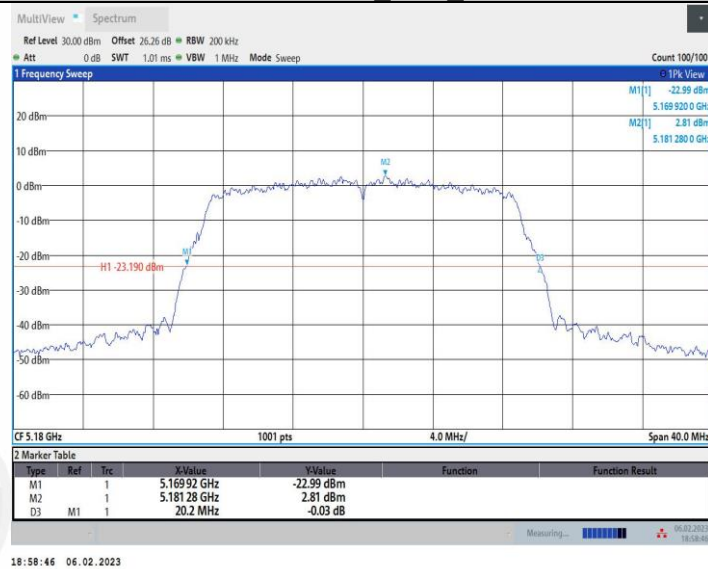
11N40MIMO_Ant1_5795



11N40MIMO_Ant2_5795



11AC20MIMO_Ant1_5180



11AC20MIMO_Ant2_5180

