



FCC PART 15C TEST REPORT No.24T04Z100905-002

for

OnePlus Technology (Shenzhen) Co., Ltd.

Tablet

OPD2403

FCC ID:2ABZ2-OPD2403

with

Hardware Version: 88666_1_11

Software Version: OPD2403_14.1.0

Issued Date: 2024-06-05

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.

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
24T04Z100905-002	Rev.0	1st edition	2024-06-05

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

Location 1:CTTL(Huayuan North Road)

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

Location 2: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

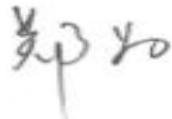
Testing Start Date: 2024-04-26

Testing End Date: 2024-06-05

1.5. Signature

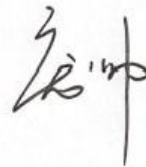
Yao Xingyu

(Prepared this test report)



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(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name: OnePlus Technology (Shenzhen) Co., Ltd.
Address: 18C02, 18C03, 18C04, and 18C05, Shum Yip Terra Building, Binhe
Avenue North, Futian District, Shenzhen, Guangdong, P.R. China.
City: Shenzhen
Postal Code: /
Country: China
Telephone: (86)75561882366
Fax: /

2.2. Manufacturer Information

Company Name: OnePlus Technology (Shenzhen) Co., Ltd.
Address: 18C02, 18C03, 18C04, and 18C05, Shum Yip Terra Building, Binhe
Avenue North, Futian District, Shenzhen, Guangdong, P.R. China.
City: Shenzhen
Postal Code: /
Country: China
Telephone: (86)75561882366
Fax: /

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

3.1. About EUT

Description	Tablet
Model name	OPD2403
FCC ID	2ABZ2-OPD2403
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	27.19dBm
Nominal Voltage	3.89V
Extreme High Voltage	4.48V
Extreme Low Voltage	3.3V

3.2. Internal Identification of EUT

EUT ID*	SN or IMEI	HW Version	SW Version	Date of receipt
UT11a	W621521000006E3U900918	88666_1_11	OPD2403_14.1.0	2024-05-06
UT02a	W621521000006E3U900939	88666_1_11	OPD2403_14.1.0	2024-05-07
UT03a	W621521000006E3U900936	88666_1_11	OPD2403_14.1.0	2024-05-07

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

UT11a is used for Conduction test, UT02a and UT03a is used for Radiation test.

3.3. Internal Identification of AE

AE ID*	Description	Model	Manufacturer
AE1	Battery	BLT009	Sunwoda Electronic CO.,LTD.
AE2	Charger	VCB7OAUH	Dongguan Aohai Technology Co.,Ltd.
AE3	USB Cable	DL129	Dongguan Fuqiang 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 Tablet 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

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:	2021
	15.205 Restricted bands of operation;	
	15.209 Radiated emission limits, general requirements;	
ANSI C63.10	15.247 Operation within the bands 902-928MHz, 2400-2483.5 MHz, and 5725-5850 MHz.	2013
	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices	
	Federal Communications Commission Office of Engineering and Technology Laboratory Division	
KDB 558074 D01	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
KDB 662911 D01	Emissions Testing of Transmitters with Multiple Outputs in the Same Band(e.g., MIMO, Smart Antenna, etc)	2013-10

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. For conducted result :

- EUT support 802.11b/g/n/ax/be modes on 2.4G, and can't transmit simultaneously in 2.4G.
- As WLAN SISO(1x1) & MIMO(2x2) mode have the same power setting, the whole testing has assessed only MIMO mode.
- 802.11ax support full RU and single RU modes.
- 802.11be support full RU, single RU, MRU, large MRU and puncturing modes.
- For 802.11b/g/n/ax full RU/be full RU, the whole testing (PSD/6dB bandwidth/band edges/ Transmitter Spurious Emission-Conducted) has reported only 802.11b/g/ax-HE20/ax-HE40 by referring to the higher output power.
- For 802.11ax single RU and 802.11be single RU modes, the whole testing (PSD/band edges/ Transmitter Spurious Emission-Conducted) has reported only 802.11be- EHT20-single RU by referring to the higher output power.
- For 802.11be-EHT20/40MHz MRU mode, the whole testing (PSD/band edges/ Transmitter Spurious Emission-Conducted) has reported only 802.11be- EHT20 by referring to the higher output power.
52 Tone,index38 + 26Tone,index1, 52 Tone,index39 + 26Tone,index7
106 Tone,index53 + 26Tone,index4, 106 Tone,index54 + 26Tone,index4.

6.3. Antenna Gain

Mode	Ant0(dBi)	Ant1(dBi)	Power(dBi)	PSD(dBi)
CDD	-1.4	-1.5	-1.4	1.56
BF	-1.4	-1.5	1.56	1.56

Note :

1. For BF transmissions, power and PSD directional gain is calculated as:

Directional gain = $10 \log [(10^{G1/20} + 10^{G2/20} + \dots + 10^{Gn/20})^2 / \text{NANT}]$ dBi, as following table for PSD. NANT = number of transmit antennas NSS = number of spatial streams. (When NSS=1 or 2, both powersettings are the same, The worst case directional gain will occur when NSS = 1)

2. For CDD transmissions, directional gain is calculated as:

a. For power, the directional gain GANT is set equal to the antenna having the highest gain, i.e., Directional gain = GANT MAX (Ant.1 Gain, Ant.2 Gain, ...) + Array Gain, where Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4.

b. For PSD, the directional gain calculation is following:

Directional gain = $10 \log [(10^{G1/20} + 10^{G2/20} + \dots + 10^{Gn/20})^2 / \text{NANT}]$ dBi. NANT = number of transmit antennas NSS = number of spatial streams. (When NSS=1 or 2, both powersettings are the same, The worst case directional gain will occur when NSS = 1).

3. 802.11g support CDD mode ;
4. 802.11n support CDD and STBC mode, as they use the same power setting, only eirp results of CDD have been reported.
5. 802.11ax/be support CDD, BF and STBC mode, as they use the same power setting, only eirp results of BF have been reported.
6. The device what use a permanently attached antenna were considered sufficient to comply with the provisions of 15.203.

6.4. 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.

6.5. 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	3.89V
Humidity	44%

7. Test Facilities Utilized

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Vector Signal Analyzer	FSW67	104051	Rohde & Schwarz	1 year	2025-04-01
2	LISN	ENV216	101200	R&S	1 Year	2025-05-17
3	Test Receiver	ESCI	100344	R&S	1 Year	2025-05-01
4	Attenuator	10dB/2W	/	Rosenberger	/	/
5	Shielding Room	S81	/	ETS-Lindgren	/	/

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Test Receiver	ESW44	103144	R&S	1 Year	2024-12-26
2	EMI Antenna	VULB9163	01223	R&S	1 Year	2024-08-18
3	EMI Antenna	3115	00167250	R&S	1 Year	2025-05-11
4	EMI Antenna	3116	2663	R&S	1 Year	2025-03-21

Test Software

Test Item	Test Software and Version	Software Vendor
Radiated Continuous Emission	EMC32 V11.50.20	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

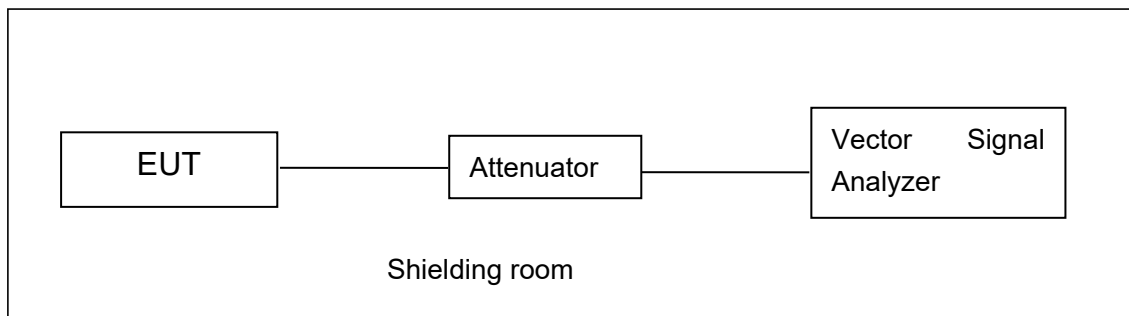


Fig.A.1.1.1: Test Setup Diagram for Conducted Measurements

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. Peak Output Power-conducted

EUT ID: UT11a

Measurement Results:

Full RU MIMO

802.11b mode

Mode	Data Rate (Mbps)	Test Result (dBm)								
		ANT0			ANT1			MIMO		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)	2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)	2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11b	1	18.57	20.29	18.52	18.48	19.80	18.25	21.54	23.06	21.40

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

802.11g mode

Mode	Data Rate (Mbps)	Test Result (dBm)								
		ANT0			ANT1			MIMO		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)	2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)	2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11g	6	18.26	23.97	17.90	18.08	23.50	17.85	21.18	26.75	20.89

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

802.11n-HT20 mode

Mode	Data Rate (Index)	Test Result (dBm)								
		ANT0			ANT1			MIMO		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)	2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)	2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11n (20MHz)	MCS0	18.16	23.13	17.90	18.15	22.83	18.05	21.17	25.99	20.99

The data rate MSC0 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)								
		ANT0			ANT1			MIMO		
		2422MHz (Ch3)	2437MHz (Ch6)	2452 MHz (Ch9)	2422MHz (Ch3)	2437MHz (Ch6)	2452 MHz (Ch9)	2422MHz (Ch3)	2437MHz (Ch6)	2452 MHz (Ch9)
802.11n (40MHz)	MCS0	18.54	23.65	18.42	18.43	23.20	18.32	21.50	26.44	21.38

The data rate MSC0 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)								
		ANT0			ANT1			MIMO		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)	2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)	2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11ax (20MHz)	MCS0	19.13	24.34	19.11	19.09	24.02	19.25	22.12	27.19	22.19

The data rate MSC0 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)								
		ANT0			ANT1			MIMO		
		2422MHz (Ch3)	2437MHz (Ch6)	2452 MHz (Ch9)	2422MHz (Ch3)	2437MHz (Ch6)	2452 MHz (Ch9)	2422MHz (Ch3)	2437MHz (Ch6)	2452 MHz (Ch9)
802.11ax (40MHz)	MCS0	19.13	24.29	19.08	19.02	23.90	19.00	22.09	27.11	22.05

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

802.11be-EHT20 mode

Mode	Data Rate (Index)	Test Result (dBm)								
		ANT0			ANT1			MIMO		
		2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)	2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)	2412MHz (Ch1)	2437MHz (Ch6)	2462 MHz (Ch11)
802.11be (20MHz)	MCS0	18.72	23.91	18.70	18.68	23.64	18.85	21.71	26.79	21.79

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

802.11be-EHT40 mode

Mode	Data Rate (Index)	Test Result (dBm)								
		ANT0			ANT1			MIMO		
		2422MHz (Ch3)	2437MHz (Ch6)	2452 MHz (Ch9)	2422MHz (Ch3)	2437MHz (Ch6)	2452 MHz (Ch9)	2422MHz (Ch3)	2437MHz (Ch6)	2452 MHz (Ch9)
802.11be (40MHz)	MCS0	19.16	24.15	18.89	19.07	23.72	18.79	22.13	26.95	21.85

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

RU MIMO

802.11ax-HE20-RU26 mode

Mode	Data Rate (Mbps)	Test Result (dBm)								
		ANT0			ANT1			MIMO		
		2412 MHz (Ch1)	2437 MHz (Ch6)	2462 MHz (Ch11)	2412 MHz (Ch1)	2437 MHz (Ch6)	2462 MHz (Ch11)	2412 MHz (Ch1)	2437 MHz (Ch6)	2462 MHz (Ch11)
802.11ax-HE 20-RU26-left	MCS0	17.76	17.12	17.37	17.49	17.03	17.57	20.64	20.09	20.48
802.11ax-HE 20-RU26-right	MCS0	17.81	17.36	17.02	17.02	17.12	17.13	20.44	20.25	20.09

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

802.11ax-HE20-RU52 mode

Mode	Data Rate (Mbps)	Test Result (dBm)								
		ANT0			ANT1			MIMO		
		2412 MHz (Ch1)	2437 MHz (Ch6)	2462 MHz (Ch11)	2412 MHz (Ch1)	2437 MHz (Ch6)	2462 MHz (Ch11)	2412 MHz (Ch1)	2437 MHz (Ch6)	2462 MHz (Ch11)
802.11ax-HE 20-RU52-left	MCS0	20.31	20.13	20.37	20.24	20.17	20.63	23.29	23.16	23.51
802.11ax-HE 20-RU52-right	MCS0	20.98	20.48	20.07	20.08	20.16	20.13	23.56	23.33	23.11

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

802.11ax-HE20-RU106 mode

Mode	Data Rate (Mbps)	Test Result (dBm)								
		ANT0			ANT1			MIMO		
		2412 MHz (Ch1)	2437 MHz (Ch6)	2462 MHz (Ch11)	2412 MHz (Ch1)	2437 MHz (Ch6)	2462 MHz (Ch11)	2412 MHz (Ch1)	2437 MHz (Ch6)	2462 MHz (Ch11)
802.11ax-HE 20-RU106-left	MCS0	22.98	22.86	22.91	22.98	22.83	23.10	25.99	25.86	26.02
802.11ax-HE 20-RU106-right	MCS0	23.53	22.88	22.76	22.81	22.74	22.55	26.20	25.82	25.67

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

802.11be-EHT20-RU26 mode

Mode	Data Rate (Mbps)	Test Result (dBm)								
		ANT0			ANT1			MIMO		
		2412 MHz (Ch1)	2437 MHz (Ch6)	2462 MHz (Ch11)	2412 MHz (Ch1)	2437 MHz (Ch6)	2462 MHz (Ch11)	2412 MHz (Ch1)	2437 MHz (Ch6)	2462 MHz (Ch11)
802.11be-EHT 20-RU26-left	MCS0	17.20	17.24	17.57	17.56	17.04	17.21	20.39	20.15	20.40
802.11be-EHT 20-RU26-right	MCS0	17.80	17.30	17.08	17.11	17.12	17.13	20.48	20.22	20.12

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

802.11be-EHT20-RU52 mode

Mode	Data Rate (Mbps)	Test Result (dBm)								
		ANT0			ANT1			MIMO		
		2412 MHz (Ch1)	2437 MHz (Ch6)	2462 MHz (Ch11)	2412 MHz (Ch1)	2437 MHz (Ch6)	2462 MHz (Ch11)	2412 MHz (Ch1)	2437 MHz (Ch6)	2462 MHz (Ch11)
802.11be-EHT 20-RU52-left	MCS0	20.53	20.33	20.33	20.57	20.29	20.92	23.56	23.32	23.65
802.11be-EHT 20-RU52-right	MCS0	21.25	20.52	20.16	20.39	20.35	20.07	23.85	23.45	23.13

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

802.11be-EHT20-RU106 mode

Mode	Data Rate (Mbps)	Test Result (dBm)								
		ANT0			ANT1			MIMO		
		2412 MHz (Ch1)	2437 MHz (Ch6)	2462 MHz (Ch11)	2412 MHz (Ch1)	2437 MHz (Ch6)	2462 MHz (Ch11)	2412 MHz (Ch1)	2437 MHz (Ch6)	2462 MHz (Ch11)
802.11be-EHT 20-RU106-left	MCS0	22.92	22.85	22.95	22.94	22.77	23.16	25.94	25.82	26.07
802.11be-EHT 20-RU106-right	MCS0	23.61	22.97	22.80	23.42	22.83	22.69	26.53	25.91	25.76

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

MRU MIMO
802.11be-EHT20 mode

Mode	Data Rate (Mbps)	Test Result (dBm)								
		ANT0			ANT1			MIMO		
		2412 MHz (Ch1)	2437 MHz (Ch6)	2462 MHz (Ch11)	2412 MHz (Ch1)	2437 MHz (Ch6)	2462 MHz (Ch11)	2412 MHz (Ch1)	2437 MHz (Ch6)	2462 MHz (Ch11)
52 Tone,index38 + 26Tone,index1	MCS0	20.24	20.07	20.07	20.05	20.02	20.36	23.16	23.06	23.23
52 Tone,index39 + 26Tone,index7	MCS0	20.32	20.02	20.06	20.00	20.05	20.07	23.17	23.05	23.08
Mode	Data Rate (Mbps)	Test Result (dBm)								
		ANT0			ANT1			MIMO		
		2412 MHz (Ch1)	2437 MHz (Ch6)	2462 MHz (Ch11)	2412 MHz (Ch1)	2437 MHz (Ch6)	2462 MHz (Ch11)	2412 MHz (Ch1)	2437 MHz (Ch6)	2462 MHz (Ch11)
106 Tone,index53 + 26Tone,index4	MCS0	22.85	22.61	22.66	22.76	22.63	22.86	25.82	25.63	25.77
106 Tone,index54 + 26Tone,index4	MCS0	23.24	22.73	22.69	22.78	22.55	22.51	26.03	25.65	25.61

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

Duty Cycle

Mode	802.11b	802.11g	802.11n20	802.11n40	802.11ax-20	802.11ax-20 RU	802.11ax-40	802.11ax-40 RU
Duty Cycle	99%	99%	99%	99%	99%	99%	99%	99%

Mode	802.11BE-20	802.11BE-20 RU	802.11BE-40	802.11BE-40 RU
Duty Cycle	99%	99%	99%	99%

Mode	802.11BE-20 52-index38+26-index1 MRU1	802.11BE-20 52-index39+26-index7 MRU3	802.11BE-20 106-index53+26-index4 MRU1	802.11BE-20 106-index54+26-index4 MRU2
Duty Cycle	99%	99%	99%	99%

Conclusion: Pass

A.3. Peak Power Spectral Density

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

- Set analyzer center frequency to DTS channel center frequency.
- Set the span to 1.5 times the DTS bandwidth.
- Set the RBW to RBW = 3 kHz.
- Set the VBW = 10 kHz.
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- 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

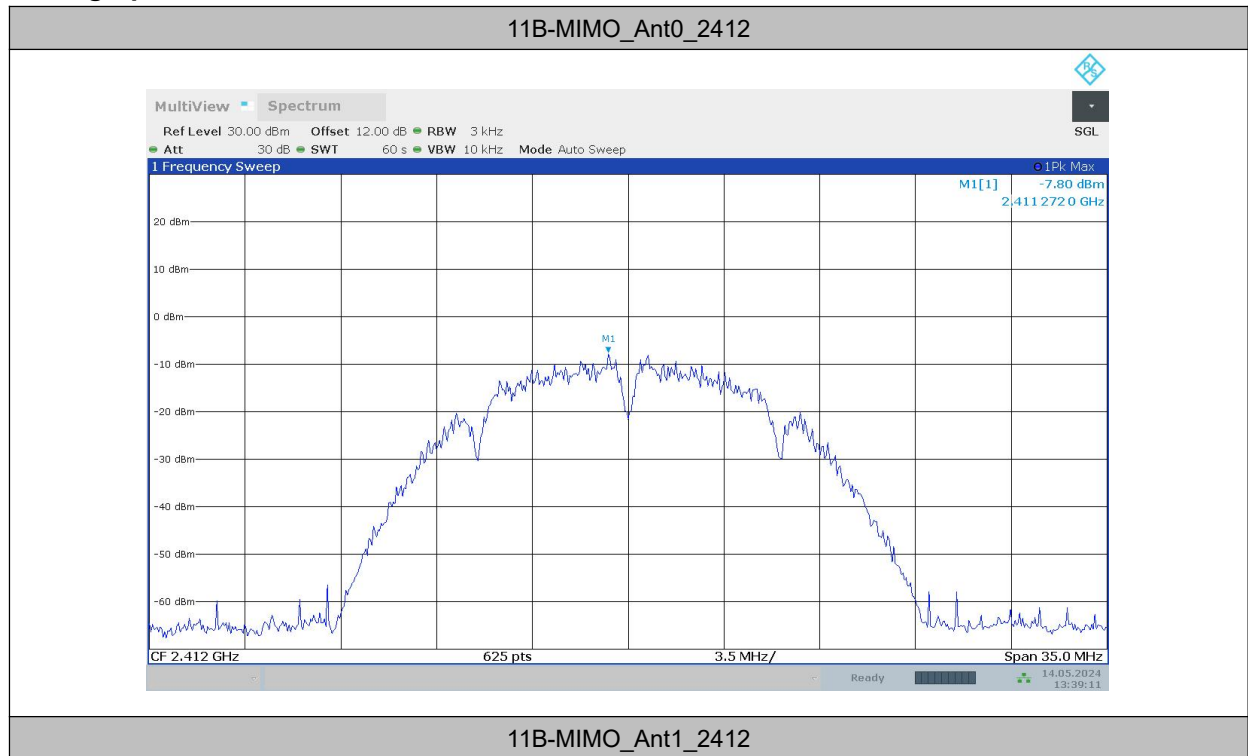
EUT ID: UT11a

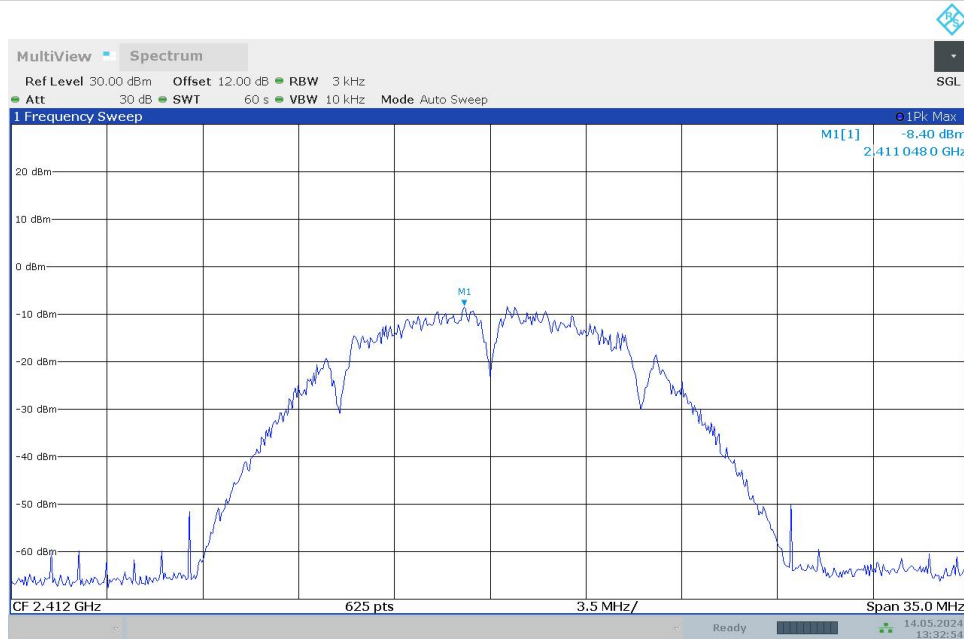
Measurement Results:

Test Mode	Antenna	Frequency [MHz]	Result[dBm/3-100kHz]	Limit [dBm/3kHz]	Verdict
11B-MIMO	Ant0	2412	-7.80	≤8.00	PASS
	Ant1	2412	-8.40	≤8.00	PASS
	total	2412	-5.08	≤8.00	PASS
	Ant0	2437	-5.75	≤8.00	PASS
	Ant1	2437	-5.12	≤8.00	PASS
	total	2437	-2.41	≤8.00	PASS
	Ant0	2462	-7.73	≤8.00	PASS
	Ant1	2462	-7.14	≤8.00	PASS
	total	2462	-4.41	≤8.00	PASS
11G-MIMO	Ant0	2412	-14.95	≤8.00	PASS
	Ant1	2412	-16.11	≤8.00	PASS
	total	2412	-12.48	≤8.00	PASS
	Ant0	2437	-8.67	≤8.00	PASS
	Ant1	2437	-10.50	≤8.00	PASS
	total	2437	-6.48	≤8.00	PASS
	Ant0	2462	-14.97	≤8.00	PASS
	Ant1	2462	-16.25	≤8.00	PASS
	total	2462	-12.55	≤8.00	PASS
11AX20MIMO full RU	Ant0	2412	-15.37	≤8.00	PASS
	Ant1	2412	-15.69	≤8.00	PASS
	total	2412	-12.52	≤8.00	PASS
	Ant0	2437	-10.99	≤8.00	PASS
	Ant1	2437	-11.02	≤8.00	PASS

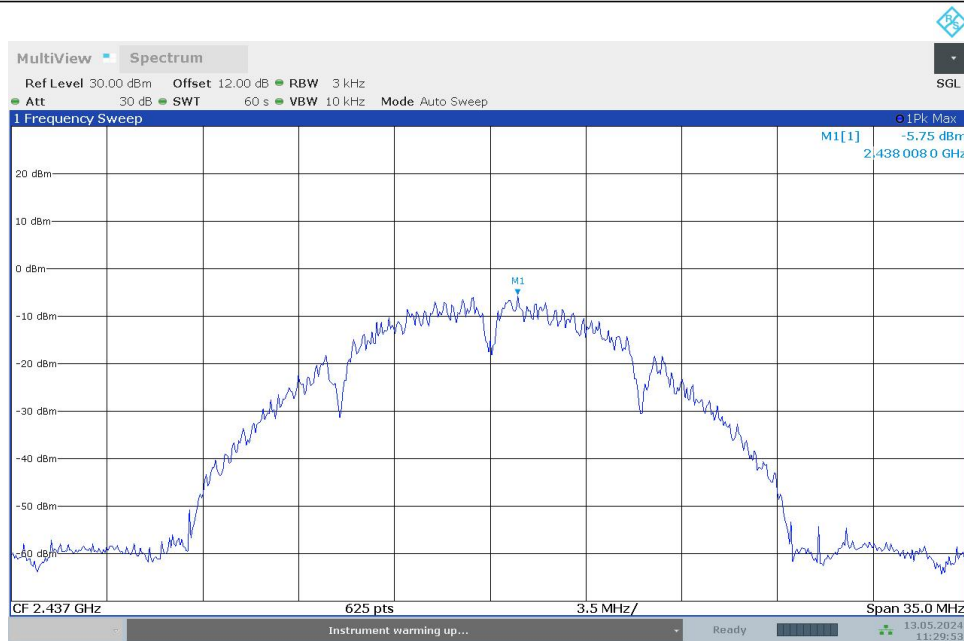
	total	2437	-7.99	≤8.00	PASS
	Ant0	2462	-16.93	≤8.00	PASS
	Ant1	2462	-16.08	≤8.00	PASS
	total	2462	-13.47	≤8.00	PASS
11AX40MIMO full RU	Ant0	2422	-18.13	≤8.00	PASS
	Ant1	2422	-16.39	≤8.00	PASS
	total	2422	-14.16	≤8.00	PASS
	Ant0	2437	-12.91	≤8.00	PASS
	Ant1	2437	-13.23	≤8.00	PASS
	total	2437	-10.06	≤8.00	PASS
	Ant0	2452	-19.05	≤8.00	PASS
	Ant1	2452	-17.53	≤8.00	PASS
	total	2452	-15.21	≤8.00	PASS

Test graphs as below:





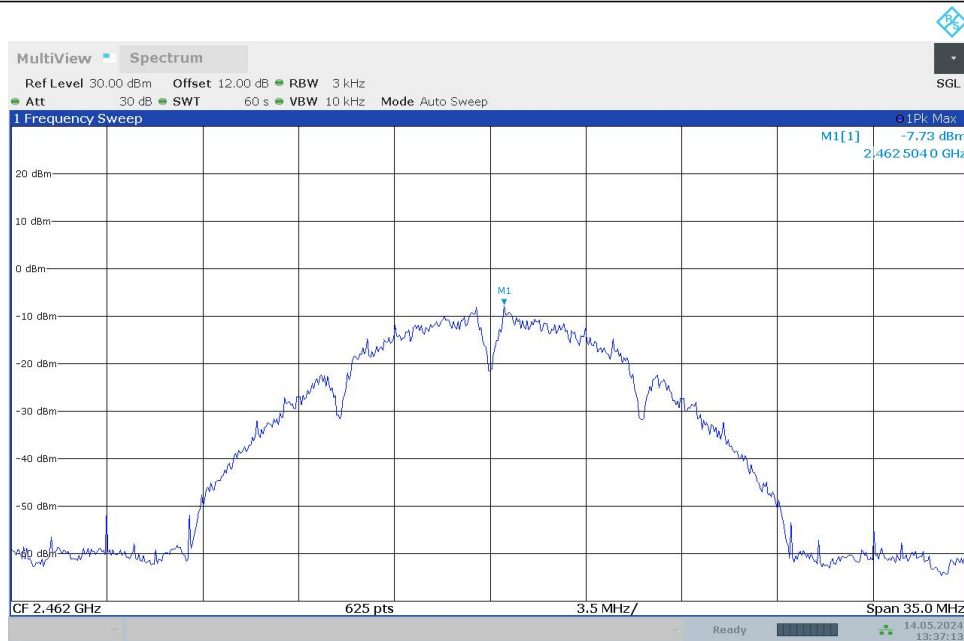
11B- MIMO_Ant0_2437



11B- MIMO_Ant1_2437



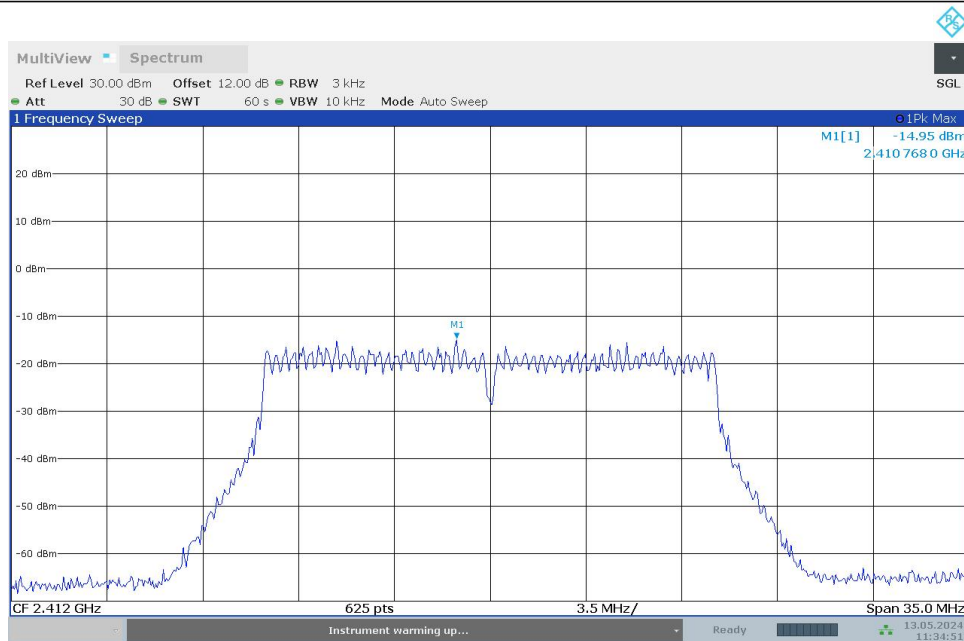
11B- MIMO_Ant0_2462



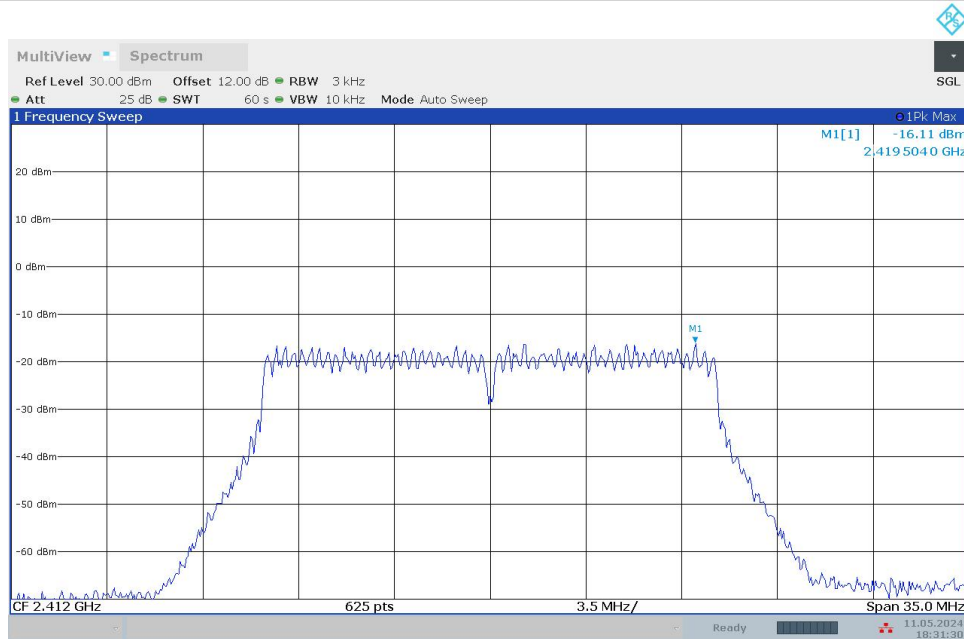
11B- MIMO_Ant1_2462



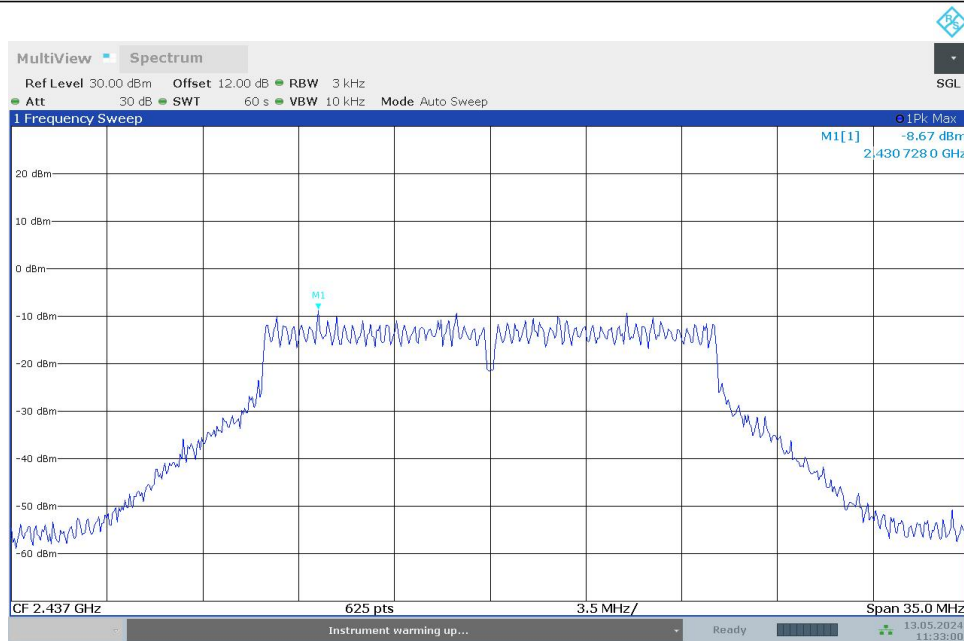
11G- MIMO_Ant0_2412



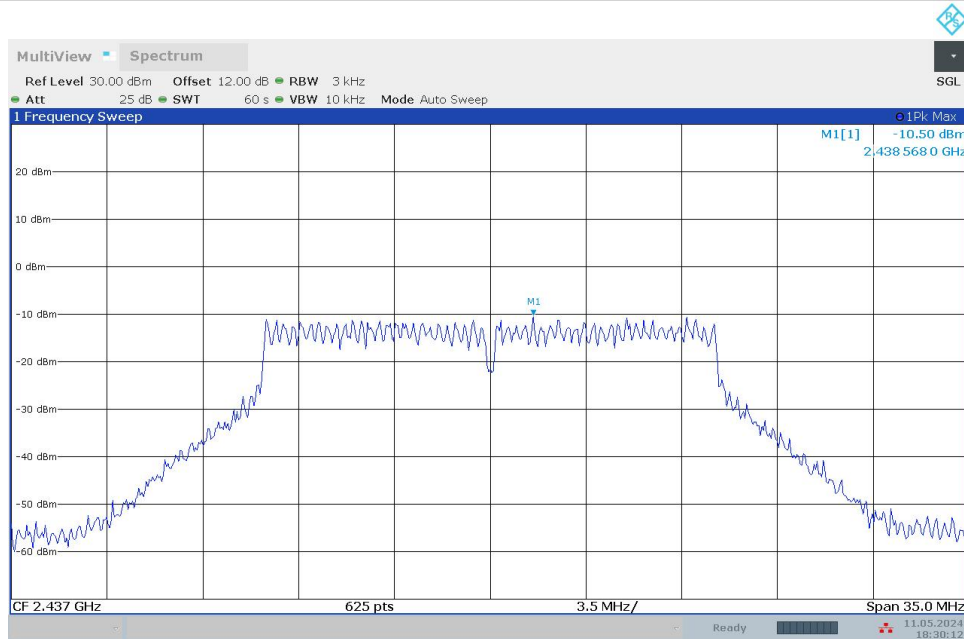
11G- MIMO_Ant1_2412



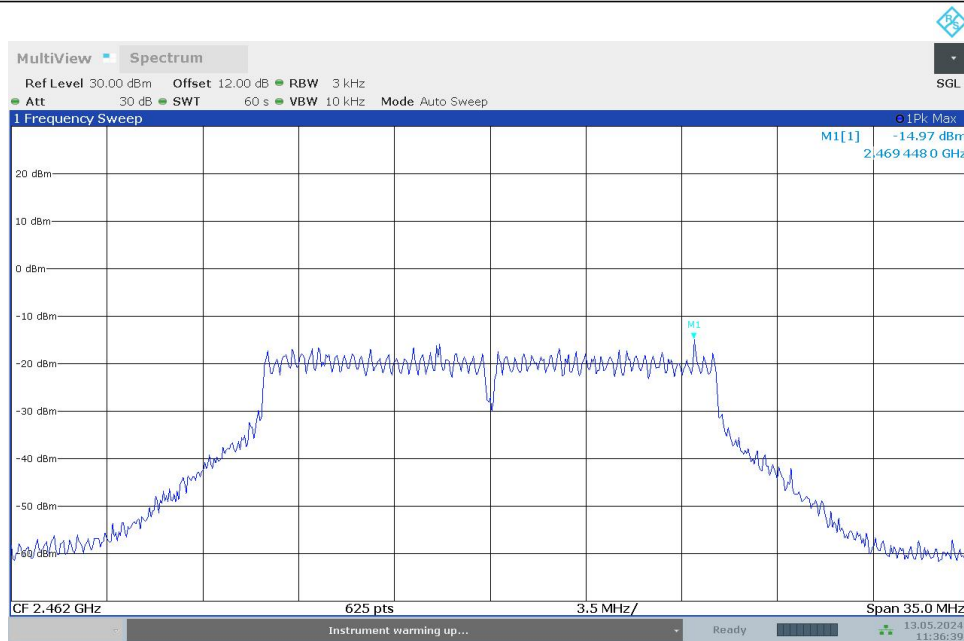
11G- MIMO_Ant0_2437



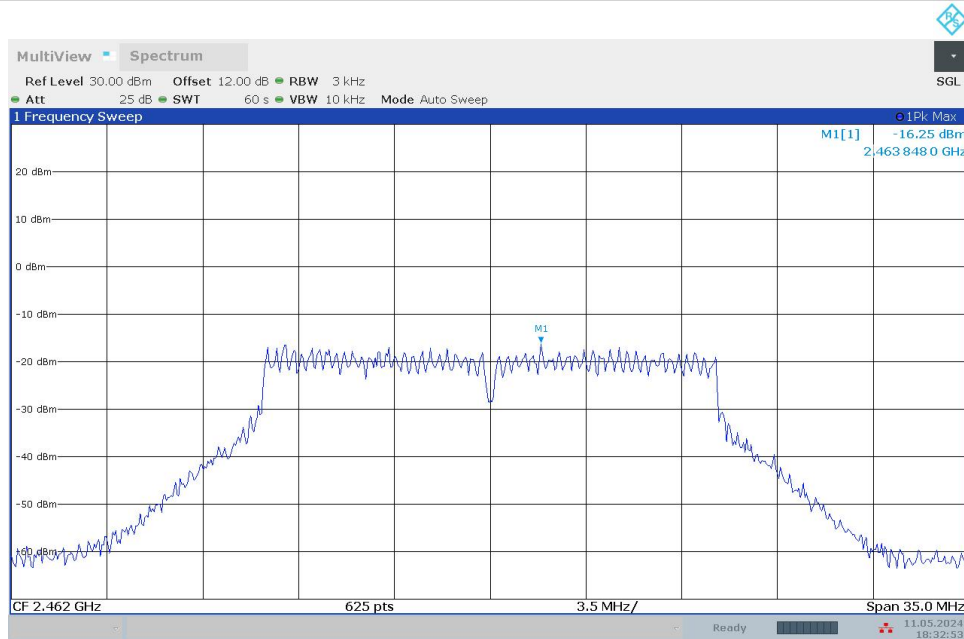
11G- MIMO_Ant1_2437



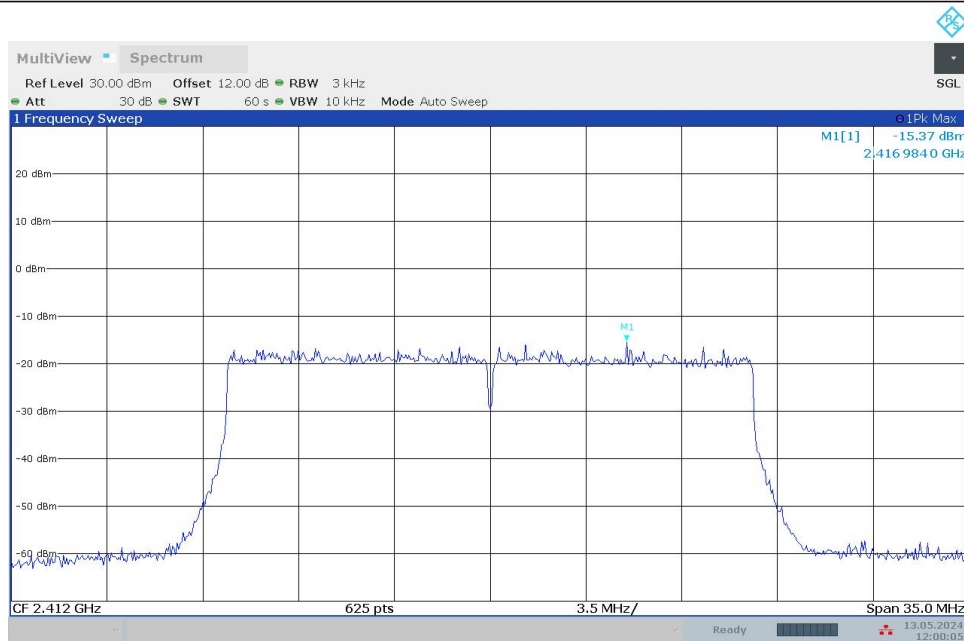
11G- MIMO_Ant0_2462



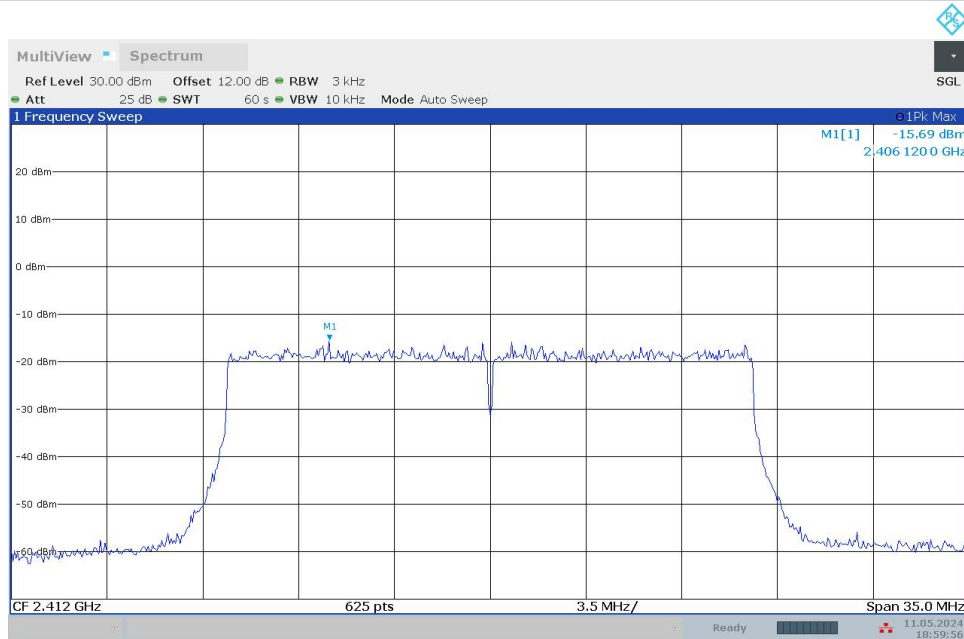
11G- MIMO_Ant1_2462



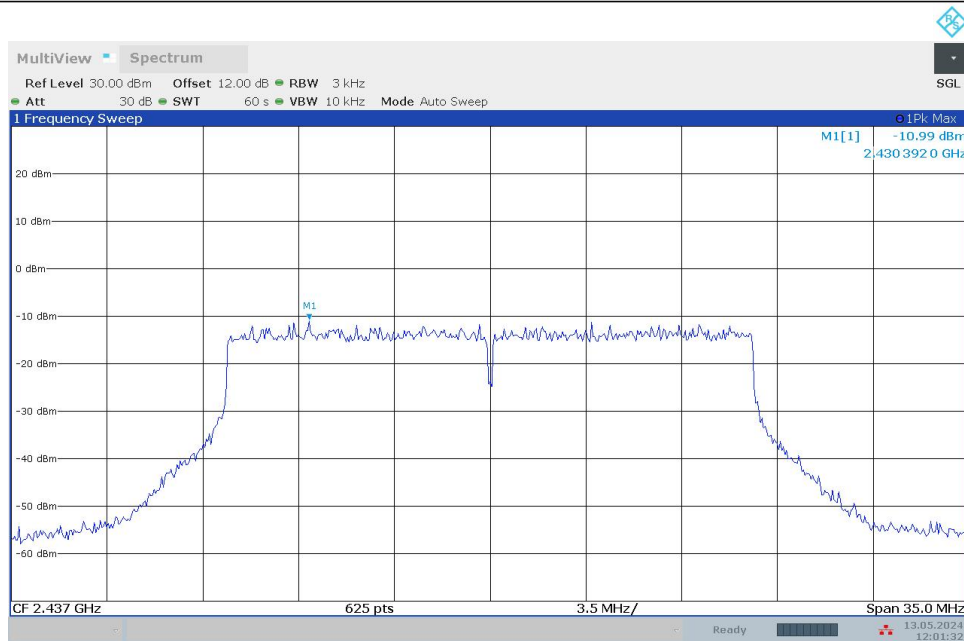
11AX20MIMO_Ant0_2412



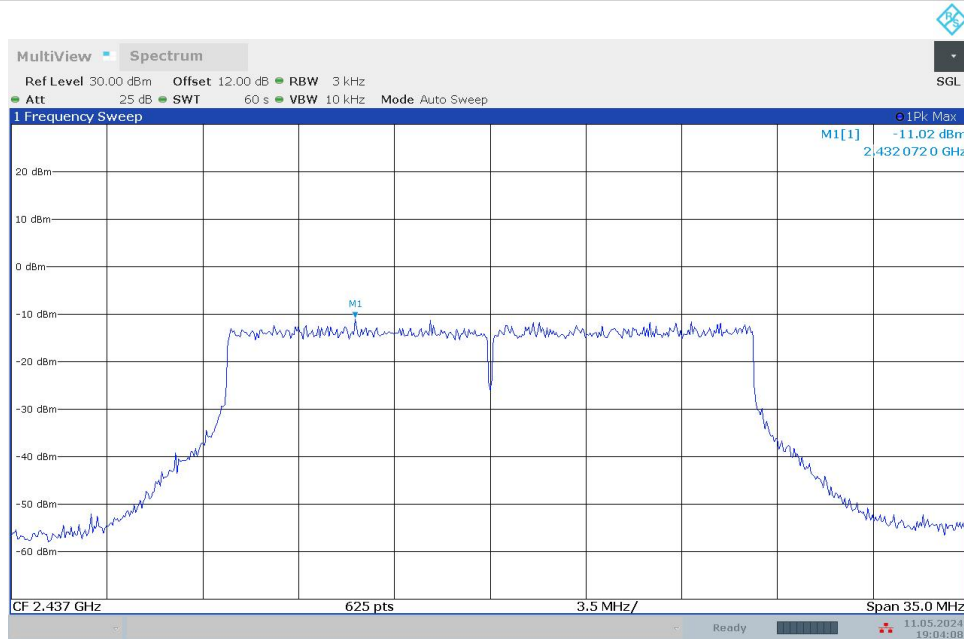
11AX20MIMO_Ant1_2412



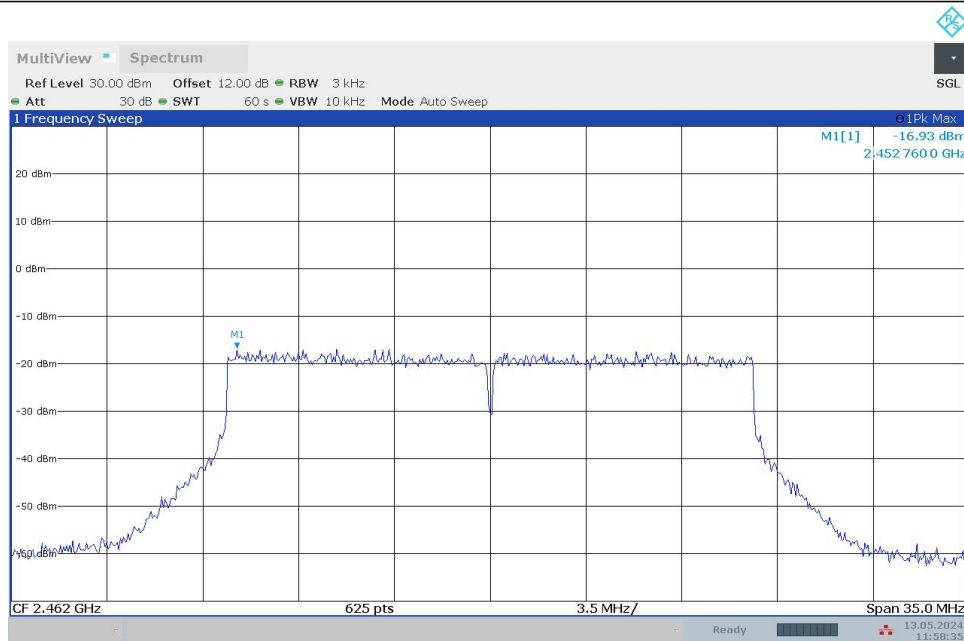
11AX20MIMO_Ant0_2437



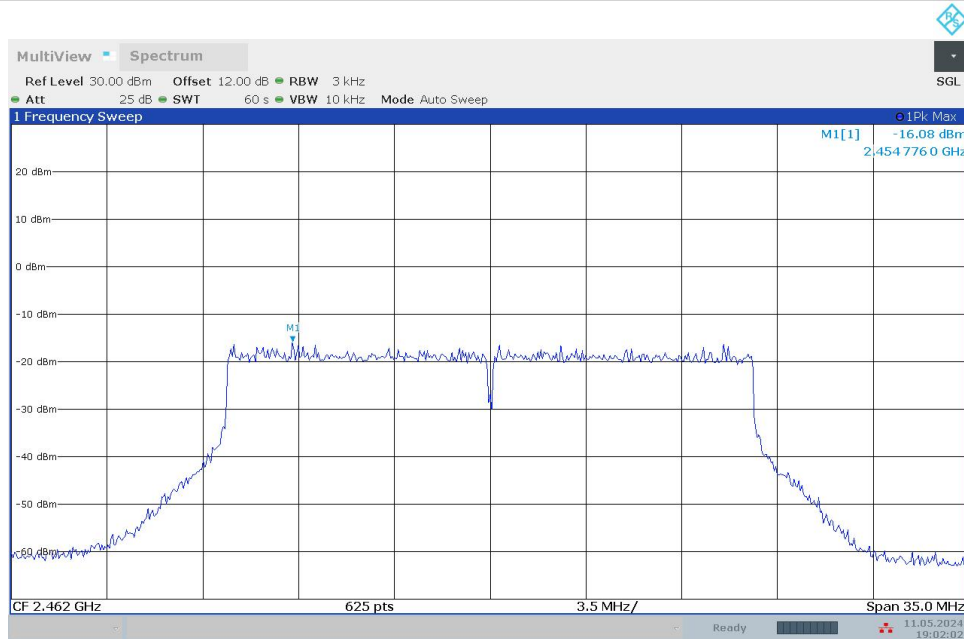
11AX20MIMO_Ant1_2437



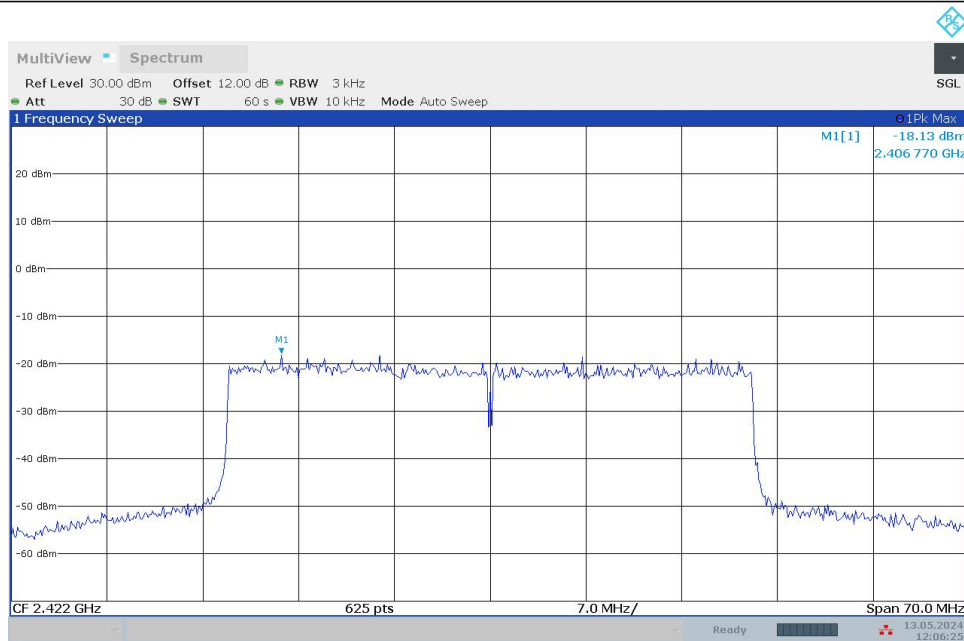
11AX20MIMO_Ant0_2462



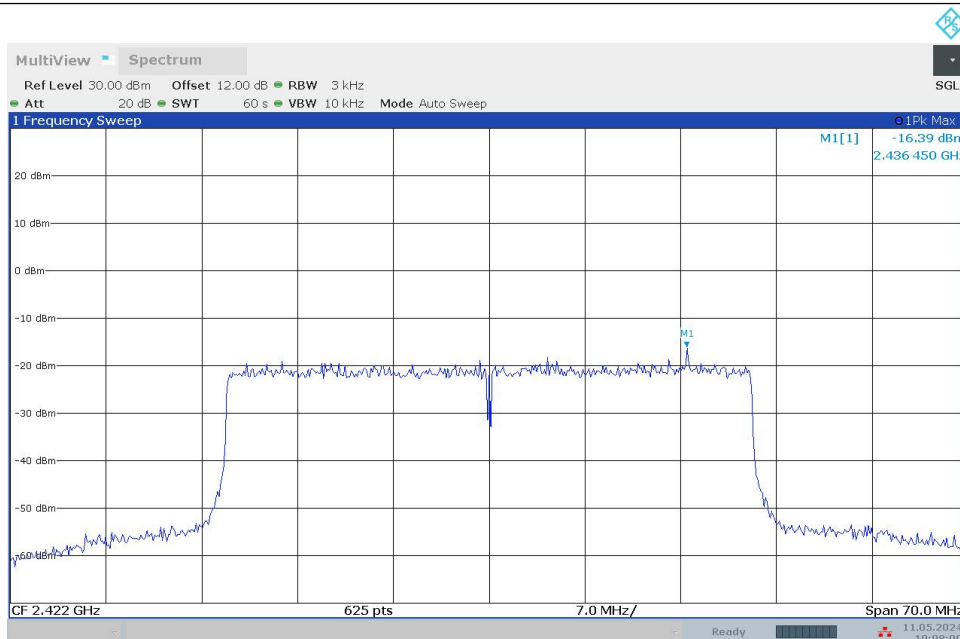
11AX20MIMO_Ant1_2462



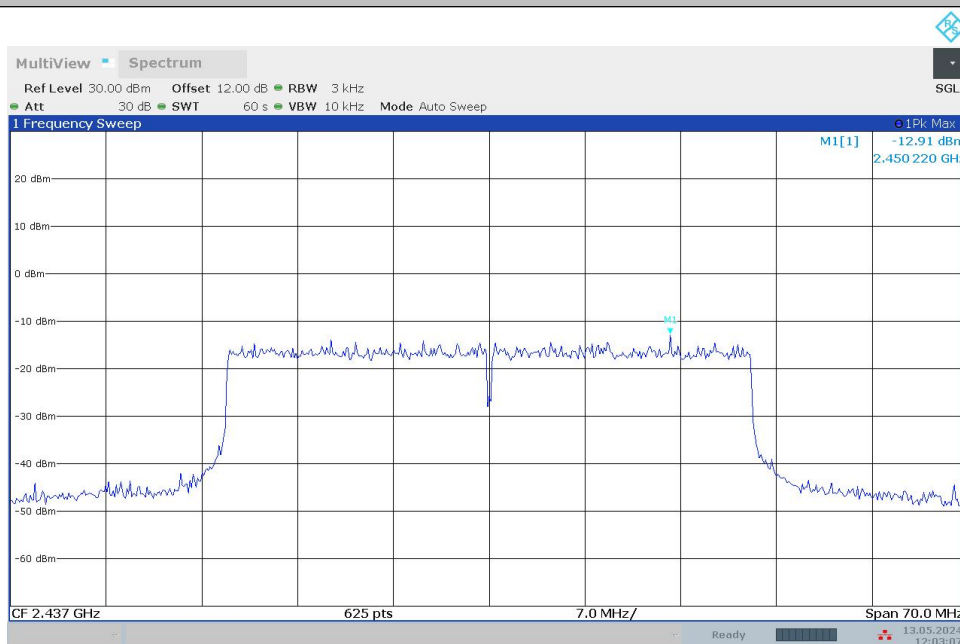
11AX40MIMO_Ant0_2422



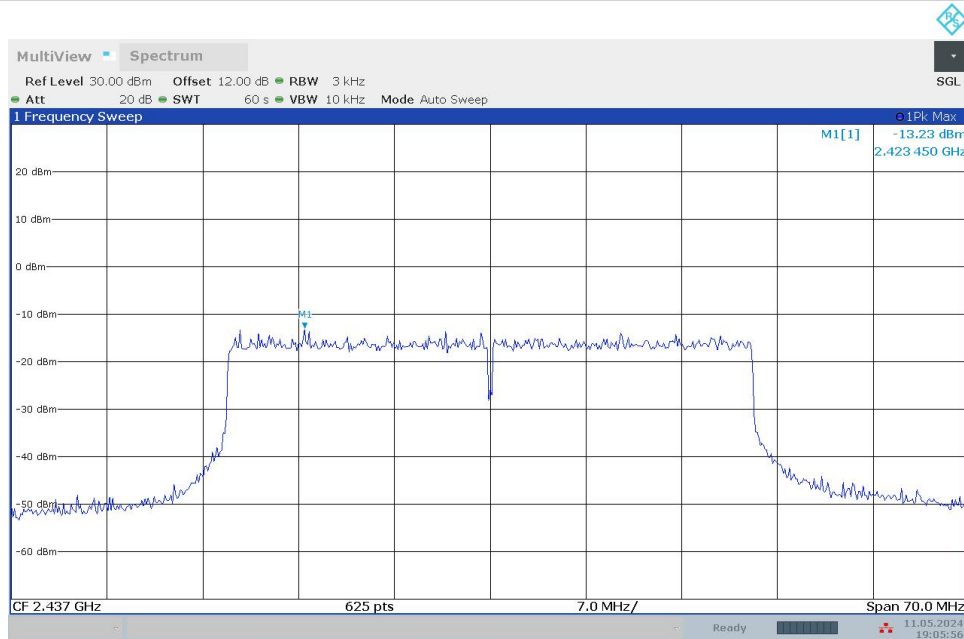
11AX40MIMO_Ant1_2422



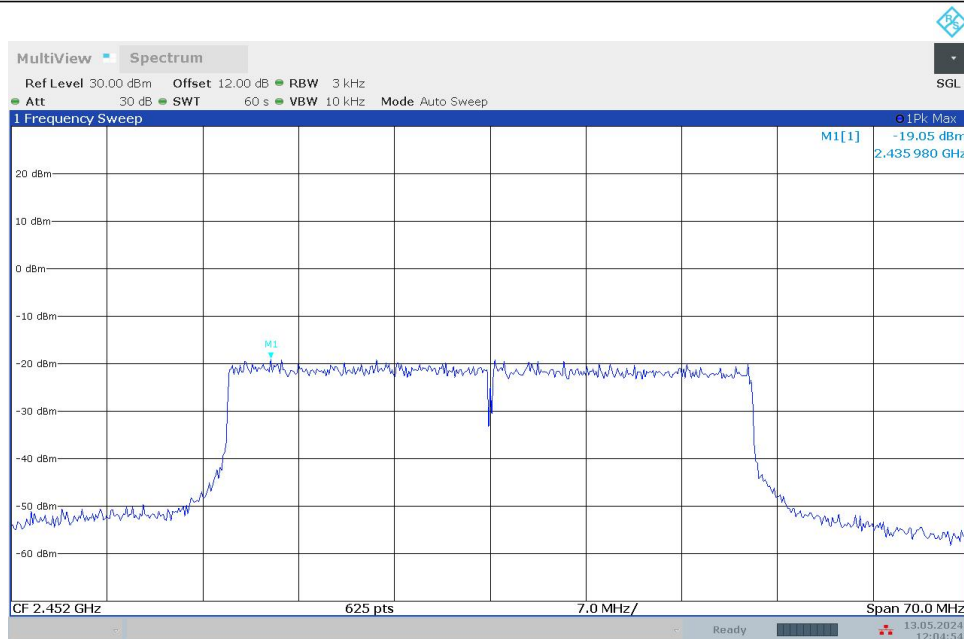
11AX40MIMO_Ant0_2437



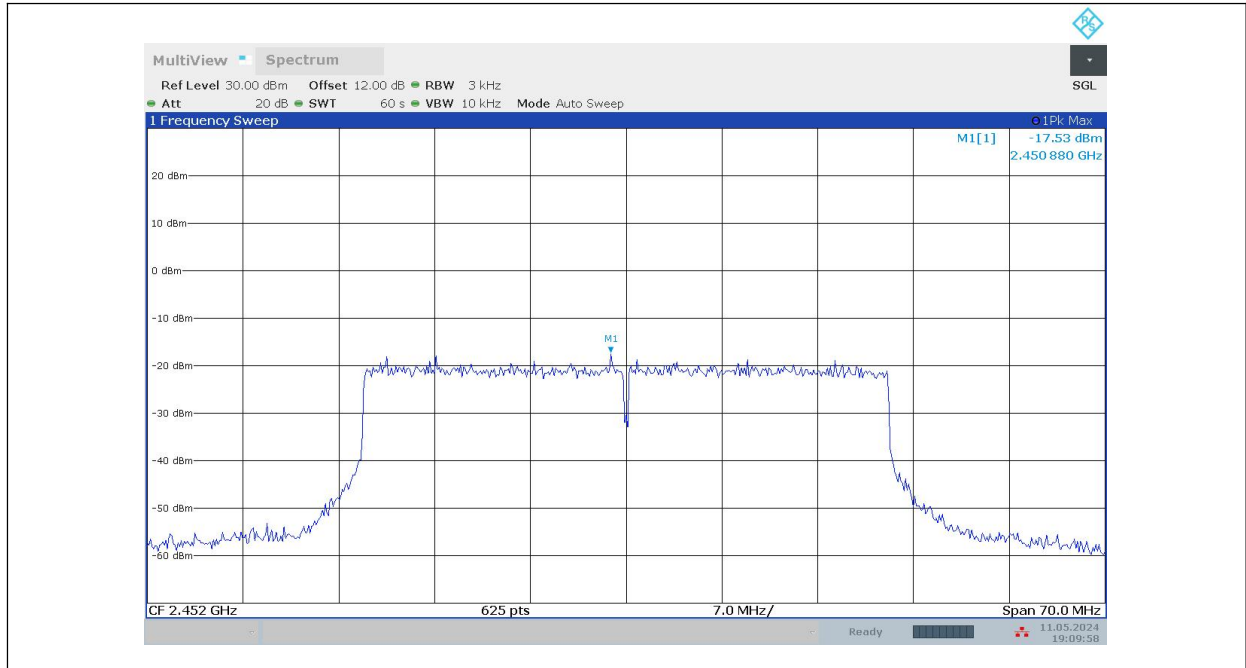
11AX40MIMO_Ant1_2437



11AX40MIMO_Ant0_2452



11AX40MIMO_Ant1_2452



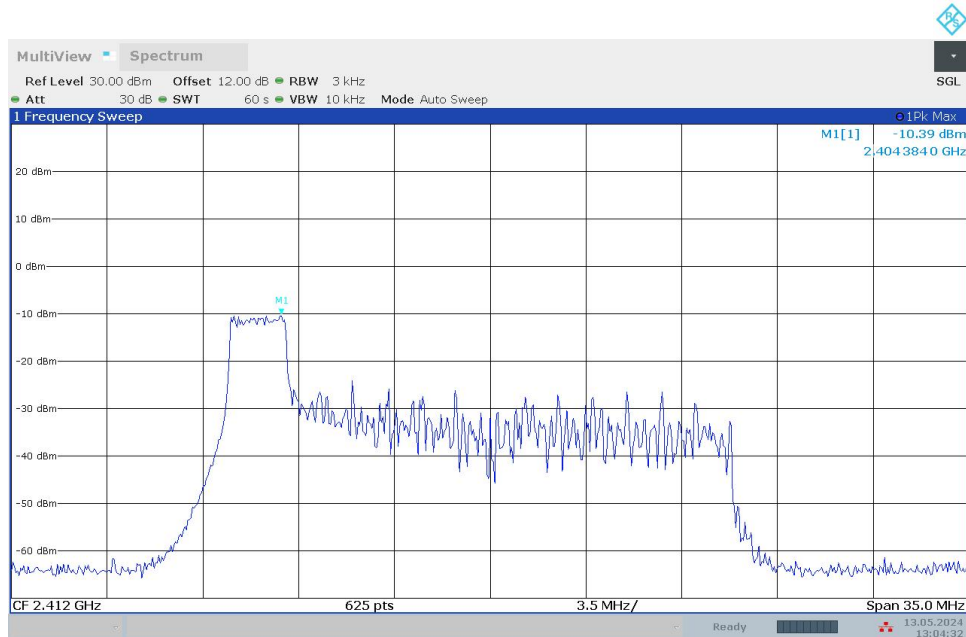
RU mode

Test Mode	Antenna	Frequency [MHz]	RuSize	Ru Index	Result [dBm/3kHz]	Limit [dBm/3kHz]	Verdict
11BE20MIMO	Ant0	2412	26Tone	RU0	-10.39	≤8.00	PASS
				RU8	-10.13	≤8.00	PASS
			52Tone	RU37	-8.74	≤8.00	PASS
				RU40	-8.96	≤8.00	PASS
			106Tone	RU53	-8.75	≤8.00	PASS
				RU54	-9.25	≤8.00	PASS
	Ant1	2412	26Tone	RU0	-9.90	≤8.00	PASS
				RU8	-9.17	≤8.00	PASS
			52Tone	RU37	-9.47	≤8.00	PASS
				RU40	-9.28	≤8.00	PASS
			106Tone	RU53	-8.73	≤8.00	PASS
				RU54	-8.81	≤8.00	PASS
	total	2412	26Tone	RU0	-7.13	≤8.00	PASS
				RU8	-6.61	≤8.00	PASS
			52Tone	RU37	-6.08	≤8.00	PASS
				RU40	-6.11	≤8.00	PASS
			106Tone	RU53	-5.73	≤8.00	PASS
				RU54	-6.01	≤8.00	PASS
	Ant0	2437	26Tone	RU0	-10.59	≤8.00	PASS
				RU8	-8.43	≤8.00	PASS
			52Tone	RU37	-9.62	≤8.00	PASS
				RU40	-9.36	≤8.00	PASS
			106Tone	RU53	-8.97	≤8.00	PASS

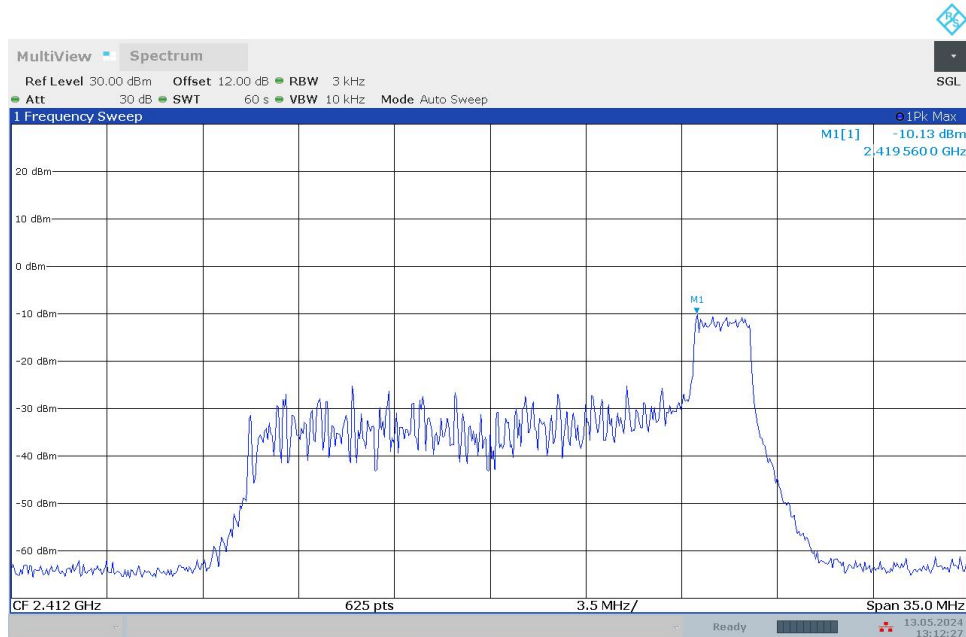
	Ant1	2437	26Tone	RU54	-9.31	≤8.00	PASS
				RU0	-9.81	≤8.00	PASS
				RU8	-10.14	≤8.00	PASS
			52Tone	RU37	-9.39	≤8.00	PASS
				RU40	-9.25	≤8.00	PASS
			106Tone	RU53	-8.85	≤8.00	PASS
				RU54	-9.10	≤8.00	PASS
	total	2437	26Tone	RU0	-7.17	≤8.00	PASS
				RU8	-6.19	≤8.00	PASS
			52Tone	RU37	-6.49	≤8.00	PASS
				RU40	-6.29	≤8.00	PASS
			106Tone	RU53	-5.90	≤8.00	PASS
				RU54	-6.19	≤8.00	PASS
	Ant0	2462	26Tone	RU0	-9.26	≤8.00	PASS
				RU8	-11.01	≤8.00	PASS
			52Tone	RU37	-8.75	≤8.00	PASS
				RU40	-9.85	≤8.00	PASS
			106Tone	RU53	-8.88	≤8.00	PASS
				RU54	-9.67	≤8.00	PASS
	Ant1	2462	26Tone	RU0	-9.85	≤8.00	PASS
				RU8	-10.03	≤8.00	PASS
			52Tone	RU37	-9.01	≤8.00	PASS
				RU40	-9.94	≤8.00	PASS
			106Tone	RU53	-8.89	≤8.00	PASS
				RU54	-9.42	≤8.00	PASS
	total	2462	26Tone	RU0	-6.53	≤8.00	PASS
				RU8	-7.48	≤8.00	PASS
			52Tone	RU37	-5.87	≤8.00	PASS
				RU40	-6.88	≤8.00	PASS
			106Tone	RU53	-5.87	≤8.00	PASS
				RU54	-6.53	≤8.00	PASS

Test graphs as below:

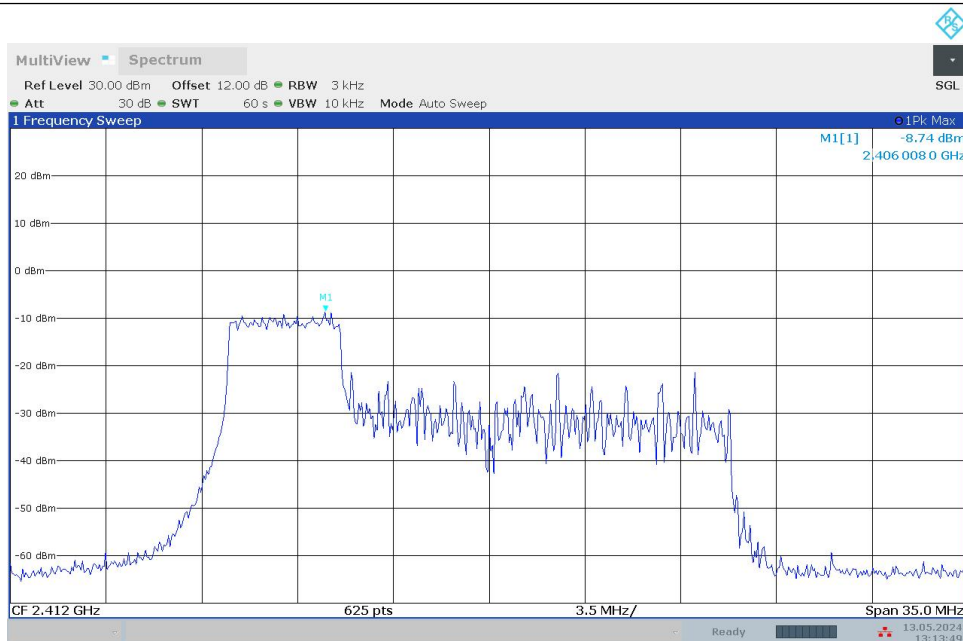
11BE20MIMO_Ant0_2412_26Tone_RU0



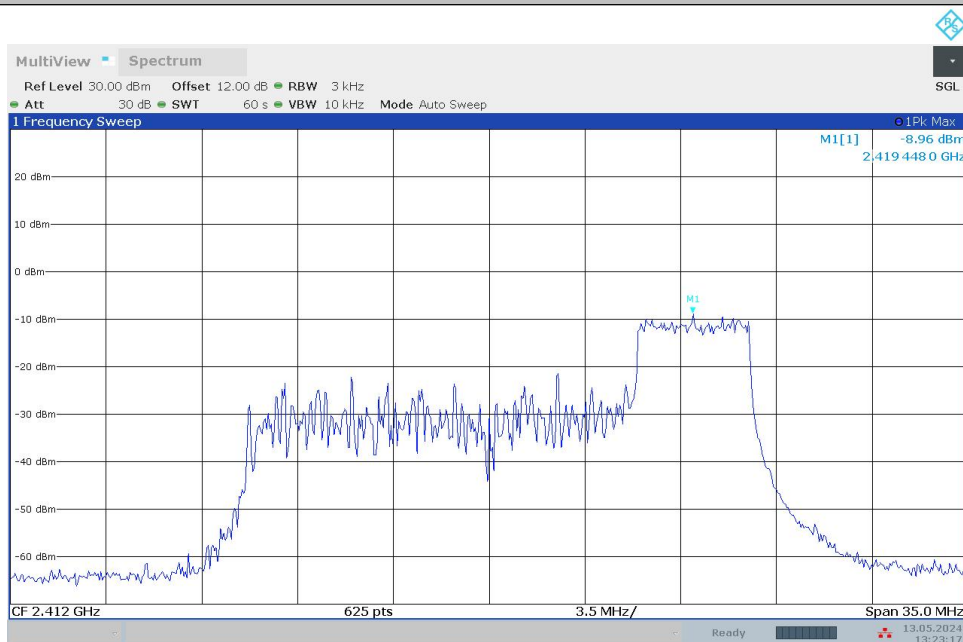
11BE20MIMO_Ant0_2412_26Tone_RU8



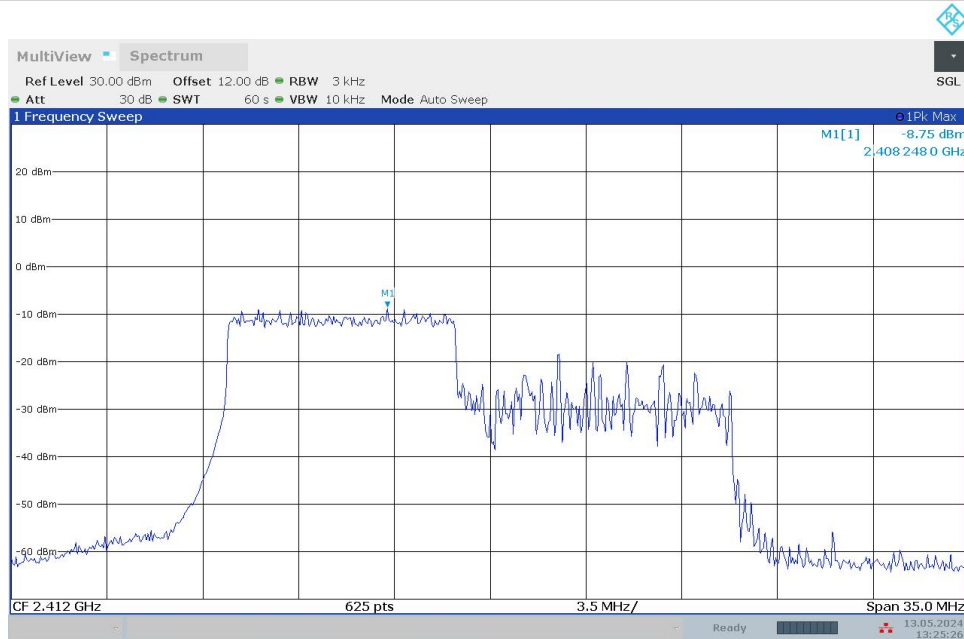
11BE20MIMO_Ant0_2412_52Tone_RU37



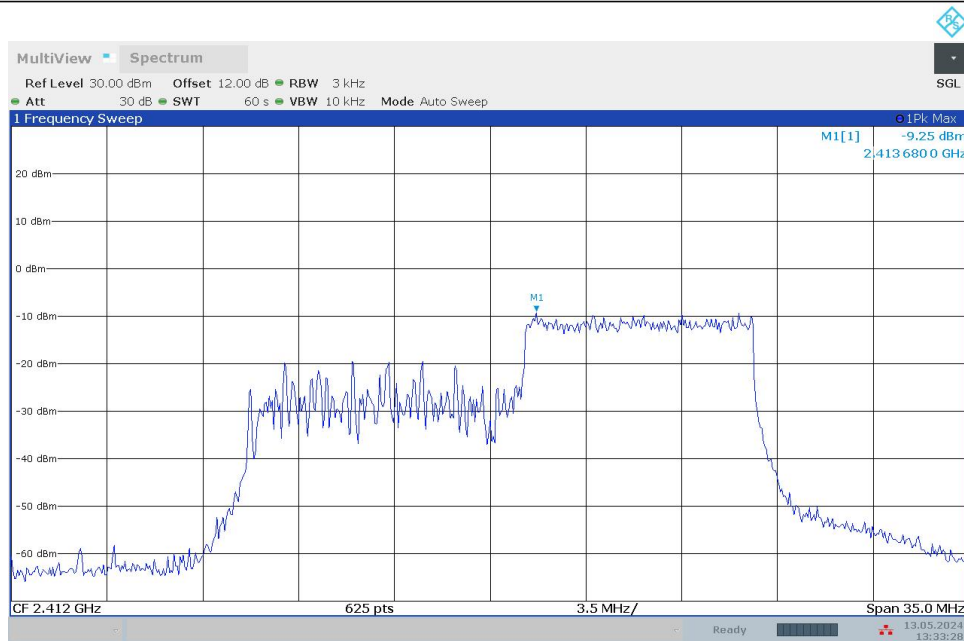
11BE20MIMO_Ant0_2412_52Tone_RU40



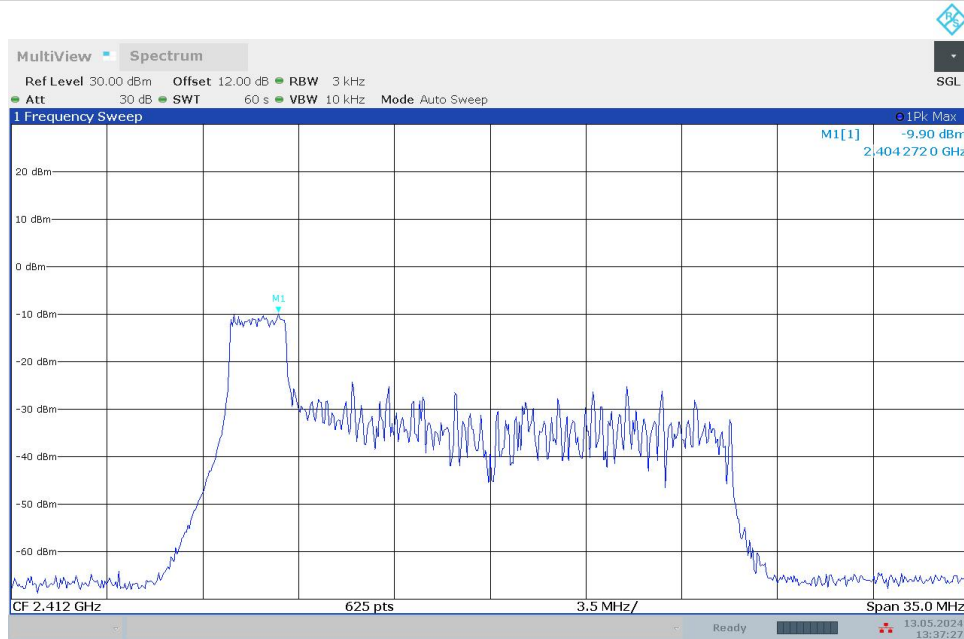
11BE20MIMO_Ant0_2412_106Tone_RU53



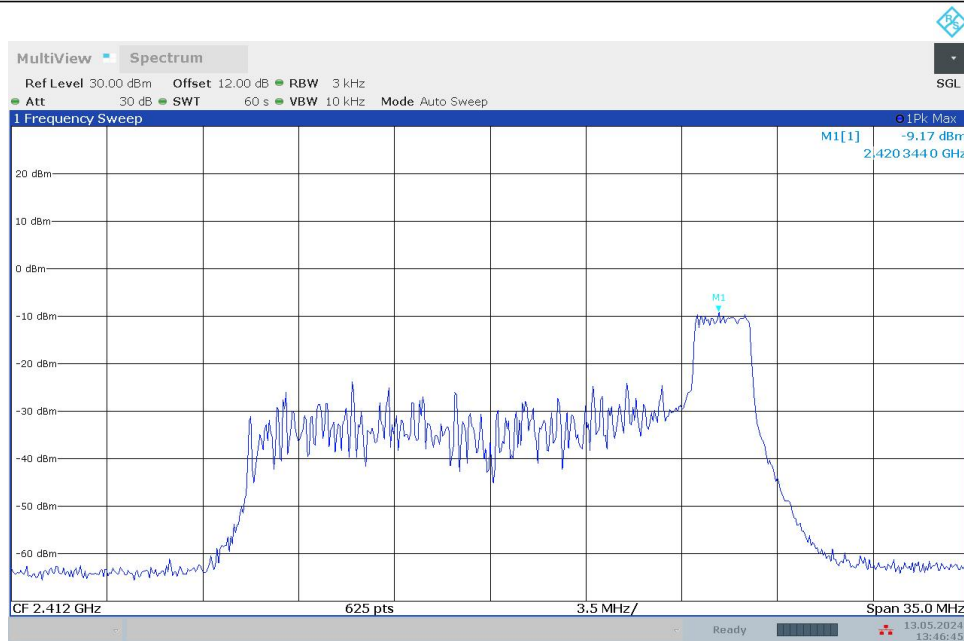
11BE20MIMO_Ant0_2412_106Tone_RU54



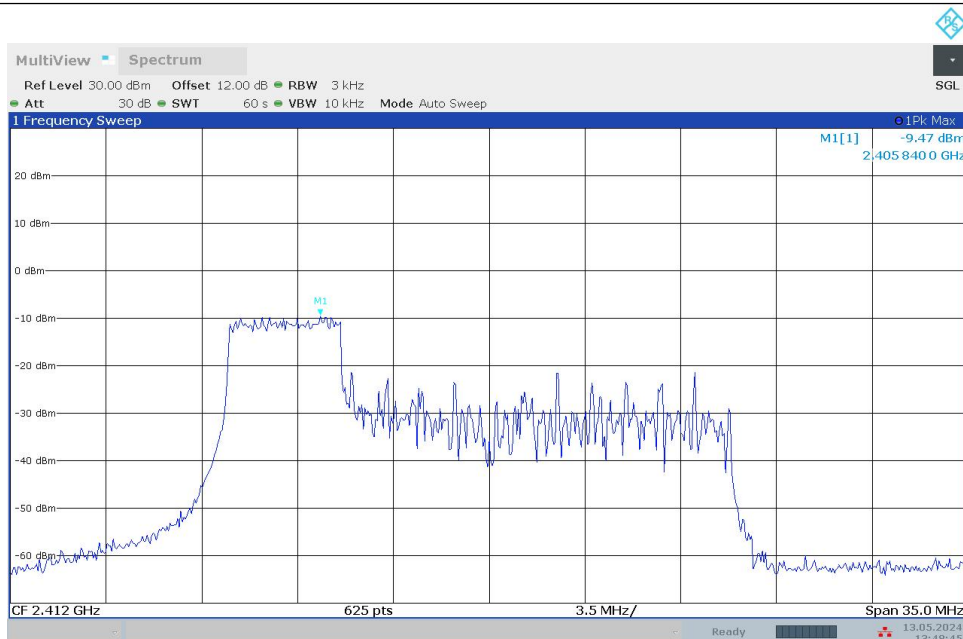
11BE20MIMO_Ant1_2412_26Tone_RU0



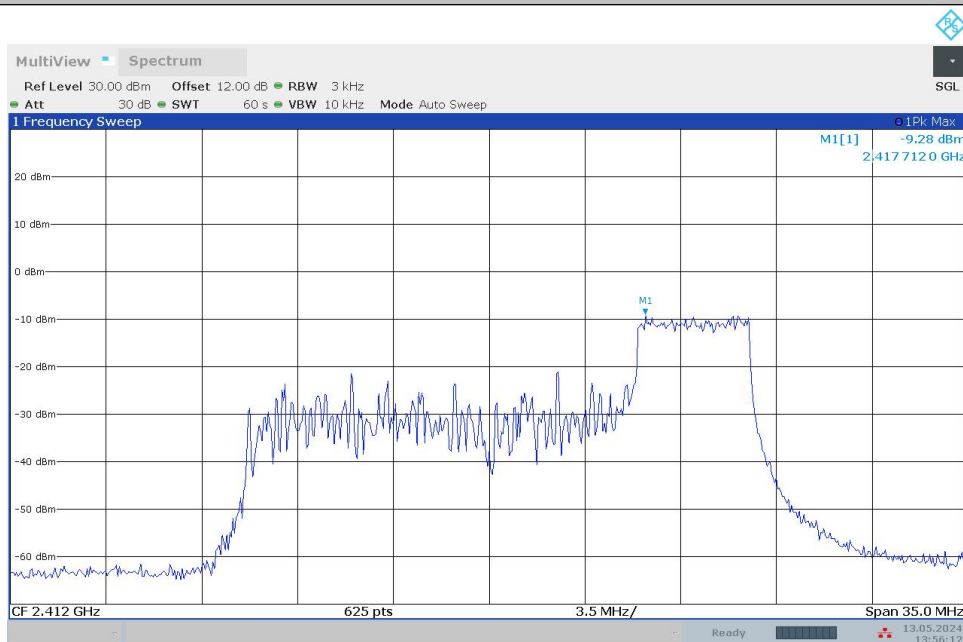
11BE20MIMO_Ant1_2412_26Tone_RU8



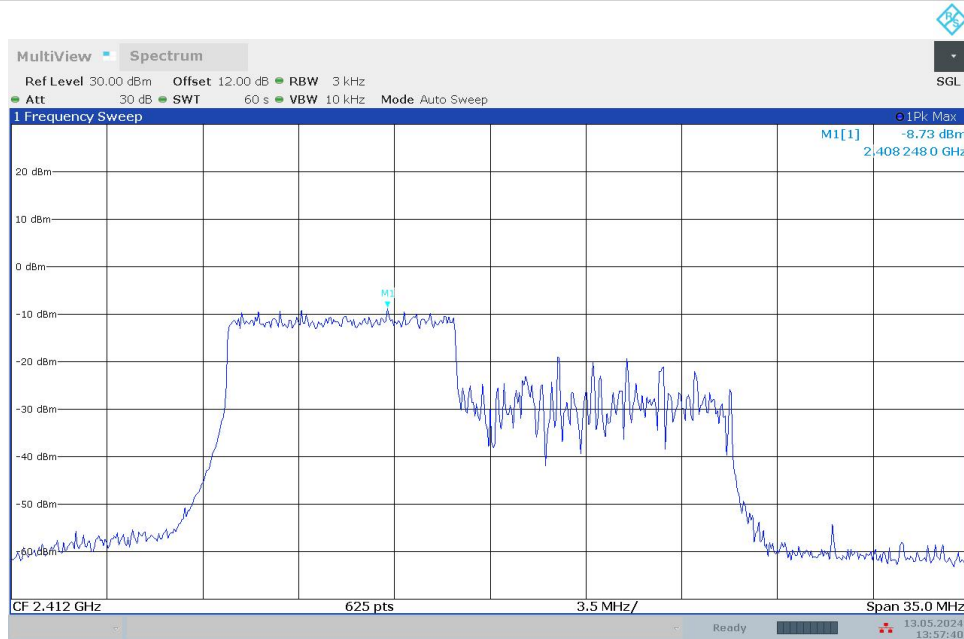
11BE20MIMO_Ant1_2412_52Tone_RU37



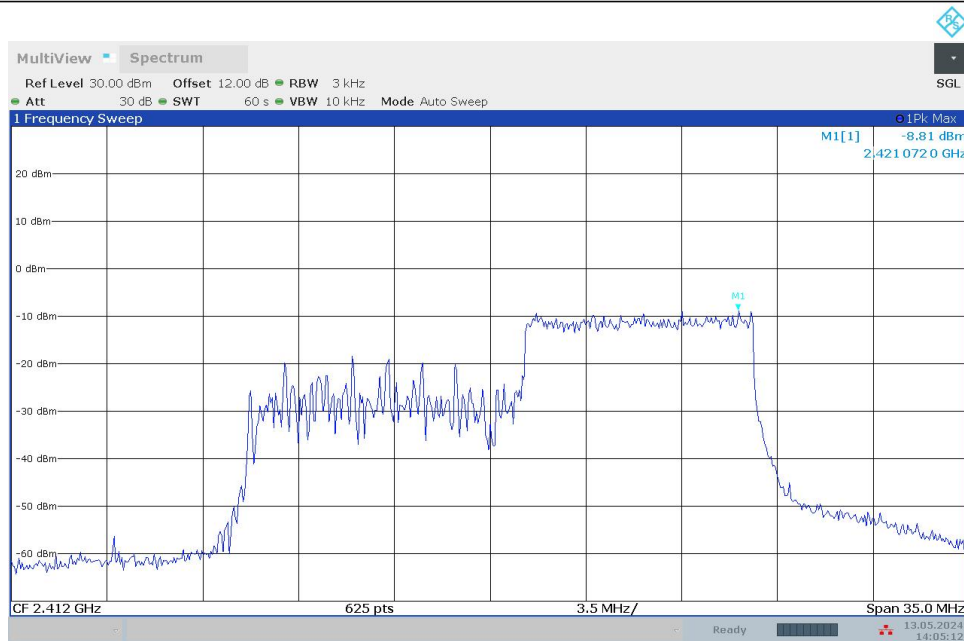
11BE20MIMO_Ant1_2412_52Tone_RU40



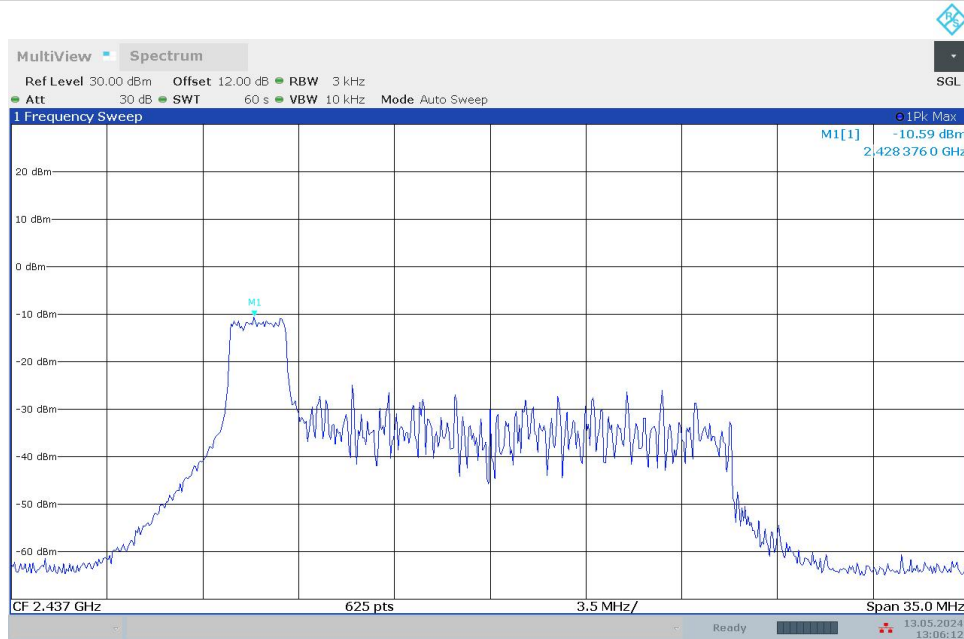
11BE20MIMO_Ant1_2412_106Tone_RU53



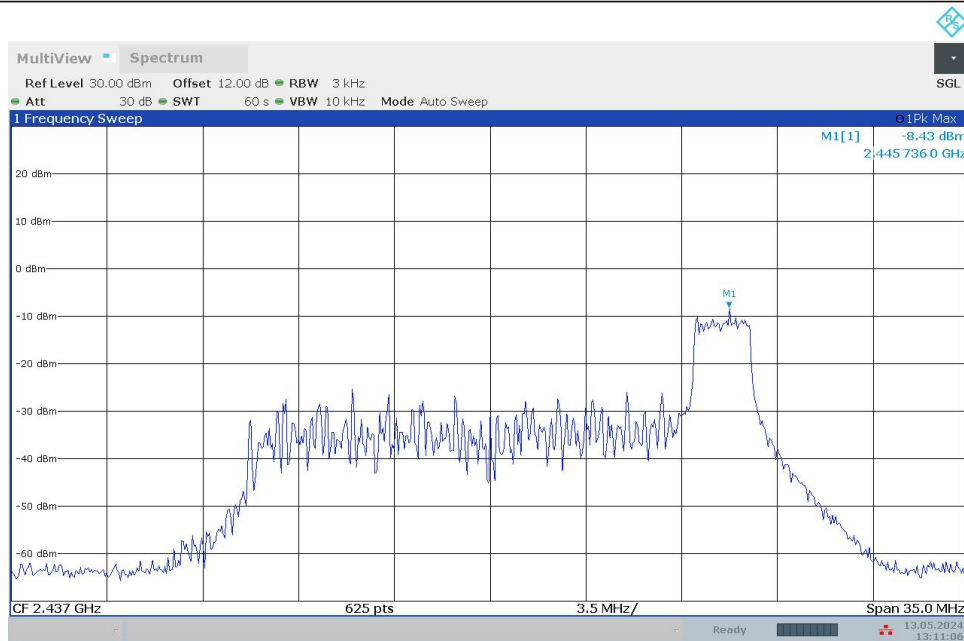
11BE20MIMO_Ant1_2412_106Tone_RU54



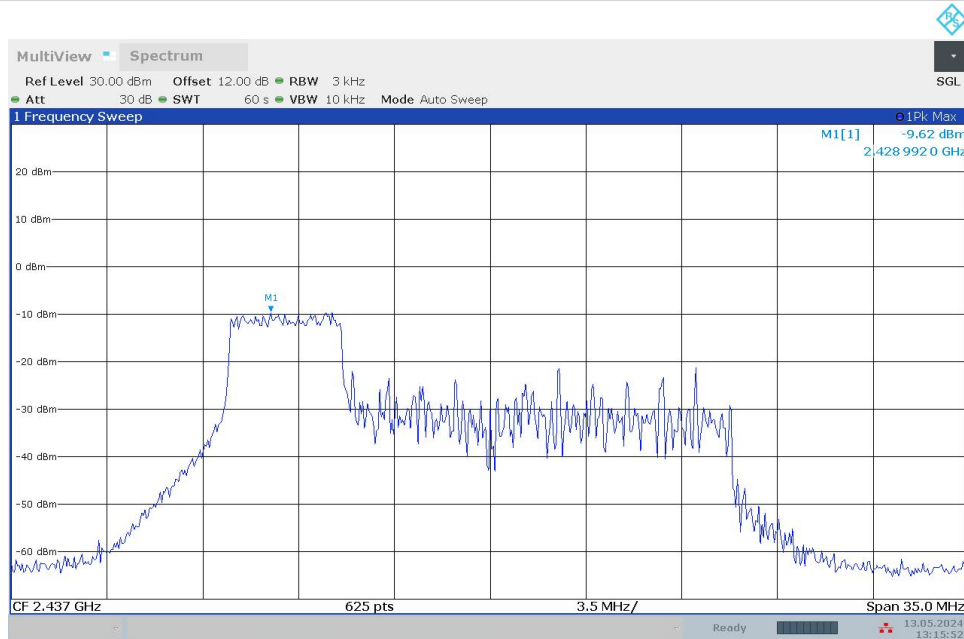
11BE20MIMO_Ant0_2437_26Tone_RU0



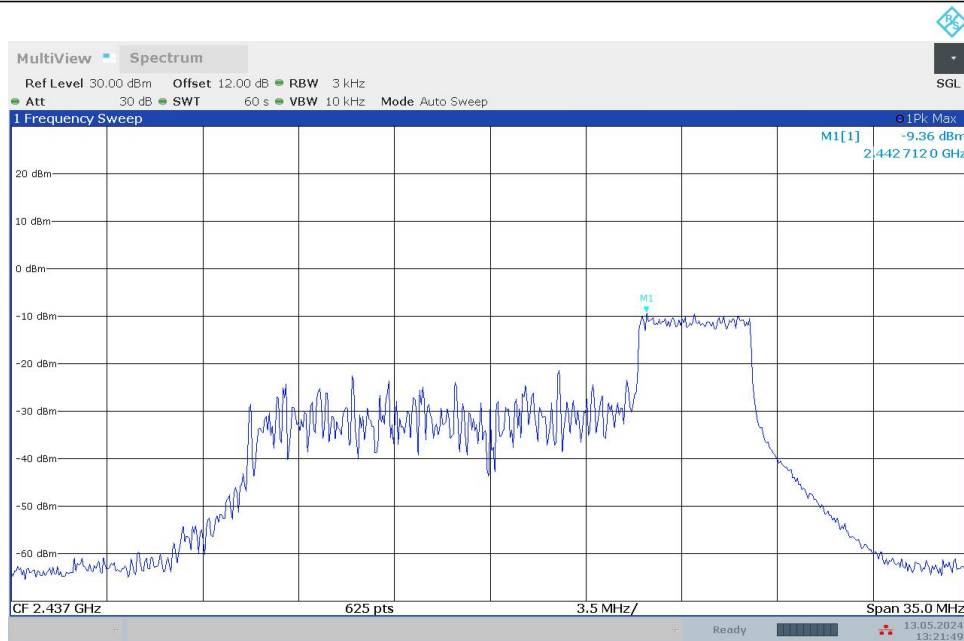
11BE20MIMO_Ant0_2437_26Tone_RU8



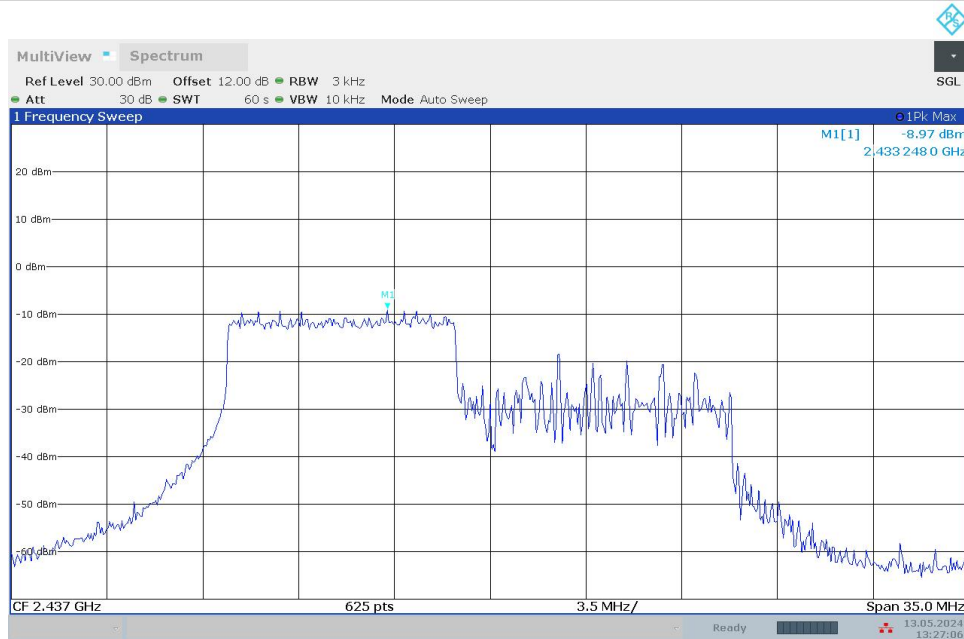
11BE20MIMO_Ant0_2437_52Tone_RU37



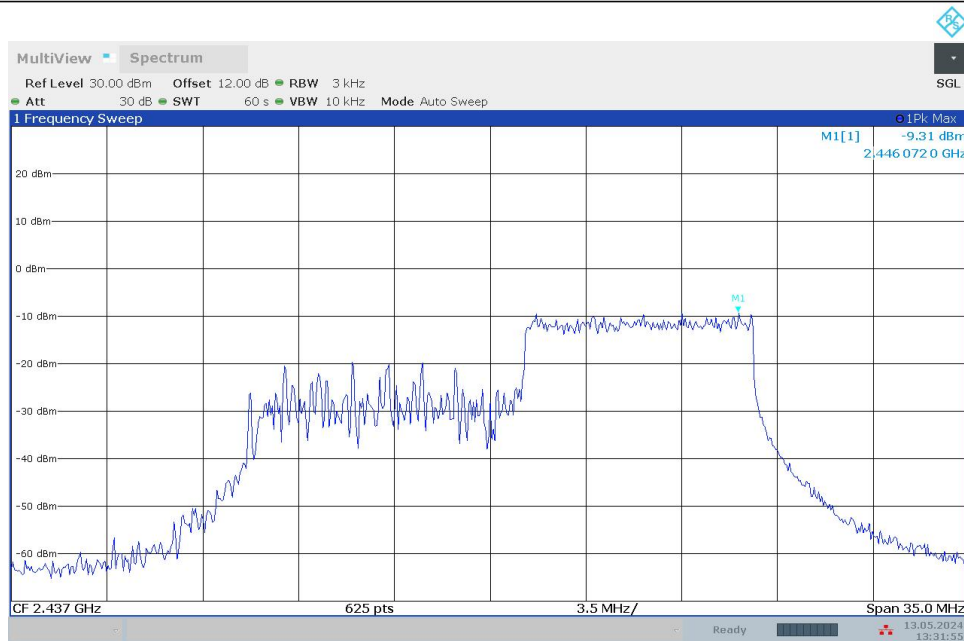
11BE20MIMO_Ant0_2437_52Tone_RU40



11BE20MIMO_Ant0_2437_106Tone_RU53



11BE20MIMO_Ant0_2437_106Tone_RU54



11BE20MIMO_Ant1_2437_26Tone_RU0