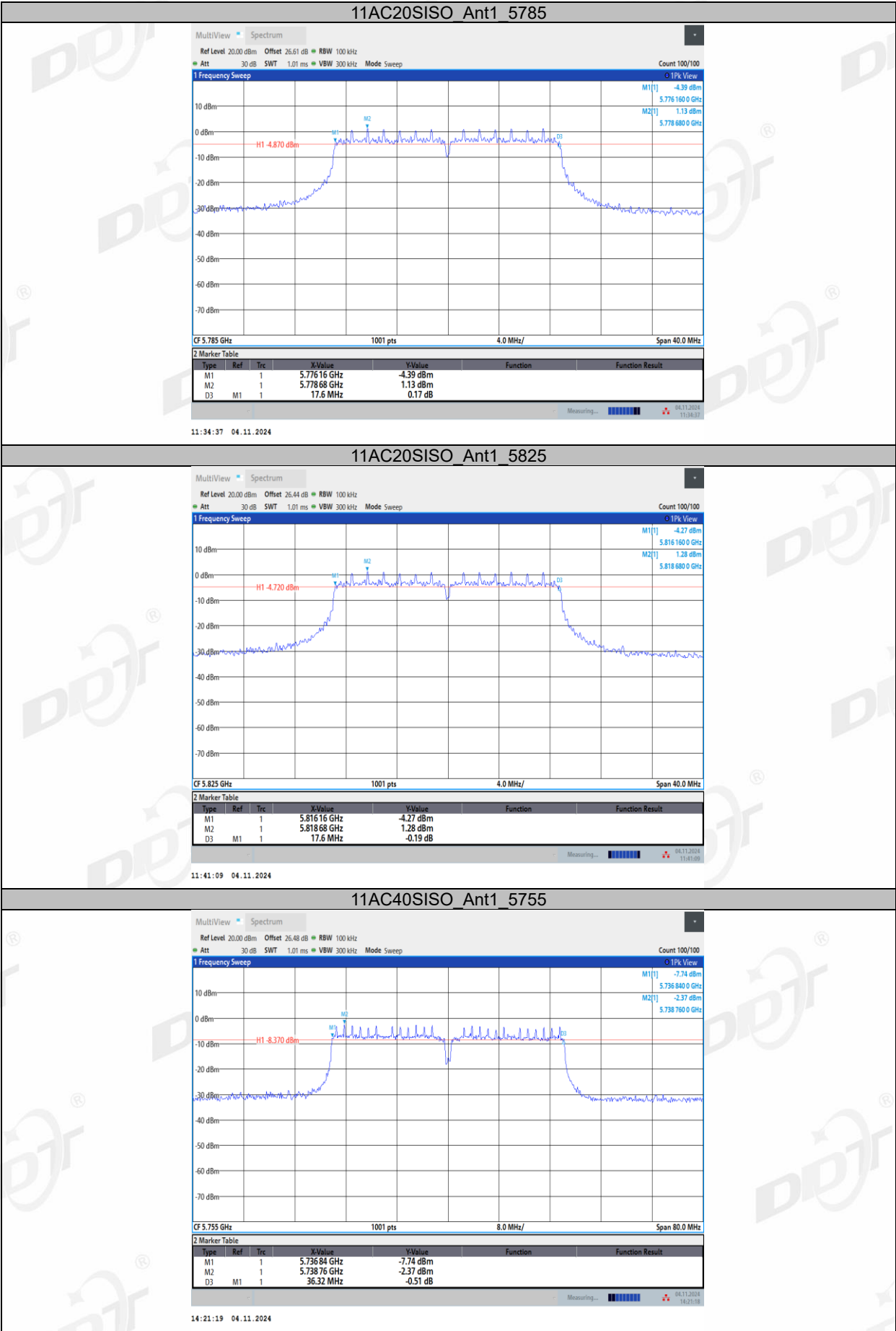
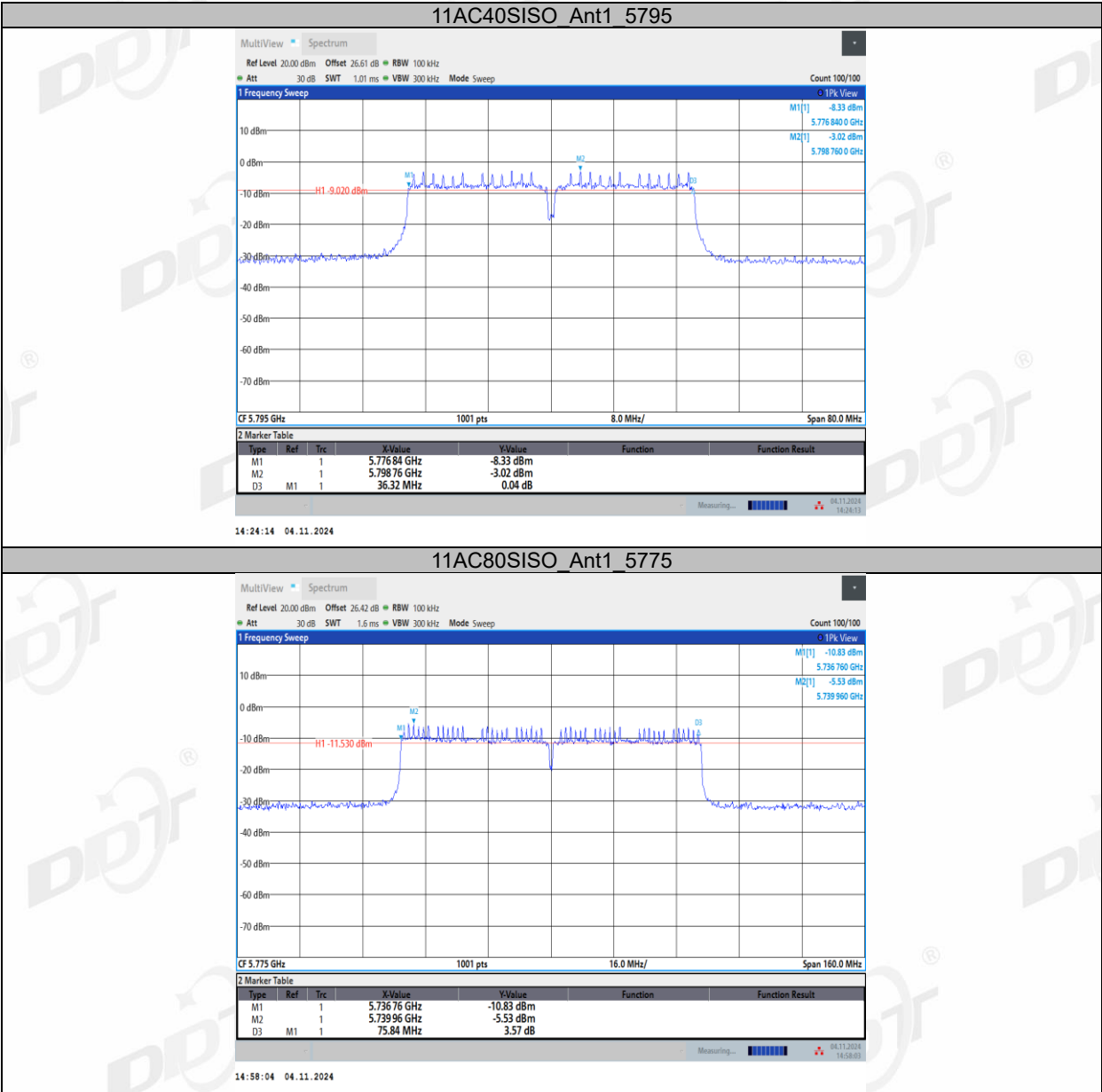
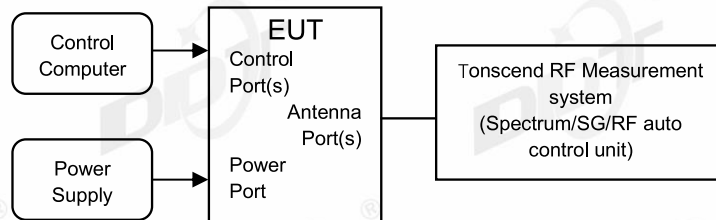






6. 99% Bandwidth

6.1. Block diagram of test setup



6.2. Limits

Just for Report.

6.3. Test procedure

- (1) Connect EUT's antenna output to spectrum analyzer by RF cable.

Center Frequency	The center frequency of the channel under test
Detector	Peak
RBW	1% to 5% of the OBW
VBW	approximately three times the RBW
Trace	Max hold

- (2) Use the 99% power bandwidth function of the instrument (if available) and report the measured bandwidth.

6.4. Test result

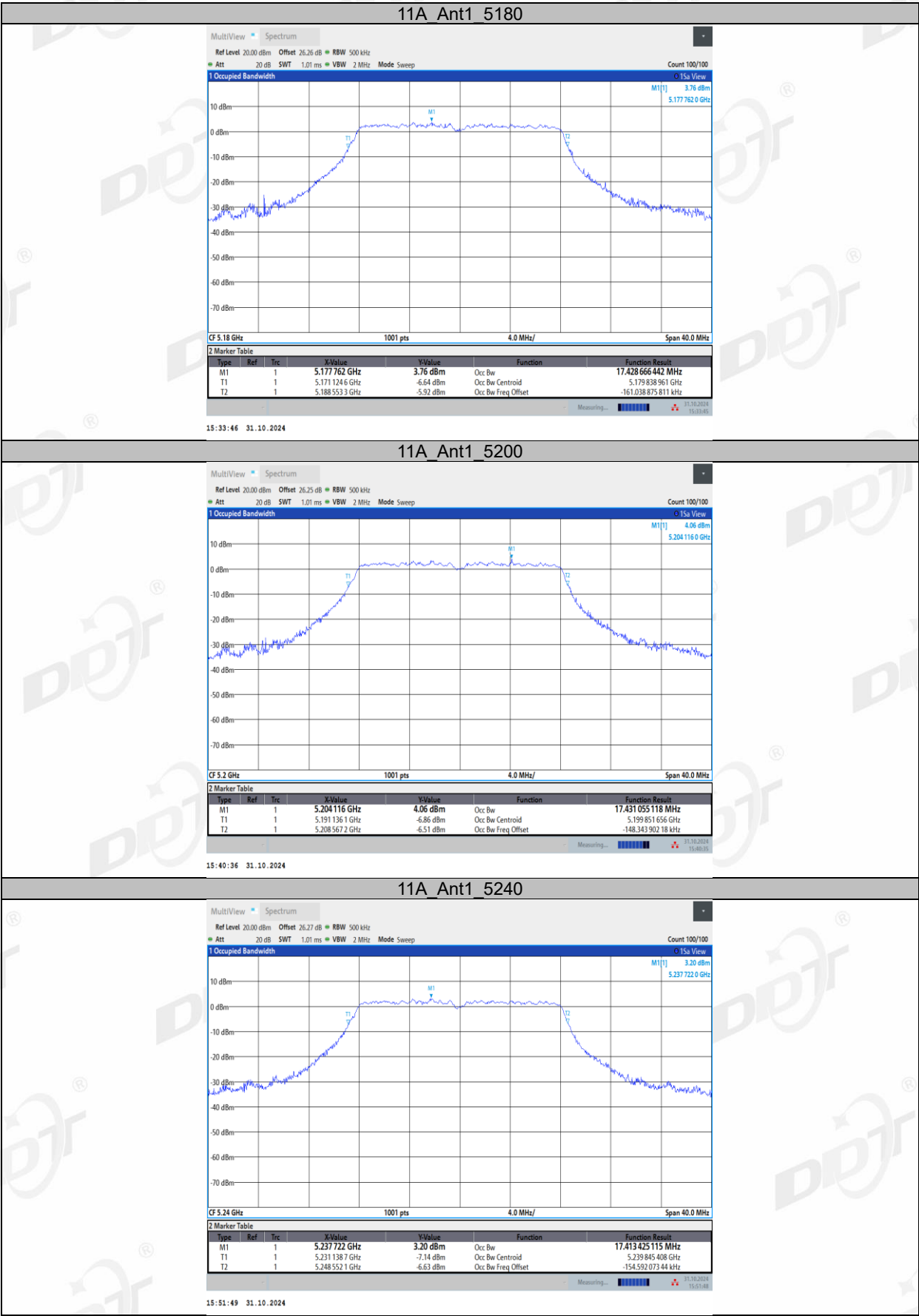
Test Engineer:	Zoe	Test Site:	RF Measurement System 4#
Ambient Condition:	23.6℃, 48.4%RH	Test Date:	2024.10.23-2024.11.04
Test Power Supply:	DC 12V	Sample Number:	S24101411-001

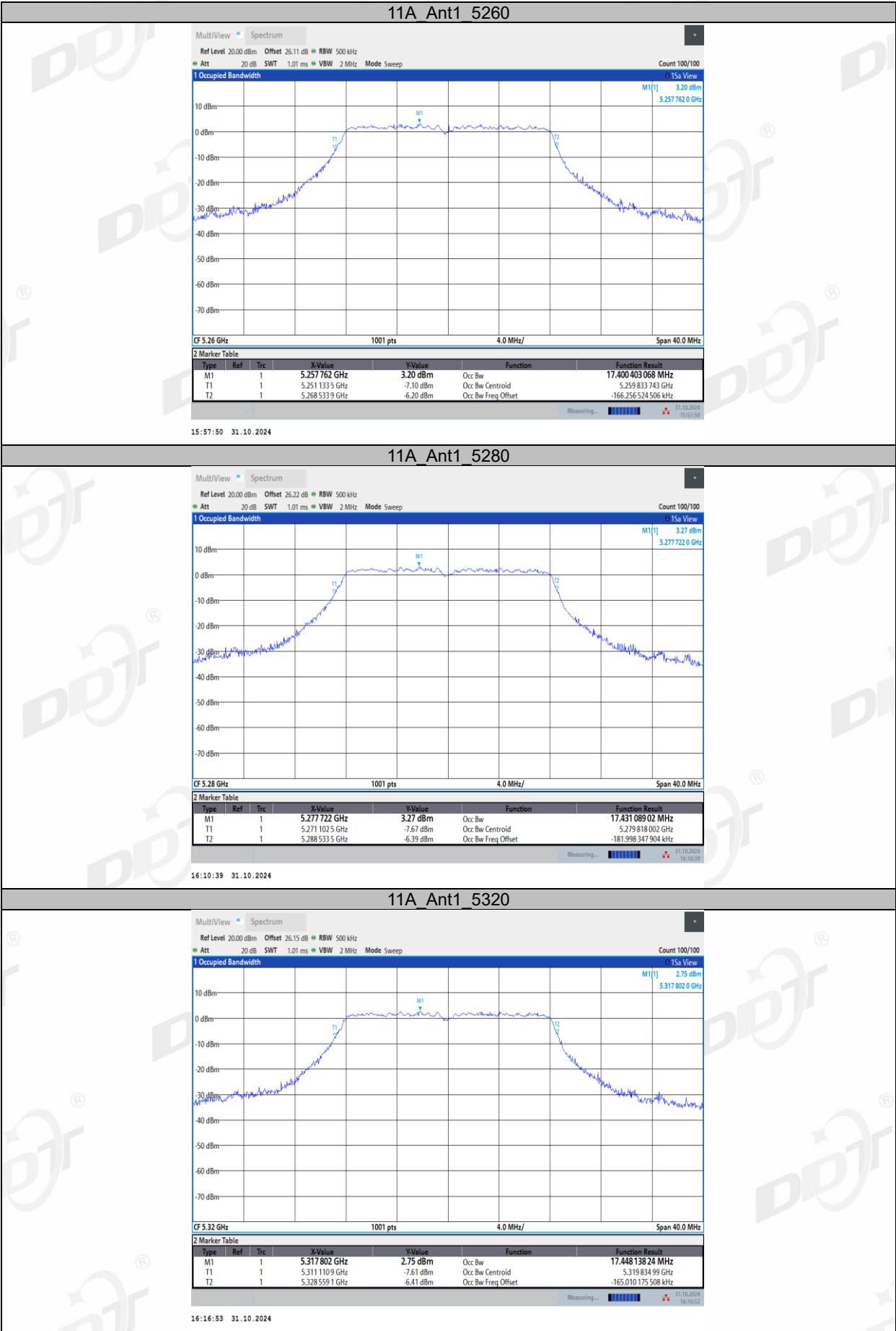
Test Mode	Antenna	Frequency [MHz]	OCB [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
11A	Ant1	5180	17.429	5171.1246	5188.5533	---	---
		5200	17.431	5191.1361	5208.5672	---	---
		5240	17.413	5231.1387	5248.5521	---	---
		5260	17.400	5251.1335	5268.5339	---	---
		5280	17.431	5271.1025	5288.5335	---	---
		5320	17.448	5311.1109	5328.5591	---	---
		5500	17.447	5491.1564	5508.6035	---	---
		5580	17.469	5571.1163	5588.5848	---	---
		5700	17.503	5691.0865	5708.5899	---	---
		5720	17.463	5711.1036	5728.5662	---	---
		5720_UNII-2C	13.896	5711.1036	5725	---	---
		5720_UNII-3	3.566	5725	5728.5662	---	---
		5745	17.460	5736.0959	5753.5554	---	---
		5785	17.466	5776.1167	5793.5826	---	---
		5825	17.521	5816.0703	5833.5911	---	---
11N20SISO	Ant1	5180	18.488	5170.6986	5189.1864	---	---
		5200	18.468	5190.7086	5209.1770	---	---
		5240	18.456	5230.7138	5249.1703	---	---
		5260	18.495	5250.6934	5269.1887	---	---
		5280	18.503	5270.6670	5289.1698	---	---
		5320	18.488	5310.6985	5329.1861	---	---
		5500	18.502	5490.7258	5509.2278	---	---
		5580	18.514	5570.6846	5589.1983	---	---
		5700	18.505	5690.6784	5709.1832	---	---

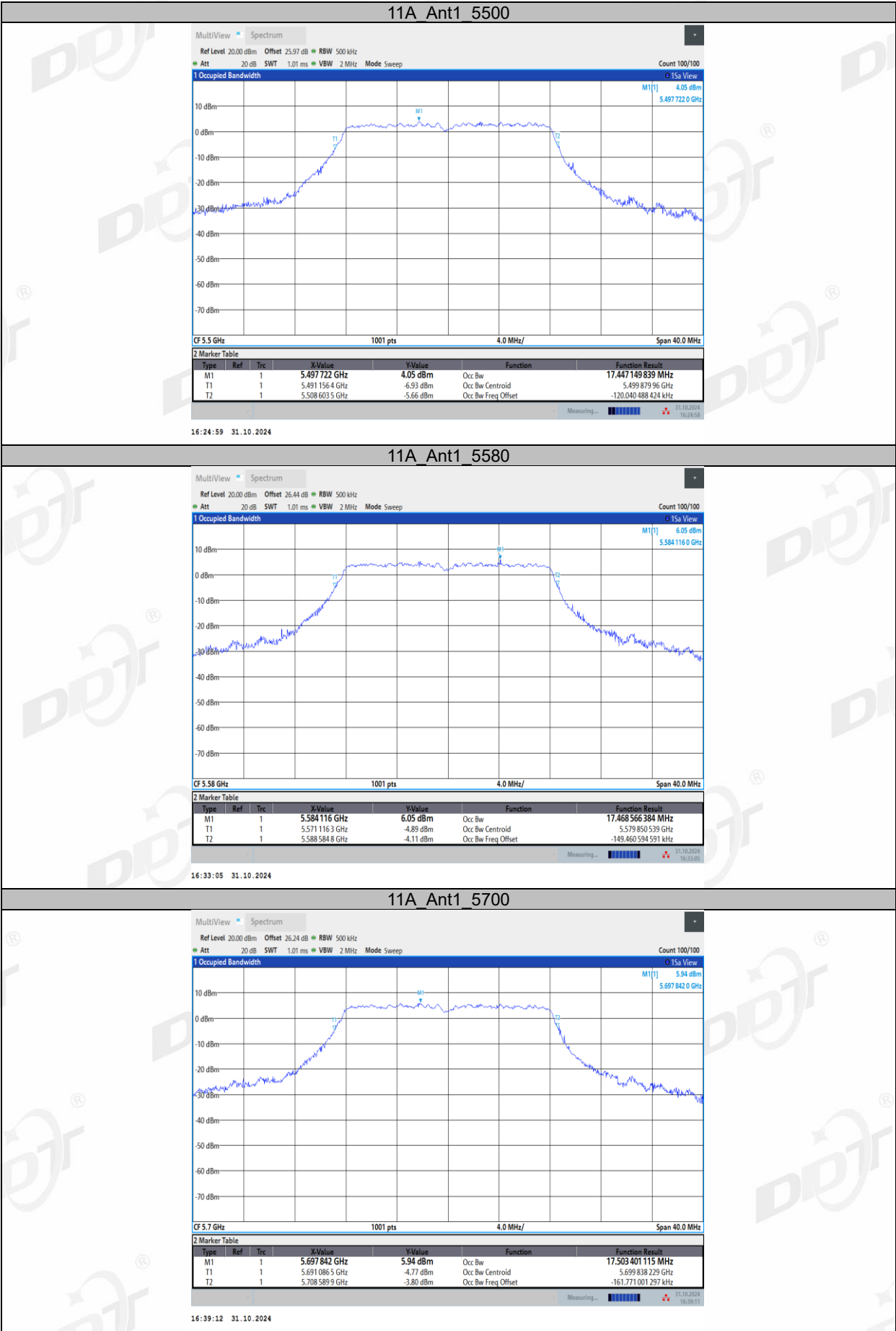
		5720	18.509	5710.6876	5729.1964	---	---
		5720_UNII-2C	14.312	5710.6876	5725	---	---
		5720_UNII-3	4.196	5725	5729.1964	---	---
		5745	18.479	5735.6811	5754.1603	---	---
		5785	18.502	5775.7071	5794.2093	---	---
		5825	18.537	5815.6607	5834.1976	---	---
11N40SISO	Ant1	5190	37.215	5171.3567	5208.5718	---	---
		5230	37.313	5211.2967	5248.6093	---	---
		5270	37.166	5251.3917	5288.5576	---	---
		5310	37.267	5291.3218	5328.5892	---	---
		5510	37.233	5491.4071	5528.6396	---	---
		5550	37.246	5531.3625	5568.6088	---	---
		5670	37.261	5651.3711	5688.6320	---	---
		5710	37.305	5691.3221	5728.6272	---	---
		5710_UNII-2C	33.678	5691.3221	5725	---	---
		5710_UNII-3	3.627	5725	5728.6272	---	---
		5755	37.284	5736.2608	5773.5452	---	---
		5795	37.237	5776.3592	5813.5959	---	---
11AC20SISO	Ant1	5180	18.472	5170.6912	5189.1636	---	---
		5200	18.449	5190.7231	5209.1718	---	---
		5240	18.494	5230.7024	5249.1962	---	---
		5260	18.468	5250.7268	5269.1951	---	---
		5280	18.484	5270.6777	5289.1621	---	---
		5320	18.506	5310.6662	5329.1717	---	---
		5500	18.501	5490.7137	5509.2146	---	---
		5580	18.497	5570.6746	5589.1714	---	---
		5700	18.511	5690.6741	5709.1851	---	---
		5720	18.532	5710.6815	5729.2131	---	---
		5720_UNII-2C	14.319	5710.6815	5725	---	---
		5720_UNII-3	4.213	5725	5729.2131	---	---

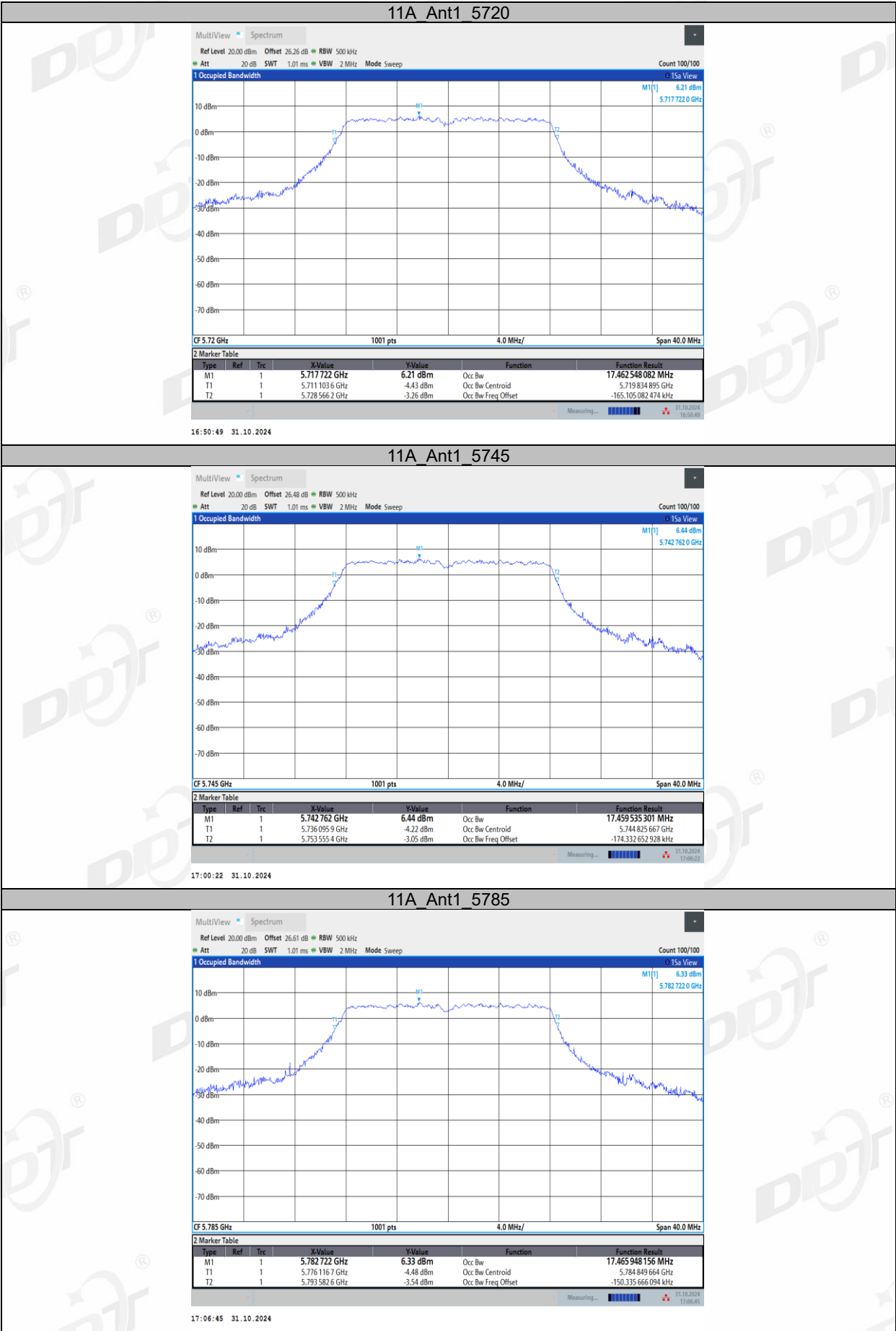
		5745	18.516	5735.6623	5754.1788	---	---
		5785	18.536	5775.6902	5794.2266	---	---
		5825	18.533	5815.6628	5834.1961	---	---
11AC40SISO	Ant1	5190	37.273	5171.2483	5208.5217	---	---
		5230	37.226	5211.3303	5248.5566	---	---
		5270	37.184	5251.3835	5288.5673	---	---
		5310	37.242	5291.2794	5328.5210	---	---
		5510	37.277	5491.3804	5528.6572	---	---
		5550	37.225	5531.4095	5568.6344	---	---
		5670	37.212	5651.3961	5688.6078	---	---
		5710	37.335	5691.2842	5728.6192	---	---
		5710_UNII-2C	33.716	5691.2842	5725	---	---
		5710_UNII-3	3.619	5725	5728.6192	---	---
		5755	37.321	5736.2333	5773.5539	---	---
		5795	37.302	5776.3005	5813.6029	---	---
11AC80SISO	Ant1	5210	76.713	5171.5580	5248.2709	---	---
		5290	76.699	5251.4589	5328.1580	---	---
		5530	76.541	5491.7778	5568.3184	---	---
		5610	76.632	5571.5714	5648.2034	---	---
		5690	76.663	5651.5405	5728.2035	---	---
		5690_UNII-2C	73.459	5651.5405	5725	---	---
		5690_UNII-3	3.203	5725	5728.2035	---	---
		5775	76.799	5736.3667	5813.1659	---	---

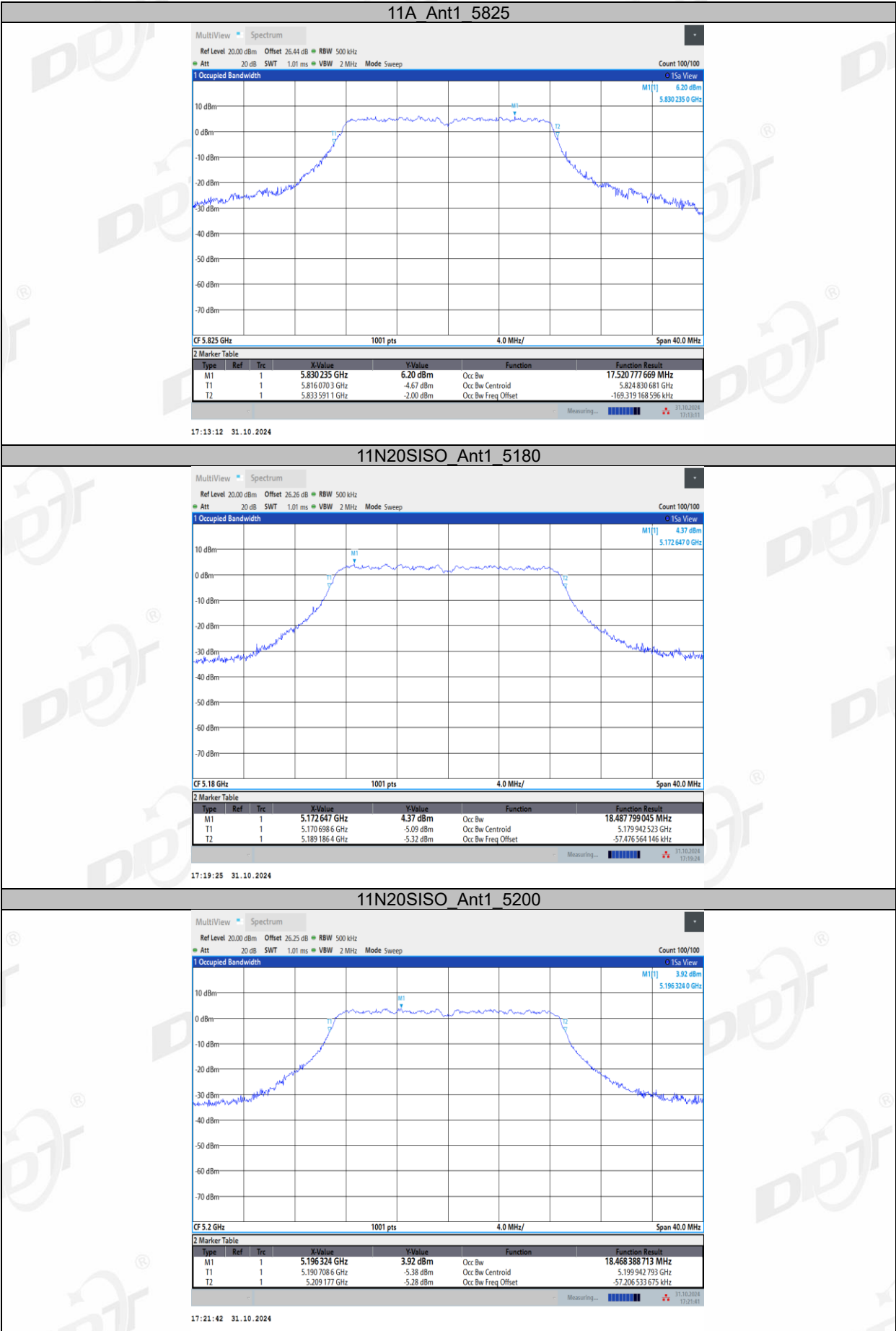
6.5. Test graphs

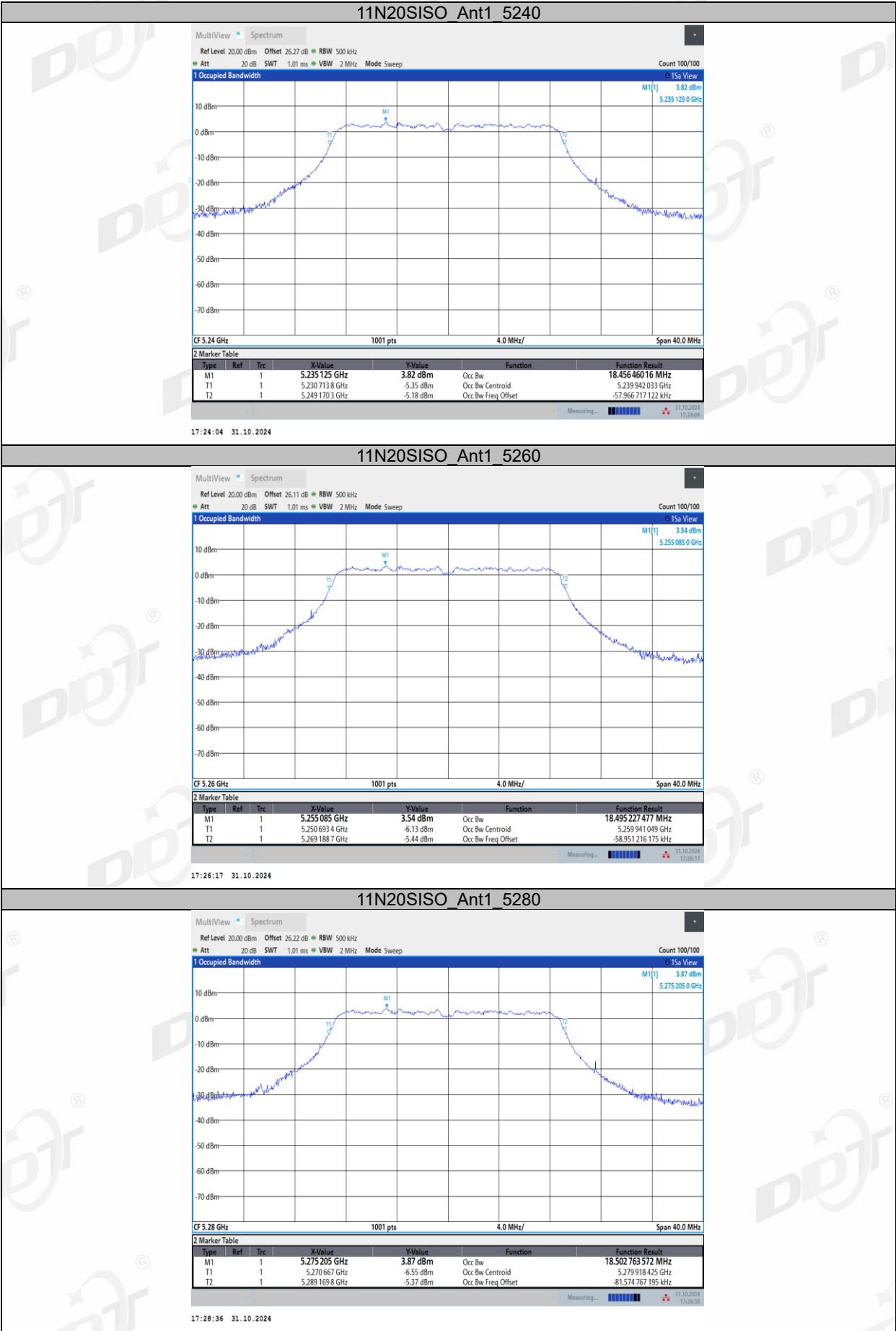












11N20SISO_Ant1_5260

MultiView Spectrum

Ref Level 20.00 dBm Offset 26.11 dB RBW 500 kHz

Att 20 dB SWT 1.01 ms VBW 2 MHz Mode Sweep

Count 100/100

1 Occupied Bandwidth

10 dBm

0 dBm

-10 dBm

-20 dBm

-30 dBm

-40 dBm

-50 dBm

-60 dBm

-70 dBm

CF 5.26 GHz

1001 pts

4.0 MHz/

Span 40.0 MHz

M1

3.54 dBm

5.2550850 GHz

2 Marker Table

Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1		5.255085 GHz	3.54 dBm	Occ BW	18.495227477 MHz
T1	1		5.2506934 GHz	-6.13 dBm	Occ BW Centroid	5.259941049 GHz
T2	1		5.2691887 GHz	-5.44 dBm	Occ BW Freq Offset	-58.951216175 kHz

Measuring...

31.10.2024 17:26:07

17:26:17 31.10.2024

11N20SISO_Ant1_5280

MultiView Spectrum

Ref Level 20.00 dBm Offset 26.22 dB RBW 500 kHz

Att 20 dB SWT 1.01 ms VBW 2 MHz Mode Sweep

Count 100/100

1 Occupied Bandwidth

10 dBm

0 dBm

-10 dBm

-20 dBm

-30 dBm

-40 dBm

-50 dBm

-60 dBm

-70 dBm

CF 5.28 GHz

1001 pts

4.0 MHz/

Span 40.0 MHz

M1

3.87 dBm

5.2752050 GHz

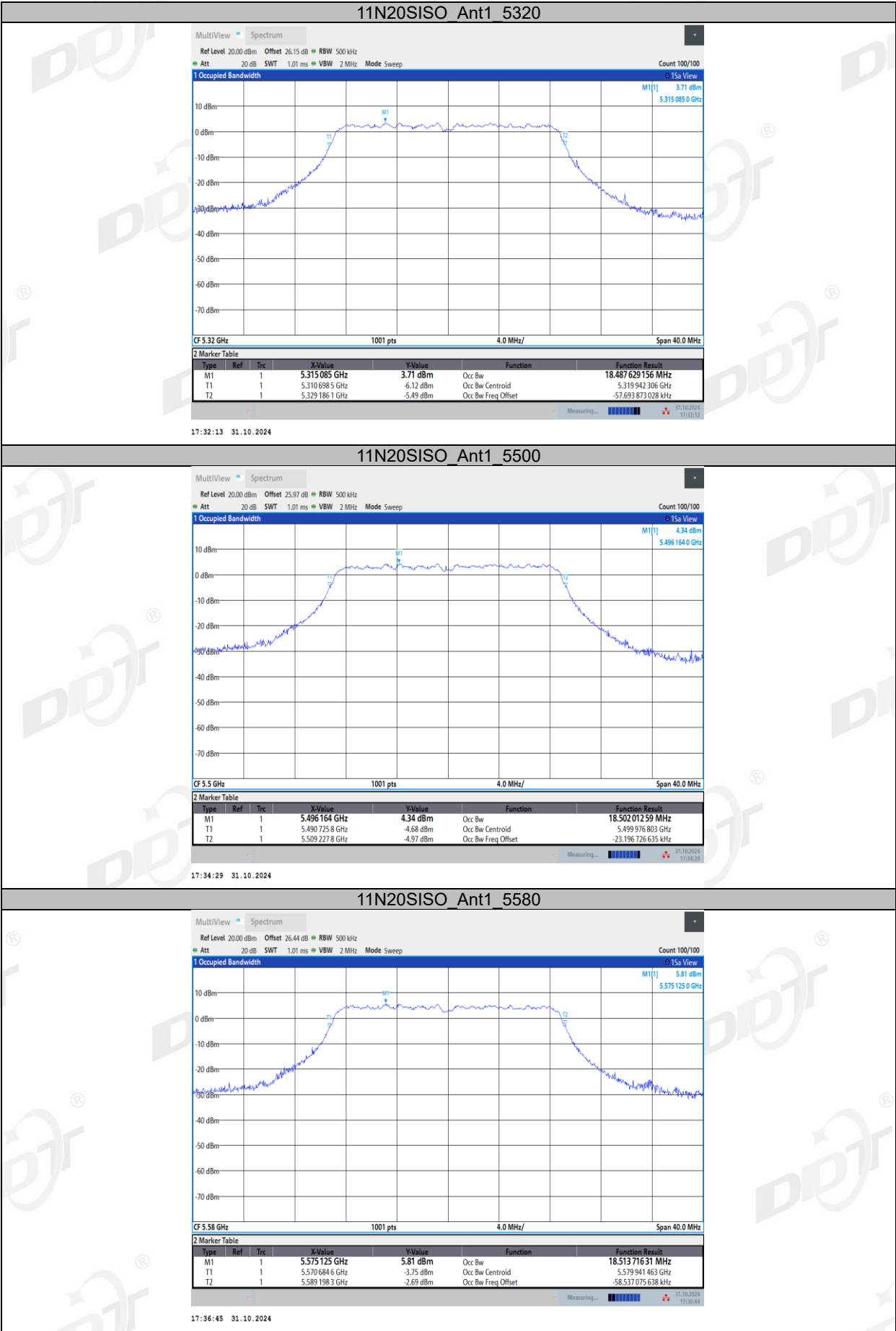
2 Marker Table

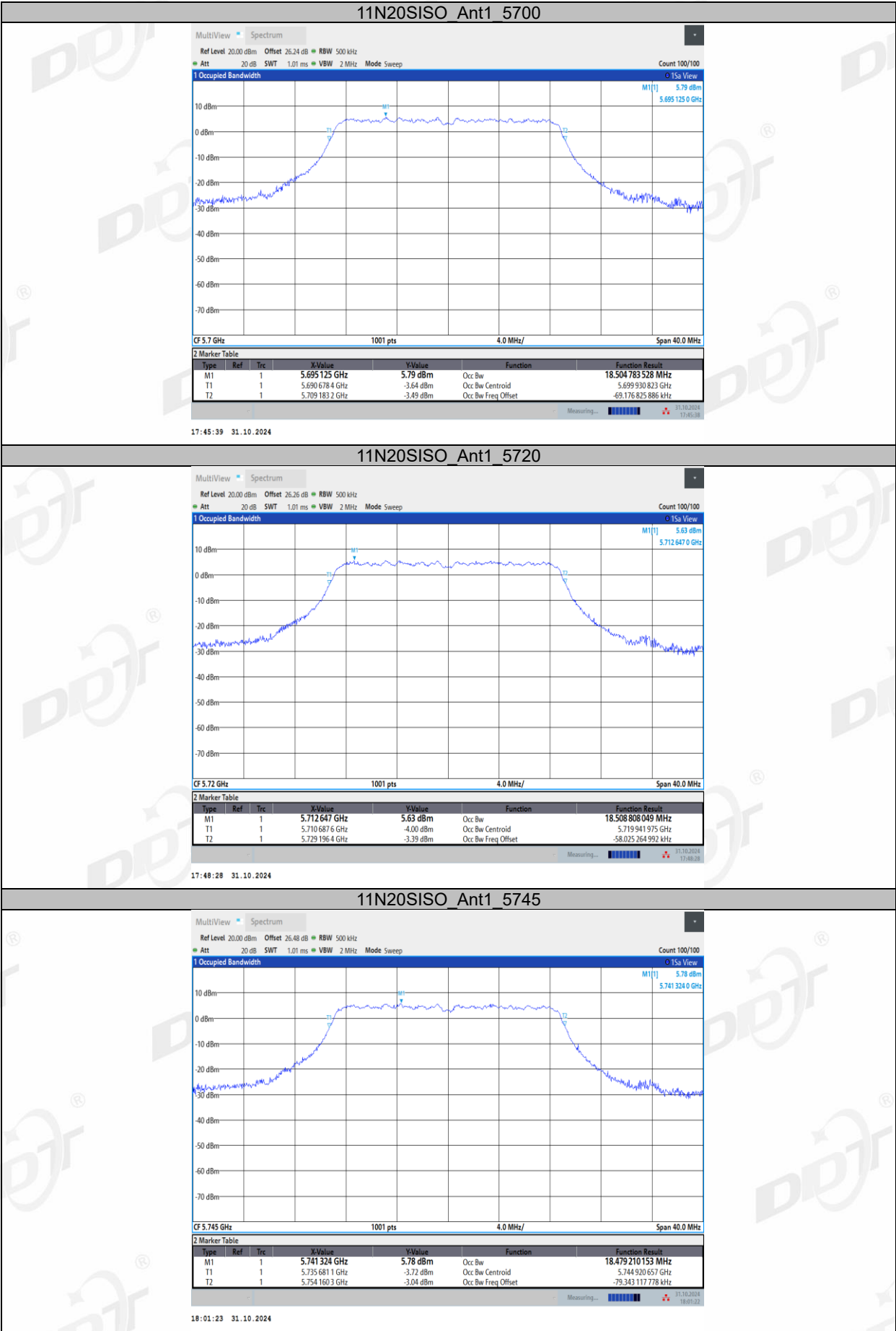
Type	Ref	Trc	X-Value	Y-Value	Function	Function Result
M1	1		5.275205 GHz	3.87 dBm	Occ BW	18.502763572 MHz
T1	1		5.270667 GHz	-6.55 dBm	Occ BW Centroid	5.279918425 GHz
T2	1		5.2891698 GHz	-5.37 dBm	Occ BW Freq Offset	-81.574767195 kHz

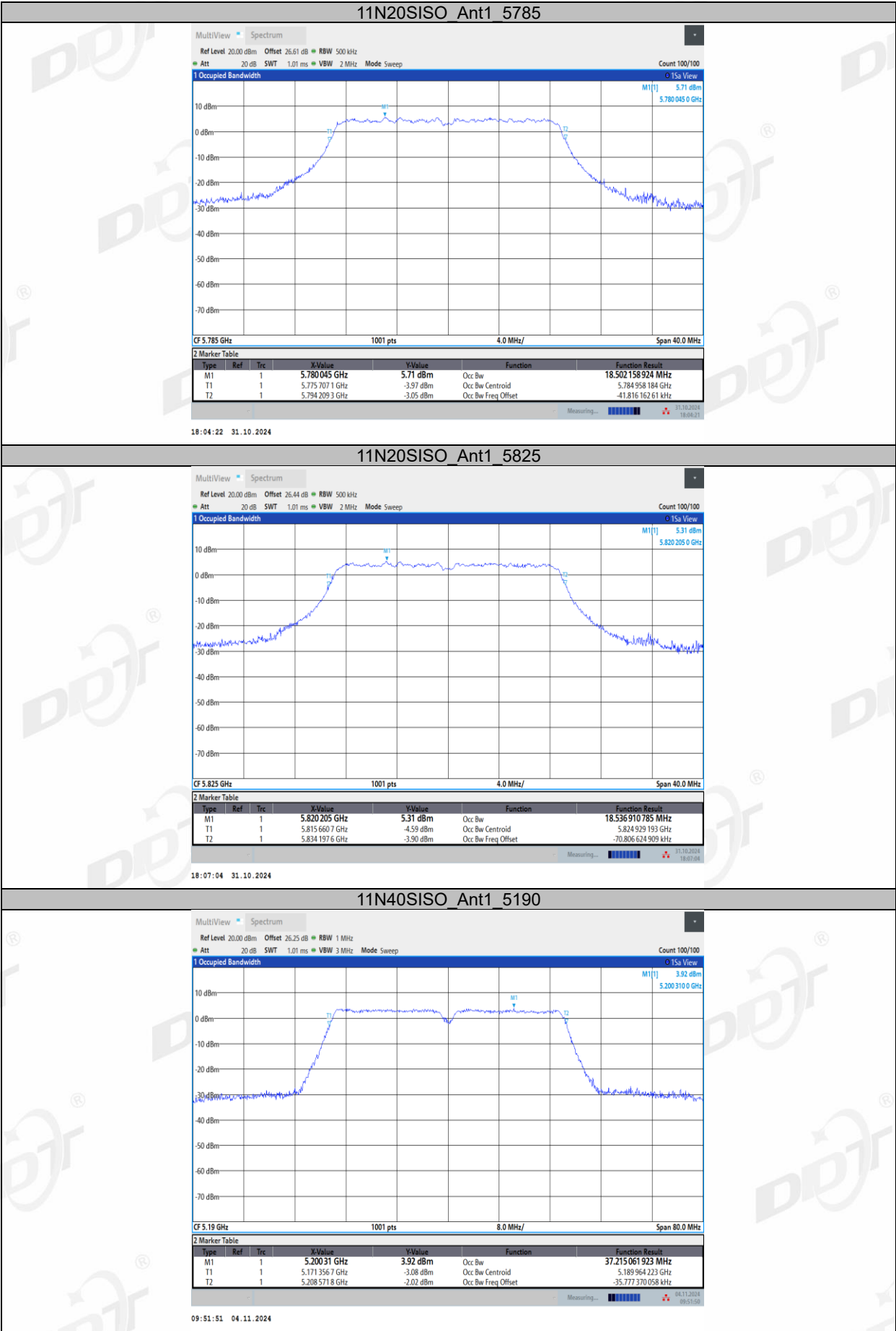
Measuring...

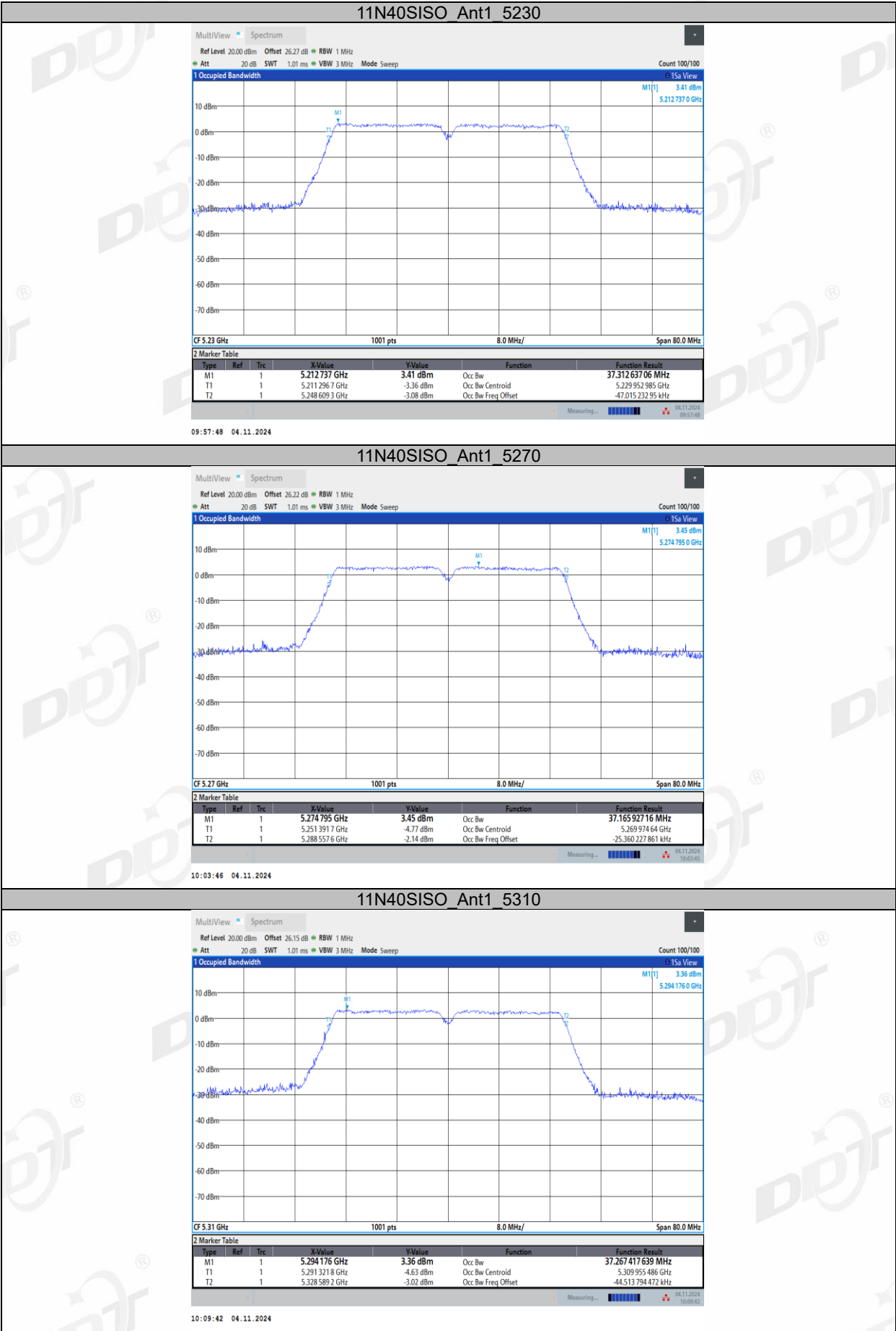
31.10.2024 17:28:36

17:28:36 31.10.2024









11N40SISO_Ant1_5270

MultiView Spectrum

Ref Level 20.00 dBm Offset 26.22 dB RBW 1 MHz
Att 20 dB SWT 1.01 ms VBW 3 MHz Mode Sweep

Count 100/100

1 Occupied Bandwidth

CF 5.27 GHz 1001 pts 8.0 MHz/ Span 80.0 MHz

2 Marker Table

10:03:46 04.11.2024

11N40SISO_Ant1_5310

MultiView Spectrum

Ref Level 20.00 dBm Offset 26.15 dB RBW 1 MHz
Att 20 dB SWT 1.01 ms VBW 3 MHz Mode Sweep

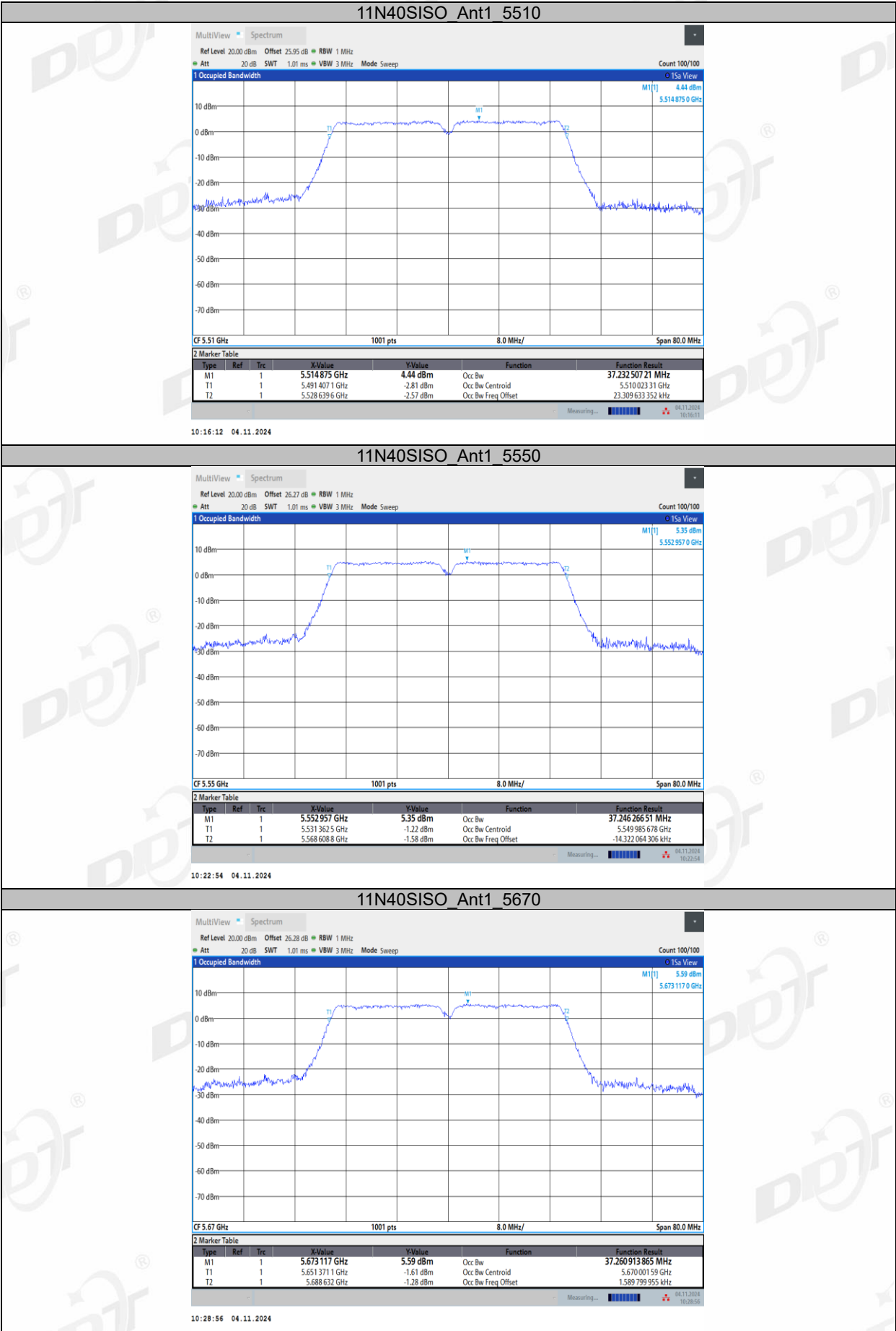
Count 100/100

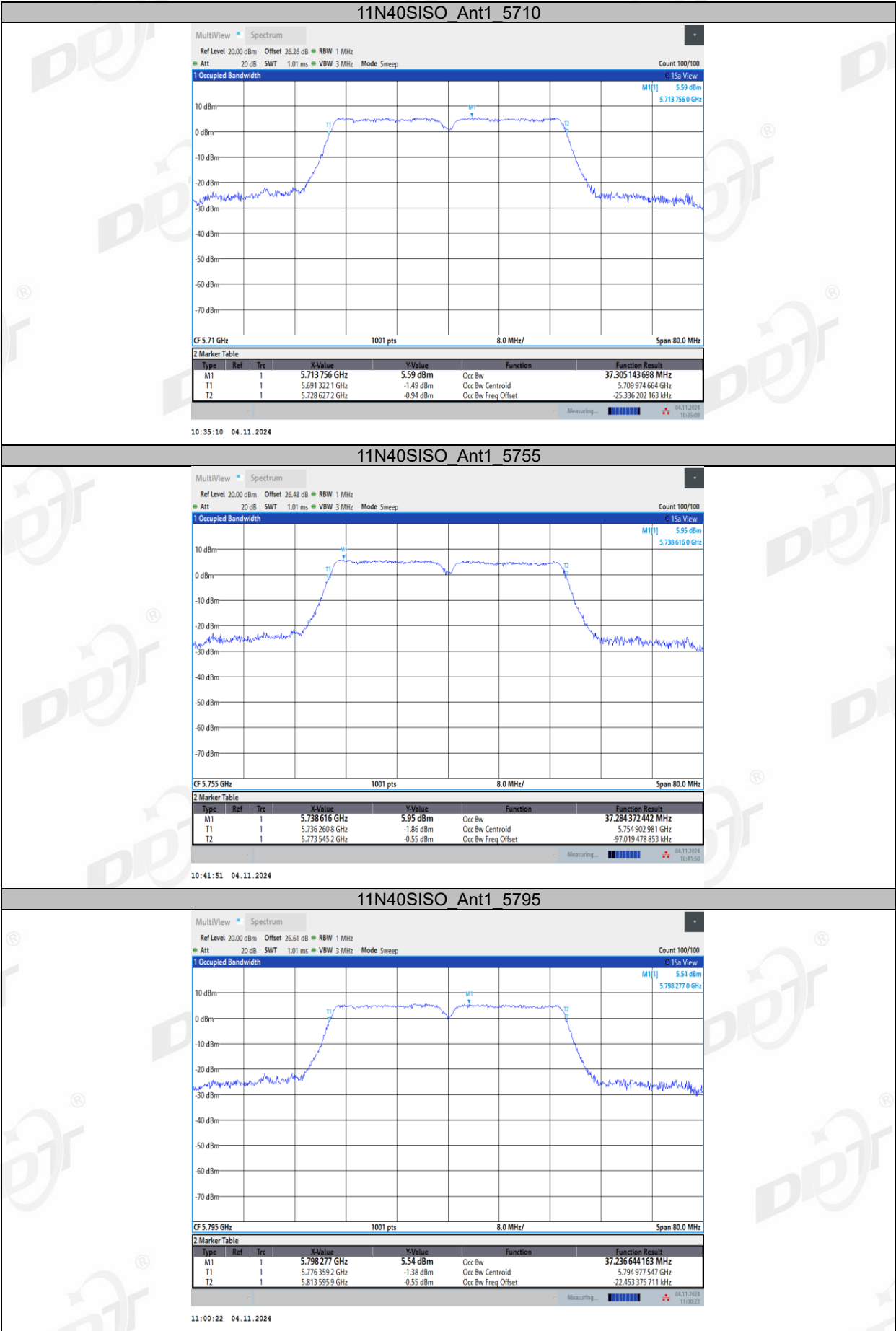
1 Occupied Bandwidth

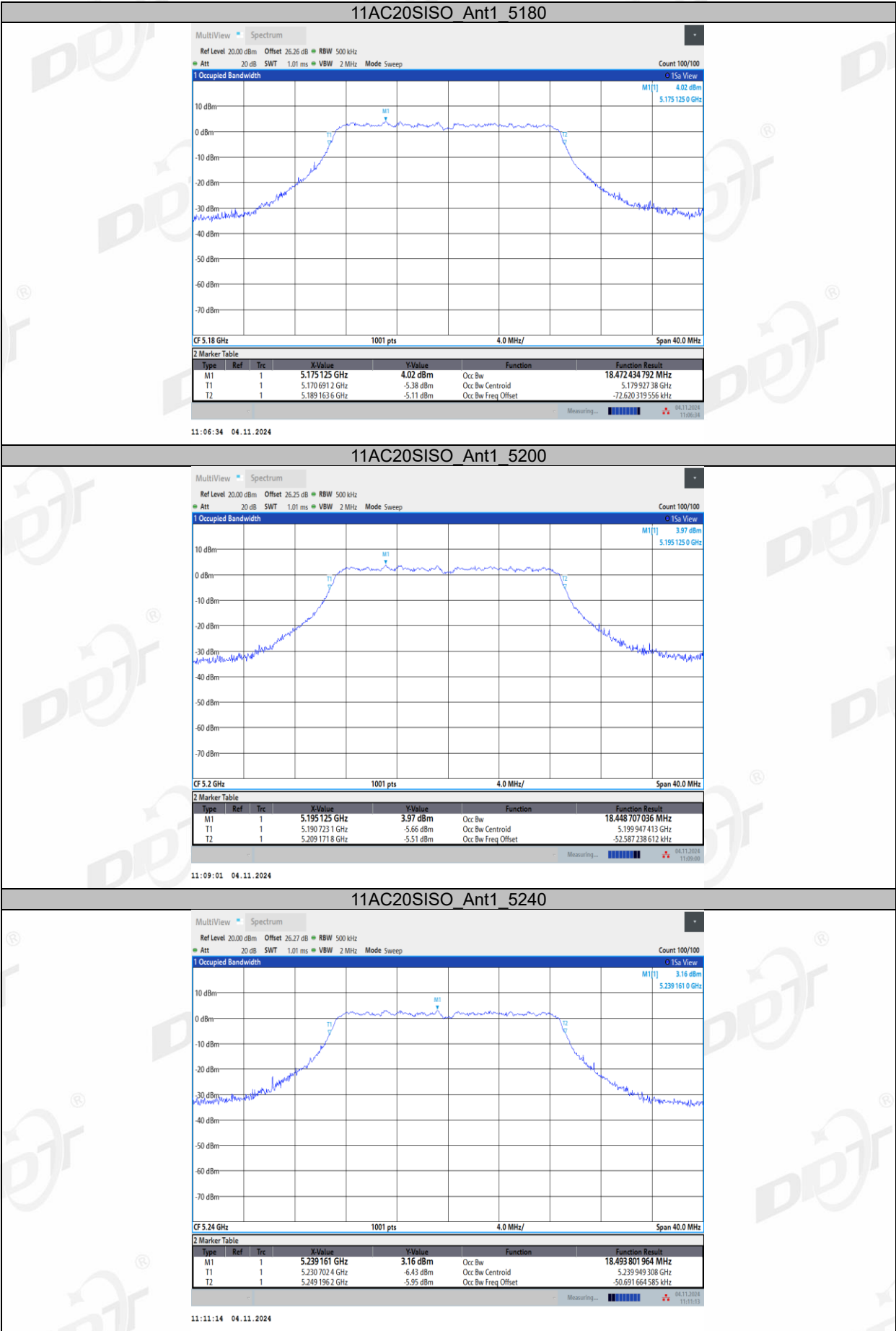
CF 5.31 GHz 1001 pts 8.0 MHz/ Span 80.0 MHz

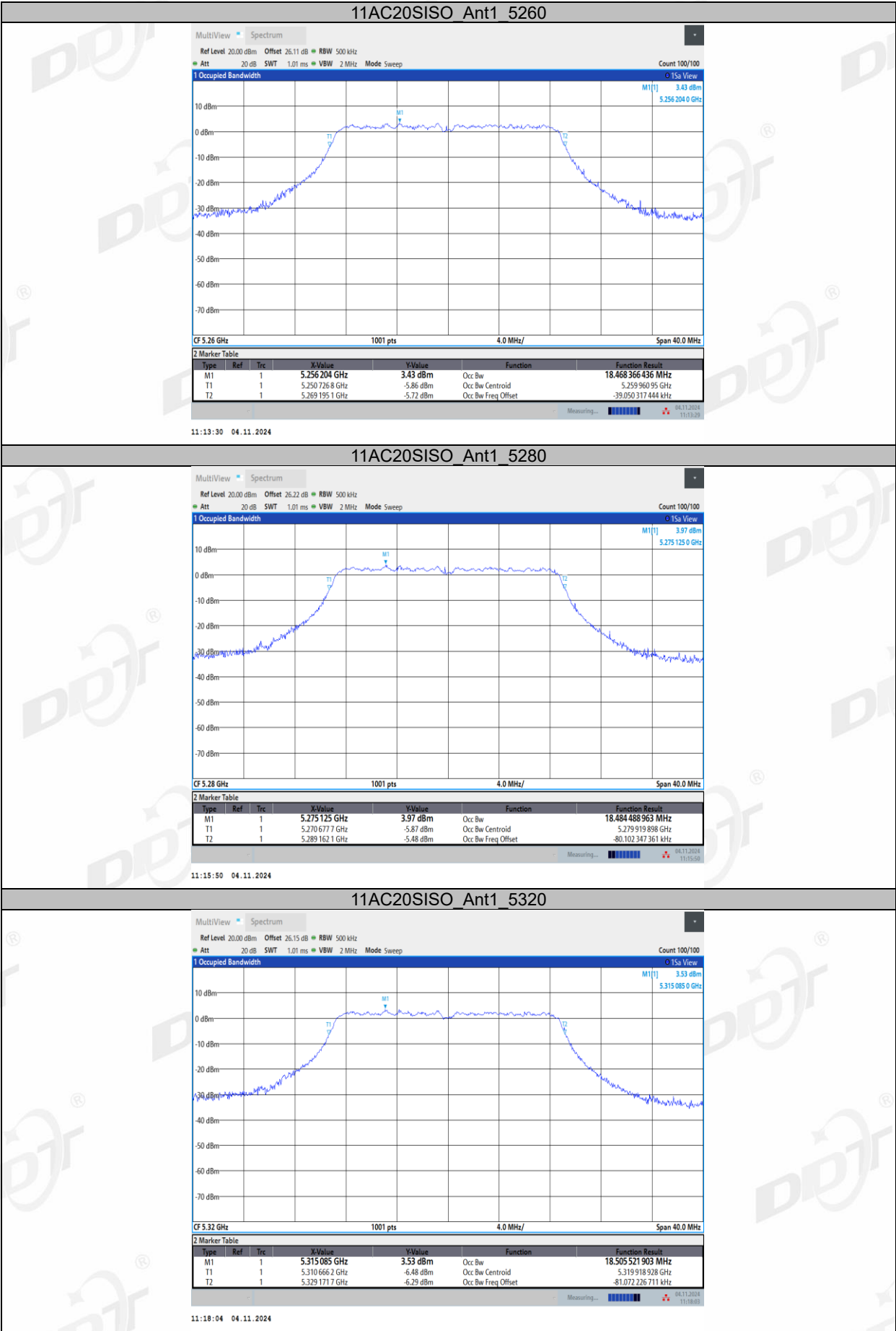
2 Marker Table

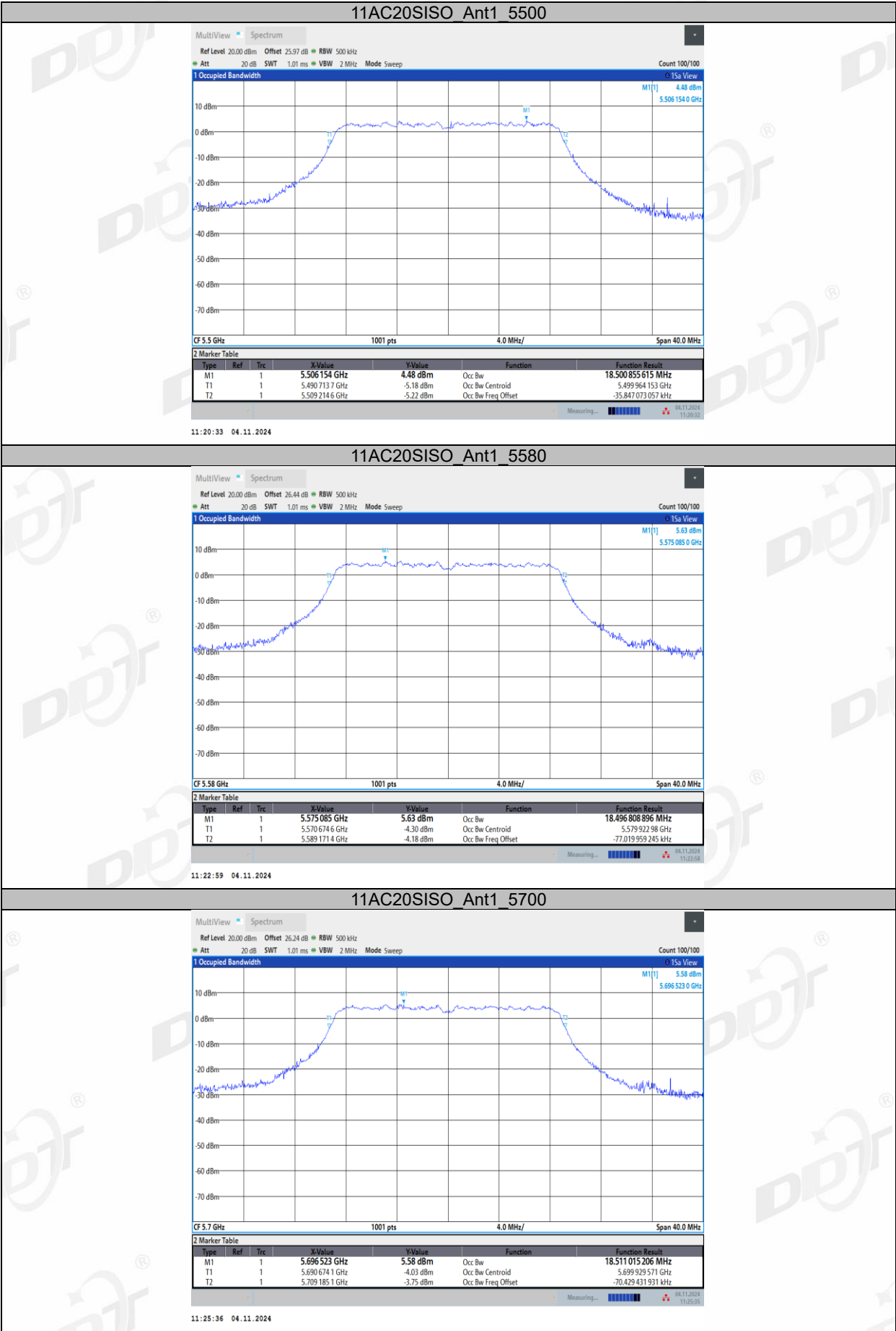
10:09:42 04.11.2024

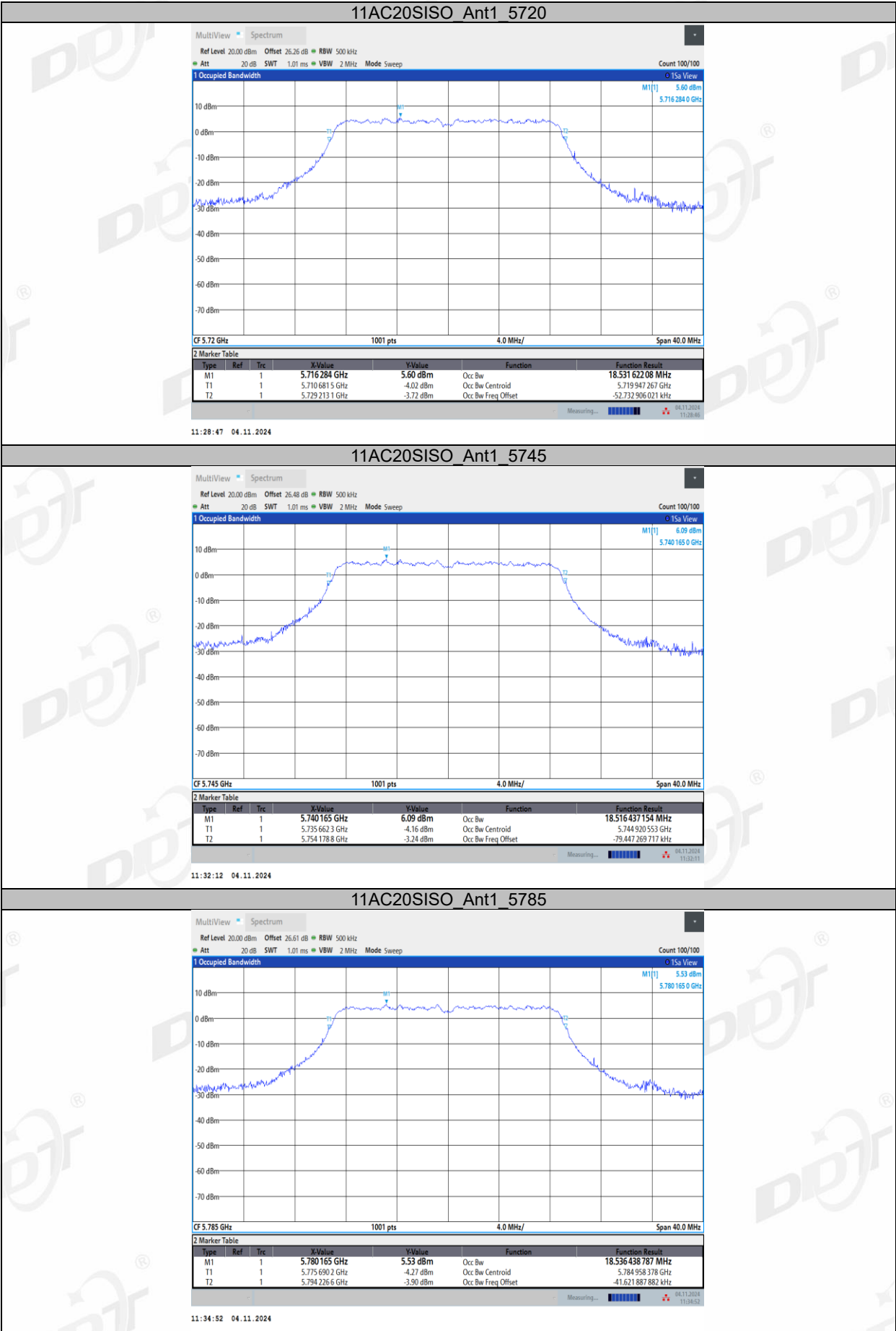


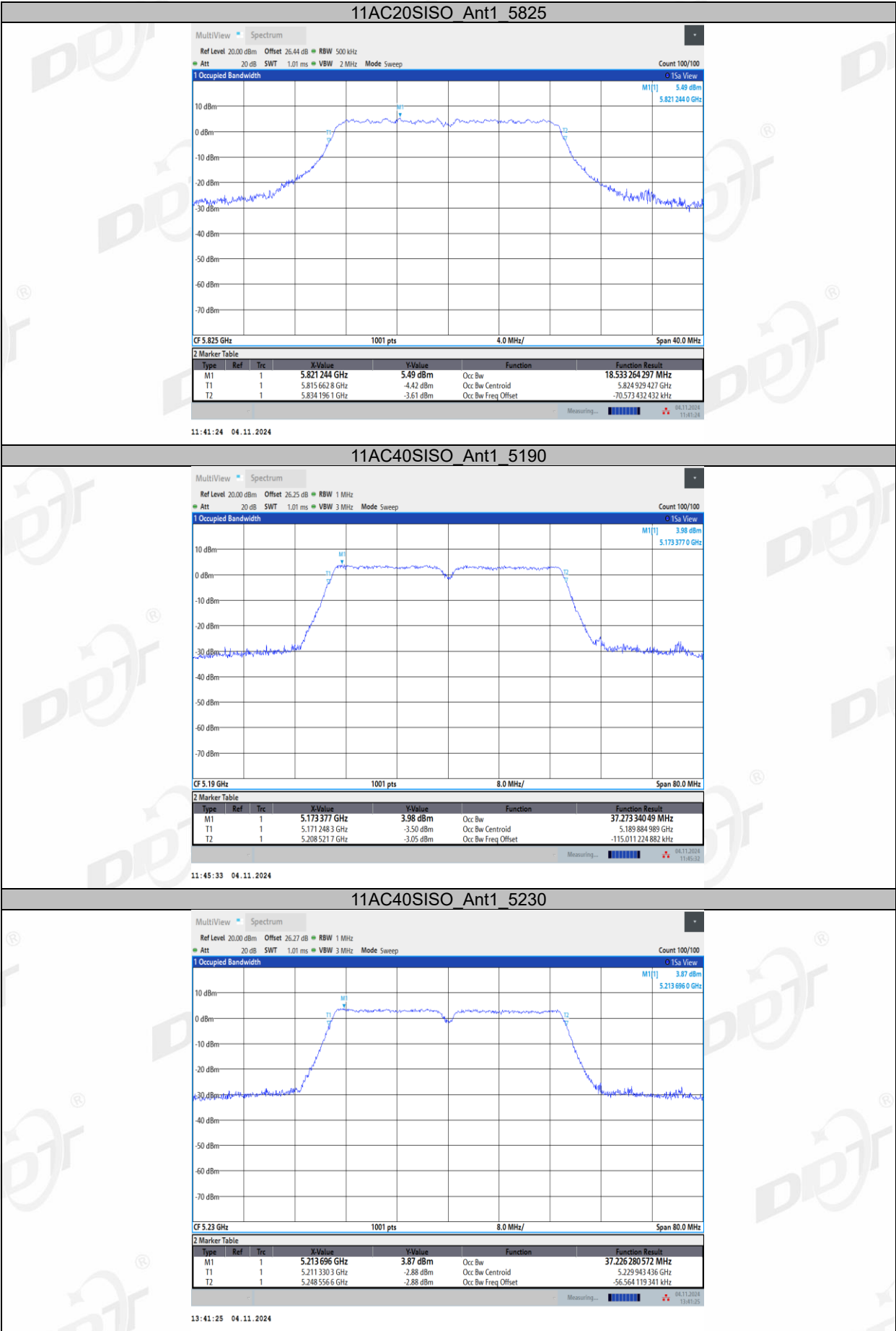


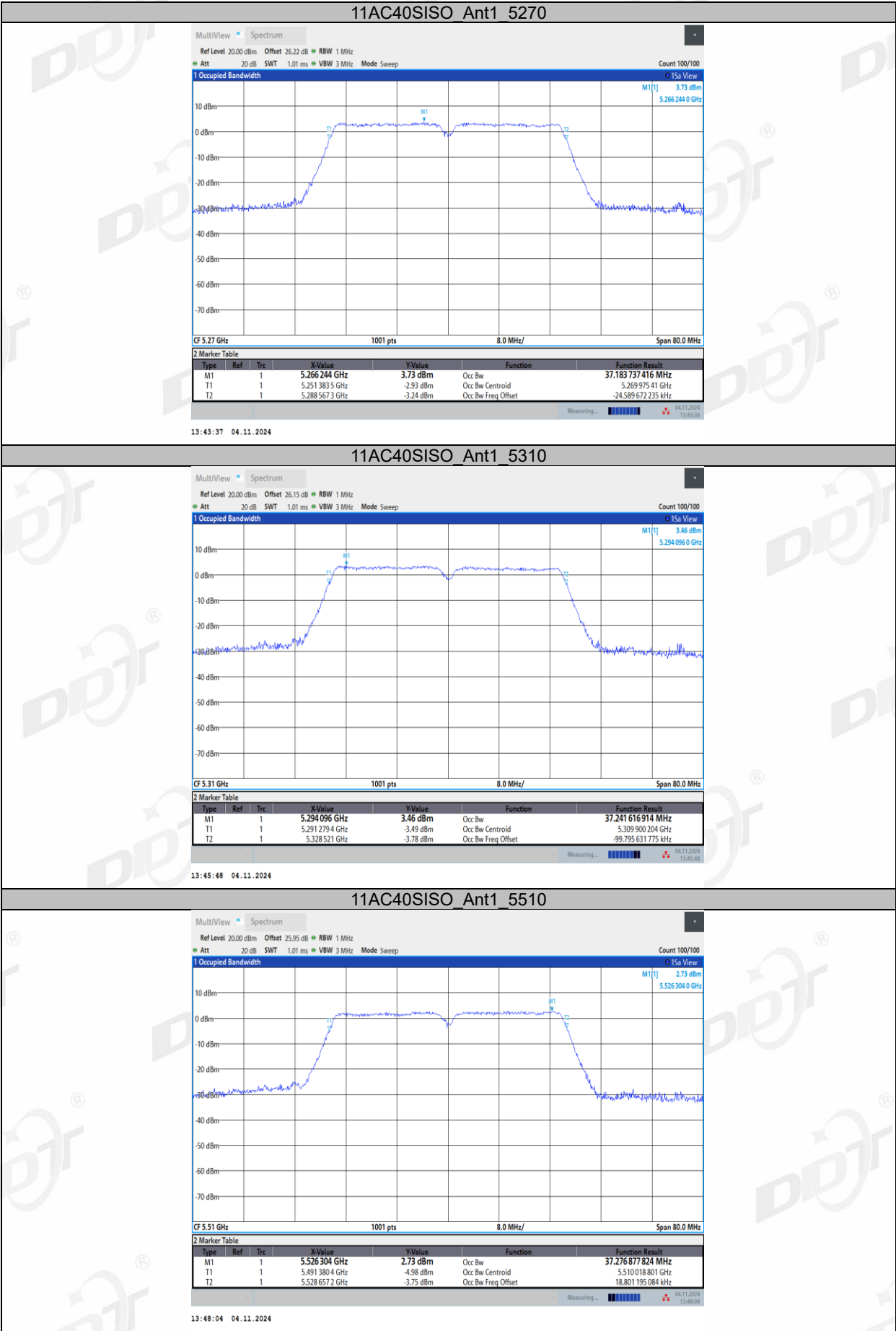


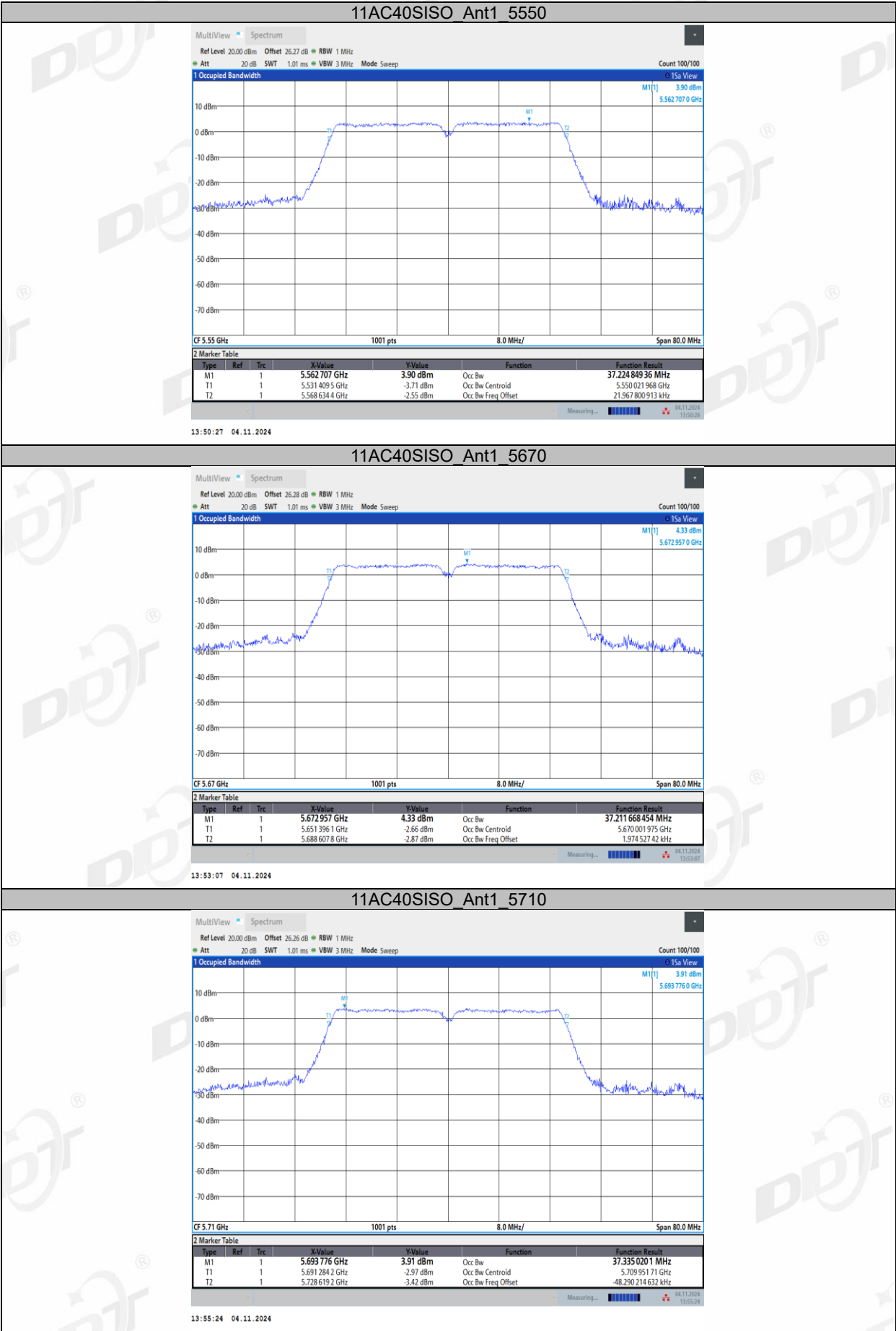


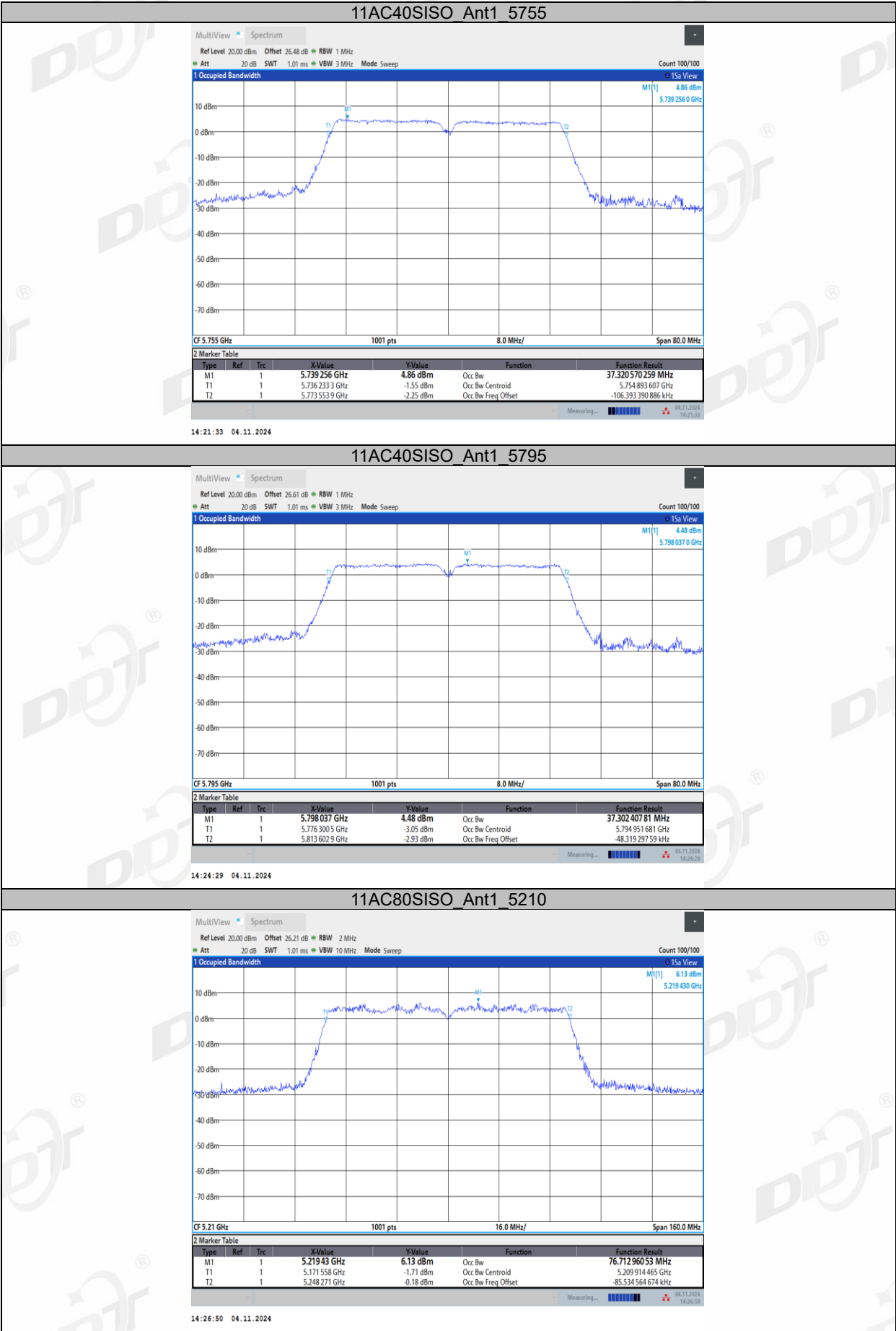


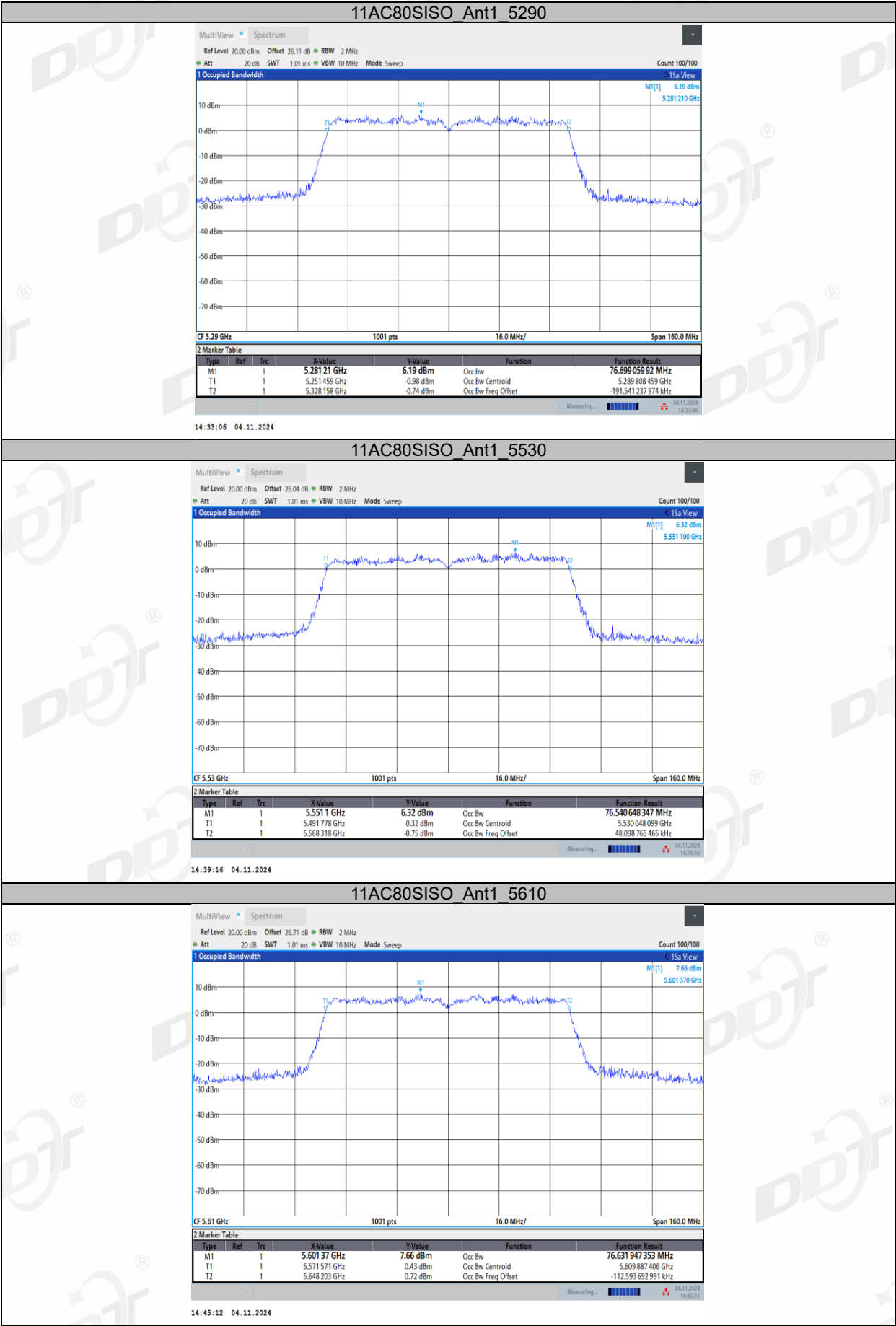


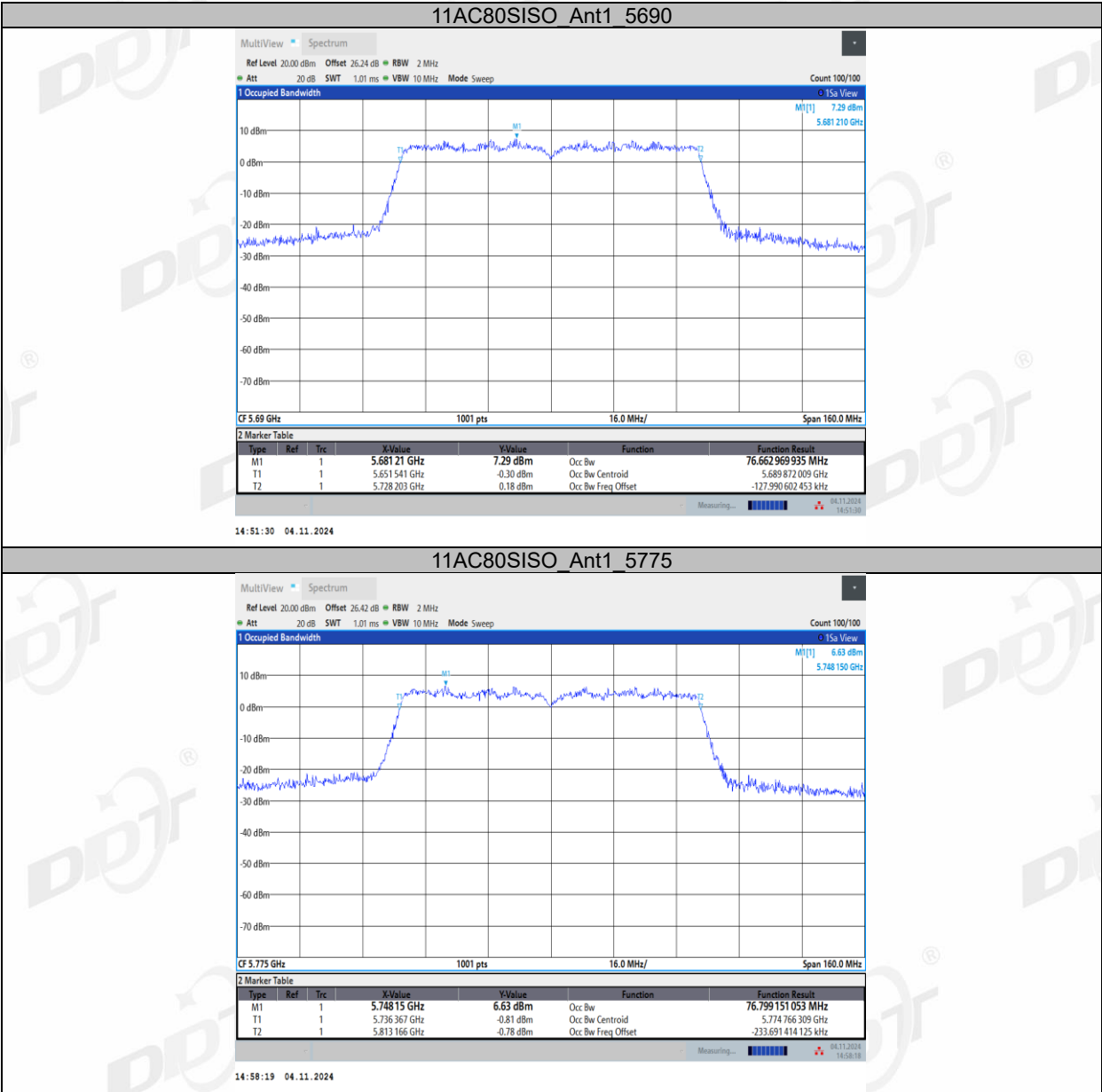






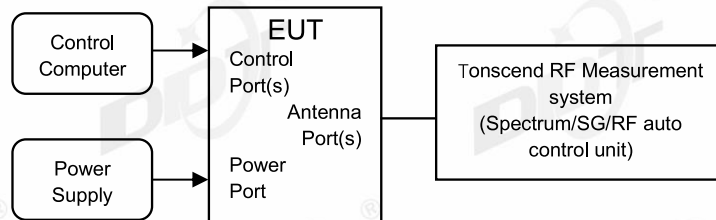






7. Duty Cycle

7.1. Block diagram of test setup



7.2. Limit

Just for Report.

7.3. Test procedure

- (1) Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator, The cable loss and attenuator loss have been put into spectrum analyzer as amplitude offset.
set the Spectrum Analyzer as below:

Centre Frequency: The centre frequency of the middle hopping channel.

Resolution BW: 10 MHz.

Video BW: 10 MHz.

Span: Zero span.

Detector: Peak.

Trace Mode: Clear Write.

Sweep: Video Trigger

- (2) When the trace is complete, measure the sending time of 1 burst and the duty cycle of 1 burst cycle.
- (3) Calculate dwell time follow below formula:
Duty cycle= Pulse's on time / Burst cycle

7.4. Test result

Test Engineer:	Zoe	Test Site:	RF Measurement System 4#
Ambient Condition:	23.6℃, 48.4%RH	Test Date:	2024.10.23-2024.11.04
Test Power Supply:	DC 12V	Sample Number:	S24101411-001

Test Mode	Antenna	Frequency [MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
11A	Ant1	5180	2.06	2.10	98.10
		5200	2.07	2.11	98.10
		5240	2.06	2.10	98.10
		5260	2.06	2.10	98.10
		5280	2.07	2.10	98.57
		5320	2.07	2.10	98.57
		5500	2.06	2.10	98.10
		5580	2.07	2.10	98.57
		5700	2.06	2.10	98.10
		5720	2.07	2.11	98.10
		5745	2.07	2.10	98.57
		5785	2.07	2.10	98.57
		5825	2.07	2.10	98.57
11N20SISO	Ant1	5180	1.92	1.96	97.96
		5200	1.93	1.96	98.47
		5240	1.92	1.96	97.96
		5260	1.92	1.96	97.96
		5280	1.93	1.97	97.97
		5320	1.92	1.96	97.96
		5500	1.92	1.96	97.96
		5580	1.92	1.96	97.96
		5700	1.93	1.96	98.47
		5720	1.93	1.97	97.97
		5745	1.92	1.96	97.96

		5785	1.93	1.96	98.47
		5825	1.93	1.96	98.47
11N40SISO	Ant1	5190	0.95	1.22	77.87
		5230	0.95	1.22	77.87
		5270	0.95	1.21	78.51
		5310	0.95	1.22	77.87
		5510	0.95	1.22	77.87
		5550	0.95	1.21	78.51
		5670	0.95	1.22	77.87
		5710	0.95	1.21	78.51
		5755	0.95	1.22	77.87
		5795	0.95	1.22	77.87
11AC20SISO	Ant1	5180	1.93	2.20	87.73
		5200	1.94	2.20	88.18
		5240	1.94	2.20	88.18
		5260	1.94	2.21	87.78
		5280	1.93	2.20	87.73
		5320	1.93	2.20	87.73
		5500	1.94	2.20	88.18
		5580	1.93	2.20	87.73
		5700	1.94	2.20	88.18
		5720	1.94	2.20	88.18
		5745	1.94	2.20	88.18
		5785	1.93	2.20	87.73
		5825	1.94	2.21	87.78
11AC40SISO	Ant1	5190	0.95	1.22	77.87
		5230	0.95	1.22	77.87
		5270	0.95	1.22	77.87
		5310	0.96	1.22	78.69
		5510	0.95	1.22	77.87

		5550	0.95	1.22	77.87
		5670	0.95	1.22	77.87
		5710	0.95	1.22	77.87
		5755	0.95	1.22	77.87
		5795	0.95	1.22	77.87
11AC80SISO	Ant1	5210	0.46	0.84	54.76
		5290	0.47	0.85	55.29
		5530	0.46	0.84	54.76
		5610	0.46	0.84	54.76
		5690	0.46	0.84	54.76
		5775	0.47	0.85	55.29

7.5. Test graphs

