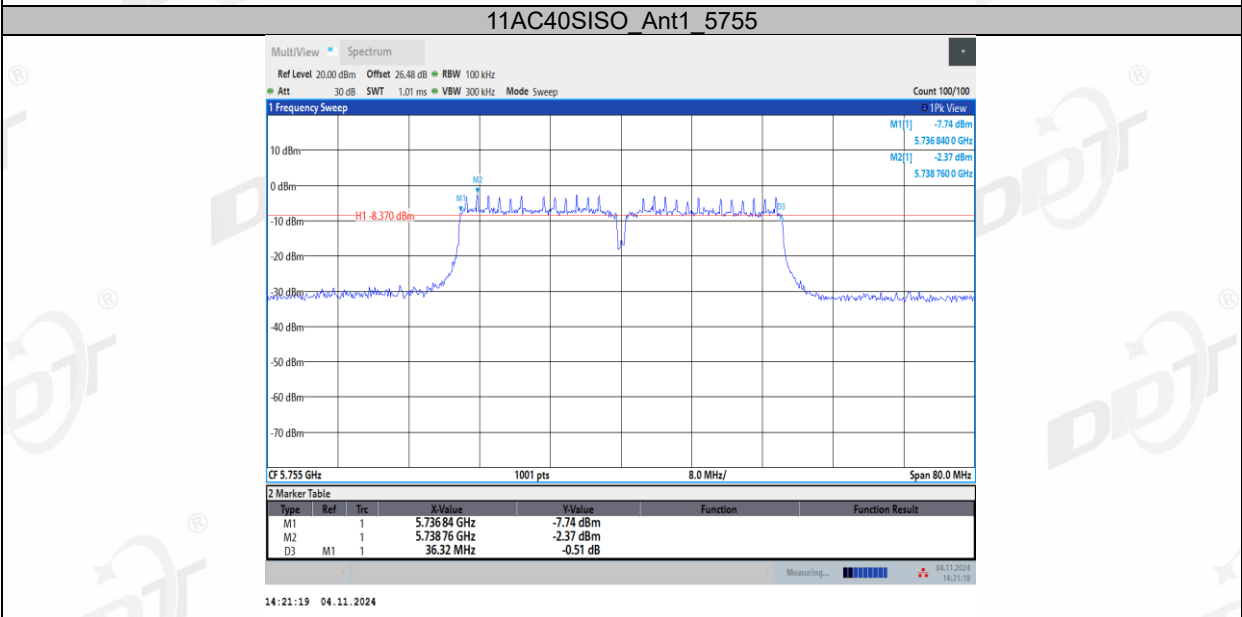
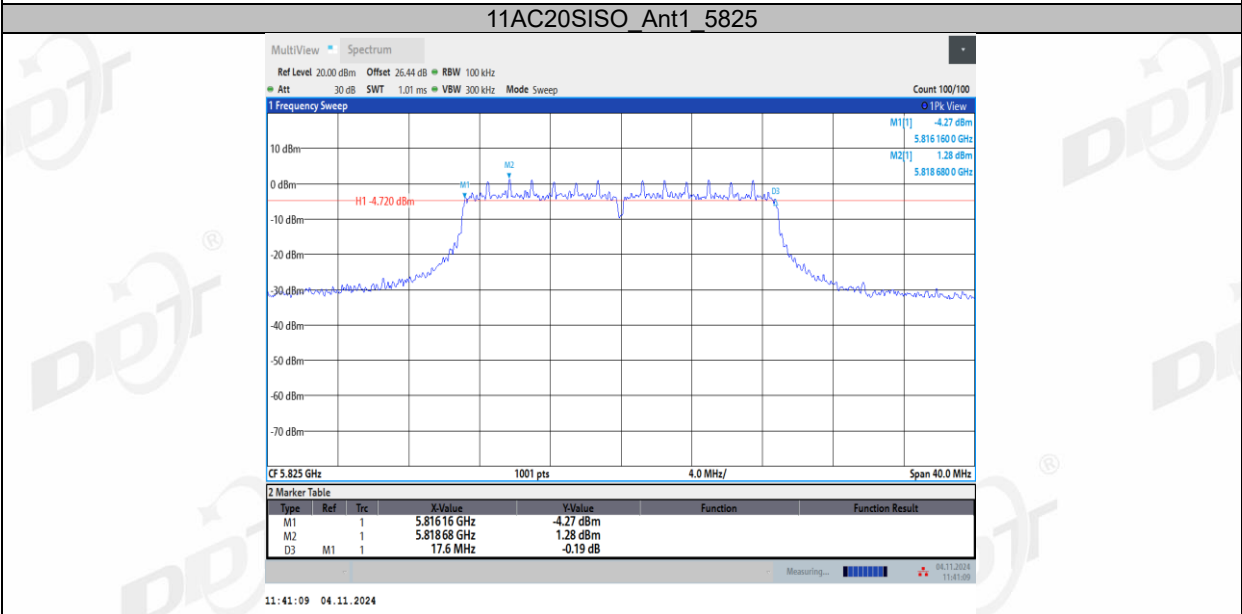
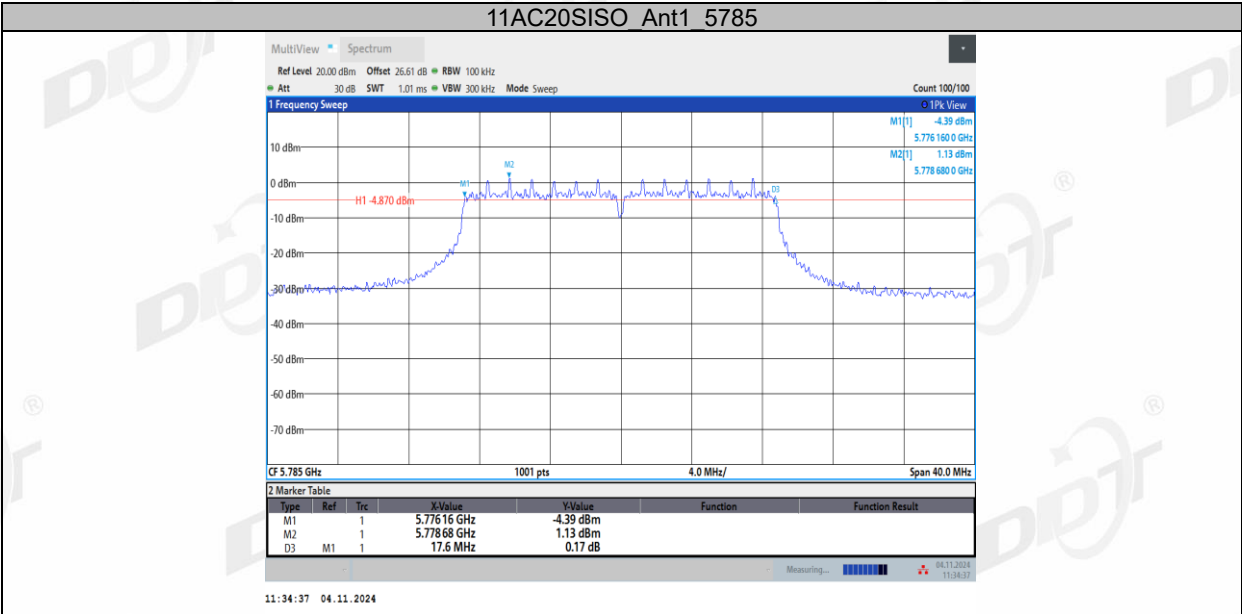
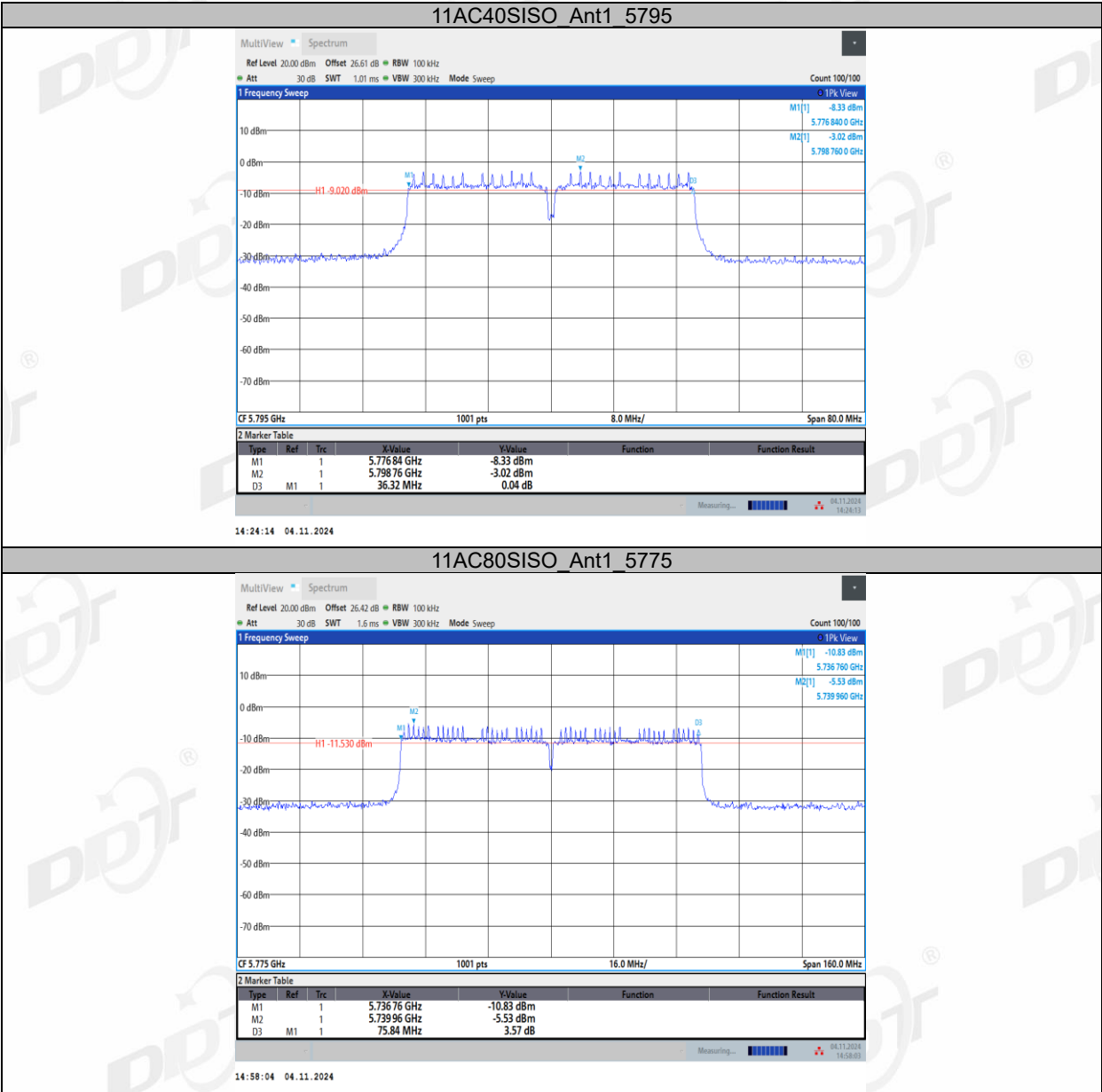
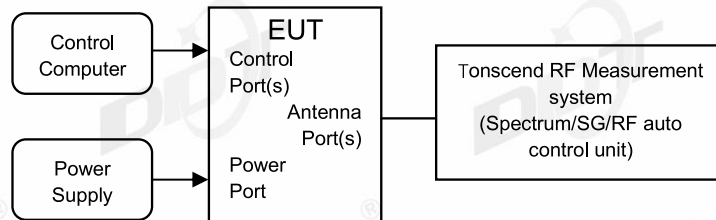






## 6. 99% Bandwidth

### 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

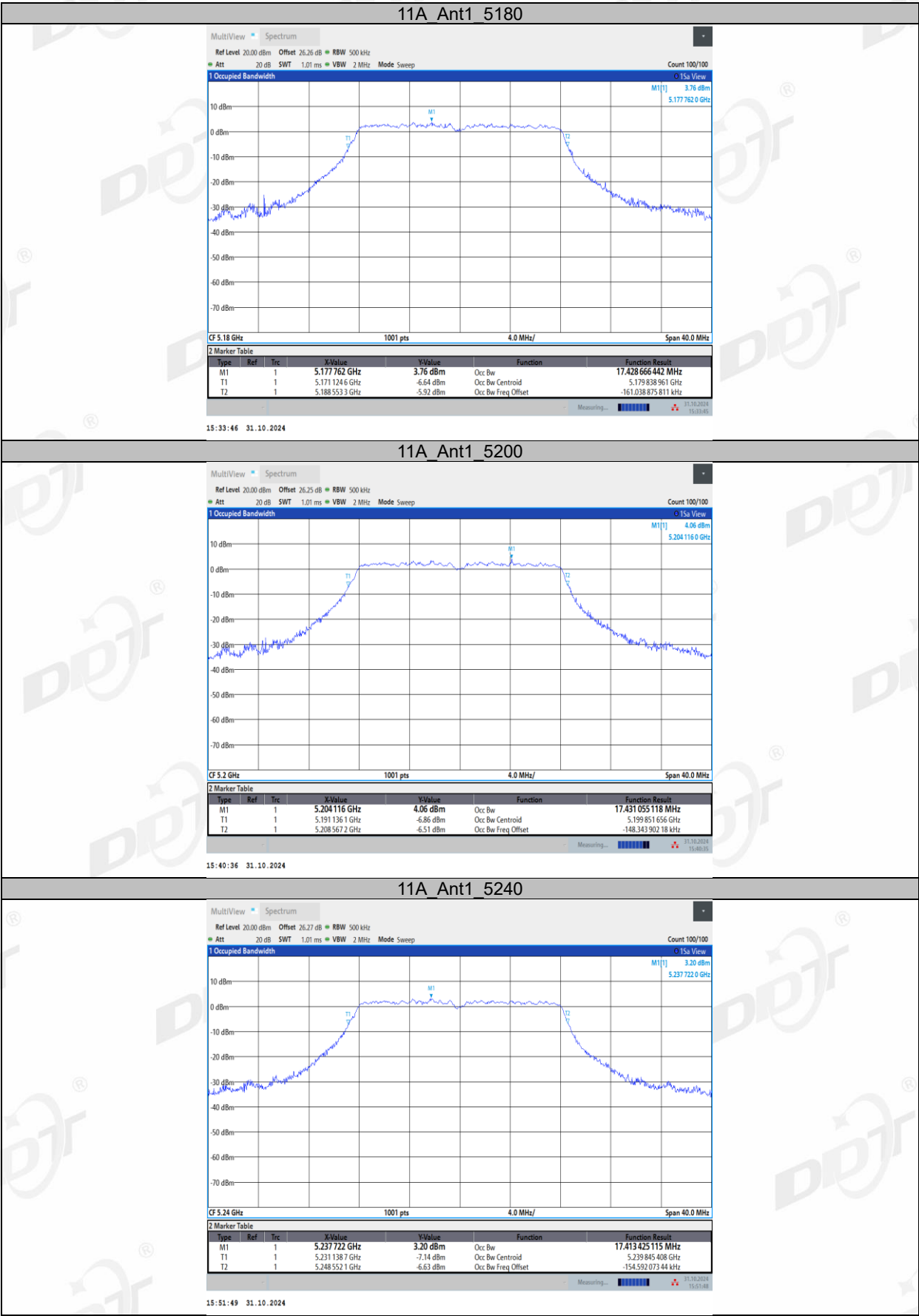
|                    |                |                |                          |
|--------------------|----------------|----------------|--------------------------|
| Test Engineer:     | Zoe            | Test Site:     | RF Measurement System 4# |
| Ambient Condition: | 23.6℃, 48.4%RH | Test Date: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

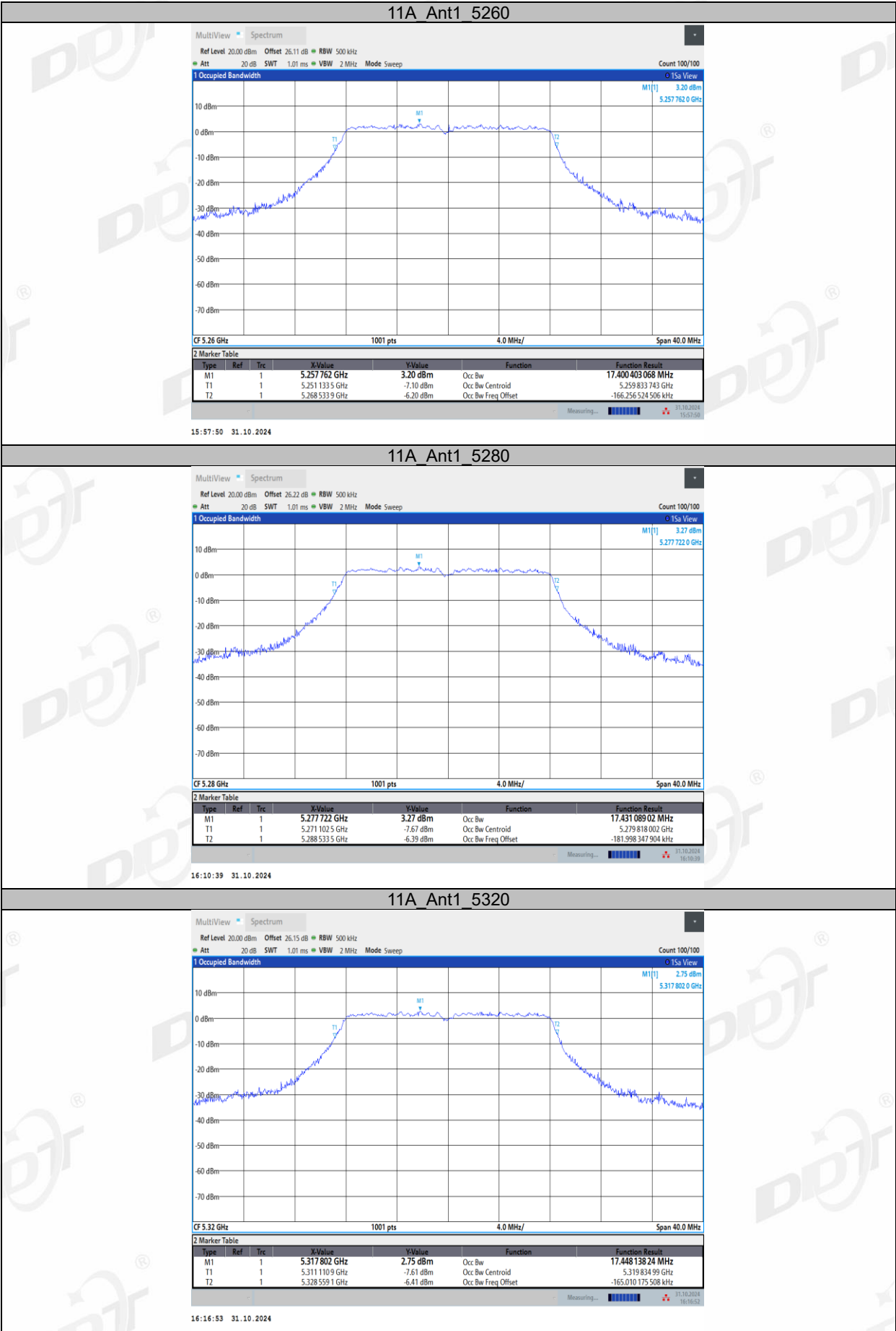
| Test Mode | Antenna | Frequency [MHz] | OCB [MHz] | FL [MHz]  | FH [MHz]  | Limit [MHz] | Verdict |
|-----------|---------|-----------------|-----------|-----------|-----------|-------------|---------|
| 11A       | Ant1    | 5180            | 17.429    | 5171.1246 | 5188.5533 | ---         | ---     |
|           |         | 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 | ---         | ---     |

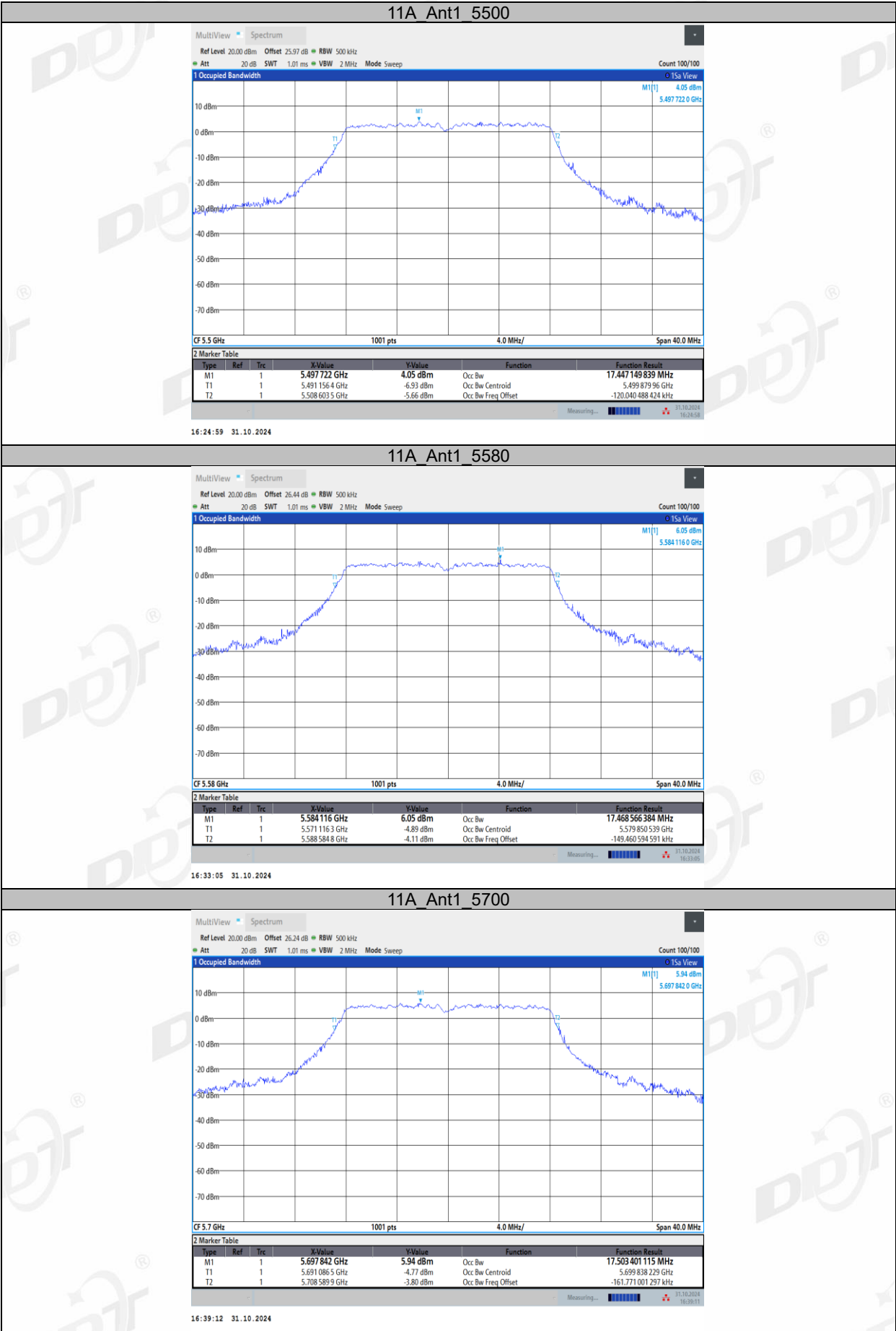
|            |      |              |        |           |           |     |     |
|------------|------|--------------|--------|-----------|-----------|-----|-----|
|            |      | 5720         | 18.509 | 5710.6876 | 5729.1964 | --- | --- |
|            |      | 5720_UNII-2C | 14.312 | 5710.6876 | 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 | --- | --- |

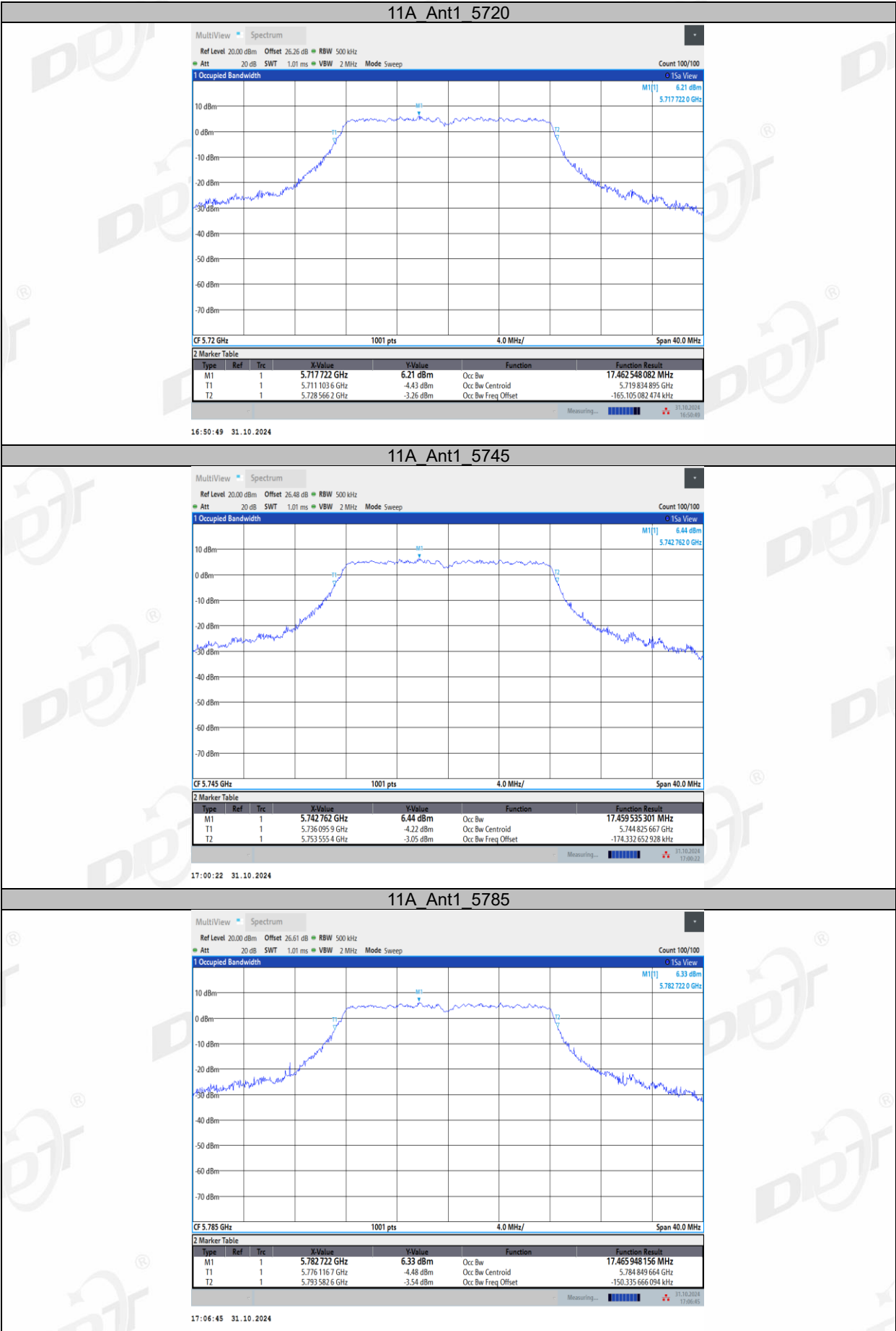
|            |      |              |        |           |           |     |     |
|------------|------|--------------|--------|-----------|-----------|-----|-----|
|            |      | 5745         | 18.516 | 5735.6623 | 5754.1788 | --- | --- |
|            |      | 5785         | 18.536 | 5775.6902 | 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 | --- | --- |

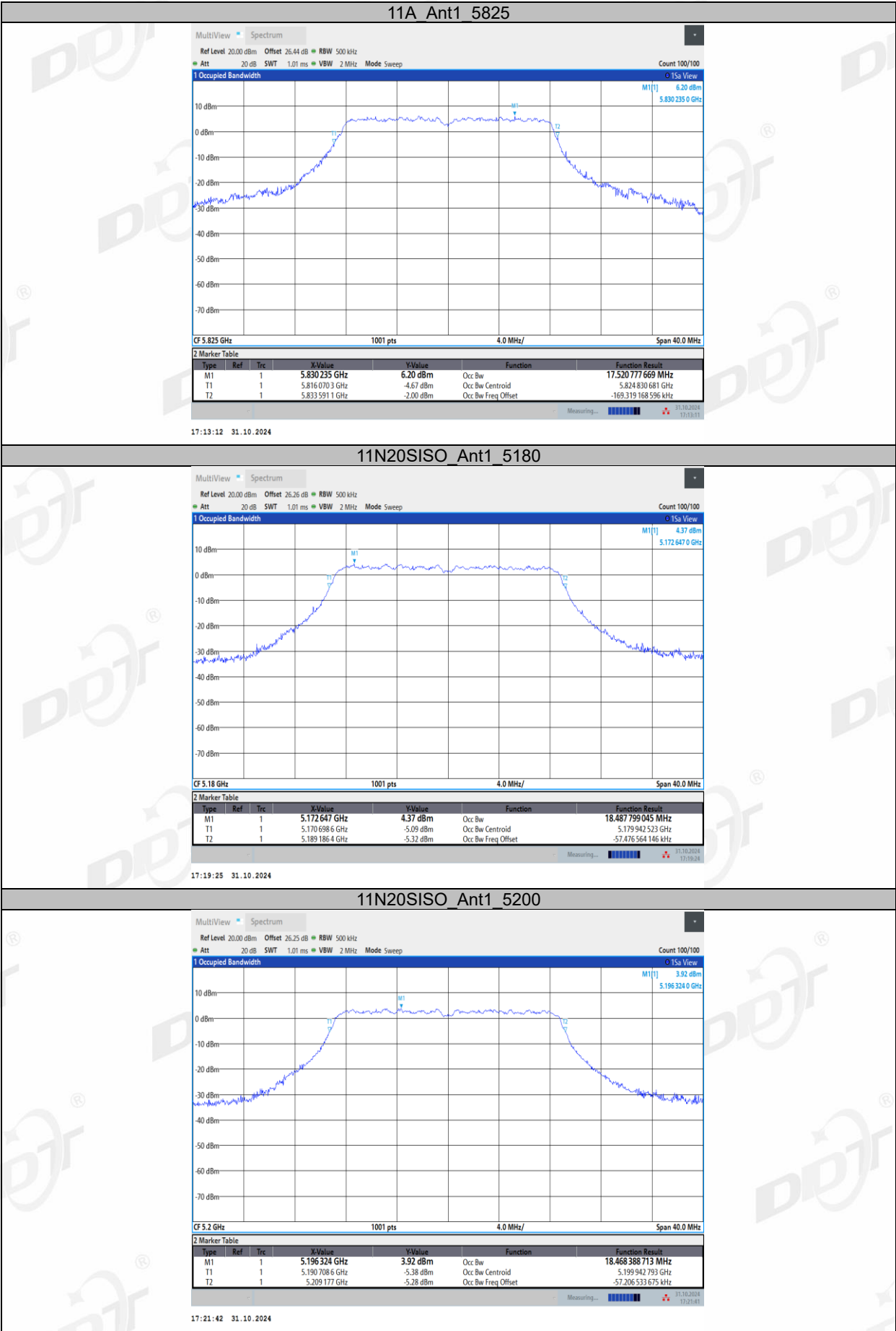
6.5. Test graphs

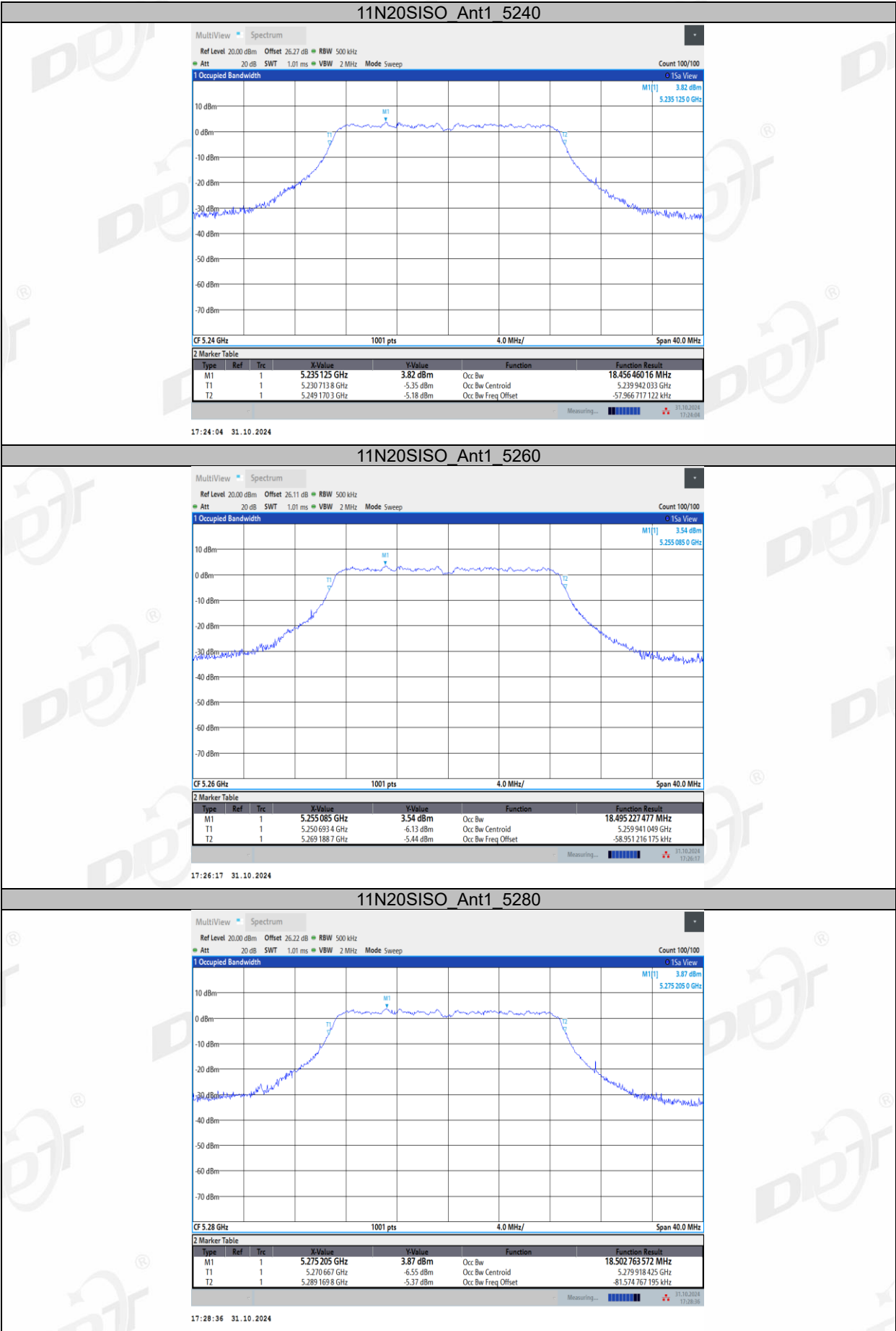


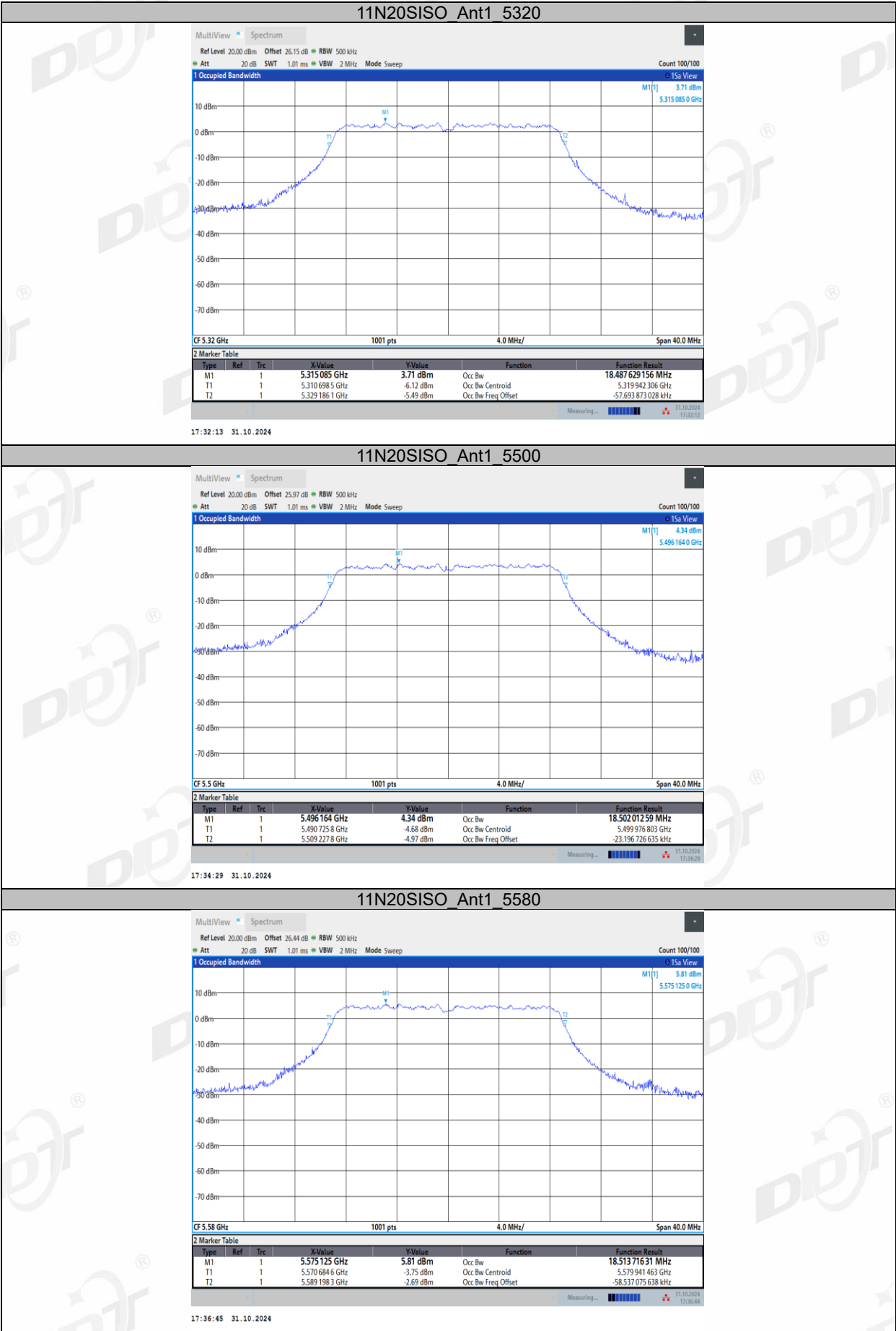


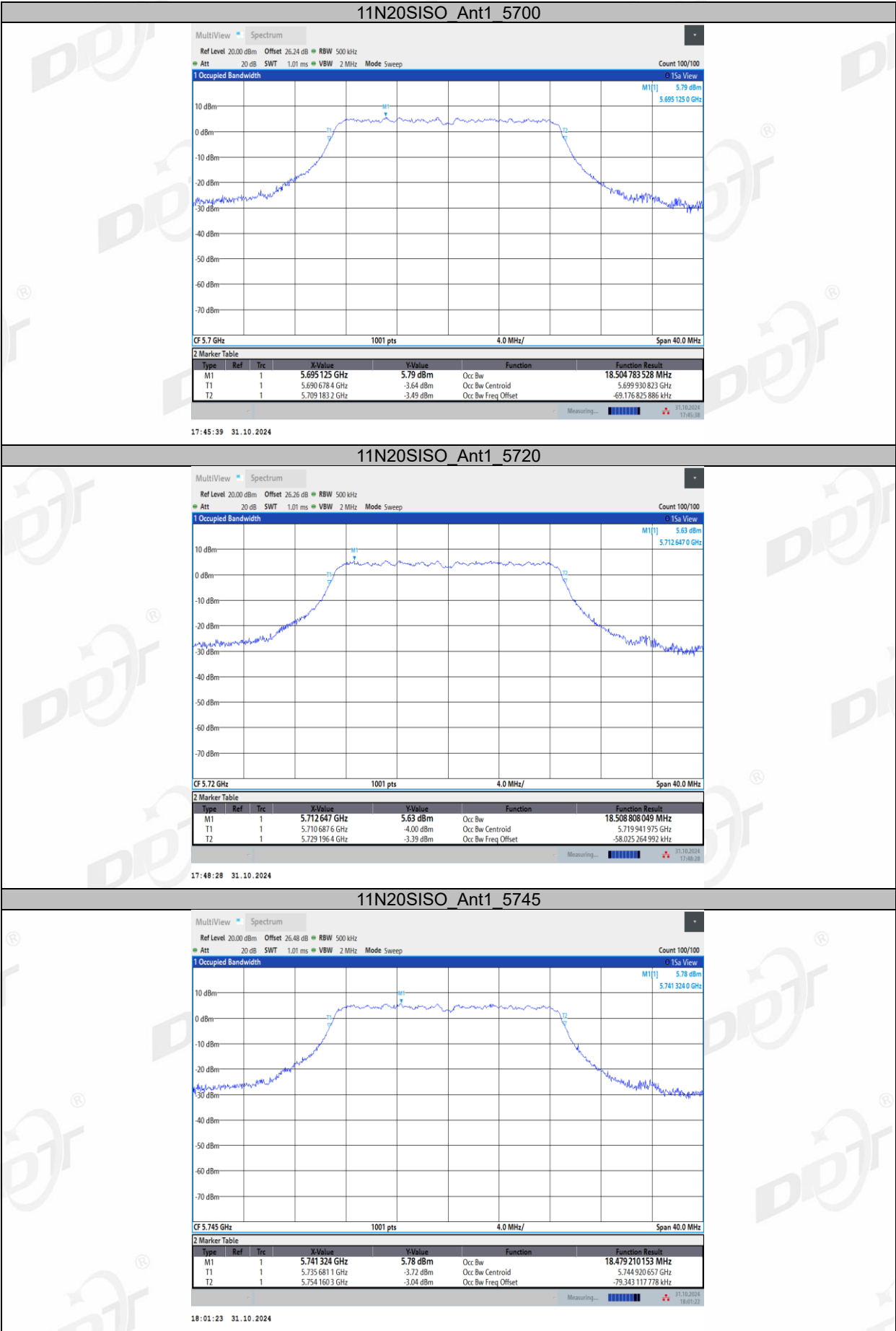


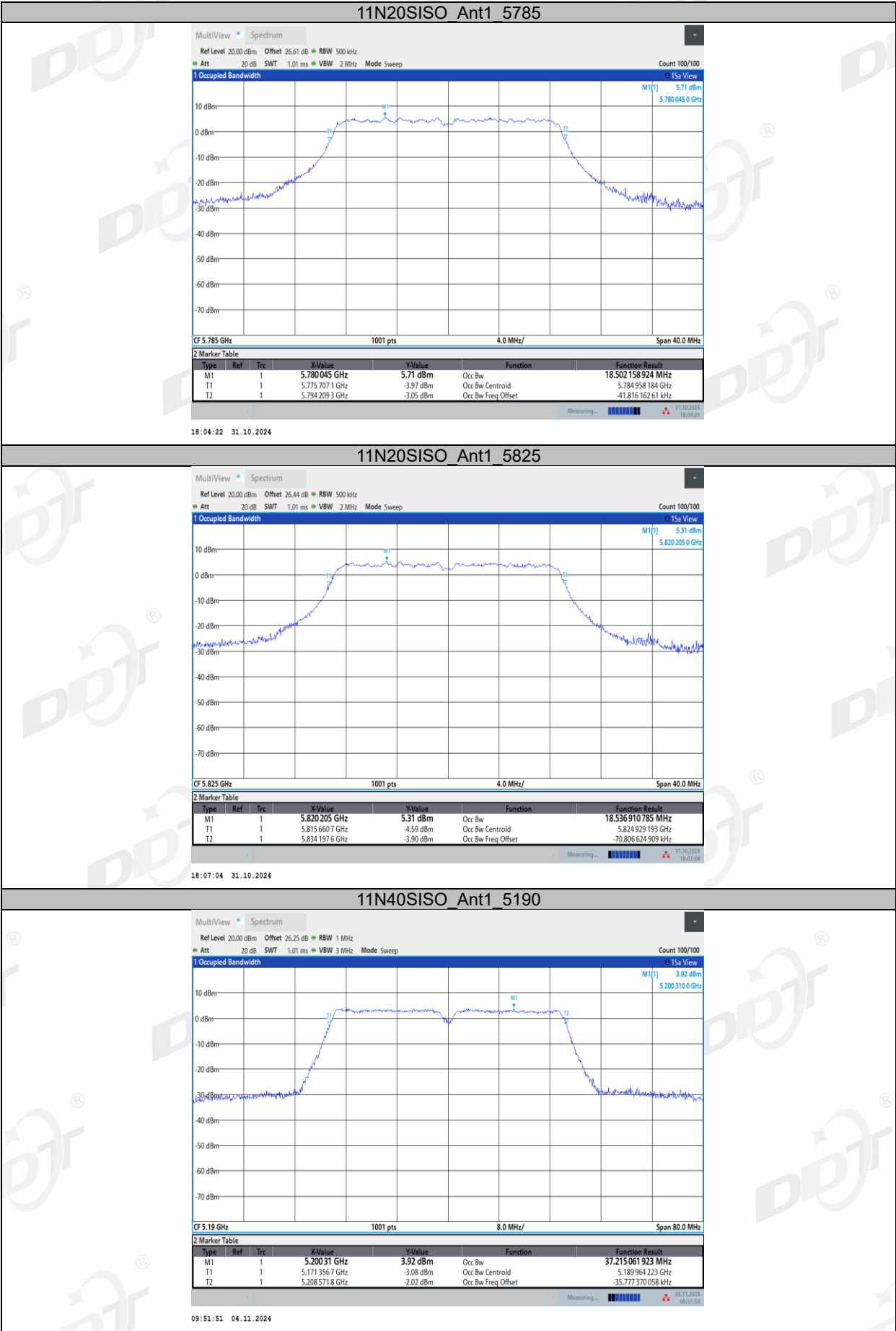


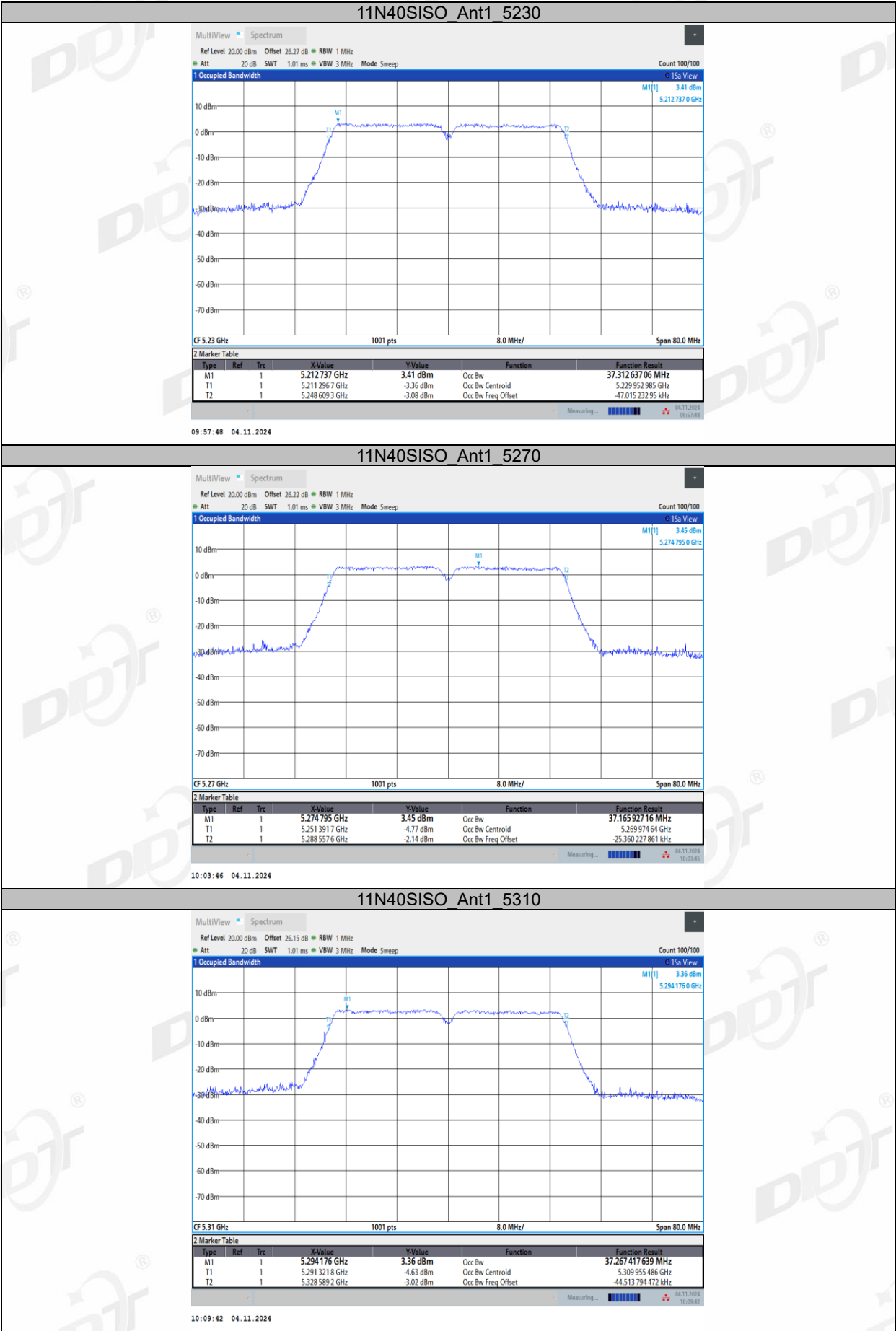


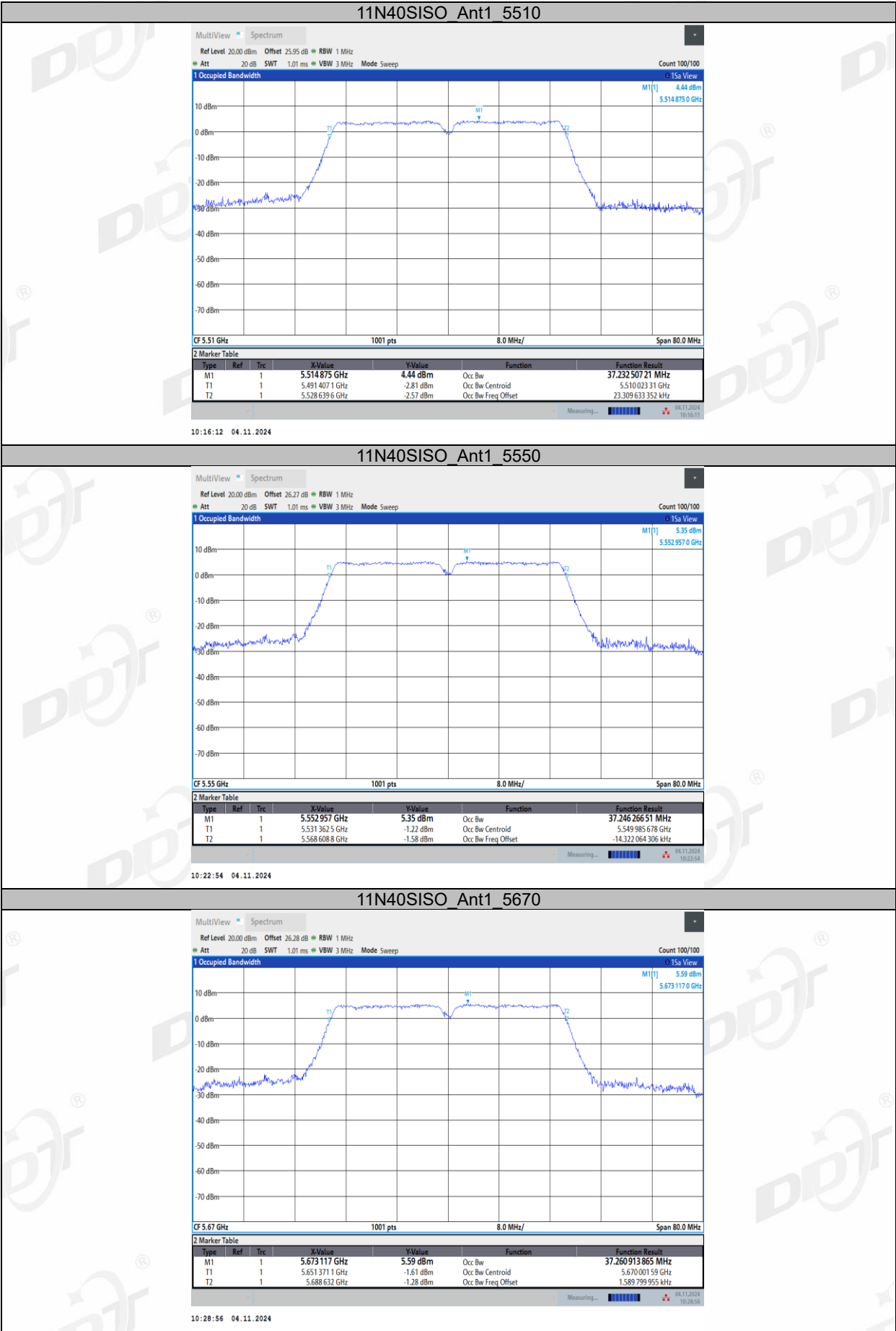


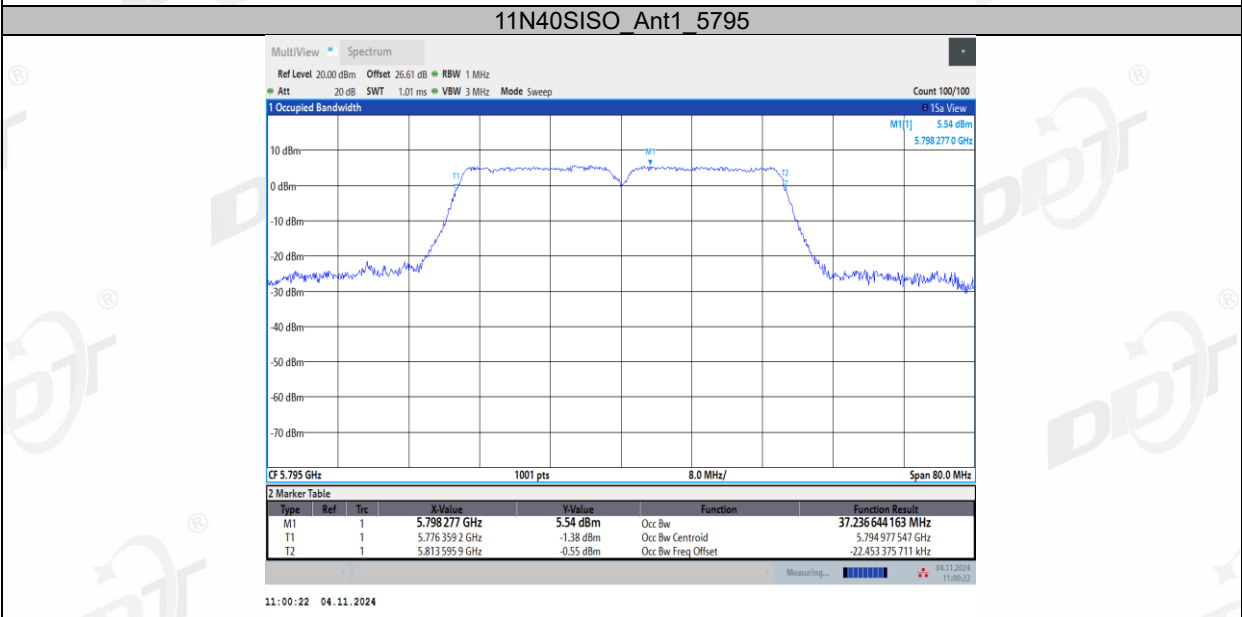
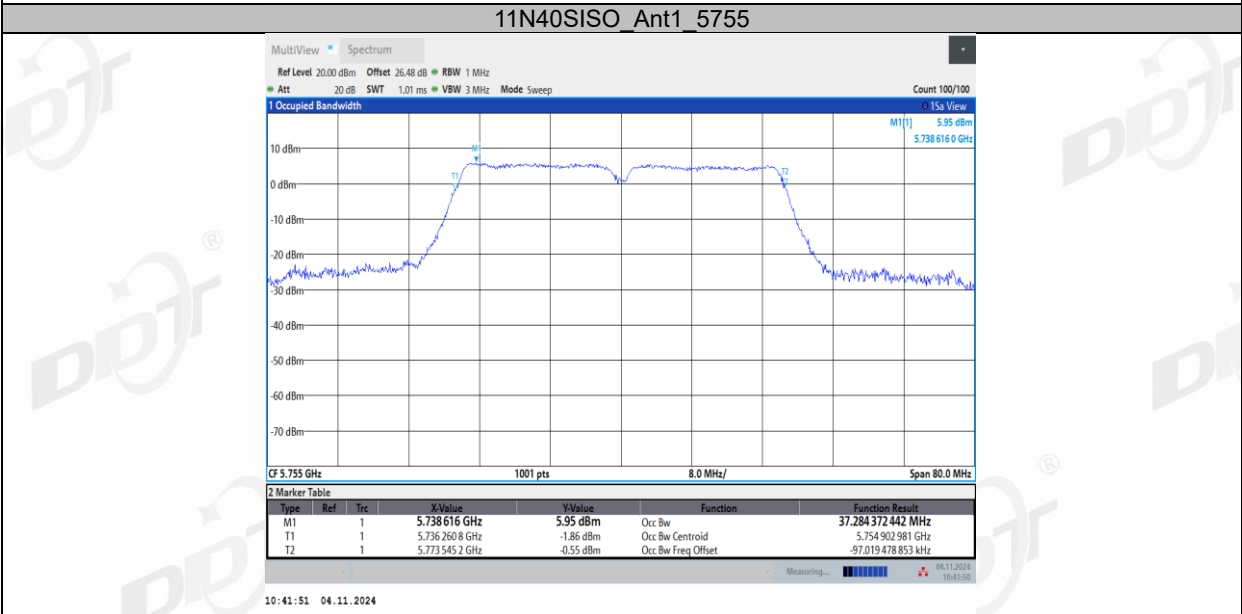
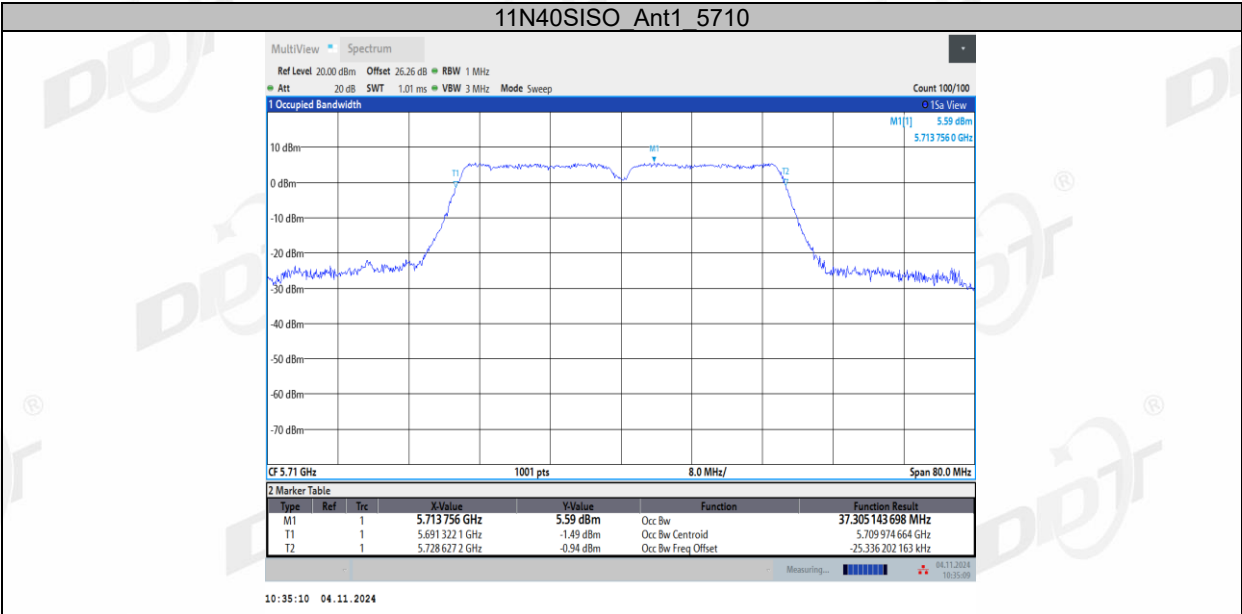


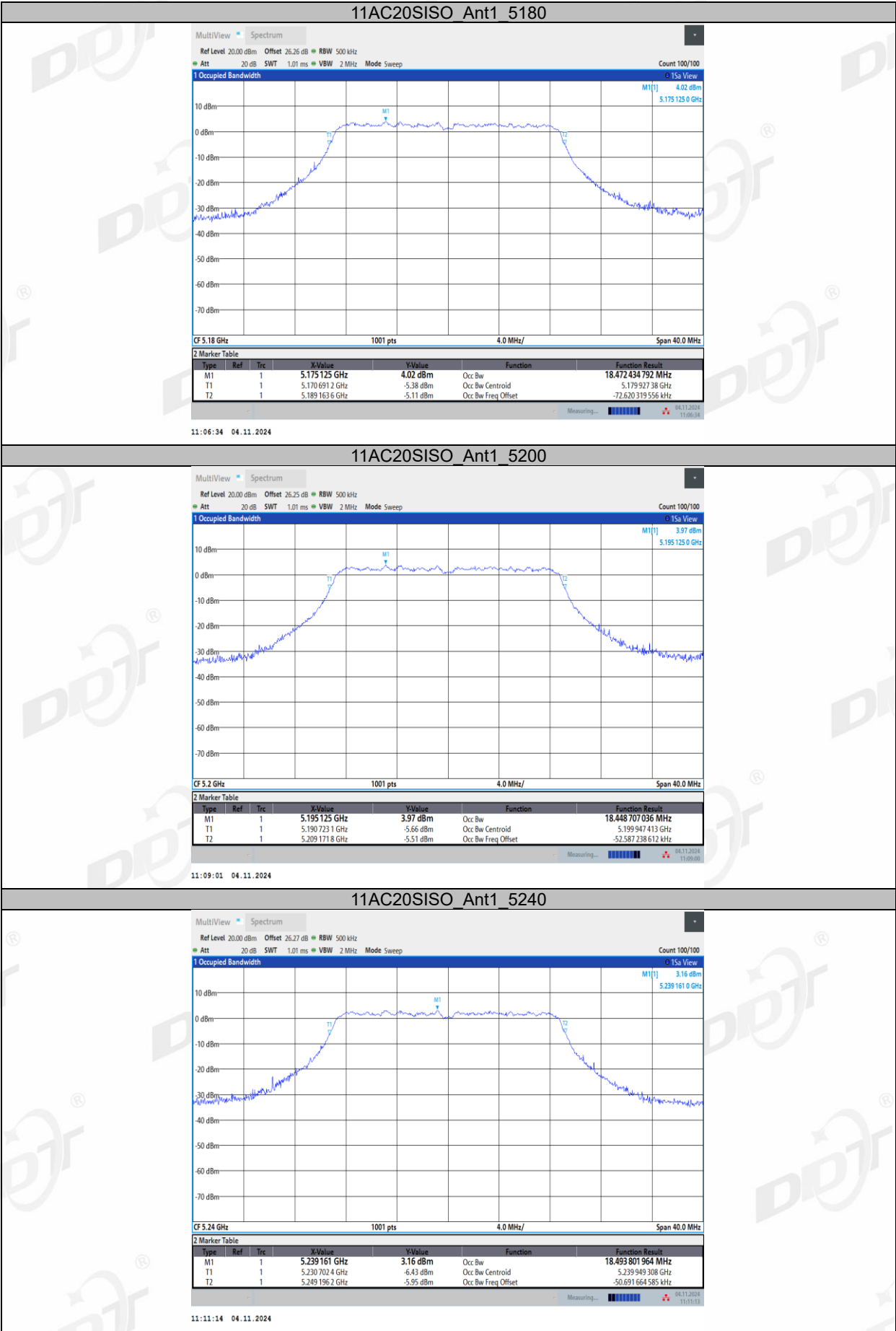












11AC20SISO\_Ant1\_5200

MultiView Spectrum

Ref Level 20.00 dBm Offset 26.25 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 5.2 GHz

1001 pts

4.0 MHz/

Span 40.0 MHz

2 Marker Table

| Type | Ref | Trc | X-Value       | Y-Value   | Function           | Function Result   |
|------|-----|-----|---------------|-----------|--------------------|-------------------|
| M1   | 1   |     | 5.195125 GHz  | 3.97 dBm  | Occ BW             | 18.448707036 MHz  |
| T1   | 1   |     | 5.1907231 GHz | -5.66 dBm | Occ BW Centroid    | 5.199947413 GHz   |
| T2   | 1   |     | 5.2091718 GHz | -5.51 dBm | Occ BW Freq Offset | -52.587238612 kHz |

Measuring...

04.11.2024 11:09:01

11:09:01 04.11.2024

11AC20SISO\_Ant1\_5240

MultiView Spectrum

Ref Level 20.00 dBm Offset 26.27 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 5.24 GHz

1001 pts

4.0 MHz/

Span 40.0 MHz

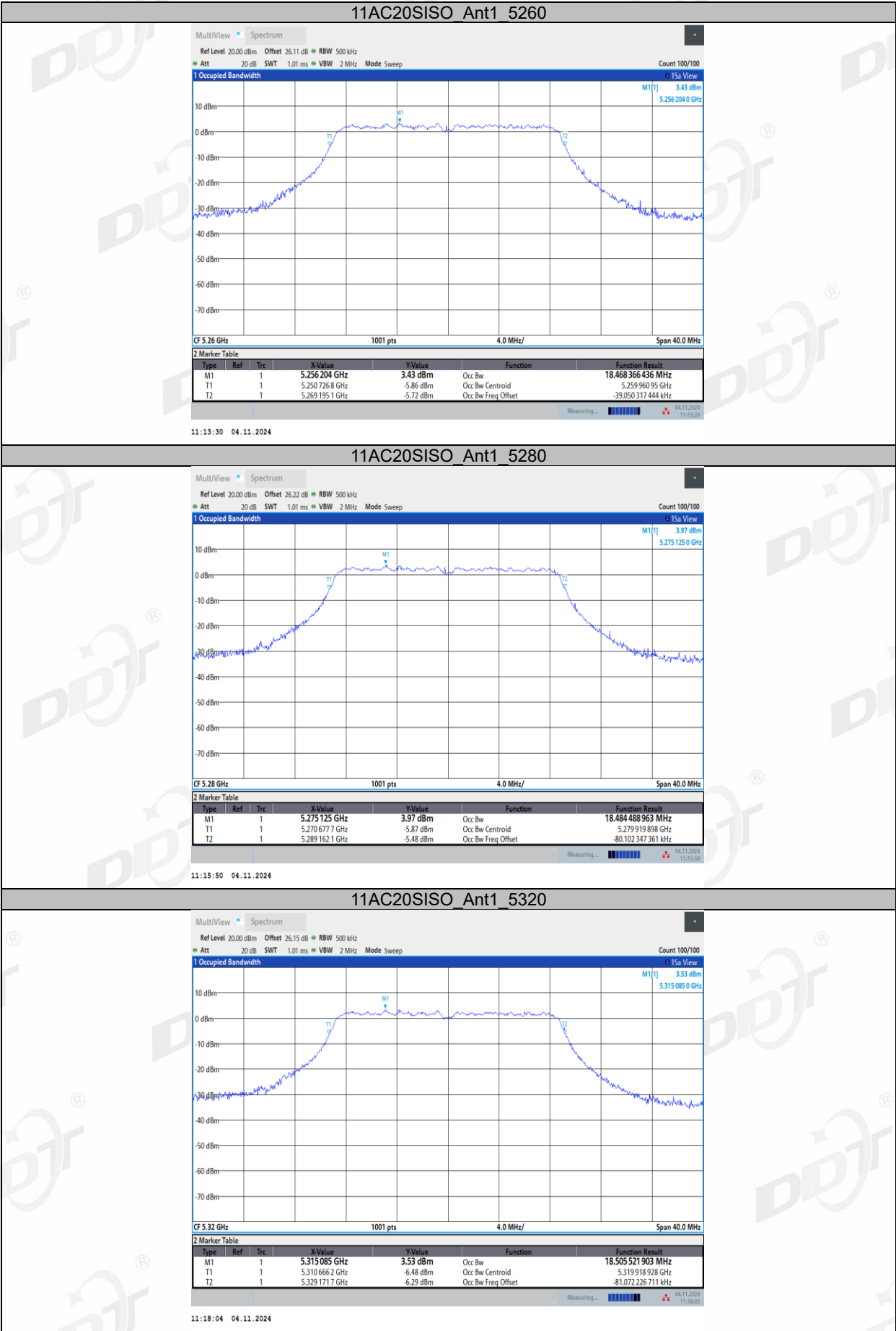
2 Marker Table

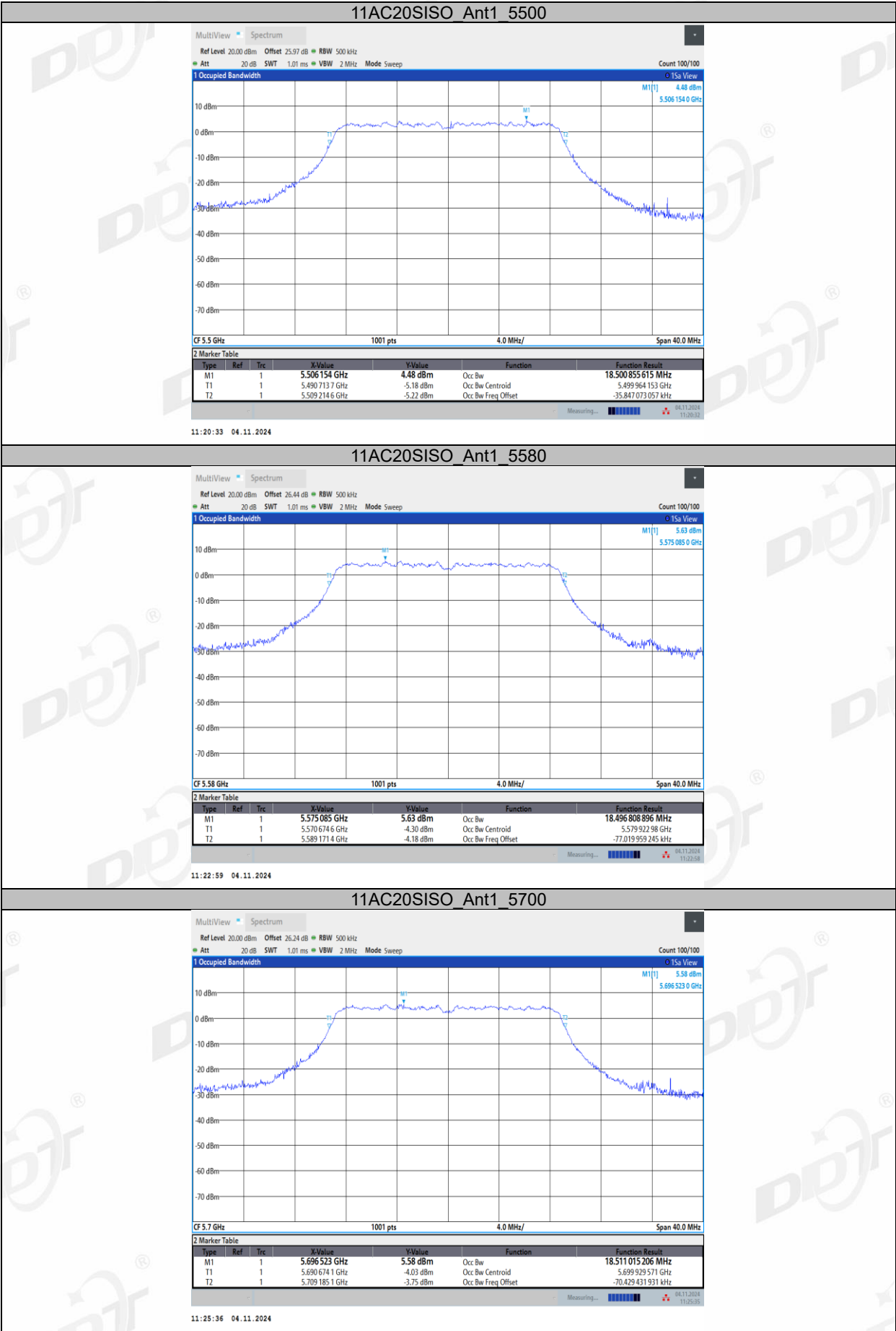
| Type | Ref | Trc | X-Value       | Y-Value   | Function           | Function Result   |
|------|-----|-----|---------------|-----------|--------------------|-------------------|
| M1   | 1   |     | 5.239161 GHz  | 3.16 dBm  | Occ BW             | 18.493801964 MHz  |
| T1   | 1   |     | 5.2307024 GHz | -6.43 dBm | Occ BW Centroid    | 5.239949308 GHz   |
| T2   | 1   |     | 5.2491962 GHz | -5.95 dBm | Occ BW Freq Offset | -50.691664585 kHz |

Measuring...

04.11.2024 11:11:14

11:11:14 04.11.2024





11:20:33 04.11.2024

11AC20SISO\_Ant1\_5580

MultiView Spectrum

Ref Level 20.00 dBm Offset 26.44 dB RBW 500 kHz  
Att 20 dB SWT 1.01 ms VBW 2 MHz Mode Sweep

Count 100/100

1 Occupied Bandwidth

CF 5.58 GHz 1001 pts 4.0 MHz/ Span 40.0 MHz

2 Marker Table

Measuring... 04.11.2024 11:22:58

11:22:59 04.11.2024

11AC20SISO\_Ant1\_5700

MultiView Spectrum

Ref Level 20.00 dBm Offset 26.24 dB RBW 500 kHz  
Att 20 dB SWT 1.01 ms VBW 2 MHz Mode Sweep

Count 100/100

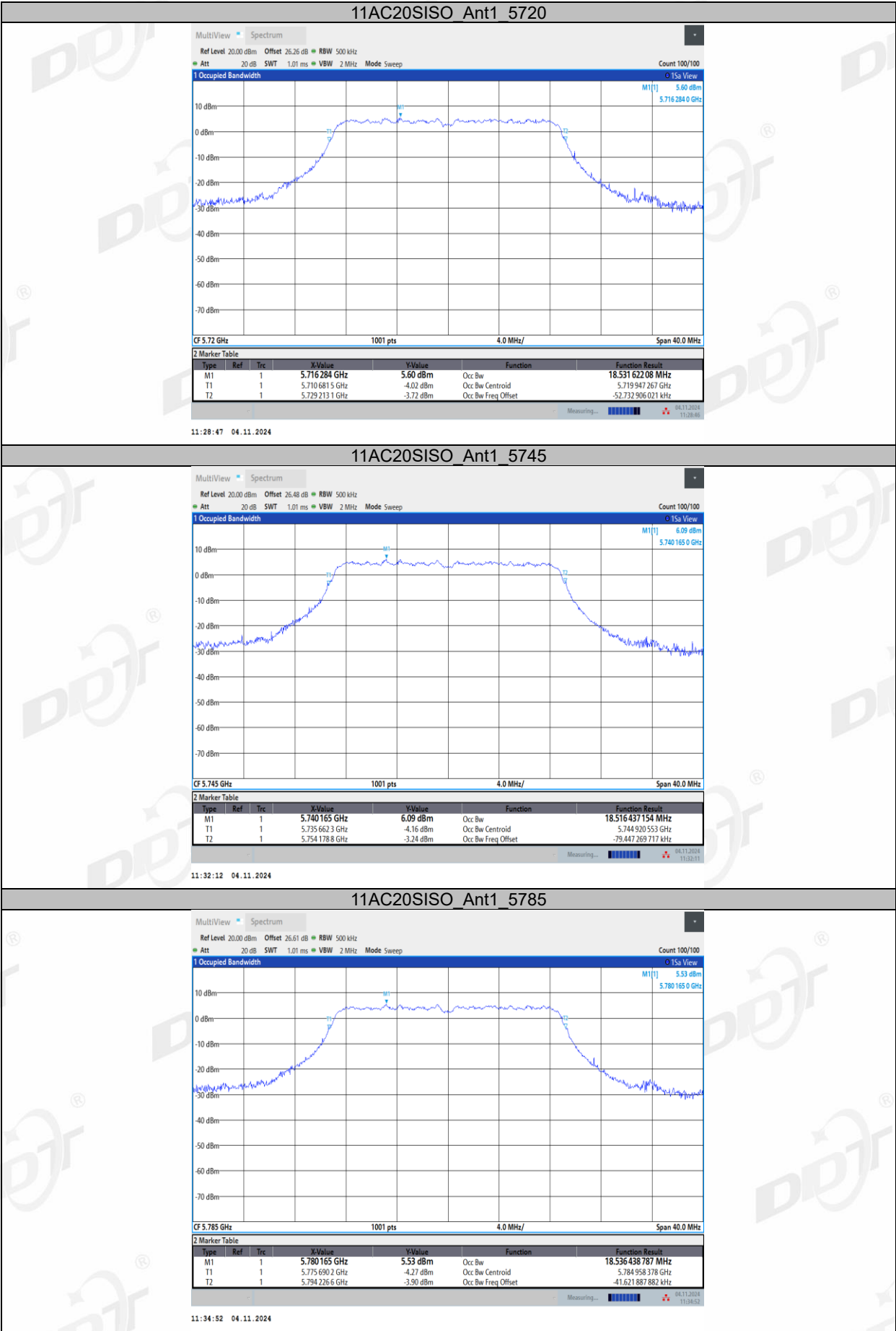
1 Occupied Bandwidth

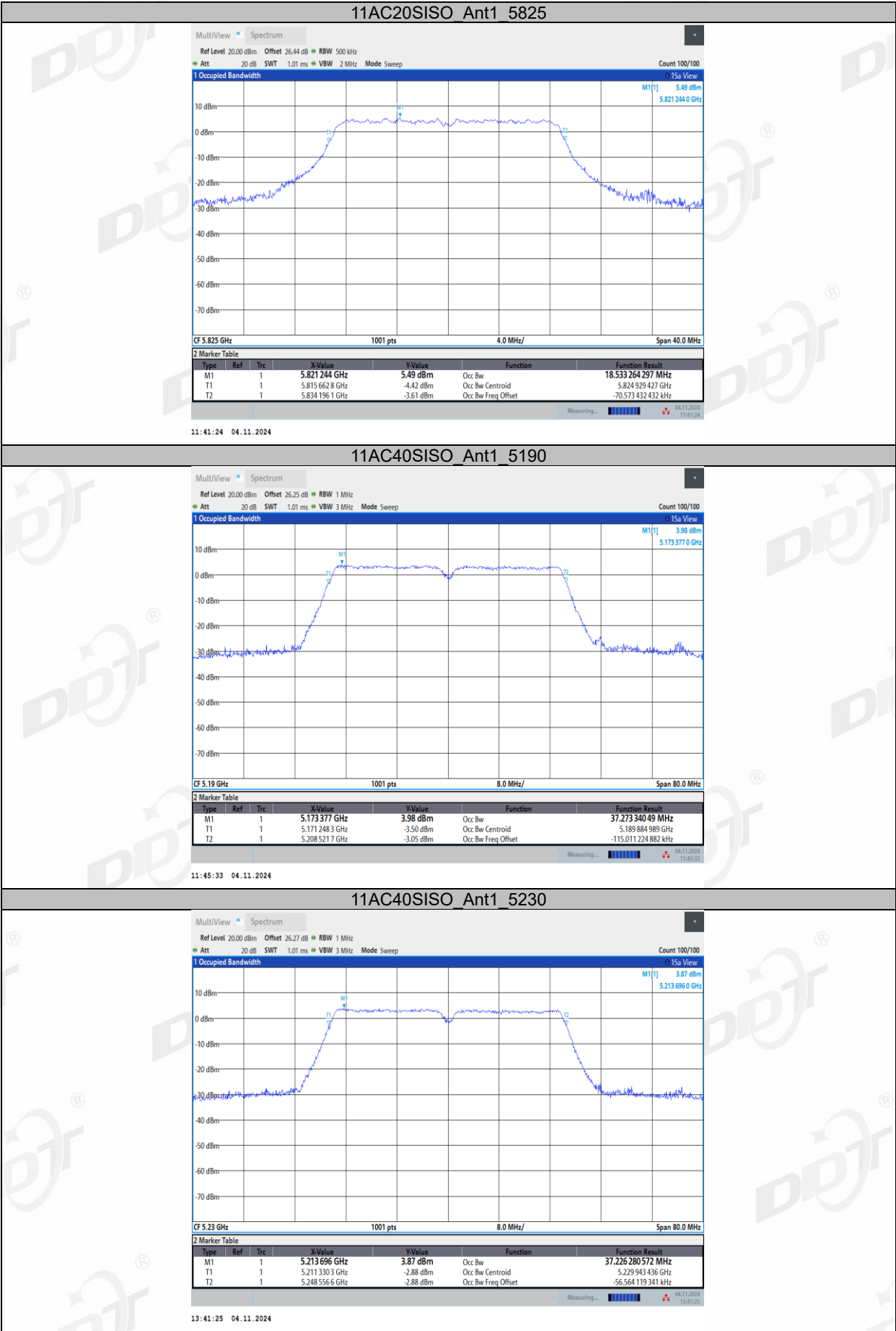
CF 5.7 GHz 1001 pts 4.0 MHz/ Span 40.0 MHz

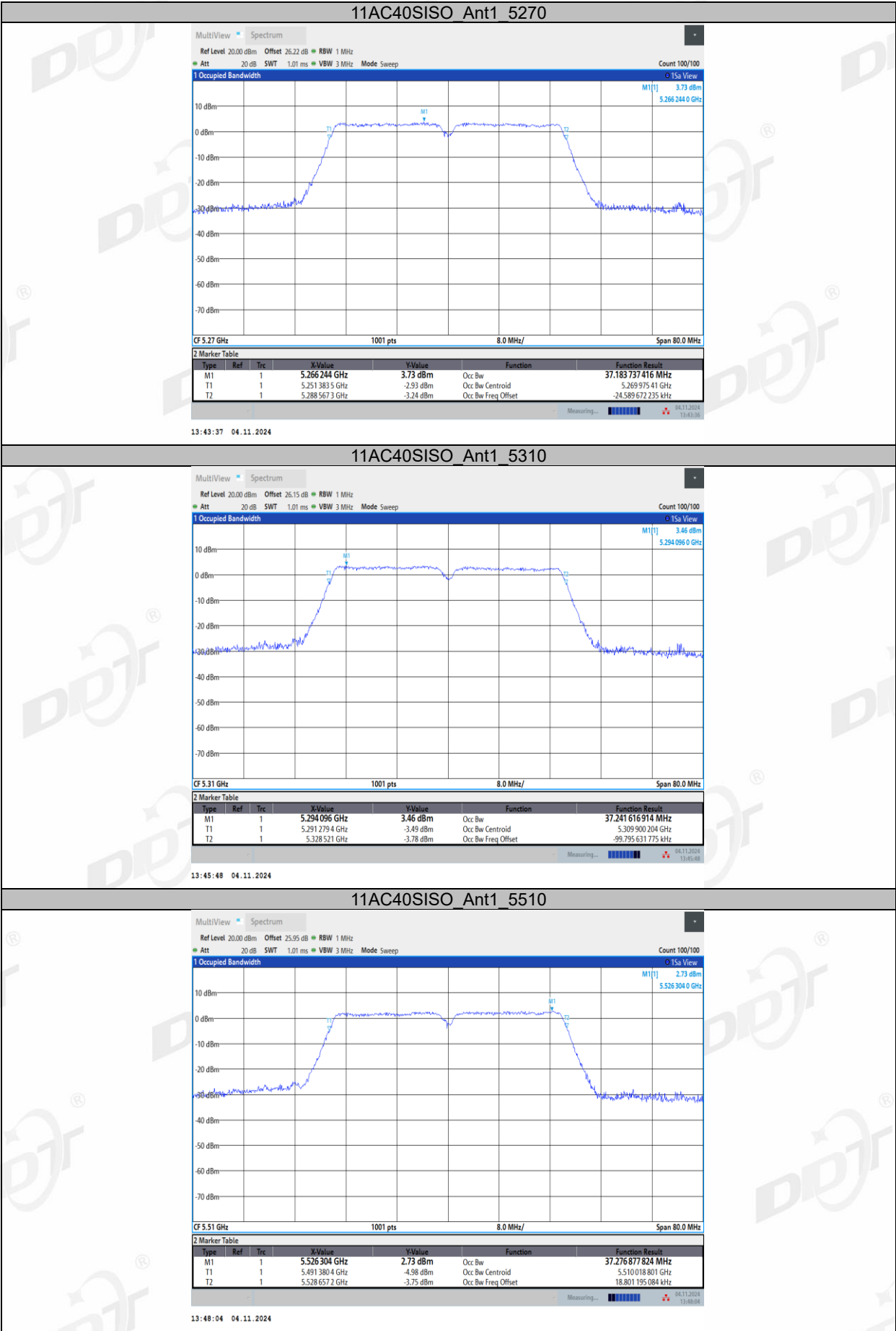
2 Marker Table

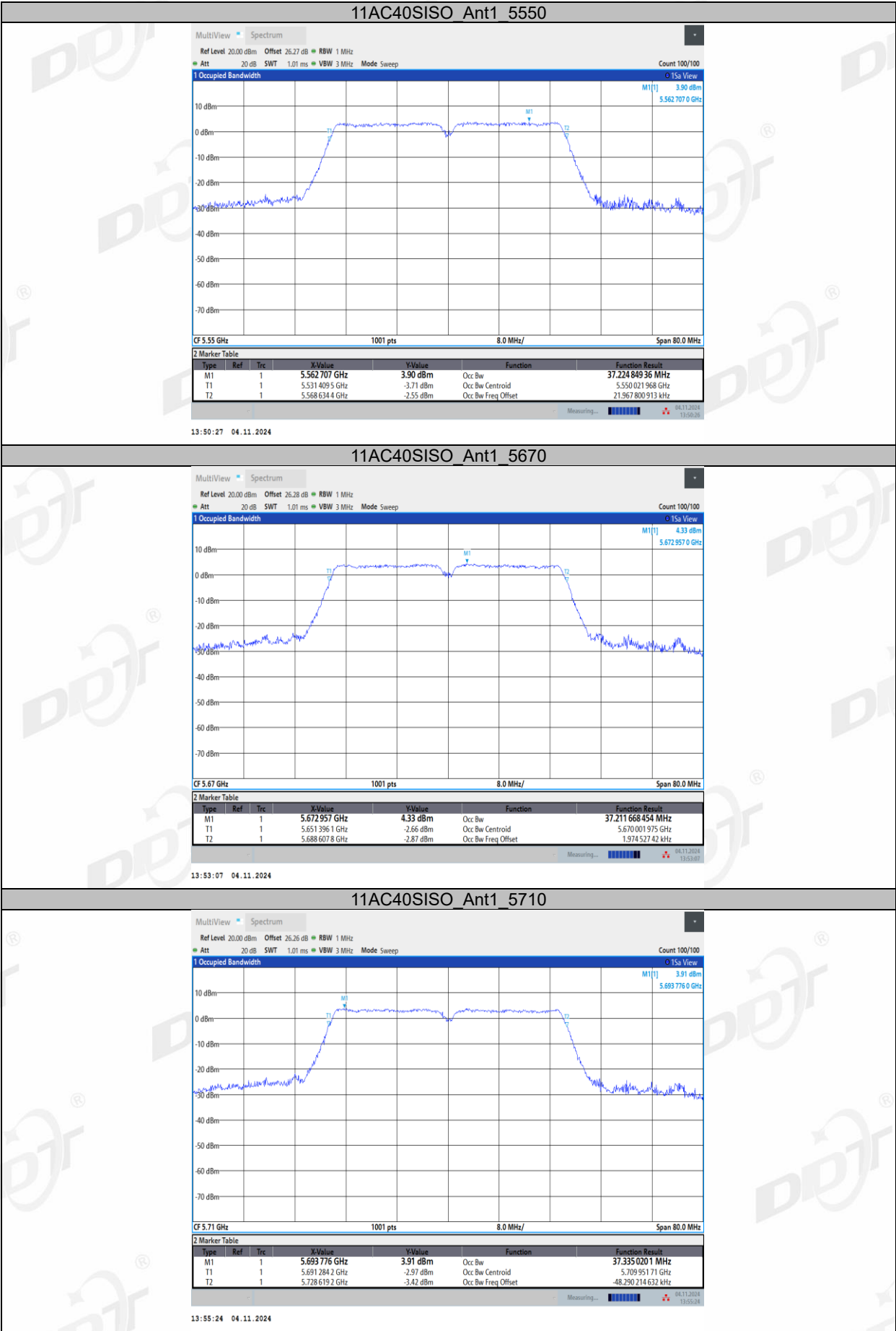
Measuring... 04.11.2024 11:25:35

11:25:36 04.11.2024









11AC40SISO\_Ant1\_5670

MultiView Spectrum

Ref Level 20.00 dBm Offset 26.28 dB RBW 1 MHz  
Att 20 dB SWT 1.01 ms VBW 3 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 5.67 GHz

1001 pts

8.0 MHz/

Span 80.0 MHz

M1

4.33 dBm

5.6729570 GHz

2 Marker Table

| Type | Ref | Trc | X-Value       | Y-Value   | Function           | Function Result  |
|------|-----|-----|---------------|-----------|--------------------|------------------|
| M1   | 1   |     | 5.672957 GHz  | 4.33 dBm  | Occ BW             | 37.211668454 MHz |
| T1   | 1   |     | 5.6513961 GHz | -2.66 dBm | Occ BW Centroid    | 5.670001975 GHz  |
| T2   | 1   |     | 5.6886078 GHz | -2.87 dBm | Occ BW Freq Offset | 1.97452742 kHz   |

Measuring...

04.11.2024 13:50:27

13:50:37 04.11.2024

11AC40SISO\_Ant1\_5710

MultiView Spectrum

Ref Level 20.00 dBm Offset 26.26 dB RBW 1 MHz  
Att 20 dB SWT 1.01 ms VBW 3 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 5.71 GHz

1001 pts

8.0 MHz/

Span 80.0 MHz

M1

3.91 dBm

5.6937760 GHz

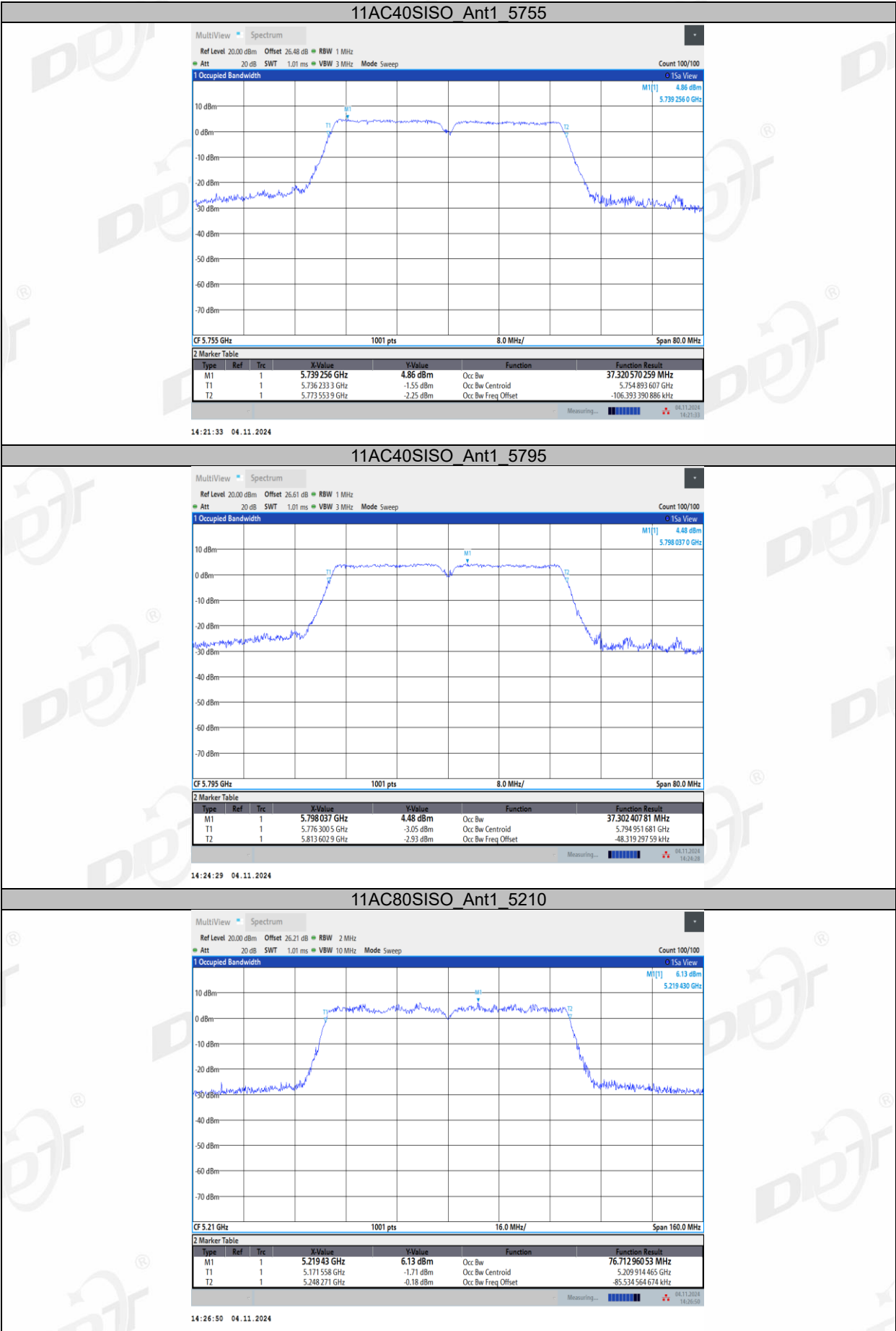
2 Marker Table

| Type | Ref | Trc | X-Value       | Y-Value   | Function           | Function Result   |
|------|-----|-----|---------------|-----------|--------------------|-------------------|
| M1   | 1   |     | 5.693776 GHz  | 3.91 dBm  | Occ BW             | 37.3350201 MHz    |
| T1   | 1   |     | 5.6912842 GHz | -2.97 dBm | Occ BW Centroid    | 5.70995171 GHz    |
| T2   | 1   |     | 5.7286192 GHz | -3.42 dBm | Occ BW Freq Offset | -48.290214632 kHz |

Measuring...

04.11.2024 13:55:24

13:55:24 04.11.2024



14:21:33 04.11.2024

11AC40SISO\_Ant1\_5795

MultiView Spectrum

Ref Level 20.00 dBm Offset 26.61 dB RBW 1 MHz  
Att 20 dB SWT 1.01 ms VBW 3 MHz Mode Sweep

Count 100/100

1 Occupied Bandwidth

CF 5.795 GHz 1001 pts 8.0 MHz/ Span 80.0 MHz

2 Marker Table

Measuring... 04.11.2024 14:24:29

14:24:29 04.11.2024

11AC80SISO\_Ant1\_5210

MultiView Spectrum

Ref Level 20.00 dBm Offset 26.21 dB RBW 2 MHz  
Att 20 dB SWT 1.01 ms VBW 10 MHz Mode Sweep

Count 100/100

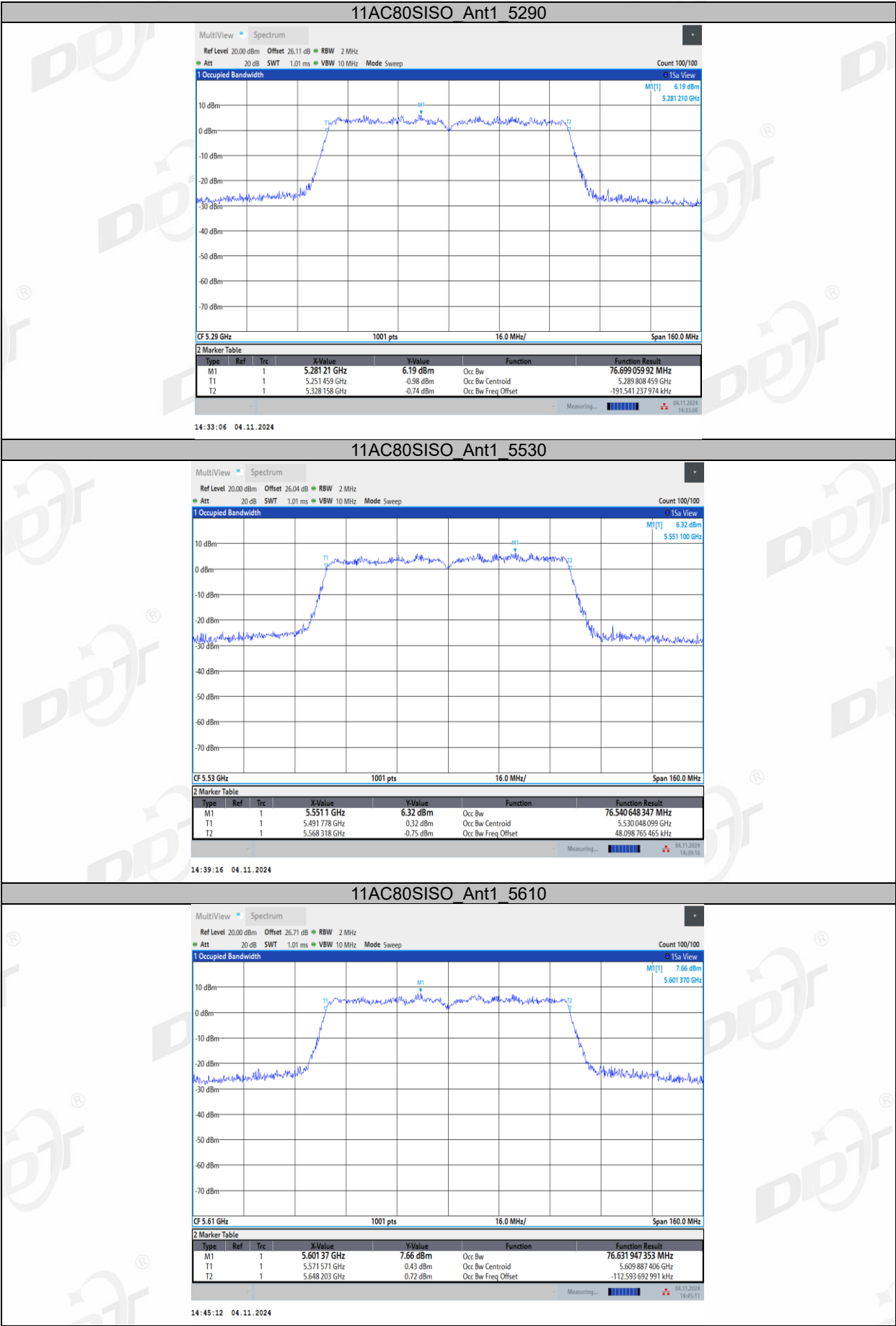
1 Occupied Bandwidth

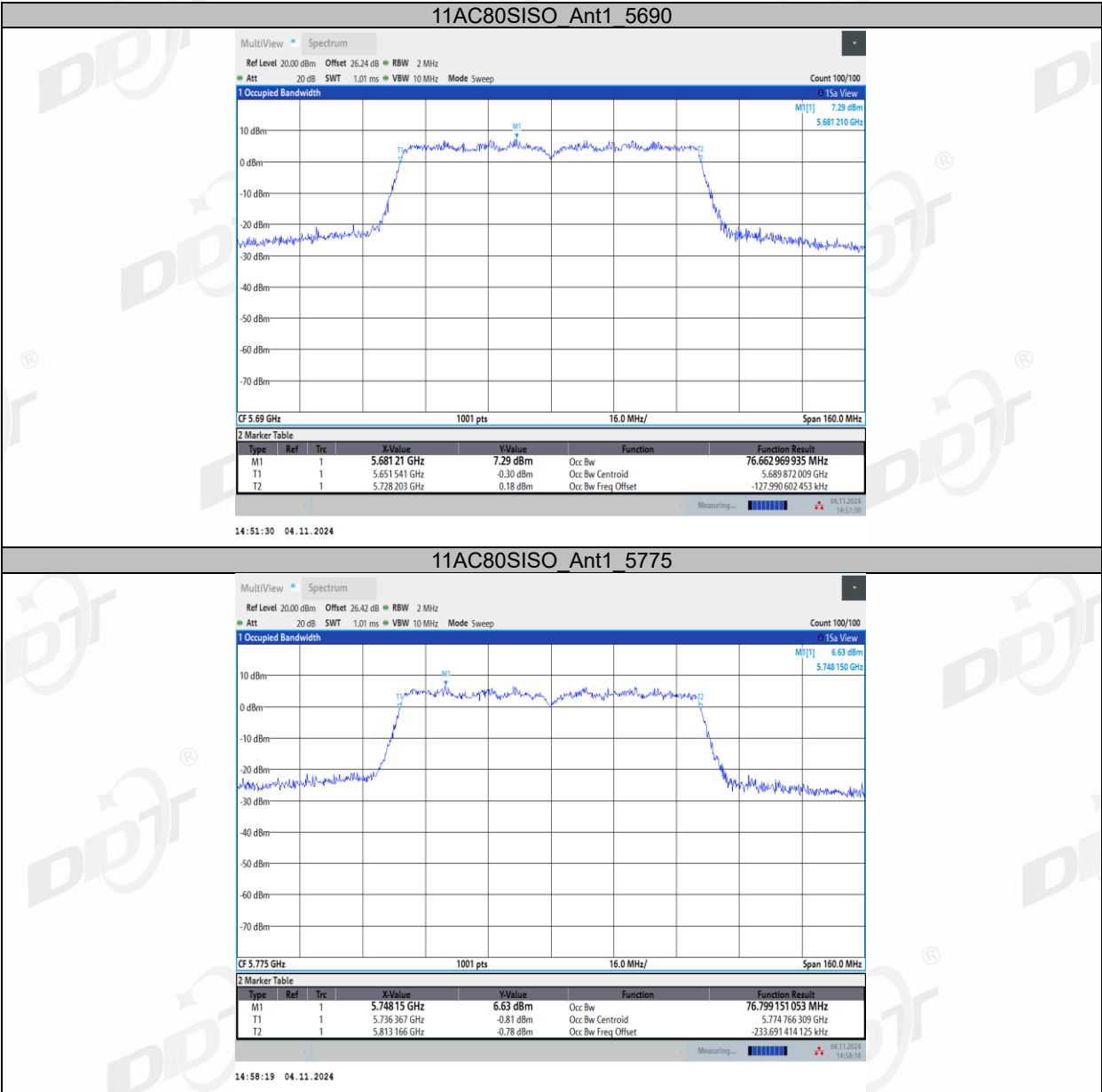
CF 5.21 GHz 1001 pts 16.0 MHz/ Span 160.0 MHz

2 Marker Table

Measuring... 04.11.2024 14:26:50

14:26:50 04.11.2024





14:51:30 04.11.2024

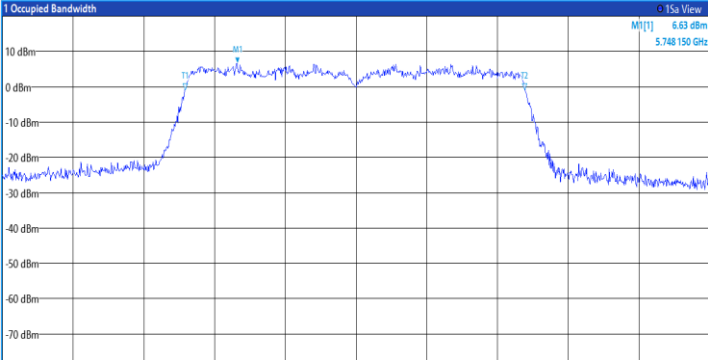
11AC80SISO\_Ant1\_5775

MultiView Spectrum

Ref Level 20.00 dBm Offset 26.42 dB RBW 2 MHz  
Att 20 dB SWT 1.01 ms VBW 10 MHz Mode Sweep

Count 100/100

1 Occupied Bandwidth



CF 5.775 GHz 1001 pts 16.0 MHz/ Span 160.0 MHz

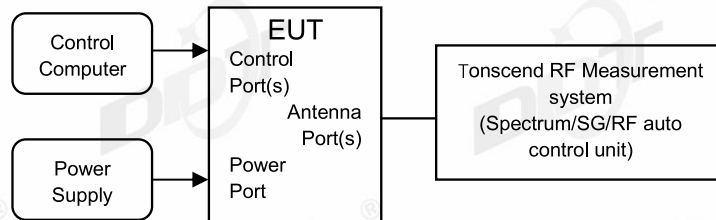
2 Marker Table

Measuring... 04.11.2024 14:58:18

14:58:19 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

