



FCC PART 15C TEST REPORT No.23T04Z81077-15

for

Wingtech Group (Hong Kong) Limited

5G Mobile Phone

Model Name: TMRV07P5G

FCC ID: 2APXW-TMRV07P5G

with

Hardware Version: V1.0

Software Version: TMRV07P5G_0.03.01

Issued Date: 2024-04-16

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL.

Test Laboratory:

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
23T04Z81077-15	Rev.0	1st edition	2024-03-26
23T04Z81077-15	Rev.1	Added antenna requirements.	2024-04-16

Note: the latest revision of the test report supersedes all previous version.

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1. Test Laboratory

1.1. Introduction & Accreditation

Telecommunication Technology Labs, CAICT is an ISO/IEC 17025:2017 accredited test laboratory under American Association for Laboratory Accreditation (A2LA) with lab code 7049.01, and is also an FCC accredited test laboratory (CN1349), and ISED accredited test laboratory (CAB identifier:CN0066). The detail accreditation scope can be found on A2LA website.

1.2. Testing Location

Conducted testing Location: CTTL(huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing,
P. R. China100191

Radiated testing Location: CTTL(huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing, 100191,
P. R. China

1.3. Testing Environment

Normal Temperature: 15-35°C
Relative Humidity: 20-75%

1.4. Project date

Testing Start Date: 2024-01-16
Testing End Date: 2024-03-18

1.5. Signature



Dong Jiaxuan
(Prepared this test report)



Zheng Wei
(Reviewed this test report)



Pang Shuai
(Approved this test report)



2. Client Information

2.1. Applicant Information

Company Name: Wingtech Group (Hong Kong) Limited
Address: Flat/RM 1903 19/F, Podium Plaza, 5 Hanoi Road, Tsim Sha Tsui, KL,
HK
Contact: sharui
Email: sharui@wingtech.com
Telephone: +86-21-53529900
Fax: /

2.2. Manufacturer Information

Company Name: Wingtech Group (Hong Kong) Limited
Address: Flat/RM 1903 19/F, Podium Plaza, 5 Hanoi Road, Tsim Sha Tsui, KL,
HK
Contact: sharui
Email: sharui@wingtech.com
Telephone: +86-21-53529900
Fax: /

3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Description	5G Mobile Phone
Model name	TMRV07P5G
FCC ID	2APXW-TMRV07P5G
With WLAN Function	Yes
Frequency Band	ISM 2400MHz~2483.5MHz
Type of Modulation	DSSS/CCK/OFDM/OFDMA
Number of Channels	11
Antenna	Integral Antenna
MAX Conducted Power	29.36dBm
Nominal Voltage	3.87V

3.2. Internal Identification of EUT

EUT ID*	SN or IMEI	HW Version	SW Version	Date of receipt
UT98a	860316070023386 860316070023394	V1.0	TMRV07P5G_0.03.01	2024-02-07
UT25a	860316070002869 860316070002877	V1.0	TMRV07P5G_0.03.01	2024-02-07

*EUT ID: is used to identify the test sample in the lab internally.

UT25a is used for Conduction test, UT98a is used for Radiation test.

3.3. Internal Identification of AE

AE ID*	Name	Model	Manufacturer
AE1	Battery	TM002	SCUD (Fujian) Electronics Co.,Ltd.
AE2	Cable	HX-WT-60	Huizhou Washin Electronics Co., LTD

*AE ID: is used to identify the test sample in the lab internally.

3.4. General Description

The Equipment under Test (EUT) is a model of 5G Mobile Phone with integrated antenna and inbuilt battery.

It consists of normal options: travel charger, USB cable.

Manual and specifications of the EUT were provided to fulfil the test.

Samples undergoing test were selected by the client.

3.5. Interpretation of the Test Environment

For the test methods, the test environment uncertainty figures correspond to an expansion factor k=2.

Measurement Uncertainty

Parameter	Uncertainty
temperature	0.48°C
humidity	2 %

DC voltages	0.003V
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4. Reference Documents

4.1. Documents supplied by applicant

EUT feature information is supplied by the applicant or manufacturer, which is the basis of testing.

4.2. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC Part15	FCC CFR 47, Part 15, Subpart C: 15.205 Restricted bands of operation; 15.209 Radiated emission limits, general requirements; 15.247 Operation within the bands 902-928MHz, 2400-2483.5 MHz, and 5725-5850 MHz.	2021
ANSI C63.10	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices	2013
KDB 558074 D01	Federal Communications Commission Office of Engineering and Technology Laboratory Division GUIDANCE FOR COMPLIANCE MEASUREMENTS ON DIGITAL TRANSMISSION SYSTEM, FREQUENCY HOPPING SPREAD SPECTRUM SYSTEM, AND HYBRID SYSTEM DEVICES OPERATING UNDER SECTION 15.247 OF THE FCC RULES	2019

5. LABORATORY ENVIRONMENT

Conducted RF performance testing is performed in shielding room.

EMC performance testing is performed in Semi-anechoic chamber.

6. Test Results

6.1. Summary of Test Results

SUMMARY OF MEASUREMENT RESULTS	Sub-clause of Part15C	Sub-clause of IC	Verdict
Maximum Peak Output Power	15.247 (b)	/	P
Peak Power Spectral Density	15.247 (e)	/	P
Occupied 6dB Bandwidth	15.247 (a)	/	P
Band Edges Compliance	15.247 (d)	/	P
Transmitter Spurious Emission - Conducted	15.247 (d)	/	P
Radiated Unwanted Emission	15.247, 15.205, 15.209	/	P
AC Powerline Conducted Emission	15.107, 15.207	/	P

Please refer to **ANNEX A** for detail.

Terms used in Verdict column

P	Pass, The EUT complies with the essential requirements in the standard.
NP	Not Perform, The test was not performed by CTTL
NA	Not Applicable, The test was not applicable
F	Fail, The EUT does not comply with the essential requirements in the standard

6.2. Statements

CTTL has evaluated the test cases as listed in section 6.1 of this report for the EUT specified in section 3 according to the standards or reference documents listed in section 4.

This report only deals with the WLAN function among the features described in section 3.

6.3. Test Conditions

For this report, all the test cases are tested under normal temperature and normal voltage, and also under norm humidity, the specific condition is shown as follows:

Temperature	26°C
Voltage	3.87V
Humidity	44%

7. Test Facilities Utilized

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Vector Signal Analyzer	FSQ40	200089	Rohde & Schwarz	1 year	2024-07-04
2	Vector Signal Analyzer	FSW67	104051	Rohde & Schwarz	1 year	2024-03-06
3	LISN	ENV216	101200	R&S	13 months	2024-07-04
4	Test Receiver	ESCI	100344	R&S	13 months	2024-03-20
5	Attenuator	10dB/2W	/	Rosenberger	/	/
6	Shielding Room	S81	/	ETS-Lindgren	/	/

Note: The equipment was in Calibration Due date when used.

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Test Receiver	ESW44	103023	R&S	13 months	2024-07-08
2	EMI Antenna	VULB9163	01223	SCHWARZBE CK	13 months	2024-08-18
3	EMI Antenna	3115	6914	ETS-Lindgren	13 months	2024-06-07

Test Software

Test Item	Test Software and Version	Software Vendor
Radiated Continuous Emission	EMC32 V11.50.020	R&S
Conducted Emission	EMC32 V8.53.0	R&S

8. Measurement Uncertainty

8.1. Maximum Output Power

Measurement Uncertainty: 0.387dB,k=1.96

8.2. Peak Power Spectral Density

Measurement Uncertainty: 0.705dB,k=1.96

8.3. DTS 6-dB Signal Bandwidth

Measurement Uncertainty: 60.80Hz,k=1.96

8.4. Band Edges Compliance

Measurement Uncertainty : 0.62dB,k=1.96

8.5. Transmitter Spurious Emission

Conducted (k=1.96)

Frequency Range	Uncertainty(dB)
$30\text{MHz} \leq f \leq 2\text{GHz}$	1.22
$2\text{GHz} \leq f \leq 3.6\text{GHz}$	1.22
$3.6\text{GHz} \leq f \leq 8\text{GHz}$	1.22
$8\text{GHz} \leq f \leq 12.75\text{GHz}$	1.51
$12.75\text{GHz} \leq f \leq 26\text{GHz}$	1.51
$26\text{GHz} \leq f \leq 40\text{GHz}$	1.59

8.6. Radiated Unwanted Emission

Radiated (k=2)

Frequency Range	Uncertainty(dB)
9kHz-30MHz	/
$30\text{MHz} \leq f \leq 1\text{GHz}$	4.72
$1\text{GHz} \leq f \leq 18\text{GHz}$	4.84
$18\text{GHz} \leq f \leq 40\text{GHz}$	5.12

8.7. AC Power-line Conducted Emission

Measurement Uncertainty : 3.08dB,k=2

ANNEX A: Detailed Test Results

A.1. Measurement Method

A.1.1. Conducted Measurements

Connect the EUT to the test system as Fig.A.1.1.1 shows.

Set the EUT to the required work mode.

Set the EUT to the required channel.

Set the Vector Signal Analyzer and start measurement.

Record the values. Vector Signal Analyzer

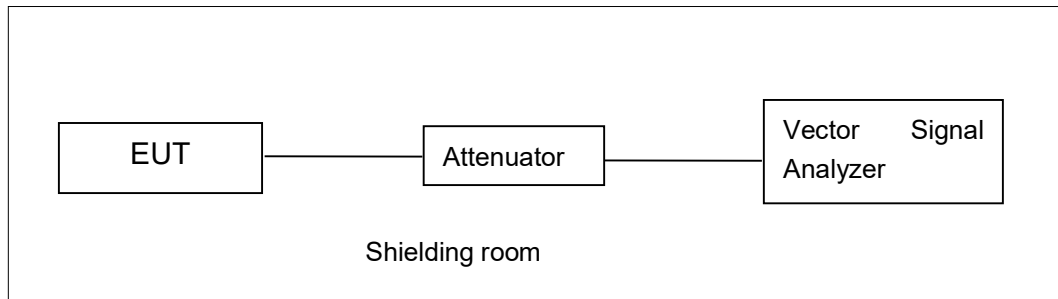


Fig.A.1.1.1: Test Setup Diagram for Conducted Measurements

A.1.2. Radiated Emission Measurements

The measurement is made according to ANSI C63.10

The radiated emission test is performed in semi-anechoic chamber. The EUT was placed on a non-conductive table with 80cm above the ground plane for measurement below 1GHz and 1.5m above the ground plane for measurement above 1GHz. The measurement antenna was placed at a distance of 3 meters from the EUT. The test is carried out on both vertical and horizontal polarization and only maximization result of both polarizations is kept. During the test, the turntable is rotated from 0° to 360° and the measurement antenna is moved from 1m to 4m to get the maximization result. The maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

A.2. Maximum Output Power

Method of Measurement: See ANSI C63.10-2013-clause 11.9.1.3

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall use a fast-responding diode detector.

Measurement Limit:

Standard	Limit (dBm)
FCC CRF Part 15.247(b)	< 30

A.2.1 Antenna Gain

Antenna gain is -2.1/-8.5dBi(ANT5/ANT7) and the value is supplied by the applicant or manufacturer.

A.2.2. Peak Output Power-conducted

EUT ID: UT25a

Measurement Results:

SISO-ANT5

802.11b/g mode

Mode	Data Rate (Mbps)	Test Result (dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11b	1	21.20	20.74	20.46
	2	\	\	\
	5.5	\	\	\
	11	\	\	\
802.11g	6	25.14	24.77	25.18
	9	\	\	\
	12	\	\	\
	18	\	\	\
	24	\	\	\
	36	\	\	\
	48	\	\	\
54	\	\	\	

The data rate 1Mbps and 6Mbps are selected as worst condition, and the following cases are performed with this condition.

802.11n-HT20 mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11n (20MHz)	MCS0	25.43	24.63	23.16
	MCS1	\	\	\
	MCS2	\	\	\
	MCS3	\	\	\
	MCS4	\	\	\
	MCS5	\	\	\
	MCS6	\	\	\
	MCS7	\	\	\

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

802.11n-HT40 mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2422MHz (Ch3)	2437MHz (Ch6)	2452 MHz (Ch9)
802.11n (40MHz)	MCS0	23.77	23.44	23.66
	MCS1	\	\	\
	MCS2	\	\	\
	MCS3	\	\	\
	MCS4	\	\	\
	MCS5	\	\	\
	MCS6	\	\	\
	MCS7	\	\	\

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

802.11ax-HE20 mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11ax (20MHz)	MCS0	26.78	25.87	24.41
	MCS1	\	\	\
	MCS2	\	\	\
	MCS3	\	\	\
	MCS4	\	\	\
	MCS5	\	\	\
	MCS6	\	\	\
	MCS7	\	\	\
	MCS8	\	\	\
	MCS9	\	\	\
	MCS10	\	\	\
	MCS11	\	\	\

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

802.11ax-HE40 mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2422MHz (Ch3)	2437MHz (Ch6)	2452 MHz (Ch9)
802.11ax (40MHz)	MCS0	24.03	23.66	23.90
	MCS1	\	\	\
	MCS2	\	\	\
	MCS3	\	\	\
	MCS4	\	\	\
	MCS5	\	\	\
	MCS6	\	\	\
	MCS7	\	\	\
	MCS8	\	\	\
	MCS9	\	\	\
	MCS10	\	\	\
	MCS11	\	\	\

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

SISO-ANT7
802.11b/g mode

Mode	Data Rate (Mbps)	Test Result (dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11b	1	21.95	21.52	21.46
	2	\	\	\
	5.5	\	\	\
	11	\	\	\
802.11g	6	25.21	24.73	24.78
	9	\	\	\
	12	\	\	\
	18	\	\	\
	24	\	\	\
	36	\	\	\
	48	\	\	\
	54	\	\	\

The data rate 1Mbps and 6Mbps are selected as worst condition, and the following cases are performed with this condition.

802.11n-HT20 mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11n (20MHz)	MCS0	24.07	24.62	21.91
	MCS1	\	\	\
	MCS2	\	\	\
	MCS3	\	\	\
	MCS4	\	\	\
	MCS5	\	\	\
	MCS6	\	\	\
	MCS7	\	\	\

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

802.11n-HT40 mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2422MHz (Ch3)	2437MHz (Ch6)	2452 MHz (Ch9)
802.11n (40MHz)	MCS0	23.58	23.44	23.57
	MCS1	\	\	\
	MCS2	\	\	\
	MCS3	\	\	\
	MCS4	\	\	\
	MCS5	\	\	\
	MCS6	\	\	\
	MCS7	\	\	\

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

802.11ax-HE20 mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11ax (20MHz)	MCS0	25.34	25.88	23.21
	MCS1	\	\	\
	MCS2	\	\	\
	MCS3	\	\	\
	MCS4	\	\	\
	MCS5	\	\	\
	MCS6	\	\	\
	MCS7	\	\	\
	MCS8	\	\	\
	MCS9	\	\	\
	MCS10	\	\	\
	MCS11	\	\	\

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

802.11ax-HE40 mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2422MHz (Ch3)	2437MHz (Ch6)	2452 MHz (Ch9)
802.11ax (40MHz)	MCS0	23.84	23.67	23.76
	MCS1	\	\	\
	MCS2	\	\	\
	MCS3	\	\	\
	MCS4	\	\	\
	MCS5	\	\	\
	MCS6	\	\	\
	MCS7	\	\	\
	MCS8	\	\	\
	MCS9	\	\	\
	MCS10	\	\	\
	MCS11	\	\	\

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

MIMO
802.11n-HT20 mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11n (20MHz)	MCS0	28.03	27.70	25.70
	MCS1	\	\	\
	MCS2	\	\	\
	MCS3	\	\	\
	MCS4	\	\	\
	MCS5	\	\	\
	MCS6	\	\	\
	MCS7	\	\	\

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

802.11n-HT40 mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2422MHz (Ch3)	2437MHz (Ch6)	2452 MHz (Ch9)
802.11n (40MHz)	MCS0	26.72	26.42	26.48
	MCS1	\	\	\
	MCS2	\	\	\
	MCS3	\	\	\
	MCS4	\	\	\
	MCS5	\	\	\
	MCS6	\	\	\
	MCS7	\	\	\

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

802.11ax-HE20 mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11ax (20MHz)	MCS0	29.36	28.99	26.98
	MCS1	\	\	\
	MCS2	\	\	\
	MCS3	\	\	\
	MCS4	\	\	\
	MCS5	\	\	\
	MCS6	\	\	\
	MCS7	\	\	\
	MCS8	\	\	\
	MCS9	\	\	\
	MCS10	\	\	\
	MCS11	\	\	\

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

802.11ax-HE40 mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2422MHz (Ch3)	2437MHz (Ch6)	2452 MHz (Ch9)
802.11ax (40MHz)	MCS0	26.90	26.64	26.65
	MCS1	\	\	\
	MCS2	\	\	\
	MCS3	\	\	\
	MCS4	\	\	\
	MCS5	\	\	\
	MCS6	\	\	\
	MCS7	\	\	\
	MCS8	\	\	\
	MCS9	\	\	\
	MCS10	\	\	\
	MCS11	\	\	\

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

11ax-RU
MIMO
802.11ax-HE20 RU26-L mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11ax RU26-L (20MHz)	MCS0	18.87	18.93	18.82
	MCS1	\	\	\
	MCS2	\	\	\
	MCS3	\	\	\
	MCS4	\	\	\
	MCS5	\	\	\
	MCS6	\	\	\
	MCS7	\	\	\
	MCS8	\	\	\
	MCS9	\	\	\
	MCS10	\	\	\
	MCS11	\	\	\

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

802.11ax-HE20 RU26-R mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11ax RU26-R (20MHz)	MCS0	19.55	18.92	18.53
	MCS1	\	\	\
	MCS2	\	\	\
	MCS3	\	\	\
	MCS4	\	\	\
	MCS5	\	\	\
	MCS6	\	\	\
	MCS7	\	\	\
	MCS8	\	\	\
	MCS9	\	\	\
	MCS10	\	\	\
	MCS11	\	\	\

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

802.11ax-HE20 RU52-L mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11ax RU52-L (20MHz)	MCS0	21.66	21.81	21.33
	MCS1	\	\	\
	MCS2	\	\	\
	MCS3	\	\	\
	MCS4	\	\	\
	MCS5	\	\	\
	MCS6	\	\	\
	MCS7	\	\	\
	MCS8	\	\	\
	MCS9	\	\	\
	MCS10	\	\	\
	MCS11	\	\	\

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

802.11ax-HE20 RU52-R mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11ax RU52-R (20MHz)	MCS0	22.33	21.81	21.33
	MCS1	\	\	\
	MCS2	\	\	\
	MCS3	\	\	\
	MCS4	\	\	\
	MCS5	\	\	\
	MCS6	\	\	\
	MCS7	\	\	\
	MCS8	\	\	\
	MCS9	\	\	\
	MCS10	\	\	\
	MCS11	\	\	\

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

802.11ax-HE20 RU106-L mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11ax RU106-L (20MHz)	MCS0	23.40	23.28	23.28
	MCS1	\	\	\
	MCS2	\	\	\
	MCS3	\	\	\
	MCS4	\	\	\
	MCS5	\	\	\
	MCS6	\	\	\
	MCS7	\	\	\
	MCS8	\	\	\
	MCS9	\	\	\
	MCS10	\	\	\
	MCS11	\	\	\

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

802.11ax-HE20 RU106-R mode

Mode	Data Rate (Index)	Test Result (dBm)		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11ax RU106-R (20MHz)	MCS0	23.83	23.35	23.27
	MCS1	\	\	\
	MCS2	\	\	\
	MCS3	\	\	\
	MCS4	\	\	\
	MCS5	\	\	\
	MCS6	\	\	\
	MCS7	\	\	\
	MCS8	\	\	\
	MCS9	\	\	\
	MCS10	\	\	\
	MCS11	\	\	\

The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

The duty cycle of all mode are 99%

Conclusion: Pass

A.3. Peak Power Spectral Density

Method of Measurement: See ANSI C63.10-2013-clause 11.10.2

- a) Set analyzer center frequency to DTS channel center frequency.
- b) Set the span to 1.5 times the DTS bandwidth.
- c) Set the RBW to RBW = 3 kHz.
- d) Set the VBW = 10 kHz.
- e) Detector = peak.
- f) Sweep time = auto couple.
- g) Trace mode = max hold.
- h) Allow trace to fully stabilize.
- i) Use the peak marker function to determine the maximum amplitude level within the RBW.

Measurement Limit:

Standard	Limit
FCC CRF Part 15.247(e)	< 8 dBm/3 kHz

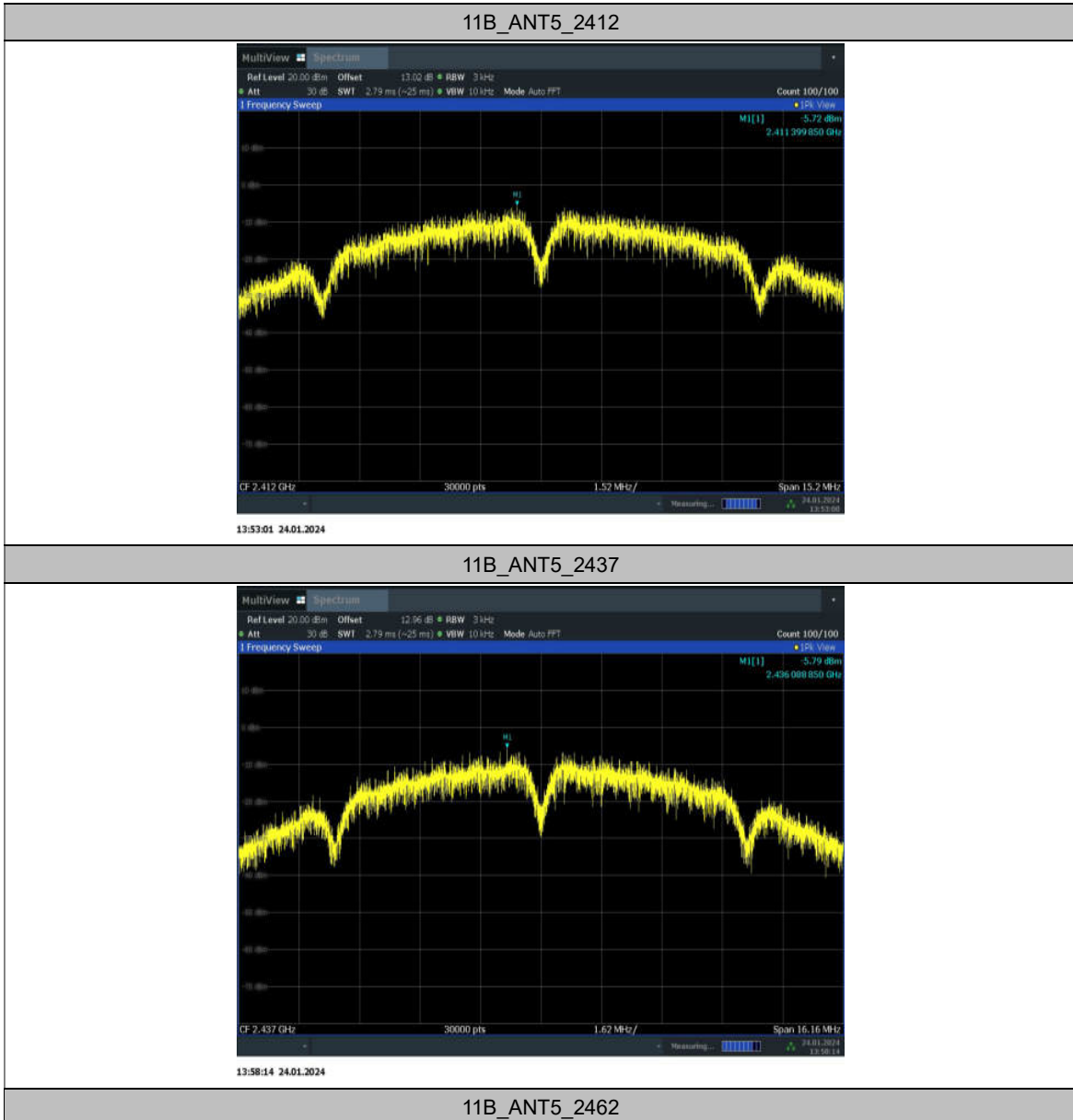
EUT ID: UT25a

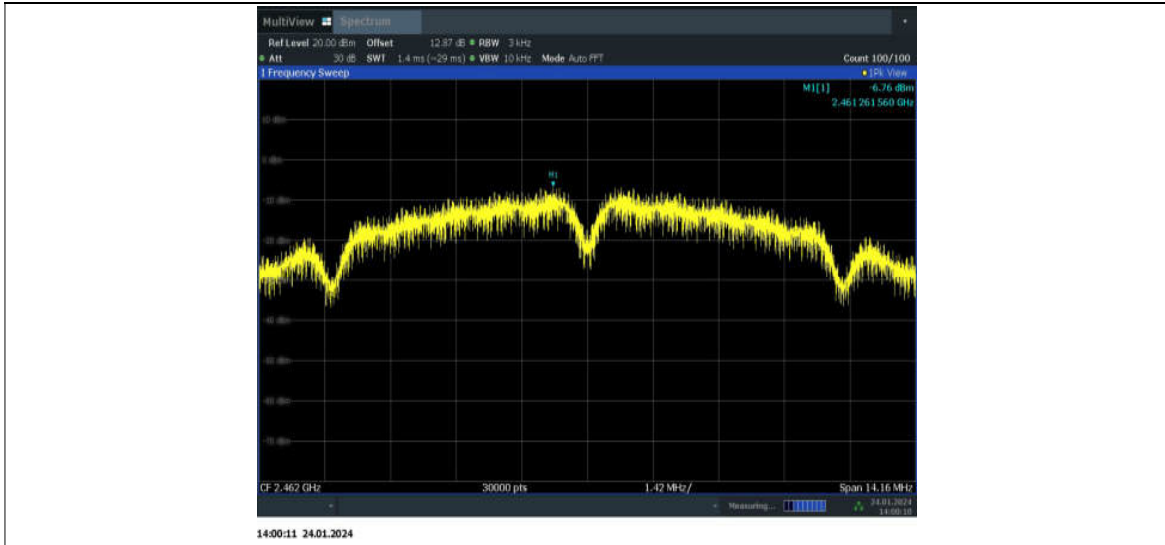
Measurement Results:

TestMode	Antenna	Frequency[MHz]	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
11B	ANT5	2412	-5.72	≤8.00	PASS
		2437	-5.79	≤8.00	PASS
		2462	-6.76	≤8.00	PASS
11G	ANT5	2412	-7.03	≤8.00	PASS
		2437	-8.66	≤8.00	PASS
		2462	-7.76	≤8.00	PASS
11AX20SISO	ANT5	2412	-7.97	≤8.00	PASS
		2437	-8.38	≤8.00	PASS
		2462	-10.82	≤8.00	PASS
11AX40SISO	ANT5	2422	-13.04	≤8.00	PASS
		2437	-13.32	≤8.00	PASS
		2452	-12.45	≤8.00	PASS
11AX20MIMO	ANT5	2412	-7.45	≤8.00	PASS
	ANT7	2412	-9.05	≤8.00	PASS
	TOTAL	2412	-5.17	≤8.00	PASS
	ANT5	2437	-8.96	≤8.00	PASS
	ANT7	2437	-9.27	≤8.00	PASS
	TOTAL	2437	-6.10	≤8.00	PASS
	ANT5	2462	-10.81	≤8.00	PASS
	ANT7	2462	-12.26	≤8.00	PASS
	TOTAL	2462	-8.46	≤8.00	PASS
11AX40MIMO	ANT5	2422	-12.82	≤8.00	PASS
	ANT7	2422	-12.70	≤8.00	PASS
	TOTAL	2422	-9.75	≤8.00	PASS

	ANT5	2437	-13.71	≤8.00	PASS
	ANT7	2437	-12.52	≤8.00	PASS
	TOTAL	2437	-10.06	≤8.00	PASS
	ANT5	2452	-12.90	≤8.00	PASS
	ANT7	2452	-11.60	≤8.00	PASS
	TOTAL	2452	-9.19	≤8.00	PASS

Test graphs as below:





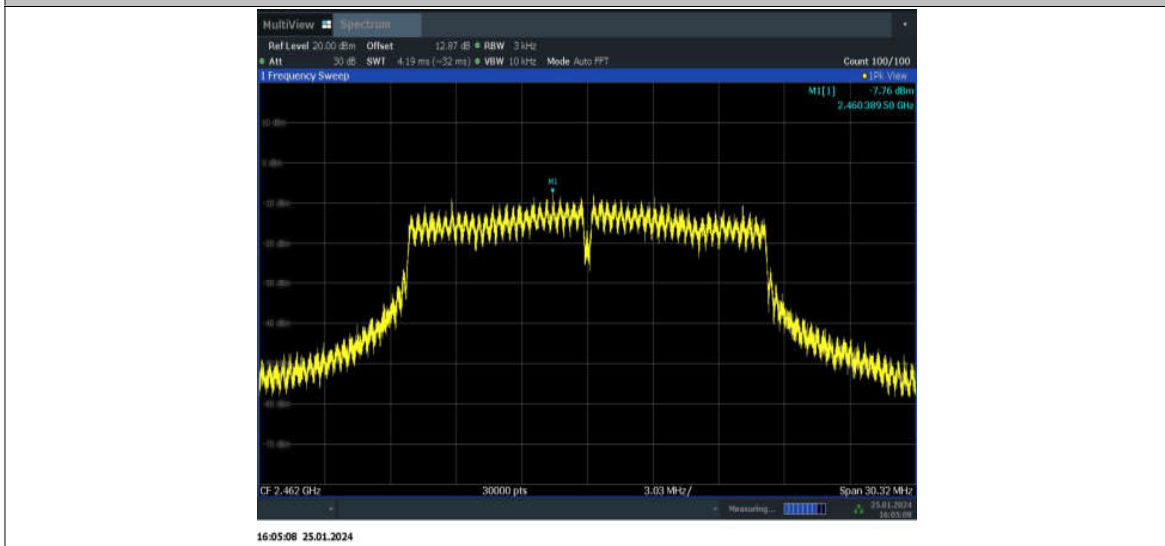
11G_ANT5_2412



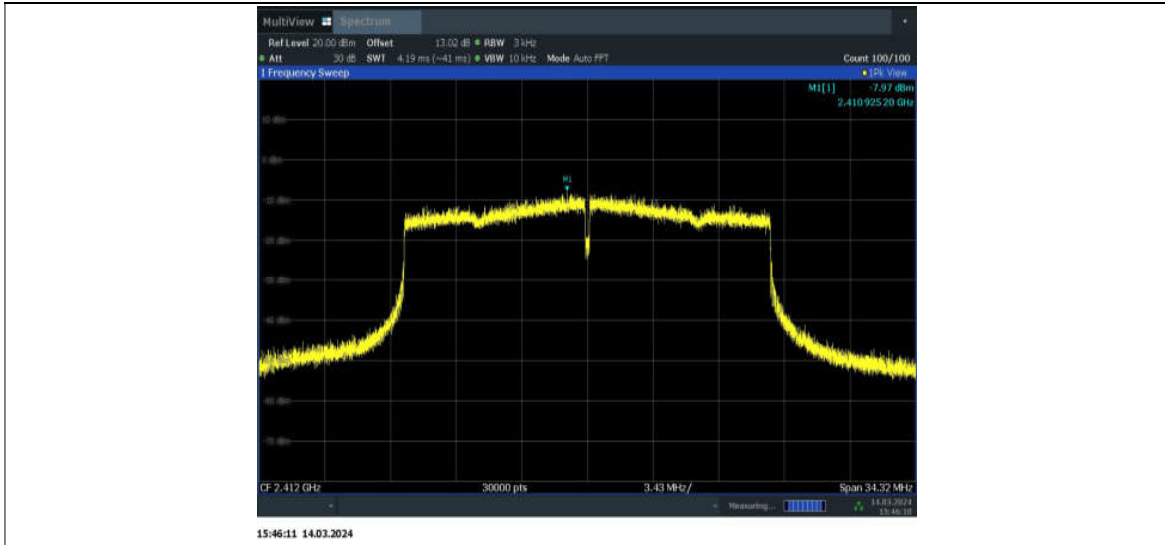
11G_ANT5_2437



11G_ANT5_2462



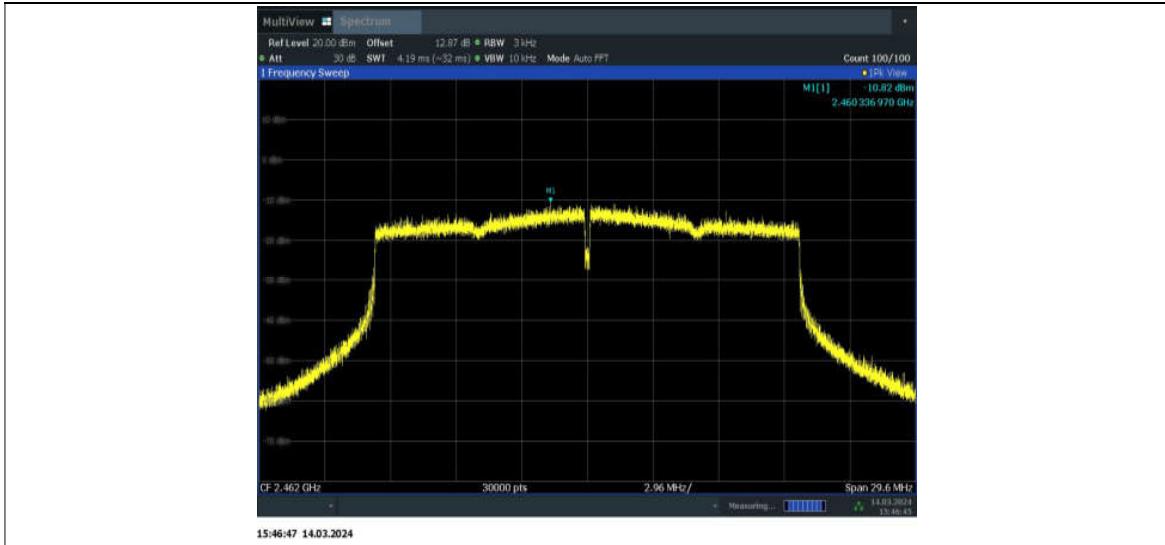
11AX20SISO_ANT5_2412



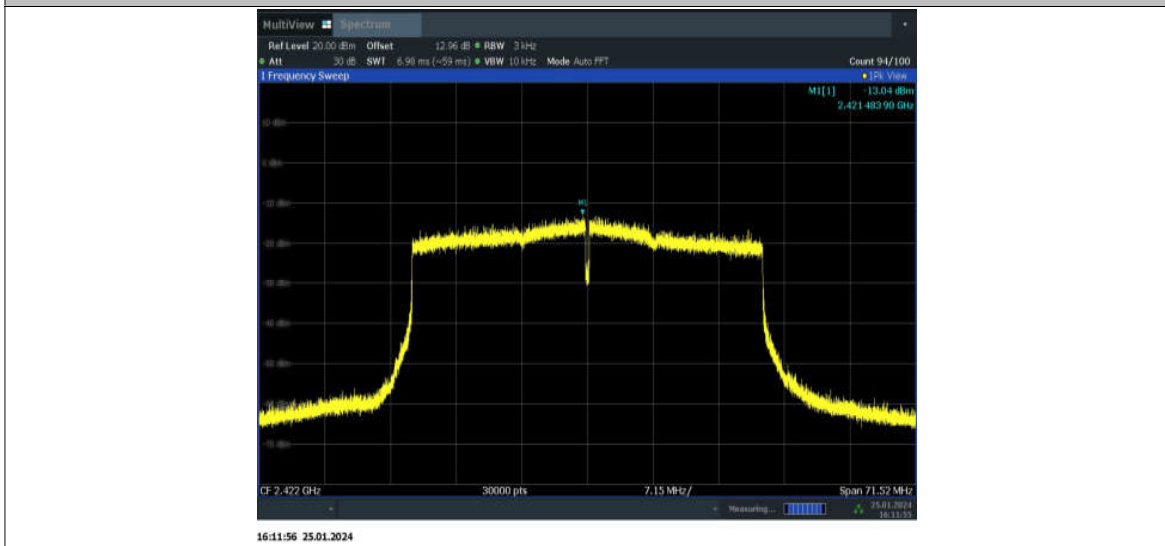
11AX20SISO_ANT5_2437



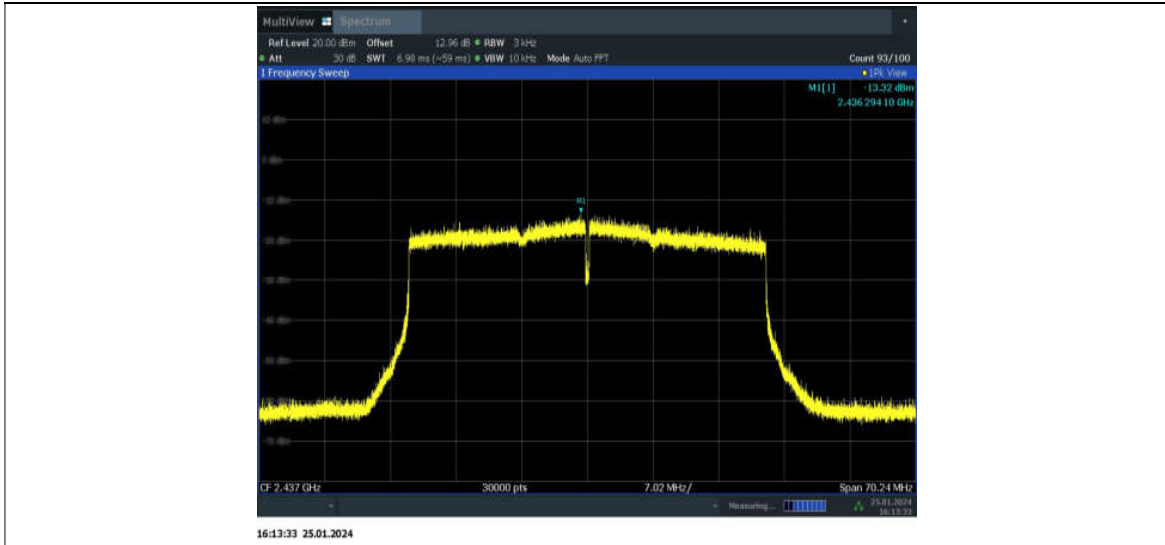
11AX20SISO_ANT5_2462



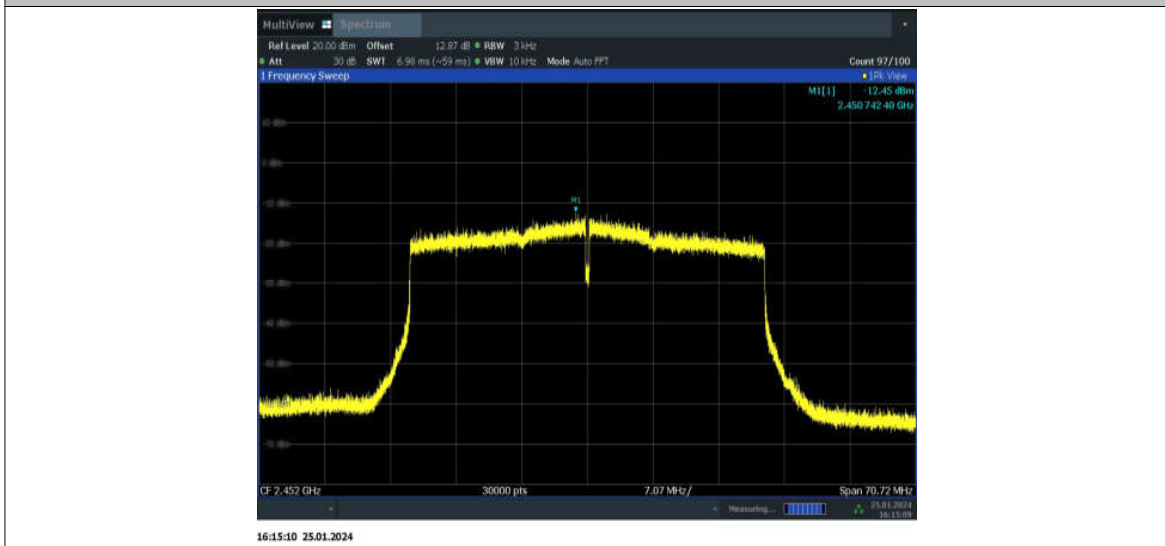
11AX40SISO_ANT5_2422



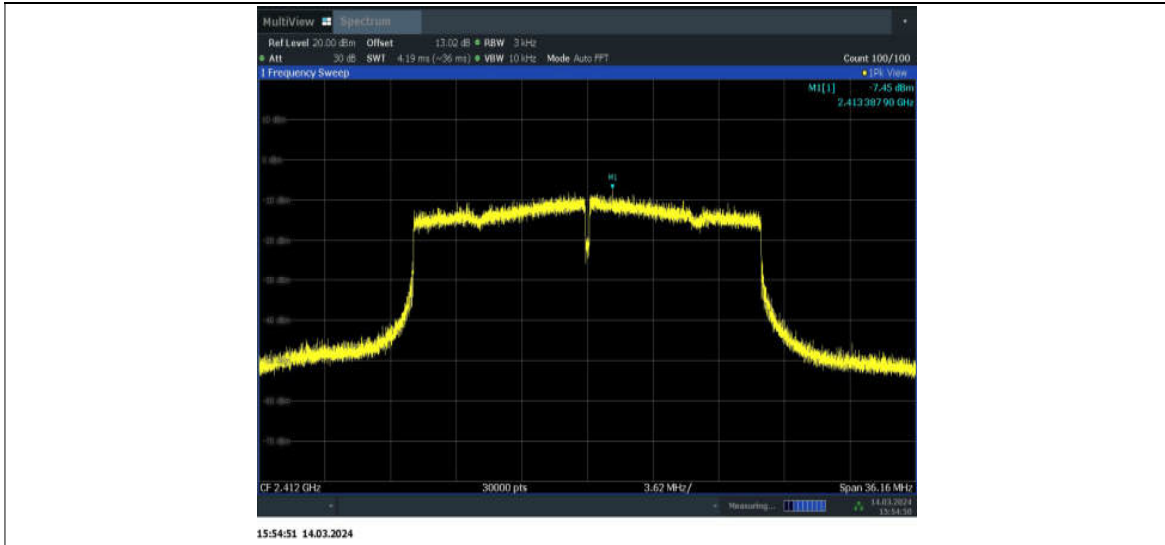
11AX40SISO_ANT5_2437



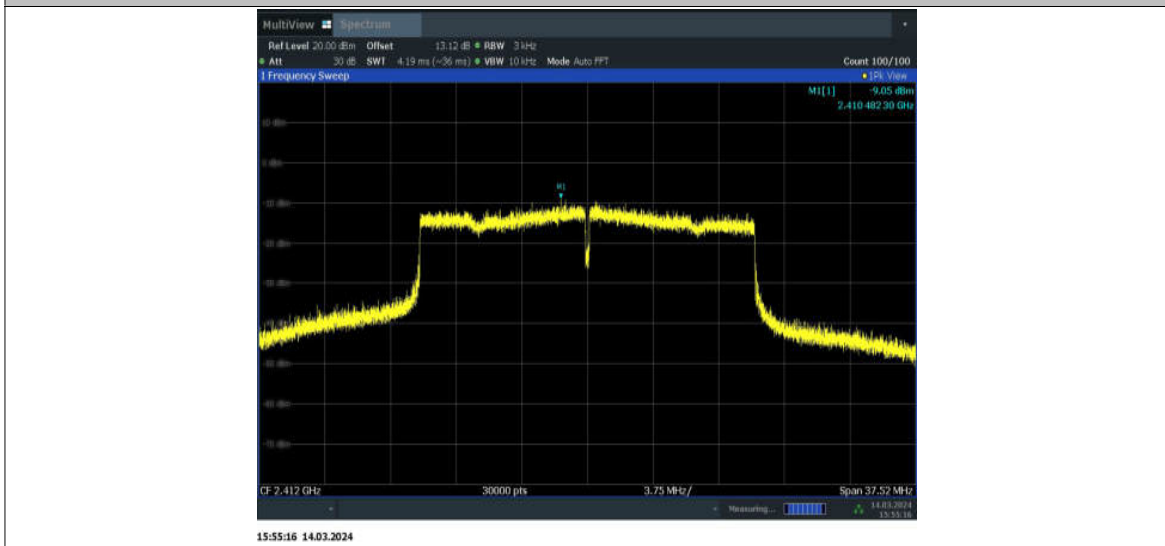
11AX40SISO_ANT5_2452



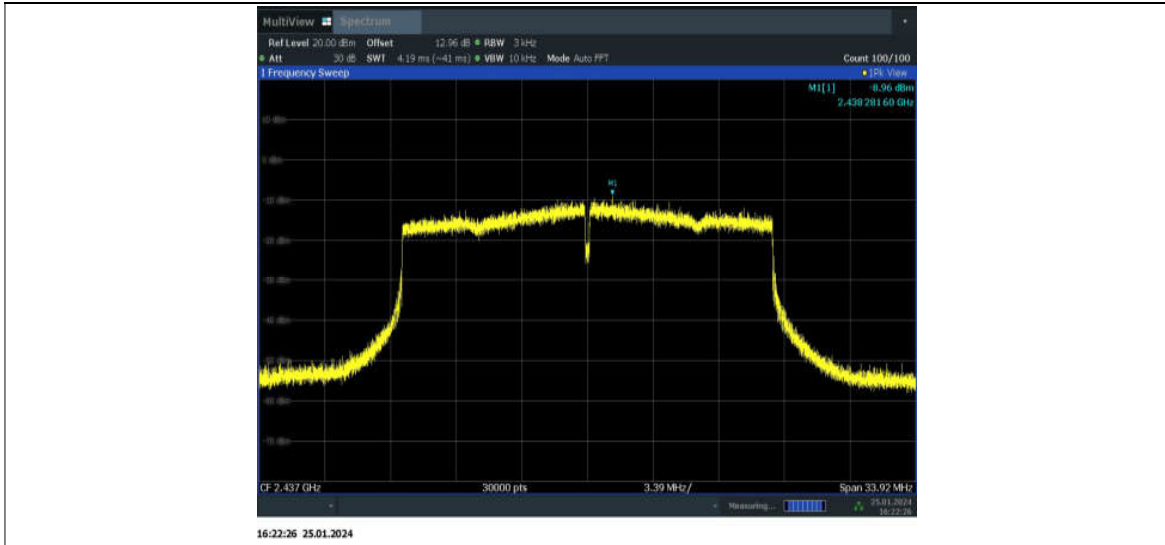
11AX20MIMO_ANT5_2412



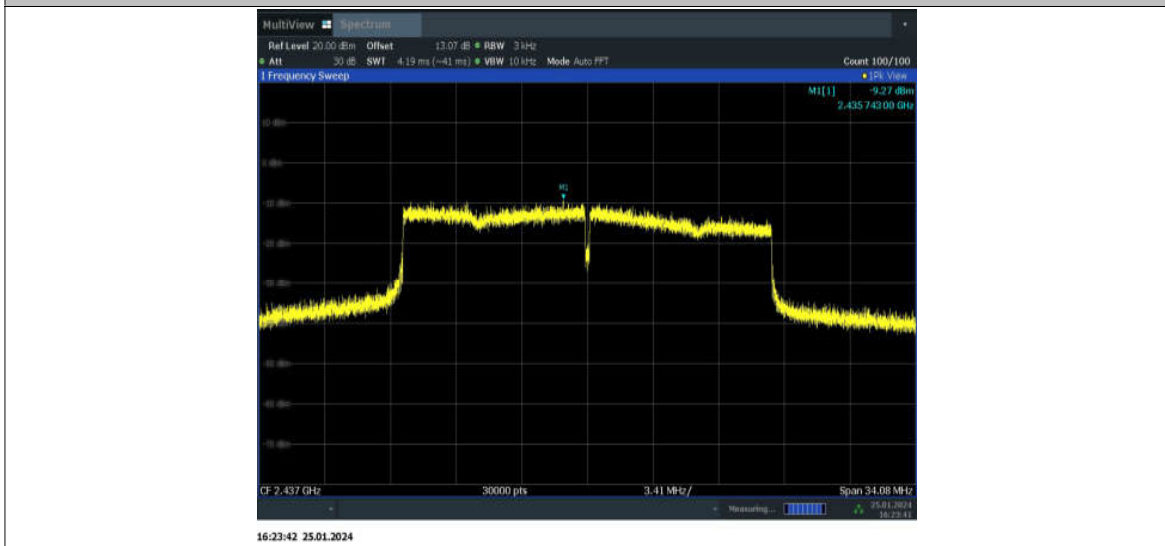
11AX20MIMO_ANT7_2412



11AX20MIMO_ANT5_2437



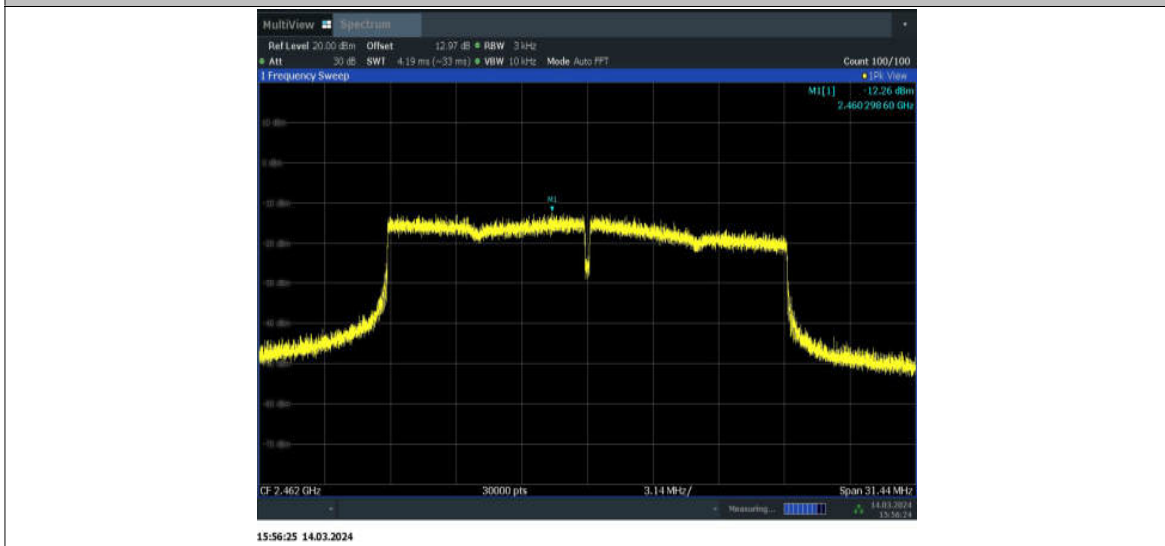
11AX20MIMO_ANT7_2437



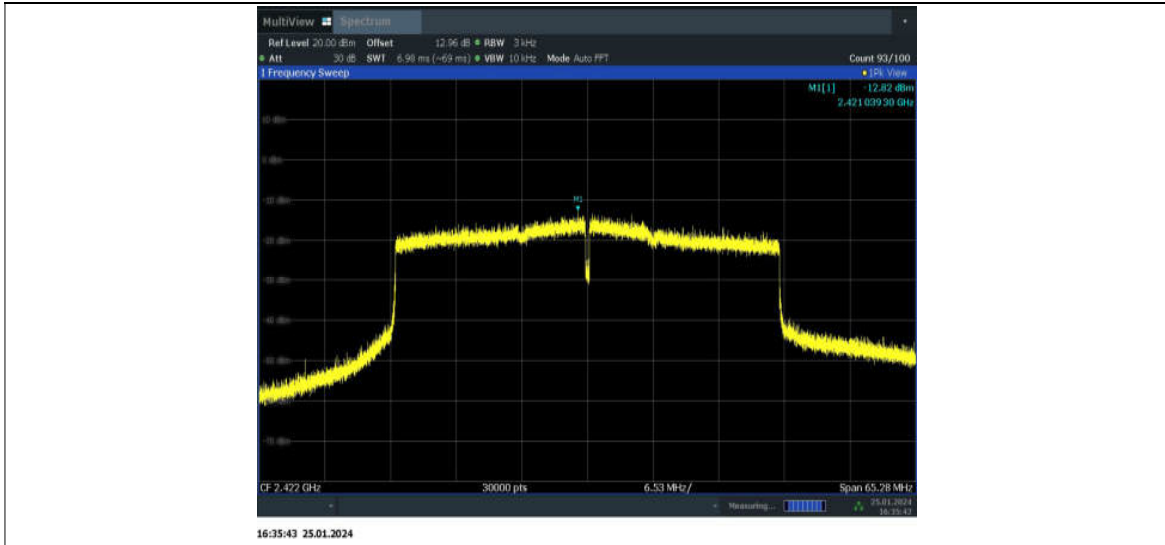
11AX20MIMO_ANT5_2462



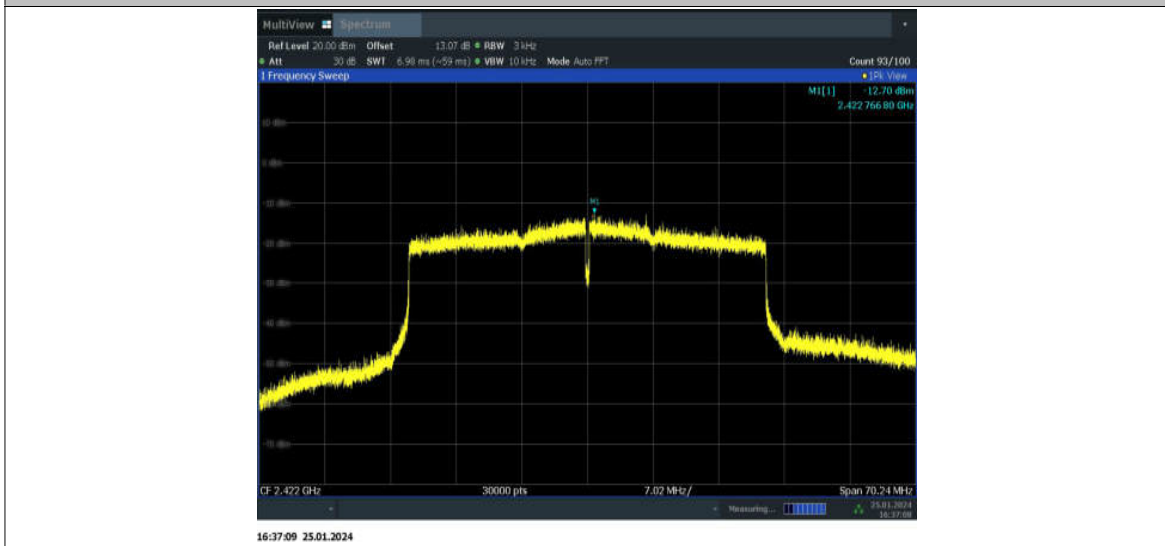
11AX20MIMO_ANT7_2462



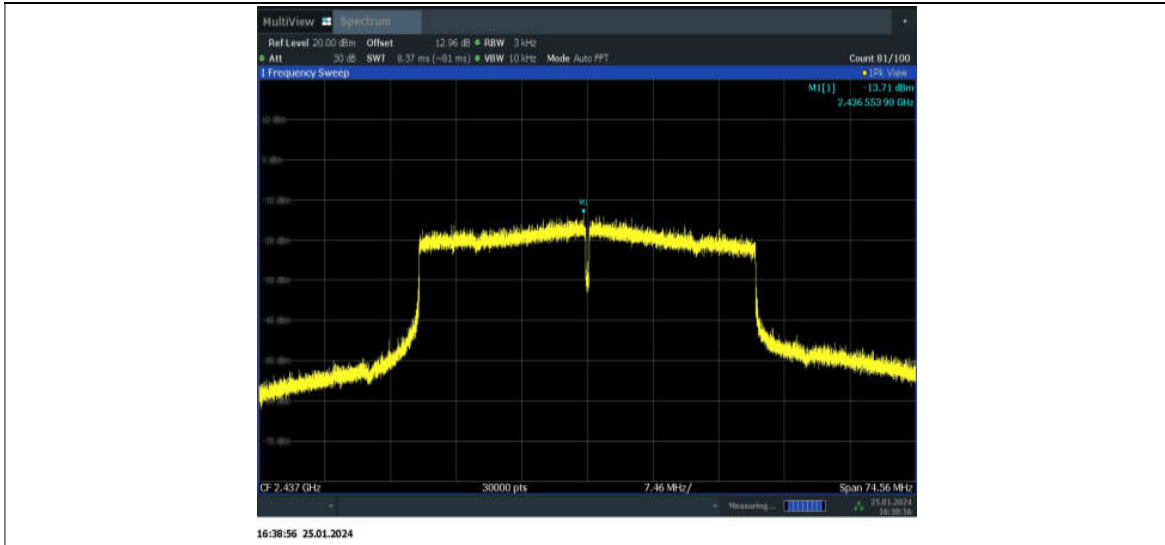
11AX40MIMO_ANT5_2422



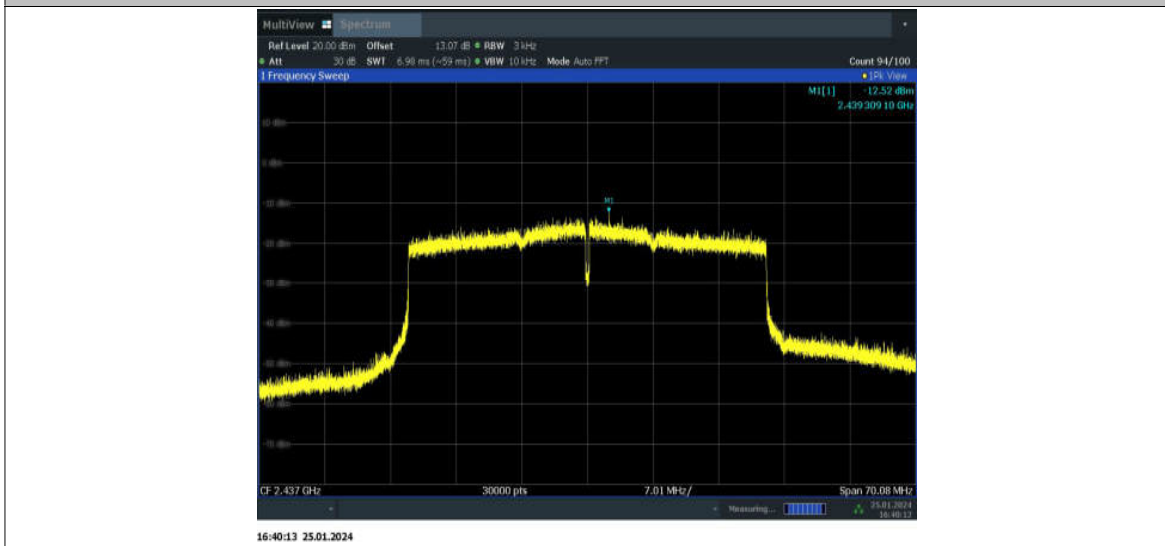
11AX40MIMO_ANT7_2422



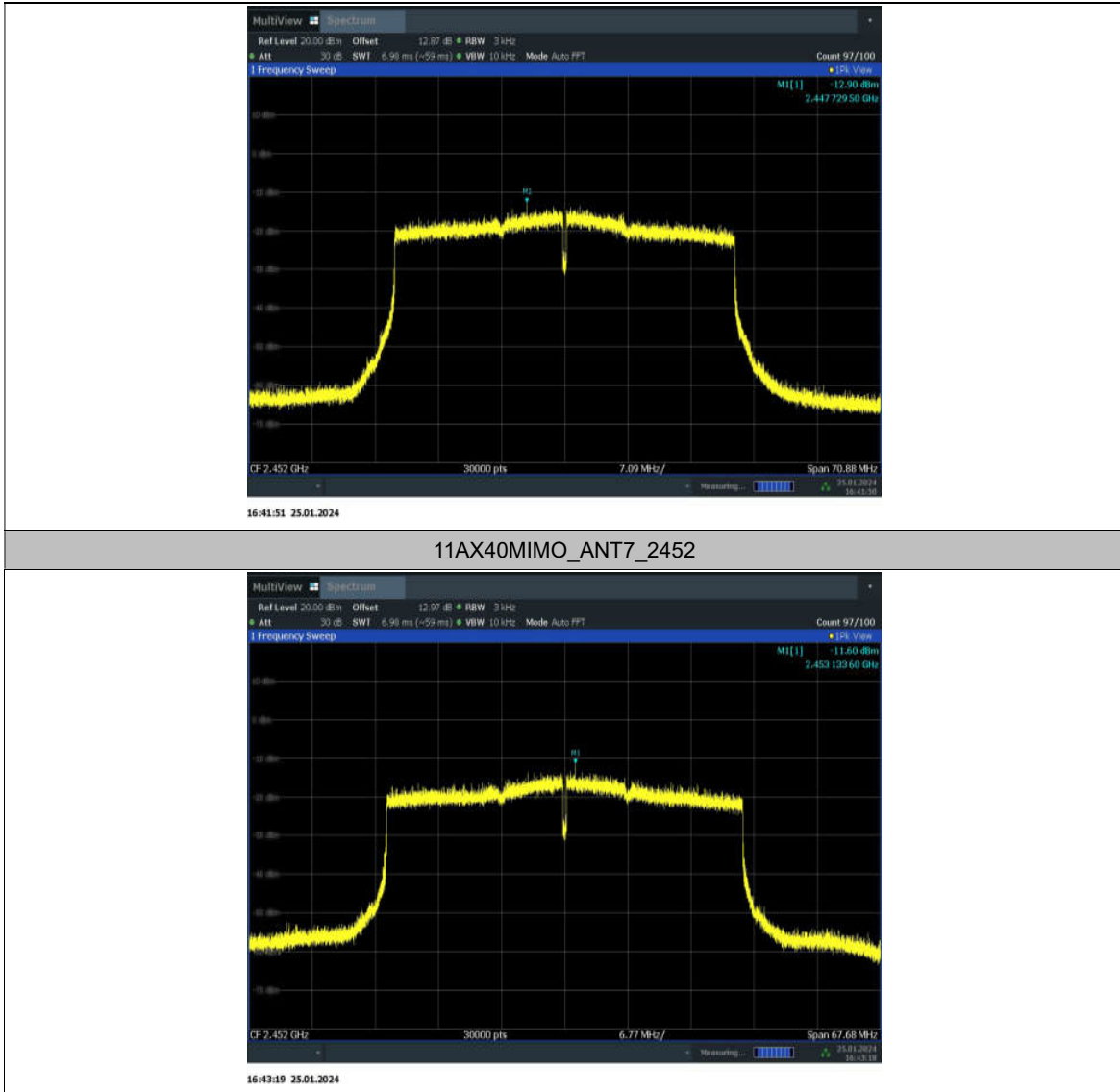
11AX40MIMO_ANT5_2437



11AX40MIMO_ANT7_2437



11AX40MIMO_ANT5_2452



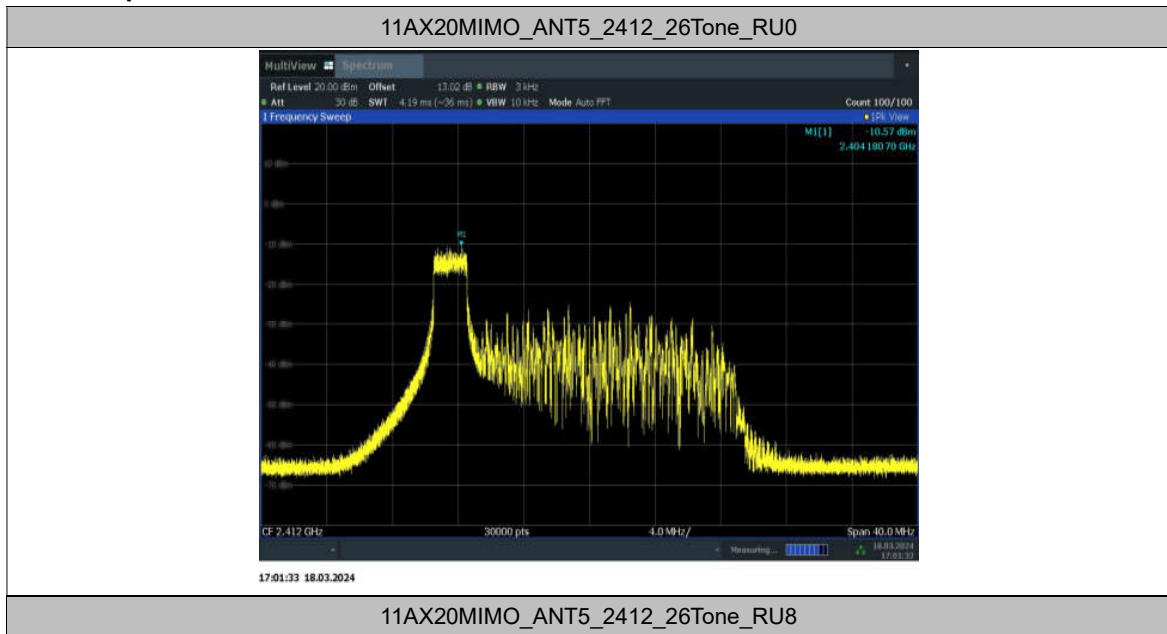
11ax-RU

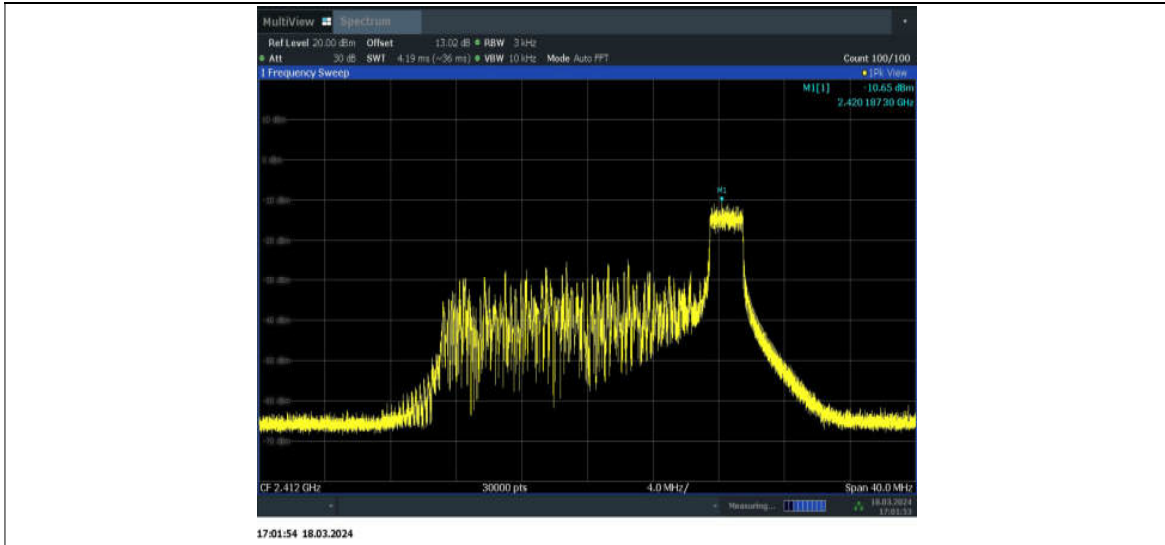
TestMode	Antenna	Frequency[MHz]	RuSize	RuIndex	Result [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
11AX20MIMO	ANT5	2412	26Tone	RU0	-10.57	≤8.00	PASS
				RU8	-10.65	≤8.00	PASS
			52Tone	RU37	-10.43	≤8.00	PASS
				RU40	-11.69	≤8.00	PASS
			106Tone	RU53	-11.55	≤8.00	PASS
				RU54	-11.82	≤8.00	PASS
	ANT7	2412	26Tone	RU0	-10.78	≤8.00	PASS
				RU8	-11.31	≤8.00	PASS
			52Tone	RU37	-11.99	≤8.00	PASS
				RU40	-9.86	≤8.00	PASS
			106Tone	RU53	-11.92	≤8.00	PASS
				RU54	-11.34	≤8.00	PASS
	TOTAL	2412	26Tone	RU0	-7.66	≤8.00	PASS
				RU8	-7.96	≤8.00	PASS
			52Tone	RU37	-8.75	≤8.00	PASS
				RU40	-7.67	≤8.00	PASS
			106Tone	RU53	-8.72	≤8.00	PASS
				RU54	-8.56	≤8.00	PASS
	ANT5	2437	26Tone	RU0	-11.54	≤8.00	PASS
				RU8	-11.57	≤8.00	PASS
			52Tone	RU37	-12.39	≤8.00	PASS
				RU40	-11.66	≤8.00	PASS
			106Tone	RU53	-12.64	≤8.00	PASS
				RU54	-12.82	≤8.00	PASS
	ANT7	2437	26Tone	RU0	-11.26	≤8.00	PASS
				RU8	-12.71	≤8.00	PASS
			52Tone	RU37	-10.92	≤8.00	PASS
				RU40	-11.64	≤8.00	PASS
106Tone			RU53	-12.60	≤8.00	PASS	
			RU54	-12.17	≤8.00	PASS	
TOTAL	2437	26Tone	RU0	-8.39	≤8.00	PASS	
			RU8	-9.09	≤8.00	PASS	
		52Tone	RU37	-8.58	≤8.00	PASS	
			RU40	-8.64	≤8.00	PASS	
		106Tone	RU53	-9.61	≤8.00	PASS	
			RU54	-9.47	≤8.00	PASS	
ANT5	2462	26Tone	RU0	-12.13	≤8.00	PASS	
			RU8	-11.44	≤8.00	PASS	
		52Tone	RU37	-12.93	≤8.00	PASS	

			106Tone	RU40	-12.87	≤8.00	PASS
				RU53	-12.31	≤8.00	PASS
				RU54	-12.20	≤8.00	PASS
	ANT7	2462	26Tone	RU0	-11.87	≤8.00	PASS
				RU8	-11.98	≤8.00	PASS
			52Tone	RU37	-11.16	≤8.00	PASS
				RU40	-12.49	≤8.00	PASS
			106Tone	RU53	-11.26	≤8.00	PASS
				RU54	-12.13	≤8.00	PASS
	TOTAL	2462	26Tone	RU0	-8.99	≤8.00	PASS
				RU8	-8.69	≤8.00	PASS
			52Tone	RU37	-8.95	≤8.00	PASS
				RU40	-9.67	≤8.00	PASS
			106Tone	RU53	-8.74	≤8.00	PASS
RU54				-9.15	≤8.00	PASS	

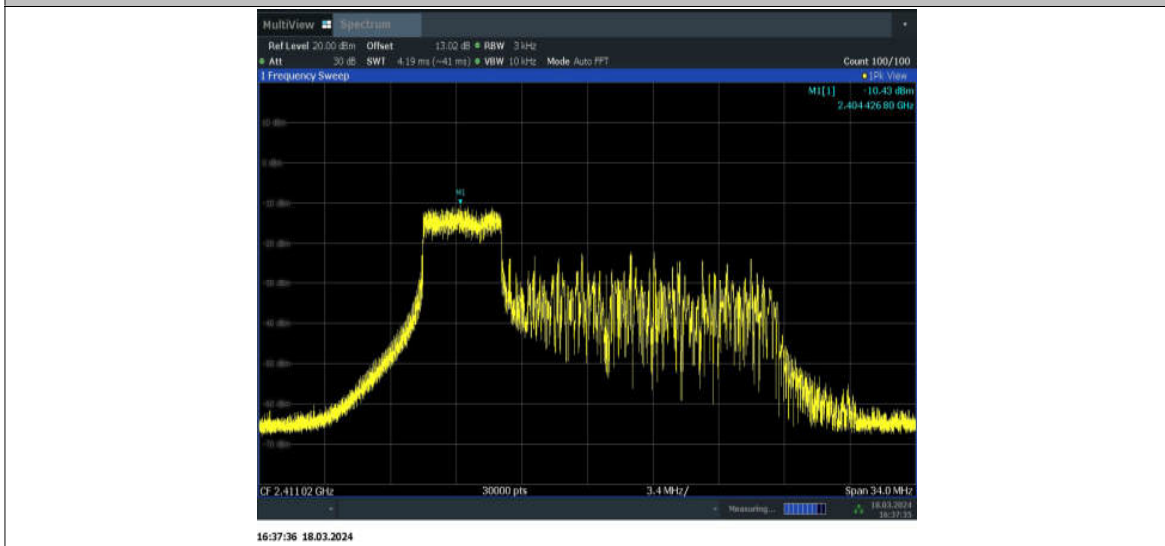
Conclusion: Pass

Test Graphs

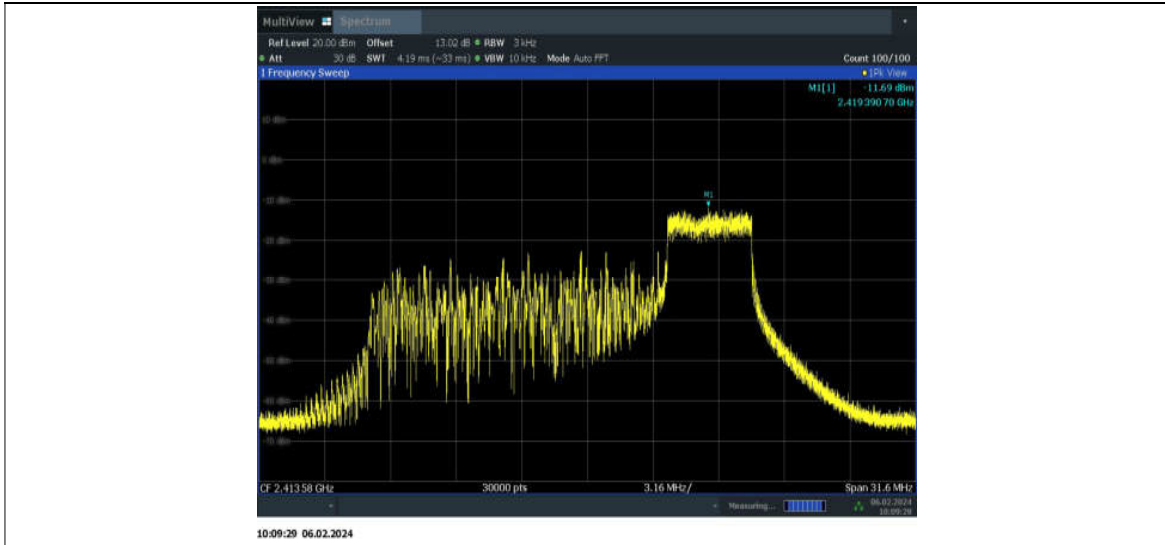




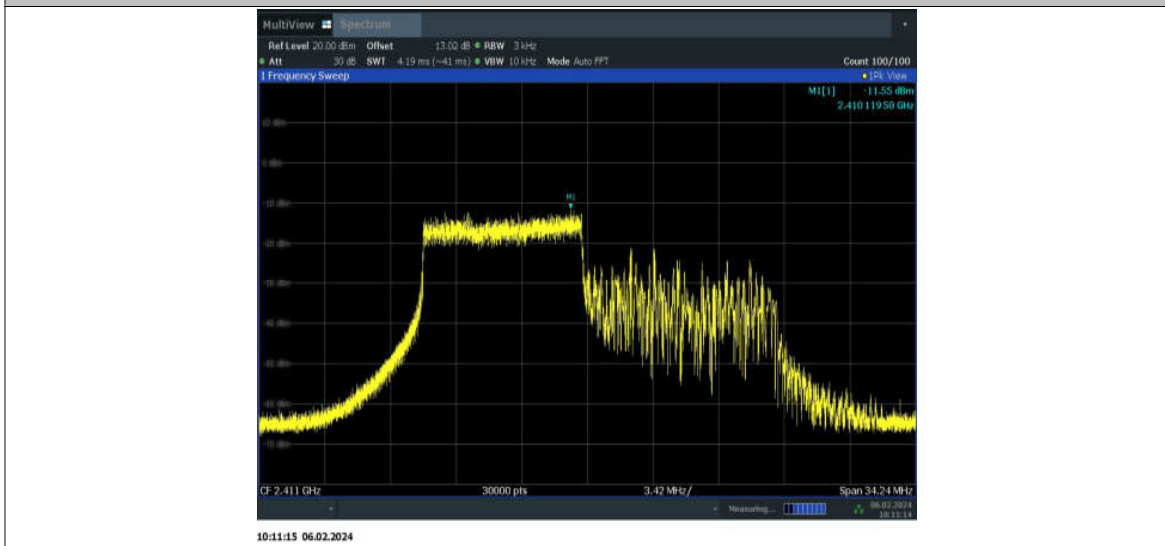
11AX20MIMO_ANT5_2412_52Tone_RU37



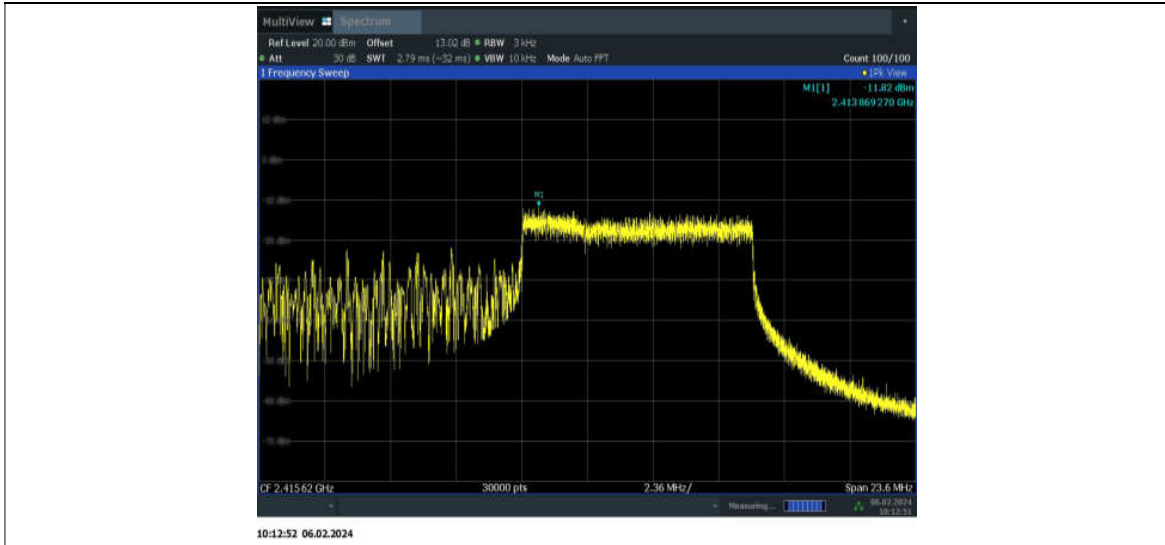
11AX20MIMO_ANT5_2412_52Tone_RU40



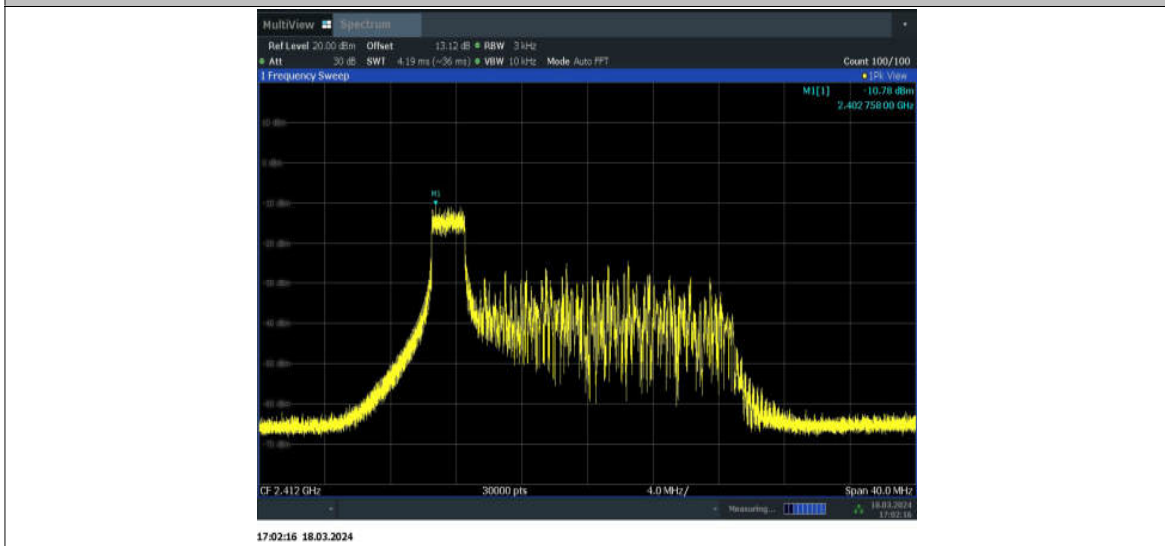
11AX20MIMO_ANT5_2412_106Tone_RU53



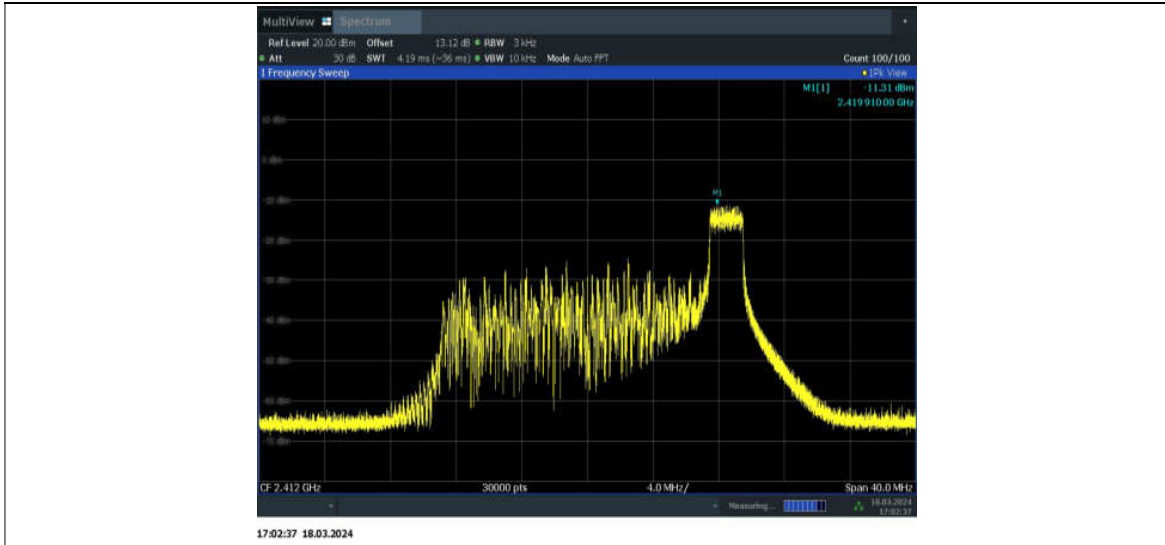
11AX20MIMO_ANT5_2412_106Tone_RU54



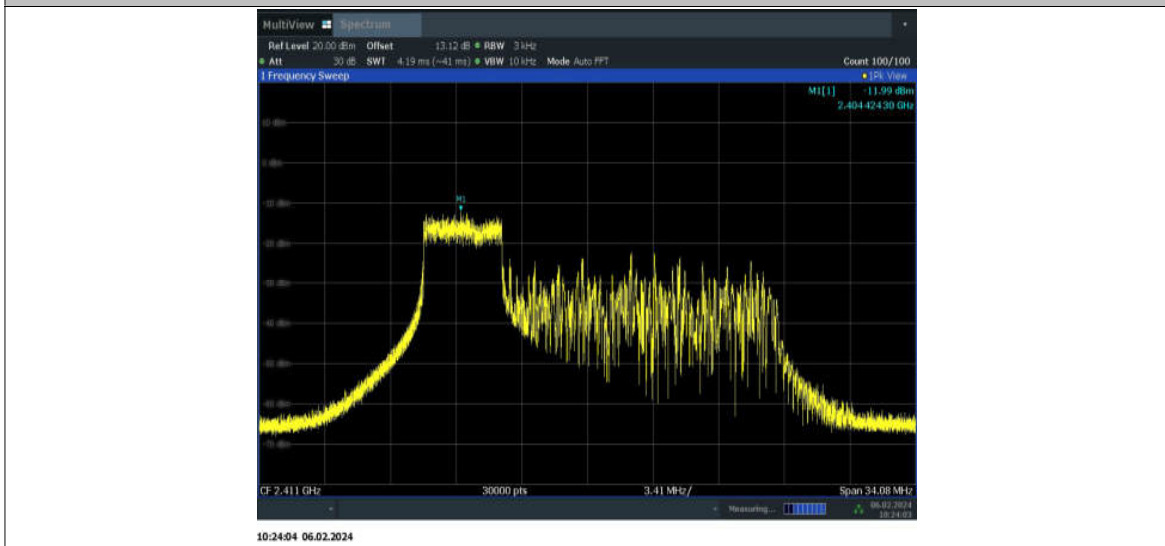
11AX20MIMO_ANT7_2412_26Tone_RU0



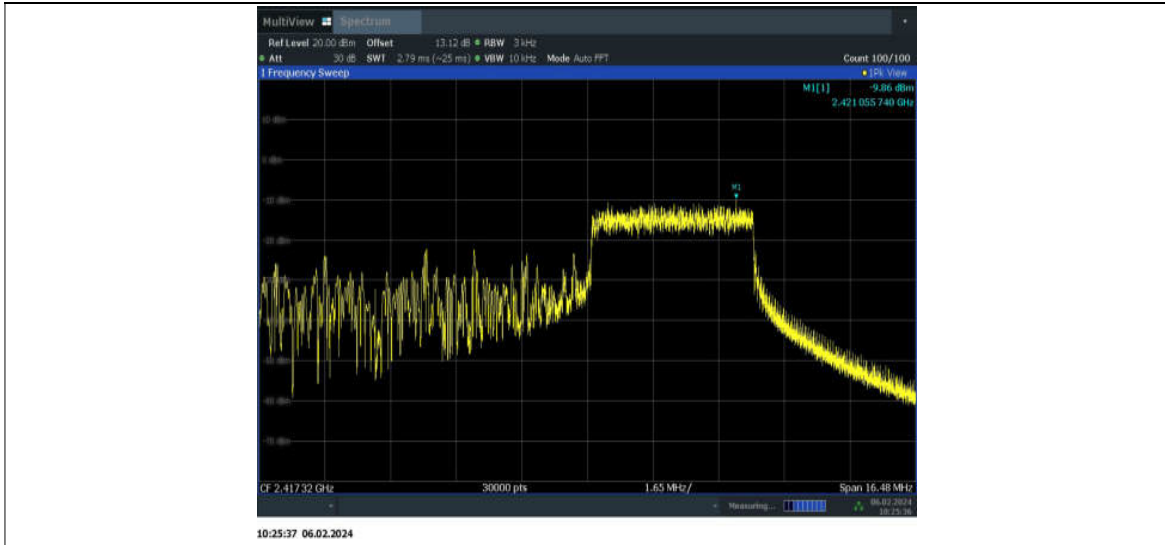
11AX20MIMO_ANT7_2412_26Tone_RU8



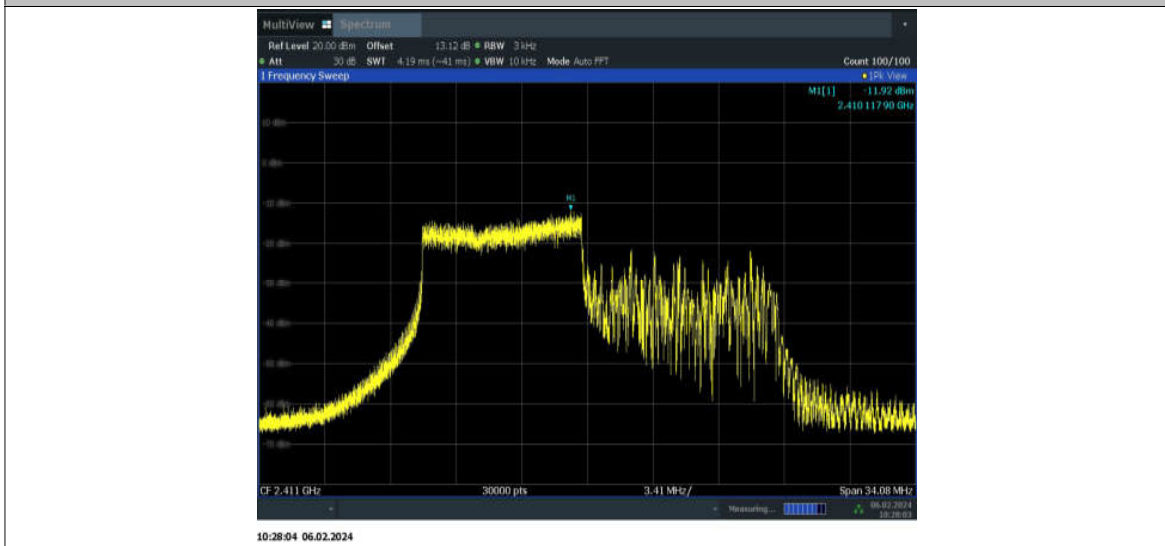
11AX20MIMO_ANT7_2412_52Tone_RU37



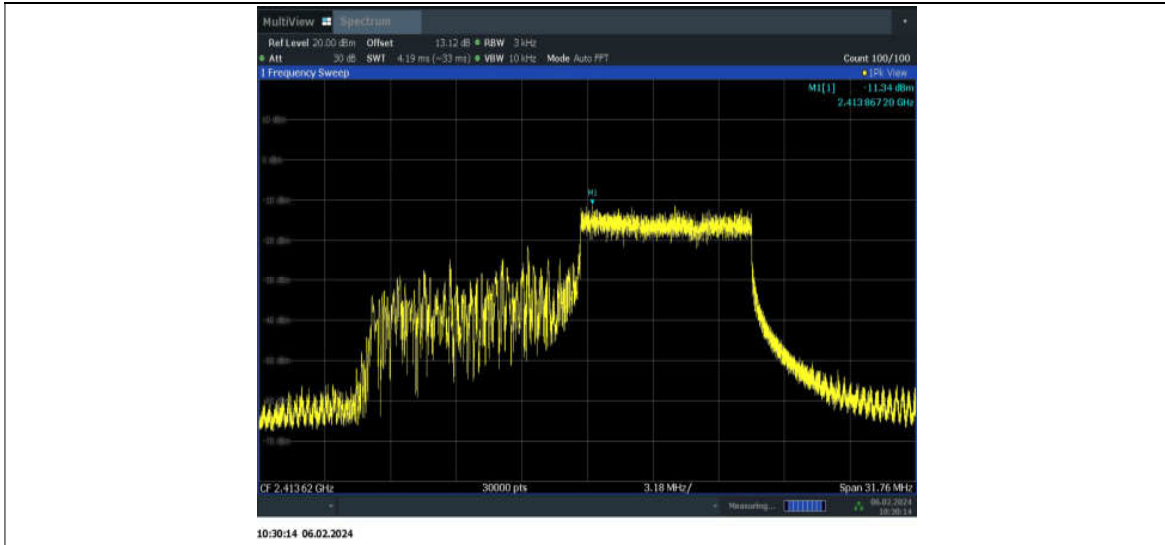
11AX20MIMO_ANT7_2412_52Tone_RU40



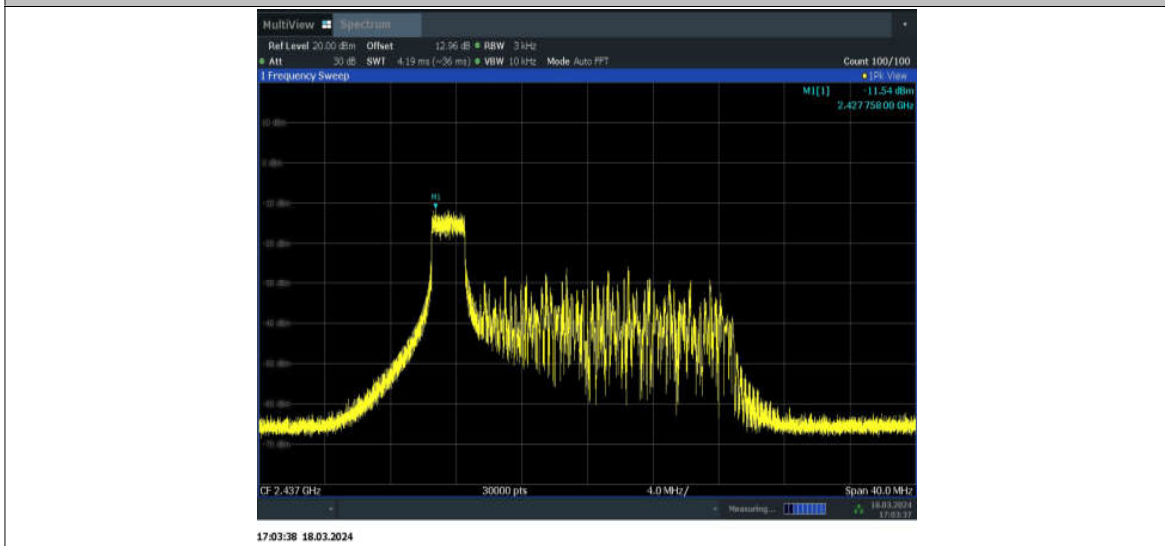
11AX20MIMO_ANT7_2412_106Tone_RU53



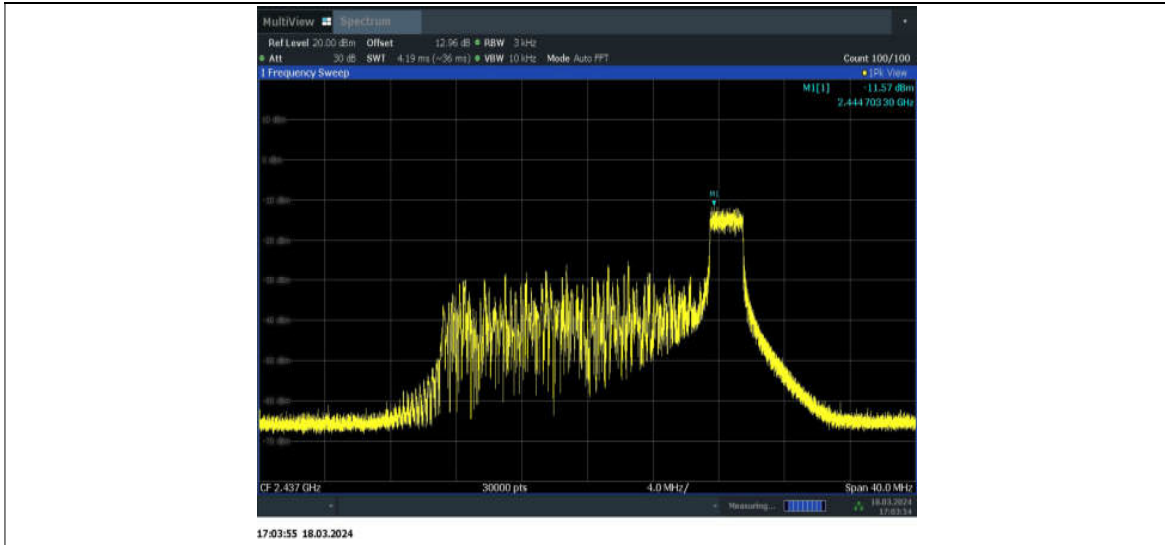
11AX20MIMO_ANT7_2412_106Tone_RU54



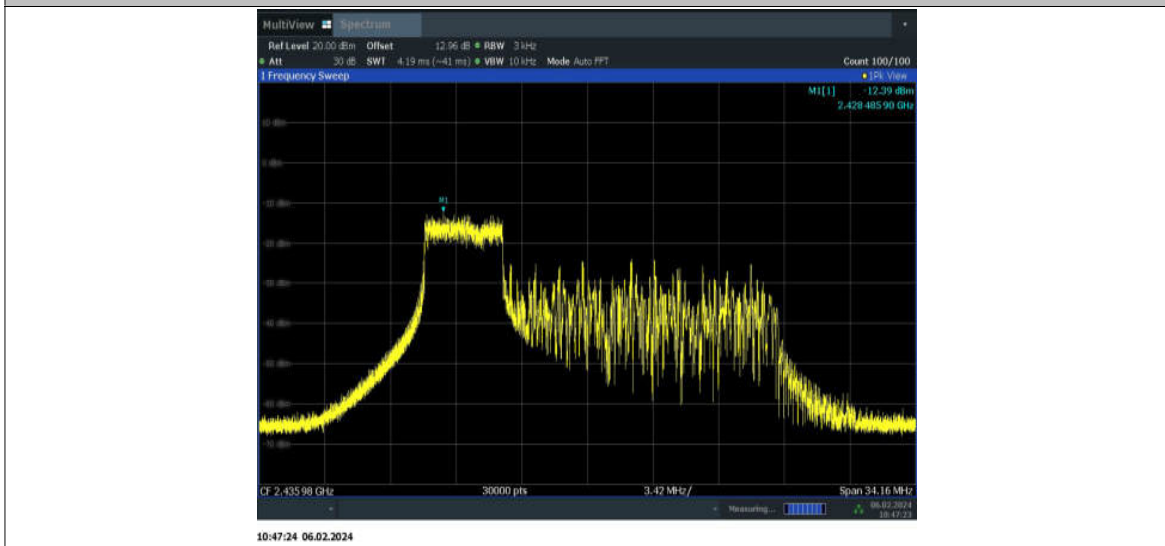
11AX20MIMO_ANT5_2437_26Tone_RU0



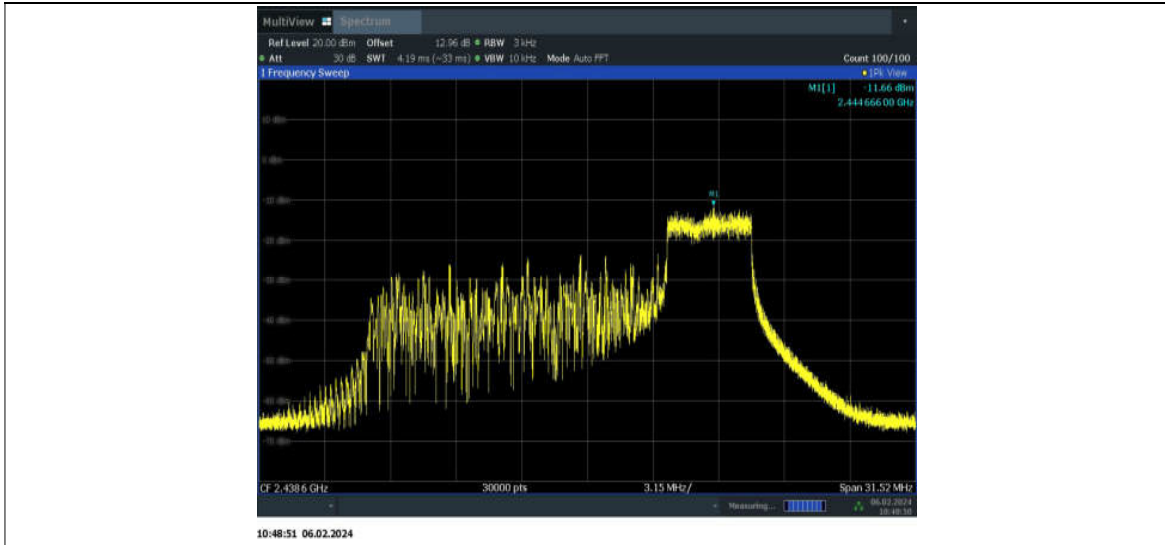
11AX20MIMO_ANT5_2437_26Tone_RU8



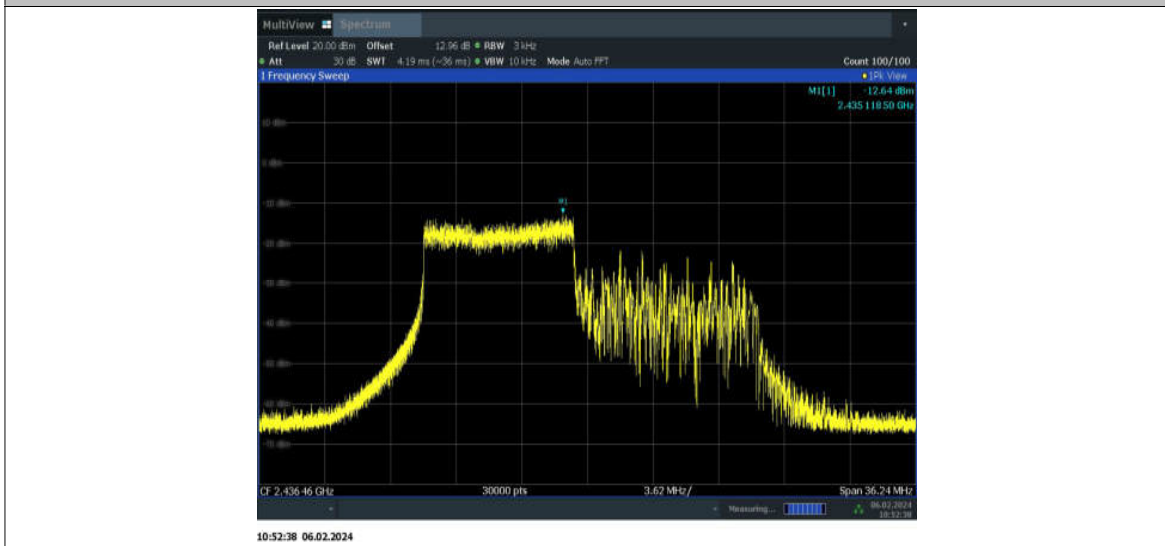
11AX20MIMO_ANT5_2437_52Tone_RU37



11AX20MIMO_ANT5_2437_52Tone_RU40



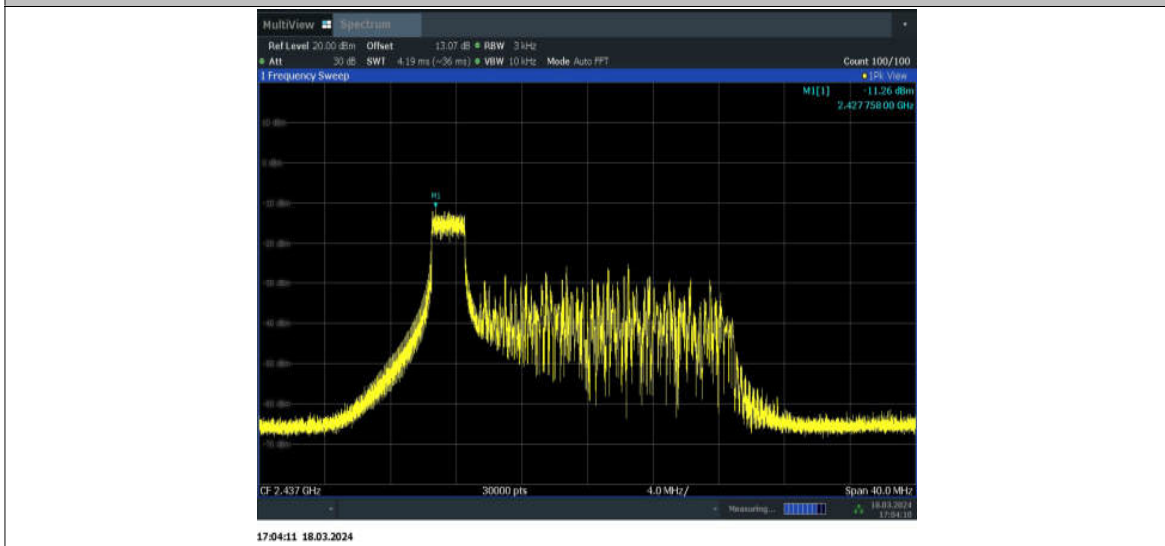
11AX20MIMO_ANT5_2437_106Tone_RU53



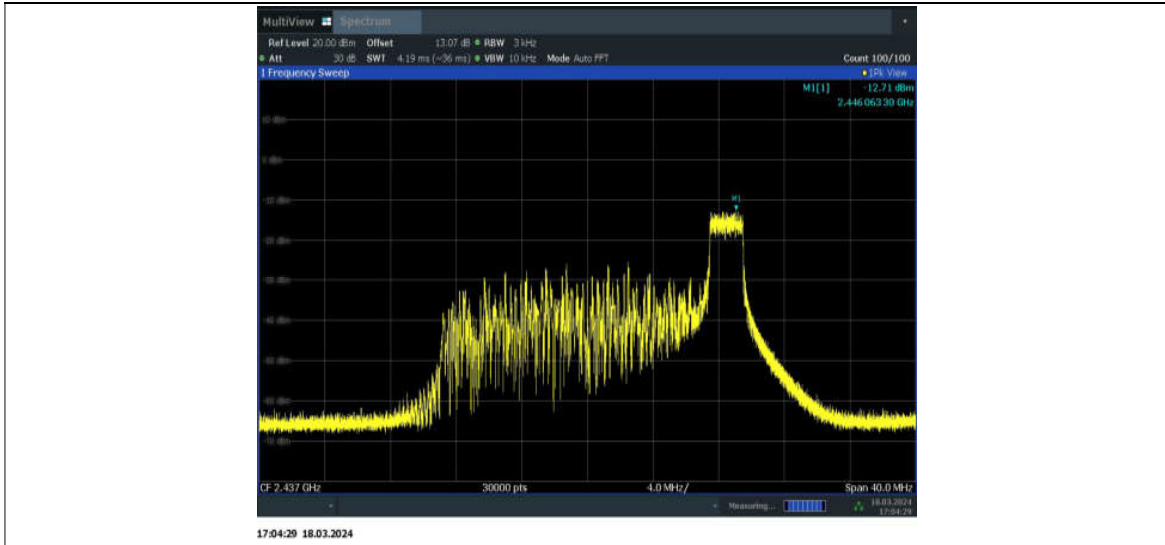
11AX20MIMO_ANT5_2437_106Tone_RU54



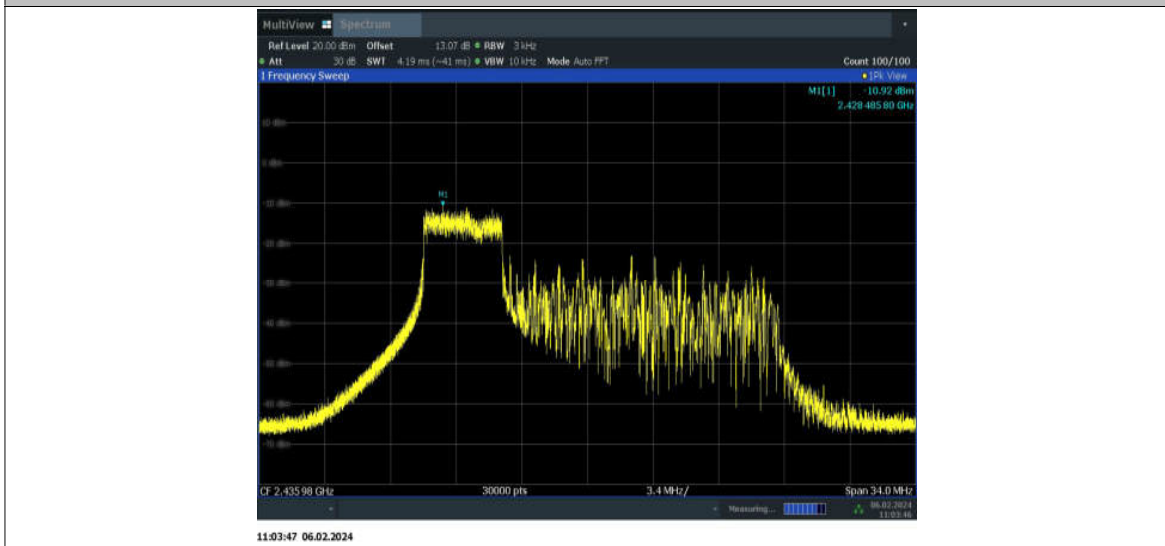
11AX20MIMO_ANT7_2437_26Tone_RU0



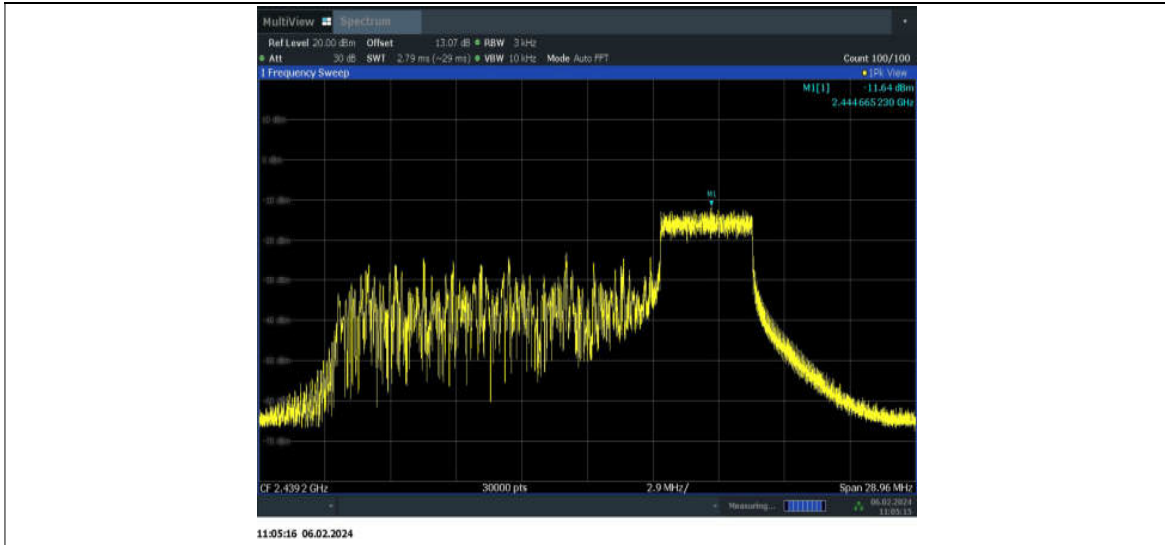
11AX20MIMO_ANT7_2437_26Tone_RU8



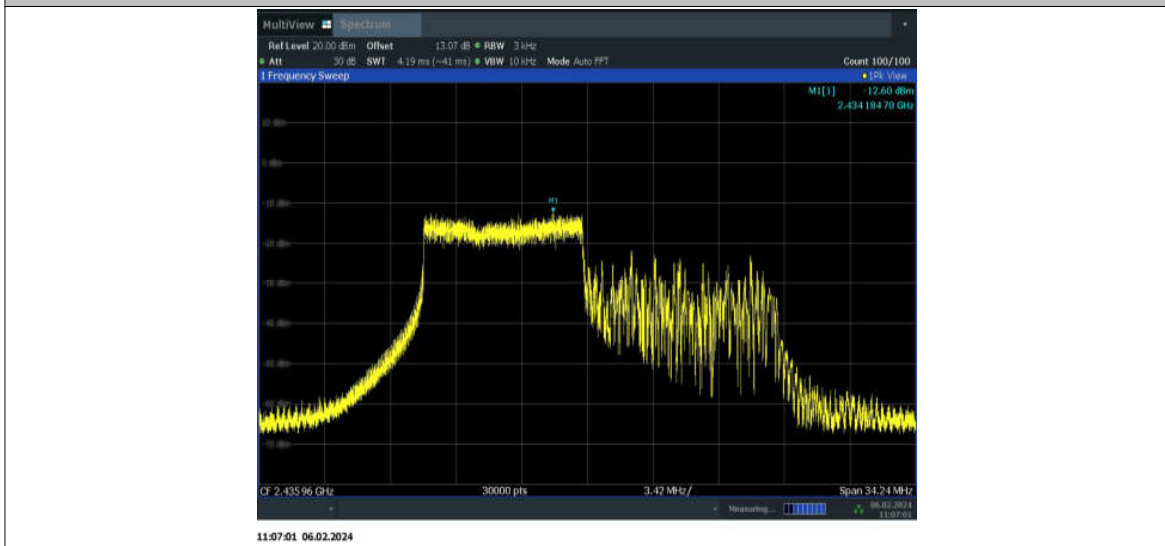
11AX20MIMO_ANT7_2437_52Tone_RU37



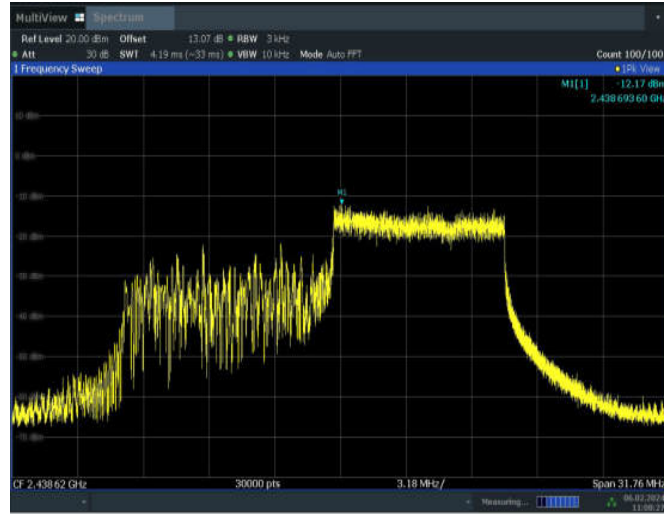
11AX20MIMO_ANT7_2437_52Tone_RU40



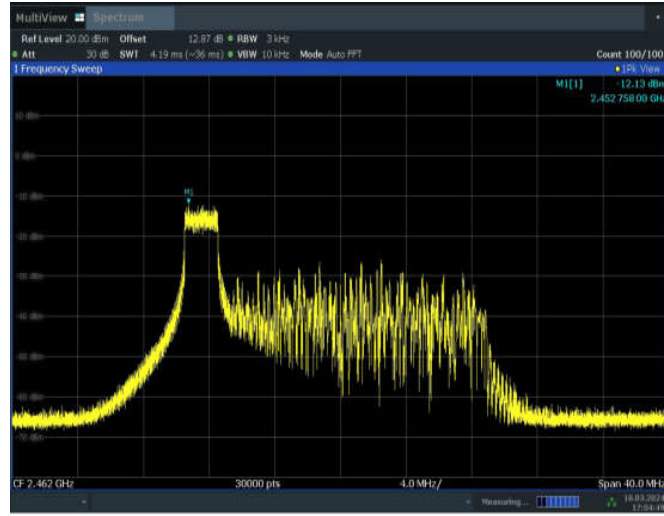
11AX20MIMO_ANT7_2437_106Tone_RU53



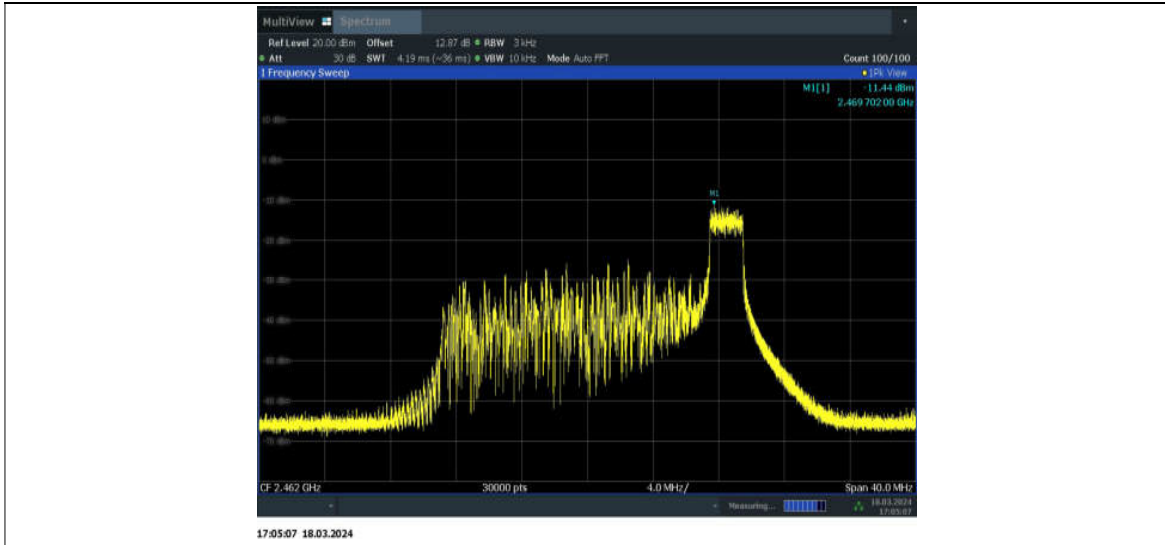
11AX20MIMO_ANT7_2437_106Tone_RU54



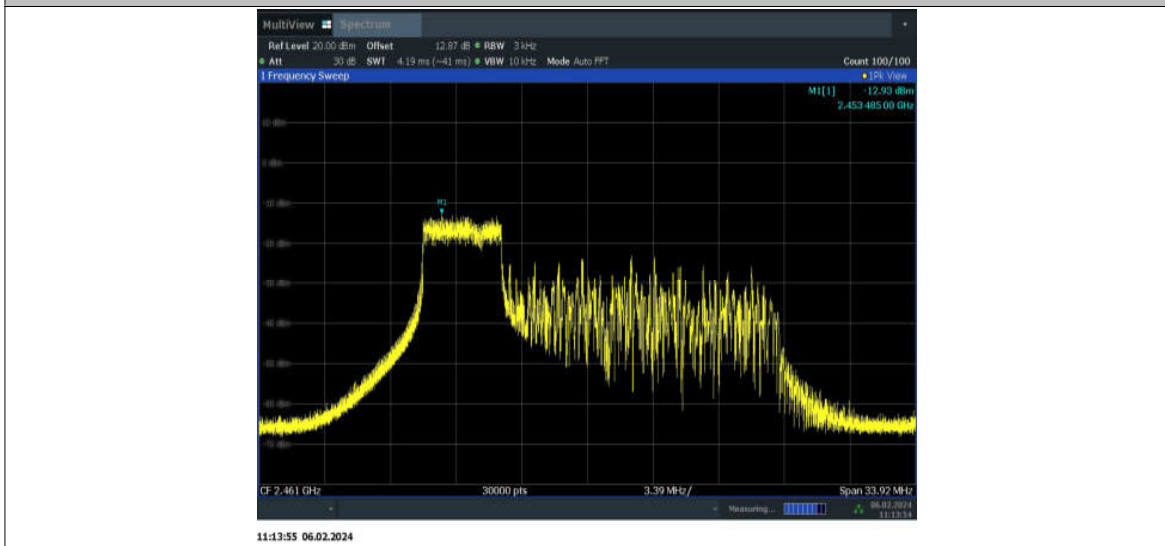
11AX20MIMO_ANT5_2462_26Tone_RU0



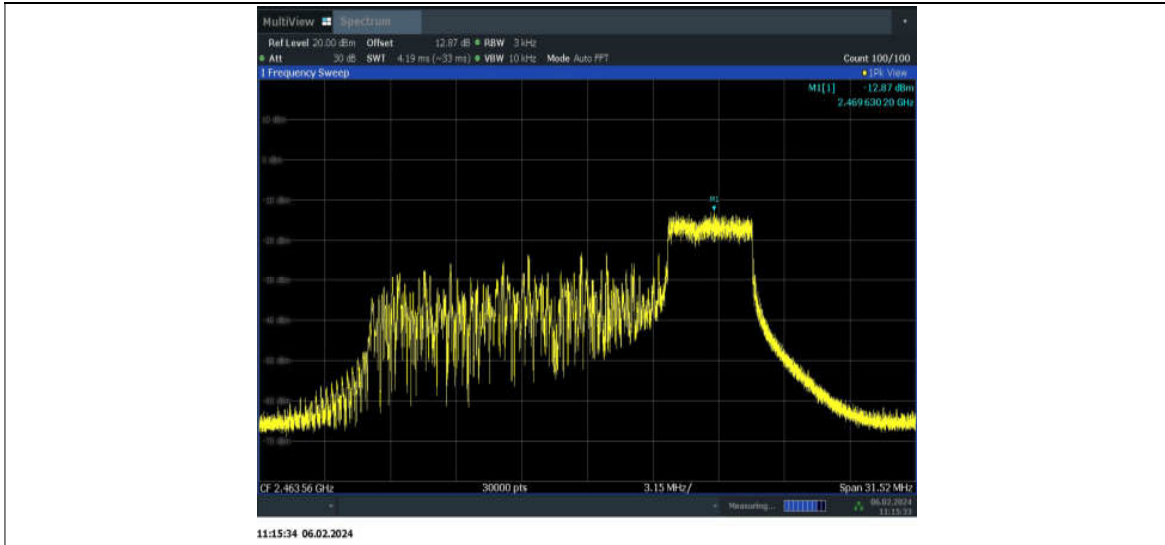
11AX20MIMO_ANT5_2462_26Tone_RU8



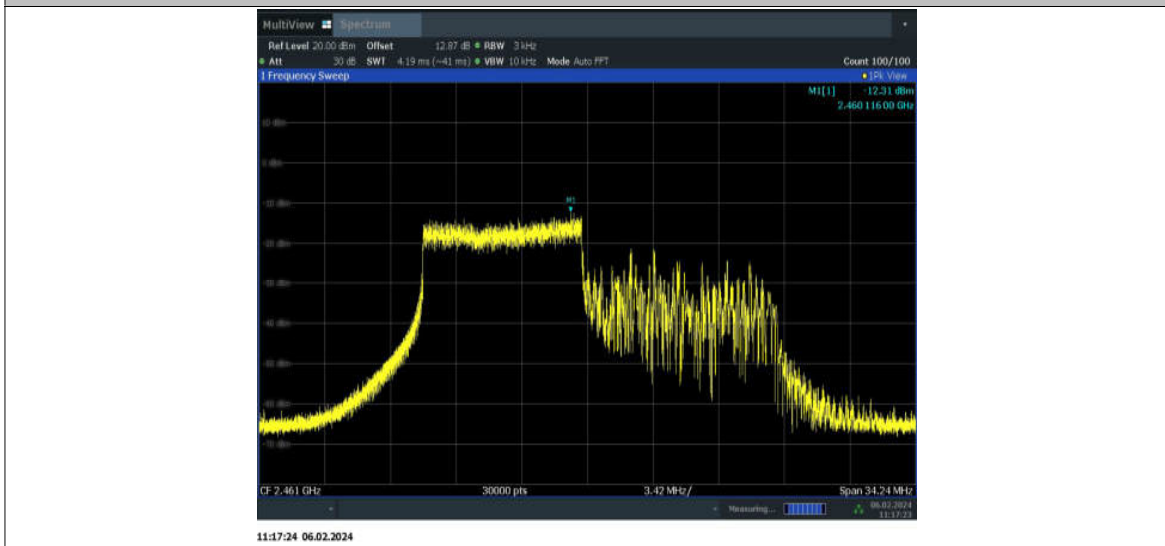
11AX20MIMO_ANT5_2462_52Tone_RU37



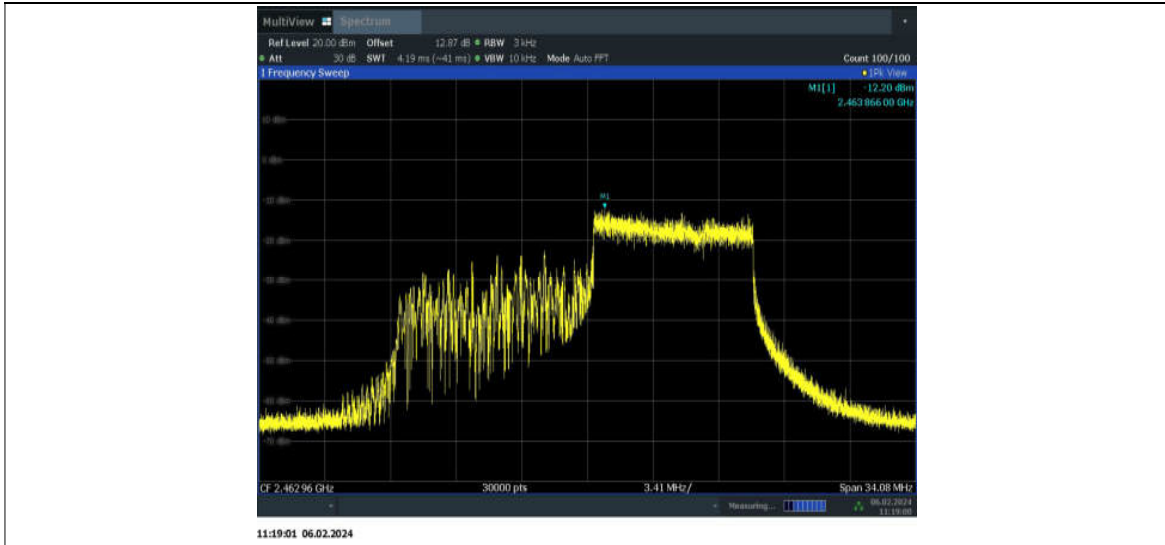
11AX20MIMO_ANT5_2462_52Tone_RU40



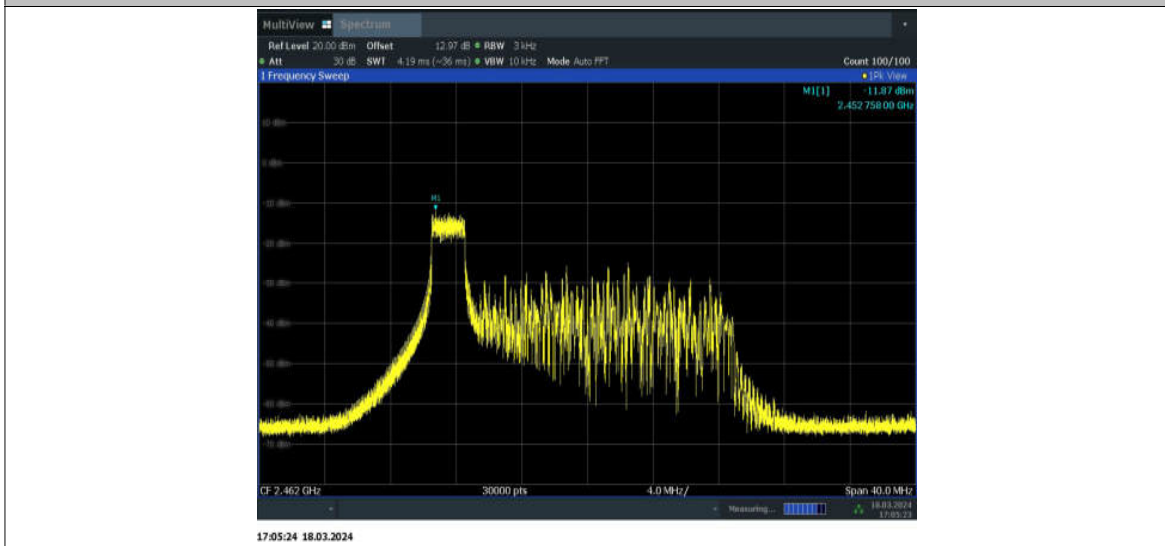
11AX20MIMO_ANT5_2462_106Tone_RU53



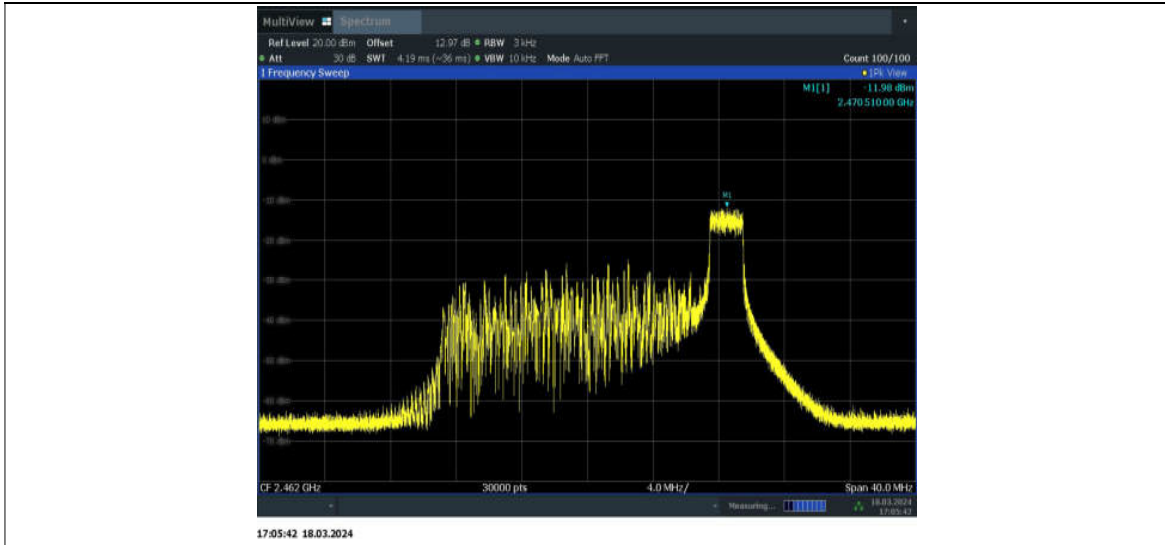
11AX20MIMO_ANT5_2462_106Tone_RU54



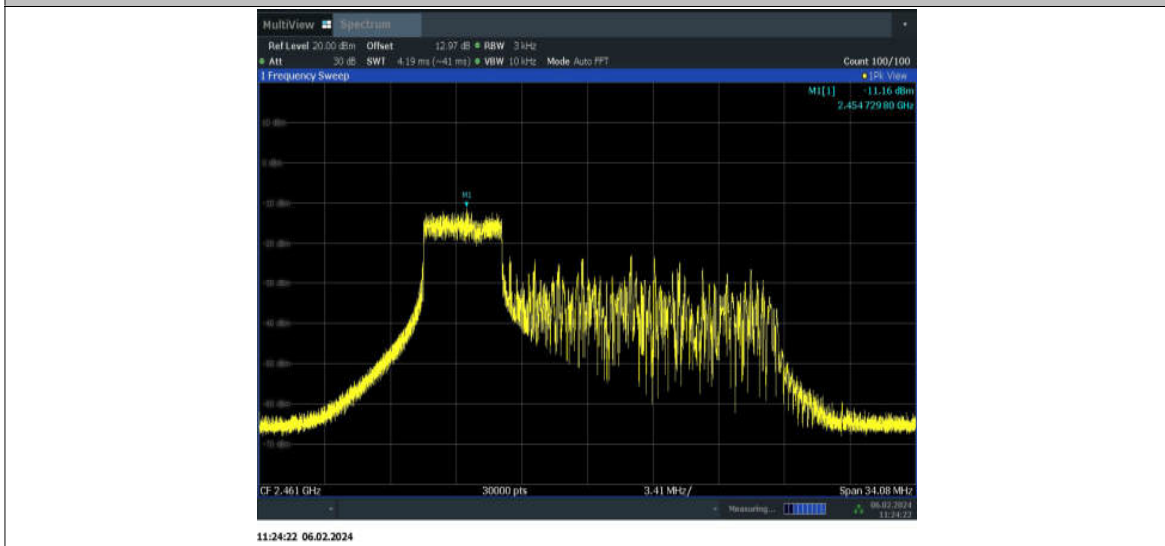
11AX20MIMO_ANT7_2462_26Tone_RU0



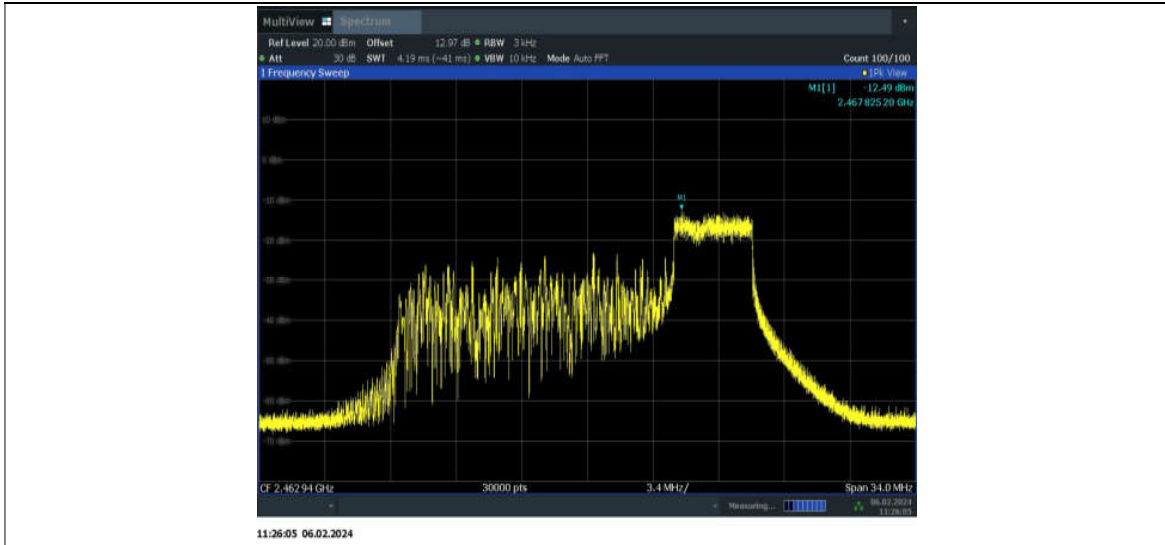
11AX20MIMO_ANT7_2462_26Tone_RU8



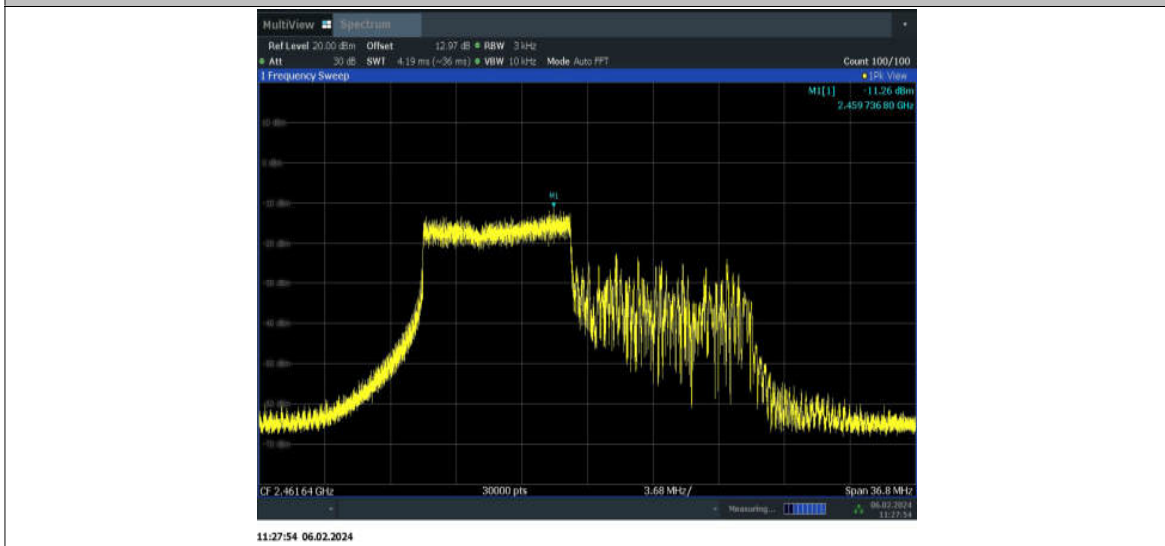
11AX20MIMO_ANT7_2462_52Tone_RU37



11AX20MIMO_ANT7_2462_52Tone_RU40



11AX20MIMO_ANT7_2462_106Tone_RU53



11AX20MIMO_ANT7_2462_106Tone_RU54



A.4. DTS 6-dB Signal Bandwidth

Method of Measurement: See ANSI C63.10-2013 section 11.8.1.

- a) Set RBW = 100 kHz.
- b) Set the video bandwidth (VBW) = 300 kHz.
- c) Detector = Peak.
- d) Trace mode = max hold.
- e) Sweep = auto couple.
- f) Allow the trace to stabilize.
- g) 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.

Measurement Limit:

Standard	Limit (kHz)
FCC 47 CFR Part 15.247 (a)	≥ 500

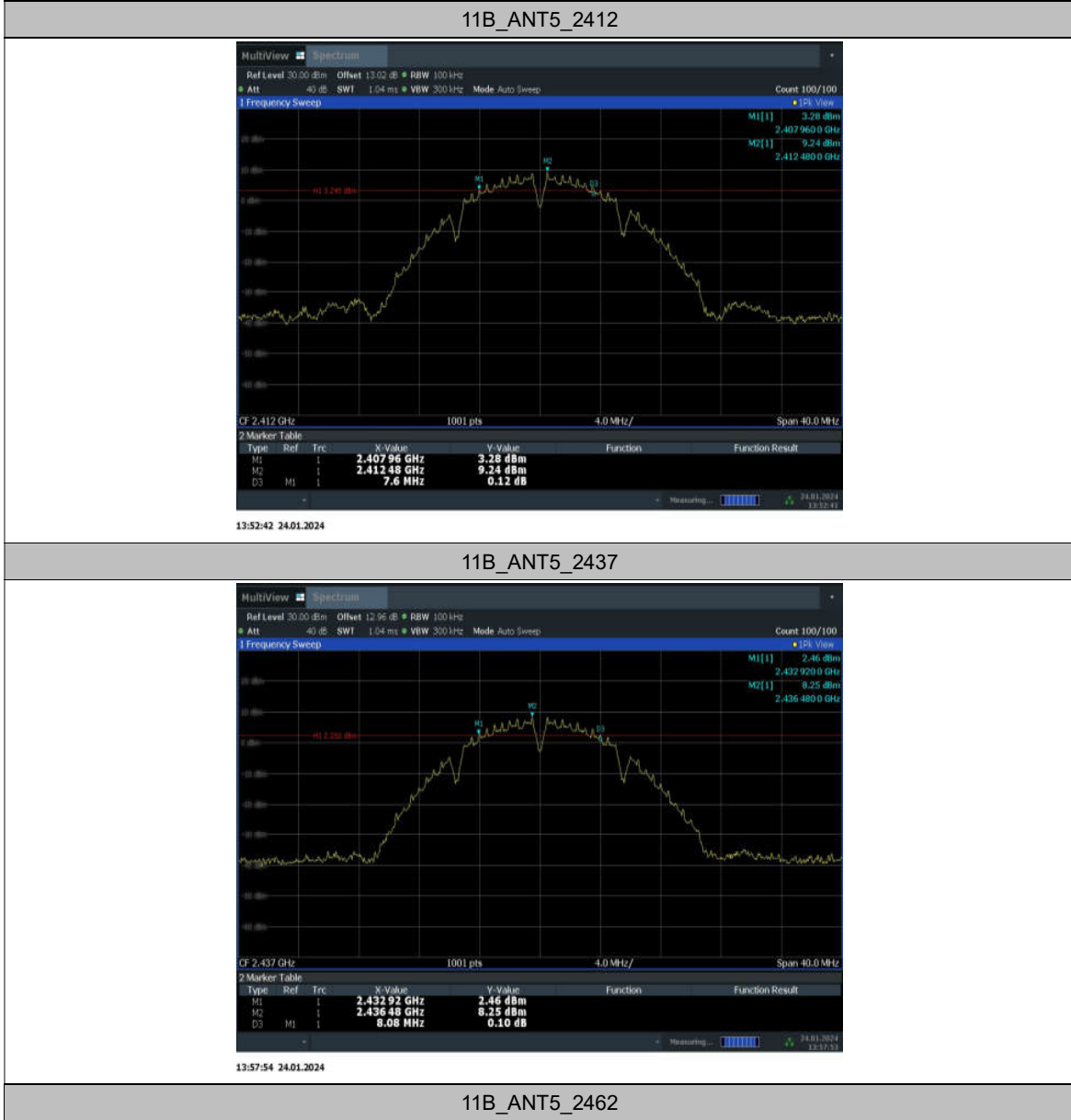
EUT ID: UT25a

Measurement Result:

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	ANT5	2412	7.60	2407.96	2415.56	0.5	PASS
		2437	8.08	2432.92	2441.00	0.5	PASS
		2462	7.08	2458.44	2465.52	0.5	PASS
11G	ANT5	2412	15.12	2404.44	2419.56	0.5	PASS
		2437	15.08	2429.44	2444.52	0.5	PASS
		2462	15.16	2454.40	2469.56	0.5	PASS
11AX20SISO	ANT5	2412	17.16	2404.08	2421.24	0.5	PASS
		2437	17.36	2428.88	2446.24	0.5	PASS
		2462	14.80	2454.68	2469.48	0.5	PASS
11AX40SISO	ANT5	2422	35.76	2403.76	2439.52	0.5	PASS
		2437	35.12	2418.20	2453.32	0.5	PASS
		2452	35.36	2434.16	2469.52	0.5	PASS
11AX20MIMO	ANT5	2412	18.08	2402.72	2420.80	0.5	PASS
	ANT7	2412	18.76	2402.48	2421.24	0.5	PASS
	ANT5	2437	16.96	2429.12	2446.08	0.5	PASS
	ANT7	2437	17.04	2427.48	2444.52	0.5	PASS
	ANT5	2462	16.08	2453.48	2469.56	0.5	PASS
	ANT7	2462	15.72	2452.52	2468.24	0.5	PASS
11AX40MIMO	ANT5	2422	32.64	2404.40	2437.04	0.5	PASS
	ANT7	2422	35.12	2404.40	2439.52	0.5	PASS
	ANT5	2437	37.28	2418.28	2455.56	0.5	PASS
	ANT7	2437	35.04	2419.48	2454.52	0.5	PASS

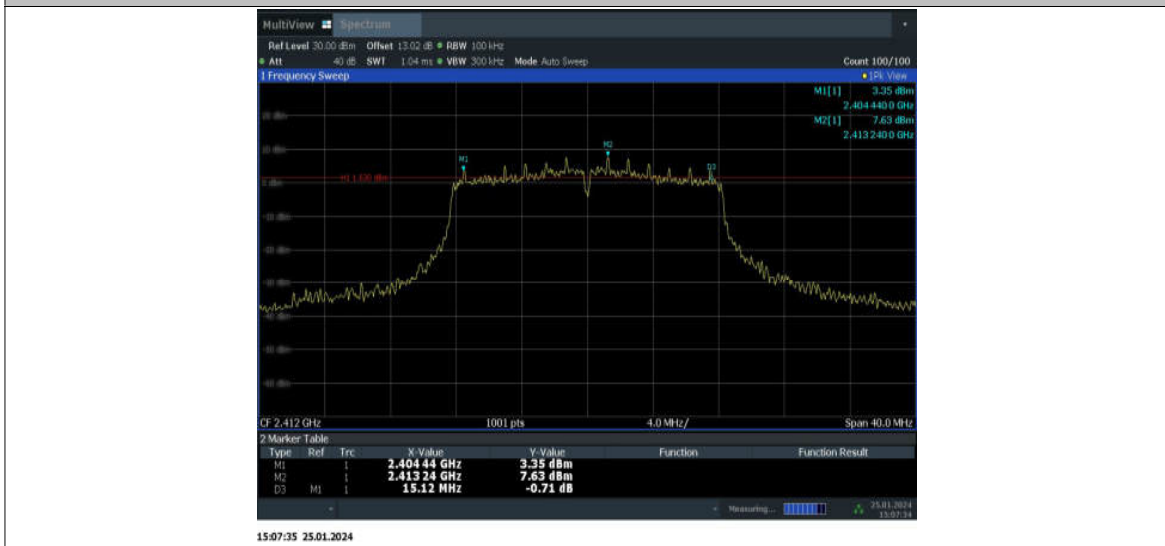
	ANT5	2452	35.44	2434.08	2469.52	0.5	PASS
	ANT7	2452	33.84	2435.68	2469.52	0.5	PASS

Test graphs as below:

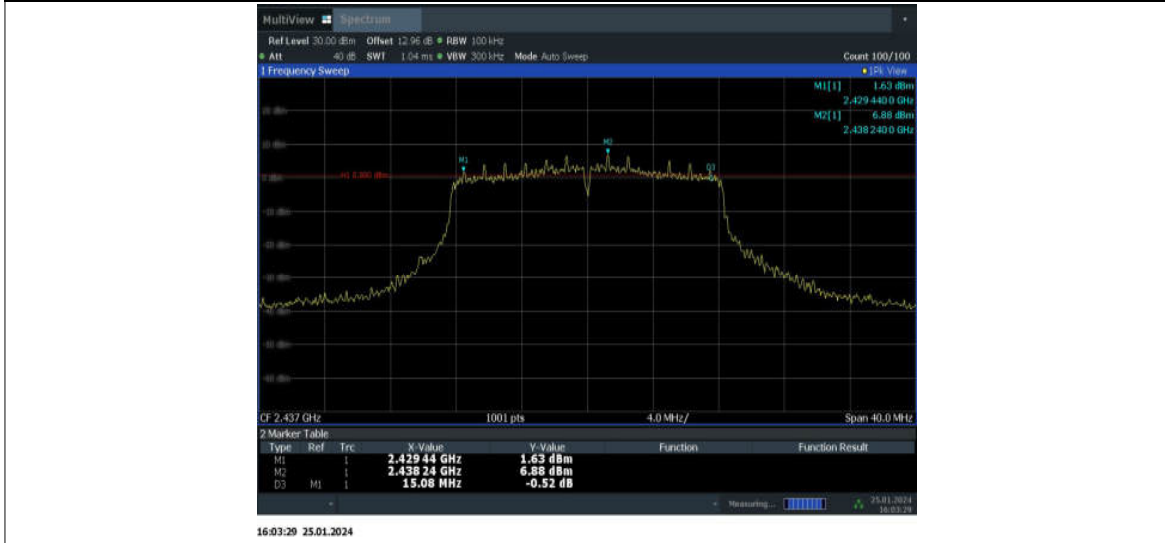




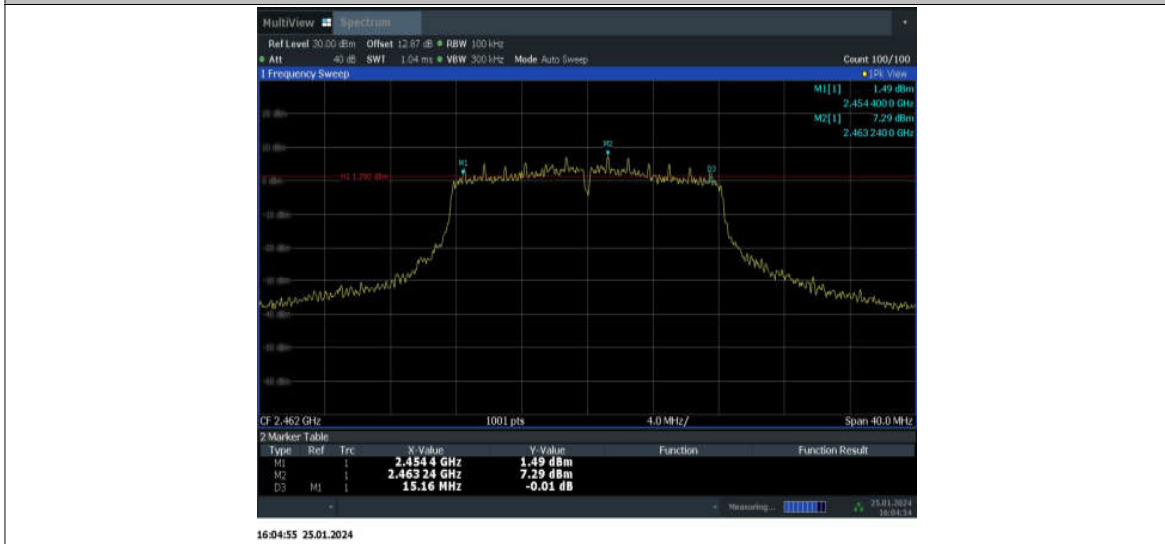
11G_ANT5_2412



11G_ANT5_2437



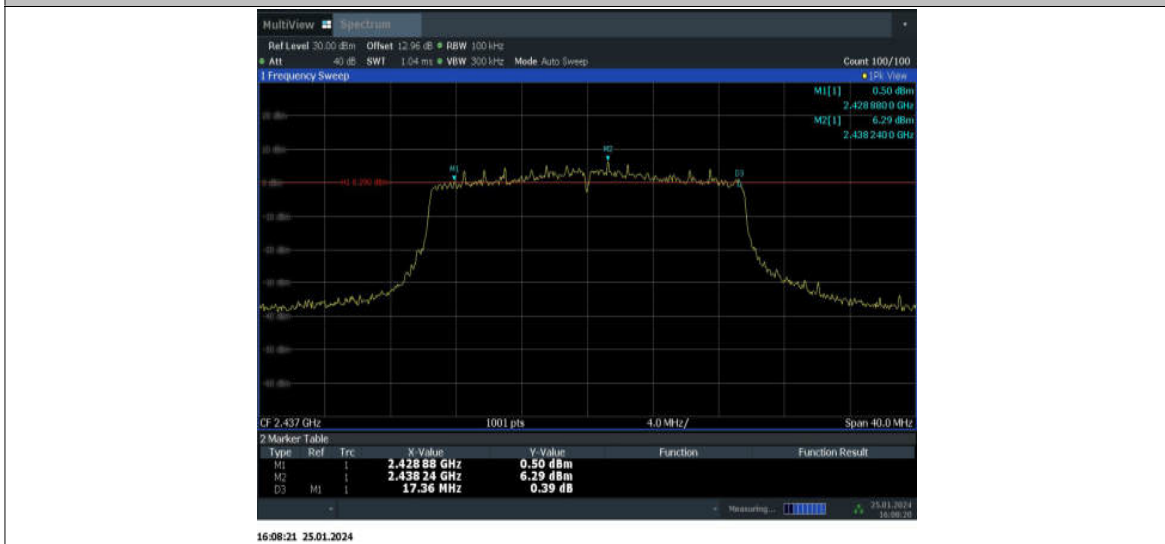
11G_ANT5_2462



11AX20SISO_ANT5_2412



11AX20SISO_ANT5_2437



11AX20SISO_ANT5_2462



11AX40SISO_ANT5_2422



11AX40SISO_ANT5_2437



11AX40SISO_ANT5_2452



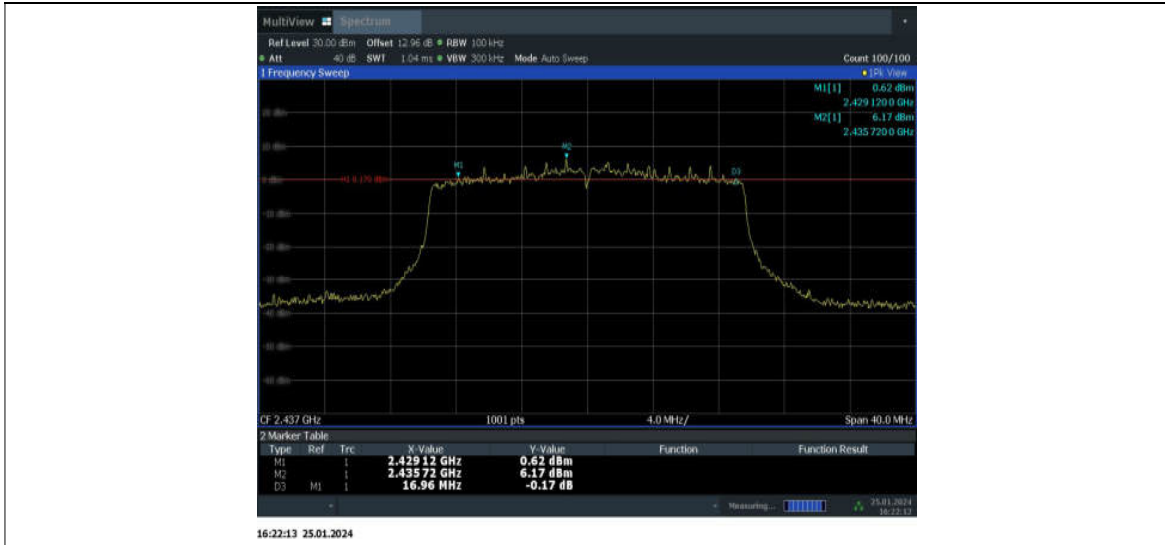
11AX20MIMO_ANT5_2412



11AX20MIMO_ANT7_2412



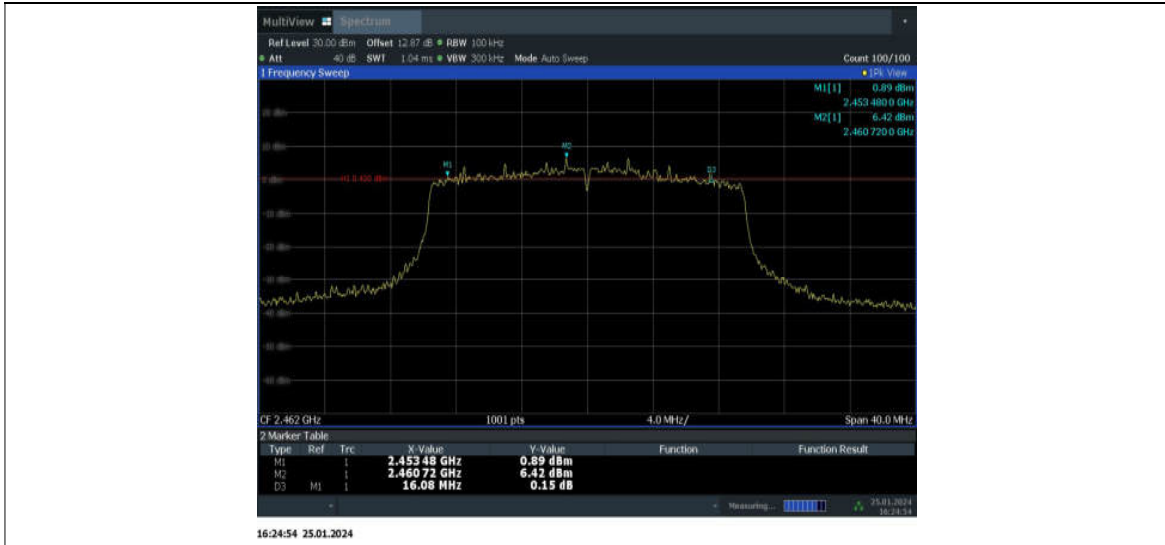
11AX20MIMO_ANT5_2437



11AX20MIMO_ANT7_2437



11AX20MIMO_ANT5_2462



11AX20MIMO_ANT7_2462



11AX40MIMO_ANT5_2422



11AX40MIMO_ANT7_2422



11AX40MIMO_ANT5_2437



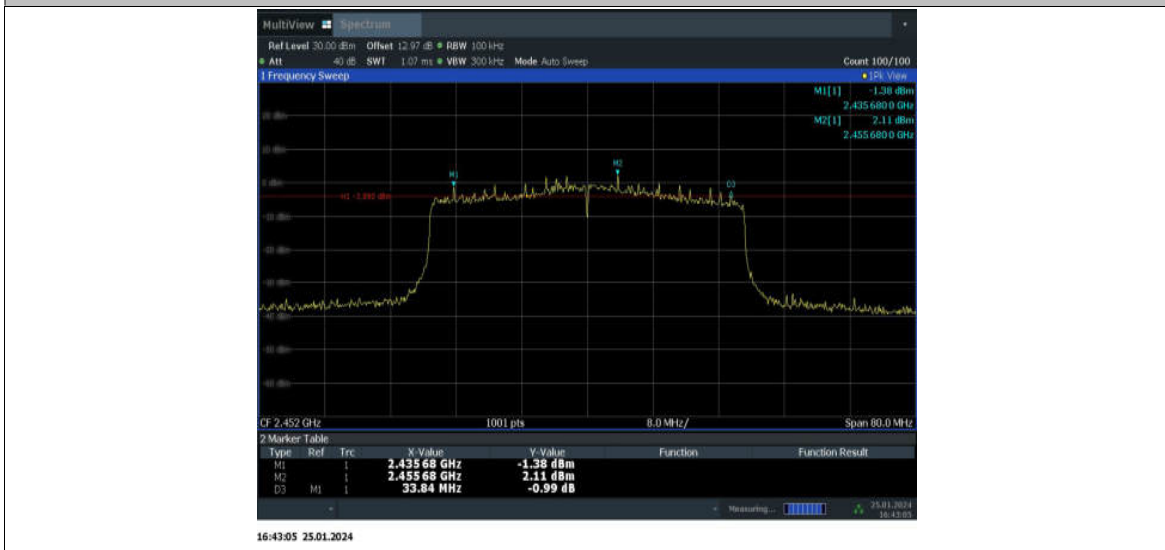
11AX40MIMO_ANT7_2437



11AX40MIMO_ANT5_2452



11AX40MIMO_ANT7_2452



Conclusion: Pass

A.5. Band Edges Compliance

Method of Measurement: See ANSI C63.10-2013-clause 6.10.4

Connect the spectrum analyzer to the EUT using an appropriate RF cable connected to the EUT output. Configure the spectrum analyzer settings as described below.

- a) Set Span = 100MHz
- b) Sweep Time: coupled
- c) Set the RBW= 100 kHz
- c) Set the VBW= 300 kHz
- d) Detector: Peak
- e) Trace: Max hold

Measurement Limit:

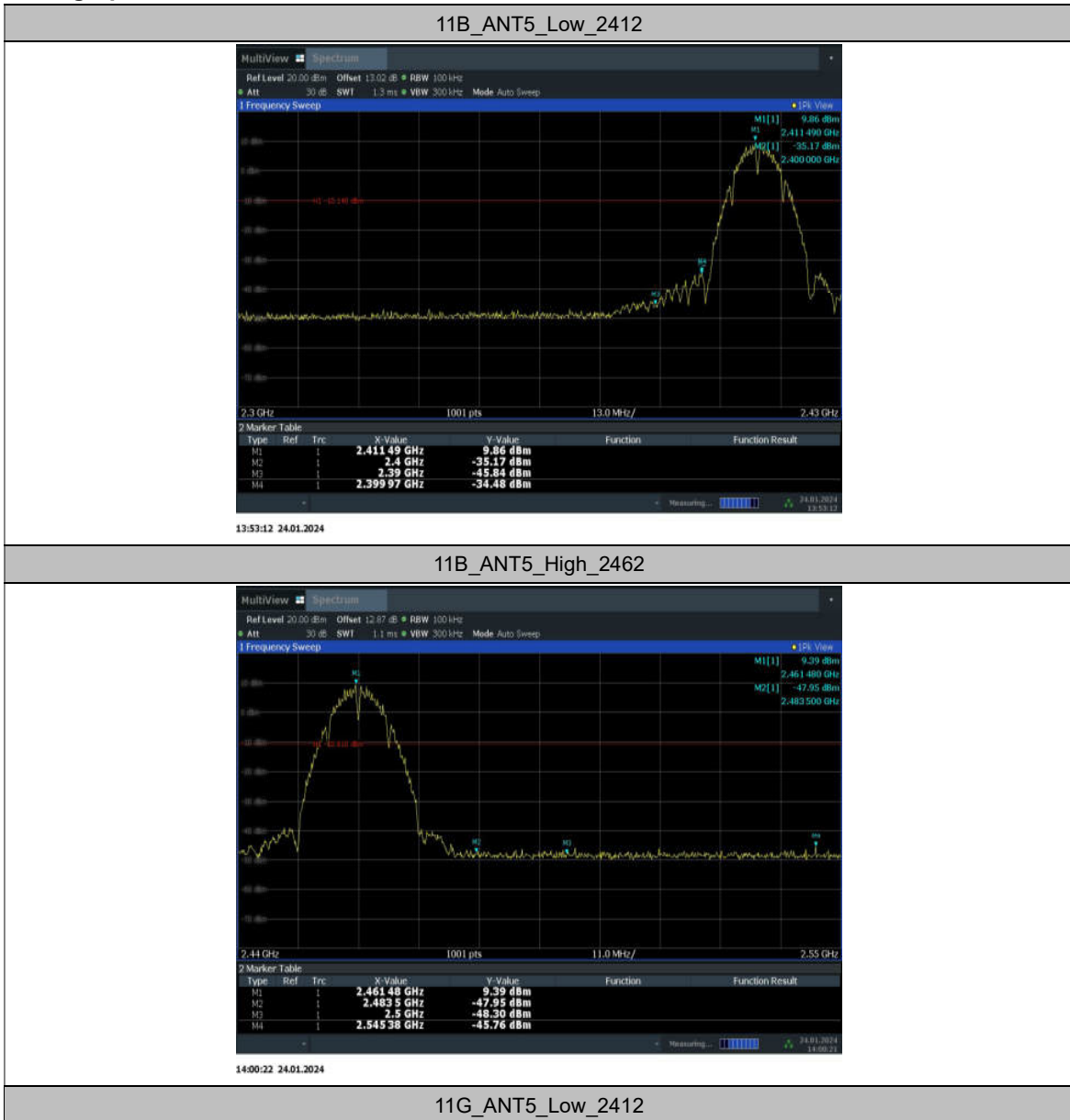
Standard	Limit (dBc)
FCC 47 CFR Part 15.247 (d)	> 20

EUT ID: UT25a

Measurement Result:

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	ANT5	Low	2412	9.86	-34.48	≤-10.14	PASS
		High	2462	9.39	-45.76	≤-10.61	PASS
11G	ANT5	Low	2412	7.50	-31.13	≤-12.5	PASS
		High	2462	7.34	-40.56	≤-12.66	PASS
11AX20SISO	ANT5	Low	2412	7.78	-27.05	≤-12.22	PASS
		High	2462	5.52	-44.98	≤-14.48	PASS
11AX40SISO	ANT5	Low	2422	1.61	-38.98	≤-18.39	PASS
		High	2452	2.31	-43.92	≤-17.69	PASS
11AX20MIMO	ANT5	Low	2412	7.77	-28.84	≤-12.23	PASS
	ANT7	Low	2412	5.55	-17.11	≤-14.45	PASS
	ANT5	High	2462	5.12	-46.12	≤-14.88	PASS
	ANT7	High	2462	3.02	-41.07	≤-16.98	PASS
11AX40MIMO	ANT5	Low	2422	2.10	-29.37	≤-17.9	PASS
	ANT7	Low	2422	1.83	-29.79	≤-18.17	PASS
	ANT5	High	2452	2.17	-45.85	≤-17.83	PASS
	ANT7	High	2452	1.94	-38.89	≤-18.06	PASS

Test graphs as below:





11G_ANT5_High_2462



11AX20SISO_ANT5_Low_2412



11AX20SISO_ANT5_High_2462



11AX40SISO_ANT5_Low_2422



11AX40SISO_ANT5_High_2452



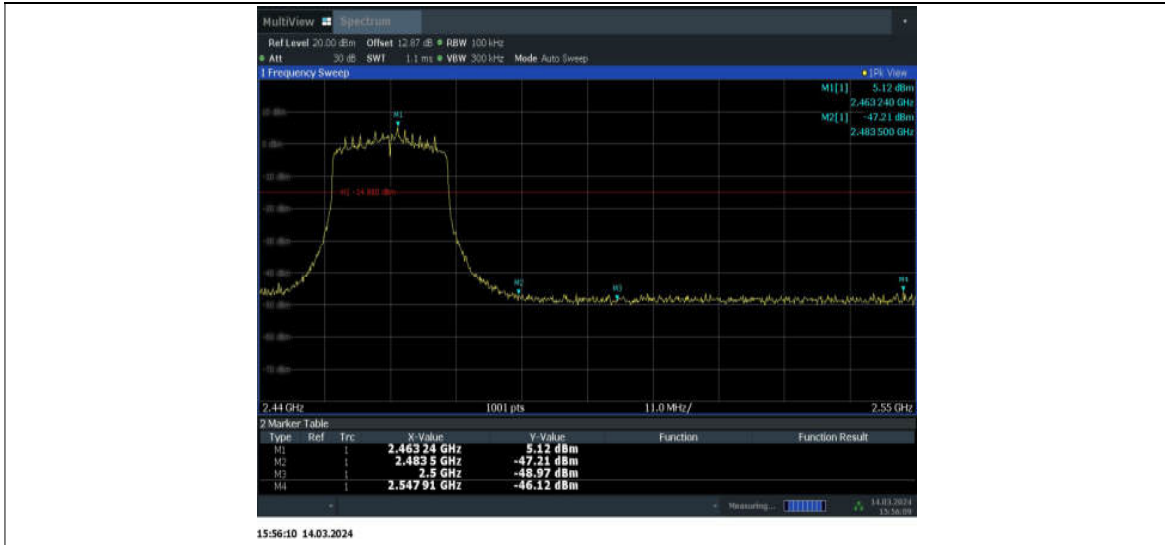
11AX20MIMO_ANT5_Low_2412



11AX20MIMO_ANT7_Low_2412



11AX20MIMO_ANT5_High_2462



11AX20MIMO_ANT7_High_2462



11AX40MIMO_ANT5_Low_2422



11AX40MIMO_ANT7_Low_2422



11AX40MIMO_ANT5_High_2452



11AX40MIMO_ANT7_High_2452



11ax-RU

TestMode	Antenna	ChName	Frequency[MHz]	Ru Size	Ru Index	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11AX20MIMO	ANT5	Low	2412	26Tone	RU0	1.79	-34.08	≤-18.21	PASS
					RU8	2.12	-42.21	≤-17.88	PASS
				52Tone	RU37	2.49	-32.81	≤-17.51	PASS
					RU40	1.60	-39.15	≤-18.4	PASS
				106Tone	RU53	1.51	-34.15	≤-18.49	PASS
					RU54	2.04	-35.1	≤-17.96	PASS
	ANT7	Low	2412	26Tone	RU0	0.66	-32.27	≤-19.34	PASS
					RU8	2.86	-45.68	≤-17.14	PASS
				52Tone	RU37	0.71	-33.13	≤-19.29	PASS
					RU40	3.41	-39.86	≤-16.59	PASS
				106Tone	RU53	1.70	-34.36	≤-18.3	PASS
					RU54	2.60	-31.86	≤-17.4	PASS
	ANT5	High	2462	26Tone	RU0	0.92	-42.35	≤-19.08	PASS
					RU8	1.00	-46.65	≤-19	PASS
				52Tone	RU37	1.02	-45.84	≤-18.98	PASS
					RU40	1.70	-46.01	≤-18.3	PASS
				106Tone	RU53	0.91	-46.28	≤-19.09	PASS
					RU54	1.77	-46.11	≤-18.23	PASS
	ANT7	High	2462	26Tone	RU0	2.54	-46.18	≤-17.46	PASS
					RU8	1.37	-45.83	≤-18.63	PASS
52Tone				RU37	2.36	-46.04	≤-17.64	PASS	
				RU40	1.95	-46.19	≤-18.05	PASS	
106Tone				RU53	1.94	-46.19	≤-18.06	PASS	
				RU54	2.31	-45.59	≤-17.69	PASS	

Test Graphs





11AX20MIMO_ANT5_Low_2412_52Tone_RU40



11AX20MIMO_ANT5_Low_2412_106Tone_RU53



11AX20MIMO_ANT5_Low_2412_106Tone_RU54



11AX20MIMO_ANT7_Low_2412_26Tone_RU0



11AX20MIMO_ANT7_Low_2412_26Tone_RU8



11AX20MIMO_ANT7_Low_2412_52Tone_RU37



11AX20MIMO_ANT7_Low_2412_52Tone_RU40



11AX20MIMO_ANT7_Low_2412_106Tone_RU53



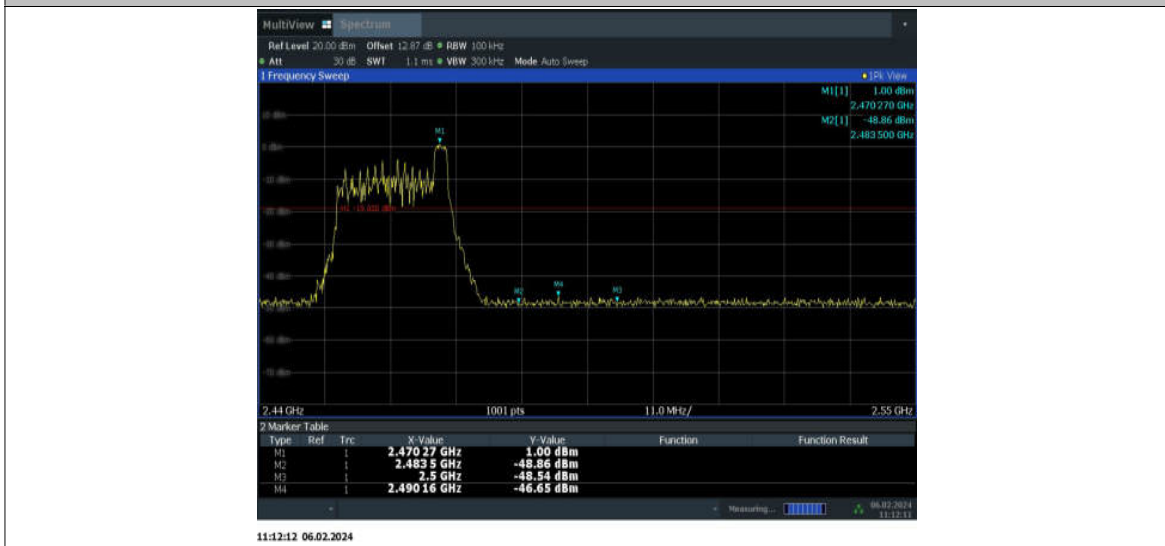
11AX20MIMO_ANT7_Low_2412_106Tone_RU54



11AX20MIMO_ANT5_High_2462_26Tone_RU0



11AX20MIMO_ANT5_High_2462_26Tone_RU8



11AX20MIMO_ANT5_High_2462_52Tone_RU37



11AX20MIMO_ANT5_High_2462_52Tone_RU40



11AX20MIMO_ANT5_High_2462_106Tone_RU53



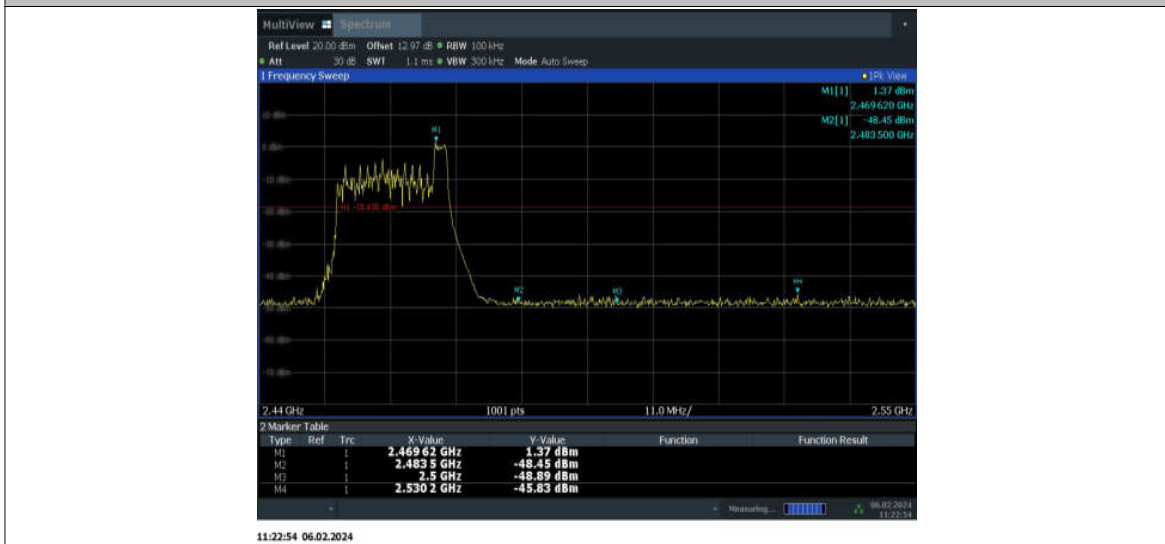
11AX20MIMO_ANT5_High_2462_106Tone_RU54



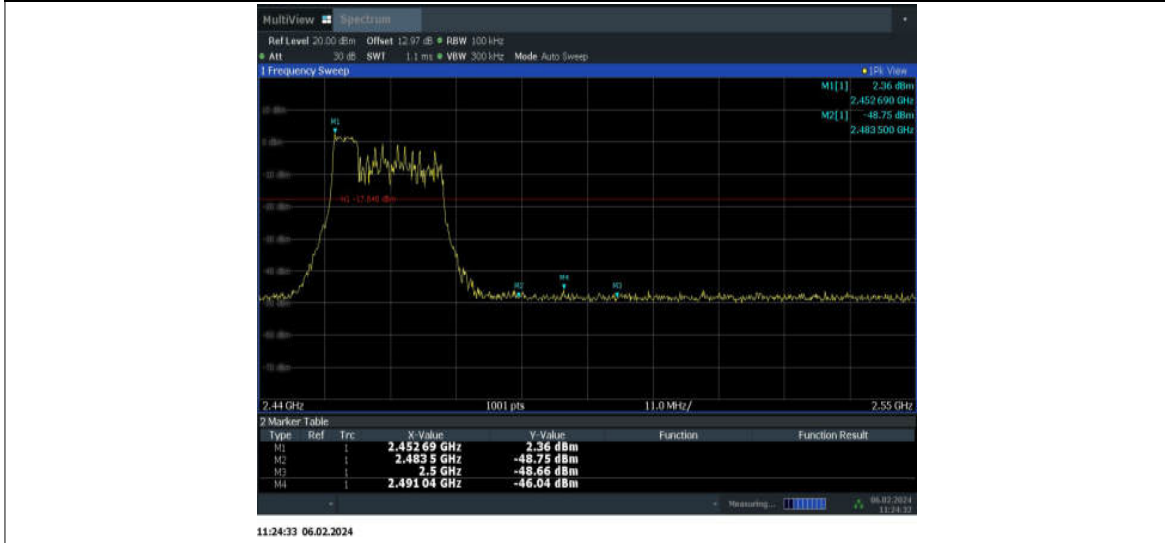
11AX20MIMO_ANT7_High_2462_26Tone_RU0



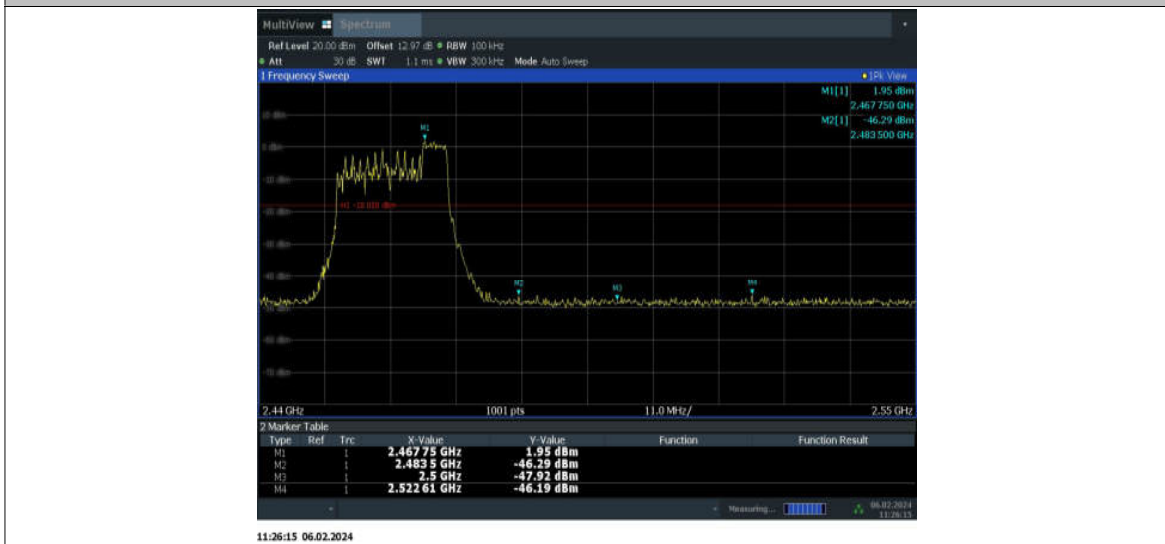
11AX20MIMO_ANT7_High_2462_26Tone_RU8



11AX20MIMO_ANT7_High_2462_52Tone_RU37



11AX20MIMO_ANT7_High_2462_52Tone_RU40



11AX20MIMO_ANT7_High_2462_106Tone_RU53



11AX20MIMO_ANT7_High_2462_106Tone_RU54



Conclusion: Pass

A.6. Transmitter Spurious Emission

A.6.1 Transmitter Spurious Emission – Conducted

Method of Measurement: See ANSI C63.10-2013-clause 11.11

Establish a reference level by using the following procedure:

- a) Set instrument center frequency to DTS channel center frequency
- b) Set the span to ≥ 1.5 times the DTS bandwidth
- c) Set the RBW= 100 kHz
- d) Set the VBW= 300 kHz
- e) Detector = Peak
- f) Sweep time = auto couple
- g) Trace mode = max hold
- h) Allow trace to fully stabilize
- i) Use the peak marker function to determine the maximum PSD level

Note that the channel found to contain the maximum PSD level can be used to establish the reference level.

Establish an emission level by using the following procedure:

- a) Set the center frequency and span to encompass frequency range to be measured.
- b) Set the RBW = 100 kHz.
- c) Set the VBW = 300 kHz.
- d) Detector = peak.
- e) Sweep time = auto couple.
- f) Trace mode = max hold.
- g) Allow trace to fully stabilize.
- h) Use the peak marker function to determine the maximum amplitude level.

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11. Report the three highest emissions relative to the limit.

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247 (d)	20dB below peak output power in 100 kHz bandwidth

EUT ID: UT25a

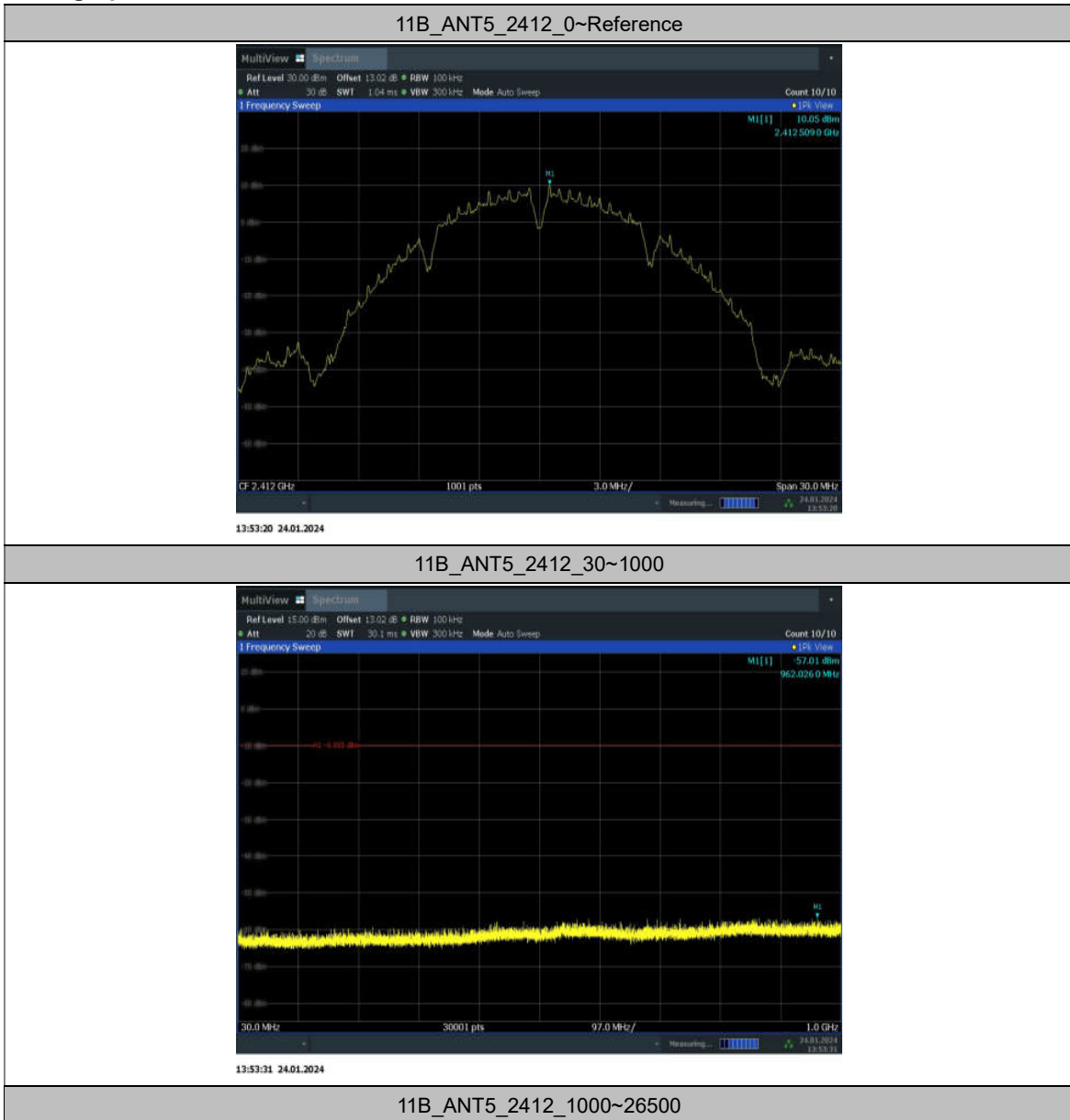
Measurement Results:

TestMode	Antenna	Frequency[MHz]	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	ANT5	2412	Reference	10.05	10.05	---	PASS
			30~1000	10.05	-57.01	≤ -9.95	PASS
			1000~26500	10.05	-44.27	≤ -9.95	PASS
		2437	Reference	8.41	8.41	---	PASS
			30~1000	8.41	-56.34	≤ -11.59	PASS

		2462	1000~26500	8.41	-43.9	≤ -11.59	PASS		
			Reference	9.53	9.53	---	PASS		
			30~1000	9.53	-56.8	≤ -10.47	PASS		
			1000~26500	9.53	-43.64	≤ -10.47	PASS		
11G	ANT5	2412	Reference	7.94	7.94	---	PASS		
			30~1000	7.94	-56.26	≤ -12.06	PASS		
			1000~26500	7.94	-44.06	≤ -12.06	PASS		
		2437	Reference	7.00	7.00	---	PASS		
			30~1000	7.00	-56.65	≤ -13	PASS		
			1000~26500	7.00	-43.83	≤ -13	PASS		
		2462	Reference	7.53	7.53	---	PASS		
			30~1000	7.53	-56.85	≤ -12.47	PASS		
			1000~26500	7.53	-44.09	≤ -12.47	PASS		
		11AX20SISO	ANT5	2412	Reference	7.40	7.40	---	PASS
					30~1000	7.40	-56.57	≤ -12.6	PASS
					1000~26500	7.40	-42.79	≤ -12.6	PASS
2437	Reference			6.93	6.93	---	PASS		
	30~1000			6.93	-56.32	≤ -13.07	PASS		
	1000~26500			6.93	-43.88	≤ -13.07	PASS		
2462	Reference			7.58	7.58	---	PASS		
	30~1000			7.58	-55.26	≤ -12.42	PASS		
	1000~26500			7.58	-42.86	≤ -12.42	PASS		
11AX40SISO	ANT5			2422	Reference	2.25	2.25	---	PASS
					30~1000	2.25	-56.81	≤ -17.75	PASS
					1000~26500	2.25	-43.54	≤ -17.75	PASS
		2437	Reference	1.82	1.82	---	PASS		
			30~1000	1.82	-56.77	≤ -18.18	PASS		
			1000~26500	1.82	-43.17	≤ -18.18	PASS		
		2452	Reference	2.21	2.21	---	PASS		
			30~1000	2.21	-56.42	≤ -17.79	PASS		
			1000~26500	2.21	-43.51	≤ -17.79	PASS		
		11AX20MIMO	ANT5	2412	Reference	6.49	6.49	---	PASS
					30~1000	6.49	-56.68	≤ -13.51	PASS
					1000~26500	6.49	-44.06	≤ -13.51	PASS
ANT7	2412		Reference	7.54	7.54	---	PASS		
			30~1000	7.54	-56.77	≤ -12.46	PASS		
			1000~26500	7.54	-42.94	≤ -12.46	PASS		
ANT5	2437		Reference	6.13	6.13	---	PASS		
			30~1000	6.13	-56.58	≤ -13.87	PASS		
			1000~26500	6.13	-43.43	≤ -13.87	PASS		
ANT7	2437		Reference	6.95	6.95	---	PASS		
			30~1000	6.95	-56.34	≤ -13.05	PASS		

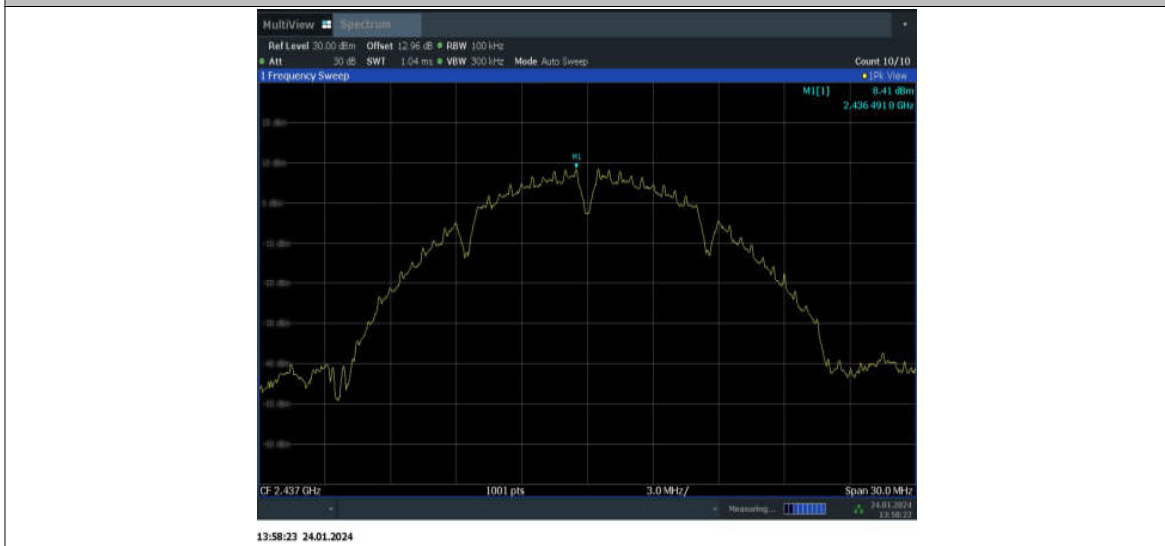
	ANT5	2462	1000~26500	6.95	-44.08	≤ -13.05	PASS
			Reference	7.32	7.32	---	PASS
			30~1000	7.32	-57.11	≤ -12.68	PASS
	ANT7	2462	1000~26500	7.32	-41.4	≤ -12.68	PASS
			Reference	6.83	6.83	---	PASS
			30~1000	6.83	-57.02	≤ -13.17	PASS
11AX40MIMO	ANT5	2422	Reference	1.45	1.45	---	PASS
			30~1000	1.45	-56.15	≤ -18.55	PASS
			1000~26500	1.45	-43.76	≤ -18.55	PASS
	ANT7	2422	Reference	2.42	2.42	---	PASS
			30~1000	2.42	-56.42	≤ -17.58	PASS
			1000~26500	2.42	-43.54	≤ -17.58	PASS
	ANT5	2437	Reference	1.43	1.43	---	PASS
			30~1000	1.43	-56.09	≤ -18.57	PASS
			1000~26500	1.43	-43.31	≤ -18.57	PASS
	ANT7	2437	Reference	2.36	2.36	---	PASS
			30~1000	2.36	-56.36	≤ -17.64	PASS
			1000~26500	2.36	-43.73	≤ -17.64	PASS
	ANT5	2452	Reference	2.01	2.01	---	PASS
			30~1000	2.01	-56.61	≤ -17.99	PASS
			1000~26500	2.01	-43.67	≤ -17.99	PASS
	ANT7	2452	Reference	2.18	2.18	---	PASS
			30~1000	2.18	-56.42	≤ -17.82	PASS
			1000~26500	2.18	-44.1	≤ -17.82	PASS

Test graphs as below:

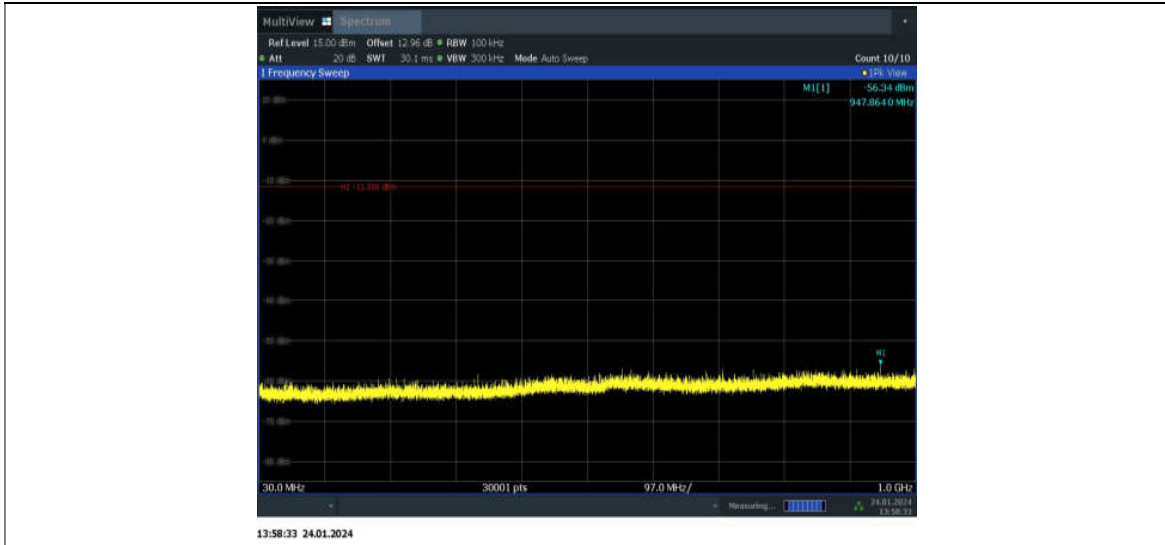




11B_ANT5_2437_0~Reference



11B_ANT5_2437_30~1000



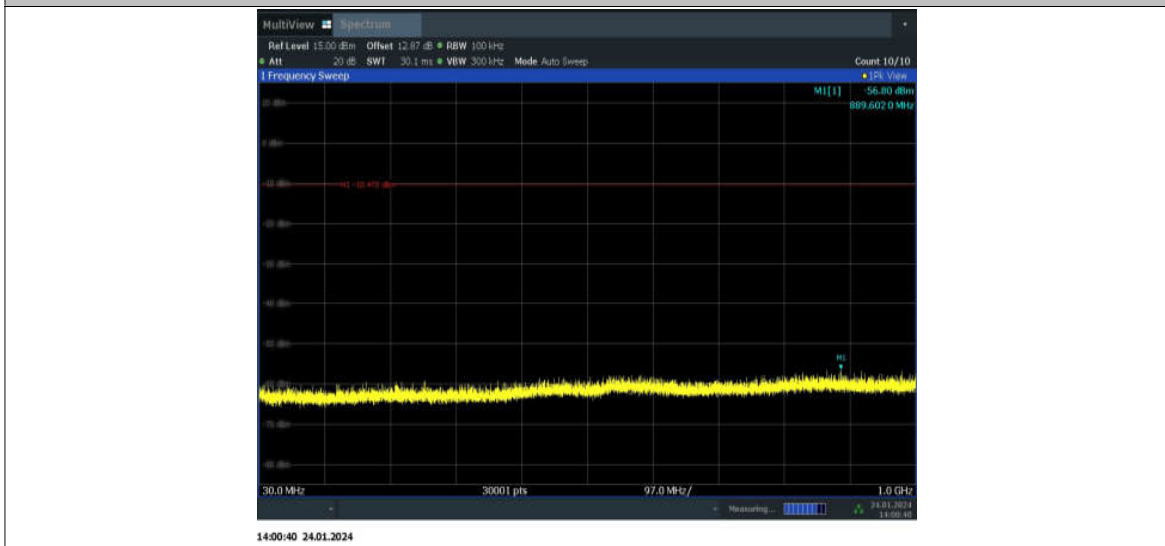
11B_ANT5_2437_1000~26500



11B_ANT5_2462_0~Reference



11B_ANT5_2462_30~1000



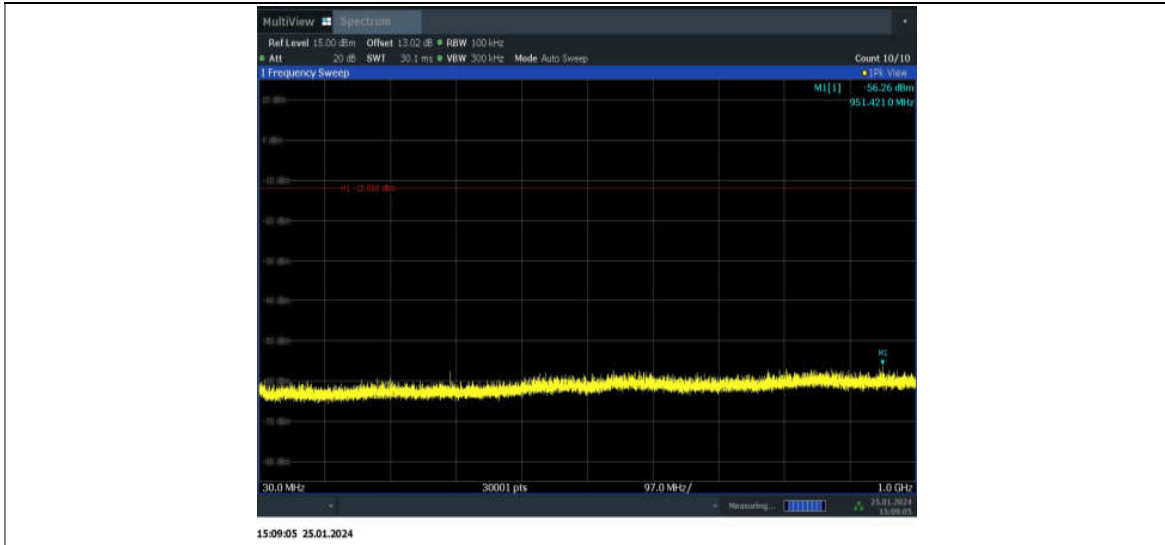
11B_ANT5_2462_1000~26500



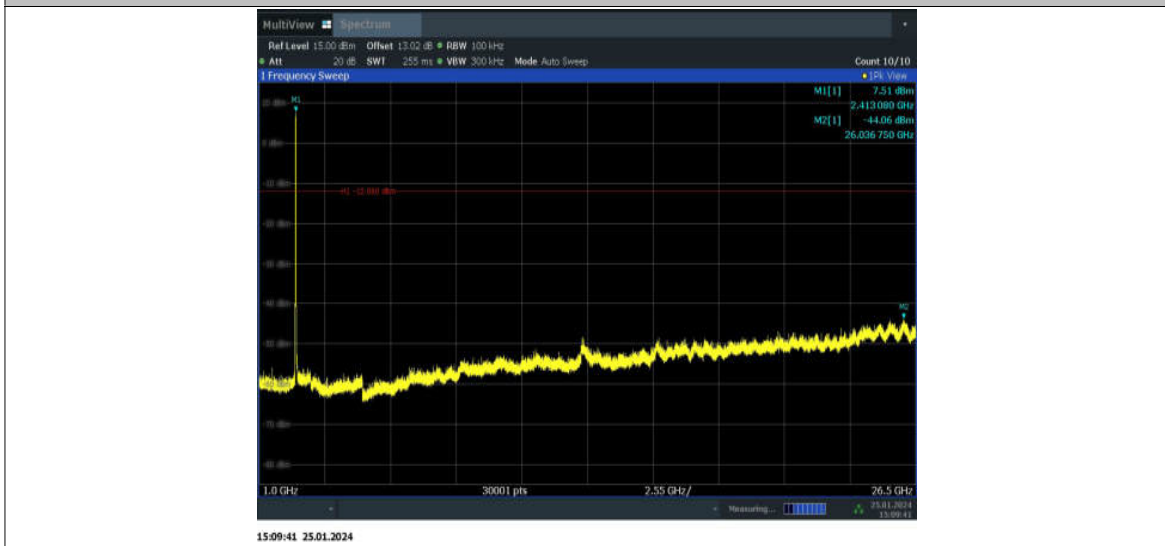
11G_ANT5_2412_0~Reference



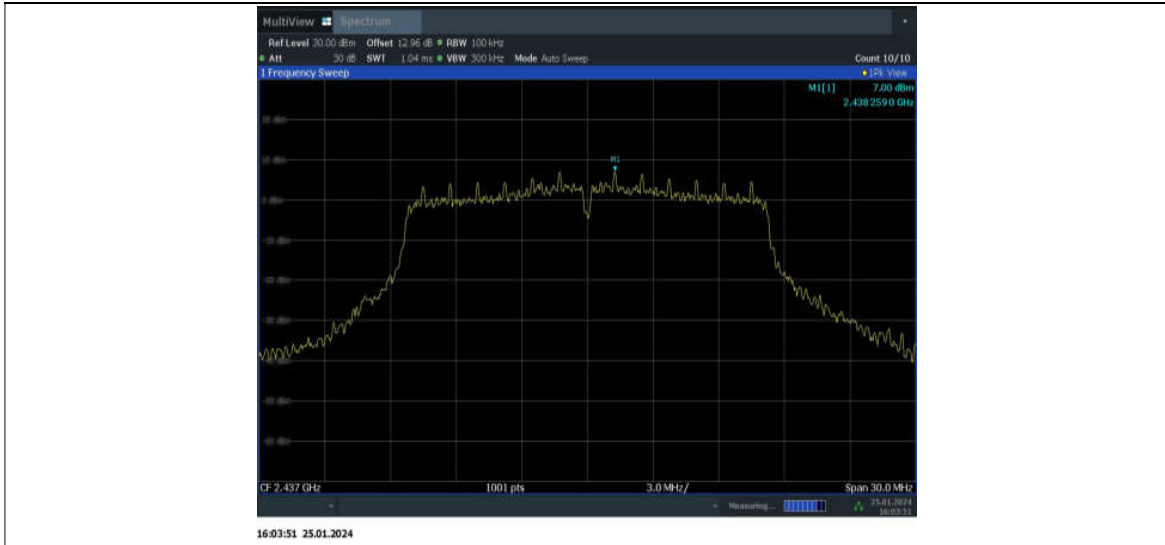
11G_ANT5_2412_30~1000



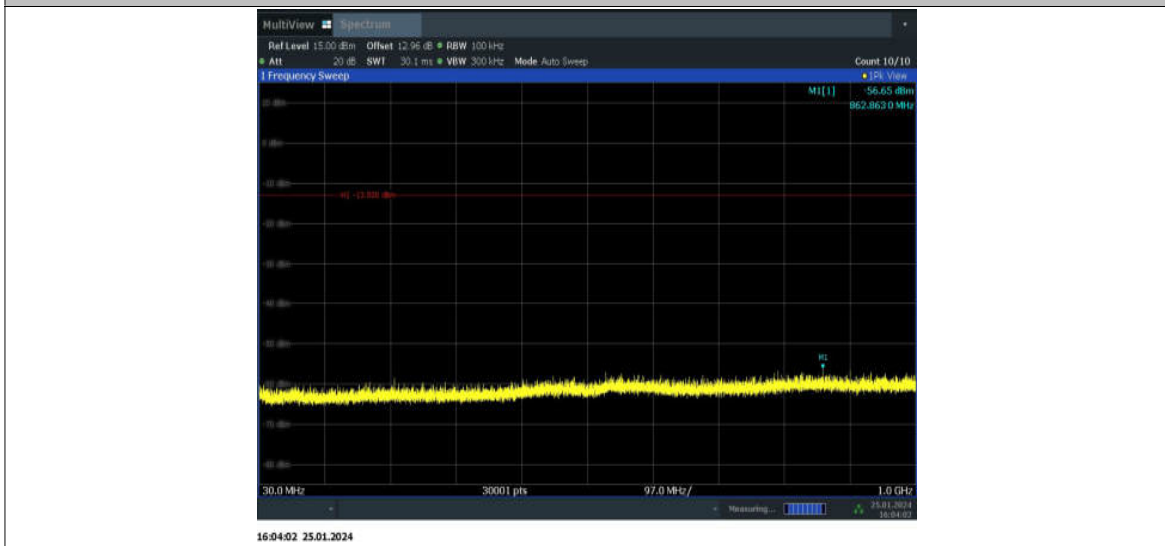
11G_ANT5_2412_1000~26500



11G_ANT5_2437_0~Reference



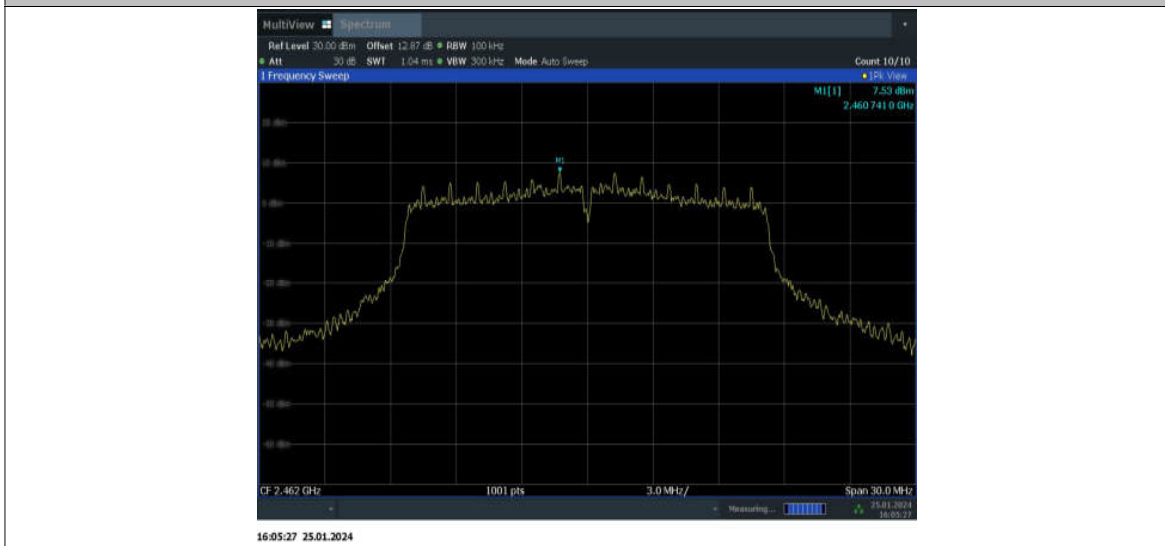
11G_ANT5_2437_30~1000



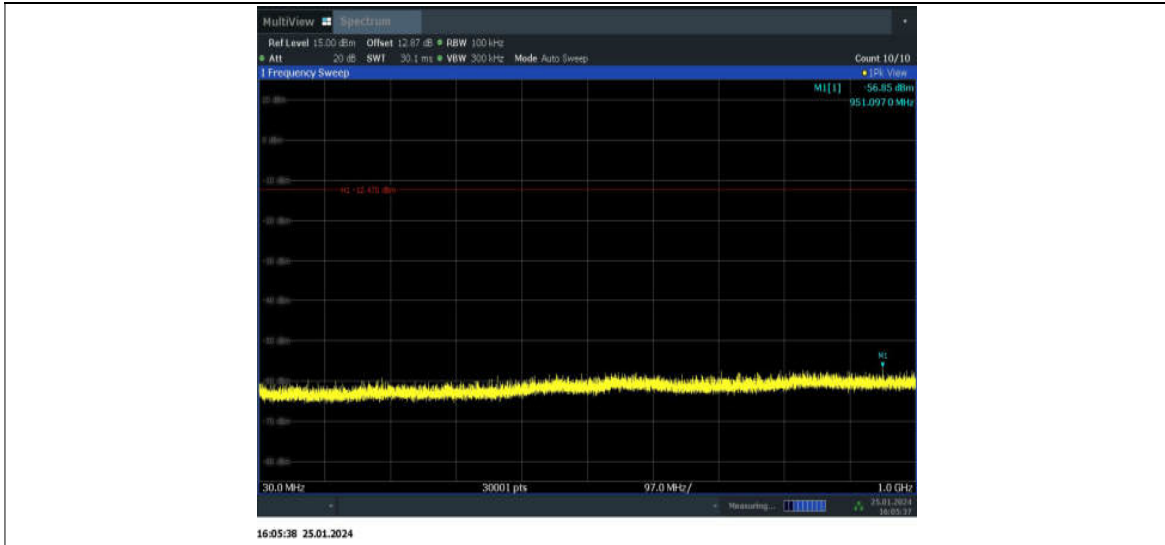
11G_ANT5_2437_1000~26500



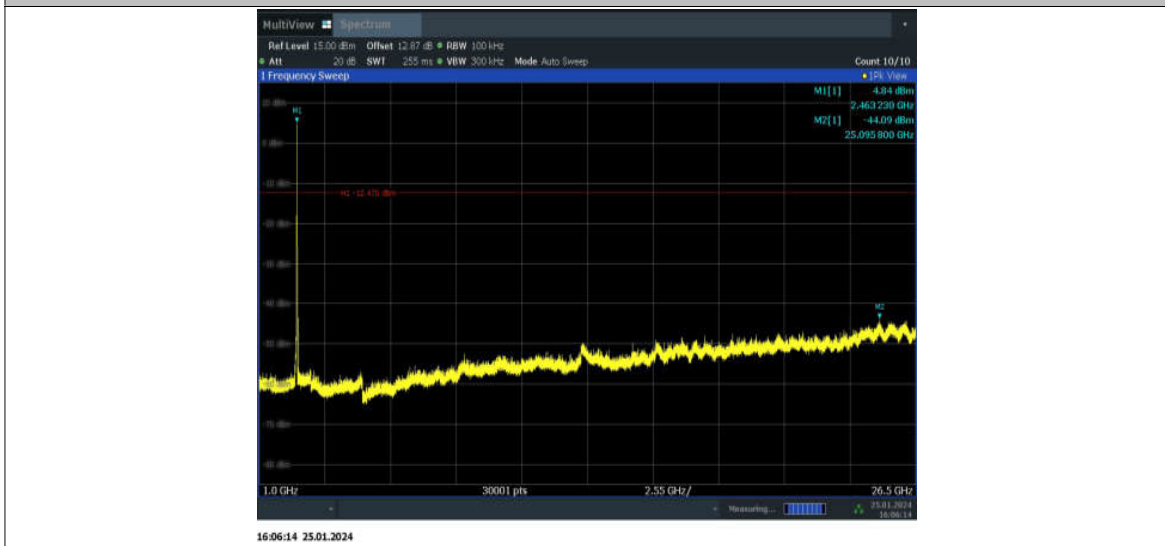
11G_ANT5_2462_0~Reference



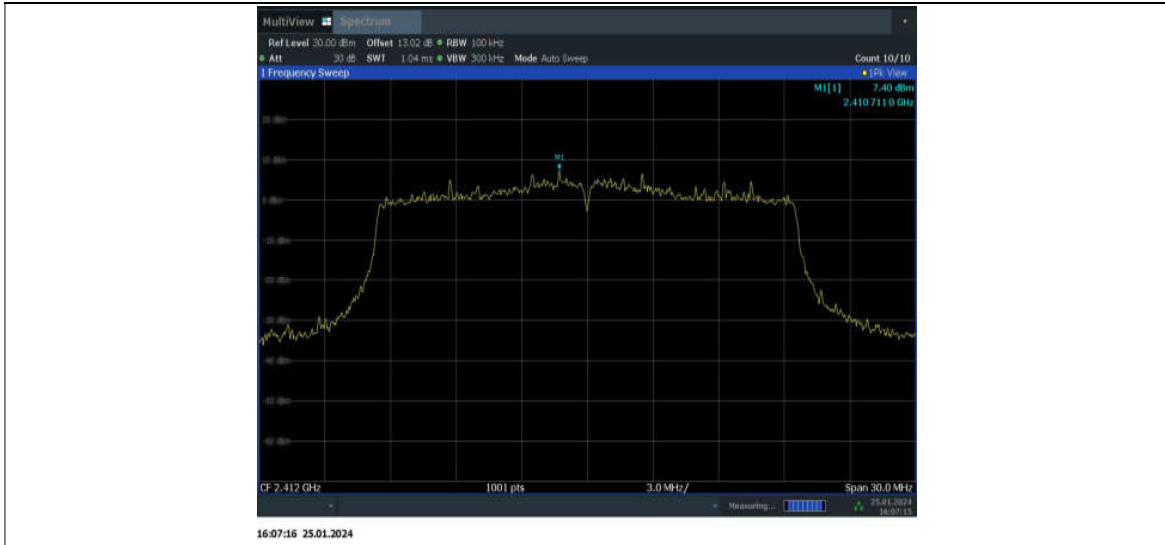
11G_ANT5_2462_30~1000



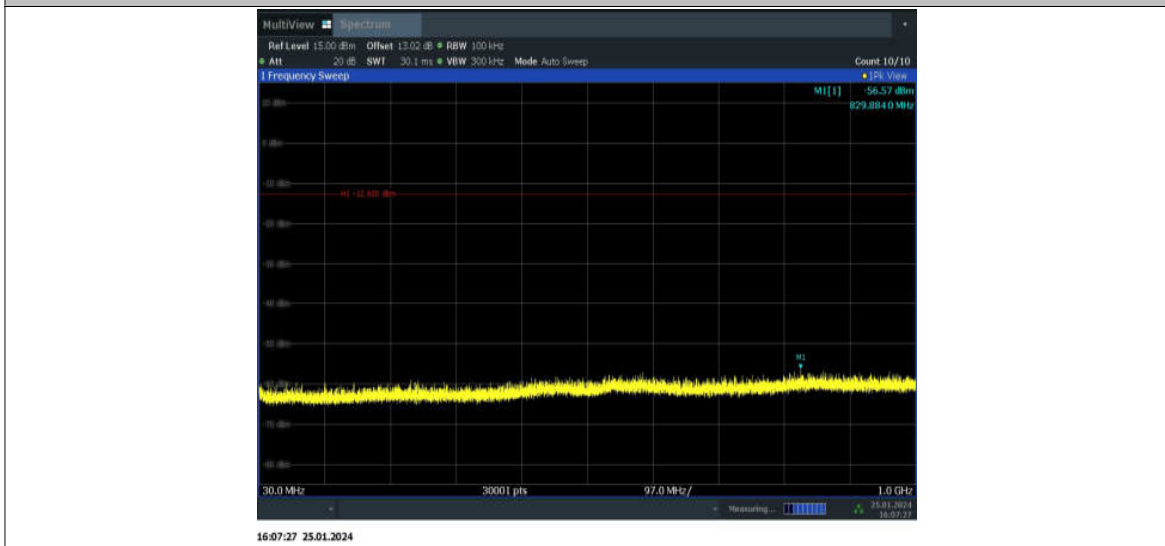
11G_ANT5_2462_1000~26500



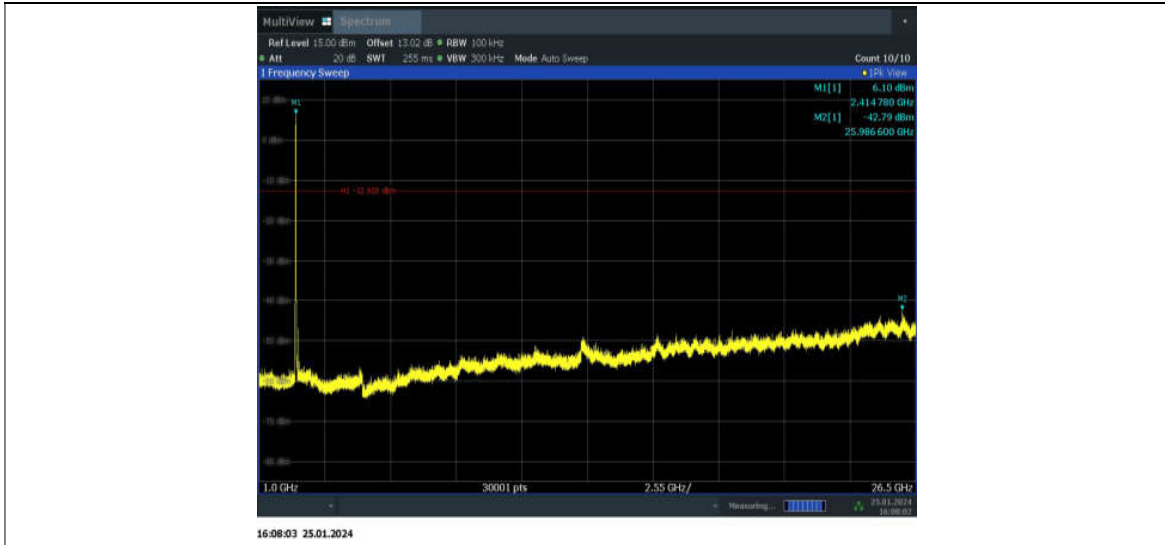
11AX20SISO_ANT5_2412_0~Reference



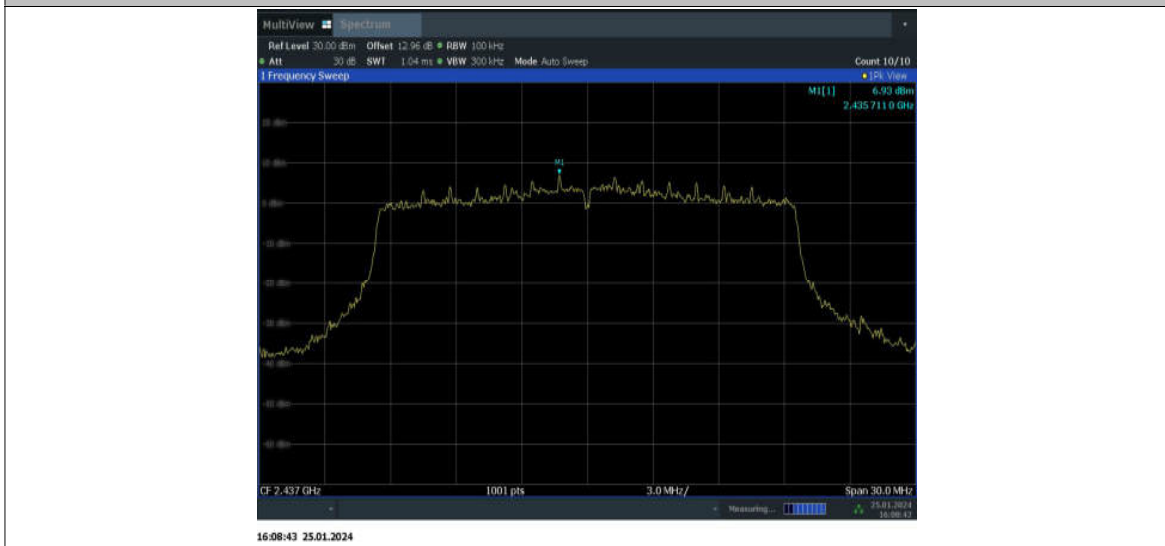
11AX20SISO_ANT5_2412_30~1000



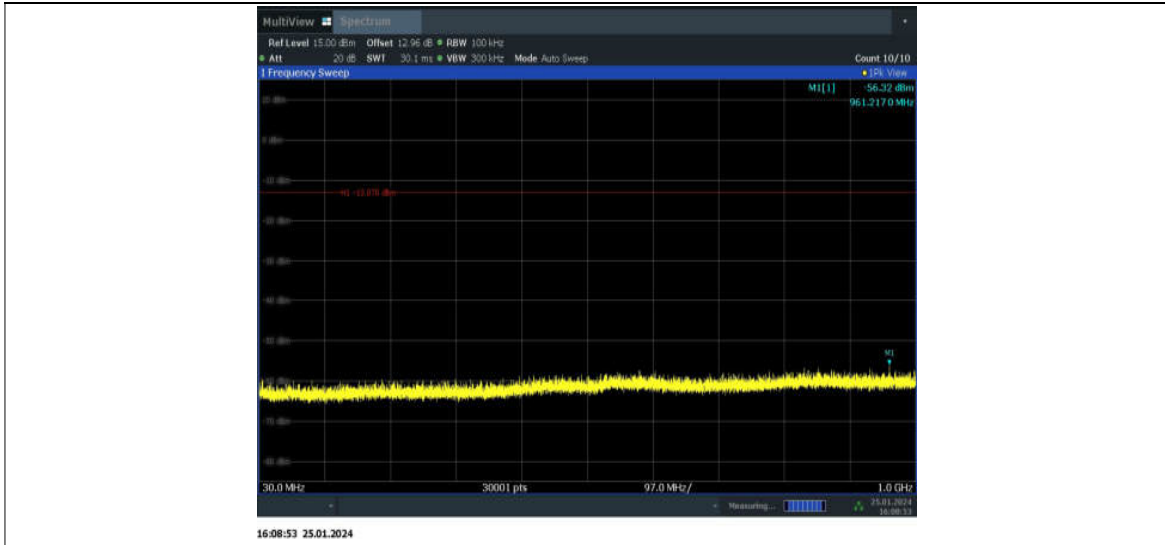
11AX20SISO_ANT5_2412_1000~26500



11AX20SISO_ANT5_2437_0~Reference



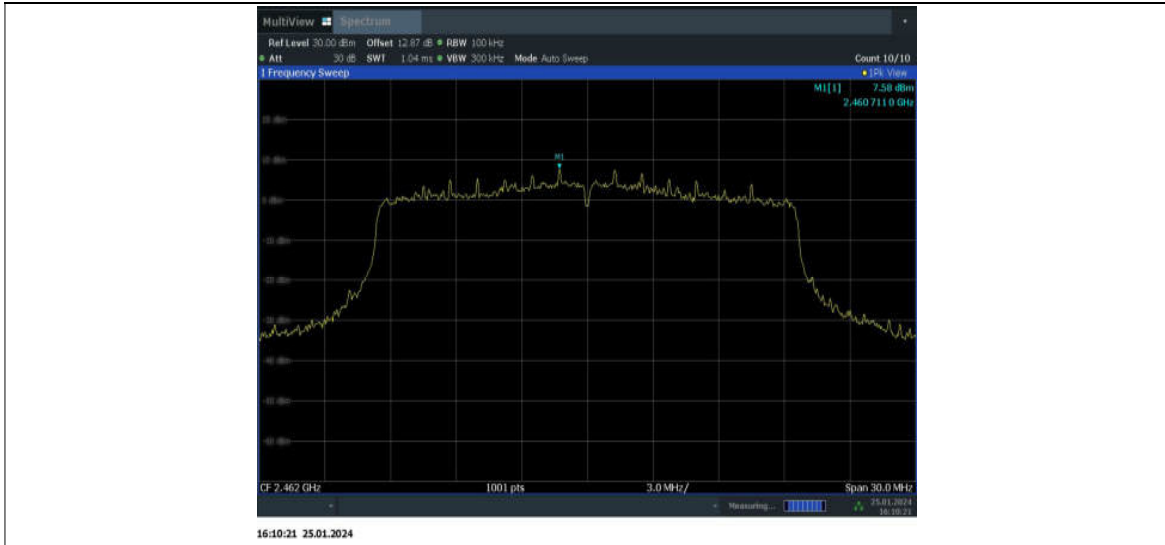
11AX20SISO_ANT5_2437_30~1000



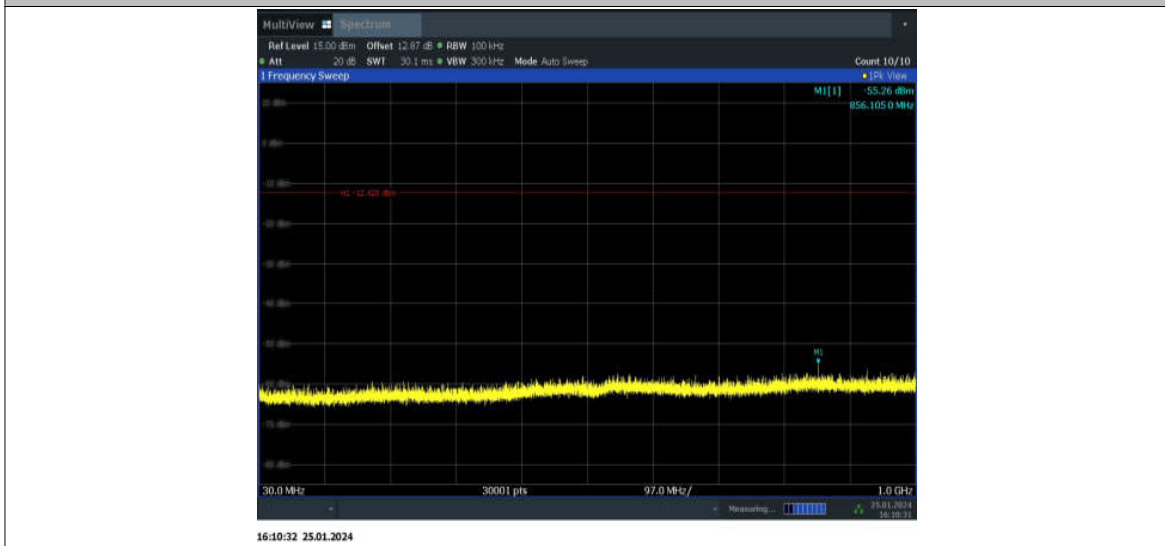
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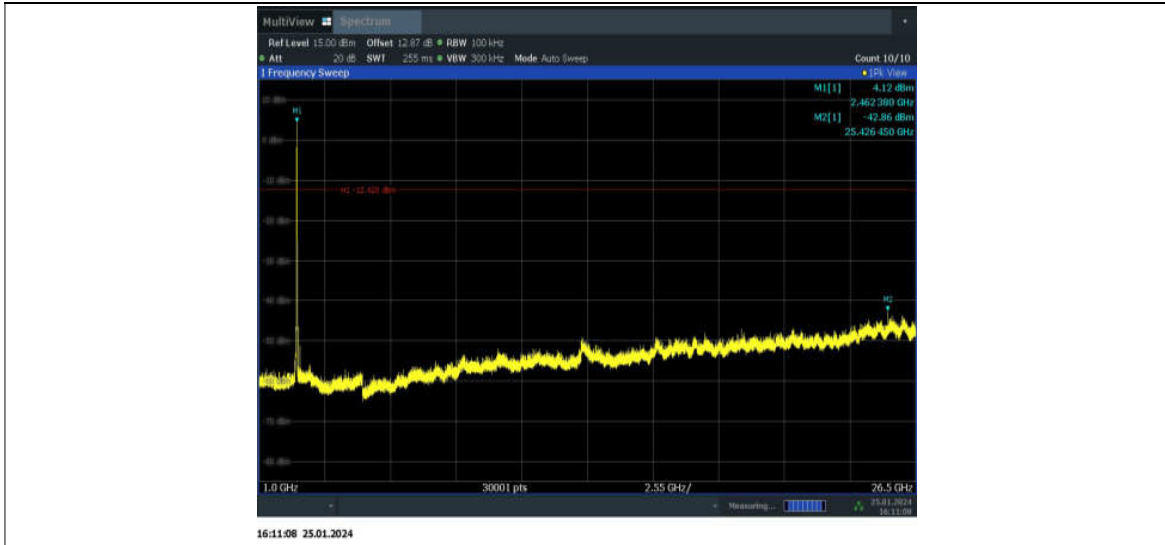
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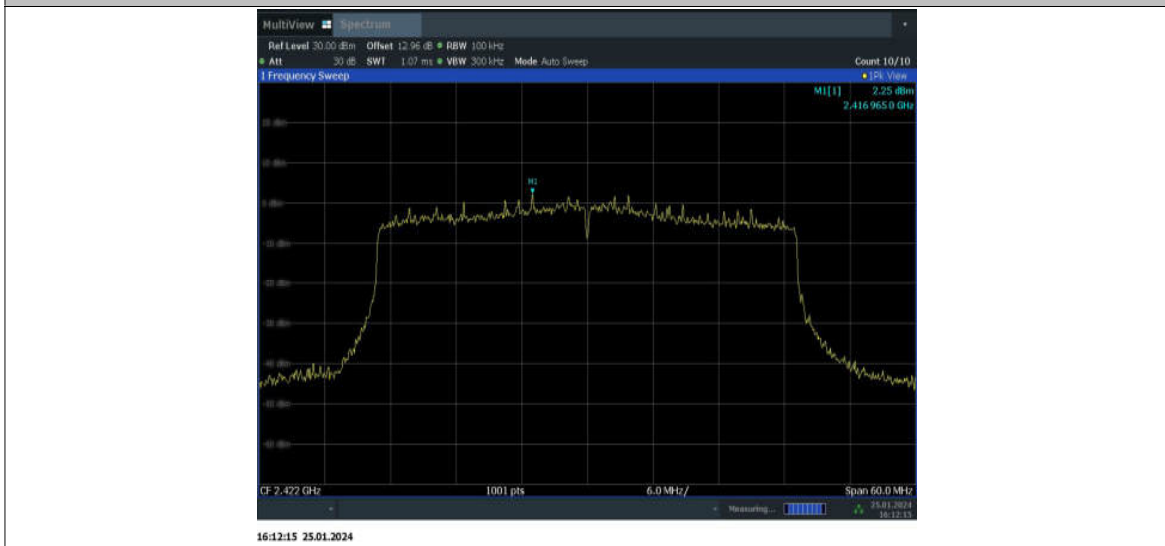
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11AX20SISO_ANT5_2462_1000~26500



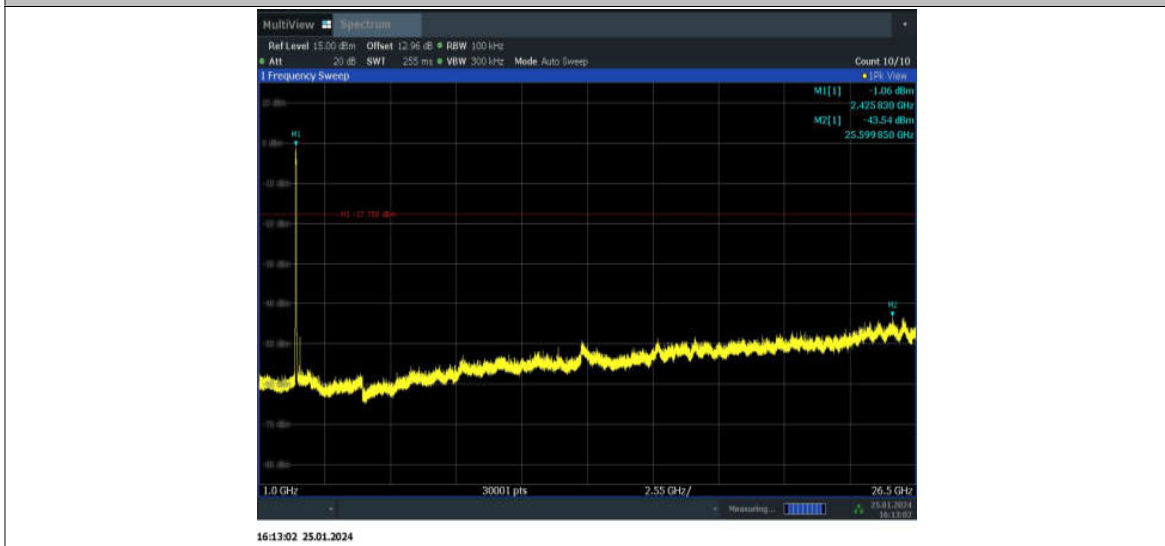
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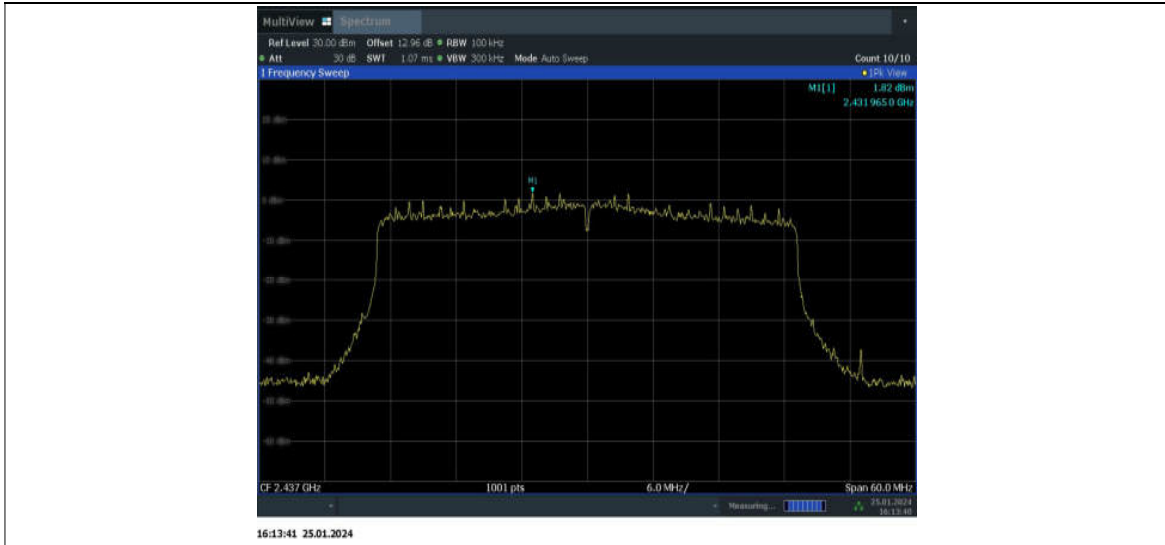
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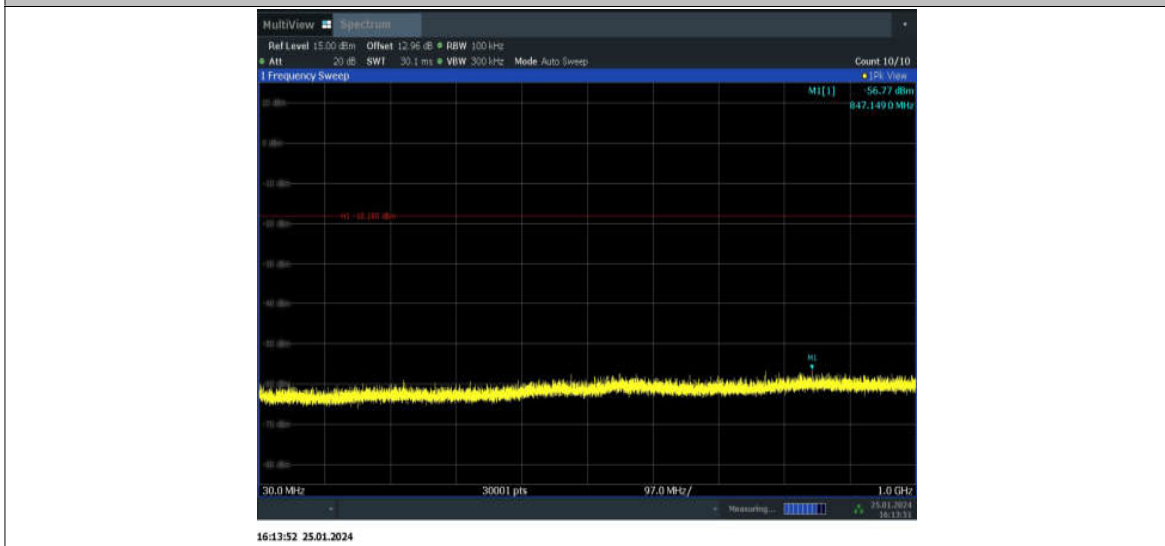
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11AX40SISO_ANT5_2437_0~Reference



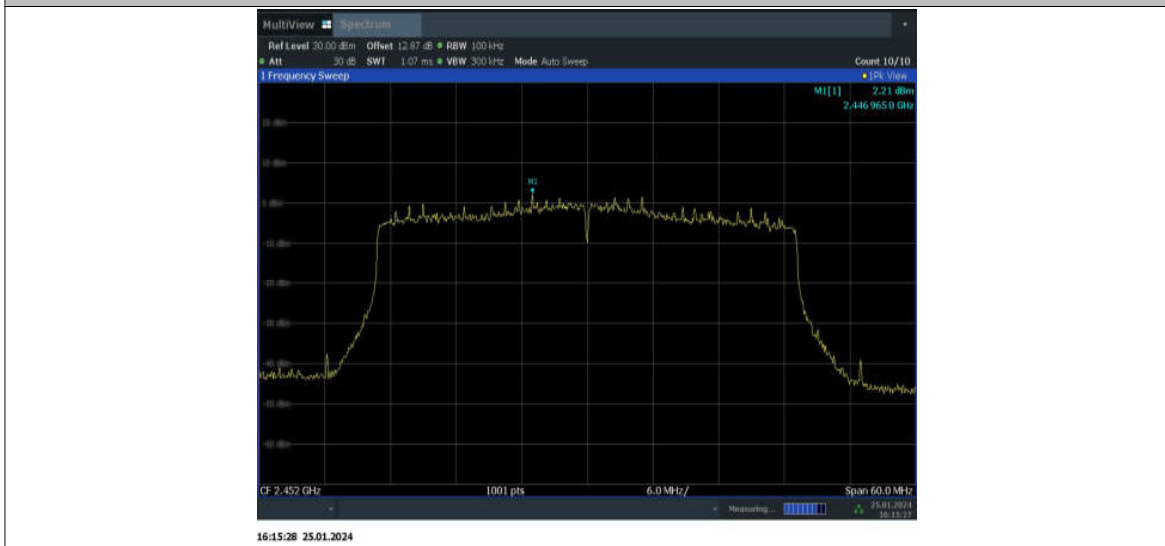
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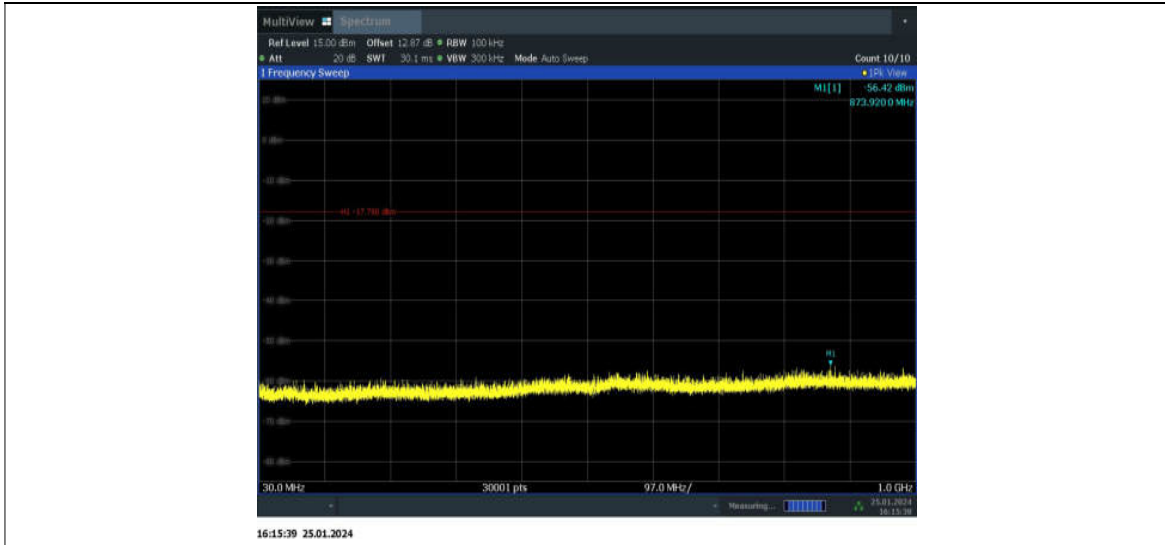
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11AX40SISO_ANT5_2452_0~Reference



11AX40SISO_ANT5_2452_30~1000



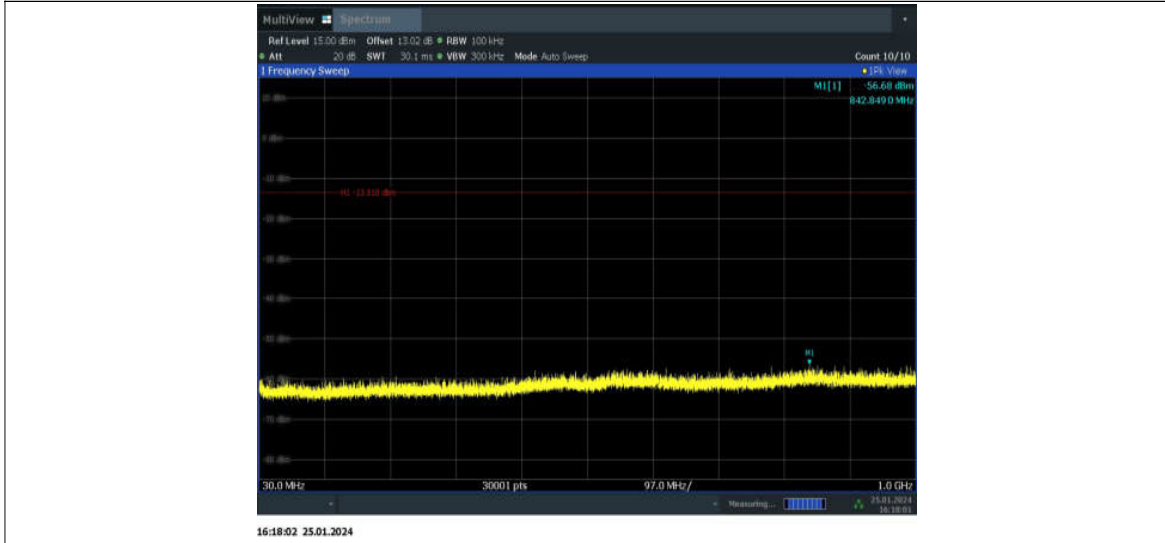
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11AX20MIMO_ANT5_2412_0~Reference



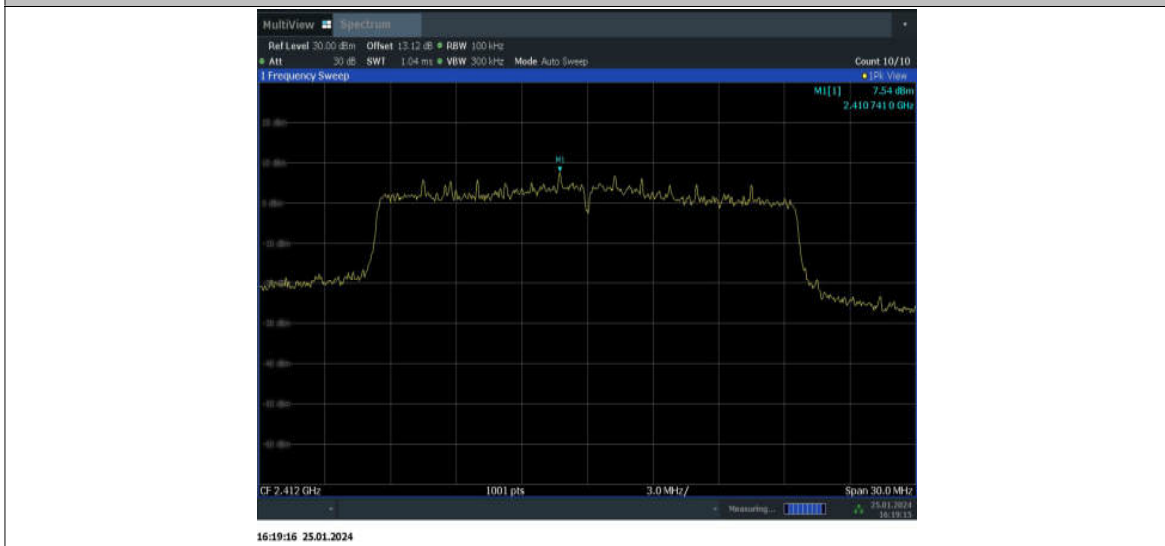
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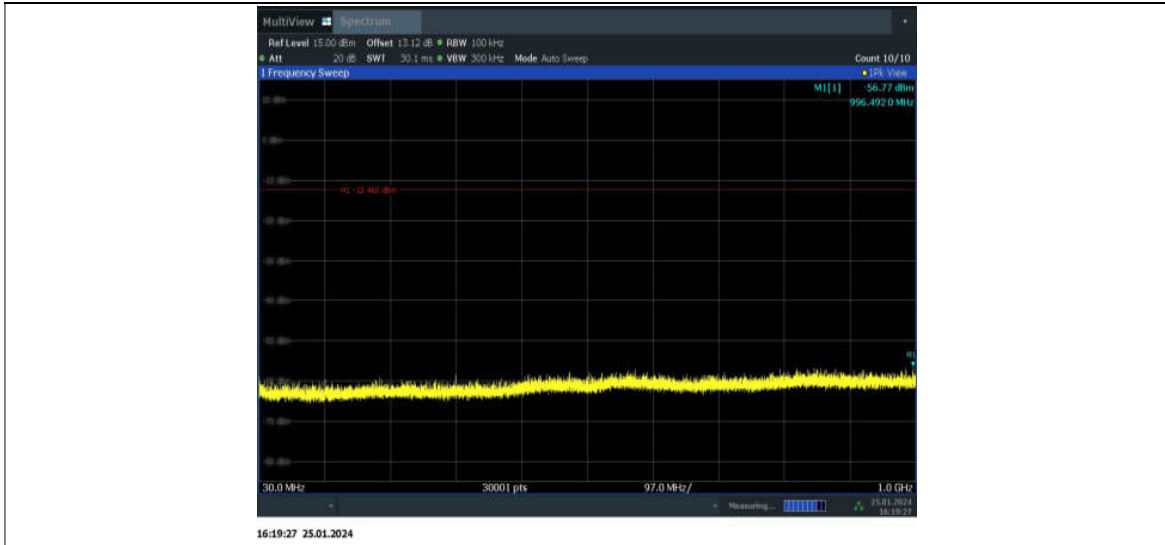
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11AX20MIMO_ANT7_2412_0~Reference



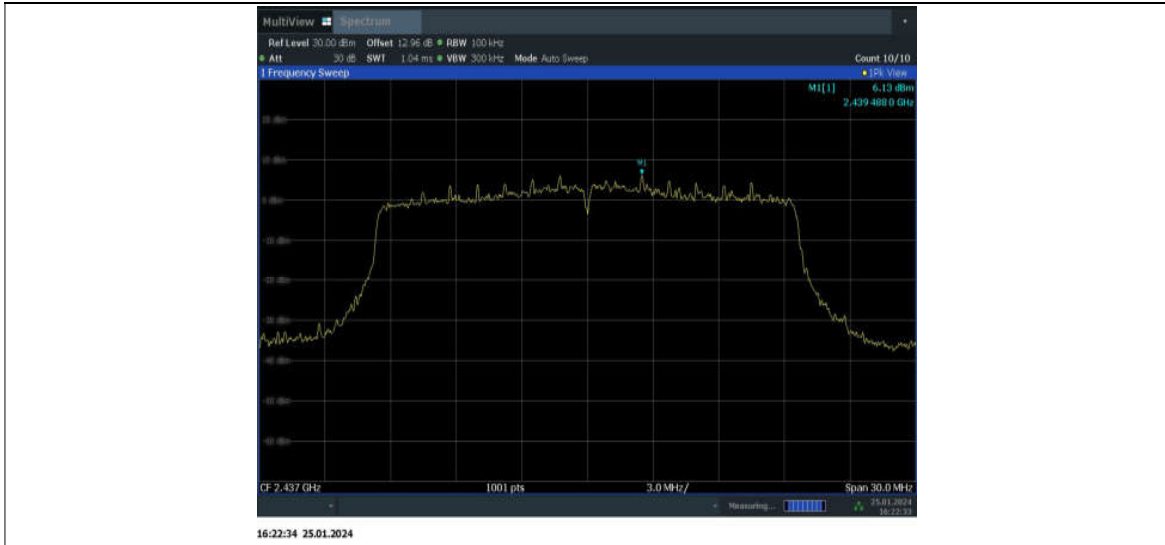
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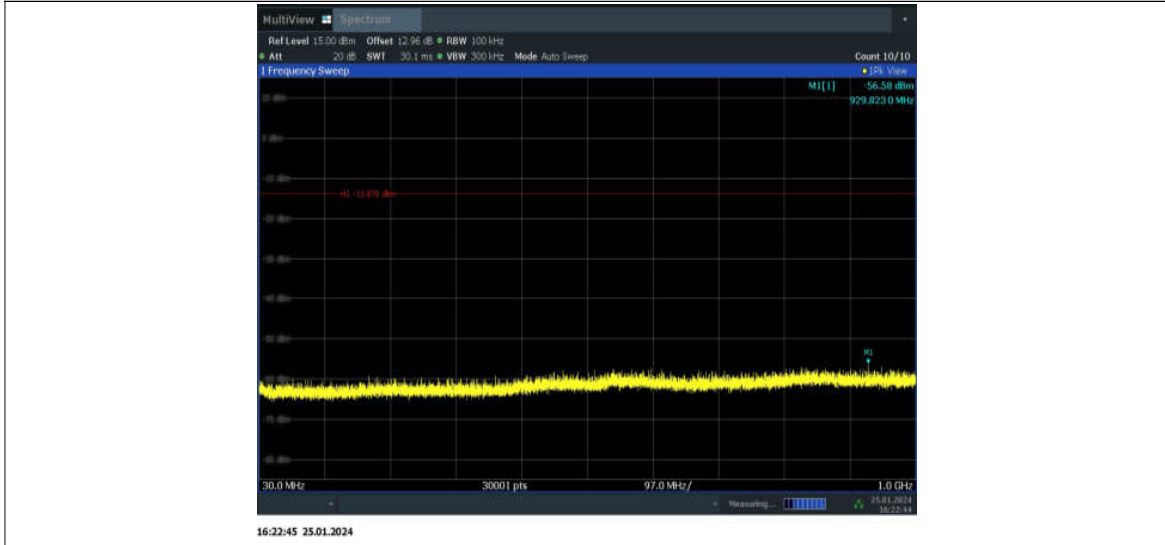
11AX20MIMO_ANT7_2412_1000~26500



11AX20MIMO_ANT5_2437_0~Reference



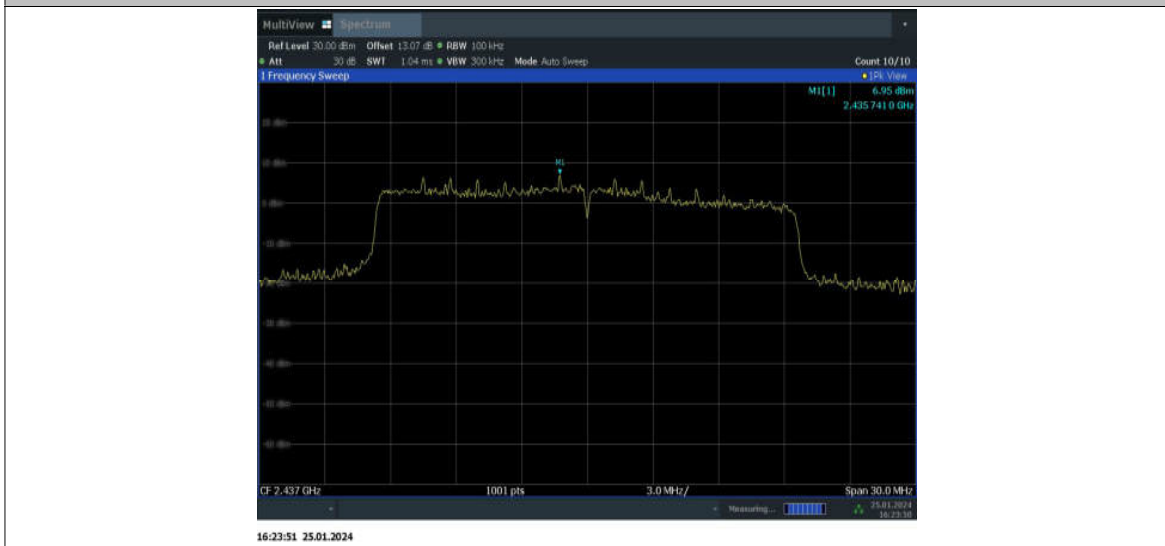
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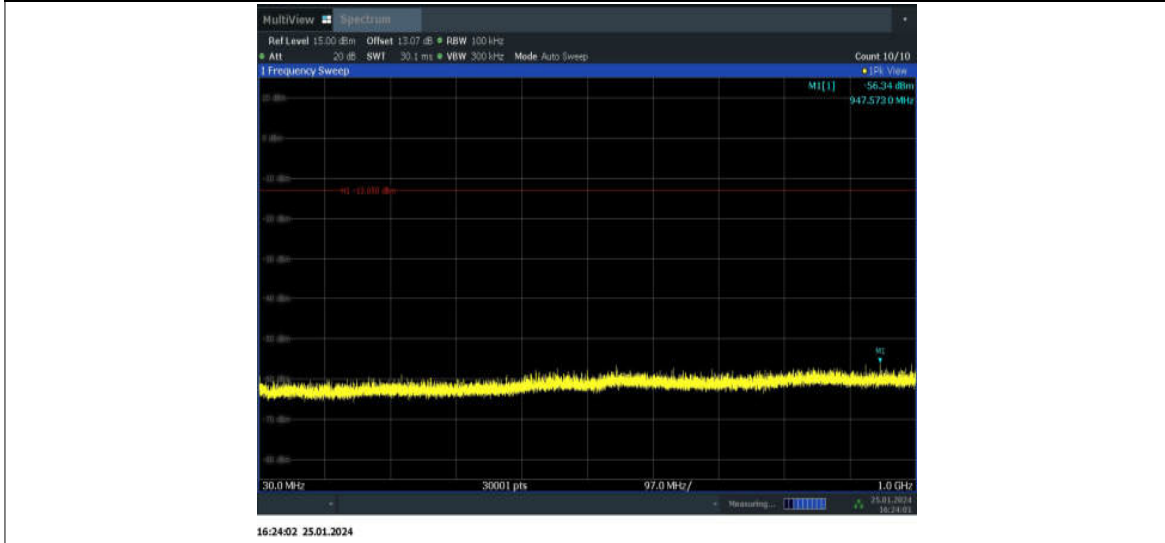
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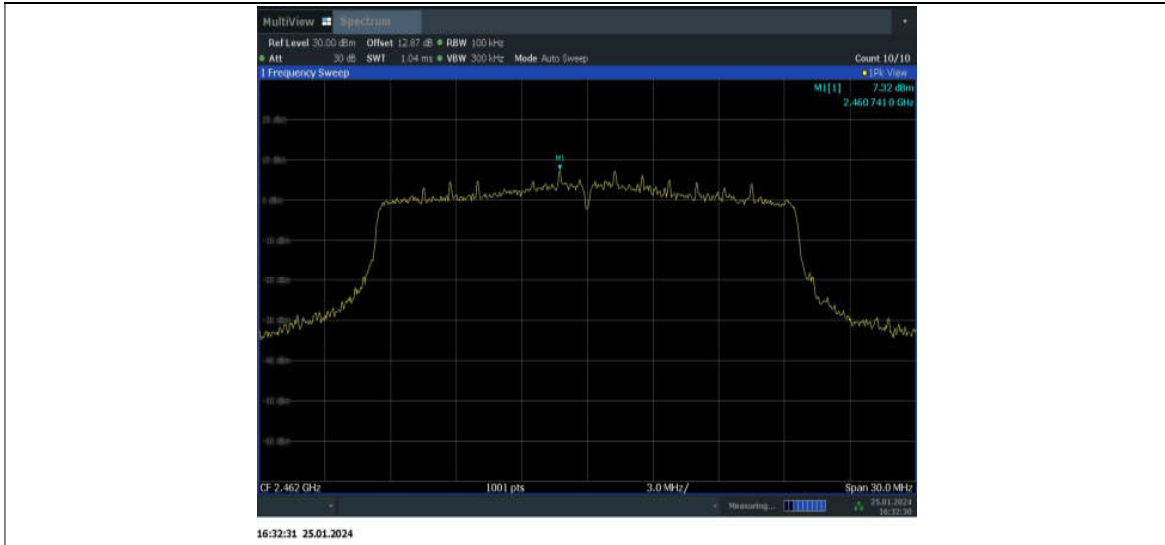
11AX20MIMO_ANT7_2437_30~1000



11AX20MIMO_ANT7_2437_1000~26500



11AX20MIMO_ANT5_2462_0~Reference



11AX20MIMO_ANT5_2462_30~1000



11AX20MIMO_ANT5_2462_1000~26500