



FCC RF Test Report

APPLICANT : Datalogic S.r.l.
EQUIPMENT : MOBILE COMPUTER/BARCODE READER
BRAND NAME : DATALOGIC
MODEL NAME : AELNRNA
FCC ID : U4G-AELNRNA
STANDARD : FCC Part 15 Subpart E §15.407
CLASSIFICATION : (NII) Unlicensed National Information Infrastructure
TEST DATE(S) : Nov. 15, 2024 ~ Jan. 28, 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.

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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**



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR4N0543E	Rev. 01	Initial issue of report	Feb. 24, 2025

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit for U-NII-1/2A/2C	Limit for U-NII-3	Result	Remark
3.1	2.1049 & 15.403(i)	6dB, 26dB & 99% Bandwidth	-	6dB Bandwidth > 500kHz	Pass	-
3.2	15.407(a)	Maximum Conducted Output Power	≤ 24 dBm	≤ 30 dBm	Pass	-
3.3	15.407(a)	Power Spectral Density	≤ 11 dBm/MHz	≤ 30 dBm/500kHz	Pass	-
3.4	15.407(b)	Unwanted Emissions	15.407(b) & 15.209(a)	15.407(b)(4)(i) & 15.209(a)	Pass	Under limit 0.62 dB at 5382.82 MHz
3.5	15.207	AC Conducted Emission	15.207(a)	15.207(a)	Pass	Under limit 11.22 dB at 0.60 MHz
3.6	15.203 & 15.407(a)	Antenna Requirement	15.203 & 15.407(a)	15.203 & 15.407(a)	Pass	-

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 Applicant

Datalogic S.r.l.

Via San Vitalino 13 CALDERARA DI RENO, BO 40012 Italy

1.2 Manufacturer

Datalogic S.r.l.

Via San Vitalino 13 CALDERARA DI RENO, BO 40012 Italy

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	MOBILE COMPUTER/BARCODE READER
Brand Name	DATALOGIC
Model Name	AELNRNA
FCC ID	U4G-AELNRNA
IMEI Code	Conducted: 356616170008422 Conduction: 356616170010147/356616170010154 Radiation: 004400152020000
HW Version	V3
SW Version	1.18.001.20241225
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.

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency Range	5180 MHz ~ 5250 MHz 5260 MHz ~ 5320 MHz 5500 MHz ~ 5700 MHz 5745 MHz ~ 5825 MHz
Maximum Output Power to Antenna	MIMO <Ant. 8 + 9> <5180 MHz ~ 5250 MHz> 802.11a : 20.50 dBm / 0.1122 W 802.11n HT20 : 21.01 dBm / 0.1262 W 802.11n HT40 : 20.22 dBm / 0.1052 W 802.11ac VHT20: 21.05 dBm / 0.1274 W 802.11ac VHT40: 20.26 dBm / 0.1062 W 802.11ac VHT80: 19.14 dBm / 0.0820 W 802.11ac VHT160: 16.47 dBm / 0.0444 W 802.11ax HE20: 21.07 dBm / 0.1279 W 802.11ax HE40: 20.32 dBm / 0.1076 W 802.11ax HE80: 19.18 dBm / 0.0828 W 802.11ax HE160: 16.52 dBm / 0.0449 W <5260 MHz ~ 5320 MHz> 802.11a : 21.61 dBm / 0.1449 W 802.11n HT20 : 21.21 dBm / 0.1321 W 802.11n HT40 : 20.39 dBm / 0.1094 W 802.11ac VHT20: 21.25 dBm / 0.1334 W 802.11ac VHT40: 20.44 dBm / 0.1107 W 802.11ac VHT80: 19.28 dBm / 0.0847 W 802.11ax HE20: 21.28 dBm / 0.1343 W 802.11ax HE40: 20.48 dBm / 0.1117 W 802.11ax HE80: 19.31 dBm / 0.0853 W <5500 MHz ~ 5700 MHz > 802.11a : 21.08 dBm / 0.1282 W 802.11n HT20 : 20.74 dBm / 0.1186 W 802.11n HT40 : 19.87 dBm / 0.0971 W 802.11ac VHT20: 20.79 dBm / 0.1199 W 802.11ac VHT40: 19.90 dBm / 0.0977 W 802.11ac VHT80: 20.56 dBm / 0.1138 W 802.11ac VHT160: 17.31 dBm / 0.0853 W 802.11ax HE20: 20.83 dBm / 0.1211 W 802.11ax HE40: 19.94 dBm / 0.0986 W 802.11ax HE80: 20.60 dBm / 0.1148 W 802.11ax HE160: 17.35 dBm / 0.0543 W <5745 MHz ~ 5825 MHz> 802.11a : 22.00 dBm / 0.1585 W 802.11n HT20 : 20.64 dBm / 0.1159 W 802.11n HT40 : 19.92 dBm / 0.0982 W 802.11ac VHT20: 20.67 dBm / 0.1167 W 802.11ac VHT40: 19.95 dBm / 0.0989 W 802.11ac VHT80: 20.77 dBm / 0.1194 W 802.11ax HE20: 20.72 dBm / 0.1180 W 802.11ax HE40: 19.99 dBm / 0.0998 W 802.11ax HE80: 20.80 dBm / 0.1202 W



99% Occupied Bandwidth	<5180 MHz ~ 5250 MHz> 802.11a : 16.503 MHz 802.11ac VHT20 : 17.702 MHz 802.11ac VHT40 : 36.044 MHz 802.11ac VHT80 : 75.285 MHz 802.11ac VHT160 : 155.045 MHz 802.11ax HE20: 18.941 MHz 802.11ax HE40: 37.722 MHz 802.11ax HE80: 77.043 MHz 802.11ax HE160: 156.324 MHz <5260 MHz ~ 5320 MHz> 802.11a : 16.543 MHz 802.11ac VHT20 : 17.662 MHz 802.11ac VHT40 : 36.044 MHz 802.11ac VHT80 : 75.285 MHz 802.11ax HE20: 18.901 MHz 802.11ax HE40: 37.802 MHz 802.11ax HE80: 77.043 MHz <5500 MHz ~ 5700 MHz> 802.11a : 16.503 MHz 802.11ac VHT20 : 17.702 MHz 802.11ac VHT40 : 36.044 MHz 802.11ac VHT80 : 75.285 MHz 802.11ac VHT160 : 155.045 MHz 802.11ax HE20: 18.901 MHz 802.11ax HE40: 37.802 MHz 802.11ax HE80: 77.043 MHz 802.11ax HE160: 156.643 MHz <5745 MHz ~ 5825 MHz> 802.11a : 16.503 MHz 802.11ac VHT20 : 17.662 MHz 802.11ac VHT40 : 36.124 MHz 802.11ac VHT80 : 74.965 MHz 802.11ax HE20: 18.901 MHz 802.11ax HE40: 37.802 MHz 802.11ax HE80: 76.883 MHz
Antenna Type / Gain	<5180 MHz ~ 5240 MHz> <Ant. 8> : LDS Antenna with gain -0.50 dBi <Ant. 9> : LDS Antenna with gain -1.00 dBi <5260 MHz ~ 5320 MHz> <Ant. 8> : LDS Antenna with gain -0.50 dBi <Ant. 9> : LDS Antenna with gain -1.00 dBi <5500 MHz ~ 5700 MHz> <Ant. 8> : LDS Antenna with gain -0.50 dBi <Ant. 9> : LDS Antenna with gain -1.00 dBi <5745 MHz ~ 5825 MHz> <Ant. 8> : LDS Antenna with gain -0.50 dBi <Ant. 9> : LDS Antenna with gain -1.00 dBi
Type of Modulation	802.11a/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM) 802.11ax : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM / 1024QAM)

Note:

1. For 802.11n/ac & 802.11ax mode, the whole testing have assessed only 802.11ax HE20/40/80/160 by referring to the higher output power.
2. For WLAN SISO & MIMO mode, the whole testing has assessed only MIMO mode by referring to the higher normal conducted power.
3. 802.11ax support full RU tone and partial RU tone, both full RU and partial RU-left (for low CH) and partial RU-right (for high CH) are tested for conducted power/PSD/RSE, the full RU power > partial RU, therefore the full RU perform full test and Partial RU verified power/PSD/RSE

1.5 Modification of EUT

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

1.6 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.
	03CH06-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 3.5 of this report

1.7 Test Software

Item	Site	Manufacturer	Name	Version
1.	TH01-KS	Tonscend	JS1120-3 test system China_210602	3.3.10
2.	03CH06-KS	AUDIX	E3	210616
3.	CO02-SZ	AUDIX	E3	6.120613b

1.8 Applicable Standards

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

- 47 CFR Part 15 Subpart E
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- 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 for Adapter mode, Cradle mode and Earphone mode. The worst cases (X plane-Adapter mode) were recorded in this report.
- b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq.(MHz)	Channel	Freq. (MHz)
5180-5250 MHz U-NII-1	36	5180	44	5220
	38*	5190	46*	5230
	40	5200	48	5240
	42#	5210	50##	5250
Frequency Band	Channel	Freq.(MHz)	Channel	Freq. (MHz)
5260-5320 MHz U-NII-2A	52	5260	60	5300
	54*	5270	62*	5310
	56	5280	64	5320
	58#	5290	-	-
Frequency Band	Channel	Freq.(MHz)	Channel	Freq. (MHz)
5500-5700MHz U-NII-2C	100	5500	112	5560
	102*	5510	116	5580
	104	5520	132	5660
	106#	5530	134*	5670
	108	5540	136	5680
	110*	5550	140	5700
Frequency Band	Channel	Freq.(MHz)	Channel	Freq. (MHz)
5745-5825 MHz U-NII-3	149	5745	157	5785
	151*	5755	159*	5795
	153	5765	161	5805
	155#	5775	165	5825



Frequency Band	Channel	Freq.(MHz)	Channel	Freq. (MHz)
TDWR Channel	118*	5590	124	5620
	120	5600	126*	5630
	122#	5610	128	5640
	-	-	114##	5570

Note:

1. The above Frequency and Channel in "*" are 40MHz bandwidth.
2. The above Frequency and Channel in "#" are 80MHz bandwidth.
3. The above Frequency and Channel in "##" are 160MHz bandwidth.

2.2 Test Mode

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

MIMO Mode

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS8
802.11n HT40	MCS8
802.11ac VHT20	MCS0
802.11ac VHT40	MCS0
802.11ac VHT80	MCS0
802.11ac VHT160	MCS0
802.11ax HE20	MCS0
802.11ax HE40	MCS0
802.11ax HE80	MCS0
802.11ax HE160	MCS0

AC Conducted Emission	Mode 1 : BT Link+ WLAN Link(5G)+ USB Cable(Charging from Adapter)+ Battery
Remark: For Radiated Test Cases, The tests were performed with Adapter and USB Cable.	

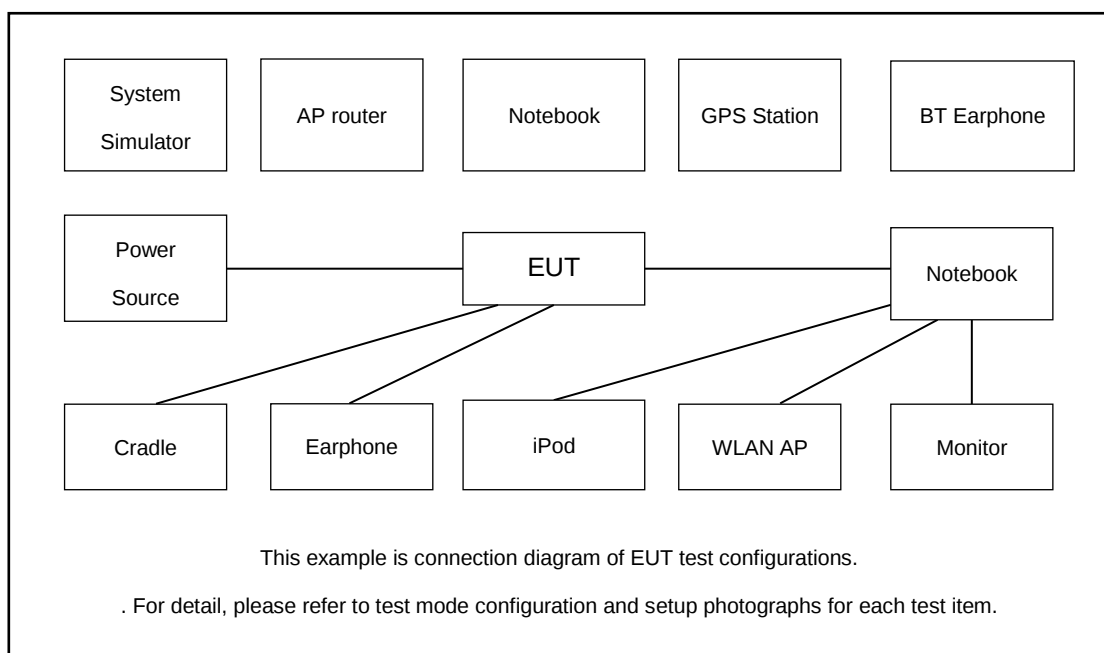
Ch. #		U-NII-1	U-NII-2A	U-NII-2C	U-NII-3
		20M BW	20M BW	20M BW	20M BW
L	Low	36	52	100	149
M	Middle	44	60	116	157
H	High	48	64	140	165

Ch. #		U-NII-1	U-NII-2A	U-NII-2C	U-NII-3
		40M BW	40M BW	40M BW	40M BW
L	Low	38	54	102	151
M	Middle	-	-	110	-
H	High	46	62	134	159

Ch. #		U-NII-1	U-NII-2A	U-NII-2C	U-NII-3
		80M BW	80M BW	80M BW	80M BW
L	Low	-	-	106	-
M	Middle	42	58	-	155
H	High	-	-	122	-

Ch. #		U-NII-1	U-NII-2A	U-NII-2C	U-NII-3
		160M BW		160M BW	160M BW
M	Middle	50		114	-

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	ASUSTek	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded,2.7m with Core
2.	Bluetooth Earphone	Samsung	EO-MG900	N/A	N/A	N/A
3.	Notebook	Lenovo	E540	FCC DoC	N/A	Unshielded,1.8m
4.	Adapter	N/A	N/A	N/A	N/A	N/A
5.	USB Cable	N/A	N/A	N/A	N/A	N/A

2.5 EUT Operation Test Setup

For WLAN RF test items, an engineering test program 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 6.05 dB and 20dB attenuator.

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)} \\ &= 6.05 + 20 = 26.05 \text{ (dB)}\end{aligned}$$

3 Test Result

3.1 6dB and 26dB and 99% Occupied Bandwidth Measurement

3.1.1 Description of 6dB and 26dB and 99% Occupied Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

26dB and 99% Occupied bandwidth are reporting only.

3.1.2 Measuring Instruments

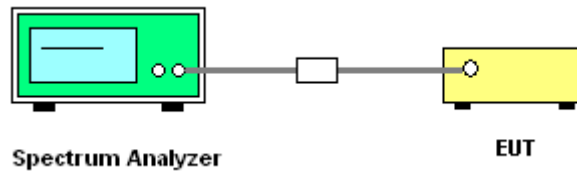
The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedures

- The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

☒	Section C) Bandwidth Measurement 1. Emission Bandwidth (EBW) and 99% OBW
	- Set RBW = approximately 1% of the emission bandwidth. - Set the VBW > RBW. - Detector = Peak. - Trace mode = max hold - 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%. - For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set to 1%~5% of the OBW and set the Video bandwidth (VBW) $\geq 3 \times$ RBW. - Measure and record the results in the test report.
☒	Section C) Bandwidth Measurement 2. Minimum Emission Bandwidth for the band 5.725 - 5.85 GHz
	- Set RBW = 100kHz. - Set the VBW $\geq 3 \times$ RBW. - Detector = Peak. - Trace mode = max hold - Measure the maximum width of the emission that is 6 dB down from the peak of the emission. - Measure and record the results in the test report.

3.1.4 Test Setup



3.1.5 Test Result of 6dB Bandwidth

Please refer to Appendix A.



3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

<FCC 14-30 CFR 15.407>

For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW.

For the 5.25–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log_{10} B$, where B is the 26 dB emission bandwidth in megahertz.

For the band 5.725–5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Note that U-NII-2 band, devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

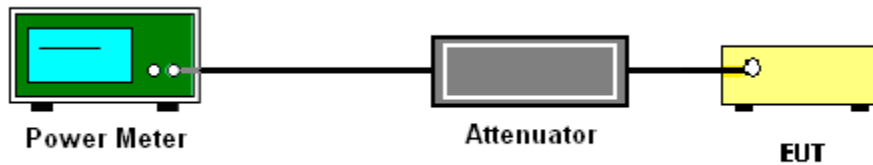
3.2.3 Test Procedures

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 Maximum Conducted Output Power

FCC U-NII-1 MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power with duty factor (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail	Power Setting	
					Ant 8	Ant 9	Ant 8	Ant 9	SUM	Ant 8	Ant 9	Ant 8	Ant 9		Ant 8	Ant 9
11a	6Mbps	2	36	5180	0.03	0.03	17.56	17.09	20.34	24.00	-0.50	Pass	17			
11a	6Mbps	2	44	5220	0.03	0.03	17.79	17.16	20.50	24.00	-0.50	Pass	17			
11a	6Mbps	2	48	5240	0.03	0.03	17.18	16.69	19.95	24.00	-0.50	Pass	16.5			
HT20	MCS8	2	36	5180	0.00	0.00	17.89	17.91	20.91	24.00	-0.50	Pass	18			
HT20	MCS8	2	44	5220	0.00	0.00	17.97	17.98	20.99	24.00	-0.50	Pass	18			
HT20	MCS8	2	48	5240	0.00	0.00	17.82	18.17	21.01	24.00	-0.50	Pass	18			
HT40	MCS8	2	38	5190	0.00	0.00	17.39	16.80	20.12	24.00	-0.50	Pass	18			
HT40	MCS8	2	46	5230	0.00	0.00	17.54	16.85	20.22	24.00	-0.50	Pass	18			
VHT20	MCS0	2	36	5180	0.00	0.00	17.95	17.97	20.97	24.00	-0.50	Pass	18			
VHT20	MCS0	2	44	5220	0.00	0.00	18.01	18.02	21.03	24.00	-0.50	Pass	18			
VHT20	MCS0	2	48	5240	0.00	0.00	17.85	18.22	21.05	24.00	-0.50	Pass	18			
VHT40	MCS0	2	38	5190	0.00	0.00	17.43	16.86	20.16	24.00	-0.50	Pass	18			
VHT40	MCS0	2	46	5230	0.00	0.00	17.59	16.87	20.26	24.00	-0.50	Pass	18			
VHT80	MCS0	2	42	5210	0.00	0.00	16.51	15.72	19.14	24.00	-0.50	Pass	16			
VHT160	MCS0	2	50	5250	0.00	0.00	13.42	13.49	16.47	24.00	-0.50	Pass	13.5			

FCC U-NII-1 MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)		Average Conducted Power with duty factor (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail	Power Setting
						Ant 8	Ant 9	Ant 8	Ant 9	SUM	Ant 8	Ant 9	Ant 8	Ant 9		2Tx
HE20	MCS0	2	36	5180	Full	0.00	0.00	18.01	18.03	21.03	24.00		-0.50		Pass	18
HE20	MCS0	2	36	5180	26/0	0.00	0.00	10.32	9.83	13.09	24.00		-0.50		Pass	10
HE20	MCS0	2	36	5180	52/37	0.00	0.00	13.18	13.15	16.18	24.00		-0.50		Pass	12.5
HE20	MCS0	2	36	5180	106/53	0.00	0.00	15.88	15.41	18.66	24.00		-0.50		Pass	15
HE20	MCS0	2	44	5220	Full	0.00	0.00	18.05	18.04	21.06	24.00		-0.50		Pass	18
HE20	MCS0	2	44	5220	26/0	0.00	0.00	9.83	9.85	12.85	24.00		-0.50		Pass	9.5
HE20	MCS0	2	44	5220	52/37	0.00	0.00	12.61	12.67	15.65	24.00		-0.50		Pass	12
HE20	MCS0	2	44	5220	106/53	0.00	0.00	15.63	15.47	18.56	24.00		-0.50		Pass	15
HE20	MCS0	2	48	5240	Full	0.00	0.00	17.88	18.24	21.07	24.00		-0.50		Pass	18
HE20	MCS0	2	48	5240	26/8	0.00	0.00	10.18	10.39	13.30	24.00		-0.50		Pass	10
HE20	MCS0	2	48	5240	52/40	0.00	0.00	12.92	13.24	16.09	24.00		-0.50		Pass	12.5
HE20	MCS0	2	48	5240	106/54	0.00	0.00	15.54	15.51	18.54	24.00		-0.50		Pass	15
HE40	MCS0	2	38	5190	Full	0.00	0.00	17.47	16.88	20.20	24.00		-0.50		Pass	18
HE40	MCS0	2	46	5230	Full	0.00	0.00	17.65	16.93	20.32	24.00		-0.50		Pass	18
HE80	MCS0	2	42	5210	Full	0.00	0.00	16.54	15.76	19.18	24.00		-0.50		Pass	16
HE160	MCS0	2	50	5250	Full	0.00	0.00	13.47	13.55	16.52	24.00		-0.50		Pass	13.5



FCC U-NII-2A MIMO																	
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power with duty factor (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail	Power Setting	
					Ant 8	Ant 9	Ant 8	Ant 9	SUM	Ant 8	Ant 9	Ant 8	Ant 9			Ant 8	Ant 9
11a	6Mbps	2	52	5260	0.03	0.03	17.78	18.04	20.92	23.72		-0.50	26.99	Pass		17.5	
11a	6Mbps	2	60	5300	0.03	0.03	17.75	18.16	20.97	23.67		-0.50	26.99	Pass		17.5	
11a	6Mbps	2	64	5320	0.03	0.03	18.51	18.69	21.61	23.67		-0.50	26.99	Pass		18	
HT20	MCS8	2	52	5260	0.00	0.00	18.09	18.31	21.21	23.92		-0.50	26.99	Pass		18	
HT20	MCS8	2	60	5300	0.00	0.00	17.99	18.29	21.15	23.98		-0.50	26.99	Pass		18	
HT20	MCS8	2	64	5320	0.00	0.00	17.94	18.29	21.13	23.97		-0.50	26.99	Pass		18	
HT40	MCS8	2	54	5270	0.00	0.00	17.52	17.24	20.39	23.98		-0.50	26.99	Pass		18	
HT40	MCS8	2	62	5310	0.00	0.00	17.02	16.71	19.88	23.98		-0.50	26.99	Pass		17.5	
VHT20	MCS0	2	52	5260	0.00	0.00	18.12	18.36	21.25	23.92		-0.50	26.99	Pass		18	
VHT20	MCS0	2	60	5300	0.00	0.00	18.05	18.32	21.20	23.98		-0.50	26.99	Pass		18	
VHT20	MCS0	2	64	5320	0.00	0.00	17.99	18.32	21.17	23.97		-0.50	26.99	Pass		18	
VHT40	MCS0	2	54	5270	0.00	0.00	17.57	17.29	20.44	23.98		-0.50	26.99	Pass		18	
VHT40	MCS0	2	62	5310	0.00	0.00	17.07	16.77	19.93	23.98		-0.50	26.99	Pass		17.5	
VHT80	MCS0	2	58	5290	0.00	0.00	16.44	16.09	19.28	23.98		-0.50	26.99	Pass		16	

FCC U-NII-2A MIMO																		
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)		Average Conducted Power with duty factor (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail	Power Setting	
						Ant 8	Ant 9	Ant 8	Ant 9	SUM	Ant 8	Ant 9	Ant 8	Ant 9			Ant 8	Ant 9
HE20	MCS0	2	52	5260	Full	0.00	0.00	18.14	18.39	21.28	23.98		-0.50	26.99	Pass		18	
HE20	MCS0	2	52	5260	26/0	0.00	0.00	9.82	10.23	13.04	23.98		-0.50	26.99	Pass		9.5	
HE20	MCS0	2	52	5260	52/37	0.00	0.00	12.52	12.94	15.75	23.98		-0.50	26.99	Pass		12	
HE20	MCS0	2	52	5260	106/53	0.00	0.00	15.68	15.72	18.71	23.98		-0.50	26.99	Pass		15	
HE20	MCS0	2	60	5300	Full	0.00	0.00	18.08	18.36	21.23	23.98		-0.50	26.99	Pass		18	
HE20	MCS0	2	60	5300	26/0	0.00	0.00	10.06	10.48	13.29	23.98		-0.50	26.99	Pass		9.5	
HE20	MCS0	2	60	5300	52/37	0.00	0.00	13.01	13.58	16.31	23.98		-0.50	26.99	Pass		12.5	
HE20	MCS0	2	60	5300	106/53	0.00	0.00	16.27	16.42	19.36	23.98		-0.50	26.99	Pass		15.5	
HE20	MCS0	2	64	5320	Full	0.00	0.00	18.03	18.38	21.22	23.98		-0.50	26.99	Pass		18	
HE20	MCS0	2	64	5320	26/8	0.00	0.00	9.99	10.35	13.18	23.98		-0.50	26.99	Pass		9.5	
HE20	MCS0	2	64	5320	52/40	0.00	0.00	12.87	13.42	16.16	23.98		-0.50	26.99	Pass		12.5	
HE20	MCS0	2	64	5320	106/54	0.00	0.00	16.06	16.20	19.14	23.98		-0.50	26.99	Pass		15.5	
HE40	MCS0	2	54	5270	Full	0.00	0.00	17.62	17.32	20.48	23.98		-0.50	26.99	Pass		18	
HE40	MCS0	2	62	5310	Full	0.00	0.00	17.12	16.84	19.99	23.98		-0.50	26.99	Pass		17.5	
HE80	MCS0	2	58	5290	Full	0.00	0.00	16.48	16.12	19.31	23.98		-0.50	26.99	Pass		16	



FCC U-NII-2C MIMO																	
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power with duty factor (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail	Power Setting	
					Ant 8	Ant 9	Ant 8	Ant 9	SUM	Ant 8	Ant 9	Ant 8	Ant 9			Ant 8	Ant 9
11a	6Mbps	2	100	5500	0.03	0.03	17.31	17.95	20.65	23.70		-0.50	26.99	Pass		17.5	
11a	6Mbps	2	116	5580	0.03	0.03	17.73	18.22	20.99	23.72		-0.50	26.99	Pass		18	
11a	6Mbps	2	140	5700	0.03	0.03	17.98	18.15	21.08	23.74		-0.50	26.99	Pass		18	
HT20	MCS8	2	100	5500	0.00	0.00	17.47	17.98	20.74	23.98		-0.50	26.99	Pass		18	
HT20	MCS8	2	116	5580	0.00	0.00	17.38	17.89	20.65	23.97		-0.50	26.99	Pass		18	
HT20	MCS8	2	140	5700	0.00	0.00	17.51	17.81	20.67	23.98		-0.50	26.99	Pass		18	
HT40	MCS8	2	102	5510	0.00	0.00	16.70	17.02	19.87	23.98		-0.50	26.99	Pass		18	
HT40	MCS8	2	110	5550	0.00	0.00	16.47	16.82	19.66	23.98		-0.50	26.99	Pass		18	
HT40	MCS8	2	134	5670	0.00	0.00	16.58	16.52	19.56	23.98		-0.50	26.99	Pass		18	
VHT20	MCS0	2	100	5500	0.00	0.00	17.50	18.04	20.79	23.98		-0.50	26.99	Pass		18	
VHT20	MCS0	2	116	5580	0.00	0.00	17.42	17.93	20.69	23.97		-0.50	26.99	Pass		18	
VHT20	MCS0	2	140	5700	0.00	0.00	17.56	17.84	20.71	23.98		-0.50	26.99	Pass		18	
VHT40	MCS0	2	102	5510	0.00	0.00	16.73	17.04	19.90	23.98		-0.50	26.99	Pass		18	
VHT40	MCS0	2	110	5550	0.00	0.00	16.53	16.84	19.70	23.98		-0.50	26.99	Pass		18	
VHT40	MCS0	2	134	5670	0.00	0.00	16.62	16.57	19.61	23.98		-0.50	26.99	Pass		18	
VHT80	MCS0	2	106	5530	0.00	0.00	16.53	16.82	19.69	23.98		-0.50	26.99	Pass		17	
VHT80	MCS0	2	122	5610	0.00	0.00	17.39	17.71	20.56	23.98		-0.50	26.99	Pass		18	
VHT160	MCS0	2	114	5570	0.00	0.00	14.18	14.41	17.31	23.98		-0.50	26.99	Pass		15	

FCC U-NII-2C MIMO																		
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)		Average Conducted Power with duty factor (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		EIRP Power Limit (dBm)	Pass/Fail	Power Setting	
						Ant 8	Ant 9	Ant 8	Ant 9	SUM	Ant 8	Ant 9	Ant 8	Ant 9			Ant 8	Ant 9
HE20	MCS0	2	100	5500	Full	0.00	0.00	17.56	18.06	20.83	23.98	-0.50	26.99	Pass		18		
HE20	MCS0	2	100	5500	26/0	0.00	0.00	9.23	9.71	12.49	23.98	-0.50	26.99	Pass		10		
HE20	MCS0	2	100	5500	52/37	0.00	0.00	12.62	13.17	15.91	23.98	-0.50	26.99	Pass		12.5		
HE20	MCS0	2	100	5500	106/53	0.00	0.00	15.27	15.54	18.42	23.98	-0.50	26.99	Pass		15		
HE20	MCS0	2	116	5580	Full	0.00	0.00	17.44	17.95	20.71	23.98	-0.50	26.99	Pass		18		
HE20	MCS0	2	116	5580	26/0	0.00	0.00	9.54	9.45	12.51	23.98	-0.50	26.99	Pass		10		
HE20	MCS0	2	116	5580	52/37	0.00	0.00	12.52	12.86	15.70	23.98	-0.50	26.99	Pass		12.5		
HE20	MCS0	2	116	5580	106/53	0.00	0.00	15.47	15.32	18.41	23.98	-0.50	26.99	Pass		15.5		
HE20	MCS0	2	140	5700	Full	0.00	0.00	17.61	17.87	20.75	23.98	-0.50	26.99	Pass		18		
HE20	MCS0	2	140	5700	26/8	0.00	0.00	9.27	9.71	12.51	23.98	-0.50	26.99	Pass		9.5		
HE20	MCS0	2	140	5700	52/40	0.00	0.00	12.68	12.77	15.74	23.98	-0.50	26.99	Pass		12.5		
HE20	MCS0	2	140	5700	106/54	0.00	0.00	15.84	15.39	18.63	23.98	-0.50	26.99	Pass		15.5		
HE40	MCS0	2	102	5510	Full	0.00	0.00	16.77	17.09	19.94	23.98	-0.50	26.99	Pass		18		
HE40	MCS0	2	110	5550	Full	0.00	0.00	16.59	16.86	19.74	23.98	-0.50	26.99	Pass		18		
HE40	MCS0	2	134	5670	Full	0.00	0.00	16.65	16.62	19.65	23.98	-0.50	26.99	Pass		18		
HE80	MCS0	2	106	5530	Full	0.00	0.00	16.57	16.85	19.72	23.98	-0.50	26.99	Pass		17		
HE80	MCS0	2	122	5610	Full	0.00	0.00	17.43	17.75	20.60	23.98	-0.50	26.99	Pass		18		
HE160	MCS0	2	114	5570	Full	0.00	0.00	14.23	14.44	17.35	23.98	-0.50	26.99	Pass		15		



U-NII-3 MIMO																
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power with duty factor (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail	Power Setting	
					Ant 8	Ant 9	Ant 8	Ant 9	SUM	Ant 8	Ant 9	Ant 8	Ant 9		Ant 8	Ant 9
11a	6Mbps	2	149	5745	0.03	0.03	18.52	18.89	21.72	30.00		-0.50		Pass	19	
11a	6Mbps	2	157	5785	0.03	0.03	18.85	19.09	21.98	30.00		-0.50		Pass	19	
11a	6Mbps	2	165	5825	0.03	0.03	18.86	19.11	22.00	30.00		-0.50		Pass	19	
HT20	MCS8	2	149	5745	0.00	0.00	17.24	17.55	20.41	30.00		-0.50		Pass	18	
HT20	MCS8	2	157	5785	0.00	0.00	17.50	17.71	20.62	30.00		-0.50		Pass	18	
HT20	MCS8	2	165	5825	0.00	0.00	17.41	17.84	20.64	30.00		-0.50		Pass	18	
HT40	MCS8	2	151	5755	0.00	0.00	17.02	16.80	19.92	30.00		-0.50		Pass	18	
HT40	MCS8	2	159	5795	0.00	0.00	16.89	16.68	19.80	30.00		-0.50		Pass	18	
VHT20	MCS0	2	149	5745	0.00	0.00	17.28	17.60	20.45	30.00		-0.50		Pass	18	
VHT20	MCS0	2	157	5785	0.00	0.00	17.52	17.76	20.65	30.00		-0.50		Pass	18	
VHT20	MCS0	2	165	5825	0.00	0.00	17.44	17.87	20.67	30.00		-0.50		Pass	18	
VHT40	MCS0	2	151	5755	0.00	0.00	17.04	16.83	19.95	30.00		-0.50		Pass	18	
VHT40	MCS0	2	159	5795	0.00	0.00	16.93	16.74	19.85	30.00		-0.50		Pass	18	
VHT80	MCS0	2	155	5775	0.00	0.00	17.81	17.71	20.77	30.00		-0.50		Pass	18	

U-NII-3 MIMO																	
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	RU Config.	Duty Factor (dB)		Average Conducted Power with duty factor (dBm)			FCC Conducted Power Limit (dBm)		DG (dBi)		Pass/Fail	Power Setting	
						Ant 8	Ant 9	Ant 8	Ant 9	SUM	Ant 8	Ant 9	Ant 8	Ant 9		Ant 8	Ant 9
HE20	MCS0	2	149	5745	Full	0.00	0.00	17.33	17.64	20.50	30.00	-0.50		Pass		18	
HE20	MCS0	2	149	5745	26/0	0.00	0.00	9.96	9.01	12.52	30.00	-0.50		Pass		9	
HE20	MCS0	2	149	5745	52/37	0.00	0.00	12.51	12.65	15.59	30.00	-0.50		Pass		12.5	
HE20	MCS0	2	149	5745	106/53	0.00	0.00	15.64	15.23	18.45	30.00	-0.50		Pass		15.5	
HE20	MCS0	2	157	5785	Full	0.00	0.00	17.54	17.82	20.69	30.00	-0.50		Pass		18	
HE20	MCS0	2	157	5785	26/0	0.00	0.00	9.82	9.90	12.87	30.00	-0.50		Pass		9.5	
HE20	MCS0	2	157	5785	52/37	0.00	0.00	12.92	12.75	15.85	30.00	-0.50		Pass		12.5	
HE20	MCS0	2	157	5785	106/53	0.00	0.00	15.47	15.17	18.33	30.00	-0.50		Pass		15.5	
HE20	MCS0	2	165	5825	Full	0.00	0.00	17.49	17.91	20.72	30.00	-0.50		Pass		18	
HE20	MCS0	2	165	5825	26/8	0.00	0.00	9.65	9.68	12.68	30.00	-0.50		Pass		9.5	
HE20	MCS0	2	165	5825	52/40	0.00	0.00	12.86	12.54	15.71	30.00	-0.50		Pass		12.5	
HE20	MCS0	2	165	5825	106/54	0.00	0.00	15.62	15.42	18.53	30.00	-0.50		Pass		15.5	
HE40	MCS0	2	151	5755	Full	0.00	0.00	17.09	16.87	19.99	30.00	-0.50		Pass		18	
HE40	MCS0	2	159	5795	Full	0.00	0.00	16.95	16.76	19.87	30.00	-0.50		Pass		18	
HE80	MCS0	2	155	5775	Full	0.00	0.00	17.84	17.73	20.80	30.00	-0.50		Pass		18	

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

<FCC 14-30 CFR 15.407>

For mobile and portable client devices in the 5.15–5.25 GHz band, the maximum power spectral density shall not exceed 11dBm in any 1 megahertz band.

For the 5.25–5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band.

For the band 5.725–5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.3.3 Test Procedures

The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04.

Section F) Maximum power spectral density.

For devices operating in the bands UNII-1/2A/2C

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.

For devices operating in the band UNII-3

Method SA-2

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

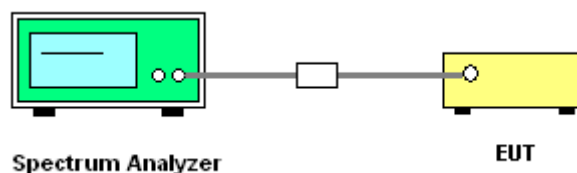
- Measure the duty cycle.
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 500KHz (or 300 kHz if the SA can't set RBW=500KHz).
- Set VBW $\geq$ 1 MHz.
- Number of points in sweep $\geq$ 2 Span / RBW.
- Sweep time = auto.
- Detector = RMS
- Trace average at least 100 traces in power averaging mode.
- If the SA can't set RBW=500KHz, then add $10 \log(500\text{kHz}/\text{RBW})$ to the test result.
- 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, and attenuator loss. 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 Unwanted Emissions Measurement

This section as specified in FCC Part 15.407(b) is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement. The unwanted emissions shall comply with 15.407(b)(1) to (6), and restricted bands per FCC Part 15.205.

3.4.1 Limit of Unwanted Emissions

- (1) For transmitters operating in the 5150-5250 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27dBm/MHz.

For transmitters operating in the 5250-5350 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5250-5350 MHz band that generate emissions in the 5150-5250 MHz band must meet all applicable technical requirements for operation in the 5150-5250 MHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5150-5250 MHz band.

For transmitters operating in the 5470-5600 MHz and 5650-5725MHz band: all emissions outside of the 5470-5600 MHz and 5650-5725MHz band shall not exceed an EIRP of -27 dBm/MHz.

- (2) For transmitters operating in the 5.725-5.85 GHz band:
- 15.407(b)(4)(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

(3) 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

(4) EIRP (dBm)	Field Strength at 3m (dBμV/m)
- 27	68.2

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

$$EIRP = E_{Meas} + 20\log (d_{Meas}) - 104.7$$

where

EIRP is the equivalent isotropically radiated power, in dBm

E_{Meas} is the field strength of the emission at the measurement distance, in dBμV/m

d_{Meas} is the measurement distance, in m

3.4.2 Measuring Instruments

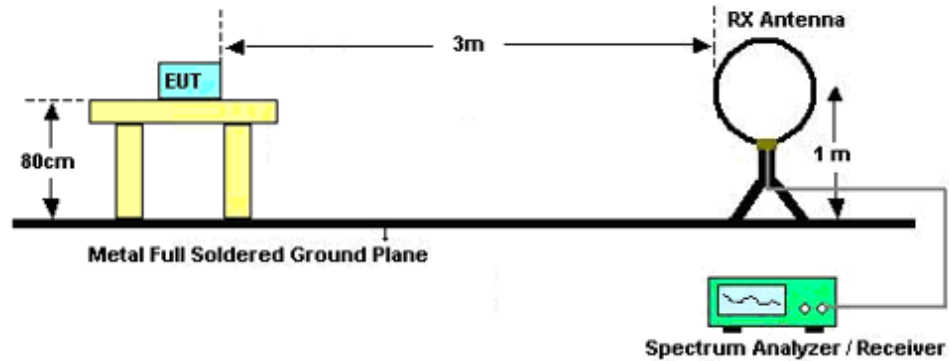
The measuring equipment is listed in the section 4 of this test report.

3.4.3 Test Procedures

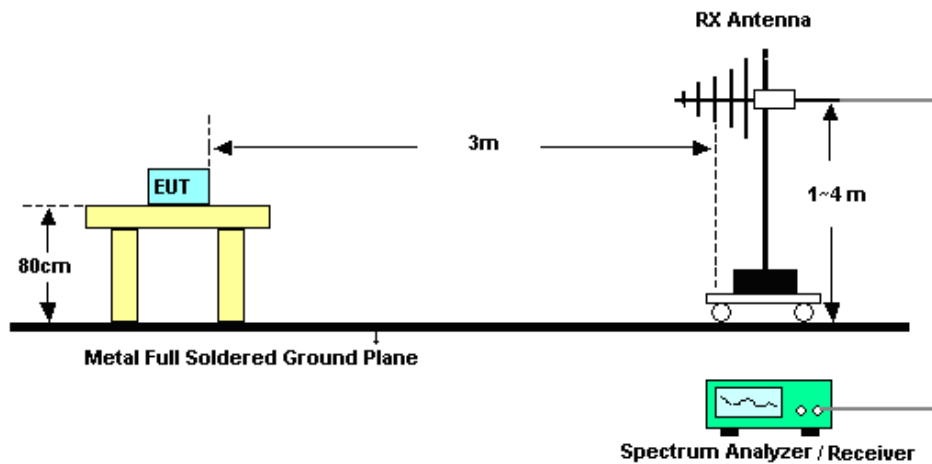
1. The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04.
Section G) Unwanted emissions measurement.
(1) Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold(2) Procedure for Peak Unwanted 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.
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.

3.4.4 Test Setup

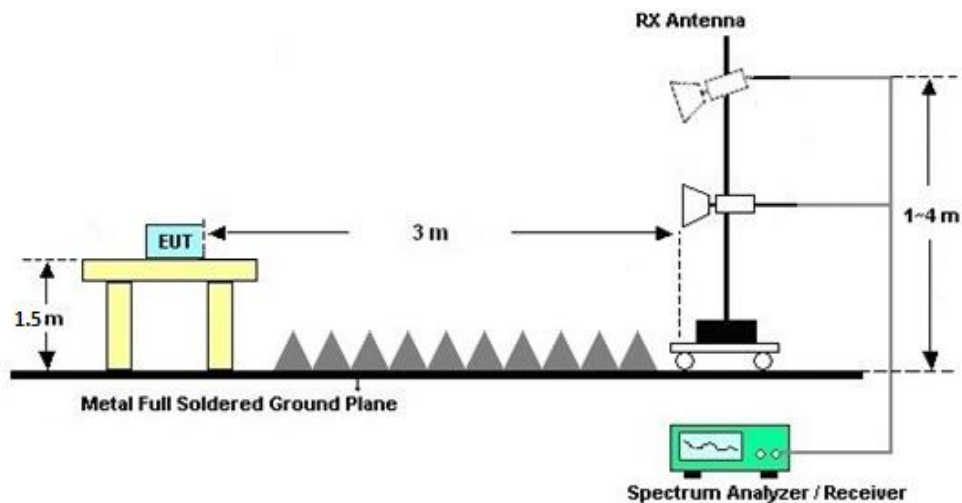
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



**3.4.5 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 a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

3.4.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C.

3.4.7 Duty Cycle

Please refer to Appendix D.

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

Please refer to Appendix C.

3.5 AC Conducted Emission Measurement

3.5.1 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.

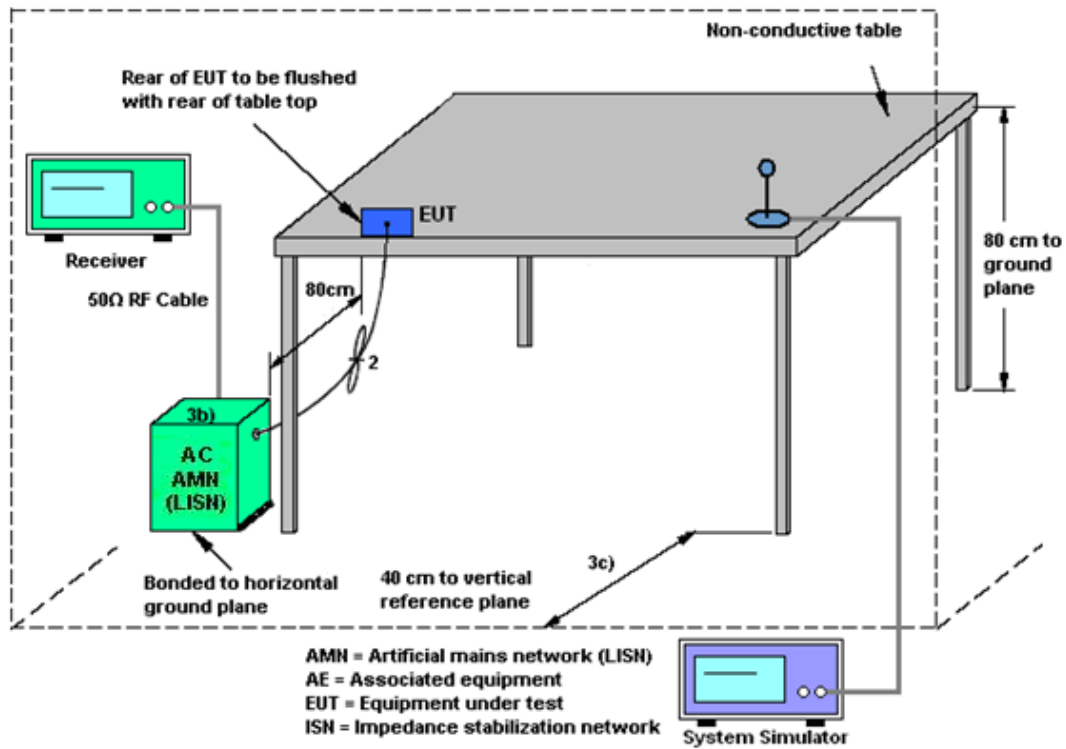
3.5.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.5.3 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.

3.5.4 Test Setup



3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.6 Antenna Requirements

3.6.1 Standard Applicable

According to FCC 47 CFR Section 15.407(a)(1)(2) ,if transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.6.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.6.3 Antenna Gain

<STBC Modes>

For completely uncorrelated transmissions, directional gain is calculated as,

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

<STBC Modes>						
			DG	DG	Power	PSD
			for	for	Limit	Limit
	Ant. 8	Ant. 9	Power	PSD	Reduction	Reduction
	(dBi)	(dBi)	(dBi)	(dBi)	(dB)	(dB)
UNII-1	-0.50	-1.00	-0.50	-0.50	0.00	0.00
UNII-2A	-0.50	-1.00	-0.50	-0.50	0.00	0.00
UNII-2C	-0.50	-1.00	-0.50	-0.50	0.00	0.00
UNII-3	-0.50	-1.00	-0.50	-0.50	0.00	0.00

Power limit reduction = Composite gain – 6dBi, (min = 0)

PSD limit reduction = Composite gain + PSD Array gain – 6dBi, (min = 0)

This device supports STBC mode, not support CDD (Cyclic Delay Diversity) mode which controlled by Qualcomm chipset software. This chipset support WIFI MIMO(2*2), and support STBC mode by manufacturer declared.

Space time block coding (STBC) transmits multiple copies of one data flow in wireless communication. STBC uses two antennas (Ant 8 and Ant 9) to produce multiple receive versions of data, improving data transmission reliability. Among these data copies, optimal copies are combined to provide most reliable data. This redundancy increases the chance of using one or more copies of received data to correctly decode the received data. STBC combines all the copies of received signals to produce the useful data.



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	Nov. 15, 2024~ Jan. 23, 2025	Oct. 09, 2025	Conducted (TH01-KS)
Pulse Power Sensor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 03, 2024	Nov. 15, 2024~ Jan. 23, 2025	Jan. 02, 2025	Conducted (TH01-KS)
Pulse Power Sensor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 02, 2025		Jan. 01, 2026	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 03, 2024	Nov. 15, 2024~ Jan. 23, 2025	Jan. 02, 2025	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 02, 2025		Jan. 01, 2026	Conducted (TH01-KS)
EMI Test Receiver	Keysight	N9038A	MY56400023	3Hz~8.5GHz;Max 30dBm	Jan. 03, 2025	Jan. 28, 2025	Jan. 02, 2026	Radiation (03CH06-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471084	10Hz~44GHz	Jul. 04, 2024	Jan. 28, 2025	Jul. 03, 2025	Radiation (03CH06-KS)
Loop Antenna	R&S	HFH2-Z2E	101125	9kHz~30MHz	Sep. 08, 2024	Jan. 28, 2025	Sep. 07, 2025	Radiation (03CH06-KS)
Bilog Antenna	TeseQ	CBL6111D	59913	30MHz~1GHz	Sep. 03, 2024	Jan. 28, 2025	Sep. 02, 2025	Radiation (03CH06-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00218652	1GHz~18GHz	Apr. 11, 2024	Jan. 28, 2025	Apr. 10, 2025	Radiation (03CH06-KS)
SHF-EHF Horn	Com-power	AH-840	101116	18GHz~40GHz	Oct. 22, 2024	Jan. 28, 2025	Oct. 21, 2025	Radiation (03CH06-KS)
Amplifier	SONOMA	310N	380827	9KHz ~1GHZ	Jul. 04, 2024	Jan. 28, 2025	Jul. 03, 2025	Radiation (03CH06-KS)
Amplifier	EM	EM18G40GA	060728	18~40GHz	Jan. 03, 2025	Jan. 28, 2025	Jan. 02, 2026	Radiation (03CH06-KS)
high gain Amplifier	EM	EM01G18GA	060845	1Ghz-18Ghz	Jan. 03, 2025	Jan. 28, 2025	Jan. 02, 2026	Radiation (03CH06-KS)
Amplifier	Keysight	83017A	MY57280119	500MHz~26.5GHz	Oct. 09, 2024	Jan. 28, 2025	Oct. 08, 2025	Radiation (03CH06-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Jan. 28, 2025	NCR	Radiation (03CH06-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Jan. 28, 2025	NCR	Radiation (03CH06-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Jan. 28, 2025	NCR	Radiation (03CH06-KS)
EMI Receiver	R&S	ESR7	102297	9kHz~7GHz;	Jul. 03, 2024	Dec. 11, 2024	Jul. 02, 2025	Conduction (CO02-SZ)
AC LISN	R&S	ENV216	101499	9kHz~30MHz	Jul. 03, 2024	Dec. 11, 2024	Jul. 02, 2025	Conduction (CO02-SZ)
AC Power Source	CHROMA	61601	616010002470	100Vac~250Vac	Dec. 26, 2023	Dec. 11, 2024	Dec. 25, 2024	Conduction (CO02-SZ)

NCR: No Calibration Required

5 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.10-2013. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Conducted Measurement

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

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
---	-------

Uncertainty of Radiated Emission Measurement (9 KHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.30dB
---	--------

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	6.06dB
---	--------

Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.18dB
---	--------

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.38dB
---	--------

----- 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	Ant8	5180	18.70	5170.50	5189.20	---	---
	Ant9	5180	19.10	5170.40	5189.50	---	---
	Ant8	5220	18.60	5210.70	5229.30	---	---
	Ant9	5220	19.10	5210.40	5229.50	---	---
	Ant8	5240	18.50	5230.70	5249.20	---	---
	Ant9	5240	18.90	5230.60	5249.50	---	---
	Ant8	5260	18.70	5250.50	5269.20	---	---
	Ant9	5260	19.00	5250.40	5269.40	---	---
	Ant8	5300	18.50	5290.70	5309.20	---	---
	Ant9	5300	18.70	5290.70	5309.40	---	---
	Ant8	5320	18.50	5310.70	5329.20	---	---
	Ant9	5320	19.00	5310.40	5329.40	---	---
	Ant8	5500	18.60	5490.70	5509.30	---	---
	Ant9	5500	18.80	5490.60	5509.40	---	---
	Ant8	5580	18.70	5570.70	5589.40	---	---
	Ant9	5580	18.90	5570.60	5589.50	---	---
	Ant8	5700	18.80	5690.50	5709.30	---	---
	Ant9	5700	18.90	5690.60	5709.50	---	---
	Ant8	5745	18.60	5735.60	5754.20	---	---
	Ant9	5745	19.20	5735.20	5754.40	---	---
	Ant8	5785	18.70	5775.60	5794.30	---	---
	Ant9	5785	18.70	5775.70	5794.40	---	---
	Ant8	5825	18.80	5815.40	5834.20	---	---
	Ant9	5825	19.10	5815.40	5834.50	---	---
11AC20MIMO	Ant8	5180	19.80	5170.20	5190.00	---	---
	Ant9	5180	20.00	5169.90	5189.90	---	---
	Ant8	5220	19.80	5210.10	5229.90	---	---
	Ant9	5220	19.60	5210.20	5229.80	---	---
	Ant8	5240	19.90	5229.90	5249.80	---	---
	Ant9	5240	19.60	5230.20	5249.80	---	---
	Ant8	5260	20.10	5249.80	5269.90	---	---
	Ant9	5260	19.60	5250.20	5269.80	---	---
	Ant8	5300	20.00	5289.90	5309.90	---	---
	Ant9	5300	19.90	5290.10	5310.00	---	---
	Ant8	5320	19.80	5310.10	5329.90	---	---
	Ant9	5320	20.10	5309.90	5330.00	---	---
	Ant8	5500	20.10	5489.80	5509.90	---	---
	Ant9	5500	20.20	5489.80	5510.00	---	---
	Ant8	5580	19.90	5570.00	5589.90	---	---
	Ant9	5580	19.80	5570.10	5589.90	---	---
	Ant8	5700	20.10	5689.90	5710.00	---	---
	Ant9	5700	20.00	5690.20	5710.20	---	---
	Ant8	5745	20.20	5734.80	5755.00	---	---
	Ant9	5745	19.80	5735.10	5754.90	---	---
	Ant8	5785	20.10	5774.80	5794.90	---	---
	Ant9	5785	19.80	5775.10	5794.90	---	---
	Ant8	5825	20.00	5814.90	5834.90	---	---
	Ant9	5825	20.00	5815.00	5835.00	---	---
11AC40MIMO	Ant8	5190	39.40	5170.40	5209.80	---	---
	Ant9	5190	39.60	5170.40	5210.00	---	---
	Ant8	5230	39.80	5210.20	5250.00	---	---
	Ant9	5230	39.60	5210.20	5249.80	---	---
	Ant8	5270	40.00	5250.20	5290.20	---	---



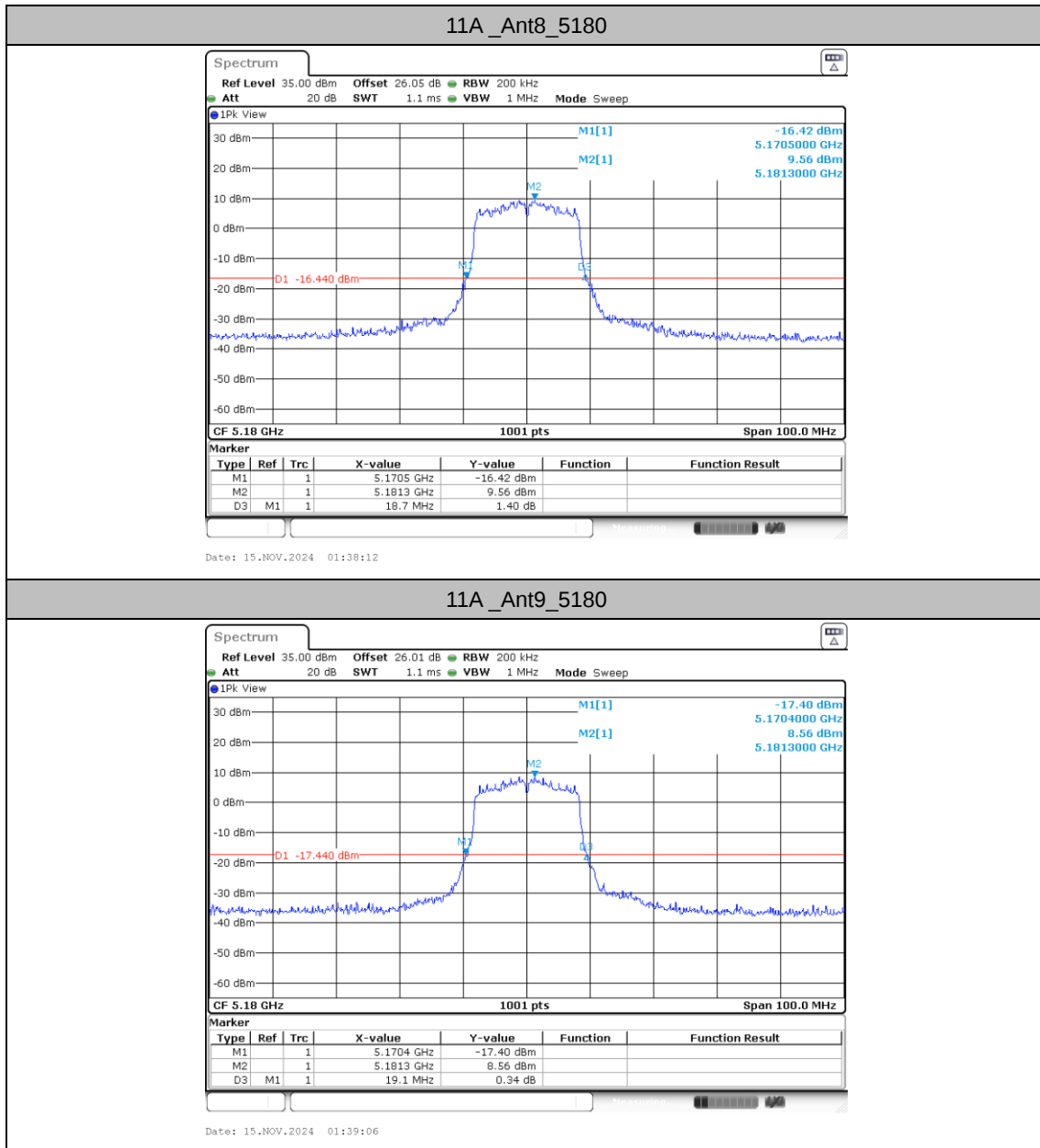
	Ant9	5270	39.40	5250.40	5289.80	---	---
	Ant8	5310	39.60	5290.20	5329.80	---	---
	Ant9	5310	39.80	5290.20	5330.00	---	---
	Ant8	5510	39.60	5490.20	5529.80	---	---
	Ant9	5510	39.60	5490.20	5529.80	---	---
	Ant8	5550	39.80	5530.20	5570.00	---	---
	Ant9	5550	39.40	5530.40	5569.80	---	---
	Ant8	5670	39.60	5650.20	5689.80	---	---
	Ant9	5670	39.80	5650.00	5689.80	---	---
	Ant8	5755	39.60	5735.20	5774.80	---	---
	Ant9	5755	39.80	5735.00	5774.80	---	---
	Ant8	5795	39.40	5775.20	5814.60	---	---
11AC80MIMO	Ant9	5795	40.00	5775.00	5815.00	---	---
	Ant8	5210	81.20	5169.60	5250.80	---	---
	Ant9	5210	81.20	5169.60	5250.80	---	---
	Ant8	5290	80.80	5249.60	5330.40	---	---
	Ant9	5290	80.80	5249.60	5330.40	---	---
	Ant8	5530	81.20	5489.60	5570.80	---	---
	Ant9	5530	81.20	5489.60	5570.80	---	---
	Ant8	5610	81.20	5569.60	5650.80	---	---
	Ant9	5610	80.40	5570.00	5650.40	---	---
	Ant8	5775	81.20	5734.20	5815.40	---	---
11AC160MIMO	Ant9	5775	80.80	5734.60	5815.40	---	---
	Ant8	5250	163.20	5168.40	5331.60	---	---
	Ant9	5250	162.40	5169.20	5331.60	---	---
	Ant8	5570	162.40	5489.20	5651.60	---	---
11AX20MIMO	Ant9	5570	164.00	5488.40	5652.40	---	---
	Ant8	5180	20.50	5169.80	5190.30	---	---
	Ant9	5180	20.60	5169.80	5190.40	---	---
	Ant8	5220	20.90	5209.60	5230.50	---	---
	Ant9	5220	20.50	5209.80	5230.30	---	---
	Ant8	5240	20.50	5229.90	5250.40	---	---
	Ant9	5240	20.50	5229.70	5250.20	---	---
	Ant8	5260	20.30	5249.90	5270.20	---	---
	Ant9	5260	20.50	5249.80	5270.30	---	---
	Ant8	5300	20.70	5289.70	5310.40	---	---
	Ant9	5300	20.30	5289.90	5310.20	---	---
	Ant8	5320	20.40	5309.90	5330.30	---	---
	Ant9	5320	20.70	5309.60	5330.30	---	---
	Ant8	5500	20.50	5489.70	5510.20	---	---
	Ant9	5500	20.60	5489.80	5510.40	---	---
	Ant8	5580	21.00	5569.50	5590.50	---	---
	Ant9	5580	20.60	5569.80	5590.40	---	---
	Ant8	5700	20.60	5689.80	5710.40	---	---
	Ant9	5700	20.50	5689.70	5710.20	---	---
	Ant8	5745	20.70	5734.60	5755.30	---	---
	Ant9	5745	20.70	5734.70	5755.40	---	---
	Ant8	5785	20.80	5774.60	5795.40	---	---
	Ant9	5785	20.50	5774.70	5795.20	---	---
	Ant8	5825	20.60	5814.80	5835.40	---	---
	Ant9	5825	20.40	5814.90	5835.30	---	---
11AX40MIMO	Ant8	5190	40.20	5170.00	5210.20	---	---
	Ant9	5190	39.80	5170.20	5210.00	---	---
	Ant8	5230	40.00	5210.20	5250.20	---	---
	Ant9	5230	40.20	5209.80	5250.00	---	---
	Ant8	5270	40.40	5250.00	5290.40	---	---
	Ant9	5270	40.60	5249.80	5290.40	---	---
	Ant8	5310	40.00	5290.00	5330.00	---	---



	Ant9	5310	40.20	5289.80	5330.00	---	---
	Ant8	5510	40.20	5490.00	5530.20	---	---
	Ant9	5510	40.20	5490.00	5530.20	---	---
	Ant8	5550	40.40	5530.00	5570.40	---	---
	Ant9	5550	40.20	5530.00	5570.20	---	---
	Ant8	5670	40.20	5650.00	5690.20	---	---
	Ant9	5670	40.00	5650.20	5690.20	---	---
	Ant8	5755	40.00	5735.00	5775.00	---	---
	Ant9	5755	40.00	5735.00	5775.00	---	---
	Ant8	5795	40.20	5775.00	5815.20	---	---
	Ant9	5795	40.00	5775.00	5815.00	---	---
11AX80MIMO	Ant8	5210	81.20	5169.60	5250.80	---	---
	Ant9	5210	81.20	5169.60	5250.80	---	---
	Ant8	5290	81.20	5249.20	5330.40	---	---
	Ant9	5290	81.20	5249.60	5330.80	---	---
	Ant8	5530	82.00	5489.20	5571.20	---	---
	Ant9	5530	81.60	5489.20	5570.80	---	---
	Ant8	5610	81.20	5569.60	5650.80	---	---
	Ant9	5610	81.20	5569.60	5650.80	---	---
	Ant8	5775	81.20	5734.60	5815.80	---	---
	Ant9	5775	81.60	5734.20	5815.80	---	---
11AX160MIMO	Ant8	5250	162.40	5169.20	5331.60	---	---
	Ant9	5250	164.00	5168.40	5332.40	---	---
	Ant8	5570	162.40	5489.20	5651.60	---	---
	Ant9	5570	164.80	5487.60	5652.40	---	---

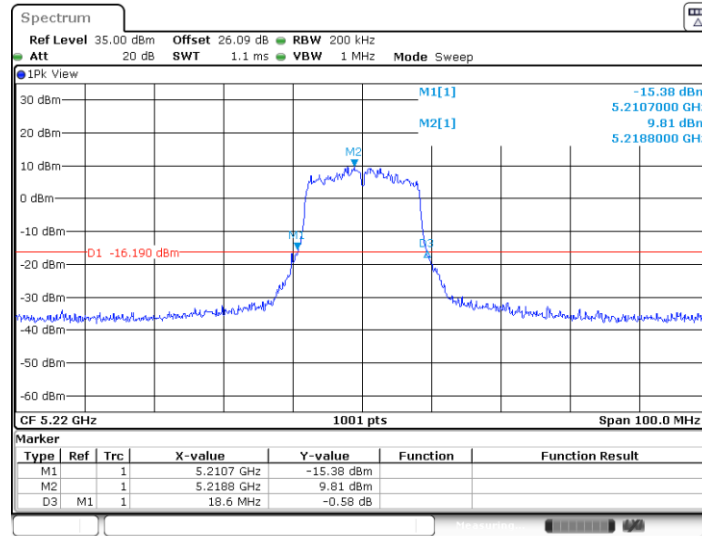


Test Graphs



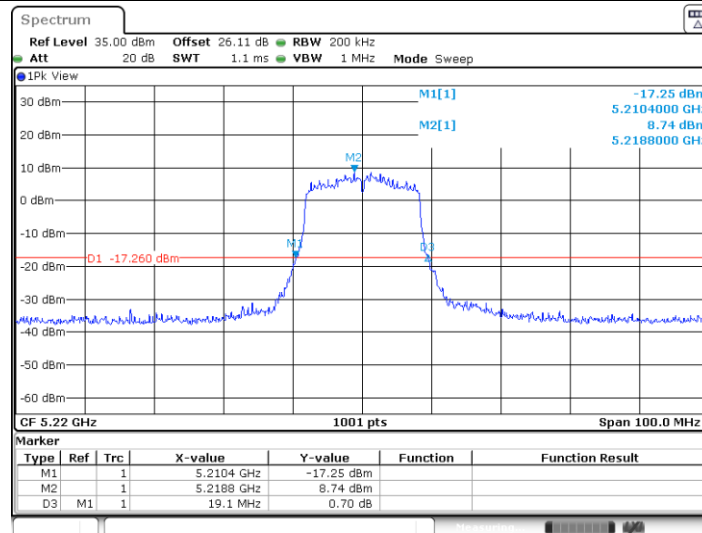


11A_Ant8_5220



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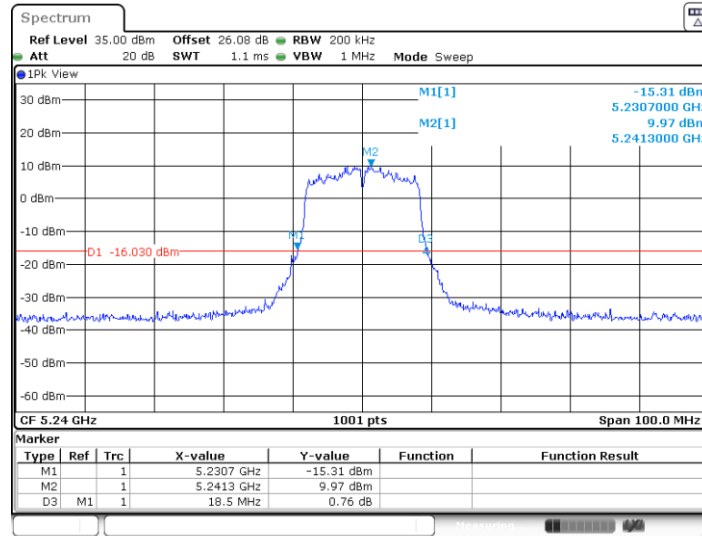
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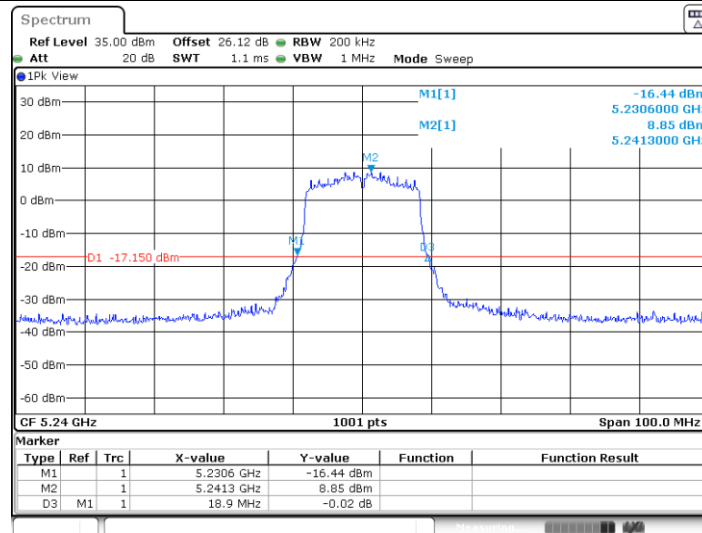


11A_Ant8_5240



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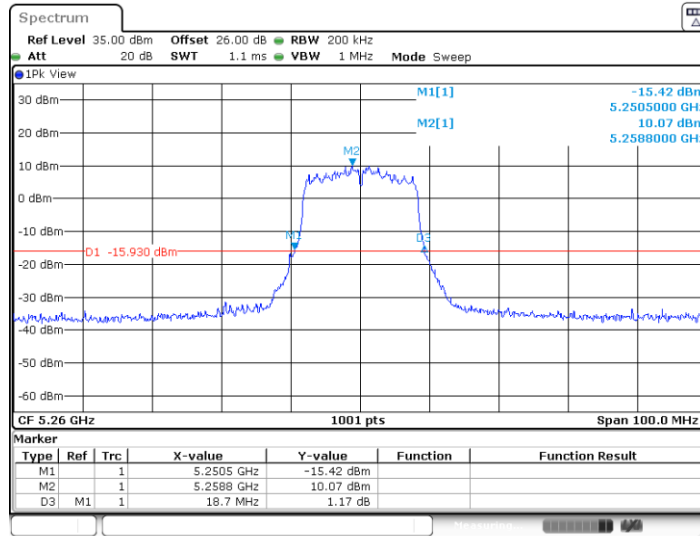
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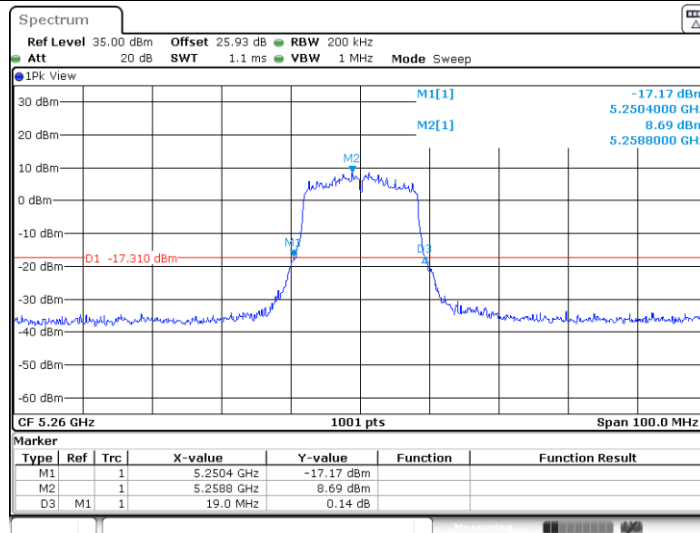


11A_Ant8_5260



Date: 15.NOV.2024 01:43:32

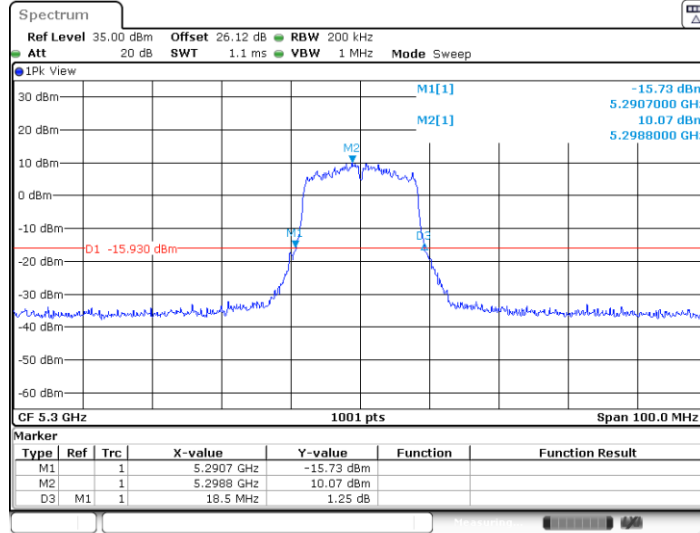
11A_Ant9_5260



Date: 15.NOV.2024 01:44:13

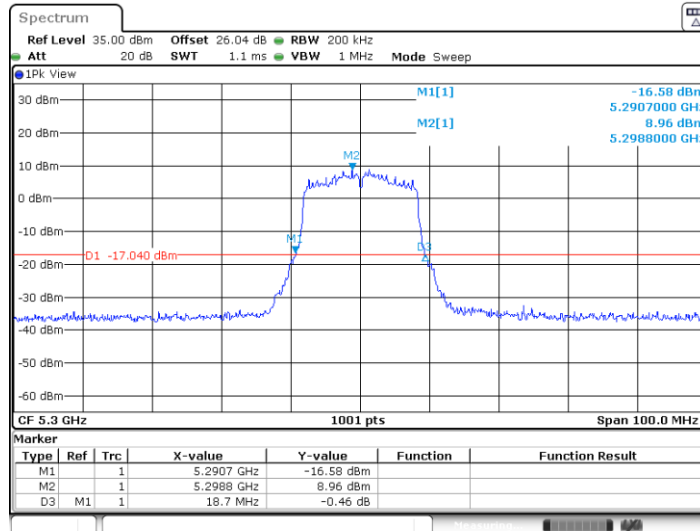


11A_Ant8_5300



Date: 15.NOV.2024 01:45:05

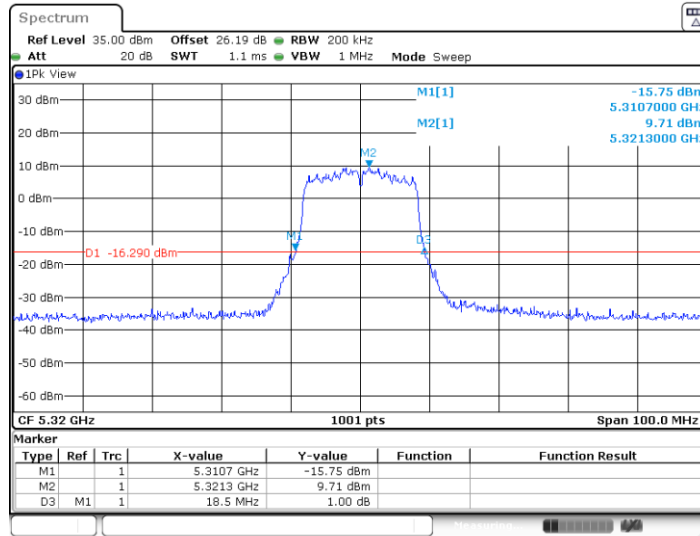
11A_Ant9_5300



Date: 15.NOV.2024 01:45:45

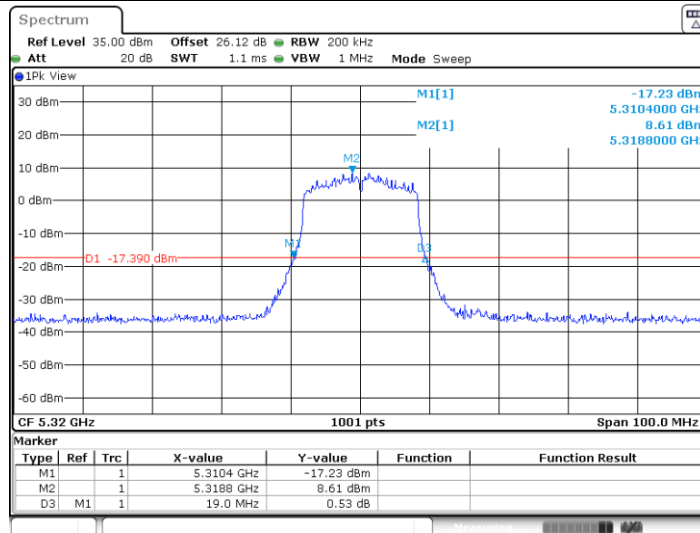


11A_Ant8_5320



Date: 15.NOV.2024 01:46:37

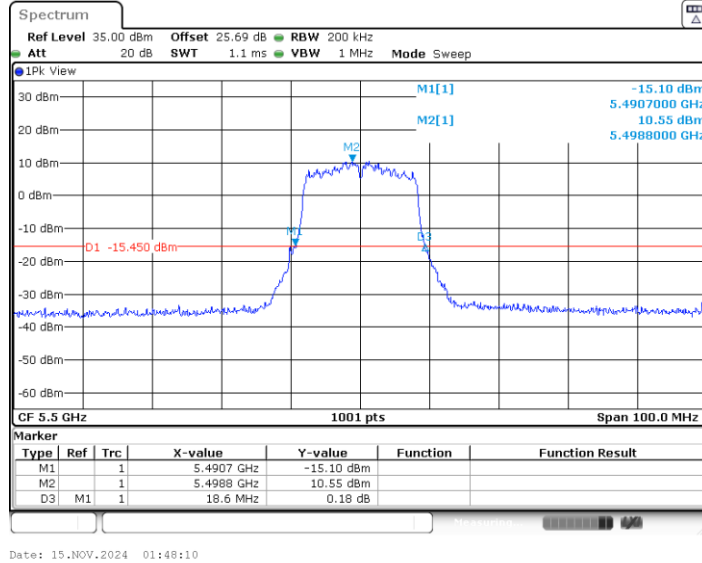
11A_Ant9_5320



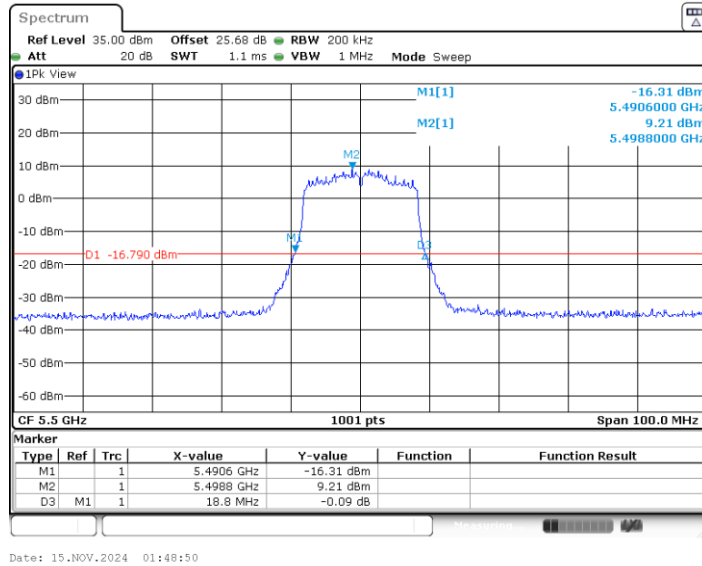
Date: 15.NOV.2024 01:47:18



11A_Ant8_5500

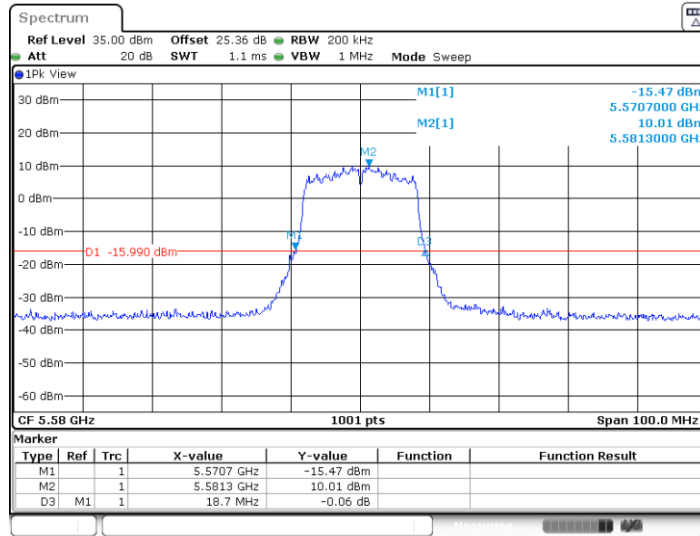


11A_Ant9_5500



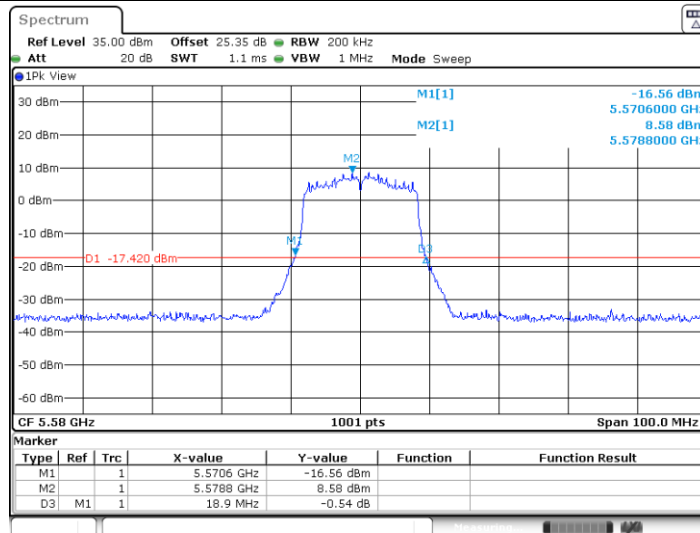


11A_Ant8_5580



Date: 10.DEC.2024 22:16:23

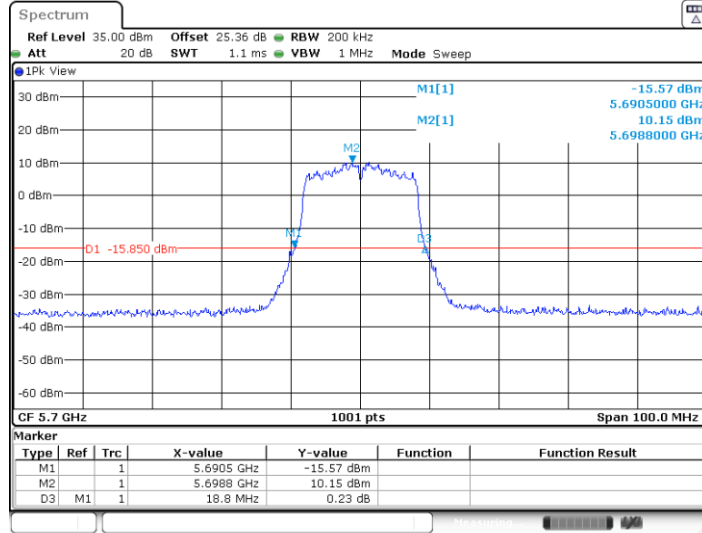
11A_Ant9_5580



Date: 15.NOV.2024 01:50:19

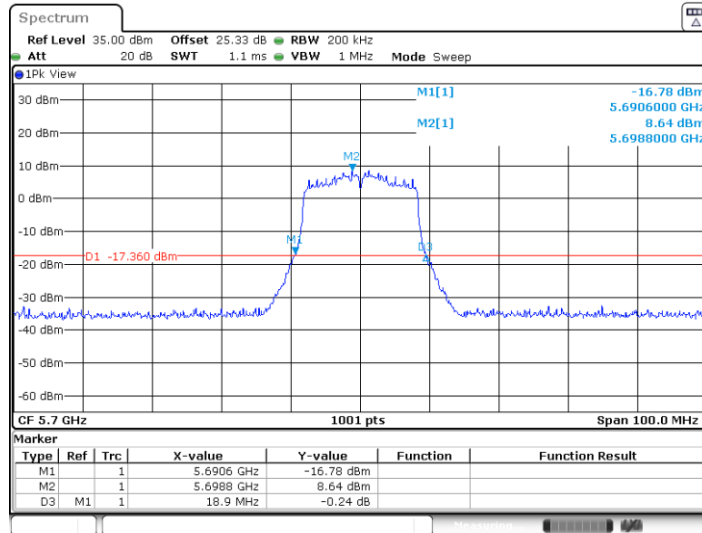


11A_Ant8_5700



Date: 10.DEC.2024 22:16:03

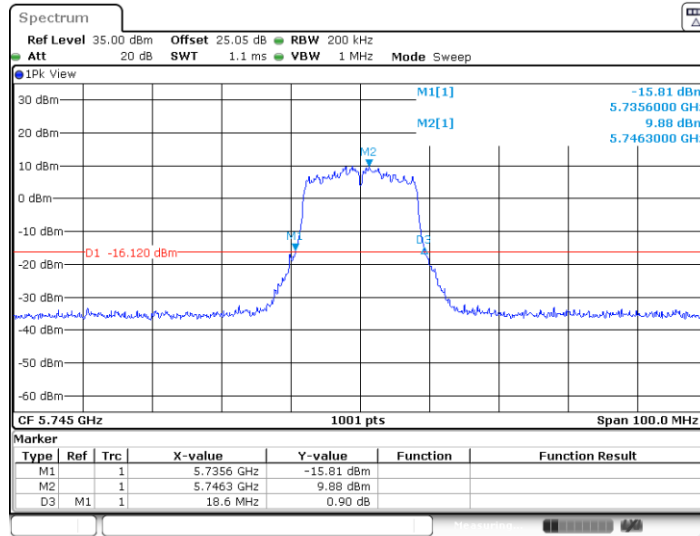
11A_Ant9_5700



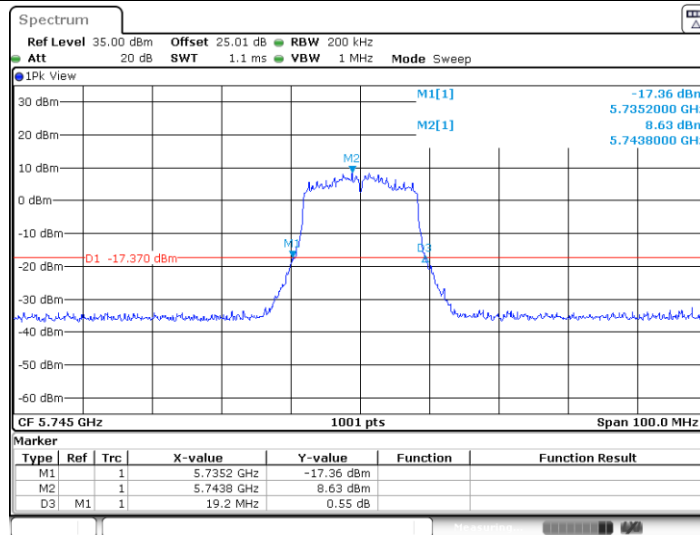
Date: 15.NOV.2024 01:51:51



11A_Ant8_5745

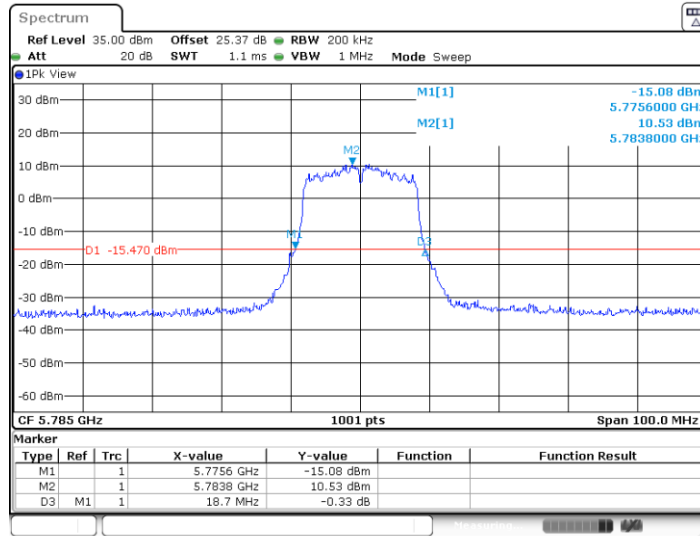


11A_Ant9_5745



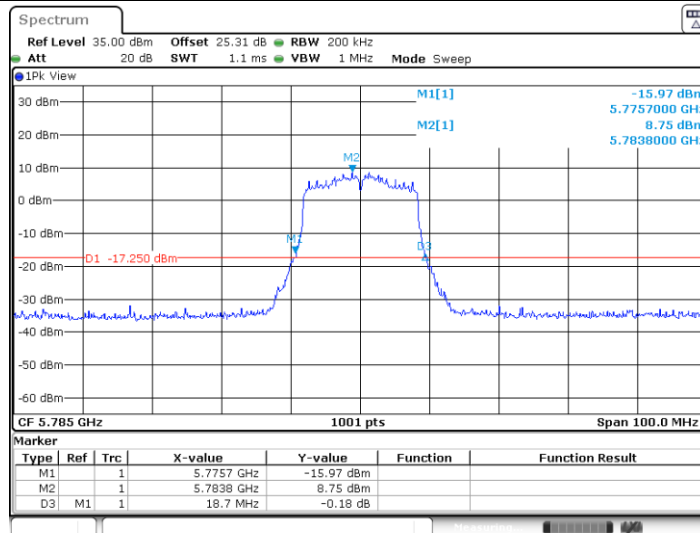


11A_Ant8_5785



Date: 15.NOV.2024 01:56:37

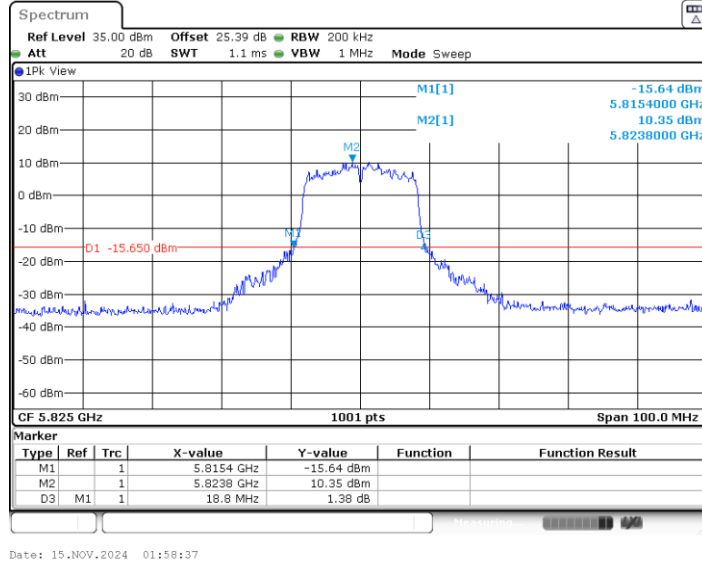
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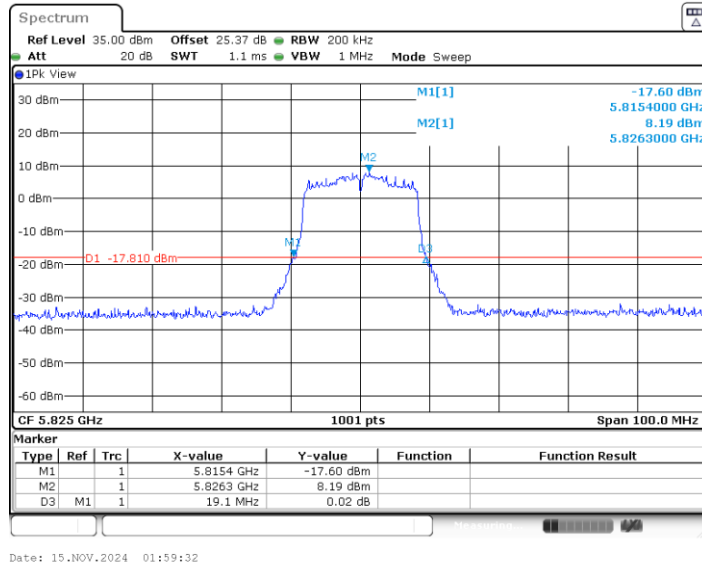
Date: 15.NOV.2024 01:57:31



11A_Ant8_5825

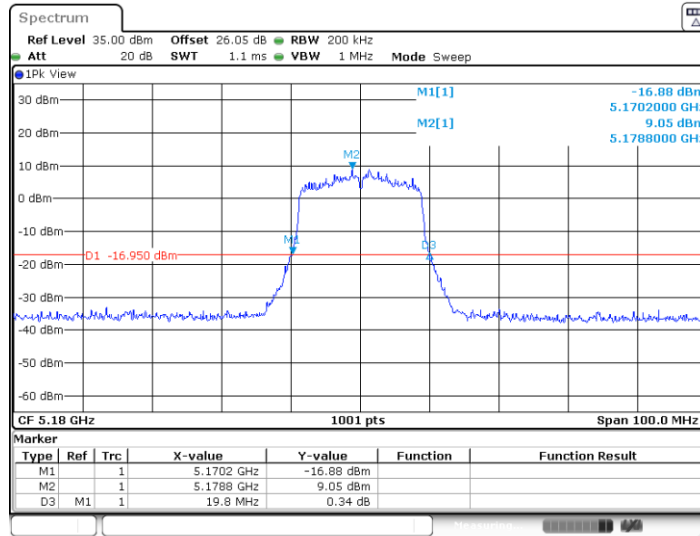


11A_Ant9_5825

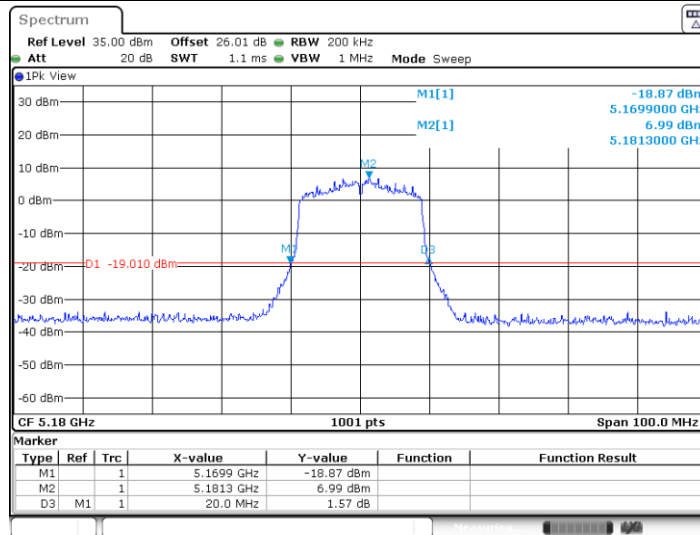




11AC20MIMO_Ant8_5180

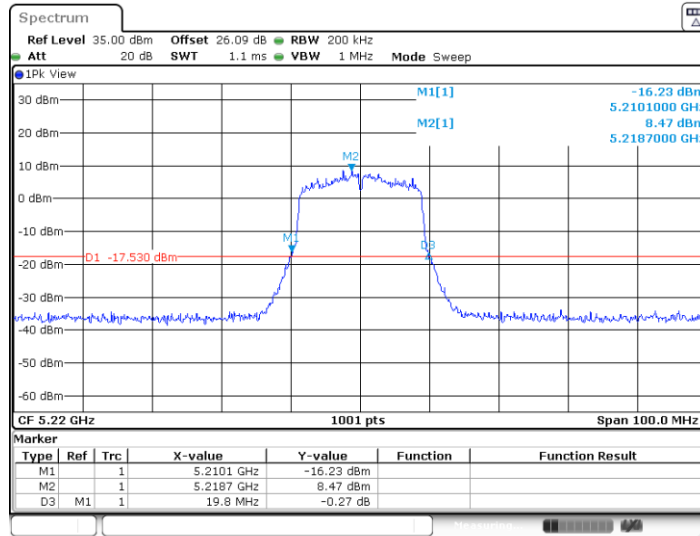


11AC20MIMO_Ant9_5180

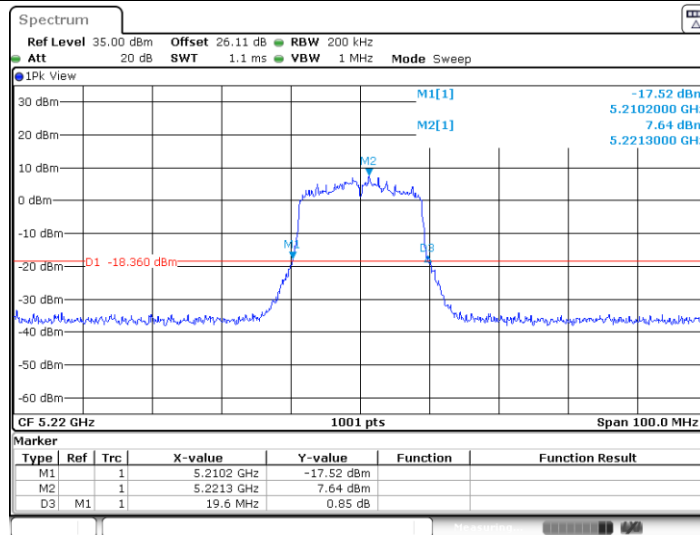




11AC20MIMO_Ant8_5220

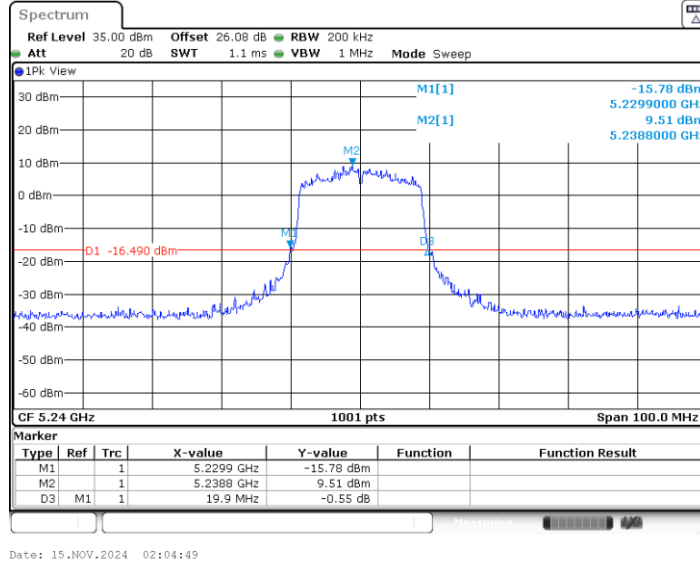


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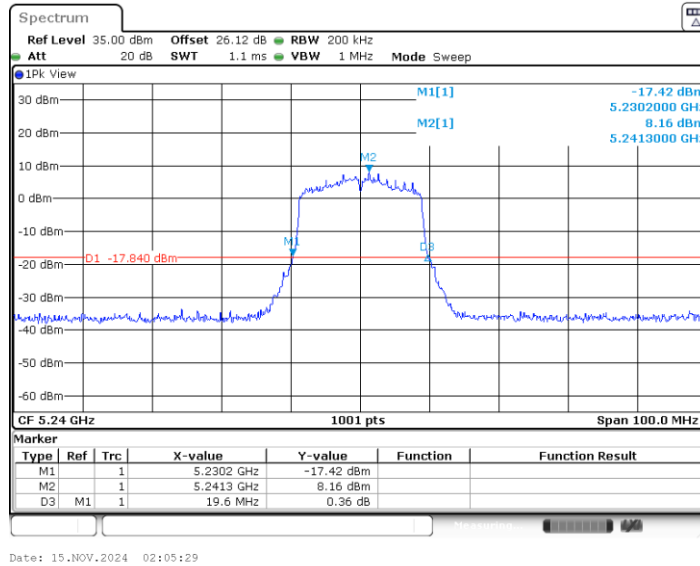




11AC20MIMO_Ant8_5240

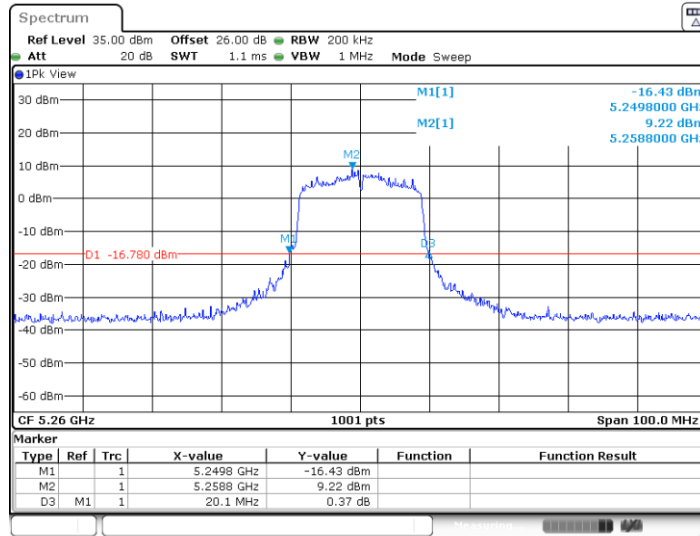


11AC20MIMO_Ant9_5240

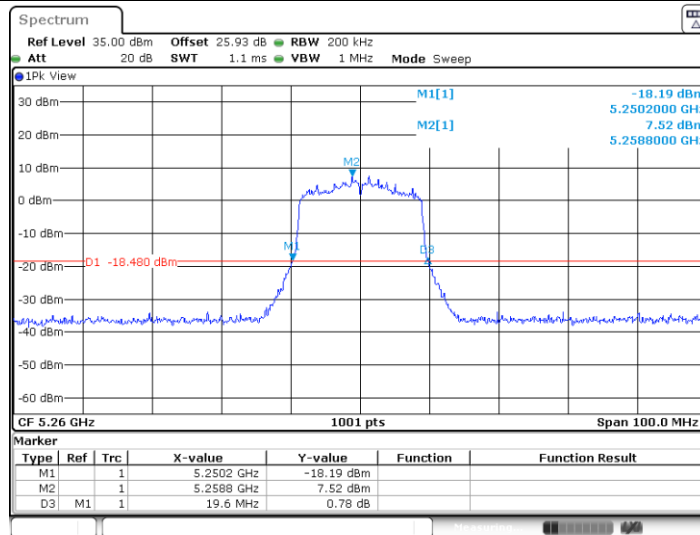




11AC20MIMO_Ant8_5260

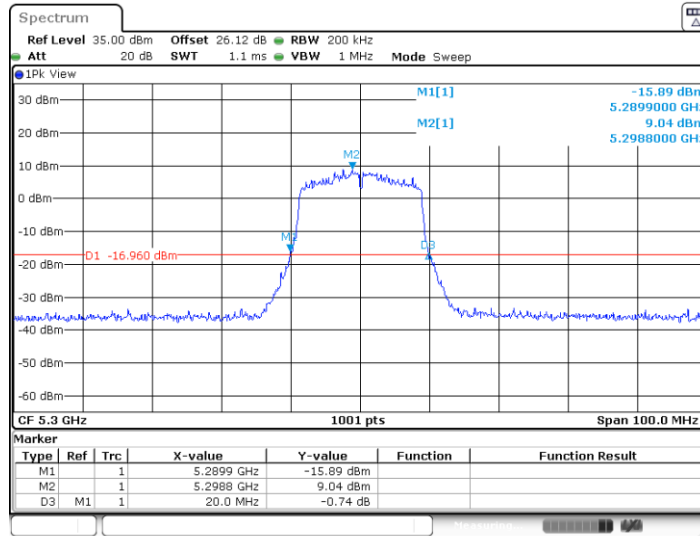


11AC20MIMO_Ant9_5260

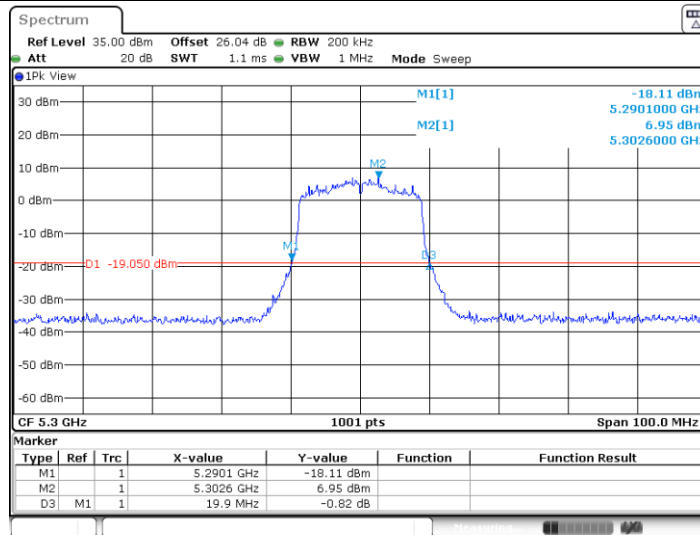




11AC20MIMO_Ant8_5300

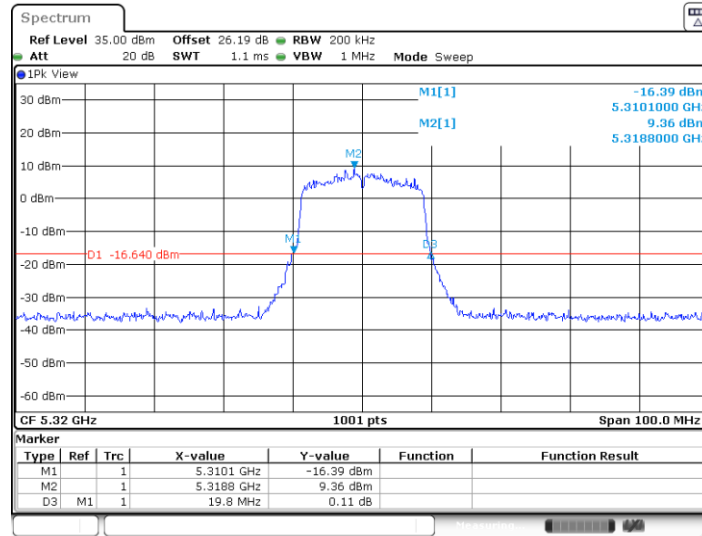


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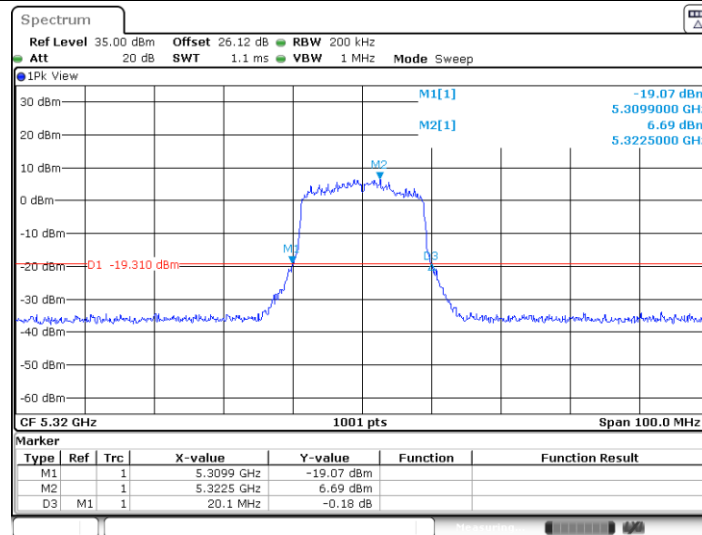




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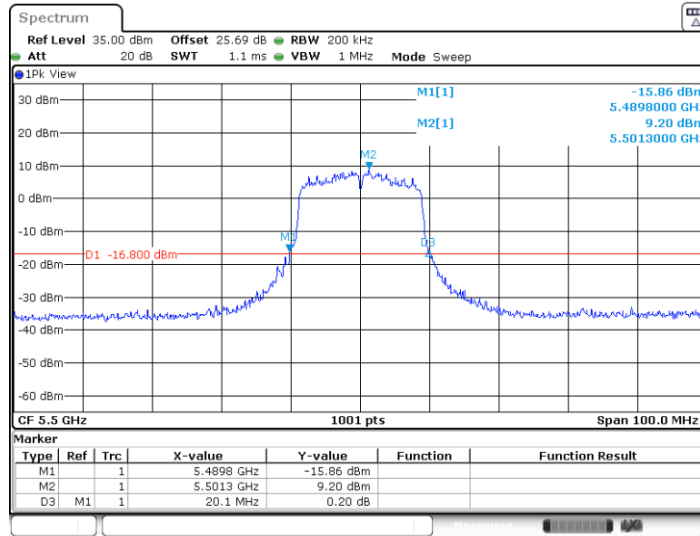


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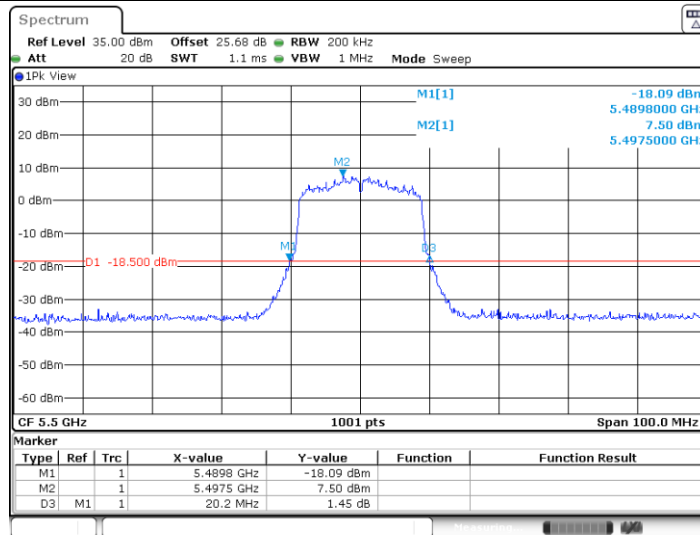




11AC20MIMO_Ant8_5500

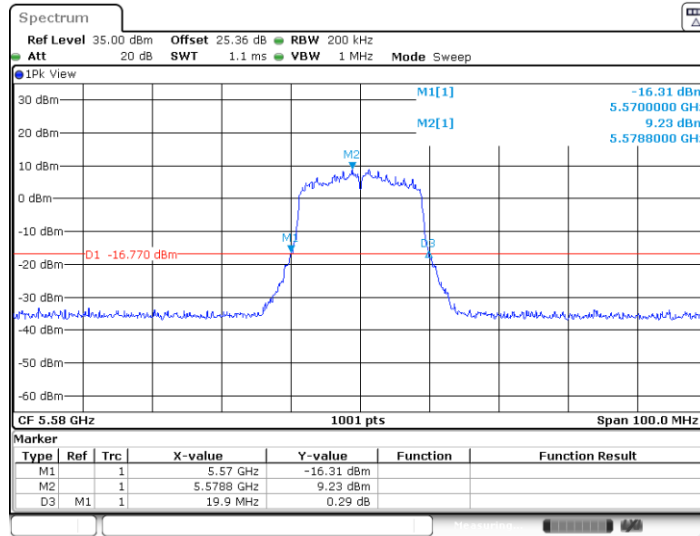


11AC20MIMO_Ant9_5500



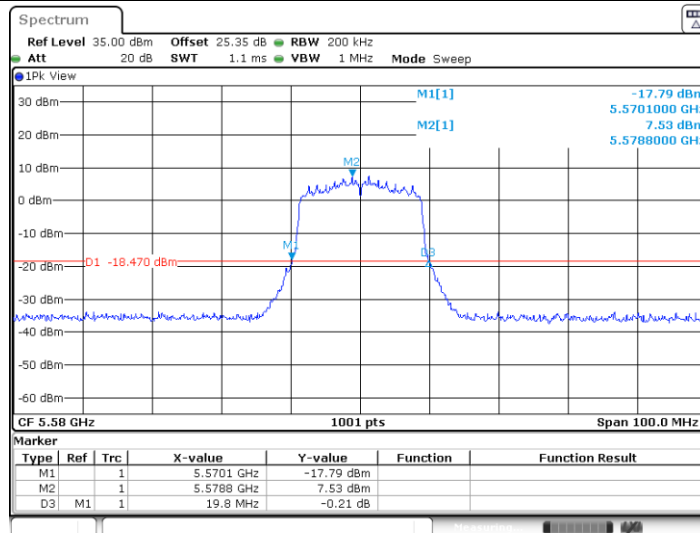


11AC20MIMO_Ant8_5580



Date: 15.NOV.2024 02:12:24

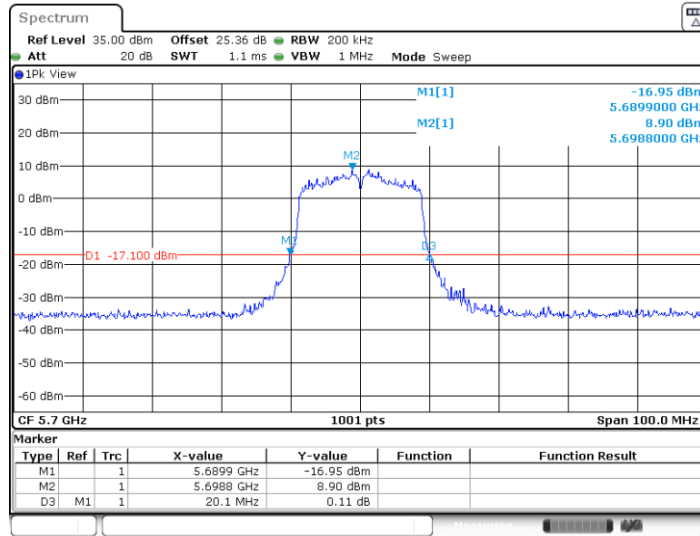
11AC20MIMO_Ant9_5580



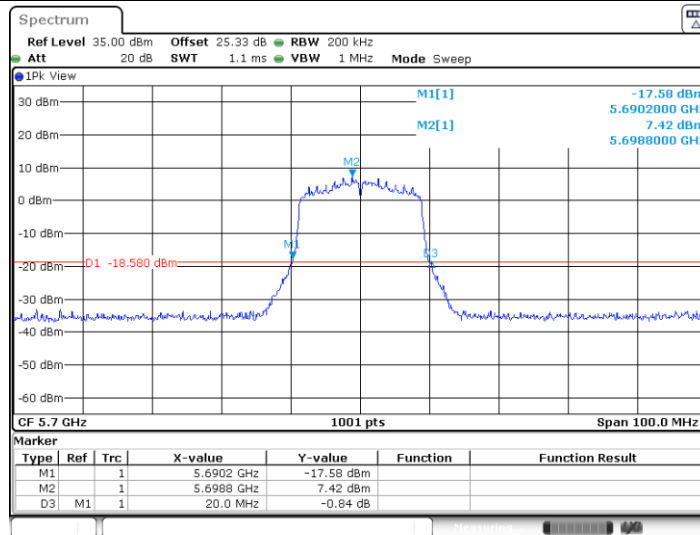
Date: 15.NOV.2024 02:13:04



11AC20MIMO_Ant8_5700

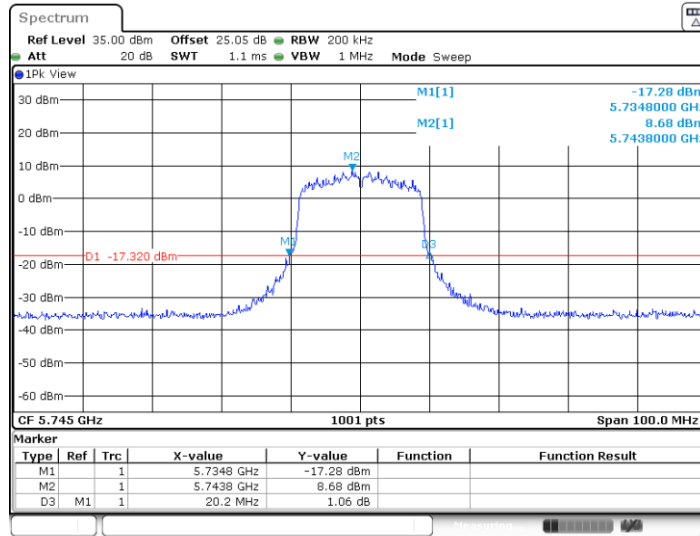


11AC20MIMO_Ant9_5700



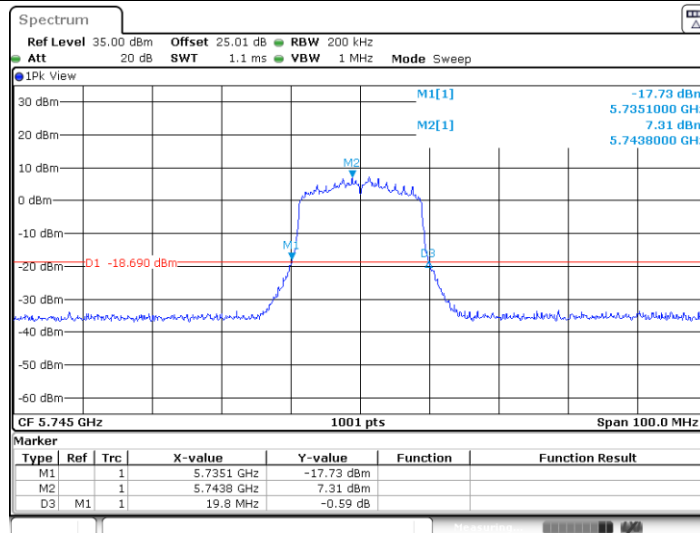


11AC20MIMO_Ant8_5745



Date: 15.NOV.2024 02:17:08

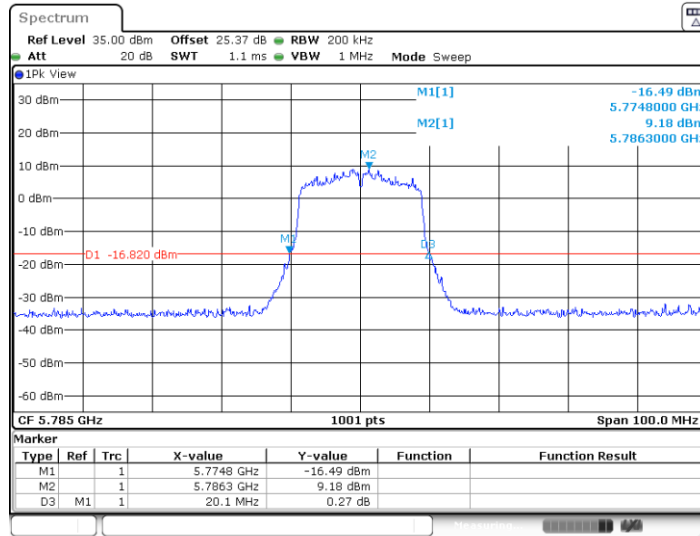
11AC20MIMO_Ant9_5745



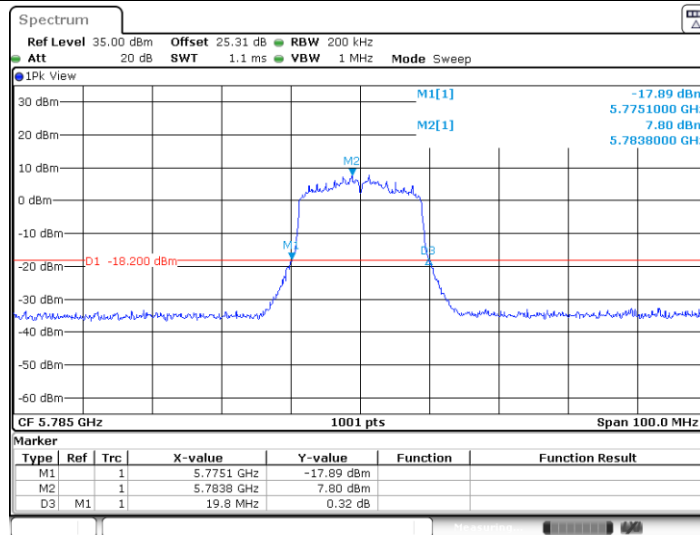
Date: 15.NOV.2024 02:18:03



11AC20MIMO_Ant8_5785

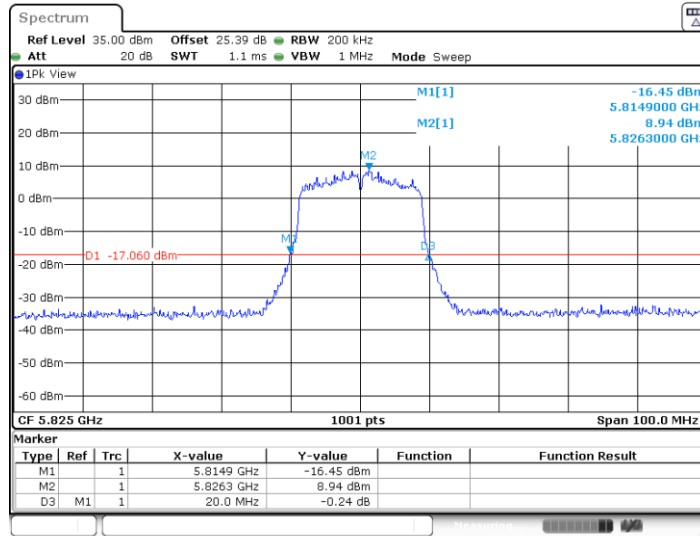


11AC20MIMO_Ant9_5785

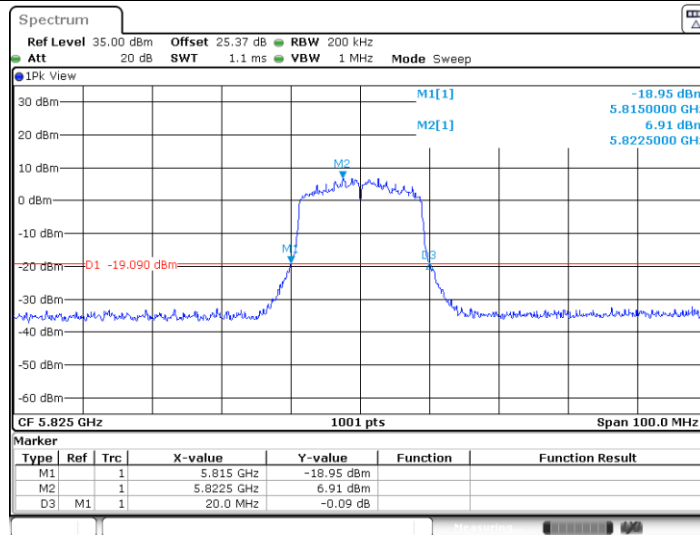




11AC20MIMO_Ant8_5825

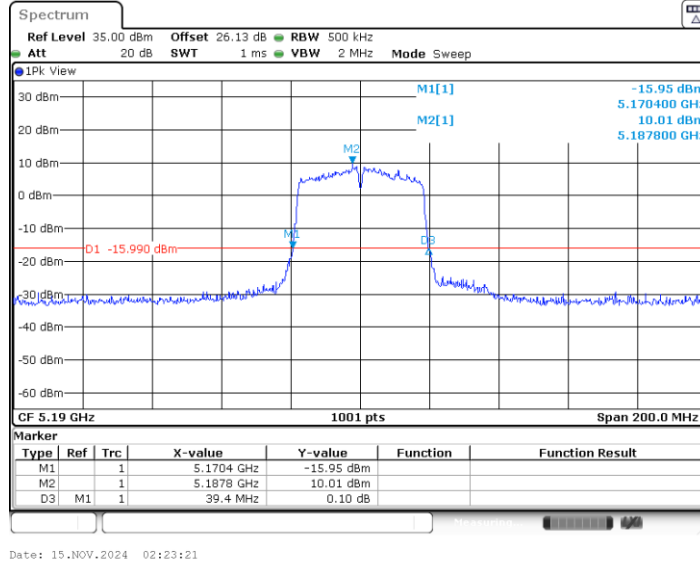


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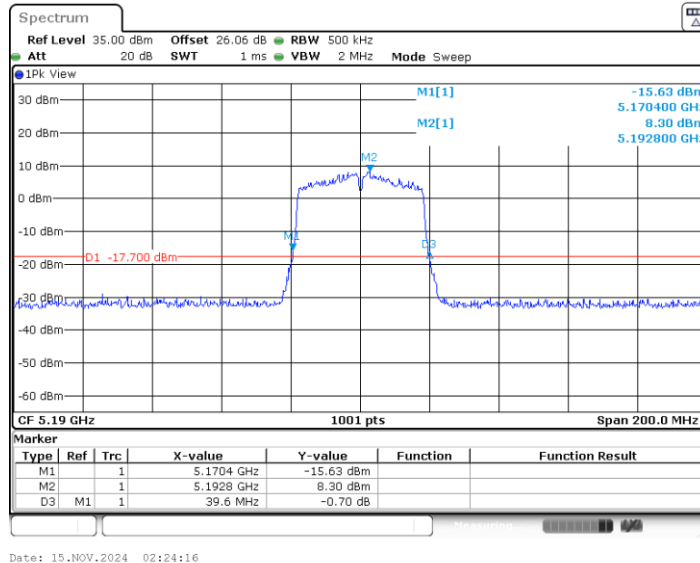




11AC40MIMO_Ant8_5190

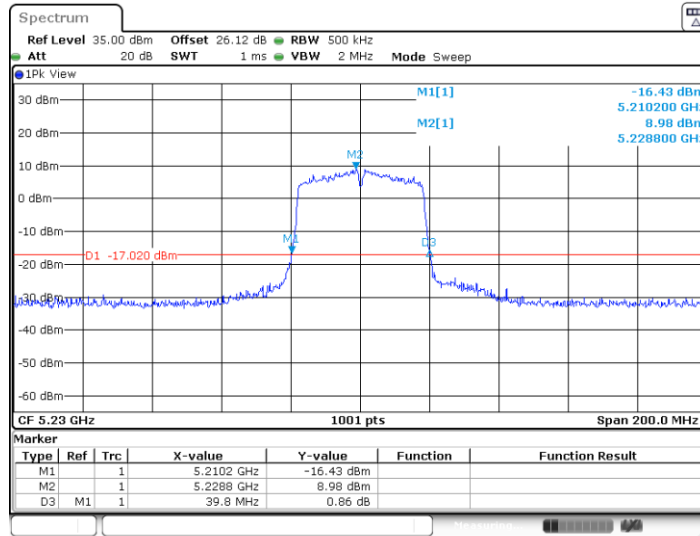


11AC40MIMO_Ant9_5190

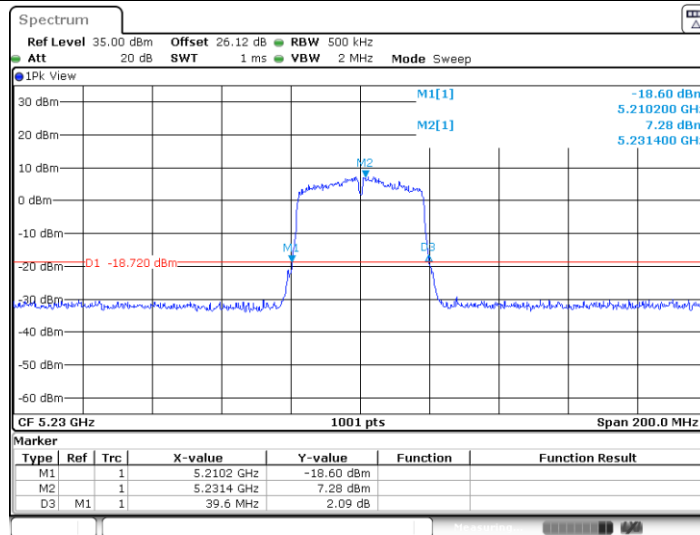




11AC40MIMO_Ant8_5230

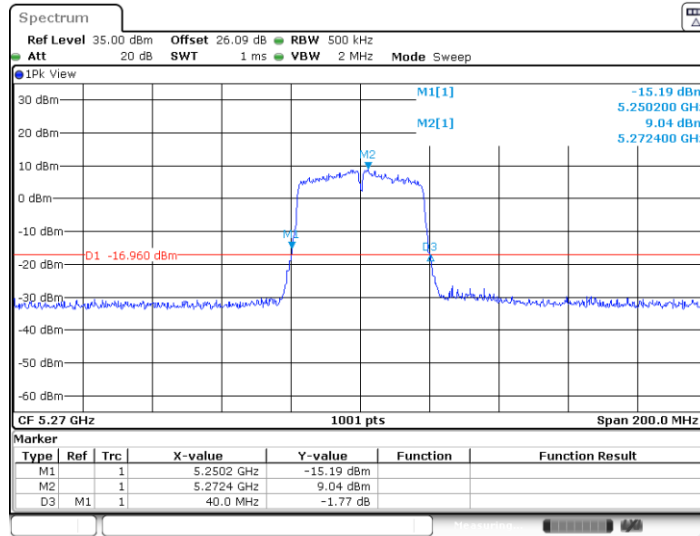


11AC40MIMO_Ant9_5230

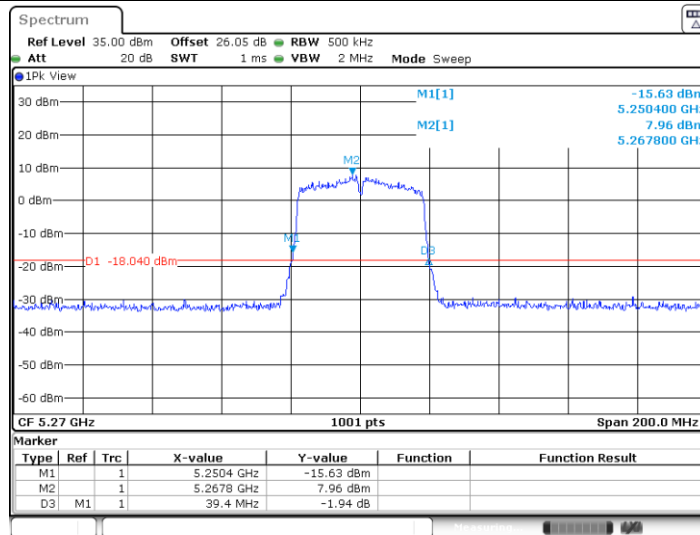




11AC40MIMO_Ant8_5270

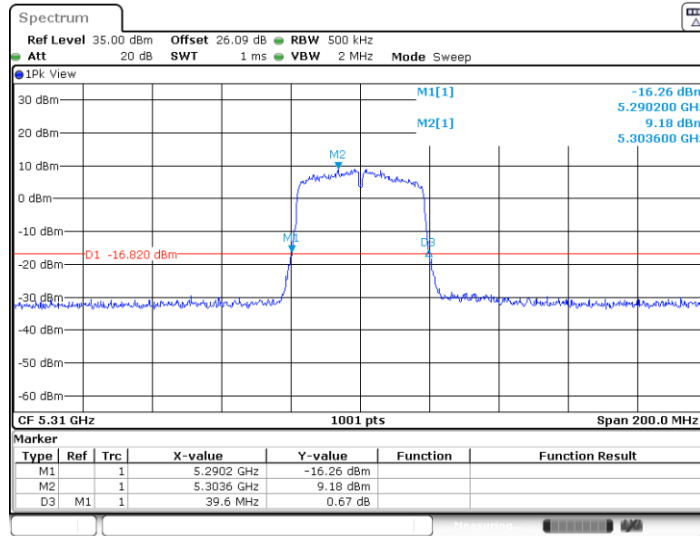


11AC40MIMO_Ant9_5270

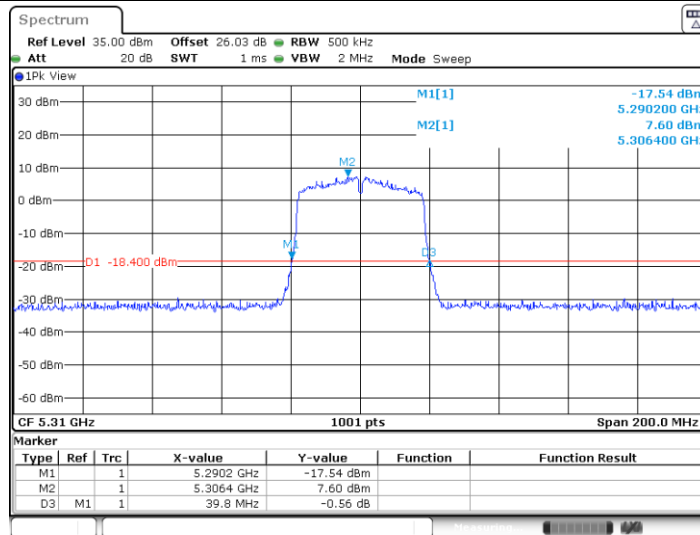




11AC40MIMO_Ant8_5310

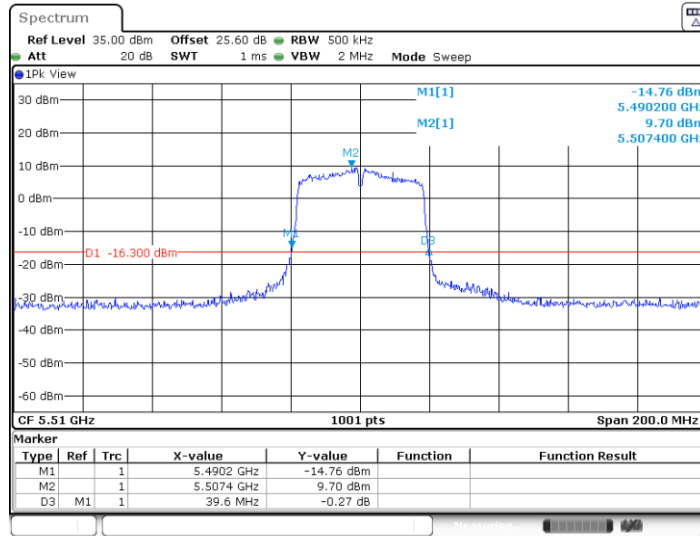


11AC40MIMO_Ant9_5310

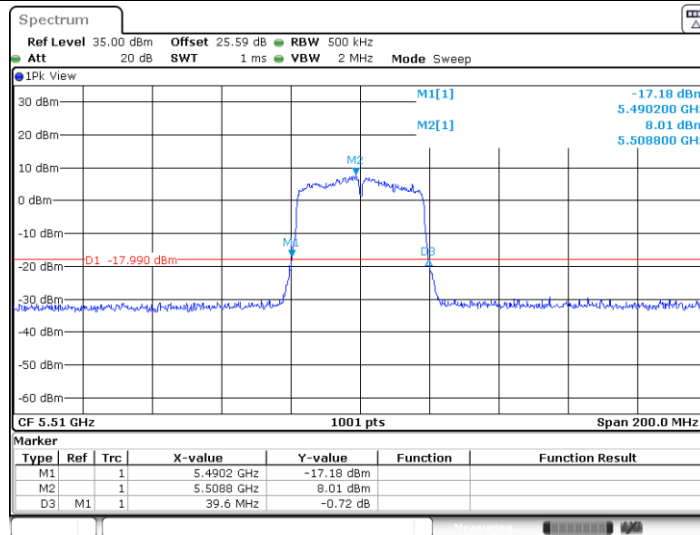




11AC40MIMO_Ant8_5510

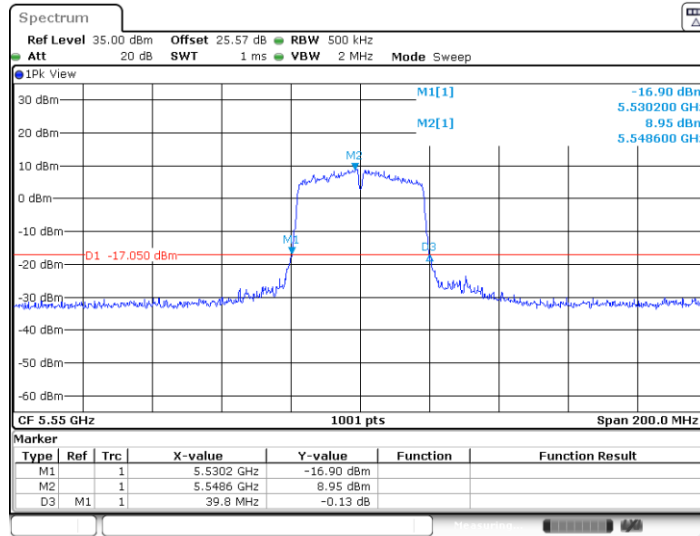


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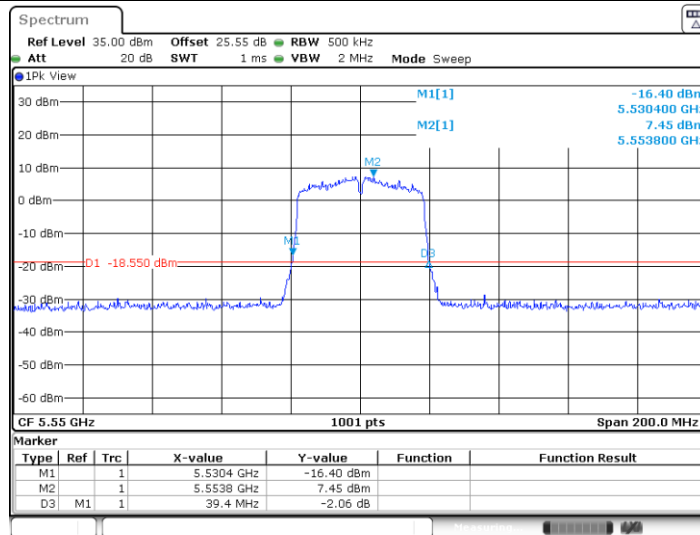




11AC40MIMO_Ant8_5550

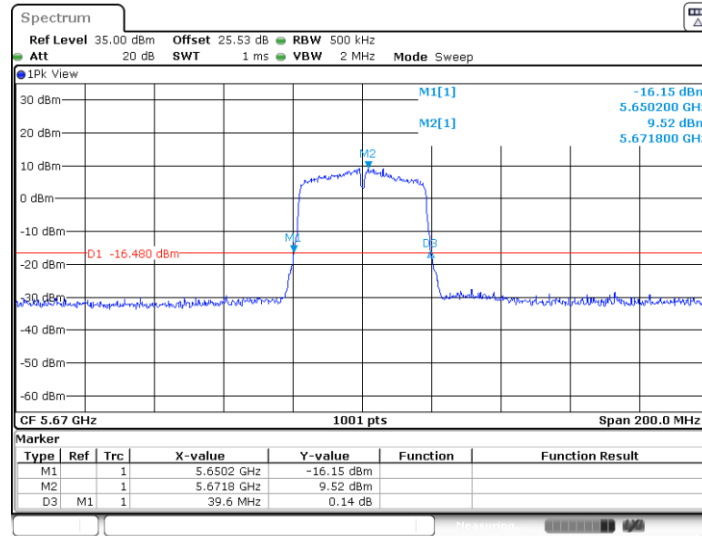


11AC40MIMO_Ant9_5550

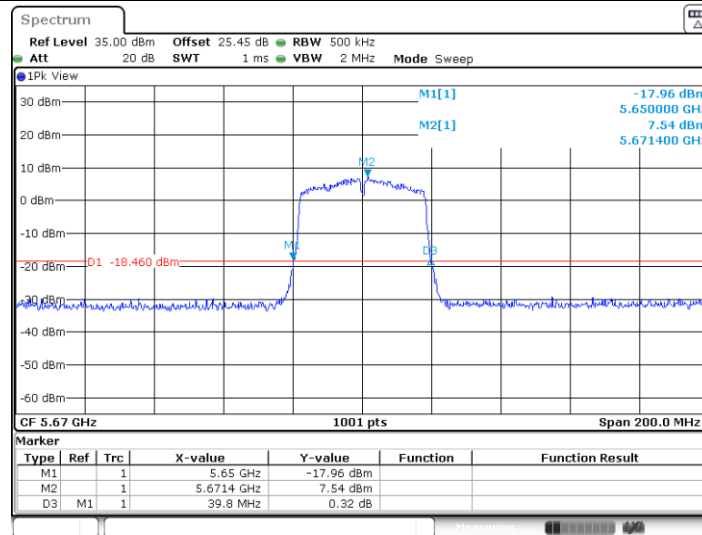


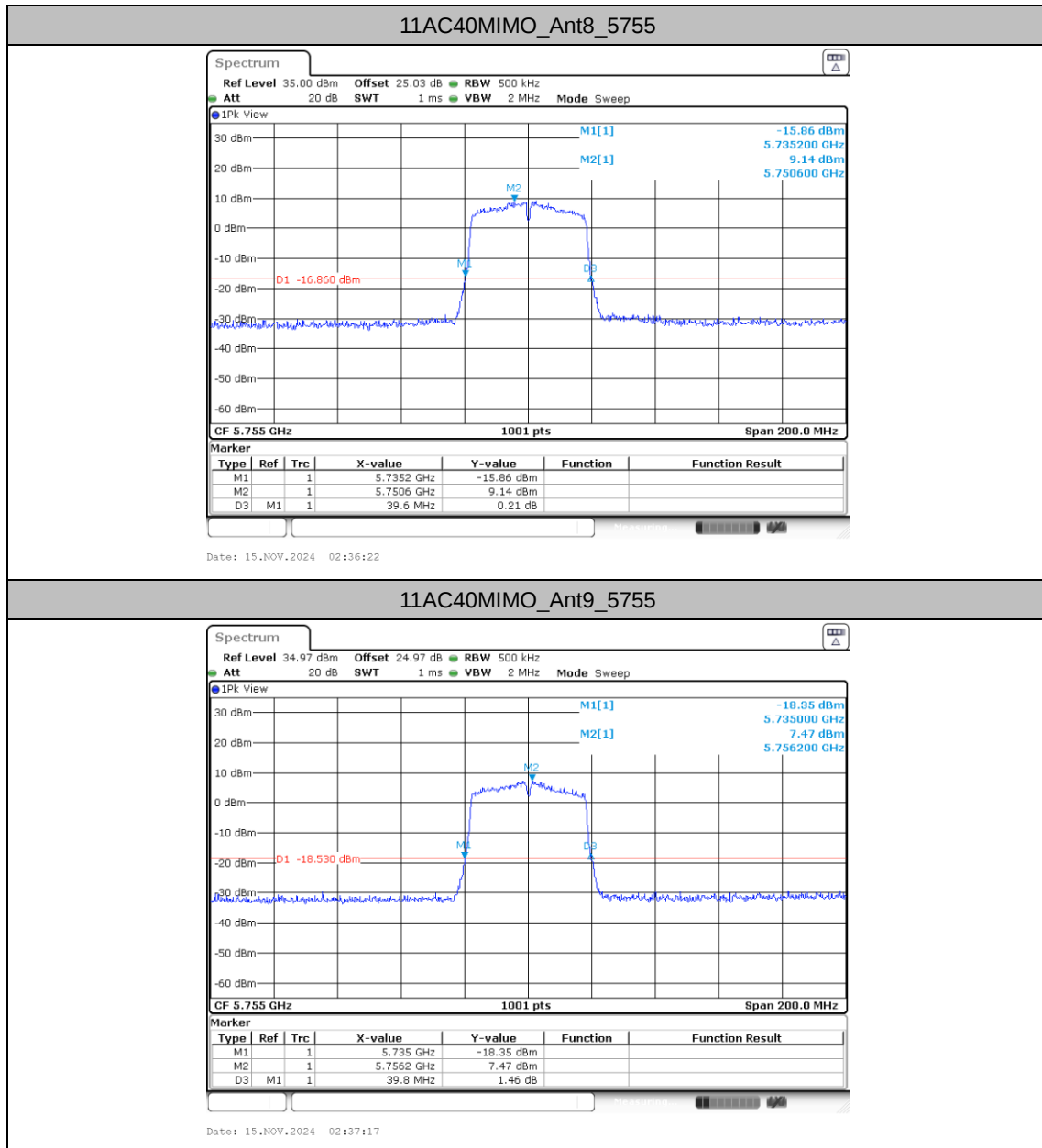


11AC40MIMO_Ant8_5670



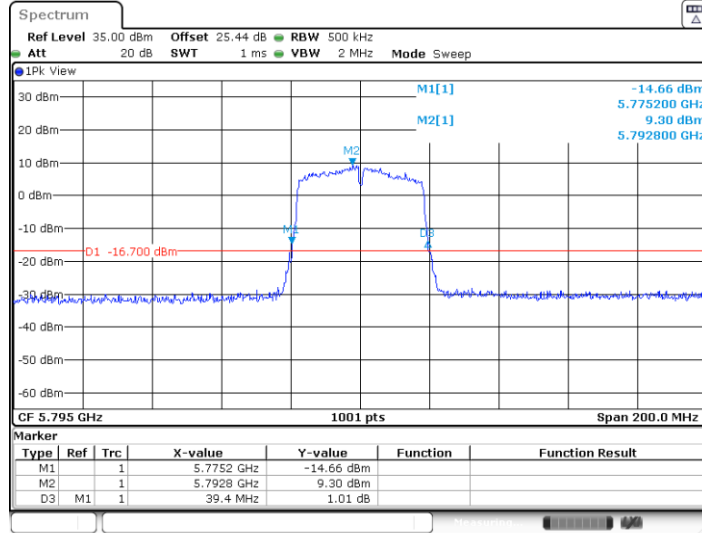
11AC40MIMO_Ant9_5670





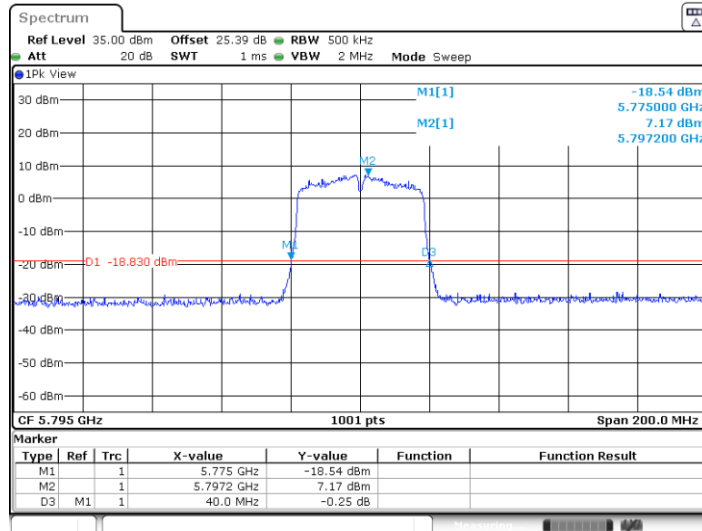


11AC40MIMO_Ant8_5795



Date: 15.NOV.2024 02:38:19

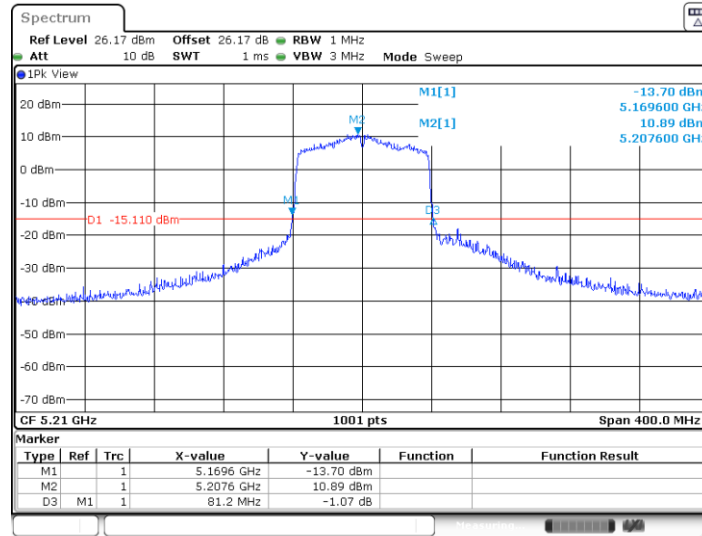
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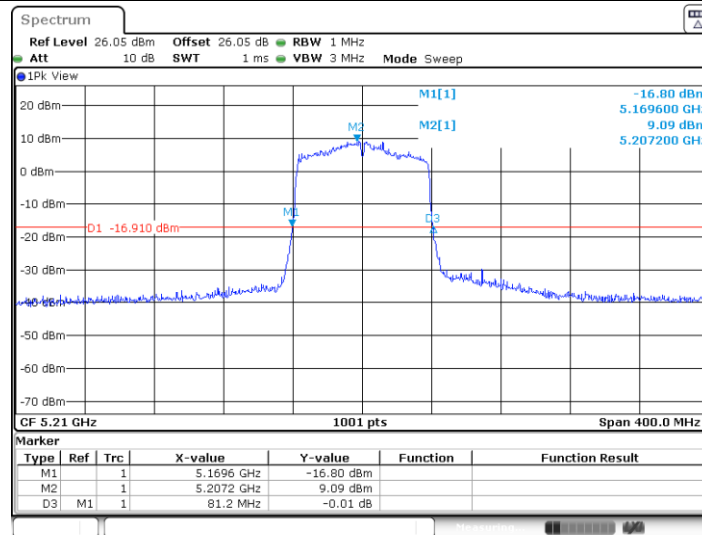
Date: 15.NOV.2024 02:39:14



11AC80MIMO_Ant8_5210

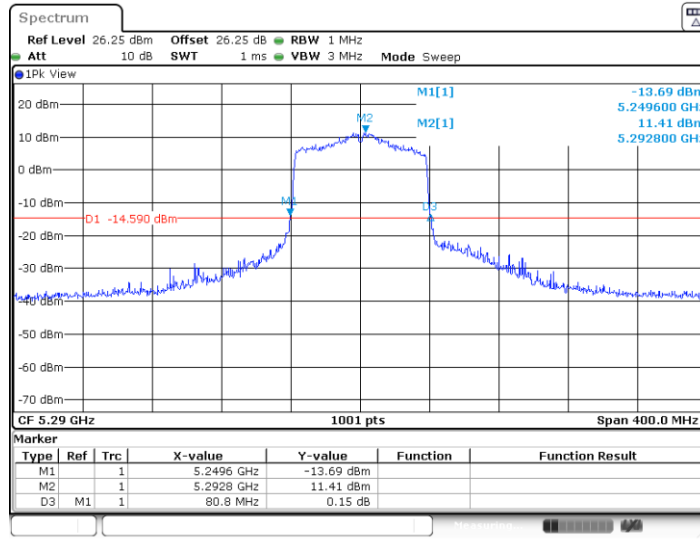


11AC80MIMO_Ant9_5210



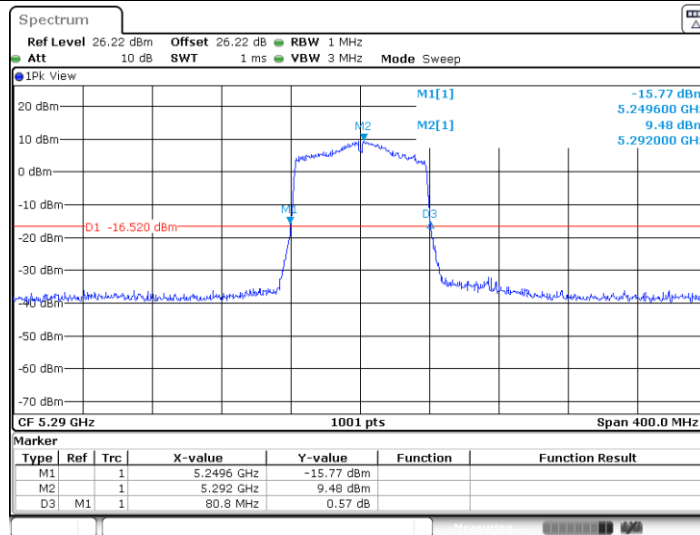


11AC80MIMO_Ant8_5290



Date: 15.NOV.2024 02:42:35

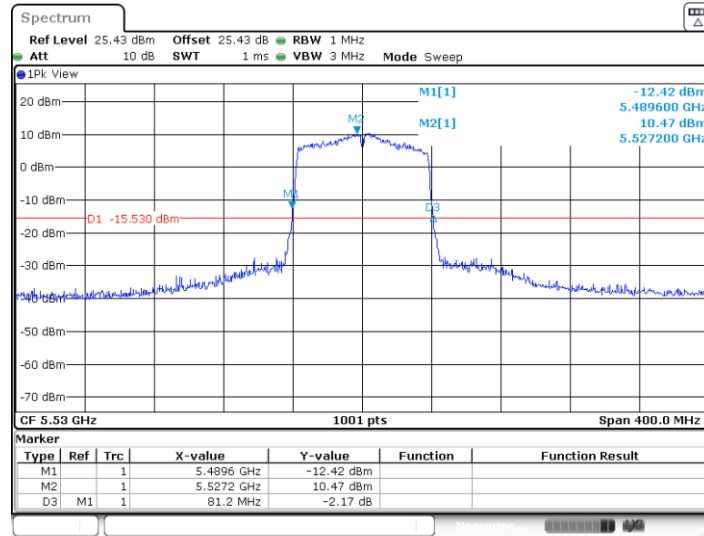
11AC80MIMO_Ant9_5290



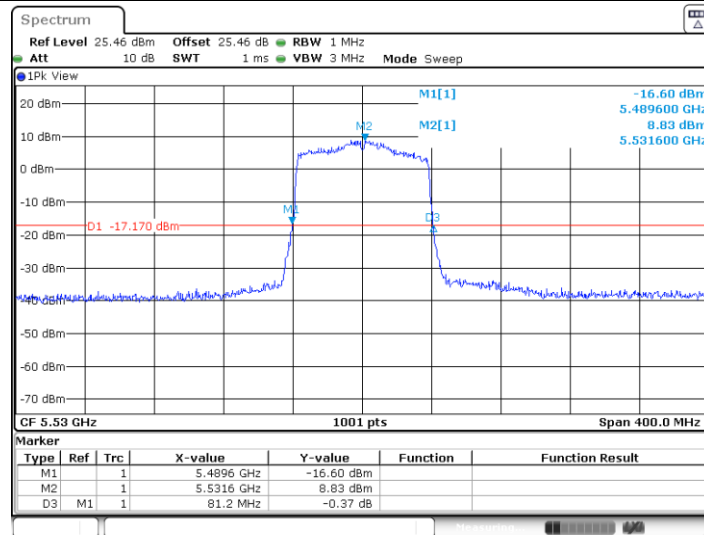
Date: 15.NOV.2024 02:43:15



11AC80MIMO_Ant8_5530

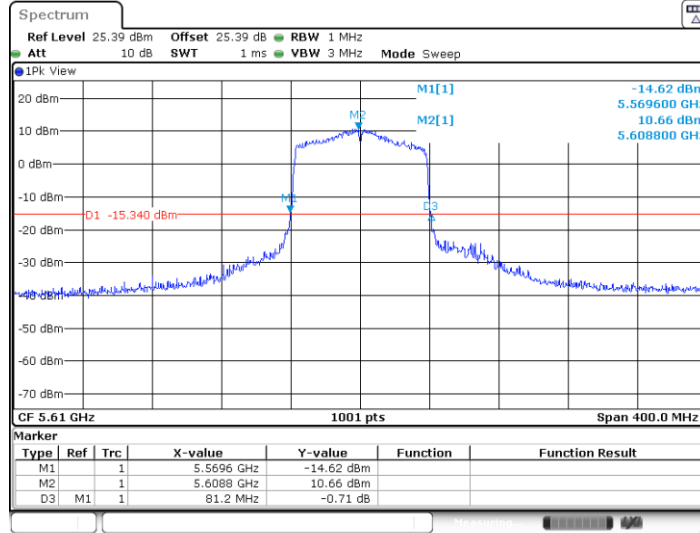


11AC80MIMO_Ant9_5530

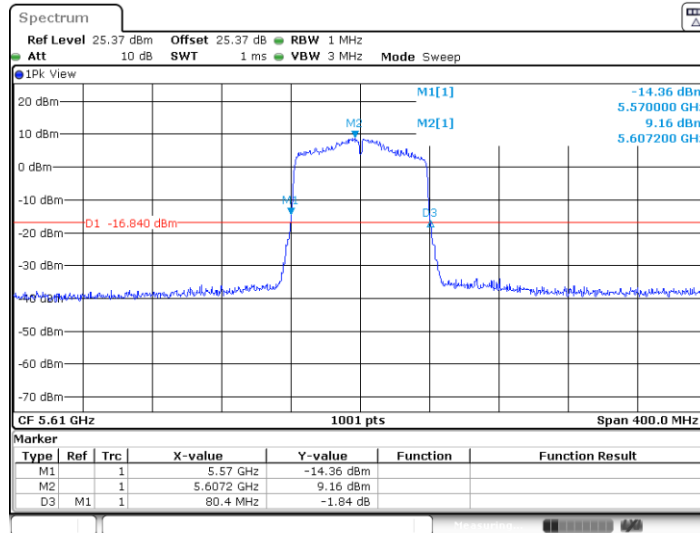


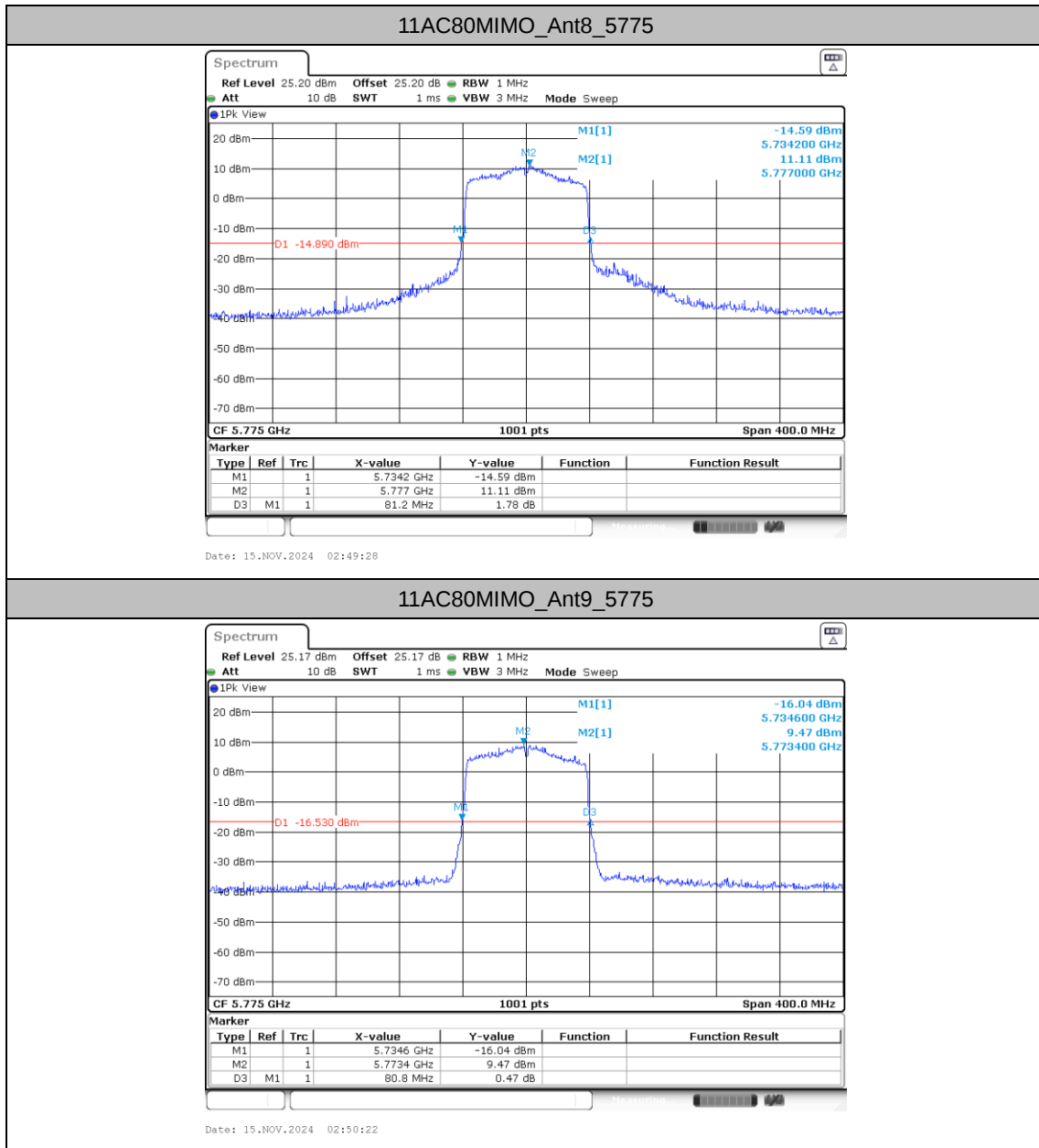


11AC80MIMO_Ant8_5610



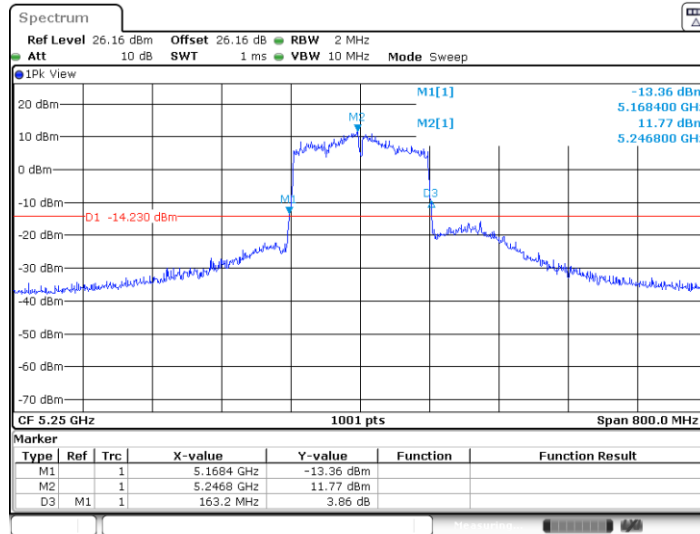
11AC80MIMO_Ant9_5610





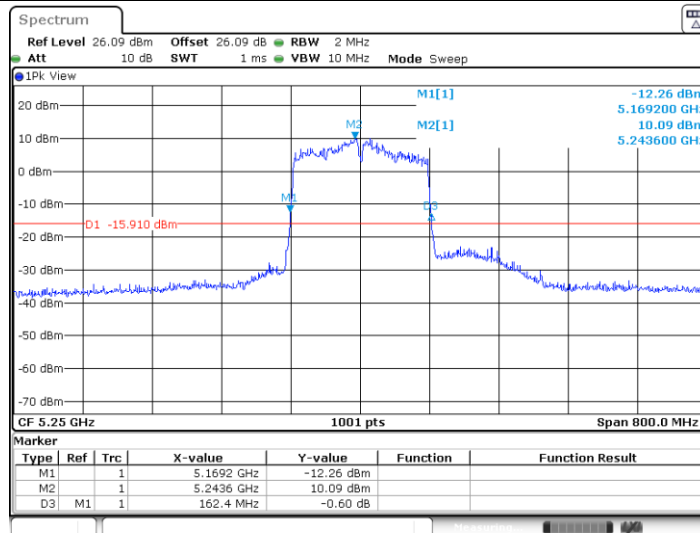


11AC160MIMO_Ant8_5250



Date: 15.NOV.2024 02:55:06

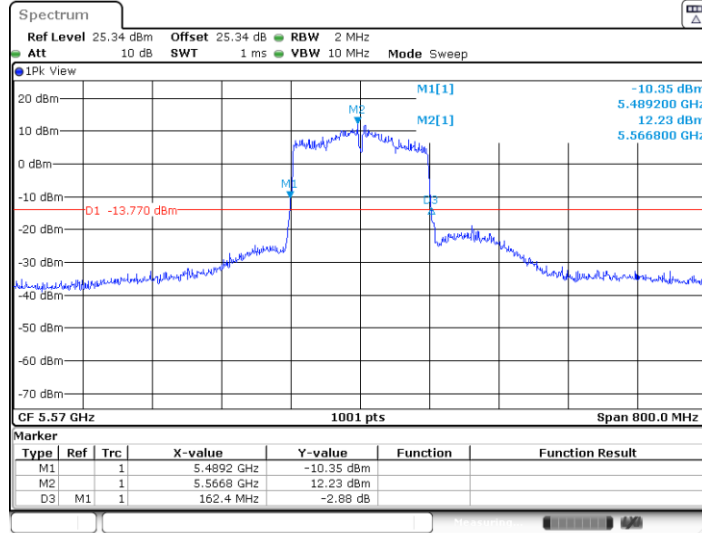
11AC160MIMO_Ant9_5250



Date: 15.NOV.2024 02:56:07



11AC160MIMO_Ant8_5570



11AC160MIMO_Ant9_5570

