

# RF Test Data for 2.4G Wi-Fi (Conducted Measurements)

| General Description of EUT  |                        |
|---|------------------------|
| Product Name:   | WiFi & BT combo module |
| Test Model:   | EWN-8822CSS3AH         |
| Sample ID:  | 202206-0044-01-02#     |
| Environmental Conditions  |                        |
| Temperature:  | 25°C                   |
| Relative Humidity:  | 55%                    |
| Test Voltage:   | DC 3.3V                |
| Test Engineer:  | Huangjianping          |
| Note: For a more detailed features description, please refer to the report TBR-C-202206-0044-22 |                        |

## Contents

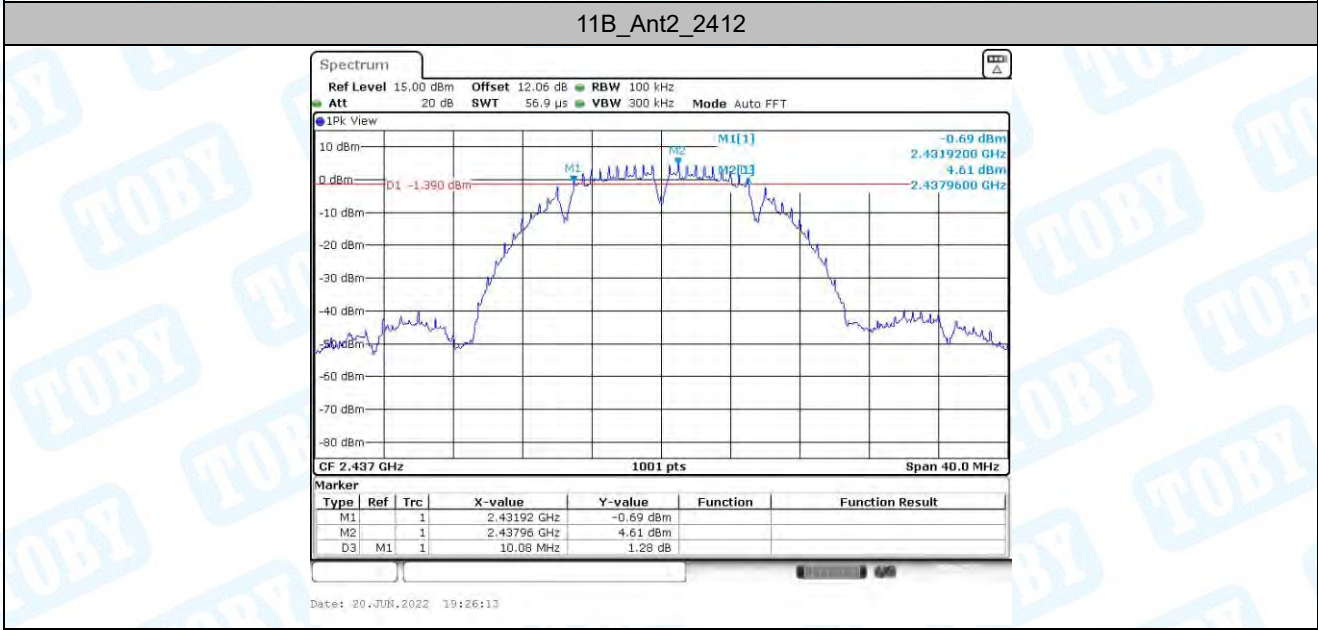
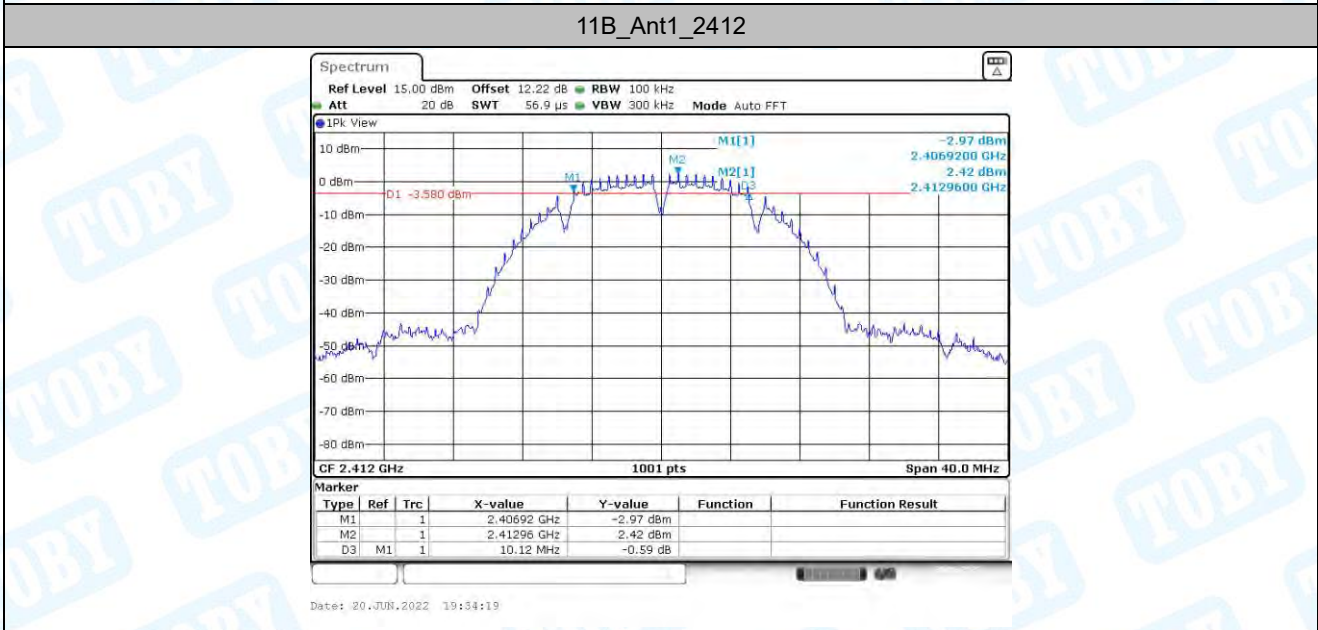
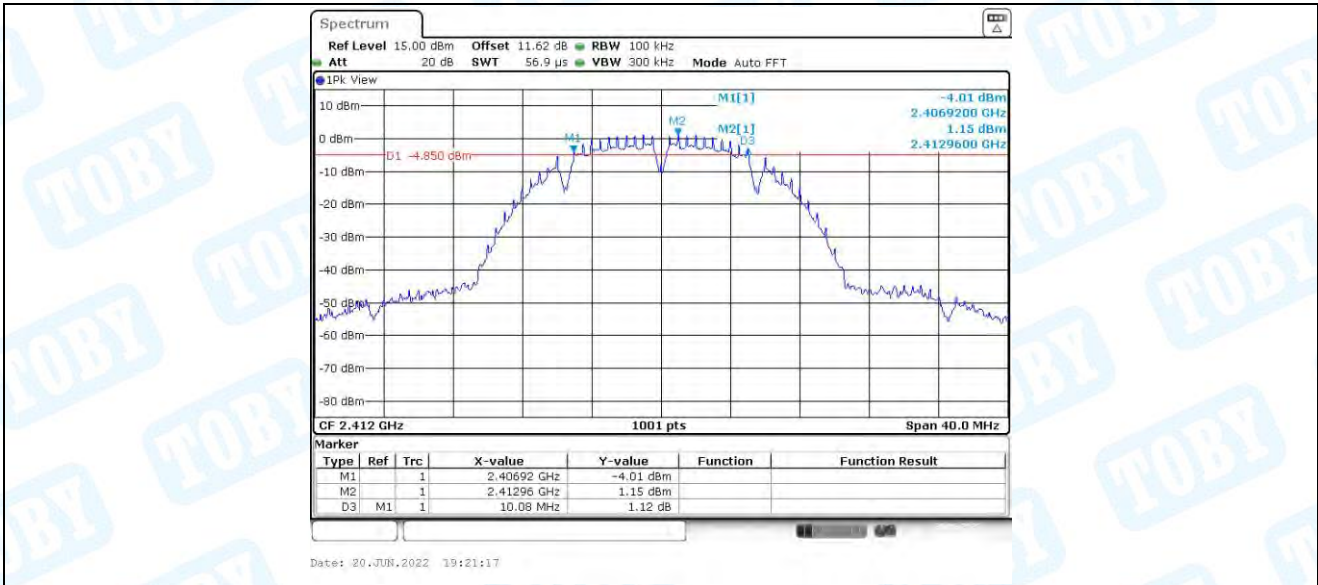
|  |    |
|--|----|
| 1. DTS Bandwidth.....                  | 3  |
| 1.1. Test Result.....                  | 3  |
| 1.2. Test Graphs.....                  | 4  |
| 2. Occupied Channel Bandwidth.....     | 12 |
| 2.1. Test Result.....                  | 12 |
| 2.2. Test Graphs.....                  | 13 |
| 3. Maximum conducted output power..... | 21 |
| 3.1. Test Result.....                  | 21 |
| 4. Maximum power spectral density..... | 22 |
| 4.1. Test Result.....                  | 22 |
| 4.2. Test Graphs.....                  | 23 |
| 5. Band edge measurements.....         | 31 |
| 5.1. Test Result.....                  | 31 |
| 5.2. Test Graphs.....                  | 32 |
| 6. Conducted Spurious Emission.....    | 38 |
| 6.1. Test Result.....                  | 38 |
| 6.2. Test Graphs.....                  | 40 |
| 7. Duty Cycle.....                     | 64 |
| 7.1. Test Result.....                  | 64 |
| 7.2. Test Graphs.....                  | 65 |
| 8. Emissions in Restricted Bands.....  | 73 |
| 8.1. Test Result.....                  | 73 |
| 8.2. Test Graphs.....                  | 76 |

# 1. DTS Bandwidth

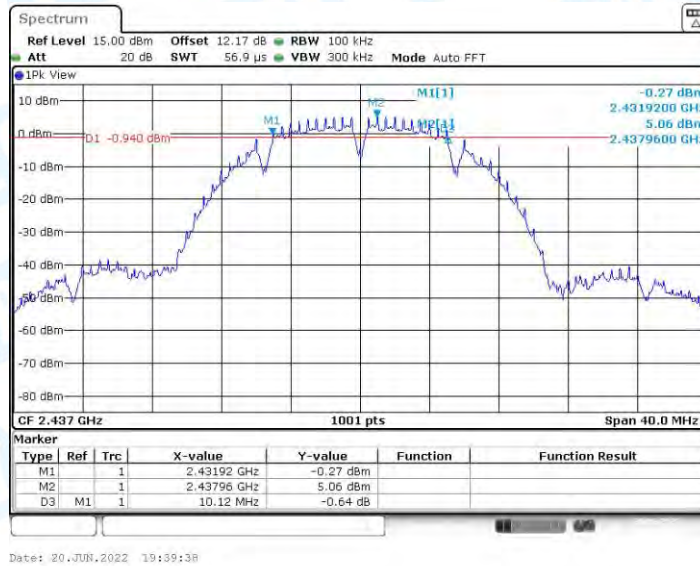
## 1.1. Test Result

| TestMode  | Antenna | Channel | DTS BW [MHz] | FL[MHz] | FH[MHz] | Limit[MHz] | Verdict |
|-----------|---------|---------|--------------|---------|---------|------------|---------|
| 11B       | Ant1    | 2412    | 10.08        | 2406.92 | 2417.00 | 0.5        | PASS    |
|           | Ant2    | 2412    | 10.12        | 2406.92 | 2417.04 | 0.5        | PASS    |
|           | Ant1    | 2437    | 10.08        | 2431.92 | 2442.00 | 0.5        | PASS    |
|           | Ant2    | 2437    | 10.12        | 2431.92 | 2442.04 | 0.5        | PASS    |
|           | Ant1    | 2462    | 10.08        | 2456.92 | 2467.00 | 0.5        | PASS    |
|           | Ant2    | 2462    | 10.12        | 2456.92 | 2467.04 | 0.5        | PASS    |
| 11G       | Ant1    | 2412    | 15.56        | 2404.20 | 2419.76 | 0.5        | PASS    |
|           | Ant2    | 2412    | 16.04        | 2403.84 | 2419.88 | 0.5        | PASS    |
|           | Ant1    | 2437    | 15.68        | 2429.20 | 2444.88 | 0.5        | PASS    |
|           | Ant2    | 2437    | 15.68        | 2429.20 | 2444.88 | 0.5        | PASS    |
|           | Ant1    | 2462    | 15.68        | 2454.20 | 2469.88 | 0.5        | PASS    |
|           | Ant2    | 2462    | 15.68        | 2454.20 | 2469.88 | 0.5        | PASS    |
| 11N20MIMO | Ant1    | 2412    | 16.92        | 2403.44 | 2420.36 | 0.5        | PASS    |
|           | Ant2    | 2412    | 16.52        | 2403.84 | 2420.36 | 0.5        | PASS    |
|           | Ant1    | 2437    | 16.52        | 2428.84 | 2445.36 | 0.5        | PASS    |
|           | Ant2    | 2437    | 16.28        | 2428.84 | 2445.12 | 0.5        | PASS    |
|           | Ant1    | 2462    | 16.04        | 2454.08 | 2470.12 | 0.5        | PASS    |
|           | Ant2    | 2462    | 16.28        | 2453.84 | 2470.12 | 0.5        | PASS    |
| 11N40MIMO | Ant1    | 2422    | 35.44        | 2404.08 | 2439.52 | 0.5        | PASS    |
|           | Ant2    | 2422    | 35.20        | 2404.40 | 2439.60 | 0.5        | PASS    |
|           | Ant1    | 2437    | 35.12        | 2419.40 | 2454.52 | 0.5        | PASS    |
|           | Ant2    | 2437    | 35.12        | 2419.40 | 2454.52 | 0.5        | PASS    |
|           | Ant1    | 2452    | 35.12        | 2434.40 | 2469.52 | 0.5        | PASS    |
|           | Ant2    | 2452    | 35.20        | 2434.40 | 2469.60 | 0.5        | PASS    |

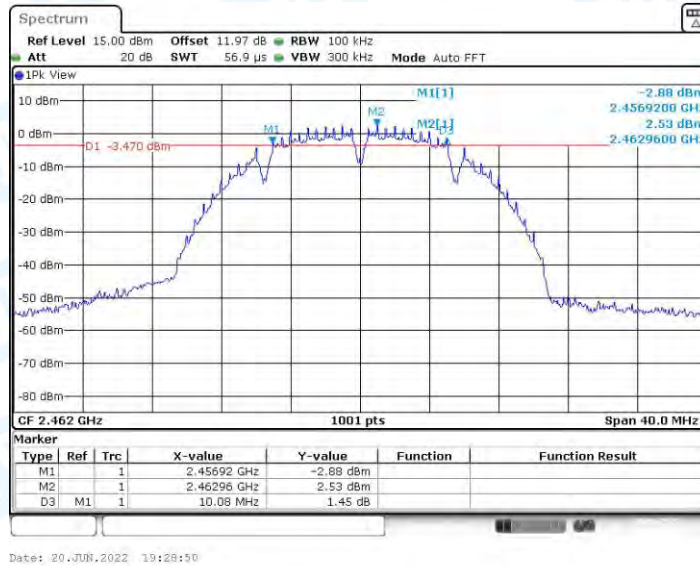
**1.2. Test Graphs**



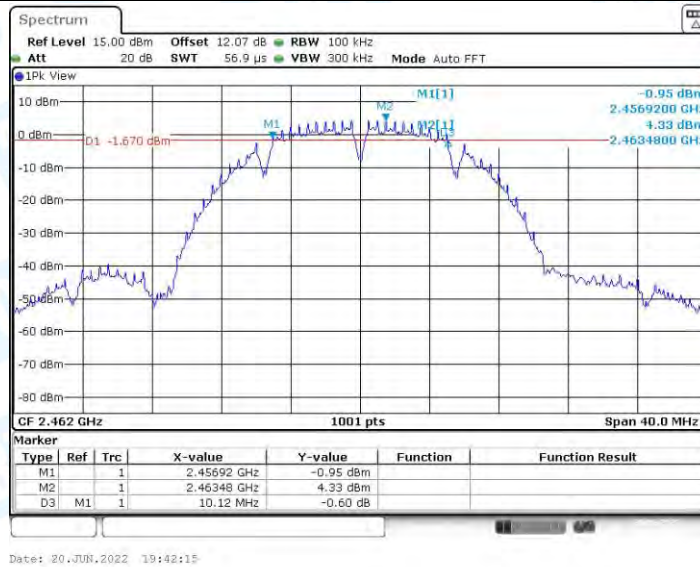
**11B\_Ant1\_2437**



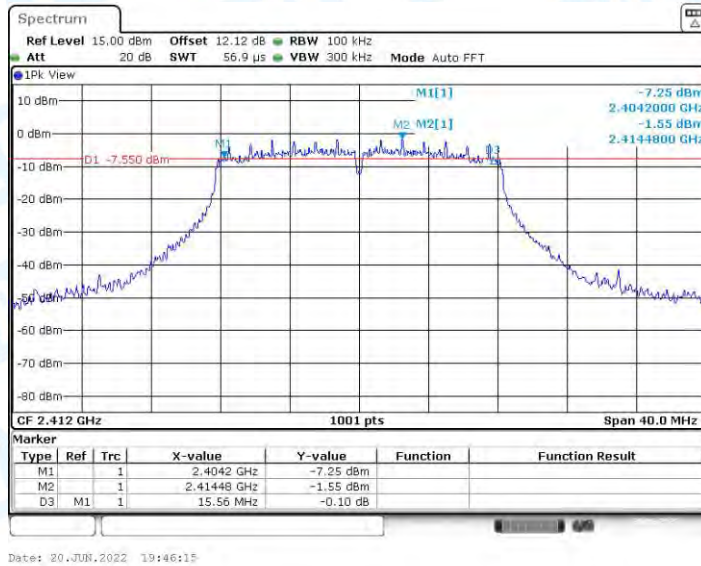
11B\_Ant2\_2437



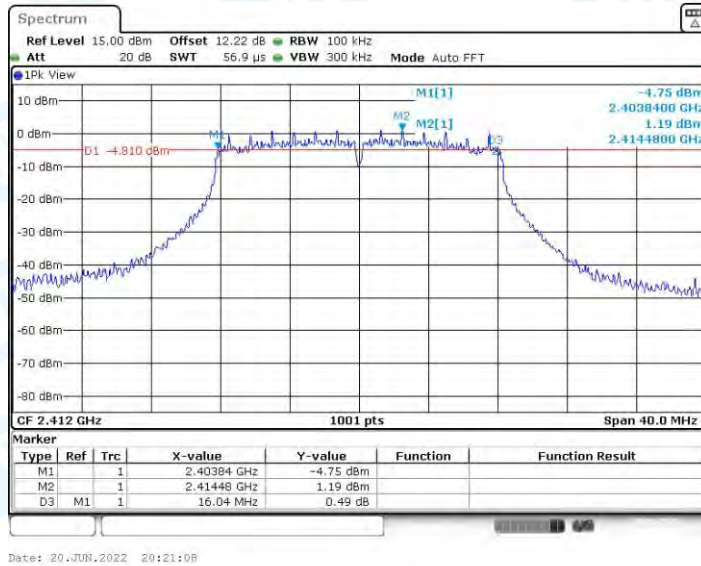
11B\_Ant1\_2462



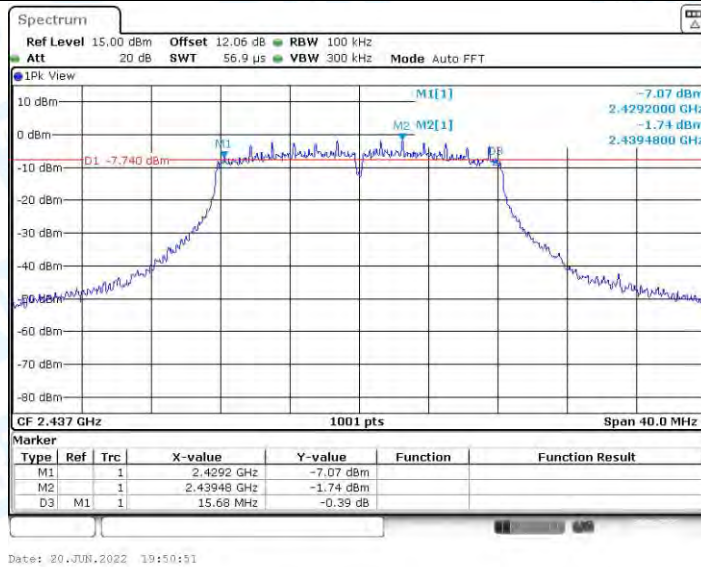
11B\_Ant2\_2462



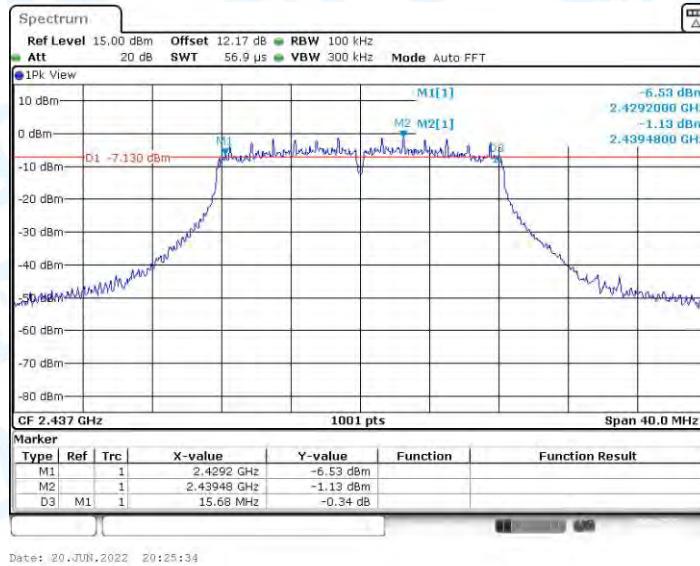
11G\_Ant1\_2412



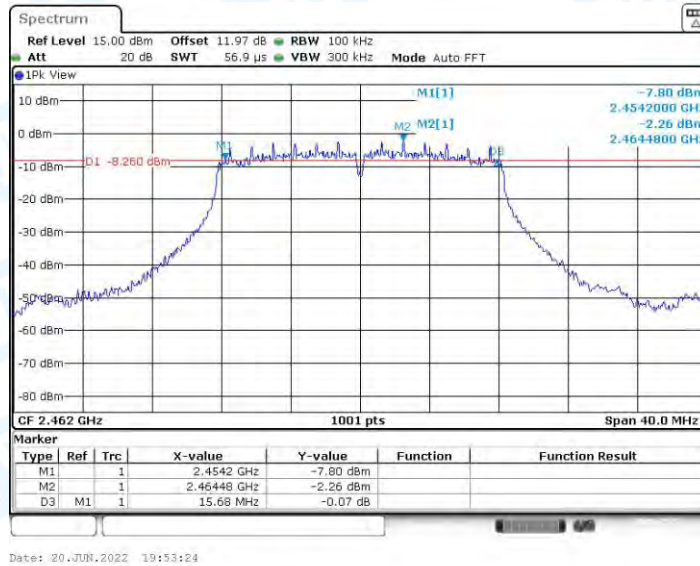
11G\_Ant2\_2412



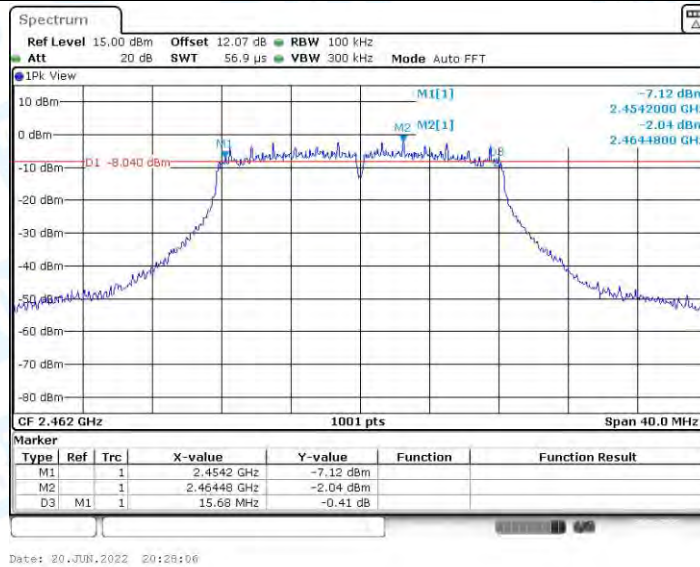
11G\_Ant1\_2437



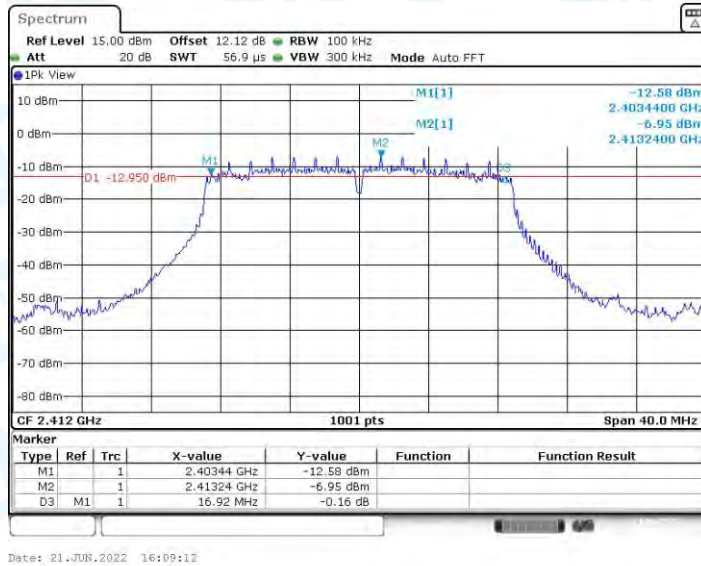
11G\_Ant2\_2437



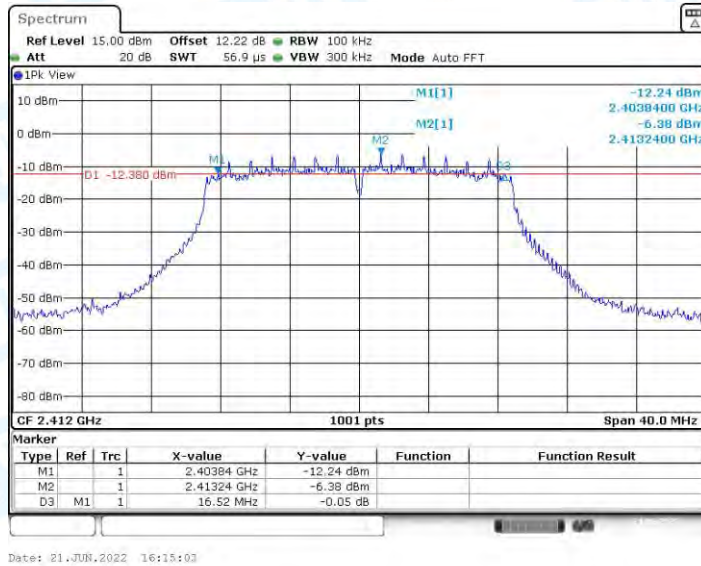
11G\_Ant1\_2462



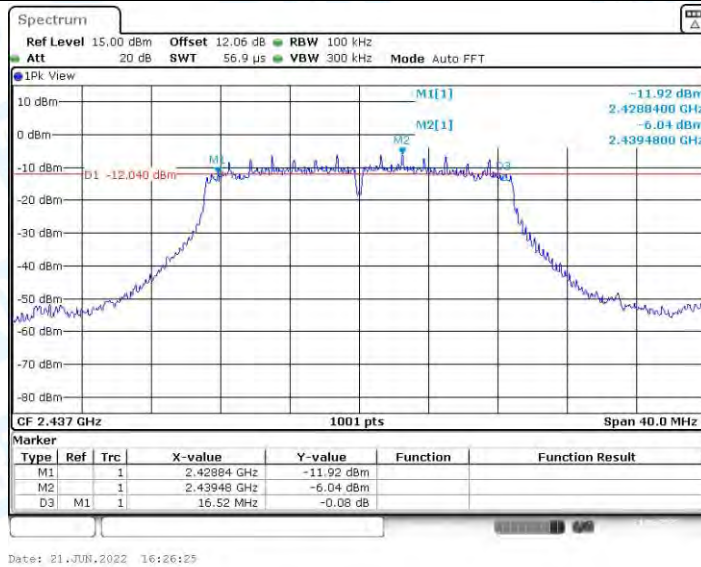
11G\_Ant2\_2462



11N20MIMO\_Ant1\_2412

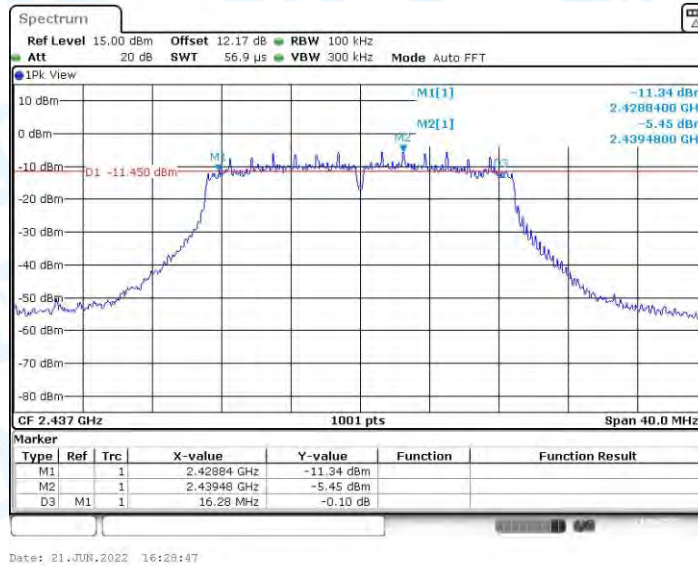


11N20MIMO\_Ant2\_2412

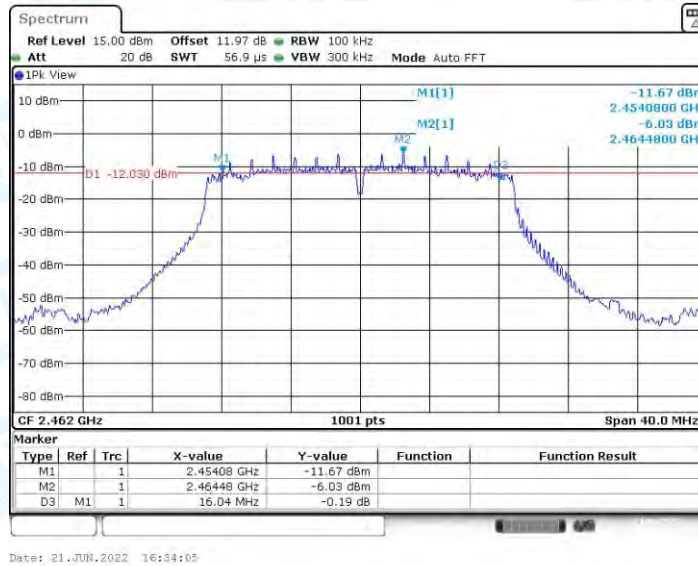


11N20MIMO\_Ant1\_2437

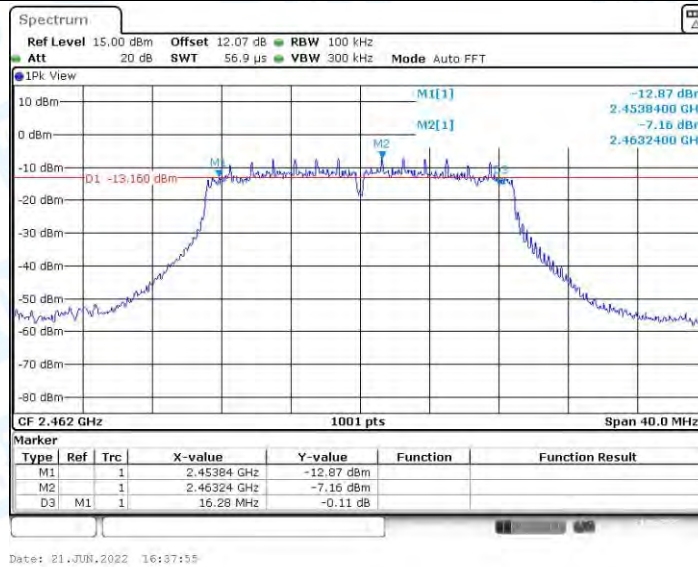




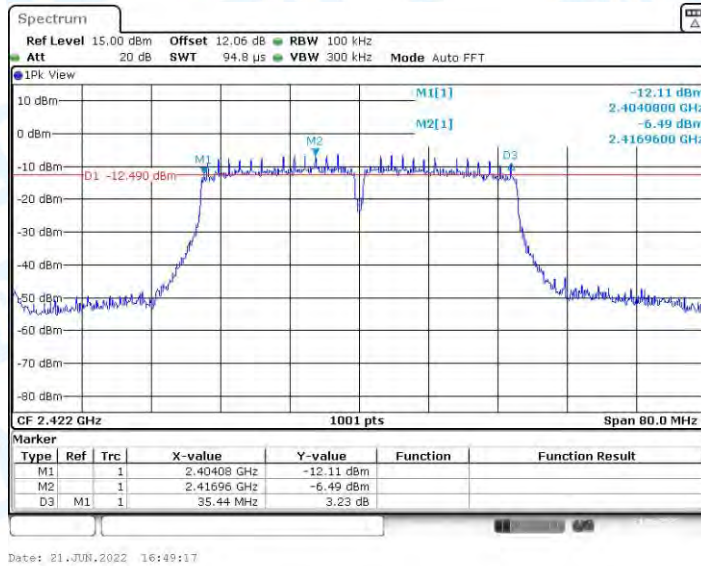
11N20MIMO\_Ant2\_2437



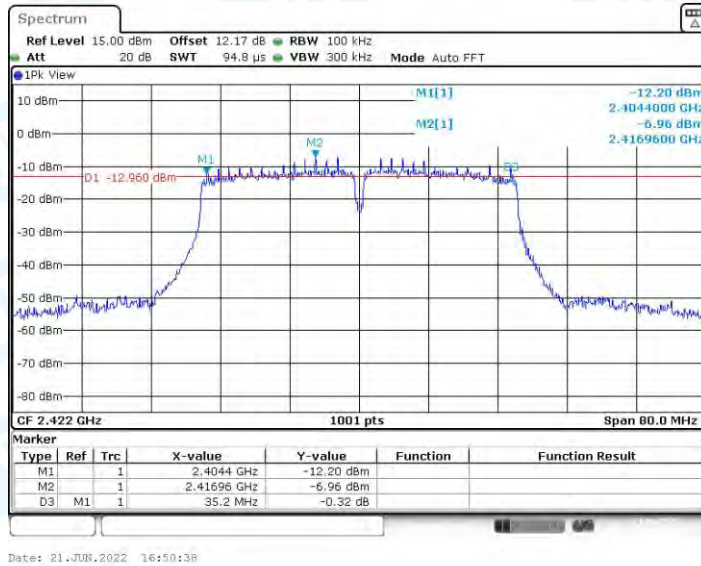
11N20MIMO\_Ant1\_2462



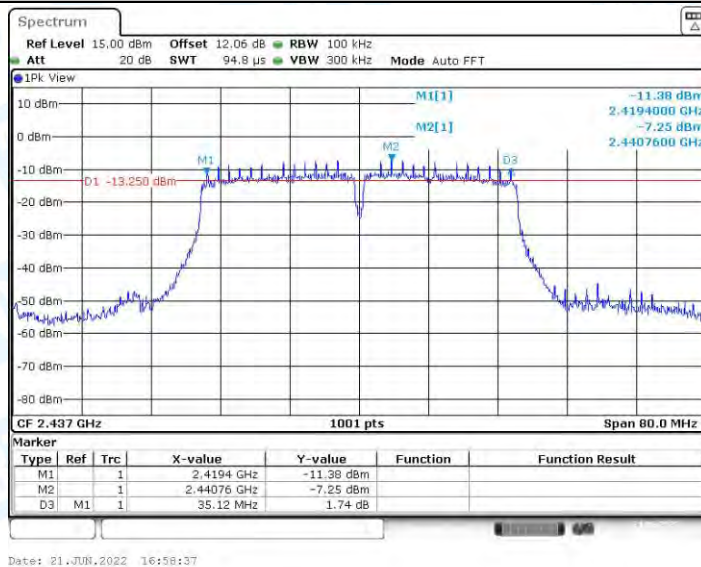
11N20MIMO\_Ant2\_2462



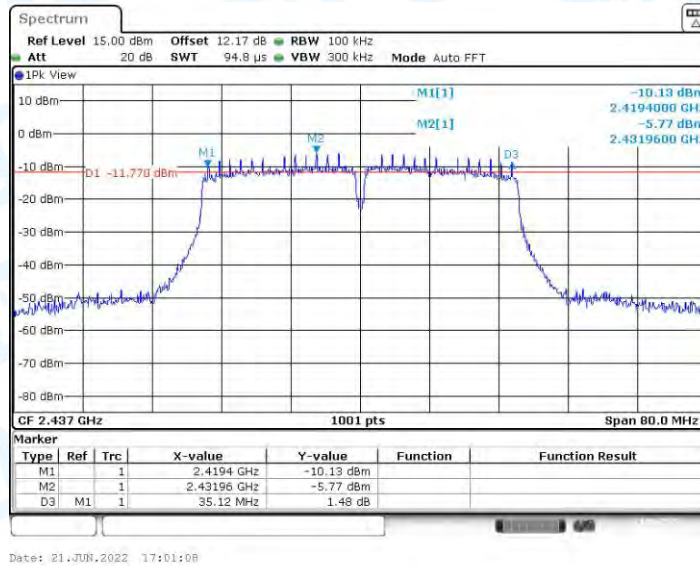
11N40MIMO\_Ant1\_2422



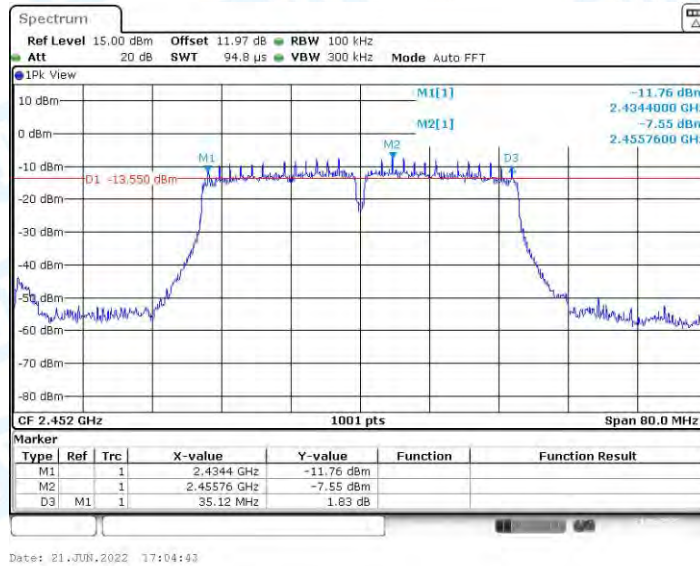
11N40MIMO\_Ant2\_2422



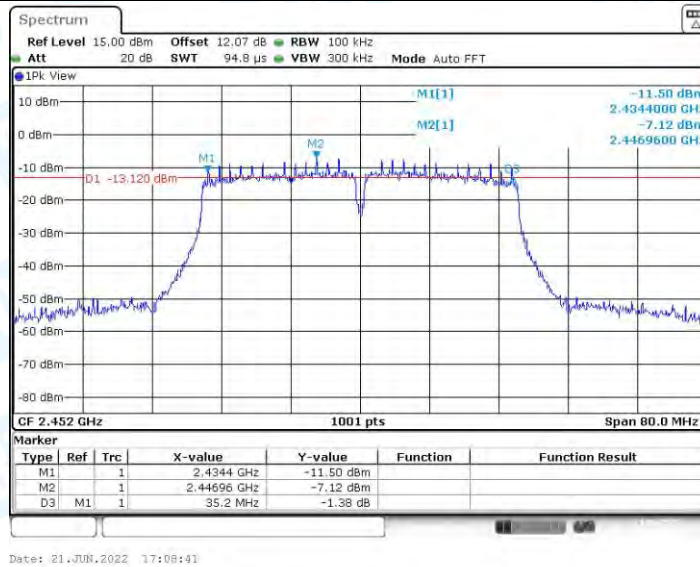
11N40MIMO\_Ant1\_2437



11N40MIMO\_Ant2\_2437



11N40MIMO\_Ant1\_2452



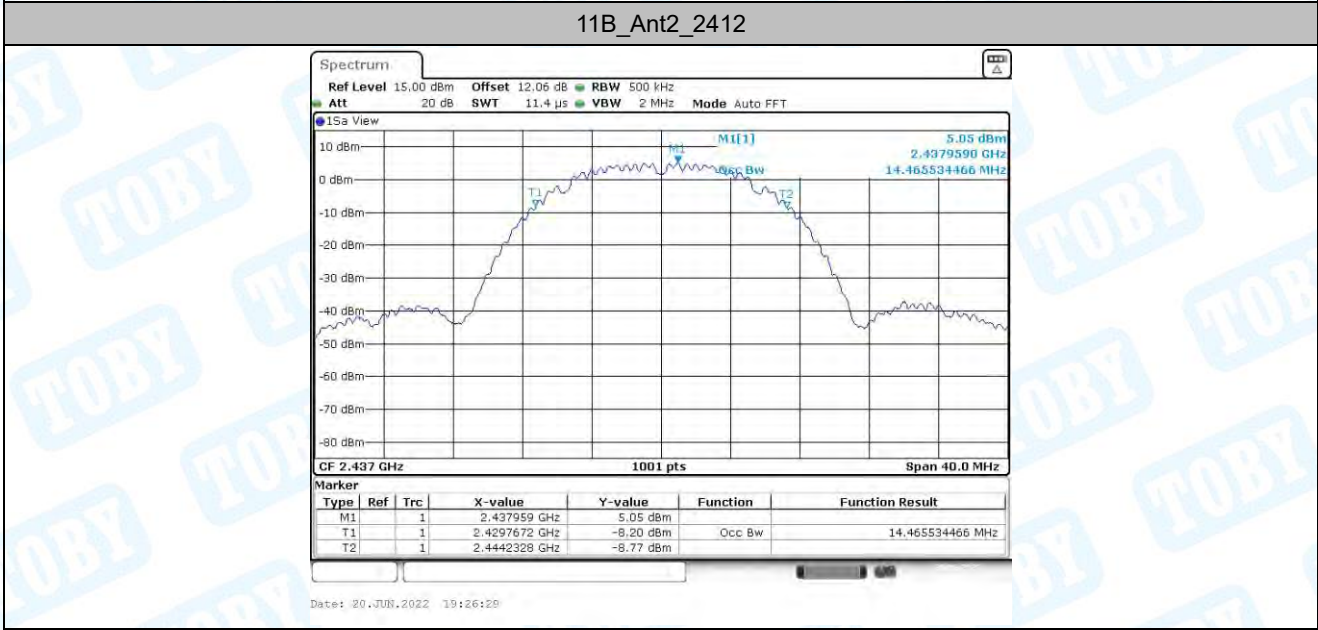
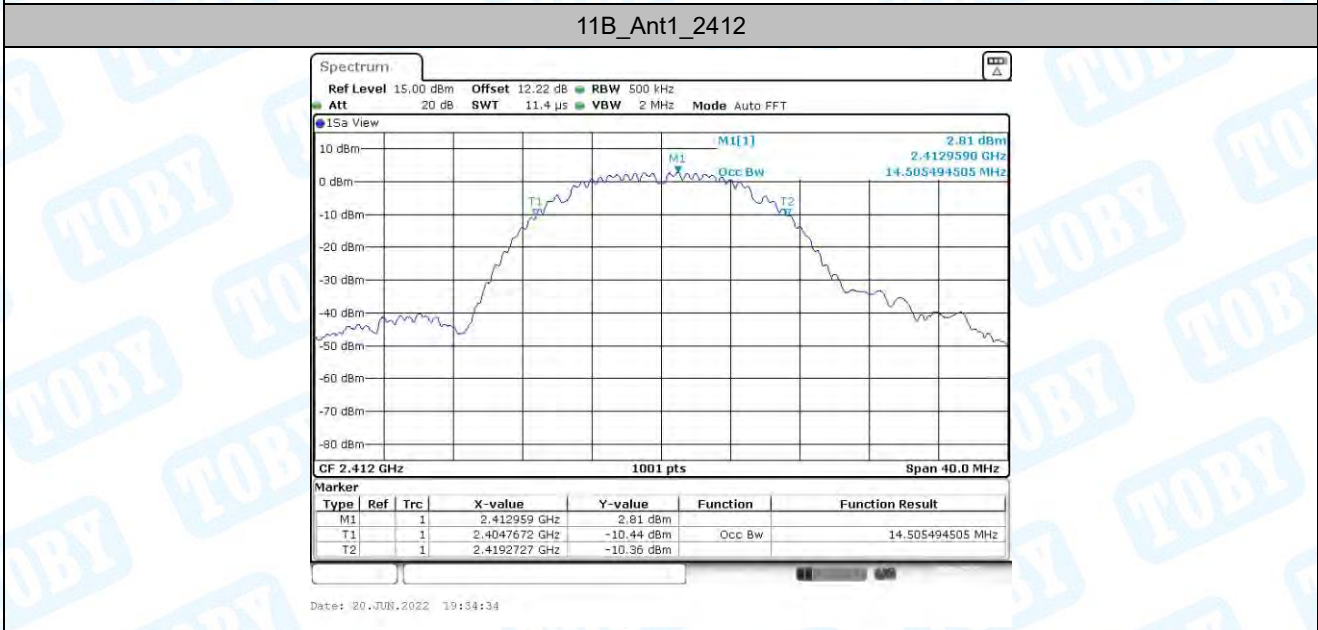
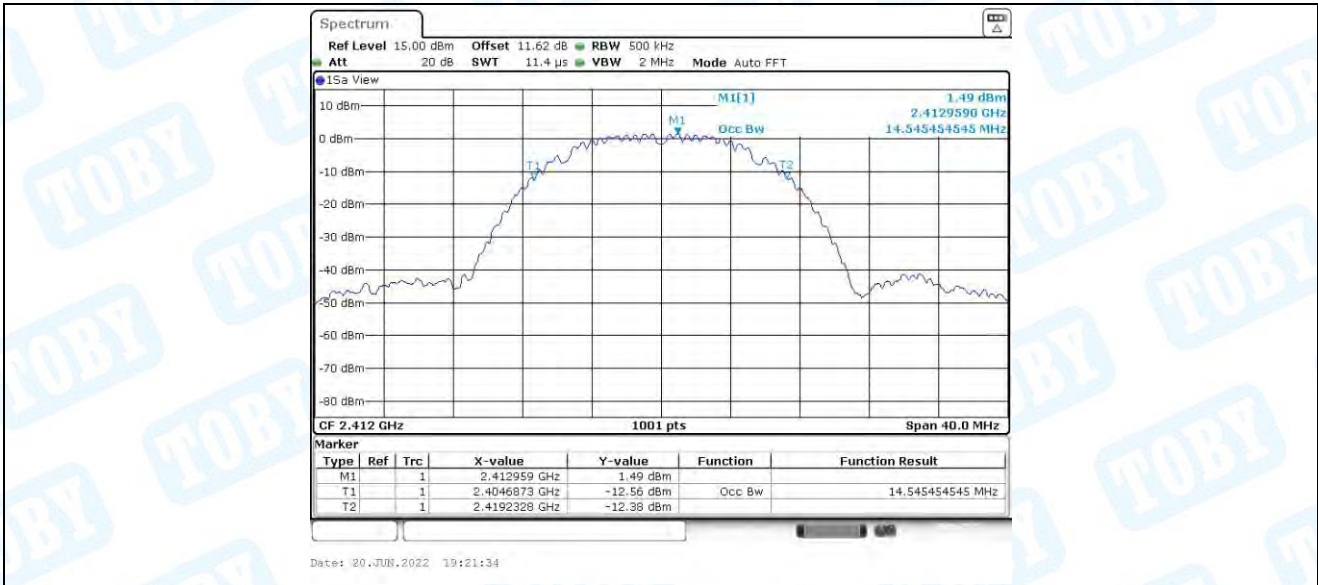
11N40MIMO\_Ant2\_2452

## 2. Occupied Channel Bandwidth

### 2.1. Test Result

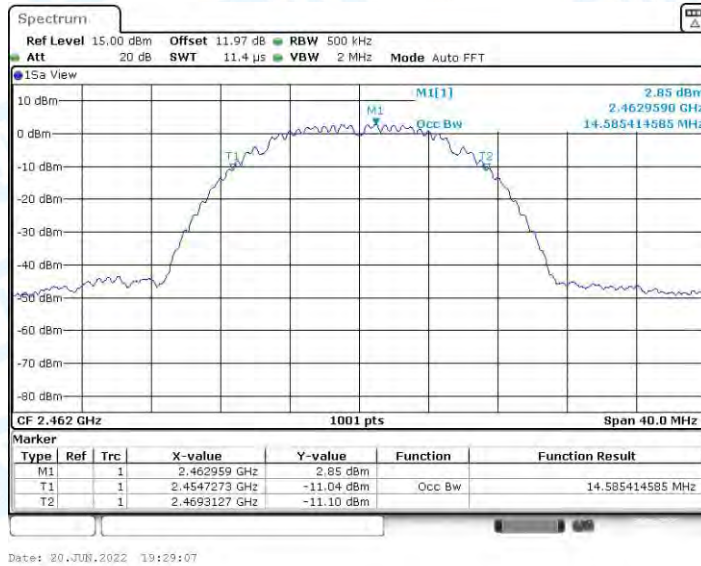
| TestMode  | Antenna | Channel | OCB [MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|-----------|---------|---------|-----------|----------|----------|------------|---------|
| 11B       | Ant1    | 2412    | 14.545    | 2404.687 | 2419.233 | ---        | ---     |
|           | Ant2    | 2412    | 14.505    | 2404.767 | 2419.273 | ---        | ---     |
|           | Ant1    | 2437    | 14.466    | 2429.767 | 2444.233 | ---        | ---     |
|           | Ant2    | 2437    | 14.505    | 2429.727 | 2444.233 | ---        | ---     |
|           | Ant1    | 2462    | 14.585    | 2454.727 | 2469.313 | ---        | ---     |
|           | Ant2    | 2462    | 14.466    | 2454.767 | 2469.233 | ---        | ---     |
| 11G       | Ant1    | 2412    | 16.863    | 2403.648 | 2420.511 | ---        | ---     |
|           | Ant2    | 2412    | 16.823    | 2403.568 | 2420.392 | ---        | ---     |
|           | Ant1    | 2437    | 16.783    | 2428.648 | 2445.432 | ---        | ---     |
|           | Ant2    | 2437    | 16.783    | 2428.608 | 2445.392 | ---        | ---     |
|           | Ant1    | 2462    | 16.823    | 2453.568 | 2470.392 | ---        | ---     |
|           | Ant2    | 2462    | 16.943    | 2453.489 | 2470.432 | ---        | ---     |
| 11N20MIMO | Ant1    | 2412    | 17.902    | 2403.049 | 2420.951 | ---        | ---     |
|           | Ant2    | 2412    | 18.102    | 2402.889 | 2420.991 | ---        | ---     |
|           | Ant1    | 2437    | 18.022    | 2428.049 | 2446.071 | ---        | ---     |
|           | Ant2    | 2437    | 18.062    | 2427.929 | 2445.991 | ---        | ---     |
|           | Ant1    | 2462    | 17.982    | 2453.089 | 2471.071 | ---        | ---     |
|           | Ant2    | 2462    | 18.062    | 2452.809 | 2470.871 | ---        | ---     |
| 11N40MIMO | Ant1    | 2422    | 36.124    | 2403.938 | 2440.062 | ---        | ---     |
|           | Ant2    | 2422    | 36.364    | 2403.618 | 2439.982 | ---        | ---     |
|           | Ant1    | 2437    | 36.523    | 2418.538 | 2455.062 | ---        | ---     |
|           | Ant2    | 2437    | 36.044    | 2418.938 | 2454.982 | ---        | ---     |
|           | Ant1    | 2452    | 36.204    | 2433.858 | 2470.062 | ---        | ---     |
|           | Ant2    | 2452    | 36.124    | 2433.858 | 2469.982 | ---        | ---     |

**2.2. Test Graphs**

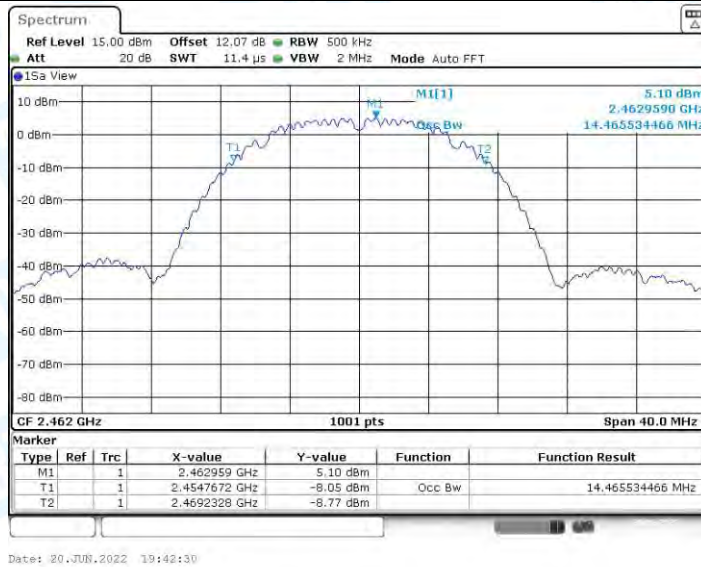




11B\_Ant2\_2437



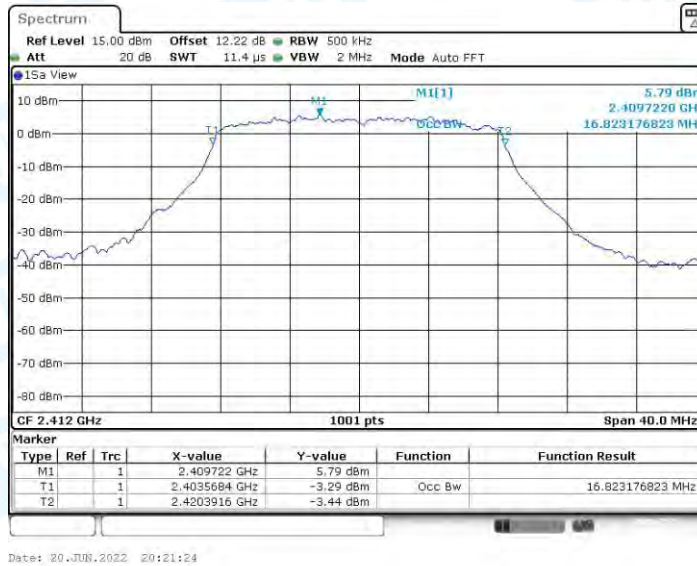
11B\_Ant1\_2462



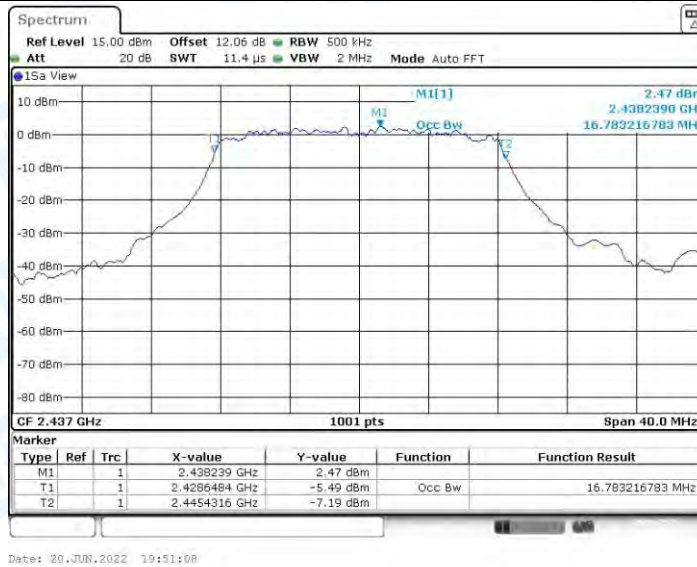
11B\_Ant2\_2462



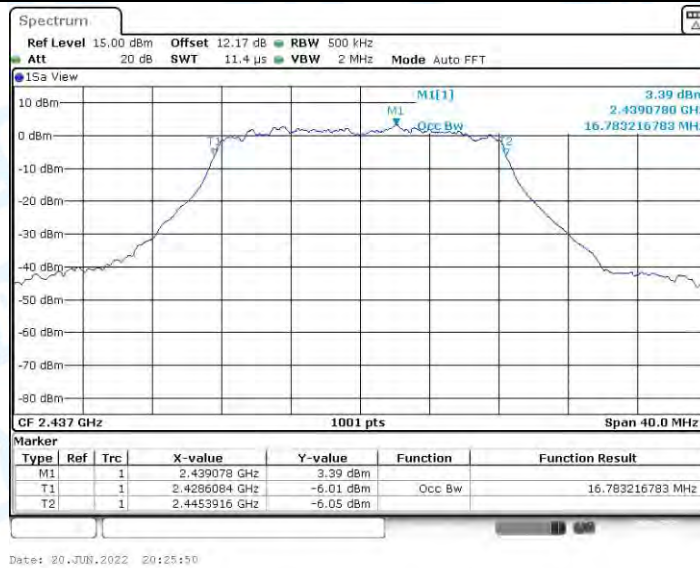
11G\_Ant1\_2412



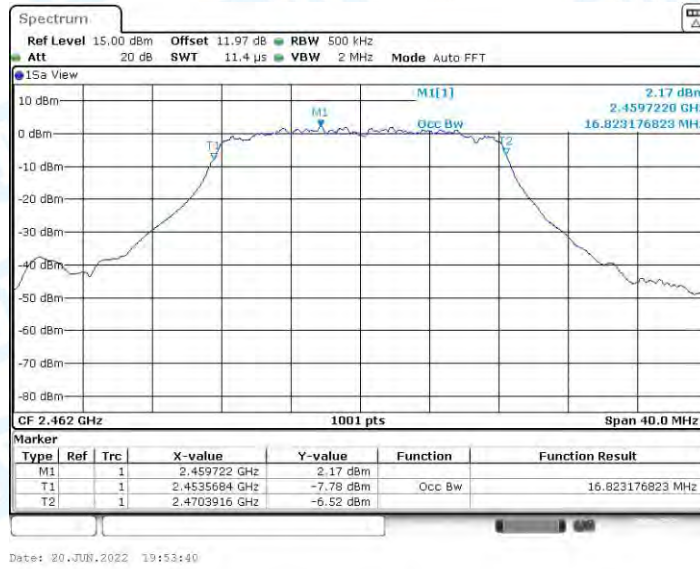
11G\_Ant2\_2412



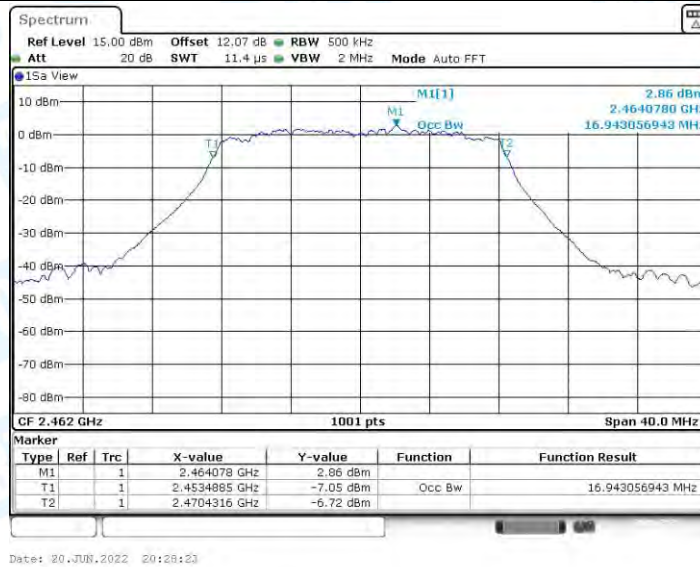
11G\_Ant1\_2437



11G\_Ant2\_2437

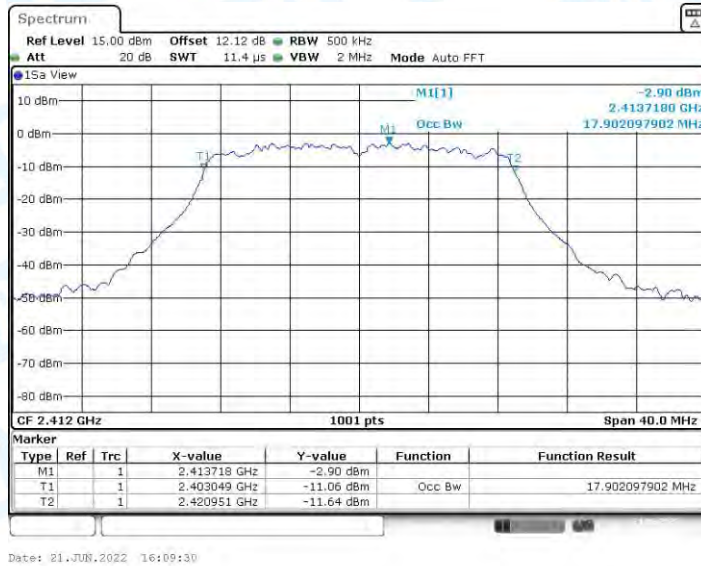


11G\_Ant1\_2462

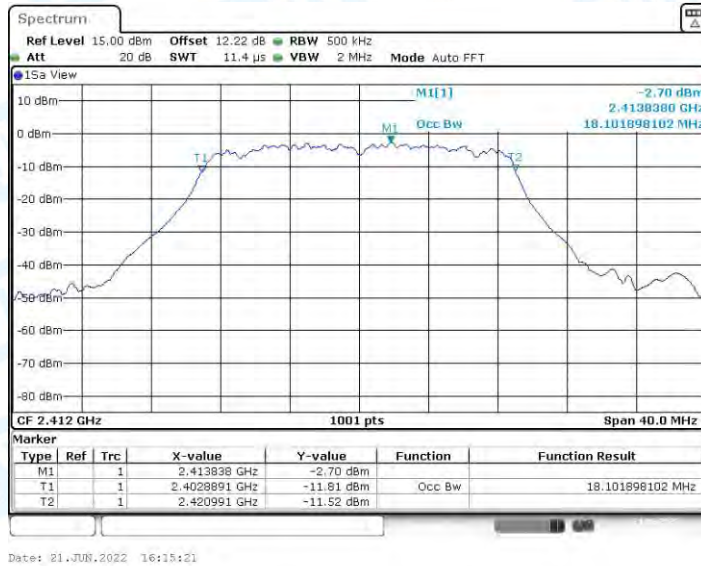


11G\_Ant2\_2462

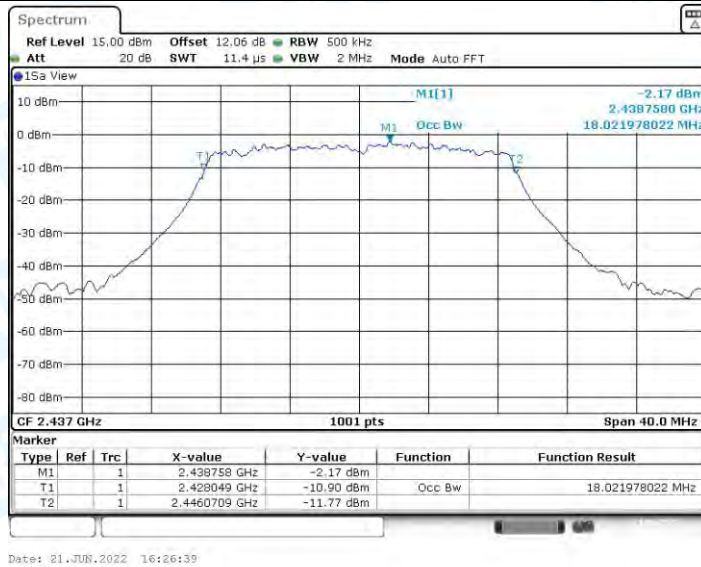




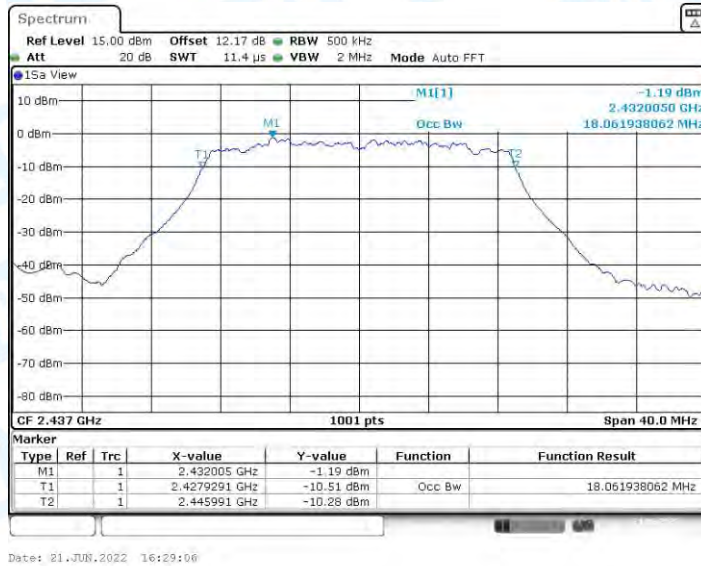
11N20MIMO\_Ant1\_2412



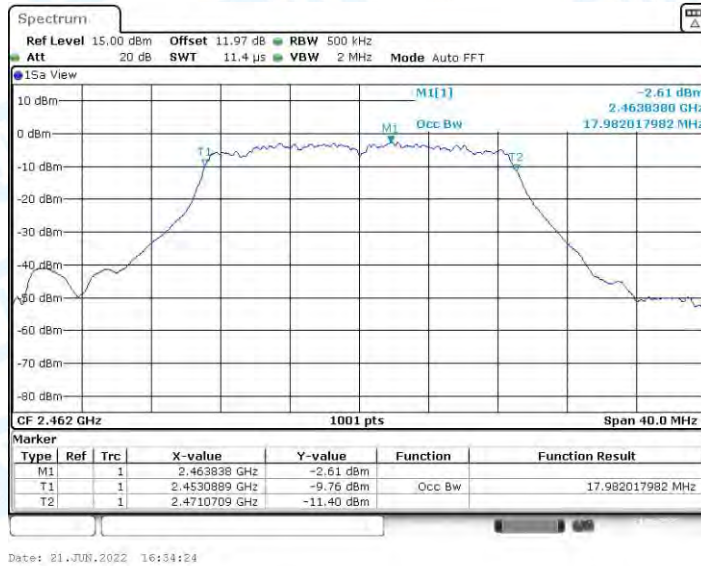
11N20MIMO\_Ant2\_2412



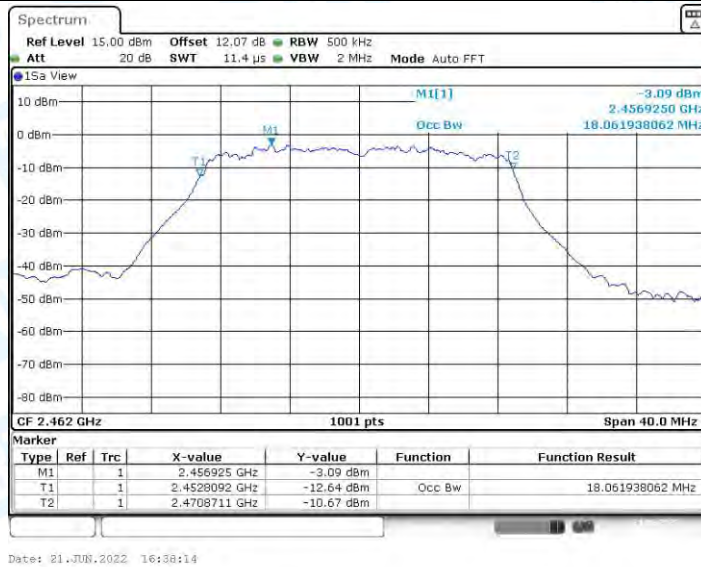
11N20MIMO\_Ant1\_2437



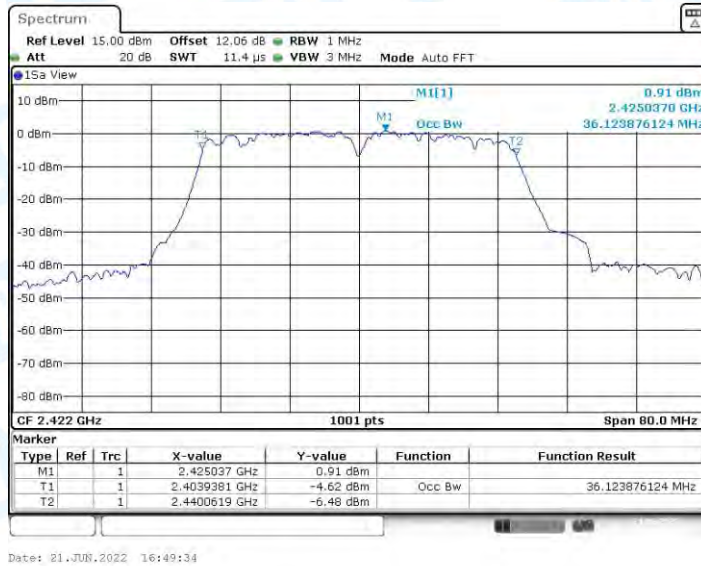
11N20MIMO\_Ant2\_2437



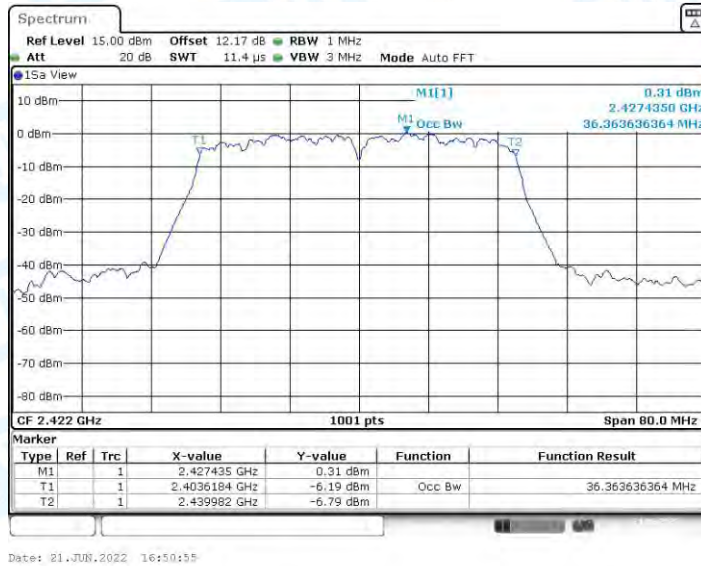
11N20MIMO\_Ant1\_2462



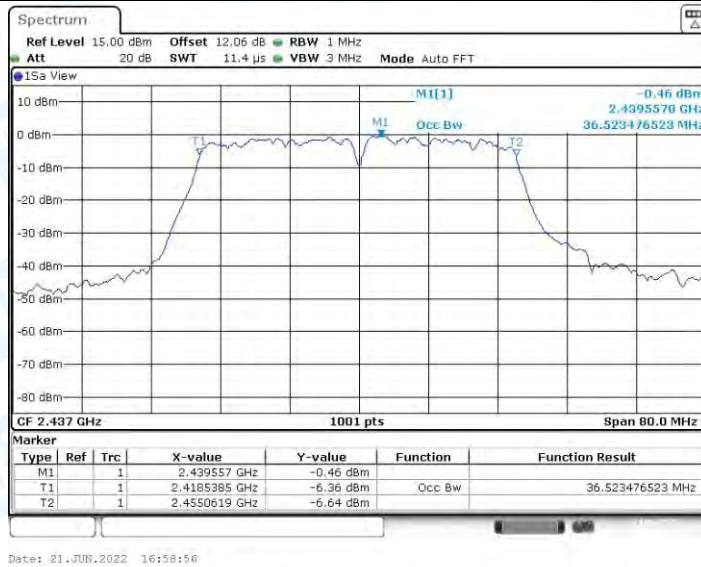
11N20MIMO\_Ant2\_2462



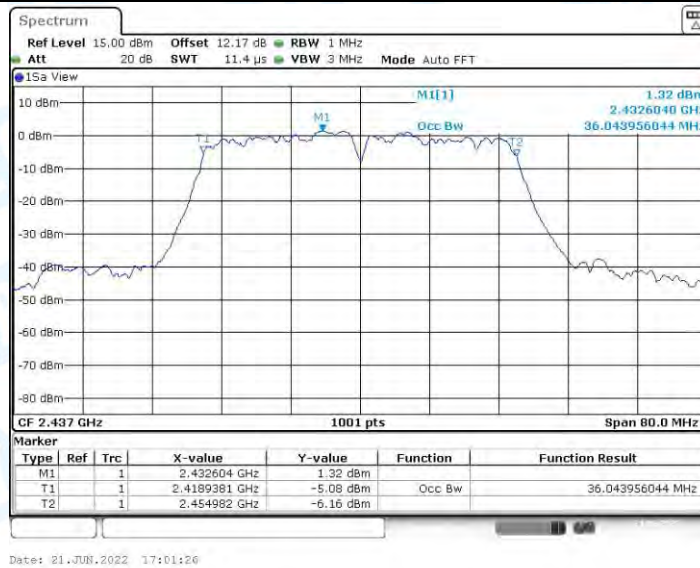
11N40MIMO\_Ant1\_2422



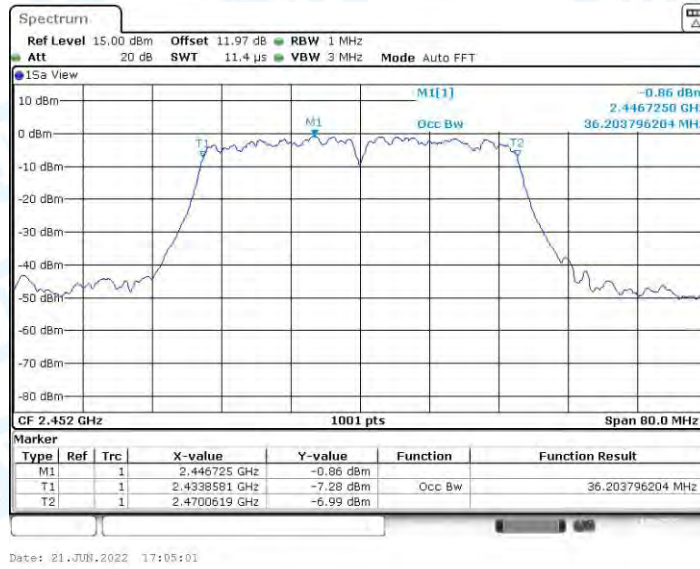
11N40MIMO\_Ant2\_2422



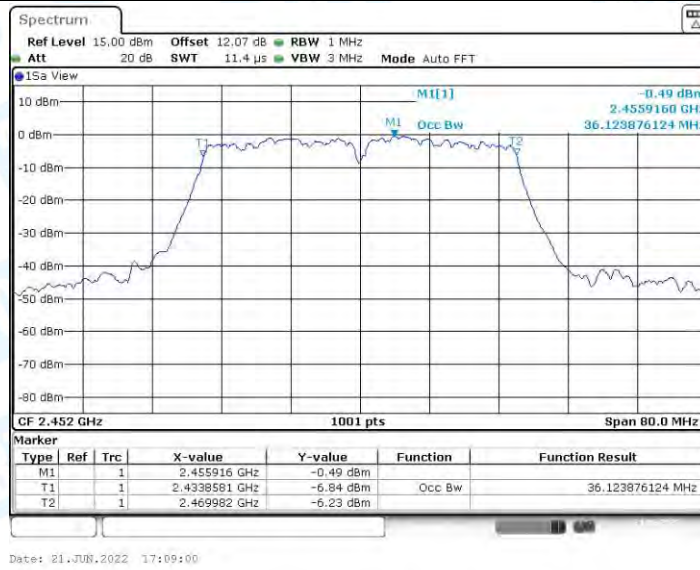
11N40MIMO\_Ant1\_2437



11N40MIMO\_Ant2\_2437



11N40MIMO\_Ant1\_2452



11N40MIMO\_Ant2\_2452

### 3. Maximum conducted output power

#### 3.1. Test Result

| TestMode  | Antenna | Channel | Result[dBm] | Limit[dBm] | Verdict |
|-----------|---------|---------|-------------|------------|---------|
| 11B       | Ant1    | 2412    | 17.71       | ≤30.00     | PASS    |
|           | Ant2    | 2412    | 17.03       | ≤30.00     | PASS    |
|           | Ant1    | 2437    | 17.04       | ≤30.00     | PASS    |
|           | Ant2    | 2437    | 17.61       | ≤30.00     | PASS    |
|           | Ant1    | 2462    | 17.59       | ≤30.00     | PASS    |
|           | Ant2    | 2462    | 17.11       | ≤30.00     | PASS    |
| 11G       | Ant1    | 2412    | 17.57       | ≤30.00     | PASS    |
|           | Ant2    | 2412    | 17.93       | ≤30.00     | PASS    |
|           | Ant1    | 2437    | 17.28       | ≤30.00     | PASS    |
|           | Ant2    | 2437    | 17.80       | ≤30.00     | PASS    |
|           | Ant1    | 2462    | 17.33       | ≤30.00     | PASS    |
|           | Ant2    | 2462    | 17.11       | ≤30.00     | PASS    |
| 11N20MIMO | Ant1    | 2412    | 14.52       | ≤30.00     | PASS    |
|           | Ant2    | 2412    | 14.59       | ≤30.00     | PASS    |
|           | total   | 2412    | 17.57       | ≤30.00     | PASS    |
|           | Ant1    | 2437    | 14.92       | ≤30.00     | PASS    |
|           | Ant2    | 2437    | 14.56       | ≤30.00     | PASS    |
|           | total   | 2437    | 17.75       | ≤30.00     | PASS    |
|           | Ant1    | 2462    | 14.33       | ≤30.00     | PASS    |
|           | Ant2    | 2462    | 13.84       | ≤30.00     | PASS    |
|           | total   | 2462    | 17.10       | ≤30.00     | PASS    |
| 11N40MIMO | Ant1    | 2422    | 14.45       | ≤30.00     | PASS    |
|           | Ant2    | 2422    | 14.51       | ≤30.00     | PASS    |
|           | total   | 2422    | 17.49       | ≤30.00     | PASS    |
|           | Ant1    | 2437    | 14.41       | ≤30.00     | PASS    |
|           | Ant2    | 2437    | 14.98       | ≤30.00     | PASS    |
|           | total   | 2437    | 17.71       | ≤30.00     | PASS    |
|           | Ant1    | 2452    | 14.05       | ≤30.00     | PASS    |
|           | Ant2    | 2452    | 14.21       | ≤30.00     | PASS    |
|           | total   | 2452    | 17.14       | ≤30.00     | PASS    |

## 4. Maximum power spectral density

### 4.1. Test Result

| TestMode  | Antenna | Channel | Result[dBm/3-100kHz] | Limit[dBm/3kHz] | Verdict |
|-----------|---------|---------|----------------------|-----------------|---------|
| 11B       | Ant1    | 2412    | -8.39                | ≤8.00           | PASS    |
|           | Ant2    | 2412    | -8.61                | ≤8.00           | PASS    |
|           | Ant1    | 2437    | -8.92                | ≤8.00           | PASS    |
|           | Ant2    | 2437    | -8.33                | ≤8.00           | PASS    |
|           | Ant1    | 2462    | -8.72                | ≤8.00           | PASS    |
|           | Ant2    | 2462    | -8.81                | ≤8.00           | PASS    |
| 11G       | Ant1    | 2412    | -16.34               | ≤8.00           | PASS    |
|           | Ant2    | 2412    | -16.02               | ≤8.00           | PASS    |
|           | Ant1    | 2437    | -16.64               | ≤8.00           | PASS    |
|           | Ant2    | 2437    | -16.09               | ≤8.00           | PASS    |
|           | Ant1    | 2462    | -16.5                | ≤8.00           | PASS    |
|           | Ant2    | 2462    | -16.79               | ≤8.00           | PASS    |
| 11N20MIMO | Ant1    | 2412    | -18.65               | ≤8.00           | PASS    |
|           | Ant2    | 2412    | -18.36               | ≤8.00           | PASS    |
|           | total   | 2412    | -15.49               | ≤8.00           | PASS    |
|           | Ant1    | 2437    | -18.32               | ≤8.00           | PASS    |
|           | Ant2    | 2437    | -18.43               | ≤8.00           | PASS    |
|           | total   | 2437    | -15.36               | ≤8.00           | PASS    |
|           | Ant1    | 2462    | -18.77               | ≤8.00           | PASS    |
|           | Ant2    | 2462    | -19.13               | ≤8.00           | PASS    |
|           | total   | 2462    | -15.94               | ≤8.00           | PASS    |
| 11N40MIMO | Ant1    | 2422    | -20.78               | ≤8.00           | PASS    |
|           | Ant2    | 2422    | -21.08               | ≤8.00           | PASS    |
|           | total   | 2422    | -17.92               | ≤8.00           | PASS    |
|           | Ant1    | 2437    | -21.08               | ≤8.00           | PASS    |
|           | Ant2    | 2437    | -20.49               | ≤8.00           | PASS    |
|           | total   | 2437    | -17.76               | ≤8.00           | PASS    |
|           | Ant1    | 2452    | -21.46               | ≤8.00           | PASS    |
|           | Ant2    | 2452    | -21.18               | ≤8.00           | PASS    |
|           | total   | 2452    | -18.31               | ≤8.00           | PASS    |

### 4.2. Test Graphs



11B\_Ant1\_2412



11B\_Ant2\_2412



11B\_Ant1\_2437



11B\_Ant2\_2437

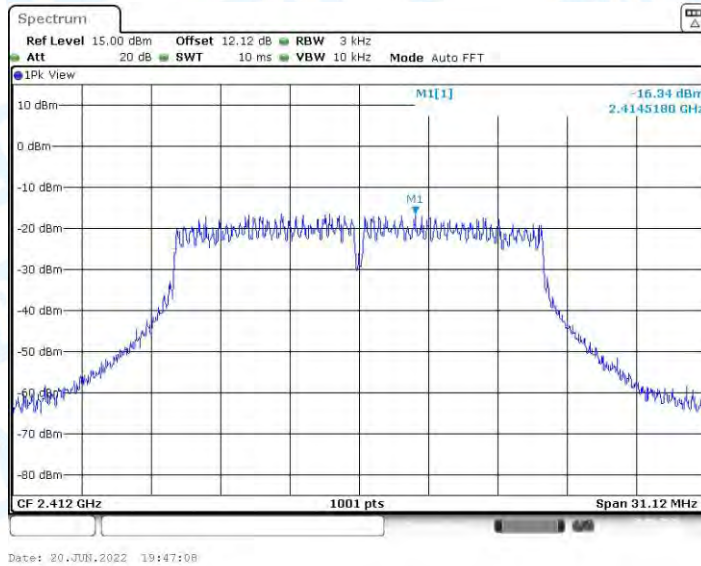


11B\_Ant1\_2462

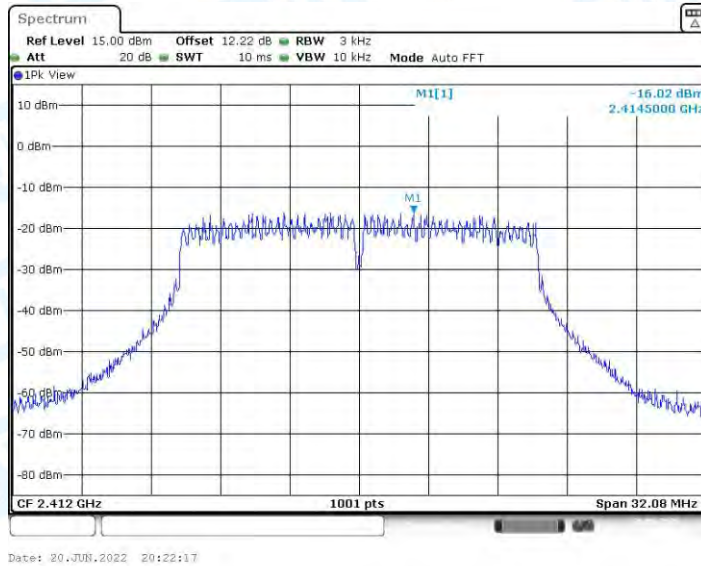


11B\_Ant2\_2462

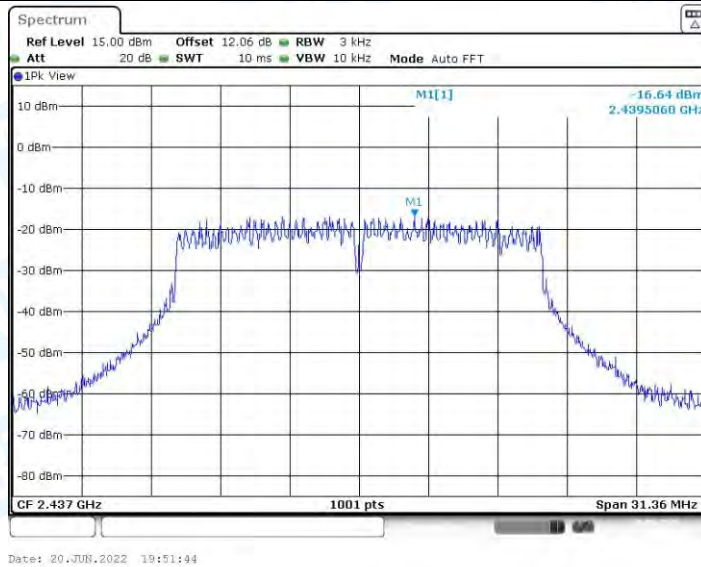




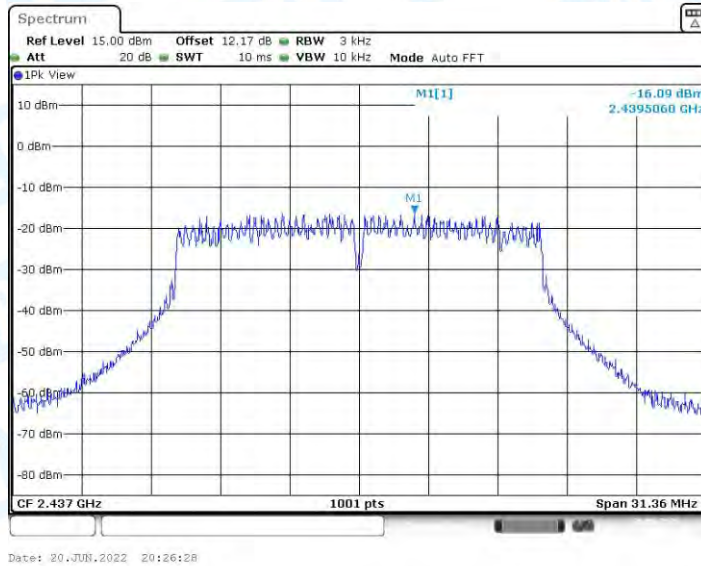
11G\_Ant1\_2412



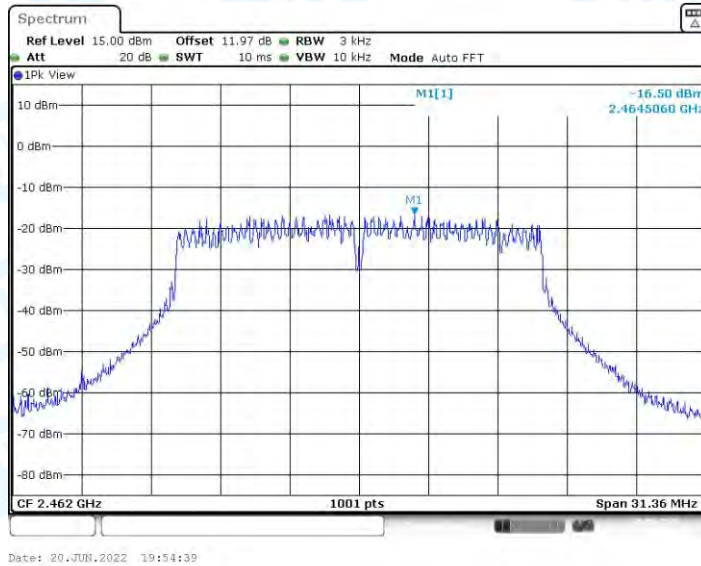
11G\_Ant2\_2412



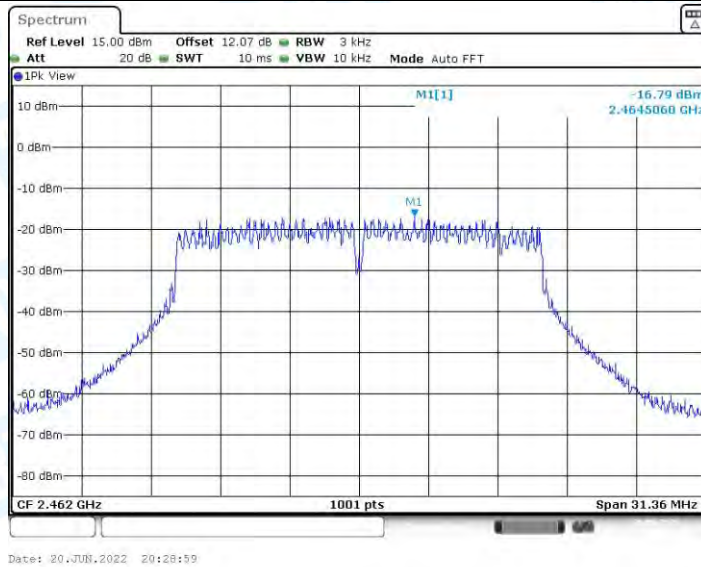
11G\_Ant1\_2437



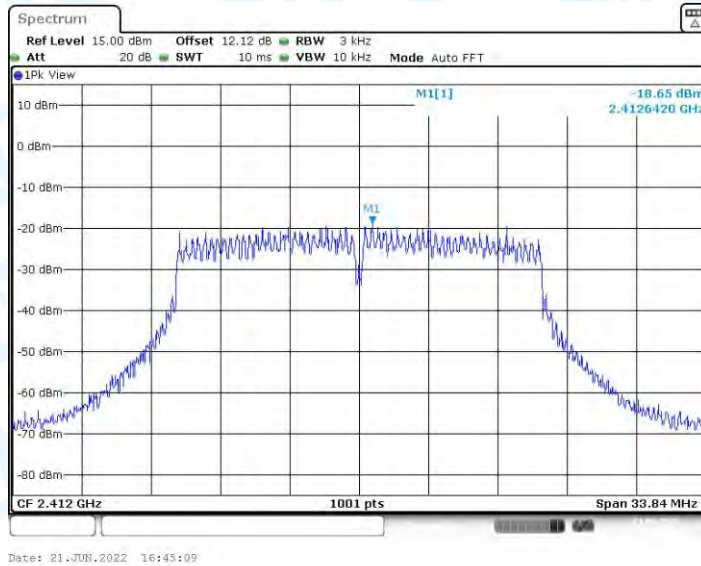
11G\_Ant2\_2437



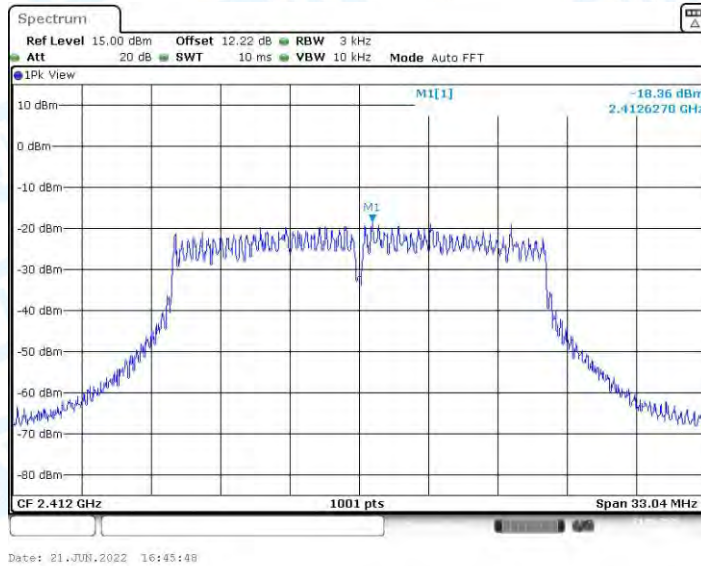
11G\_Ant1\_2462



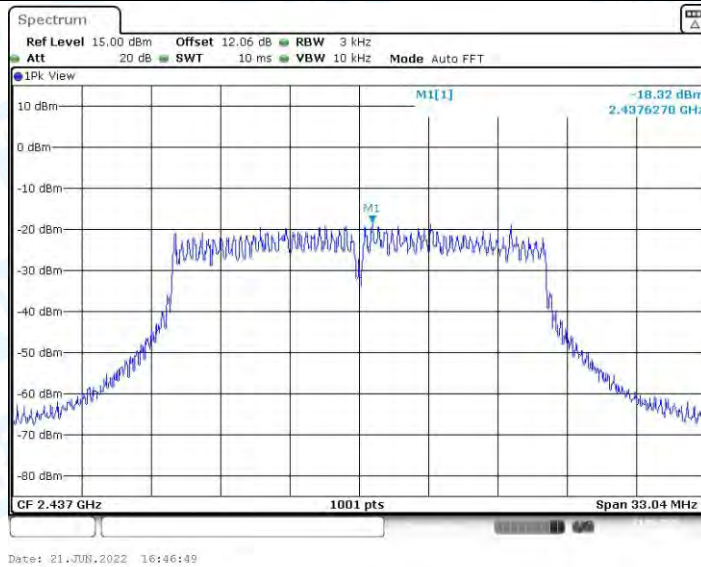
11G\_Ant2\_2462



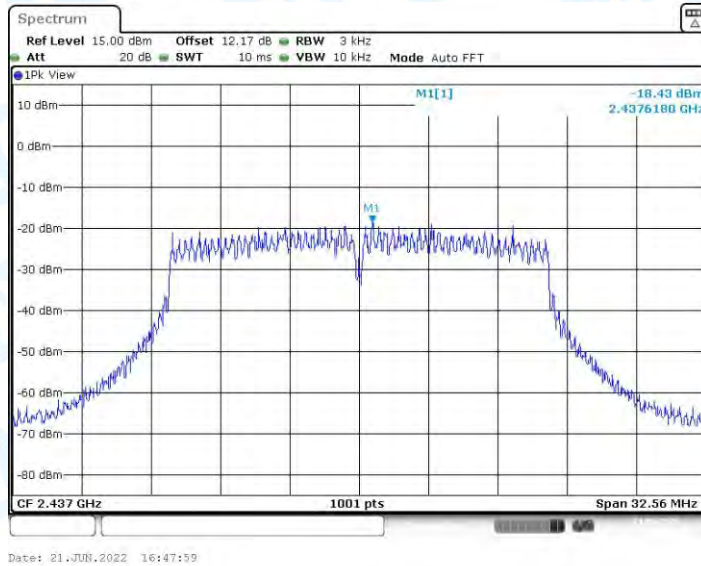
11N20MIMO\_Ant1\_2412



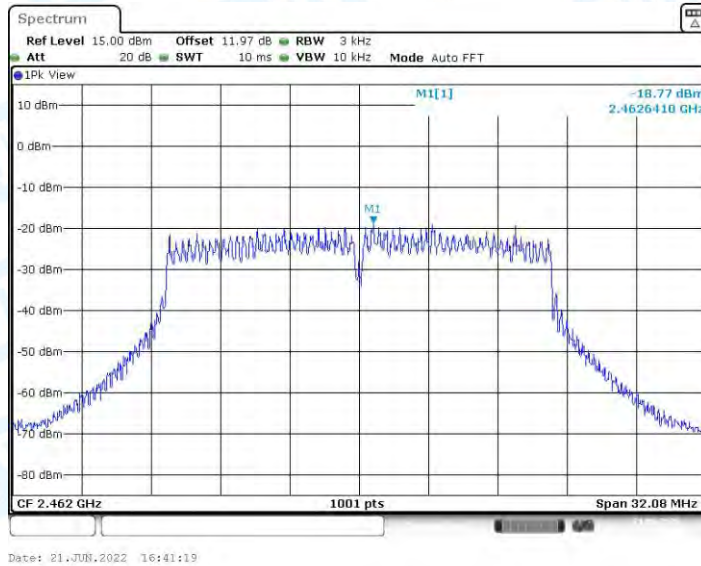
11N20MIMO\_Ant2\_2412



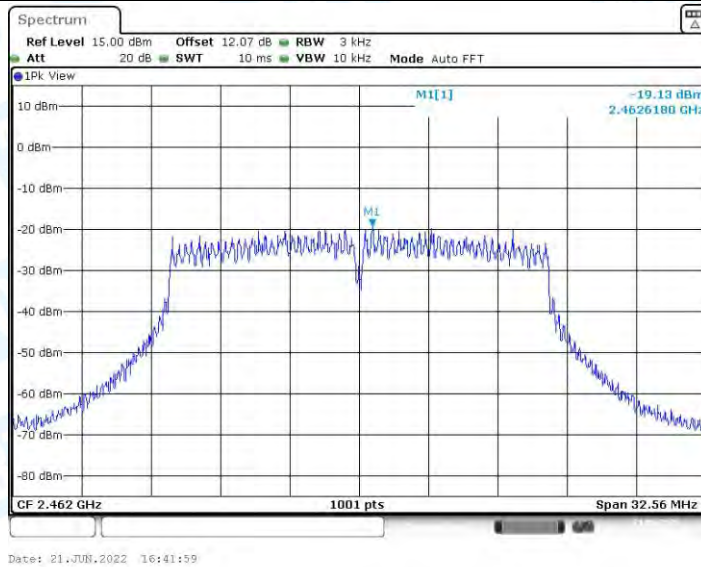
11N20MIMO\_Ant1\_2437



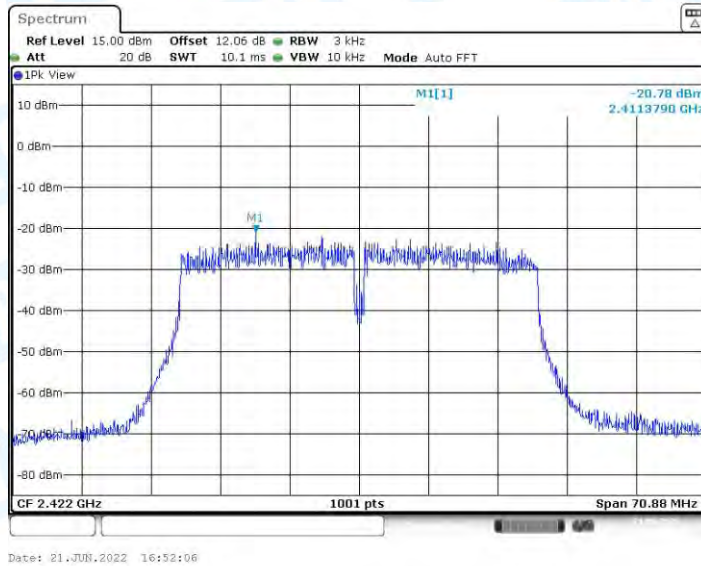
11N20MIMO\_Ant2\_2437



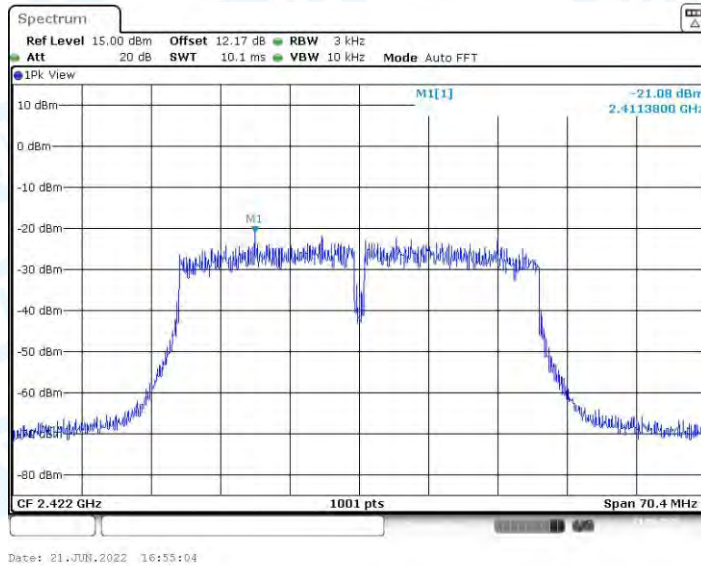
11N20MIMO\_Ant1\_2462



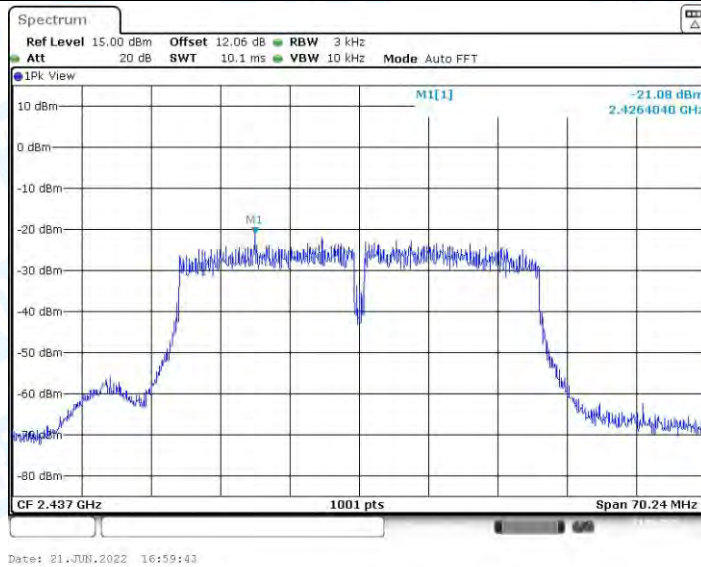
11N20MIMO\_Ant2\_2462



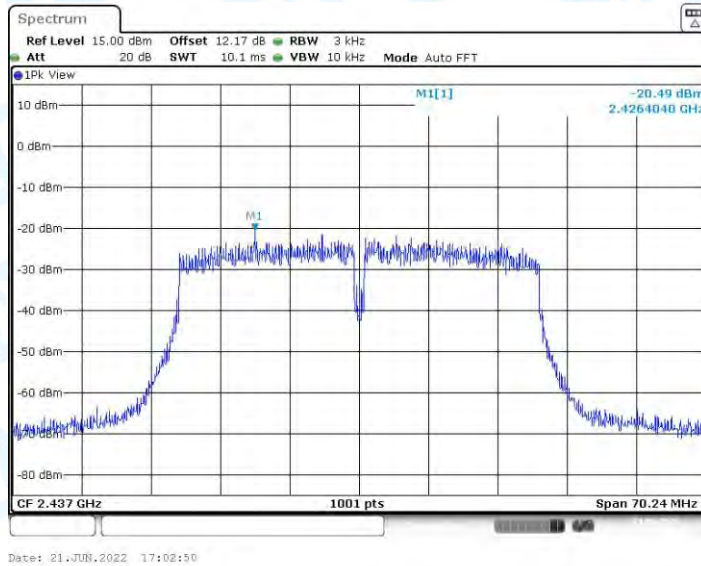
11N40MIMO\_Ant1\_2422



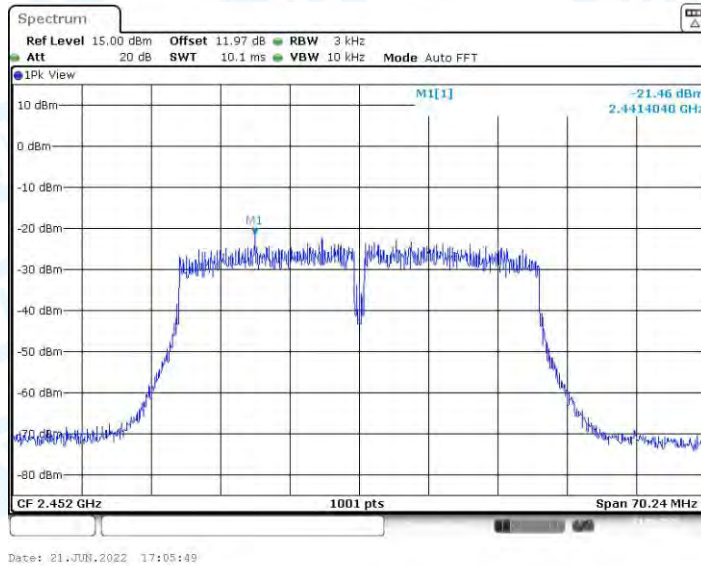
11N40MIMO\_Ant2\_2422



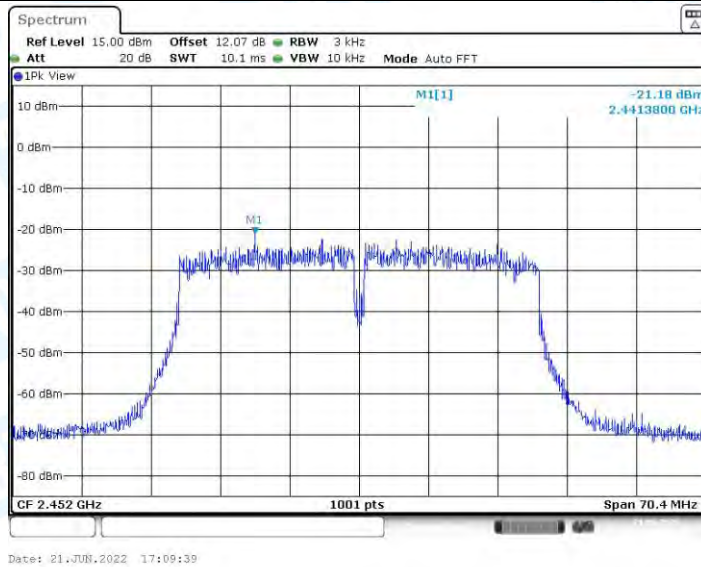
11N40MIMO\_Ant1\_2437



11N40MIMO\_Ant2\_2437



11N40MIMO\_Ant1\_2452



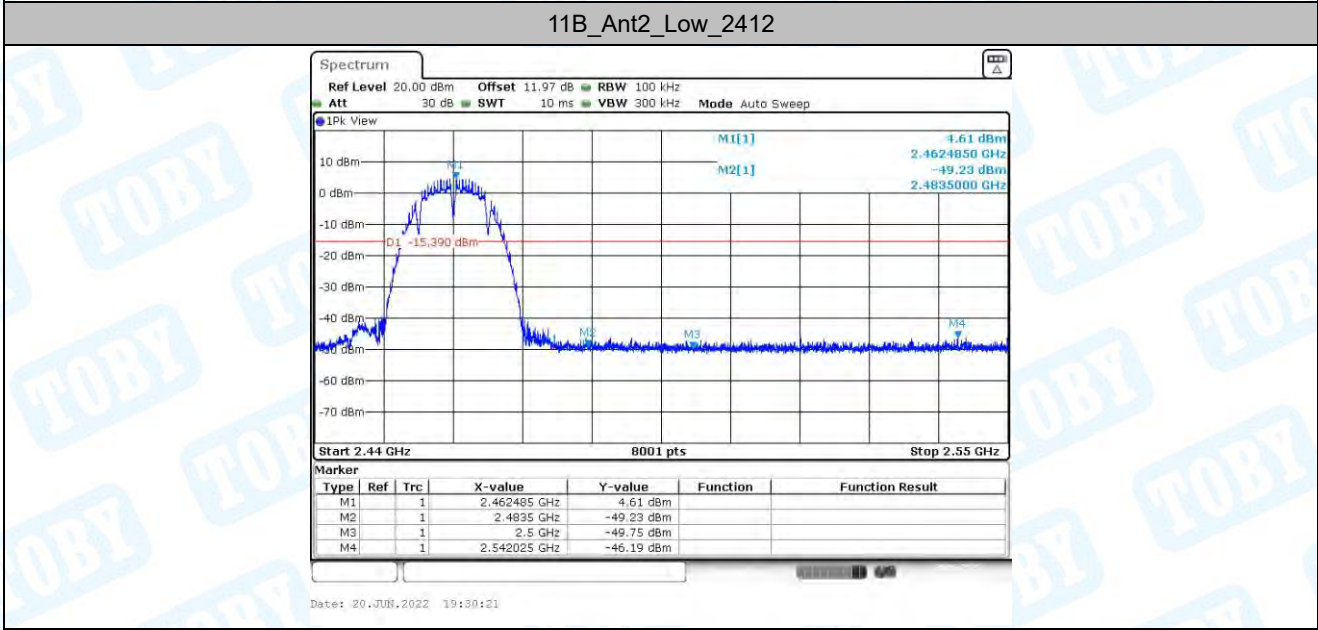
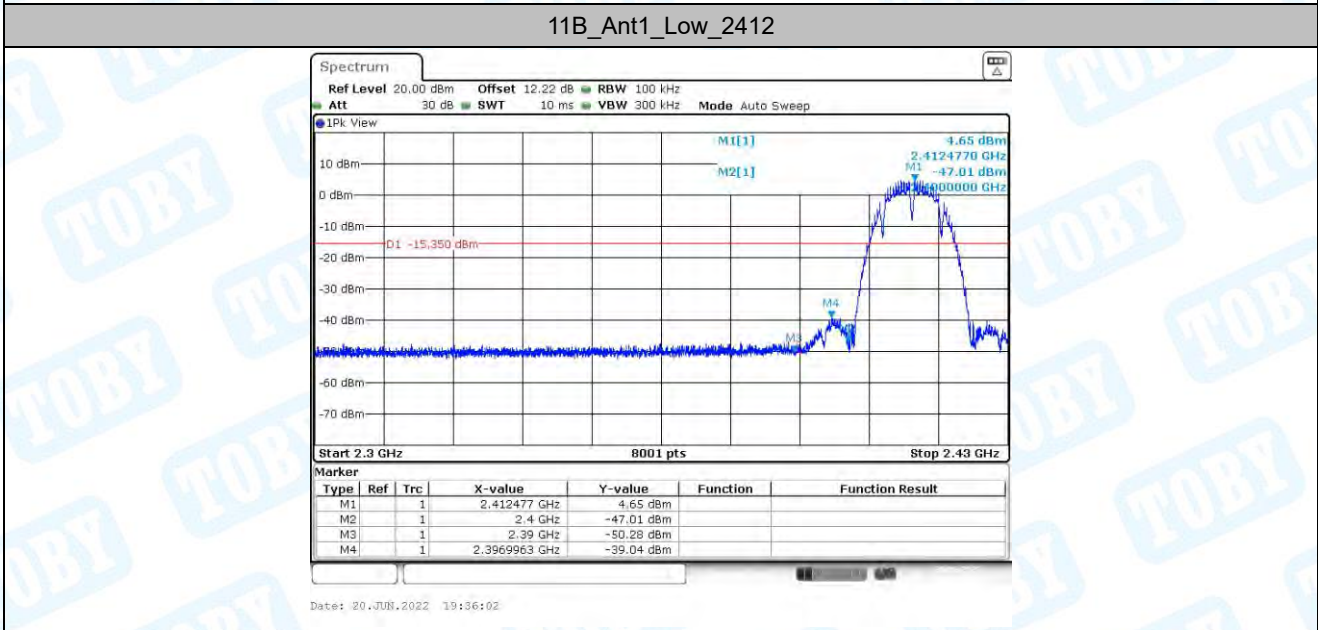
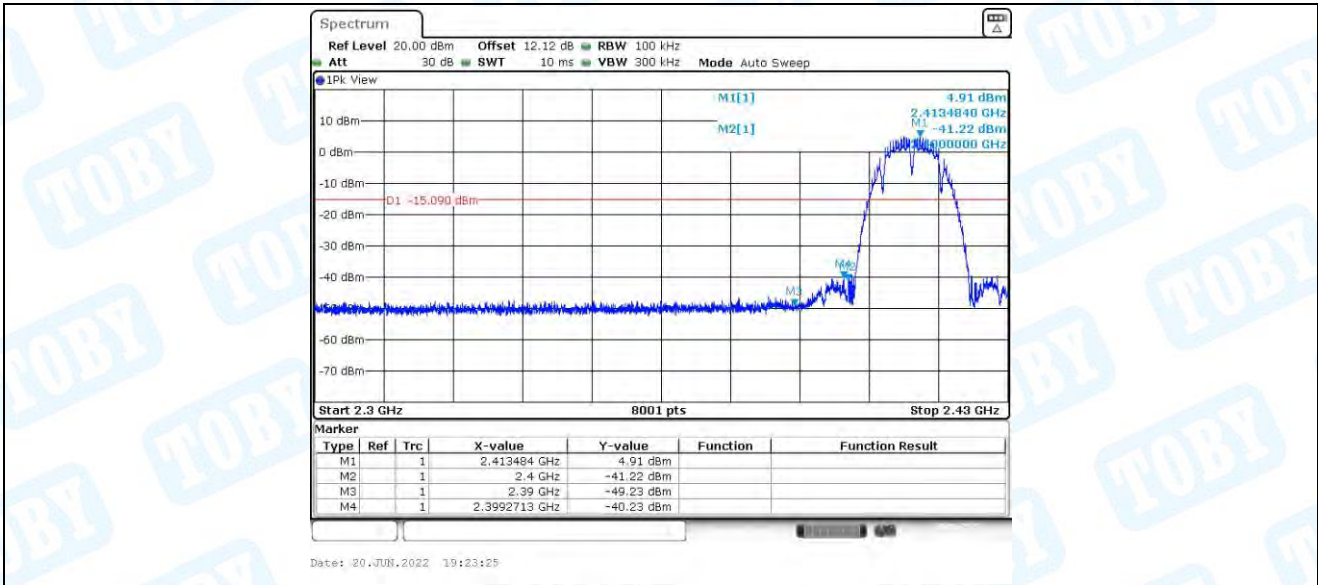
11N40MIMO\_Ant2\_2452

## 5. Band edge measurements

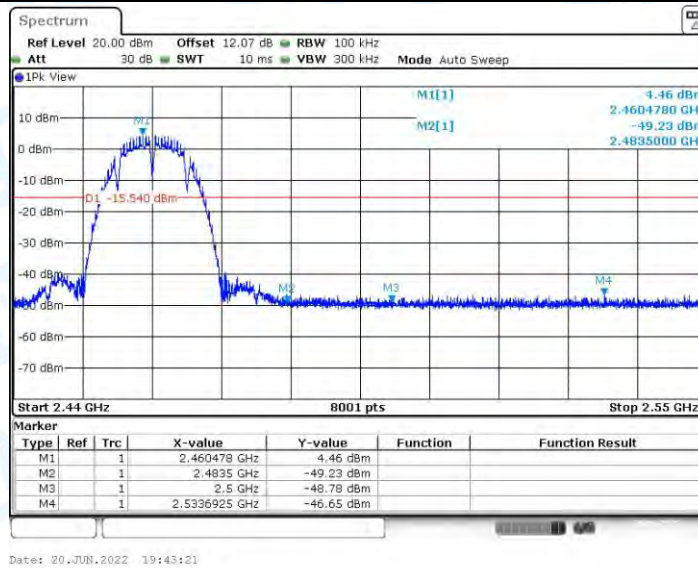
### 5.1. Test Result

| TestMode  | Antenna | ChName | Channel | RefLevel[dBm] | Result[dBm] | Limit[dBm] | Verdict |
|-----------|---------|--------|---------|---------------|-------------|------------|---------|
| 11B       | Ant1    | Low    | 2412    | 4.91          | -40.23      | ≤-15.09    | PASS    |
|           | Ant2    | Low    | 2412    | 4.65          | -39.04      | ≤-15.35    | PASS    |
|           | Ant1    | High   | 2462    | 4.61          | -46.19      | ≤-15.39    | PASS    |
|           | Ant2    | High   | 2462    | 4.46          | -46.65      | ≤-15.54    | PASS    |
| 11G       | Ant1    | Low    | 2412    | -1.60         | -40.1       | ≤-21.6     | PASS    |
|           | Ant2    | Low    | 2412    | -1.28         | -38.91      | ≤-21.28    | PASS    |
|           | Ant1    | High   | 2462    | -1.84         | -46.14      | ≤-21.84    | PASS    |
|           | Ant2    | High   | 2462    | -2.08         | -45.99      | ≤-22.08    | PASS    |
| 11N20MIMO | Ant1    | Low    | 2412    | -6.67         | -43.46      | ≤-26.67    | PASS    |
|           | Ant2    | Low    | 2412    | -6.68         | -43.64      | ≤-26.68    | PASS    |
|           | Ant1    | High   | 2462    | -6.40         | -46.89      | ≤-26.4     | PASS    |
|           | Ant2    | High   | 2462    | -5.55         | -47.13      | ≤-25.55    | PASS    |
| 11N40MIMO | Ant1    | Low    | 2422    | -7.39         | -44.3       | ≤-27.39    | PASS    |
|           | Ant2    | Low    | 2422    | -7.08         | -45.38      | ≤-27.08    | PASS    |
|           | Ant1    | High   | 2452    | -7.76         | -46.79      | ≤-27.76    | PASS    |
|           | Ant2    | High   | 2452    | -7.45         | -46.69      | ≤-27.45    | PASS    |

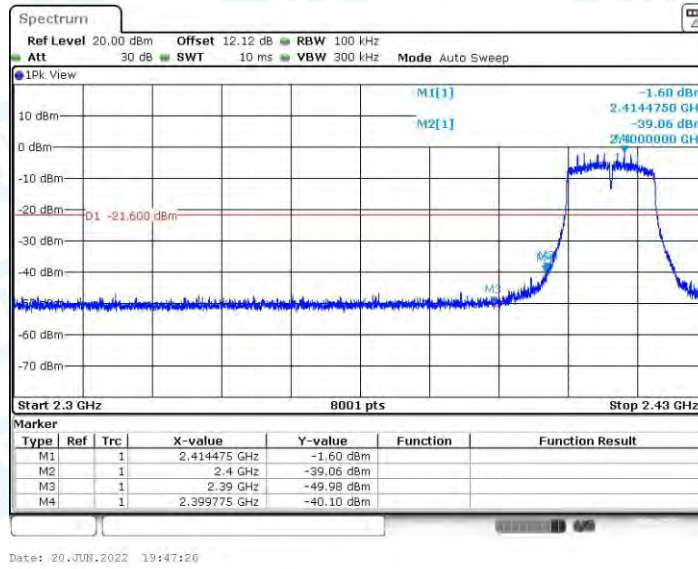
**5.2. Test Graphs**



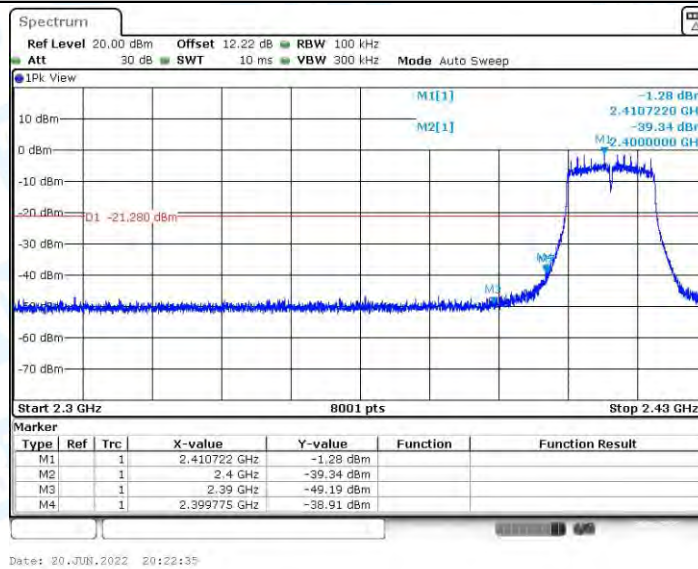




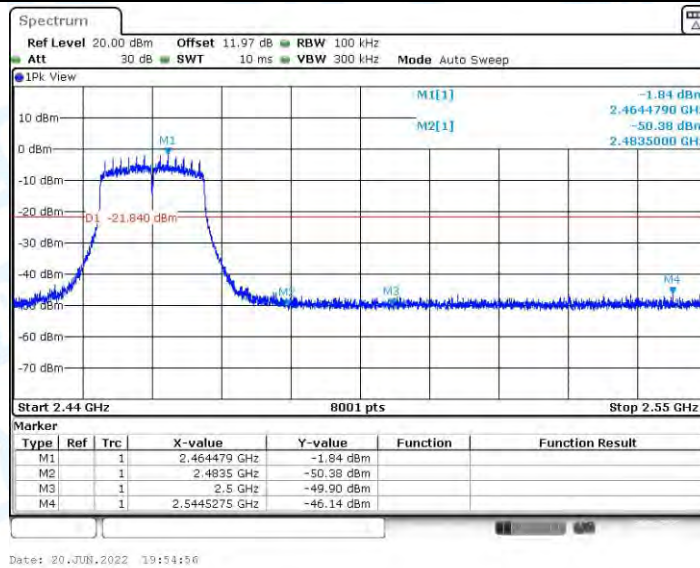
11B\_Ant2\_High\_2462



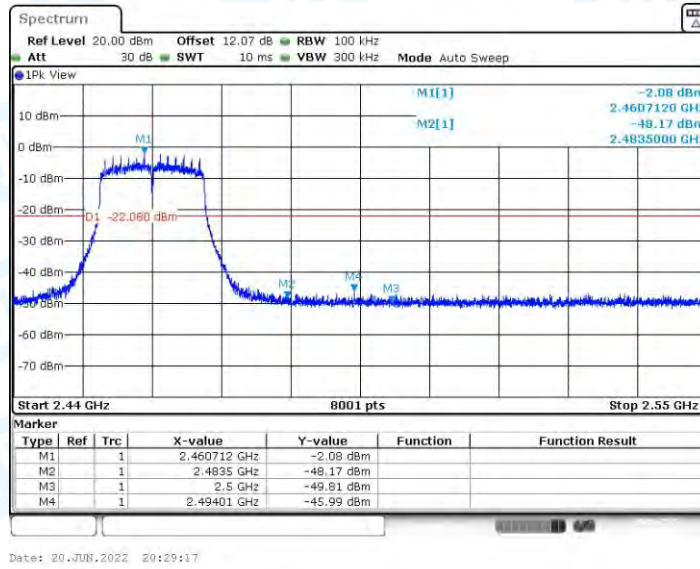
11G\_Ant1\_Low\_2412



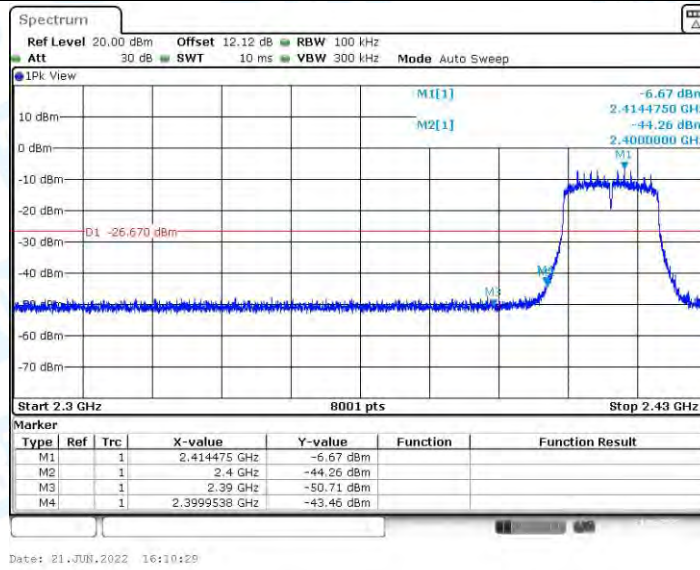
11G\_Ant2\_Low\_2412



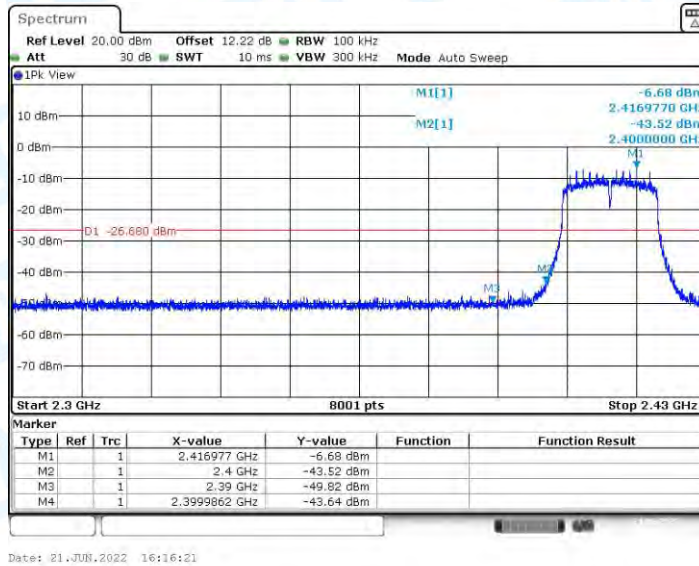
11G\_Ant1\_High\_2462



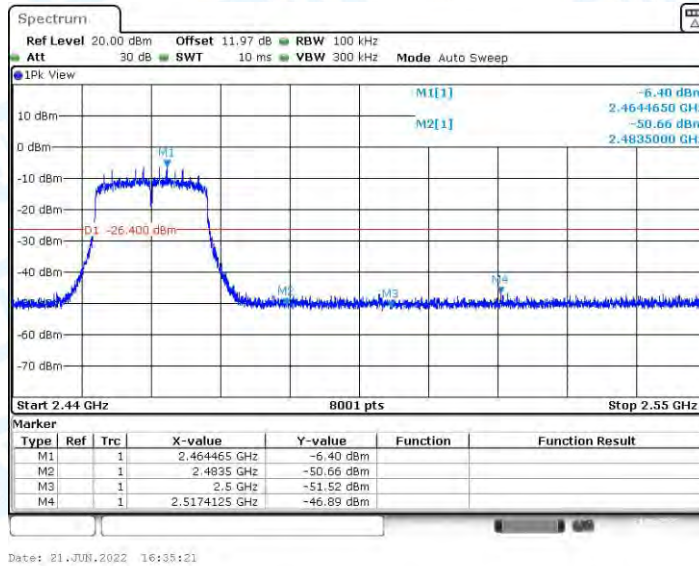
11G\_Ant2\_High\_2462



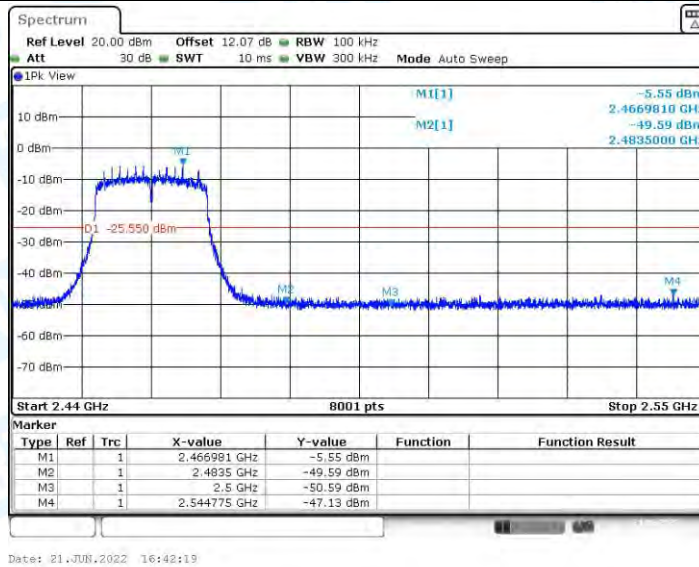
11N20MIMO\_Ant1\_Low\_2412



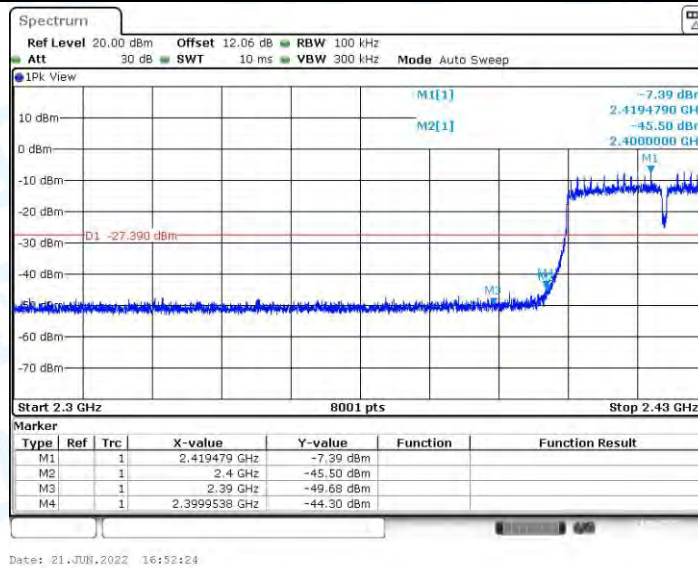
11N20MIMO\_Ant2\_Low\_2412



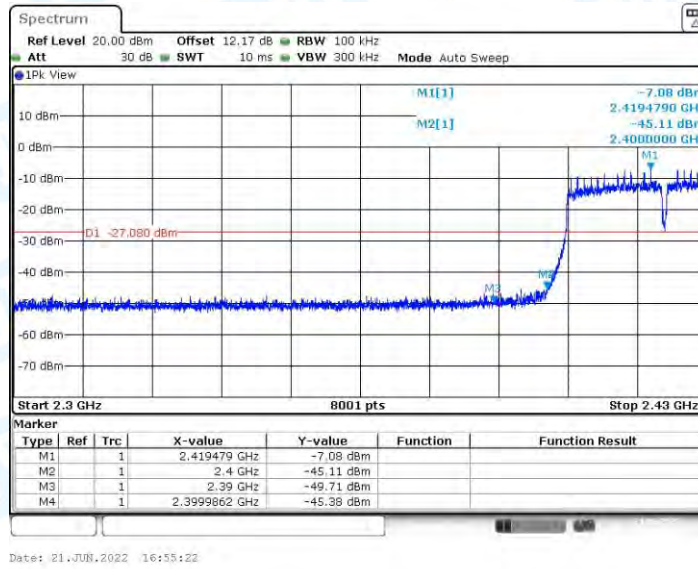
11N20MIMO\_Ant1\_High\_2462



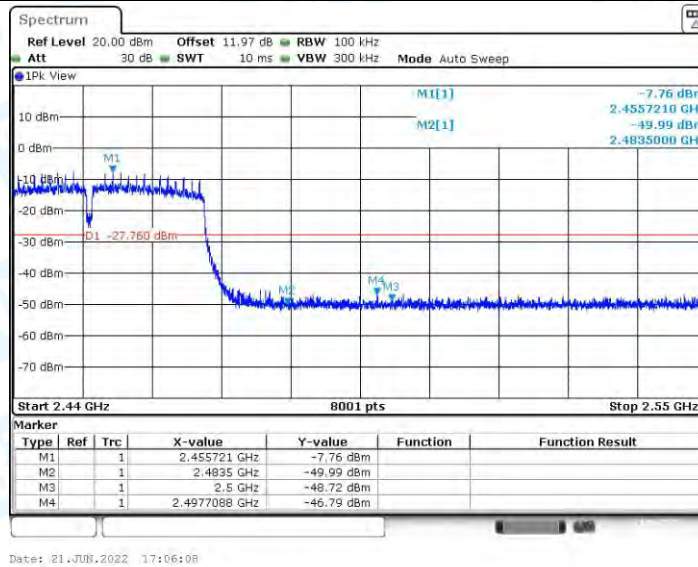
11N20MIMO\_Ant2\_High\_2462



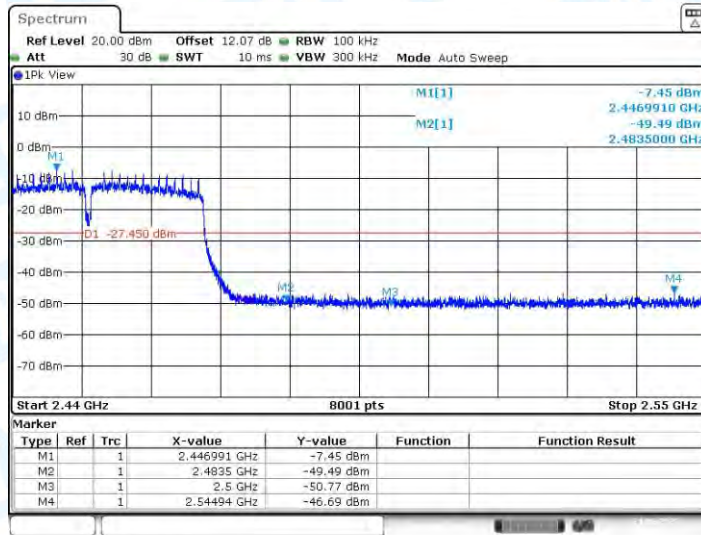
11N40MIMO\_Ant1\_Low\_2422



11N40MIMO\_Ant2\_Low\_2422



11N40MIMO\_Ant1\_High\_2452



11N40MIMO\_Ant2\_High\_2452

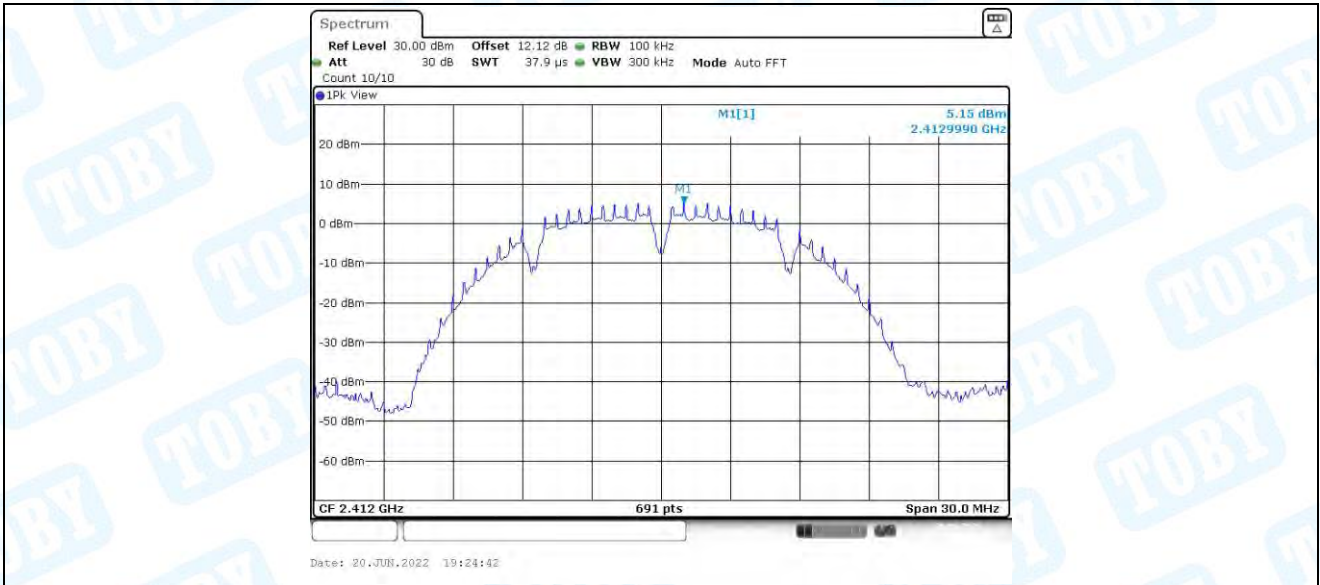
## 6. Conducted Spurious Emission

### 6.1. Test Result

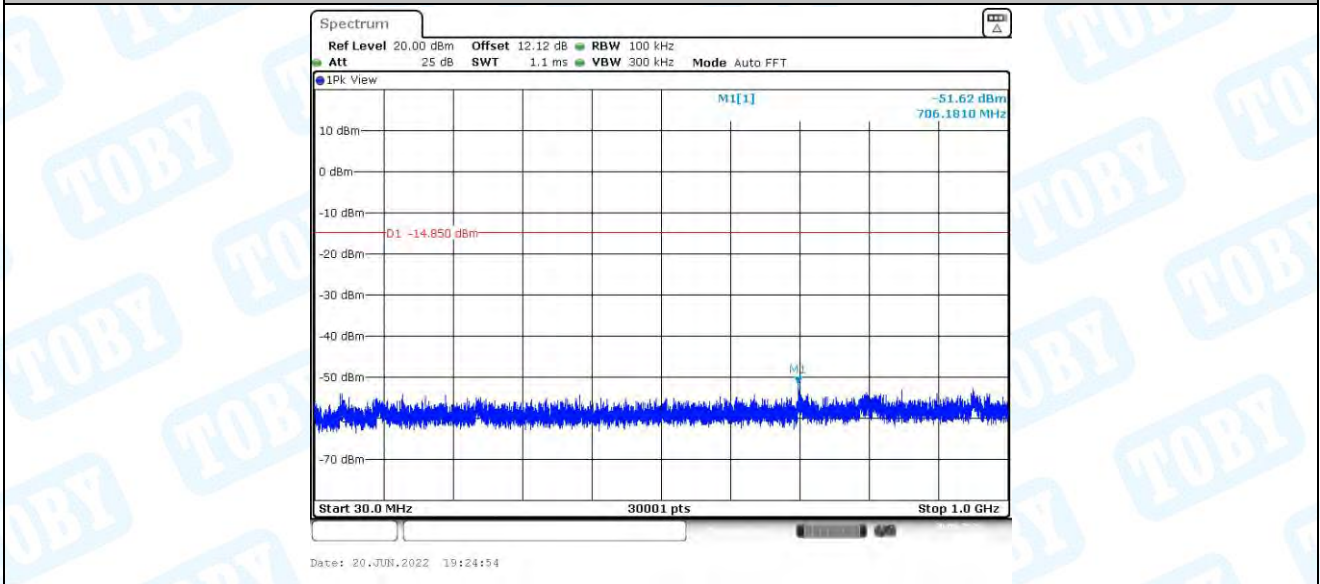
| TestMode  | Antenna | Channel | FreqRange [Mhz] | RefLevel [dBm] | Result [dBm] | Limit [dBm] | Verdict |      |
|-----------|---------|---------|-----------------|----------------|--------------|-------------|---------|------|
| 11B       | Ant1    | 2412    | Reference       | 5.15           | 5.15         | ---         | PASS    |      |
|           |         |         | 30~1000         | 5.15           | -51.62       | ≤-14.85     | PASS    |      |
|           |         |         | 1000~26500      | 5.15           | -46.03       | ≤-14.85     | PASS    |      |
|           | Ant2    | 2412    | Reference       | 4.71           | 4.71         | ---         | PASS    |      |
|           |         |         | 30~1000         | 4.71           | -52.41       | ≤-15.29     | PASS    |      |
|           |         |         | 1000~26500      | 4.71           | -46.2        | ≤-15.29     | PASS    |      |
|           | Ant1    | 2437    | Reference       | 4.38           | 4.38         | ---         | PASS    |      |
|           |         |         | 30~1000         | 4.38           | -51.56       | ≤-15.62     | PASS    |      |
|           |         |         | 1000~26500      | 4.38           | -46.87       | ≤-15.62     | PASS    |      |
|           | Ant2    | 2437    | Reference       | 5.07           | 5.07         | ---         | PASS    |      |
|           |         |         | 30~1000         | 5.07           | -53.26       | ≤-14.93     | PASS    |      |
|           |         |         | 1000~26500      | 5.07           | -45.91       | ≤-14.93     | PASS    |      |
|           | Ant1    | 2462    | Reference       | 4.55           | 4.55         | ---         | PASS    |      |
|           |         |         | 30~1000         | 4.55           | -51.89       | ≤-15.45     | PASS    |      |
|           |         |         | 1000~26500      | 4.55           | -46.23       | ≤-15.45     | PASS    |      |
|           | Ant2    | 2462    | Reference       | 4.61           | 4.61         | ---         | PASS    |      |
|           |         |         | 30~1000         | 4.61           | -52.82       | ≤-15.39     | PASS    |      |
|           |         |         | 1000~26500      | 4.61           | -46.18       | ≤-15.39     | PASS    |      |
|           | 11G     | Ant1    | 2412            | Reference      | -1.91        | -1.91       | ---     | PASS |
|           |         |         |                 | 30~1000        | -1.91        | -52.89      | ≤-21.91 | PASS |
|           |         |         |                 | 1000~26500     | -1.91        | -46.78      | ≤-21.91 | PASS |
|           |         | Ant2    | 2412            | Reference      | -1.03        | -1.03       | ---     | PASS |
|           |         |         |                 | 30~1000        | -1.03        | -51.25      | ≤-21.03 | PASS |
|           |         |         |                 | 1000~26500     | -1.03        | -45.16      | ≤-21.03 | PASS |
| Ant1      |         | 2437    | Reference       | -1.91          | -1.91        | ---         | PASS    |      |
|           |         |         | 30~1000         | -1.91          | -52.71       | ≤-21.91     | PASS    |      |
|           |         |         | 1000~26500      | -1.91          | -47.01       | ≤-21.91     | PASS    |      |
| Ant2      |         | 2437    | Reference       | -1.58          | -1.58        | ---         | PASS    |      |
|           |         |         | 30~1000         | -1.58          | -52.14       | ≤-21.58     | PASS    |      |
|           |         |         | 1000~26500      | -1.58          | -46.81       | ≤-21.58     | PASS    |      |
| Ant1      |         | 2462    | Reference       | -1.87          | -1.87        | ---         | PASS    |      |
|           |         |         | 30~1000         | -1.87          | -52.22       | ≤-21.87     | PASS    |      |
|           |         |         | 1000~26500      | -1.87          | -44.86       | ≤-21.87     | PASS    |      |
| Ant2      |         | 2462    | Reference       | -1.80          | -1.80        | ---         | PASS    |      |
|           |         |         | 30~1000         | -1.80          | -52.44       | ≤-21.8      | PASS    |      |
|           |         |         | 1000~26500      | -1.80          | -46.47       | ≤-21.8      | PASS    |      |
| 11N20MIMO |         | Ant1    | 2412            | Reference      | -6.60        | -6.60       | ---     | PASS |
|           |         |         |                 | 30~1000        | -6.60        | -52.88      | ≤-26.6  | PASS |
|           |         |         |                 | 1000~26500     | -6.60        | -46.56      | ≤-26.6  | PASS |
|           |         | Ant2    | 2412            | Reference      | -6.64        | -6.64       | ---     | PASS |
|           |         |         |                 | 30~1000        | -6.64        | -51.92      | ≤-26.64 | PASS |

|           |      |            |            |        |         |         |      |
|-----------|------|------------|------------|--------|---------|---------|------|
|           | Ant1 | 2437       | 1000~26500 | -6.64  | -45.19  | ≤-26.64 | PASS |
|           |      |            | Reference  | -6.03  | -6.03   | ---     | PASS |
|           |      |            | 30~1000    | -6.03  | -52.02  | ≤-26.03 | PASS |
|           | Ant2 | 2437       | 1000~26500 | -6.03  | -46.03  | ≤-26.03 | PASS |
|           |      |            | Reference  | -5.80  | -5.80   | ---     | PASS |
|           |      |            | 30~1000    | -5.80  | -52.36  | ≤-25.8  | PASS |
|           | Ant1 | 2462       | 1000~26500 | -5.80  | -46.24  | ≤-25.8  | PASS |
|           |      |            | Reference  | -6.82  | -6.82   | ---     | PASS |
|           |      |            | 30~1000    | -6.82  | -53.41  | ≤-26.82 | PASS |
|           | Ant2 | 2462       | 1000~26500 | -6.82  | -46.78  | ≤-26.82 | PASS |
|           |      |            | Reference  | -5.19  | -5.19   | ---     | PASS |
|           |      |            | 30~1000    | -5.19  | -51.9   | ≤-25.19 | PASS |
| 11N40MIMO | Ant1 | 2422       | 1000~26500 | -5.19  | -46     | ≤-25.19 | PASS |
|           |      |            | Reference  | -7.38  | -7.38   | ---     | PASS |
|           |      |            | 30~1000    | -7.38  | -53.25  | ≤-27.38 | PASS |
|           | Ant2 | 2422       | 1000~26500 | -7.38  | -46.44  | ≤-27.38 | PASS |
|           |      |            | Reference  | -7.38  | -7.38   | ---     | PASS |
|           |      |            | 30~1000    | -7.38  | -52.89  | ≤-27.38 | PASS |
|           | Ant1 | 2437       | 1000~26500 | -7.38  | -46.15  | ≤-27.38 | PASS |
|           |      |            | Reference  | -7.30  | -7.30   | ---     | PASS |
|           |      |            | 30~1000    | -7.30  | -52.72  | ≤-27.3  | PASS |
|           | Ant2 | 2437       | 1000~26500 | -7.30  | -46.86  | ≤-27.3  | PASS |
|           |      |            | Reference  | -6.71  | -6.71   | ---     | PASS |
|           |      |            | 30~1000    | -6.71  | -52.33  | ≤-26.71 | PASS |
| Ant1      | 2452 | 1000~26500 | -6.71      | -46.62 | ≤-26.71 | PASS    |      |
|           |      | Reference  | -7.80      | -7.80  | ---     | PASS    |      |
|           |      | 30~1000    | -7.80      | -52.52 | ≤-27.8  | PASS    |      |
| Ant2      | 2452 | 1000~26500 | -7.80      | -46.22 | ≤-27.8  | PASS    |      |
|           |      | Reference  | -7.16      | -7.16  | ---     | PASS    |      |
|           |      | 30~1000    | -7.16      | -52.41 | ≤-27.16 | PASS    |      |
|           |      |            | 1000~26500 | -7.16  | -46.46  | ≤-27.16 | PASS |

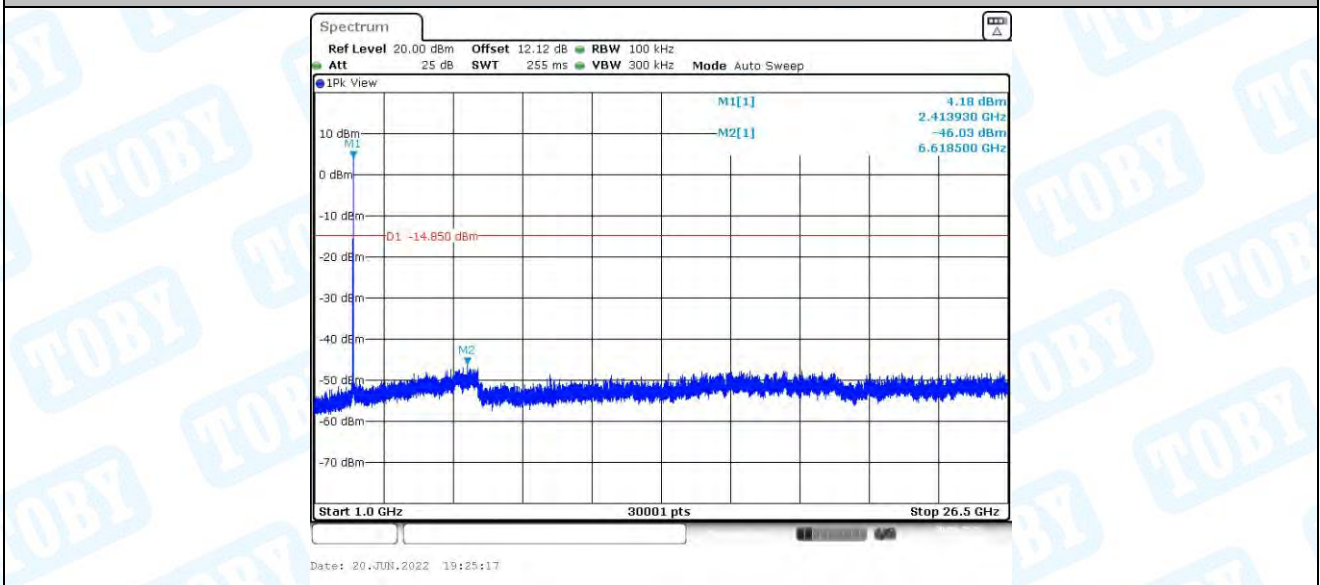
**6.2. Test Graphs**



11B\_Ant1\_2412\_0~Reference

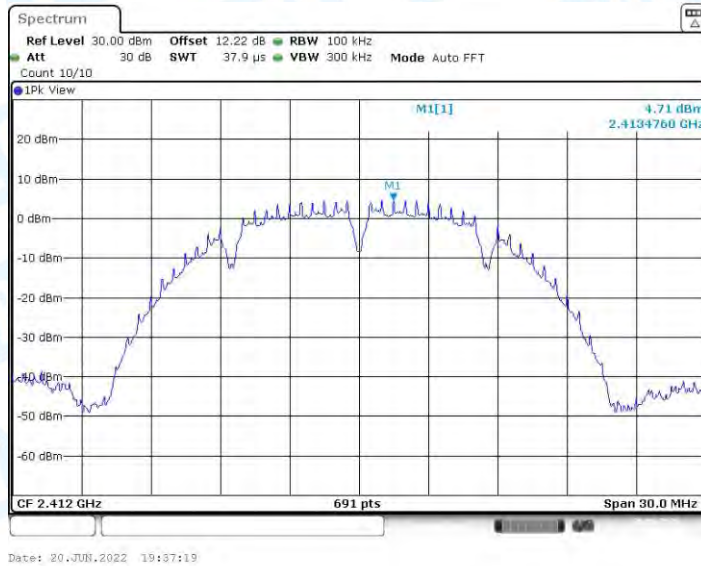


11B\_Ant1\_2412\_30~1000

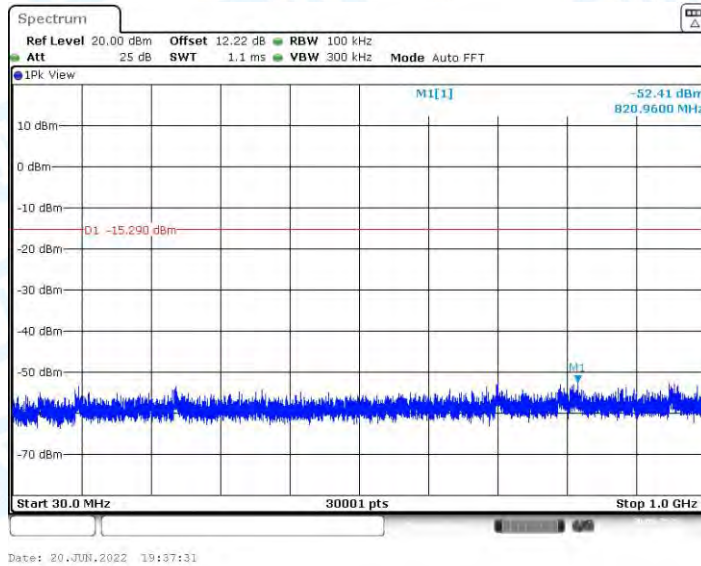


11B\_Ant1\_2412\_1000~26500

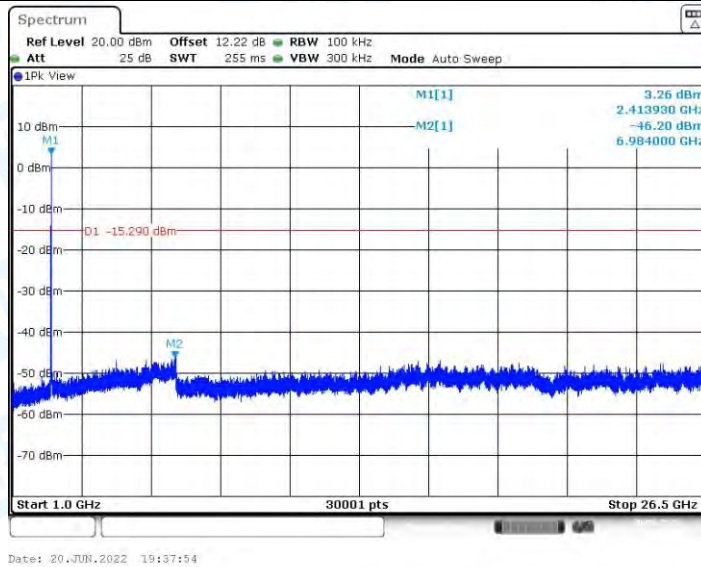




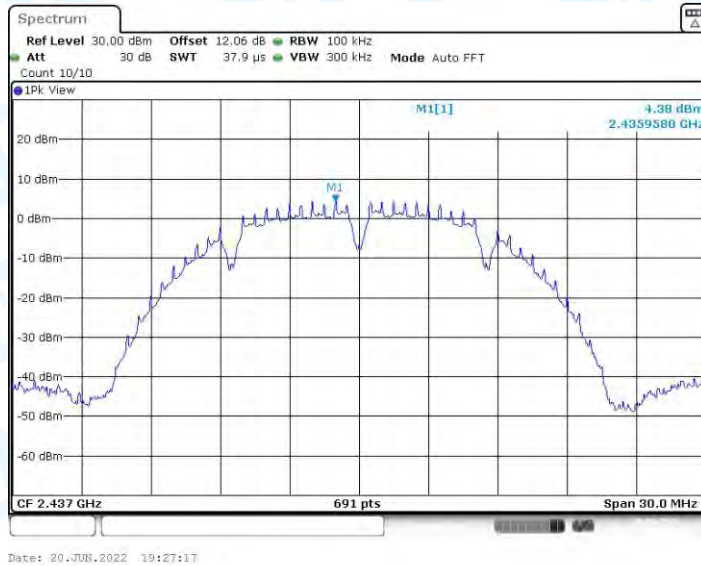
11B\_Ant2\_2412\_0~Reference



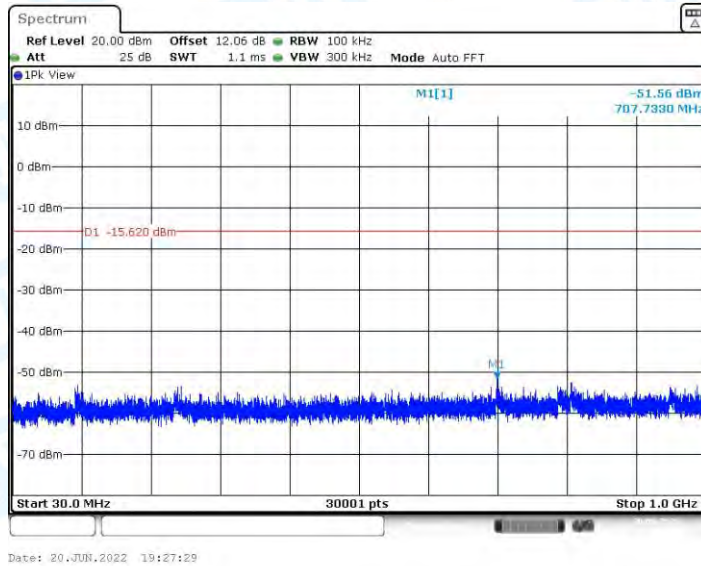
11B\_Ant2\_2412\_30~1000



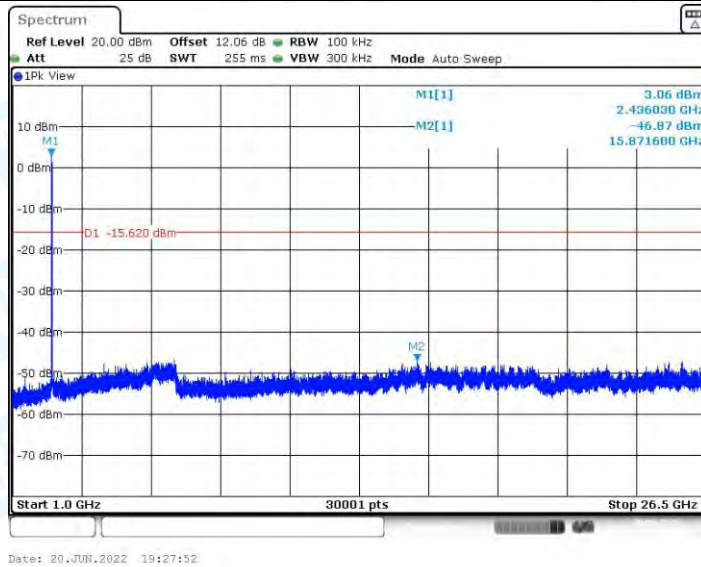
11B\_Ant2\_2412\_1000~26500



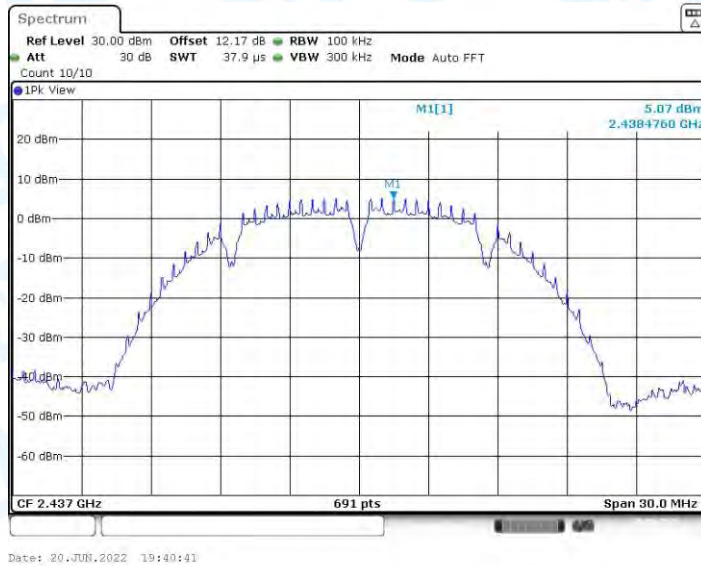
11B\_Ant1\_2437\_0~Reference



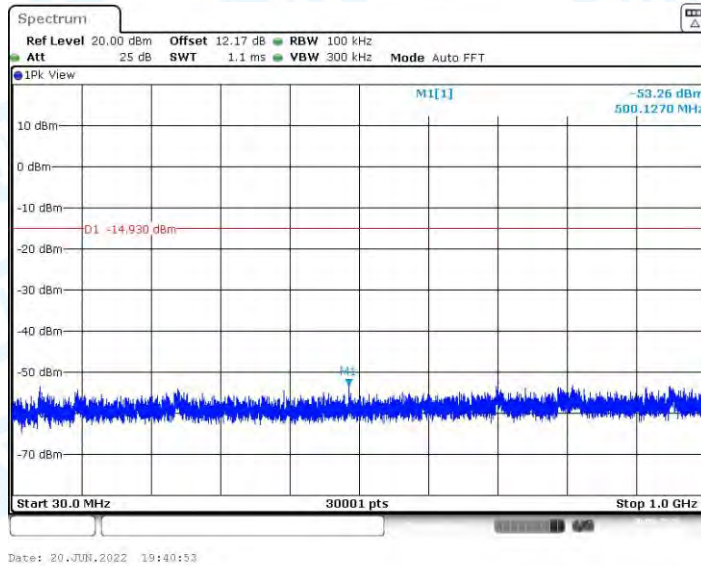
11B\_Ant1\_2437\_30~1000



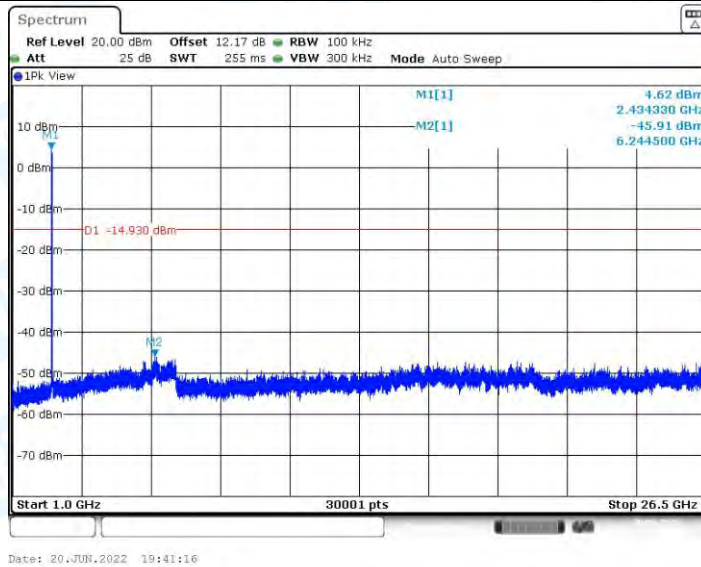
11B\_Ant1\_2437\_1000~26500



11B\_Ant2\_2437\_0~Reference



11B\_Ant2\_2437\_30~1000



11B\_Ant2\_2437\_1000~26500