

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

| General Description of EUT | |
|---|----------------|
| Product Name: | Averia Collar |
| Test Model: | AC01 |
| Sample ID: | 202203_0164-02 |
| Environmental Conditions | |
| Temperature: | 25°C |
| Relative Humidity: | 55% |
| Test Voltage: | DC 3.7V |
| Test Engineer: | Huangjianping |
| Note: For a more detailed features description, please refer to the report TBR-C-202203-0164-61 | |

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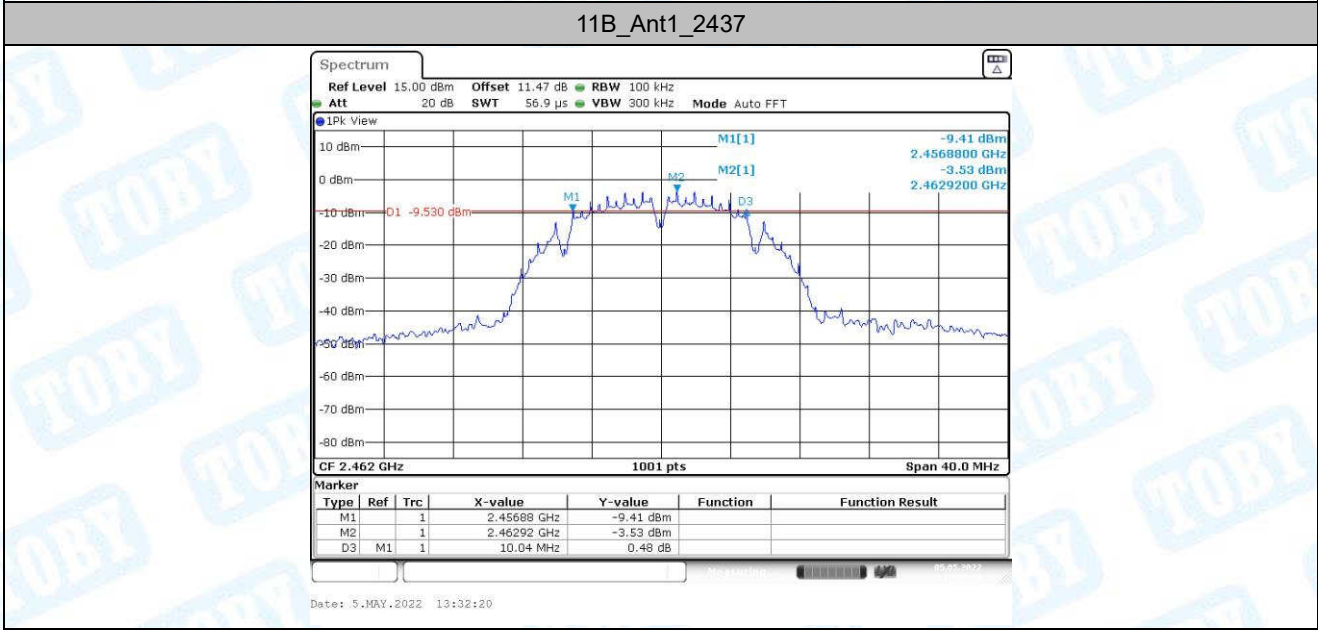
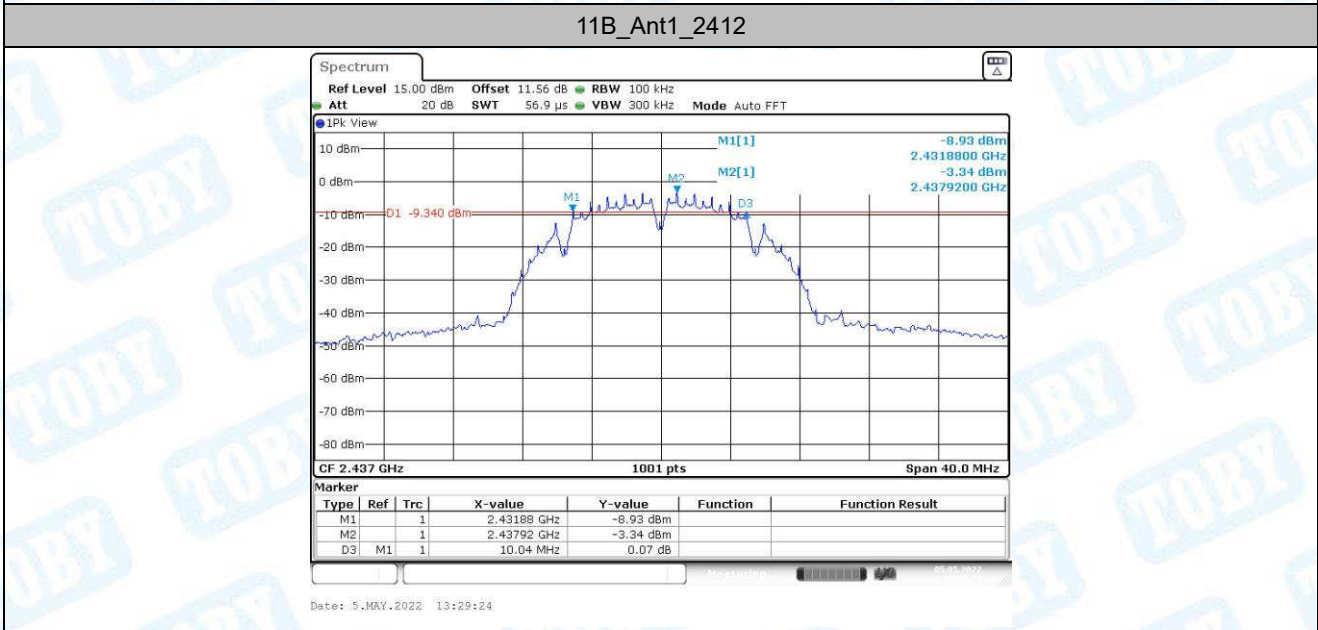
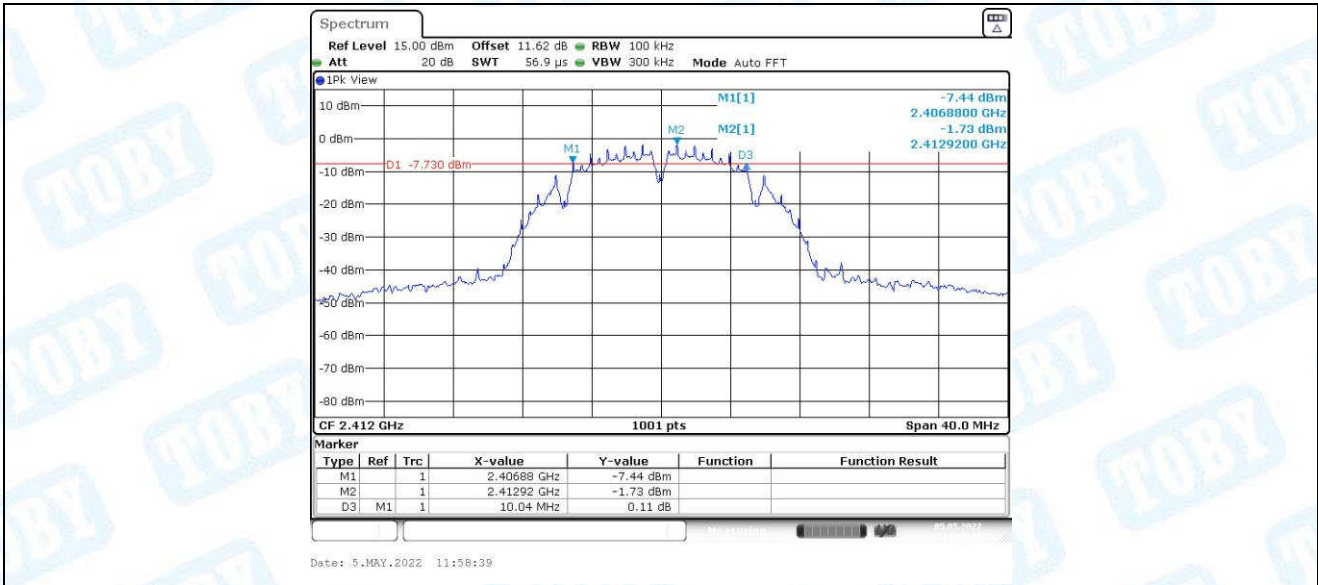
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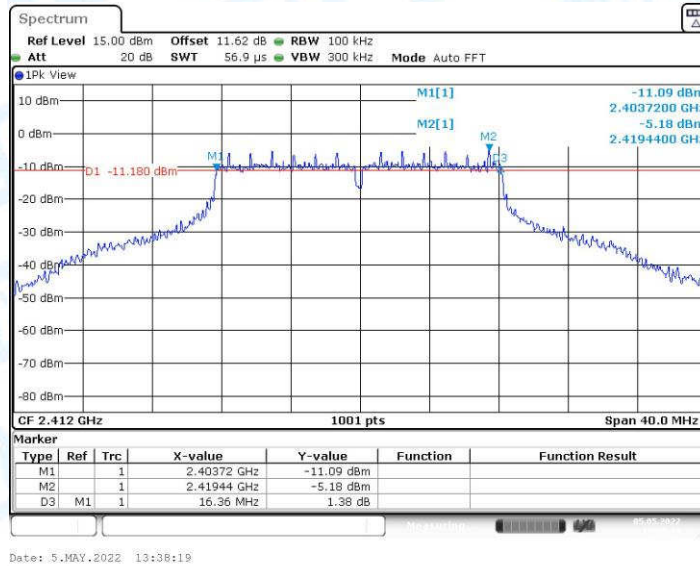
1. DTS Bandwidth

1.1. Test Result

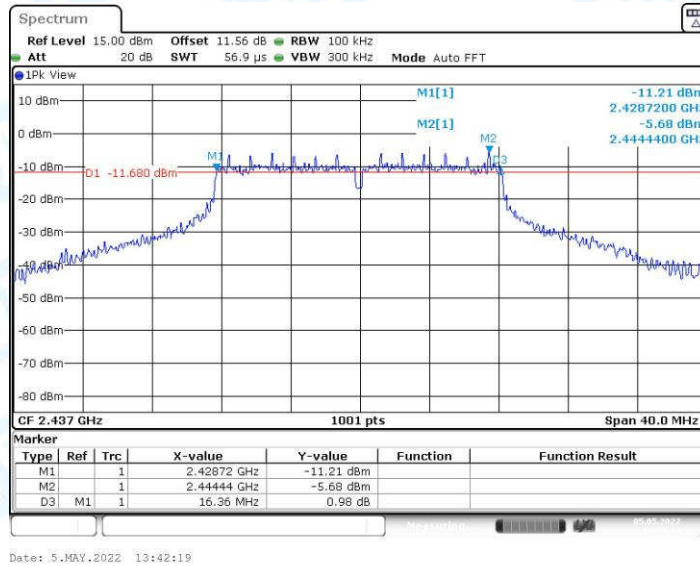
| TestMode | Antenna | Channel | DTS BW [MHz] | FL[MHz] | FH[MHz] | Limit[MHz] | Verdict |
|-----------|---------|---------|--------------|---------|---------|------------|---------|
| 11B | Ant1 | 2412 | 10.04 | 2406.88 | 2416.92 | 0.5 | PASS |
| | | 2437 | 10.04 | 2431.88 | 2441.92 | 0.5 | PASS |
| | | 2462 | 10.04 | 2456.88 | 2466.92 | 0.5 | PASS |
| 11G | Ant1 | 2412 | 16.36 | 2403.72 | 2420.08 | 0.5 | PASS |
| | | 2437 | 16.36 | 2428.72 | 2445.08 | 0.5 | PASS |
| | | 2462 | 16.32 | 2453.76 | 2470.08 | 0.5 | PASS |
| 11N20SISO | Ant1 | 2412 | 17.60 | 2403.12 | 2420.72 | 0.5 | PASS |
| | | 2437 | 17.60 | 2428.12 | 2445.72 | 0.5 | PASS |
| | | 2462 | 17.60 | 2453.12 | 2470.72 | 0.5 | PASS |

1.2. Test Graphs

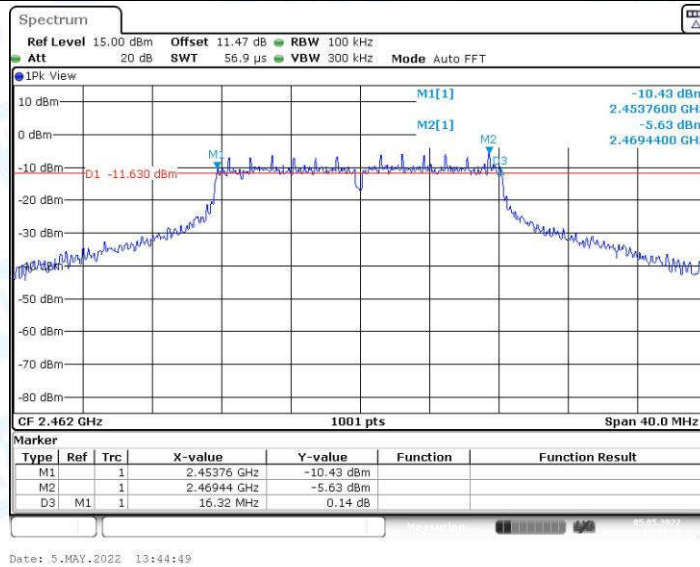




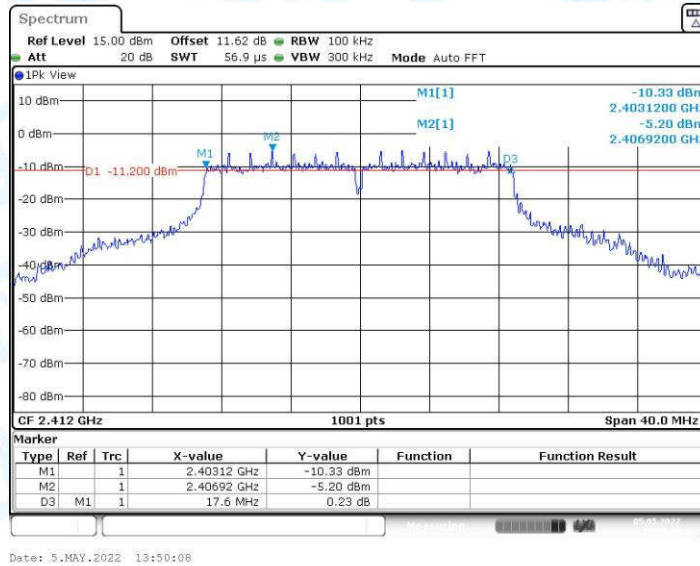
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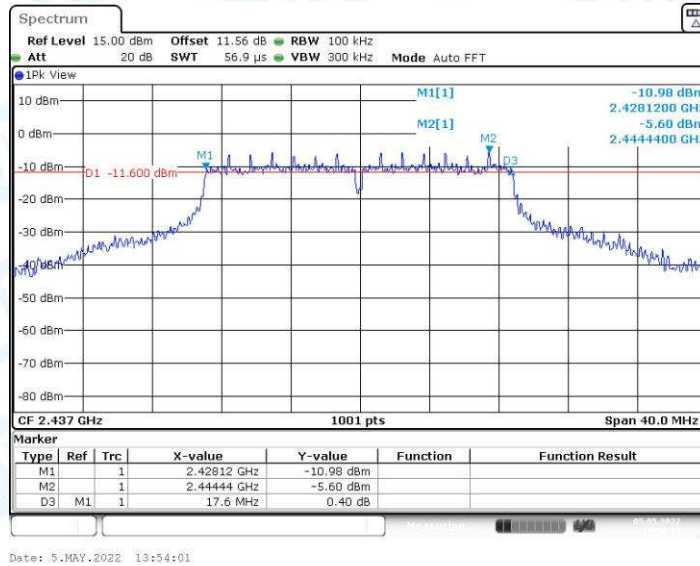
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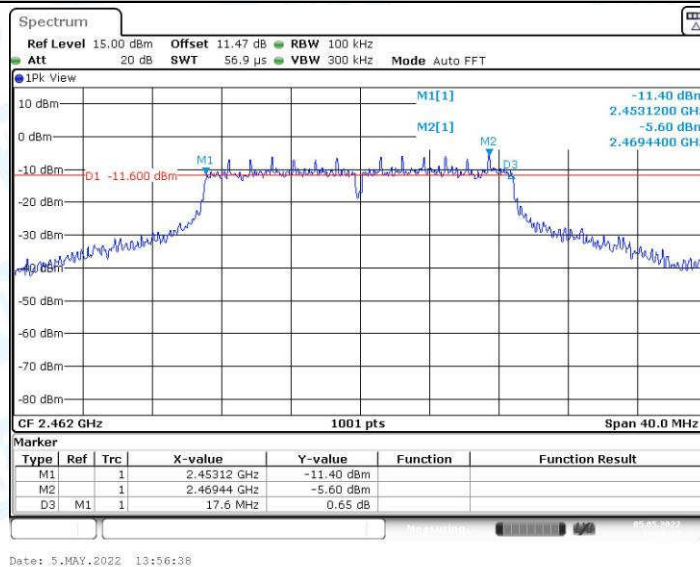
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11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



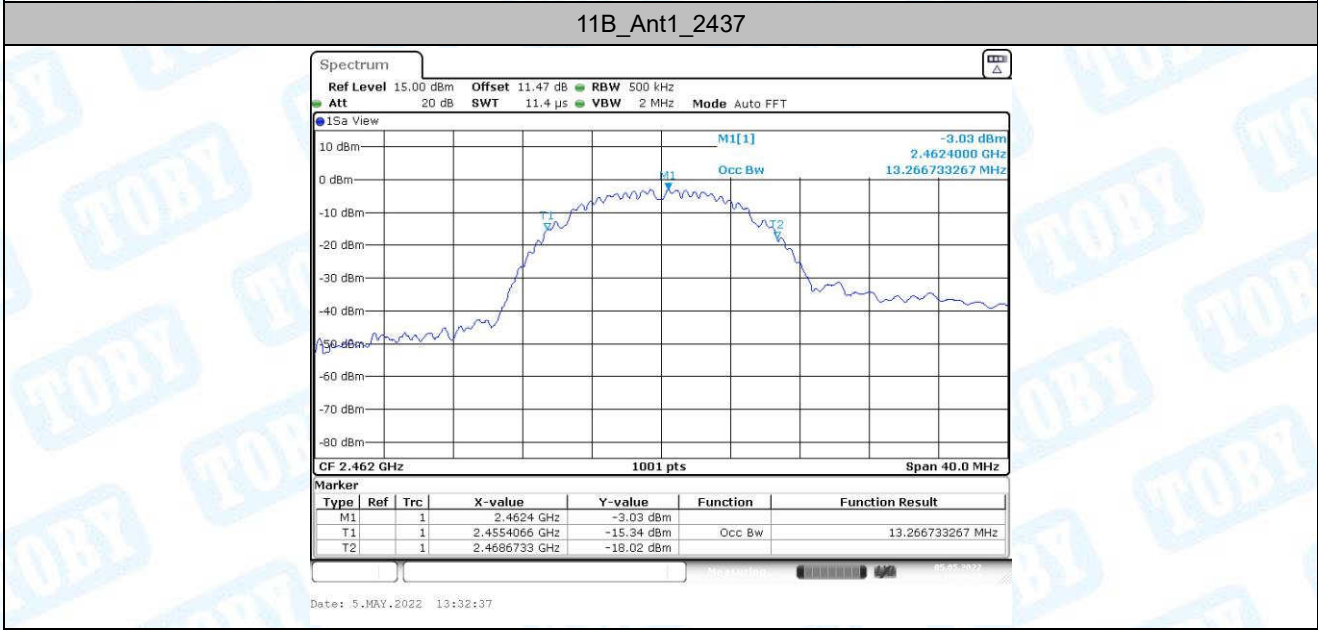
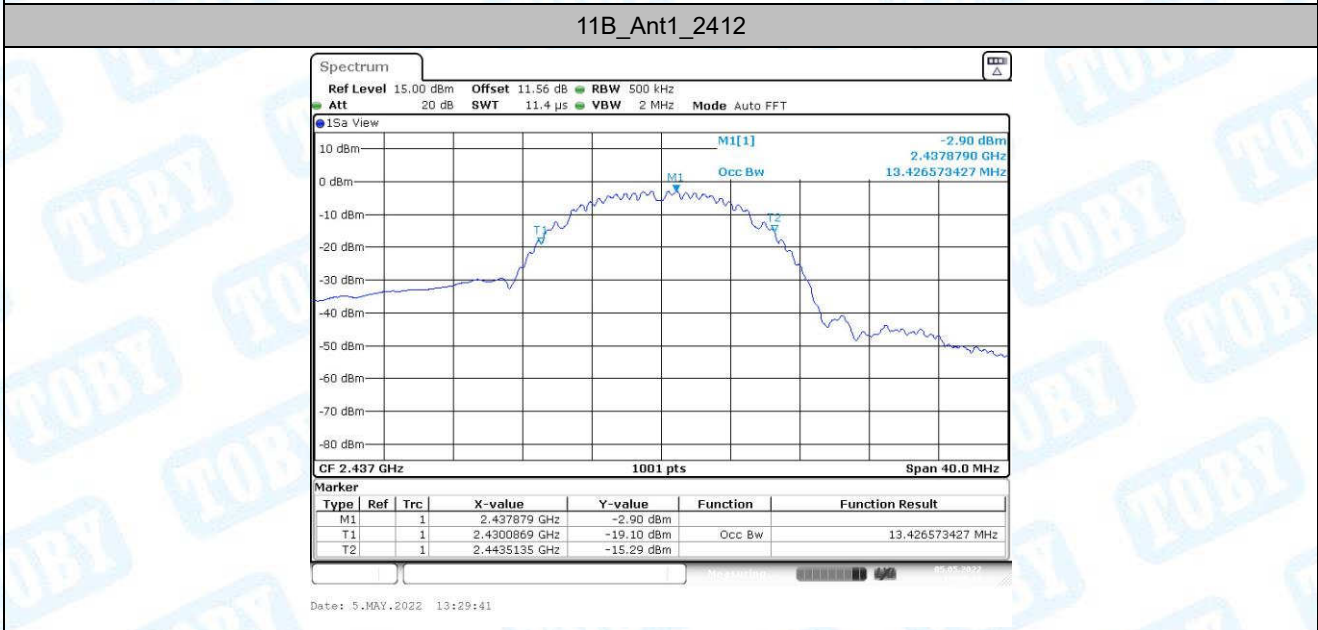
11N20SISO_Ant1_2462

2. Occupied Channel Bandwidth

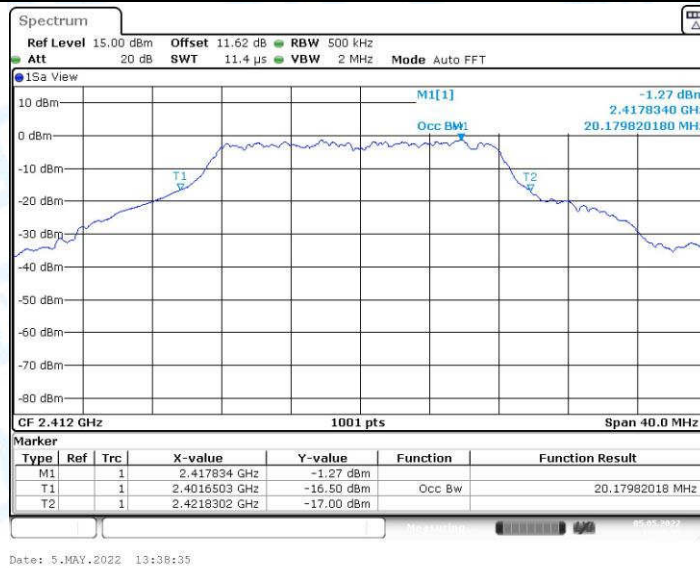
2.1. Test Result

| TestMode | Antenna | Channel | OCB [MHz] | FL[MHz] | FH[MHz] | Limit[MHz] | Verdict |
|-----------|---------|---------|-----------|----------|----------|------------|---------|
| 11B | Ant1 | 2412 | 13.427 | 2405.367 | 2418.793 | --- | --- |
| | | 2437 | 13.427 | 2430.087 | 2443.513 | --- | --- |
| | | 2462 | 13.267 | 2455.407 | 2468.673 | --- | --- |
| 11G | Ant1 | 2412 | 20.18 | 2401.650 | 2421.830 | --- | --- |
| | | 2437 | 19.98 | 2427.490 | 2447.470 | --- | --- |
| | | 2462 | 19.66 | 2452.410 | 2472.070 | --- | --- |
| 11N20SISO | Ant1 | 2412 | 20.899 | 2401.411 | 2422.310 | --- | --- |
| | | 2437 | 20.659 | 2426.730 | 2447.390 | --- | --- |
| | | 2462 | 21.538 | 2451.291 | 2472.829 | --- | --- |

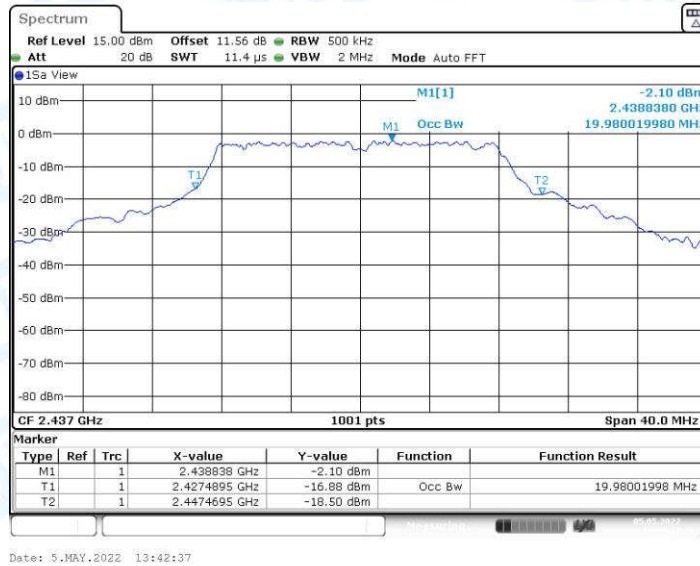
2.2. Test Graphs



11B_Ant1_2462



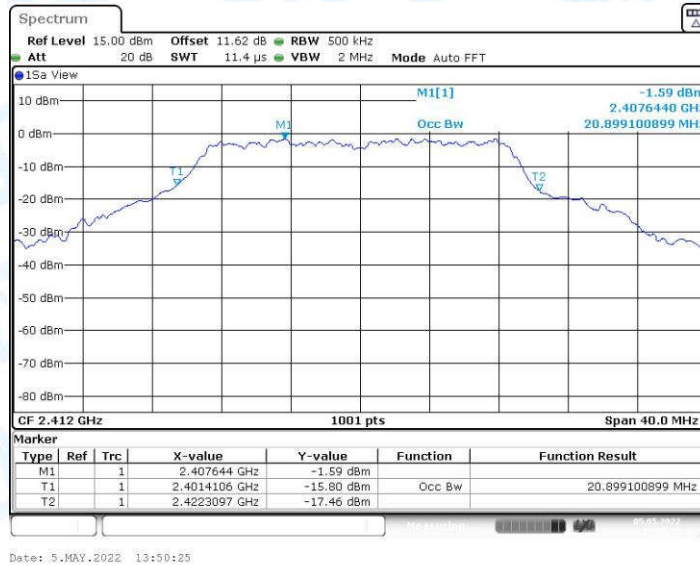
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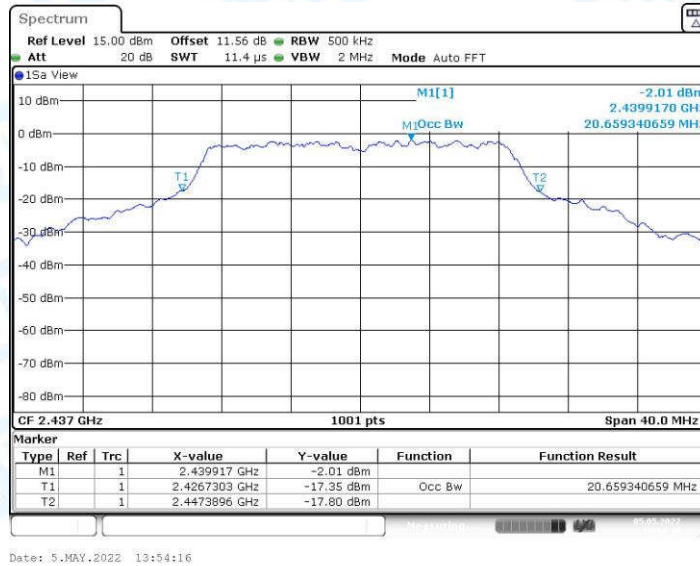
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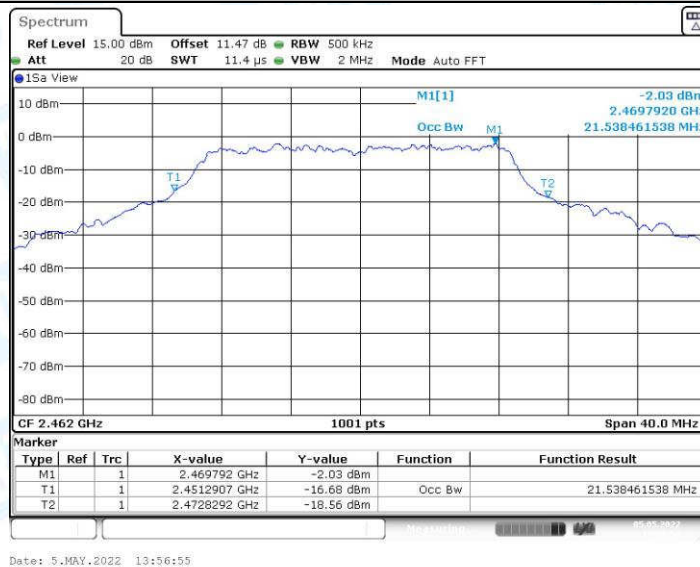
11G_Ant1_2462



11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462

3. Maximum conducted output power

3.1. Test Result

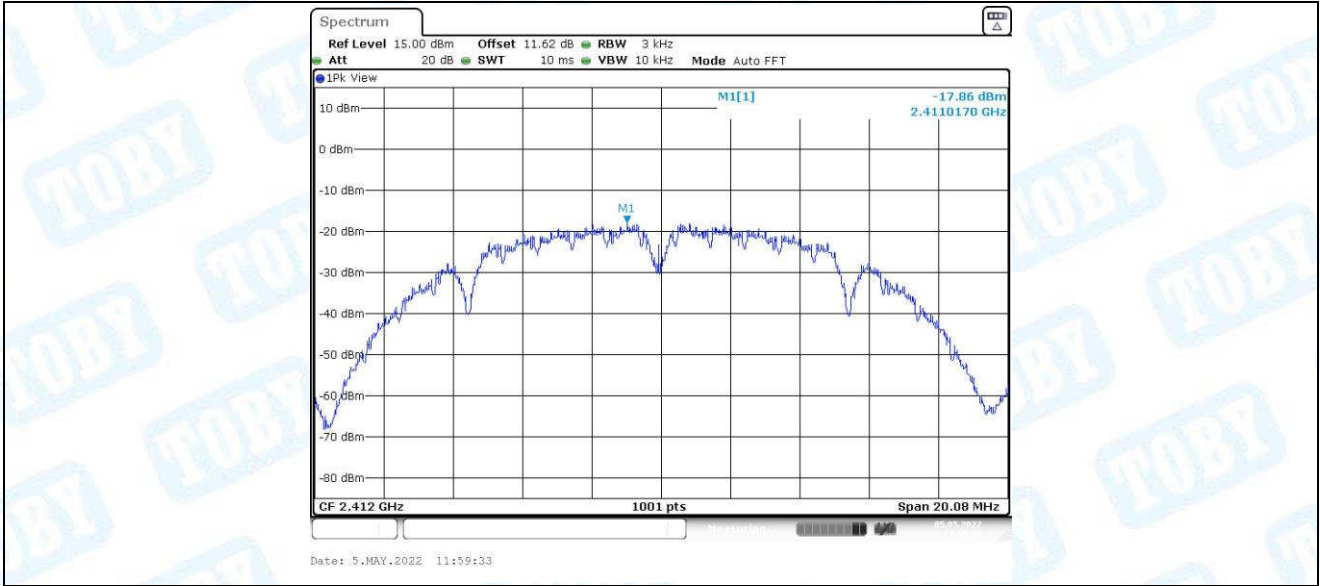
| TestMode | Antenna | Channel | Result[dBm] | Limit[dBm] | Verdict |
|-----------|---------|---------|-------------|------------|---------|
| 11B | Ant1 | 2412 | 10.23 | ≤30.00 | PASS |
| | | 2437 | 8.76 | ≤30.00 | PASS |
| | | 2462 | 8.54 | ≤30.00 | PASS |
| 11G | Ant1 | 2412 | 14.00 | ≤30.00 | PASS |
| | | 2437 | 13.53 | ≤30.00 | PASS |
| | | 2462 | 13.30 | ≤30.00 | PASS |
| 11N20SISO | Ant1 | 2412 | 14.07 | ≤30.00 | PASS |
| | | 2437 | 13.62 | ≤30.00 | PASS |
| | | 2462 | 13.34 | ≤30.00 | PASS |

4. Maximum power spectral density

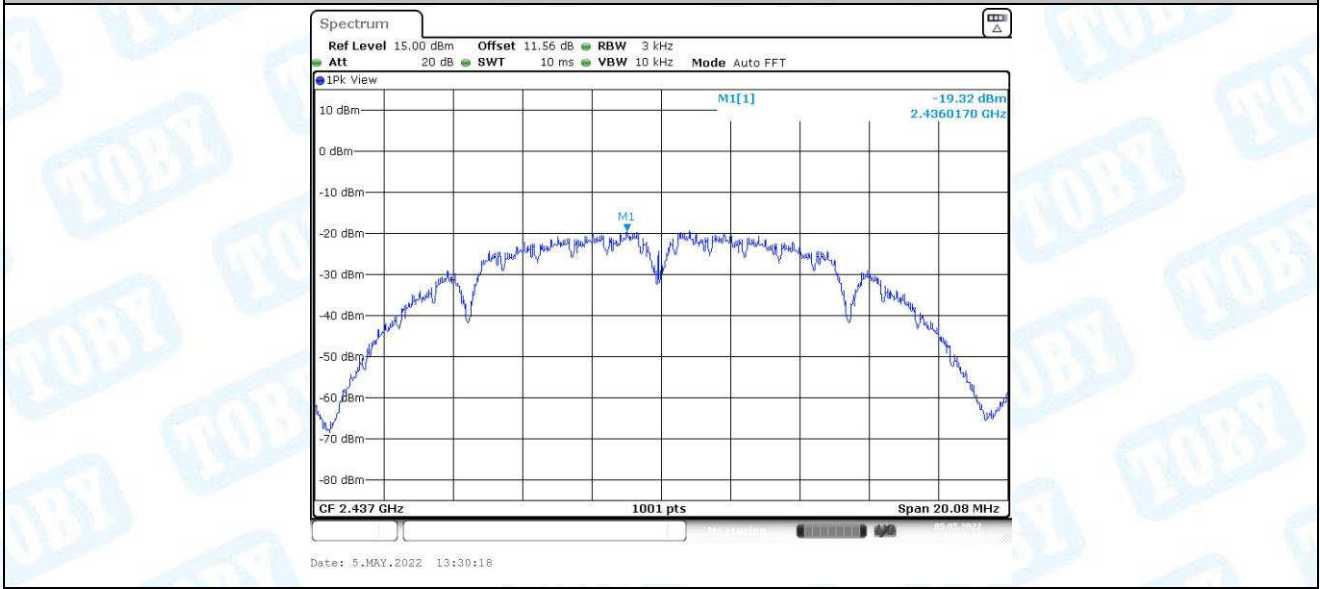
4.1. Test Result

| TestMode | Antenna | Channel | Result[dBm/3-100kHz] | Limit[dBm/3kHz] | Verdict |
|-----------|---------|---------|----------------------|-----------------|---------|
| 11B | Ant1 | 2412 | -17.86 | ≤8.00 | PASS |
| | | 2437 | -19.32 | ≤8.00 | PASS |
| | | 2462 | -19.56 | ≤8.00 | PASS |
| 11G | Ant1 | 2412 | -19.24 | ≤8.00 | PASS |
| | | 2437 | -19.61 | ≤8.00 | PASS |
| | | 2462 | -19.82 | ≤8.00 | PASS |
| 11N20SISO | Ant1 | 2412 | -20.25 | ≤8.00 | PASS |
| | | 2437 | -20.64 | ≤8.00 | PASS |
| | | 2462 | -21.11 | ≤8.00 | PASS |

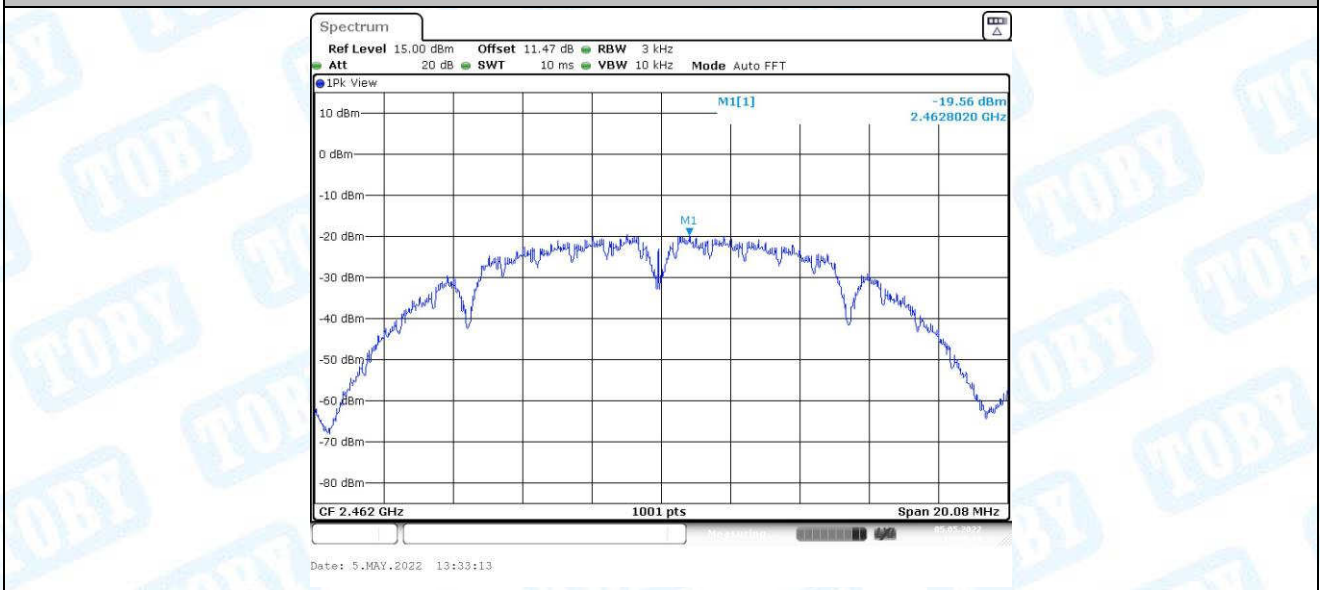
4.2. Test Graphs



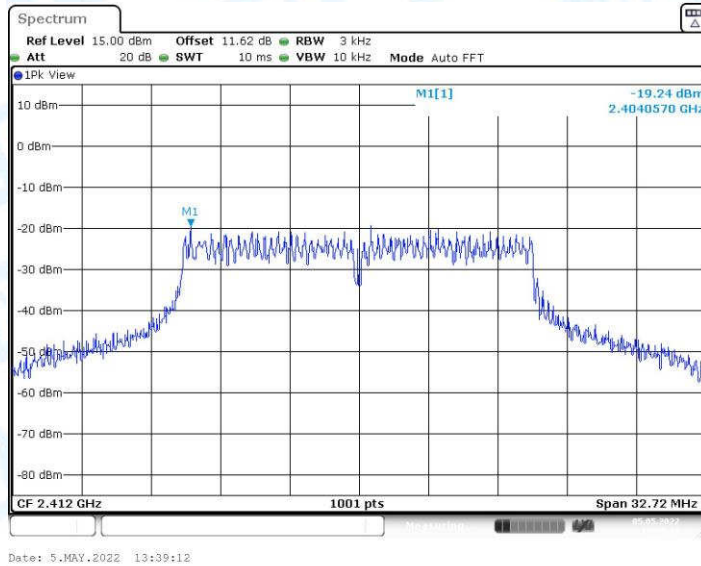
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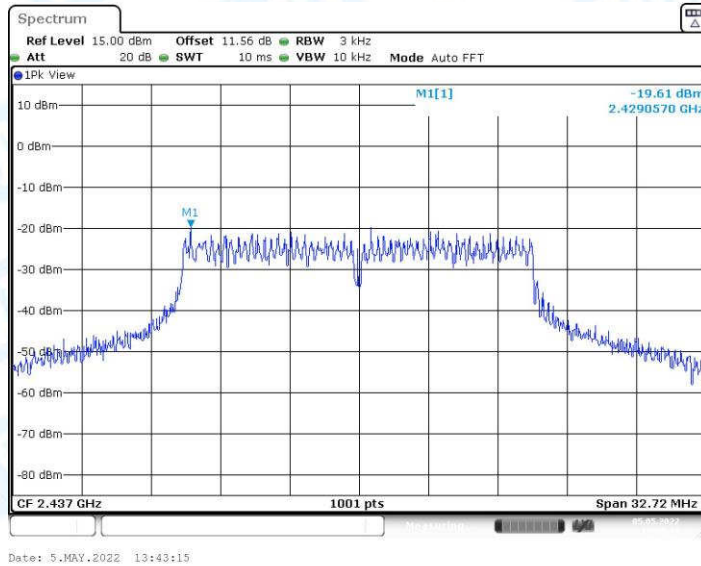
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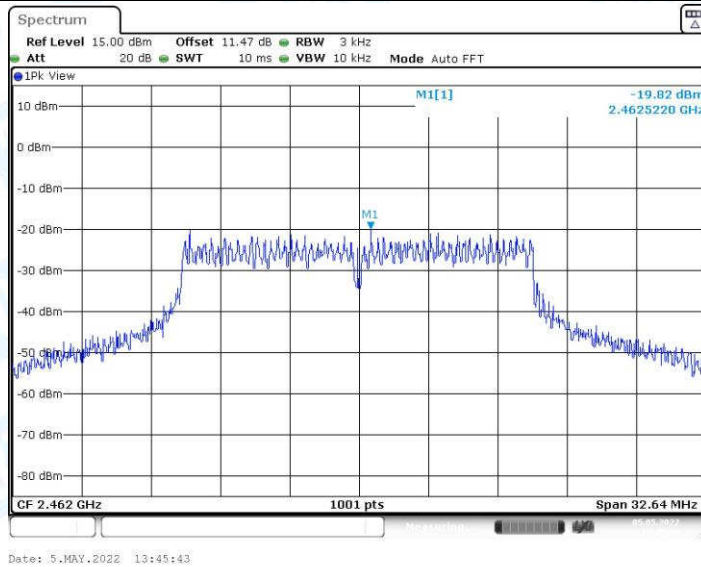
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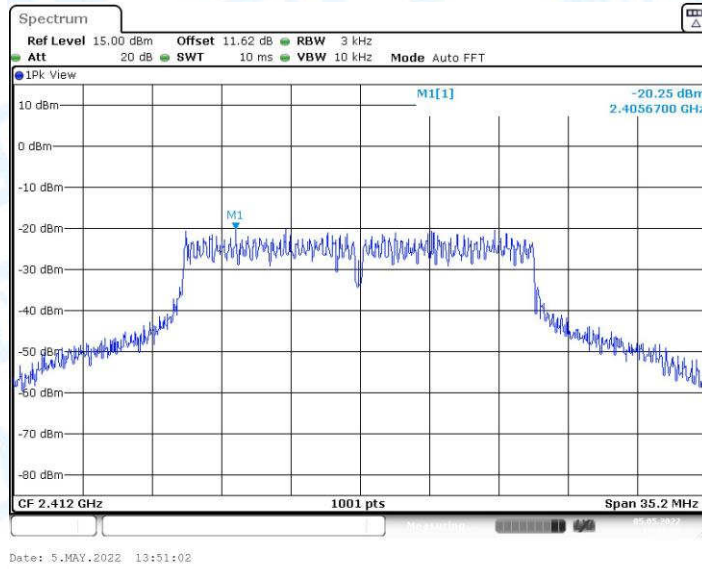
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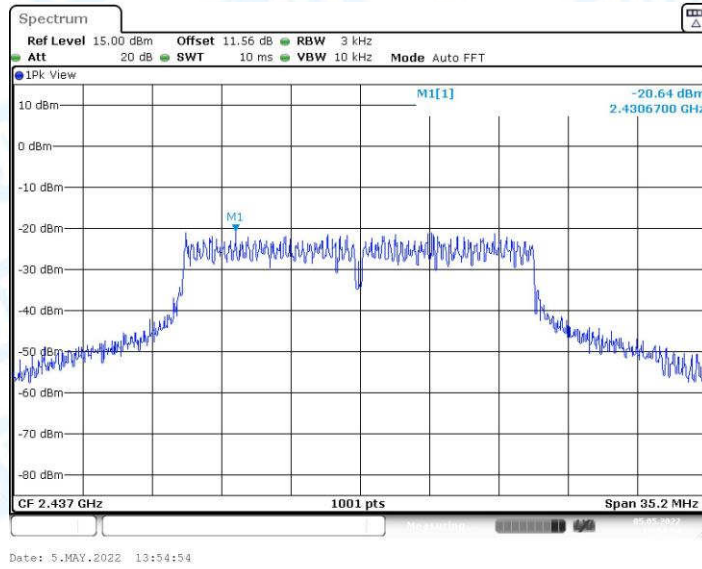
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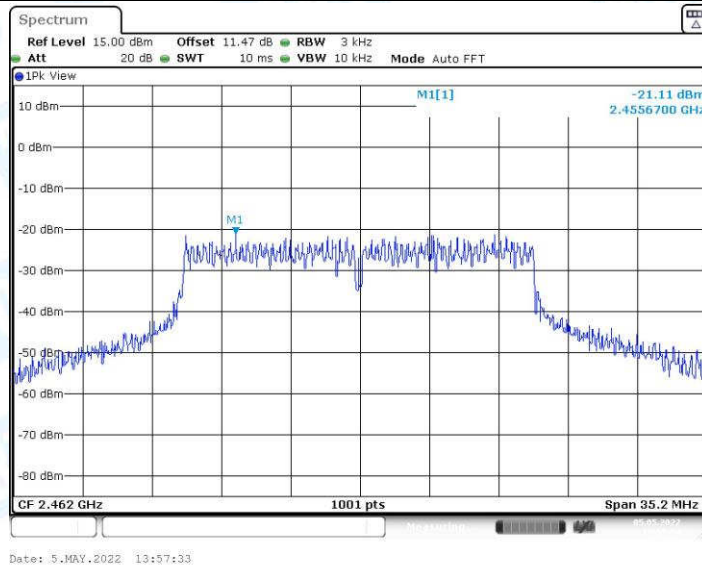
11G_Ant1_2462



11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



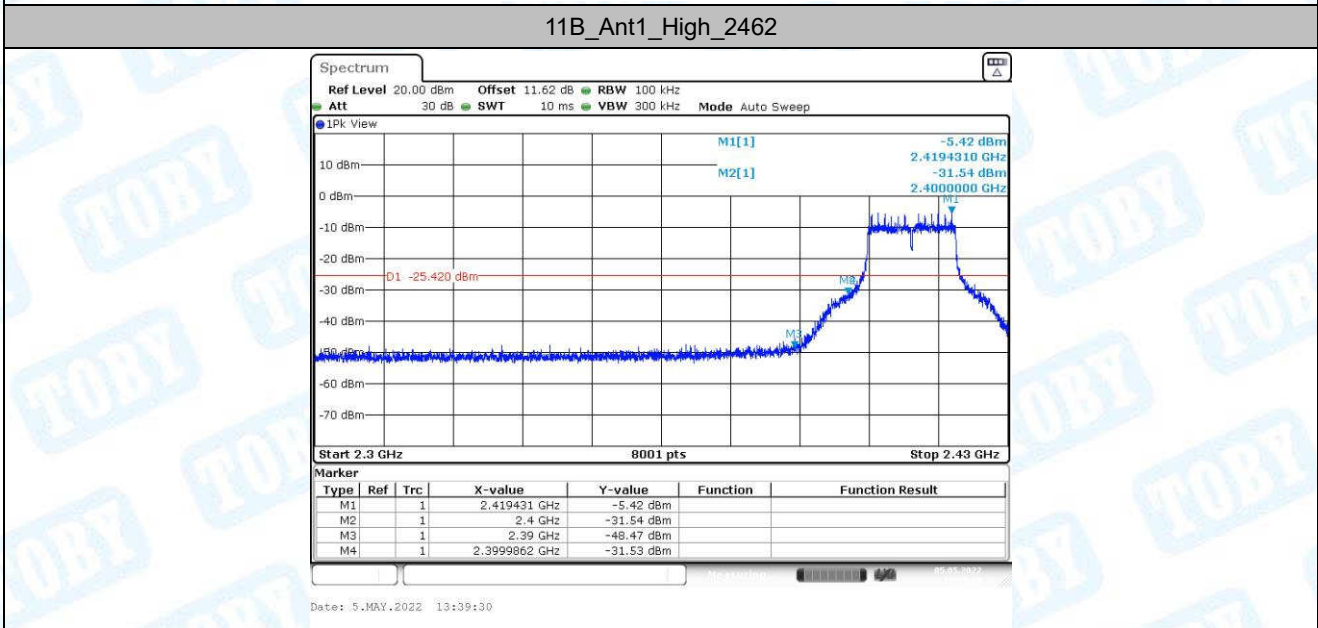
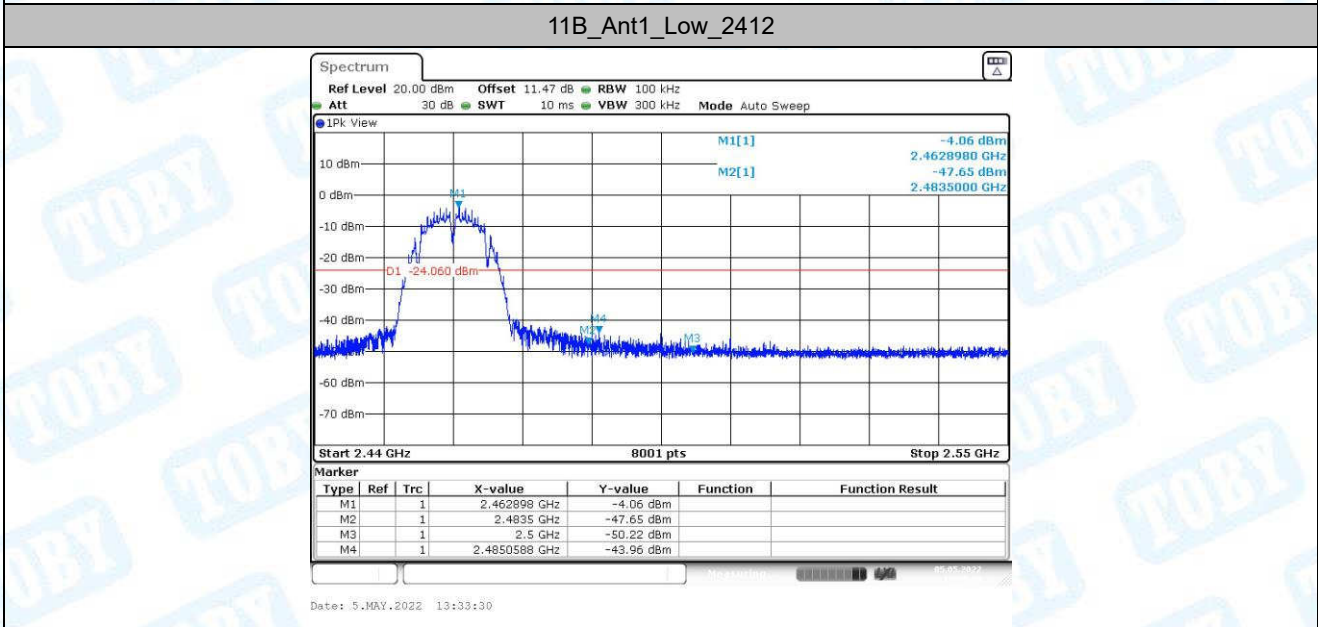
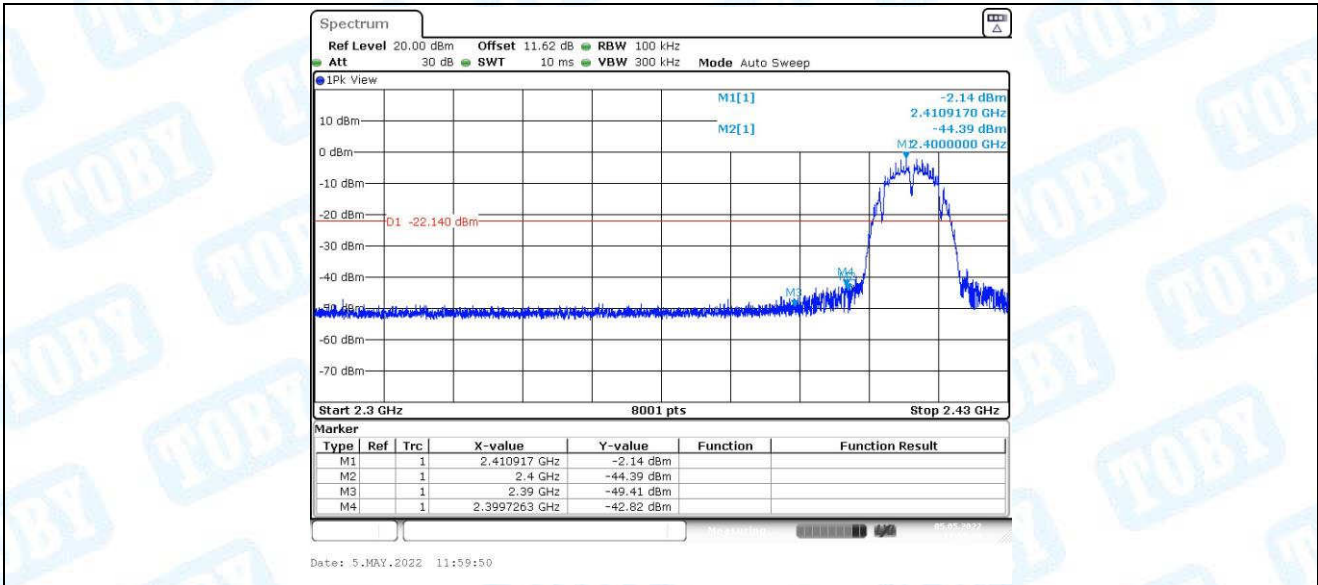
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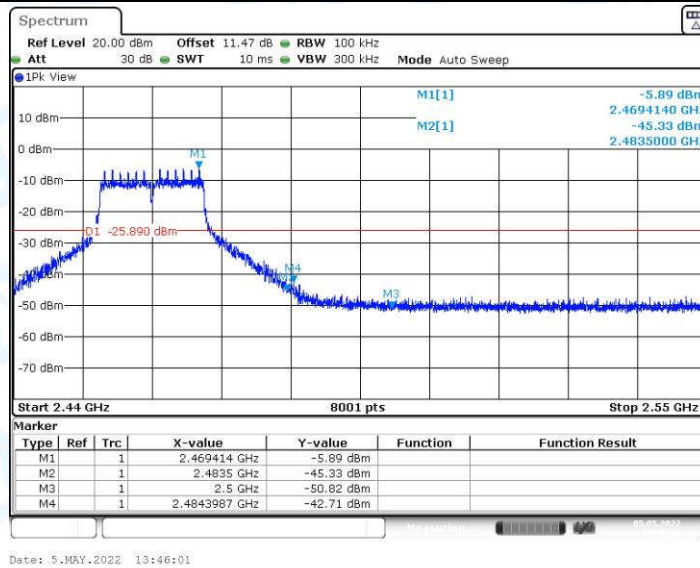
5. Band edge measurements

5.1. Test Result

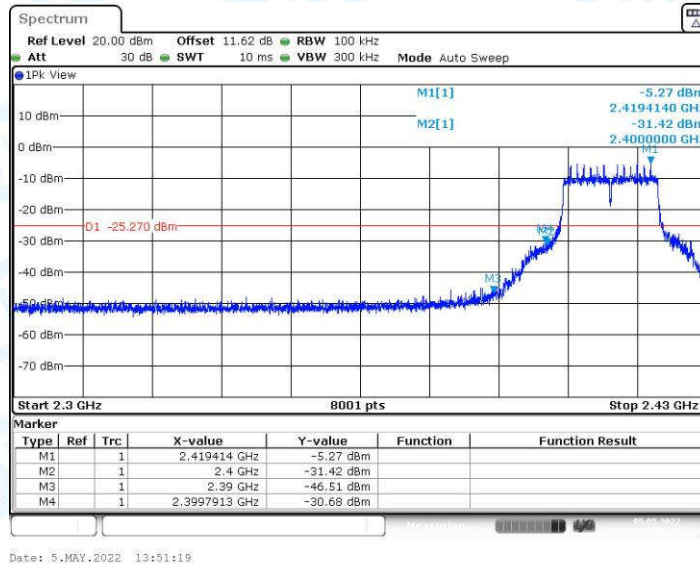
| TestMode | Antenna | ChName | Channel | RefLevel[dBm] | Result[dBm] | Limit[dBm] | Verdict |
|-----------|---------|--------|---------|---------------|-------------|------------|---------|
| 11B | Ant1 | Low | 2412 | -2.14 | -42.82 | ≤-22.14 | PASS |
| | | High | 2462 | -4.06 | -43.96 | ≤-24.06 | PASS |
| 11G | Ant1 | Low | 2412 | -5.42 | -31.53 | ≤-25.42 | PASS |
| | | High | 2462 | -5.89 | -42.71 | ≤-25.89 | PASS |
| 11N20SISO | Ant1 | Low | 2412 | -5.27 | -30.68 | ≤-25.27 | PASS |
| | | High | 2462 | -5.85 | -40.65 | ≤-25.85 | PASS |

5.2. Test Graphs

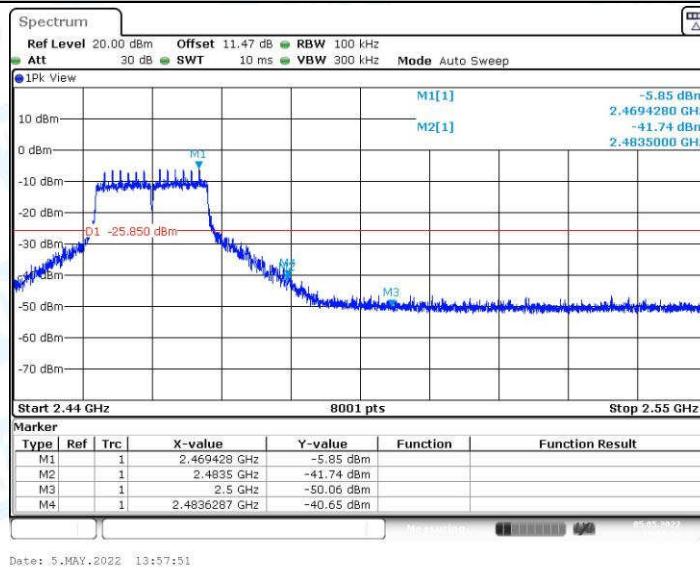




11G_Ant1_High_2462



11N20SISO_Ant1_Low_2412



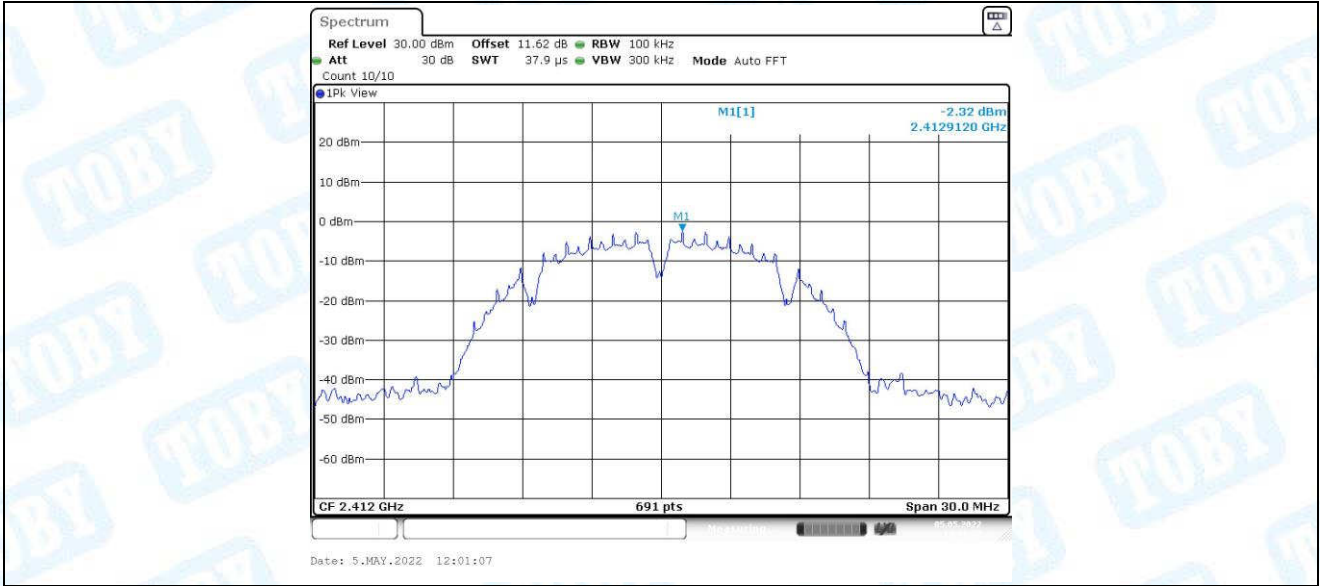
11N20SISO_Ant1_High_2462

6. Conducted Spurious Emission

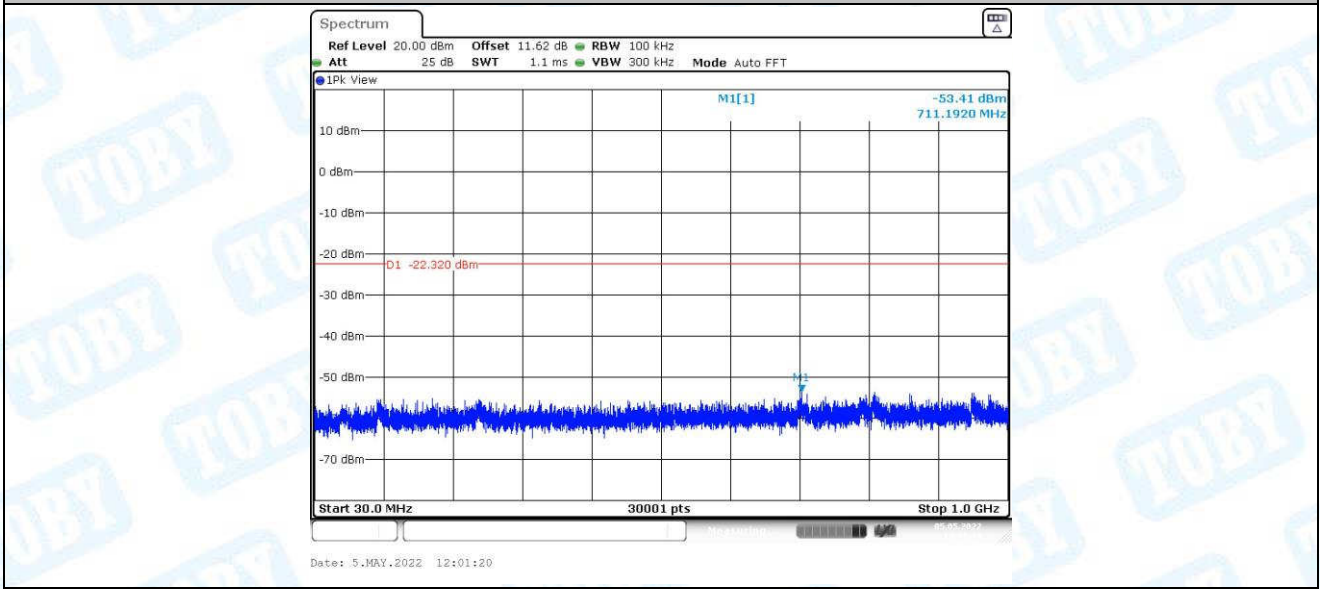
6.1. Test Result

| TestMode | Antenna | Channel | FreqRange [Mhz] | RefLevel [dBm] | Result [dBm] | Limit [dBm] | Verdict |
|-----------|---------|---------|-----------------|----------------|--------------|-------------|---------|
| 11B | Ant1 | 2412 | Reference | -2.32 | -2.32 | --- | PASS |
| | | | 30~1000 | -2.32 | -53.41 | ≤-22.32 | PASS |
| | | | 1000~26500 | -2.32 | -46.93 | ≤-22.32 | PASS |
| | | 2437 | Reference | -3.45 | -3.45 | --- | PASS |
| | | | 30~1000 | -3.45 | -52.66 | ≤-23.45 | PASS |
| | | | 1000~26500 | -3.45 | -47.19 | ≤-23.45 | PASS |
| | | 2462 | Reference | -3.50 | -3.50 | --- | PASS |
| | | | 30~1000 | -3.50 | -53.67 | ≤-23.5 | PASS |
| | | | 1000~26500 | -3.50 | -47.07 | ≤-23.5 | PASS |
| 11G | Ant1 | 2412 | Reference | -5.61 | -5.61 | --- | PASS |
| | | | 30~1000 | -5.61 | -52.96 | ≤-25.61 | PASS |
| | | | 1000~26500 | -5.61 | -47.35 | ≤-25.61 | PASS |
| | | 2437 | Reference | -5.85 | -5.85 | --- | PASS |
| | | | 30~1000 | -5.85 | -53.83 | ≤-25.85 | PASS |
| | | | 1000~26500 | -5.85 | -47.03 | ≤-25.85 | PASS |
| | | 2462 | Reference | -5.84 | -5.84 | --- | PASS |
| | | | 30~1000 | -5.84 | -53.78 | ≤-25.84 | PASS |
| | | | 1000~26500 | -5.84 | -46.82 | ≤-25.84 | PASS |
| 11N20SISO | Ant1 | 2412 | Reference | -5.21 | -5.21 | --- | PASS |
| | | | 30~1000 | -5.21 | -53.94 | ≤-25.21 | PASS |
| | | | 1000~26500 | -5.21 | -47.71 | ≤-25.21 | PASS |
| | | 2437 | Reference | -5.73 | -5.73 | --- | PASS |
| | | | 30~1000 | -5.73 | -52.68 | ≤-25.73 | PASS |
| | | | 1000~26500 | -5.73 | -46.7 | ≤-25.73 | PASS |
| | | 2462 | Reference | -5.67 | -5.67 | --- | PASS |
| | | | 30~1000 | -5.67 | -53.71 | ≤-25.67 | PASS |
| | | | 1000~26500 | -5.67 | -46.72 | ≤-25.67 | PASS |

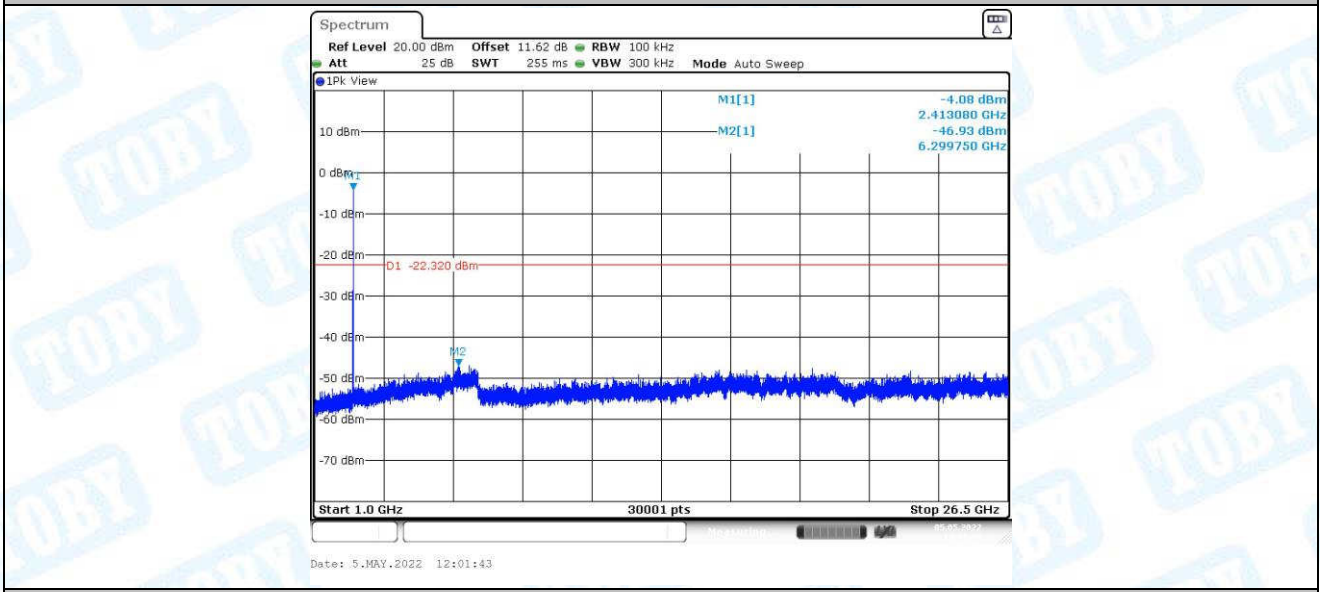
6.2. Test Graphs



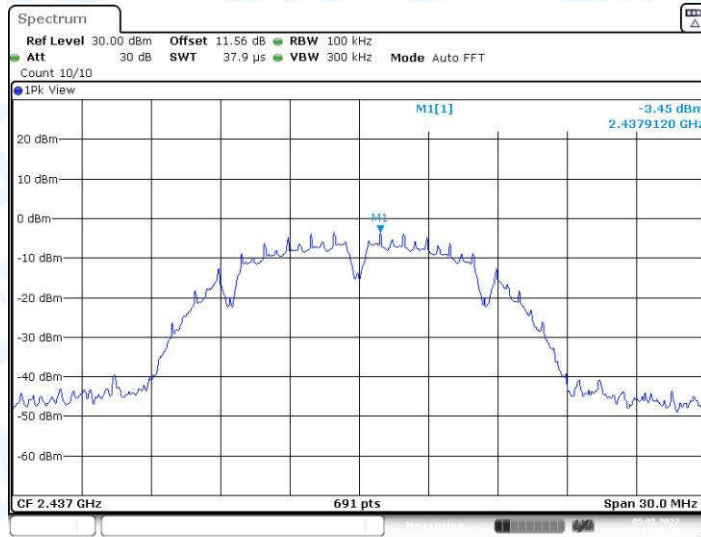
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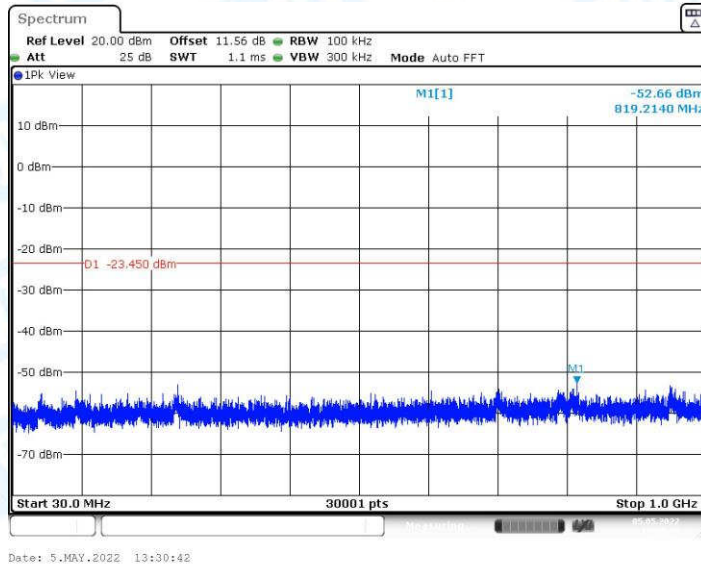
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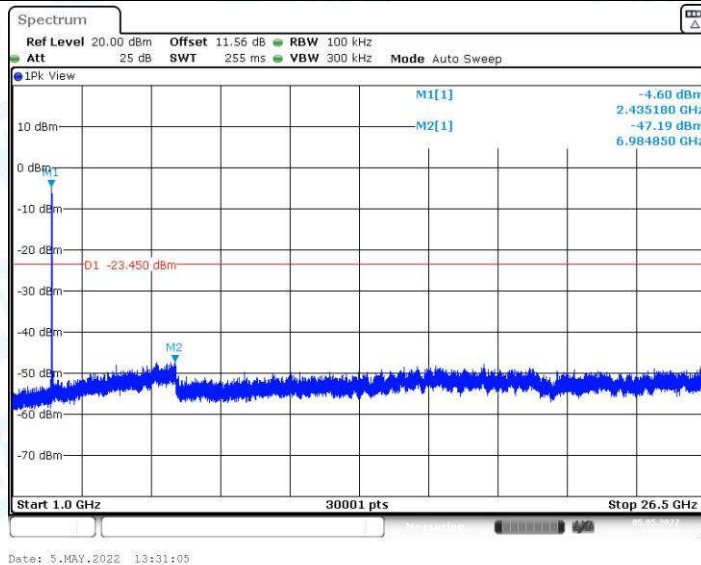
11B_Ant1_2412_1000~26500



11B_Ant1_2437_0~Reference



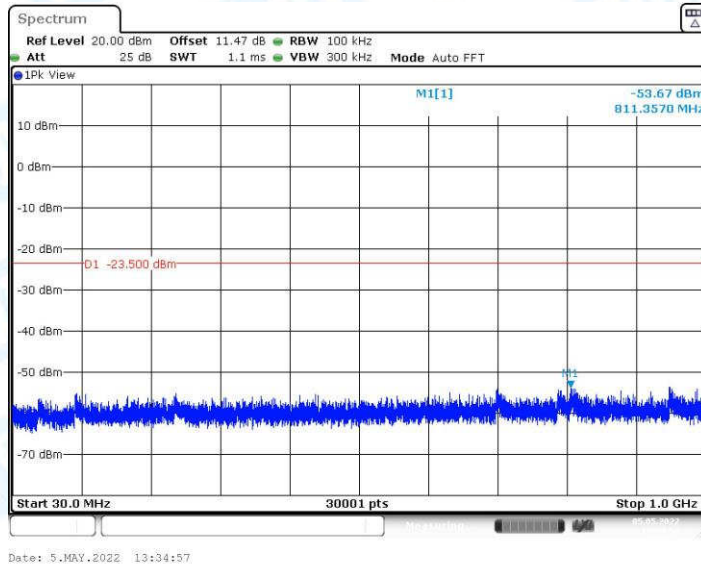
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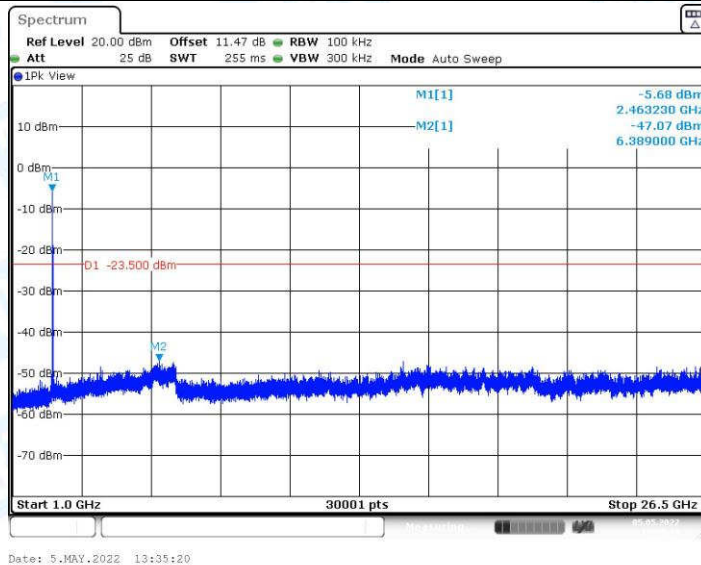
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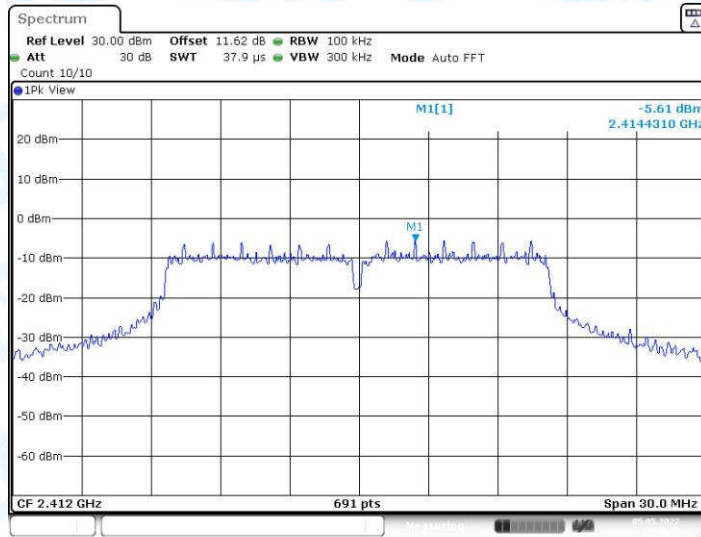
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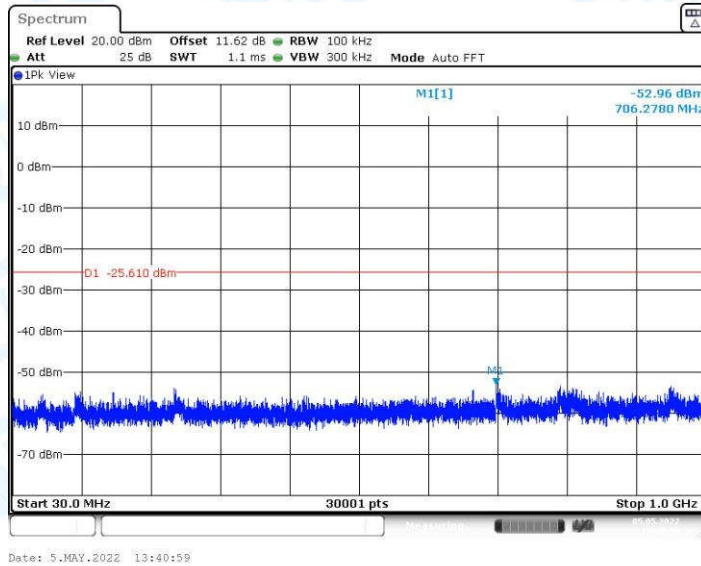
11B_Ant1_2462_30~1000



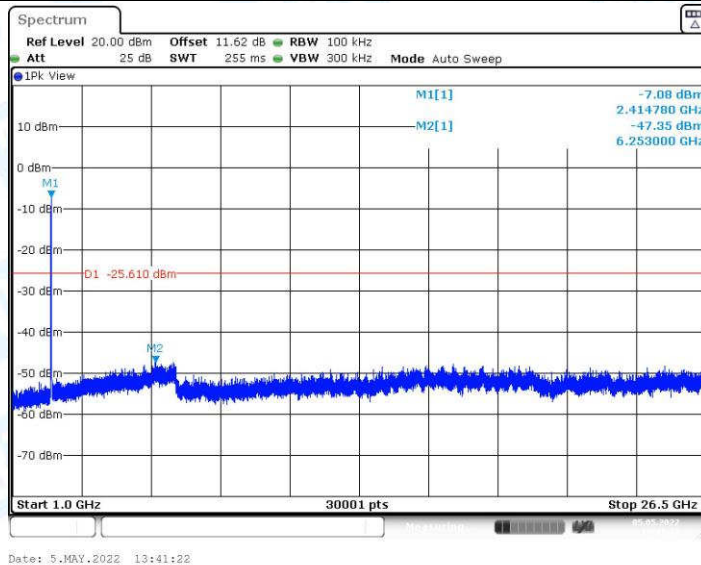
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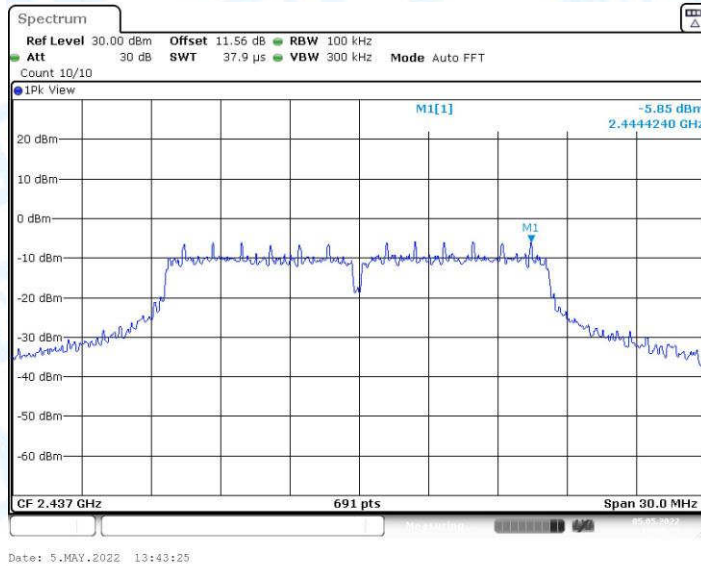
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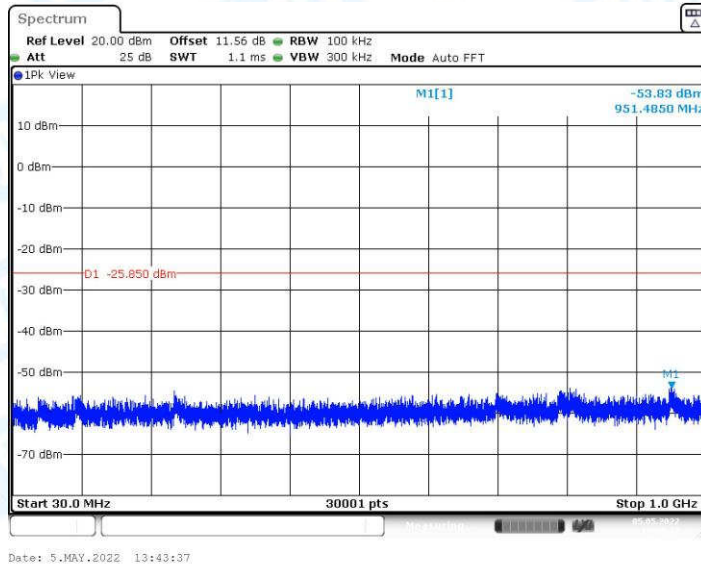
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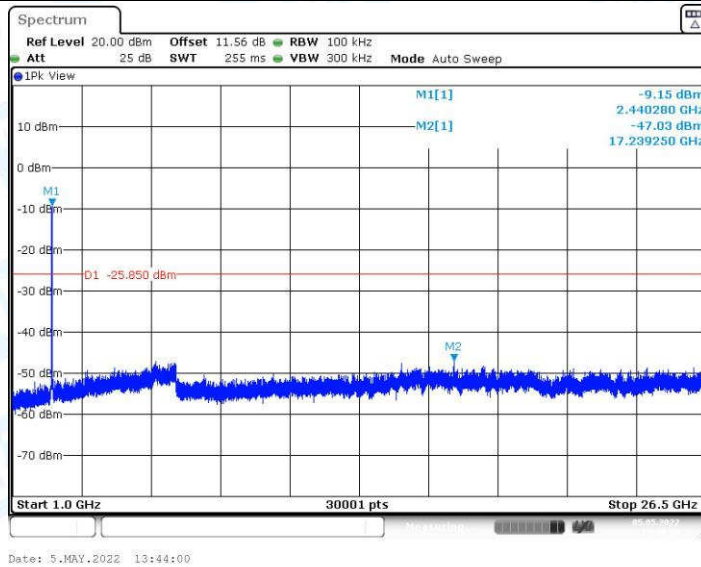
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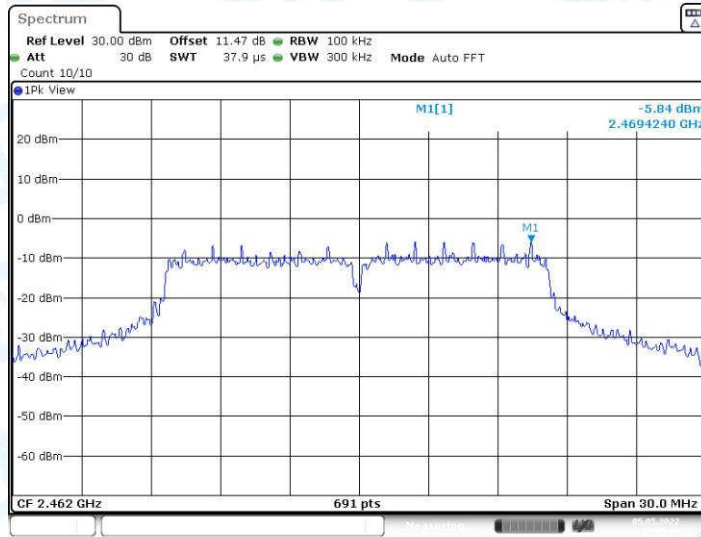
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11G_Ant1_2437_30~1000

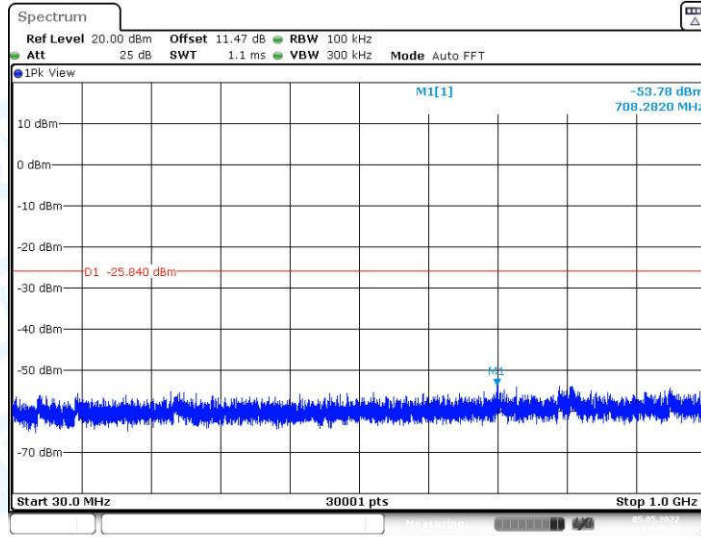


11G_Ant1_2437_1000~26500



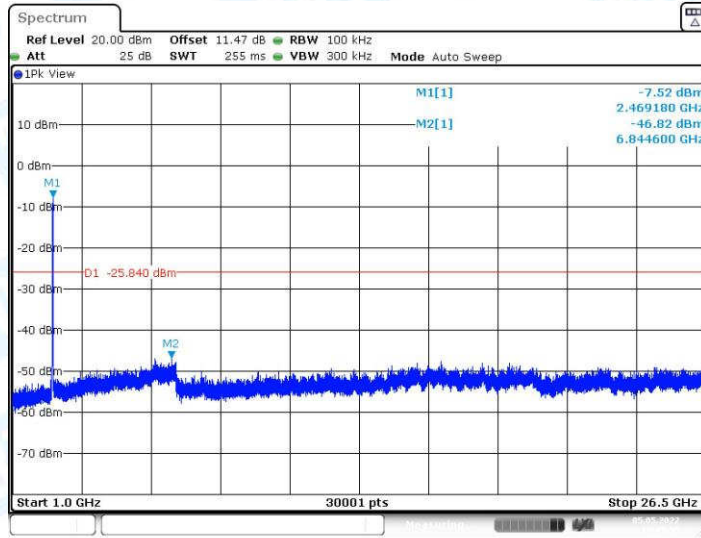
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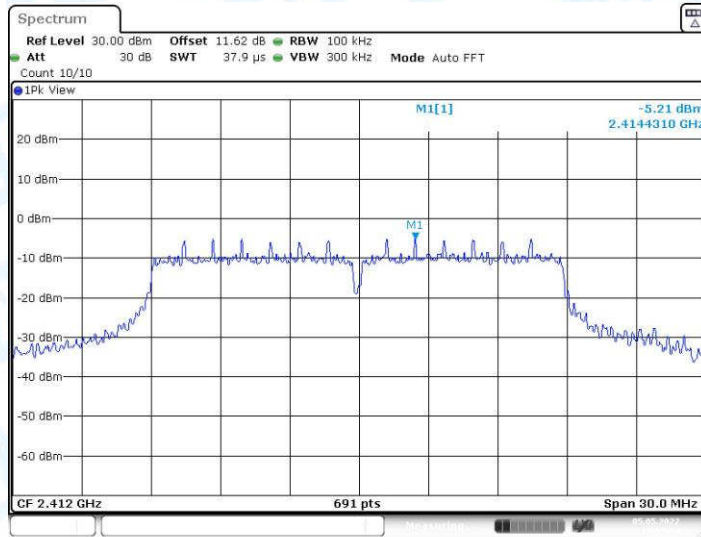
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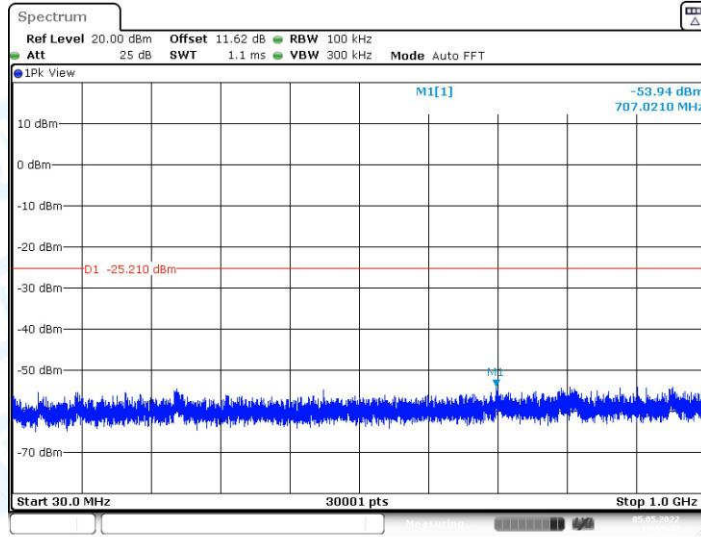
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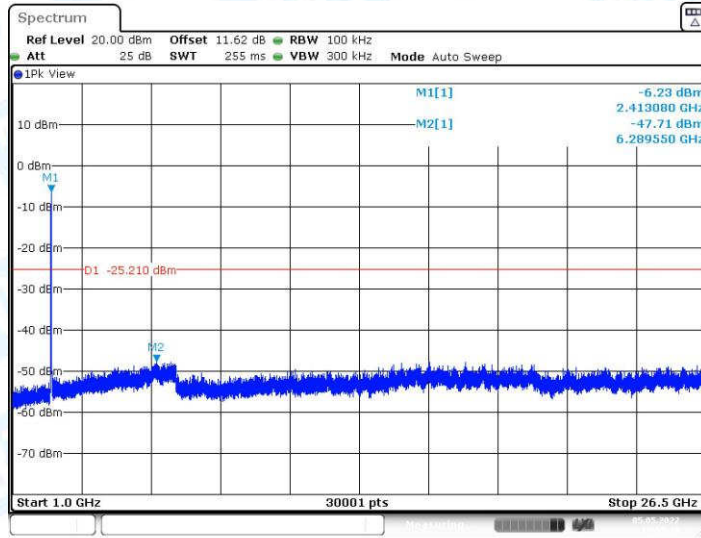
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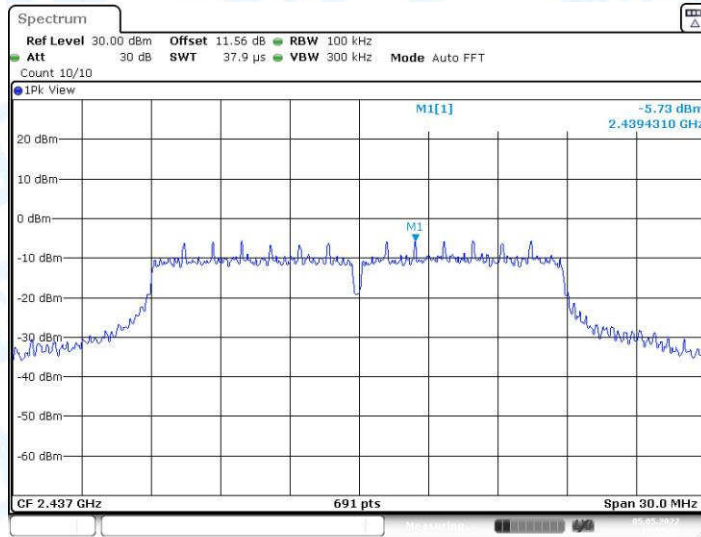
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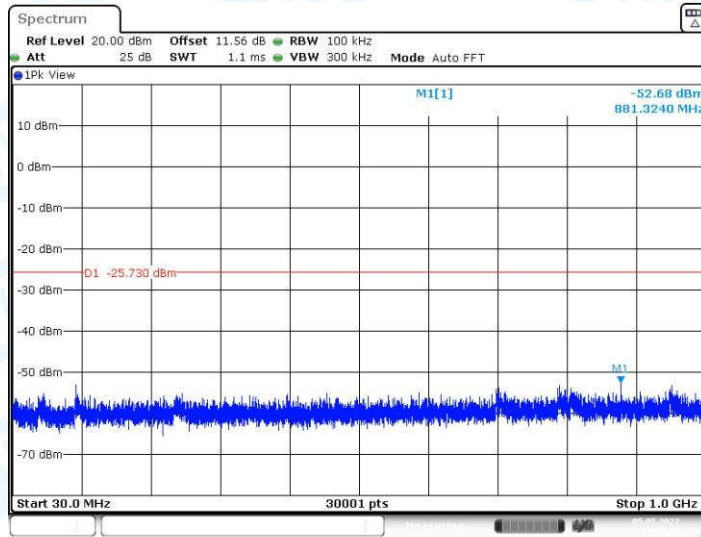


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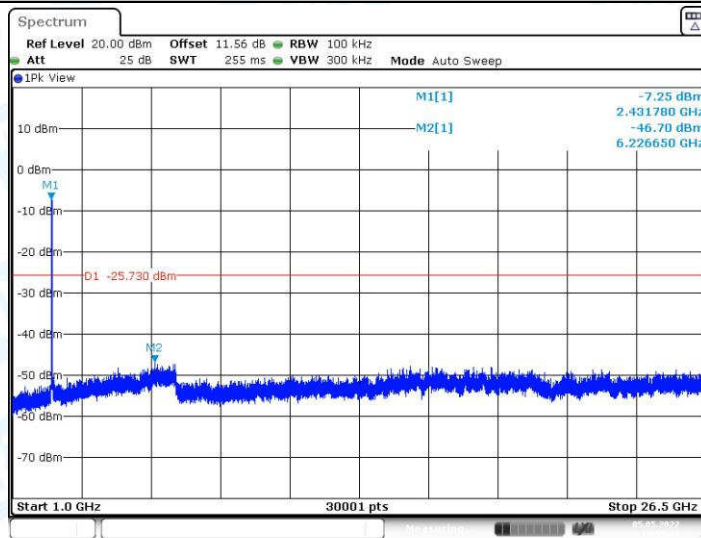
11N20SISO_Ant1_2412_1000~26500



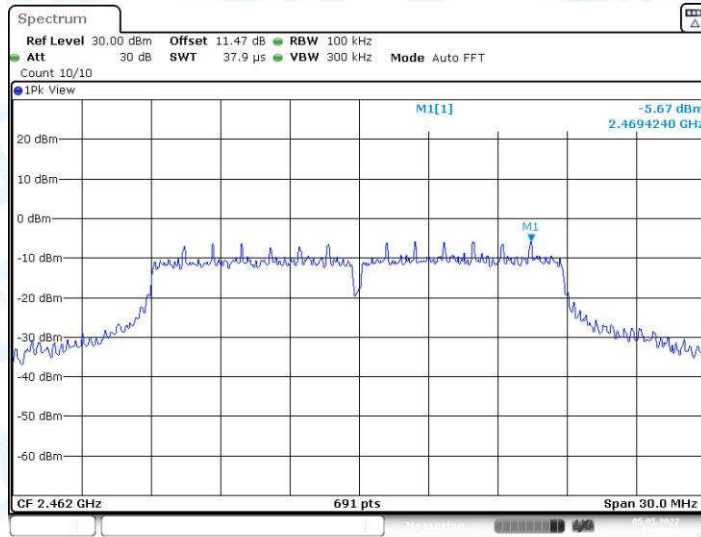
11N20SISO_Ant1_2437_0~Reference



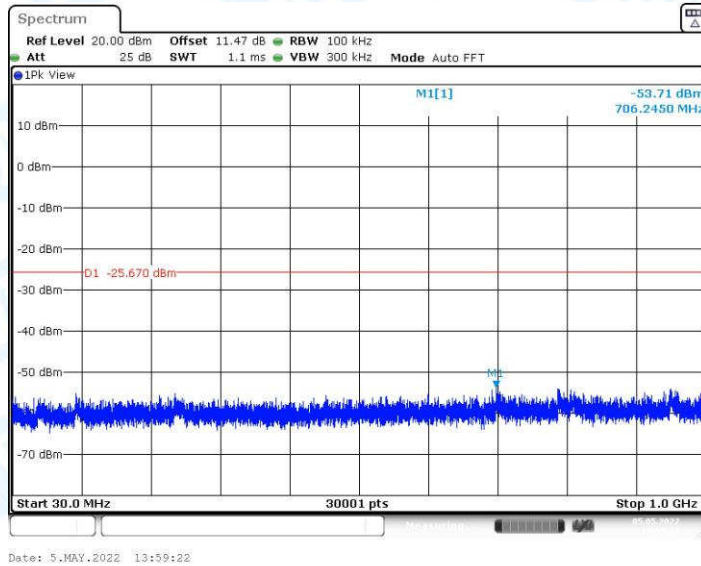
11N20SISO_Ant1_2437_30~1000



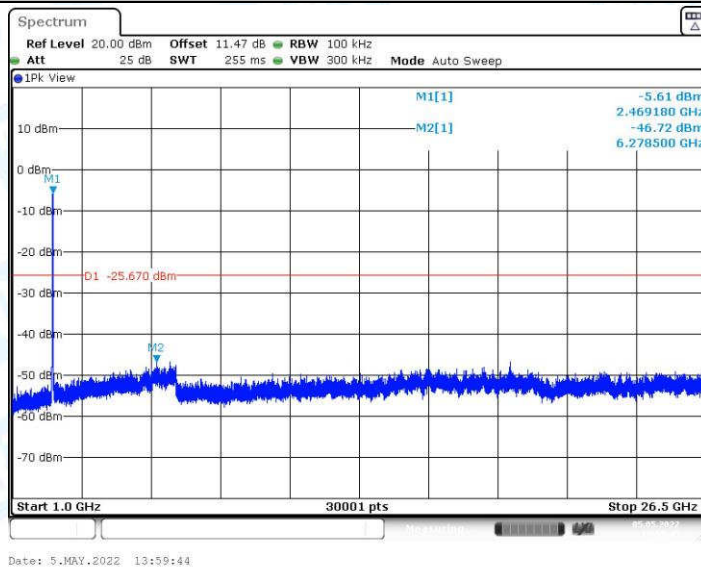
11N20SISO_Ant1_2437_1000~26500



11N20SISO_Ant1_2462_0~Reference



11N20SISO_Ant1_2462_30~1000



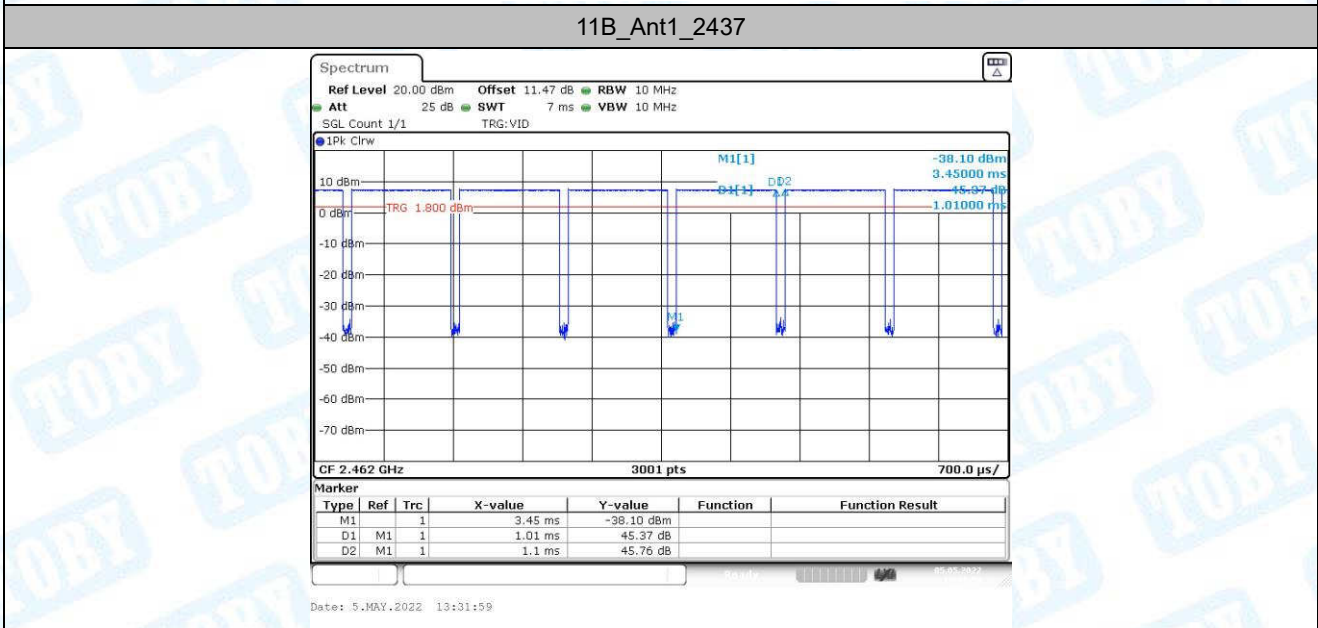
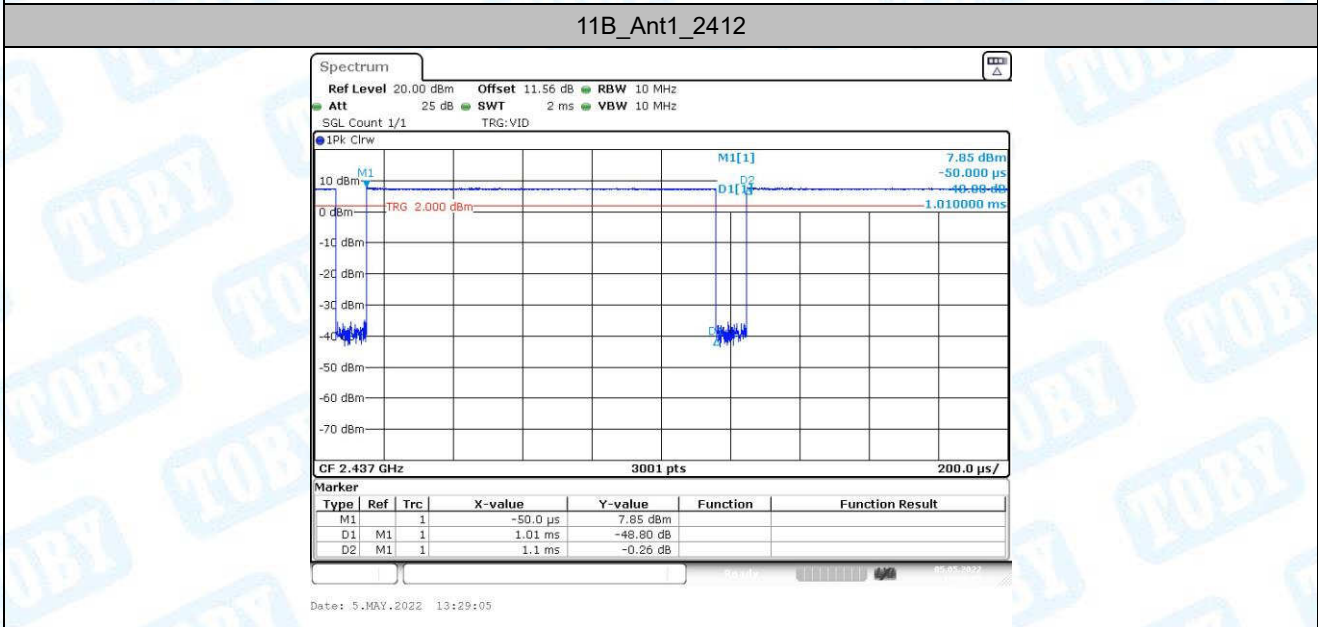
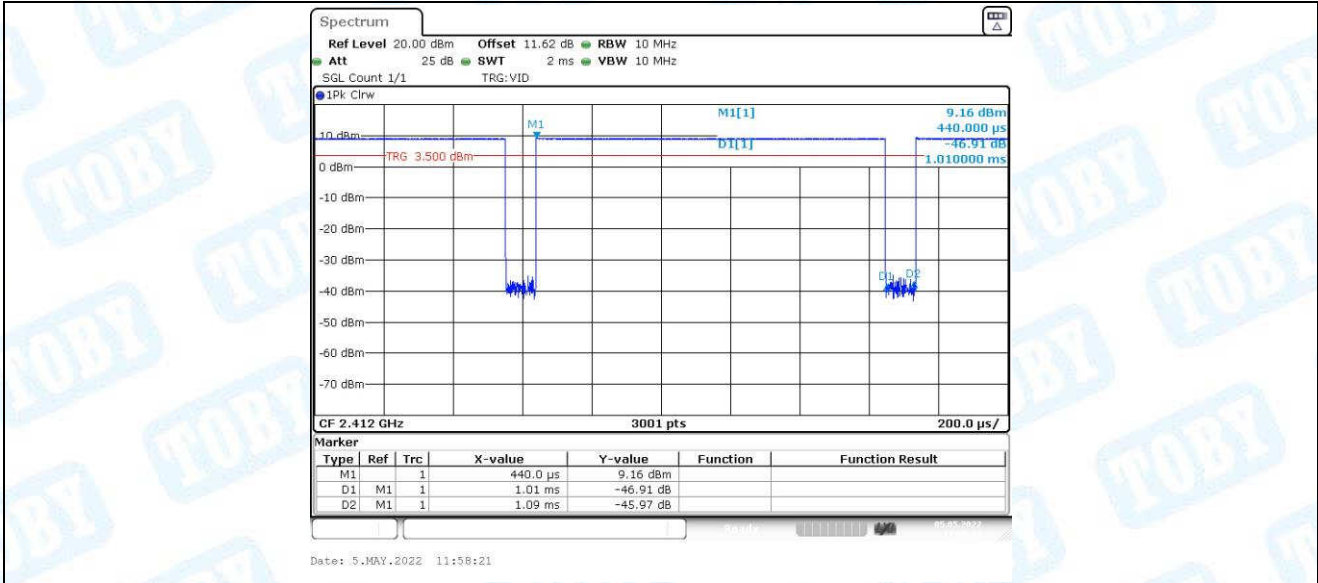
11N20SISO_Ant1_2462_1000~26500

7. Duty Cycle

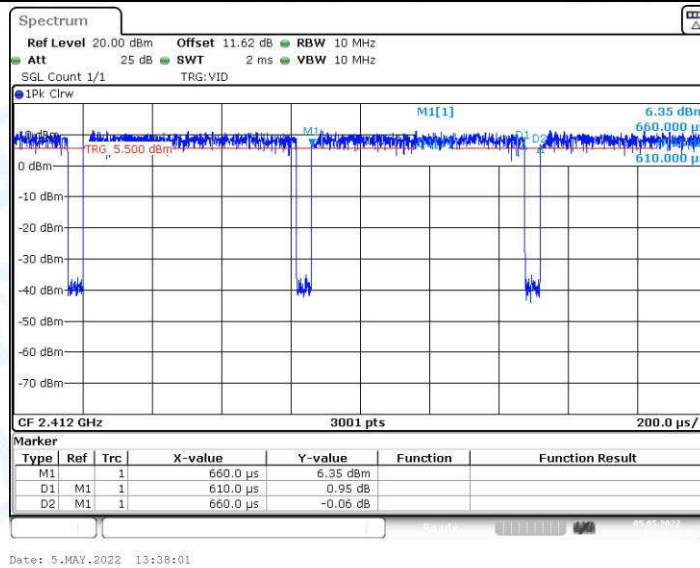
7.1. Test Result

| TestMode | Antenna | Channel | Transmission Duration [ms] | Transmission Period [ms] | Duty Cycle [%] | Limit | Verdict |
|-----------|---------|---------|----------------------------|--------------------------|----------------|-------|---------|
| 11B | Ant1 | 2412 | 1.01 | 1.09 | 92.66 | --- | --- |
| | | 2437 | 1.01 | 1.10 | 91.82 | --- | --- |
| | | 2462 | 1.01 | 1.10 | 91.82 | --- | --- |
| 11G | Ant1 | 2412 | 0.61 | 0.66 | 92.42 | --- | --- |
| | | 2437 | 0.62 | 0.66 | 93.94 | --- | --- |
| | | 2462 | 0.62 | 0.66 | 93.94 | --- | --- |
| 11N20SISO | Ant1 | 2412 | 0.61 | 0.65 | 93.85 | --- | --- |
| | | 2437 | 0.61 | 0.66 | 92.42 | --- | --- |
| | | 2462 | 0.61 | 0.65 | 93.85 | --- | --- |

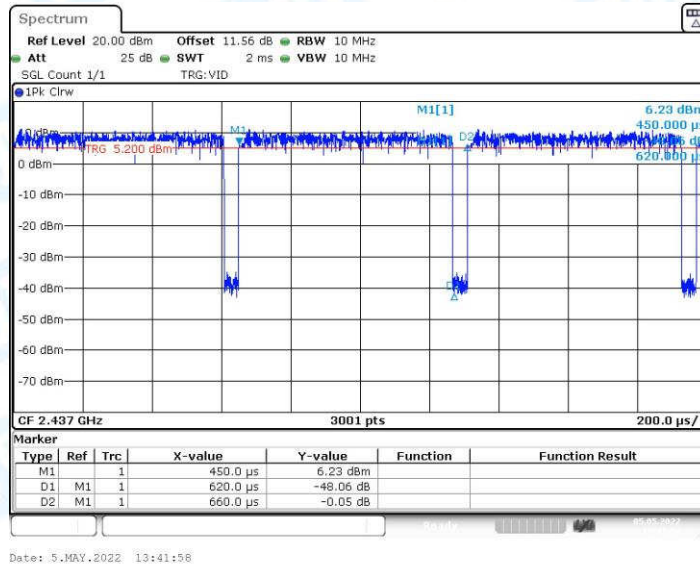
7.2. Test Graphs



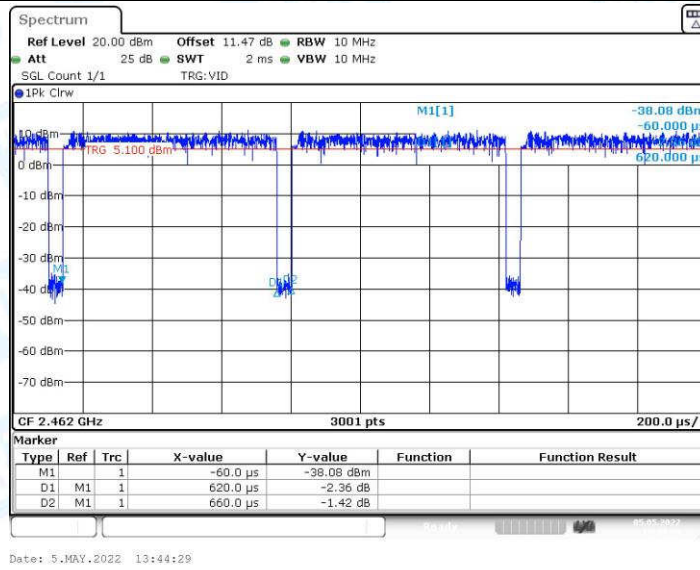
11B_Ant1_2462



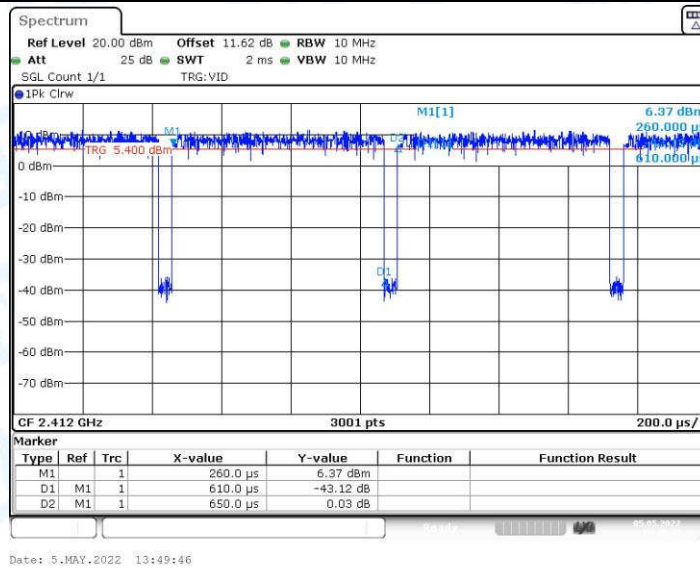
11G_Ant1_2412



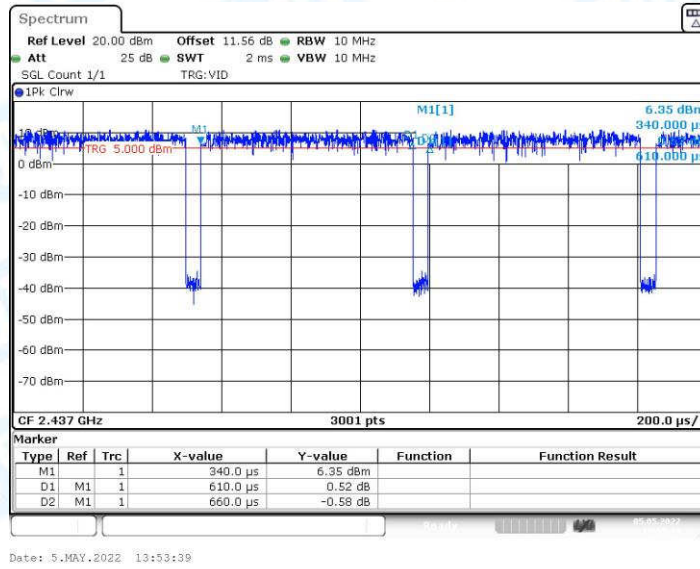
11G_Ant1_2437



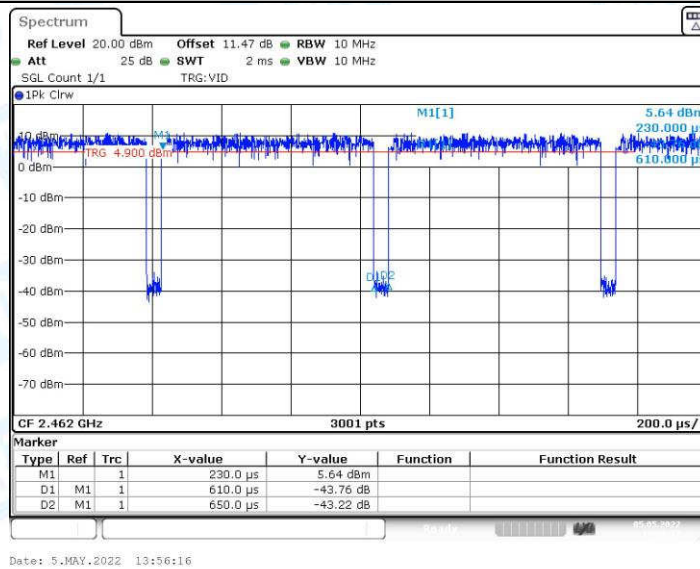
11G_Ant1_2462



11N20SISO_Ant1_2412



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462

8. Emissions in Restricted Bands

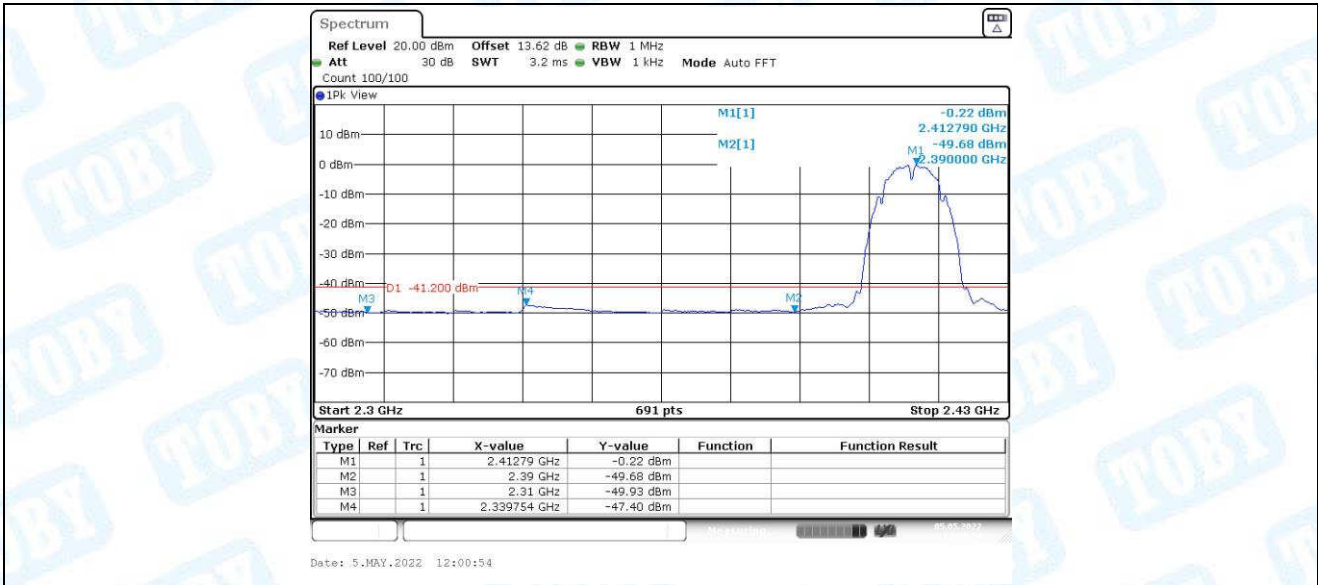
8.1. Test Result

| TestMode | Antenna | ChName | Channel | Detector | Freq [MHz] | Result [dBm] | Limit [dBm] | Verdict |
|-----------|---------|--------|---------|----------|------------|--------------|-------------|---------|
| 11B | Ant1 | Low | 2412 | AV | 2310.000 | -49.93 | ≤-41.20 | PASS |
| | | | | AV | 2339.754 | -47.4 | ≤-41.20 | PASS |
| | | | | AV | 2390.000 | -49.68 | ≤-41.20 | PASS |
| | | | | Peak | 2310.000 | -37.64 | ≤-21.20 | PASS |
| | | | | Peak | 2377.435 | -32.8 | ≤-21.20 | PASS |
| | | | | Peak | 2390.000 | -39.46 | ≤-21.20 | PASS |
| | | High | 2462 | AV | 2483.500 | -48.48 | ≤-41.20 | PASS |
| | | | | AV | 2495.638 | -48.34 | ≤-41.20 | PASS |
| | | | | AV | 2500.000 | -49.08 | ≤-41.20 | PASS |
| | | | | Peak | 2483.500 | -31.34 | ≤-21.20 | PASS |
| | | | | Peak | 2483.841 | -31.26 | ≤-21.20 | PASS |
| | | | | Peak | 2500.000 | -36.9 | ≤-21.20 | PASS |
| 11G | Ant1 | Low | 2412 | AV | 2310.000 | -49.3 | ≤-41.20 | PASS |
| | | | | AV | 2389.870 | -46.6 | ≤-41.20 | PASS |
| | | | | AV | 2390.000 | -46.61 | ≤-41.20 | PASS |
| | | | | Peak | 2310.000 | -39.26 | ≤-21.20 | PASS |
| | | | | Peak | 2389.870 | -31.27 | ≤-21.20 | PASS |
| | | | | Peak | 2390.000 | -31.28 | ≤-21.20 | PASS |
| | | High | 2462 | AV | 2483.500 | -42.91 | ≤-41.20 | PASS |
| | | | | AV | 2483.522 | -42.91 | ≤-41.20 | PASS |
| | | | | AV | 2500.000 | -48.01 | ≤-41.20 | PASS |
| | | | | Peak | 2483.500 | -28.5 | ≤-21.20 | PASS |
| | | | | Peak | 2484.478 | -27.58 | ≤-21.20 | PASS |
| | | | | Peak | 2500.000 | -38.2 | ≤-21.20 | PASS |
| 11N20SISO | Ant1 | Low | 2412 | AV | 2310.000 | -49.3 | ≤-41.20 | PASS |
| | | | | AV | 2389.870 | -46.05 | ≤-41.20 | PASS |
| | | | | AV | 2390.000 | -46.11 | ≤-41.20 | PASS |
| | | | | Peak | 2310.000 | -39.05 | ≤-21.20 | PASS |
| | | | | Peak | 2389.870 | -32.15 | ≤-21.20 | PASS |
| | | | | Peak | 2390.000 | -32.08 | ≤-21.20 | PASS |
| | | High | 2462 | AV | 2483.500 | -42.09 | ≤-41.20 | PASS |
| | | | | AV | 2483.522 | -42.09 | ≤-41.20 | PASS |
| | | | | AV | 2500.000 | -48.3 | ≤-41.20 | PASS |
| | | | | Peak | 2483.500 | -26.42 | ≤-21.20 | PASS |
| | | | | Peak | 2483.522 | -26.42 | ≤-21.20 | PASS |
| | | | | Peak | 2500.000 | -37.26 | ≤-21.20 | PASS |

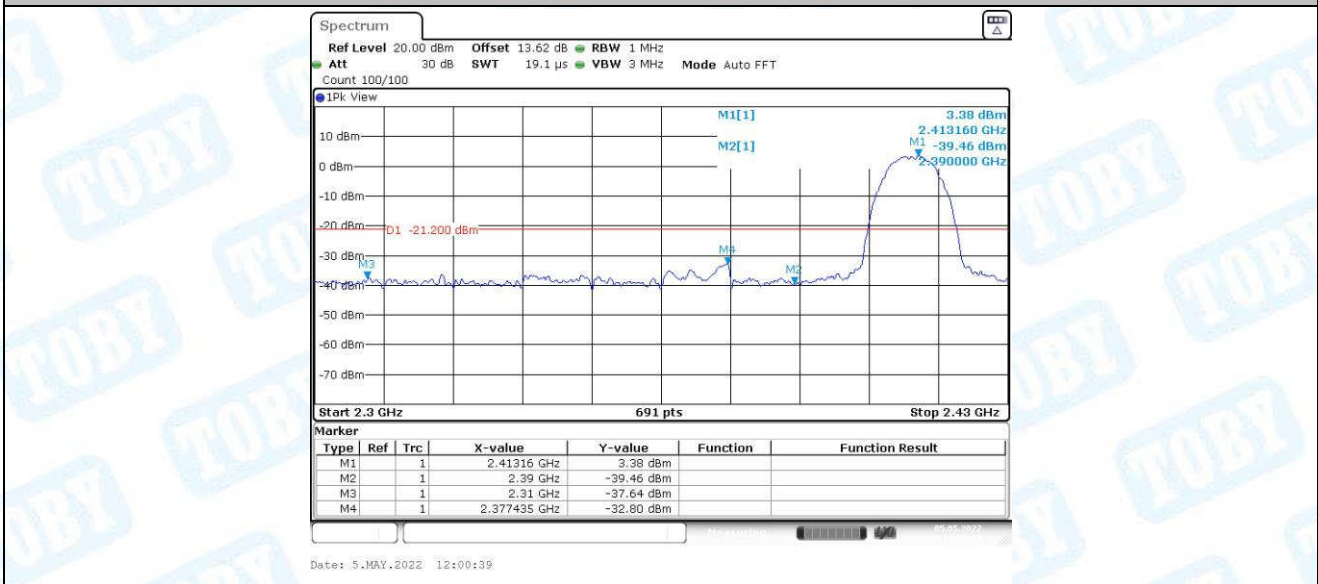
Note:

- The Antenna Gain is compensated in the graph.
- The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

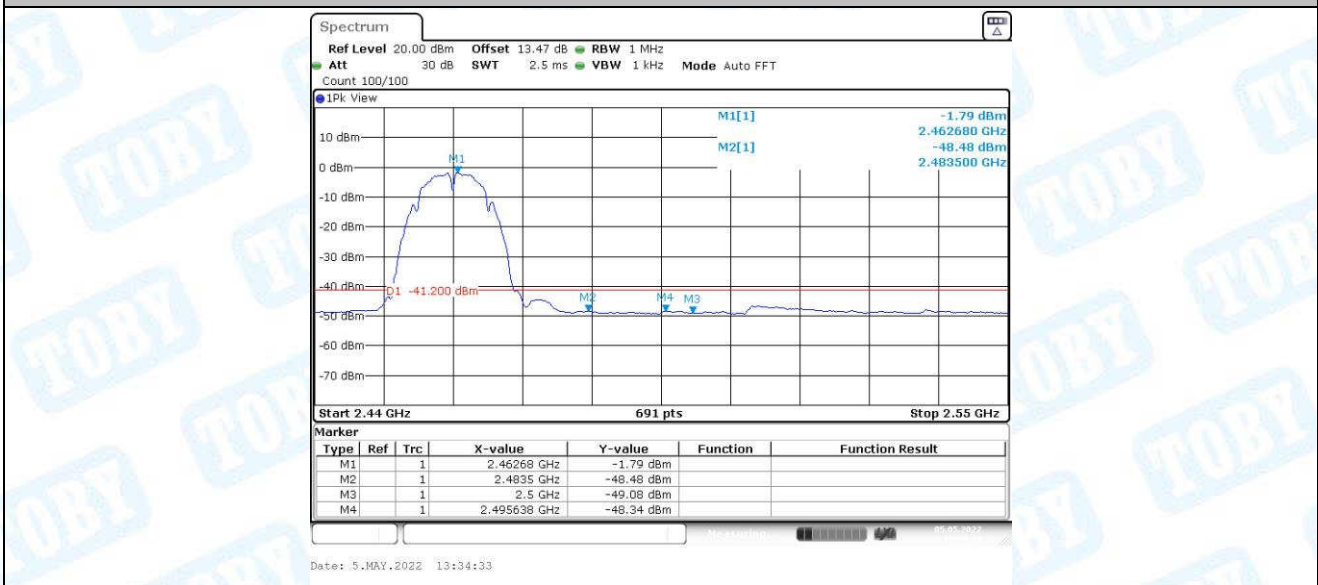
8.2. Test Graphs



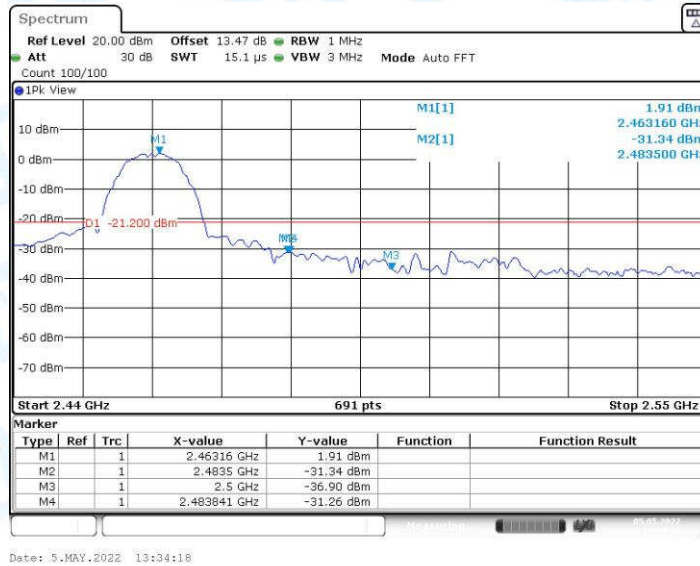
11B_Ant1_Low_2412_AV



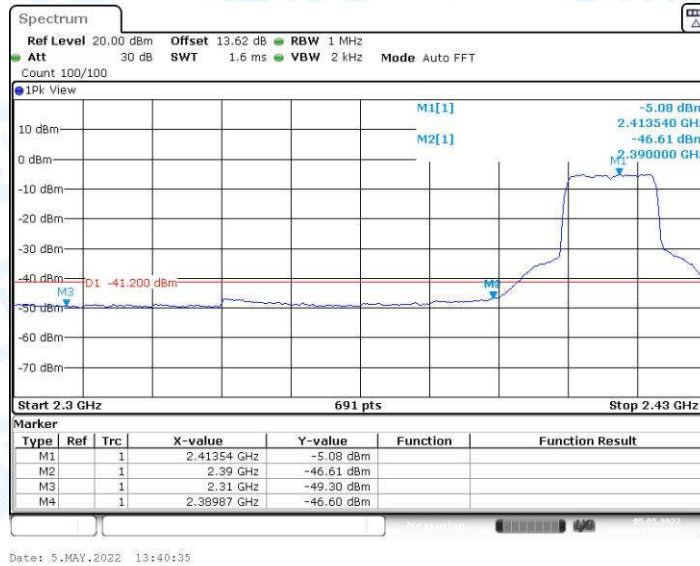
11B_Ant1_Low_2412_Peak



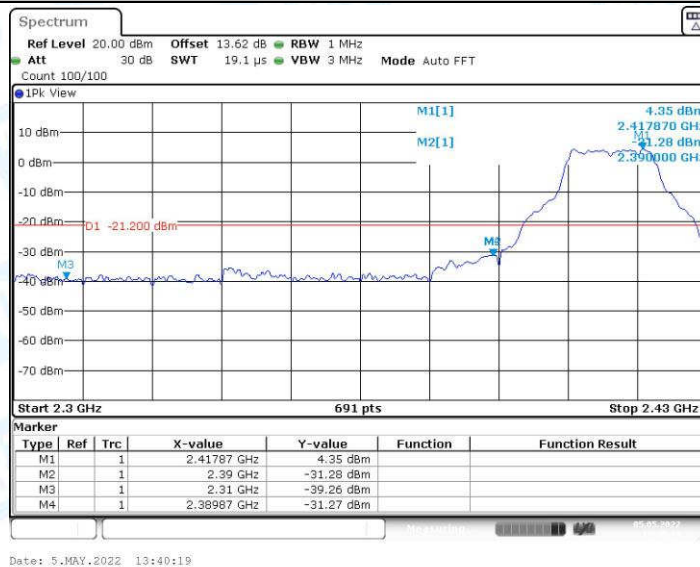
11B_Ant1_High_2462_AV



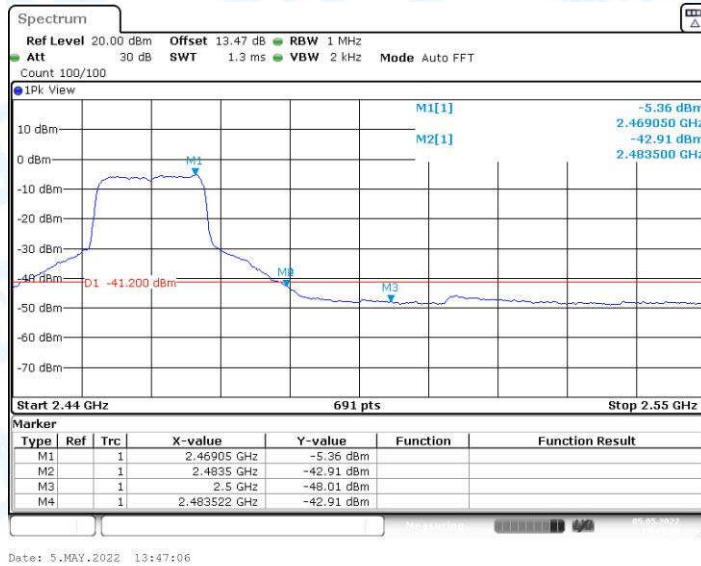
11B_Ant1_High_2462_Peak



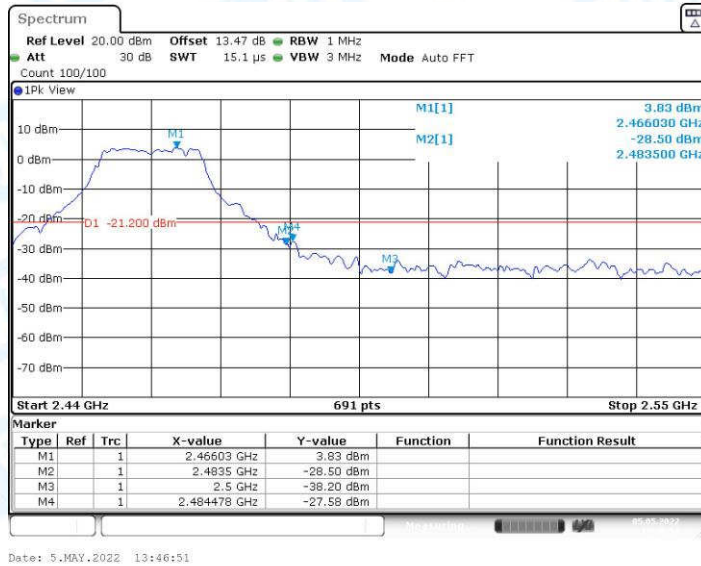
11G_Ant1_Low_2412_AV



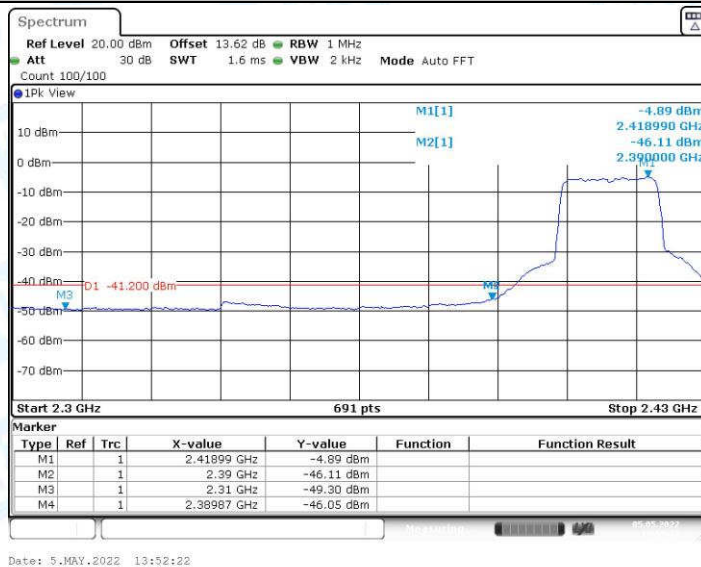
11G_Ant1_Low_2412_Peak



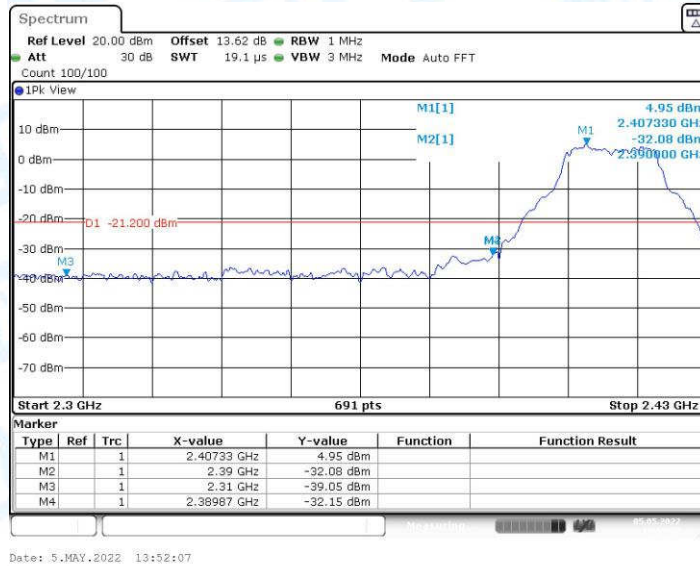
11G_Ant1_High_2462_AV



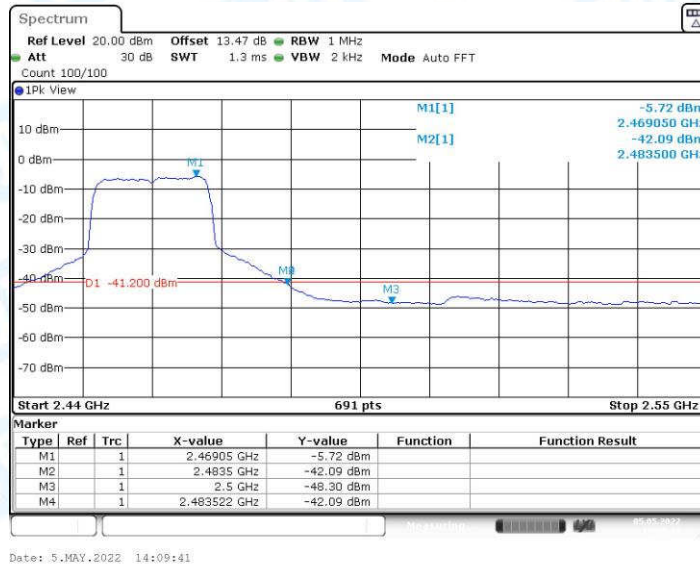
11G_Ant1_High_2462_Peak



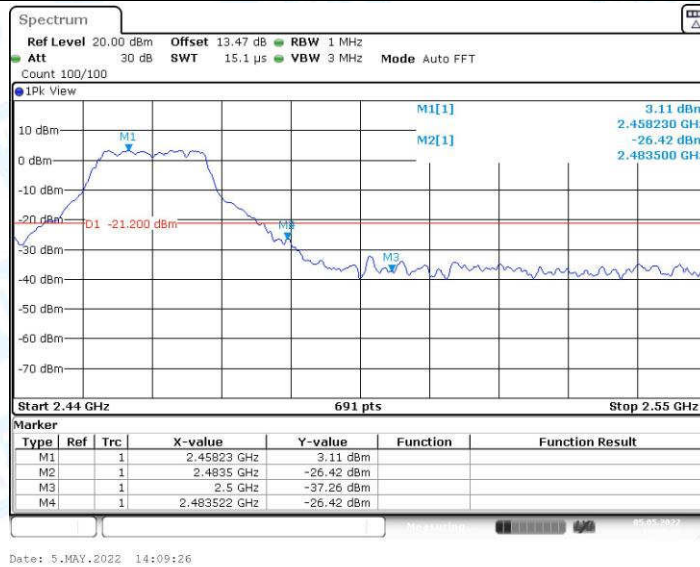
11N20SISO_Ant1_Low_2412_AV



11N20SISO_Ant1_Low_2412_Peak



11N20SISO_Ant1_High_2462_AV



11N20SISO_Ant1_High_2462_Peak

-----End of the report-----