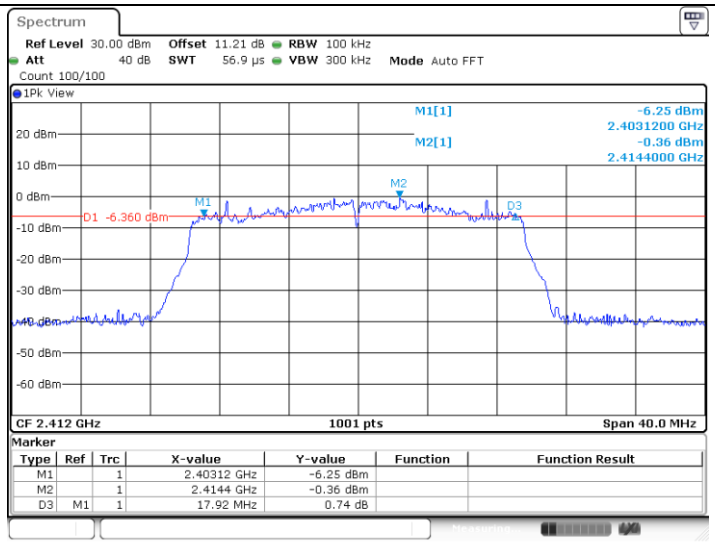
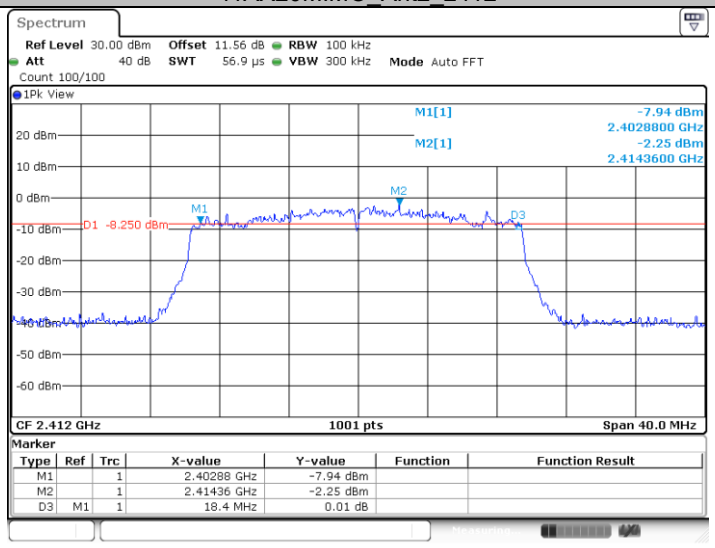
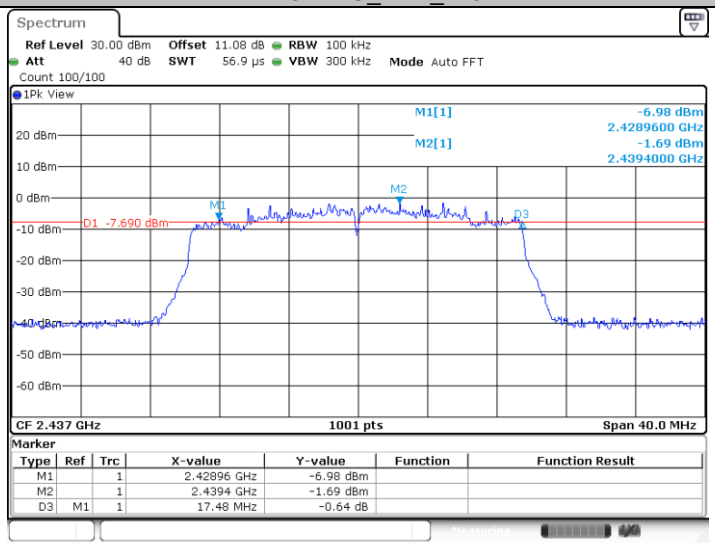


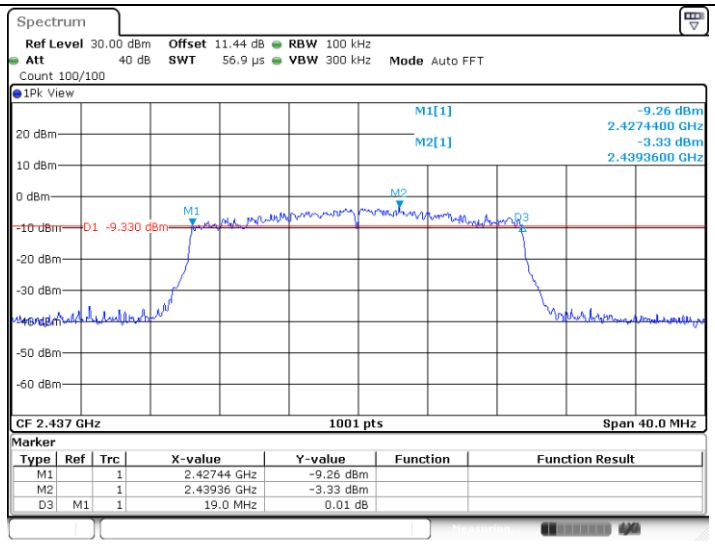

11AX20MIMO_Ant2_2412



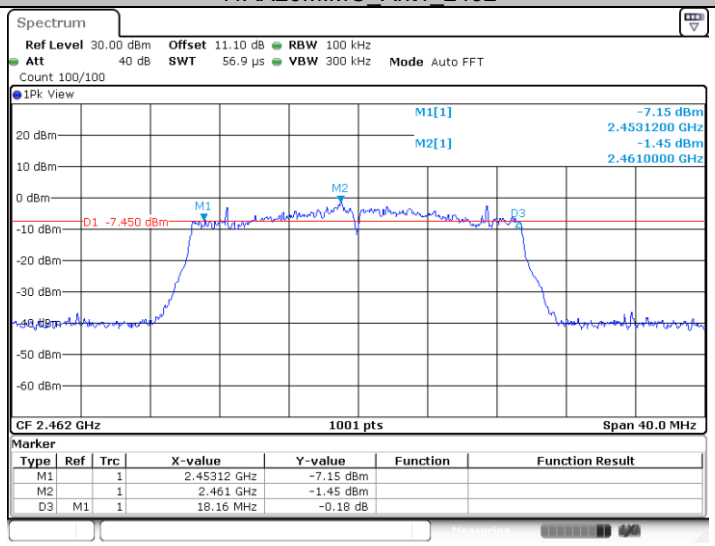

11AX20MIMO_Ant1_2437



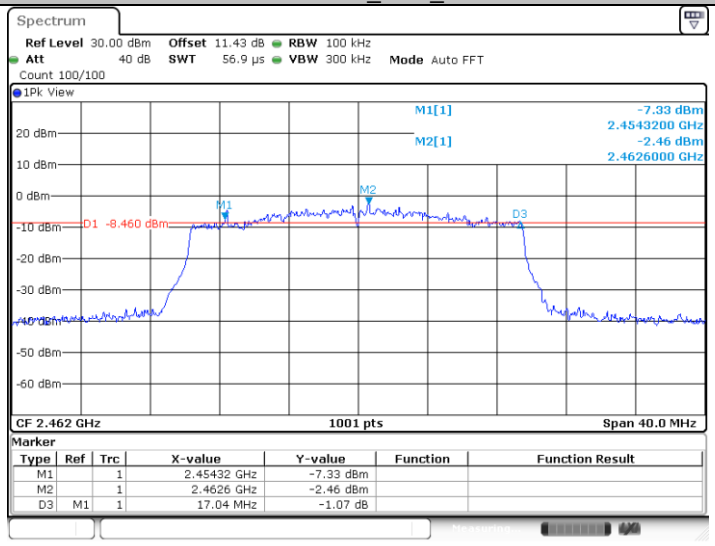

11AX20MIMO_Ant2_2437




11AX20MIMO_Ant1_2462




11AX20MIMO_Ant2_2462



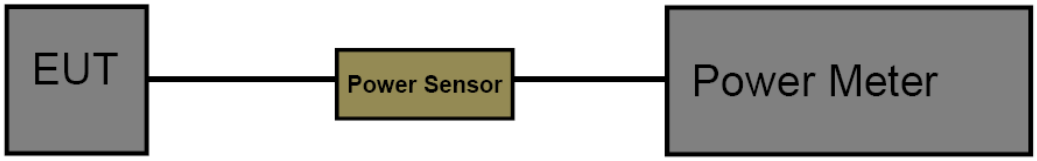
## 3.6. Peak Output Power

**Limit**

**FCC CFR Title 47 Part 15 Subpart C Section 15.247 (b)(3)**

| Section | Test Item | Limit | Frequency Range (MHz) |
|---|---|---|---|
| FCC CFR 47 Part15.247 (b)(3) | Maximum Conducted Output Power | 1 Watt or 30dBm | 2400~2483.5 |

**Test Configuration**




**Test Procedure**

1. The maximum conducted output power may be measured using a broadband RF power meter.
2. Power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor.
3. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter.
4. Record the measurement data.

**Test Mode**

Please refer to the clause 2.4.

**Test Result**

| Test Mode | Antenna | Frequency[MHz] | Result [dBm] | Limit [dBm] |
|---|---|---|---|---|
| 11B | Ant1 | 2412 | 19.31 | ≤30.00 |
| | Ant2 | 2412 | 18.44 | ≤30.00 |
| | Ant1 | 2437 | 18.38 | ≤30.00 |
| | Ant2 | 2437 | 18.00 | ≤30.00 |
| | Ant1 | 2462 | 18.24 | ≤30.00 |
| | Ant2 | 2462 | 18.27 | ≤30.00 |
| 11G | Ant1 | 2412 | 22.24 | ≤30.00 |
| | Ant2 | 2412 | 21.55 | ≤30.00 |
| | Ant1 | 2437 | 21.81 | ≤30.00 |
| | Ant2 | 2437 | 22.30 | ≤30.00 |
| | Ant1 | 2462 | 21.63 | ≤30.00 |
| | Ant2 | 2462 | 21.70 | ≤30.00 |
| 11N20MIMO | Ant1 | 2412 | 18.21 | ≤30.00 |
| | Ant2 | 2412 | 17.90 | ≤30.00 |
| | total | 2412 | 21.07 | ≤30.00 |
| | Ant1 | 2437 | 17.77 | ≤30.00 |
| | Ant2 | 2437 | 17.63 | ≤30.00 |
| | total | 2437 | 20.71 | ≤30.00 |
| | Ant1 | 2462 | 17.74 | ≤30.00 |
| | Ant2 | 2462 | 17.07 | ≤30.00 |
| | total | 2462 | 20.43 | ≤30.00 |
| 11AX20MIMO | Ant1 | 2412 | 16.97 | ≤30.00 |
| | Ant2 | 2412 | 16.32 | ≤30.00 |
| | total | 2412 | 19.67 | ≤30.00 |
| | Ant1 | 2437 | 17.47 | ≤30.00 |
| | Ant2 | 2437 | 17.20 | ≤30.00 |
| | total | 2437 | 20.35 | ≤30.00 |
| | Ant1 | 2462 | 17.44 | ≤30.00 |
| | Ant2 | 2462 | 16.64 | ≤30.00 |
| | total | 2462 | 20.07 | ≤30.00 |

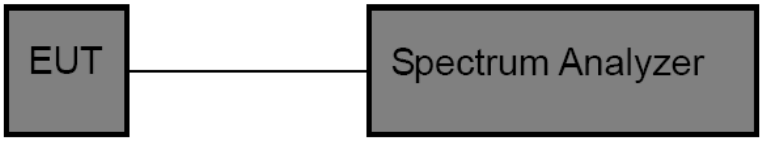
## 3.7. Power Spectral Density

**Limit**

**FCC CFR Title 47 Part 15 Subpart C Section 15.247 (e)**

| Test Item | Limit | Frequency Range (MHz) |
|---|---|---|
| Power Spectral Density | 8 dBm (in any 3 kHz) | 2400~2483.5 |

**Test Configuration**




**Test Procedure**

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v05r02.
3. Spectrum Setting:

Set analyzer center frequency to DTS channel center frequency.
Set the span to 1.5 times the DTS bandwidth.
Set the RBW to: 3 kHz.
Set the VBW to: 10 kHz.
Detector: peak.
Sweep time: auto.
Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

**Test Mode**

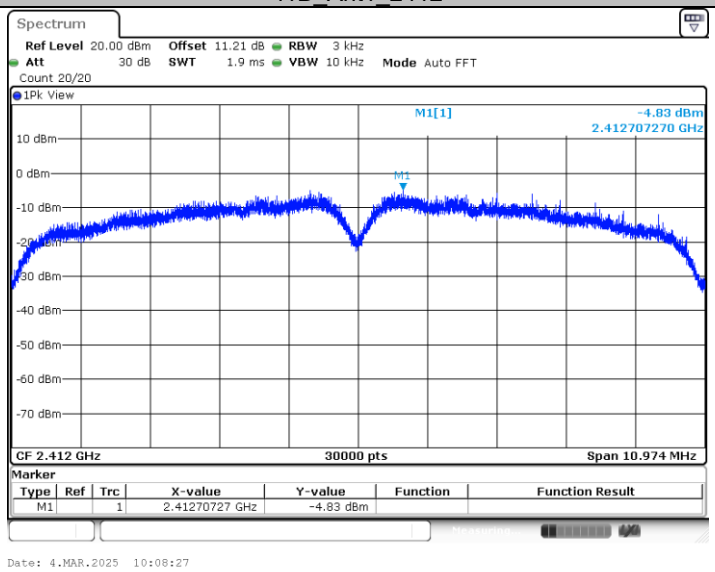
Please refer to the clause 2.4.

**Test Result**

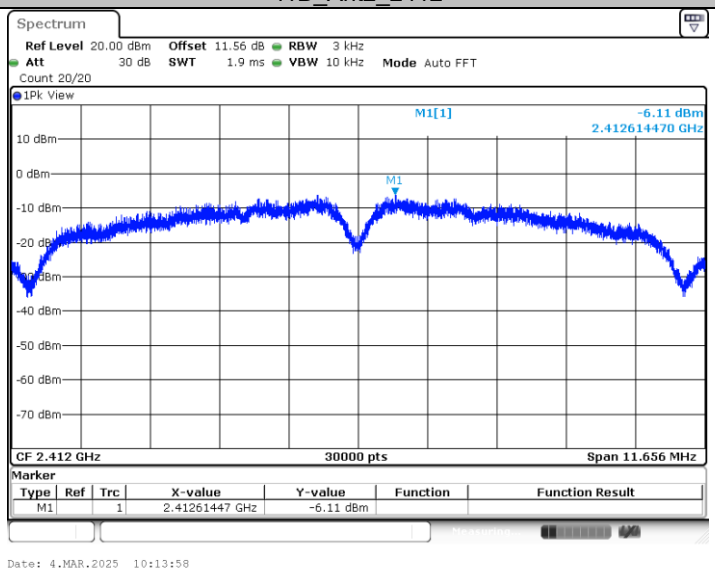
| TestMode | Antenna | Frequency[MHz] | Result[dBm/3-100kHz] | Limit[dBm/3kHz] | Verdict |
|---|---|---|---|---|---|
| 11B | Ant1 | 2412 | -4.83 | ≤8.00 | PASS |
| | Ant2 | 2412 | -6.11 | ≤8.00 | PASS |
| | Ant1 | 2437 | -5.24 | ≤8.00 | PASS |
| | Ant2 | 2437 | -6.60 | ≤8.00 | PASS |
| | Ant1 | 2462 | -6.56 | ≤8.00 | PASS |
| | Ant2 | 2462 | -5.89 | ≤8.00 | PASS |
| 11G | Ant1 | 2412 | -9.16 | ≤8.00 | PASS |
| | Ant2 | 2412 | -9.38 | ≤8.00 | PASS |
| | Ant1 | 2437 | -9.26 | ≤8.00 | PASS |
| | Ant2 | 2437 | -8.96 | ≤8.00 | PASS |
| | Ant1 | 2462 | -9.33 | ≤8.00 | PASS |
| | Ant2 | 2462 | -10.30 | ≤8.00 | PASS |
| 11N20MIMO | Ant1 | 2412 | -13.72 | ≤8.00 | PASS |
| | Ant2 | 2412 | -13.86 | ≤8.00 | PASS |
| | total | 2412 | -10.78 | ≤8.00 | PASS |
| | Ant1 | 2437 | -13.79 | ≤8.00 | PASS |
| | Ant2 | 2437 | -13.82 | ≤8.00 | PASS |
| | total | 2437 | -10.79 | ≤8.00 | PASS |
| | Ant1 | 2462 | -13.42 | ≤8.00 | PASS |
| | Ant2 | 2462 | -14.59 | ≤8.00 | PASS |
| | total | 2462 | -10.96 | ≤8.00 | PASS |
| 11AX20MIMO | Ant1 | 2412 | -15.23 | ≤8.00 | PASS |
| | Ant2 | 2412 | -16.19 | ≤8.00 | PASS |
| | total | 2412 | -12.67 | ≤8.00 | PASS |
| | Ant1 | 2437 | -15.11 | ≤8.00 | PASS |
| | Ant2 | 2437 | -13.69 | ≤8.00 | PASS |
| | total | 2437 | -11.33 | ≤8.00 | PASS |
| | Ant1 | 2462 | -15.17 | ≤8.00 | PASS |
| | Ant2 | 2462 | -15.99 | ≤8.00 | PASS |
| | total | 2462 | -12.55 | ≤8.00 | PASS |

Test plot as follows:

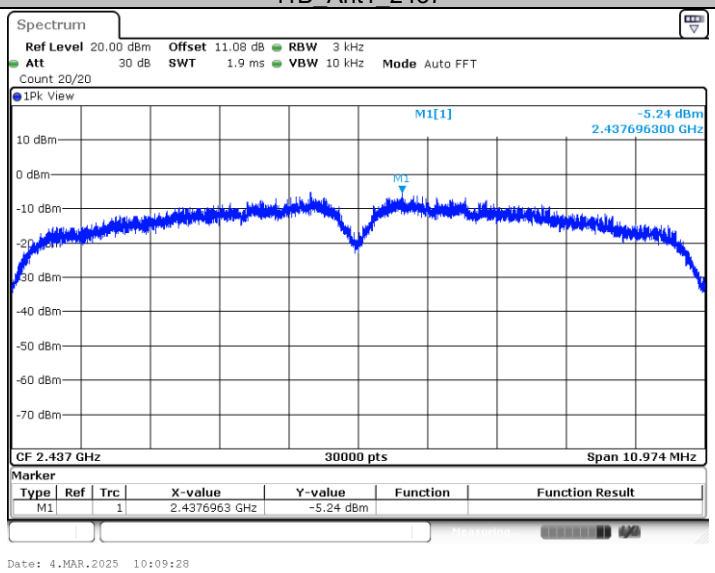
11B_Ant1_2412



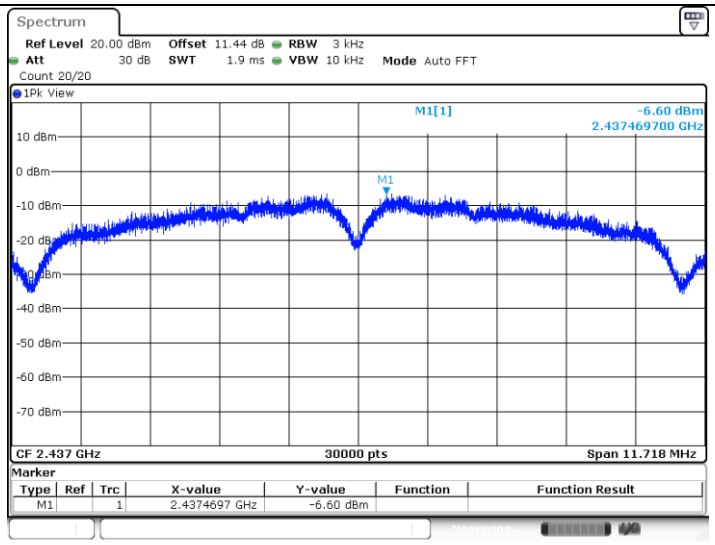

11B_Ant2_2412




11B_Ant1_2437




11B_Ant2_2437

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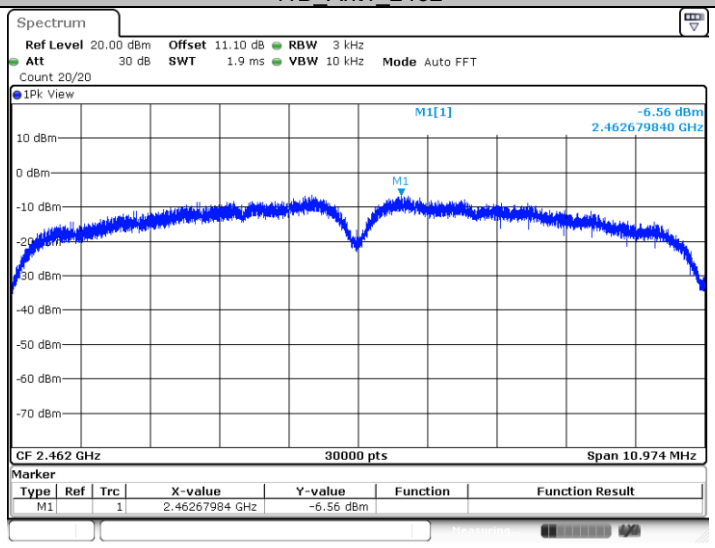


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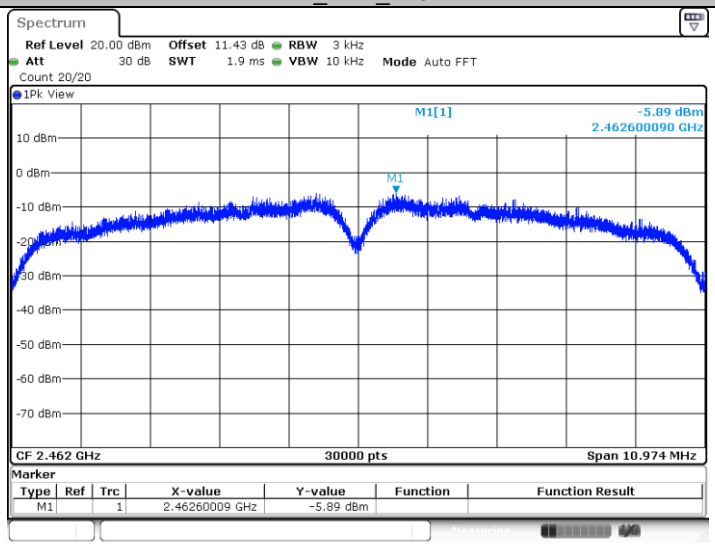
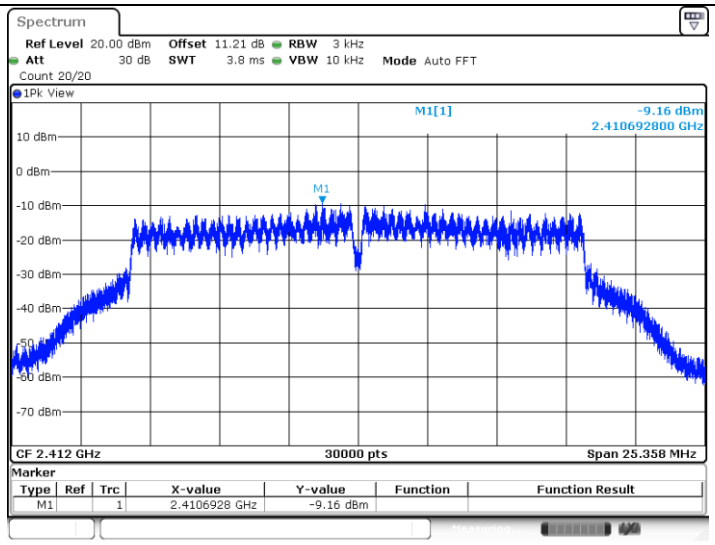
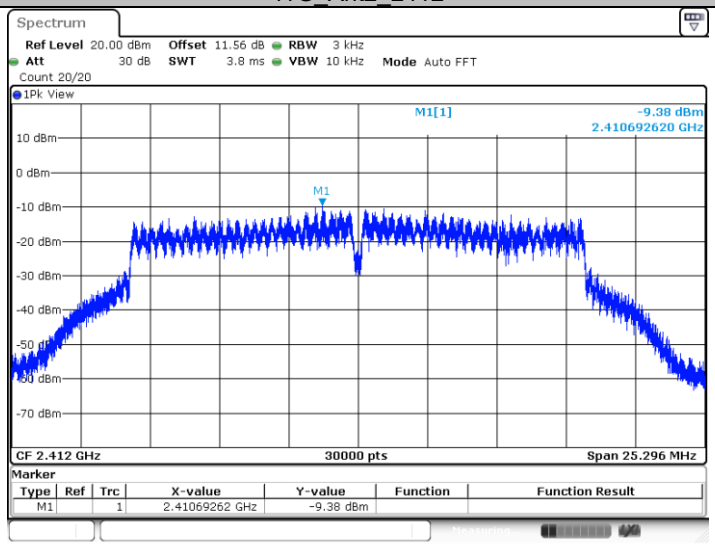



11G_Ant1_2412




11G_Ant2_2412

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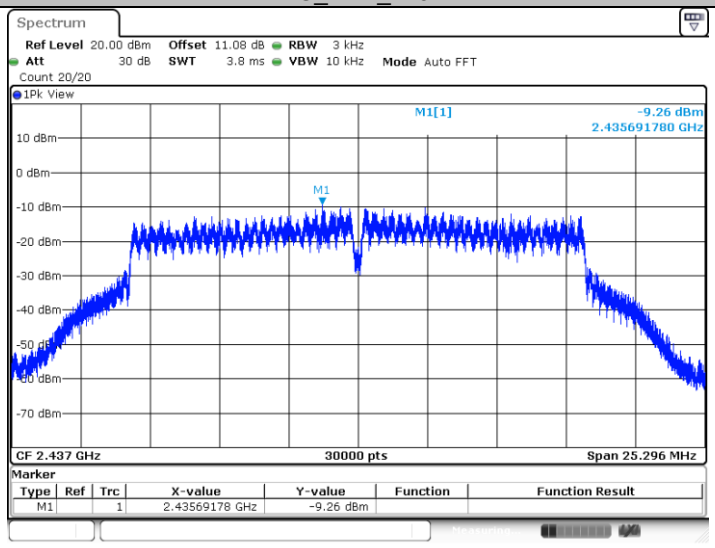


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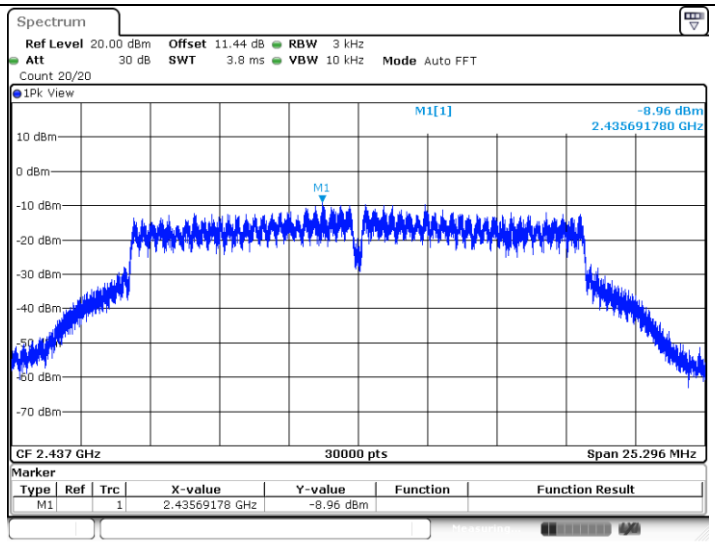
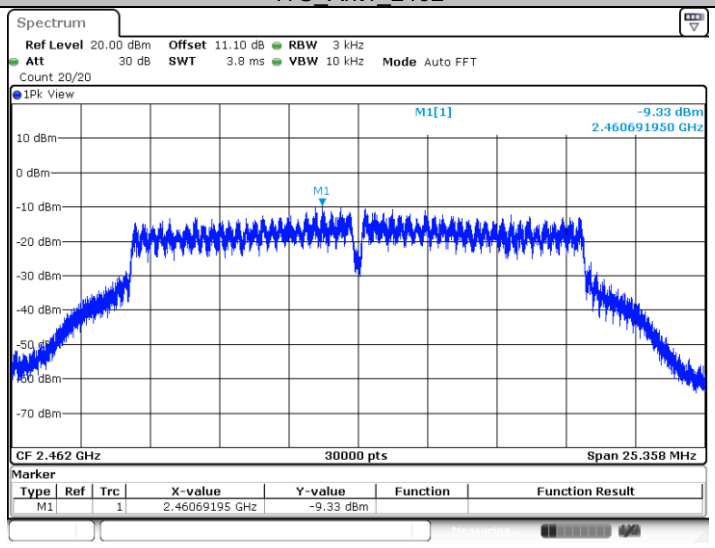
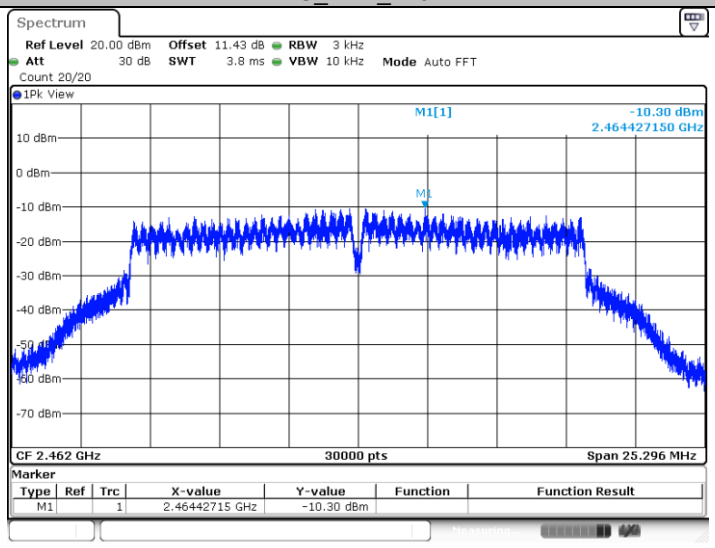


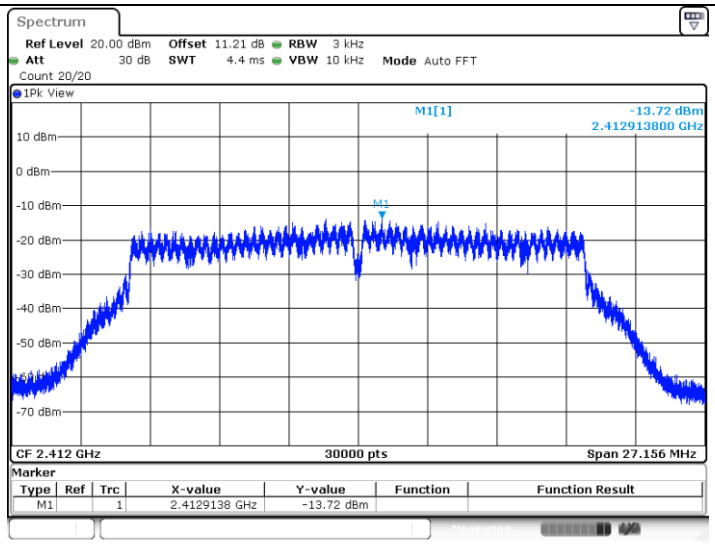

11G_Ant1_2462



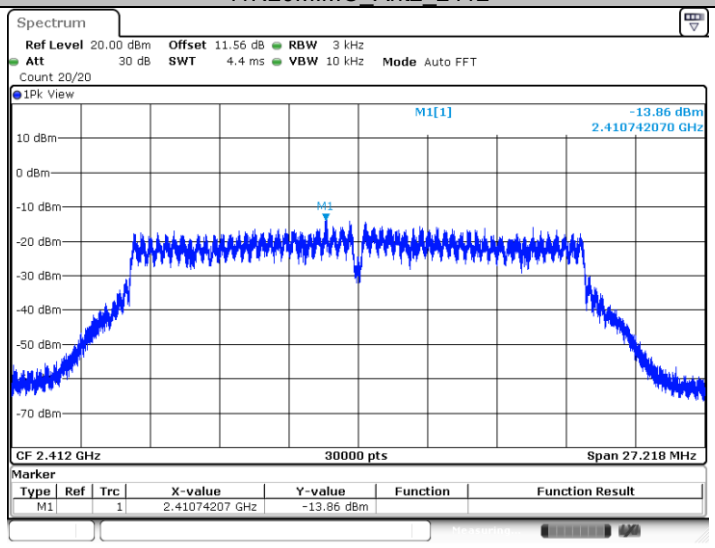

11G_Ant2_2462




11N20MIMO_Ant1_2412




11N20MIMO_Ant2_2412

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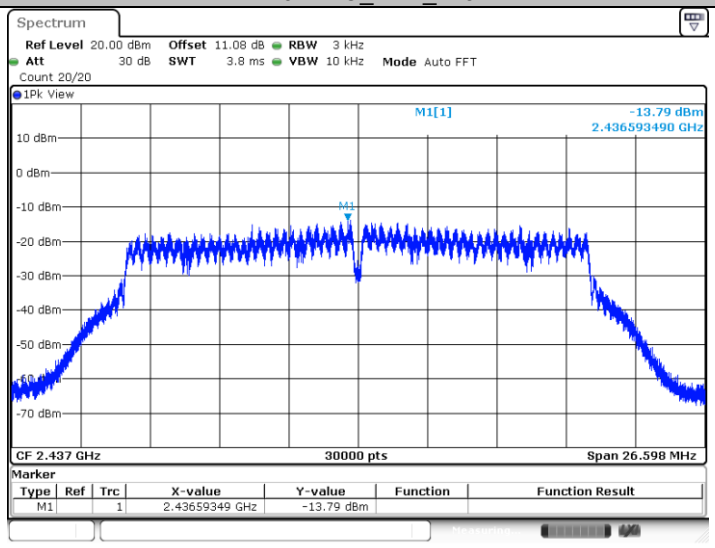
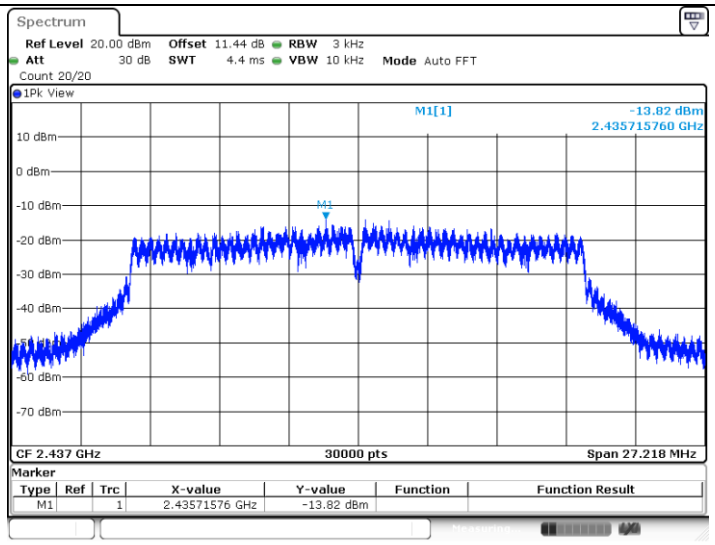
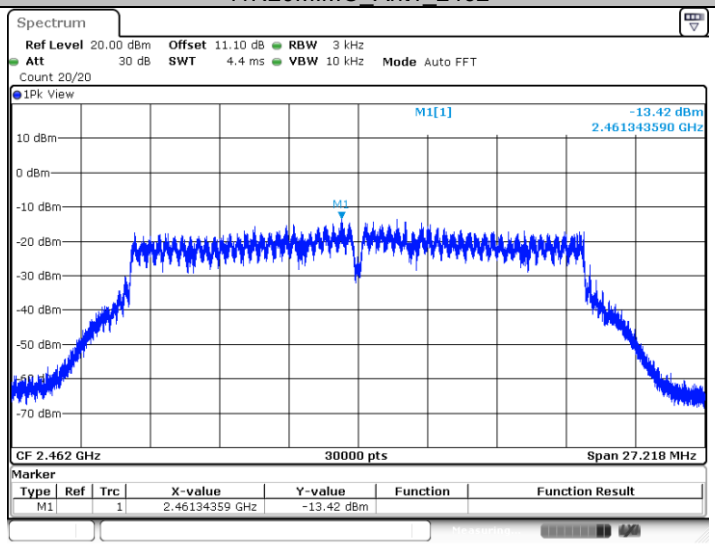


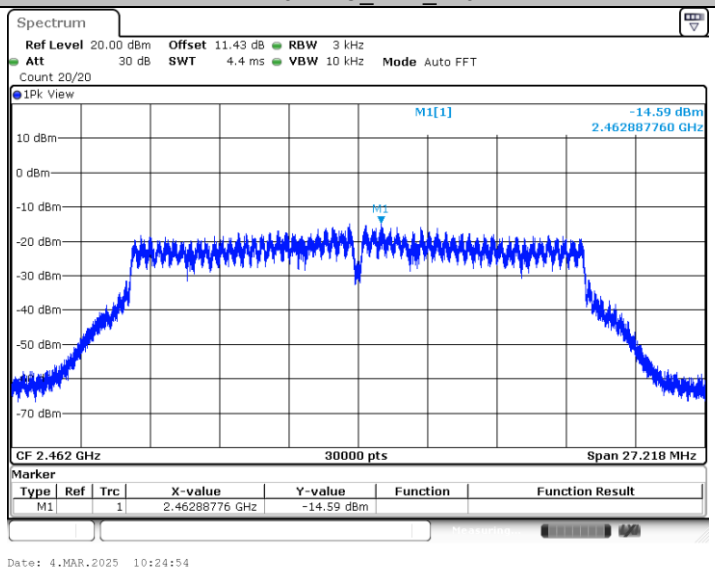

11N20MIMO_Ant2_2437



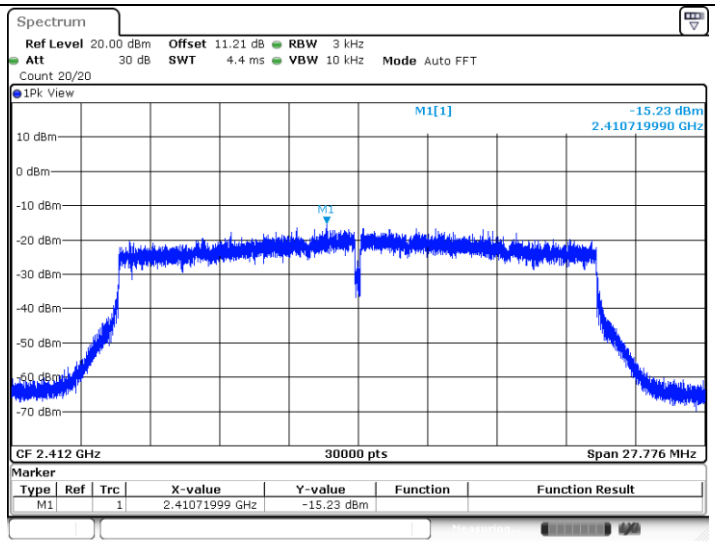

11N20MIMO_Ant1_2462



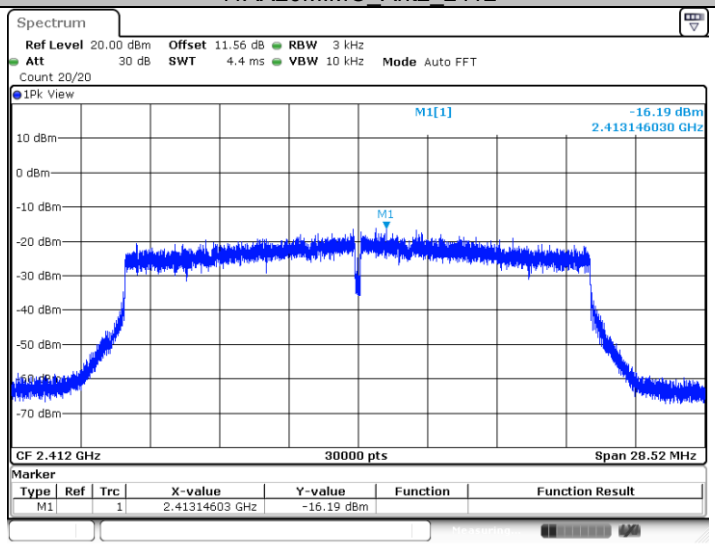

11N20MIMO_Ant2_2462



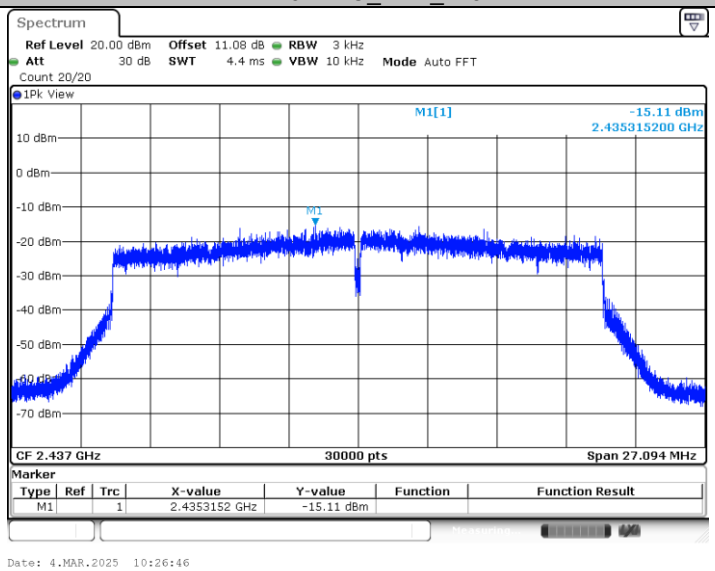

11AX20MIMO_Ant1_2412



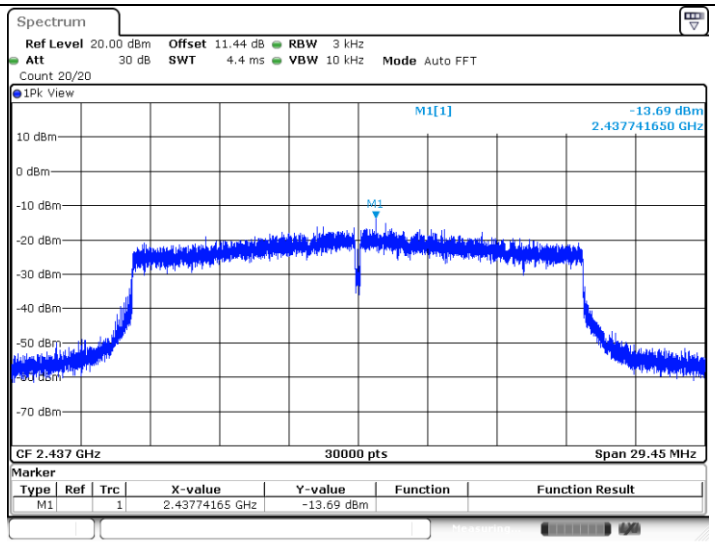

11AX20MIMO_Ant2_2412



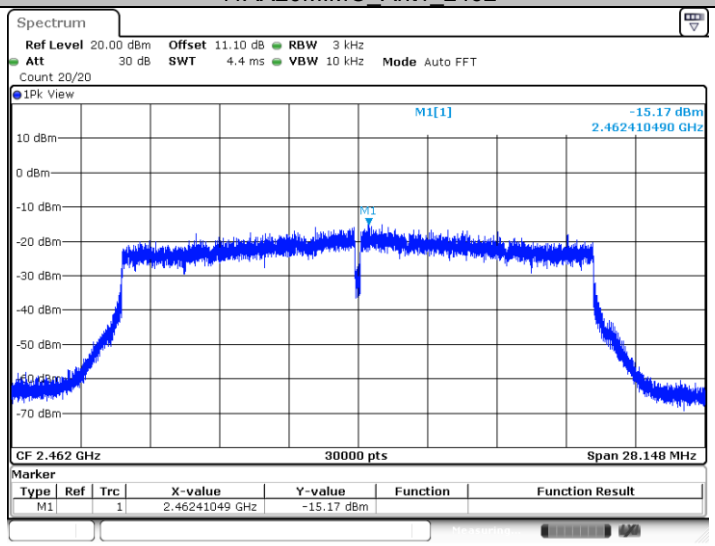

11AX20MIMO_Ant1_2437



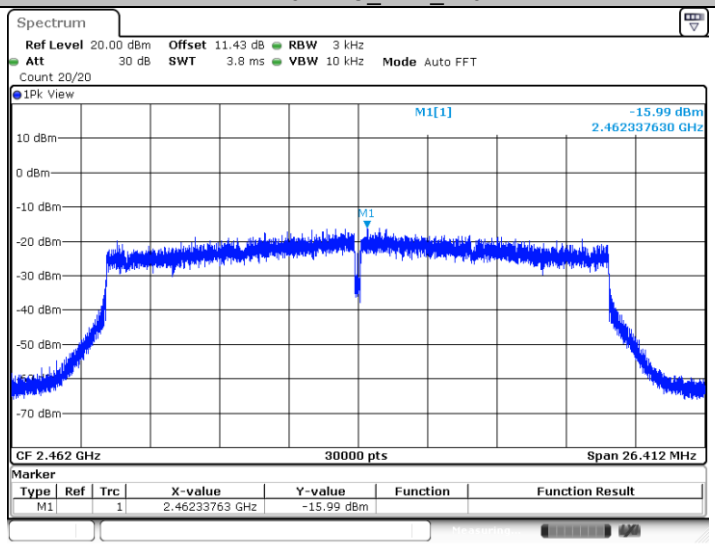

11AX20MIMO_Ant2_2437




11AX20MIMO_Ant1_2462




11AX20MIMO_Ant2_2462

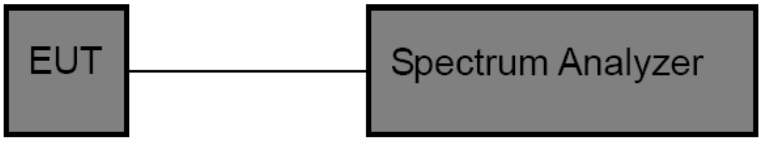


## 3.8. Duty Cycle

**Limit**

None, for report purposes only.

**Test Configuration**




**Test Procedure**

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
2. The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v05r02.
3. Spectrum Setting:

Set analyzer center frequency to test channel center frequency.
Set the span to 0Hz.
Set the RBW to 10MHz.
Set the VBW to 10MHz.
Detector: Peak.
Sweep time: Auto.
Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

**Test Mode**

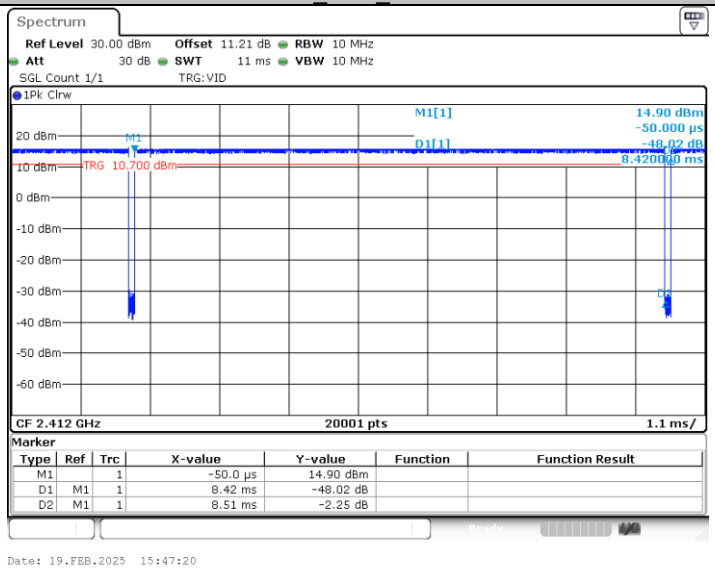
Please refer to the clause 2.4.

**Test Result**

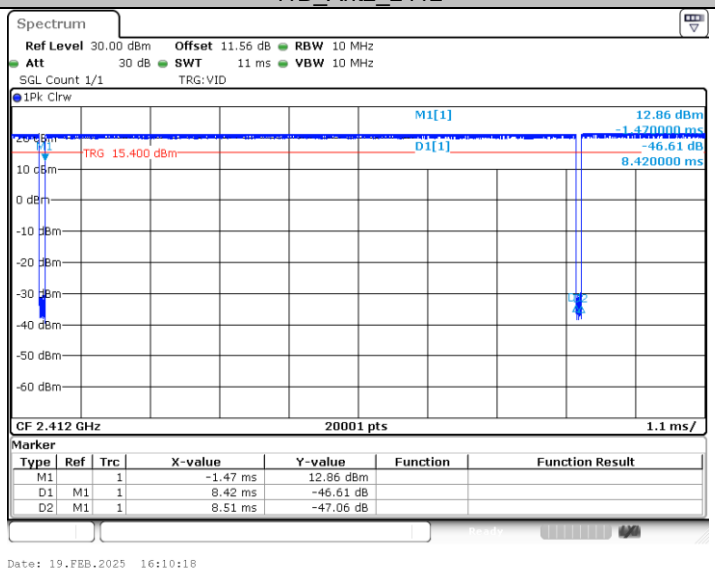
| TestMode | Antenna | Frequency[MHz] | Transmission Duration [ms] | Transmission Period [ms] | Duty Cycle [%] | 1/T Minimum VBW (kHz) | Final Setting for VBW (kHz) |
|---|---|---|---|---|---|---|---|
| 11B | Ant1 | 2412 | 8.42 | 8.51 | 98.94 | 0.12 | 1 |
| | Ant2 | 2412 | 8.42 | 8.51 | 98.94 | 0.12 | 1 |
| | Ant1 | 2437 | 8.41 | 8.51 | 98.82 | 0.12 | 1 |
| | Ant2 | 2437 | 8.41 | 8.51 | 98.82 | 0.12 | 1 |
| | Ant1 | 2462 | 8.42 | 8.51 | 98.94 | 0.12 | 1 |
| | Ant2 | 2462 | 8.41 | 8.51 | 98.82 | 0.12 | 1 |
| 11G | Ant1 | 2412 | 1.39 | 1.49 | 93.29 | 0.72 | 1 |
| | Ant2 | 2412 | 1.40 | 1.50 | 93.33 | 0.71 | 1 |
| | Ant1 | 2437 | 1.39 | 1.49 | 93.29 | 0.72 | 1 |
| | Ant2 | 2437 | 1.40 | 1.50 | 93.33 | 0.71 | 1 |
| | Ant1 | 2462 | 1.40 | 1.50 | 93.33 | 0.71 | 1 |
| | Ant2 | 2462 | 1.40 | 1.50 | 93.33 | 0.71 | 1 |
| 11N20MIMO | Ant1 | 2412 | 0.67 | 0.77 | 87.01 | 1.49 | 2 |
| | Ant2 | 2412 | 0.67 | 0.77 | 87.01 | 1.49 | 2 |
| | Ant1 | 2437 | 0.68 | 0.78 | 87.18 | 1.47 | 2 |
| | Ant2 | 2437 | 0.68 | 0.78 | 87.18 | 1.47 | 2 |
| | Ant1 | 2462 | 0.68 | 0.78 | 87.18 | 1.47 | 2 |
| | Ant2 | 2462 | 0.68 | 0.78 | 87.18 | 1.47 | 2 |
| 11AX20MIMO | Ant1 | 2412 | 1.02 | 1.12 | 91.07 | 0.98 | 1 |
| | Ant2 | 2412 | 1.02 | 1.12 | 91.07 | 0.98 | 1 |
| | Ant1 | 2437 | 1.02 | 1.12 | 91.07 | 0.98 | 1 |
| | Ant2 | 2437 | 1.02 | 1.12 | 91.07 | 0.98 | 1 |
| | Ant1 | 2462 | 1.03 | 1.13 | 91.15 | 0.97 | 1 |
| | Ant2 | 2462 | 1.03 | 1.13 | 91.15 | 0.97 | 1 |

Test plot as follows:

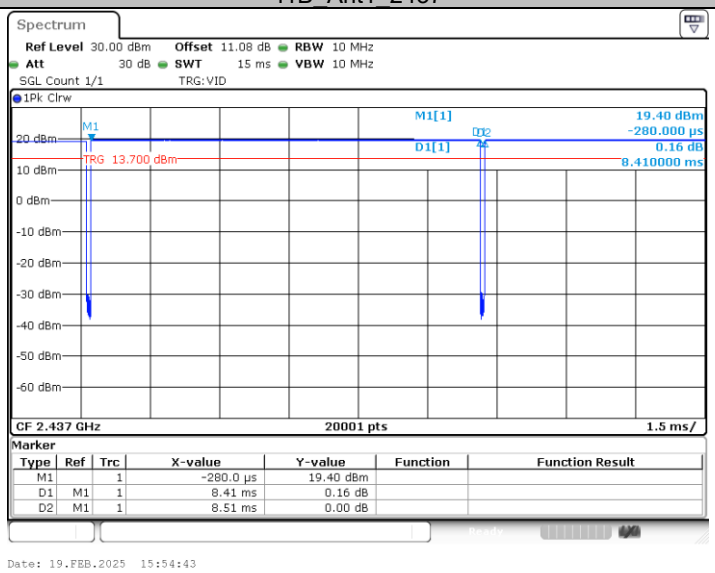
11B_Ant1_2412




11B_Ant2_2412




11B_Ant1_2437

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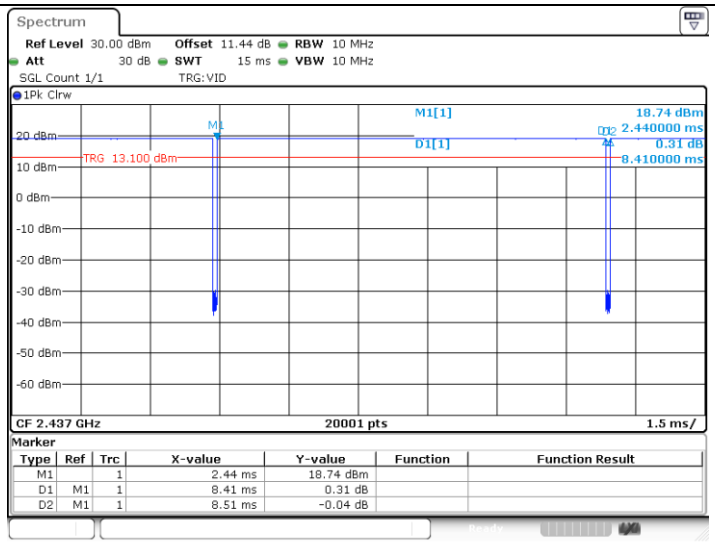


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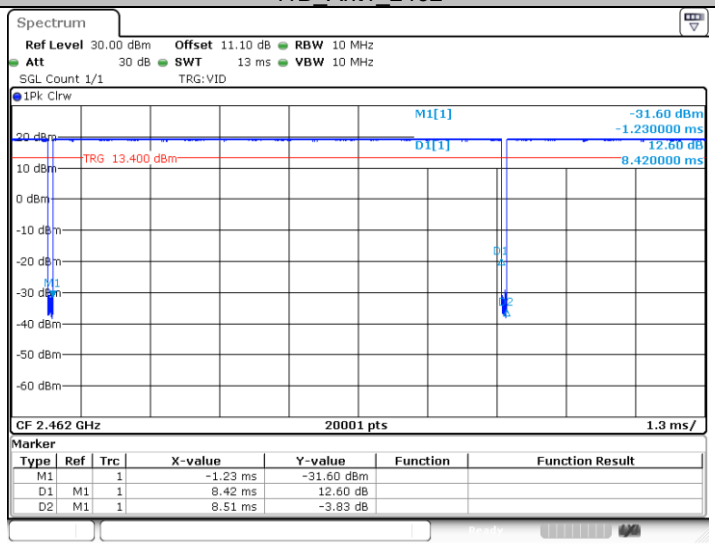


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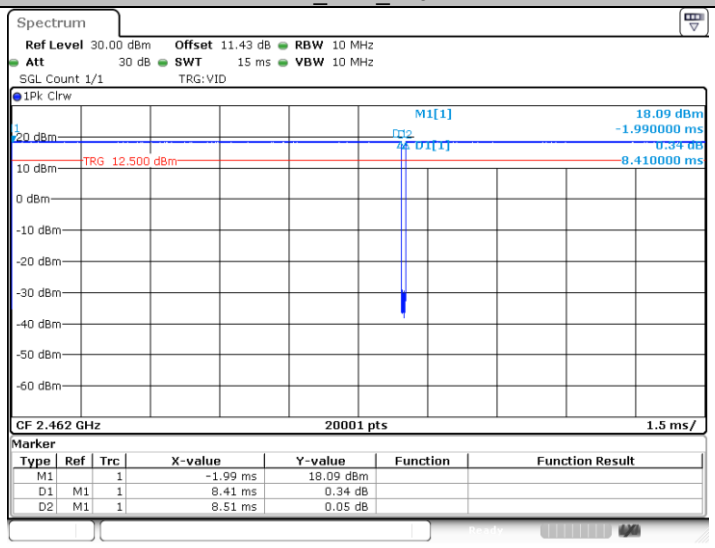


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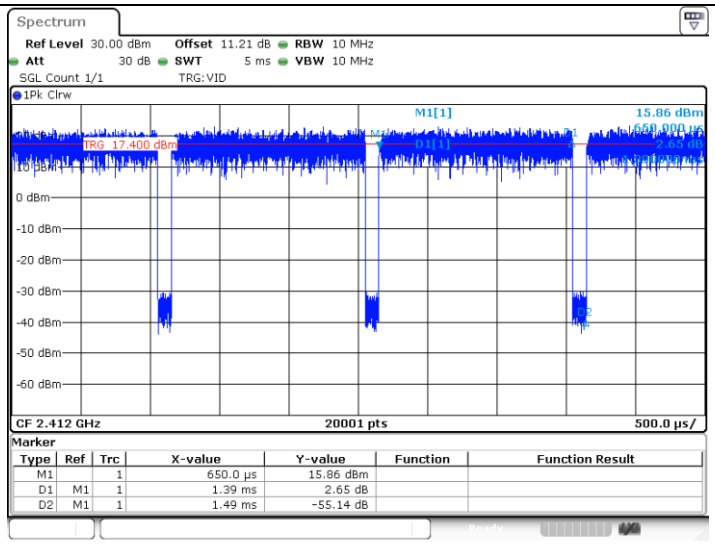


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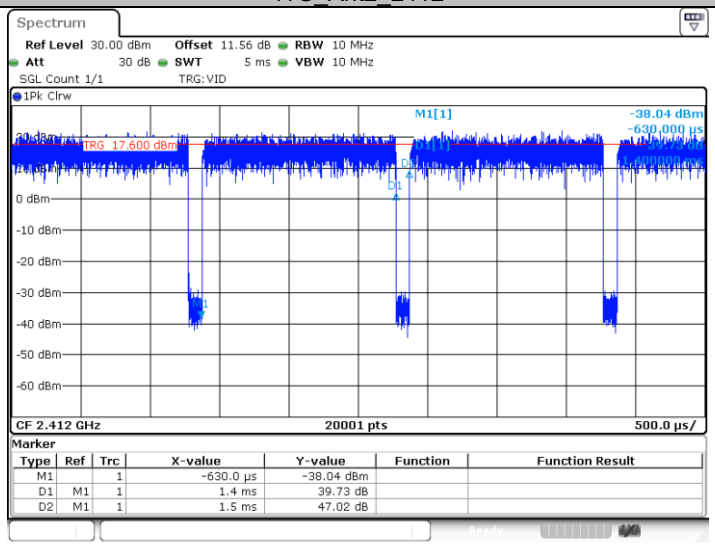


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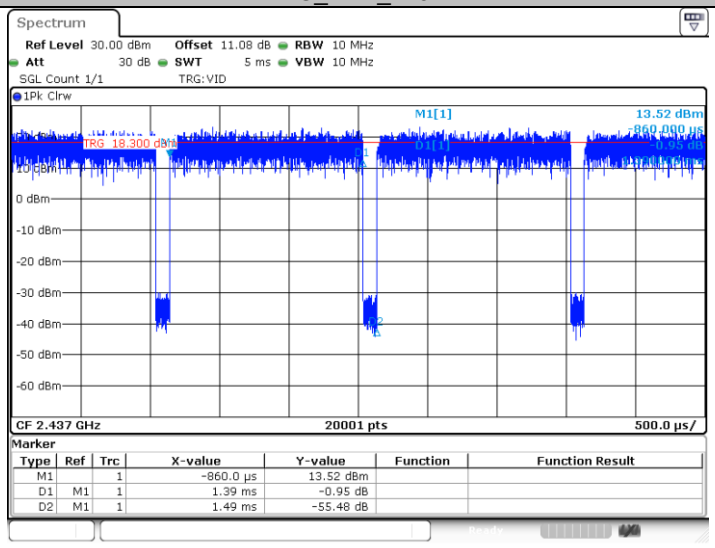


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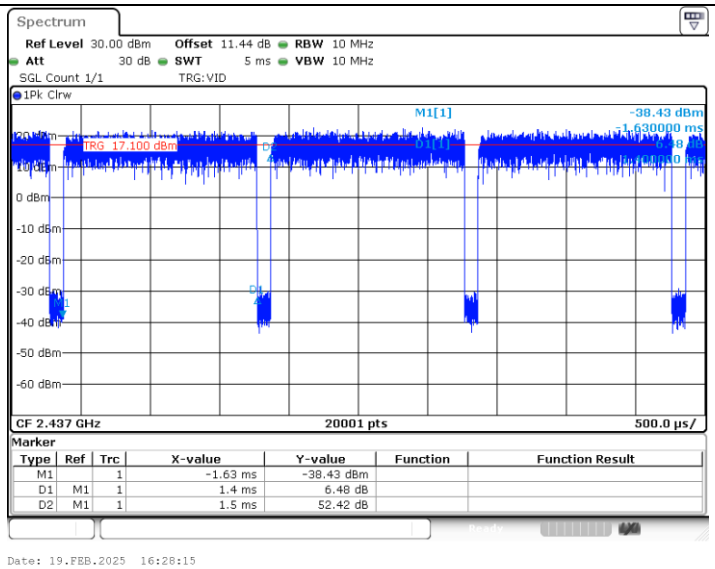


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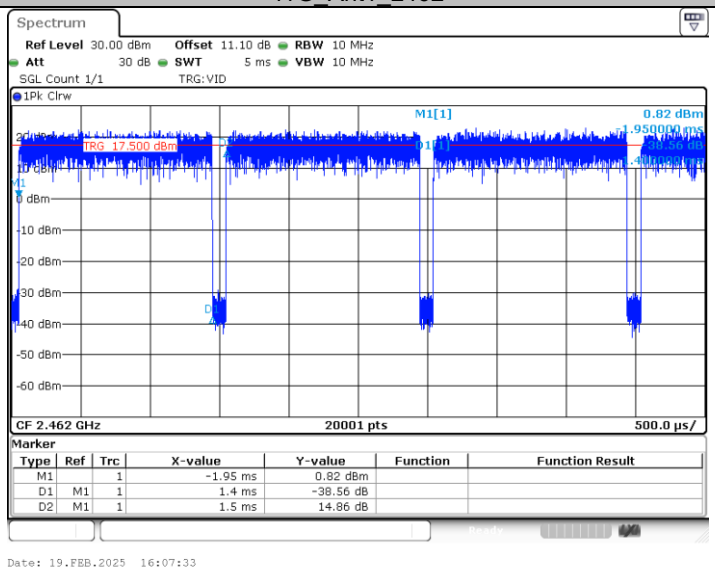


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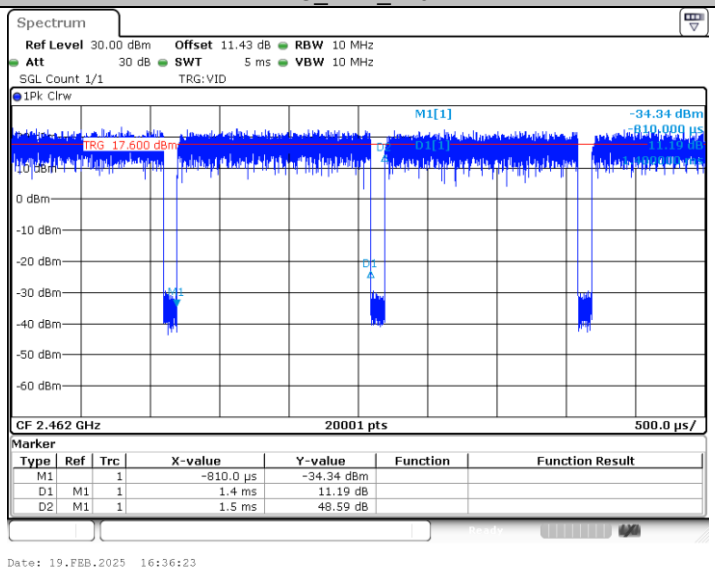


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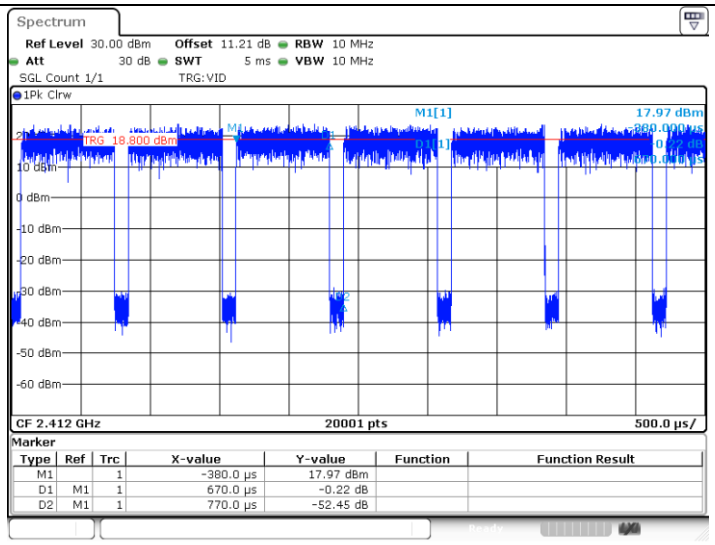


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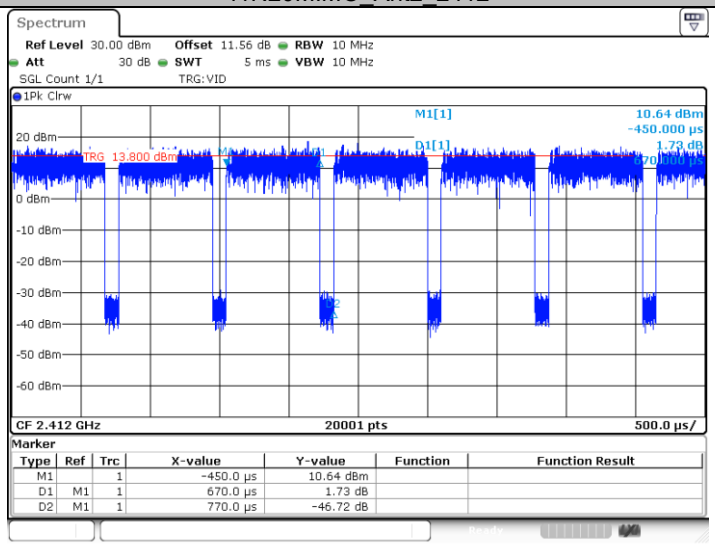


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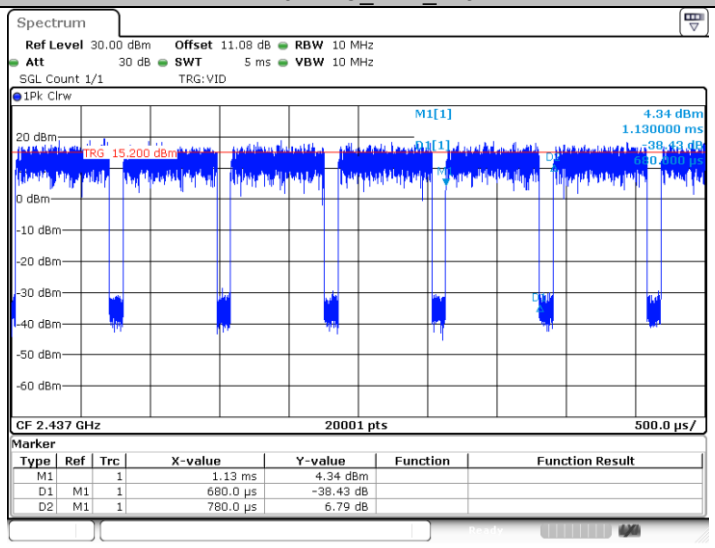


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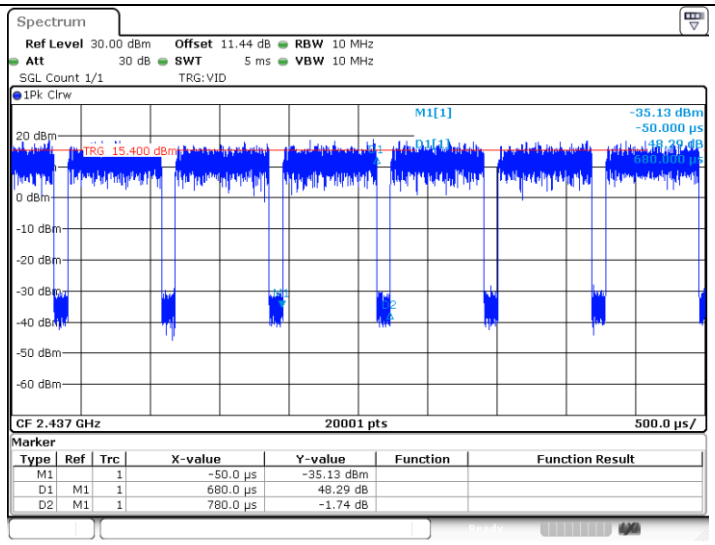


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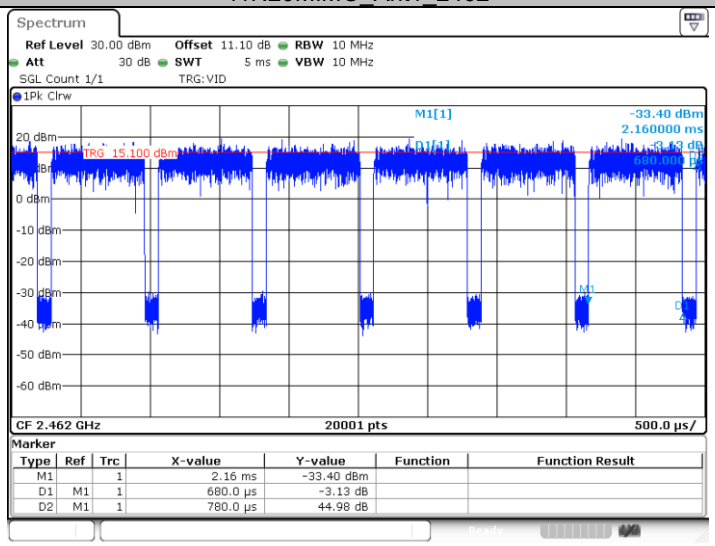


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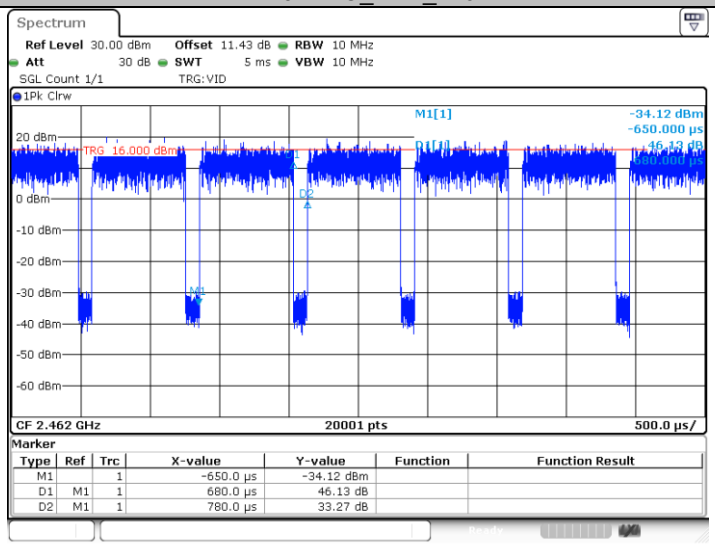


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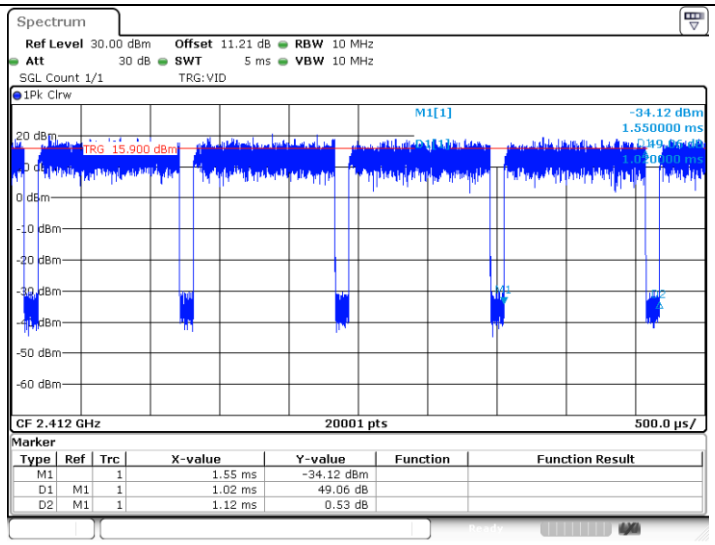


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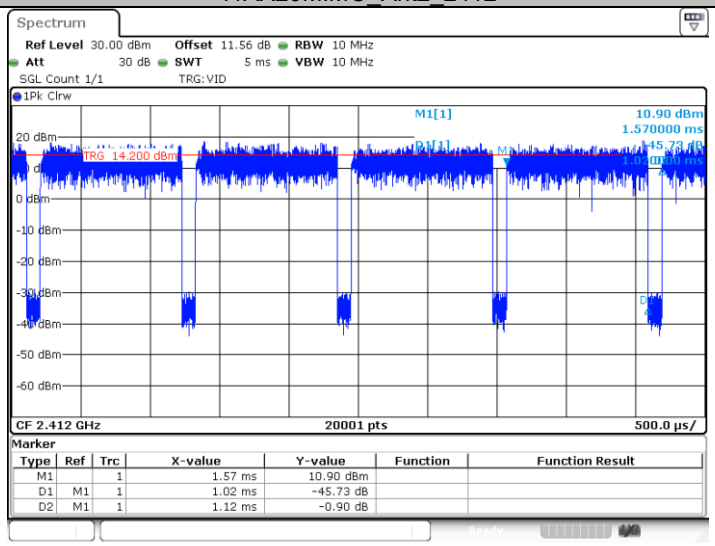


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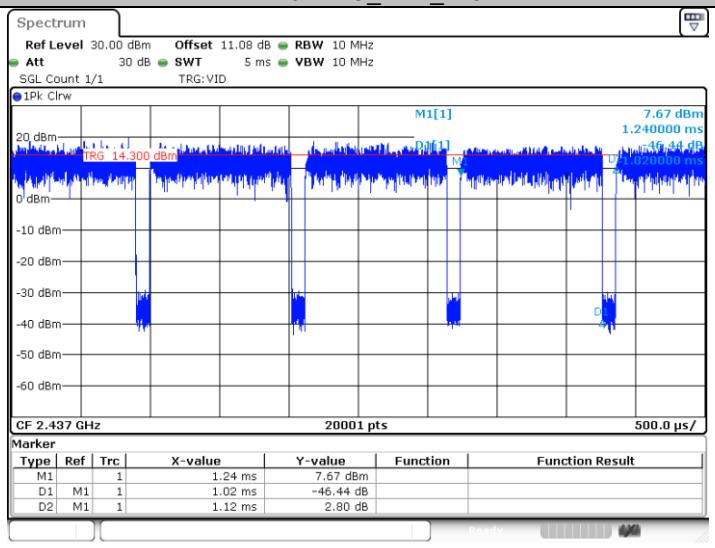


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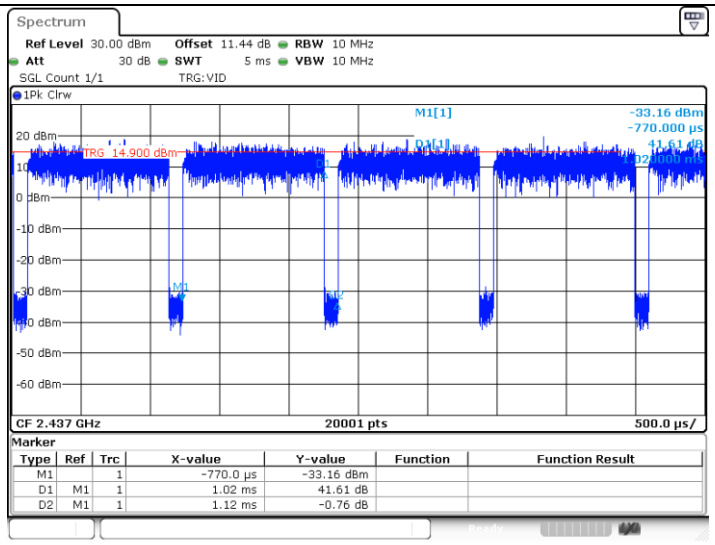


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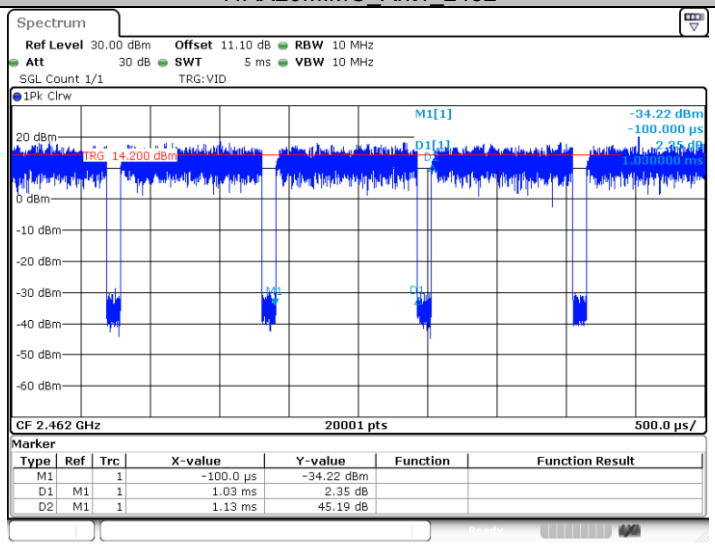


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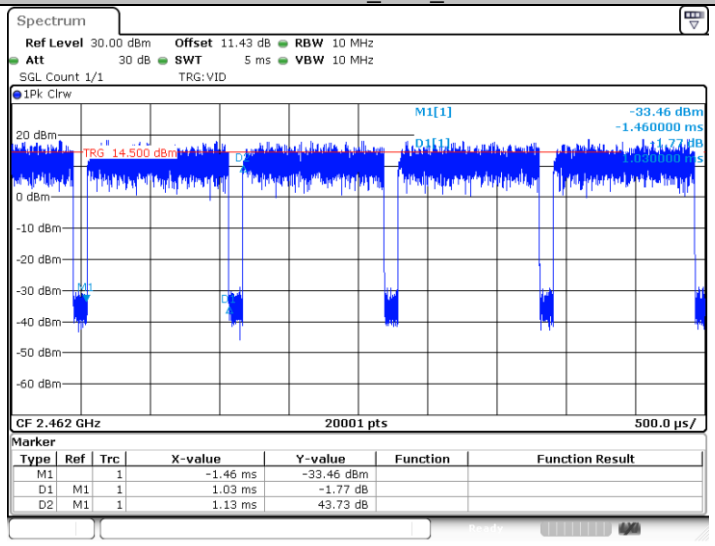

## 3.9. Antenna Requirement

**Requirement**

**FCC CFR Title 47 Part 15 Subpart C Section 15.203**
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.
**FCC CFR Title 47 Part 15 Subpart C Section 15.247(c) (1)(i)**
(i) Systems operating in the 2400~2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

**Test Result**

The directional gain of the antenna is less than 6dBi, please refer to the EUT internal photographs antenna photo.

**********THE END OF REPORT**********