



FCC PART 15E TEST REPORT No.23T04Z80629-027

for

BLU Products,Inc.

Smart phone

B160V

FCC ID: YHLBLUB160V

with

Hardware Version: V1.0

Software Version: BLU_B160V_V14.0.01.01.01.03_FSec

Issued Date: 2024-01-10

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
23T04Z80629-027	Rev.0	1st edition	2024-01-10

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%

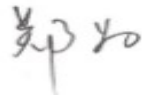
1.4. Project date

Testing Start Date: 2023-12-07
Testing End Date: 2024-01-10

1.1. 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: BLU Products, Inc.
Address: 8600 NW 36th Street, Suite #300 | Miami, FL 33166
Contact: Zeng wei
Email: zwei@ctasiasz.com
Telephone: 305.715.7171
Fax: 305.436.8819

2.2. Manufacturer Information

Company Name: BLU Products, Inc.
Address: 8600 NW 36th Street, Suite #300 | Miami, FL 33166
Contact: Zeng wei
Email: zwei@ctasiasz.com
Telephone: 305.715.7171
Fax: 305.436.8819

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

3.1. About EUT

Description	Smart phone
Model name	B160V
FCC ID	YHLBLUB160V
WLAN Frequency Band	ISM Bands: -5150MHz~5250MHz -5250MHz~5350MHz -5470MHz~5725MHz
Type of modulation	OFDM
Antenna	Integral Antenna
Nominal Voltage	3.88/3.85V V

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version	Date of receipt
UT59a	356197680004110	V1.0	BLU_B160V_ V14.0.01.01.01.03_FSec	2023-12-13
UT46a	356197680006255	V1.0	BLU_B160V_ V14.0.01.01.01.03_FSec	2023-12-13

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

UT46a is used for Conduction test, UT59a is used for Radiation test.

3.3. Internal Identification of AE used during the test

AE ID*	Description	Model	Manufacturer
AE1	Battery1	C846345400P	Huizhou Highpower Technology 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 Smart 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

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.

FCC Part15	Title 47 of the Code of Federal Regulations; Chapter I Part 15 - Radio frequency devices	2021
ANSI C63.10	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2013
UNII: KDB 789033 D02	General U-NII Test Procedures New Rules v02r01	2017-12

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 Part15E	Sub-clause of IC	Verdict
Maximum Output Power	15.407	/	P
Peak Power Spectral Density	15.407	/	P
Occupied 26dB Bandwidth	15.403	/	P
Radiated Unwanted Emission	15.407, 15.205, 15.209	/	P
AC Powerline Conducted Emission	15.107, 15.207	/	P
99% Occupied bandwidth	/	/	P
Transmit Power Control	15.407	/	NA

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

Terms used in Verdict column

P	Pass, The EUT complies with the essential requirements in the standard.
NM	Not measured, The test was not measured 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	3.88/3.85V
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	1 year	2024-06-05
4	Test Receiver	ESCI	100344	R&S	1 year	2024-02-21
5	Attenuator	10dB/2W	/	Rosenberger	/	/
6	Shielding Room	S81	/	ETS-Lindgren	/	/

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	VULB 9163	01222	SCHWARZBECK	13 months	2024-02-28
3	EMI Antenna	3115	6914	ETS-Lindgren	13 months	2024-06-07
4	EMI Antenna	3116	2661	ETS-Lindgren	13 months	2024-02-28
5	EMI Antenna	HF-H2-Z2	829304/007	R&S	13 months	2024-01-22

8. Measurement Uncertainty

8.1 Transmitter Output Power

Measurement Uncertainty: 0.387dB,k=1.96

8.2 Peak Power Spectral Density

Measurement Uncertainty: 0.705dB,k=1.96

8.3 26dB Emission Bandwidth

Measurement Uncertainty: 60.80Hz,k=1.96

8.4 Band Edges Compliance

Measurement Uncertainty : 0.62dB,k=1.96

8.5 Spurious Emissions

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

Frequency Range	Uncertainty(dB) (k=2)
9kHz-30MHz	4.92
$30\text{MHz} \leq f \leq 1\text{GHz}$	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

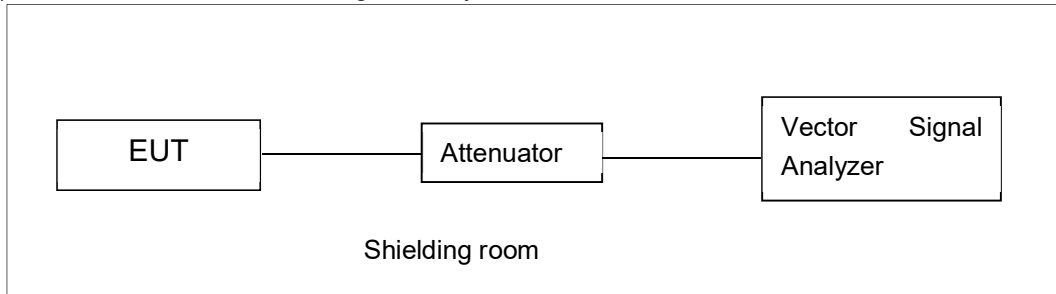
Measurement Uncertainty : 3.08dB,k=2

ANNEX A: Detailed Test Results

A.1. Measurement Method

A.1.1. Conducted Measurements

- 1). Connect the EUT to the test system correctly.
- 2). Set the EUT to the required work mode.
- 3). Set the EUT to the required channel.
- 4). Set the spectrum analyzer to start measurement.
- 5). Record the values. Vector Signal Analyzer



A.1.2. Radiated Emission Measurements

Measurement performed according to Clause 6.4, 6.5, 6.6 in ANSI C63.10-2013 and II.G.4, II.G.5, II.G.6 in KDB 789033.

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 orientation.

A.2. Maximum output Power

Measurement Limit and Method:

Standard	Frequency (MHz)	Limit (dBm)
FCC CRF Part 15.407(a)	5150MHz~5250MHz	24dBm
	5250MHz~5350MHz	24dBm or 11+10logB
	5470MHz~5725MHz	24dBm or 11+10logB

Limit use the less value, and B is the 26dB bandwidth.

The measurement method SA-2 is made according to KDB 789033

A.2. Maximum output Power-Conducted

EUT ID: UT46a

Measurement Results:

802.11a mode

Mode	Frequency	Test Result (dBm)							
		Data Rate (Mbps)							
		6	9	12	18	24	36	48	54
802.11a	5180MHz	16.76	/	/	/	/	/	/	/
	5200MHz	17.04	/	/	/	/	/	/	/
	5240MHz	17.04	/	/	/	/	/	/	/
	5260MHz	16.52	/	/	/	/	/	/	/
	5280MHz	17.02	/	/	/	/	/	/	/
	5320MHz	16.59	/	/	/	/	/	/	/
	5500MHz	17.23	/	/	/	/	/	/	/
	5580MHz	17.27	/	/	/	/	/	/	/
	5700MHz	17.96	/	/	/	/	/	/	/
	5720MHz	17.62	/	/	/	/	/	/	/

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

802.11n-HT20 mode

Mode	Frequency	Test Result (dBm)							
		Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
802.11n (HT20)	5180MHz	16.83	/	/	/	/	/	/	/
	5200MHz	16.85	/	/	/	/	/	/	/
	5240MHz	17.16	/	/	/	/	/	/	/
	5260MHz	16.46	/	/	/	/	/	/	/
	5280MHz	16.91	/	/	/	/	/	/	/
	5320MHz	15.87	/	/	/	/	/	/	/
	5500MHz	16.76	/	/	/	/	/	/	/
	5580MHz	16.81	/	/	/	/	/	/	/
	5700MHz	17.51	/	/	/	/	/	/	/

	5720MHz	17.27	/	/	/	/	/	/	/
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The data rate MCS0 is selected as worst condition, and the following cases are performed with this condition.

802.11ac-VHT20 mode

Mode	Frequency	Test Result (dBm)								
		Data Rate								
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8
802.11ac (VHT20)	5180MHz	16.02	/	/	/	/	/	/	/	/
	5200MHz	16.09	/	/	/	/	/	/	/	/
	5240MHz	16.12	/	/	/	/	/	/	/	/
	5260MHz	15.56	/	/	/	/	/	/	/	/
	5280MHz	16.16	/	/	/	/	/	/	/	/
	5320MHz	15.58	/	/	/	/	/	/	/	/
	5500MHz	16.61	/	/	/	/	/	/	/	/
	5580MHz	16.67	/	/	/	/	/	/	/	/
	5700MHz	17.63	/	/	/	/	/	/	/	/
	5720MHz	17.02	/	/	/	/	/	/	/	/

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

802.11n-HT40 mode

Mode	Frequency	Test Result (dBm)							
		Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
802.11n (HT40)	5190MHz	16.46	/	/	/	/	/	/	/
	5230MHz	16.48	/	/	/	/	/	/	/
	5270MHz	16.32	/	/	/	/	/	/	/
	5310MHz	14.18	/	/	/	/	/	/	/
	5510MHz	15.36	/	/	/	/	/	/	/
	5550MHz	16.34	/	/	/	/	/	/	/
	5670MHz	16.85	/	/	/	/	/	/	/
	5710MHz	17.44	/	/	/	/	/	/	/

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

802.11ac-VHT40 mode

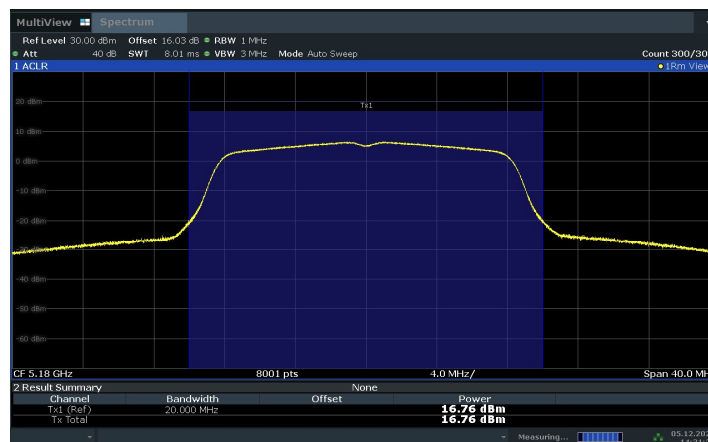
Mode	Frequency	Test Result (dBm)									
		Data Rate									
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
802.11ac (VHT40)	5190MHz	15.88	/	/	/	/	/	/	/	/	/
	5230MHz	16.09	/	/	/	/	/	/	/	/	/
	5270MHz	16.00	/	/	/	/	/	/	/	/	/
	5310MHz	15.47	/	/	/	/	/	/	/	/	/
	5510MHz	15.90	/	/	/	/	/	/	/	/	/
	5550MHz	16.37	/	/	/	/	/	/	/	/	/
	5670MHz	16.87	/	/	/	/	/	/	/	/	/
	5710MHz	17.41	/	/	/	/	/	/	/	/	/

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

802.11ac-VHT80 mode

Mode	Frequency	Test Result (dBm)									
		Data Rate									
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
802.11ac (VHT80)	5210MHz	14.26	/	/	/	/	/	/	/	/	/
	5290MHz	13.65	/	/	/	/	/	/	/	/	/
	5530MHz	15.25	/	/	/	/	/	/	/	/	/
	5610MHz	16.22	/	/	/	/	/	/	/	/	/
	5690MHz	17.14	/	/	/	/	/	/	/	/	/

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 100%



Maximum output Power: 11a CH5180

Conclusion: PASS

A.3. Peak Power Spectral Density (conducted)

Measurement Limit:

Standard	Frequency (MHz)	Limit (dBm/MHz)
FCC CRF Part 15.407(a)	5150MHz~5250MHz	11
	5250MHz~5350MHz	11
	5470MHz~5725MHz	11

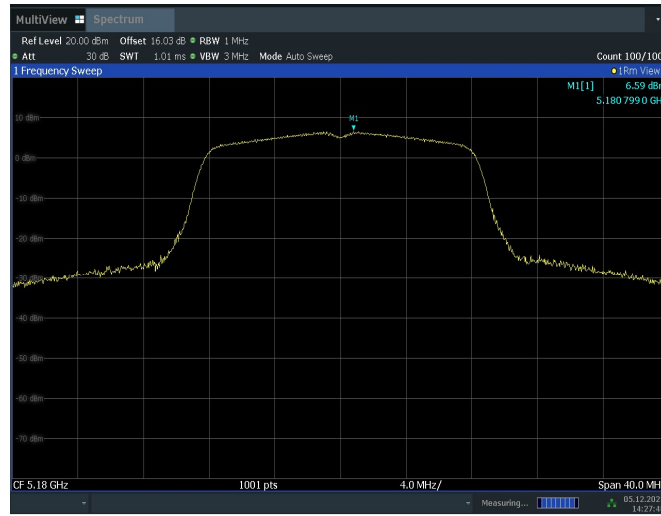
The output power measurement method Section F is made according to KDB 789033

EUT ID: UT46a

Measurement Results:

TestMode	Antenna	Frequency[MHz]	Result [dBm/MHz]	Verdict
11A	Ant1	5180	6.59	PASS
		5200	6.50	PASS
		5240	6.79	PASS
		5260	6.34	PASS
		5280	6.90	PASS
		5320	6.52	PASS
		5500	7.02	PASS
		5580	7.07	PASS
		5700	7.74	PASS
		5720	8.04	PASS
11N40SISO	Ant1	5190	2.80	PASS
		5230	2.96	PASS
		5270	2.74	PASS
		5310	0.80	PASS
		5510	2.57	PASS
		5550	3.83	PASS
		5670	3.80	PASS
		5710	4.20	PASS
11AC20SISO	Ant1	5180	5.65	PASS
		5200	5.80	PASS
		5240	5.95	PASS
		5260	5.37	PASS
		5280	5.72	PASS
		5320	5.13	PASS
		5500	6.69	PASS
		5580	6.00	PASS
		5700	6.57	PASS
		5720	6.73	PASS
11AC80SISO	Ant1	5210	-3.13	PASS
		5290	-2.71	PASS

		5530	-1.77	PASS
		5610	-0.41	PASS
		5690	0.58	PASS



14:27:48 05.12.2023

Peak Power Spectral Density: 11a 5180

Conclusion: PASS

A.4. 26dB Emission Bandwidth (conducted)

Measurement Limit:

Standard	Limit (kHz)
FCC 47 CFR Part 15.403 (i)	/

The measurement is made according to KDB 789033

Measurement Uncertainty:

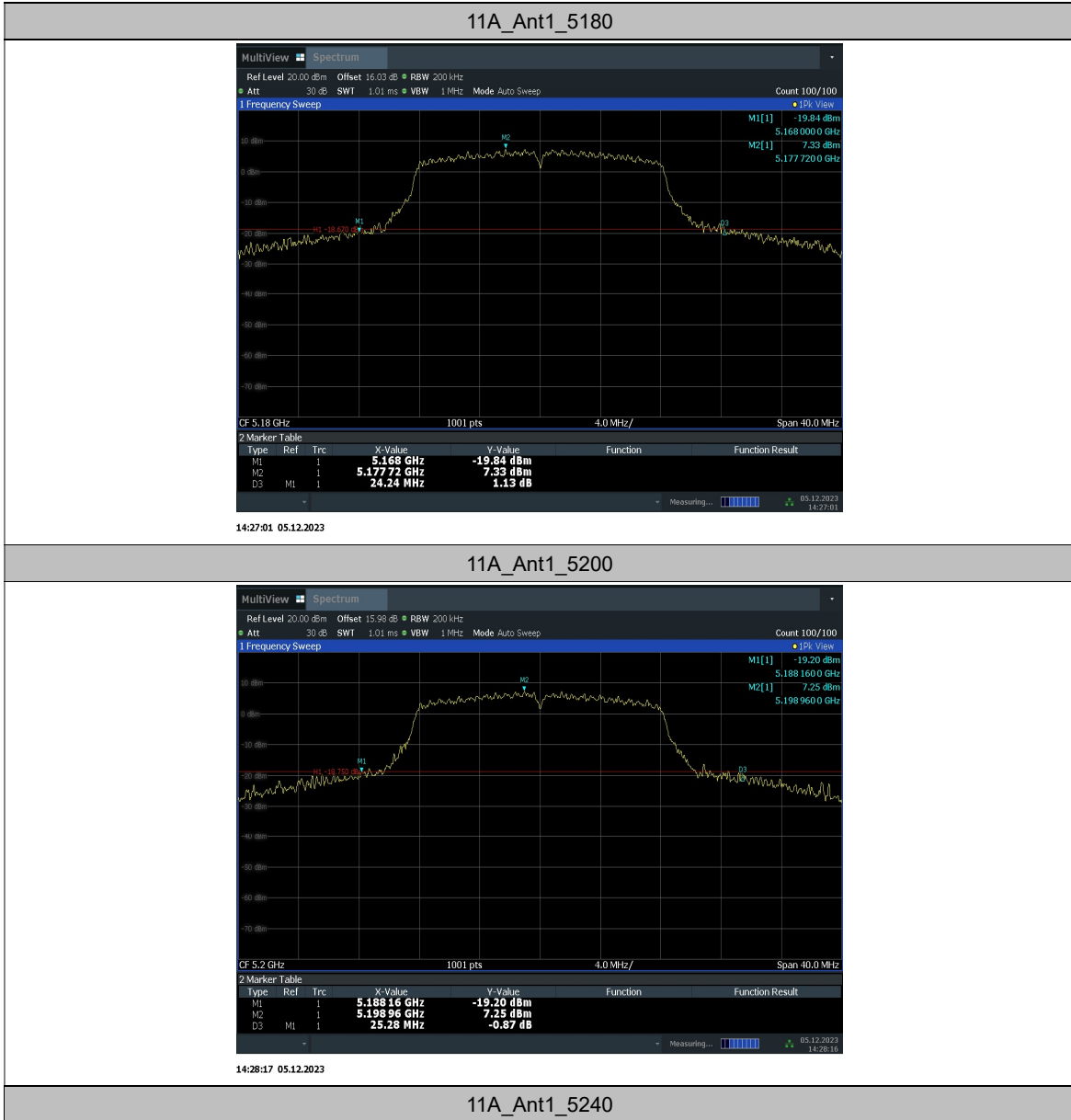
Measurement Uncertainty	60.80Hz
-------------------------	---------

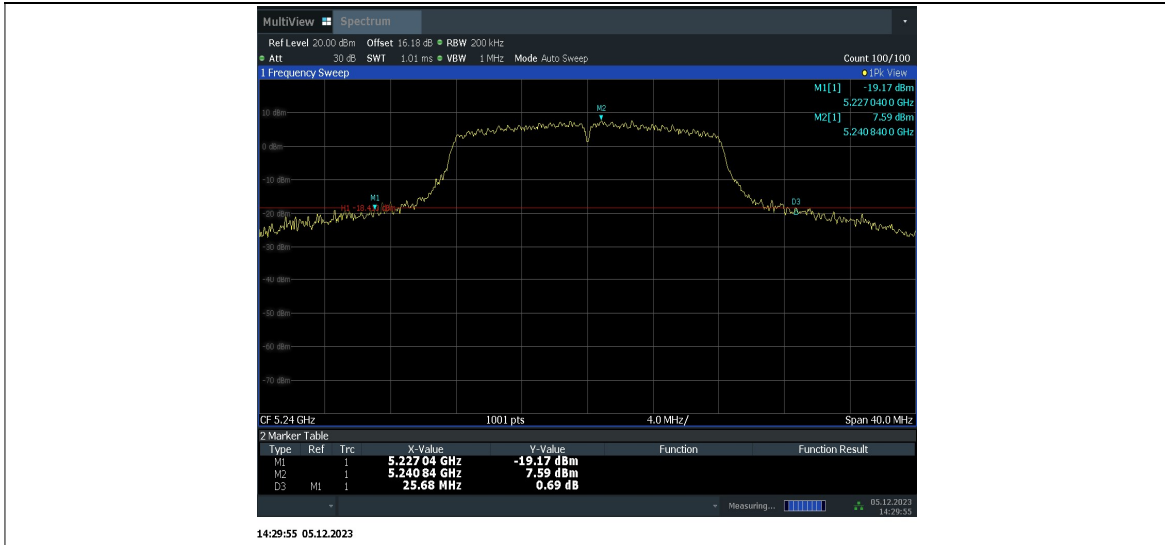
EUT ID: UT46a

TestMode	Antenna	Frequency[MHz]	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	24.24	5168.00	5192.24	---	---
		5200	25.28	5188.16	5213.44	---	---
		5240	25.68	5227.04	5252.72	---	---
		5260	25.80	5247.32	5273.12	---	---
		5280	25.64	5267.36	5293.00	---	---
		5320	26.40	5307.32	5333.72	---	---
		5500	26.24	5486.76	5513.00	---	---
		5580	26.28	5566.76	5593.04	---	---
		5700	28.32	5684.52	5712.84	---	---
		5720	25.32	5708.04	5733.36	---	---
11N40SISO	Ant1	5190	50.32	5162.40	5212.72	---	---
		5230	50.32	5202.40	5252.72	---	---
		5270	54.72	5240.48	5295.20	---	---
		5310	62.40	5278.40	5340.80	---	---
		5510	54.40	5480.40	5534.80	---	---
		5550	62.00	5519.28	5581.28	---	---
		5670	54.88	5639.04	5693.92	---	---
		5710	56.16	5679.92	5736.08	---	---
11AC20SISO	Ant1	5180	24.52	5167.92	5192.44	---	---
		5200	23.64	5187.04	5210.68	---	---
		5240	21.04	5229.72	5250.76	---	---
		5260	25.96	5246.20	5272.16	---	---
		5280	22.44	5268.84	5291.28	---	---
		5320	25.60	5308.52	5334.12	---	---
		5500	22.12	5489.00	5511.12	---	---
		5580	24.04	5567.36	5591.40	---	---
		5700	24.44	5687.96	5712.40	---	---
		5720	23.68	5708.04	5731.72	---	---
11AC80SISO	Ant1	5210	125.28	5156.08	5281.36	---	---
		5290	139.20	5225.52	5364.72	---	---
		5530	102.88	5477.36	5580.24	---	---

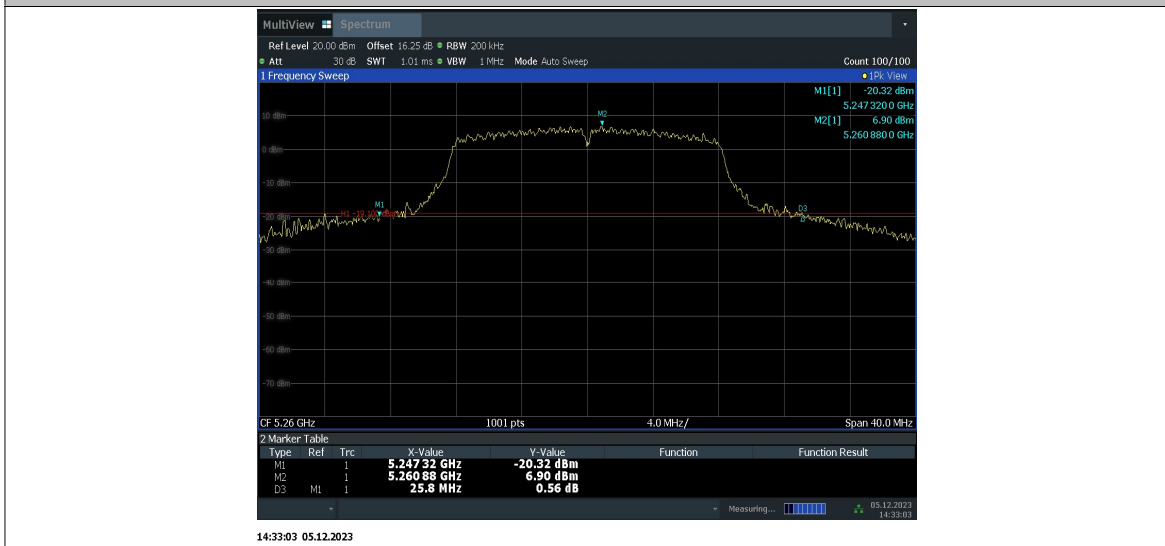
		5610	123.20	5542.80	5666.00	---	---
		5690	115.20	5634.80	5750.00	---	---

Test graphs as below:

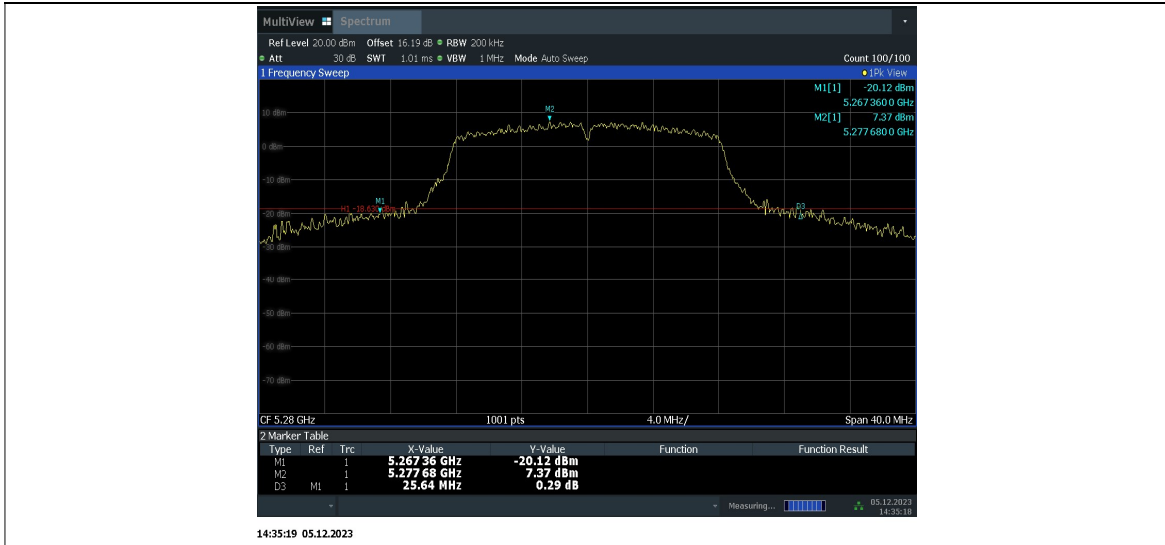




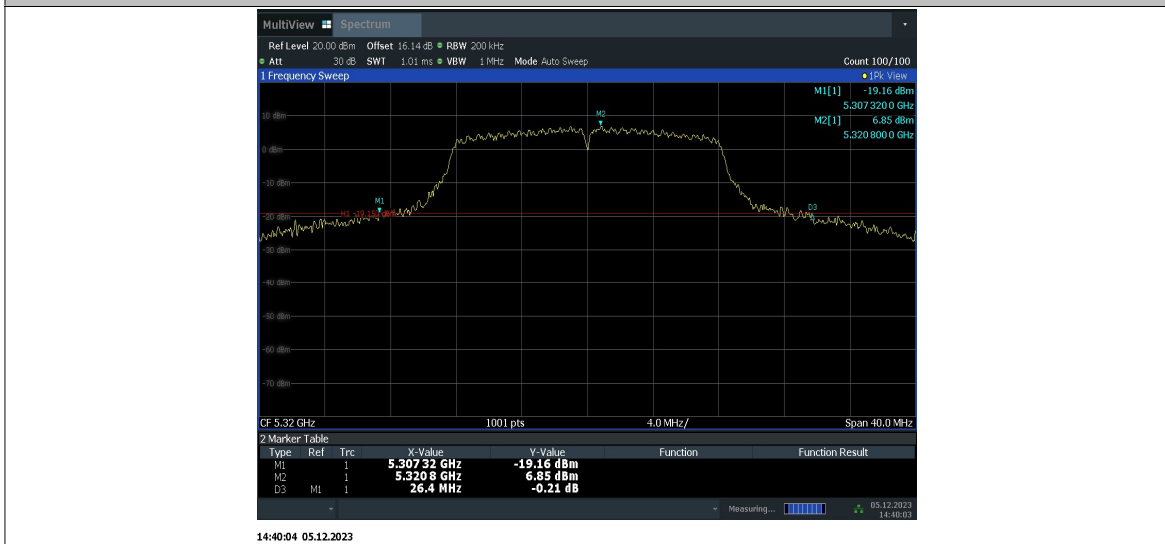
11A_Ant1_5260



11A_Ant1_5280



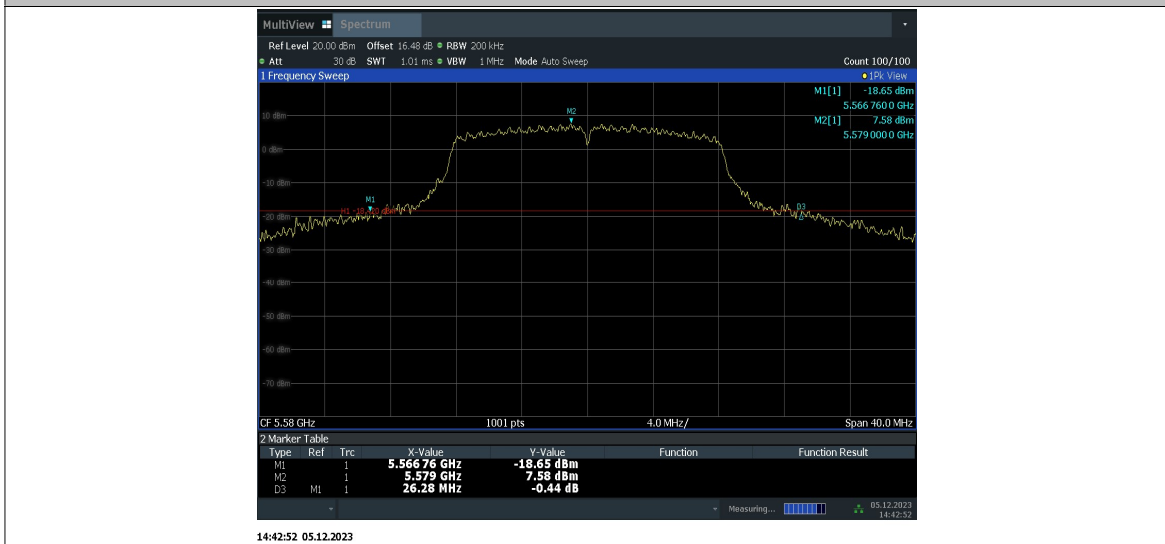
11A_Ant1_5320



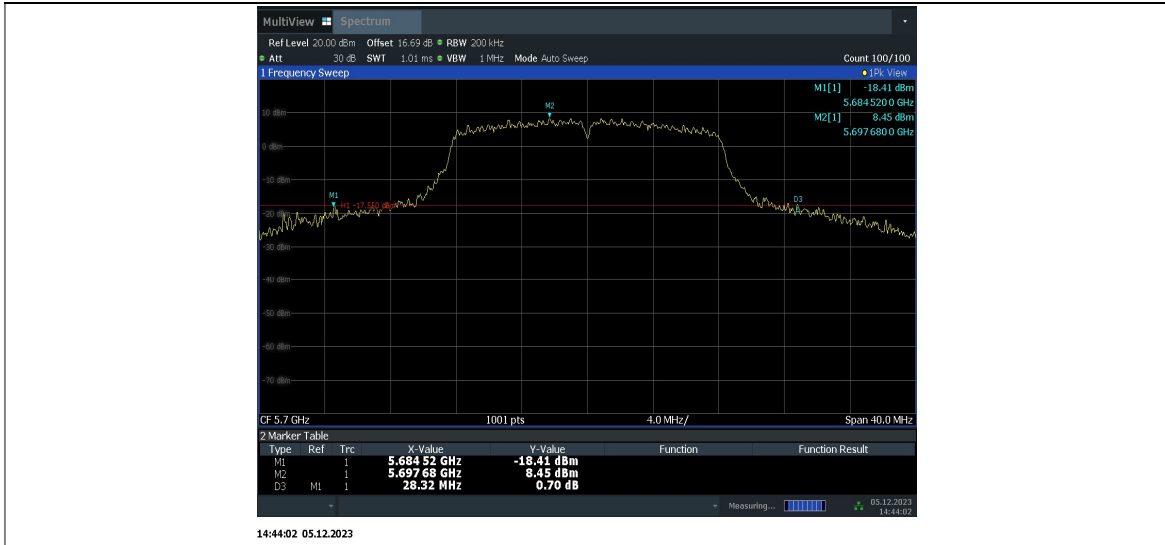
11A_Ant1_5500



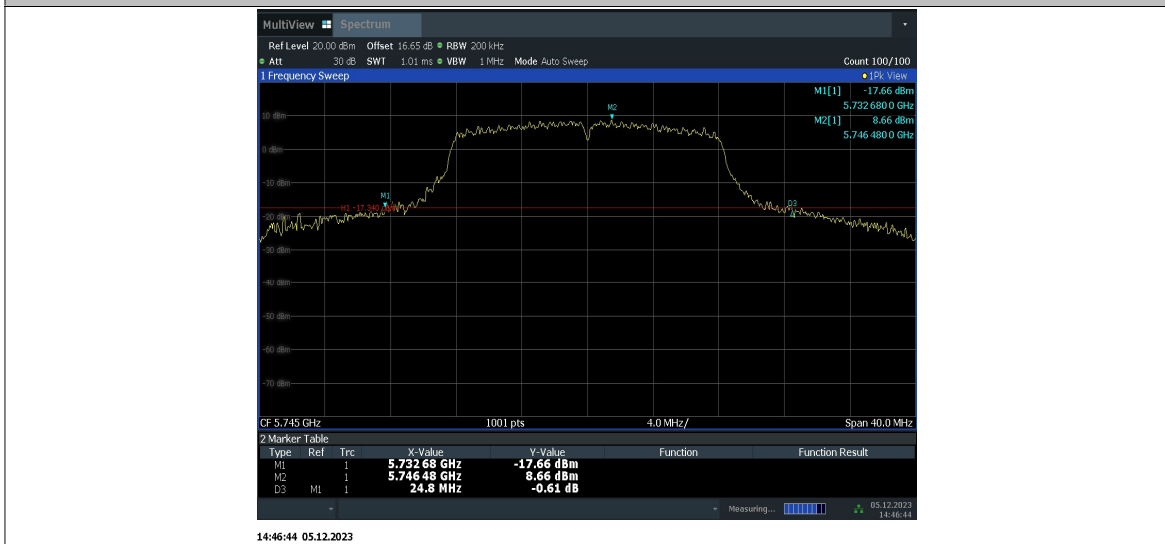
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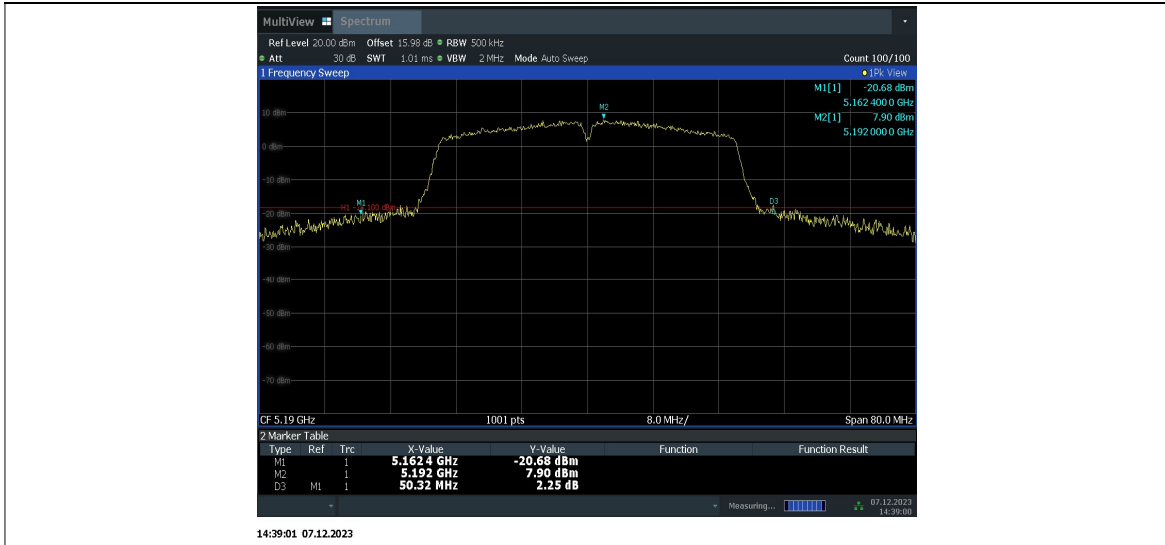
11A_Ant1_5700



11A_Ant1_5720



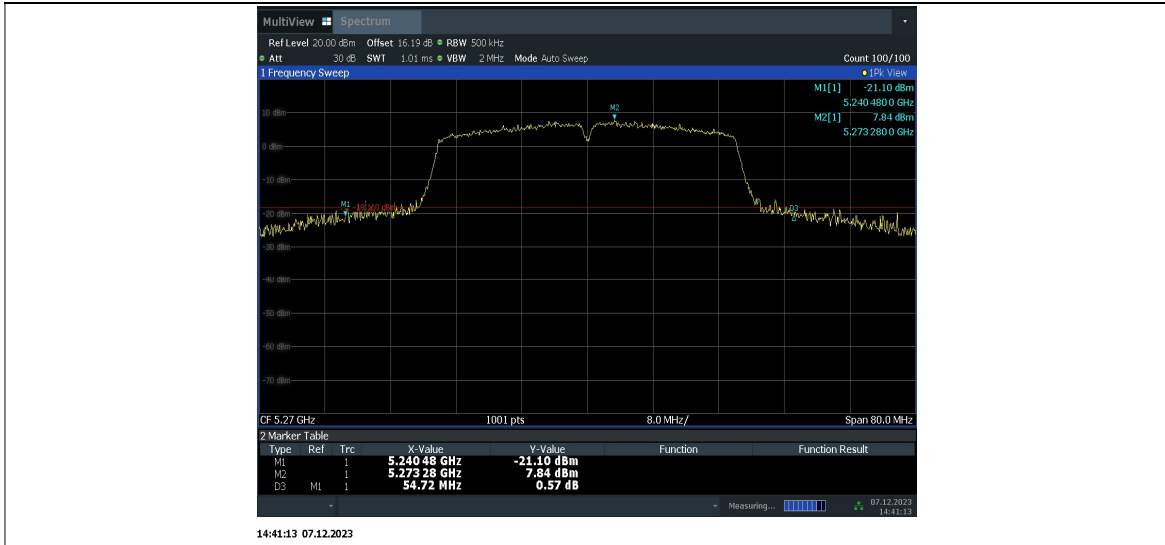
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11N40SISO_Ant1_5230



11N40SISO_Ant1_5270



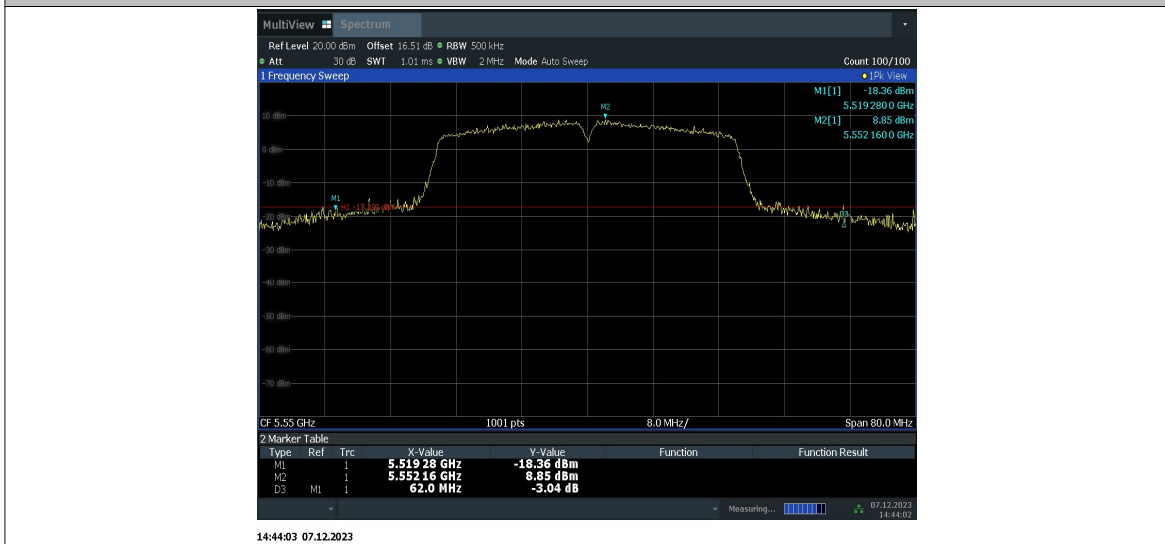
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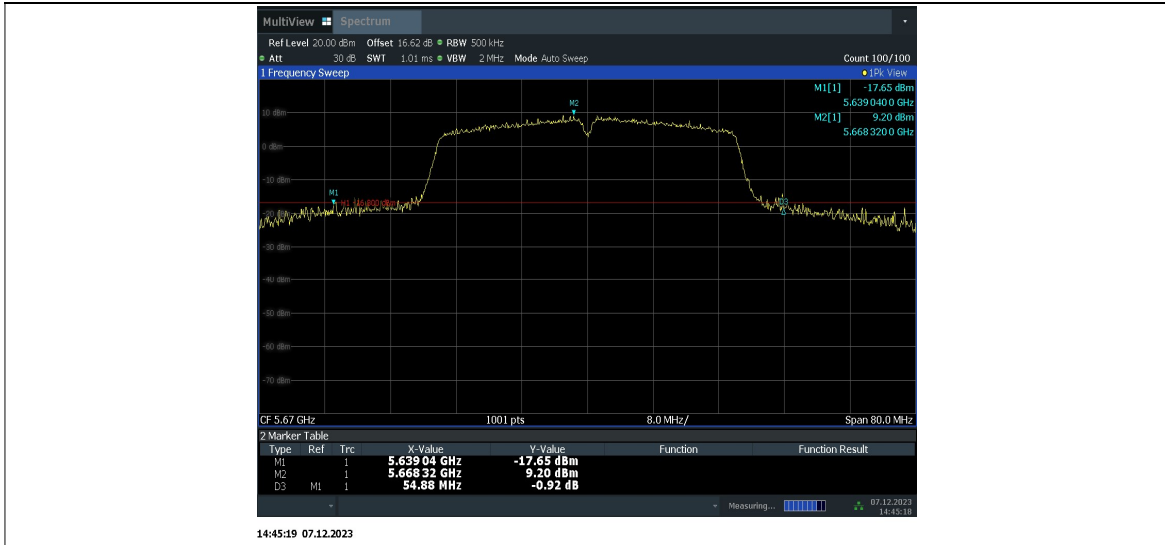
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11N40SISO_Ant1_5550



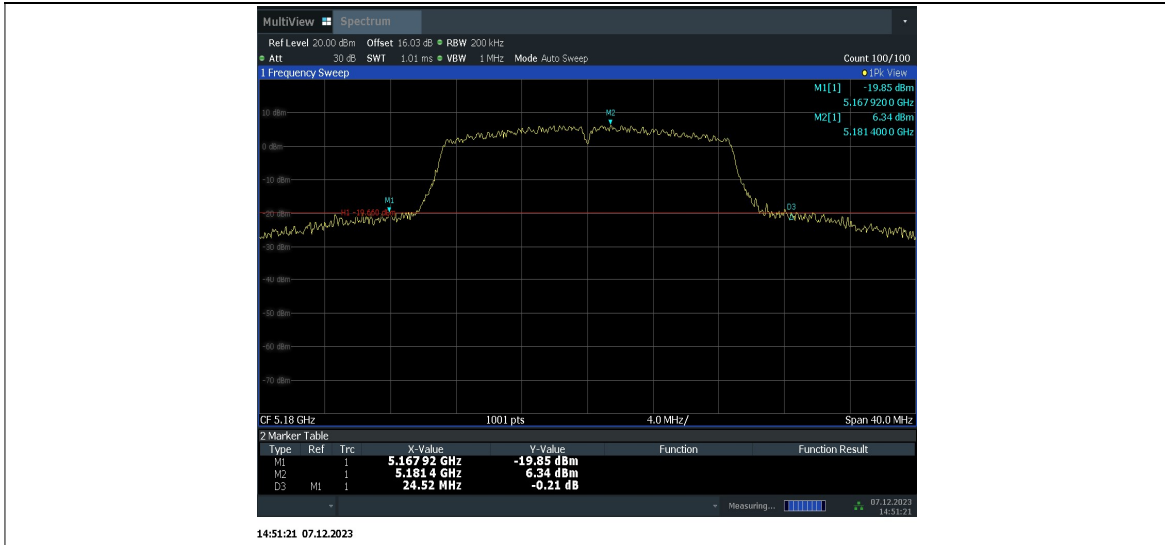
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11N40SISO_Ant1_5710



11AC20SISO_Ant1_5180



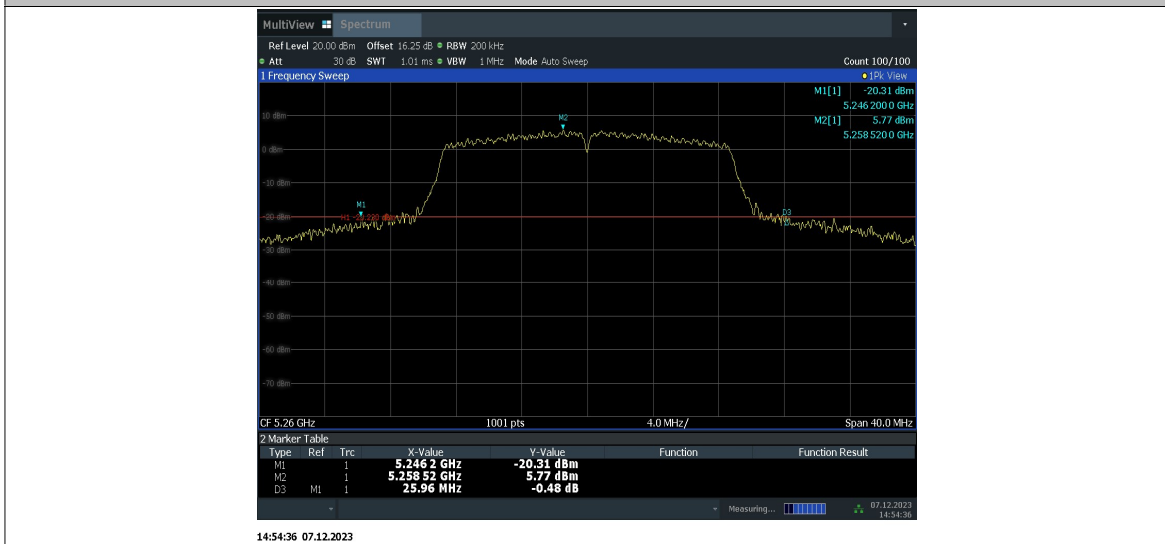
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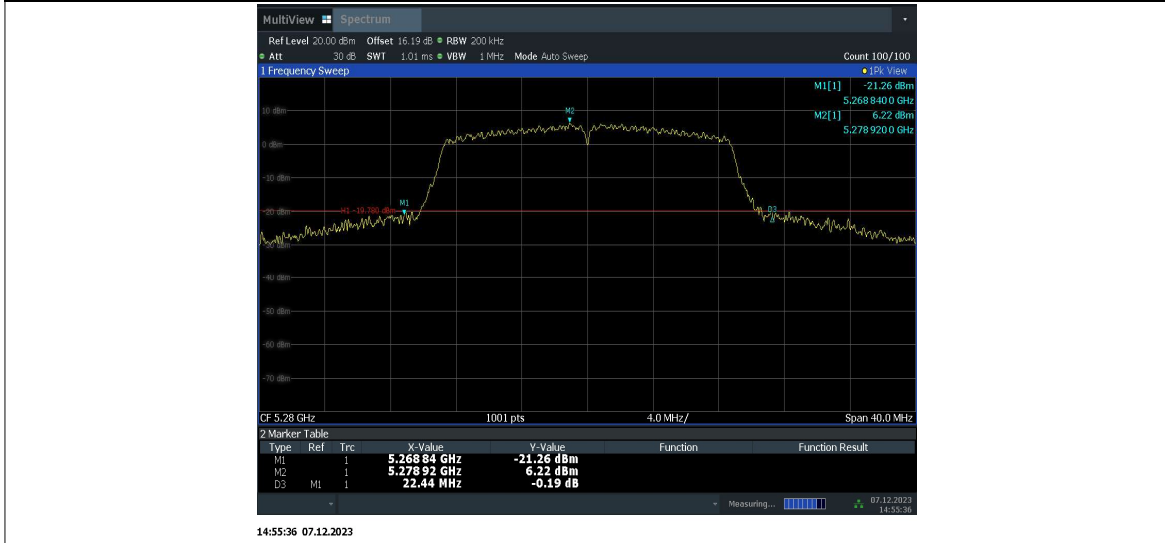
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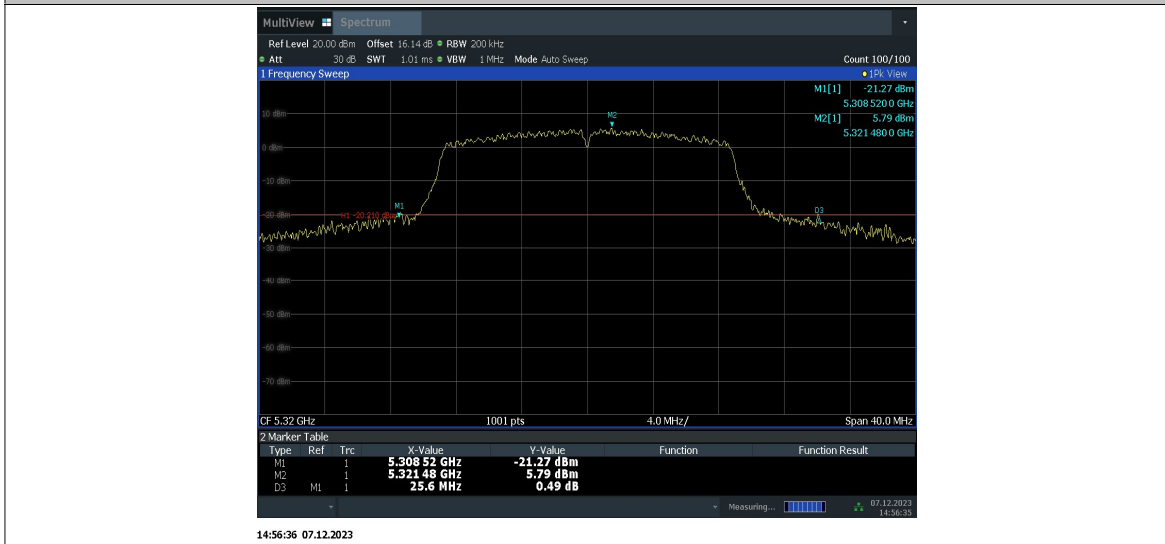
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11AC20SISO_Ant1_5280



11AC20SISO_Ant1_5320



11AC20SISO_Ant1_5500



11AC20SISO_Ant1_5580



11AC20SISO_Ant1_5700