

Appendix A

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: Walkie talkies for Kids

Test Model: Intercom-01

Environmental Conditions

|                    |              |
|--------------------|--------------|
| Temperature:       | 23.6°C       |
| Relative Humidity: | 54.3%        |
| ATM Pressure:      | 100.0 kPa    |
| Test Engineer:     | Zhang hai    |
| Supervised by:     | Fengliu Tang |

## A.1 DTS Bandwidth

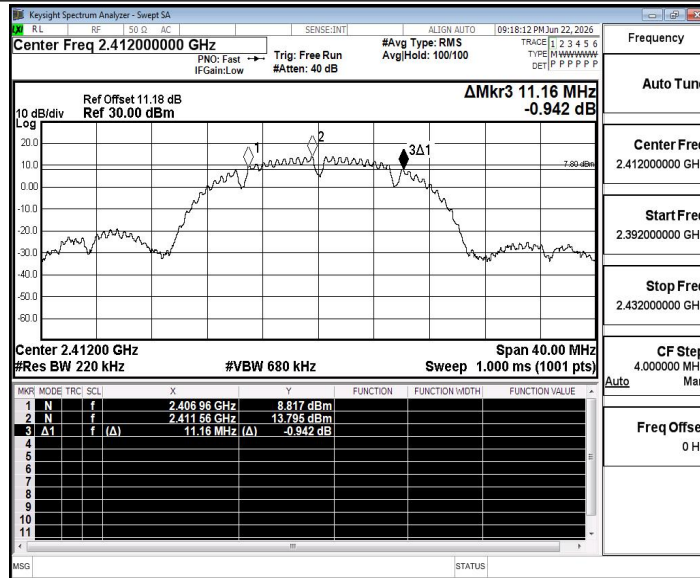
### Test Result

| TestMode  | Antenna | Frequency[MHz] | DTS BW [MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|-----------|---------|----------------|--------------|----------|----------|------------|---------|
| 11B       | Ant1    | 2412           | 11.160       | 2406.960 | 2418.120 | 0.5        | PASS    |
|           |         | 2437           | 12.040       | 2431.040 | 2443.080 | 0.5        | PASS    |
|           |         | 2462           | 11.160       | 2456.960 | 2468.120 | 0.5        | PASS    |
| 11G       | Ant1    | 2412           | 16.360       | 2403.880 | 2420.240 | 0.5        | PASS    |
|           |         | 2437           | 16.440       | 2428.800 | 2445.240 | 0.5        | PASS    |
|           |         | 2462           | 16.560       | 2453.840 | 2470.400 | 0.5        | PASS    |
| 11N20SISO | Ant1    | 2412           | 17.680       | 2403.200 | 2420.880 | 0.5        | PASS    |
|           |         | 2437           | 17.680       | 2428.200 | 2445.880 | 0.5        | PASS    |
|           |         | 2462           | 17.600       | 2453.280 | 2470.880 | 0.5        | PASS    |

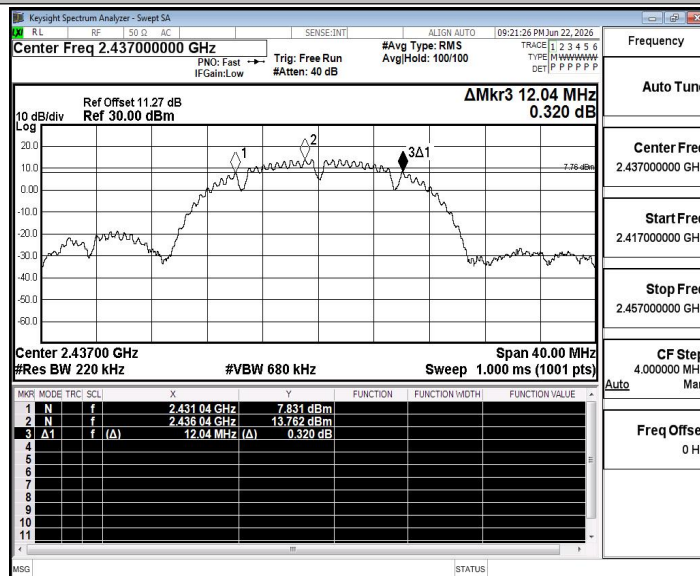
Note :offset=System attenuation +cable loss

## Test Graphs

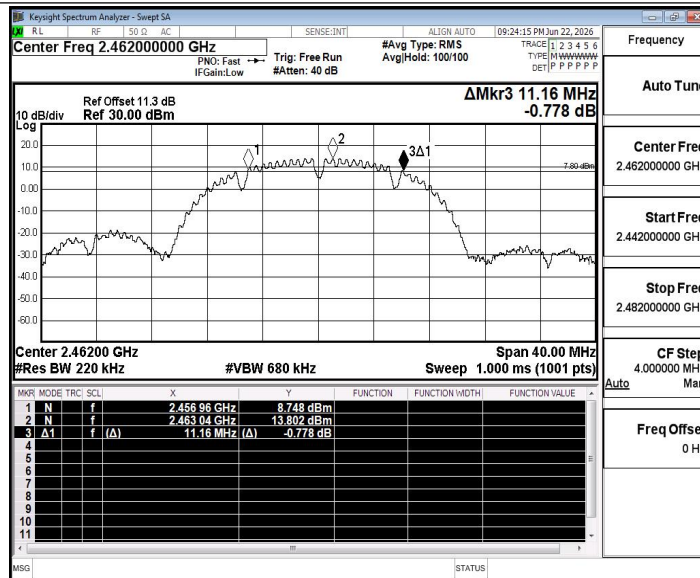
11B\_Ant1\_2412



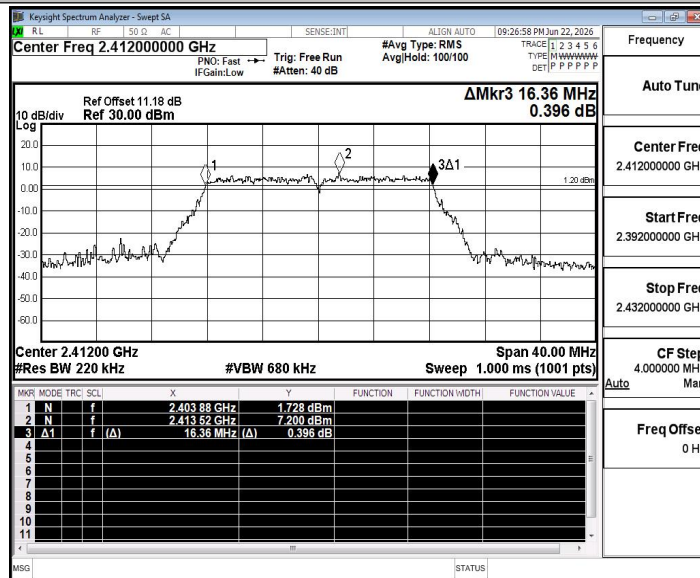
11B\_Ant1\_2437



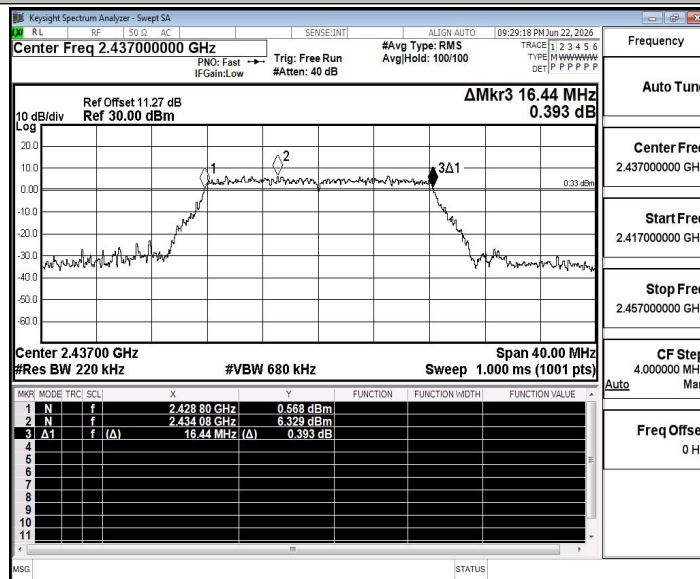
11B\_Ant1\_2462



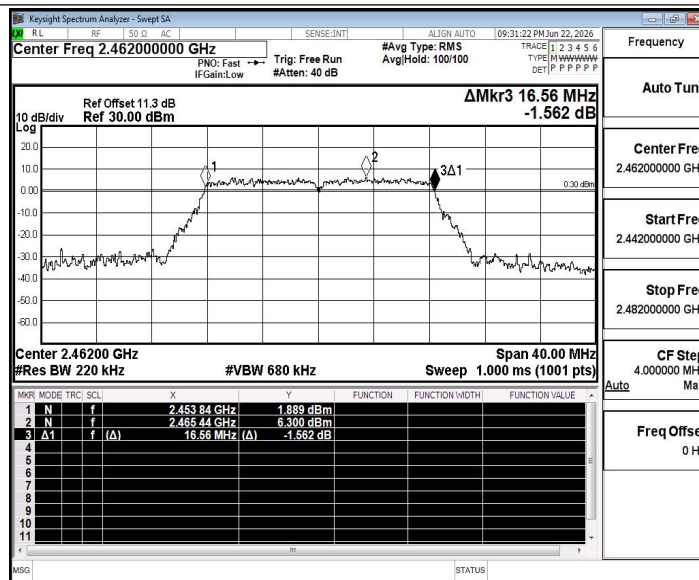
11G\_Ant1\_2412



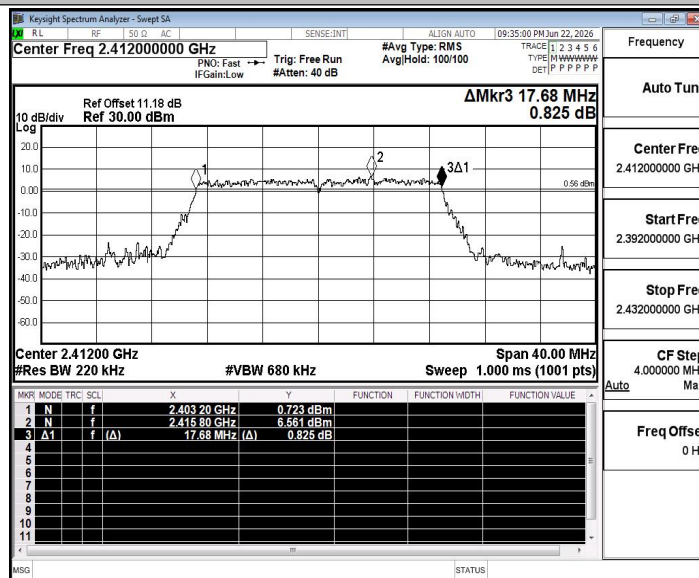
11G\_Ant1\_2437



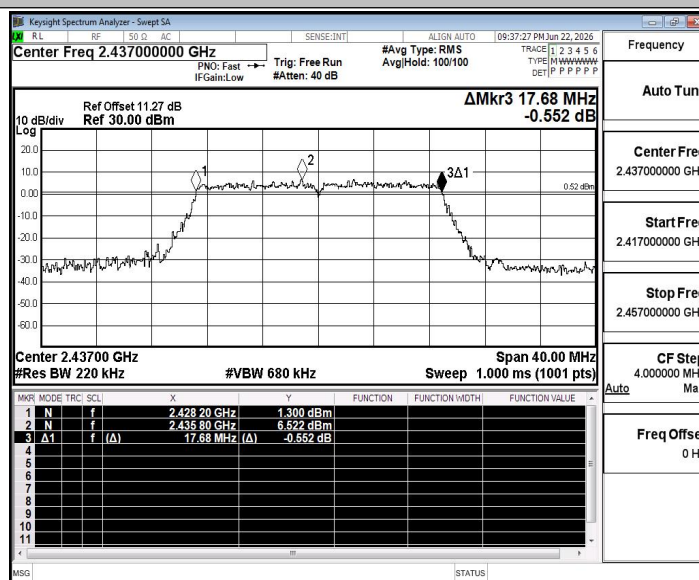
11G\_Ant1\_2462



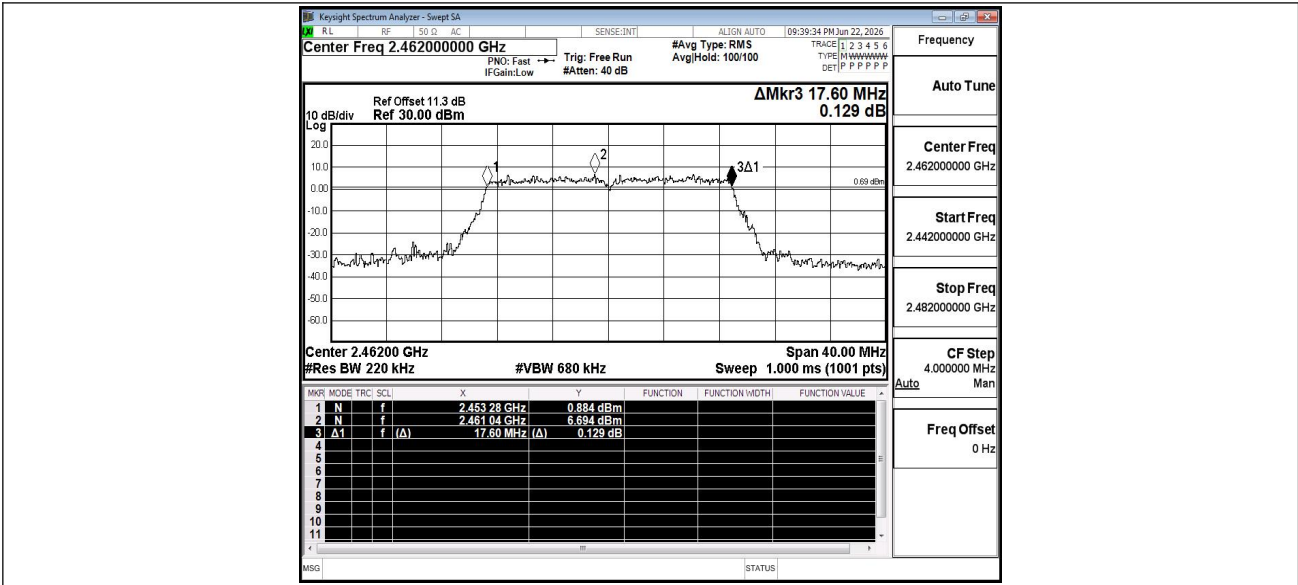
11N20SISO\_Ant1\_2412



11N20SISO\_Ant1\_2437



11N20SISO\_Ant1\_2462



## A.2 Maximum Average conducted output power

### Test Result Average

| TestMode  | Antenna | Frequency [MHz] | Measured Power | DC Factor [dB] | AV Power [dBm] | Conducted Limit[dBm] | Verdict |
|-----------|---------|-----------------|----------------|----------------|----------------|----------------------|---------|
| 11B       | Ant1    | 2412            | 15.7           | 0.66           | 16.36          | ≤30.00               | PASS    |
|           |         | 2437            | 15.74          | 0.66           | 16.4           | ≤30.00               | PASS    |
|           |         | 2462            | 15.98          | 0.67           | 16.65          | ≤30.00               | PASS    |
| 11G       | Ant1    | 2412            | 13.9           | 2.99           | 16.89          | ≤30.00               | PASS    |
|           |         | 2437            | 13.6           | 3.00           | 16.6           | ≤30.00               | PASS    |
|           |         | 2462            | 13.27          | 3.01           | 16.28          | ≤30.00               | PASS    |
| 11N20SISO | Ant1    | 2412            | 13.69          | 3.19           | 16.88          | ≤30.00               | PASS    |
|           |         | 2437            | 13.74          | 3.17           | 16.91          | ≤30.00               | PASS    |
|           |         | 2462            | 13.4           | 3.18           | 16.58          | ≤30.00               | PASS    |

Note :offset=System attenuation +cable loss

### A.3 Maximum power spectral density

#### Test Result

| TestMode  | Antenna | Frequency[MHz] | Measured<br>PSD<br>[dBm/30kHz] | DC<br>Factor<br>[dB] | Result<br>[dBm/30kHz] | Result<br>[dBm/3kHz] | Limit[dBm/3kHz] | Verdict |
|-----------|---------|----------------|--------------------------------|----------------------|-----------------------|----------------------|-----------------|---------|
| 11B       | Ant1    | 2412           | -1.35                          | 0.66                 | -0.69                 | -10.69               | ≤8.00           | PASS    |
|           |         | 2437           | -0.54                          | 0.66                 | 0.12                  | -9.88                | ≤8.00           | PASS    |
|           |         | 2462           | -5.17                          | 0.67                 | -4.5                  | -14.5                | ≤8.00           | PASS    |
| 11G       | Ant1    | 2412           | -10.33                         | 2.99                 | -7.34                 | -17.34               | ≤8.00           | PASS    |
|           |         | 2437           | -10.38                         | 3.00                 | -7.38                 | -17.38               | ≤8.00           | PASS    |
|           |         | 2462           | -10.14                         | 3.01                 | -7.13                 | -17.13               | ≤8.00           | PASS    |
| 11N20SISO | Ant1    | 2412           | -10.73                         | 3.19                 | -7.54                 | -17.54               | ≤8.00           | PASS    |
|           |         | 2437           | -10.39                         | 3.17                 | -7.22                 | -17.22               | ≤8.00           | PASS    |
|           |         | 2462           | -10.09                         | 3.18                 | -6.91                 | -16.91               | ≤8.00           | PASS    |

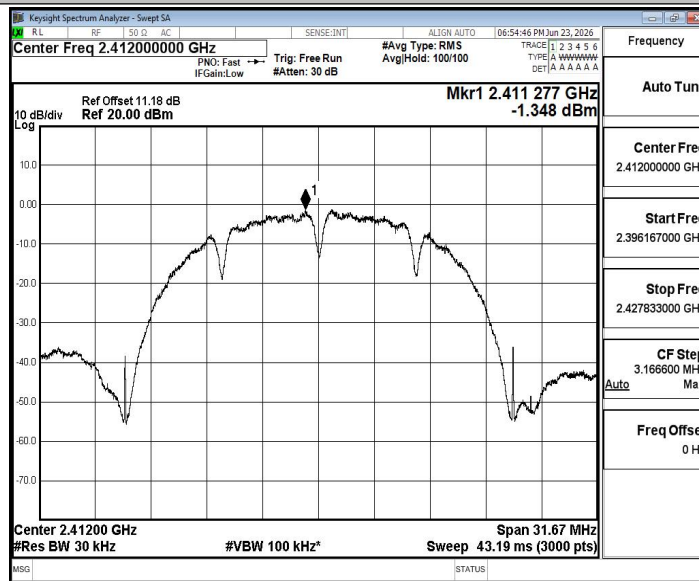
Note :offset=System attenuation +cable loss

Result[dBm/3kHz]=Result[dBm/30kHz]+10\*Log(3/30)

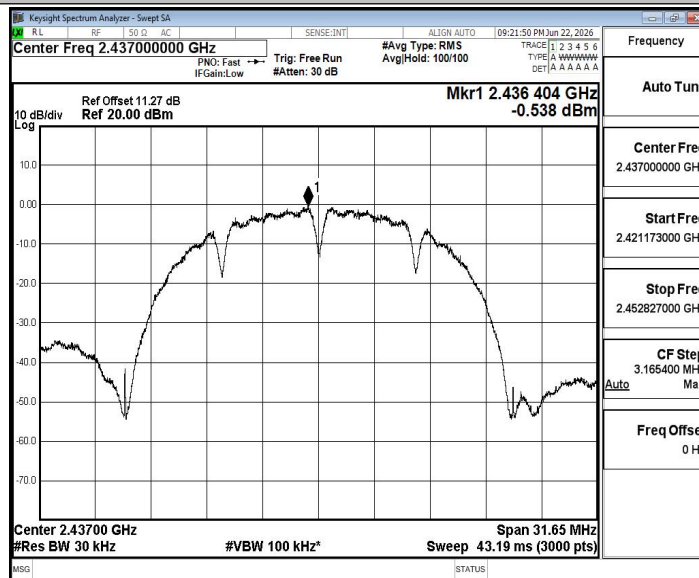


## Test Graphs

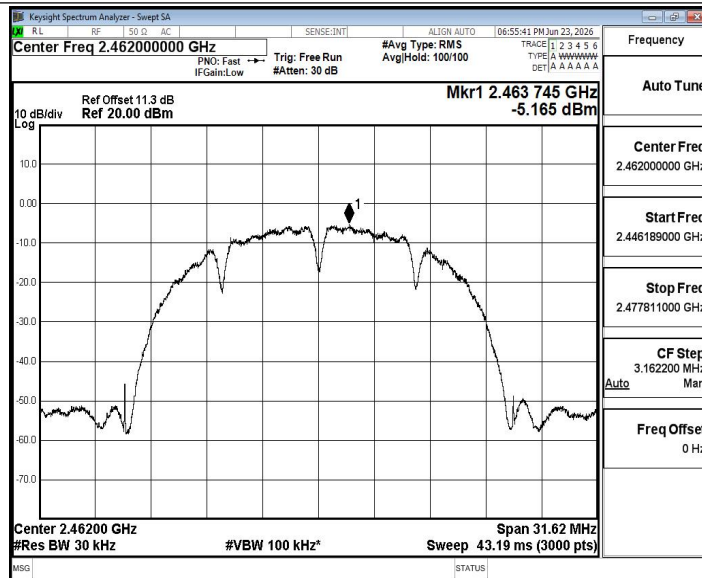
11B\_Ant1\_2412



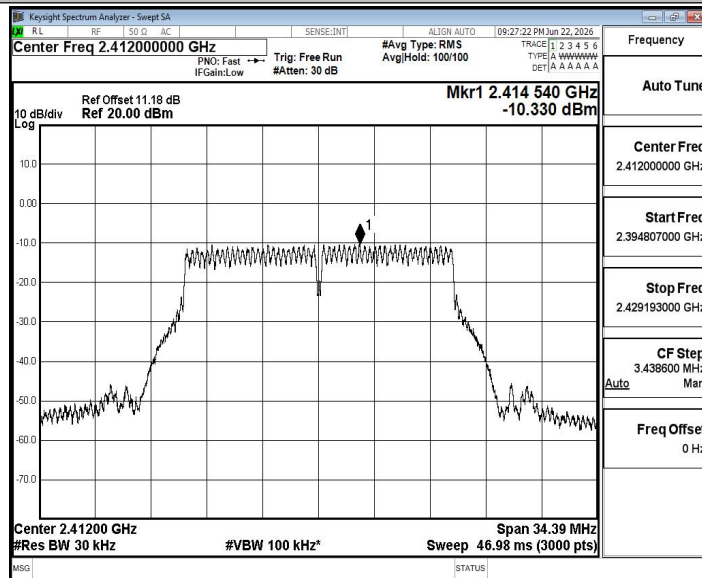
11B\_Ant1\_2437



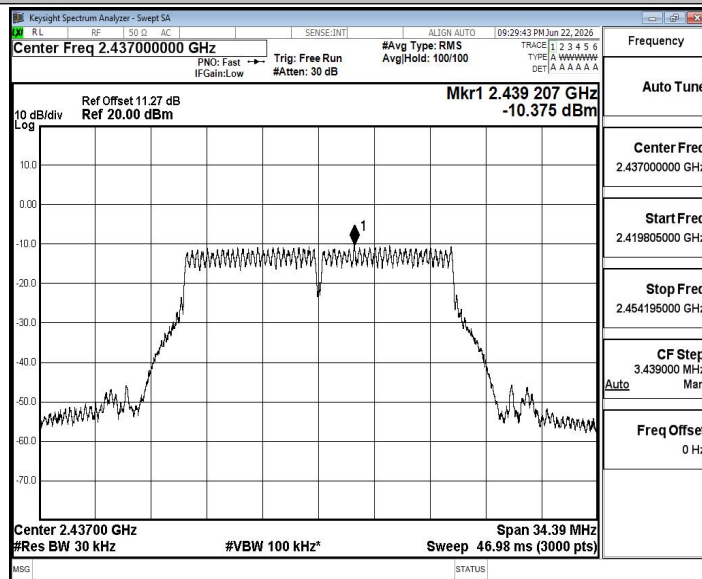
11B\_Ant1\_2462



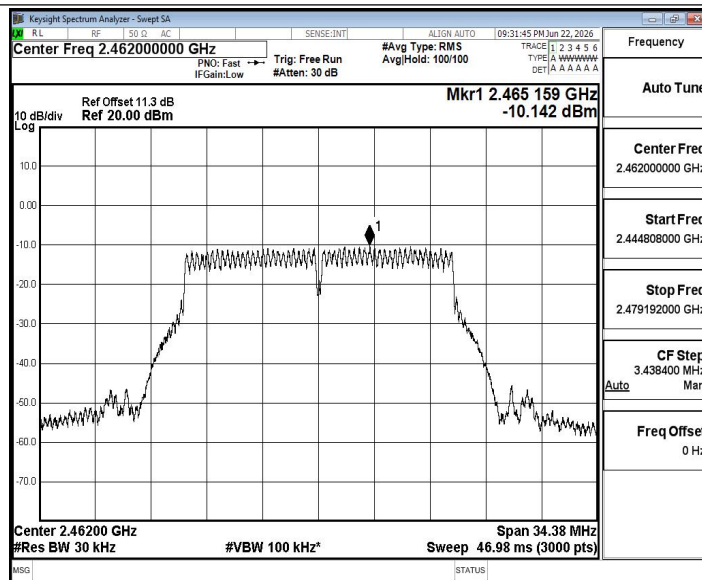
11G\_Ant1\_2412



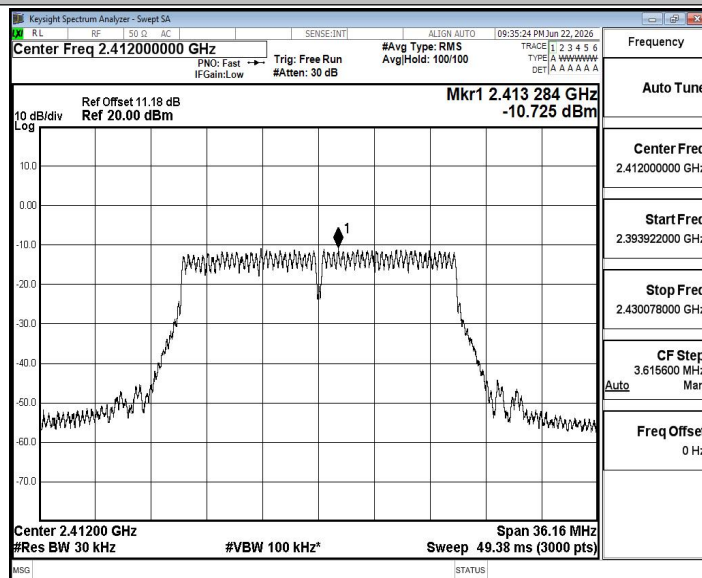
11G\_Ant1\_2437



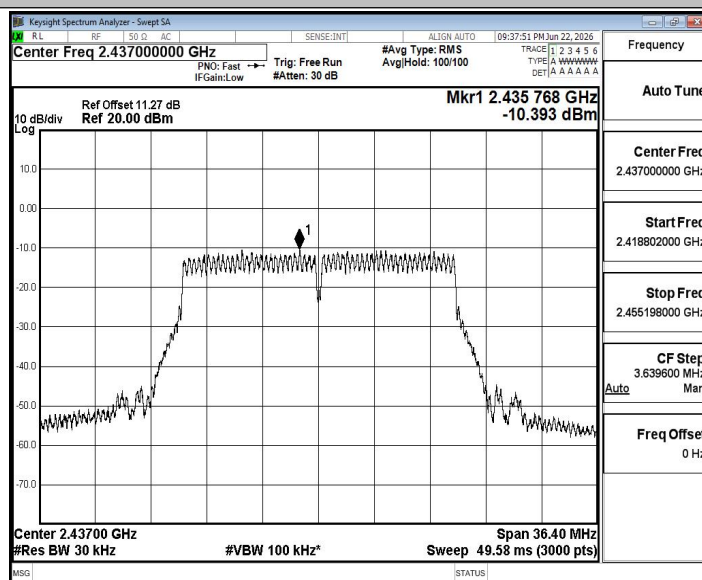
11G\_Ant1\_2462



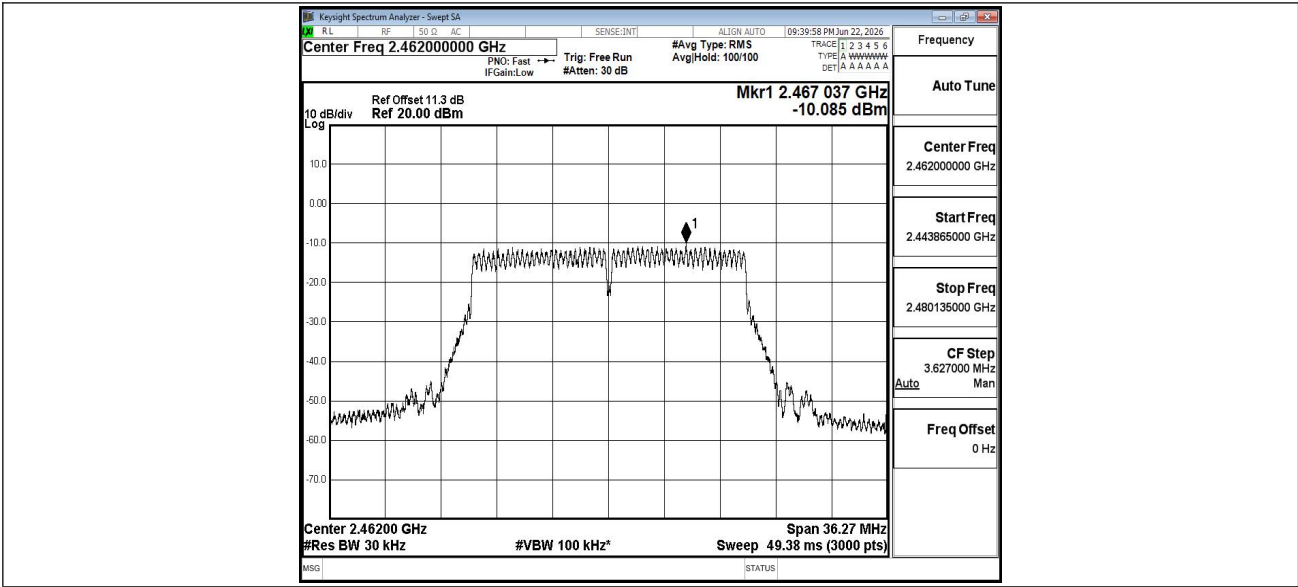
11N20SISO\_Ant1\_2412



11N20SISO\_Ant1\_2437



11N20SISO\_Ant1\_2462



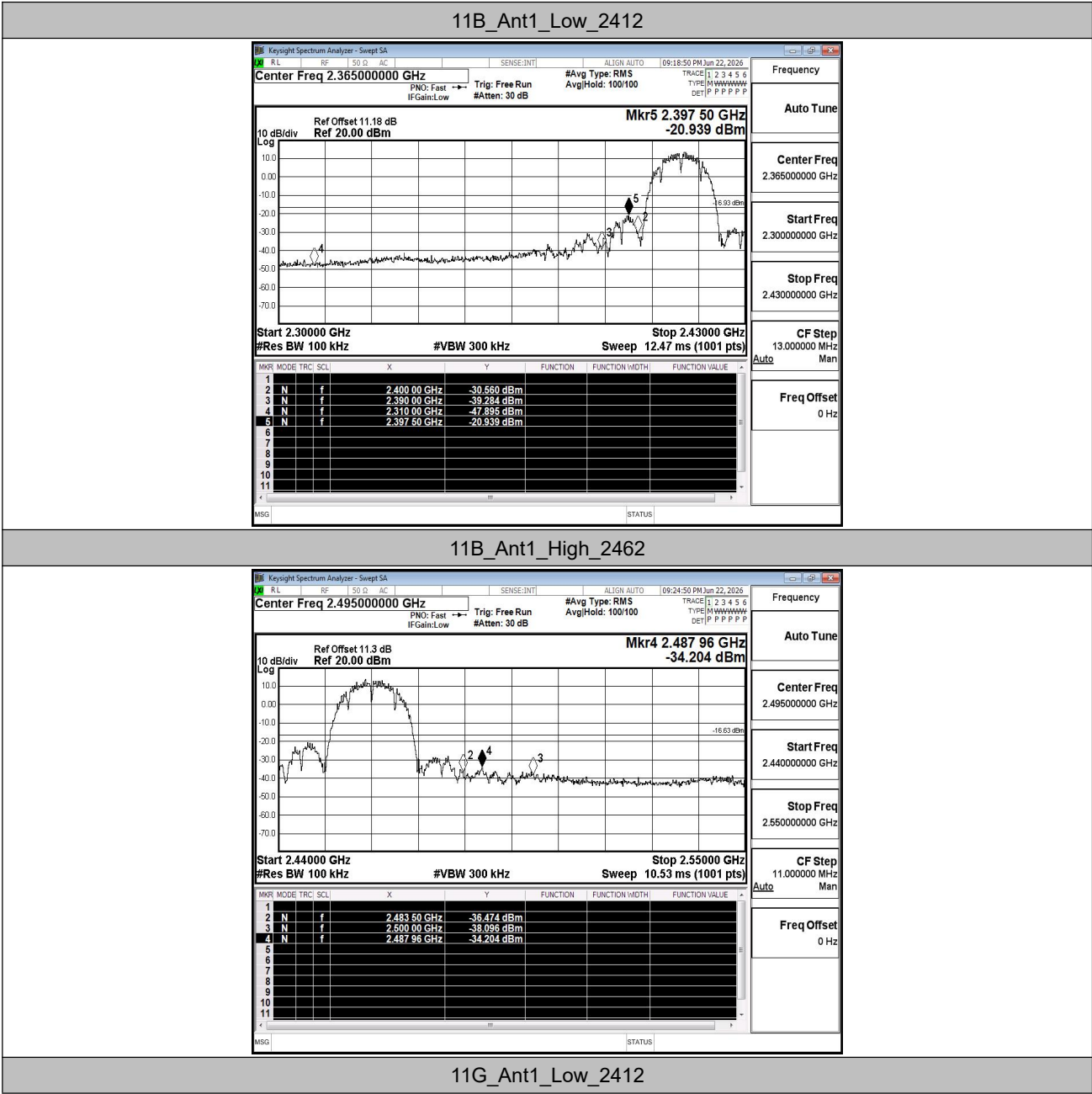
## A.4 Band edge measurements

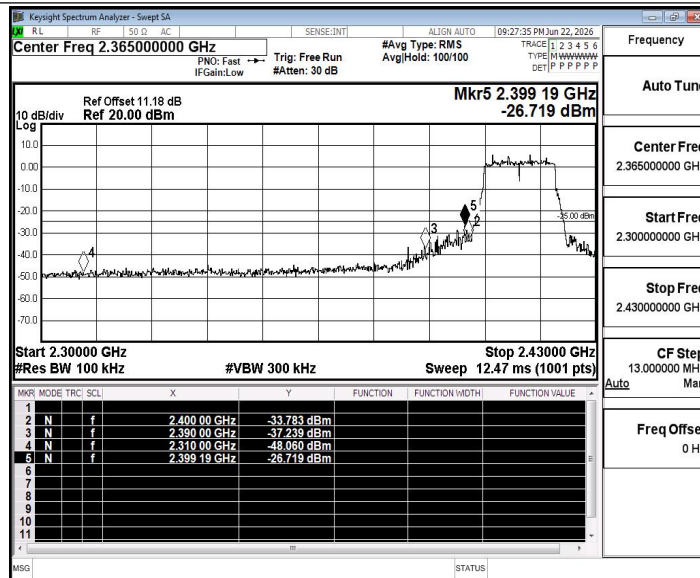
### Test Result

| TestMode  | Antenna | ChName | Frequency[MHz] | RefLevel[dBm] | Result[dBm] | Limit[dBm] | Verdict |
|-----------|---------|--------|----------------|---------------|-------------|------------|---------|
| 11B       | Ant1    | Low    | 2412           | 13.07         | -20.94      | ≤-16.93    | PASS    |
|           |         | High   | 2462           | 13.37         | -34.2       | ≤-16.63    | PASS    |
| 11G       | Ant1    | Low    | 2412           | 5.00          | -26.72      | ≤-25       | PASS    |
|           |         | High   | 2462           | 5.50          | -38.68      | ≤-24.5     | PASS    |
| 11N20SISO | Ant1    | Low    | 2412           | 5.03          | -28.2       | ≤-24.97    | PASS    |
|           |         | High   | 2462           | 4.18          | -36.99      | ≤-25.82    | PASS    |

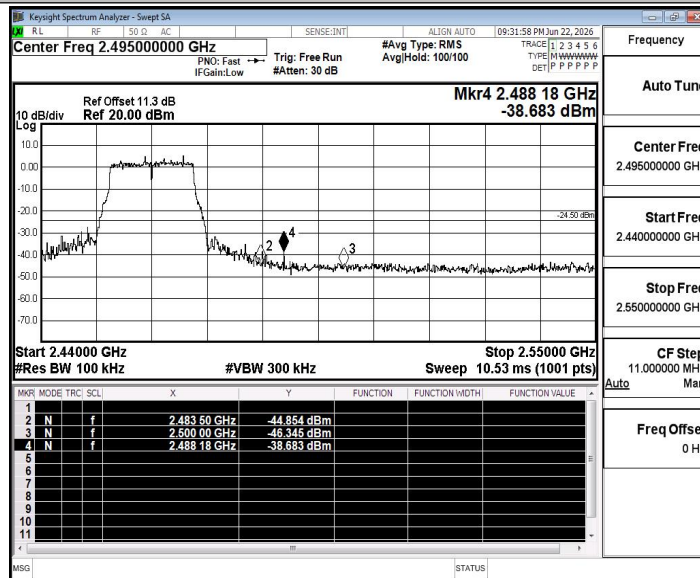
Note :offset=System attenuation +cable loss

Test Graphs

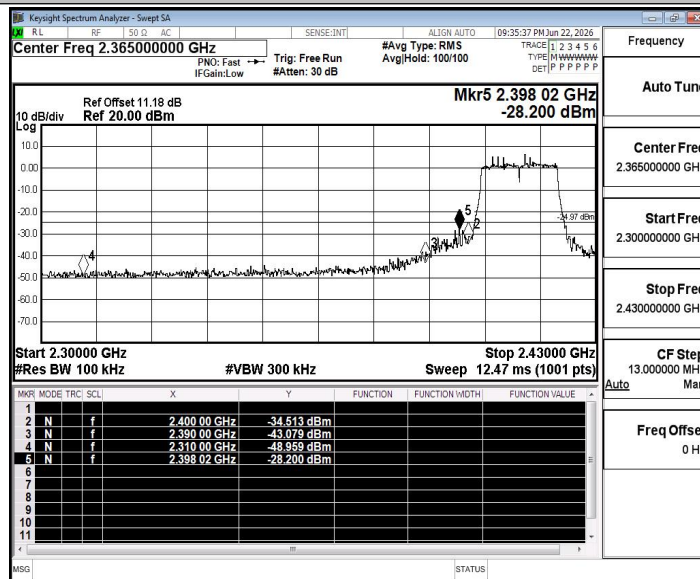




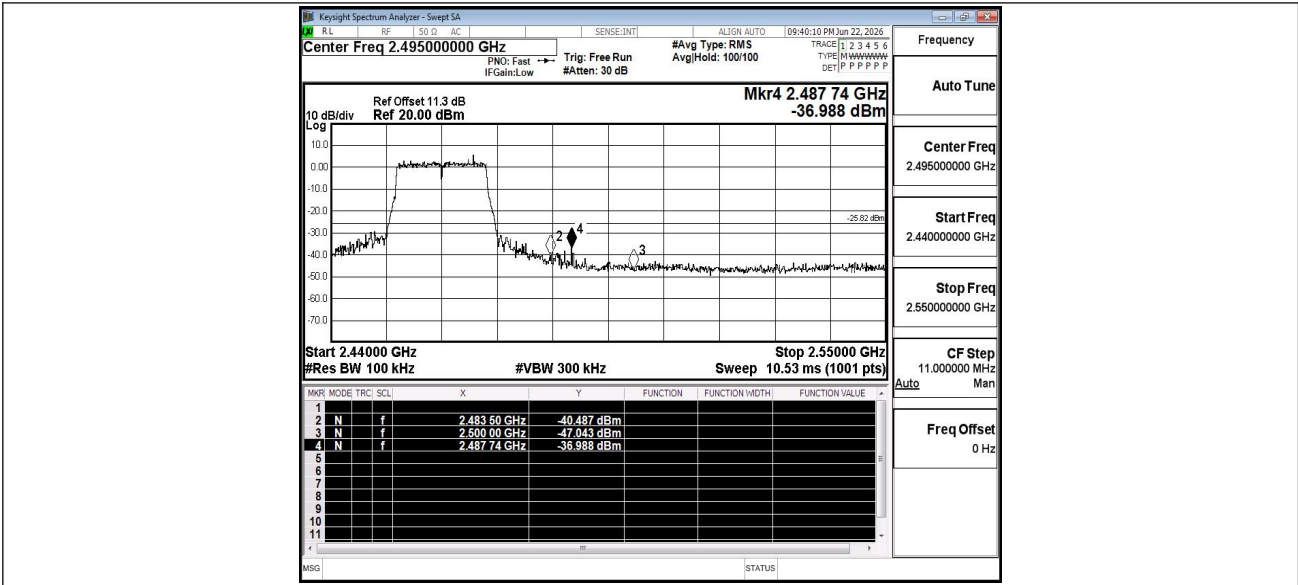
11G\_Ant1\_High\_2462



11N20SISO\_Ant1\_Low\_2412



11N20SISO\_Ant1\_High\_2462





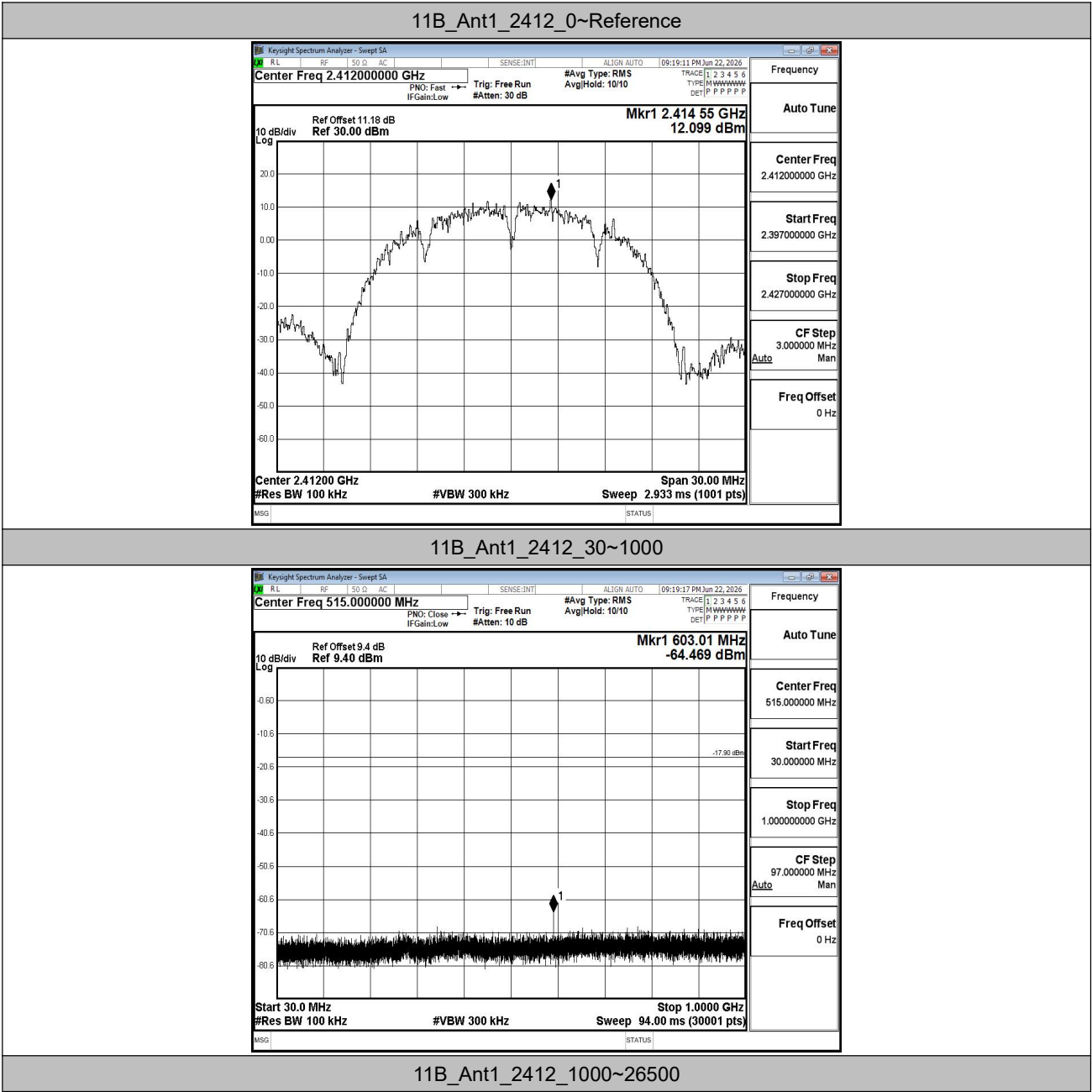
## A.5 Conducted Spurious Emission

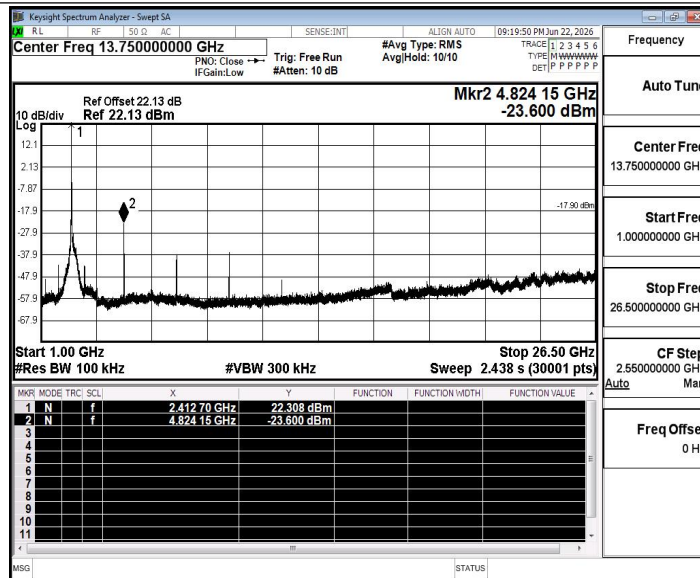
### Test Result

| TestMode  | Antenna | Frequency[MHz] | FreqRange [Mhz] | RefLevel [dBm] | Result [dBm] | Limit [dBm] | Verdict |
|-----------|---------|----------------|-----------------|----------------|--------------|-------------|---------|
| 11B       | Ant1    | 2412           | Reference       | 12.10          | 12.10        | ---         | PASS    |
|           |         |                | 30~1000         | 12.10          | -64.47       | ≤-17.9      | PASS    |
|           |         |                | 1000~26500      | 12.10          | -23.6        | ≤-17.9      | PASS    |
|           |         | 2437           | Reference       | 12.37          | 12.37        | ---         | PASS    |
|           |         |                | 30~1000         | 12.37          | -67.05       | ≤-17.63     | PASS    |
|           |         |                | 1000~26500      | 12.37          | -27.48       | ≤-17.63     | PASS    |
|           |         | 2462           | Reference       | 12.13          | 12.13        | ---         | PASS    |
|           |         |                | 30~1000         | 12.13          | -65.7        | ≤-17.87     | PASS    |
|           |         |                | 1000~26500      | 12.13          | -28.82       | ≤-17.87     | PASS    |
| 11G       | Ant1    | 2412           | Reference       | 4.02           | 4.02         | ---         | PASS    |
|           |         |                | 30~1000         | 4.02           | -69.96       | ≤-25.98     | PASS    |
|           |         |                | 1000~26500      | 4.02           | -33.22       | ≤-25.98     | PASS    |
|           |         | 2437           | Reference       | 1.90           | 1.90         | ---         | PASS    |
|           |         |                | 30~1000         | 1.90           | -69.52       | ≤-28.1      | PASS    |
|           |         |                | 1000~26500      | 1.90           | -34.5        | ≤-28.1      | PASS    |
|           |         | 2462           | Reference       | 4.54           | 4.54         | ---         | PASS    |
|           |         |                | 30~1000         | 4.54           | -69.56       | ≤-25.46     | PASS    |
|           |         |                | 1000~26500      | 4.54           | -34.45       | ≤-25.46     | PASS    |
| 11N20SISO | Ant1    | 2412           | Reference       | 1.57           | 1.57         | ---         | PASS    |
|           |         |                | 30~1000         | 1.57           | -69.69       | ≤-28.43     | PASS    |
|           |         |                | 1000~26500      | 1.57           | -33.46       | ≤-28.43     | PASS    |
|           |         | 2437           | Reference       | 1.72           | 1.72         | ---         | PASS    |
|           |         |                | 30~1000         | 1.72           | -68.74       | ≤-28.28     | PASS    |
|           |         |                | 1000~26500      | 1.72           | -34.47       | ≤-28.28     | PASS    |
|           |         | 2462           | Reference       | 5.02           | 5.02         | ---         | PASS    |
|           |         |                | 30~1000         | 5.02           | -68.56       | ≤-24.98     | PASS    |
|           |         |                | 1000~26500      | 5.02           | -35.11       | ≤-24.98     | PASS    |

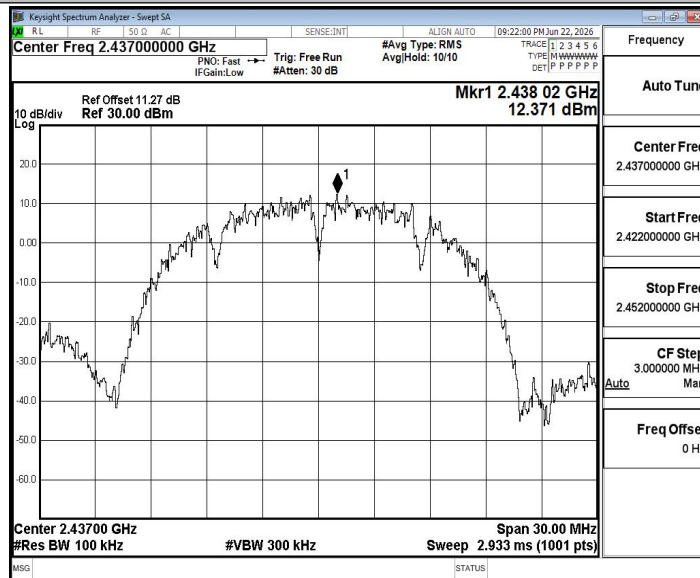
Note :Regarding the spurious emissions from 30MHz to 26.5GHz, the cable lose have been set in the CORREC' of the Spectrum Analyzer during the test.

Test Graphs

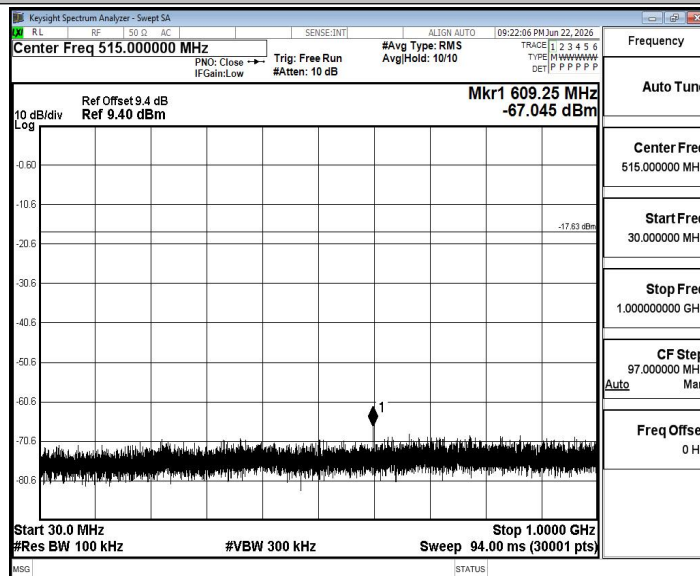




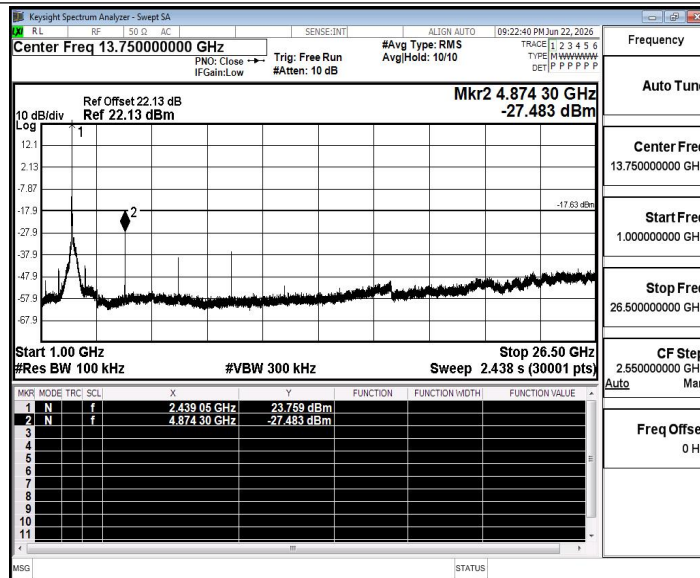
11B\_Ant1\_2437\_0~Reference



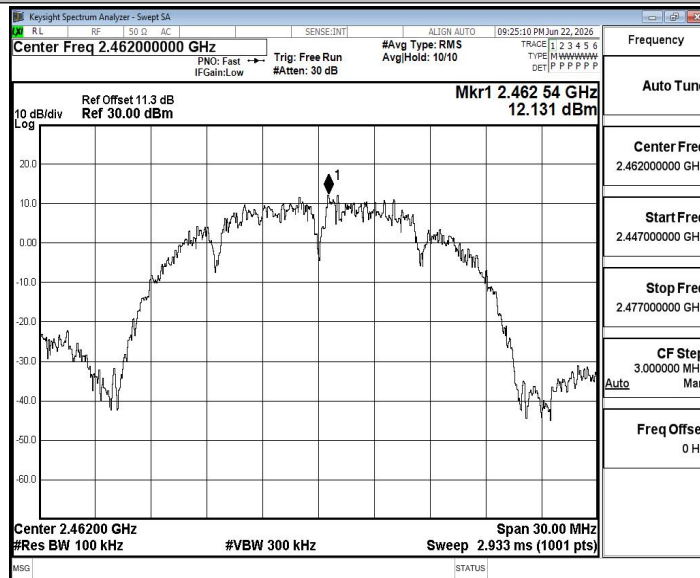
11B\_Ant1\_2437\_30~1000



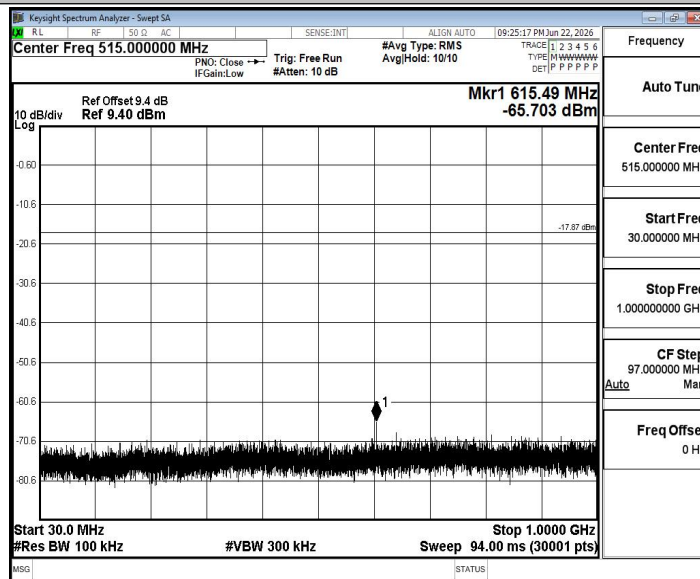
11B\_Ant1\_2437\_1000~26500



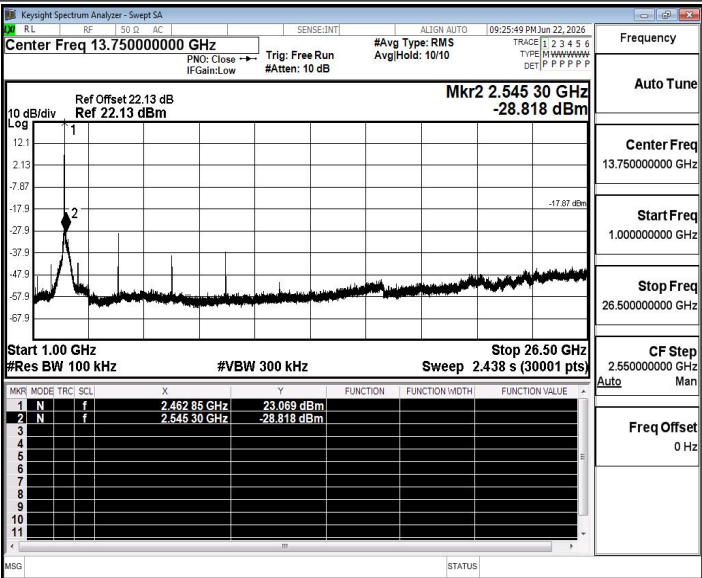
11B\_Ant1\_2462\_0~Reference



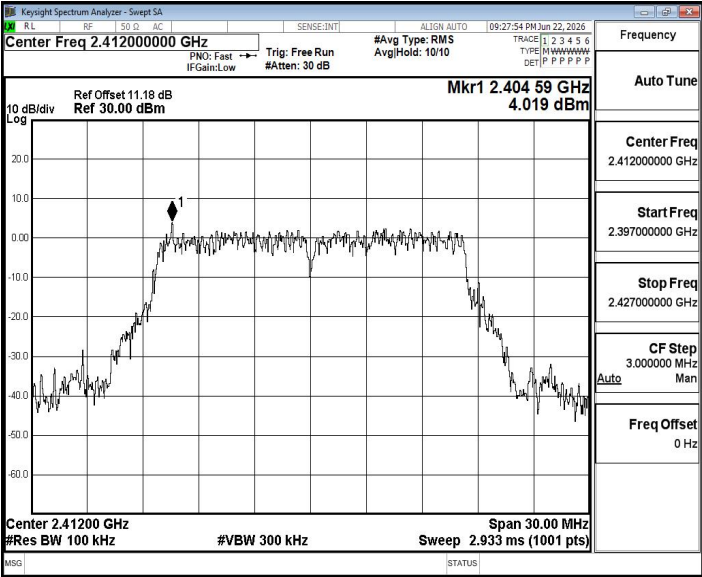
11B\_Ant1\_2462\_30~1000



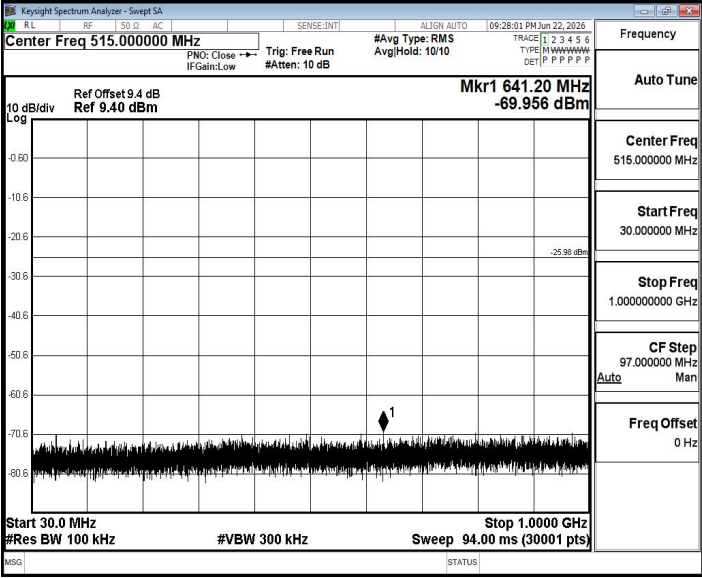
11B\_Ant1\_2462\_1000~26500



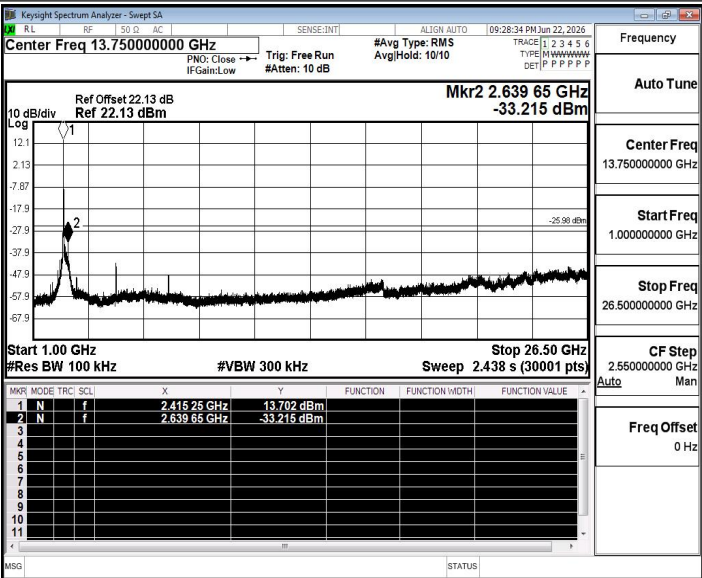
11G\_Ant1\_2412\_0~Reference



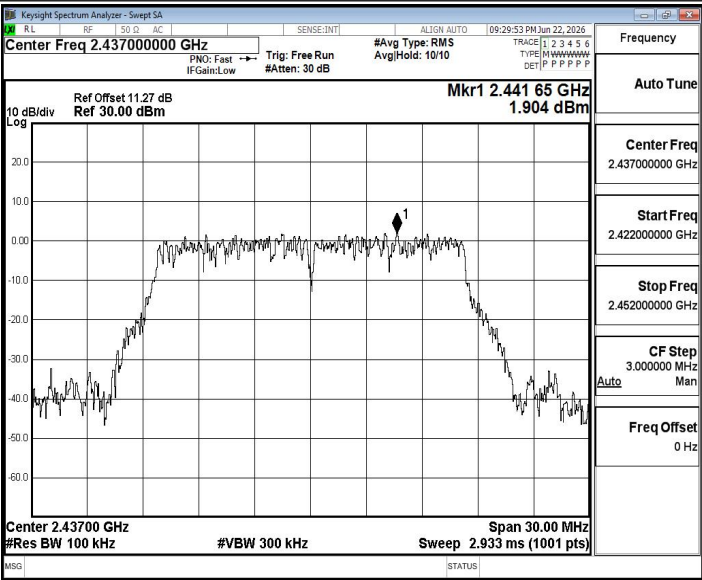
11G\_Ant1\_2412\_30~1000



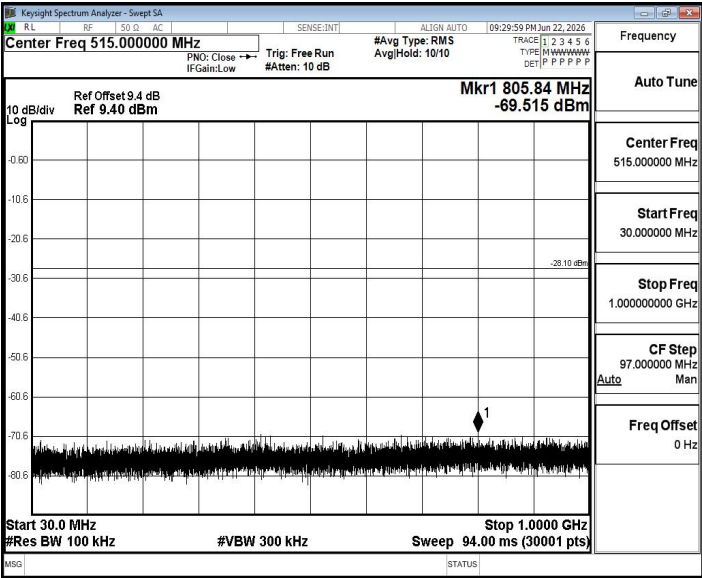
11G\_Ant1\_2412\_1000~26500



11G\_Ant1\_2437\_0~Reference



11G\_Ant1\_2437\_30~1000



11G\_Ant1\_2437\_1000~26500