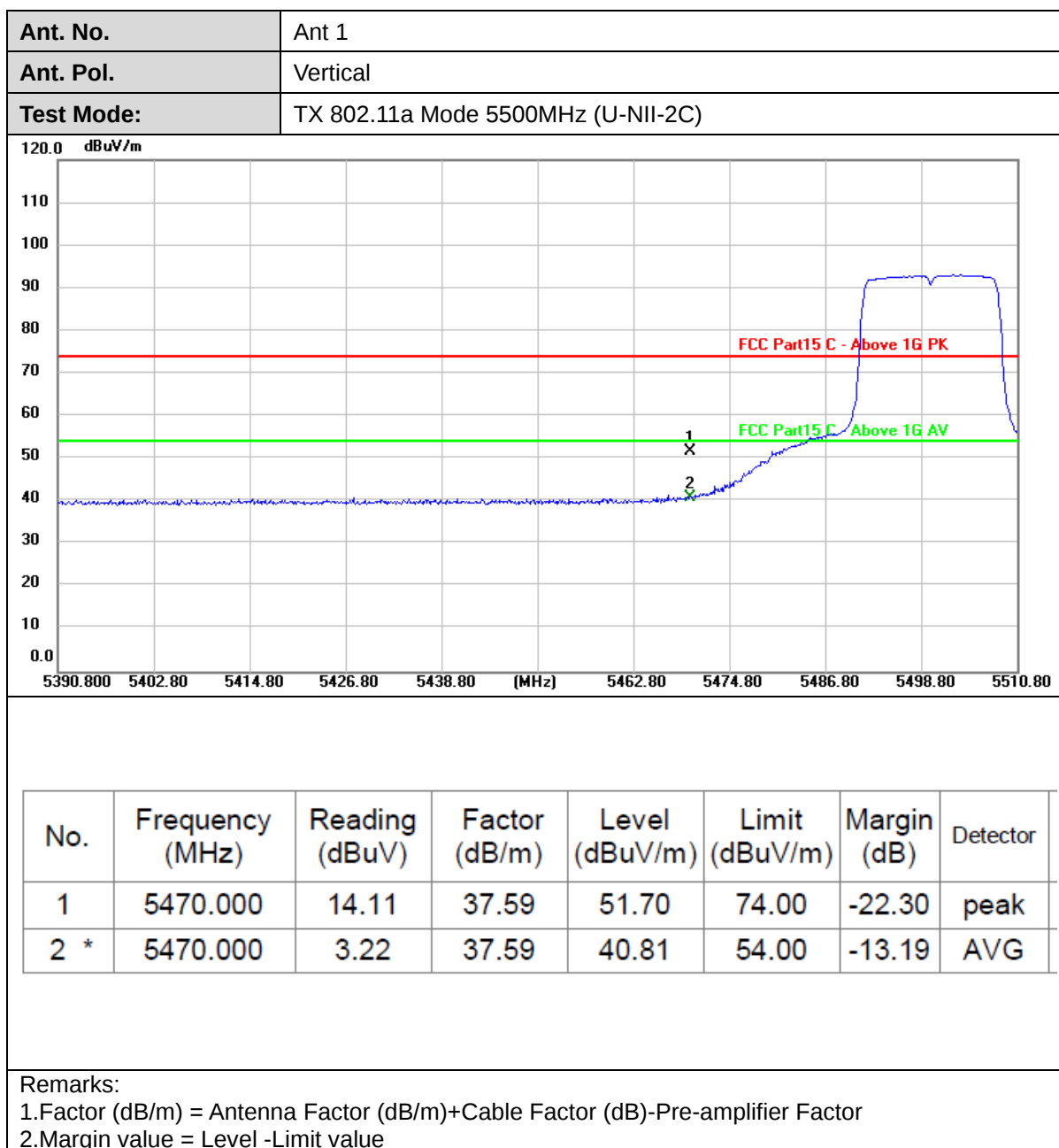
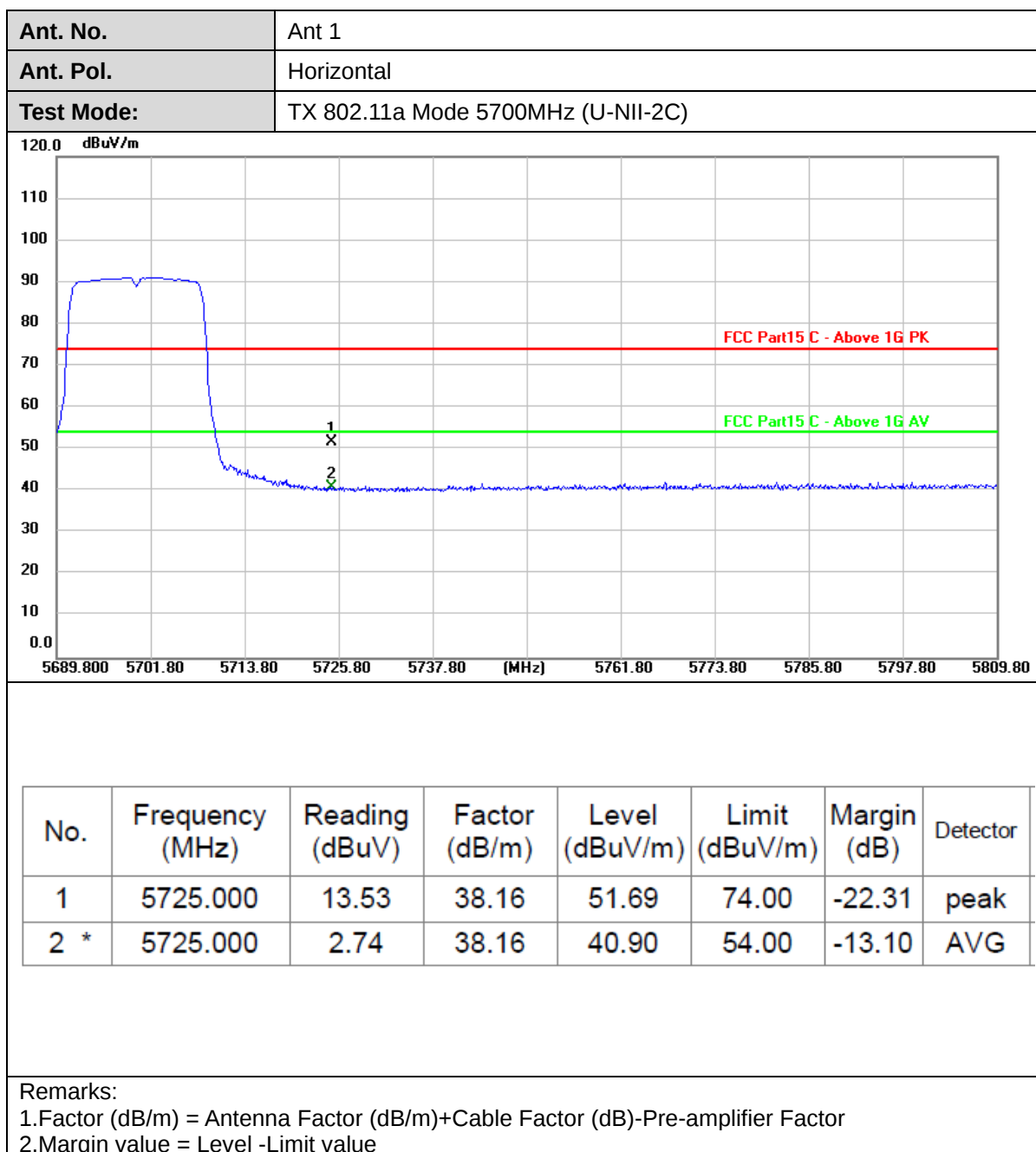
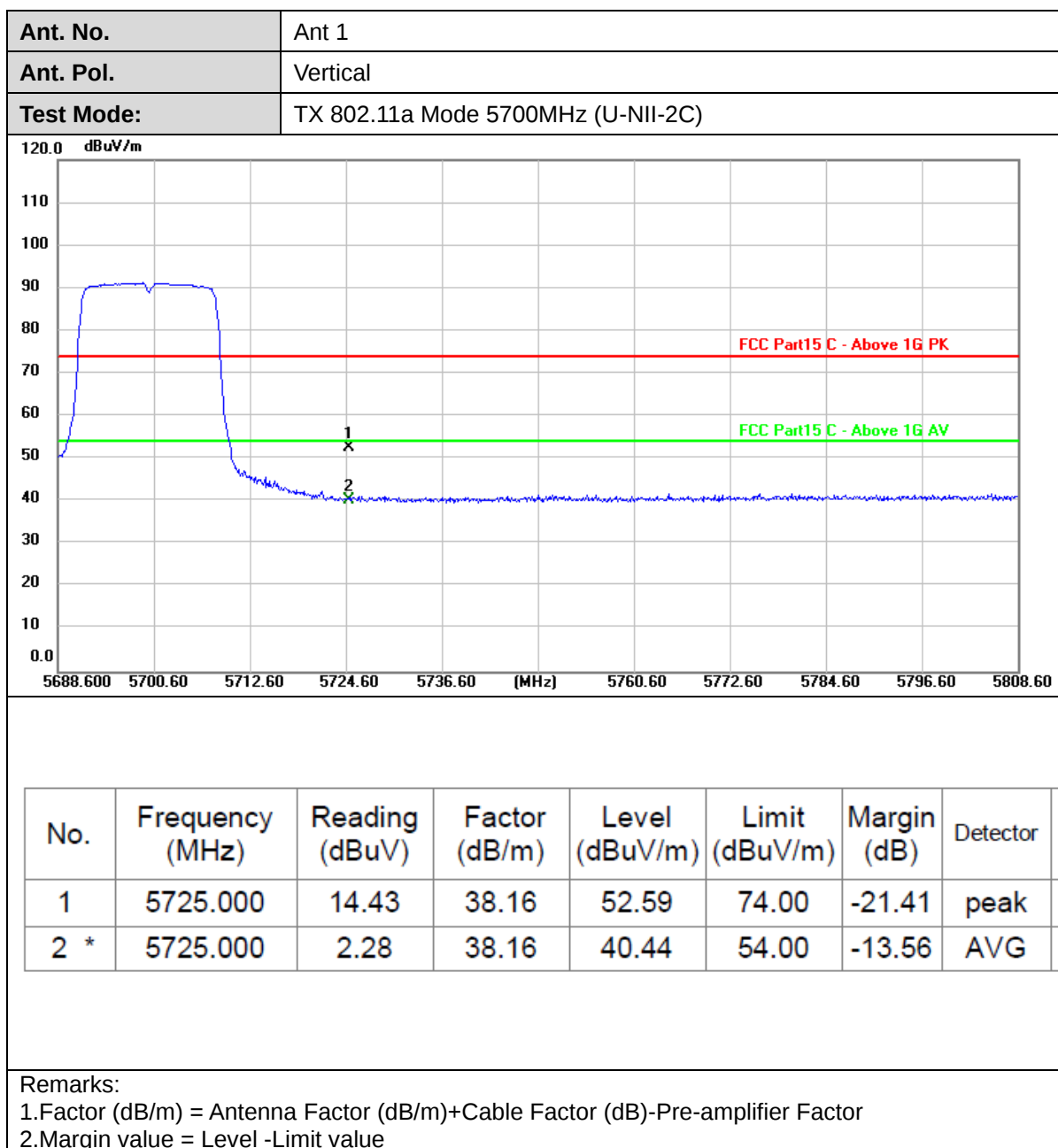
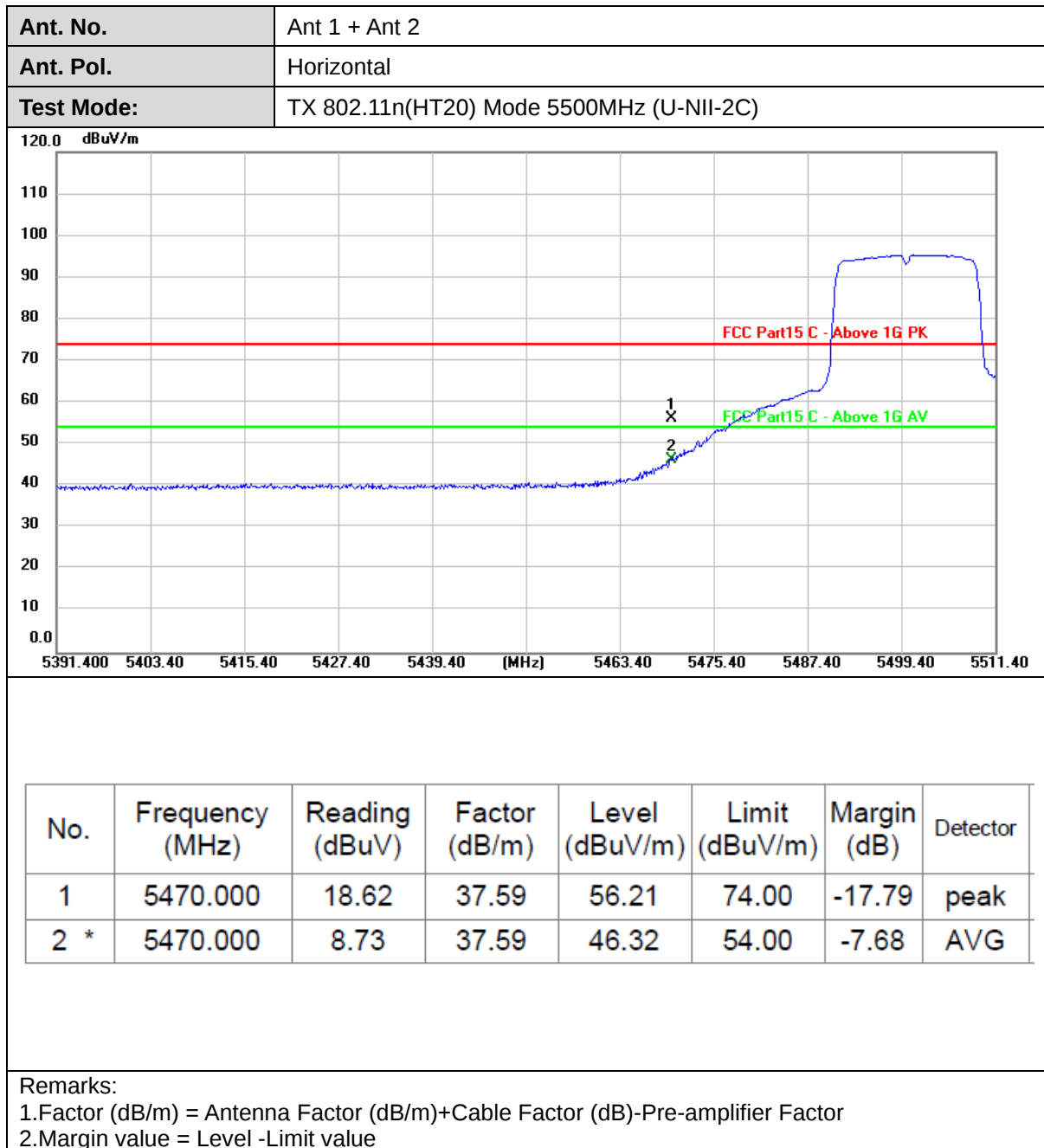
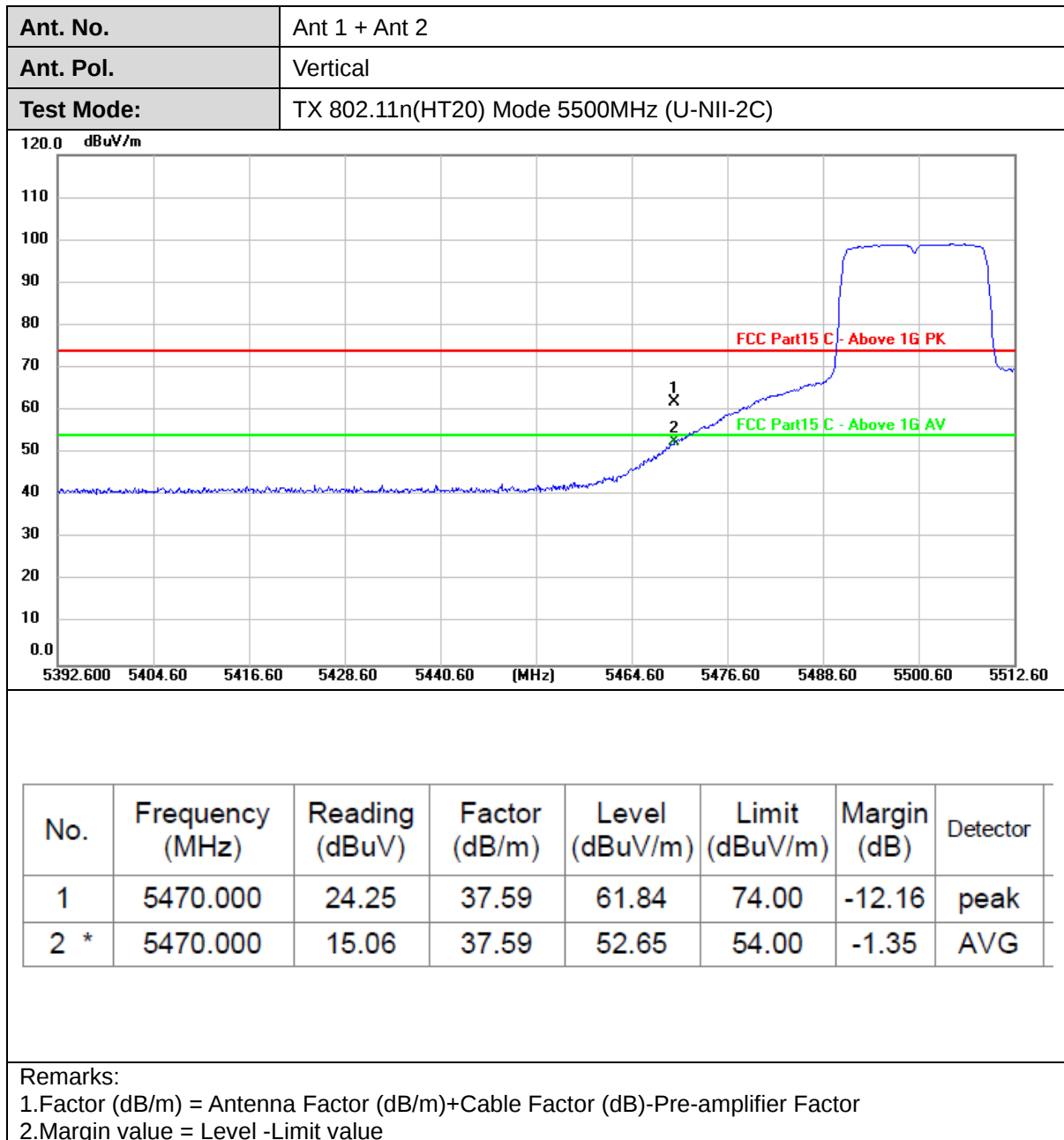


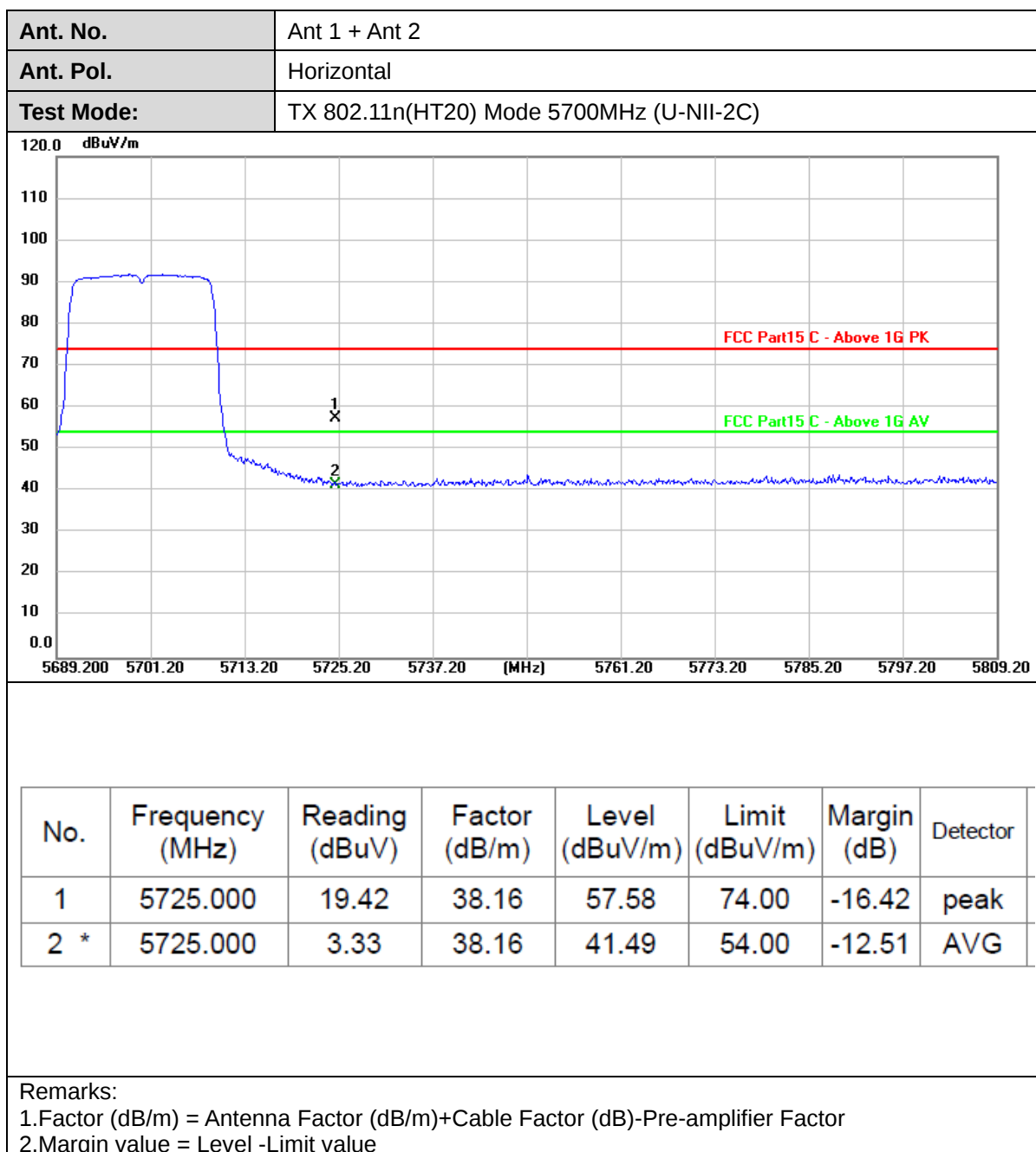


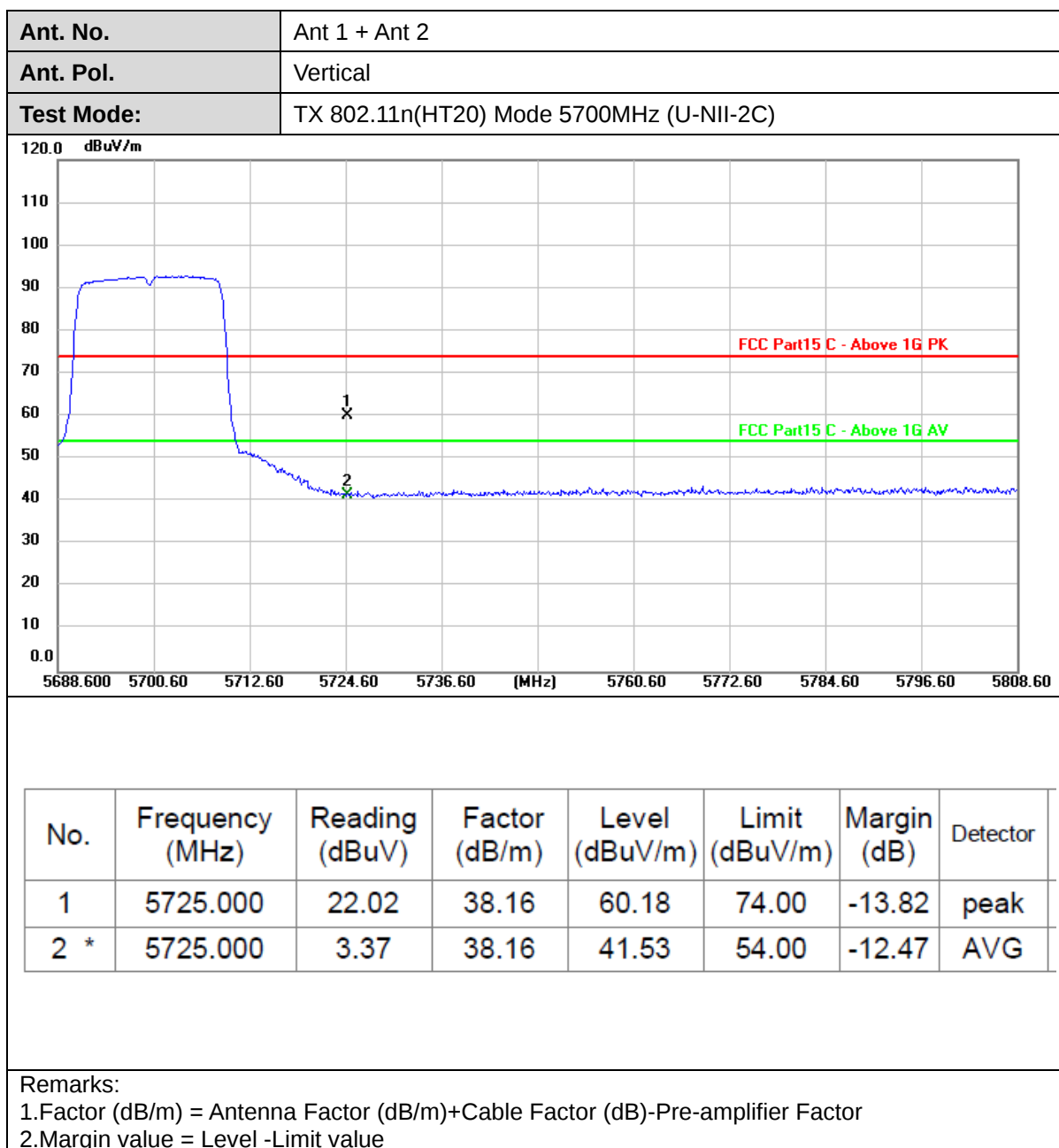


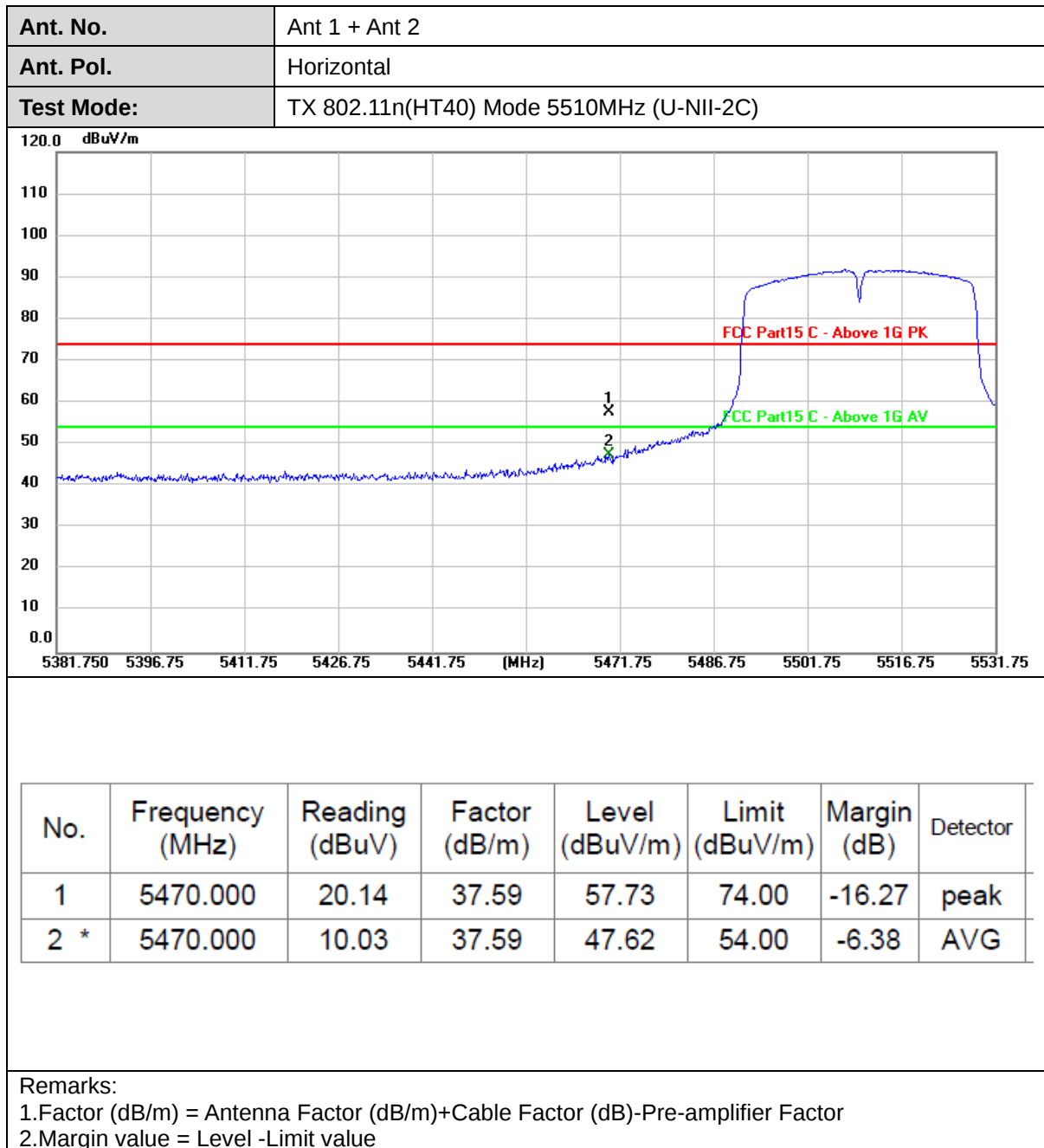


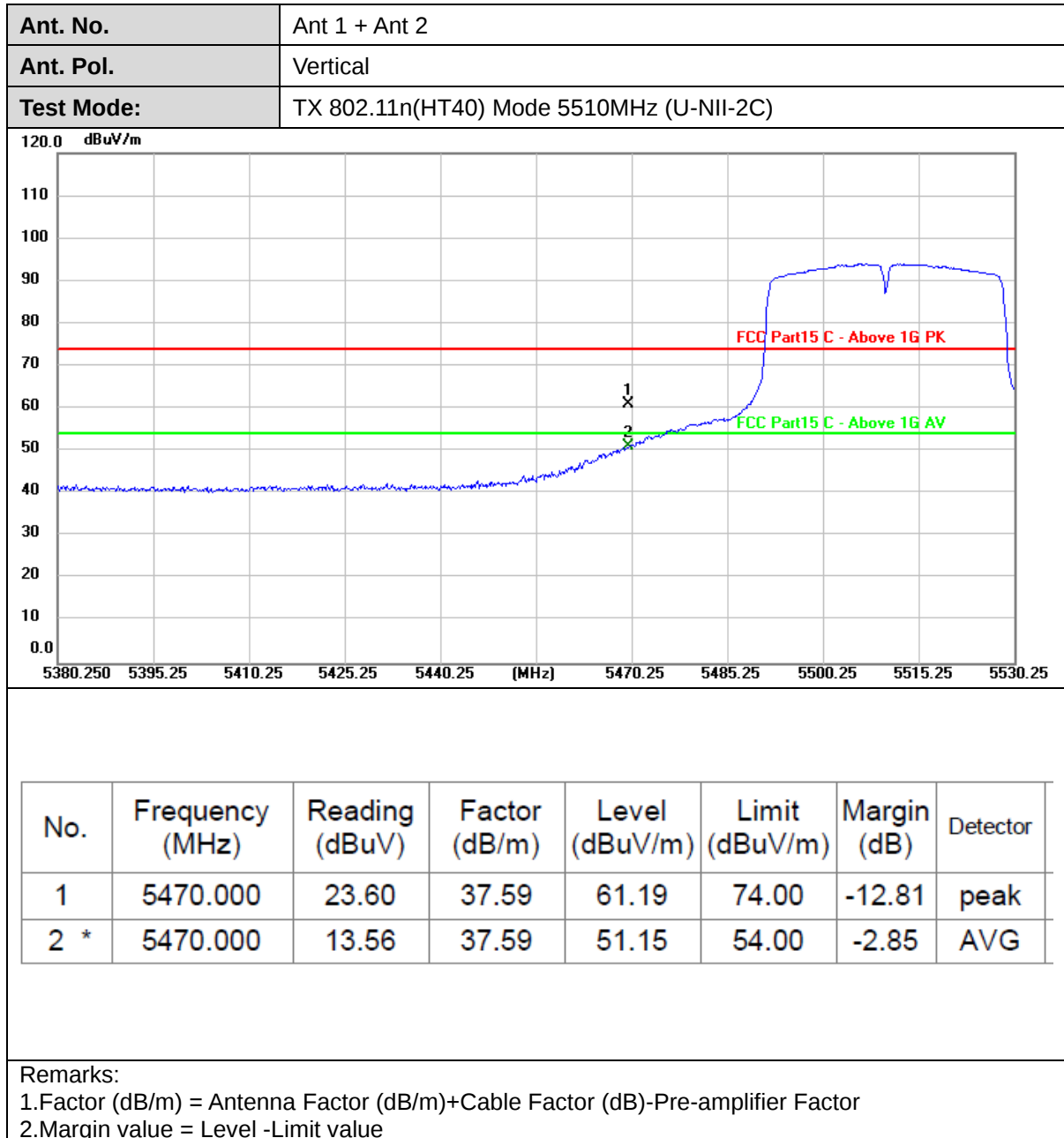


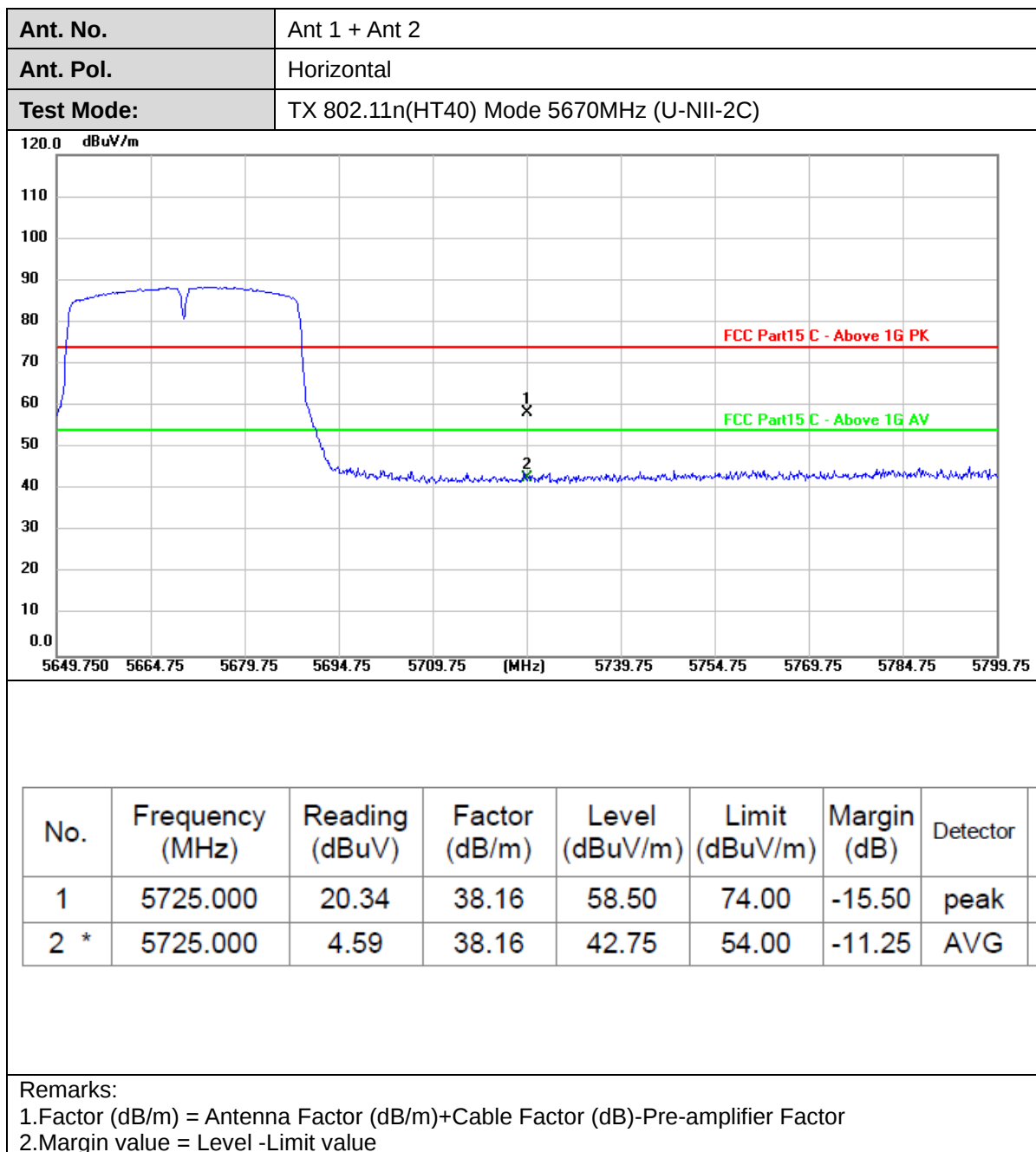


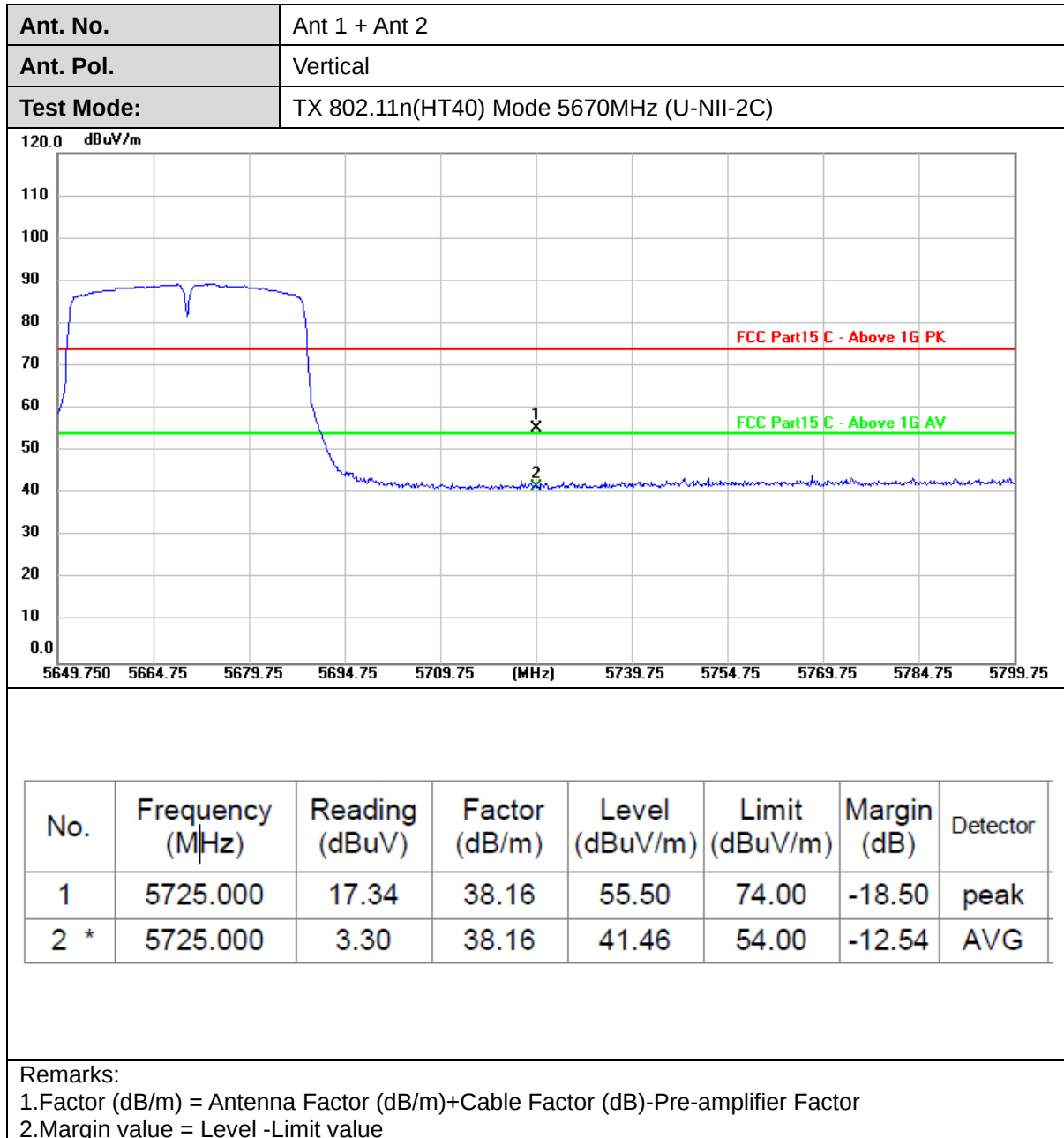


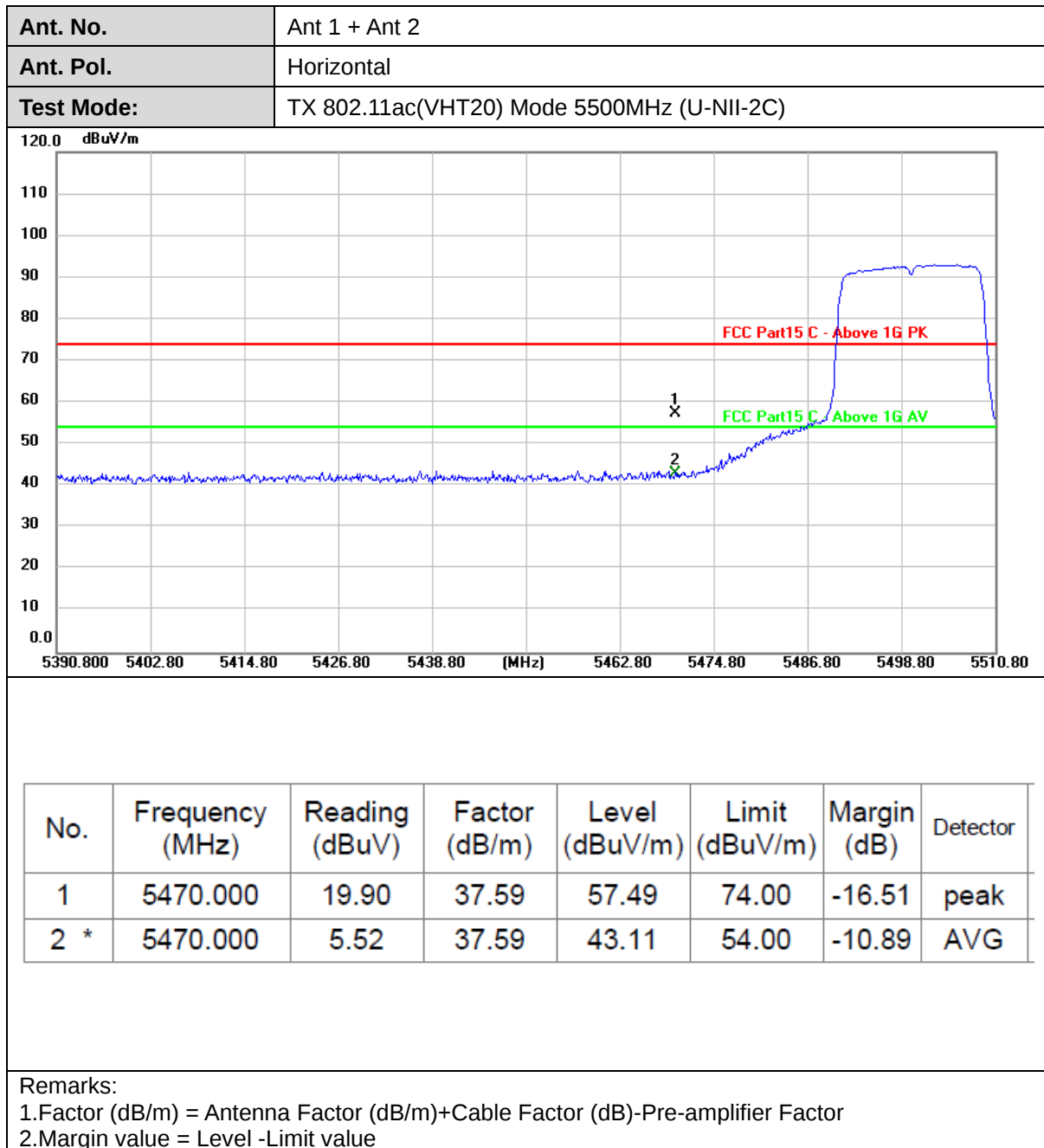


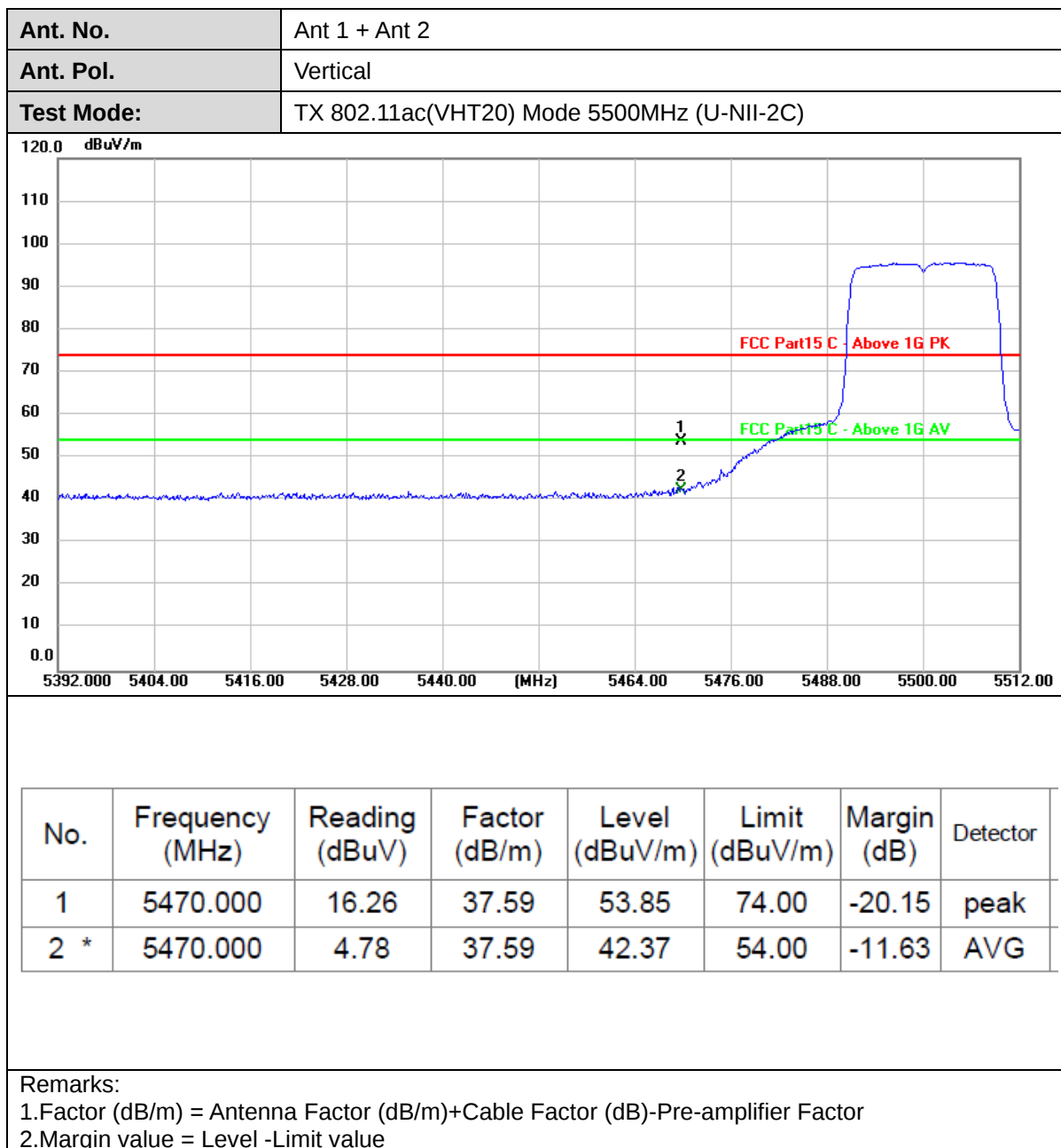


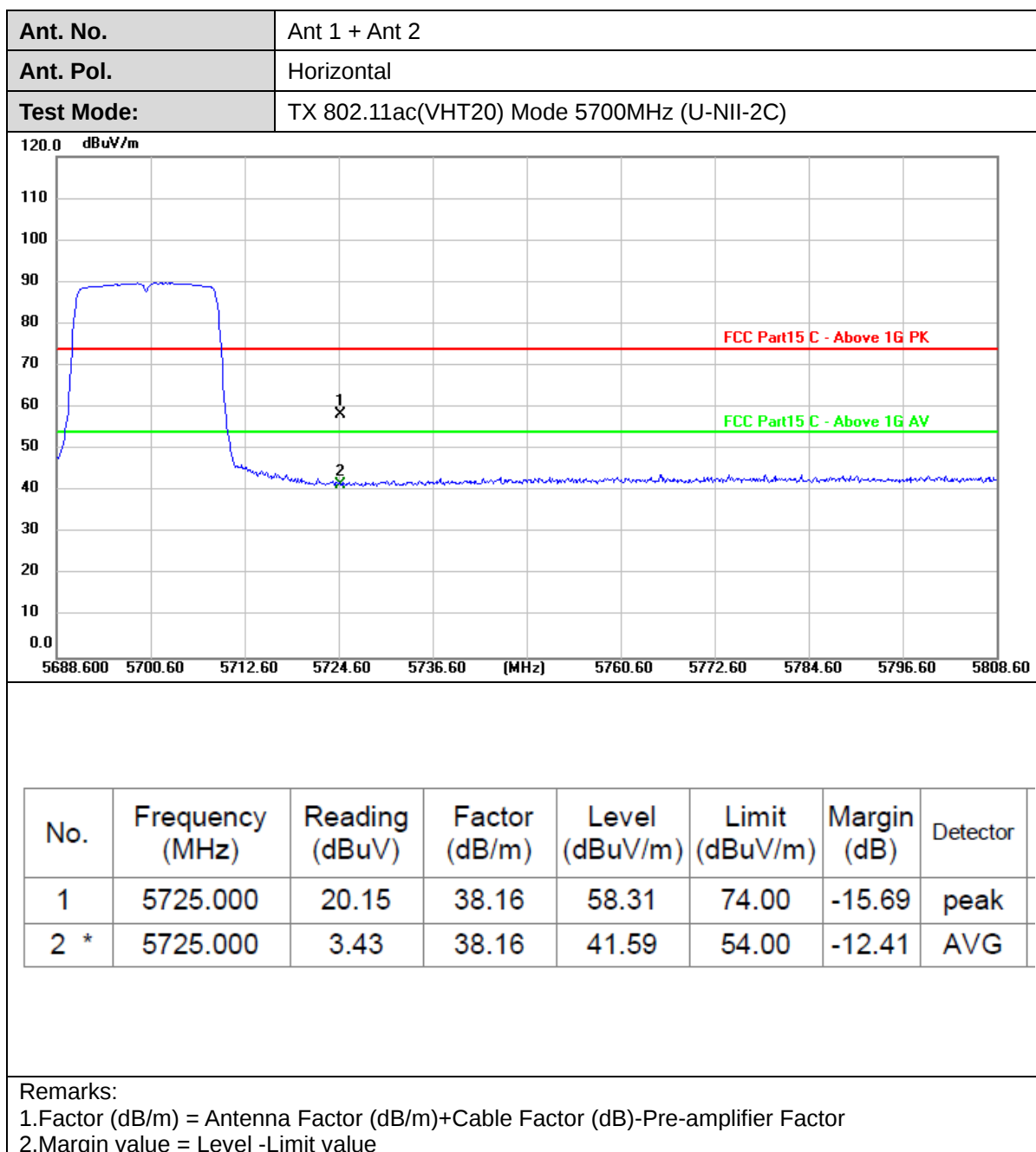


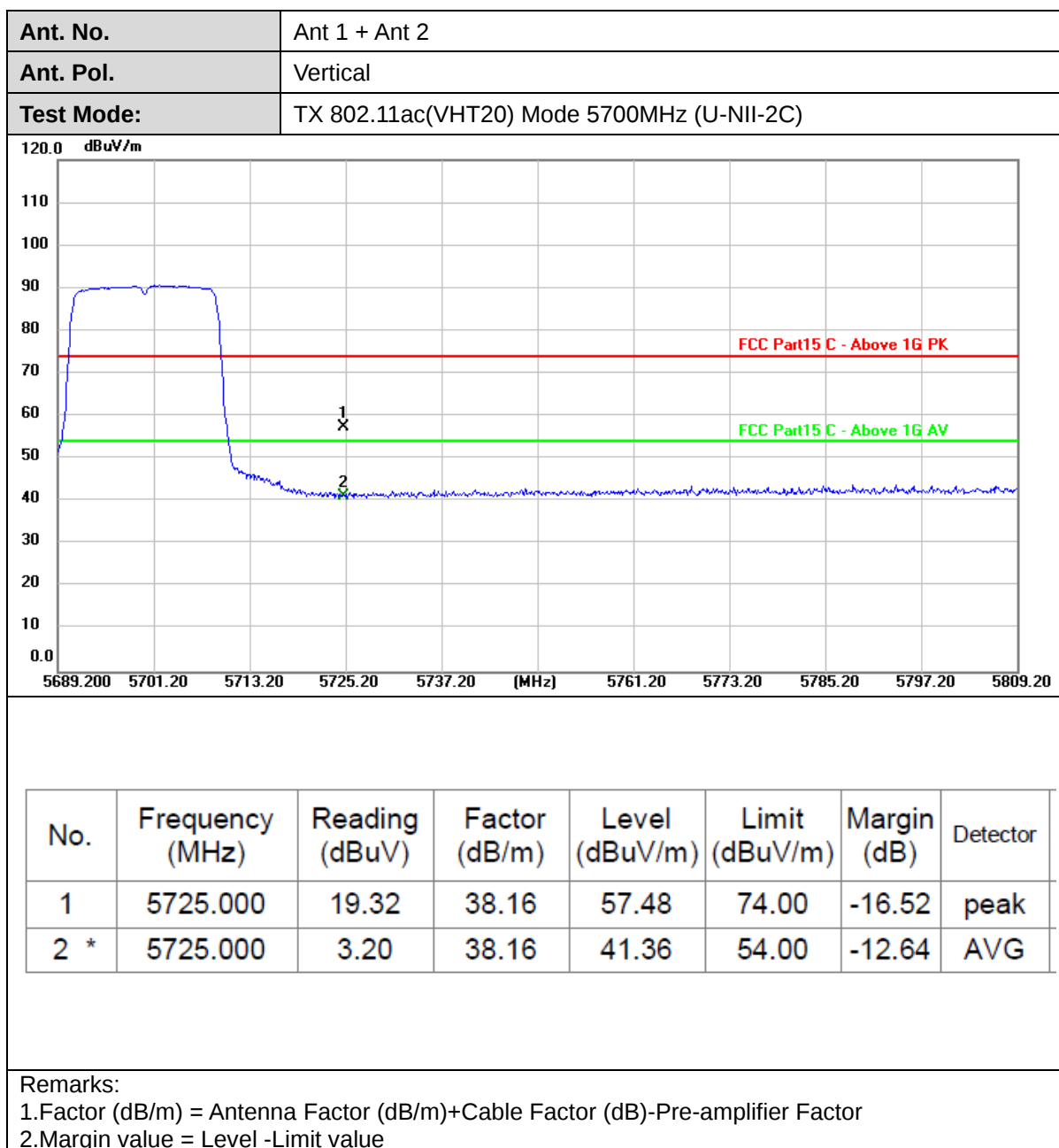


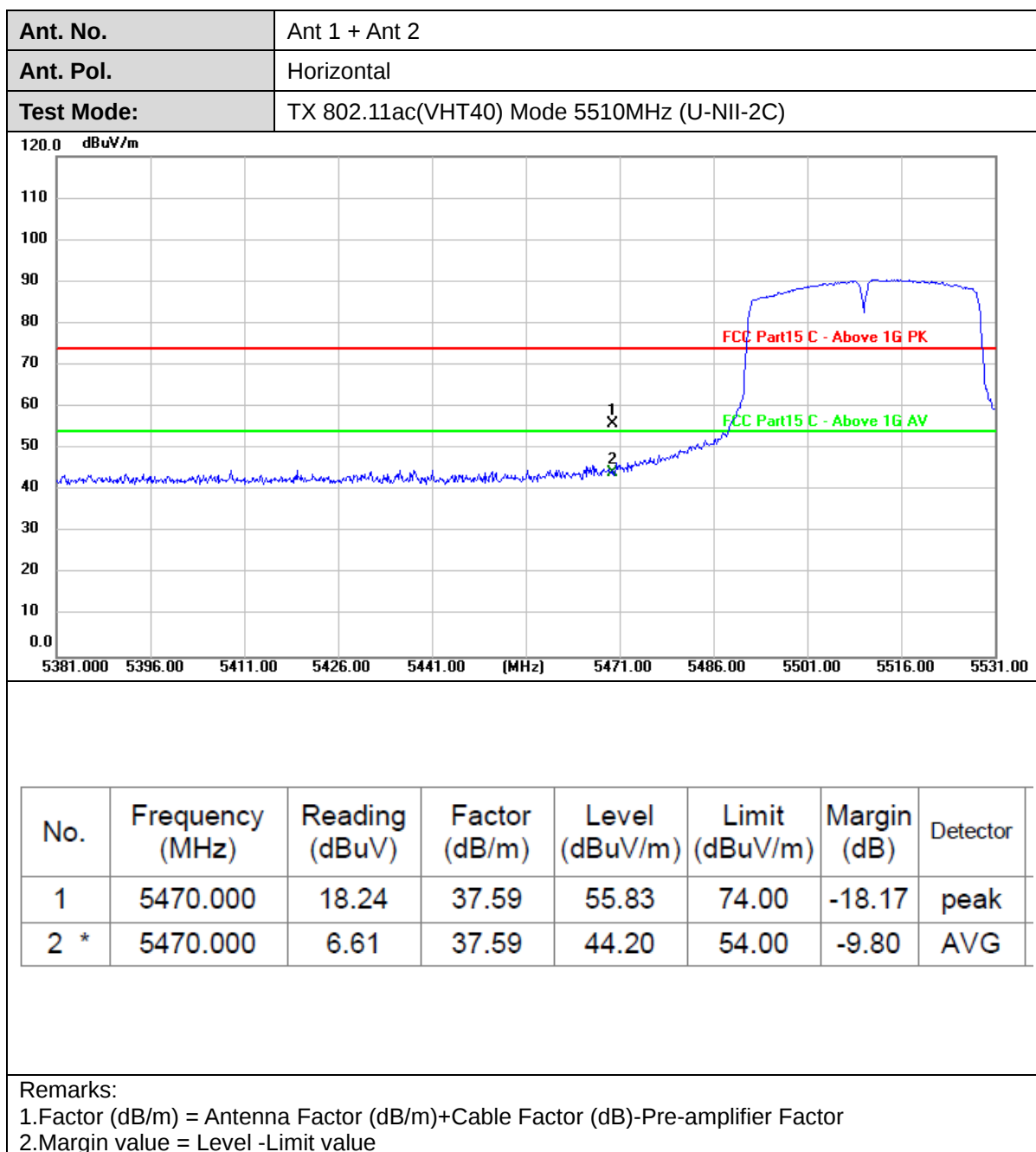


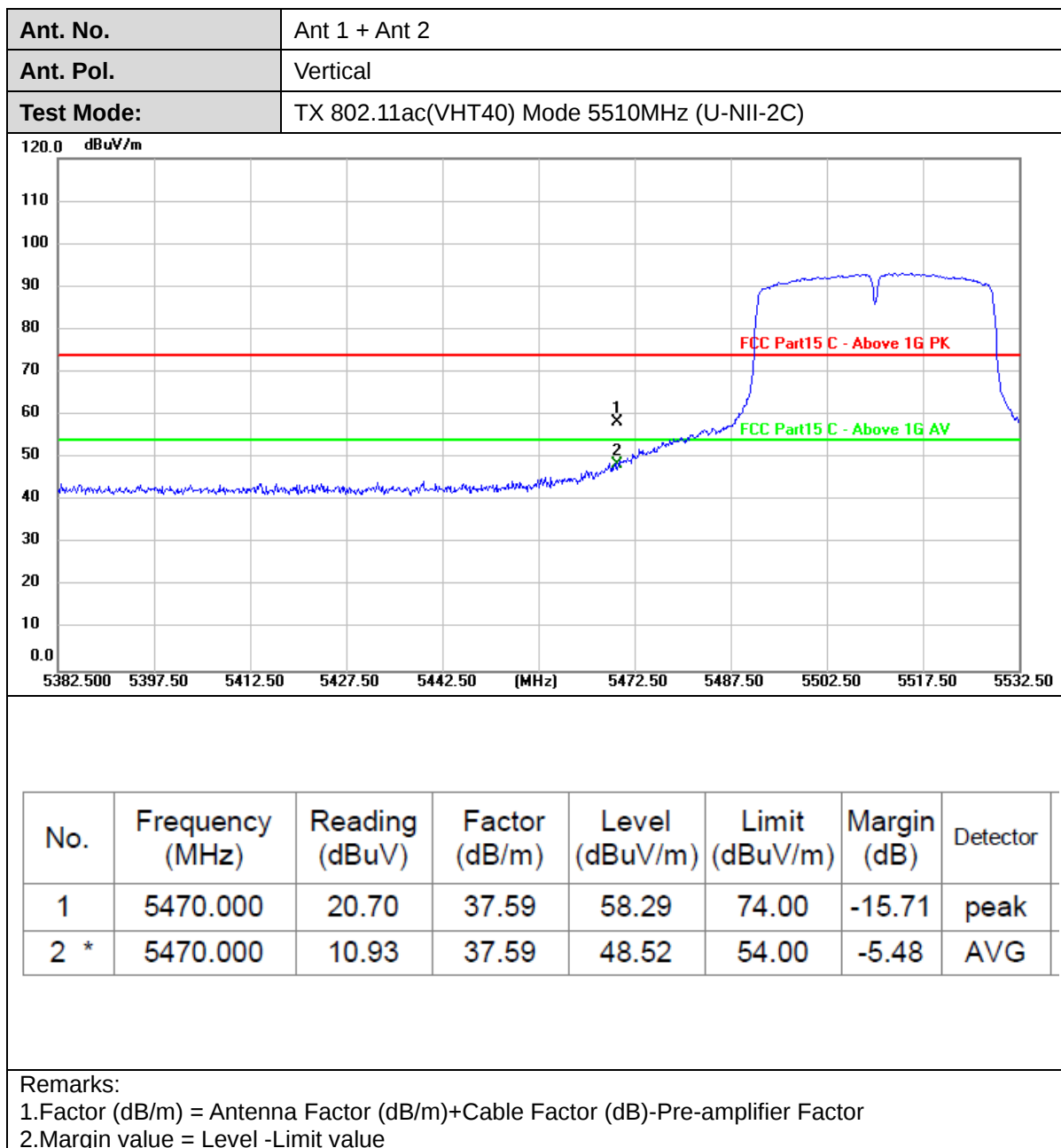


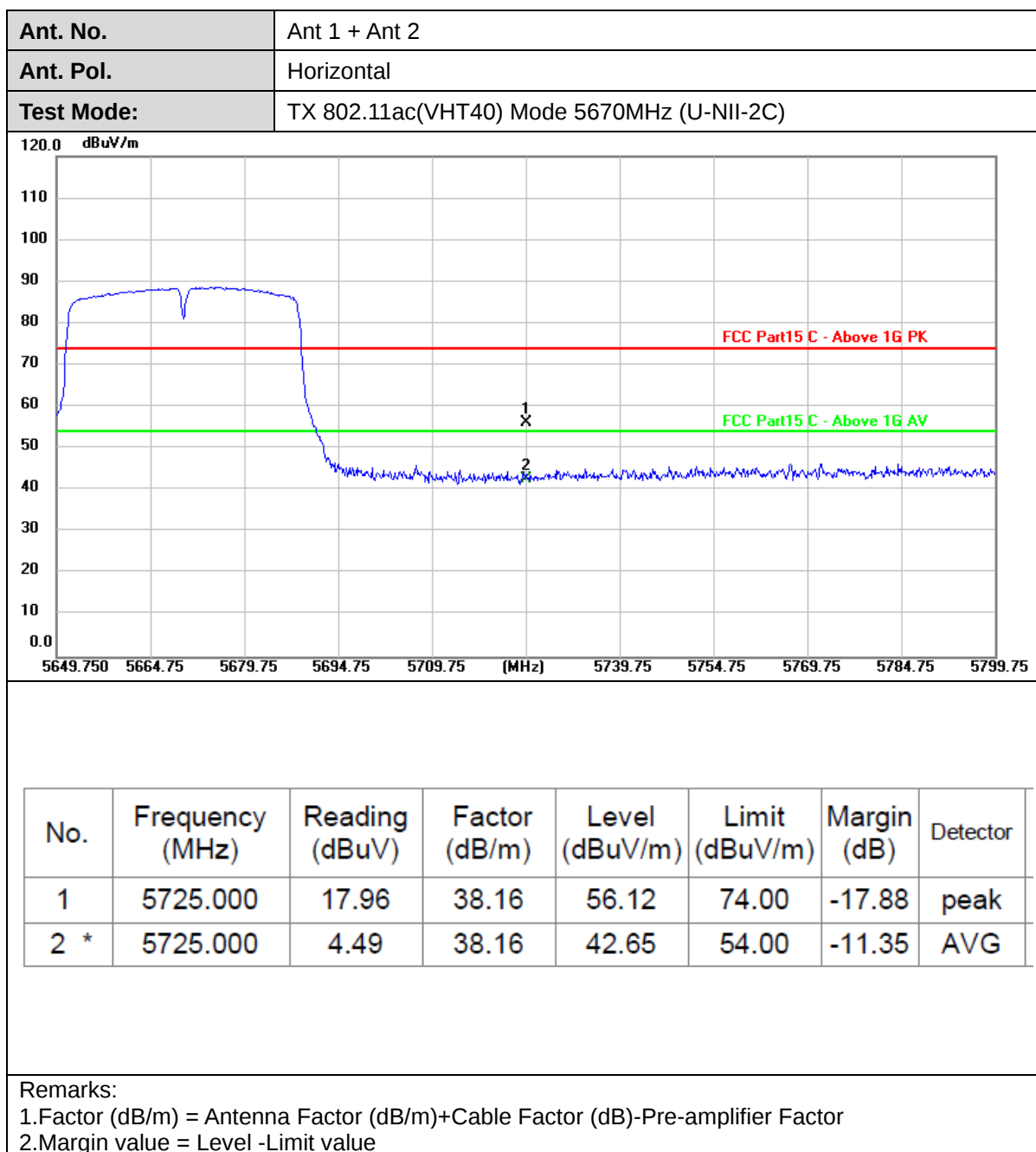


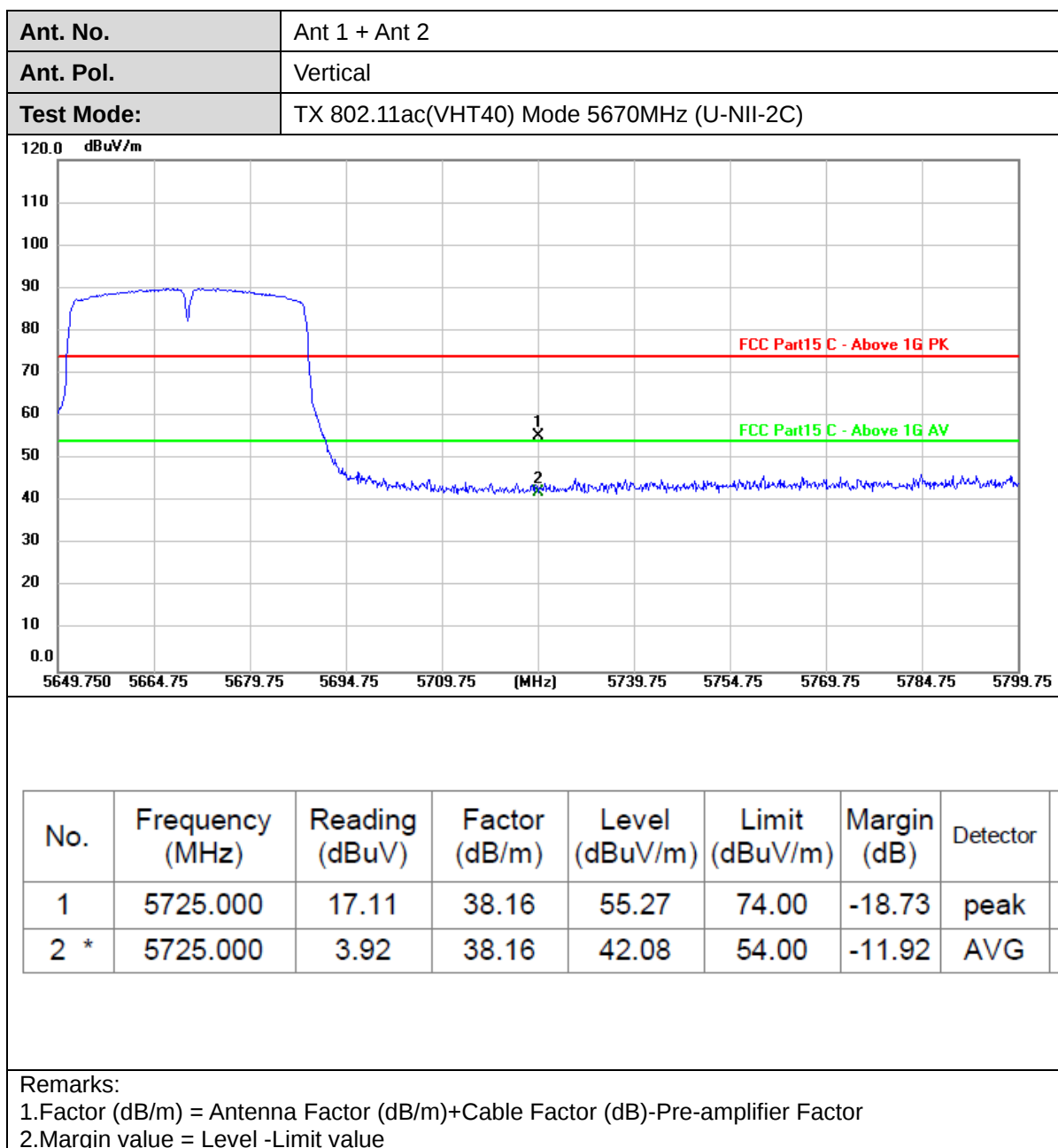


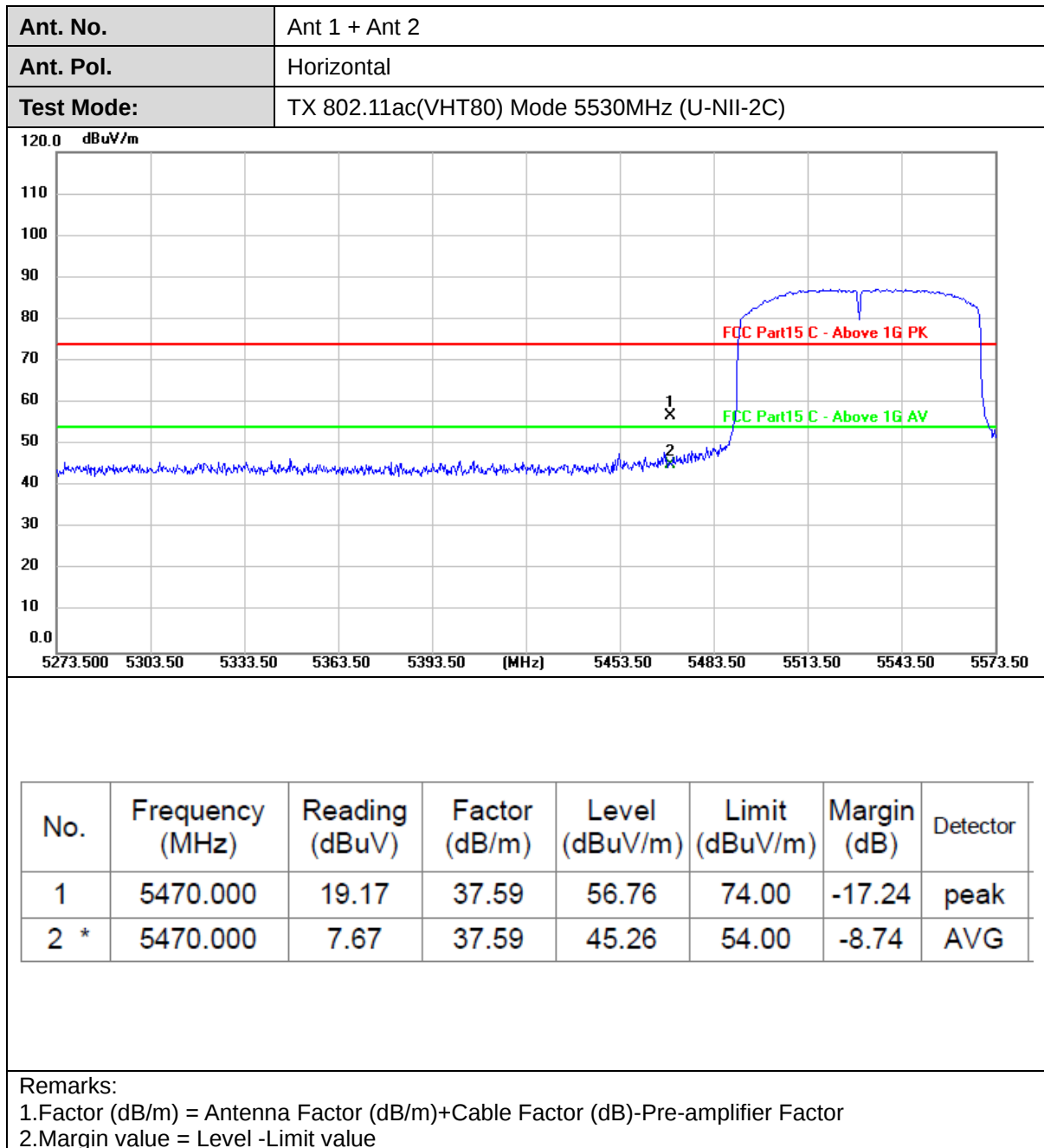


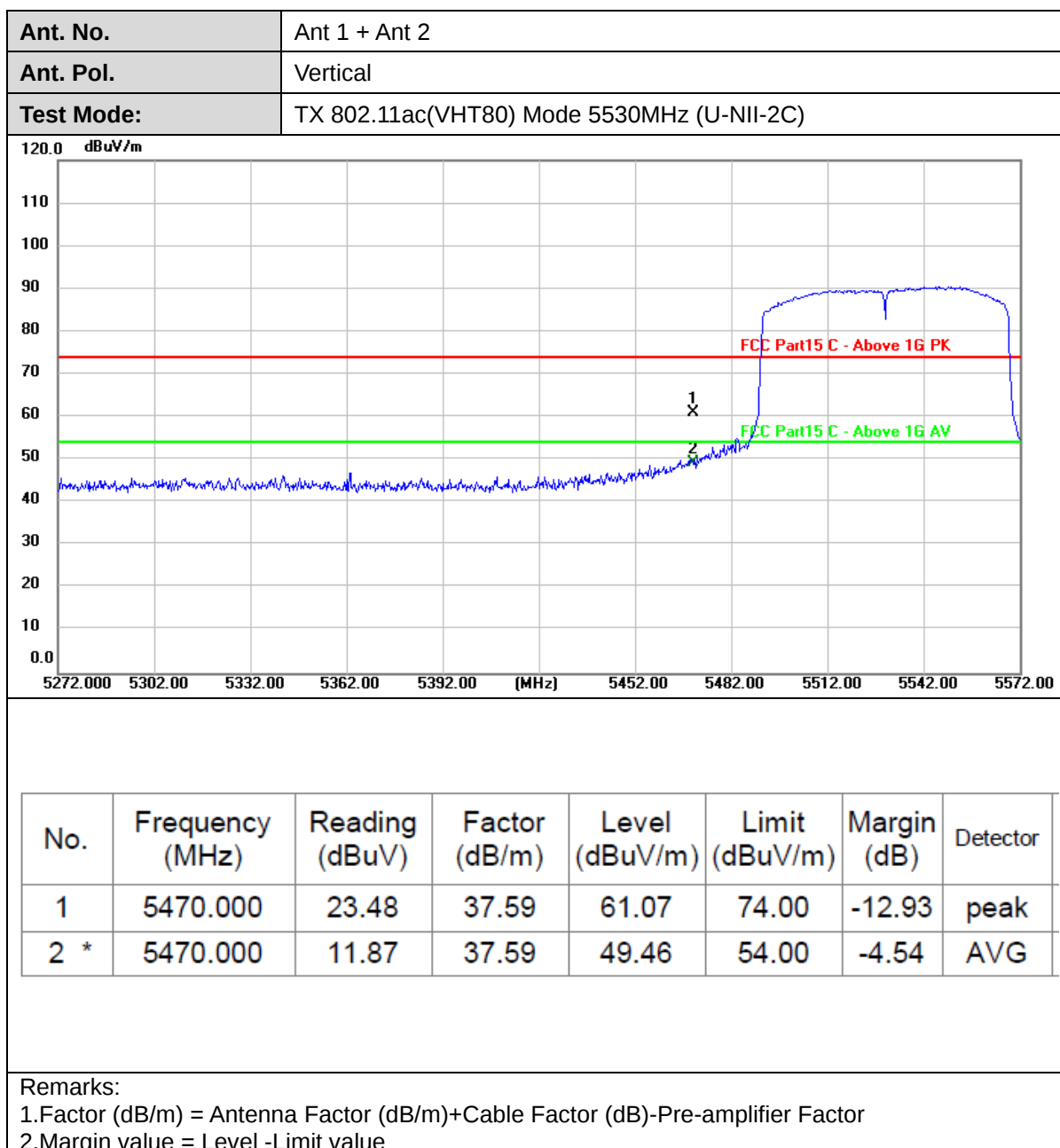


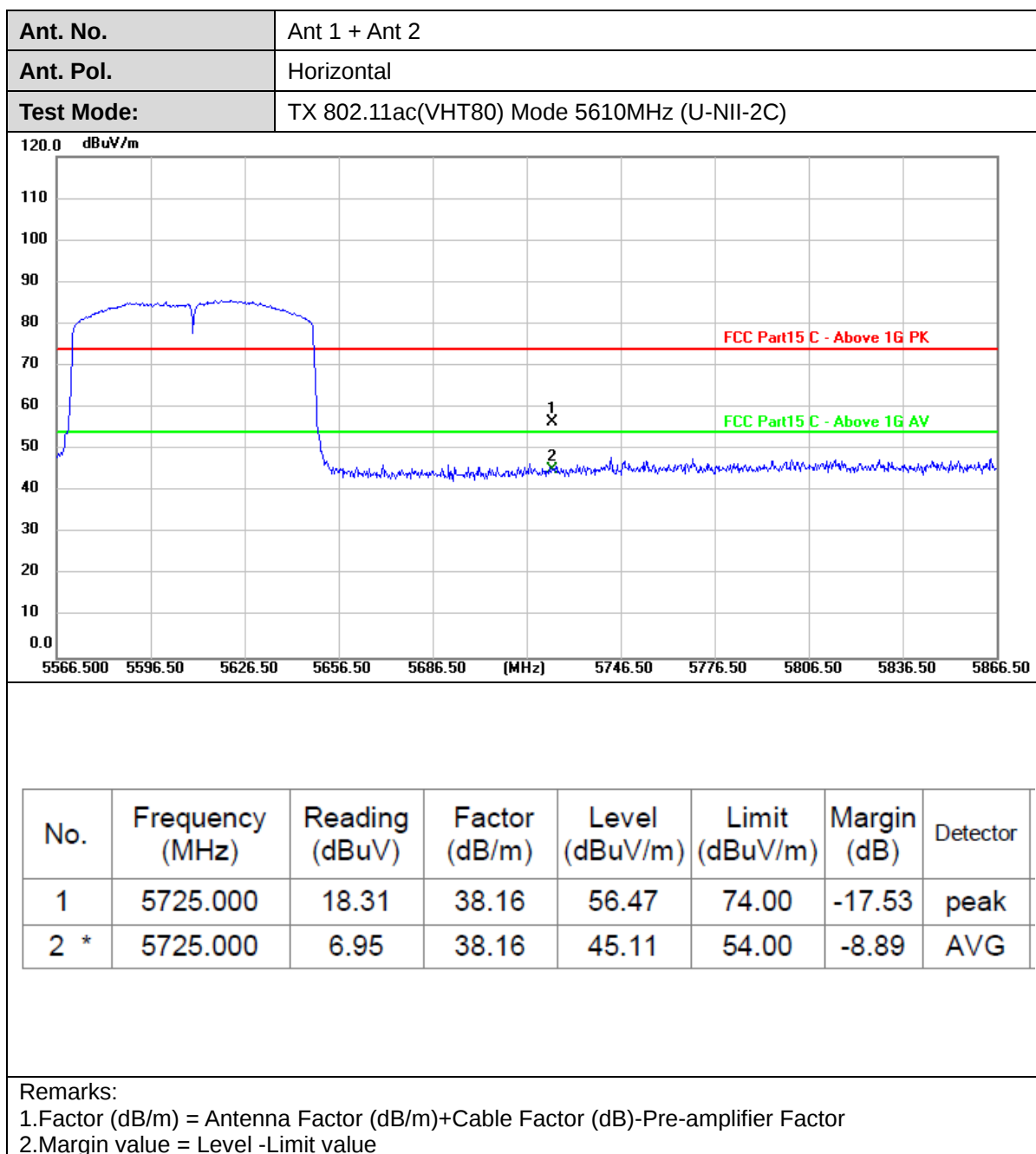


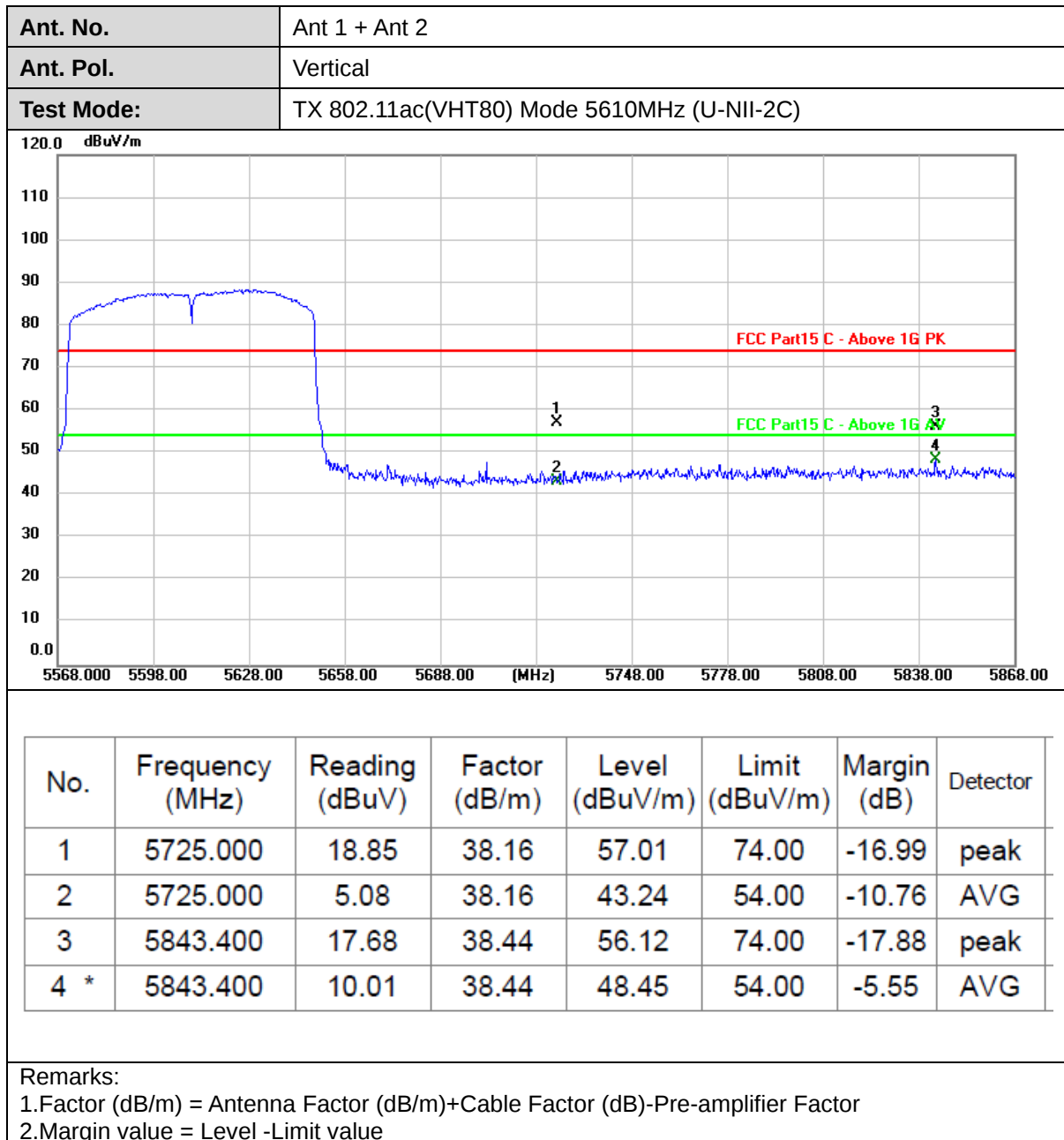


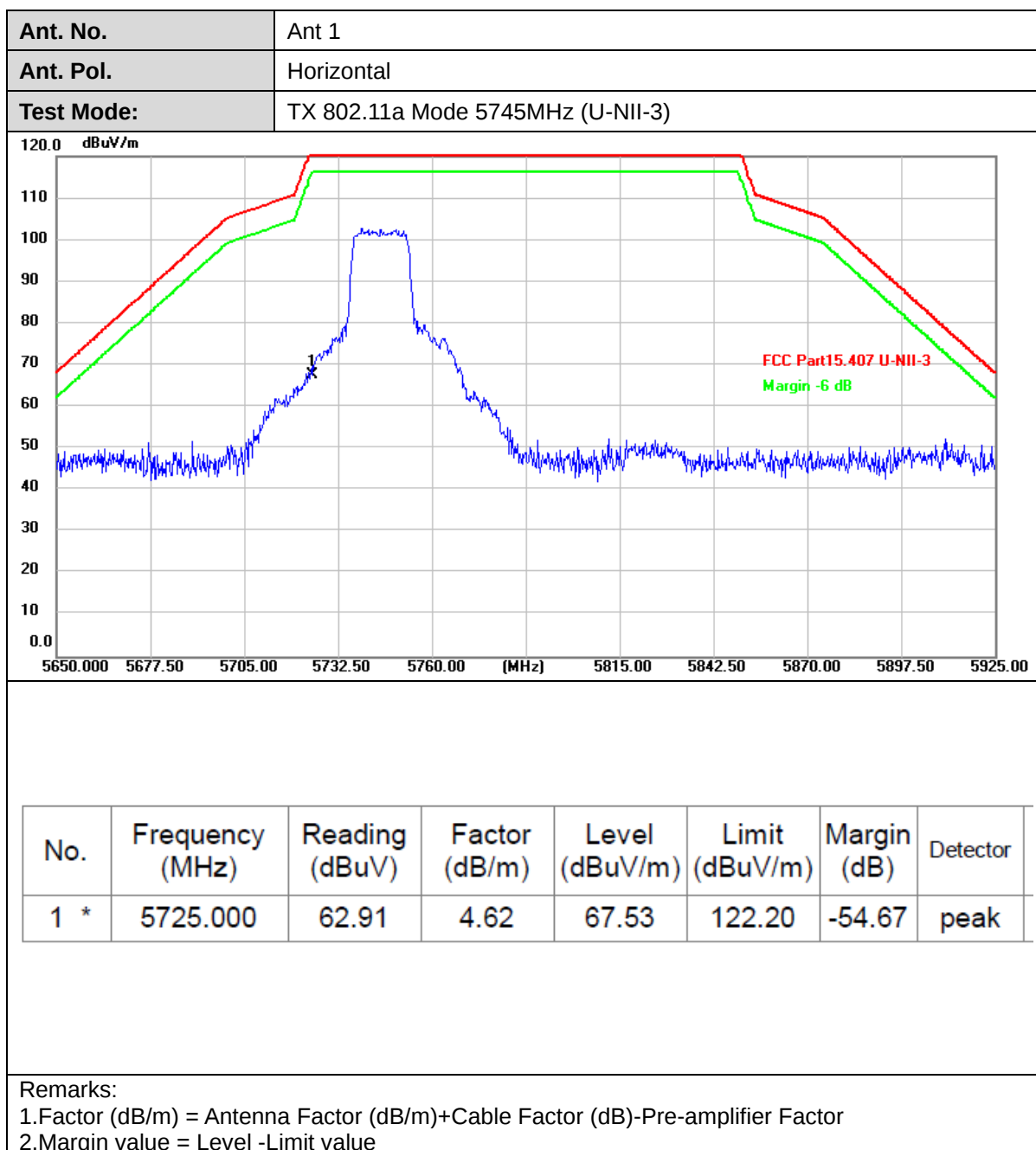


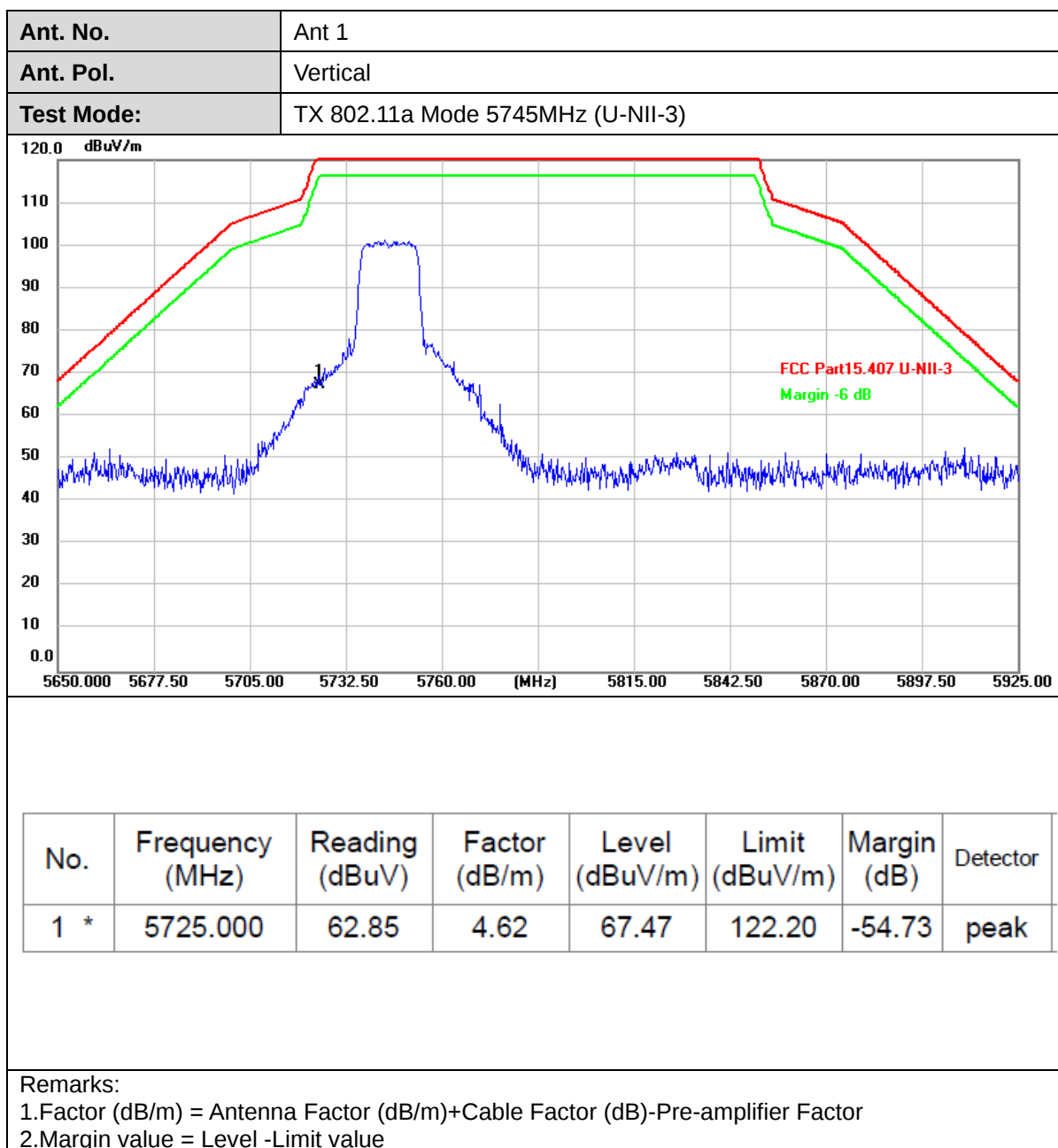


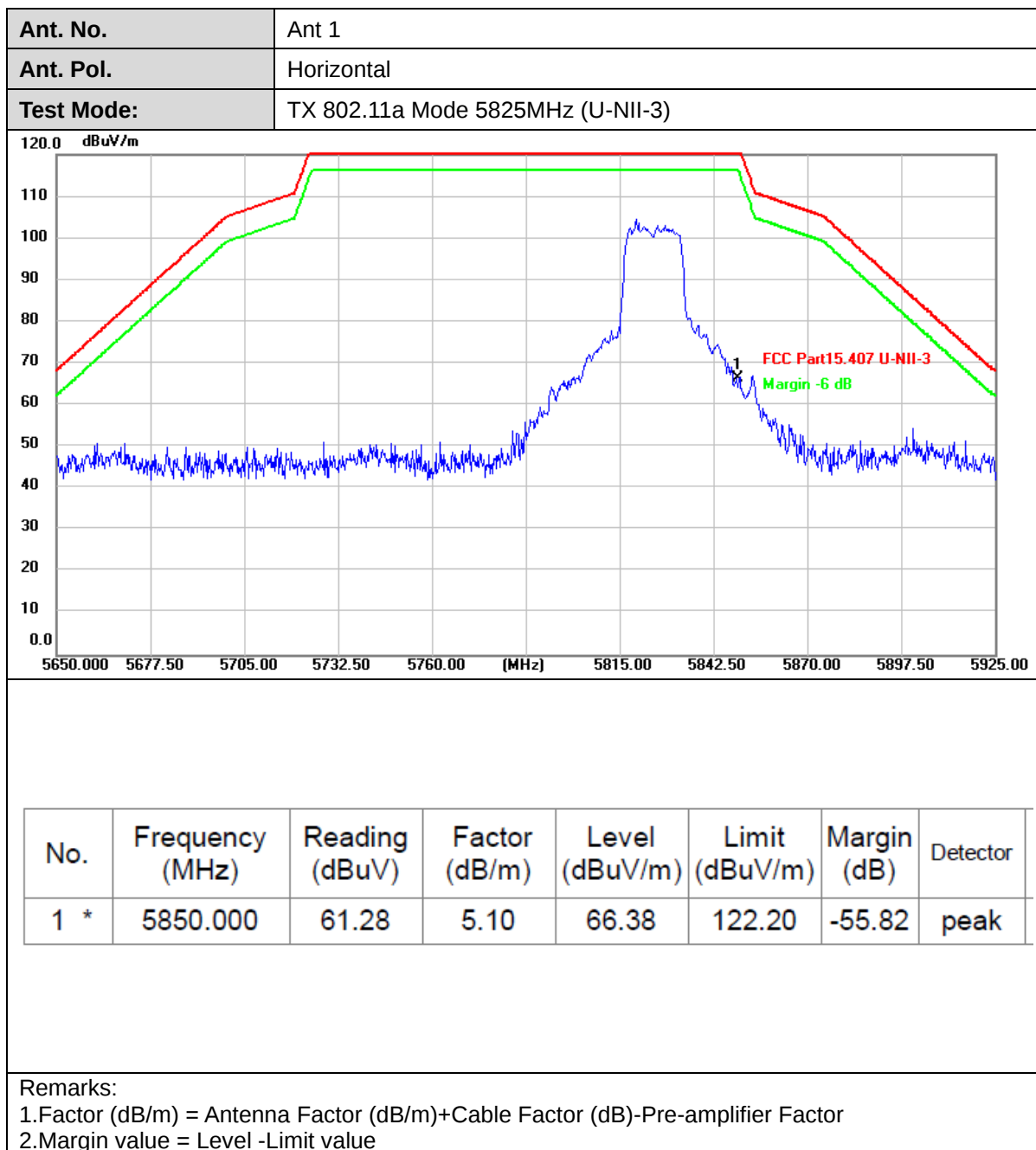


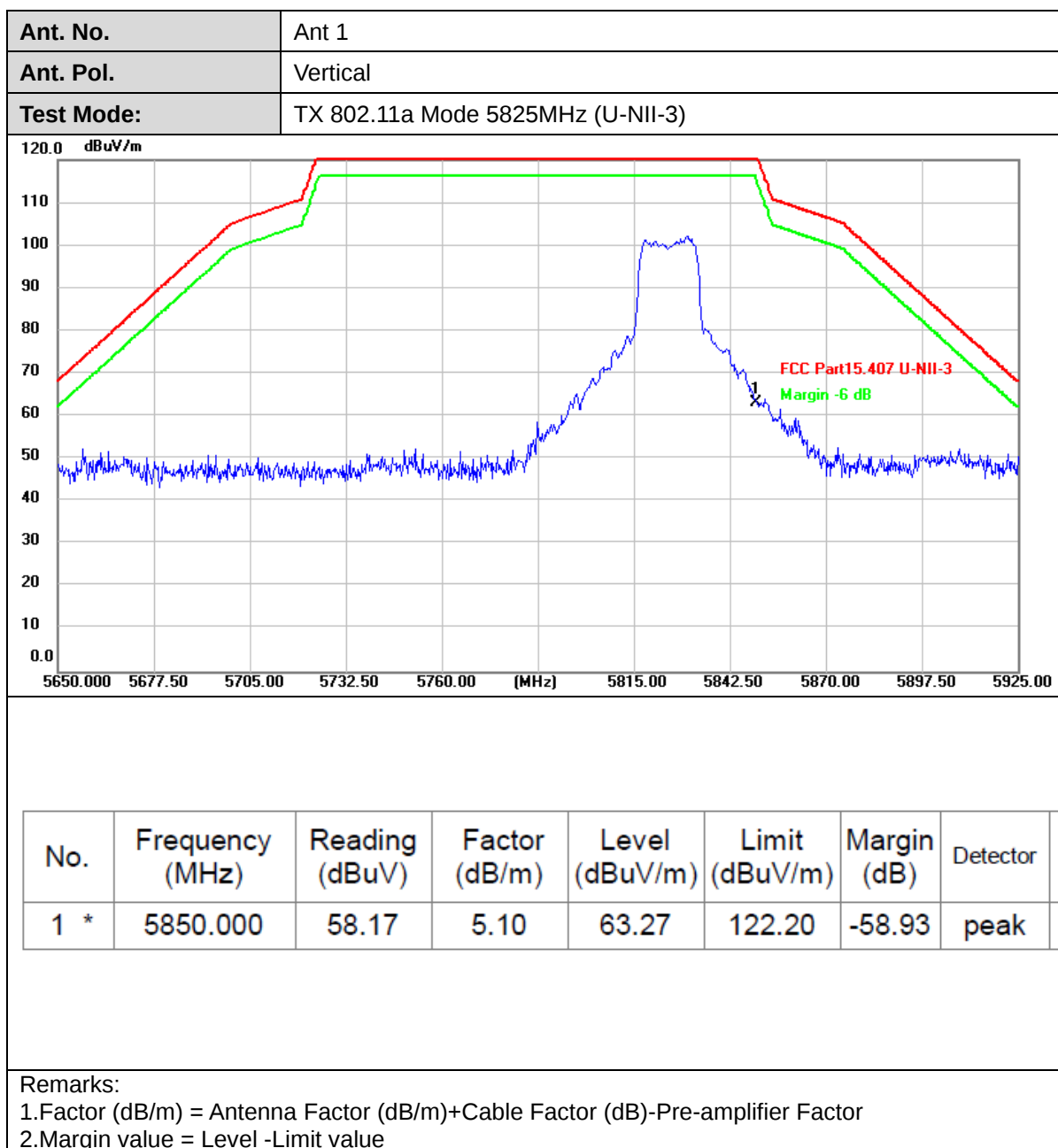


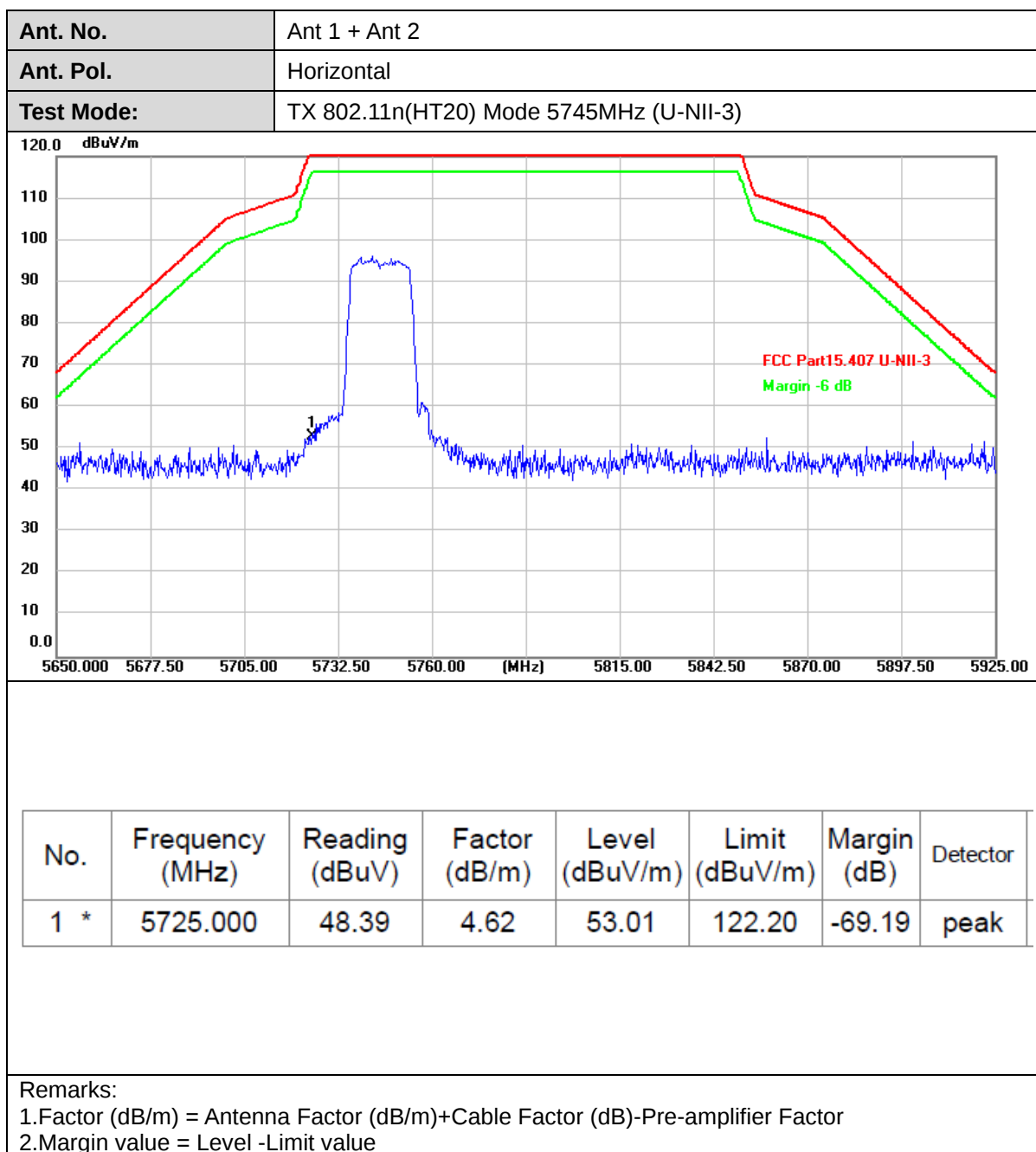


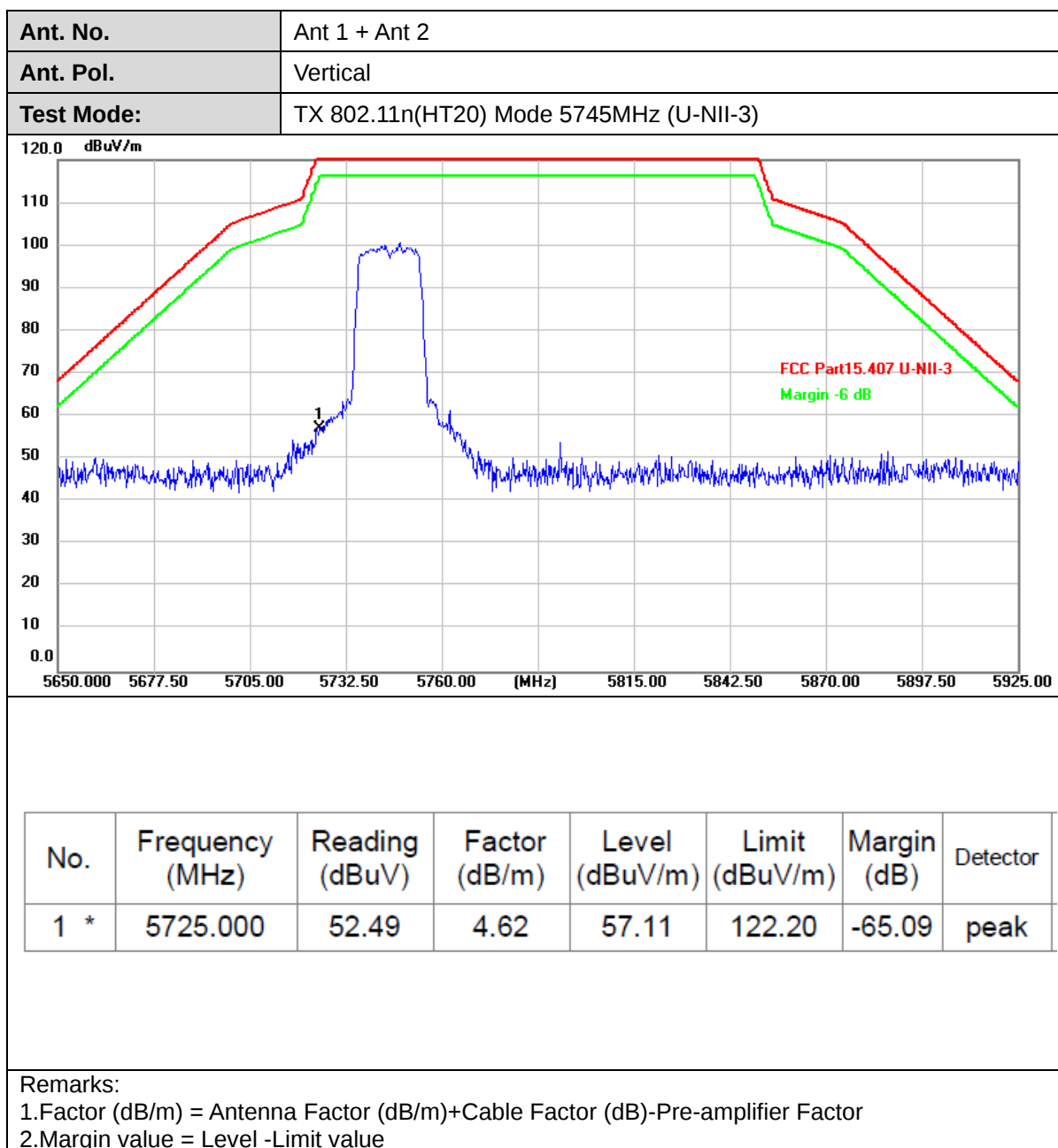


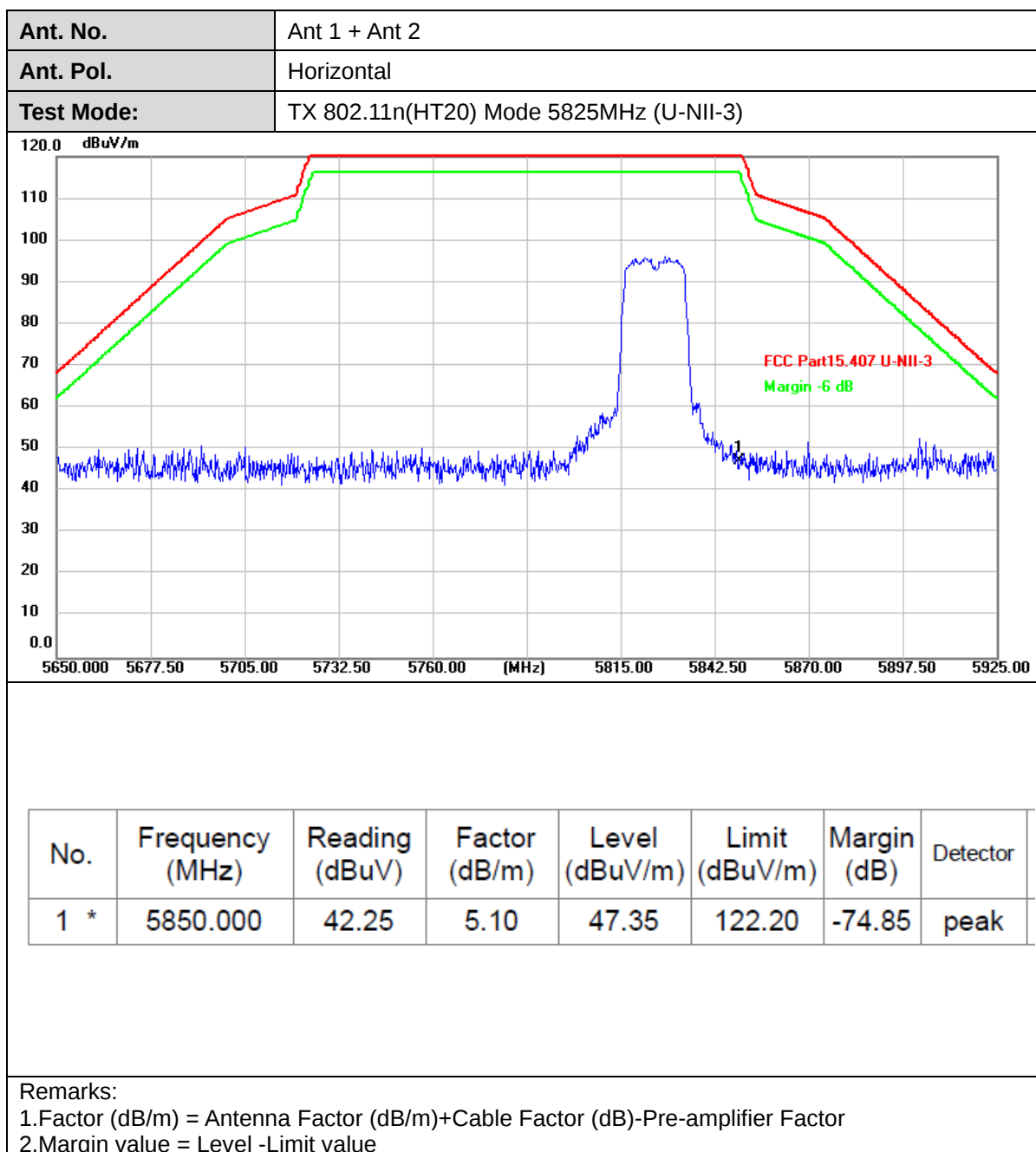


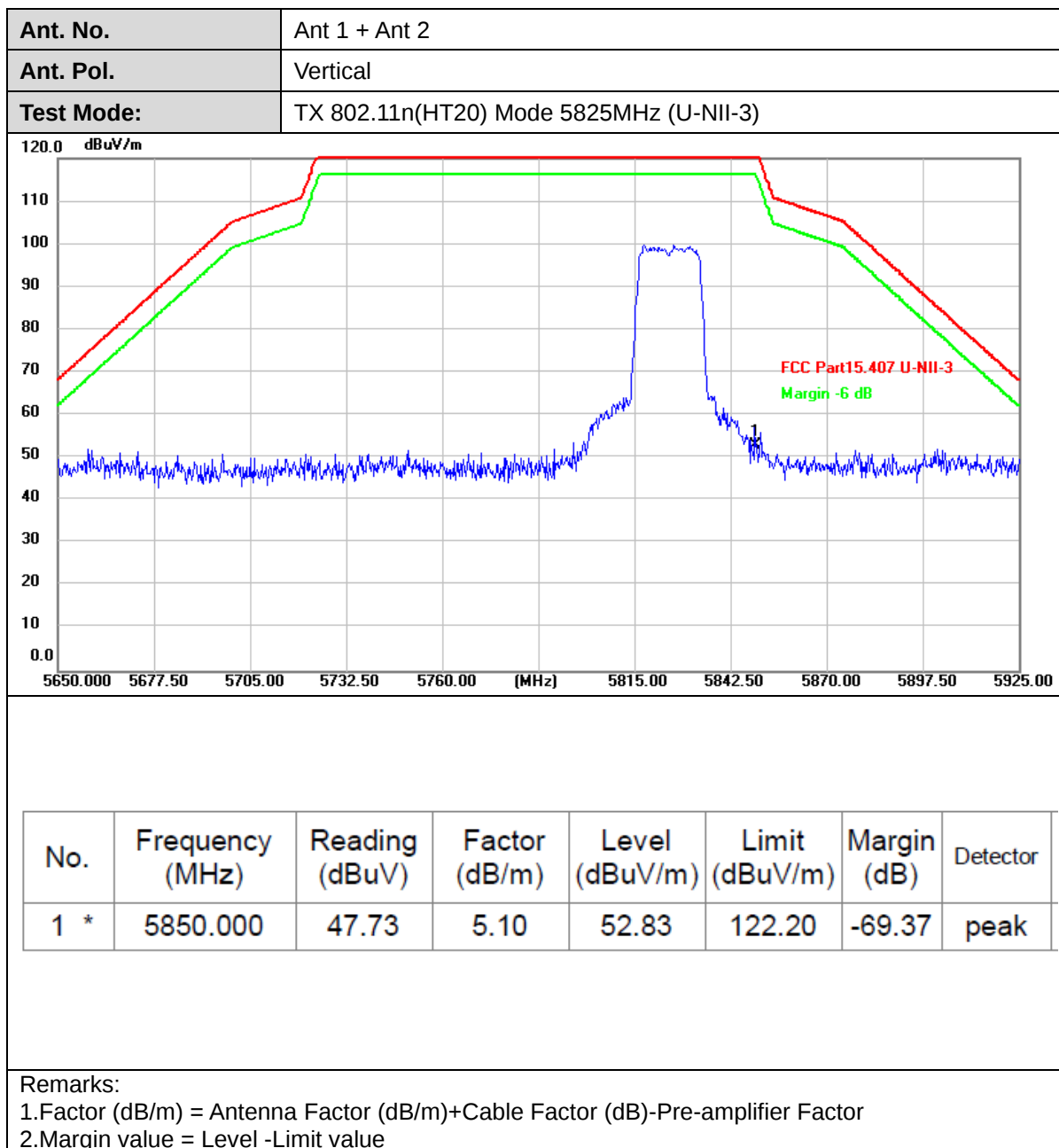


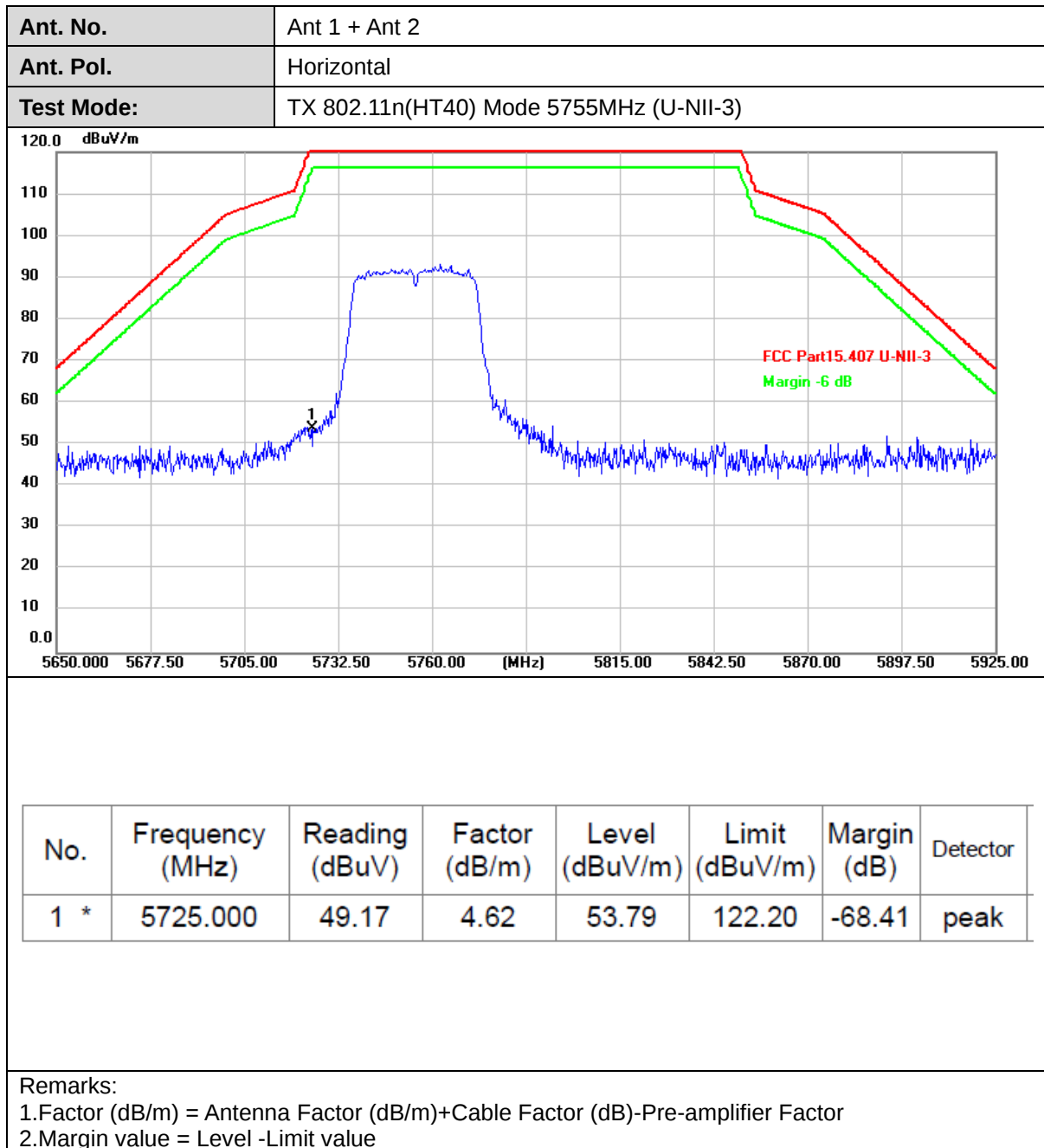


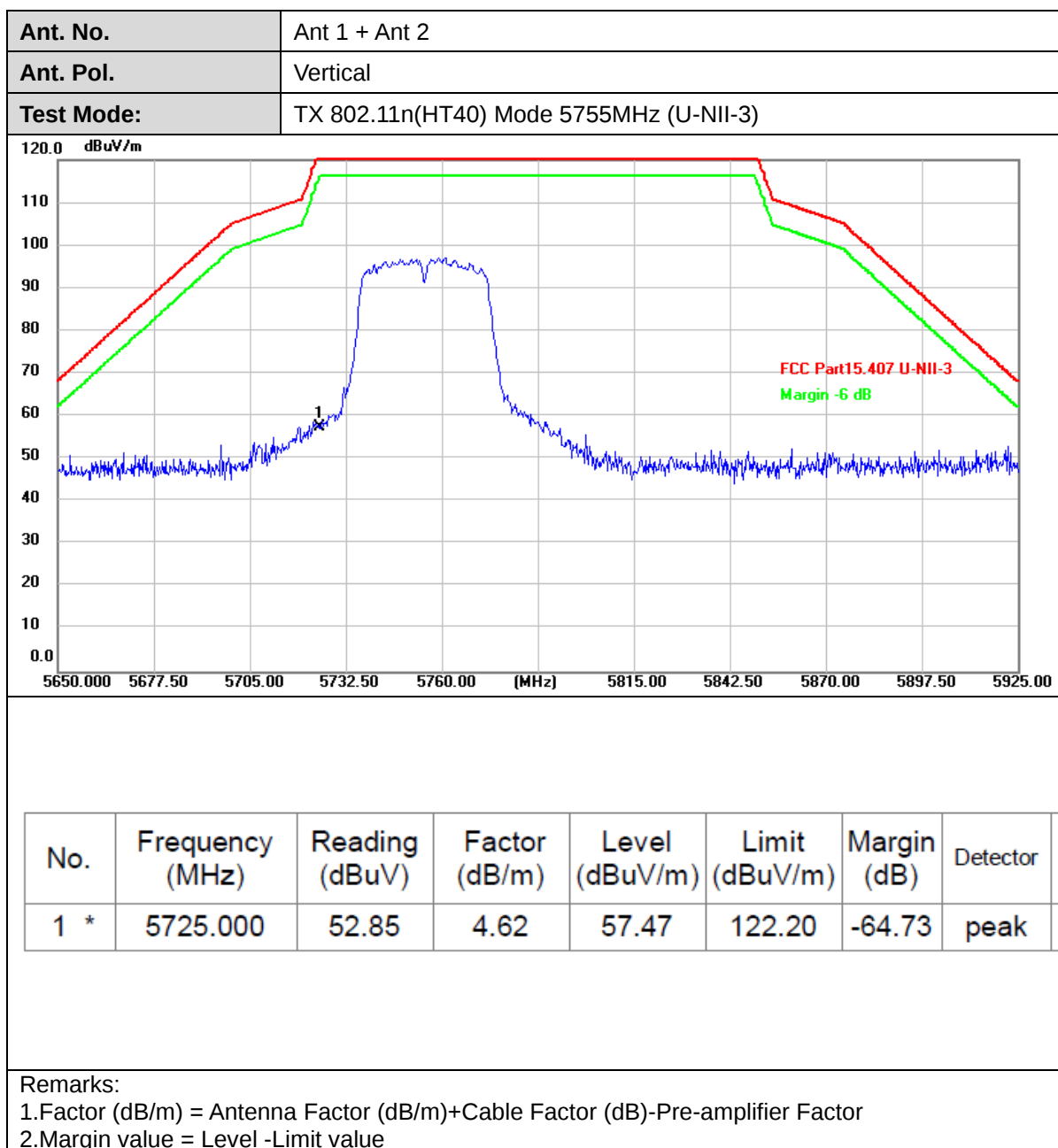


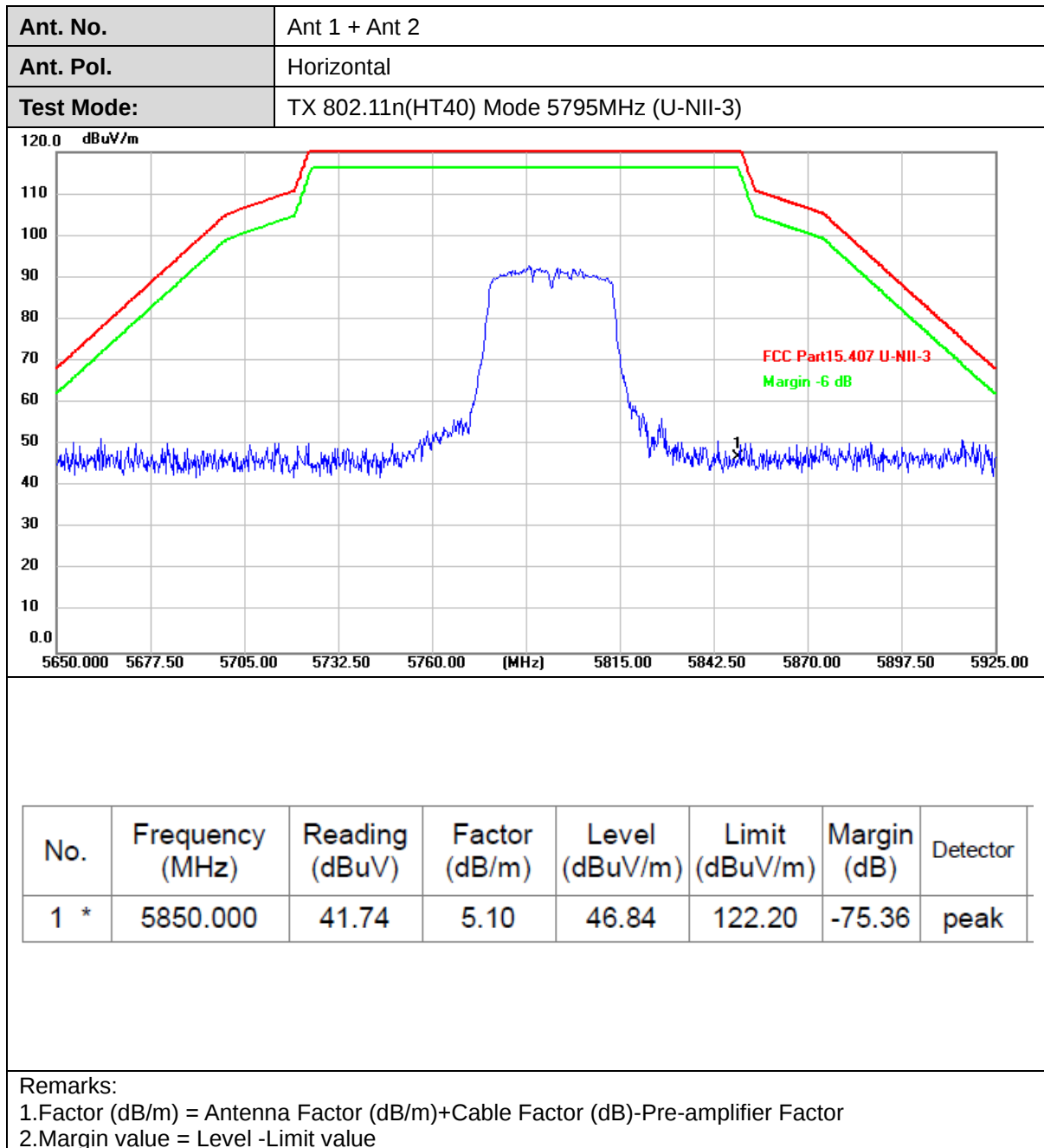


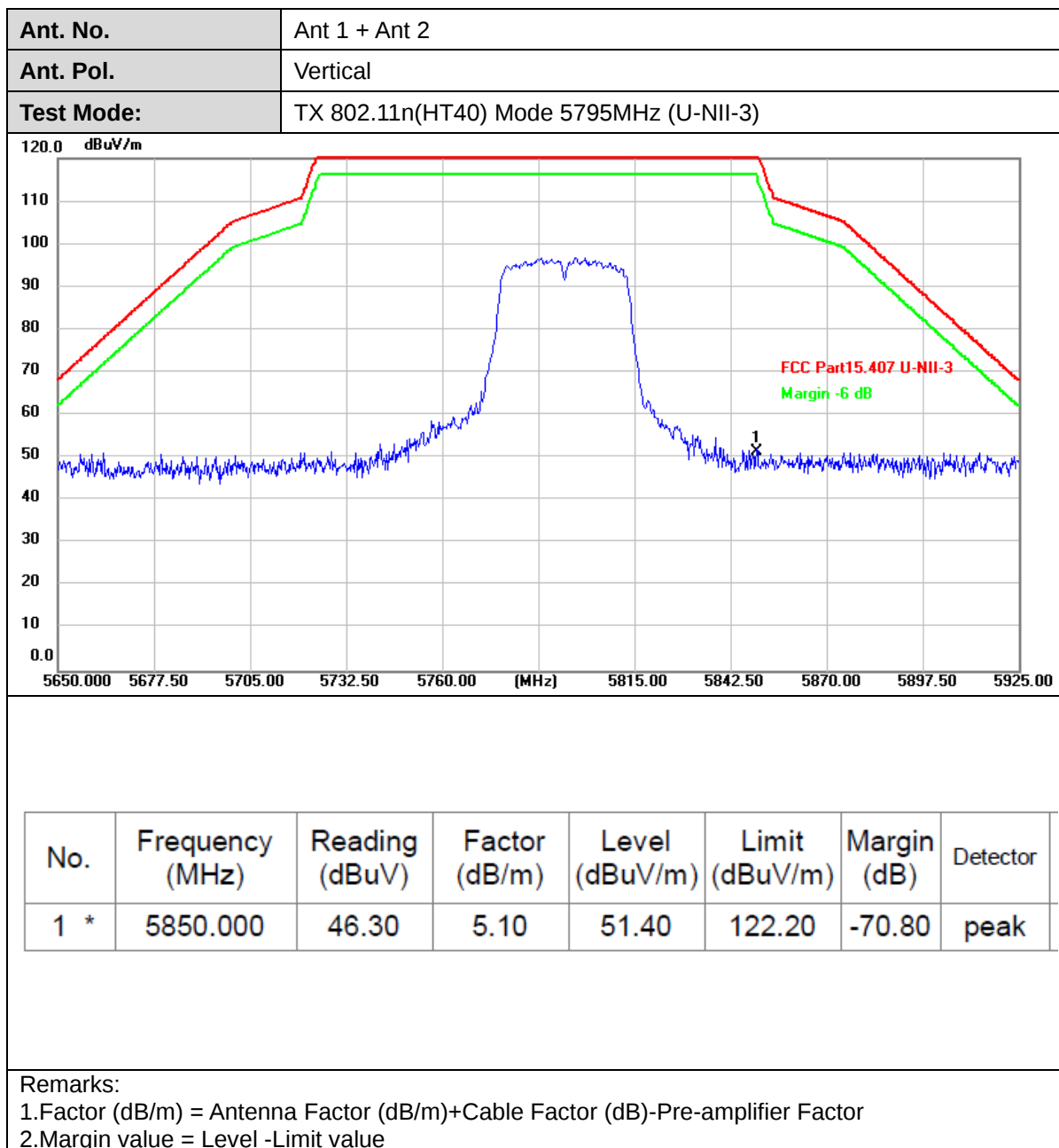


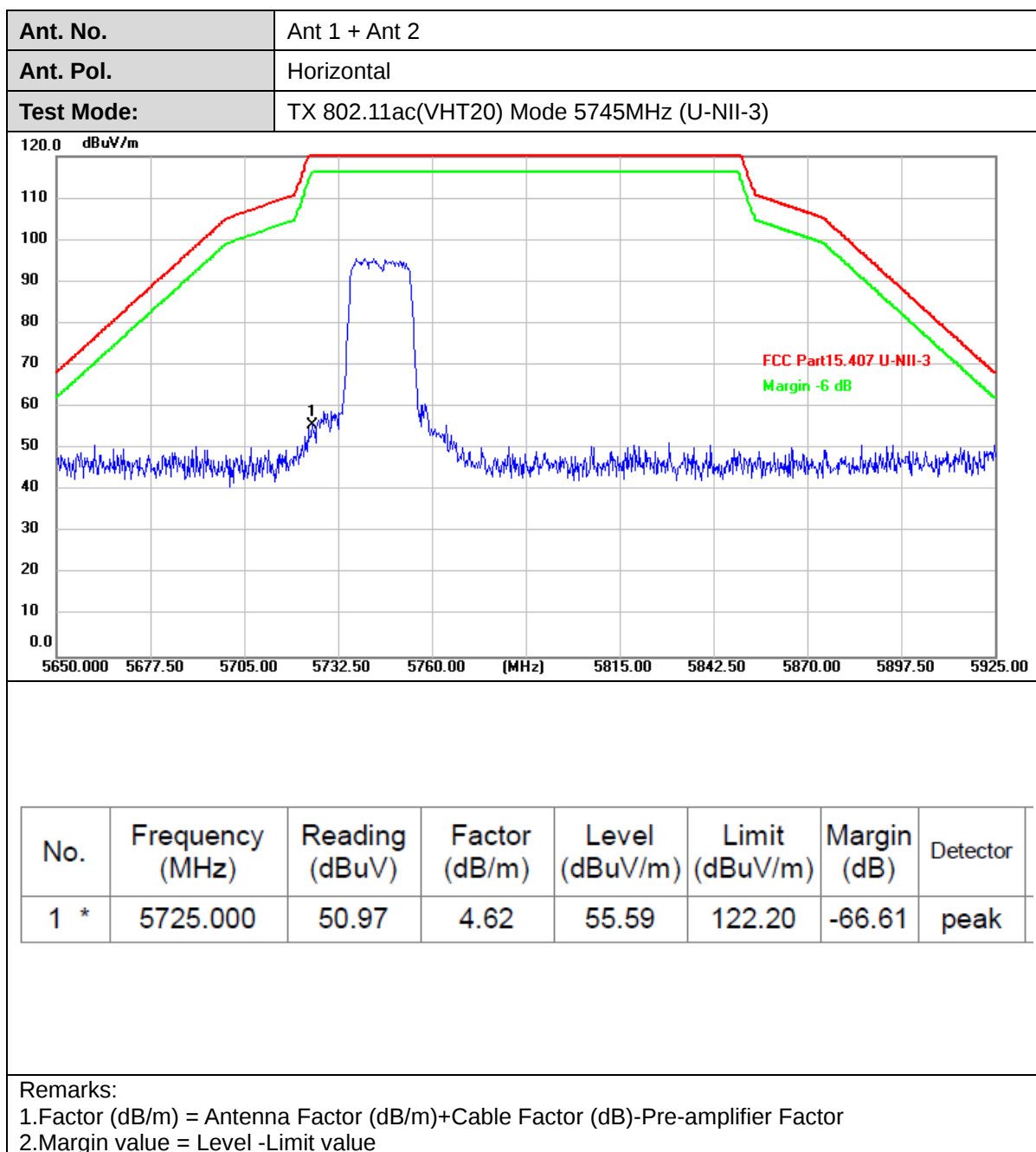


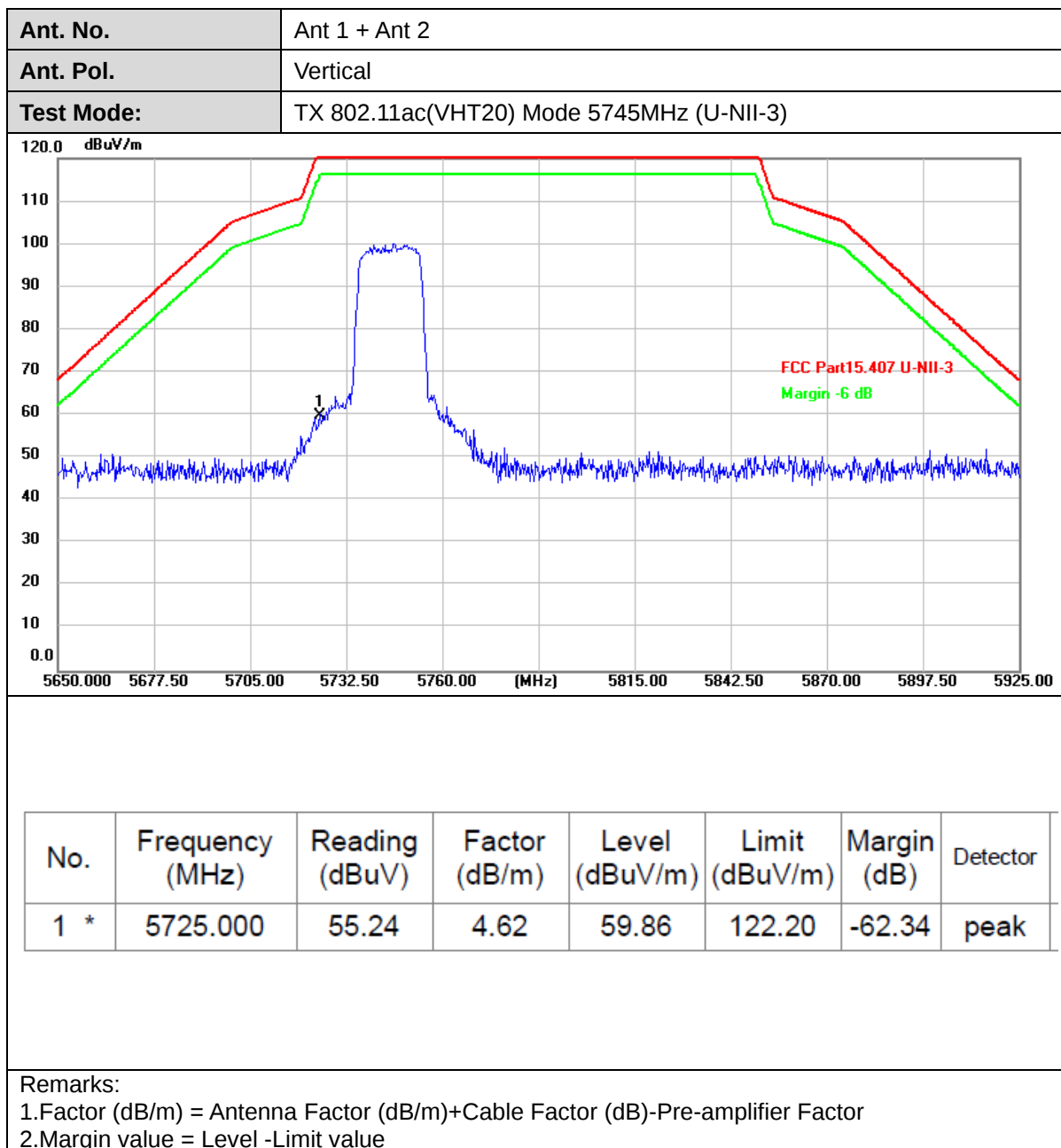


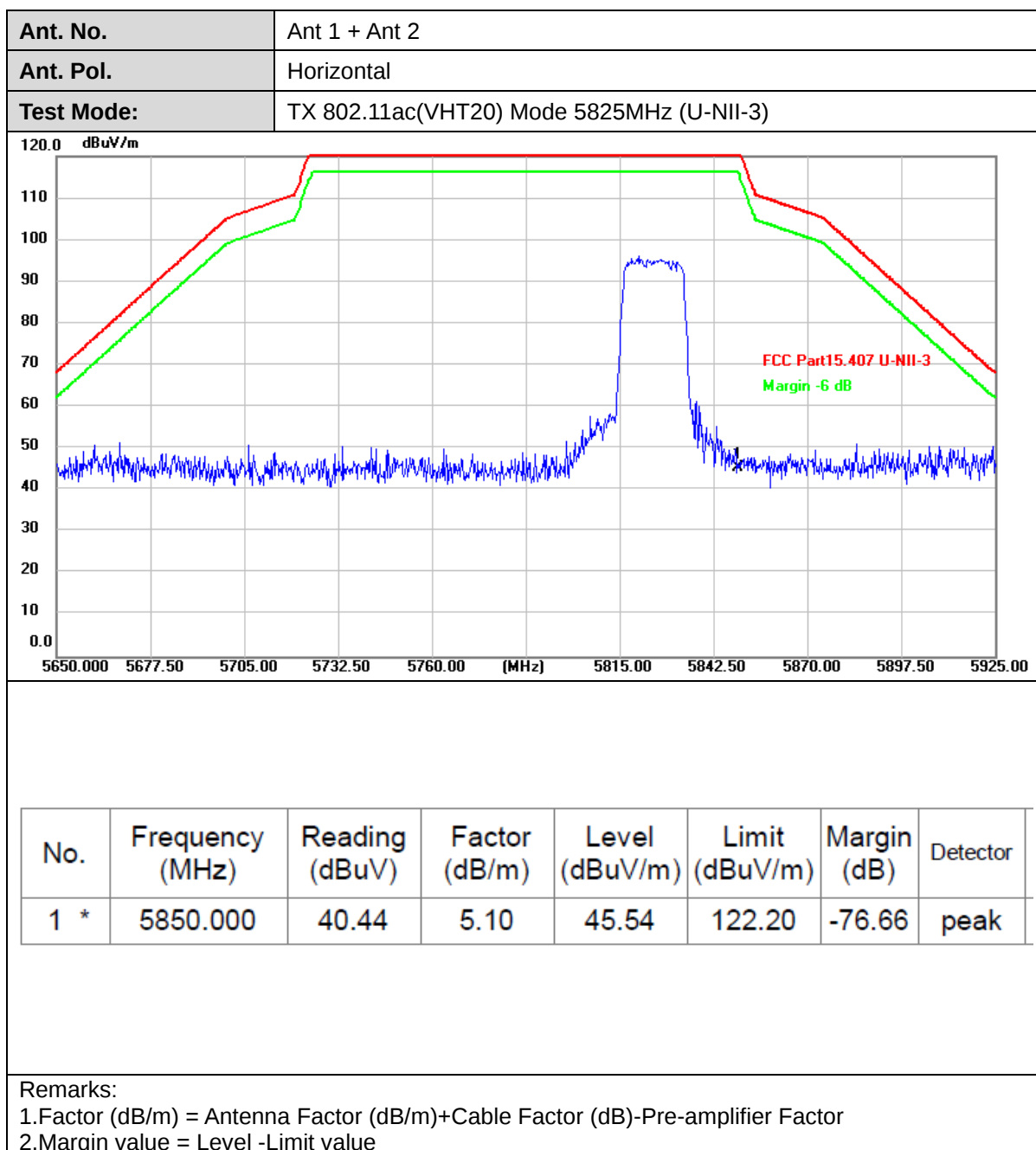


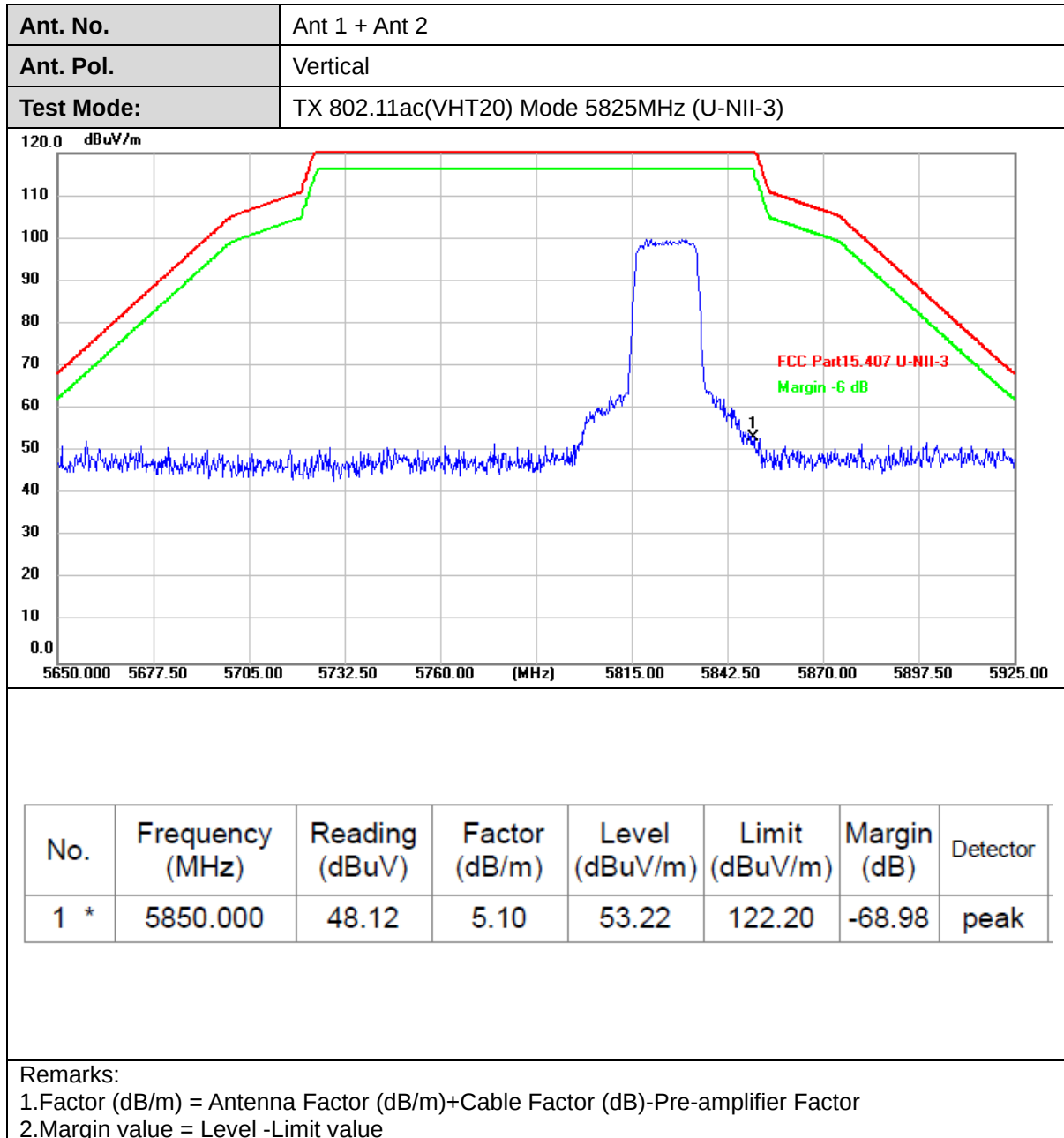


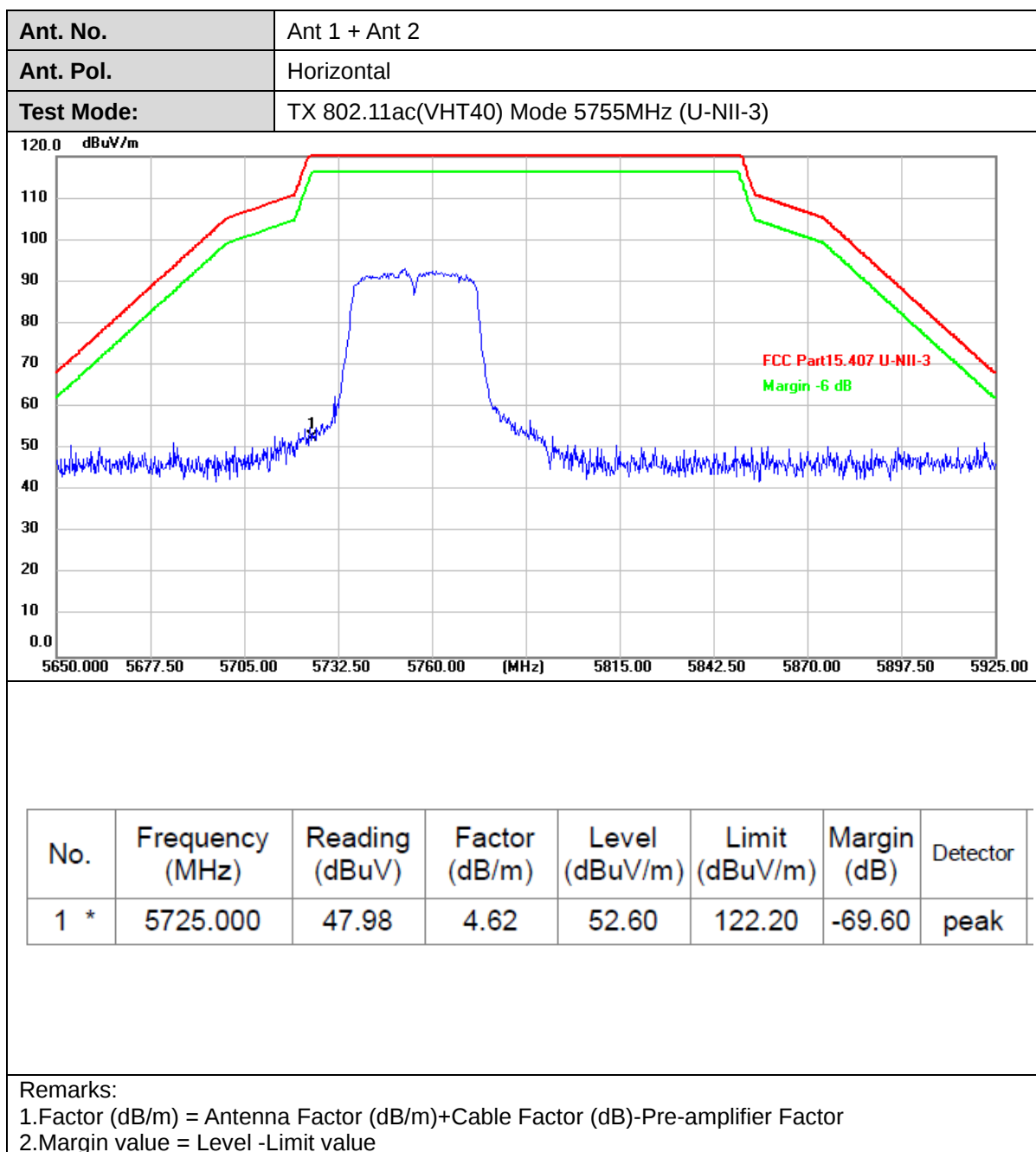


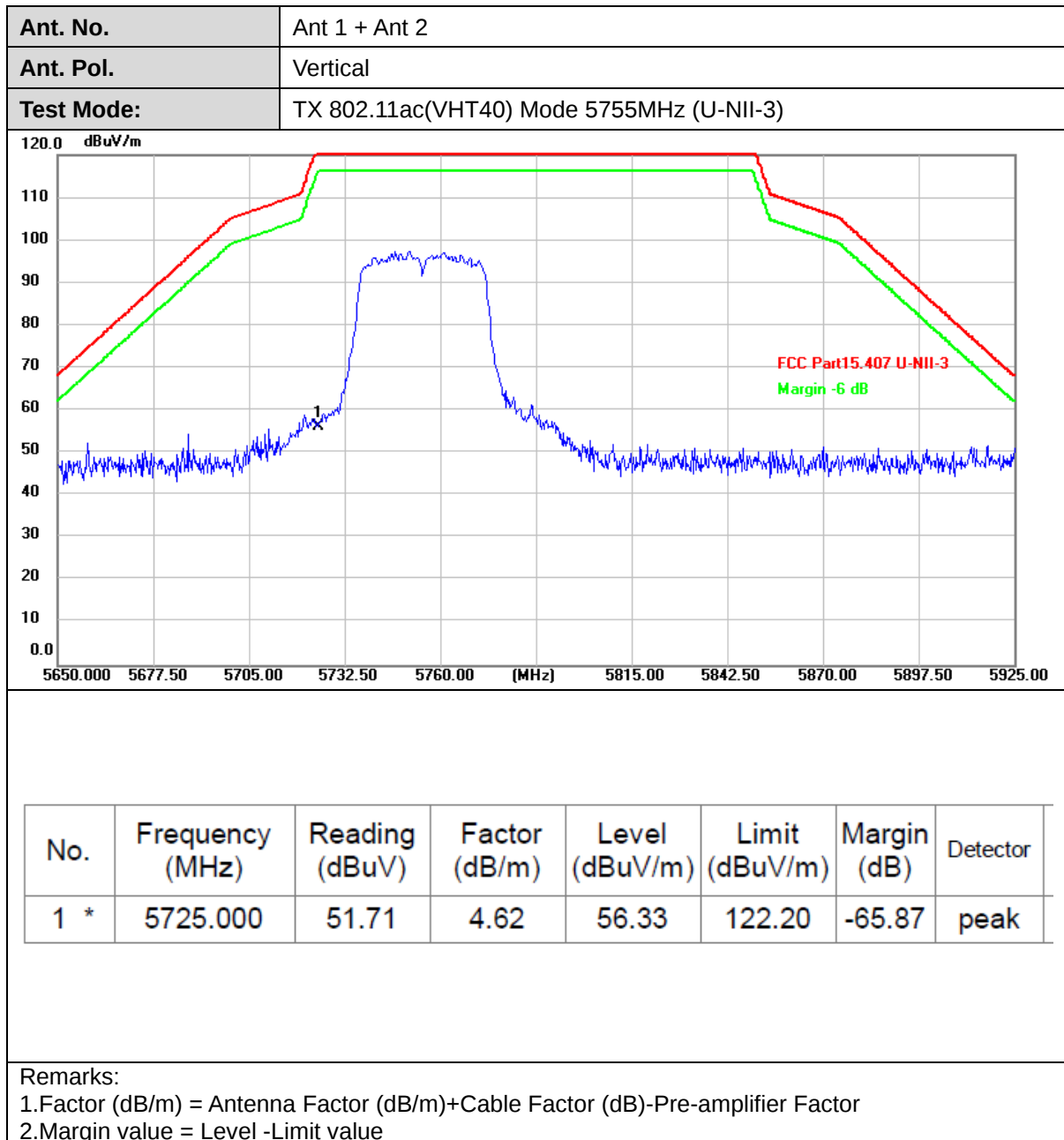


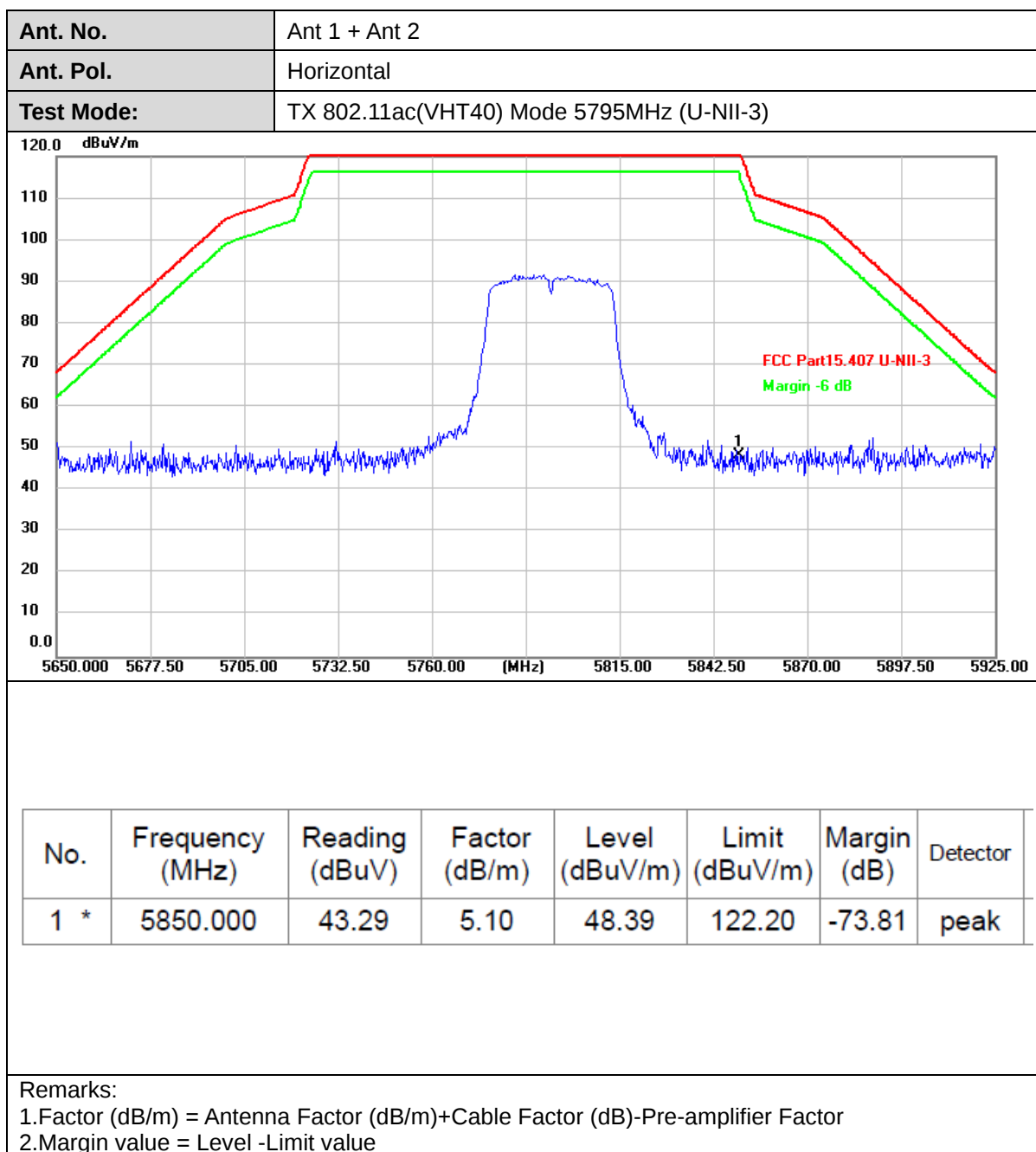


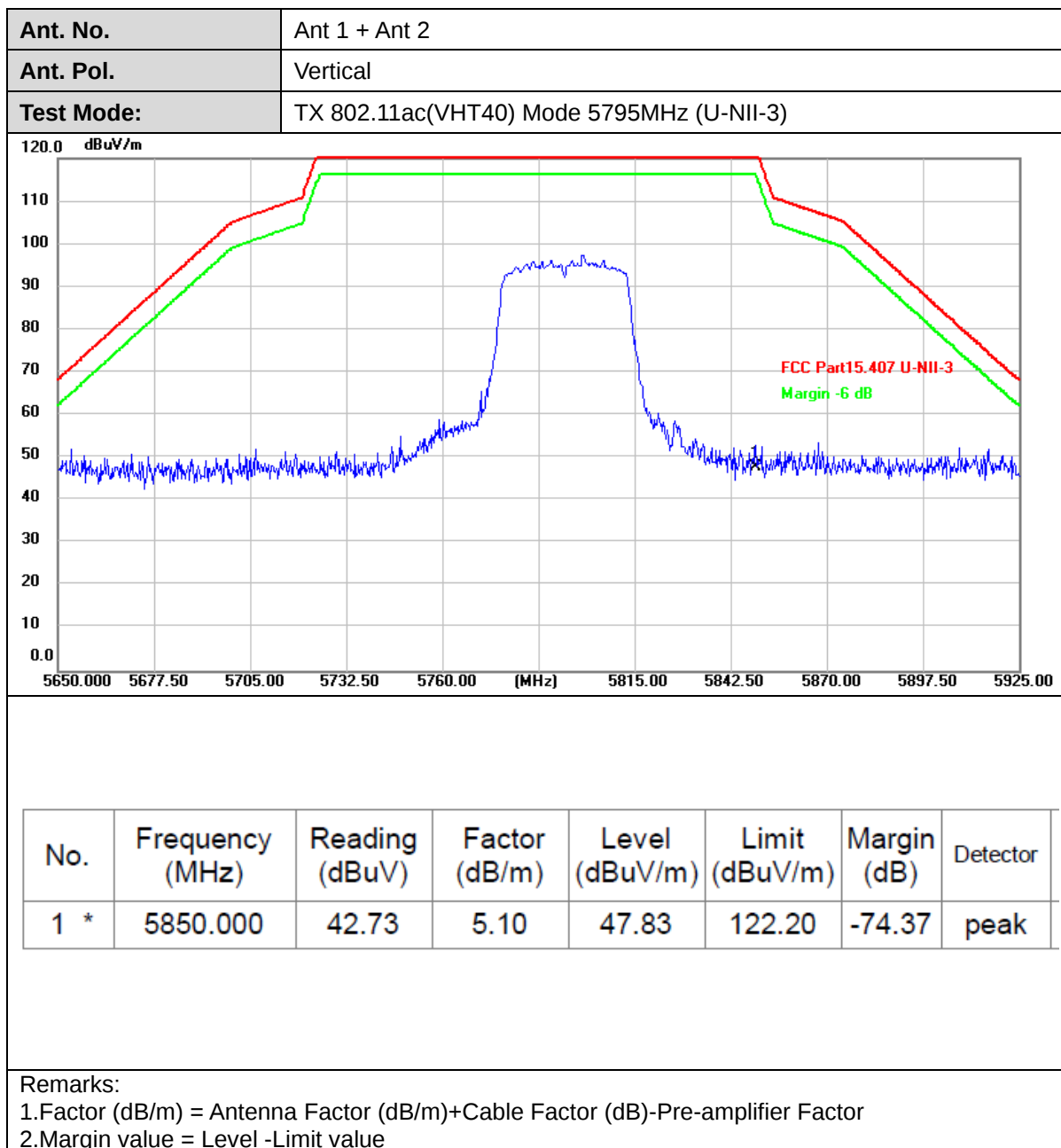


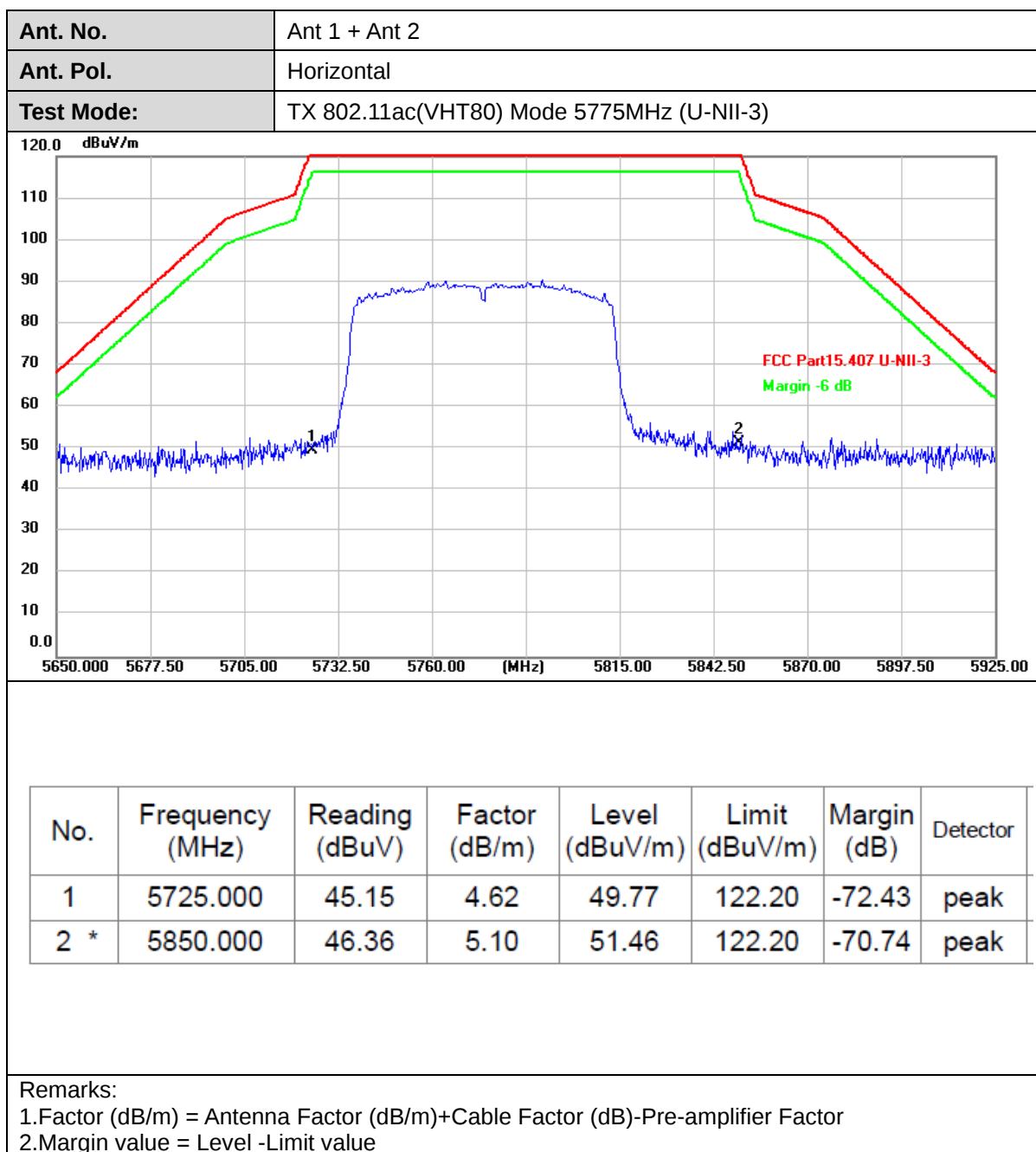


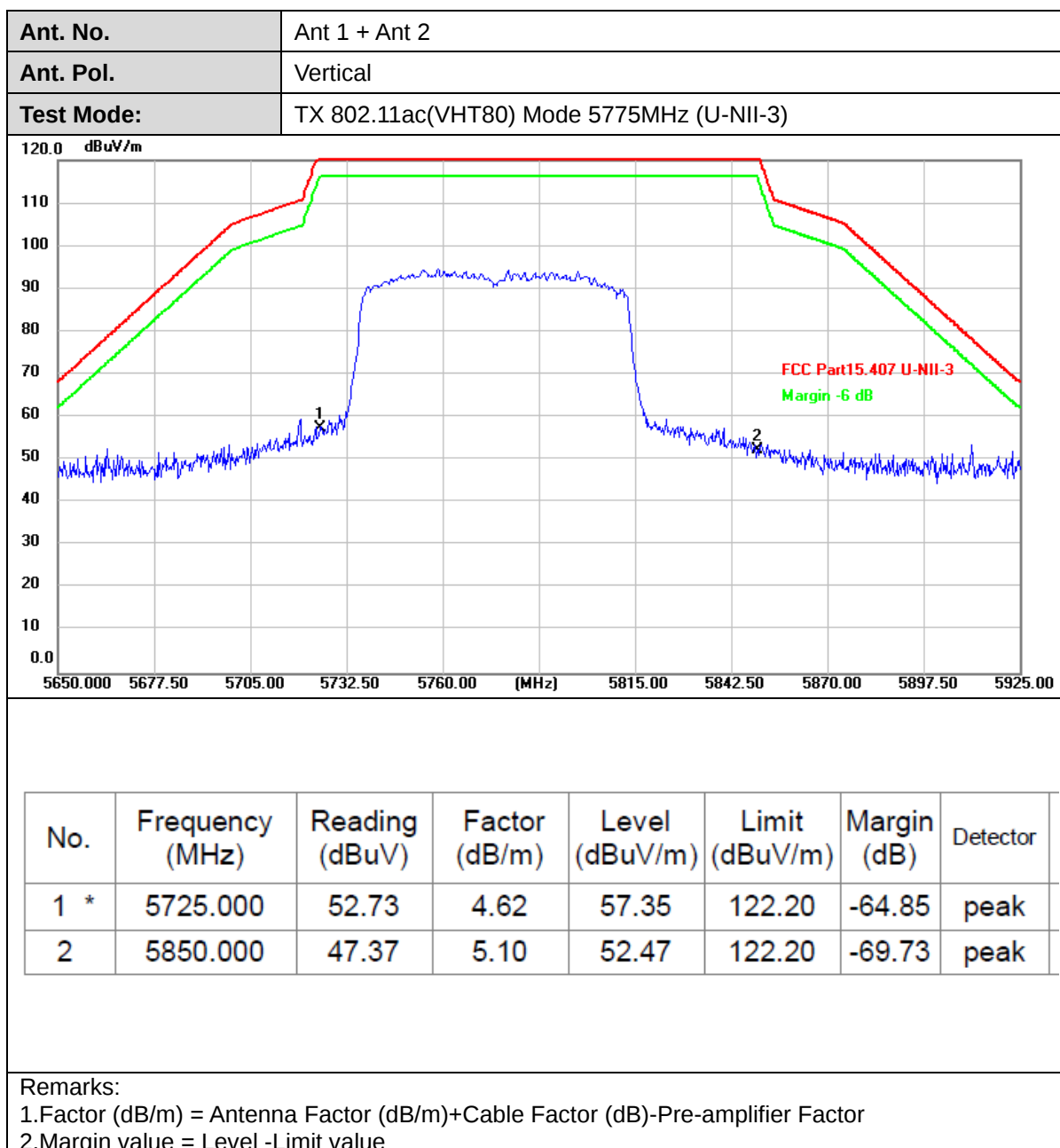














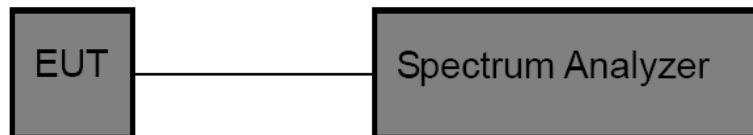
### 3.4. Bandwidth

#### Limit

#### FCC CFR Title 47 Part 15 Subpart E Section 15.407(a) & (e)

| Test Item                        | Limit    | Frequency Range (MHz) |
|----------------------------------|----------|-----------------------|
| 26dB Bandwidth&<br>99% Bandwidth | N/A      | 5150~5250             |
|                                  |          | 5250~5350             |
|                                  |          | 5500~5700             |
| 6 dB Bandwidth                   | ≥500 kHz | 5725~5850             |

#### Test Configuration



#### Test Procedure

Please refer to KDB789033 D02 for the measurement methods.

#### The setting of the spectrum analyzer as below:

| 26dB Bandwidth Test |                                            |
|---------------------|--------------------------------------------|
| Spectrum Parameters | Setting                                    |
| Attenuation         | Auto                                       |
| Span                | >26 dB Bandwidth                           |
| RBW                 | Approximately 1% of the emission bandwidth |
| VBW                 | >RBW                                       |
| Detector            | Peak                                       |
| Trace               | Max Hold                                   |
| Sweep Time          | Auto                                       |



| 6dB Bandwidth Test          |                            |
|-----------------------------|----------------------------|
| Spectrum Parameters         | Setting                    |
| Attenuation                 | Auto                       |
| Span                        | >6 dB Bandwidth            |
| RBW                         | 100 kHz                    |
| VBW                         | $\geq 3 \times \text{RBW}$ |
| Detector                    | Peak                       |
| Trace                       | Max Hold                   |
| Sweep Time                  | Auto                       |
| 99% Occupied Bandwidth Test |                            |
| Spectrum Parameters         | Setting                    |
| Attenuation                 | Auto                       |
| RBW                         | 1% to 5% of the OBW        |
| VBW                         | $\geq 3 \times \text{RBW}$ |
| Detector                    | Peak                       |
| Trace                       | Max Hold                   |

NOTE: The EUT was set to continuously transmitting in each mode and low, middle and high channel for the test.

#### **Test Mode**

Please refer to the clause 2.4.

**Test Result****26dB Bandwidth & 99% Bandwidth**

| TestMode  | Antenna | Freq(MHz) | 26db EBW [MHz] | OCB [MHz] |
|-----------|---------|-----------|----------------|-----------|
| 11A       | Ant1    | 5180      | 25.320         | 16.823    |
|           | Ant2    | 5180      | 21.160         | 16.668    |
|           | Ant1    | 5200      | 30.720         | 17.321    |
|           | Ant2    | 5200      | 22.240         | 16.714    |
|           | Ant1    | 5240      | 28.560         | 17.348    |
|           | Ant2    | 5240      | 30.680         | 17.414    |
|           | Ant1    | 5260      | 28.160         | 16.965    |
|           | Ant2    | 5260      | 31.400         | 17.432    |
|           | Ant1    | 5280      | 29.560         | 17.202    |
|           | Ant2    | 5280      | 30.640         | 17.495    |
|           | Ant1    | 5320      | 31.480         | 17.175    |
|           | Ant2    | 5320      | 29.000         | 17.004    |
|           | Ant1    | 5500      | 28.280         | 17.097    |
|           | Ant2    | 5500      | 28.120         | 16.936    |
|           | Ant1    | 5580      | 26.880         | 17.005    |
|           | Ant2    | 5580      | 29.480         | 17.169    |
|           | Ant1    | 5700      | 29.720         | 17.069    |
|           | Ant2    | 5700      | 25.920         | 16.936    |
|           | Ant1    | 5745      | 32.000         | 17.481    |
|           | Ant2    | 5745      | 27.280         | 16.818    |
|           | Ant1    | 5785      | 29.720         | 17.459    |
|           | Ant2    | 5785      | 25.520         | 16.830    |
|           | Ant1    | 5825      | 33.800         | 17.127    |
|           | Ant2    | 5825      | 23.280         | 16.677    |
| 11N20MIMO | Ant1    | 5180      | 19.520         | 17.659    |
|           | Ant2    | 5180      | 19.200         | 17.664    |
|           | Ant1    | 5200      | 19.520         | 17.679    |
|           | Ant2    | 5200      | 19.560         | 17.670    |
|           | Ant1    | 5240      | 20.400         | 17.676    |
|           | Ant2    | 5240      | 20.240         | 17.698    |
|           | Ant1    | 5260      | 19.560         | 17.683    |
|           | Ant2    | 5260      | 19.680         | 17.704    |
|           | Ant1    | 5280      | 19.480         | 17.698    |
|           | Ant2    | 5280      | 19.600         | 17.723    |

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|            |      |      |        |        |
|------------|------|------|--------|--------|
|            | Ant1 | 5320 | 19.560 | 17.663 |
|            | Ant2 | 5320 | 19.320 | 17.684 |
|            | Ant1 | 5500 | 23.080 | 17.811 |
|            | Ant2 | 5500 | 20.480 | 17.756 |
|            | Ant1 | 5580 | 23.640 | 17.877 |
|            | Ant2 | 5580 | 21.640 | 17.786 |
|            | Ant1 | 5700 | 21.120 | 17.782 |
|            | Ant2 | 5700 | 19.680 | 17.706 |
|            | Ant1 | 5745 | 19.440 | 17.702 |
|            | Ant2 | 5745 | 19.440 | 17.667 |
|            | Ant1 | 5785 | 19.440 | 17.656 |
|            | Ant2 | 5785 | 19.400 | 17.633 |
|            | Ant1 | 5825 | 19.480 | 17.673 |
|            | Ant2 | 5825 | 19.360 | 17.650 |
| 11N40MIMO  | Ant1 | 5190 | 41.040 | 36.277 |
|            | Ant2 | 5190 | 41.040 | 36.306 |
|            | Ant1 | 5230 | 41.200 | 36.387 |
|            | Ant2 | 5230 | 41.200 | 36.574 |
|            | Ant1 | 5270 | 40.720 | 36.364 |
|            | Ant2 | 5270 | 41.120 | 36.442 |
|            | Ant1 | 5310 | 41.440 | 36.454 |
|            | Ant2 | 5310 | 41.040 | 36.502 |
|            | Ant1 | 5510 | 49.600 | 36.840 |
|            | Ant2 | 5510 | 45.280 | 36.602 |
|            | Ant1 | 5550 | 71.520 | 38.039 |
|            | Ant2 | 5550 | 54.640 | 36.858 |
|            | Ant1 | 5670 | 49.120 | 36.647 |
|            | Ant2 | 5670 | 41.520 | 36.530 |
|            | Ant1 | 5755 | 43.920 | 36.488 |
|            | Ant2 | 5755 | 42.000 | 36.457 |
|            | Ant1 | 5795 | 41.200 | 36.507 |
|            | Ant2 | 5795 | 41.200 | 36.510 |
| 11AC20MIMO | Ant1 | 5180 | 19.480 | 17.656 |
|            | Ant2 | 5180 | 19.400 | 17.656 |
|            | Ant1 | 5200 | 19.360 | 17.648 |
|            | Ant2 | 5200 | 19.320 | 17.647 |
|            | Ant1 | 5240 | 19.480 | 17.661 |
|            | Ant2 | 5240 | 19.440 | 17.657 |

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|            |      |      |        |        |
|------------|------|------|--------|--------|
|            | Ant1 | 5260 | 19.560 | 17.666 |
|            | Ant2 | 5260 | 19.480 | 17.681 |
|            | Ant1 | 5280 | 19.480 | 17.661 |
|            | Ant2 | 5280 | 19.440 | 17.648 |
|            | Ant1 | 5320 | 19.360 | 17.633 |
|            | Ant2 | 5320 | 19.560 | 17.628 |
|            | Ant1 | 5500 | 20.120 | 17.753 |
|            | Ant2 | 5500 | 19.640 | 17.710 |
|            | Ant1 | 5580 | 27.320 | 18.037 |
|            | Ant2 | 5580 | 25.240 | 17.821 |
|            | Ant1 | 5700 | 19.480 | 17.710 |
|            | Ant2 | 5700 | 19.440 | 17.664 |
|            | Ant1 | 5745 | 19.400 | 17.656 |
|            | Ant2 | 5745 | 19.360 | 17.627 |
|            | Ant1 | 5785 | 19.360 | 17.651 |
|            | Ant2 | 5785 | 19.400 | 17.642 |
|            | Ant1 | 5825 | 19.400 | 17.649 |
|            | Ant2 | 5825 | 19.360 | 17.642 |
| 11AC40MIMO | Ant1 | 5190 | 41.360 | 36.379 |
|            | Ant2 | 5190 | 41.280 | 36.328 |
|            | Ant1 | 5230 | 41.360 | 36.428 |
|            | Ant2 | 5230 | 41.280 | 36.341 |
|            | Ant1 | 5270 | 41.120 | 36.376 |
|            | Ant2 | 5270 | 41.760 | 36.430 |
|            | Ant1 | 5310 | 40.800 | 36.450 |
|            | Ant2 | 5310 | 41.040 | 36.421 |
|            | Ant1 | 5510 | 50.480 | 36.530 |
|            | Ant2 | 5510 | 41.040 | 36.321 |
|            | Ant1 | 5550 | 42.400 | 36.424 |
|            | Ant2 | 5550 | 40.480 | 36.269 |
|            | Ant1 | 5670 | 52.960 | 36.742 |
|            | Ant2 | 5670 | 41.280 | 36.497 |
|            | Ant1 | 5755 | 41.040 | 36.386 |
|            | Ant2 | 5755 | 41.200 | 36.364 |
|            | Ant1 | 5795 | 41.680 | 36.600 |
|            | Ant2 | 5795 | 41.280 | 36.558 |
| 11AC80MIMO | Ant1 | 5210 | 80.480 | 74.816 |
|            | Ant2 | 5210 | 80.320 | 74.375 |

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|  |      |      |        |        |
|--|------|------|--------|--------|
|  | Ant1 | 5290 | 81.120 | 74.832 |
|  | Ant2 | 5290 | 81.440 | 74.818 |
|  | Ant1 | 5530 | 88.160 | 75.002 |
|  | Ant2 | 5530 | 80.480 | 74.561 |
|  | Ant1 | 5610 | 95.040 | 74.712 |
|  | Ant2 | 5610 | 90.880 | 74.384 |
|  | Ant1 | 5775 | 80.960 | 74.689 |
|  | Ant2 | 5775 | 80.960 | 74.514 |

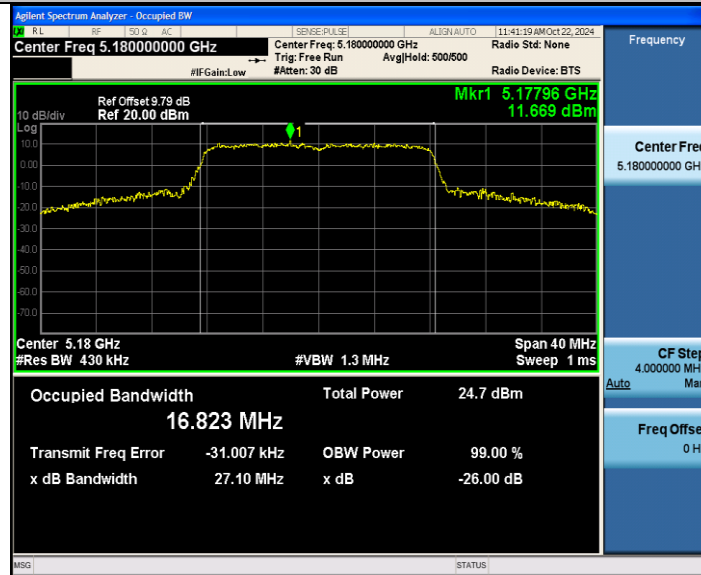
**6dB Bandwidth**

| TestMode   | Antenna | Freq(MHz) | 6db EBW [MHz] | Limit[MHz] | Verdict |
|------------|---------|-----------|---------------|------------|---------|
| 11A        | Ant1    | 5745      | 16.280        | 0.5        | PASS    |
|            | Ant2    | 5745      | 16.320        | 0.5        | PASS    |
|            | Ant1    | 5785      | 16.320        | 0.5        | PASS    |
|            | Ant2    | 5785      | 16.320        | 0.5        | PASS    |
|            | Ant1    | 5825      | 16.120        | 0.5        | PASS    |
|            | Ant2    | 5825      | 16.320        | 0.5        | PASS    |
| 11N20MIMO  | Ant1    | 5745      | 16.520        | 0.5        | PASS    |
|            | Ant2    | 5745      | 17.560        | 0.5        | PASS    |
|            | Ant1    | 5785      | 17.240        | 0.5        | PASS    |
|            | Ant2    | 5785      | 17.560        | 0.5        | PASS    |
|            | Ant1    | 5825      | 17.560        | 0.5        | PASS    |
|            | Ant2    | 5825      | 17.160        | 0.5        | PASS    |
| 11N40MIMO  | Ant1    | 5755      | 32.640        | 0.5        | PASS    |
|            | Ant2    | 5755      | 33.840        | 0.5        | PASS    |
|            | Ant1    | 5795      | 35.120        | 0.5        | PASS    |
|            | Ant2    | 5795      | 35.360        | 0.5        | PASS    |
| 11AC20MIMO | Ant1    | 5745      | 17.560        | 0.5        | PASS    |
|            | Ant2    | 5745      | 17.560        | 0.5        | PASS    |
|            | Ant1    | 5785      | 17.280        | 0.5        | PASS    |
|            | Ant2    | 5785      | 17.560        | 0.5        | PASS    |
|            | Ant1    | 5825      | 17.280        | 0.5        | PASS    |
|            | Ant2    | 5825      | 17.560        | 0.5        | PASS    |
| 11AC40MIMO | Ant1    | 5755      | 35.040        | 0.5        | PASS    |
|            | Ant2    | 5755      | 35.120        | 0.5        | PASS    |
|            | Ant1    | 5795      | 33.840        | 0.5        | PASS    |
|            | Ant2    | 5795      | 33.920        | 0.5        | PASS    |
| 11AC80MIMO | Ant1    | 5775      | 73.760        | 0.5        | PASS    |
|            | Ant2    | 5775      | 74.880        | 0.5        | PASS    |

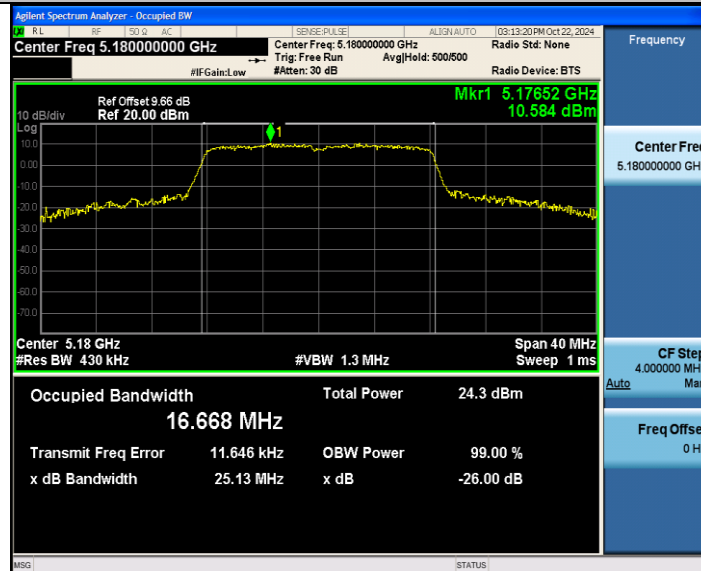


99% Bandwidth:

## 11A\_Ant1\_5180



## 11A\_Ant2\_5180



## 11A\_Ant1\_5200



11A\_Ant2\_5200



11A\_Ant1\_5240



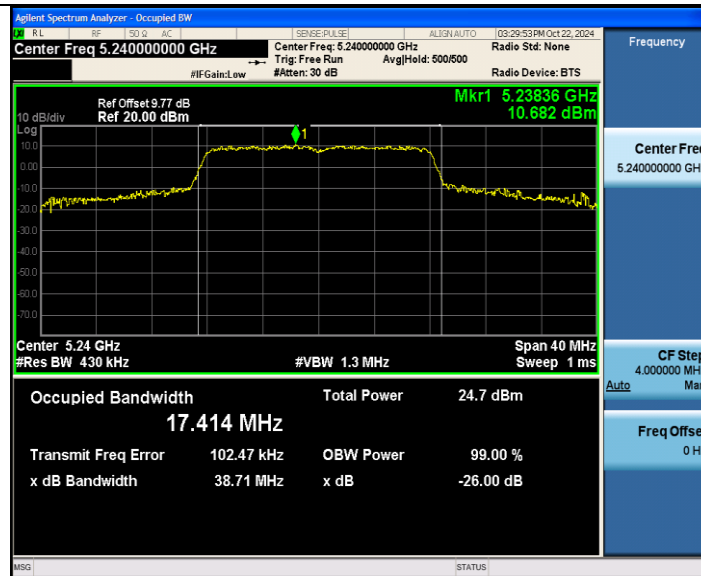
11A\_Ant2\_5240

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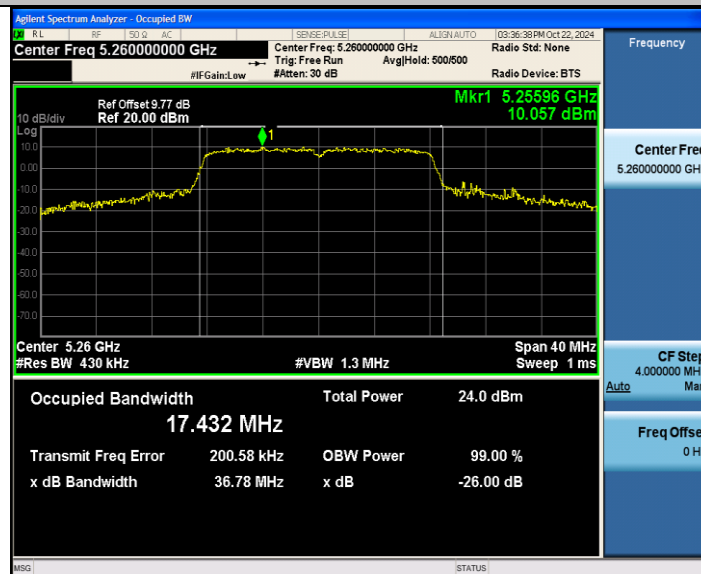
For anti-fake verification, please visit the official website of China Inspection And Testing Society : [yz.cnca.cn](http://yz.cnca.cn)



11A\_Ant1\_5260



11A\_Ant2\_5260



11A\_Ant1\_5280

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TRF No: CTC-TR-062\_A1

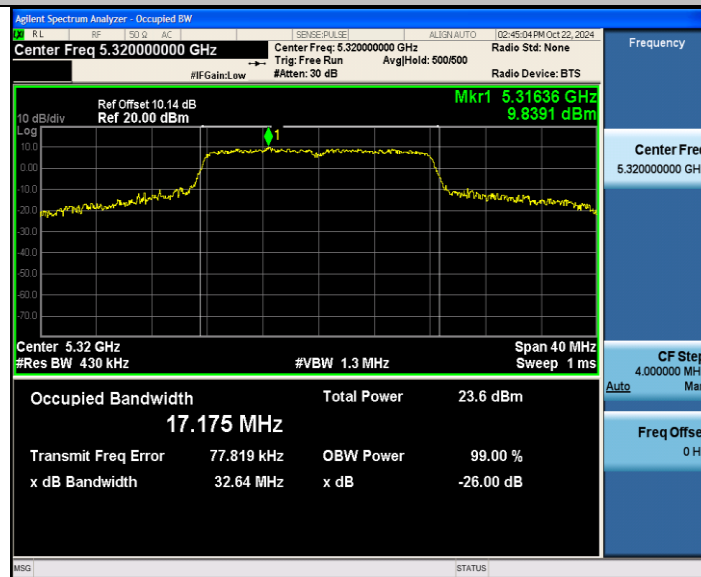
For anti-fake verification, please visit the official website of China Inspection And Testing Society : [yz.cnca.cn](http://yz.cnca.cn)



11A\_Ant2\_5280



11A\_Ant1\_5320



11A\_Ant2\_5320

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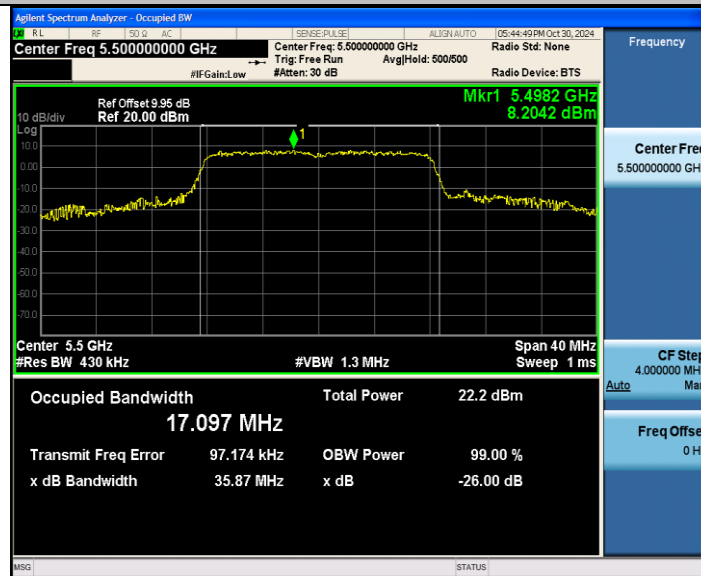
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TRF No: CTC-TR-062\_A1

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11A\_Ant1\_5500



11A\_Ant2\_5500



11A\_Ant1\_5580

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TRF No: CTC-TR-062\_A1

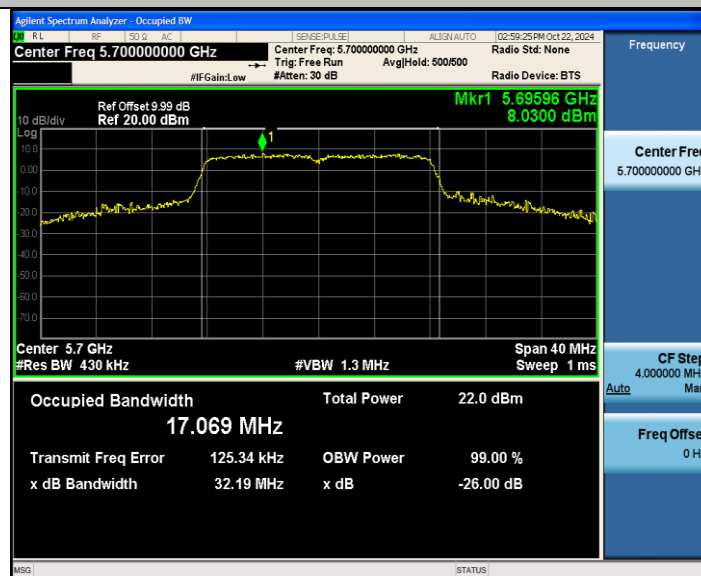
For anti-fake verification, please visit the official website of China Inspection And Testing Society : [yz.cnca.cn](http://yz.cnca.cn)



11A\_Ant2\_5580



11A\_Ant1\_5700



11A\_Ant2\_5700

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TRF No: CTC-TR-062\_A1

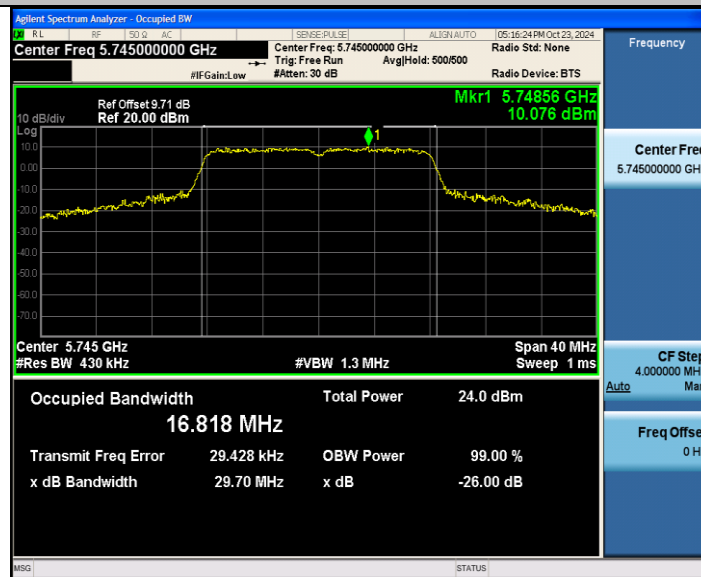
For anti-fake verification, please visit the official website of China Inspection And Testing Society : [yz.cnca.cn](http://yz.cnca.cn)



11A\_Ant1\_5745



11A\_Ant2\_5745



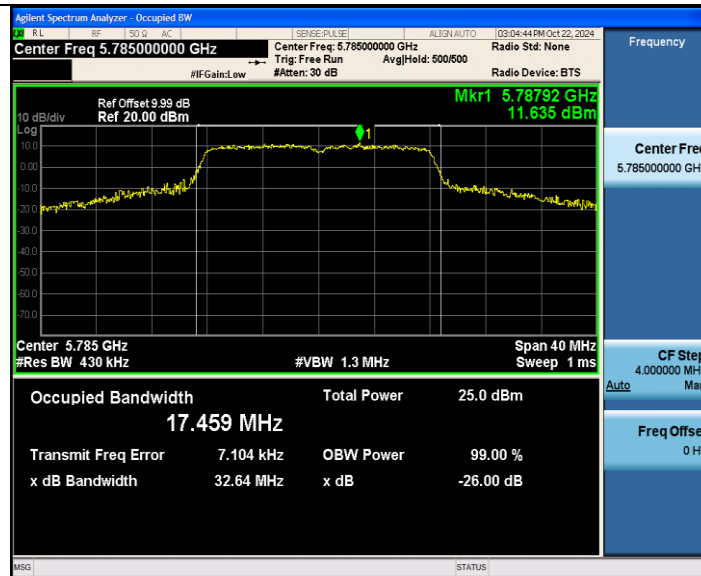
11A\_Ant1\_5785

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TRF No: CTC-TR-062\_A1

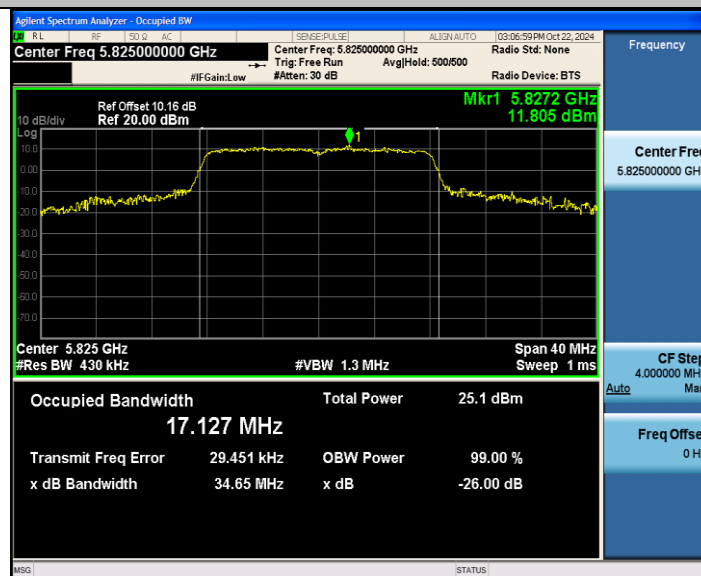
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11A\_Ant2\_5785



11A\_Ant1\_5825



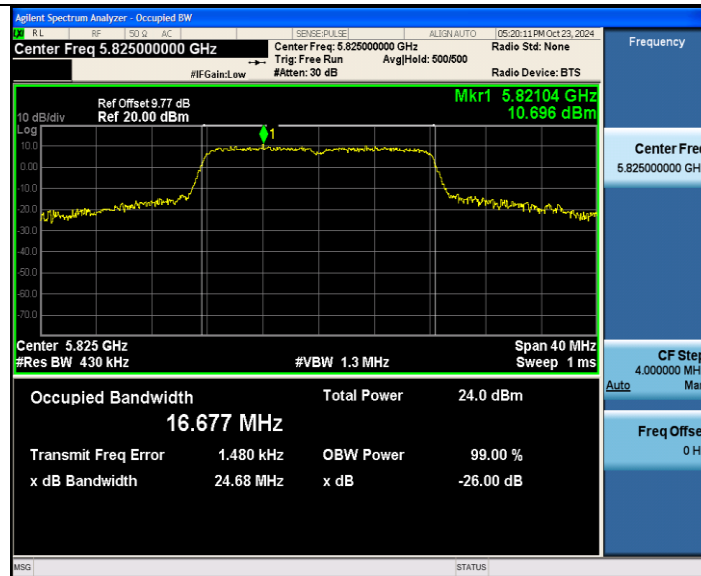
11A\_Ant2\_5825

CTC Laboratories, Inc.

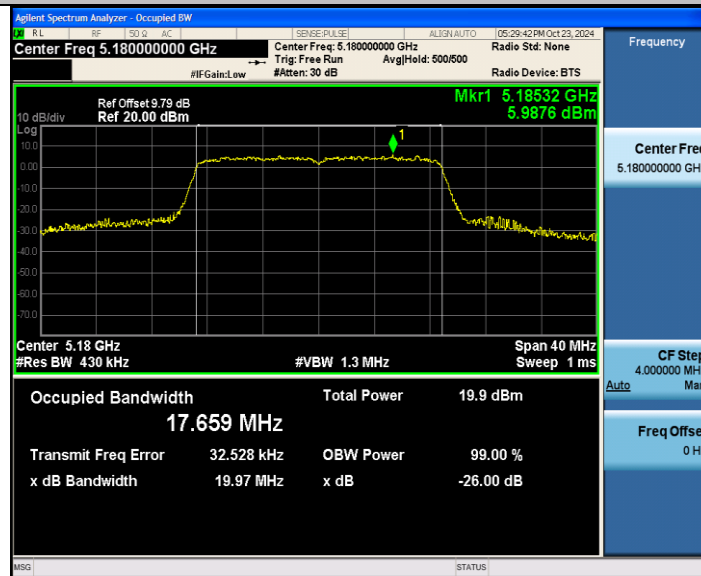
Room 101 Building B, No. 7, Lanqing 1st Road, Luhu Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China  
Tel.: (86)755-27521059 Fax: (86)755-27521011 Http://www.sz-ctc.org.cn

TRF No: CTC-TR-062\_A1

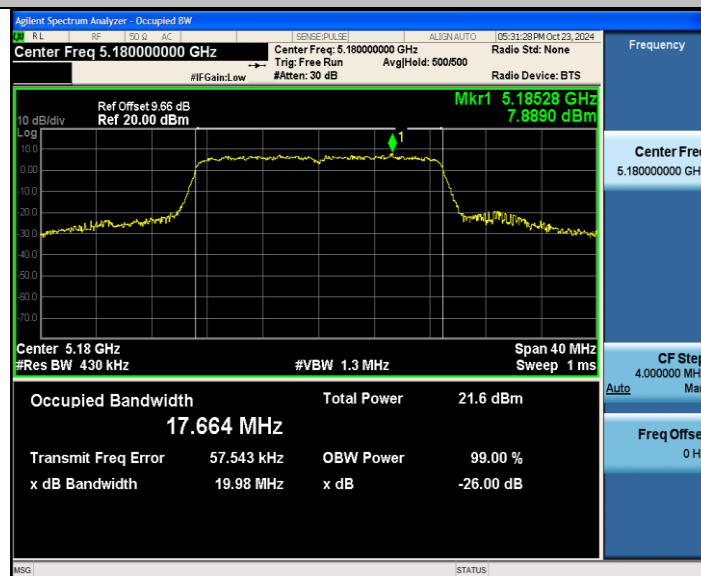
For anti-fake verification, please visit the official website of China Inspection And Testing Society : [yz.cnca.cn](http://yz.cnca.cn)



11N20MIMO\_Ant1\_5180



11N20MIMO\_Ant2\_5180



11N20MIMO\_Ant1\_5200

CTC Laboratories, Inc.

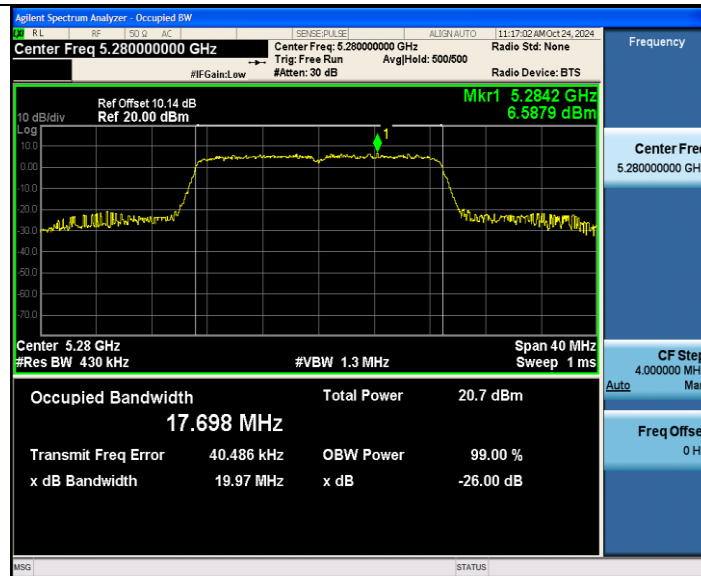
Room 101 Building B, No. 7, Lanqing 1st Road, Luhu Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China  
Tel.: (86)755-27521059 Fax: (86)755-27521011 Http://www.sz-ctc.org.cn

TRF No: CTC-TR-062\_A1

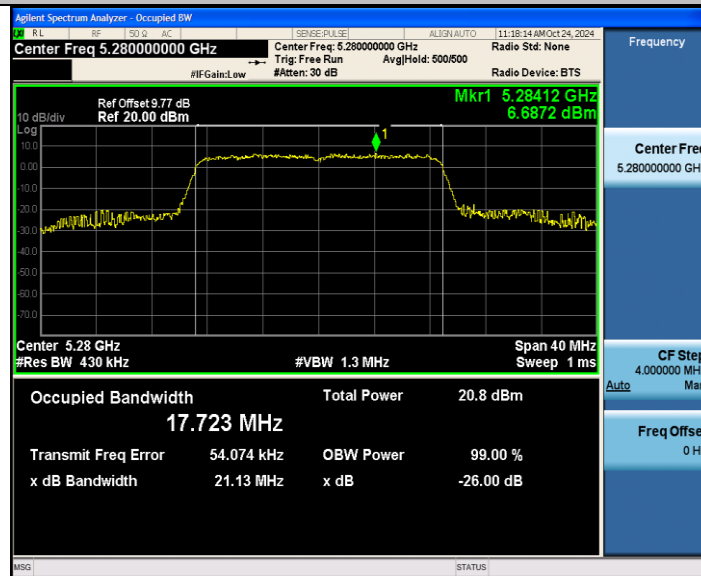
For anti-fake verification, please visit the official website of China Inspection And Testing Society : [yz.cnca.cn](http://yz.cnca.cn)



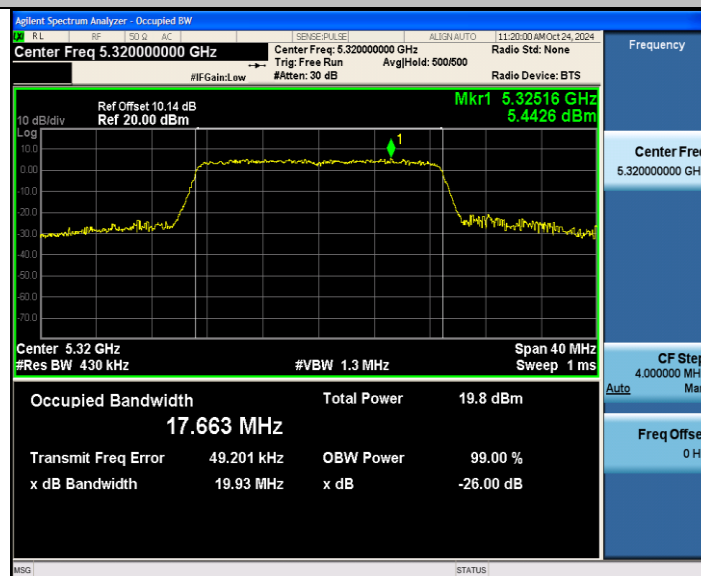




11N20MIMO\_Ant2\_5280



11N20MIMO\_Ant1\_5320



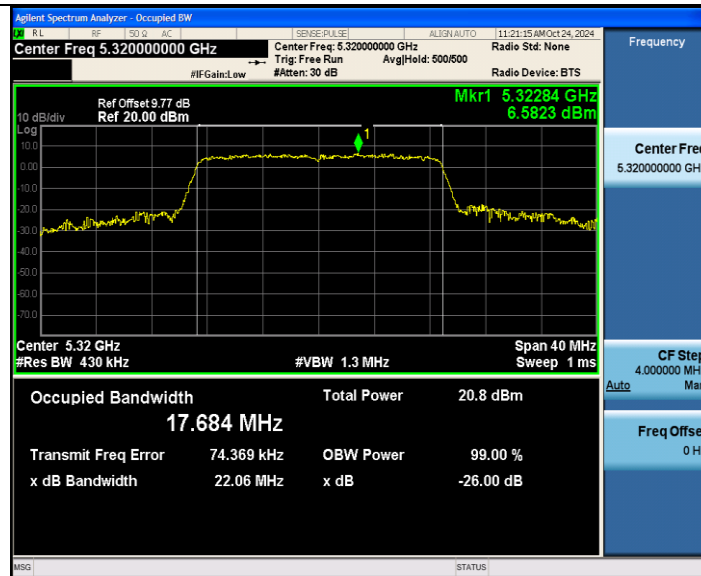
11N20MIMO\_Ant2\_5320

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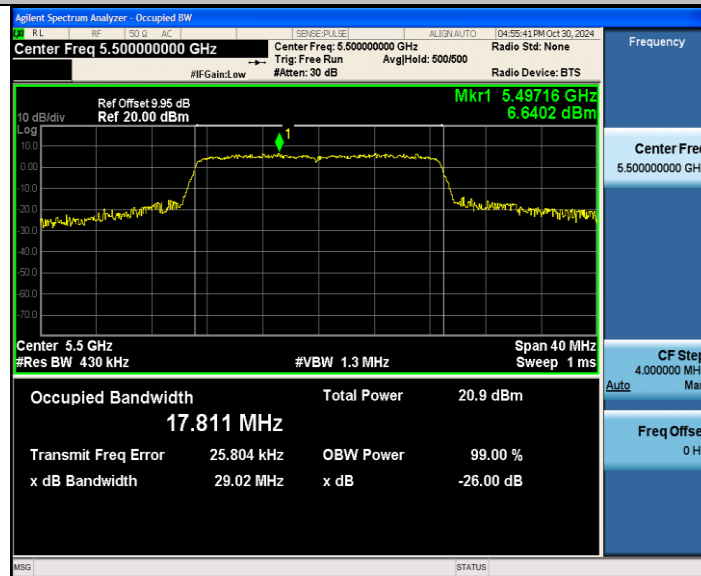
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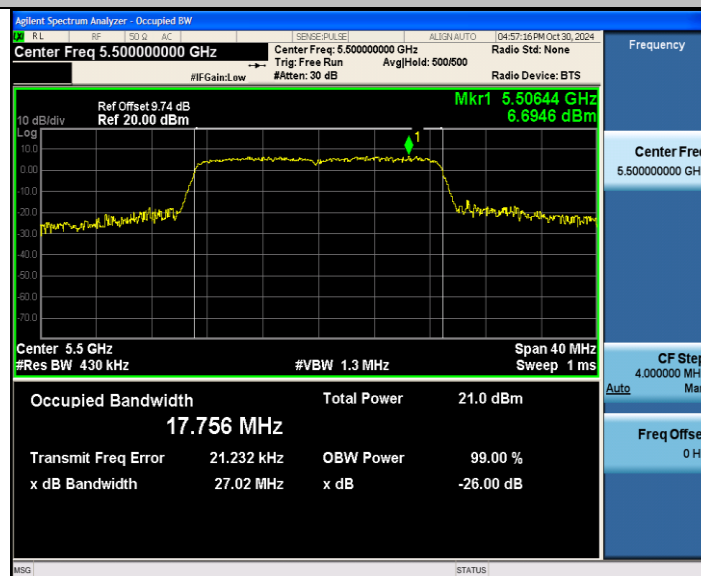
For anti-fake verification, please visit the official website of China Inspection And Testing Society : [yz.cnca.cn](http://yz.cnca.cn)



11N20MIMO\_Ant1\_5500



11N20MIMO\_Ant2\_5500



11N20MIMO\_Ant1\_5580

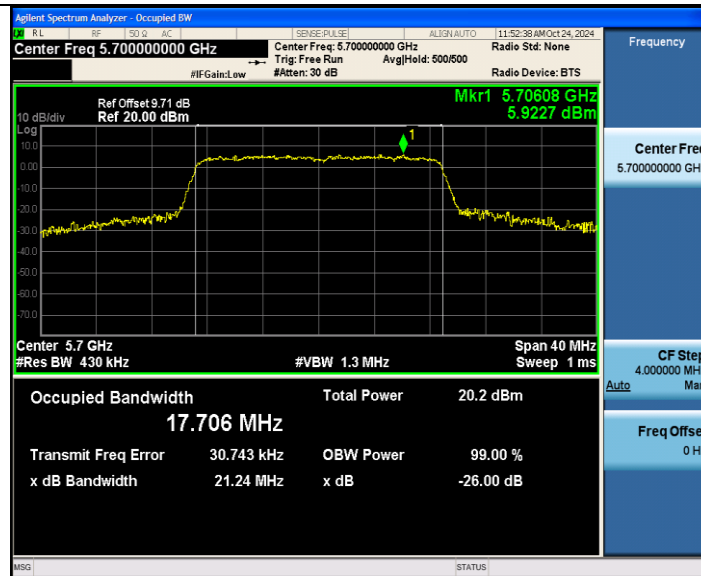
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TRF No: CTC-TR-062\_A1

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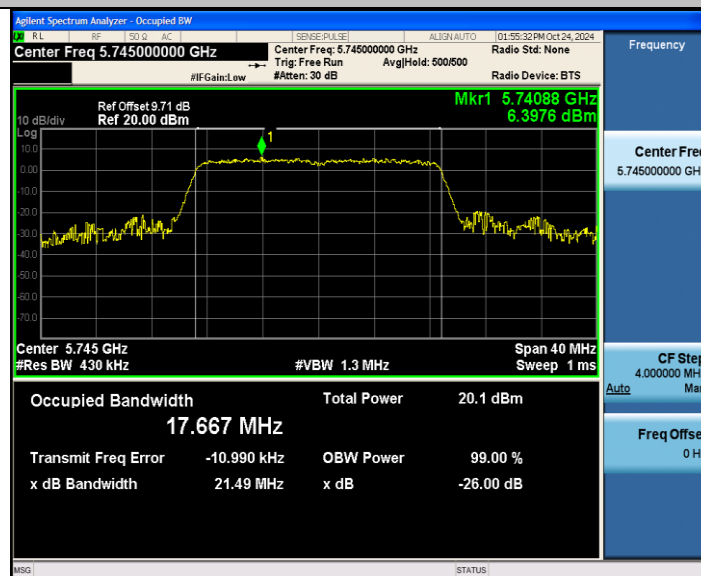




11N20MIMO\_Ant1\_5745



11N20MIMO\_Ant2\_5745



11N20MIMO\_Ant1\_5785

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