



FCC RF Test Report

FCC ID : UZ7TC2205
EQUIPMENT : Touch Computer
BRAND NAME : Zebra
MODEL NAME : TC2205
APPLICANT : Zebra Technologies Corporation
3 Overlook Point, Lincolnshire, IL 60069 USA
MANUFACTURER : Zebra Technologies Corporation
3 Overlook Point, Lincolnshire, IL 60069 USA
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : 15E 6 GHz Low Power Dual Client (6CD)
(Standard Power UNII 5/7)
TEST DATE(S) : Apr. 30, 2025 ~ May 05, 2025

We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

This report contains data that were produced under subcontract by Sporton International Inc. (ShenZhen)

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Kunshan), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia



Sporton International Inc. (Kunshan)

**No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China**



Table of Contents

1	General Description	5
1.1	Product Feature of Equipment Under Test.....	5
1.2	Product Specification of Equipment Under Test.....	6
1.3	Modification of EUT	7
1.4	Testing Location	7
1.5	Test Software.....	8
1.6	Applicable Standards.....	8
2	Test Configuration of Equipment Under Test	9
2.1	Carrier Frequency and Channel	9
2.2	Test Mode.....	11
2.3	Connection Diagram of Test System.....	12
2.4	Support Unit used in test configuration and system	13
2.5	EUT Operation Test Setup	13
2.6	Measurement Results Explanation Example.....	13
3	Test Result	14
3.1	26dB & 99% Occupied Bandwidth Measurement	14
3.2	Maximum conducted Output Power and Fundamental Maximum EIRP Measurement.....	15
3.3	Fundamental Power Spectral Density Measurement	20
3.4	In-Band Emissions (Channel Mask)	22
3.5	Unwanted Emissions Measurement.....	24
3.6	AC Conducted Emission Measurement.....	28
3.7	Antenna Requirements.....	30
4	List of Measuring Equipment.....	33
5	Measurement Uncertainty	34
	Appendix A. Conducted Test Results	
	Appendix B. AC Conducted Emission Test Result	
	Appendix C. Radiated Spurious Emission	
	Appendix D. Duty Cycle Plots	
	Appendix E. Setup Photographs	



History of this test report

Report No.	Version	Description	Issued Date
FR522405G	01	Initial issue of report	Aug. 11, 2025

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.407(a)(11)	26dB Emission Bandwidth	Pass	-
3.1	2.1049	99% Occupied Bandwidth	Pass	-
3.2	15.407(a)(7)	Maximum Conducted Output Power	Reporting only	-
3.2	15.407(a)(7)	Fundamental Maximum EIRP	Pass	-
3.3	15.407(a)(7)	Fundamental Power Spectral Density	Pass	-
3.4	15.407(b)(7)	In-Band Emissions (Channel Mask)	Pass	-
-	15.407(d)(6)	Contention Based Protocol	Pass	1
3.5	15.407(b)	Unwanted Emissions	Pass	Under limit 2.51 dB at 5918.28 MHz
3.6	15.207	AC Conducted Emission	Pass	Under limit 10.24 dB at 0.160 MHz
3.7	15.203 15.407(a)	Antenna Requirement	Pass	-

Remark 1: For CBP, receiver circuit is the same when connect to indoor AP and standard AP, the Contention Based Protocol have been demonstrated compliance in the Indoor low power test report which is issued separately (Report No. FR480204H).

Conformity Assessment Condition:	
1.	The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacture who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2.	The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty"
Disclaimer:	
The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.	



1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Touch Computer
Brand Name	Zebra
Model Name	TC2205
FCC ID	UZ7TC2205
SN Code	Conducted: 250195247E0040 Conduction: 250875247E0058 Radiation: 250875247E0050
HW Version	EV2
SW Version	14-27-30.00-UG-U00-PRD-ATH-04
MFD	30MAR25
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

Specification of Accessory				
Battery	Brand Name	Zebra	Part Number	BT-000380-05

Supported Unit used in test configuration and system				
AC Adapter 1 (USB A) USB Wall Charger	Brand Name	Zebra	Part Number	PWR-WUA5V12W0US
AC Adapter 2 (USB C) USB Wall Charger	Brand Name	Zebra	Part Number	PWR-WUA5V45W1US
Earphone (USB-C Audio Headset)	Brand Name	Zebra	Part Number	HDST-USBC-PTT1-01
USB Cable 1 (Type A to Type C)	Brand Name	Zebra	Part Number	CBL-TC5X-USBC2A-01
USB Cable 2 (Type C to Type C)	Brand Name	Zebra	Part Number	CBL-EC5X-USBC3A-01

1.2 Product Specification of Equipment Under Test

Standards-related Product Specification			
Tx/Rx Frequency Range	U-NII-5: 5945 MHz ~ 6425 MHz U-NII-7: 6525 MHz ~ 6875 MHz		
Maximum EIRP	<MIMO Ant.0+1> <U-NII-5> 802.11a : 18.37 dBm / 0.0687 W 802.11ax HE20 : 18.27 dBm / 0.0671 W 802.11ax HE40 : 18.22 dBm / 0.0664 W 802.11ax HE80 : 18.56 dBm / 0.0718 W 802.11ax HE160 : 18.26 dBm / 0.0670 W <U-NII-7> 802.11a : 15.73 dBm / 0.0374 W 802.11ax HE20 : 15.68 dBm / 0.0370 W 802.11ax HE40 : 15.44 dBm / 0.0350 W 802.11ax HE80 : 15.51 dBm / 0.0356 W 802.11ax HE160 : 15.31 dBm / 0.0340 W		
99% Occupied Bandwidth	<U-NII-5> 802.11a : 16.74 MHz 802.11ax HE20 : 19.07 MHz 802.11ax HE40 : 38.02 MHz 802.11ax HE80 : 77.56 MHz 802.11ax HE160 : 157.11 MHz <U-NII-7> 802.11a : 16.74 MHz 802.11ax HE20 : 19.07 MHz 802.11ax HE40 : 37.94 MHz 802.11ax HE80 : 77.56 MHz 802.11ax HE160 : 157.11 MHz		
Antenna Type / Gain	<5945 MHz ~ 6425 MHz > <Ant. 0>: IFA Antenna with gain 3.38 dBi <Ant. 1>: IFA Antenna with gain 3.14 dBi <6525 MHz ~ 6875 MHz > <Ant. 0>: IFA Antenna with gain 2.55 dBi <Ant. 1>: IFA Antenna with gain 2.69 dBi		
Type of Modulation	802.11a : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ax : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM / 1024QAM)		
Antenna Function Description		Ant. 0	Ant. 1
	802.11 a/ax SISO	V	V
	802.11 a/ax CDD	V	
	802.11 ax SDM/TXBF	V	

Remark:

1. WIFI MIMO support CDD mode for 802.11a, and support CDD & SDM & TXBF mode for 802.11ax.
2. For WLAN SISO & MIMO(CDD) mode of 802.11a, the whole testing has assessed CDD mode by referring to the higher normal conducted power.
3. For WLAN SISO & MIMO(CDD) & MIMO(TXBF) mode of 802.11ax, CDD mode conducted power is set to 3dB higher than TXBF mode, since the maximum array gain for a two antennas system is 3dB, the whole testing has assessed CDD mode by referring to the higher output power.



4. For WLAN SISO & MIMO(CDD) & MIMO(SDM) mode of 802.11ax, the whole testing has assessed CDD mode by referring to the higher output power.
5. 802.11ax support OFDMA full RU tone and partial RU tone, both full RU and partial RU-left (for low CH) and partial RU-right (for high CH) test output power, the full RU power/PSD > partial RU, therefore the full RU perform full test, and partial RU verify bandedge/spurious.
6. The EUT does not support channel puncturing mode.
7. The device does not support UNII-5 CH 2.
8. The device supports 1S2T (CDD) and 2S2T (SDM) mode; 1S2T: Nss=1, MIMO 2Tx; 2S2T: Nss=2, MIMO 2Tx.

1.3 Modification of EUT

No modifications are made to the EUT during all test items.

1.4 Testing Location

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	03CH08-KS TH01-KS	CN1257	314309

Sporton International Inc. (ShenZhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International Inc. (ShenZhen)		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City, Guangdong Province 518103 People's Republic of China TEL: +86-755-86066985		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	CO02-SZ	CN1256	421272

Note: Test data subcontracted: Conduction test case in section 3.6 of this report



1.5 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH08-KS	AUDIX	E3	6.2009-8-24al
2.	CO02-SZ	AUDIX	E3	6.120613b

1.6 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ FCC Part 15 Subpart E
- ♦ FCC KDB 987594 D02 U-NII 6 GHz EMC Measurement v03
- ♦ FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01.
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ♦ ANSI C63.10-2013

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.



2 Test Configuration of Equipment Under Test

- a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report.
- b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency and Channel

<U-NII-5>

BW 20M	Channel	1	5	9	13	17	21	25	29
	Freq. (MHz)	5955	5975	5995	6015	6035	6055	6075	6095
BW 40M	Channel	3		11		19		27	
	Freq. (MHz)	5965		6005		6045		6085	
BW 80M	Channel	7				23			
	Freq. (MHz)	5985				6065			
BW 160M	Channel	15							
	Freq. (MHz)	6025							

BW 20M	Channel	33	37	41	45	49	53	57	61
	Freq. (MHz)	6115	6135	6155	6175	6195	6215	6235	6255
BW 40M	Channel	35		43		51		59	
	Freq. (MHz)	6125		6165		6205		6245	
BW 80M	Channel	39				55			
	Freq. (MHz)	6145				6225			
BW 160M	Channel	47							
	Freq. (MHz)	6185							

BW 20M	Channel	65	69	73	77	81	85	89	93
	Freq. (MHz)	6275	6295	6315	6335	6355	6375	6395	6415
BW 40M	Channel	67		75		83		91	
	Freq. (MHz)	6285		6325		6365		6405	
BW 80M	Channel	71				87			
	Freq. (MHz)	6305				6385			
BW 160M	Channel	79							
	Freq. (MHz)	6345							



<U-NII-7>

BW 20M	Channel	-	-	-	-	-	117	121	125
	Freq. (MHz)	-	-	-	-	-	6535	6555	6575
BW 40M	Channel	-		-		-		123	
	Freq. (MHz)	-		-		-		6565	

BW 20M	Channel	129	133	137	141	145	149	153	157
	Freq. (MHz)	6595	6615	6635	6655	6675	6695	6715	6735
BW 40M	Channel	131		139		147		155	
	Freq. (MHz)	6605		6645		6685		6725	
BW 80M	Channel	135				151			
	Freq. (MHz)	6625				6705			
BW 160M	Channel	143							
	Freq. (MHz)	6665							

BW 20M	Channel	161	165	169	173	177	181	-	-
	Freq. (MHz)	6755	6775	6795	6815	6835	6855	-	-
BW 40M	Channel	163		171		179		-	
	Freq. (MHz)	6765		6805		6845		-	
BW 80M	Channel	167				-			
	Freq. (MHz)	6785				-			

2.2 Test Mode

Final test modes are considering the modulation and worse data rates as below table.

Modulation	Data Rate
802.11a	6 Mbps
802.11ax HE20	MCS0
802.11ax HE40	MCS0
802.11ax HE80	MCS0
802.11ax HE160	MCS0

Test Cases	
AC Conducted Emission	Mode 1 : WLAN 6G Link + Bluetooth Link + H Pattern + USB cable 1 data link with Notebook + NB USB Data Link to EUT (SD) + Battery

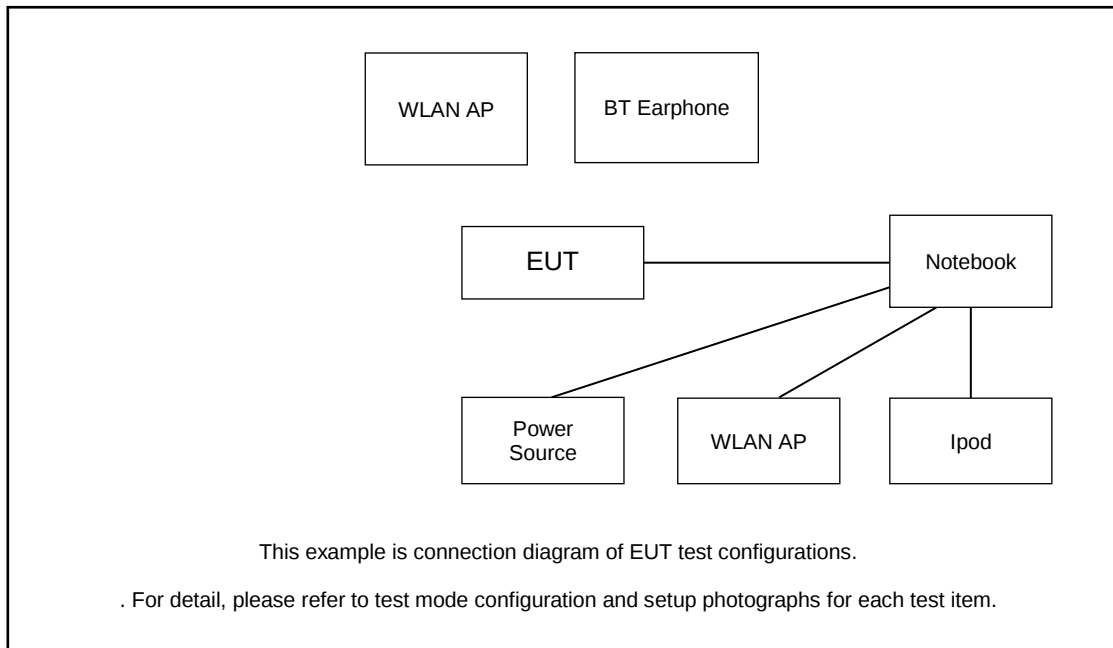
Ch. #		5945-6425 MHz UNII-5	6525-6875 MHz UNII-7	5945-6425 MHz UNII-5	6525-6875 MHz UNII-7
		802.11a/ax HE20	802.11a/ax HE20	802.11ax HE40	802.11ax HE40
L	Low	001	117	003	123
M	Middle	045	149	051	147
H	High	093	181	091	179

Ch. #		5945-6425 MHz UNII-5	6525-6875 MHz UNII-7	5945-6425 MHz UNII-5	6525-6875 MHz UNII-7
		802.11ax HE80	802.11ax HE80	802.11ax HE160	802.11ax HE160
L	Low	007	135	015	143
M	Middle	055	151	047	
H	High	087	167	079	

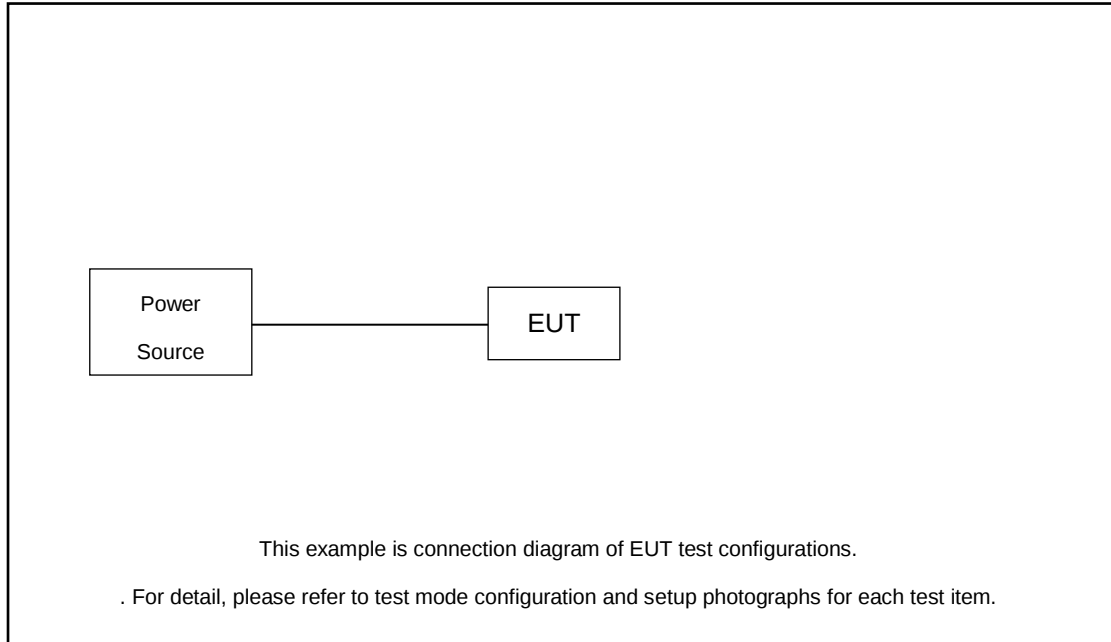
Remark: For radiation spurious emission, the final modulation and the worst data rate was reference the max RF conducted power.

2.3 Connection Diagram of Test System

AC Conducted Emission:



Radiated Emission:



2.4 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Notebook	DELL	Latiude 3400	N/A	N/A	Unshielded,1.8m
2.	Ipod	Apple	MC69029/A	N/A	N/A	N/A
3.	SD Card	N/A	MicroSD HC	FCC DoC	N/A	N/A
4.	Bluetooth Earphone	Samsung	EO-MG900	PYAHS-107W	N/A	N/A
5.	WLAN AP	NETHEAR	RAXE500	PY320300508	N/A	Unshielded,1.8m

2.5 EUT Operation Test Setup

For WLAN RF test items, an engineering test program (QRCT TX Tool) was provided and enabled to make EUT continuously transmit.

For AC power line conducted emissions, the EUT was set to connect with the WLAN AP under large package sizes transmission.

2.6 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example :

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 5.59 dB and 20dB attenuator.

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)} \\ &= 5.59 + 20 = 25.59 \text{ (dB)}\end{aligned}$$

3 Test Result

3.1 26dB & 99% Occupied Bandwidth Measurement

3.1.1 CFR 15.407 (a)(11)

The maximum transmitter channel bandwidth for U-NII devices in the 5.925-7.125 GHz band is 320 megahertz.

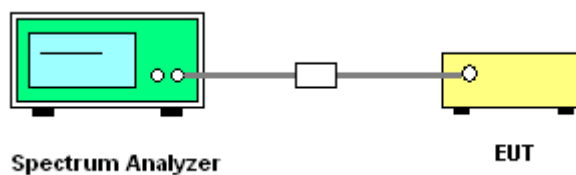
3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section C) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
7. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1-5% of the emission bandwidth and set the Video bandwidth (VBW) $\geq 3 * RBW$.
8. Measure and record the results in the test report.

3.1.4 Test Setup



3.1.5 Test Result of 26dB & 99% Occupied Bandwidth

Please refer to Appendix A.

3.2 Maximum conducted Output Power and Fundamental Maximum EIRP Measurement

3.2.1 Limit of Fundamental Maximum EIRP

<FCC 14-30 CFR 15.407>

(a)(7) For client devices, except for fixed client devices as defined in this subpart, operating under the control of a standard power access point in 5.925-6.425 GHz and 6.525-6.875 GHz bands, the maximum e.i.r.p. over the frequency band of operation must not exceed 30 dBm and the device must limit its power to no more than 6 dB below its associated standard power access point's authorized transmit power.

3.2.2 Measuring Instruments

See list of measuring equipment of this test report.

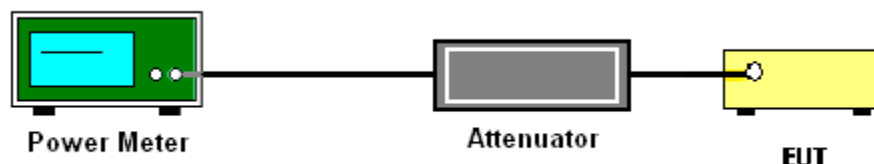
3.2.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

Method PM (Measurement using an RF average power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit continuously with a consistent duty cycle at its maximum power control level.
3. Measure the average power of the transmitter, and the average power is corrected with duty factor, $10 \log(1/x)$, where x is the duty cycle.
4. For MIMO mode, the measure-and-sum technique should be used for measuring the in-band transmit power of a device.

3.2.4 Test Setup





3.2.5 Test Result of Fundamental Maximum EIRP

<SDM mode>

U-NII 5 MIMO																	
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
						Ant 0	Ant 1	Ant 0	Ant 1	SUM	Ant 0	Ant 1				SUM	Ant 0
HE20	MCS0	2	001	5955	Full	0.00	0.00	10.74	11.09	13.93	3.38	17.31	30.00	Pass	12		
HE20	MCS0	2	001	5955	26/0	0.00	0.00	1.05	2.64	4.93	3.38	8.31	30.00	Pass	2		
HE20	MCS0	2	001	5955	52/37	0.00	0.00	3.99	5.33	7.72	3.38	11.10	30.00	Pass	5		
HE20	MCS0	2	001	5955	106/53	0.00	0.00	6.90	8.20	10.61	3.38	13.99	30.00	Pass	8		
HE20	MCS0	2	049	6195	Full	0.00	0.00	11.59	12.04	14.83	3.38	18.21	30.00	Pass	12		
HE20	MCS0	2	049	6195	26/0	0.00	0.00	1.14	3.53	5.51	3.38	8.89	30.00	Pass	3		
HE20	MCS0	2	049	6195	52/37	0.00	0.00	3.78	6.47	8.34	3.38	11.72	30.00	Pass	6		
HE20	MCS0	2	049	6195	106/53	0.00	0.00	6.84	9.36	11.29	3.38	14.67	30.00	Pass	9		
HE20	MCS0	2	093	6415	Full	0.00	0.00	10.30	12.18	14.35	3.38	17.73	30.00	Pass	12		
HE20	MCS0	2	093	6415	26/8	0.00	0.00	0.64	1.06	3.87	3.38	7.25	30.00	Pass	5		
HE20	MCS0	2	093	6415	52/40	0.00	0.00	3.67	3.97	6.83	3.38	10.21	30.00	Pass	8		
HE20	MCS0	2	093	6415	106/54	0.00	0.00	6.61	6.96	9.80	3.38	13.18	30.00	Pass	11		
HE40	MCS0	2	003	5965	Full	0.00	0.00	10.77	11.22	14.01	3.38	17.39	30.00	Pass	12		
HE40	MCS0	2	003	5965	242/61	0.00	0.00	7.84	8.84	11.38	3.38	14.76	30.00	Pass	8.5		
HE40	MCS0	2	051	6205	Full	0.00	0.00	11.55	11.99	14.79	3.38	18.17	30.00	Pass	12		
HE40	MCS0	2	051	6205	242/61	0.00	0.00	7.85	10.02	12.08	3.38	15.46	30.00	Pass	10		
HE40	MCS0	2	091	6405	Full	0.00	0.00	10.14	12.02	14.19	3.38	17.57	30.00	Pass	12		
HE40	MCS0	2	091	6405	242/62	0.00	0.00	8.80	8.22	11.53	3.38	14.91	30.00	Pass	11		
HE80	MCS0	2	007	5985	Full	0.00	0.00	11.07	11.45	14.27	3.38	17.65	30.00	Pass	12		
HE80	MCS0	2	007	5985	484/65	0.04	0.04	8.28	9.42	11.90	3.38	15.28	30.00	Pass	9		
HE80	MCS0	2	055	6225	Full	0.00	0.00	11.98	12.24	15.12	3.38	18.50	30.00	Pass	12		
HE80	MCS0	2	055	6225	484/65	0.04	0.04	7.81	10.38	12.30	3.38	15.68	30.00	Pass	9		
HE80	MCS0	2	087	6385	Full	0.00	0.00	10.54	12.09	14.39	3.38	17.77	30.00	Pass	12		
HE80	MCS0	2	087	6385	484/66	0.04	0.04	8.75	8.47	11.63	3.38	15.01	30.00	Pass	11		
HE160	MCS0	2	015	6025	Full	0.03	0.03	11.15	11.63	14.41	3.38	17.79	30.00	Pass	12		
HE160	MCS0	2	015	6025	996/67	0.05	0.05	8.40	9.97	12.26	3.38	15.64	30.00	Pass	9.5		
HE160	MCS0	2	047	6185	Full	0.03	0.03	11.79	11.85	14.83	3.38	18.21	30.00	Pass	12		
HE160	MCS0	2	047	6185	996/67	0.05	0.05	8.64	10.40	12.61	3.38	15.99	30.00	Pass	10		
HE160	MCS0	2	079	6345	Full	0.03	0.03	11.16	12.30	14.78	3.38	18.16	30.00	Pass	12		
HE160	MCS0	2	079	6345	996/S67	0.05	0.05	7.54	8.20	10.89	3.38	14.27	30.00	Pass	10.5		



U-NII 7 MIMO																	
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
						Ant 0	Ant 1	Ant 0	Ant 1	SUM	Ant 0	Ant 1				SUM	Ant 0
HE20	MCS2	2	117	6535	Full	0.00	0.00	8.63	10.92	12.93	2.69	15.62	30.00	Pass	11		
HE20	MCS2	2	117	6535	26/0	0.00	0.00	0.46	0.36	3.42	2.69	6.11	30.00	Pass	1.5		
HE20	MCS2	2	117	6535	52/37	0.00	0.00	3.67	3.42	6.56	2.69	9.25	30.00	Pass	5		
HE20	MCS2	2	117	6535	106/53	0.00	0.00	6.79	6.41	9.61	2.69	12.30	30.00	Pass	8		
HE20	MCS2	2	149	6695	Full	0.00	0.00	8.02	10.70	12.57	2.69	15.26	30.00	Pass	12		
HE20	MCS2	2	149	6695	26/0	0.00	0.00	-1.57	-0.40	2.06	2.69	4.75	30.00	Pass	0.5		
HE20	MCS2	2	149	6695	52/37	0.00	0.00	2.81	2.55	5.69	2.69	8.38	30.00	Pass	3.5		
HE20	MCS2	2	149	6695	106/53	0.00	0.00	5.75	5.48	8.63	2.69	11.32	30.00	Pass	6.5		
HE20	MCS2	2	181	6855	Full	0.00	0.00	8.67	10.10	12.45	2.69	15.14	30.00	Pass	12		
HE20	MCS2	2	181	6855	26/8	0.00	0.00	0.69	0.39	3.55	2.69	6.24	30.00	Pass	1		
HE20	MCS2	2	181	6855	52/40	0.00	0.00	3.66	3.05	6.38	2.69	9.07	30.00	Pass	4		
HE20	MCS2	2	181	6855	106/54	0.00	0.00	6.69	5.76	9.26	2.69	11.95	30.00	Pass	7		
HE40	MCS1	2	123	6565	Full	0.00	0.00	8.54	10.56	12.68	2.69	15.37	30.00	Pass	11.5		
HE40	MCS1	2	123	6565	242/61	0.00	0.00	7.50	6.72	10.14	2.69	12.83	30.00	Pass	8.5		
HE40	MCS1	2	147	6685	Full	0.00	0.00	8.24	10.54	12.55	2.69	15.24	30.00	Pass	12		
HE40	MCS1	2	147	6685	242/61	0.00	0.00	7.71	7.57	10.65	2.69	13.34	30.00	Pass	8.5		
HE40	MCS1	2	179	6845	Full	0.00	0.00	8.55	9.67	12.16	2.69	14.85	30.00	Pass	12		
HE40	MCS1	2	179	6845	242/62	0.00	0.00	7.68	5.90	9.89	2.69	12.58	30.00	Pass	7.5		
HE80	MCS0	2	135	6625	Full	0.00	0.00	8.91	10.49	12.78	2.69	15.47	30.00	Pass	12		
HE80	MCS0	2	135	6625	484/65	0.04	0.04	7.93	7.23	10.61	2.69	13.30	30.00	Pass	8.5		
HE80	MCS0	2	151	6705	Full	0.00	0.00	8.04	10.33	12.34	2.69	15.03	30.00	Pass	12		
HE80	MCS0	2	151	6705	484/65	0.04	0.04	6.81	6.77	9.80	2.69	12.49	30.00	Pass	7.5		
HE80	MCS0	2	167	6785	Full	0.00	0.00	8.55	9.79	12.22	2.69	14.91	30.00	Pass	12		
HE80	MCS0	2	167	6785	484/66	0.04	0.04	7.23	5.59	9.50	2.69	12.19	30.00	Pass	7		
HE160	MCS0	2	143	6665	Full	0.03	0.03	8.52	10.42	12.58	2.69	15.27	30.00	Pass	12		
HE160	MCS0	2	143	6665	996/S67	0.05	0.05	7.13	8.92	11.12	2.69	13.81	30.00	Pass	10.5		



<CDD mode>

U-NII 5 MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
					Ant 0	Ant 1	Ant 0	Ant 1	SUM	Ant 0	Ant 1				SUM	Ant 0
11a	6Mbps	2	001	5955	0.03	0.03	10.88	11.25	14.08	3.38		17.46	30.00	Pass	12	
11a	6Mbps	2	049	6195	0.03	0.03	11.75	12.19	14.99	3.38		18.37	30.00	Pass	12	
11a	6Mbps	2	093	6415	0.03	0.03	10.60	12.25	14.51	3.38		17.89	30.00	Pass	12	

U-NII 5 MIMO																	
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
						Ant 0	Ant 1	Ant 0	Ant 1	SUM	Ant 0	Ant 1				SUM	Ant 0
HE20	MCS0	2	001	5955	Full	0.00	0.00	10.83	11.18	14.02	3.38	17.40	30.00	Pass	12		
HE20	MCS0	2	001	5955	26/0	0.00	0.00	1.14	2.72	5.01	3.38	8.39	30.00	Pass	2		
HE20	MCS0	2	001	5955	52/37	0.00	0.00	4.02	5.44	7.80	3.38	11.18	30.00	Pass	5		
HE20	MCS0	2	001	5955	106/53	0.00	0.00	6.94	8.29	10.68	3.38	14.06	30.00	Pass	8		
HE20	MCS0	2	049	6195	Full	0.00	0.00	11.67	12.08	14.89	3.38	18.27	30.00	Pass	12		
HE20	MCS0	2	049	6195	26/0	0.00	0.00	1.18	3.61	5.57	3.38	8.95	30.00	Pass	3		
HE20	MCS0	2	049	6195	52/37	0.00	0.00	3.85	6.56	8.42	3.38	11.80	30.00	Pass	6		
HE20	MCS0	2	049	6195	106/53	0.00	0.00	6.88	9.42	11.34	3.38	14.72	30.00	Pass	9		
HE20	MCS0	2	093	6415	Full	0.00	0.00	10.37	12.21	14.40	3.38	17.78	30.00	Pass	12		
HE20	MCS0	2	093	6415	26/8	0.00	0.00	0.74	1.17	3.97	3.38	7.35	30.00	Pass	5		
HE20	MCS0	2	093	6415	52/40	0.00	0.00	3.72	4.07	6.91	3.38	10.29	30.00	Pass	8		
HE20	MCS0	2	093	6415	106/54	0.00	0.00	6.68	7.01	9.86	3.38	13.24	30.00	Pass	11		
HE40	MCS0	2	003	5965	Full	0.00	0.00	10.82	11.29	14.07	3.38	17.45	30.00	Pass	12		
HE40	MCS0	2	003	5965	242/61	0.00	0.00	7.91	8.88	11.43	3.38	14.81	30.00	Pass	8.5		
HE40	MCS0	2	051	6205	Full	0.00	0.00	11.62	12.03	14.84	3.38	18.22	30.00	Pass	12		
HE40	MCS0	2	051	6205	242/61	0.00	0.00	7.87	10.06	12.11	3.38	15.49	30.00	Pass	10		
HE40	MCS0	2	091	6405	Full	0.00	0.00	10.21	12.06	14.24	3.38	17.62	30.00	Pass	12		
HE40	MCS0	2	091	6405	242/62	0.00	0.00	8.83	8.28	11.57	3.38	14.95	30.00	Pass	11		
HE80	MCS0	2	007	5985	Full	0.00	0.00	11.09	11.52	14.32	3.38	17.70	30.00	Pass	12		
HE80	MCS0	2	007	5985	484/65	0.04	0.04	8.32	9.46	11.94	3.38	15.32	30.00	Pass	9		
HE80	MCS0	2	055	6225	Full	0.00	0.00	12.06	12.27	15.18	3.38	18.56	30.00	Pass	12		
HE80	MCS0	2	055	6225	484/65	0.04	0.04	7.89	10.41	12.35	3.38	15.73	30.00	Pass	9		
HE80	MCS0	2	087	6385	Full	0.00	0.00	10.61	12.14	14.45	3.38	17.83	30.00	Pass	12		
HE80	MCS0	2	087	6385	484/66	0.04	0.04	8.77	8.52	11.66	3.38	15.04	30.00	Pass	11		
HE160	MCS0	2	015	6025	Full	0.03	0.03	11.22	11.70	14.48	3.38	17.86	30.00	Pass	12		
HE160	MCS0	2	015	6025	996/67	0.05	0.05	8.48	10.04	12.34	3.38	15.72	30.00	Pass	9.5		
HE160	MCS0	2	047	6185	Full	0.03	0.03	11.86	11.89	14.88	3.38	18.26	30.00	Pass	12		
HE160	MCS0	2	047	6185	996/67	0.05	0.05	8.71	10.43	12.66	3.38	16.04	30.00	Pass	10		
HE160	MCS0	2	079	6345	Full	0.03	0.03	11.24	12.34	14.83	3.38	18.21	30.00	Pass	12		
HE160	MCS0	2	079	6345	996/S67	0.05	0.05	7.57	8.24	10.92	3.38	14.30	30.00	Pass	10.5		



U-NII 7 MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
					Ant 0	Ant 1	Ant 0	Ant 1	SUM	Ant 0	Ant 1				SUM	Ant 0
11a	6Mbps	2	117	6535	0.03	0.03	8.56	11.12	13.04	2.69		15.73	30.00	Pass	11	
11a	6Mbps	2	149	6695	0.03	0.03	8.38	10.86	12.80	2.69		15.49	30.00	Pass	12	
11a	6Mbps	2	181	6855	0.03	0.03	8.69	10.12	12.47	2.69		15.16	30.00	Pass	12	

U-NII 7 MIMO																	
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)		Conducted Power with duty factor (dBm)			DG (dBi)		EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	Power Setting	
						Ant 0	Ant 1	Ant 0	Ant 1	SUM	Ant 0	Ant 1				SUM	Ant 0
HE20	MCS0	2	117	6535	Full	0.00	0.00	8.66	10.99	12.99	2.69		15.68	30.00	Pass	11	
HE20	MCS0	2	117	6535	26/0	0.00	0.00	0.56	0.41	3.50	2.69		6.19	30.00	Pass	1.5	
HE20	MCS0	2	117	6535	52/37	0.00	0.00	3.76	3.52	6.65	2.69		9.34	30.00	Pass	5	
HE20	MCS0	2	117	6535	106/53	0.00	0.00	6.88	6.52	9.71	2.69		12.40	30.00	Pass	8	
HE20	MCS0	2	149	6695	Full	0.00	0.00	8.08	10.76	12.63	2.69		15.32	30.00	Pass	12	
HE20	MCS0	2	149	6695	26/0	0.00	0.00	-1.51	-0.34	2.12	2.69		4.81	30.00	Pass	0.5	
HE20	MCS0	2	149	6695	52/37	0.00	0.00	2.88	2.65	5.78	2.69		8.47	30.00	Pass	3.5	
HE20	MCS0	2	149	6695	106/53	0.00	0.00	5.85	5.51	8.69	2.69		11.38	30.00	Pass	6.5	
HE20	MCS0	2	181	6855	Full	0.00	0.00	8.72	10.17	12.52	2.69		15.21	30.00	Pass	12	
HE20	MCS0	2	181	6855	26/8	0.00	0.00	0.79	0.43	3.62	2.69		6.31	30.00	Pass	1	
HE20	MCS0	2	181	6855	52/40	0.00	0.00	3.76	3.08	6.44	2.69		9.13	30.00	Pass	4	
HE20	MCS0	2	181	6855	106/54	0.00	0.00	6.77	5.85	9.34	2.69		12.03	30.00	Pass	7	
HE40	MCS0	2	123	6565	Full	0.00	0.00	8.62	10.63	12.75	2.69		15.44	30.00	Pass	11.5	
HE40	MCS0	2	123	6565	242/61	0.00	0.00	7.53	6.75	10.17	2.69		12.86	30.00	Pass	8.5	
HE40	MCS0	2	147	6685	Full	0.00	0.00	8.26	10.58	12.58	2.69		15.27	30.00	Pass	12	
HE40	MCS0	2	147	6685	242/61	0.00	0.00	7.74	7.62	10.69	2.69		13.38	30.00	Pass	8.5	
HE40	MCS0	2	179	6845	Full	0.00	0.00	8.57	9.75	12.21	2.69		14.90	30.00	Pass	12	
HE40	MCS0	2	179	6845	242/62	0.00	0.00	7.76	5.96	9.96	2.69		12.65	30.00	Pass	7.5	
HE80	MCS0	2	135	6625	Full	0.00	0.00	8.97	10.52	12.82	2.69		15.51	30.00	Pass	12	
HE80	MCS0	2	135	6625	484/65	0.04	0.04	7.98	7.32	10.68	2.69		13.37	30.00	Pass	8.5	
HE80	MCS0	2	151	6705	Full	0.00	0.00	8.06	10.41	12.40	2.69		15.09	30.00	Pass	12	
HE80	MCS0	2	151	6705	484/65	0.04	0.04	6.90	6.82	9.88	2.69		12.57	30.00	Pass	7.5	
HE80	MCS0	2	167	6785	Full	0.00	0.00	8.59	9.86	12.28	2.69		14.97	30.00	Pass	12	
HE80	MCS0	2	167	6785	484/66	0.04	0.04	7.27	5.65	9.55	2.69		12.24	30.00	Pass	7	
HE160	MCS0	2	143	6665	Full	0.03	0.03	8.58	10.44	12.62	2.69		15.31	30.00	Pass	12	
HE160	MCS0	2	143	6665	996/S67	0.05	0.05	7.17	8.98	11.17	2.69		13.86	30.00	Pass	10.5	



3.3 Fundamental Power Spectral Density Measurement

3.3.1 Limit of Fundamental Power Spectral Density

<FCC 14-30 CFR 15.407>

(a)(7) For client devices, except for fixed client devices as defined in this subpart, operating under the control of a standard power access point in 5.925-6.425 GHz and 6.525-6.875 GHz bands, the maximum power spectral density must not exceed 17 dBm e.i.r.p. in any 1-megahertz band.

3.3.2 Measuring Instruments

See list of measuring equipment of this test report.

3.3.3 Test Procedures

The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
Section F) Maximum power spectral density.

Method SA-2

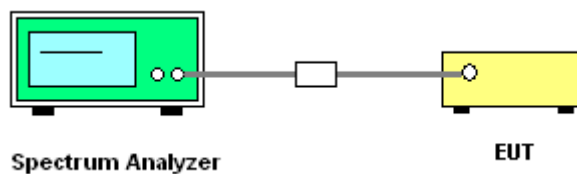
(trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

- Measure the duty cycle.
 - Set span to encompass the entire emission bandwidth (EBW) of the signal.
 - Set RBW = 1 MHz.
 - Set VBW $\geq$ 3 MHz.
 - Number of points in sweep $\geq$ 2 Span / RBW.
 - Sweep time = auto.
 - Detector = RMS
 - Trace average at least 100 traces in power averaging mode.
 - Add $10 \log(1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add $10 \log(1/0.25) = 6$ dB if the duty cycle is 25 percent.
1. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
 2. Each plot has already offset with cable loss, attenuator loss and duty factor. Measure the PSD and record it.
 3. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

Method (b): Measure and sum spectral maxima across the outputs.

The measurement on each individual output were performed with the same span and number on each individual output. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs.

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

3.4 In-Band Emissions (Channel Mask)

3.4.1 Limit of Unwanted Emissions

<FCC 14-30 CFR 15.407>

(b)(6) For transmitters operating within the 5.925-7.125 GHz bands: Power spectral density must be suppressed by 20 dB at 1 MHz outside of channel edge, by 28 dB at one channel bandwidth from the channel center, and by 40 dB at one- and one-half times the channel bandwidth away from channel center. At frequencies between one megahertz outside an unlicensed device's channel edge and one channel bandwidth from the center of the channel, the limits must be linearly interpolated between 20 dB and 28 dB suppression, and at frequencies between one and one- and one-half times an unlicensed device's channel bandwidth, the limits must be linearly interpolated between 28 dB and 40 dB suppression. Emissions removed from the channel center by more than one- and one-half times the channel bandwidth must be suppressed by at least 40 dB.

3.4.2 Measuring Instruments

See list of measuring equipment of this test report.

3.4.3 Test Procedures

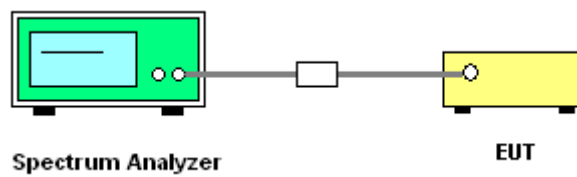
The testing follows FCC KDB 987594 D02 U-NII 6GHz EMC Measurement.

Section J) In-Band Emissions.

1. Take nominal bandwidth as reference channel bandwidth provided that 26 dB emission bandwidth is always larger than nominal bandwidth
2. Measure the power spectral density (which will be used for emissions mask reference) using the following procedure:
 - a) Set the span to encompass the entire 26 dB EBW of the signal.
 - b) Set RBW = same RBW used for 26 dB EBW measurement.
 - c) Set VBW $\geq 3 \times$ RBW
 - d) Number of points in sweep $\geq [2 \times \text{span} / \text{RBW}]$.
 - e) Sweep time = auto.
 - f) Detector = RMS (i.e., power averaging)
 - g) Trace average at least 100 traces in power averaging (rms) mode.
 - h) Use the peak search function on the instrument to find the peak of the spectrum.
3. Using the measuring equipment limit line function, develop the emissions mask based on the following requirements. The emissions power spectral density must be reduced below the peak power spectral density (in dB) as follows:
 - a. Suppressed by 20 dB at 1 MHz outside of the channel edge.
 - b. Suppressed by 28 dB at one channel bandwidth from the channel center.

- c. Suppressed by 40 dB at one- and one-half times the channel bandwidth from the channel center.
4. Adjust the span to encompass the entire mask as necessary.
5. Clear trace.
6. Trace average at least 100 traces in power averaging (rms) mode.
7. Adjust the reference level as necessary so that the crest of the channel touches the top of the emission mask.

3.4.4 Test Setup



3.4.5 Test Result

Please refer to Appendix A.

3.5 Unwanted Emissions Measurement

This section is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement.

3.5.1 Limit of Unwanted Emissions

- (1) For transmitters operating within the 5.925-7.125 GHz band: Any emissions outside of the 5.925-7.125 GHz band must not exceed an e.i.r.p. of -27 dBm/MHz.

EIRP (dBm)	Field Strength at 3m (dBμV/m)
- 27 (RMS)	68.2
- 7 (Peak)	88.2

Unwanted emissions outside of restricted bands are measured with a RMS detector.

In addition, 15.35(b) applies where the peak emissions must be limited to no more than 20 dB above the average limit

- (2) Unwanted spurious emissions fallen in restricted bands shall comply with the general field strength limits as below table:

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

Note: The following formula is used to convert the EIRP to field strength.

$$E = \frac{1000000\sqrt{30P}}{3} \mu\text{V/m, where P is the eirp (Watts)}$$

3.5.2 Measuring Instruments

See list of measuring equipment of this test report.

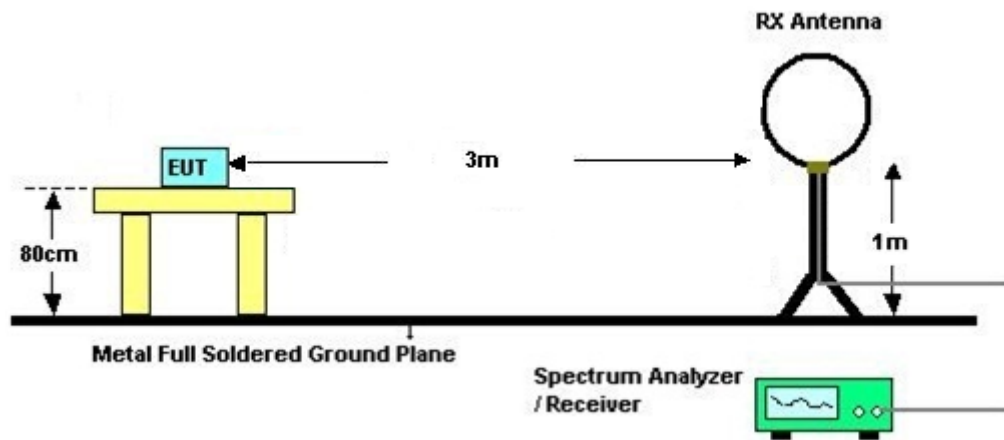


3.5.3 Test Procedures

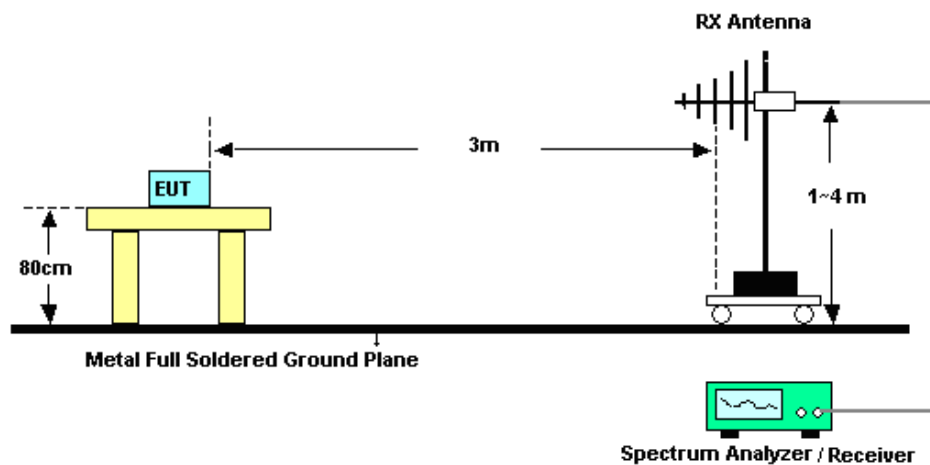
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
Section G) Unwanted emissions measurement.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz
 - RBW = 1 MHz
 - VBW $\geq$ 3 MHz
 - Detector = Peak
 - Sweep time = auto
 - Trace mode = max hold
 - (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz
 - RBW = 1 MHz
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW $\geq$ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

3.5.4 Test Setup

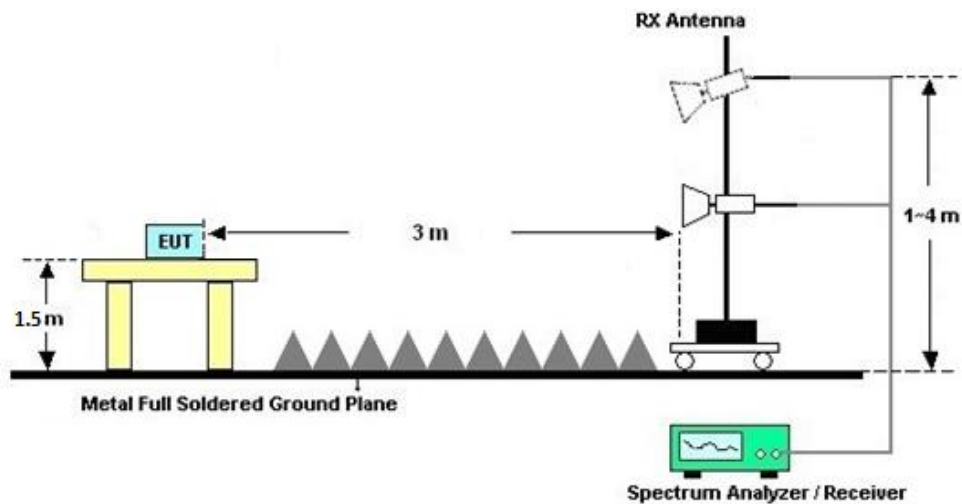
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz





3.5.5 Test Results of Radiated Spurious Emissions (9 kHz ~ 30 MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C

3.5.7 Duty Cycle

Please refer to Appendix D.

3.5.8 Test Result of Radiated Spurious Emissions (30MHz ~ 10th Harmonic)

Please refer to Appendix C.

The emission level above 18GHz is checked that the emission level is noise floor only, so it is not reflected in the report.

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

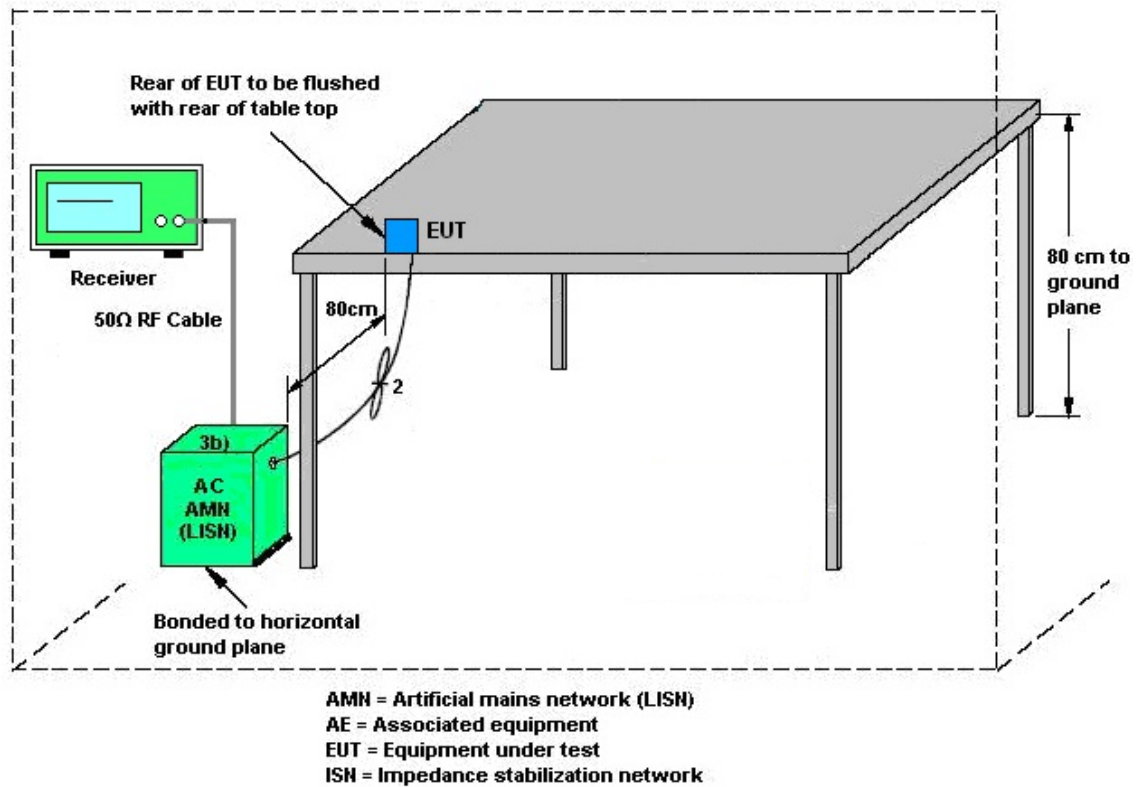
3.6.2 Measuring Instruments

See list of measuring equipment of this test report.

3.6.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.7 Antenna Requirements

3.7.1 Standard Applicable

§15.203: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used. The EUT complies with the requirement of 15.203.

3.7.3 Antenna Gain

<CDD Modes >

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For 802.11a/ax mode, directional gain is calculated as

For power, the directional gain GANT is set equal to the antenna having the highest gain, i.e.,

Directional gain = $G_{ANT\ MAX}(Ant.1\ Gain, Ant.2\ Gain, \dots) + \text{Array Gain}$, as following table for Power, where Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

For PSD, the directional gain calculation is following,

Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{Gn/20})^2 / N_{ANT}]$ dBi, as following table for PSD.

N_{ANT} = number of transmit antennas

N_{SS} = number of spatial streams. (The worst case directional gain will occur when $N_{SS} = 1$)

			DG for Power (dBi)	DG for PSD (dBi)
	Ant. 0 (dBi)	Ant. 1 (dBi)		
UNII-5	3.38	3.14	3.38	6.27
UNII-7	2.55	2.69	2.69	5.63

<SDM Modes>

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For 802.11ax mode, directional gain is calculated as

For power, the directional gain G_{ANT} is set equal to the antenna having the highest gain, i.e.,

Directional gain = $G_{ANT\ MAX}(Ant.1\ Gain, Ant.2\ Gain, \dots) + \text{Array Gain}$, as following table for Power,

where Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

For PSD, the directional gain calculation is following,

Directional gain = $10 \log[(10^{G1/10} + 10^{G2/10} + \dots + 10^{Gn/10})/N_{ANT}]$ dBi, as following table for PSD.

N_{ANT} = number of transmit antennas

			DG for	DG for
	Ant. 0	Ant. 1	Power	PSD
	(dBi)	(dBi)	(dBi)	(dBi)
U-NII-5	3.38	3.14	3.38	3.26
U-NII-7	2.55	2.69	2.69	2.62

<TXBF modes>

The EUT supports TXBF mode for 11ax.

FCC KDB 662911 D01 Multiple Transmitter Output v02r01, directional gain is calculated as

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

where

Each antenna is driven by no more than one spatial stream;

N_{SS} = the number of independent spatial streams of data;

N_{ANT} = the total number of antennas

$g_{j,k} = 10^{G_k / 20}$ if the k th antenna is being fed by spatial stream j , or zero if it is not;
 G_k is the gain in dBi of the k th antenna.

The directional gain calculation is following F)2)e)ii) of KDB 662911 D01 v02r01.

The directional gain "DG" is calculated as following table.

			DG	DG
			for	for
	Ant. 0	Ant. 1	Power	PSD
	(dBi)	(dBi)	(dBi)	(dBi)
UNII-5	3.38	3.14	6.27	6.27
UNII-7	2.55	2.69	5.63	5.63



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 10, 2024	Apr. 30, 2025~May 01, 2025	Oct. 09, 2025	Conducted (TH01-KS)
Pulse Power Sensor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 02, 2025	Apr. 30, 2025~May 01, 2025	Jan. 01, 2026	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 02, 2025	Apr. 30, 2025~May 01, 2025	Jan. 01, 2026	Conducted (TH01-KS)
EMI Test Receiver	Keysight	N9038A	MY57290151	3Hz~8.5GHz; Max 30dBm	Jul. 04, 2024	Apr. 30, 2025	Jul. 03, 2025	Radiation (03CH08-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57441079	10Hz~44GHz	Oct. 09, 2024	Apr. 30, 2025	Oct. 08, 2025	Radiation (03CH08-KS)
Loop Antenna	R&S	HFH2-Z2E	101125	9kHz~30MHz	Sep. 08, 2024	Apr. 30, 2025	Sep. 07, 2025	Radiation (03CH08-KS)
Bilog Antenna	TESEQ	CBL 6111D	59915	30MHz~1GHz	Aug. 18, 2024	Apr. 30, 2025	Aug. 17, 2025	Radiation (03CH08-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00240138	1GHz~18GHz	Jul. 06, 2024	Apr. 30, 2025	Jul. 05, 2025	Radiation (03CH08-KS)
high gain Amplifier	EM	EM01G18GA	060890	1GHz~18GHz	Jul. 23, 2024	Apr. 30, 2025	Jul. 22, 2025	Radiation (03CH08-KS)
SHF-EHF Horn	Com-power	AH-840	101116	18GHz~40GHz	Oct. 22, 2024	Apr. 30, 2025	Oct. 21, 2025	Radiation (03CH08-KS)
Amplifier	SONOMA	310N	380826	9KHz~1GHz	Jul. 03, 2024	Apr. 30, 2025	Jul. 02, 2025	Radiation (03CH08-KS)
Amplifier	Keysight	83017A	MY53270417	500MHz~26.5GHz	Oct. 09, 2024	Apr. 30, 2025	Oct. 08, 2025	Radiation (03CH08-KS)
Amplifier	EM	EM18G40GGA	060737	18~40GHz	Jan. 03, 2025	Apr. 30, 2025	Jan. 02, 2026	Radiation (03CH08-KS)
AC Power Source	Chroma	61601	616010002473	N/A	NCR	Apr. 30, 2025	NCR	Radiation (03CH08-KS)
Turn Table	EM	EM 1000-T	N/A	0~360 degree	NCR	Apr. 30, 2025	NCR	Radiation (03CH08-KS)
Antenna Mast	EM	EM 1000-A	N/A	1 m~4 m	NCR	Apr. 30, 2025	NCR	Radiation (03CH08-KS)
EMI Test Receiver	Keysight	N9038A	MY57290151	3Hz~8.5GHz; Max 30dBm	Jul. 04, 2024	Apr. 30, 2025	Jul. 03, 2025	Radiation (03CH08-KS)
EMI Receiver	R&S	ESR7	102297	9kHz~7GHz;	Jul. 03, 2024	May 05, 2025	Jul. 02, 2025	Conduction (CO02-SZ)
AC LISN	R&S	ENV216	101499	9kHz~30MHz	Jul. 03, 2024	May 05, 2025	Jul. 02, 2025	Conduction (CO02-SZ)
AC Power Source	CHROMA	61601	616010002470	100Vac~250Vac	Dec. 25, 2024	May 05, 2025	Dec. 24, 2025	Conduction (CO02-SZ)

NCR: No Calibration Required



5 Measurement Uncertainty

Uncertainty of Conducted Measurement

Conducted Spurious Emission & Bandedge	± 2.22 dB
Occupied Channel Bandwidth	$\pm 0.1\%$
Conducted Power	± 0.50 dB
Conducted Power Spectral Density	± 0.90 dB
Frequency	± 0.4 ppm

Uncertainty of AC Conducted Emission Measurement (0.15 MHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.5dB
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Uncertainty of Radiated Emission Measurement (9 KHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.30dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	6.04dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.26dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.40dB
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----- THE END -----



Appendix A. Conducted Test Results



Emission Bandwidth

Test Result

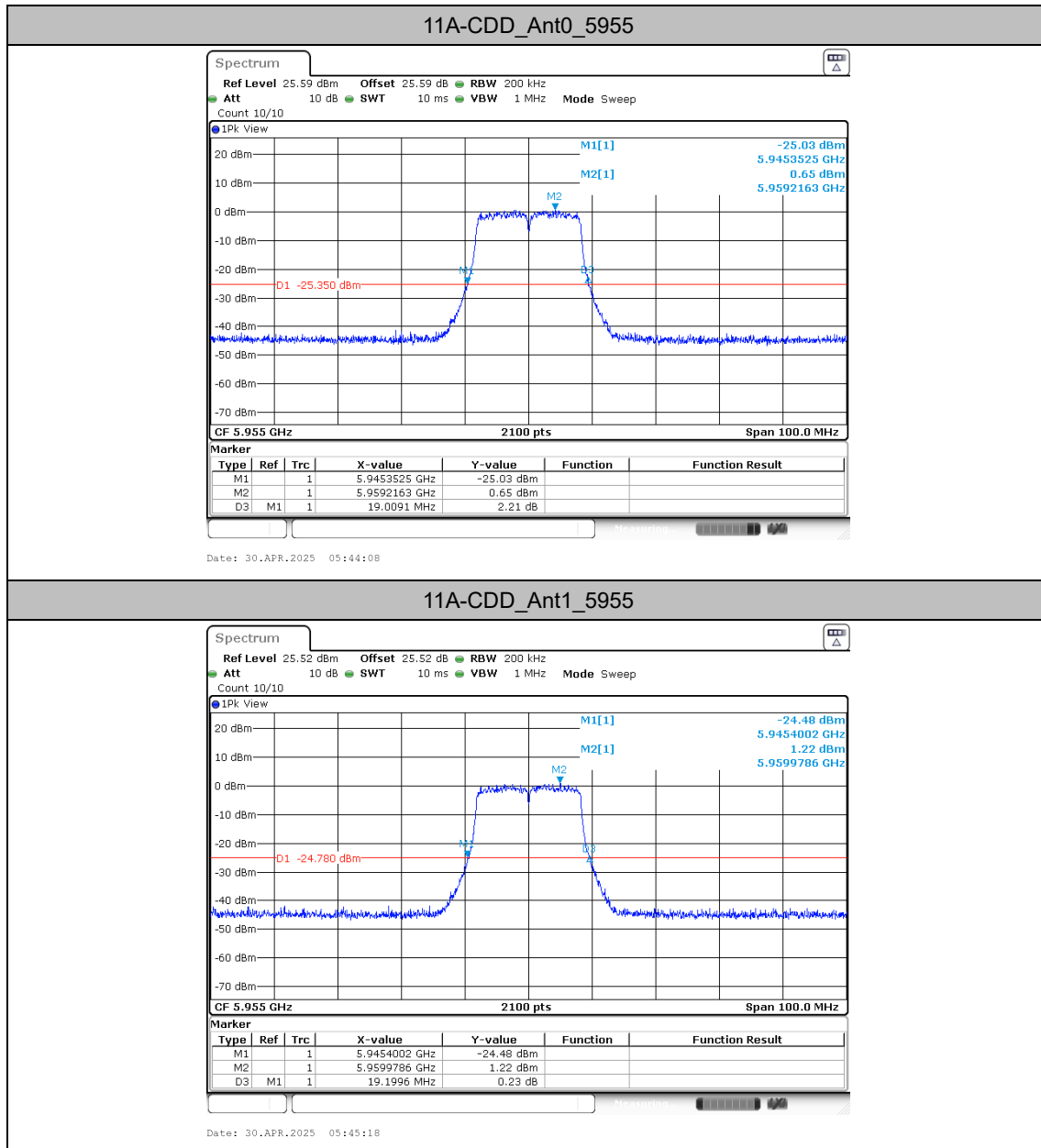
TestMode	Antenna	Freq(MHz)	26dB EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A-CDD	Ant0	5955	19.01	5945.35	5964.36	320	PASS
	Ant1	5955	19.20	5945.40	5964.60	320	PASS
	Ant0	6195	19.10	6185.31	6204.41	320	PASS
	Ant1	6195	19.25	6185.35	6204.60	320	PASS
	Ant0	6415	18.96	6405.40	6424.36	320	PASS
	Ant1	6415	19.15	6405.40	6424.55	320	PASS
	Ant0	6535	19.20	6525.35	6544.55	320	PASS
	Ant1	6535	19.30	6525.31	6544.60	320	PASS
	Ant0	6695	19.15	6685.21	6704.36	320	PASS
	Ant1	6695	19.20	6685.35	6704.55	320	PASS
	Ant0	6855	19.10	6845.31	6864.41	320	PASS
	Ant1	6855	19.15	6845.45	6864.60	320	PASS
11AX20MIMO	Ant0	5955	21.15	5944.54	5965.70	320	PASS
	Ant1	5955	21.20	5944.40	5965.60	320	PASS
	Ant0	6195	20.92	6184.54	6205.46	320	PASS
	Ant1	6195	20.87	6184.50	6205.36	320	PASS
	Ant0	6415	21.11	6404.45	6425.55	320	PASS
	Ant1	6415	21.25	6404.35	6425.60	320	PASS
	Ant0	6535	21.06	6524.40	6545.46	320	PASS
	Ant1	6535	21.25	6524.45	6545.70	320	PASS
	Ant0	6695	21.25	6684.40	6705.65	320	PASS
	Ant1	6695	20.96	6684.54	6705.51	320	PASS
	Ant0	6855	21.15	6844.35	6865.51	320	PASS
	Ant1	6855	21.06	6844.54	6865.60	320	PASS
11AX40MIMO	Ant0	5965	40.40	5944.85	5985.25	320	PASS
	Ant1	5965	40.69	5944.75	5985.44	320	PASS
	Ant0	6205	40.69	6184.66	6225.34	320	PASS
	Ant1	6205	40.59	6184.66	6225.25	320	PASS
	Ant0	6405	41.07	6384.47	6425.53	320	PASS
	Ant1	6405	40.88	6384.47	6425.34	320	PASS
	Ant0	6565	40.59	6544.75	6585.34	320	PASS
	Ant1	6565	40.59	6544.66	6585.25	320	PASS
	Ant0	6685	40.69	6664.66	6705.34	320	PASS
	Ant1	6685	40.40	6664.85	6705.25	320	PASS
	Ant0	6845	40.69	6824.56	6865.25	320	PASS
	Ant1	6845	40.69	6824.56	6865.25	320	PASS
11AX80MIMO	Ant0	5985	82.13	5943.93	6026.07	320	PASS
	Ant1	5985	81.56	5944.31	6025.88	320	PASS
	Ant0	6225	82.71	6183.55	6266.26	320	PASS
	Ant1	6225	82.13	6183.74	6265.88	320	PASS
	Ant0	6385	82.33	6343.93	6426.26	320	PASS



	Ant1	6385	82.33	6343.74	6426.07	320	PASS
	Ant0	6625	82.71	6583.74	6666.45	320	PASS
	Ant1	6625	82.13	6583.93	6666.07	320	PASS
	Ant0	6705	83.09	6663.74	6746.83	320	PASS
	Ant1	6705	82.52	6663.74	6746.26	320	PASS
	Ant0	6785	82.13	6743.93	6826.07	320	PASS
	Ant1	6785	81.94	6744.12	6826.07	320	PASS
11AX160MIMO	Ant0	6025	166.17	5942.10	6108.28	320	PASS
	Ant1	6025	165.79	5942.10	6107.90	320	PASS
	Ant0	6185	165.79	6101.72	6267.52	320	PASS
	Ant1	6185	165.03	6102.10	6267.13	320	PASS
	Ant0	6345	166.17	6262.10	6428.28	320	PASS
	Ant1	6345	165.41	6262.10	6427.52	320	PASS
	Ant0	6665	165.03	6582.87	6747.90	320	PASS
	Ant1	6665	164.27	6582.87	6747.13	320	PASS

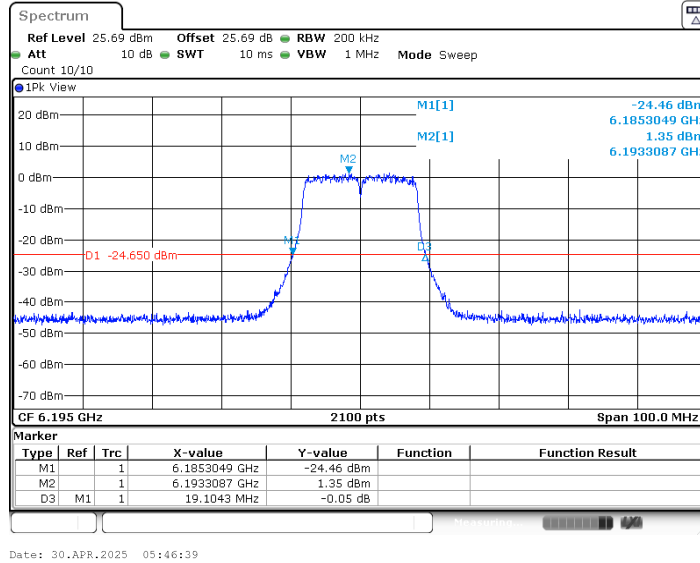


Test Graphs

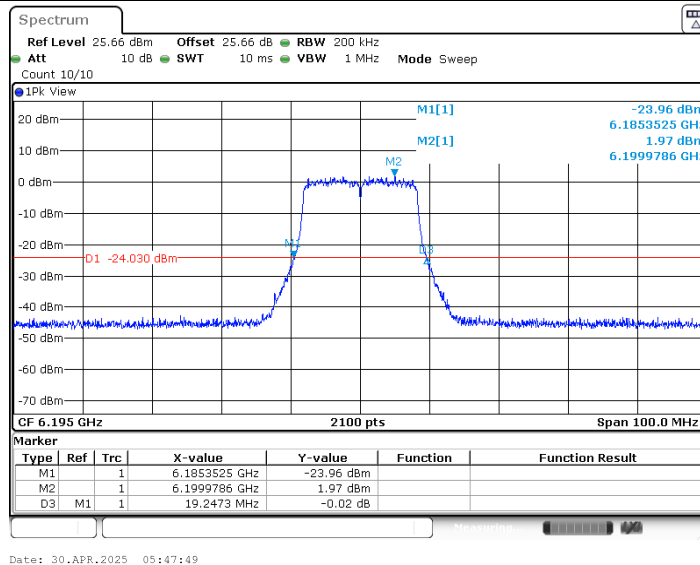




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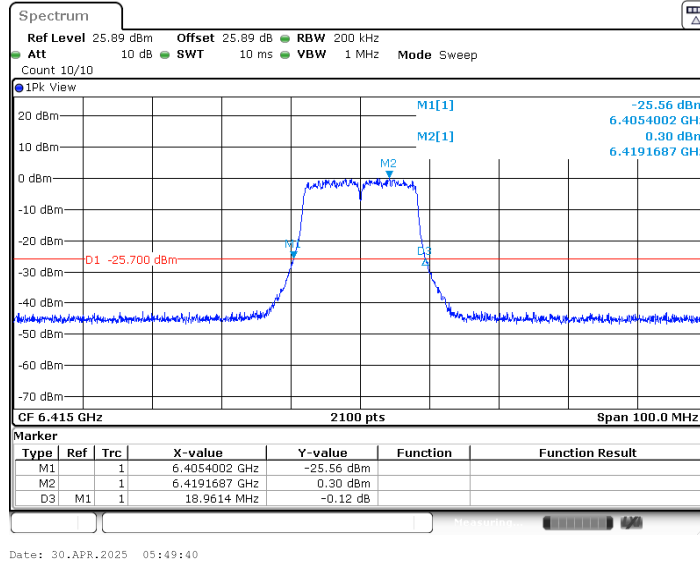


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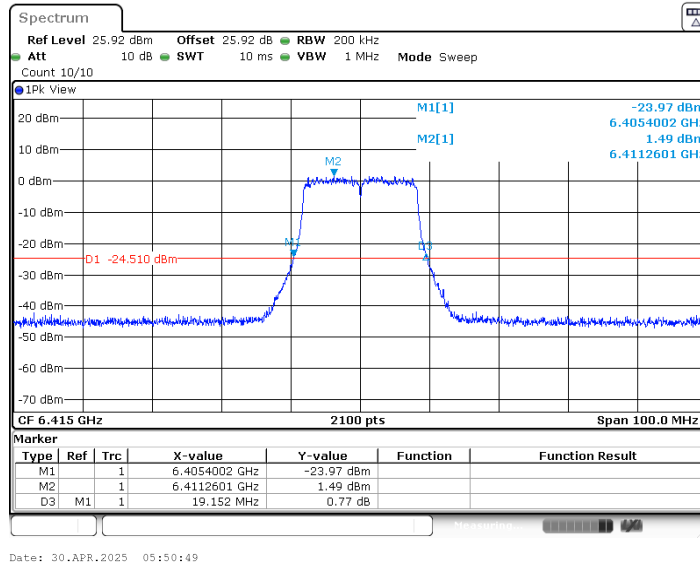




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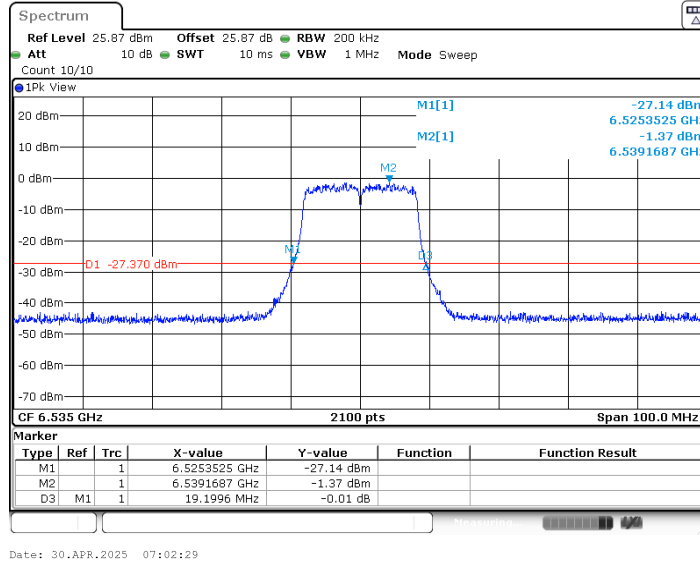


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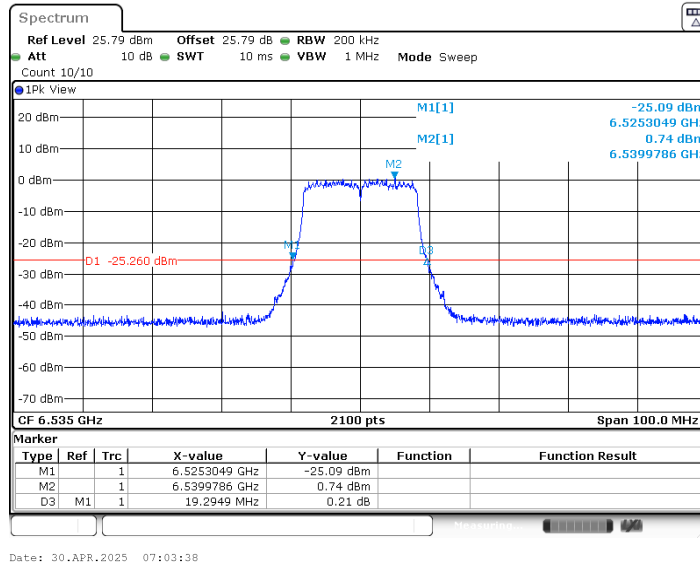




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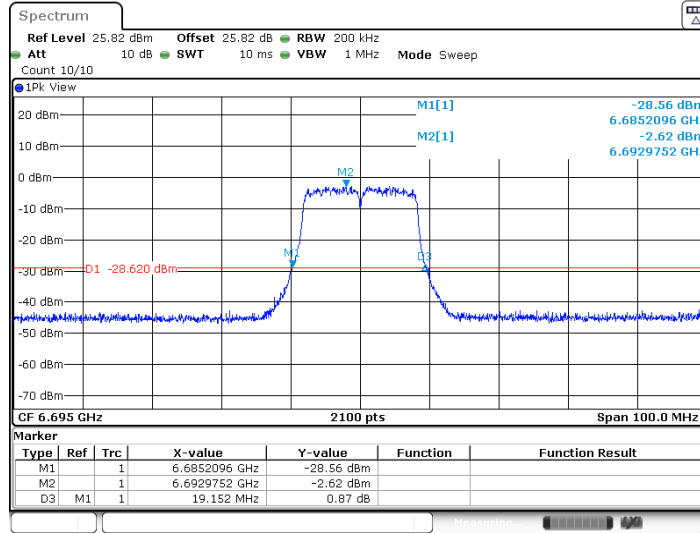


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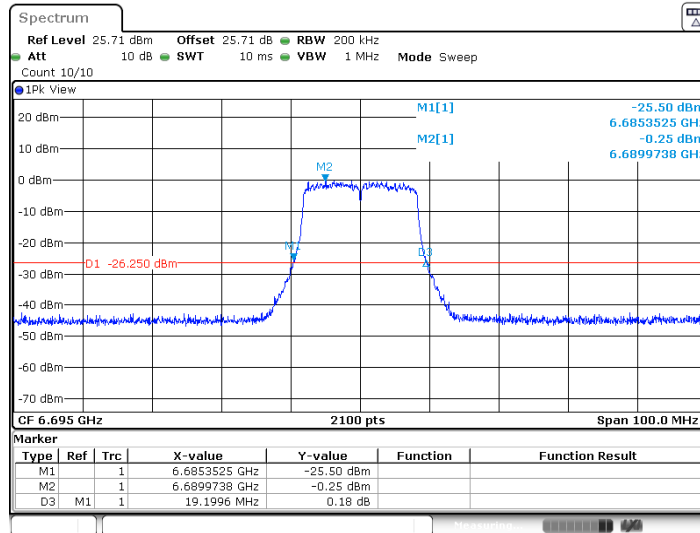


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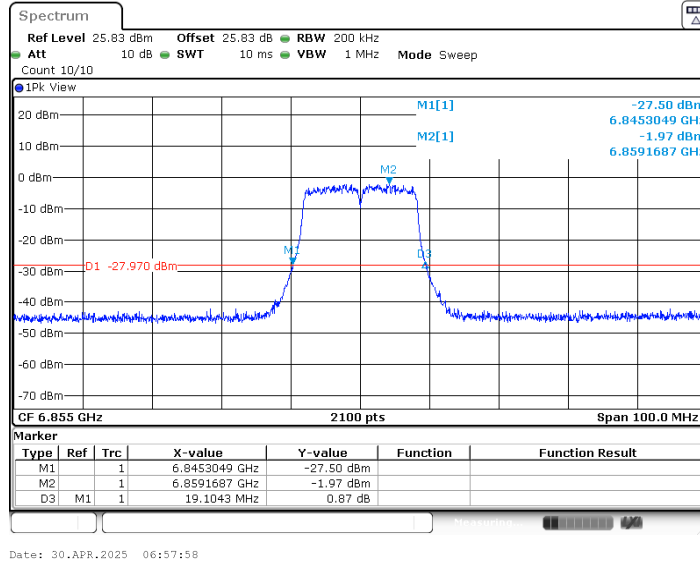
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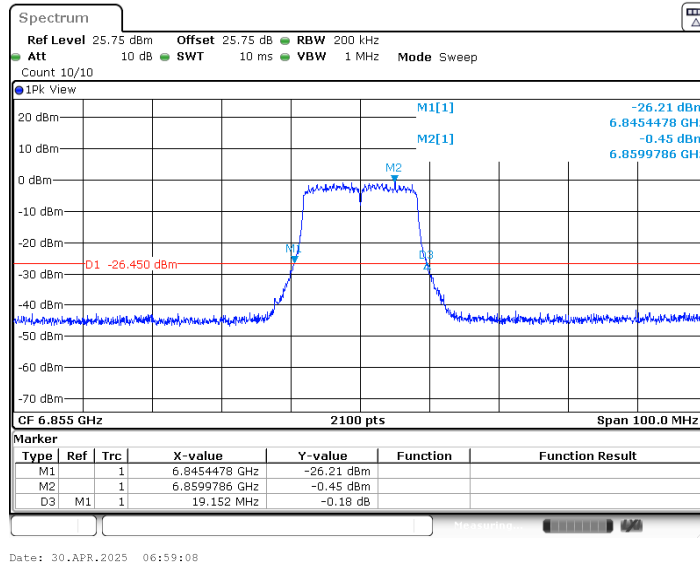
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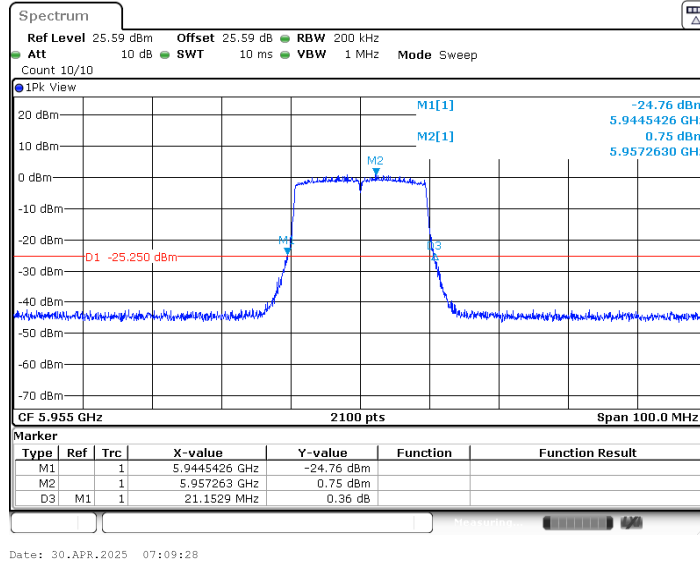


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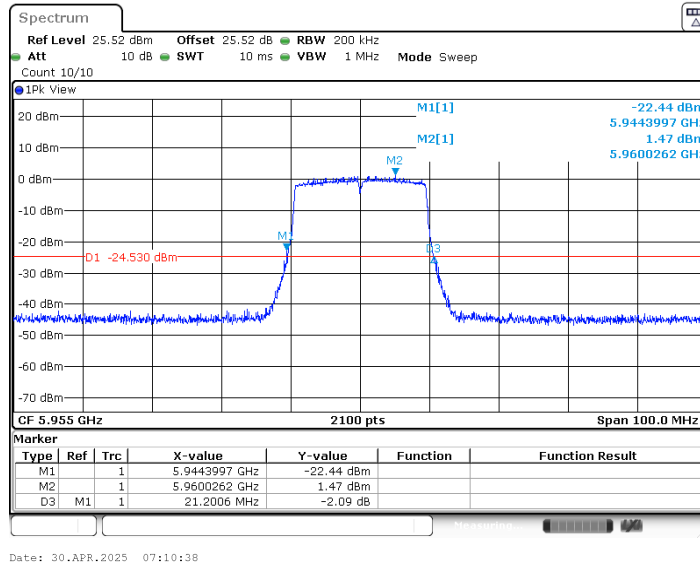




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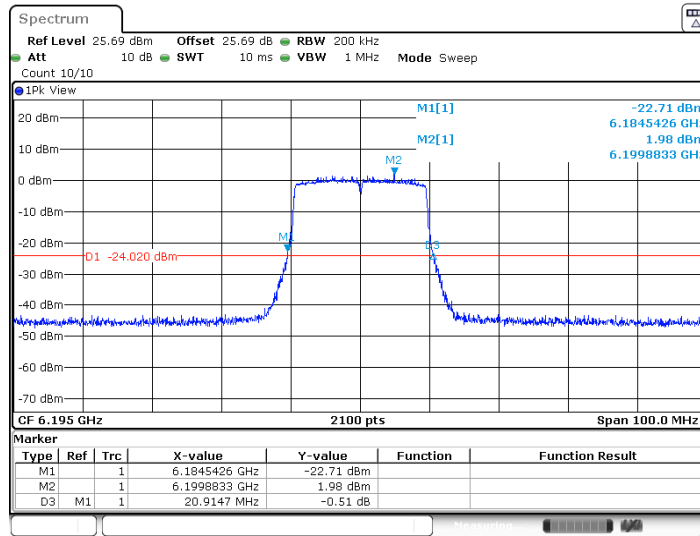


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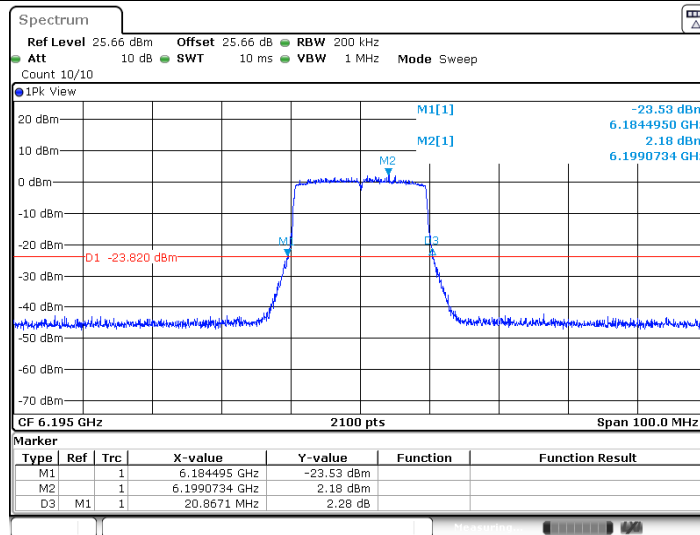




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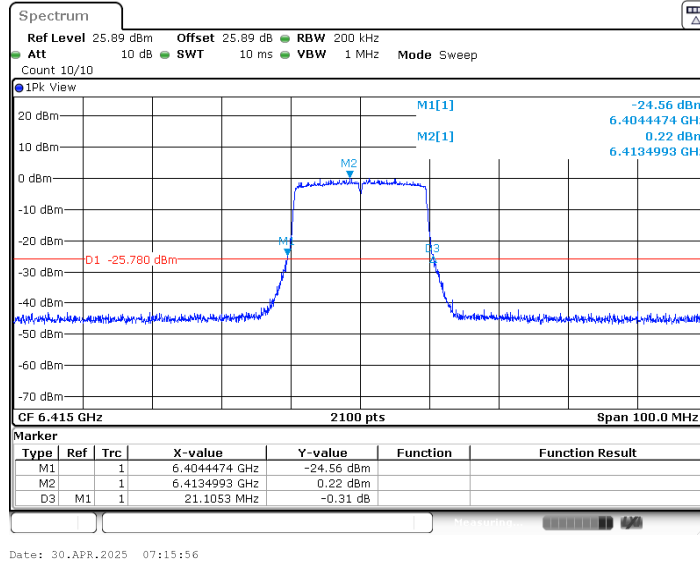


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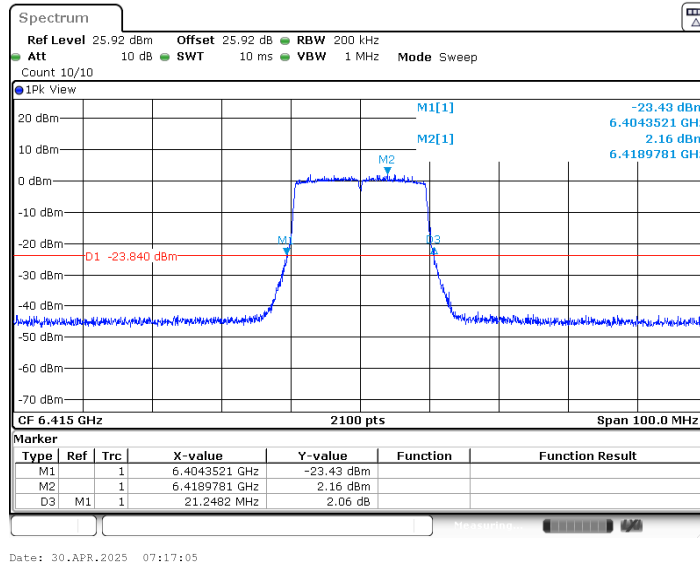




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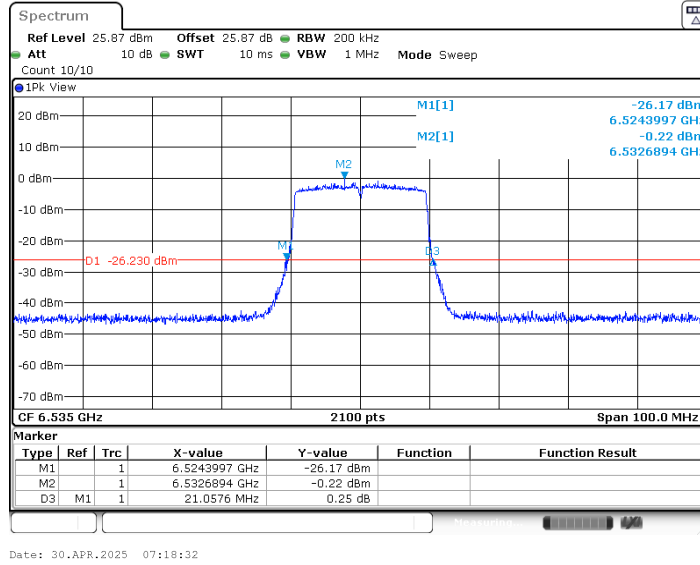


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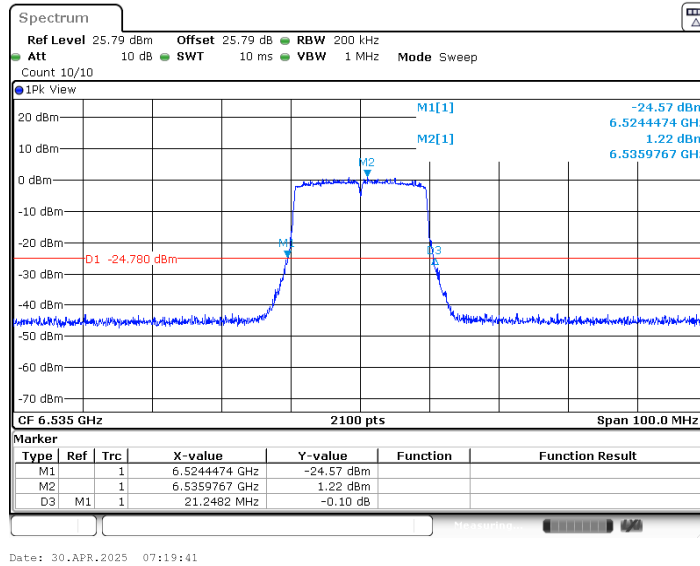




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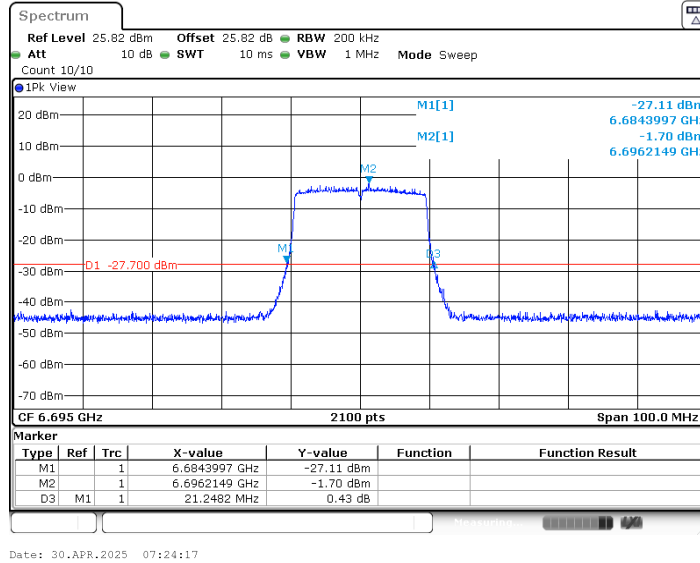


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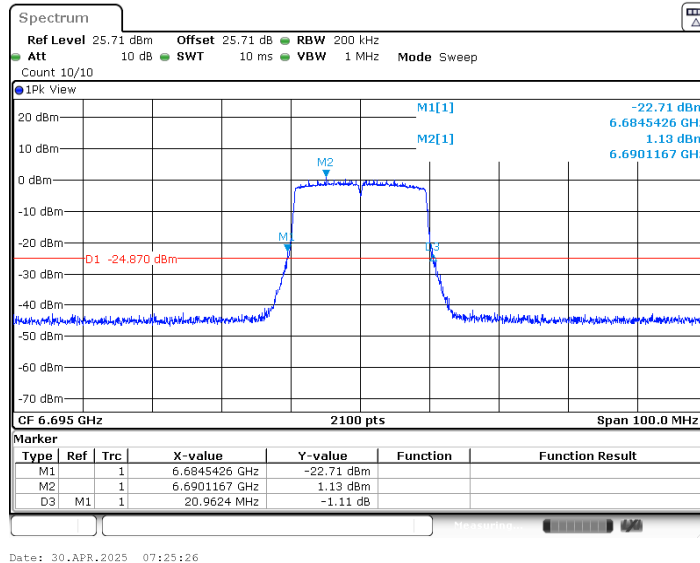




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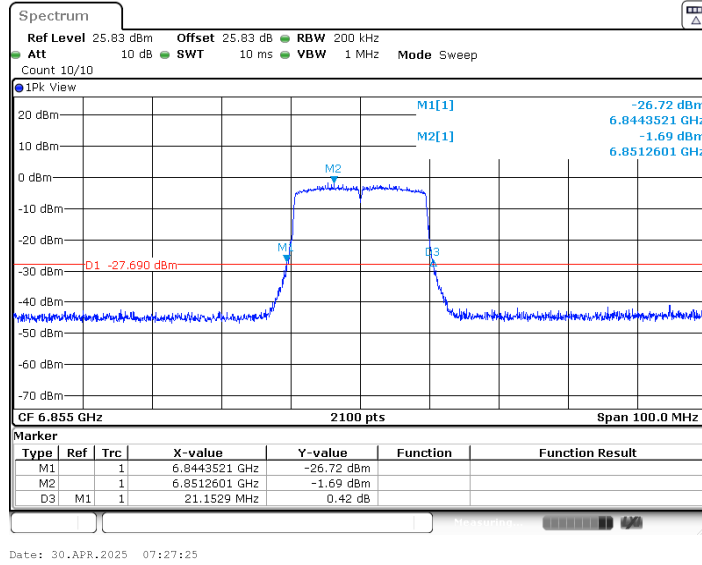


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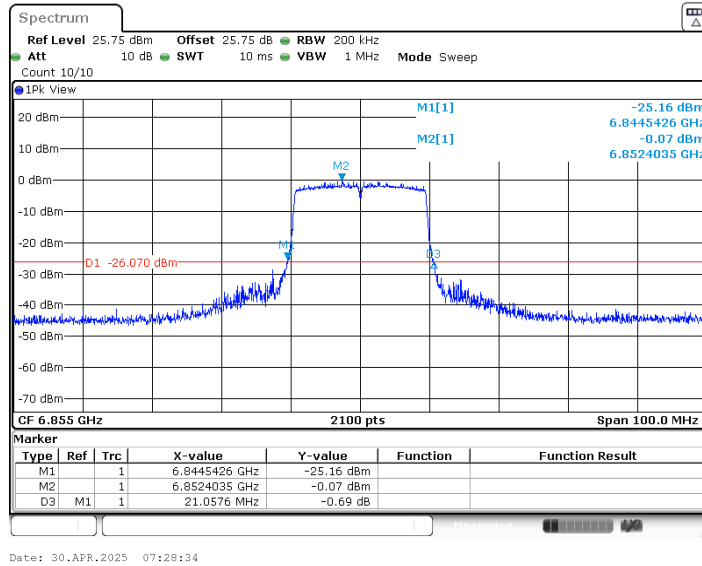




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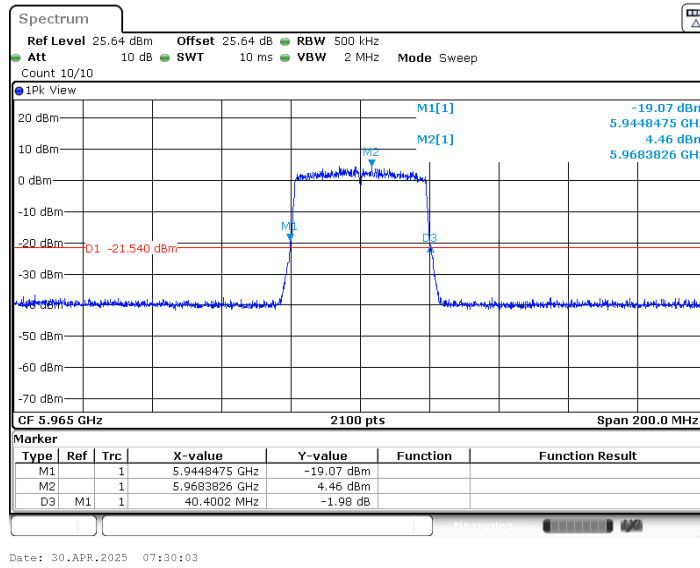


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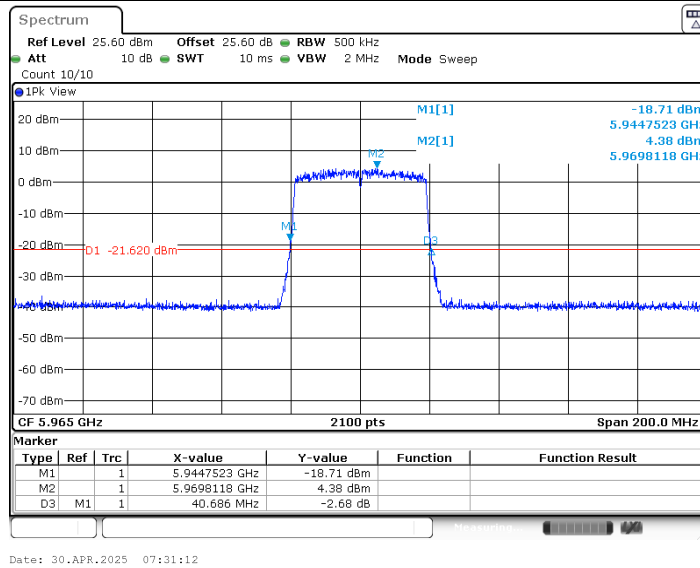




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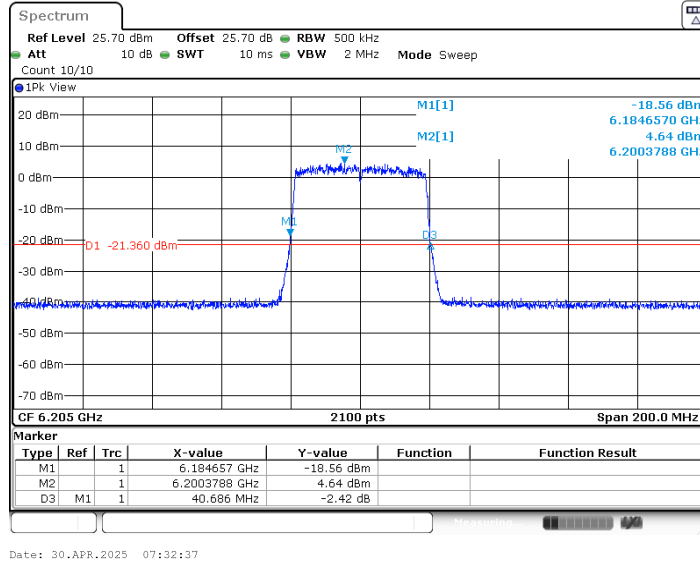


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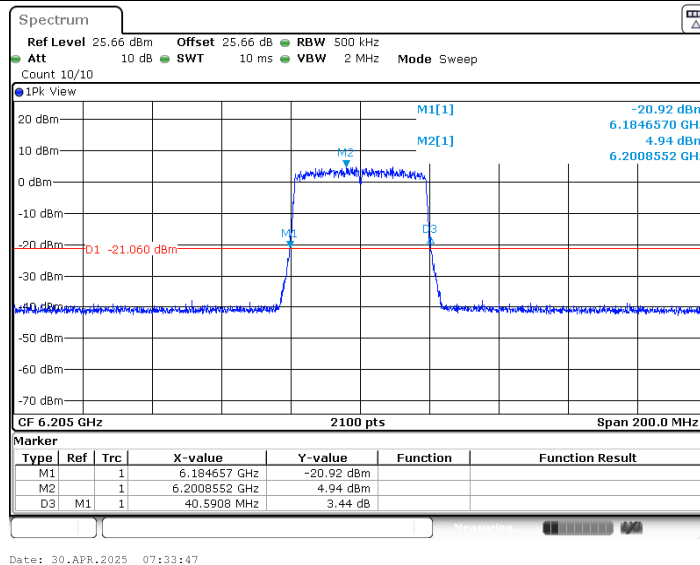




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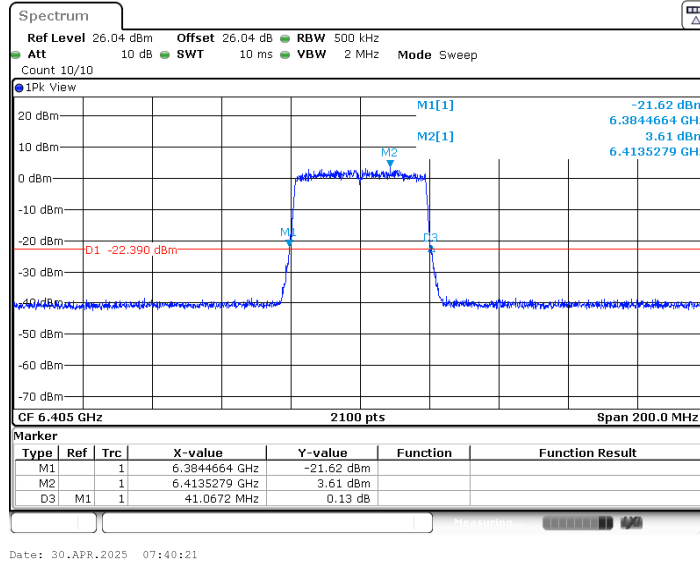


11AX40MIMO_Ant1_6205

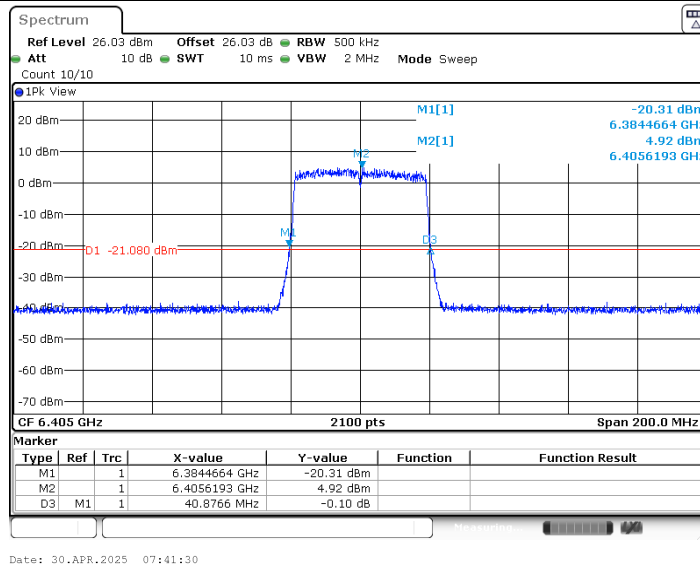




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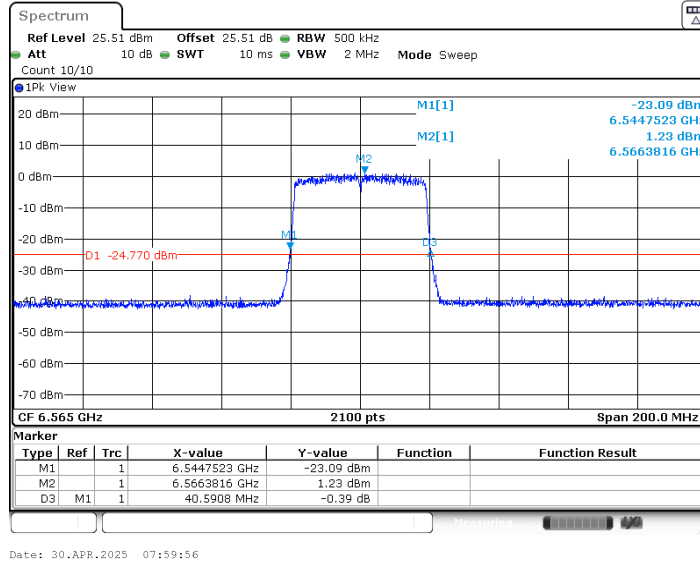


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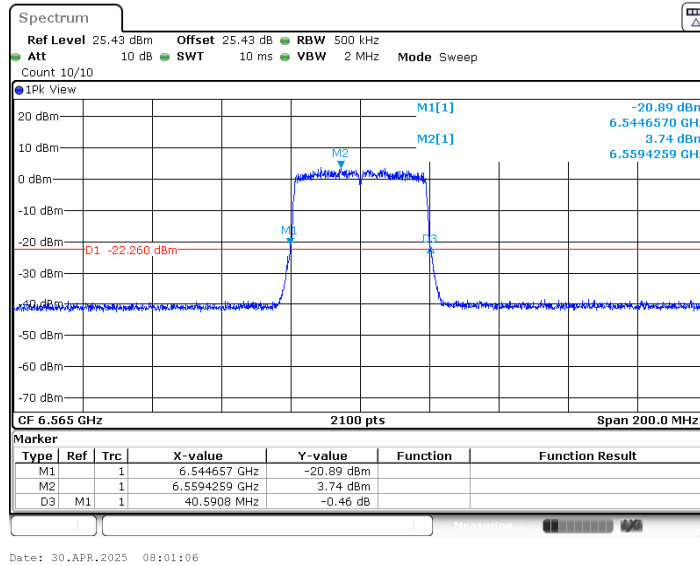




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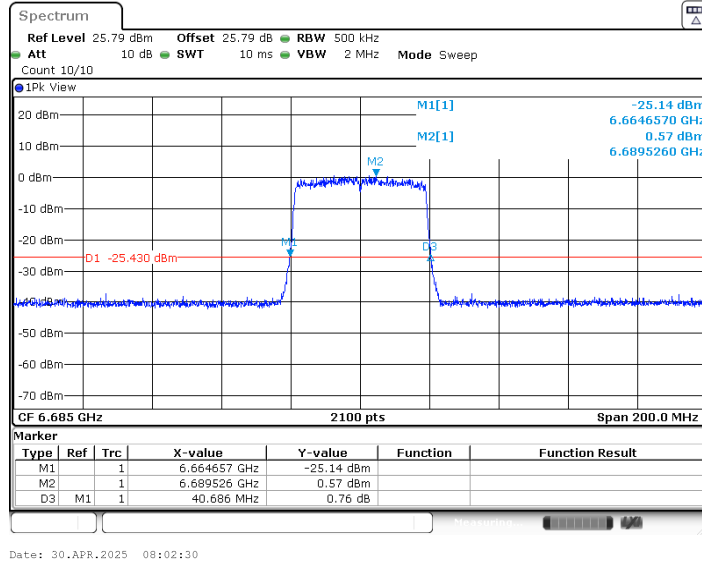


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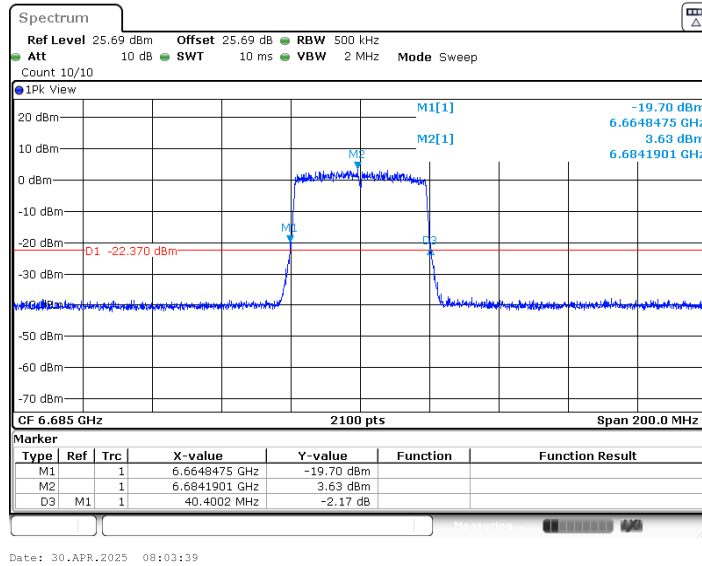




11AX40MIMO_Ant0_6685

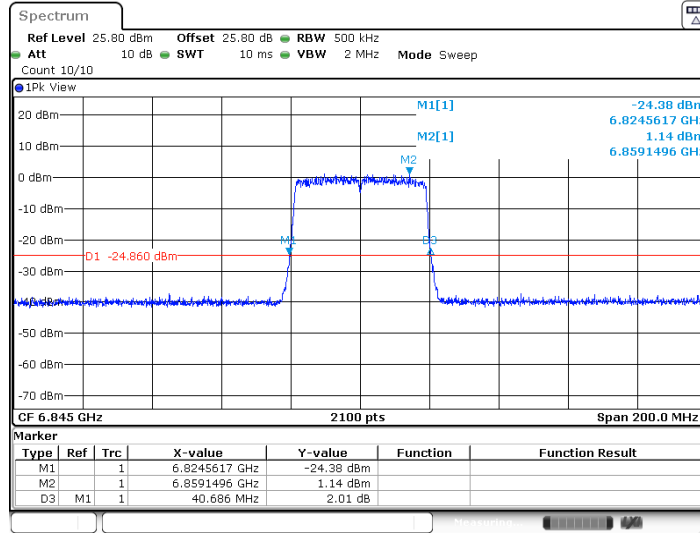


11AX40MIMO_Ant1_6685



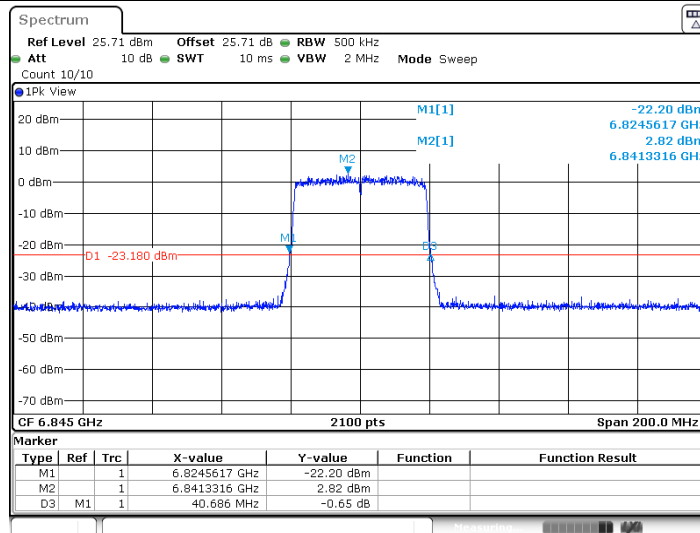


11AX40MIMO_Ant0_6845



Date: 30.APR.2025 08:19:49

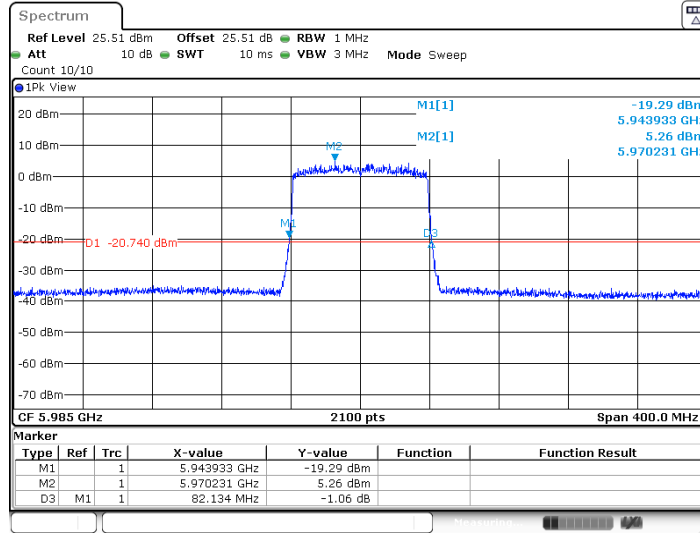
11AX40MIMO_Ant1_6845



Date: 30.APR.2025 08:20:58

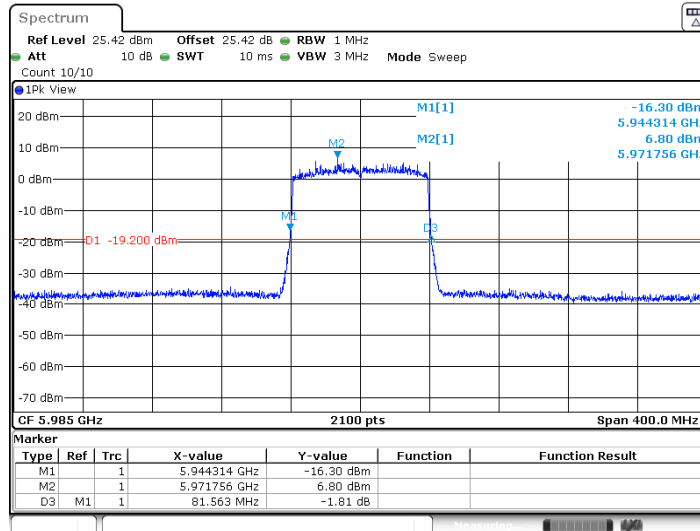


11AX80MIMO_Ant0_5985



Date: 30.APR.2025 08:27:33

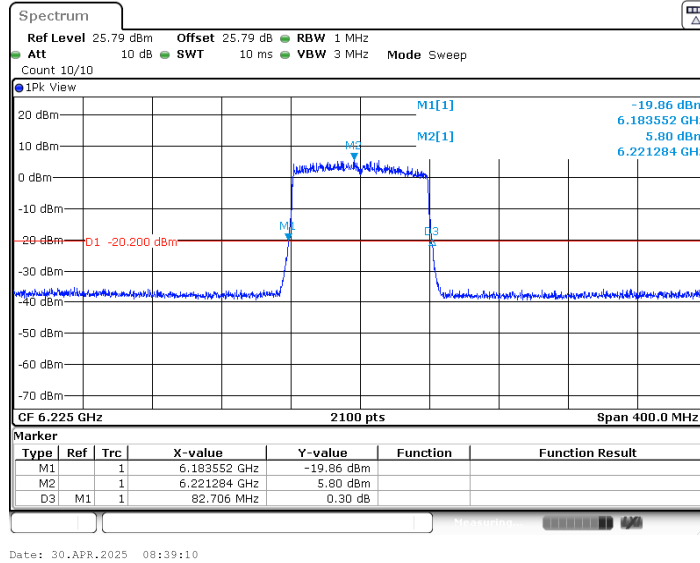
11AX80MIMO_Ant1_5985



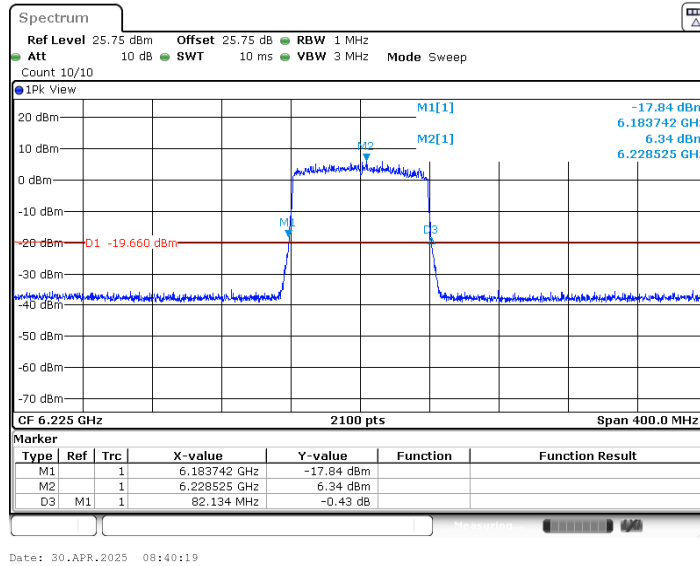
Date: 30.APR.2025 08:28:42



11AX80MIMO_Ant0_6225

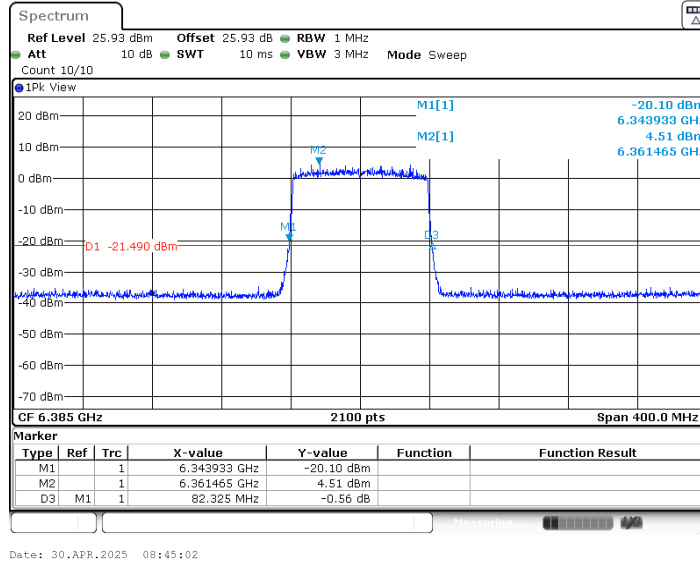


11AX80MIMO_Ant1_6225

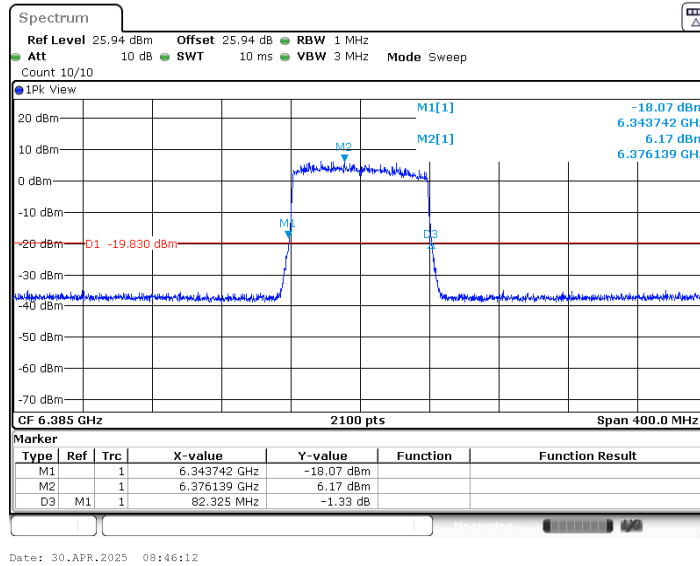




11AX80MIMO_Ant0_6385

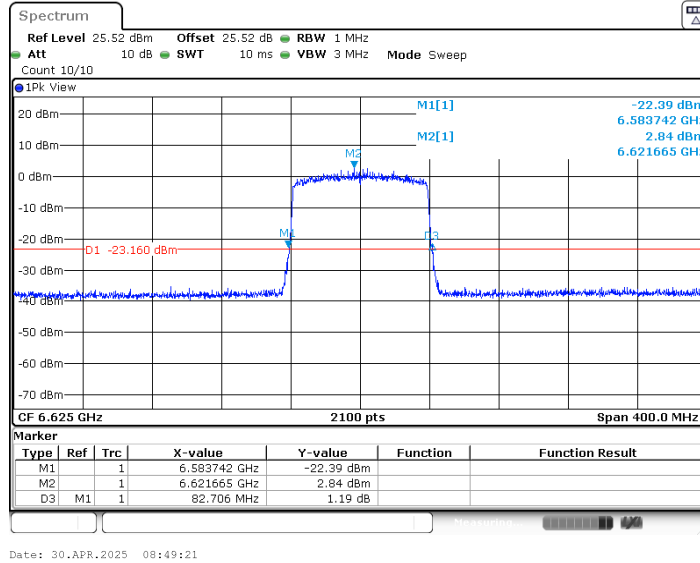


11AX80MIMO_Ant1_6385

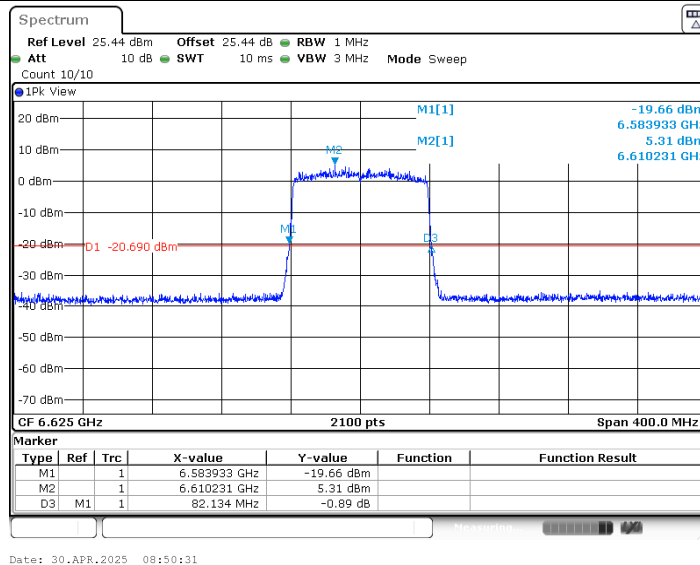




11AX80MIMO_Ant0_6625

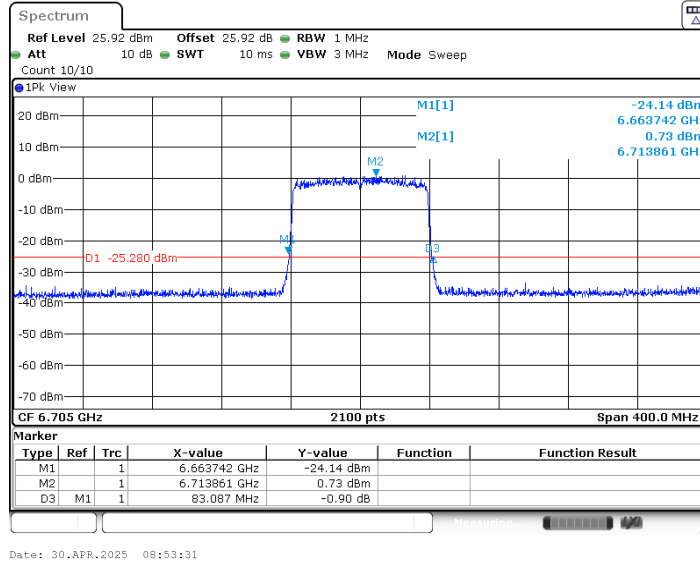


11AX80MIMO_Ant1_6625

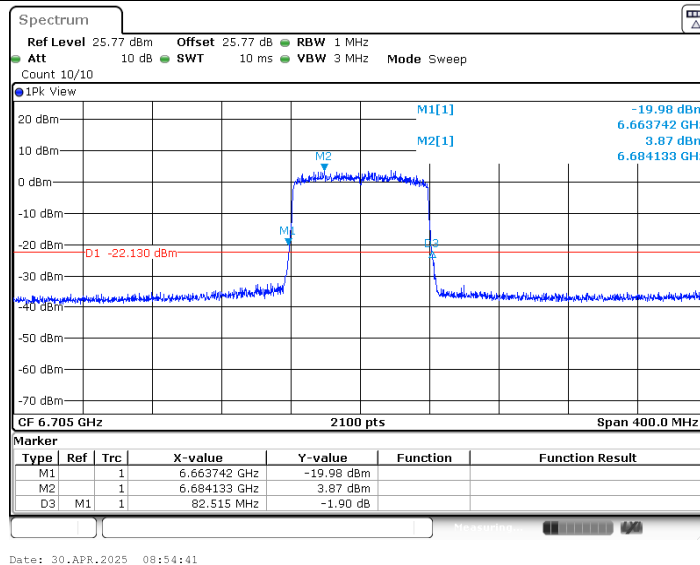




11AX80MIMO_Ant0_6705

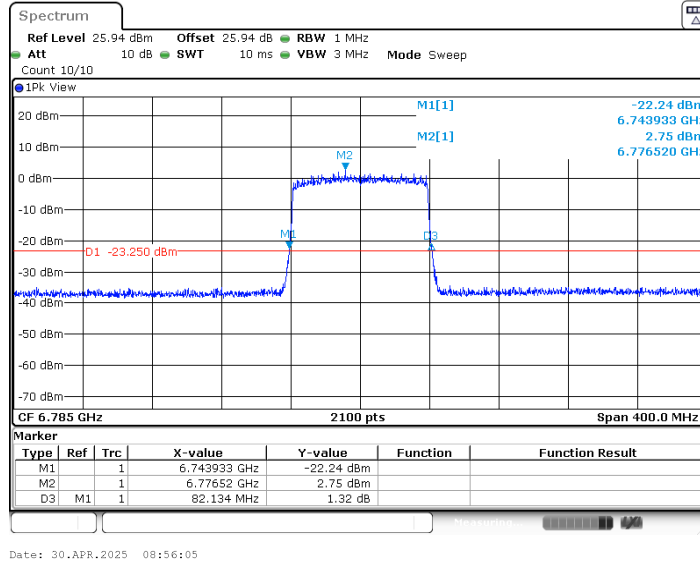


11AX80MIMO_Ant1_6705

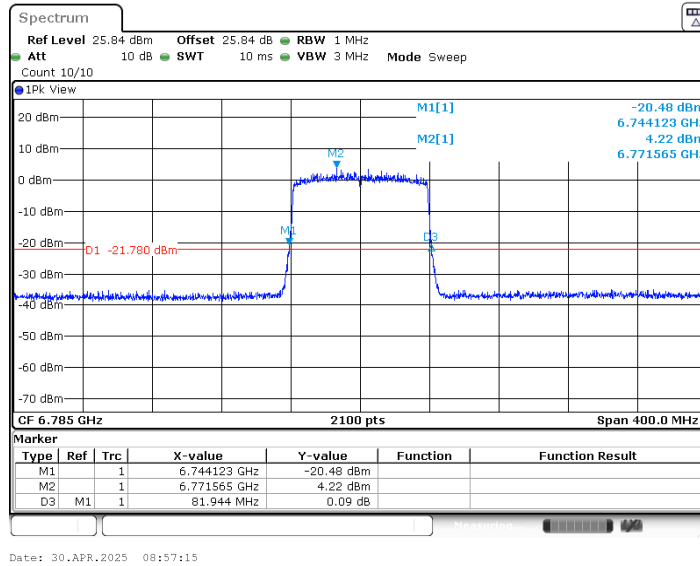


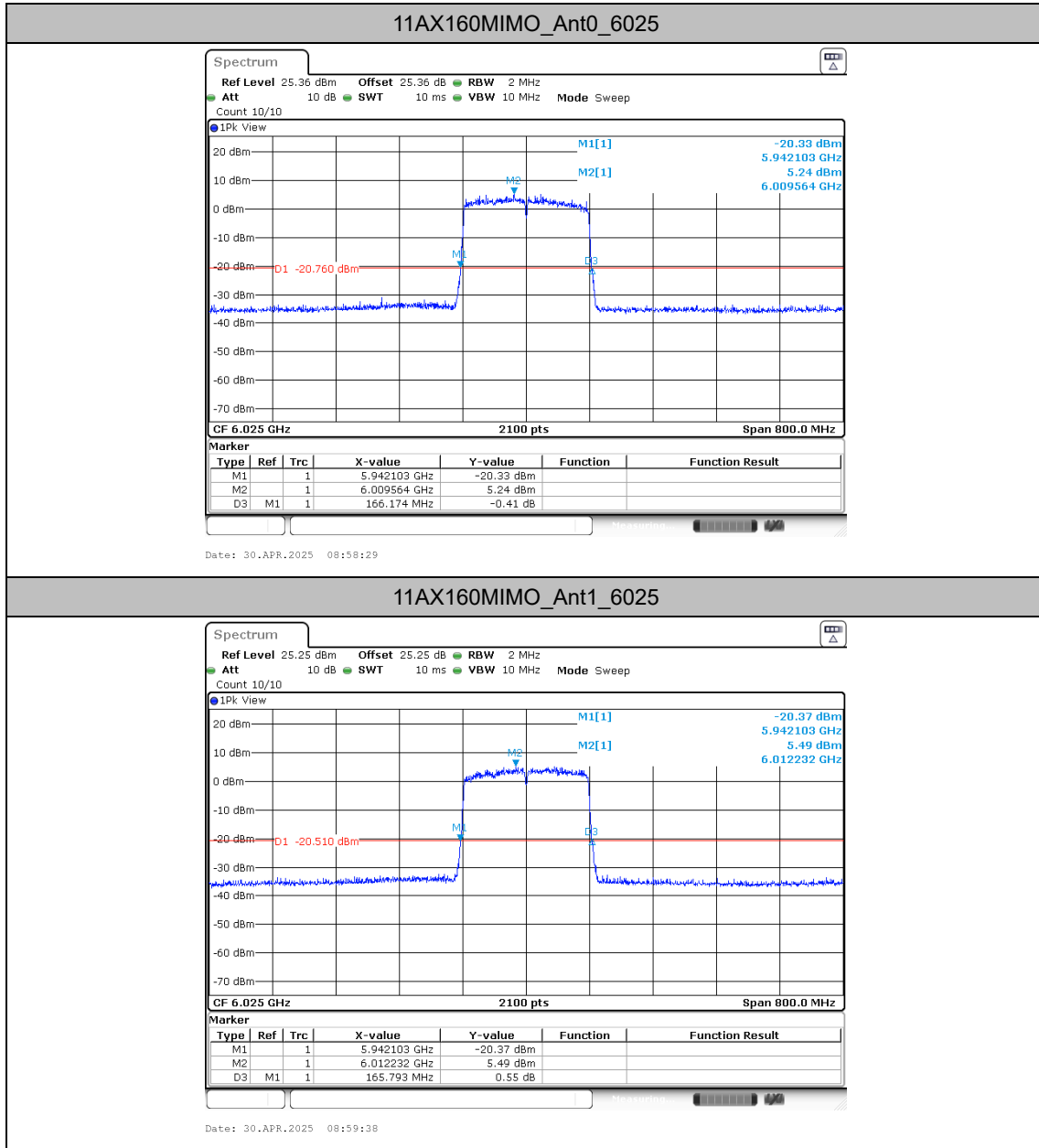


11AX80MIMO_Ant0_6785



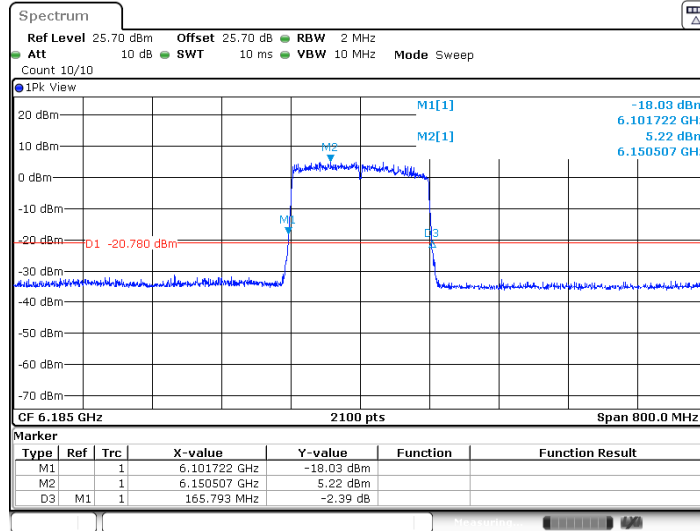
11AX80MIMO_Ant1_6785





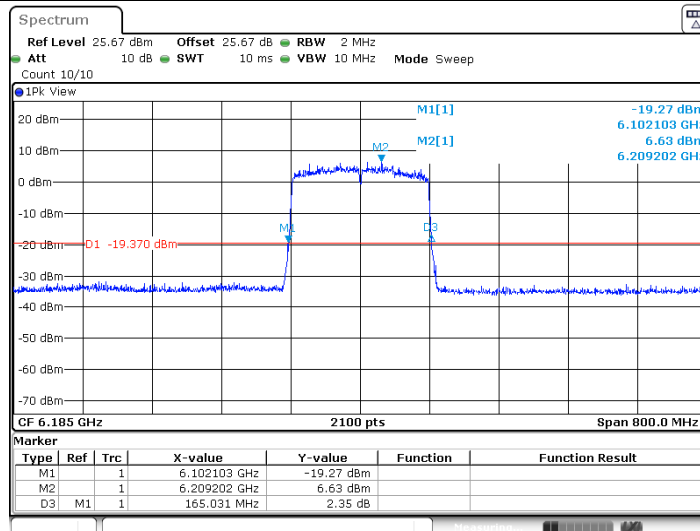


11AX160MIMO_Ant0_6185



Date: 30.APR.2025 09:00:58

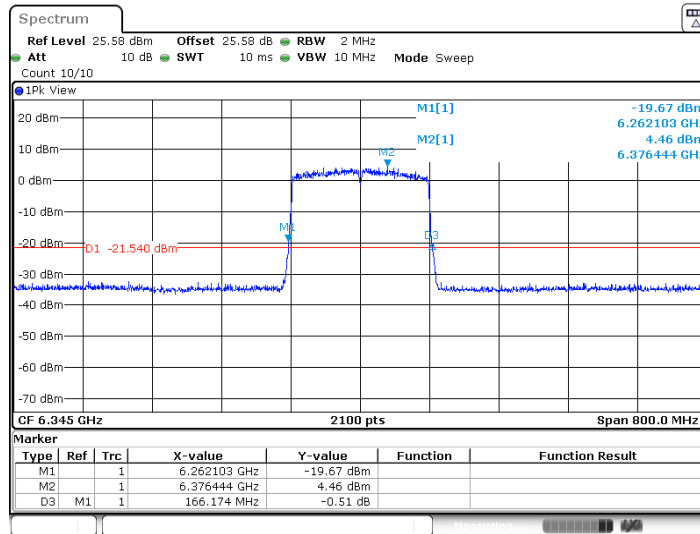
11AX160MIMO_Ant1_6185



Date: 30.APR.2025 09:02:08

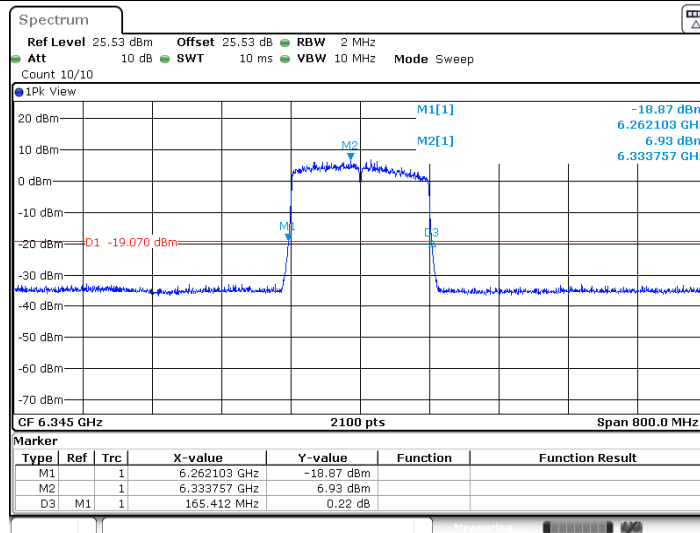


11AX160MIMO_Ant0_6345



Date: 30.APR.2025 09:03:36

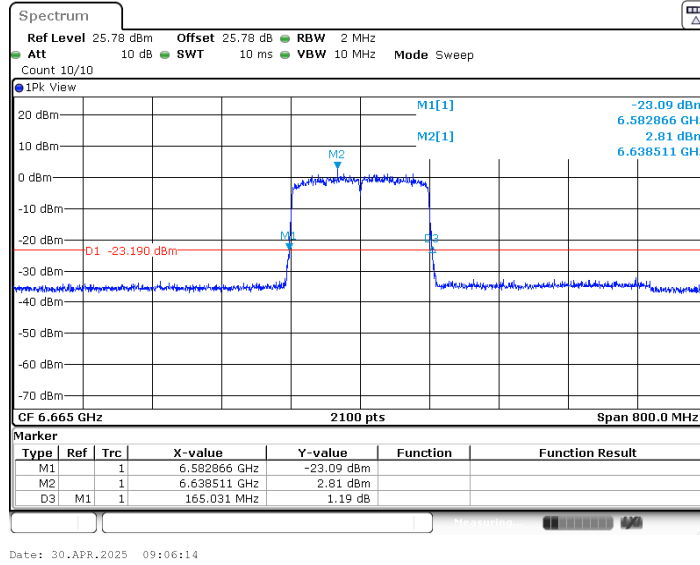
11AX160MIMO_Ant1_6345



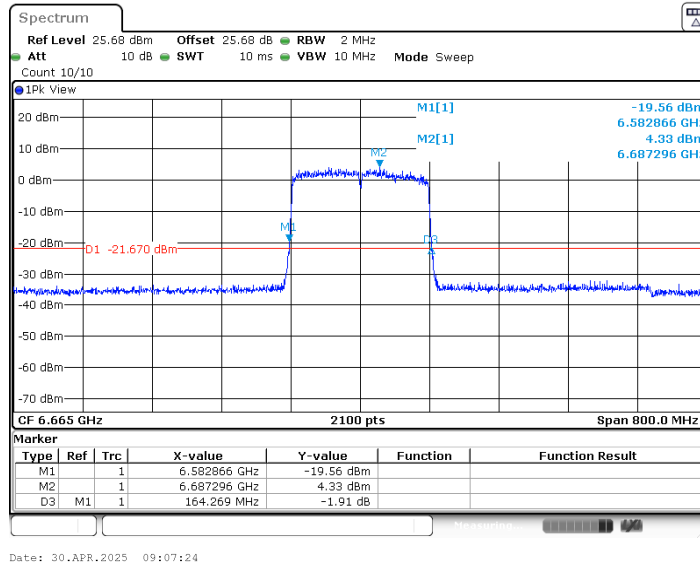
Date: 30.APR.2025 09:04:46



11AX160MIMO_Ant0_6665



11AX160MIMO_Ant1_6665





Occupied channel bandwidth

Test Result

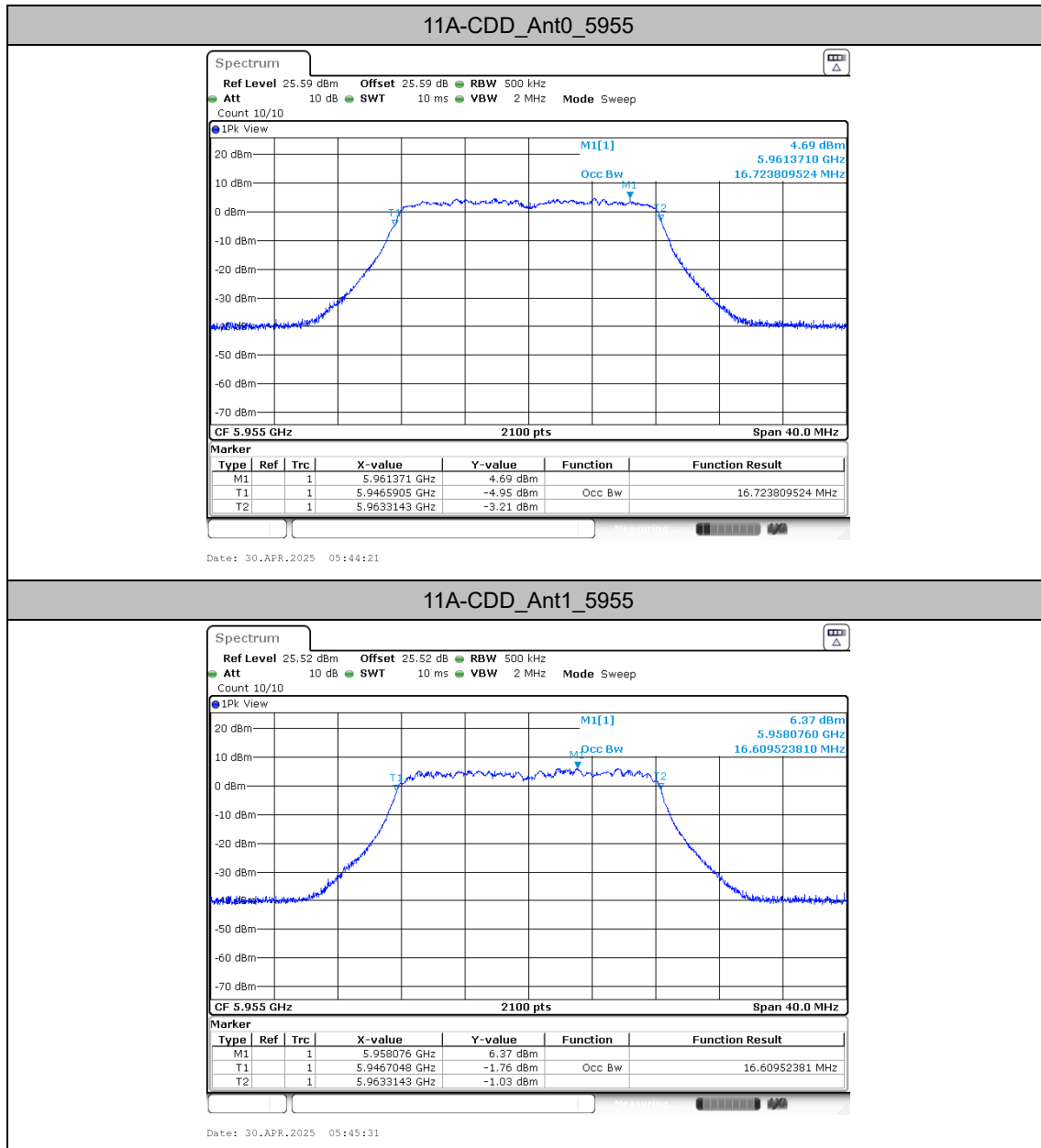
TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]
11A-CDD	Ant0	5955	16.72	5946.5905	5963.3143
	Ant1	5955	16.61	5946.7048	5963.3143
	Ant0	6195	16.74	6186.5524	6203.2952
	Ant1	6195	16.61	6186.6857	6203.2952
	Ant0	6415	16.72	6406.5905	6423.3143
	Ant1	6415	16.61	6406.6857	6423.2952
	Ant0	6535	16.72	6526.5905	6543.3143
	Ant1	6535	16.61	6526.6857	6543.2952
	Ant0	6695	16.74	6686.5524	6703.2952
	Ant1	6695	16.61	6686.6667	6703.2762
	Ant0	6855	16.74	6846.5714	6863.3143
	Ant1	6855	16.61	6846.6857	6863.2952
11AX20MIMO	Ant0	5955	19.01	5945.5048	5964.5143
	Ant1	5955	19.05	5945.4857	5964.5333
	Ant0	6195	19.05	6185.4667	6204.5143
	Ant1	6195	19.05	6185.4667	6204.5143
	Ant0	6415	19.05	6405.4857	6424.5333
	Ant1	6415	19.07	6405.4667	6424.5333
	Ant0	6535	19.03	6525.4857	6544.5143
	Ant1	6535	19.05	6525.4857	6544.5333
	Ant0	6695	19.05	6685.4667	6704.5143
	Ant1	6695	19.07	6685.4476	6704.5143
	Ant0	6855	19.01	6845.4857	6864.4952
	Ant1	6855	19.05	6845.4667	6864.5143
11AX40MIMO	Ant0	5965	37.91	5946.0095	5983.9143
	Ant1	5965	37.87	5946.0857	5983.9524
	Ant0	6205	37.91	6186.0095	6223.9143
	Ant1	6205	37.94	6186.0476	6223.9905
	Ant0	6405	38.02	6386.0095	6424.0286
	Ant1	6405	37.98	6385.9714	6423.9524
	Ant0	6565	37.87	6546.0857	6583.9524
	Ant1	6565	37.91	6546.0095	6583.9143
	Ant0	6685	37.94	6666.0095	6703.9524
	Ant1	6685	37.94	6666.0095	6703.9524
	Ant0	6845	37.91	6826.0476	6863.9524
	Ant1	6845	37.91	6826.0476	6863.9524
11AX80MIMO	Ant0	5985	77.41	5946.2571	6023.6667
	Ant1	5985	77.41	5946.3333	6023.7429
	Ant0	6225	77.56	6186.1048	6263.6667
	Ant1	6225	77.41	6186.1810	6263.5905
	Ant0	6385	77.56	6346.1810	6423.7429
	Ant1	6385	77.56	6346.0286	6423.5905

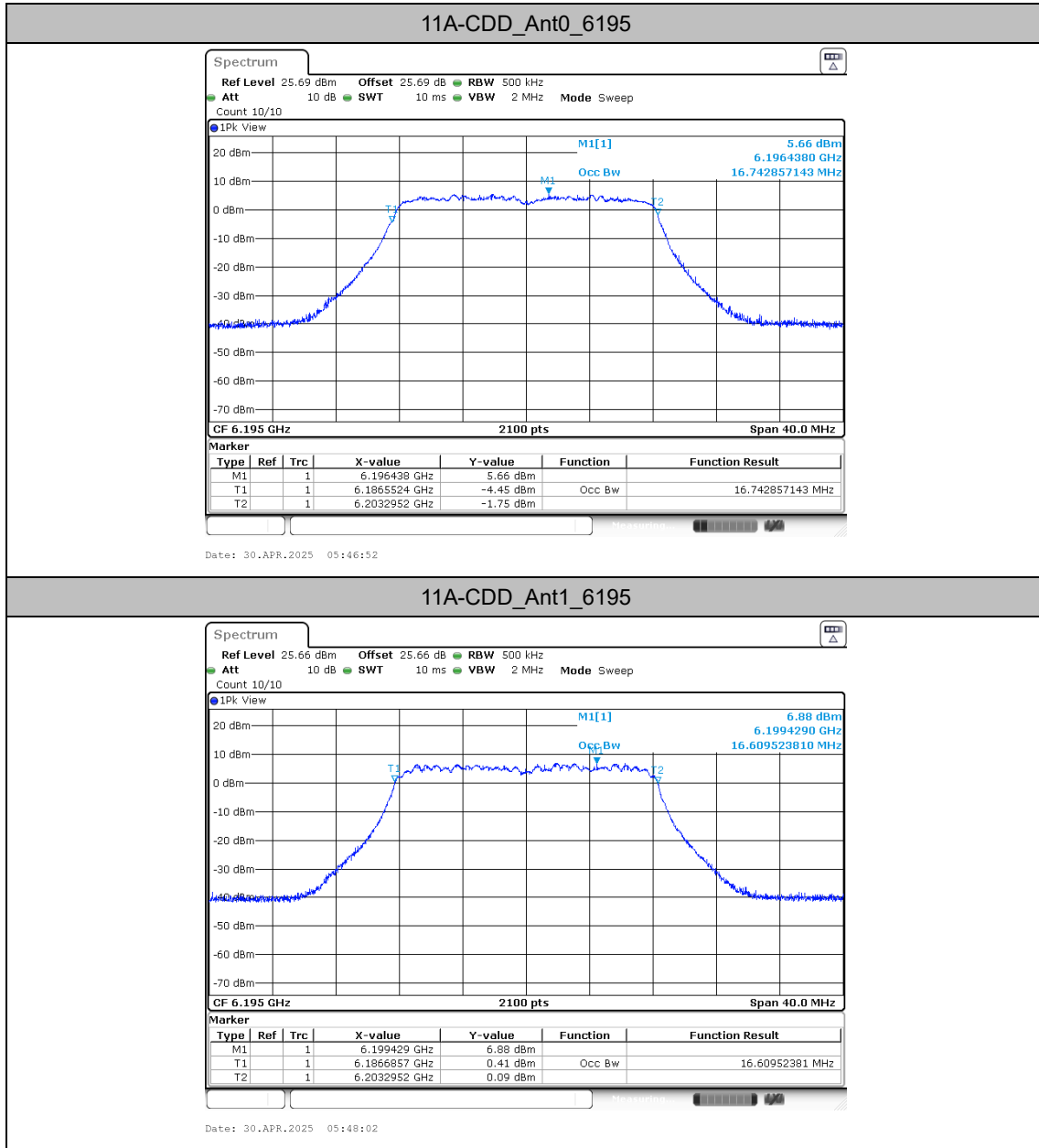


	Ant0	6625	77.41	6586.3333	6663.7429
	Ant1	6625	77.49	6586.1810	6663.6667
	Ant0	6705	77.49	6666.2571	6743.7429
	Ant1	6705	77.56	6666.1048	6743.6667
	Ant0	6785	77.41	6746.4095	6823.8190
	Ant1	6785	77.41	6746.3333	6823.7429
11AX160MIMO	Ant0	6025	156.65	5946.2952	6102.9429
	Ant1	6025	156.65	5947.0571	6103.7048
	Ant0	6185	157.11	6105.8381	6262.9429
	Ant1	6185	156.80	6106.2952	6263.0952
	Ant0	6345	157.11	6266.4476	6423.5524
	Ant1	6345	156.80	6265.9905	6422.7905
	Ant0	6665	157.11	6586.4476	6743.5524
	Ant1	6665	156.80	6586.2952	6743.0952



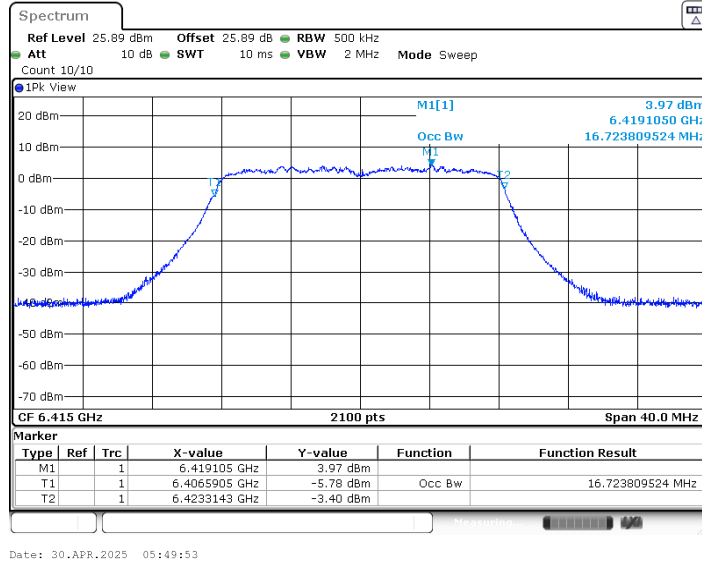
Test Graphs



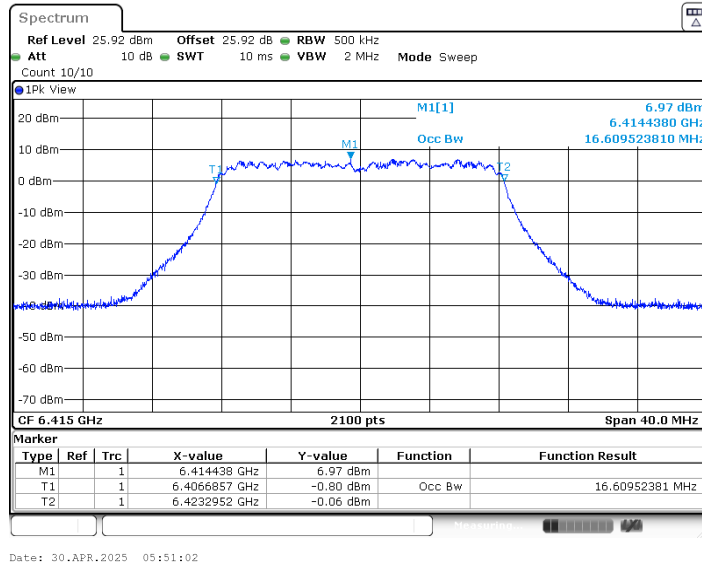




11A-CDD_Ant0_6415

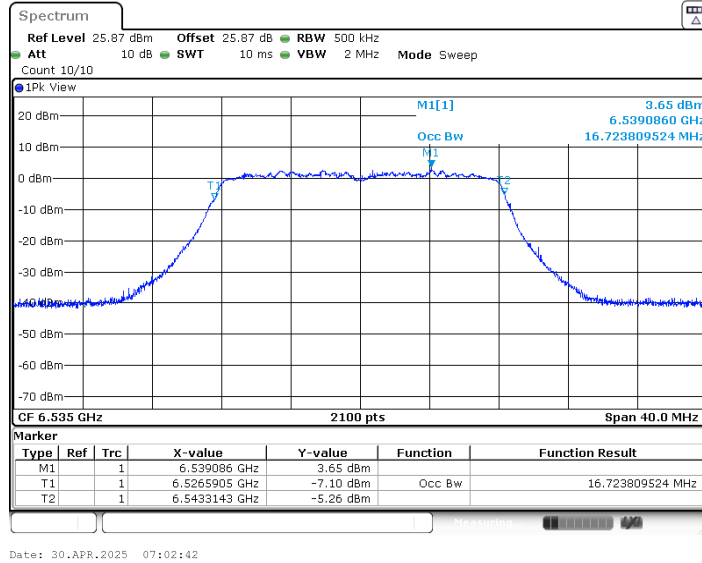


11A-CDD_Ant1_6415

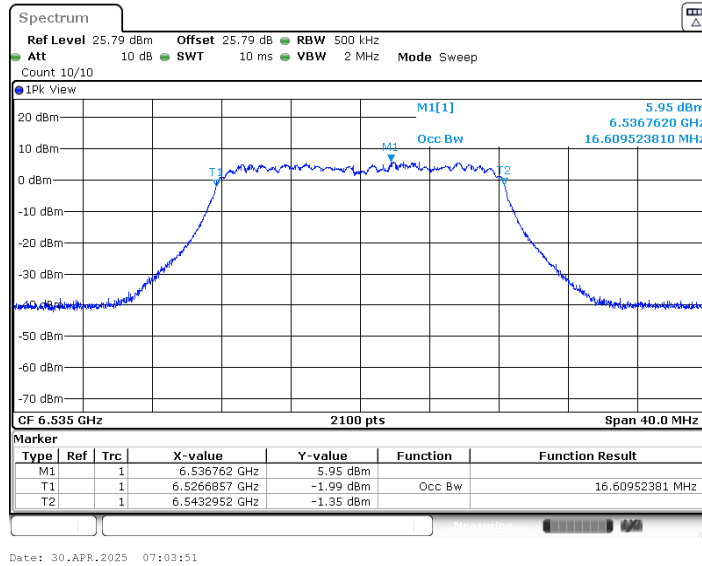




11A-CDD_Ant0_6535

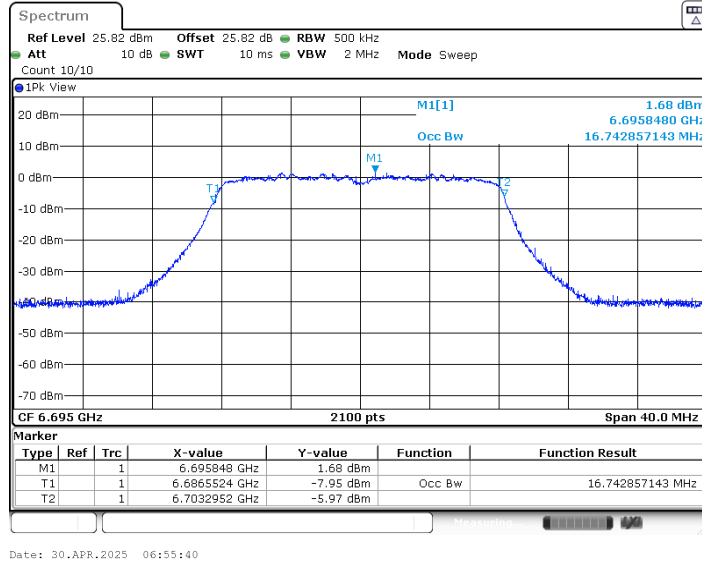


11A-CDD_Ant1_6535

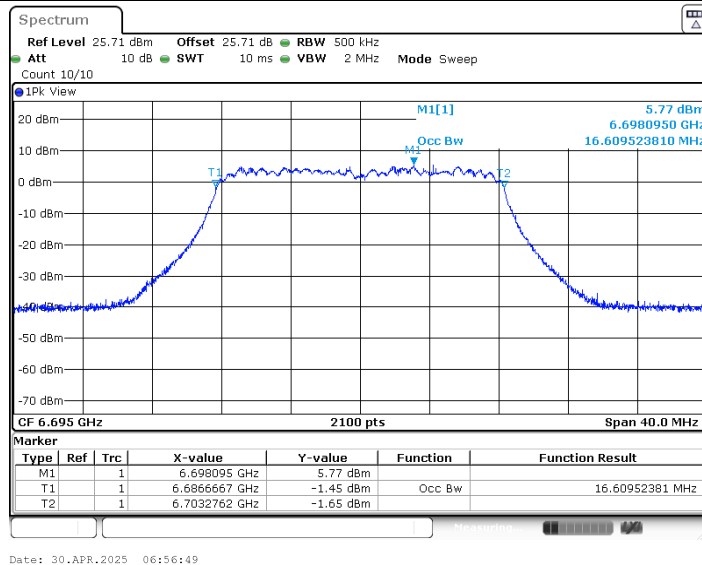




11A-CDD_Ant0_6695

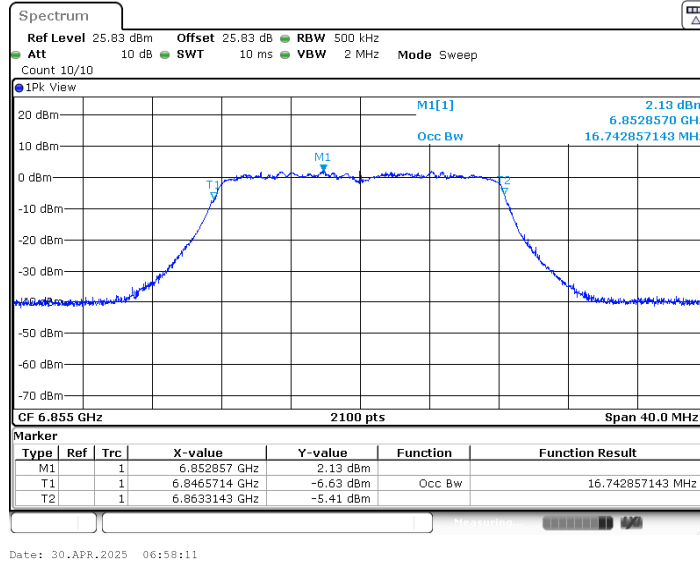


11A-CDD_Ant1_6695

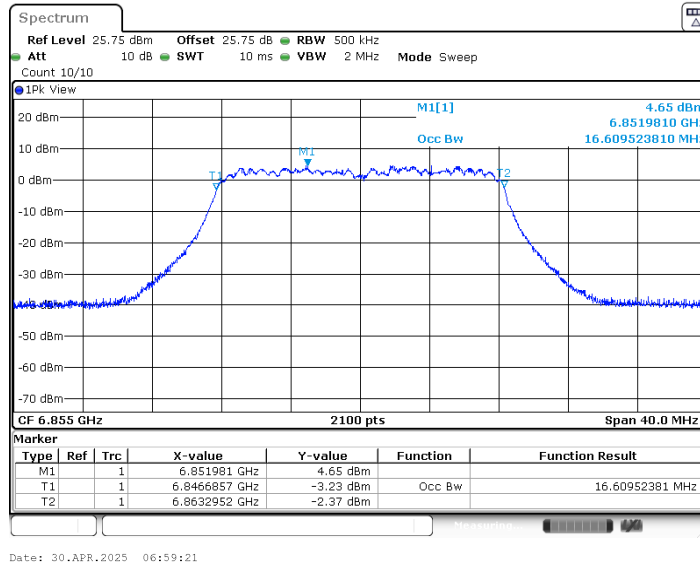




11A-CDD_Ant0_6855

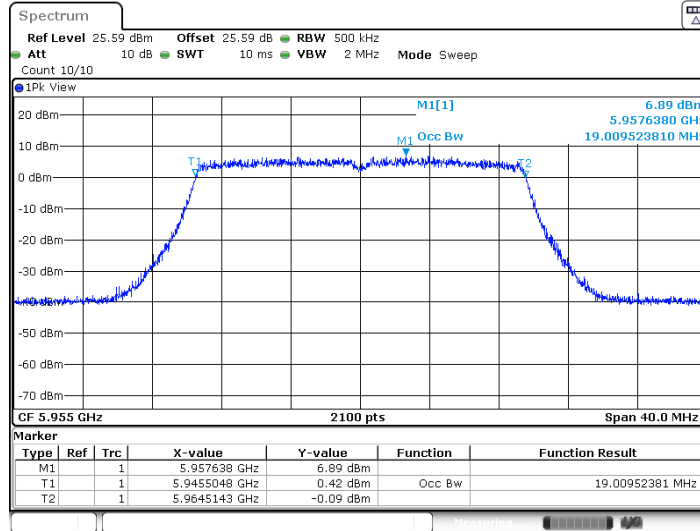


11A-CDD_Ant1_6855



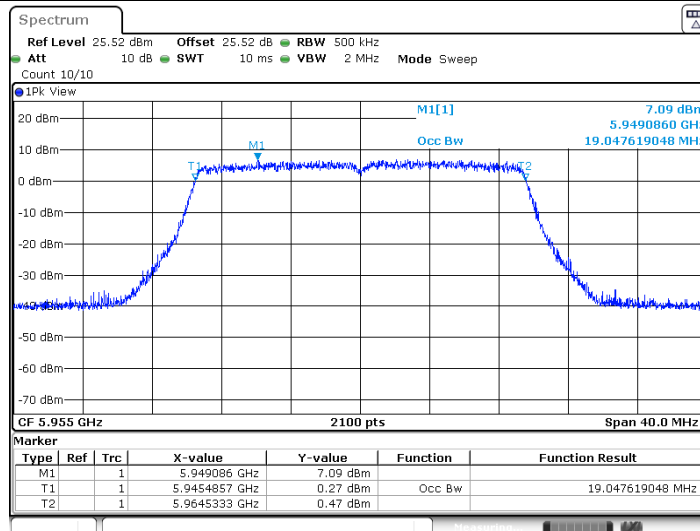


11AX20MIMO_Ant0_5955



Date: 30.APR.2025 07:09:41

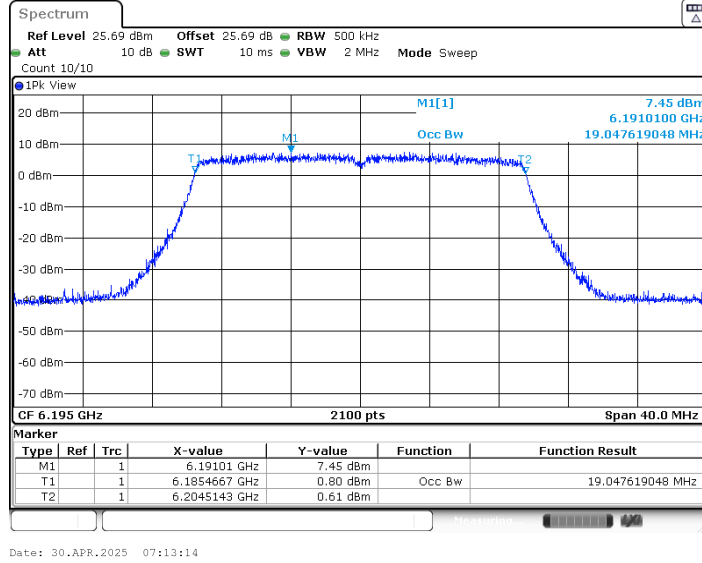
11AX20MIMO_Ant1_5955



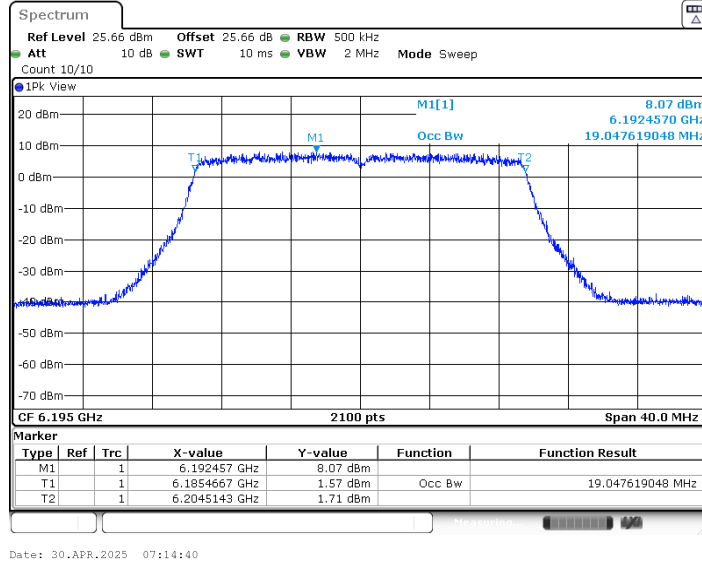
Date: 30.APR.2025 07:10:51



11AX20MIMO_Ant0_6195

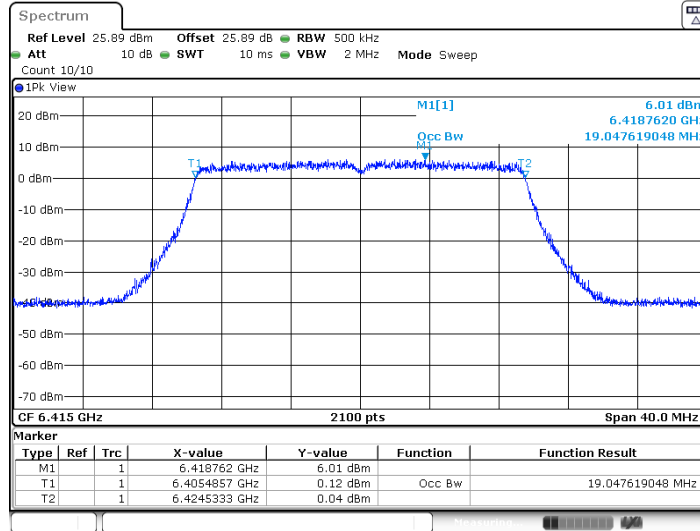


11AX20MIMO_Ant1_6195



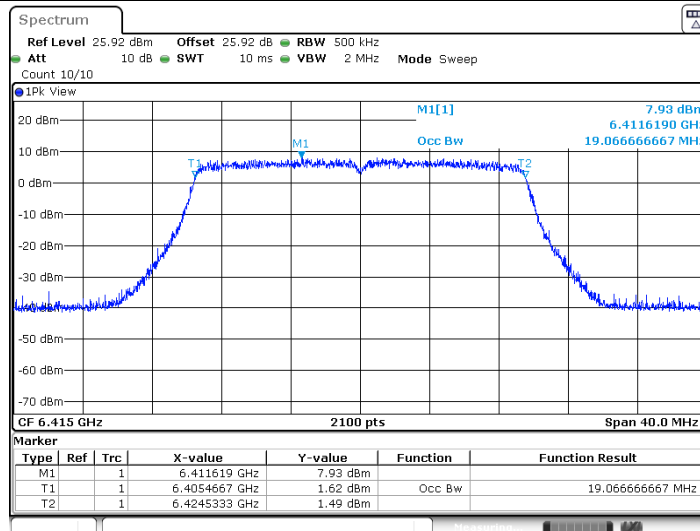


11AX20MIMO_Ant0_6415



Date: 30.APR.2025 07:16:09

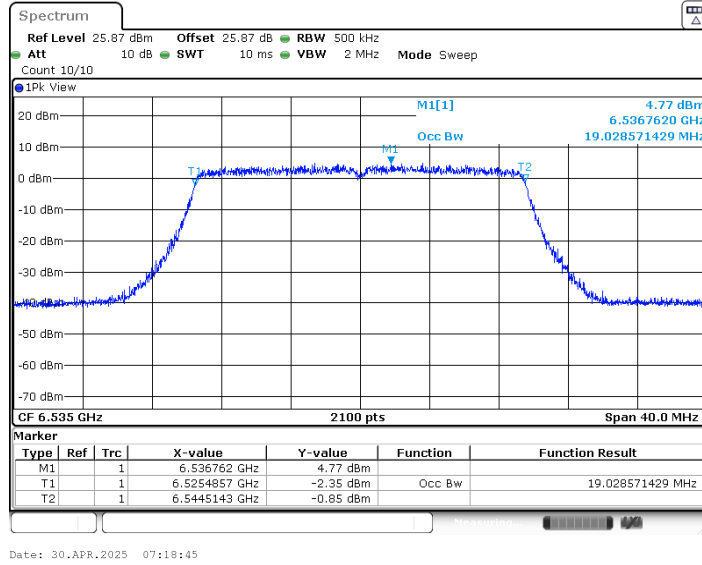
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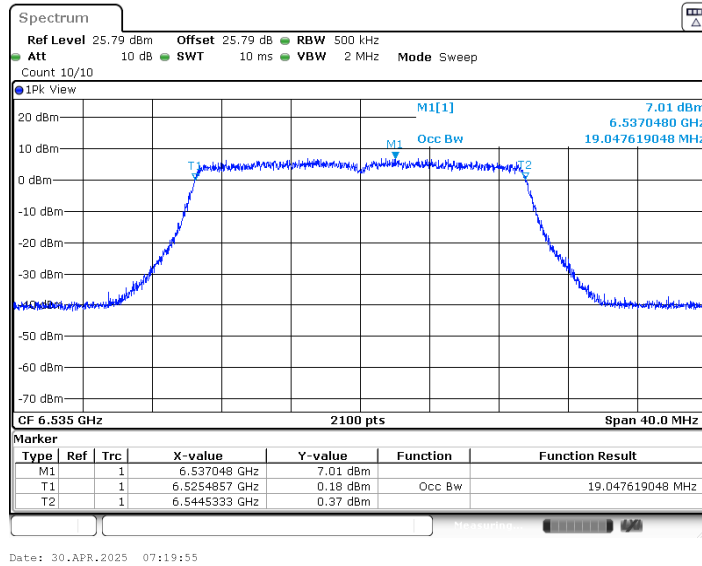
Date: 30.APR.2025 07:17:18



11AX20MIMO_Ant0_6535

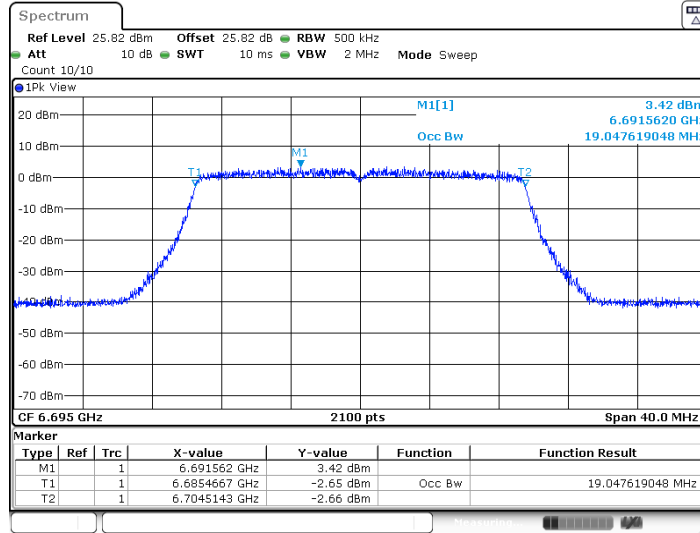


11AX20MIMO_Ant1_6535



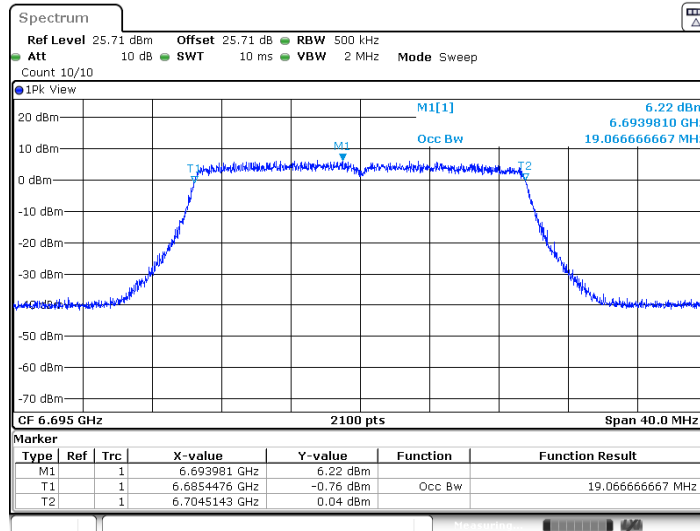


11AX20MIMO_Ant0_6695



Date: 30.APR.2025 07:24:30

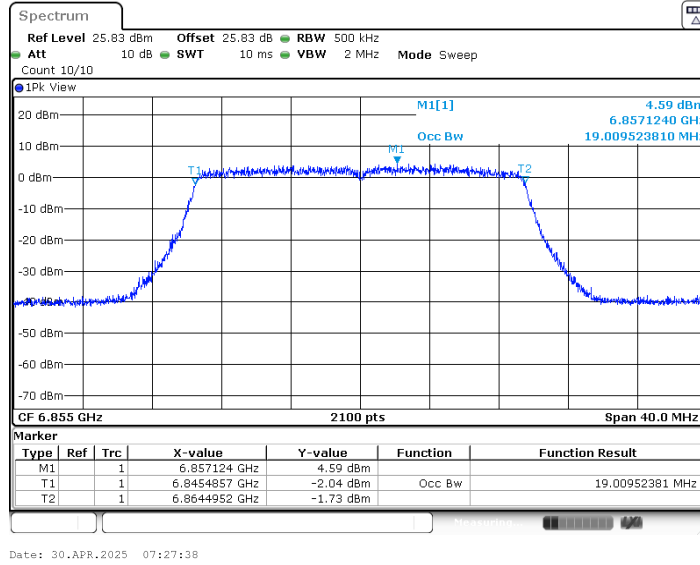
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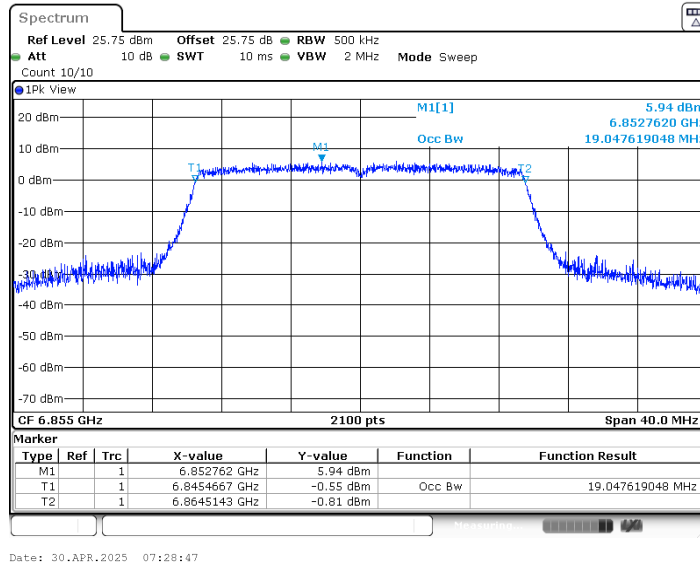
Date: 30.APR.2025 07:25:39



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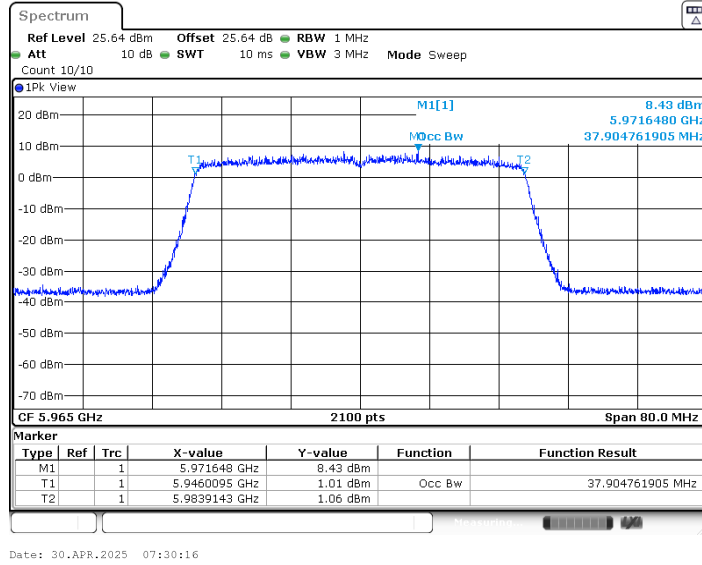


11AX20MIMO_Ant1_6855

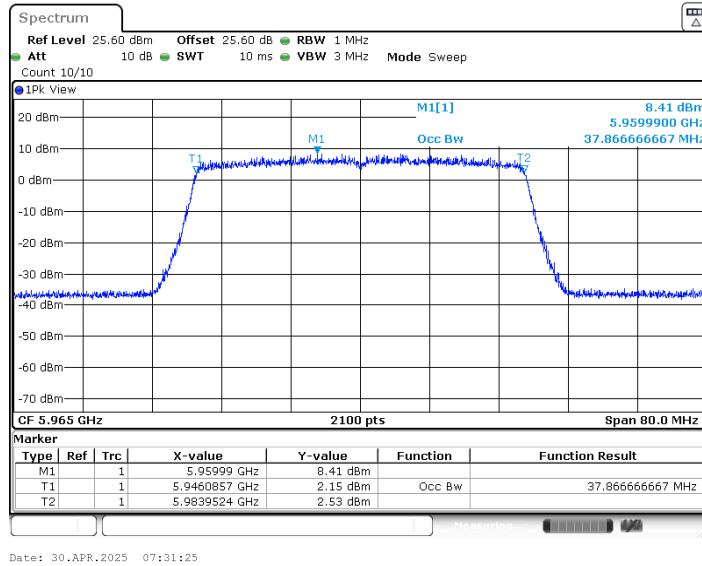




11AX40MIMO_Ant0_5965

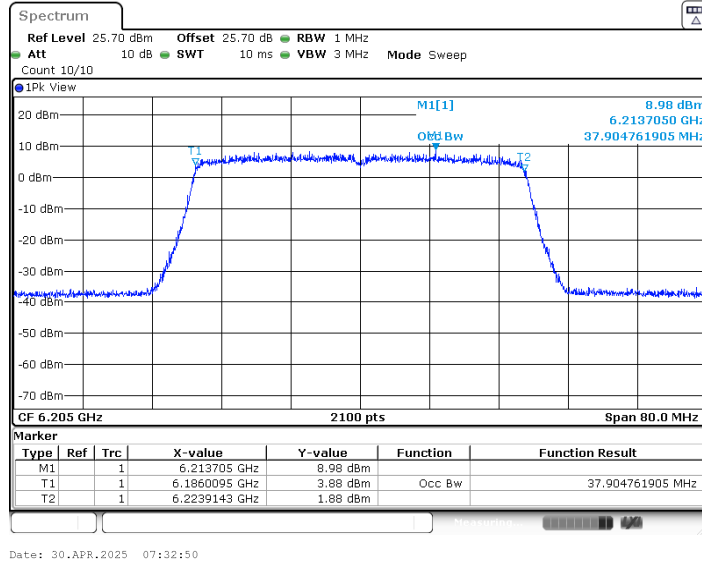


11AX40MIMO_Ant1_5965

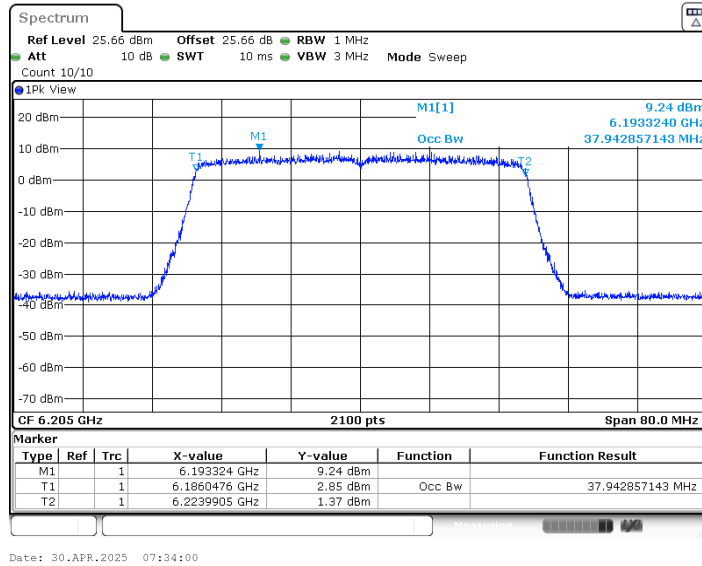




11AX40MIMO_Ant0_6205

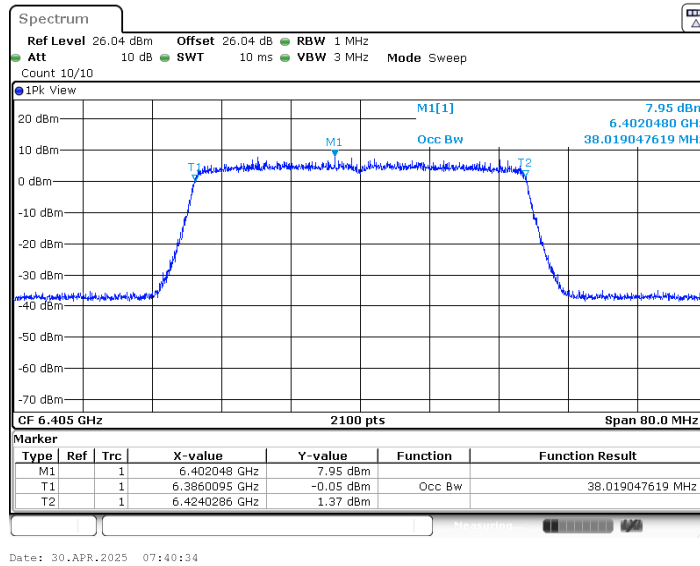


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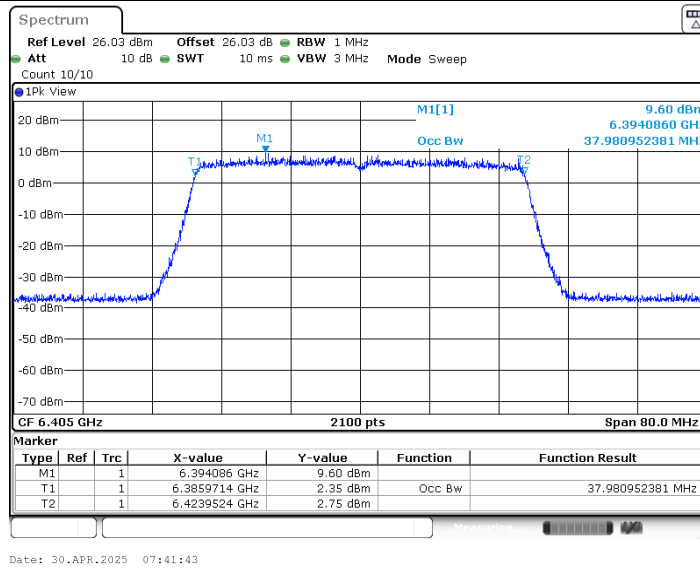




11AX40MIMO_Ant0_6405

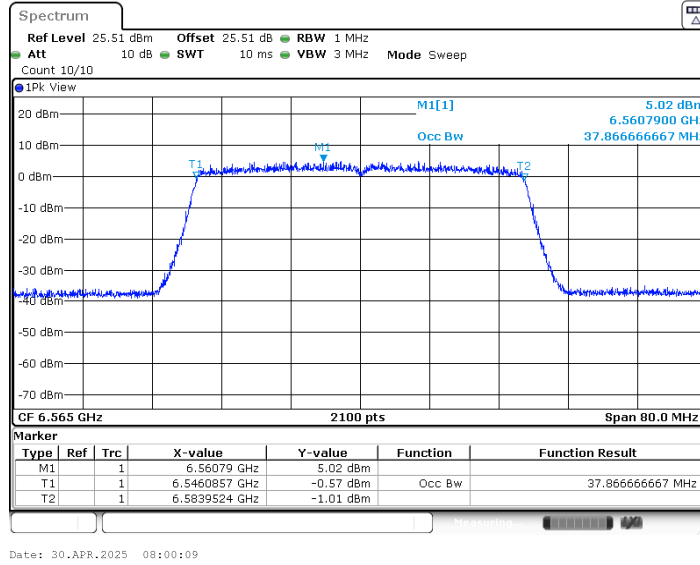


11AX40MIMO_Ant1_6405

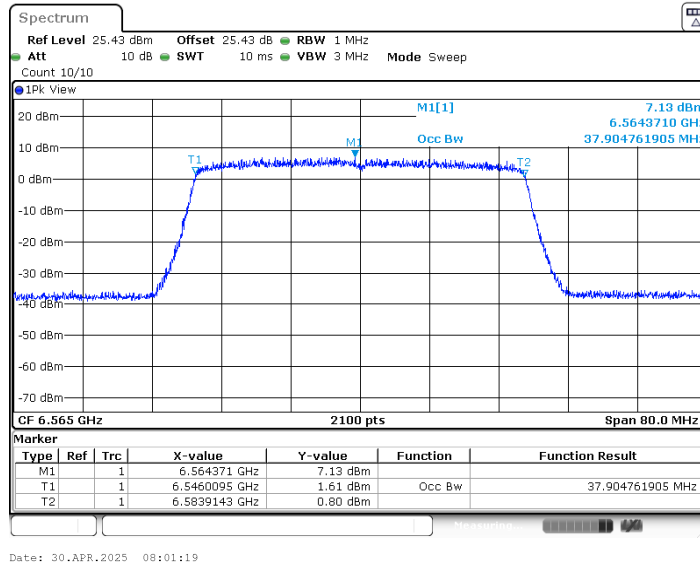




11AX40MIMO_Ant0_6565

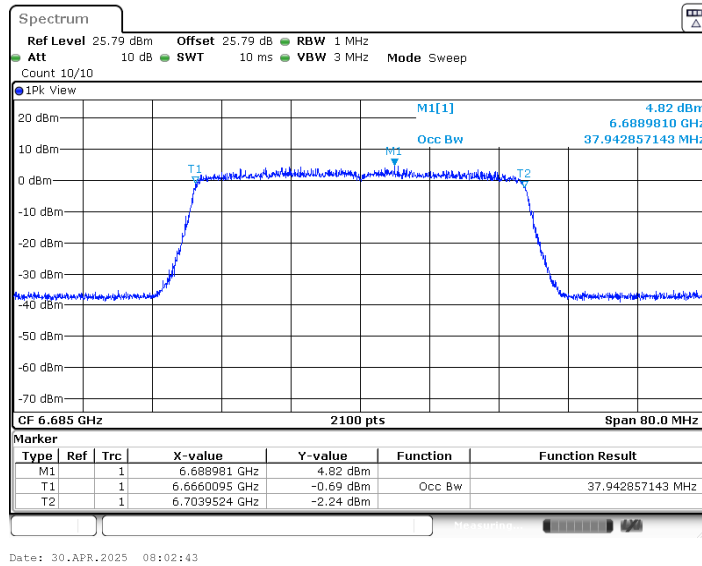


11AX40MIMO_Ant1_6565

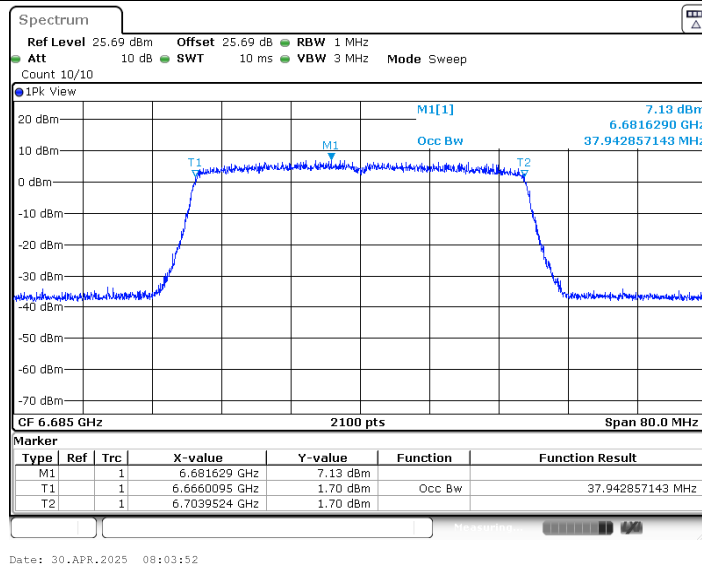




11AX40MIMO_Ant0_6685

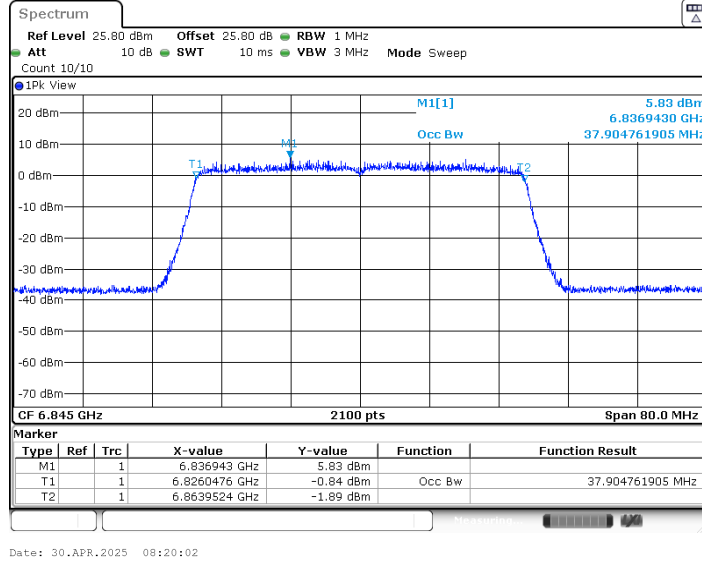


11AX40MIMO_Ant1_6685

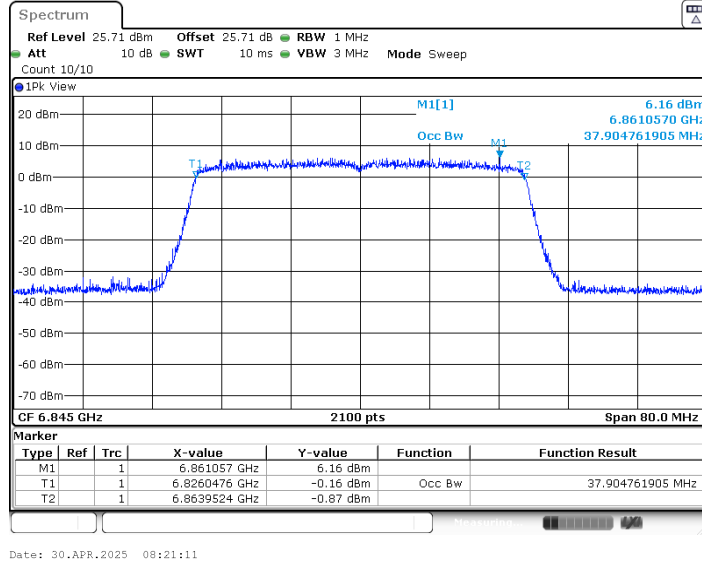




11AX40MIMO_Ant0_6845

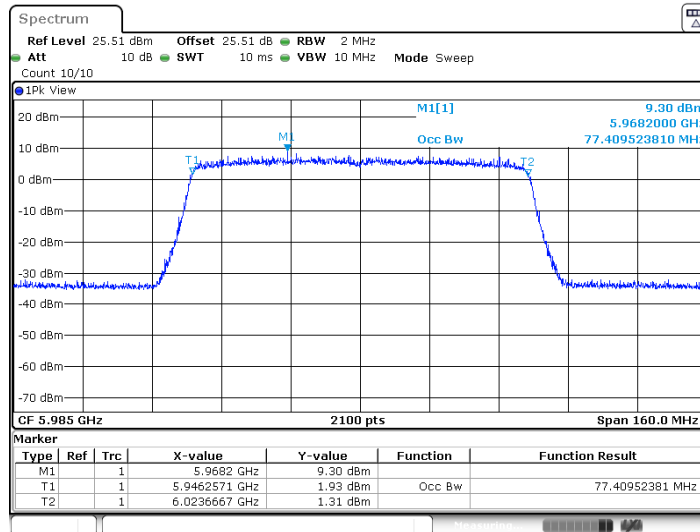


11AX40MIMO_Ant1_6845



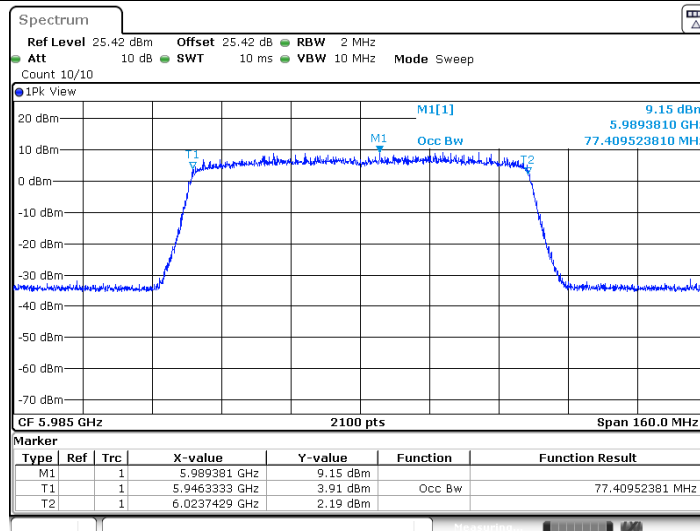


11AX80MIMO_Ant0_5985



Date: 30.APR.2025 08:27:46

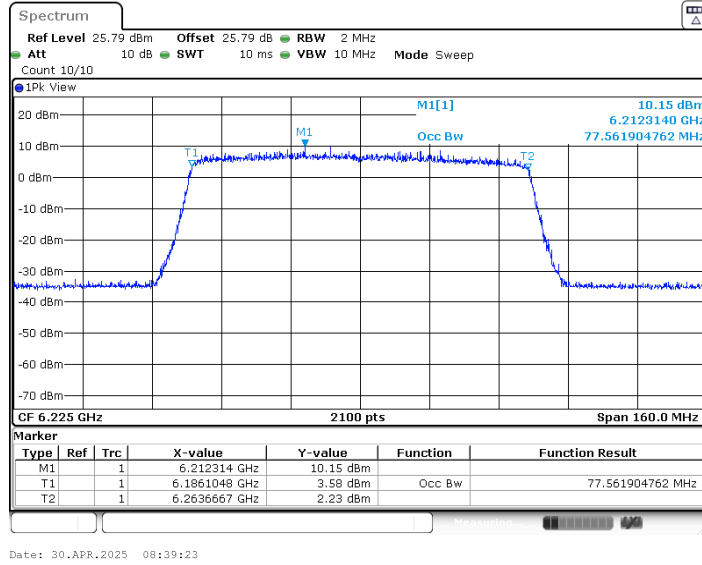
11AX80MIMO_Ant1_5985



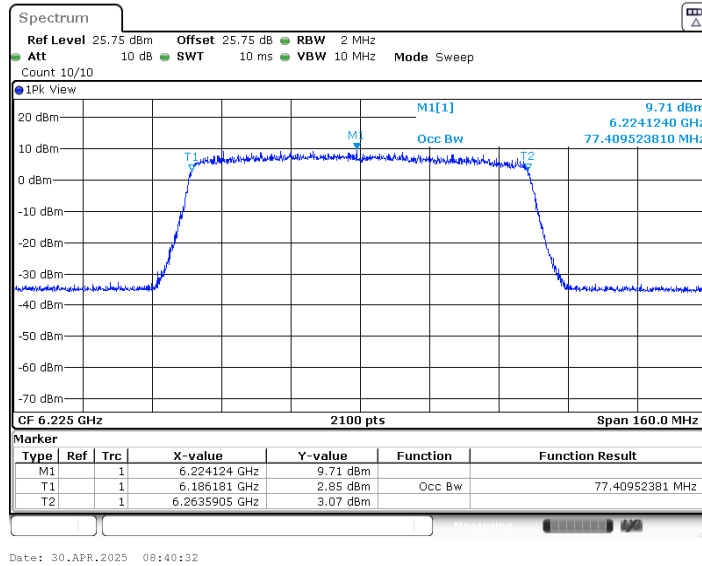
Date: 30.APR.2025 08:28:55



11AX80MIMO_Ant0_6225

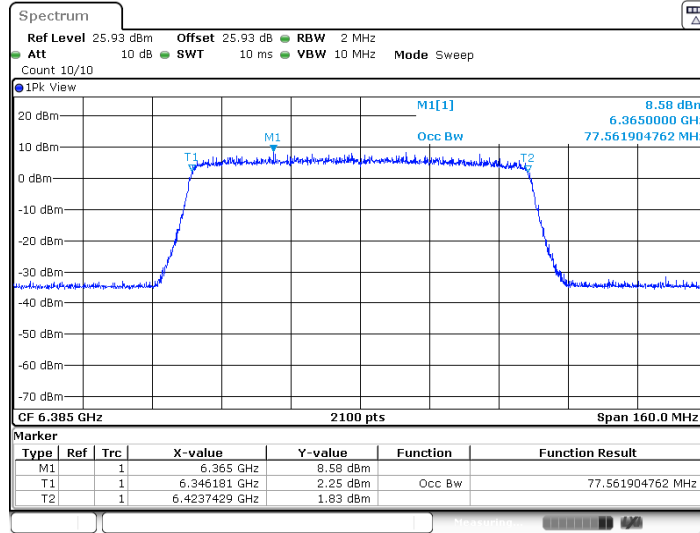


11AX80MIMO_Ant1_6225



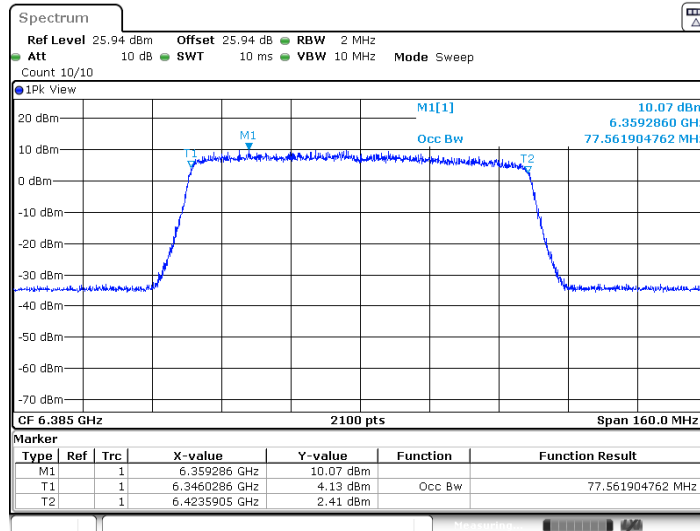


11AX80MIMO_Ant0_6385

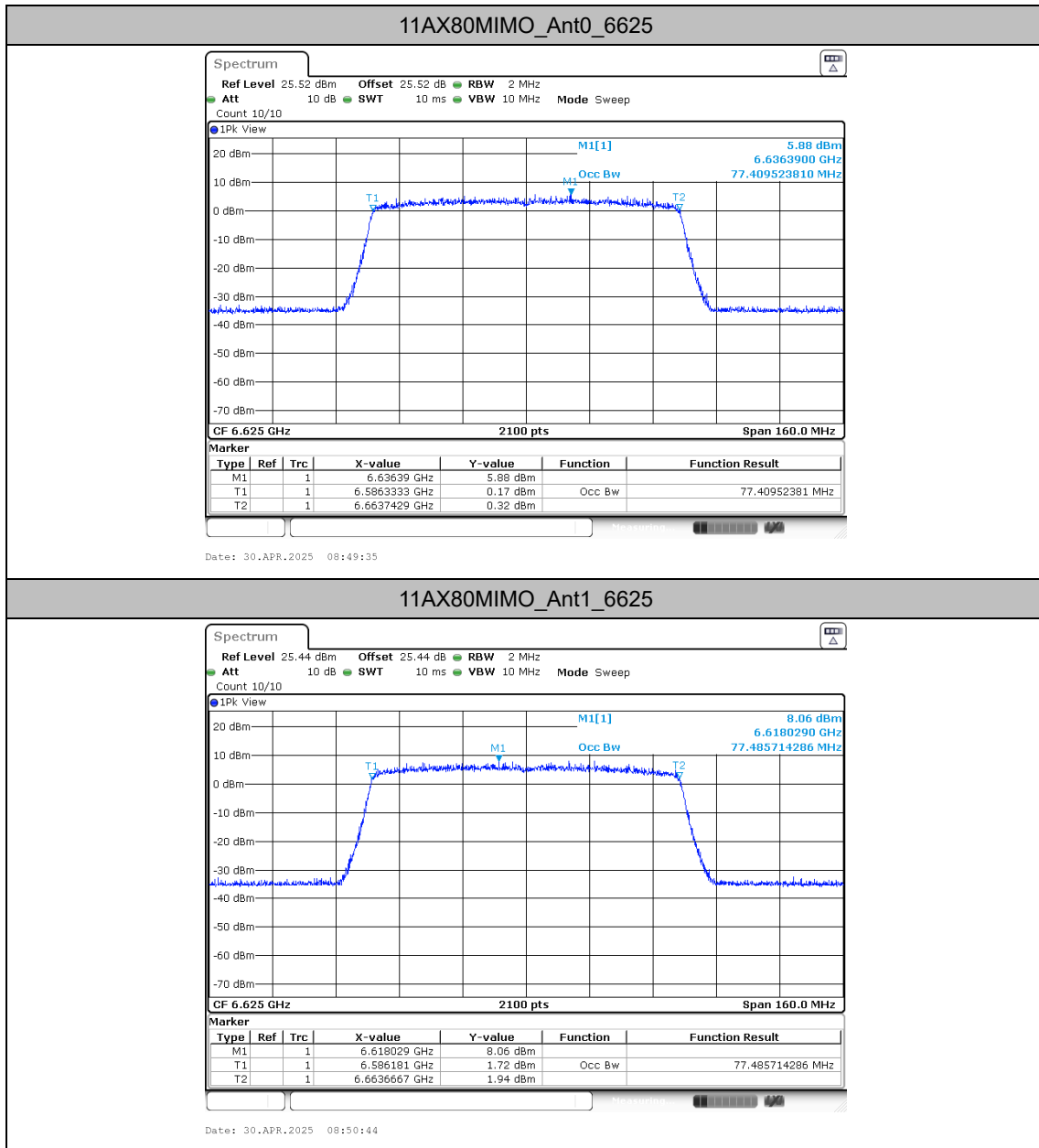


Date: 30.APR.2025 08:45:15

11AX80MIMO_Ant1_6385

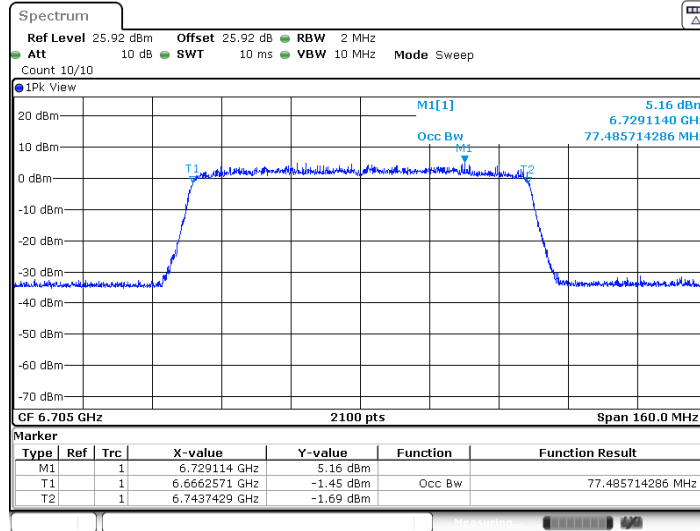


Date: 30.APR.2025 08:46:25



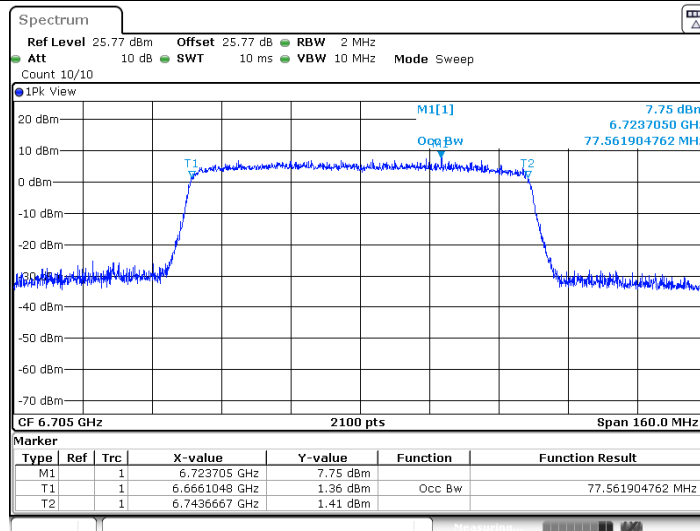


11AX80MIMO_Ant0_6705



Date: 30.APR.2025 08:53:44

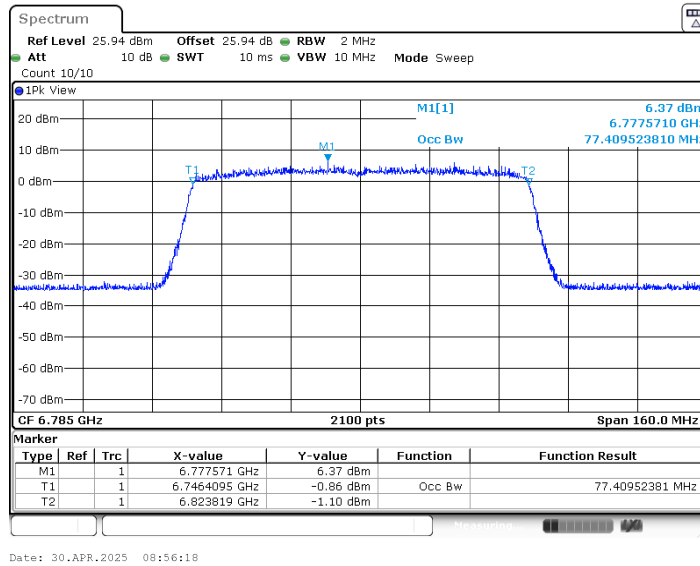
11AX80MIMO_Ant1_6705



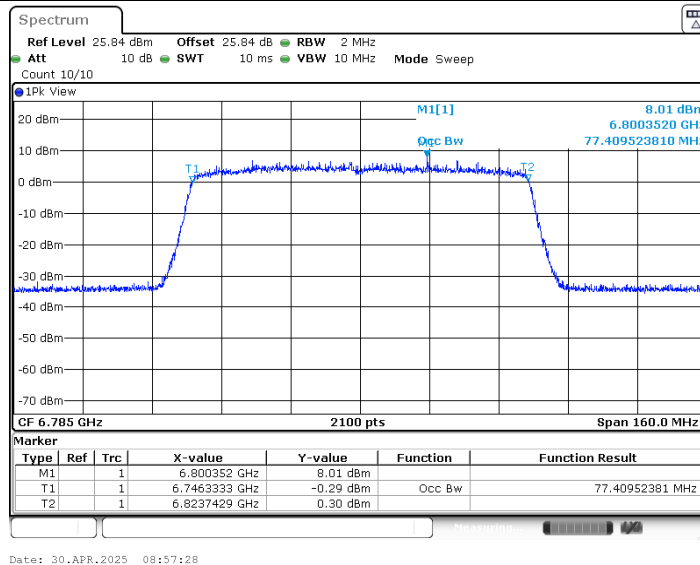
Date: 30.APR.2025 08:54:54

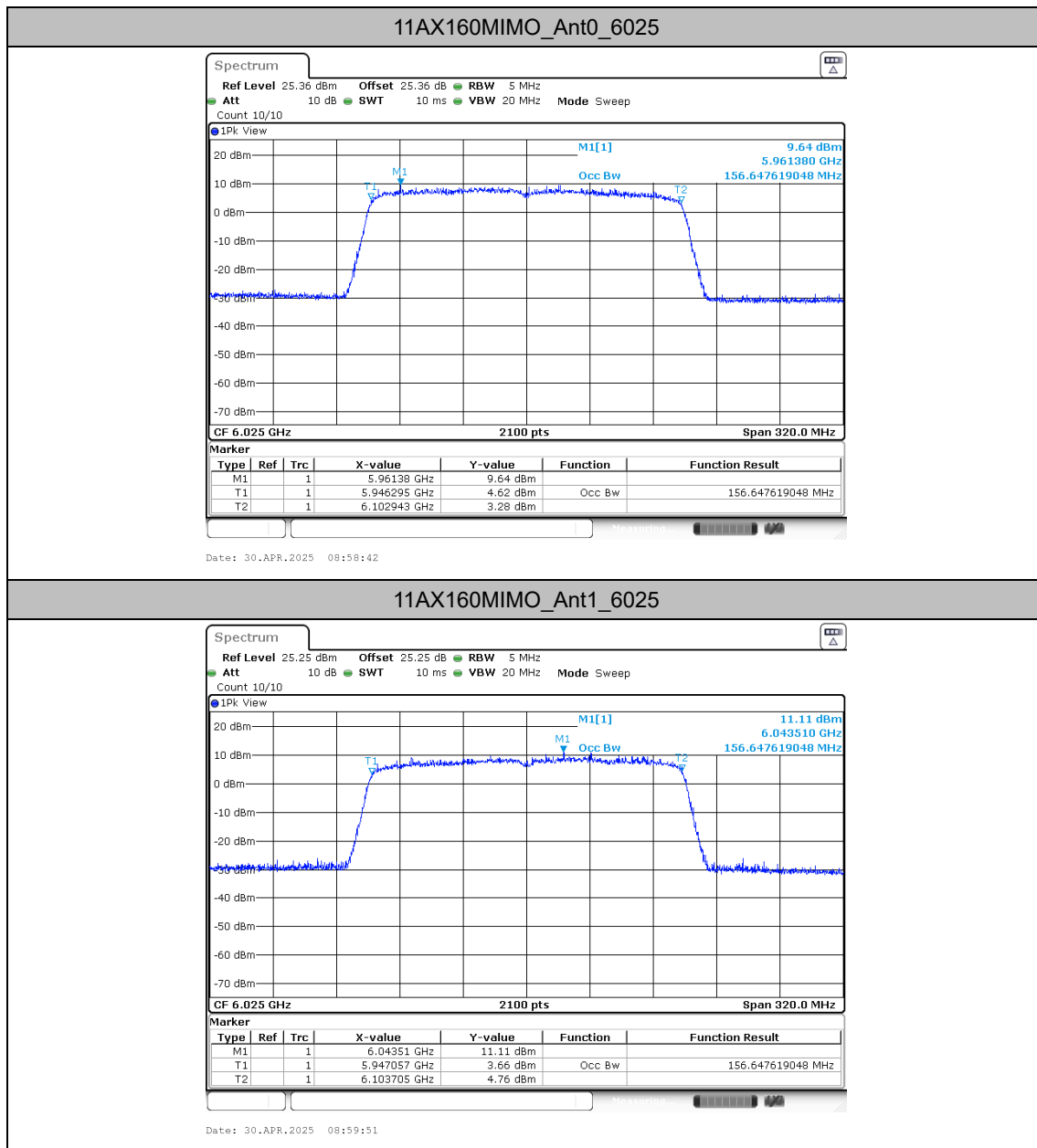


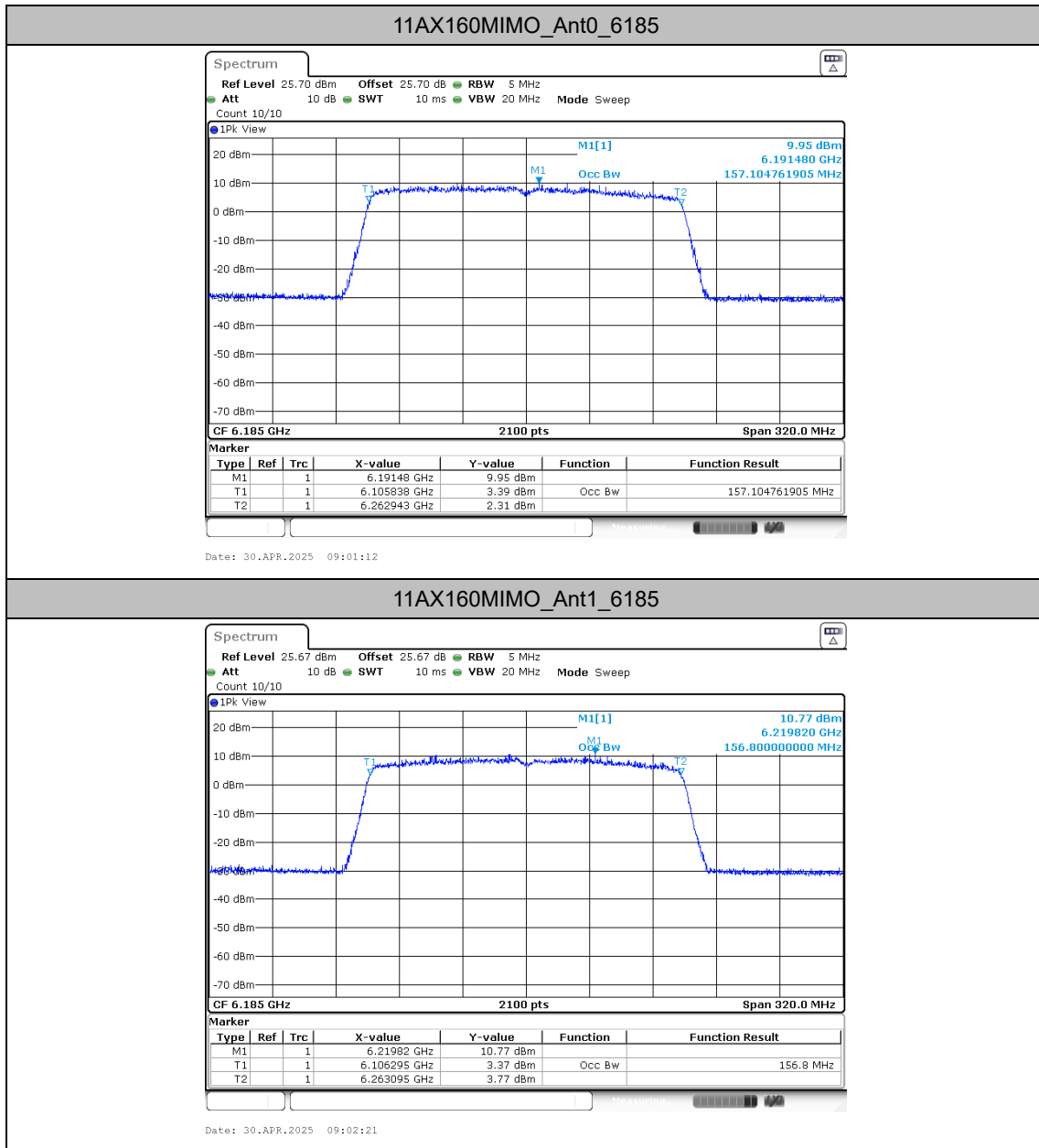
11AX80MIMO_Ant0_6785

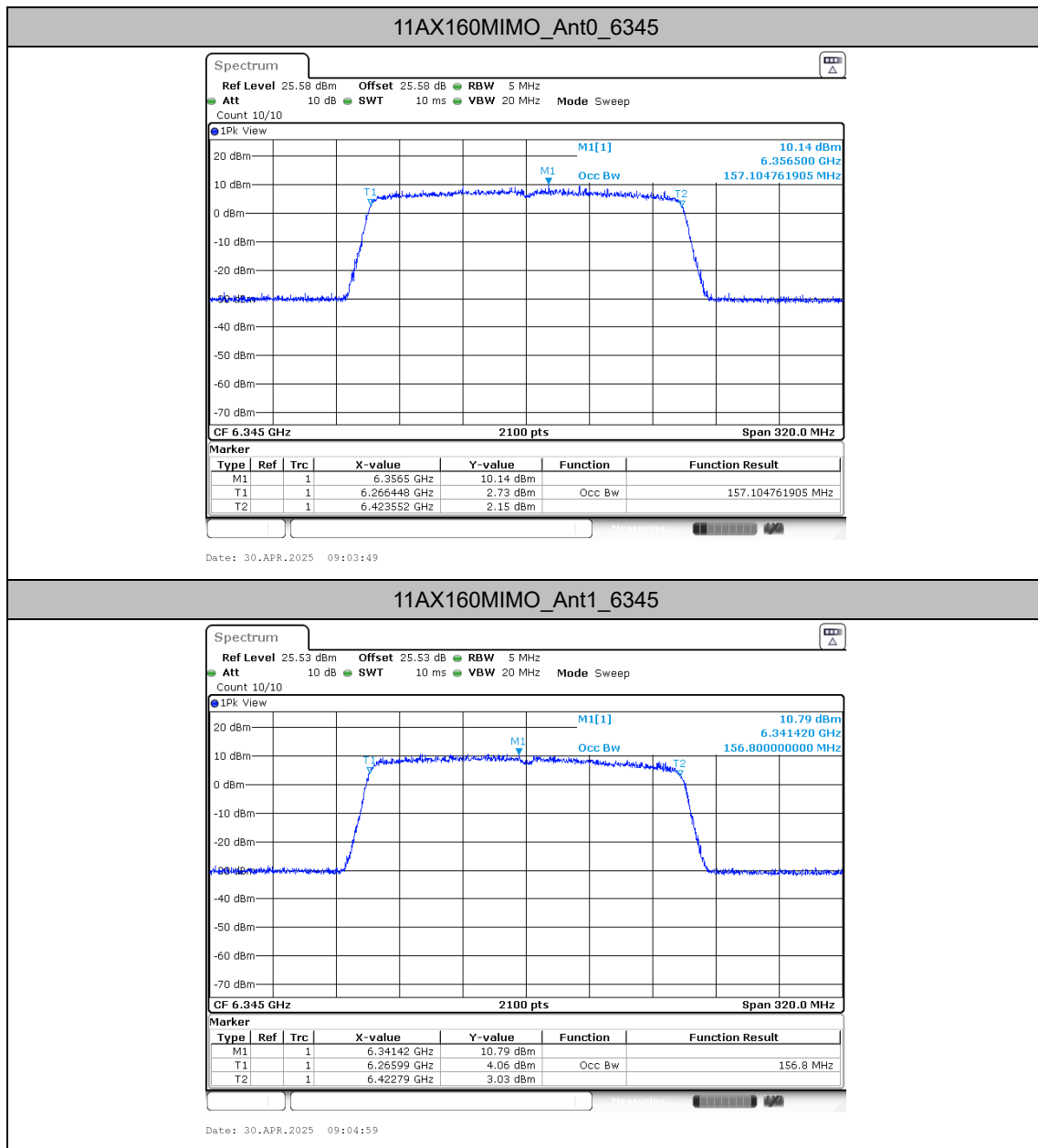


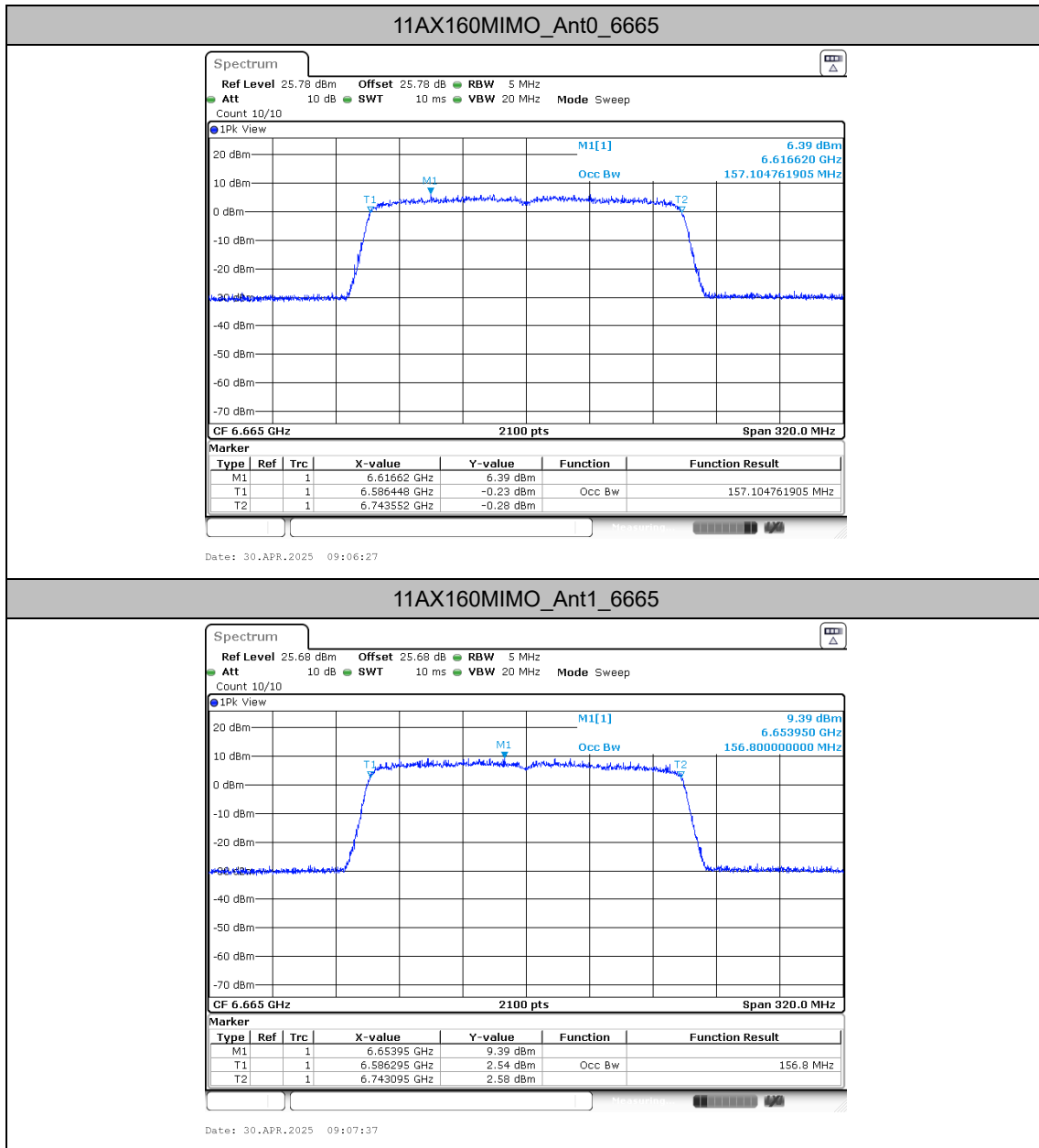
11AX80MIMO_Ant1_6785













Maximum power spectral density

Test Result

TestMode	Antenna	Freq(MHz)	Result [dBm/MHz]	Gain [dBi]	EIRP [dBm/MHz]	Limit [dBm/MHz]	Verdict
11A-CDD	Ant0	5955	-0.60	3.38	2.78	≤17.00	PASS
	Ant1	5955	-0.16	3.14	2.98	≤17.00	PASS
	total	5955	2.64	6.27	8.91	≤17.00	PASS
	Ant0	6195	0.06	3.38	3.44	≤17.00	PASS
	Ant1	6195	0.56	3.14	3.70	≤17.00	PASS
	total	6195	3.33	6.27	9.60	≤17.00	PASS
	Ant0	6415	-1.40	3.38	1.98	≤17.00	PASS
	Ant1	6415	0.55	3.14	3.69	≤17.00	PASS
	total	6415	2.69	6.27	8.96	≤17.00	PASS
	Ant0	6535	-2.94	2.55	-0.39	≤17.00	PASS
	Ant1	6535	-0.59	2.69	2.10	≤17.00	PASS
	total	6535	1.40	5.63	7.03	≤17.00	PASS
	Ant0	6695	-3.80	2.55	-1.25	≤17.00	PASS
	Ant1	6695	-1.16	2.69	1.53	≤17.00	PASS
	total	6695	0.73	5.63	6.36	≤17.00	PASS
	Ant0	6855	-3.12	2.55	-0.57	≤17.00	PASS
	Ant1	6855	-1.72	2.69	0.97	≤17.00	PASS
	total	6855	0.65	5.63	6.28	≤17.00	PASS
11AX20MIMO	Ant0	5955	-1.25	3.38	2.13	≤17.00	PASS
	Ant1	5955	-0.78	3.14	2.36	≤17.00	PASS
	total	5955	2.00	6.27	8.27	≤17.00	PASS
	Ant0	6195	-0.44	3.38	2.94	≤17.00	PASS
	Ant1	6195	0.02	3.14	3.16	≤17.00	PASS
	total	6195	2.81	6.27	9.08	≤17.00	PASS
	Ant0	6415	-1.90	3.38	1.48	≤17.00	PASS
	Ant1	6415	-0.01	3.14	3.13	≤17.00	PASS
	total	6415	2.16	6.27	8.43	≤17.00	PASS
	Ant0	6535	-3.35	2.55	-0.80	≤17.00	PASS
	Ant1	6535	-1.08	2.69	1.61	≤17.00	PASS
	total	6535	0.94	5.63	6.57	≤17.00	PASS
	Ant0	6695	-4.35	2.55	-1.80	≤17.00	PASS
	Ant1	6695	-1.62	2.69	1.07	≤17.00	PASS
	total	6695	0.24	5.63	5.87	≤17.00	PASS
	Ant0	6855	-3.54	2.55	-0.99	≤17.00	PASS
	Ant1	6855	-2.22	2.69	0.47	≤17.00	PASS
	total	6855	0.18	5.63	5.81	≤17.00	PASS
11AX40MIMO	Ant0	5965	-3.76	3.38	-0.38	≤17.00	PASS
	Ant1	5965	-3.39	3.14	-0.25	≤17.00	PASS
	total	5965	-0.56	6.27	5.71	≤17.00	PASS
	Ant0	6205	-3.25	3.38	0.13	≤17.00	PASS
	Ant1	6205	-2.86	3.14	0.28	≤17.00	PASS

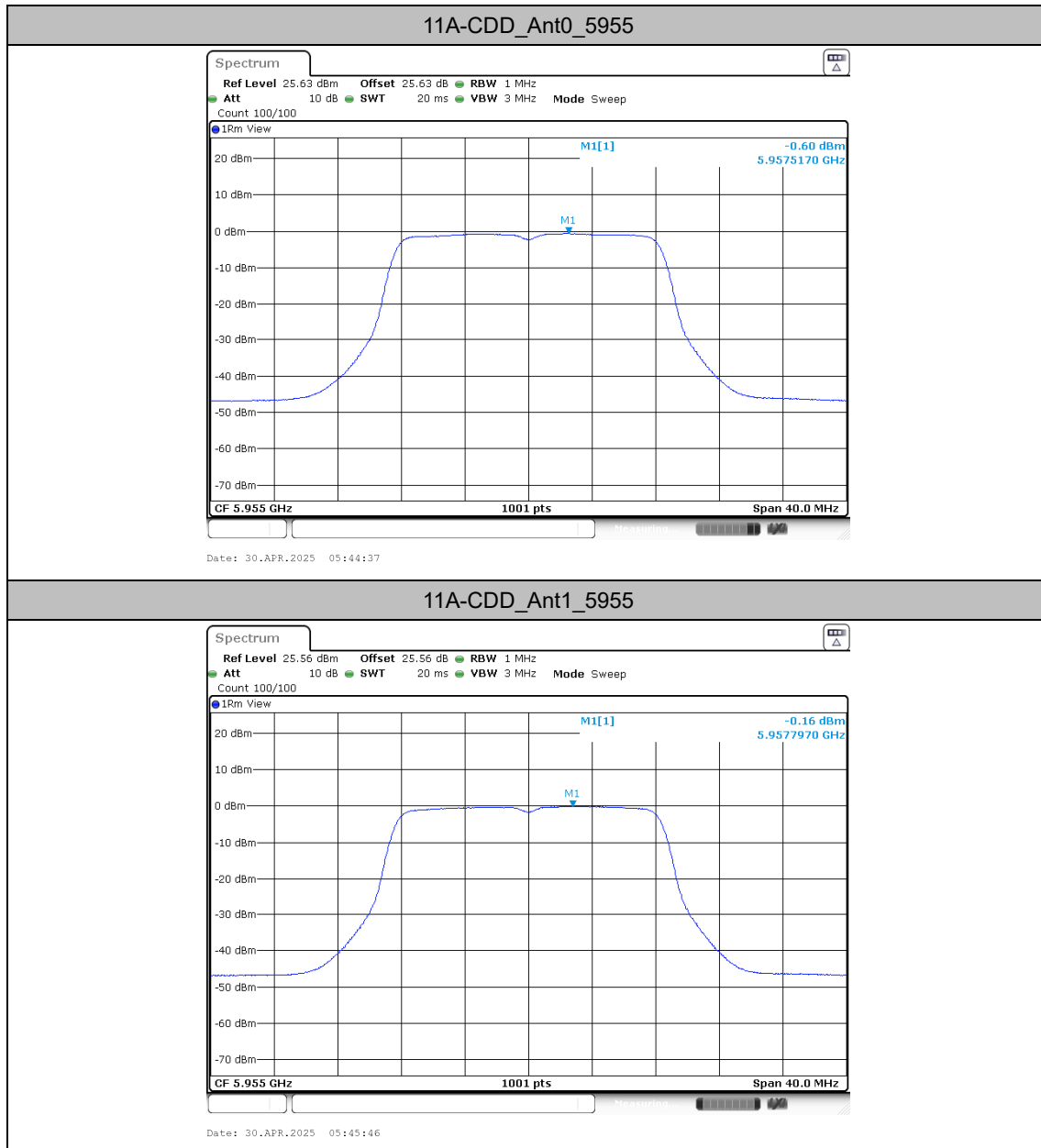


	total	6205	-0.04	6.27	6.23	≤17.00	PASS
	Ant0	6405	-4.48	3.38	-1.10	≤17.00	PASS
	Ant1	6405	-2.75	3.14	0.39	≤17.00	PASS
	total	6405	-0.52	6.27	5.75	≤17.00	PASS
	Ant0	6565	-6.43	2.55	-3.88	≤17.00	PASS
	Ant1	6565	-4.27	2.69	-1.58	≤17.00	PASS
	total	6565	-2.21	5.63	3.42	≤17.00	PASS
	Ant0	6685	-6.80	2.55	-4.25	≤17.00	PASS
	Ant1	6685	-4.37	2.69	-1.68	≤17.00	PASS
	total	6685	-2.41	5.63	3.22	≤17.00	PASS
	Ant0	6845	-6.49	2.55	-3.94	≤17.00	PASS
	Ant1	6845	-5.32	2.69	-2.63	≤17.00	PASS
11AX80MIMO	total	6845	-2.86	5.63	2.77	≤17.00	PASS
	Ant0	5985	-6.67	3.38	-3.29	≤17.00	PASS
	Ant1	5985	-6.30	3.14	-3.16	≤17.00	PASS
	total	5985	-3.47	6.27	2.80	≤17.00	PASS
	Ant0	6225	-5.80	3.38	-2.42	≤17.00	PASS
	Ant1	6225	-5.24	3.14	-2.10	≤17.00	PASS
	total	6225	-2.50	6.27	3.77	≤17.00	PASS
	Ant0	6385	-7.09	3.38	-3.71	≤17.00	PASS
	Ant1	6385	-5.36	3.14	-2.22	≤17.00	PASS
	total	6385	-3.13	6.27	3.14	≤17.00	PASS
	Ant0	6625	-9.12	2.55	-6.57	≤17.00	PASS
	Ant1	6625	-6.97	2.69	-4.28	≤17.00	PASS
	total	6625	-4.90	5.63	0.73	≤17.00	PASS
	Ant0	6705	-10.10	2.55	-7.55	≤17.00	PASS
	Ant1	6705	-7.56	2.69	-4.87	≤17.00	PASS
	total	6705	-5.64	5.63	-0.01	≤17.00	PASS
	Ant0	6785	-9.23	2.55	-6.68	≤17.00	PASS
	Ant1	6785	-8.18	2.69	-5.49	≤17.00	PASS
11AX160MIMO	total	6785	-5.66	5.63	-0.03	≤17.00	PASS
	Ant0	6025	-9.32	3.38	-5.94	≤17.00	PASS
	Ant1	6025	-8.56	3.14	-5.42	≤17.00	PASS
	total	6025	-5.91	6.27	0.36	≤17.00	PASS
	Ant0	6185	-9.08	3.38	-5.70	≤17.00	PASS
	Ant1	6185	-8.45	3.14	-5.31	≤17.00	PASS
	total	6185	-5.74	6.27	0.53	≤17.00	PASS
	Ant0	6345	-9.75	3.38	-6.37	≤17.00	PASS
	Ant1	6345	-7.81	3.14	-4.67	≤17.00	PASS
	total	6345	-5.66	6.27	0.61	≤17.00	PASS
	Ant0	6665	-12.29	2.55	-9.74	≤17.00	PASS
	Ant1	6665	-9.69	2.69	-7.00	≤17.00	PASS
	total	6665	-7.79	5.63	-2.16	≤17.00	PASS

Note: The Duty Cycle Factor and is compensated in the graph.

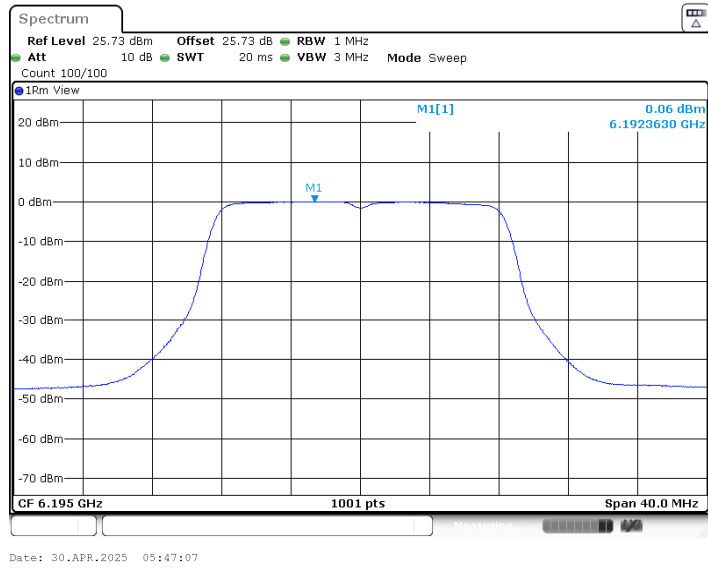


Test Graphs

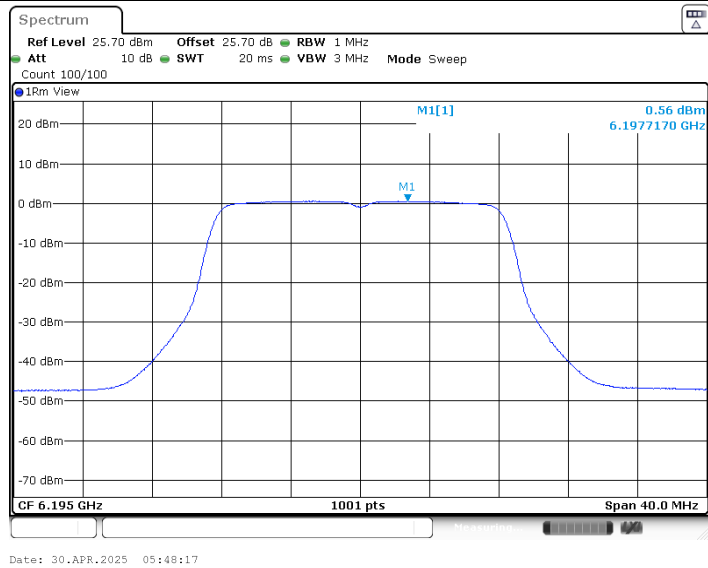




11A-CDD_Ant0_6195

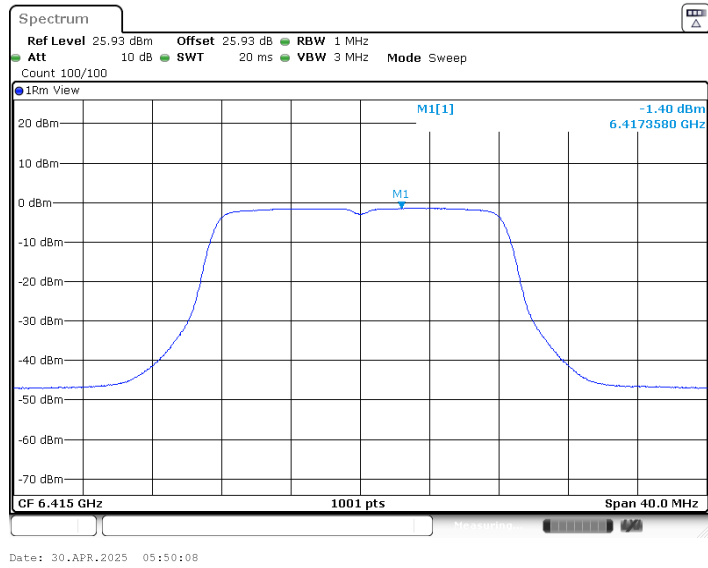


11A-CDD_Ant1_6195

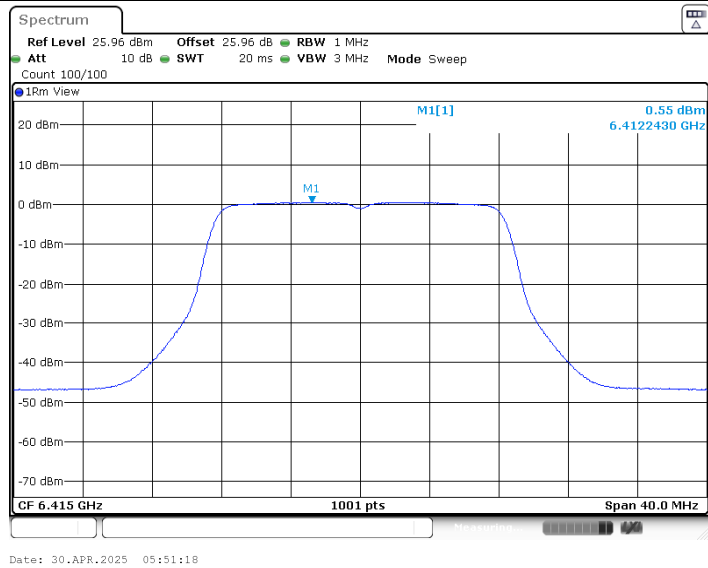




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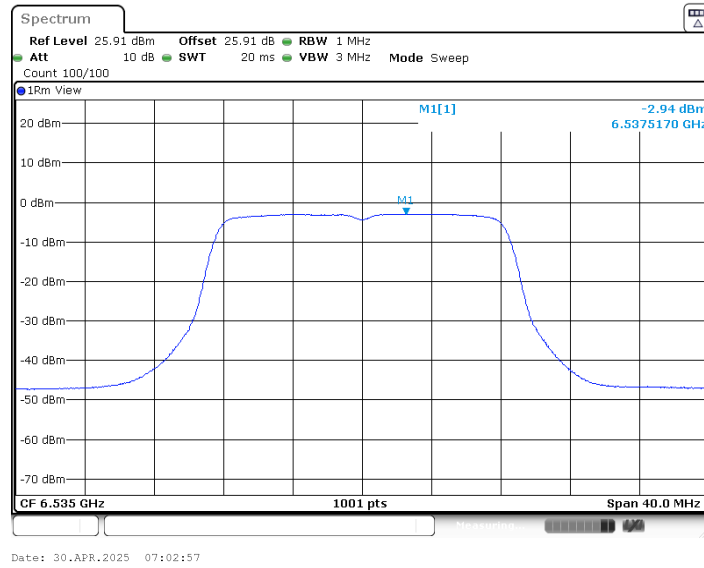


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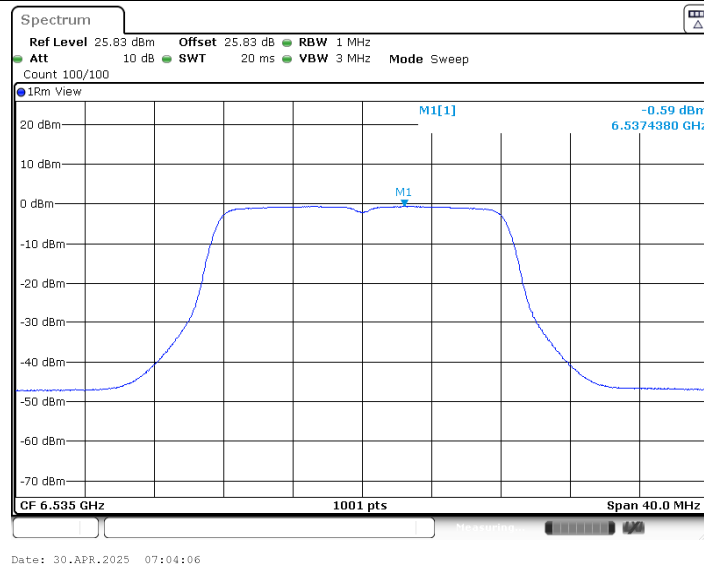




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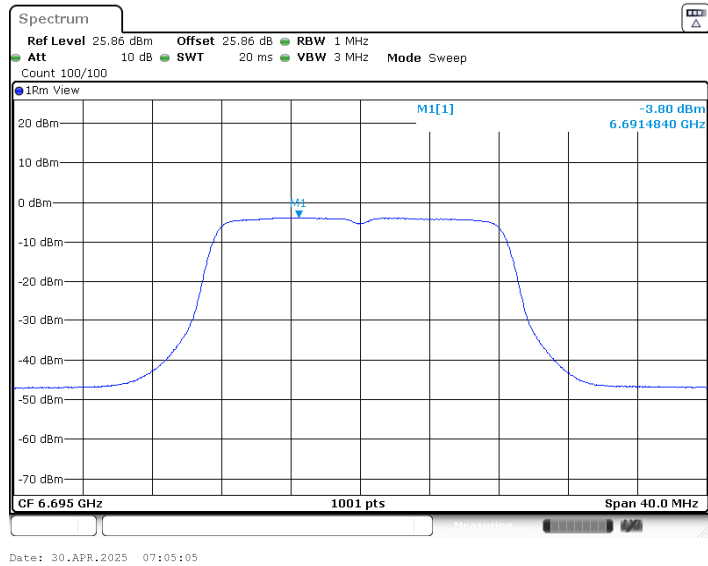


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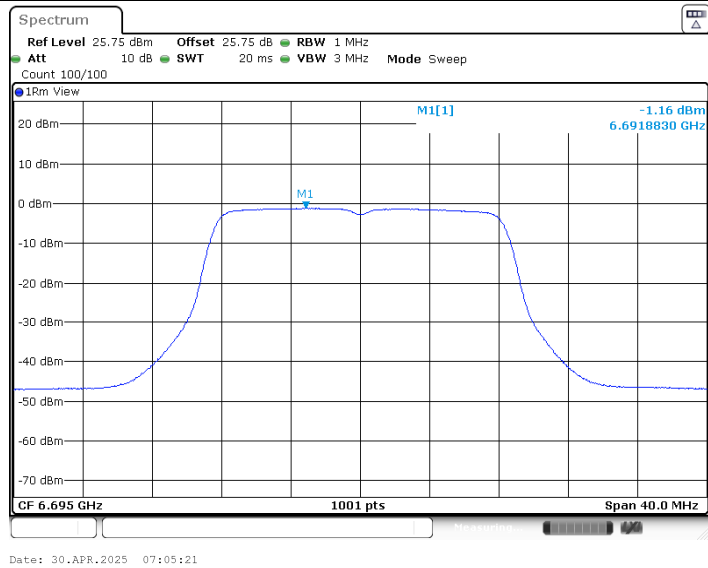




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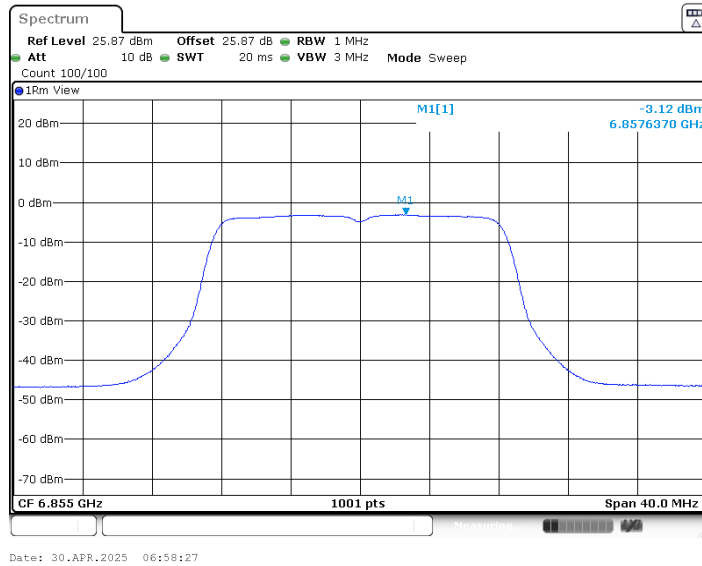


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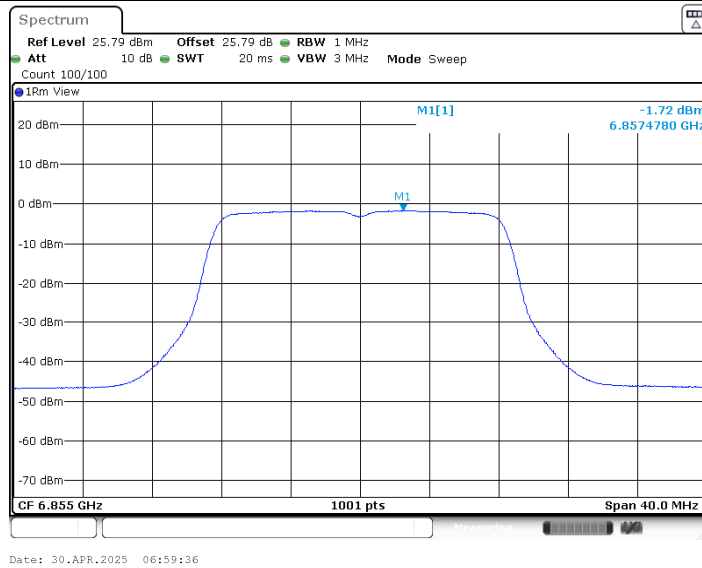




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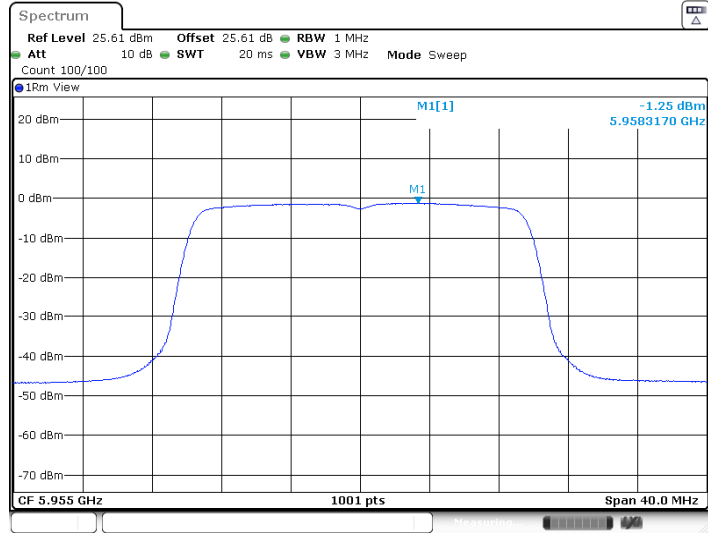


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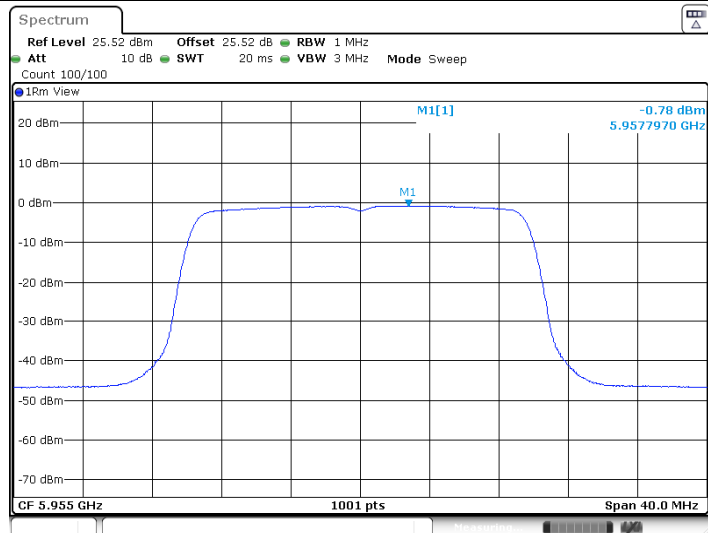


11AX20MIMO_Ant0_5955



Date: 30.APR.2025 07:09:57

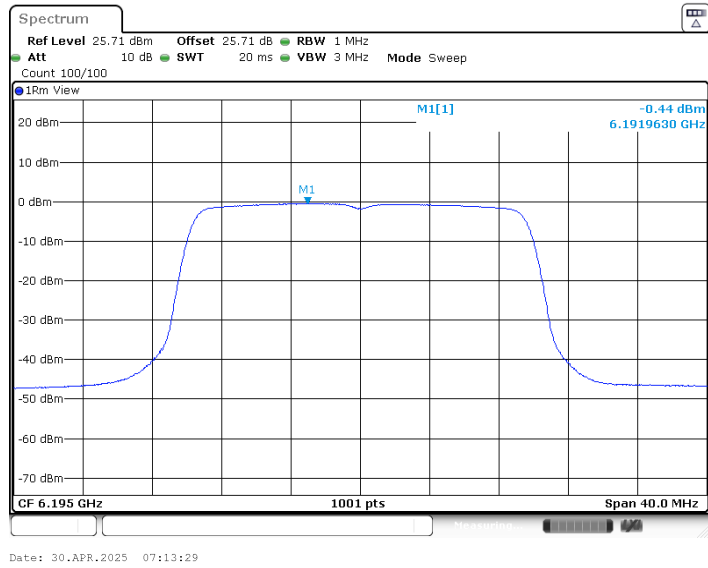
11AX20MIMO_Ant1_5955



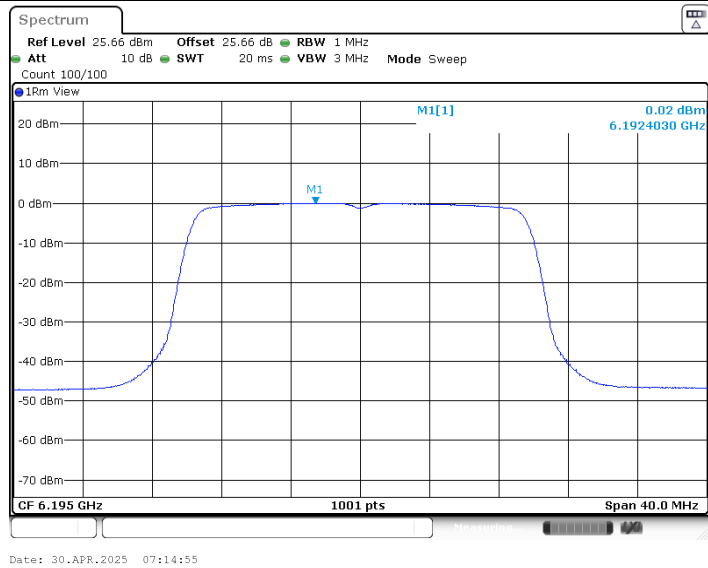
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11AX20MIMO_Ant0_6195

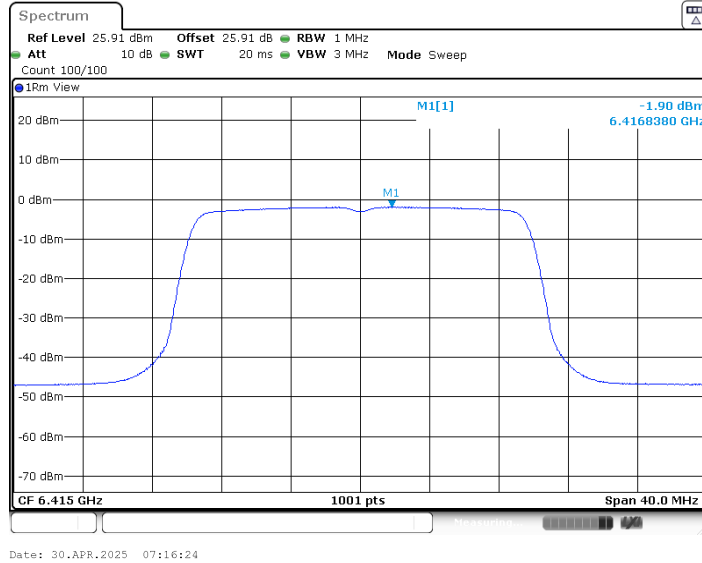


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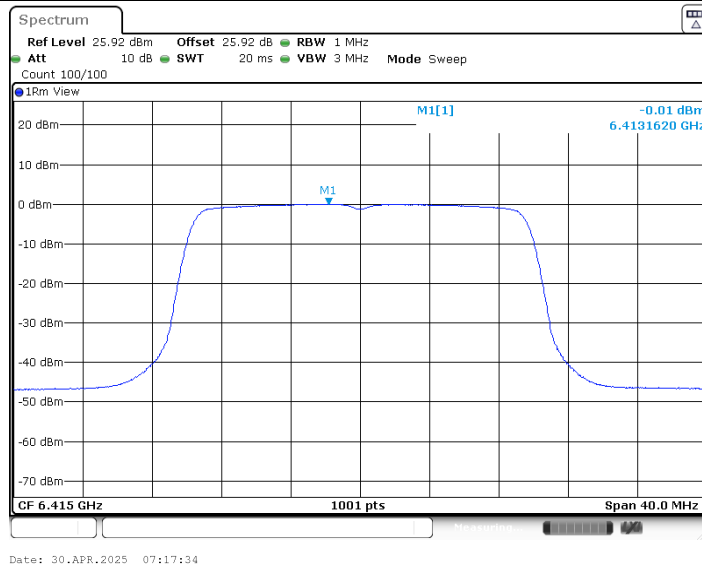




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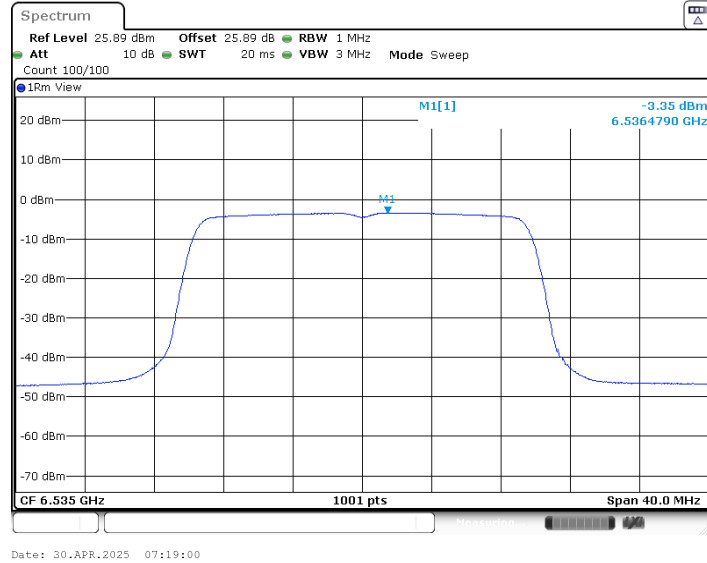


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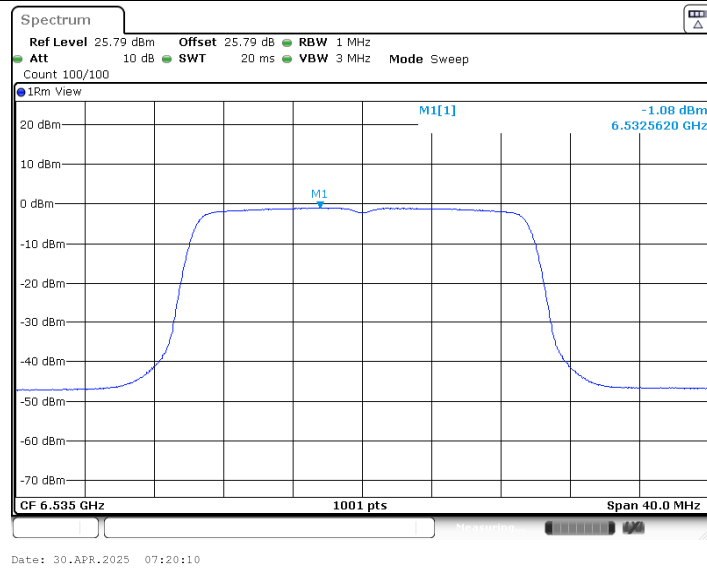




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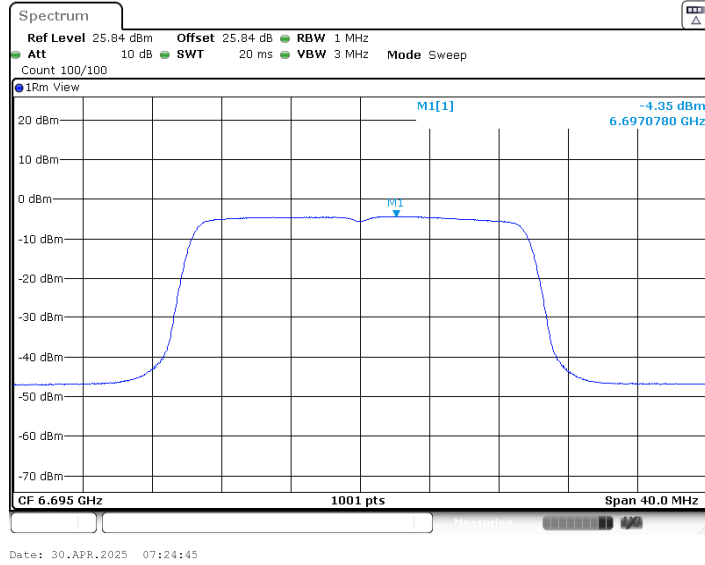


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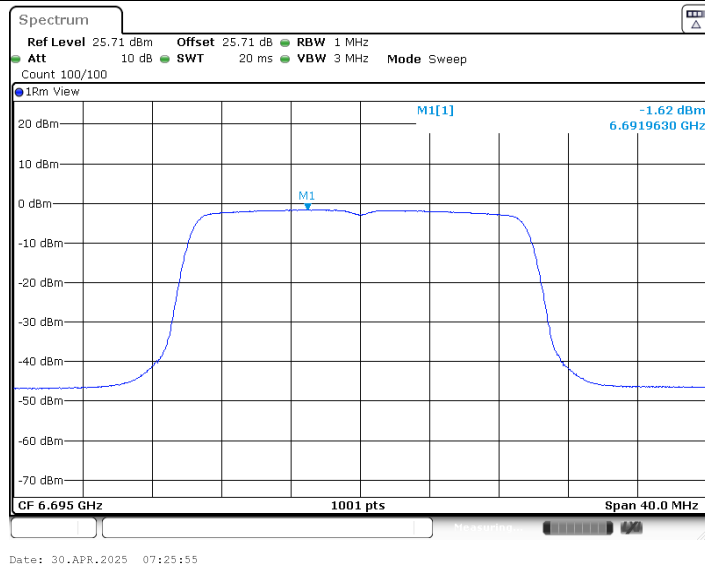




11AX20MIMO_Ant0_6695

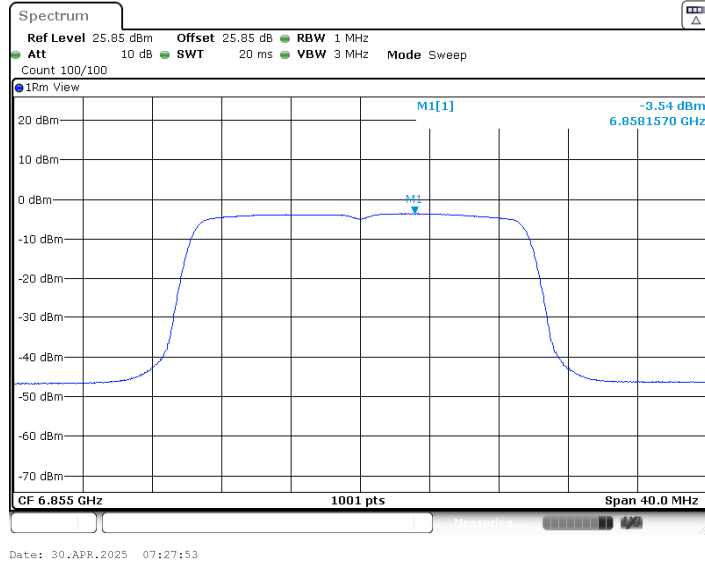


11AX20MIMO_Ant1_6695

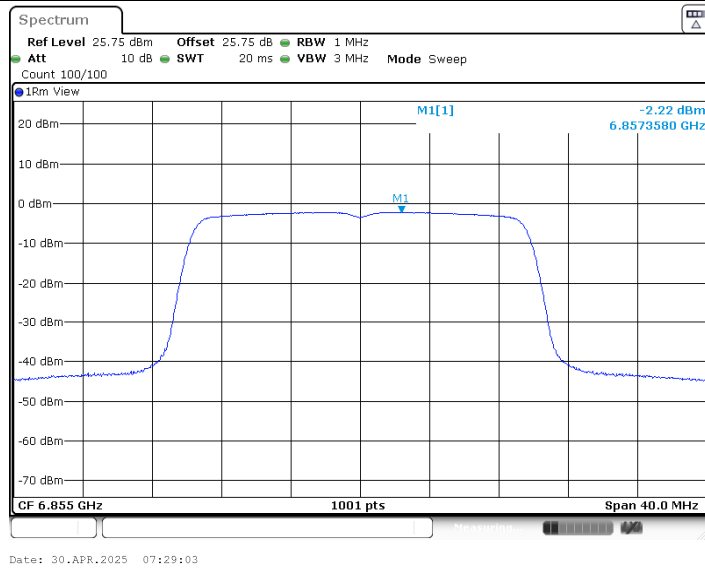




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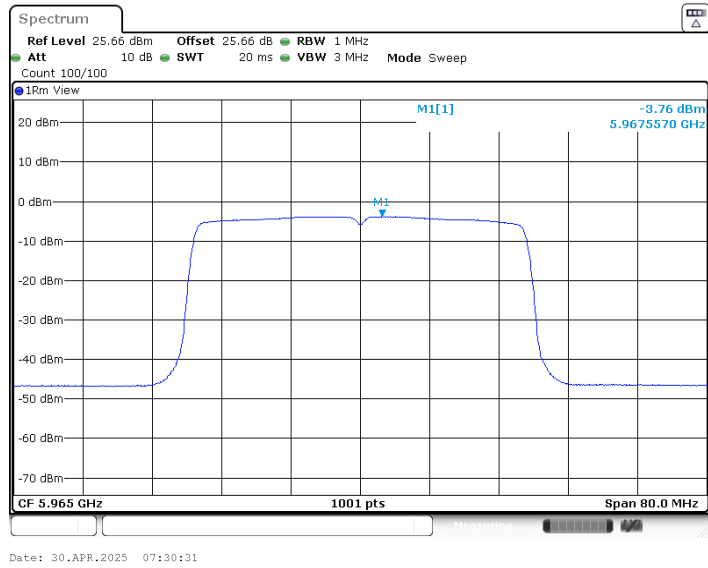


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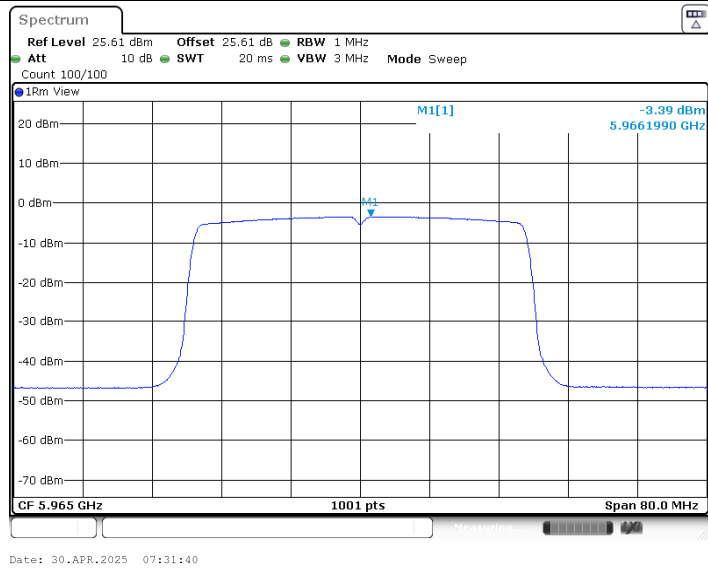




11AX40MIMO_Ant0_5965

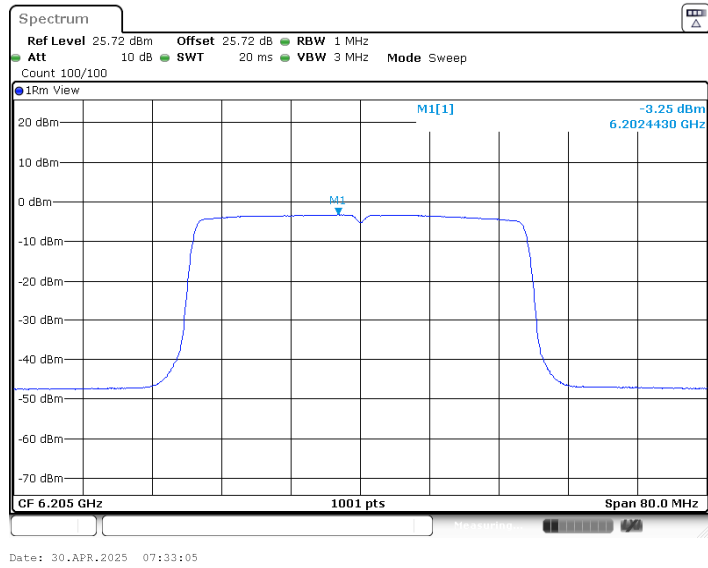


11AX40MIMO_Ant1_5965

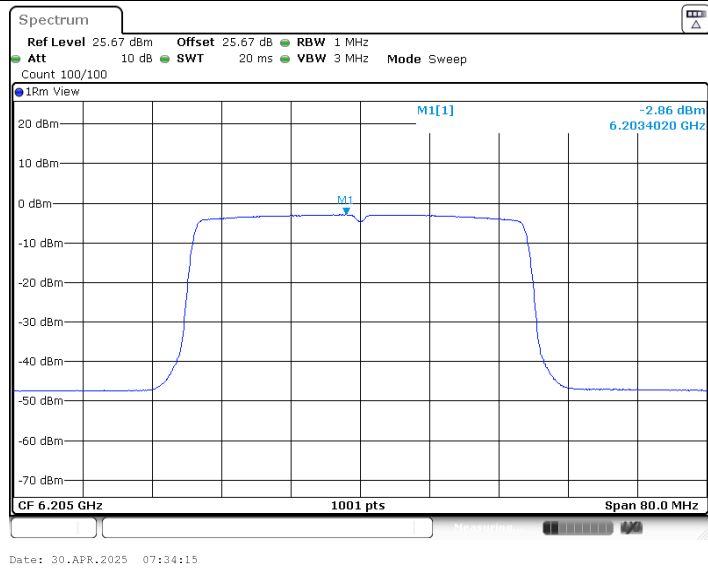




11AX40MIMO_Ant0_6205

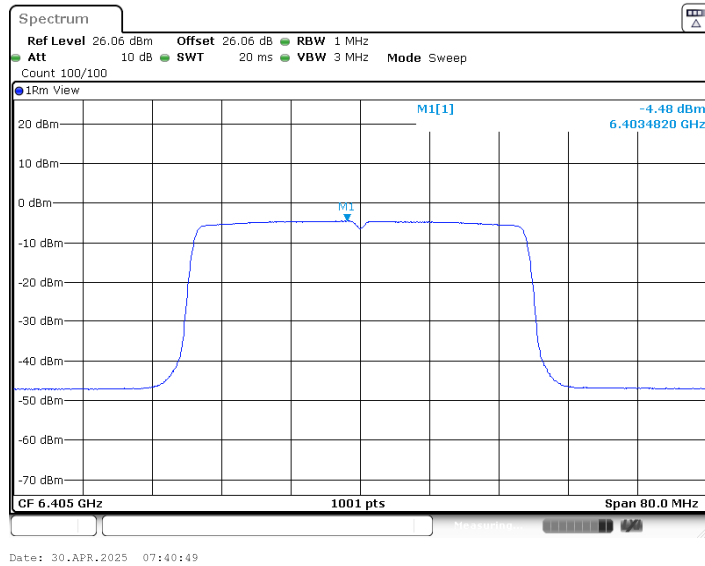


11AX40MIMO_Ant1_6205

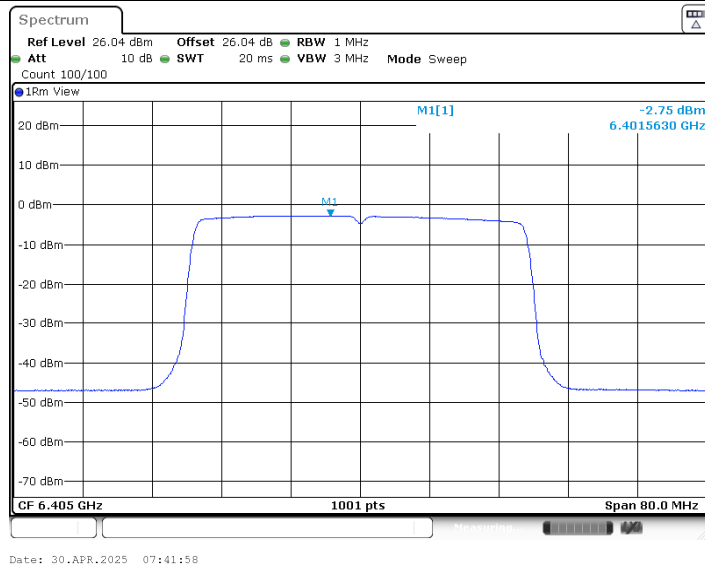




11AX40MIMO_Ant0_6405

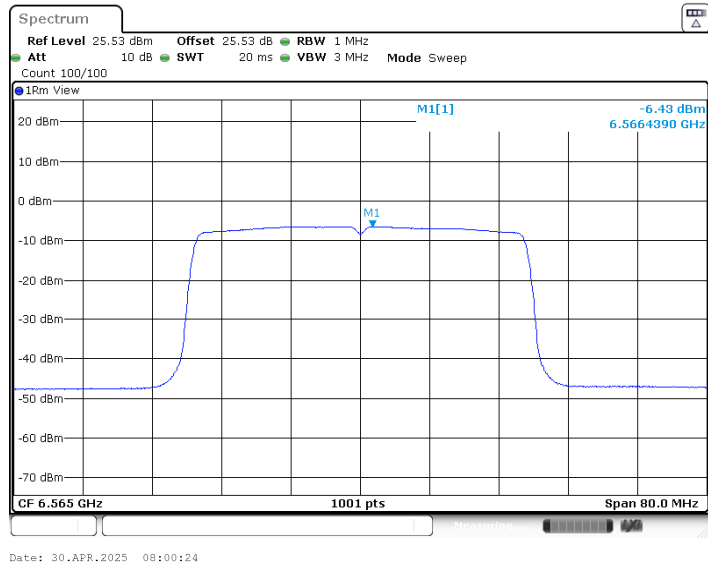


11AX40MIMO_Ant1_6405





11AX40MIMO_Ant0_6565



11AX40MIMO_Ant1_6565

