



FCC AND ISCED CERTIFICATION TEST REPORT

Applicant	:	Sony Group Corporation
Address of Applicant	:	1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan
Manufacturer	:	Hui Zhou Gaoshengda Technology Co.,LTD
Address of Manufacturer	:	No.2,Jin-da Road,Huinan High-tech Industrial Park,Hui-ao Avenue,Huizhou City,Guangdong,China
Equipment under Test	:	WIFI+BT Module
Model No.	:	WXT2HM2001
FCC ID	:	AK8WXT2HM2001
IC	:	409B-WXT2HM2001
Test Standard(s)	:	FCC Rules and Regulations Part 15 Subpart E, RSS-248 Issue 2 December 2022, ANSI C63.10:2013, 789033 D02 General U-NII Test Procedures New Rules v02r01, 662911 D01 Multiple Transmitter Output v02r01, RSS-Gen Issue 5 April 2018
Report No.	:	DDT-RE24052405-1E05
Issue Date	:	2024/09/18
Issue By	:	Guangdong Dongdian Testing Service Co., Ltd. Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808

REPORT

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Test Report Declare

Applicant	:	Sony Group Corporation
Address of Applicant	:	1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan
Equipment under Test	:	WIFI+BT Module
Model No.	:	WXT2HM2001
Manufacturer	:	Hui Zhou Gaoshengda Technology Co.,LTD
Address of Manufacturer	:	No.2,Jin-da Road,Huinan High-tech Industrial Park,Hui-ao Avenue,Huizhou City,Guangdong,China

Test Standard Used:

FCC Rules and Regulations Part 15 Subpart E,
RSS-248 Issue 2 December 2022,
ANSI C63.10:2013,
789033 D02 General U-NII Test Procedures New Rules v02r01,
662911 D01 Multiple Transmitter Output v02r01,
RSS-Gen Issue 5 April 2018

We Declare:

The equipment described above is tested by Guangdong Dongdian Testing Service Co., Ltd. and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Guangdong Dongdian Testing Service Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

Report No.:	DDT-RE24052405-1E05		
Date of Receipt:	2024/06/27	Date of Test:	2024/06/27 - 2024/08/21

Prepared By:**Ella Gong/Engineer****Approved By:****Damon Hu/EMC Manager**

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Guangdong Dongdian Testing Service Co., Ltd.

Revision History

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	2024/09/18	

1. Summary of Test Results

No.	Test Parameter	Clause No.	Condition	Result
1	26db Bandwidth and 99% Bandwidth	FCC 15.407 (e), RSS-248 Clause 4.4	/	Pass
2	Maximum Equivalent Isotropically Radiated Power (E.I.R.P.)	FCC 15.407 (a) RSS-248 Clause 4.5	/	Pass
3	Maximum Power Spectral Density	FCC 15.407 (a) RSS-248 Clause 4.5	/	Pass
4	In-band Emission	15.407(b)(6) RSS-248 Clause 4.6	/	Pass
5	Contention Based Protocol	15.407(d)(6) RSS-248 Clause 4.7	/	Pass
6	Frequency Stability Measurement	FCC 15.407 (g) RSS-GEN Clause 8.11	/	Pass
7	Radiated Emission	FCC 15.407 (b); FCC 15.209; FCC 15.205 RSS-248 Clause 4.6 RSS-GEN Clause 8.9	/	Pass
8	Power Line Conducted Emissions	FCC Part 15: 15.207(a), RSS-Gen Issue 5 clause 8.8	/	Pass
9	Antenna Requirement	FCC Part 15: 15.203, RSS-Gen Issue 5 clause 6.8	/	Pass

Note: N/A is an abbreviation for Not Applicable, and means this item is not applicable for this device or no need to test according to standard.

2. General Test Information

2.1. Description of EUT

EUT Name	: WIFI+BT Module
Model Number	: WXT2HM2001
EUT Function Description	: Please reference user manual of this device
Power Supply	: DC 3.3V
Hardware Version	: V1.0
Software Version	: V1.0
Antenna Type	: PCB
Max Antenna Gain (CUS P/N: YY2085C)	Ant-1: 2.4 GHz WiFi: 2.88 dBi 5 GHz WiFi: 3.31 dBi 6 GHz WiFi: 3.28 dBi Ant-2: Bluetooth: 2.75 dBi Ant-3: 2.4 GHz WiFi: 3.69 dBi 5 GHz WiFi: 4.24 dBi 6 GHz WiFi: 4.37 dBi
Max Antenna Gain (CUS P/N: YY2087C)	Ant-1: 2.4 GHz WiFi: 2.31 dBi 5 GHz WiFi: 3.56 dBi 6 GHz WiFi: 4.74 dBi Ant-2: Bluetooth: 2.67 dBi Ant-3: 2.4 GHz WiFi: 2.75 dBi 5 GHz WiFi: 4.71 dBi 6 GHz WiFi: 4.71 dBi

Note:

1. This EUT support Bluetooth BR/EDR/LE, 2.4 GHz WLAN, 5 GHz WLAN, 6 GHz WLAN, this report only for 6 GHz WLAN.
2. Two optional antennas(YY2085C and YY2087C) with different antenna gains mounted on the module, and the one with the greatest gain is selected for testing.

Radio Technology	: IEEE 802.11ax
Operation frequency	U-NII-5: 5925 MHz ~ 6425 MHz U-NII-6: 6425 MHz ~ 6525 MHz U-NII-7: 6525 MHz ~ 6875 MHz U-NII-8: 6875 MHz ~ 7125 MHz
Modulation	: IEEE 802.11ax: OFDM, OFDMA (1024QAM, 256QAM, 64QAM, 16QAM, QPSK, BPSK)

Channel information					
IEEE 802.11ax (HE20)		IEEE 802.11ax (HE40)		IEEE 802.11ax (HE80)	
CH	Freq. (MHz)	CH	Freq. (MHz)	CH	Freq. (MHz)
UNII-5					
1	5955	3	5965	7	5985
5	5975	11	6005	23	6065
9	5995	19	6045	39	6145
13	6015	27	6085	55	6225
17	6035	35	6125	71	6305
21	6055	43	6165	87	6385
25	6075	51	6205	/	/
29	6095	59	6245	/	/
33	6115	67	6285	/	/
37	6135	75	6325	/	/
41	6155	83	6365	/	/
45	6175	91	6405	/	/
49	6195	/	/	/	/
53	6215	/	/	/	/
57	6235	/	/	/	/
61	6255	/	/	/	/
65	6275	/	/	/	/
69	6295	/	/	/	/
73	6315	/	/	/	/
77	6335	/	/	/	/
81	6355	/	/	/	/
85	6375	/	/	/	/
89	6395	/	/	/	/
93	6415	/	/	/	/
UNII-6					
97	6435	99	6445	103	6465
101	6455	107	6485	119	6545 (Straddle)
105	6475	115	6525 (Straddle)	/	/
109	6495	/	/	/	/
113	6515	/	/	/	/
UNII-7					
117	6535	123	6565	135	6625
121	6555	131	6605	151	6705
125	6575	139	6645	167	6785
129	6595	147	6685	183	6865 (Straddle)
133	6615	155	6725	/	/
137	6635	163	6765	/	/
141	6655	171	6805	/	/
145	6675	179	6845	/	/
149	6695	187	6885 (Straddle)	/	/
153	6715	/	/	/	/
157	6735	/	/	/	/
161	6755	/	/	/	/
165	6775	/	/	/	/
169	6795	/	/	/	/
173	6815	/	/	/	/
177	6835	/	/	/	/
181	6855	/	/	/	/
185	6875 (Straddle)	/	/	/	/

UNII-8					
189	6895	195	6925	199	6945
193	6915	203	6965	215	7025
197	6935	211	7005	/	/
201	6955	219	7045	/	/
205	6975	227	7085	/	/
209	6995	/	/	/	/
213	7015	/	/	/	/
217	7035	/	/	/	/
221	7055	/	/	/	/
225	7075	/	/	/	/
229	7095	/	/	/	/
233	7115	/	/	/	/

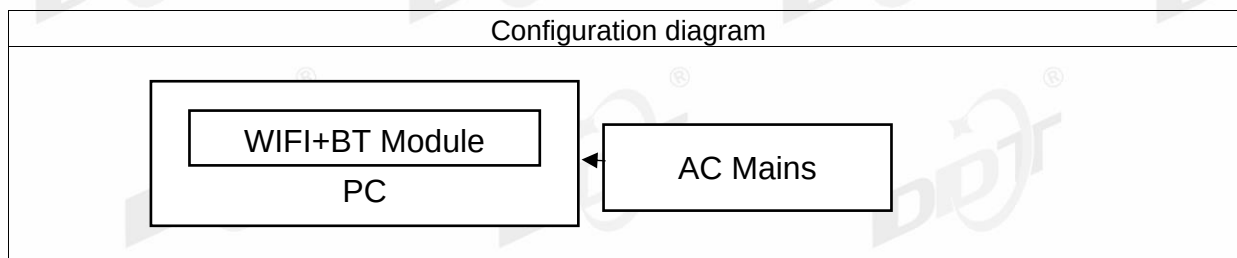
Note: The above EUT information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications or User's Manual. The above Antenna information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

“☒” means to be chosen or applicable; “☐” means don't to be chosen or not applicable; This note applies to entire report.

2.2. Accessories of EUT

Accessories	Manufacturer	Model number	Description
/	/	/	/

2.3. Block diagram of EUT configuration for test



2.4. Decision of final test mode

According pre-test, the worst test modes were reported as below:

Test software: QATool_Dbg.exe

The test software was used to control EUT work in Continuous Tx mode, and select test channel, wireless mode as below table.

The pathloss of external cable: 2 dB (According to the manufacturer's claims)

Tested mode, channel, and data rate information				
Mode	Setting Tx Power Level	data rate (Mbps) (see Note)	Channel	Frequency (MHz)
IEEE 802.11ax HE20	3.5	MCS 0	1	5955
	3.5	MCS 0	45	6175
	3.5	MCS 0	93	6415
	3.5	MCS 0	97	6435
	3.5	MCS 0	105	6475
	3.5	MCS 0	113	6515
	3.5	MCS 0	117	6535
	3.5	MCS 0	149	6695
	3.5	MCS 0	181	6855
	3.5	MCS 0	185	6875 (Straddle)
	3.5	MCS 0	189	6895
	3.5	MCS 0	209	6995
	-9	MCS 0	233	7115
IEEE 802.11ax HE40	7	MCS 0	3	5965
	7	MCS 0	43	6165
	7	MCS 0	91	6405
	7	MCS 0	99	6445
	7	MCS 0	107	6485
	7	MCS 0	115	6525 (Straddle)
	7	MCS 0	123	6565
	7	MCS 0	147	6685
	7	MCS 0	179	6845
	7	MCS 0	187	6885 (Straddle)
	7	MCS 0	195	6925
	7	MCS 0	203	6965
	7	MCS 0	227	7085
IEEE 802.11ax HE80	10	MCS 0	7	5985
	10	MCS 0	39	6145
	10	MCS 0	87	6385
	10	MCS 0	103	6465
	10	MCS 0	119	6545 (Straddle)
	10	MCS 0	135	6625
	10	MCS 0	151	6705
	10	MCS 0	167	6785
	10	MCS 0	183	6865 (Straddle)
	10	MCS 0	199	6945
	10	MCS 0	215	7025

2.5. Deviations of test standard

No deviation.

2.6. Test environment conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature range:	+15°C to +35 °C
Humidity range:	20% to 75%
Pressure range:	86 kPa to 106 kPa

Note: The specific temperature and humidity information of each test item refers to the temperature and humidity record in the corresponding test data.

2.7. Test laboratory

Guangdong Dongdian Testing Service Co., Ltd.

Add.: Unit 2, Building 1, No. 17, Zongbu 2nd Road, Songshan Lake Park, Dongguan, Guangdong, China, 523808.

Tel.: +86-0769-38826678, <http://www.dgddt.com>, Email: ddt@dgddt.com.

CNAS Accreditation No. L6451; A2LA Accreditation Number: 3870.01

FCC Designation Number: CN1182, Test Firm Registration Number: 540522

Innovation, Science and Economic Development Canada Site Registration Number: 10288A

Conformity Assessment Body identifier: CN0048

VCCI facility registration number: C-20087, T-20088, R-20123, R-20155, G-20118

2.8. Measurement uncertainty

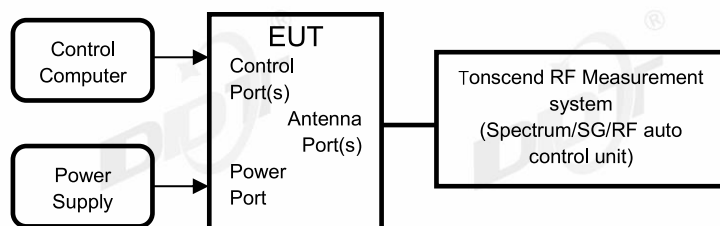
Test Item	Uncertainty
Bandwidth	1.1%
Peak Output Power (Conducted) (Spectrum analyzer)	0.86 dB ($10 \text{ MHz} \leq f < 3.6 \text{ GHz}$); 1.38 dB ($3.6 \text{ GHz} \leq f < 8 \text{ GHz}$)
Peak Output Power (Conducted) (Power Sensor)	0.74 dB
Power Spectral Density	0.74 dB ($10 \text{ MHz} \leq f < 3.6 \text{ GHz}$); 1.38 dB ($3.6 \text{ GHz} \leq f < 8 \text{ GHz}$)
Frequencies Stability	6.7×10^{-8} (Antenna couple method) 5.5×10^{-8} (Conducted method)
Conducted spurious emissions	0.86 dB ($10 \text{ MHz} \leq f < 3.6 \text{ GHz}$); 1.40 dB ($3.6 \text{ GHz} \leq f < 8 \text{ GHz}$) 1.66 dB ($8 \text{ GHz} \leq f < 26.5 \text{ GHz}$)
Uncertainty for radio frequency (RBW < 20 kHz)	3×10^{-8}
Temperature	0.4 °C
Humidity	2 %
Uncertainty for Radiation Emission test (9 kHz – 30 MHz)	3.44 dB
Uncertainty for Radiation Emission test (30 MHz - 1 GHz)	4.70 dB (Antenna Polarize: V) 4.84 dB (Antenna Polarize: H)
Uncertainty for Radiation Emission test (1 GHz - 40 GHz)	4.10 dB (1 - 6 GHz) 4.40 dB (6 GHz - 18 GHz) 3.54 dB (18 GHz - 26 GHz) 4.30 dB (26 GHz - 40 GHz)
Uncertainty for Power line conduction emission test	3.34dB (150KHz-30MHz) 3.72dB (9KHz-150KHz)
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

3. Equipment Used During Conductive Test

Equipment	Manufacturer	Model No.	Serial Number	Due Date
☑RF Connected Test (RF Measurement System 3#)				
SIGNAL ANALYZER	R&S	FSV40	101407	2025/07/08
Wideband Radio Communication Tester	R&S	CMW500	117491	2025/03/31
EXG Analog Signal Generator	KEYSIGHT	N5173B	MY62153058	2025/07/08
MXG Vector Signal Generator	Agilent	N5182A	MY48180912	2025/03/31
RF Control Unit	Tonscend	JS0806-2	20C8060230	2025/03/31
TEMP&HUMI Programmable Chamber	ZHIXIANG	ZXGDJS-150L	ZX170110-A	2025/04/22
Test Software	Tonscend	JS1120-3	Ver.3.2.22	N/A

4. 26dB Bandwidth

4.1. Block diagram of test setup



4.2. Limits

FCC Part15, Subpart E/ RSS-248		
Test Item	Limit	Frequency Range (MHz)
26 dB Bandwidth	---	5955- 6415
	---	6435- 6515
	---	6535- 6875
	---	6895- 7115

4.3. Test procedure

Connect EUT's antenna output to spectrum analyzer by RF cable.

Center Frequency	The center frequency of the channel under test
RBW	approximately 1% of the emission bandwidth.
VBW	> RBW
Detector	Peak
Trace	Max hold
Sweep	Auto couple

Allow the trace to stabilize, measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 26 dB relative to the maximum level measured in the fundamental emission.

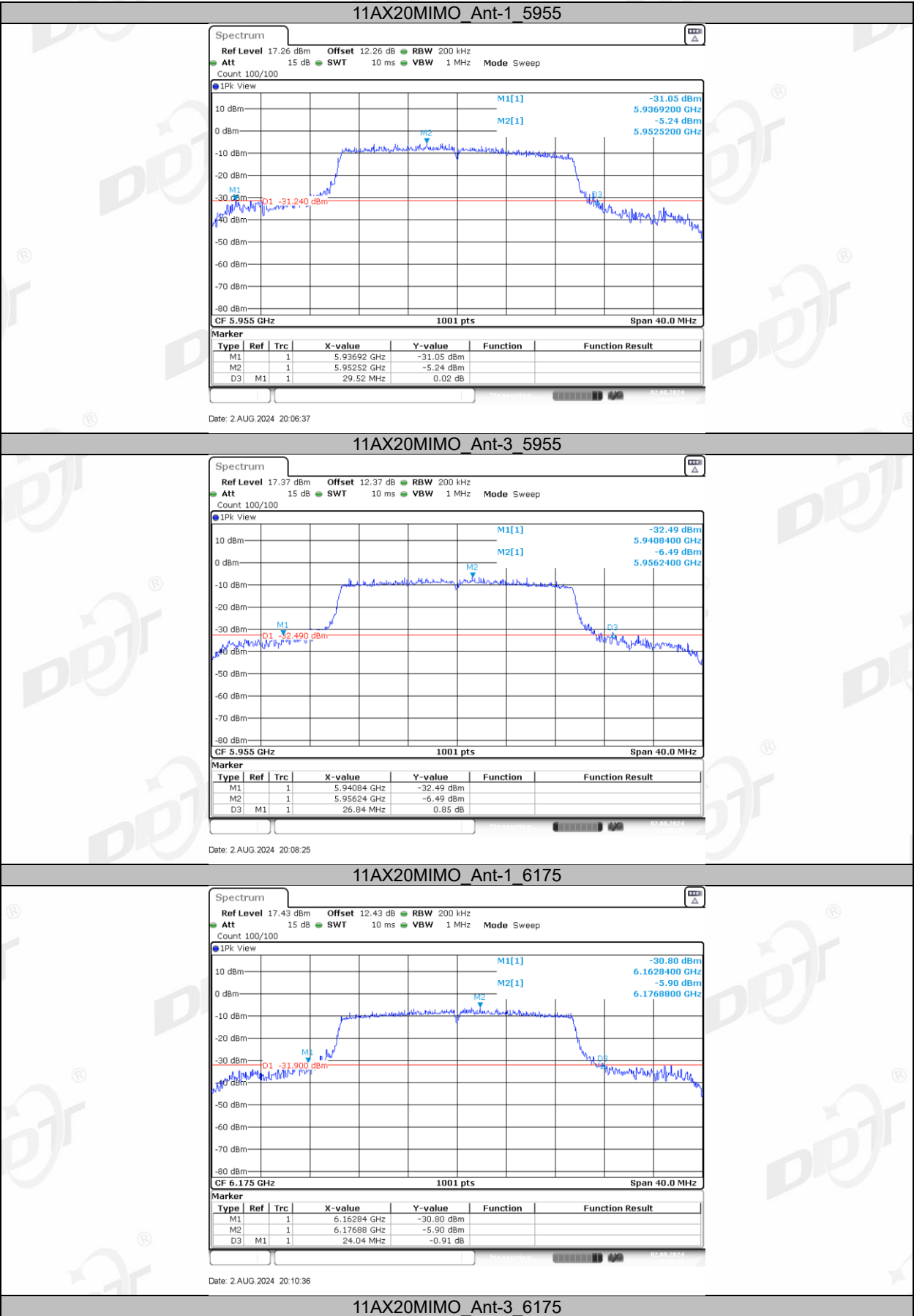
4.4. Test Result

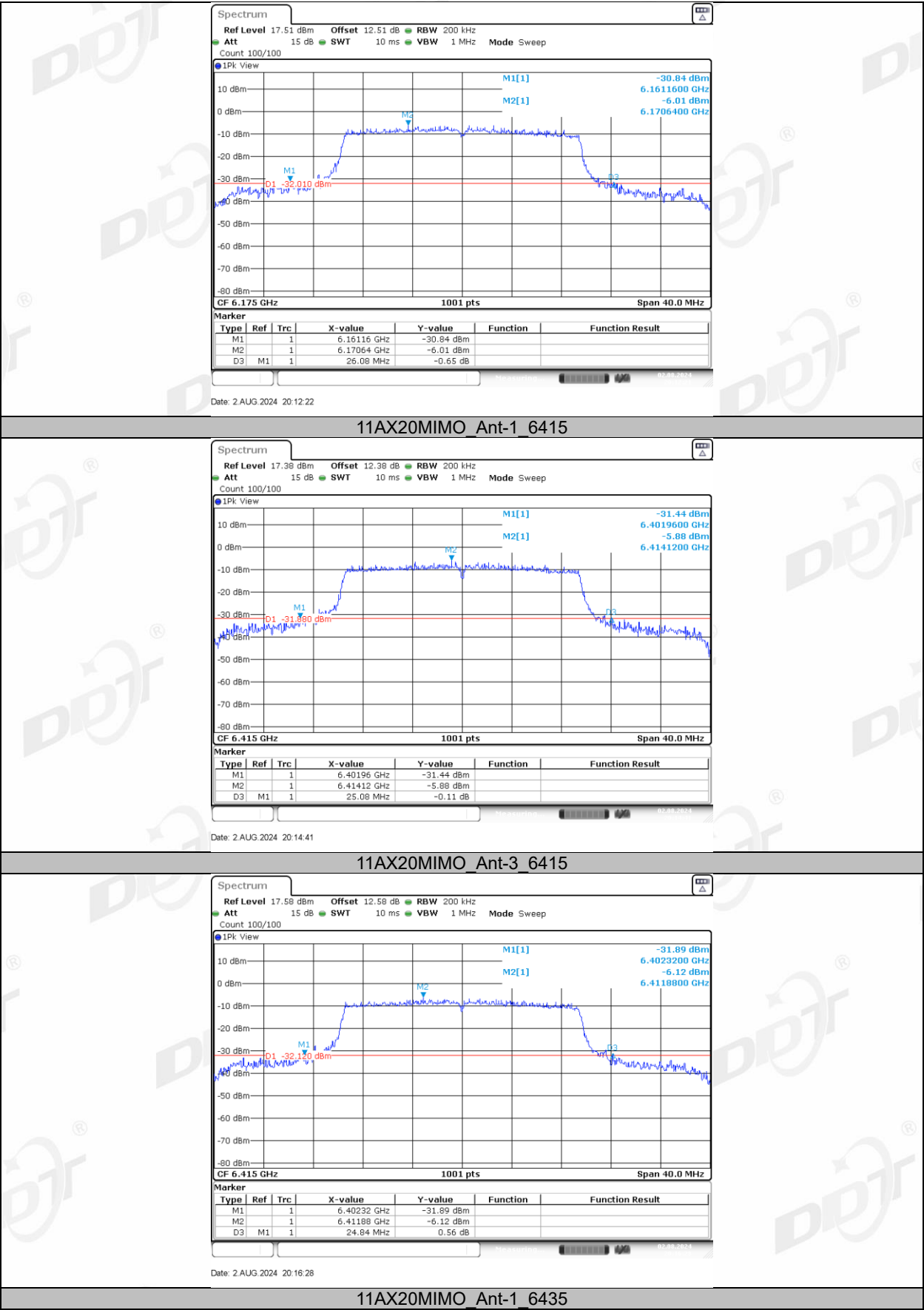
Test Engineer:	Zhongyao	Test Site:	RF Measurement System 3#
Ambient Condition:	25.4-26.8℃,44.7-46.3%RH	Test Date:	2024.08.02-2024.08.06
Test Power Supply:	DC 3.3V	Sample Number:	S24052405-002

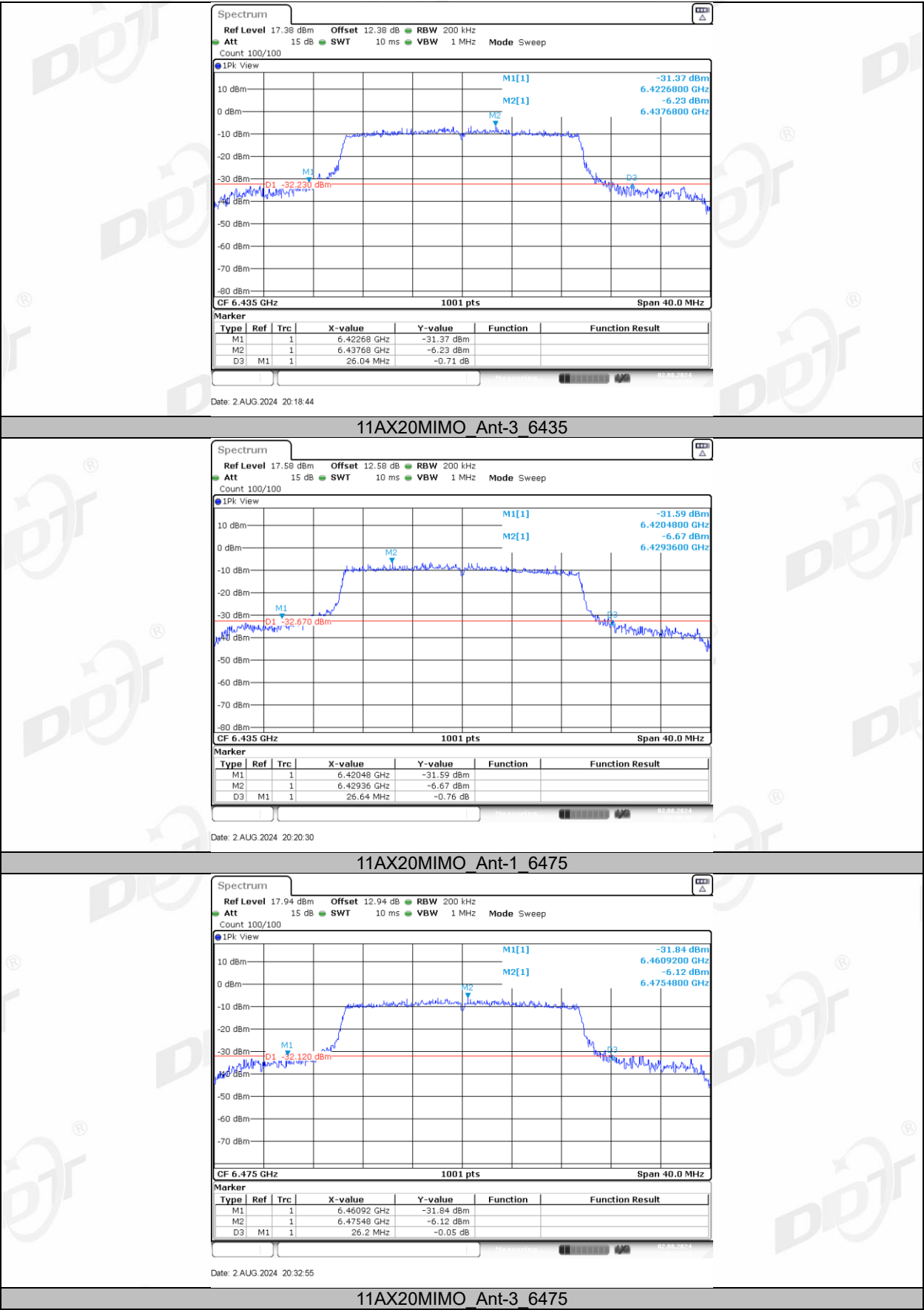
Test Mode	Antenna	Frequency[MHz]	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11AX20MI MO	Ant-1	5955	29.52	5936.92	5966.44	---	---
	Ant-3	5955	26.84	5940.84	5967.68	---	---
	Ant-1	6175	24.04	6162.84	6186.88	---	---
	Ant-3	6175	26.08	6161.16	6187.24	---	---
	Ant-1	6415	25.08	6401.96	6427.04	---	---
	Ant-3	6415	24.84	6402.32	6427.16	---	---
	Ant-1	6435	26.04	6422.68	6448.72	---	---
	Ant-3	6435	26.64	6420.48	6447.12	---	---
	Ant-1	6475	26.20	6460.92	6487.12	---	---
	Ant-3	6475	24.08	6463.08	6487.16	---	---
	Ant-1	6515	30.56	6499.44	6530.00	---	---
	Ant-3	6515	27.16	6502.00	6529.16	---	---
	Ant-1	6535	29.56	6523.00	6552.56	---	---
	Ant-3	6535	24.72	6523.28	6548.00	---	---
	Ant-1	6695	26.72	6681.24	6707.96	---	---
	Ant-3	6695	27.04	6679.52	6706.56	---	---
	Ant-1	6855	28.92	6839.48	6868.40	---	---
	Ant-3	6855	26.92	6842.16	6869.08	---	---
	Ant-1	6875	25.20	6861.96	6887.16	---	---
	Ant-3	6875	23.28	6862.92	6886.20	---	---
	Ant-1	6895	29.24	6878.12	6907.36	---	---
	Ant-3	6895	29.00	6878.60	6907.60	---	---
	Ant-1	6995	27.28	6981.52	7008.80	---	---
	Ant-3	6995	23.72	6984.08	7007.80	---	---
	Ant-1	7095	30.88	7077.48	7108.36	---	---
	Ant-3	7095	23.48	7083.32	7106.80	---	---
	Ant-1	7115	24.44	7103.04	7127.48	---	---
	Ant-3	7115	22.76	7103.20	7125.96	---	---
11AX40MI MO	Ant-1	5965	39.68	5945.08	5984.76	---	---
	Ant-3	5965	39.68	5945.16	5984.84	---	---
	Ant-1	6165	39.52	6145.24	6184.76	---	---
	Ant-3	6165	39.60	6145.16	6184.76	---	---
	Ant-1	6405	39.76	6385.16	6424.92	---	---
	Ant-3	6405	39.44	6385.24	6424.68	---	---
	Ant-1	6445	39.68	6425.16	6464.84	---	---
	Ant-3	6445	39.76	6425.08	6464.84	---	---
	Ant-1	6485	39.68	6465.16	6504.84	---	---
	Ant-3	6485	39.52	6465.16	6504.68	---	---
	Ant-1	6525	39.60	6505.16	6544.76	---	---
	Ant-3	6525	39.60	6505.24	6544.84	---	---
	Ant-1	6565	39.68	6545.16	6584.84	---	---
	Ant-3	6565	39.68	6545.16	6584.84	---	---
	Ant-1	6685	39.60	6665.24	6704.84	---	---
	Ant-3	6685	39.52	6665.24	6704.76	---	---
	Ant-1	6845	39.68	6825.08	6864.76	---	---
	Ant-3	6845	39.60	6825.16	6864.76	---	---
	Ant-1	6885	39.68	6865.08	6904.76	---	---
	Ant-3	6885	39.68	6865.08	6904.76	---	---
	Ant-1	6925	39.60	6905.16	6944.76	---	---
	Ant-3	6925	39.60	6905.16	6944.76	---	---
	Ant-1	6965	39.52	6945.24	6984.76	---	---
	Ant-3	6965	39.60	6945.16	6984.76	---	---
	Ant-1	7085	39.68	7065.08	7104.76	---	---
	Ant-3	7085	39.68	7065.08	7104.76	---	---
11AX80MI MO	Ant-1	5985	80.48	5944.84	6025.32	---	---
	Ant-3	5985	80.64	5944.68	6025.32	---	---

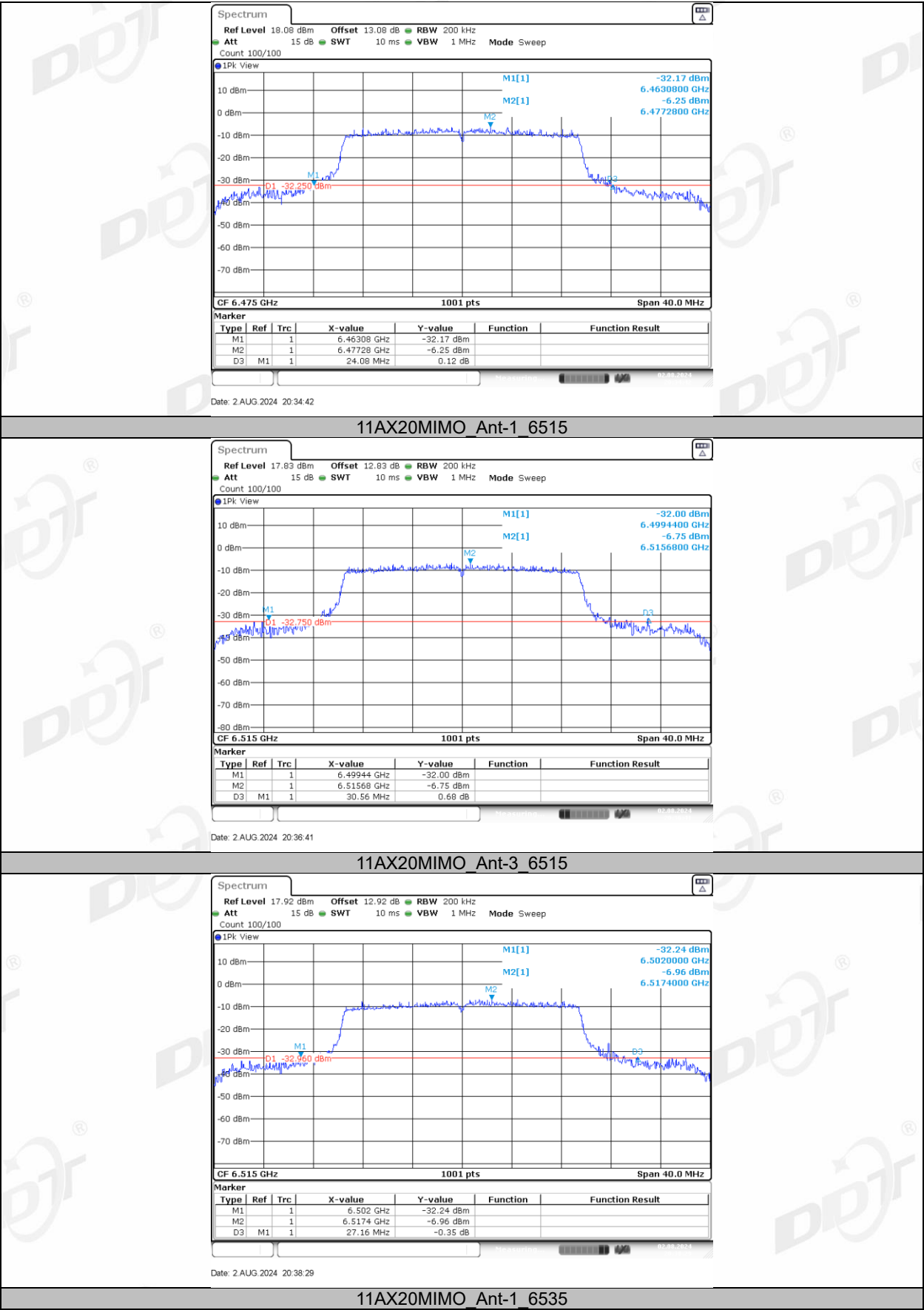
Ant-1	6145	80.32	6104.84	6185.16	---	---
Ant-3	6145	80.00	6105.00	6185.00	---	---
Ant-1	6385	80.32	6344.84	6425.16	---	---
Ant-3	6385	80.32	6344.84	6425.16	---	---
Ant-1	6465	80.32	6424.84	6505.16	---	---
Ant-3	6465	80.16	6424.84	6505.00	---	---
Ant-1	6545	80.32	6504.84	6585.16	---	---
Ant-3	6545	80.00	6505.00	6585.00	---	---
Ant-1	6625	80.32	6584.84	6665.16	---	---
Ant-3	6625	80.32	6584.84	6665.16	---	---
Ant-1	6705	80.16	6664.84	6745.00	---	---
Ant-3	6705	80.48	6664.68	6745.16	---	---
Ant-1	6785	80.32	6744.84	6825.16	---	---
Ant-3	6785	80.64	6744.68	6825.32	---	---
Ant-1	6865	80.16	6824.84	6905.00	---	---
Ant-3	6865	80.16	6824.84	6905.00	---	---
Ant-1	6945	80.32	6904.84	6985.16	---	---
Ant-3	6945	80.16	6904.84	6985.00	---	---
Ant-1	7025	80.32	6984.84	7065.16	---	---
Ant-3	7025	80.16	6984.84	7065.00	---	---

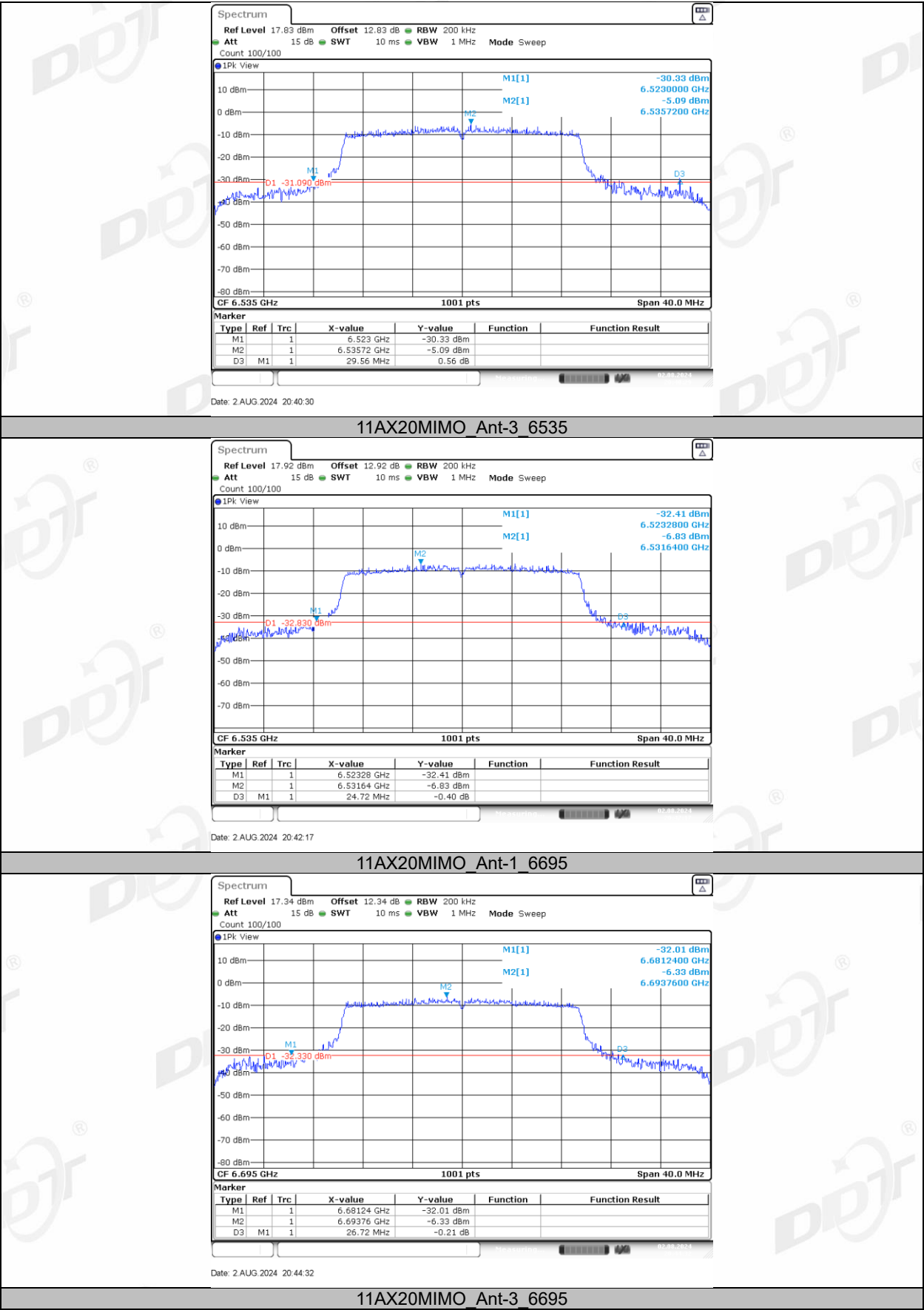
4.5. Test Graphs

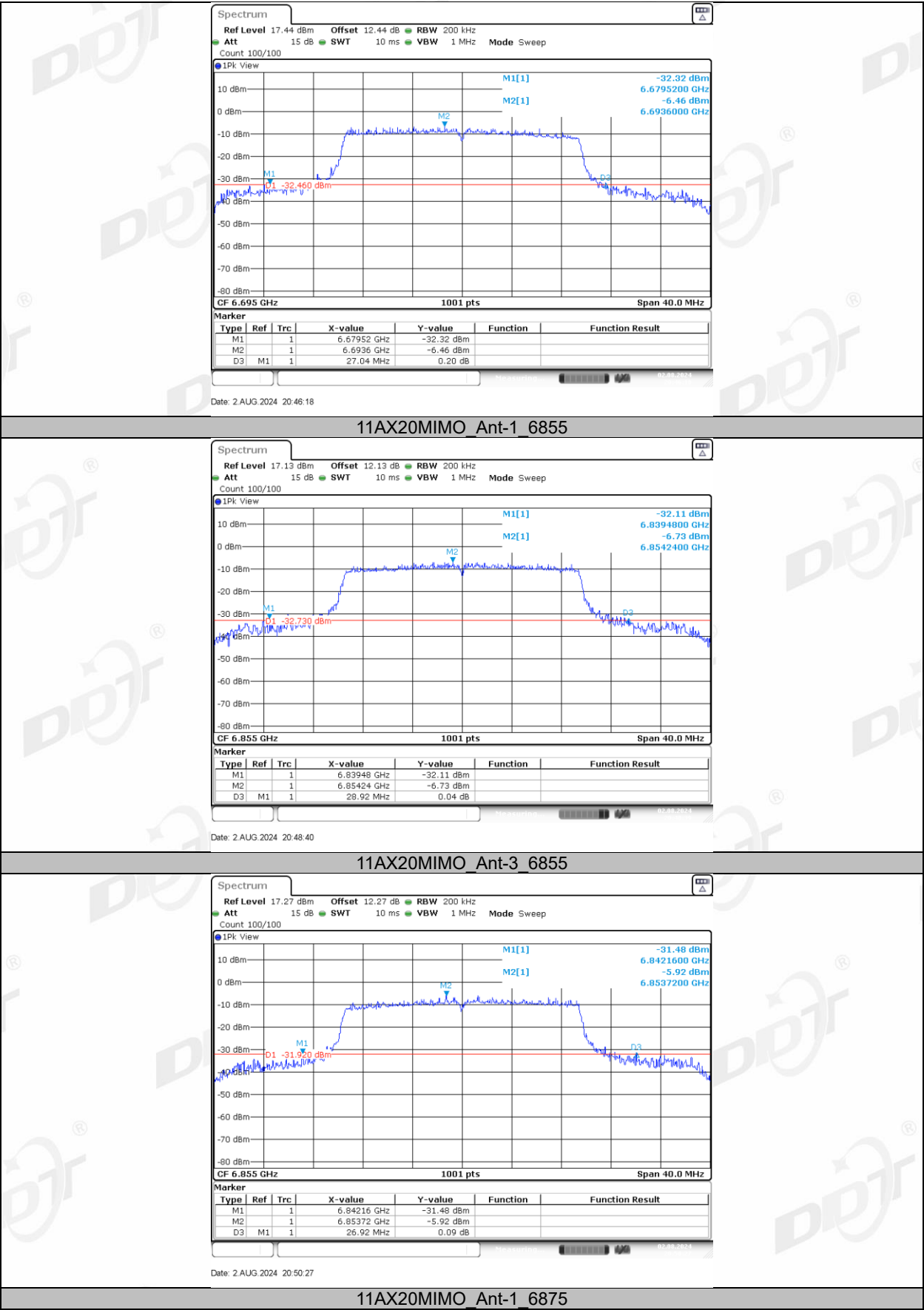


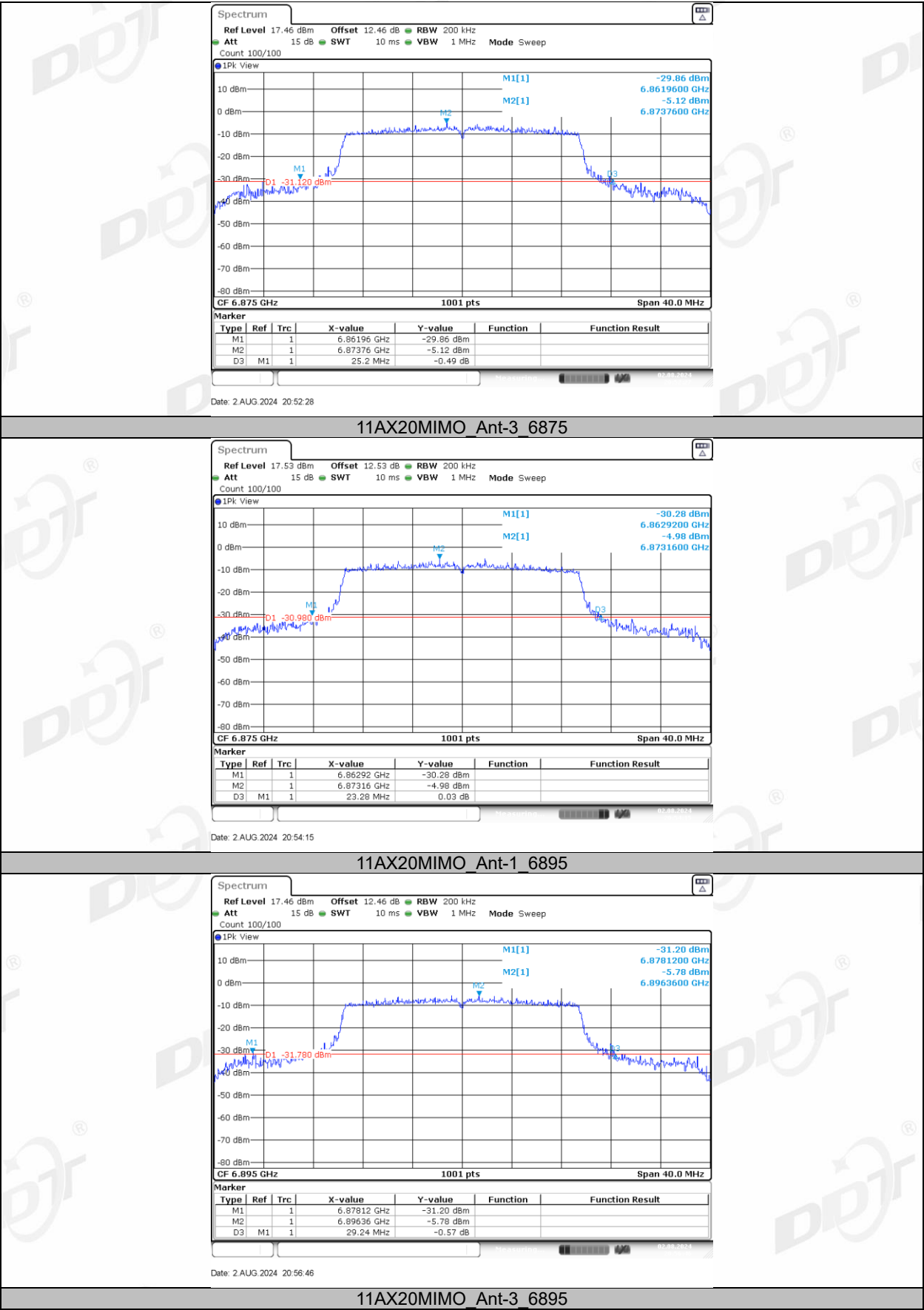


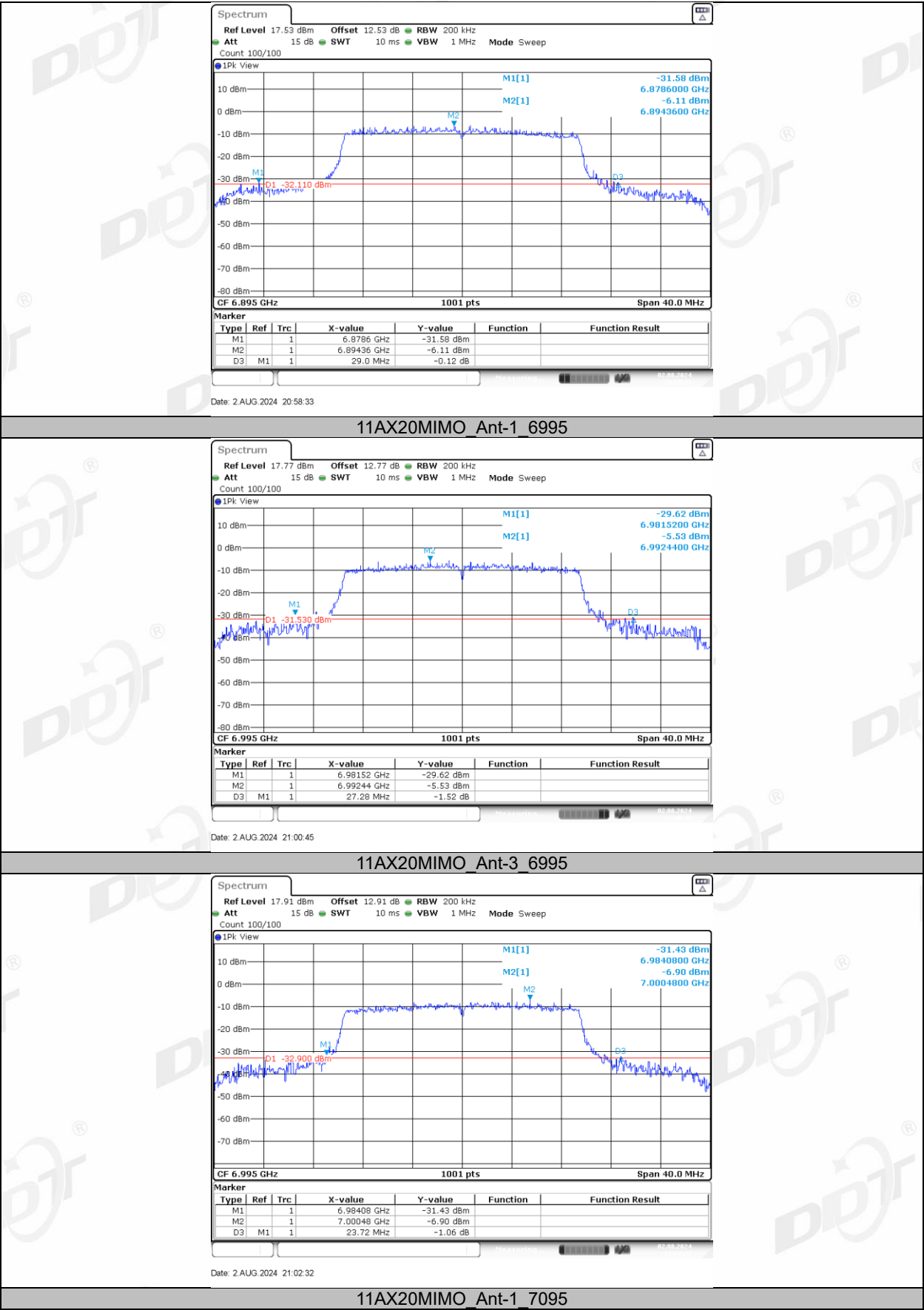


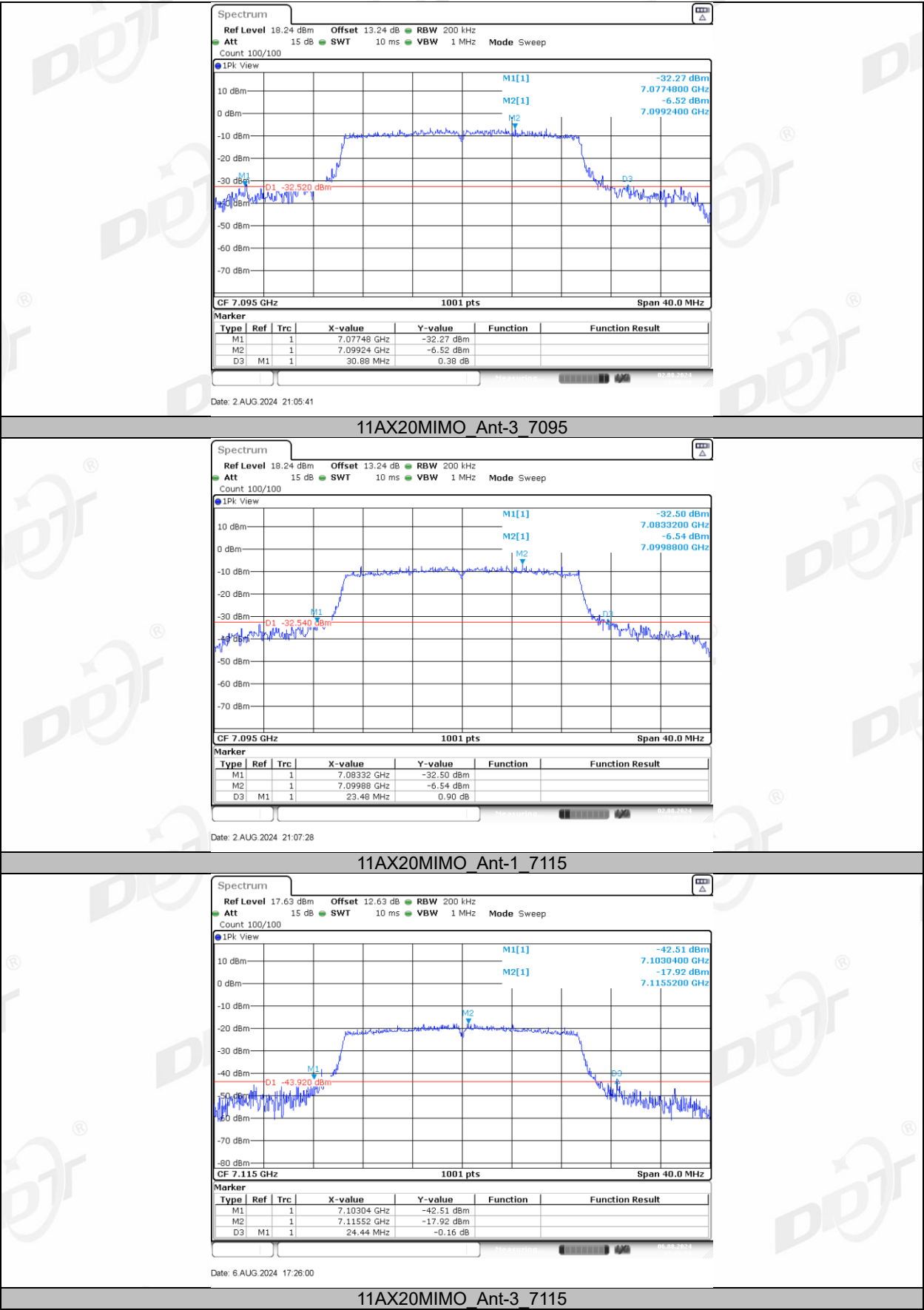














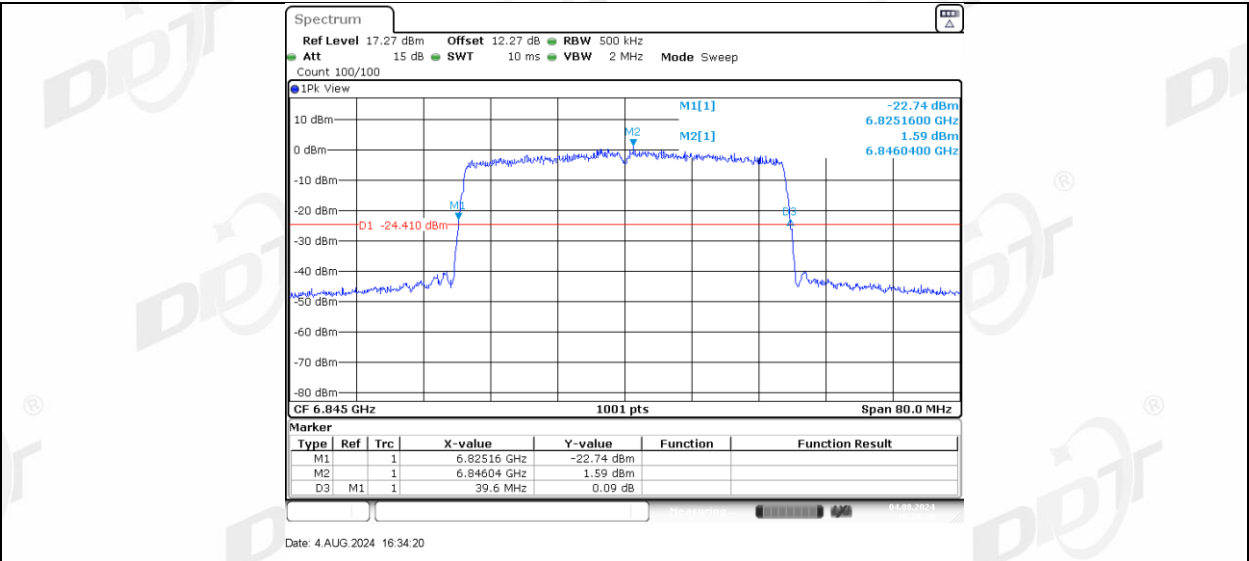




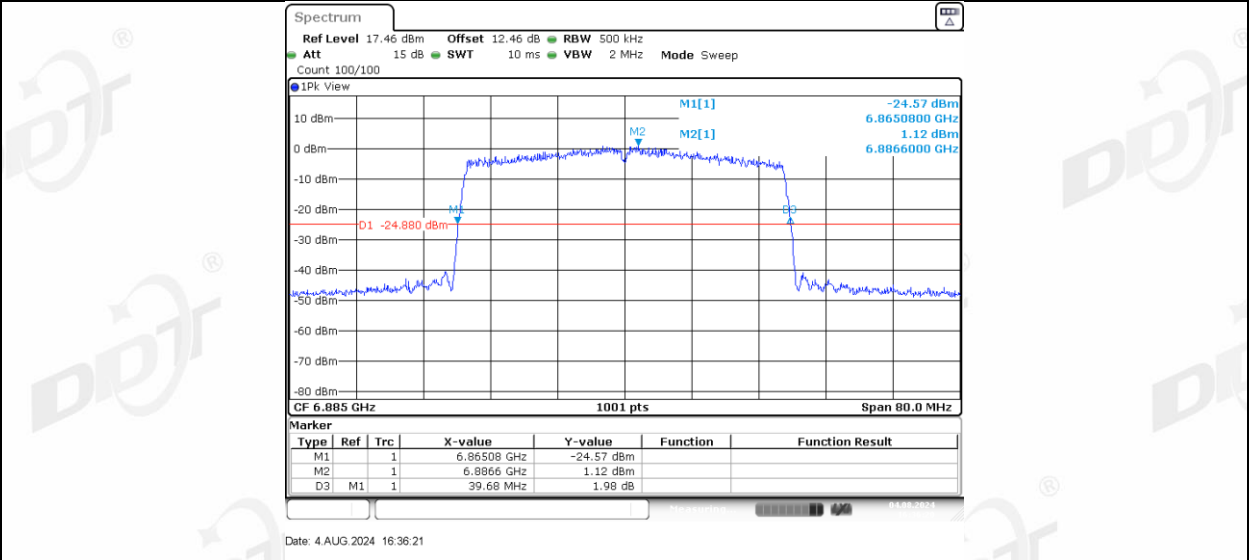




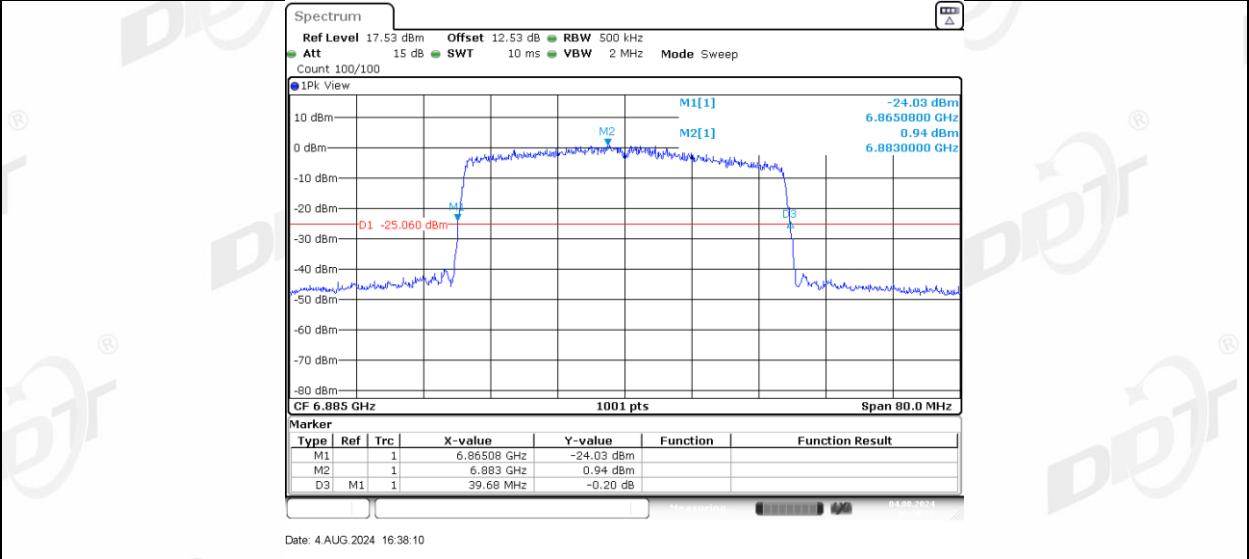




11AX40MIMO_Ant-1_6885



11AX40MIMO_Ant-3_6885



11AX40MIMO_Ant-1_6925









