**SDM**

**802.11n HT20 Mode:**

| Channel No. | Frequency (MHz) | Measured Channel Power (dBm) | | | Peak / AVG | Limit | Result |
|---|---|---|---|---|---|---|---|
| | | antenna 1 | antenna 2 | total | | | |
| 1 | 2412 | 18.53 | 18.66 | 21.60 | AVG | 30.00dBm | Pass |
| 6 | 2437 | 18.73 | 18.62 | 21.68 | | | Pass |
| 11 | 2462 | 18.63 | 18.33 | 21.49 | | | Pass |

**802.11n HT40 Mode:**

| Channel No. | Frequency (MHz) | Measured Channel Power (dBm) | | | Peak / AVG | Limit | Result |
|---|---|---|---|---|---|---|---|
| | | antenna 1 | antenna 2 | total | | | |
| 3 | 2422 | 17.26 | 17.29 | 20.28 | AVG | 30.00dBm | Pass |
| 6 | 2437 | 17.40 | 17.07 | 20.25 | | | Pass |
| 9 | 2452 | 17.42 | 17.03 | 20.24 | | | Pass |

**VHT20 Mode:**

| Channel No. | Frequency (MHz) | Measured Channel Power (dBm) | | | Peak / AVG | Limit | Result |
|---|---|---|---|---|---|---|---|
| | | antenna 1 | antenna 2 | total | | | |
| 1 | 2412 | 19.05 | 19.16 | 22.12 | AVG | 30.00dBm | Pass |
| 6 | 2437 | 19.13 | 18.96 | 22.06 | | | Pass |
| 11 | 2462 | 18.95 | 18.74 | 21.86 | | | Pass |

**VHT40 Mode:**

| Channel No. | Frequency (MHz) | Measured Channel Power (dBm) | | | Peak / AVG | Limit | Result |
|---|---|---|---|---|---|---|---|
| | | antenna 1 | antenna 2 | total | | | |
| 3 | 2422 | 16.12 | 16.12 | 19.13 | AVG | 30.00dBm | Pass |
| 6 | 2437 | 16.27 | 16.05 | 19.17 | | | Pass |
| 9 | 2452 | 16.38 | 15.77 | 19.10 | | | Pass |

**802.11ax HE20 Mode:**

| Channel No. | Frequency (MHz) | Measured Channel Power (dBm) | | | Peak / AVG | Limit | Result |
|---|---|---|---|---|---|---|---|
| | | antenna 1 | antenna 2 | total | | | |
| 1 | 2412 | 18.44 | 18.48 | 21.47 | AVG | 30.00dBm | Pass |
| 6 | 2437 | 18.53 | 18.40 | 21.47 | | | Pass |
| 11 | 2462 | 18.58 | 18.15 | 21.38 | | | Pass |

**802.11ax HE40 Mode:**

| Channel No. | Frequency (MHz) | Measured Channel Power (dBm) | | | Peak / AVG | Limit | Result |
|---|---|---|---|---|---|---|---|
| | | antenna 1 | antenna 2 | total | | | |
| 3 | 2422 | 16.56 | 16.38 | 19.48 | AVG | 30.00dBm | Pass |
| 6 | 2437 | 16.72 | 16.26 | 19.51 | | | Pass |
| 9 | 2452 | 16.80 | 16.10 | 19.48 | | | Pass |

Note

1. The measured results were corrected by duty cycle factor (section 2.8)
2. This EUT supports MIMO 2X2, any transmit signals are correlated with each other, For power measurements on IEEE 802.11 devices.
3. According to the calculation of SDM independent spatial stream formula, Directional gain = $G_{ANTMAX}$ + 10 log($N_{ANT}$/$N_{SS}$) dBi, where $N_{SS}$ =2, $N_{ANT}$ =2, Directional gain =3.97+10 log(2/2)dBi=3.97dBi, So do not consider the limit rollback.

**Beamforming**

**802.11n HT20 Mode:**

| Channel No. | Frequency (MHz) | Measured Channel Power (dBm) | | | Peak / AVG | Limit | Result |
|---|---|---|---|---|---|---|---|
| | | antenna 1 | antenna 2 | total | | | |
| 1 | 2412 | 16.49 | 16.84 | 19.68 | AVG | 29.10dBm | Pass |
| 6 | 2437 | 16.80 | 16.67 | 19.74 | | | Pass |
| 11 | 2462 | 16.82 | 16.42 | 19.63 | | | Pass |

**802.11n HT40 Mode:**

| Channel No. | Frequency (MHz) | Measured Channel Power (dBm) | | | Peak / AVG | Limit | Result |
|---|---|---|---|---|---|---|---|
| | | antenna 1 | antenna 2 | total | | | |
| 3 | 2422 | 15.18 | 15.36 | 18.28 | AVG | 29.10dBm | Pass |
| 6 | 2437 | 15.32 | 15.28 | 18.31 | | | Pass |
| 9 | 2452 | 15.36 | 15.05 | 18.22 | | | Pass |

**VHT20 Mode:**

| Channel No. | Frequency (MHz) | Measured Channel Power (dBm) | | | Peak / AVG | Limit | Result |
|---|---|---|---|---|---|---|---|
| | | antenna 1 | antenna 2 | total | | | |
| 1 | 2412 | 17.04 | 17.46 | 20.27 | AVG | 29.10dBm | Pass |
| 6 | 2437 | 17.17 | 17.14 | 20.17 | | | Pass |
| 11 | 2462 | 17.21 | 16.80 | 20.02 | | | Pass |

**VHT40 Mode:**

| Channel No. | Frequency (MHz) | Measured Channel Power (dBm) | | | Peak / AVG | Limit | Result |
|---|---|---|---|---|---|---|---|
| | | antenna 1 | antenna 2 | total | | | |
| 3 | 2422 | 14.67 | 14.75 | 17.72 | AVG | 29.10dBm | Pass |
| 6 | 2437 | 14.70 | 14.59 | 17.66 | | | Pass |
| 9 | 2452 | 14.85 | 14.72 | 17.80 | | | Pass |

**802.11ax HE20 Mode:**

| Channel No. | Frequency (MHz) | Measured Channel Power (dBm) | | | Peak / AVG | Limit | Result |
|---|---|---|---|---|---|---|---|
| | | antenna 1 | antenna 2 | total | | | |
| 1 | 2412 | 16.37 | 16.72 | 19.56 | AVG | 29.10dBm | Pass |
| 6 | 2437 | 16.46 | 16.46 | 19.47 | | | Pass |
| 11 | 2462 | 16.47 | 16.17 | 19.33 | | | Pass |

**802.11ax HE40 Mode:**

| Channel No. | Frequency (MHz) | Measured Channel Power (dBm) | | | Peak / AVG | Limit | Result |
|---|---|---|---|---|---|---|---|
| | | antenna 1 | antenna 2 | total | | | |
| 3 | 2422 | 14.55 | 14.46 | 17.52 | AVG | 29.10dBm | Pass |
| 6 | 2437 | 14.65 | 14.37 | 17.53 | | | Pass |
| 9 | 2452 | 14.82 | 14.22 | 17.54 | | | Pass |

Note

1. The measured results were corrected by duty cycle factor (section 2.8)
2. measurements on IEEE 802.11 devices.This EUT supports MIMO 2X2, any transmit signals are correlated with each other,So Directional gain =10log[$(10^{3.97/20}+10^{3.85/20})^2/2$]dBi, that is Directional gain (dBi)= 6.9
3. Antenna gain is greater than 6, Output Power Limit=30-(6.9-6)=29.10dBm

# 9. POWER SPECTRAL DENSITY

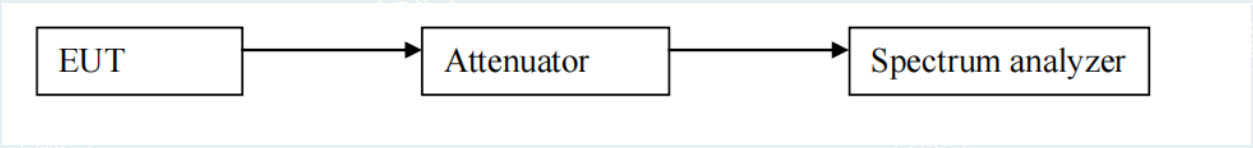
## 9.1. LIMITS

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

## 9.2. TEST PROCEDURES

1) Remove the antenna from the EUT, and then connect a low loss RF cable from antenna port to the spectrum analyzer.
2) Position the EUT was set without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3) The following procedure shall be used if maximum peak conducted output power was used to determine compliance, and it is optional if the maximum conducted (average) output power was used to determine compliance:
   a) Set analyzer center frequency to DTS channel center frequency.
   b) Set the span to 1.5 times the DTS bandwidth.
   c) Set the RBW to 3 kHz ≤ RBW ≤ 100 kHz.
   d) Set the VBW ≥ [3 × RBW].
   e) Detector = average
   f) Sweep time = auto couple.
   g) Trace mode = max hold.
   h) Allow trace to fully stabilize.
   i) Use the peak marker function to determine the maximum amplitude level within the RBW.
   j) If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.
4) Repeat above procedures until all frequencies measured were complete.

## 9.3. TEST SETUP



## 9.4. TEST RESULTS

Environment: 22.5℃/54%RH/101.0kPa Voltage:AC120V/60Hz
Tested By: Huang Tianmei Date: 2023-05-18

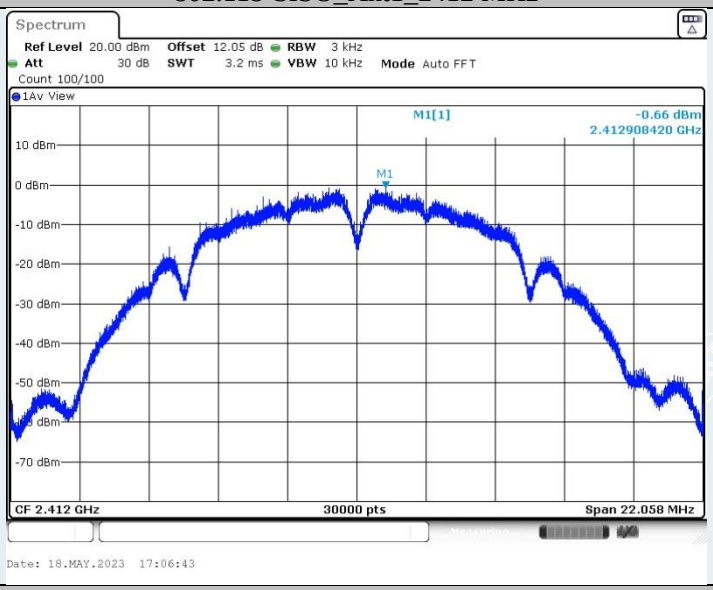
Non Beamforming

| Test Mode | Antenna | Frequency [MHz] | PSD (dBm/3kHz) | Duty Factor | Total PSD with Duty Factor (dBm/3kHz) | Limit [dBm/3kHz] | Verdict |
|---|---|---|---|---|---|---|---|
| 802.11b-SISO | Ant1 | 2412 | -0.66 | 0.32 | -0.34 | ≤8.00 | PASS |
| | Ant2 | 2412 | -0.01 | 0.32 | 0.31 | ≤8.00 | PASS |
| | Ant1 | 2437 | 0.42 | 0.32 | 0.74 | ≤8.00 | PASS |
| | Ant2 | 2437 | -0.10 | 0.32 | 0.22 | ≤8.00 | PASS |
| | Ant1 | 2462 | 0.20 | 0.32 | 0.52 | ≤8.00 | PASS |
| | Ant2 | 2462 | -0.68 | 0.32 | -0.36 | ≤8.00 | PASS |
| 802.11g-SISO | Ant1 | 2412 | -3.24 | 2.83 | -0.41 | ≤8.00 | PASS |
| | Ant2 | 2412 | -3.16 | 2.83 | -0.33 | ≤8.00 | PASS |
| | Ant1 | 2437 | -3.08 | 2.83 | -0.25 | ≤8.00 | PASS |
| | Ant2 | 2437 | -3.45 | 2.83 | -0.62 | ≤8.00 | PASS |
| | Ant1 | 2462 | -3.59 | 2.83 | -0.76 | ≤8.00 | PASS |
| | Ant2 | 2462 | -3.86 | 2.83 | -1.03 | ≤8.00 | PASS |

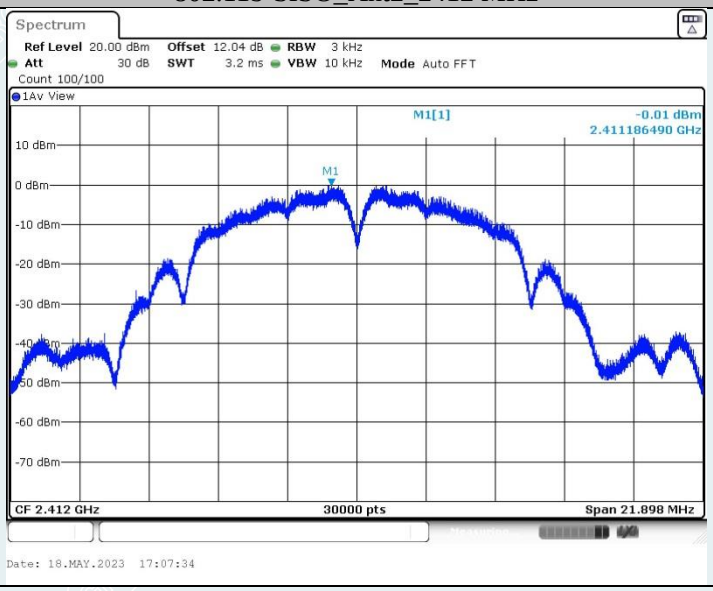
Note
1. The measured results were corrected by duty cycle factor (section 2.8)

**---------- The following blanks ----------**

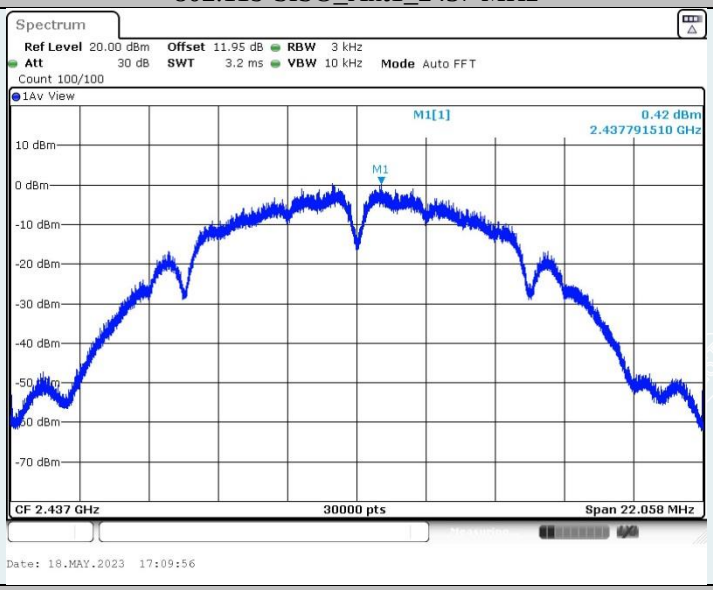
802.11b-SISO_Ant1_2412 MHz



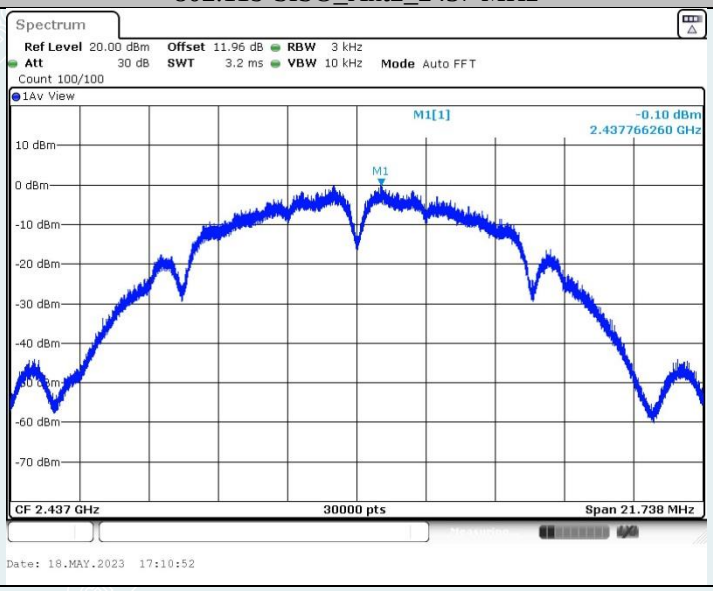

802.11b-SISO_Ant2_2412 MHz



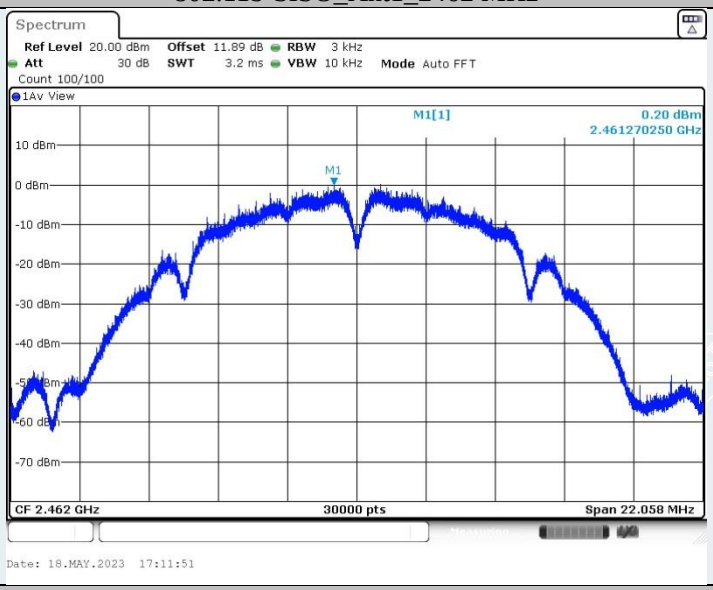
802.11b-SISO_Ant1_2437 MHz



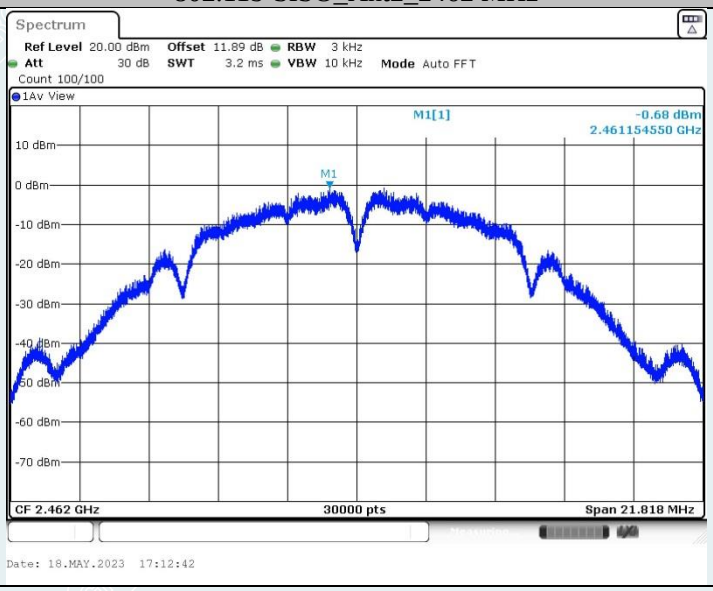

802.11b-SISO_Ant2_2437 MHz



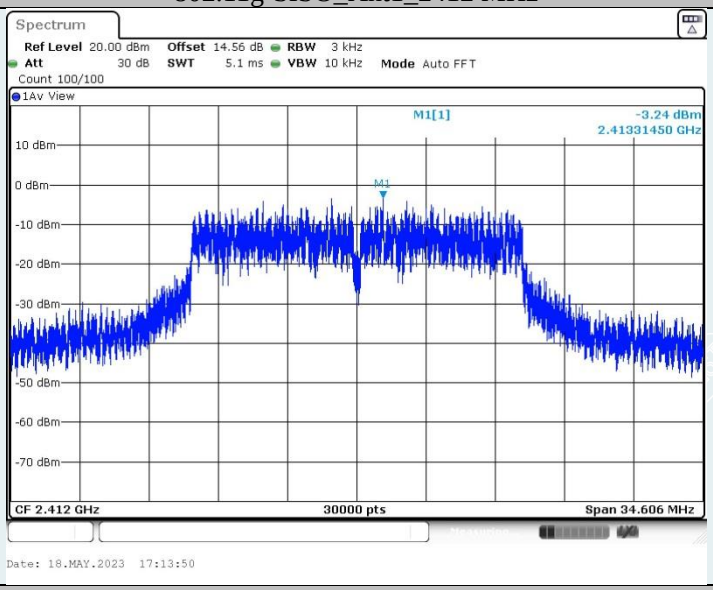
802.11b-SISO_Ant1_2462 MHz



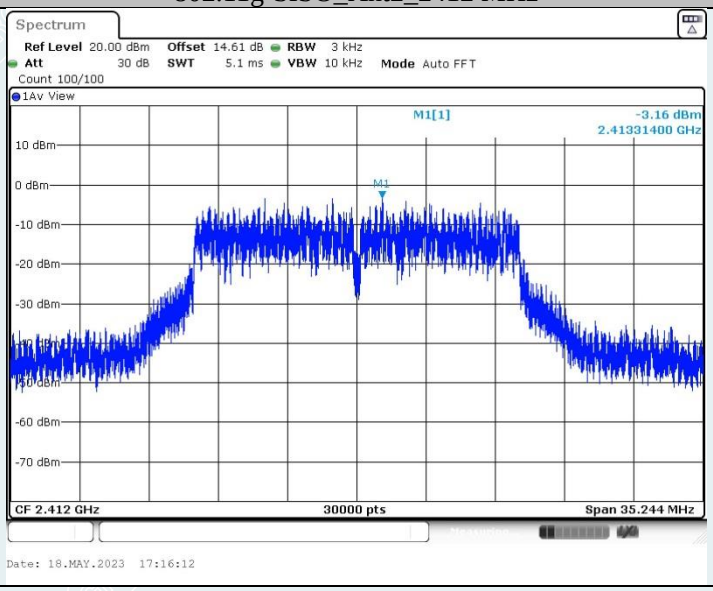

802.11b-SISO_Ant2_2462 MHz



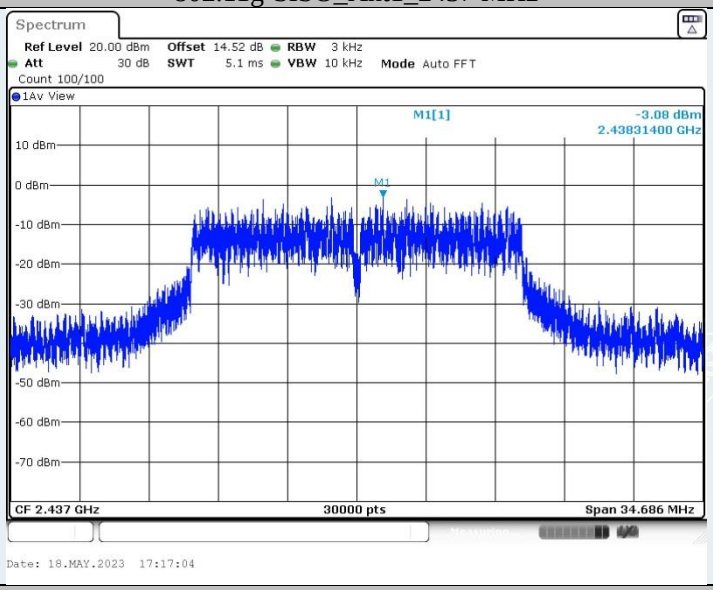
802.11g-SISO_Ant1_2412 MHz



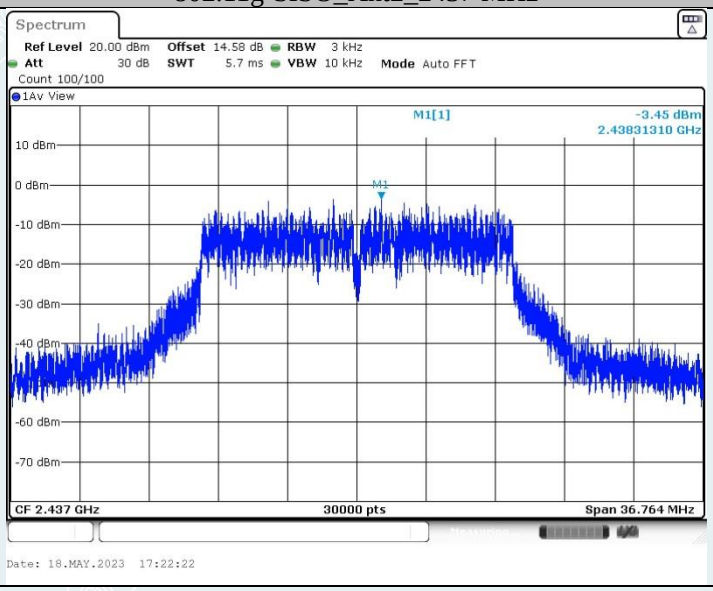

802.11g-SISO_Ant2_2412 MHz



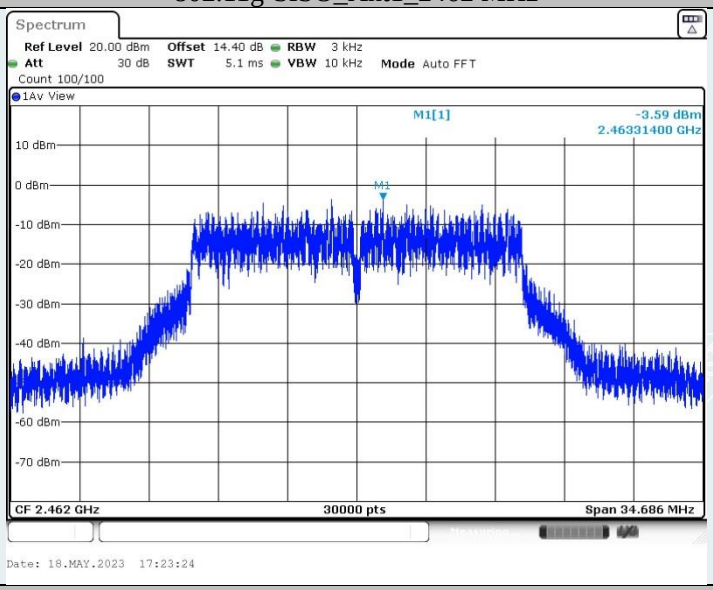
802.11g-SISO_Ant1_2437 MHz



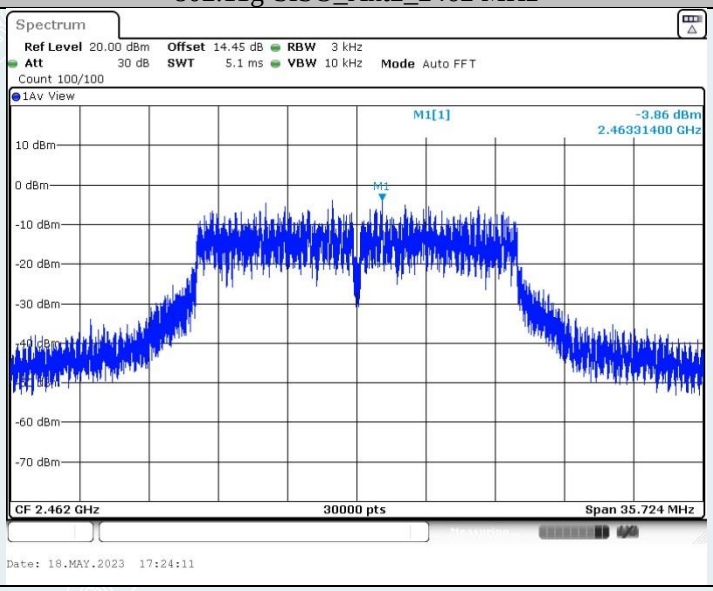

802.11g-SISO_Ant2_2437 MHz



802.11g-SISO_Ant1_2462 MHz




802.11g-SISO_Ant2_2462 MHz



Environment: 22.5℃/54%RH/101.0kPa Voltage:AC120V/60Hz
Tested By:Huang Tianmei Date: 2023-05-18~2023-06-21
Non Beamforming-CDD

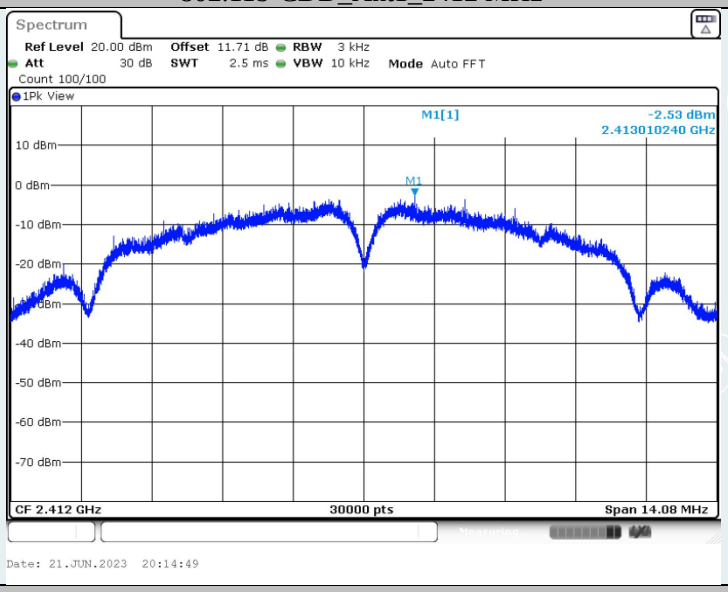
| TestMode | Antenna | Frequency [MHz] | PSD (dBm/3kHz) | Duty Factor | Total PSD with Duty Factor (dBm/3kHz) | Limit [dBm/3kHz] | Verdict |
|---|---|---|---|---|---|---|---|
| 802.11b | Ant1 | 2412 | -2.85 | 0.32 | -2.53 | ≤7.10 | PASS |
| | Ant2 | 2412 | -3.07 | 0.32 | -2.75 | ≤7.10 | PASS |
| | total | 2412 | 0.05 | 0.32 | 0.37 | ≤7.10 | PASS |
| | Ant1 | 2437 | -3.88 | 0.32 | -3.56 | ≤7.10 | PASS |
| | Ant2 | 2437 | -2.99 | 0.32 | -2.67 | ≤7.10 | PASS |
| | total | 2437 | -0.40 | 0.32 | -0.08 | ≤7.10 | PASS |
| | Ant1 | 2462 | -2.56 | 0.32 | -2.24 | ≤7.10 | PASS |
| | Ant2 | 2462 | -2.54 | 0.32 | -2.22 | ≤7.10 | PASS |
| | total | 2462 | -2.85 | 0.32 | 0.78 | ≤7.10 | PASS |
| 802.11g | Ant1 | 2412 | -4.97 | 2.83 | -2.14 | ≤7.10 | PASS |
| | Ant2 | 2412 | -4.71 | 2.83 | -1.88 | ≤7.10 | PASS |
| | total | 2412 | -1.83 | 2.83 | 1.00 | ≤7.10 | PASS |
| | Ant1 | 2437 | -4.72 | 2.83 | -1.89 | ≤7.10 | PASS |
| | Ant2 | 2437 | -5.18 | 2.83 | -2.35 | ≤7.10 | PASS |
| | total | 2437 | -1.93 | 2.83 | 0.90 | ≤7.10 | PASS |
| | Ant1 | 2462 | -4.69 | 2.83 | -1.86 | ≤7.10 | PASS |
| | Ant2 | 2462 | -5.50 | 2.83 | -2.67 | ≤7.10 | PASS |
| | total | 2462 | -2.07 | 2.83 | 0.76 | ≤7.10 | PASS |
| 802.11n HT20 MIMO | Ant1 | 2412 | -11.32 | 2.48 | -8.84 | ≤7.10 | PASS |
| | Ant2 | 2412 | -11.48 | 2.48 | -9.00 | ≤7.10 | PASS |
| | total | 2412 | -8.39 | 2.48 | -5.91 | ≤7.10 | PASS |
| | Ant1 | 2437 | -10.43 | 2.48 | -7.95 | ≤7.10 | PASS |
| | Ant2 | 2437 | -10.86 | 2.48 | -8.38 | ≤7.10 | PASS |
| | total | 2437 | -7.63 | 2.48 | -5.15 | ≤7.10 | PASS |
| | Ant1 | 2462 | -10.97 | 2.48 | -8.49 | ≤7.10 | PASS |
| | Ant2 | 2462 | -11.47 | 2.48 | -8.99 | ≤7.10 | PASS |
| | total | 2462 | -8.20 | 2.48 | -5.72 | ≤7.10 | PASS |
| 802.11n HT40 MIMO | Ant1 | 2422 | -9.67 | 2.81 | -6.86 | ≤7.10 | PASS |
| | Ant2 | 2422 | -9.59 | 2.81 | -6.78 | ≤7.10 | PASS |
| | total | 2422 | -6.62 | 2.81 | -3.81 | ≤7.10 | PASS |
| | Ant1 | 2437 | -9.54 | 2.81 | -6.73 | ≤7.10 | PASS |
| | Ant2 | 2437 | -9.56 | 2.81 | -6.75 | ≤7.10 | PASS |
| | total | 2437 | -6.54 | 2.81 | -3.73 | ≤7.10 | PASS |
| | Ant1 | 2452 | -9.55 | 2.81 | -6.74 | ≤7.10 | PASS |
| | Ant2 | 2452 | -9.38 | 2.81 | -6.57 | ≤7.10 | PASS |
| | total | 2452 | -6.45 | 2.81 | -3.64 | ≤7.10 | PASS |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| VHT20 MIMO | Ant1 | 2412 | -4.62 | 0.79 | -3.83 | ≤7.10 | PASS |
| | Ant2 | 2412 | -3.72 | 0.79 | -2.93 | ≤7.10 | PASS |
| | total | 2412 | -1.14 | 0.79 | -0.35 | ≤7.10 | PASS |
| | Ant1 | 2437 | -3.91 | 0.79 | -3.12 | ≤7.10 | PASS |
| | Ant2 | 2437 | -3.99 | 0.79 | -3.2 | ≤7.10 | PASS |
| | total | 2437 | -0.94 | 0.79 | -0.15 | ≤7.10 | PASS |
| | Ant1 | 2462 | -3.79 | 0.79 | -3.00 | ≤7.10 | PASS |
| | Ant2 | 2462 | -4.50 | 0.79 | -3.71 | ≤7.10 | PASS |
| | total | 2462 | -1.12 | 0.79 | -0.33 | ≤7.10 | PASS |
| AC40MIMO | Ant1 | 2422 | -9.45 | 0.90 | -8.55 | ≤7.10 | PASS |
| | Ant2 | 2422 | -9.48 | 0.90 | -8.58 | ≤7.10 | PASS |
| | total | 2422 | -6.45 | 0.90 | -5.55 | ≤7.10 | PASS |
| | Ant1 | 2437 | -9.33 | 0.90 | -8.43 | ≤7.10 | PASS |
| | Ant2 | 2437 | -9.85 | 0.90 | -8.95 | ≤7.10 | PASS |
| | total | 2437 | -6.57 | 0.90 | -5.67 | ≤7.10 | PASS |
| | Ant1 | 2452 | -9.22 | 0.90 | -8.32 | ≤7.10 | PASS |
| | Ant2 | 2452 | -10.06 | 0.90 | -9.16 | ≤7.10 | PASS |
| | total | 2452 | -6.61 | 0.90 | -5.71 | ≤7.10 | PASS |
| 802.11ax HE20 MIMO | Ant1 | 2412 | -9.99 | 0.39 | -9.6 | ≤7.10 | PASS |
| | Ant2 | 2412 | -8.41 | 0.39 | -8.02 | ≤7.10 | PASS |
| | total | 2412 | -6.12 | 0.39 | -5.73 | ≤7.10 | PASS |
| | Ant1 | 2437 | -9.50 | 0.39 | -9.11 | ≤7.10 | PASS |
| | Ant2 | 2437 | -9.17 | 0.39 | -8.78 | ≤7.10 | PASS |
| | total | 2437 | -6.32 | 0.39 | -5.93 | ≤7.10 | PASS |
| | Ant1 | 2462 | -10.00 | 0.39 | -9.61 | ≤7.10 | PASS |
| | Ant2 | 2462 | -9.19 | 0.39 | -8.80 | ≤7.10 | PASS |
| | total | 2462 | -6.57 | 0.39 | -6.18 | ≤7.10 | PASS |
| 802.11ax HE40 MIMO | Ant1 | 2422 | -13.47 | 0.54 | -12.93 | ≤7.10 | PASS |
| | Ant2 | 2422 | -12.77 | 0.54 | -12.23 | ≤7.10 | PASS |
| | total | 2422 | -10.10 | 0.54 | -9.56 | ≤7.10 | PASS |
| | Ant1 | 2437 | -12.81 | 0.54 | -12.27 | ≤7.10 | PASS |
| | Ant2 | 2437 | -12.68 | 0.54 | -12.14 | ≤7.10 | PASS |
| | total | 2437 | -9.73 | 0.54 | -9.19 | ≤7.10 | PASS |
| | Ant1 | 2452 | -12.91 | 0.54 | -12.37 | ≤7.10 | PASS |
| | Ant2 | 2452 | -13.14 | 0.54 | -12.6 | ≤7.10 | PASS |
| | total | 2452 | -10.01 | 0.54 | -9.47 | ≤7.10 | PASS |

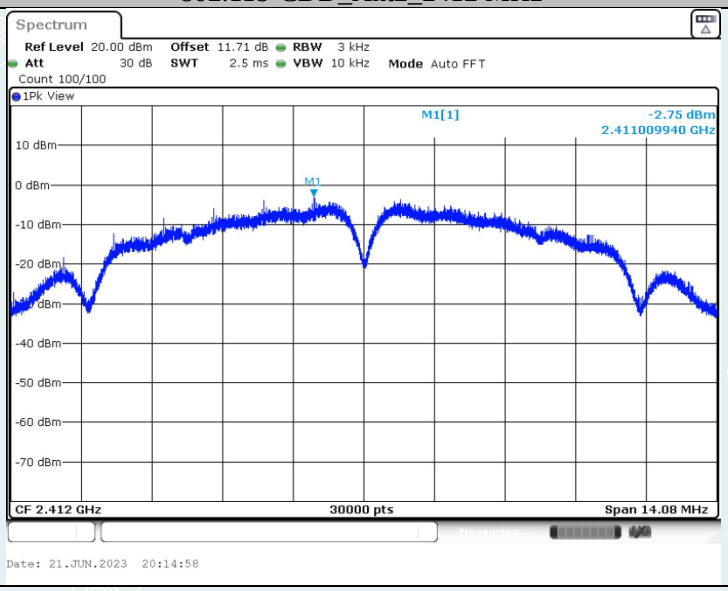
Note

1. The measured results were corrected by duty cycle factor (section 2.8)
2. This EUT supports MIMO 2X2, any transmit signals are correlated with each other. for Power Spectral Density measurements on IEEE 802.11 devices. So Directional gain $=10\log[(10^{3.97/20}+10^{3.85/20})^2/2]$dBi, that is Directional gain (dBi)= 6.9, Antenna gain is greater than 6, Limit=8-(6.9-6)=7.10dBm/3kHz.

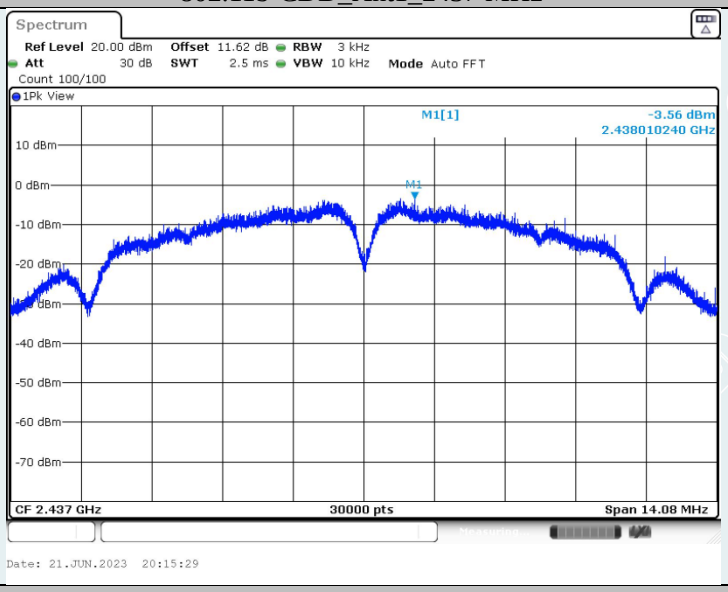
802.11b-CDD_Ant1_2412 MHz



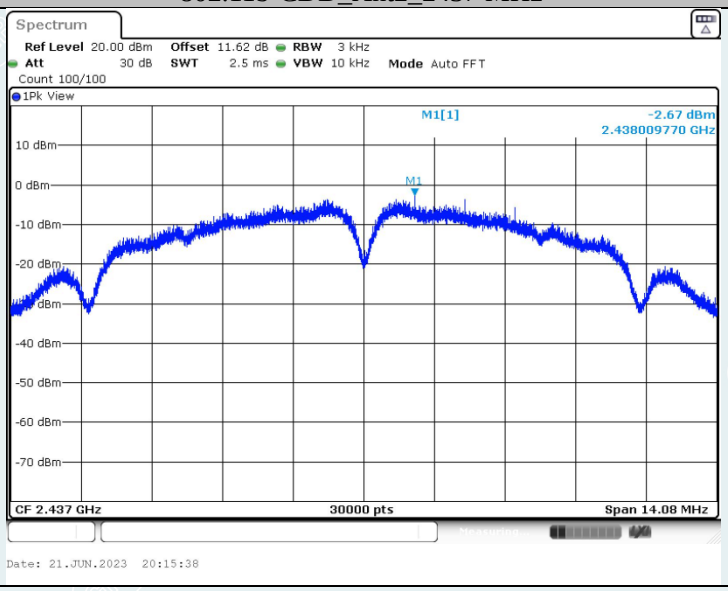

802.11b-CDD_Ant2_2412 MHz



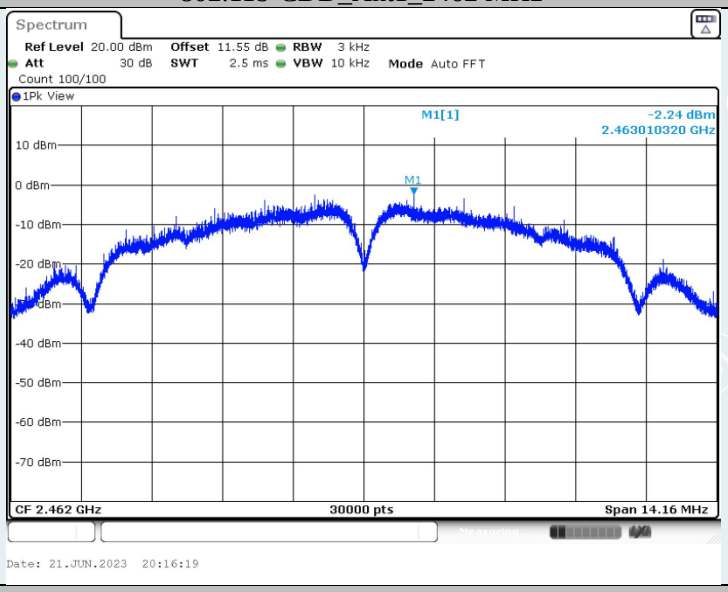
802.11b-CDD_Ant1_2437 MHz



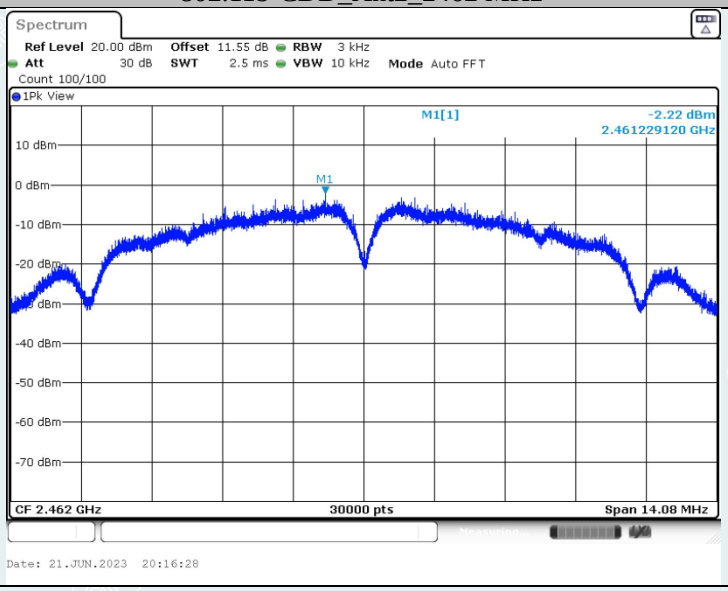

802.11b-CDD_Ant2_2437 MHz



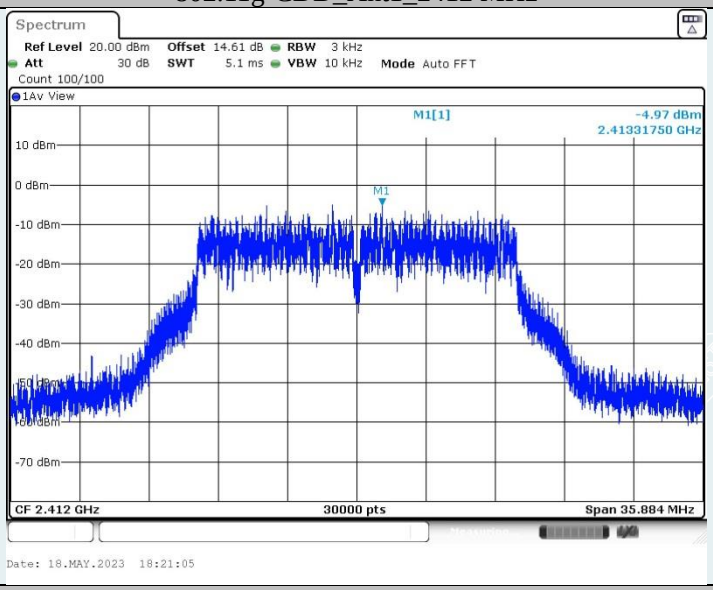
802.11b-CDD_Ant1_2462 MHz



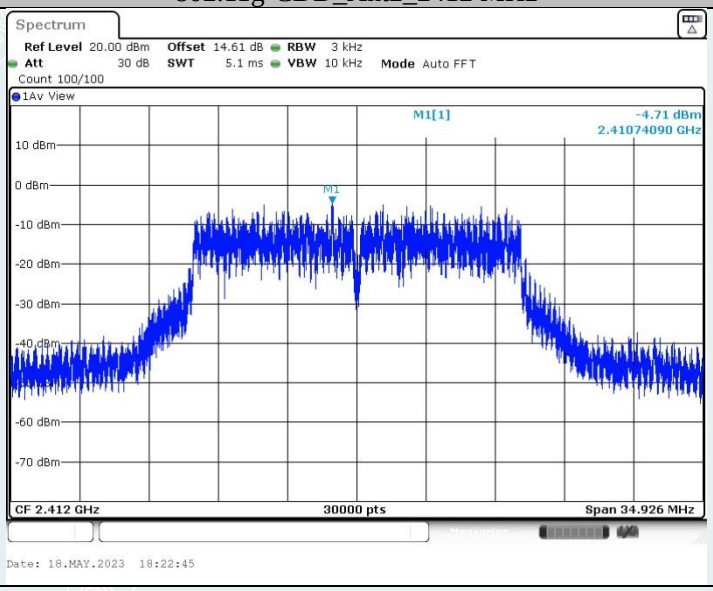

802.11b-CDD_Ant2_2462 MHz



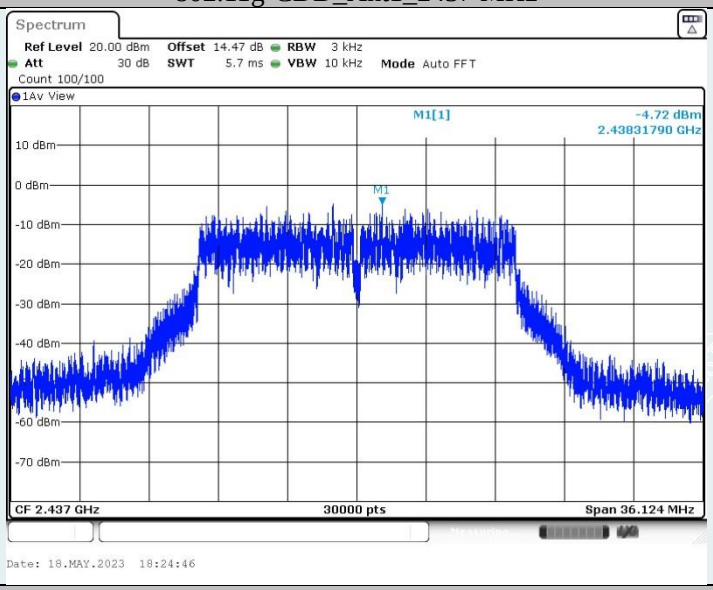
802.11g-CDD_Ant1_2412 MHz




802.11g-CDD_Ant2_2412 MHz



802.11g-CDD_Ant1_2437 MHz

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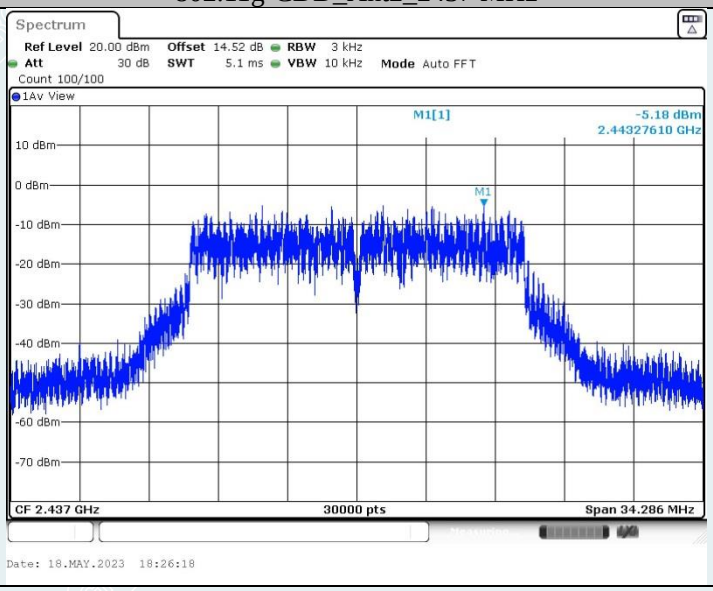
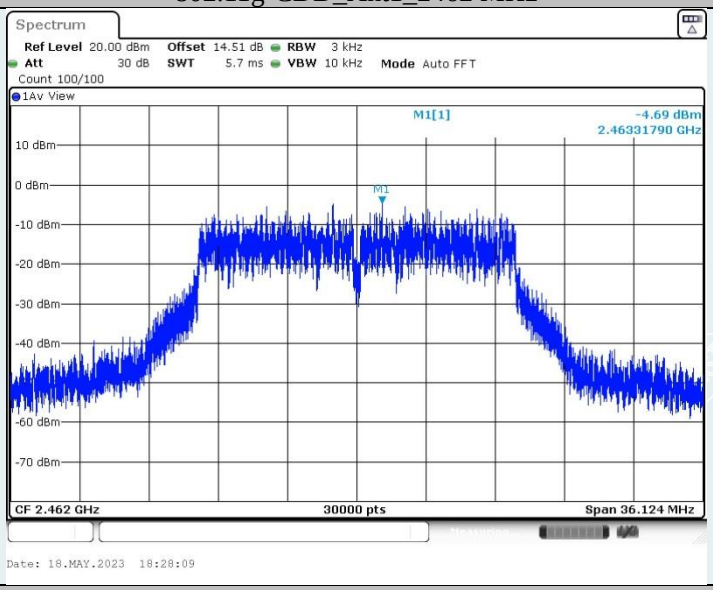
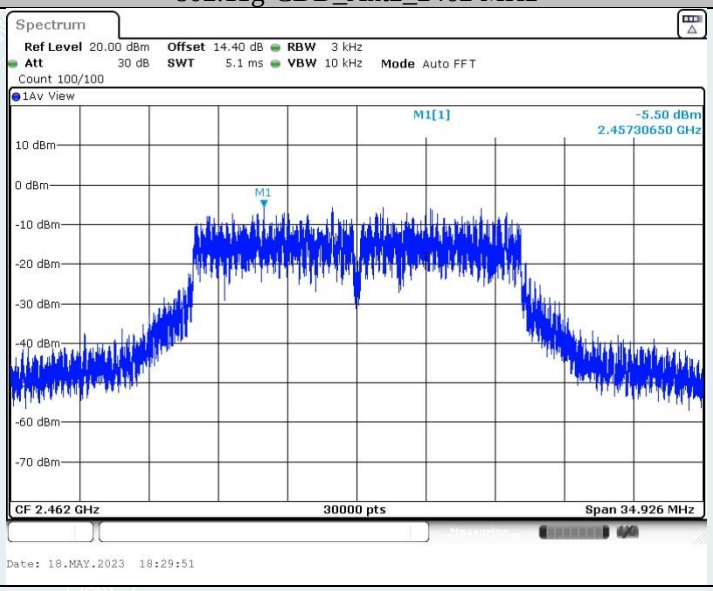


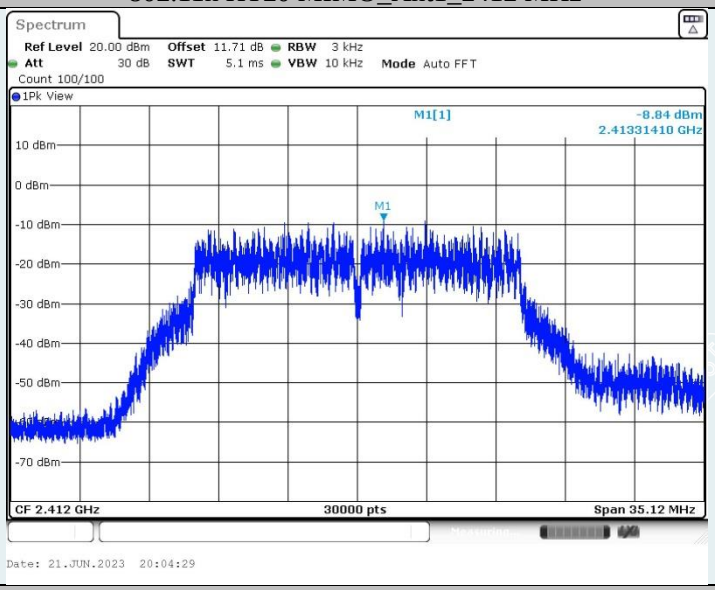
802.11g-CDD_Ant1_2462 MHz



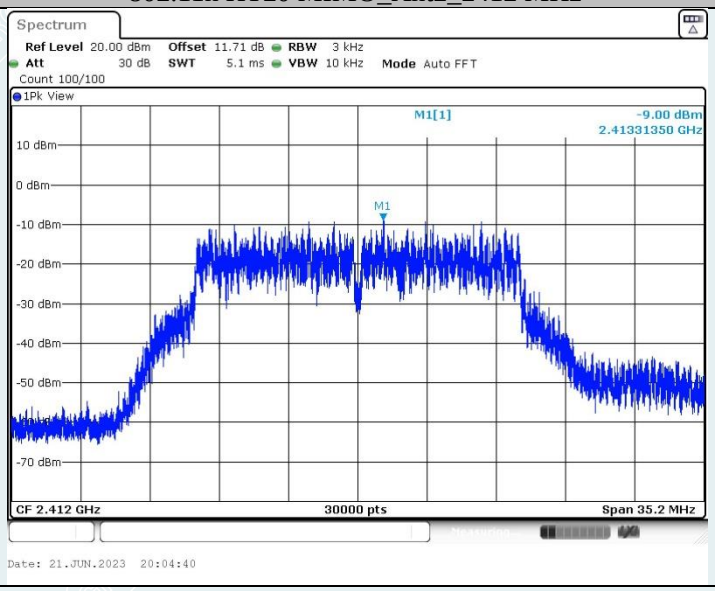

802.11g-CDD_Ant2_2462 MHz



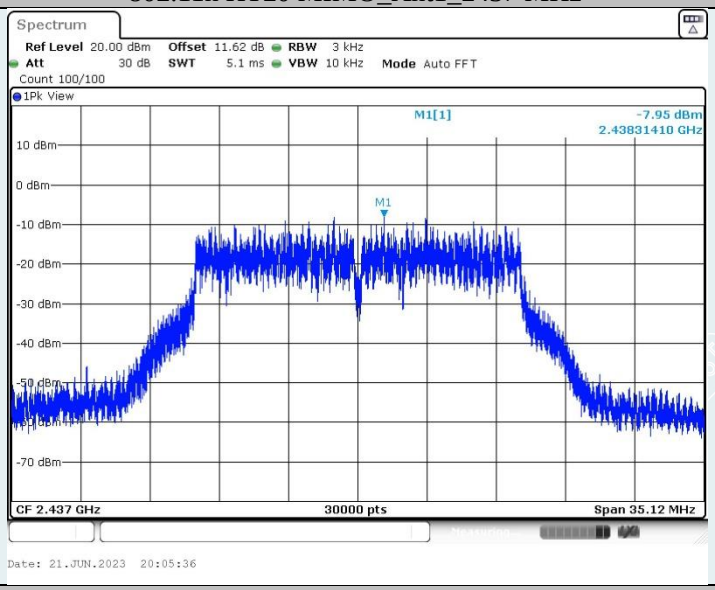
802.11n HT20 MIMO_Ant1_2412 MHz



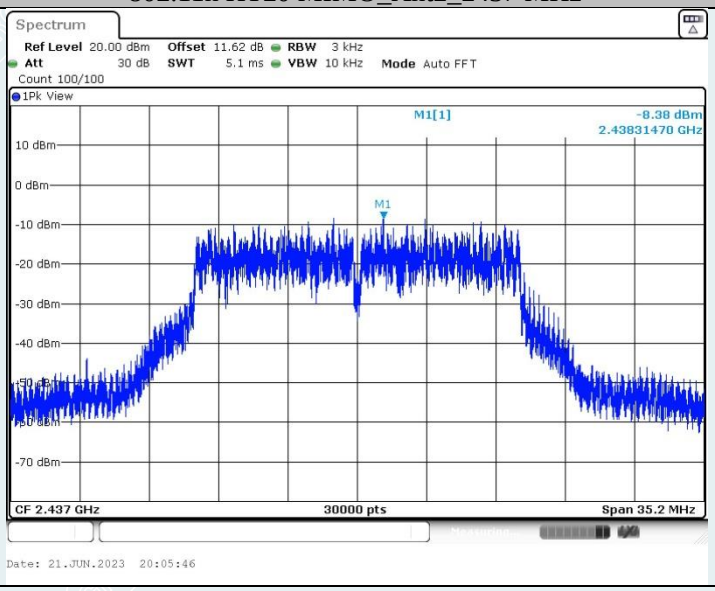

802.11n HT20 MIMO_Ant2_2412 MHz



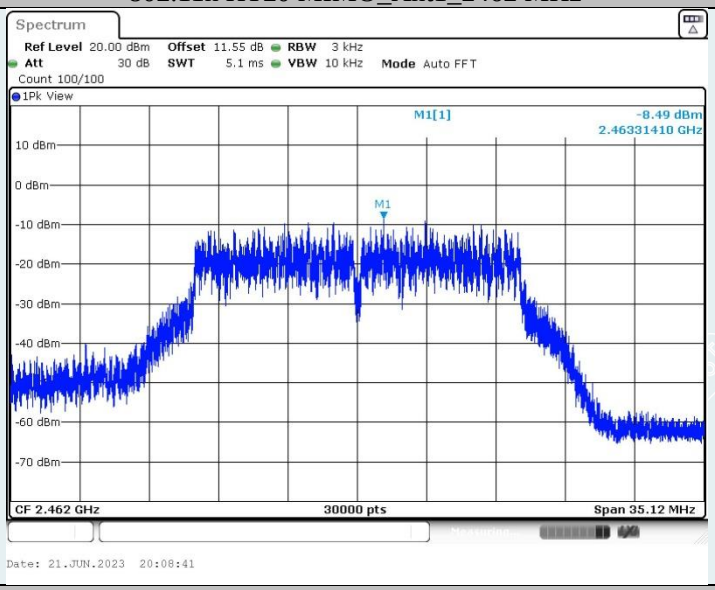
802.11n HT20 MIMO_Ant1_2437 MHz



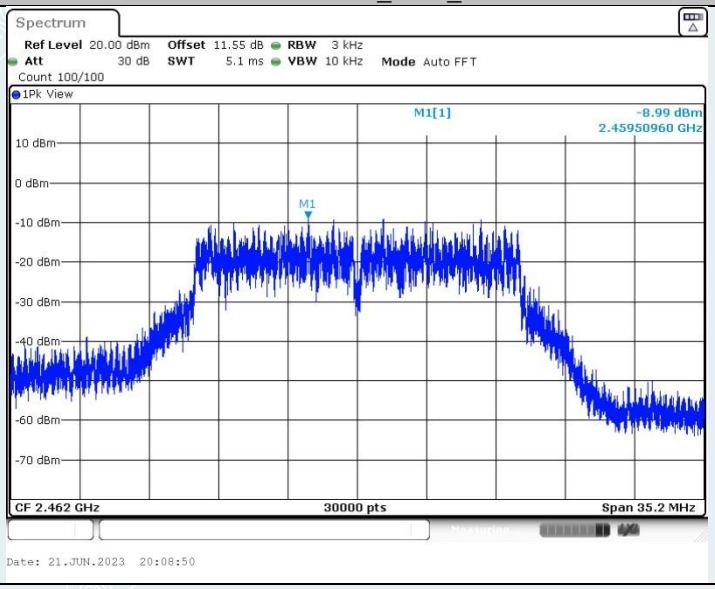

802.11n HT20 MIMO_Ant2_2437 MHz



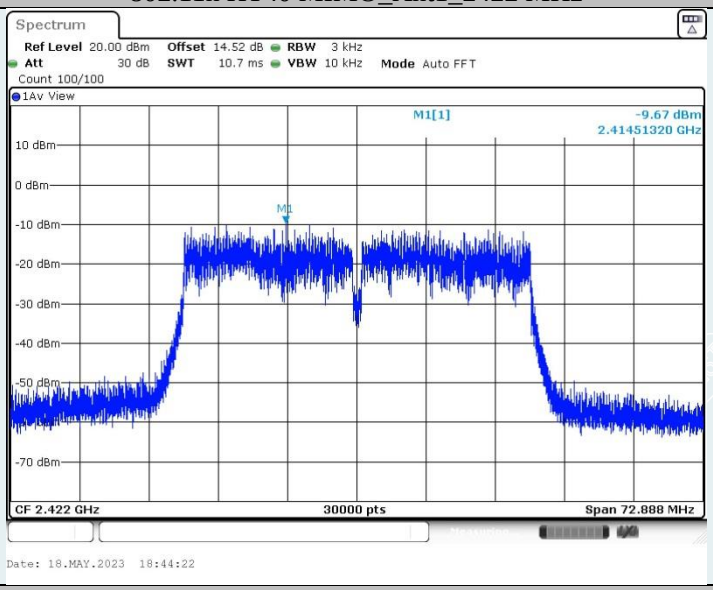
802.11n HT20 MIMO_Ant1_2462 MHz



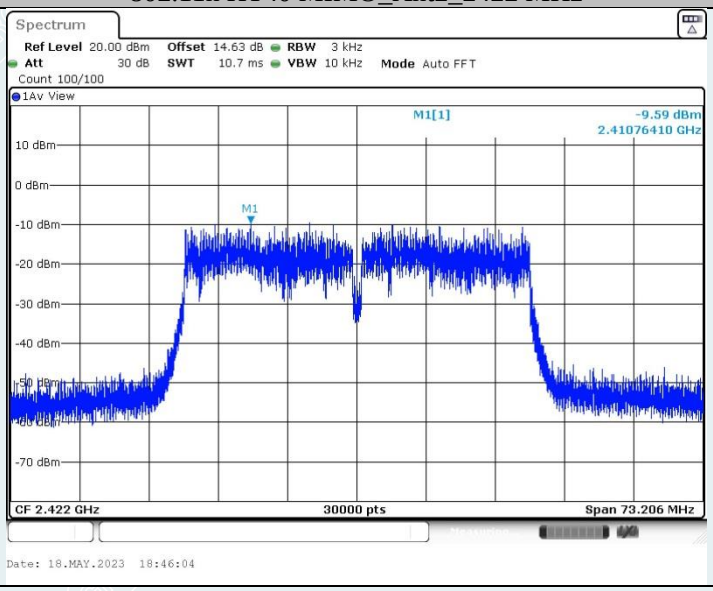

802.11n HT20 MIMO_Ant2_2462 MHz



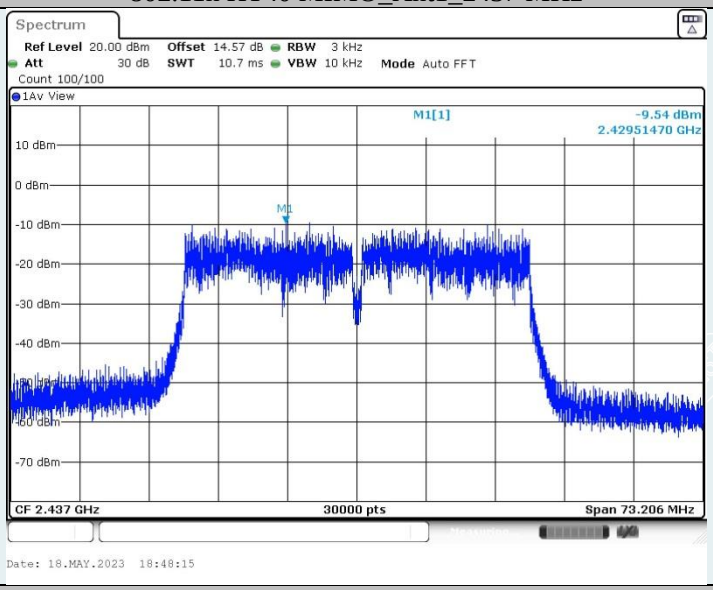
802.11n HT40 MIMO_Ant1_2422 MHz



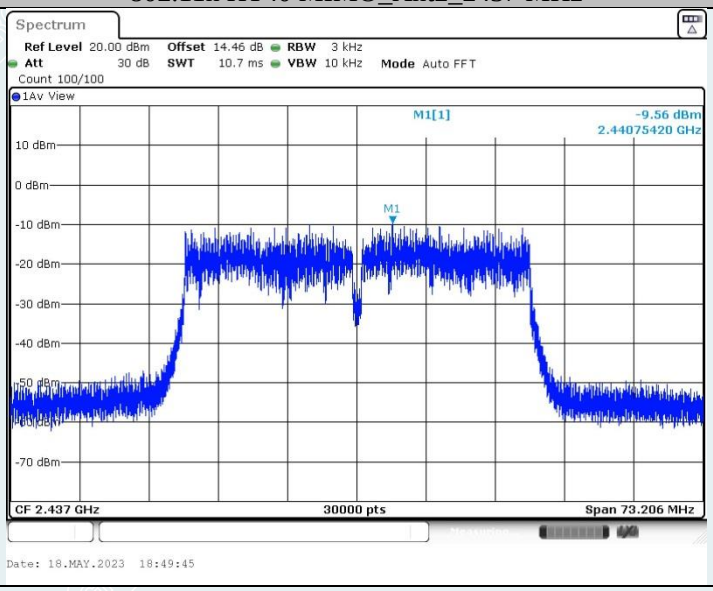

802.11n HT40 MIMO_Ant2_2422 MHz



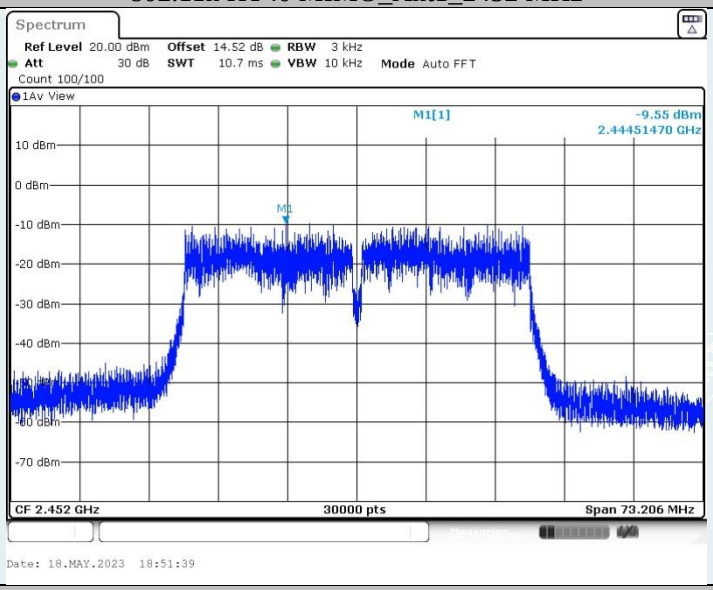
802.11n HT40 MIMO_Ant1_2437 MHz



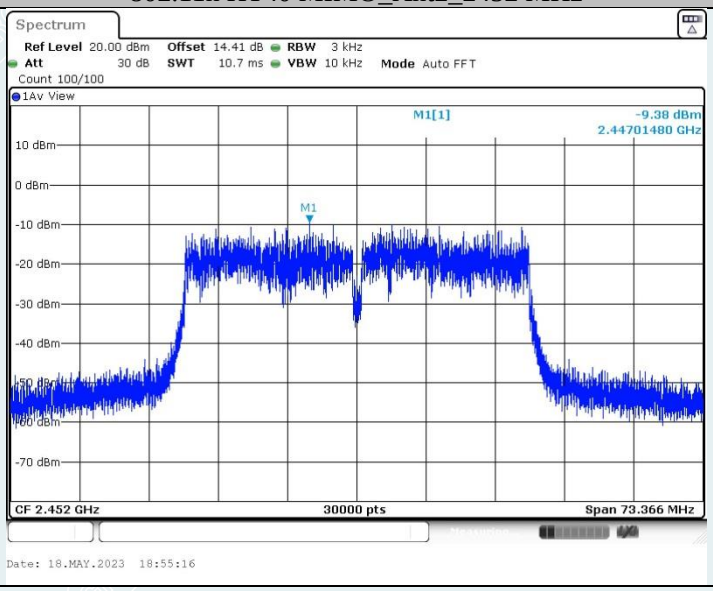

802.11n HT40 MIMO_Ant2_2437 MHz



802.11n HT40 MIMO_Ant1_2452 MHz




802.11n HT40 MIMO_Ant2_2452 MHz



| VHT20 MIMO_Ant1_2412 MHz |
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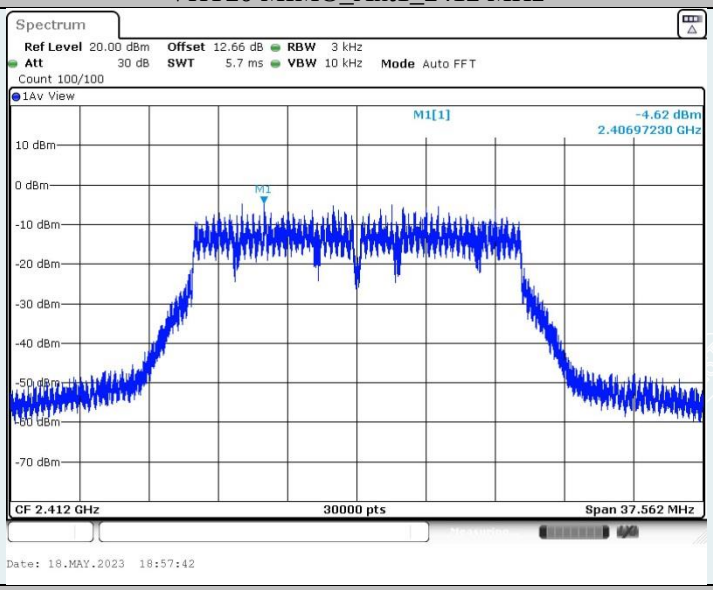
|  |
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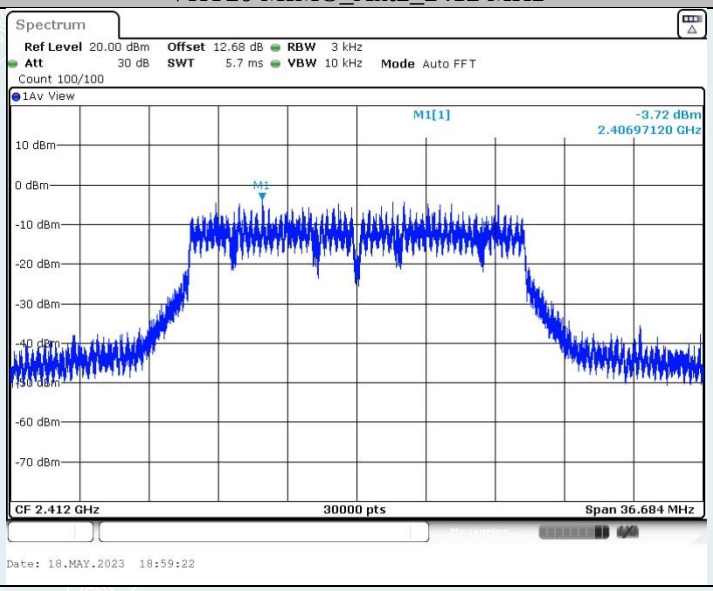
|  |

| VHT20 MIMO_Ant1_2437 MHz |
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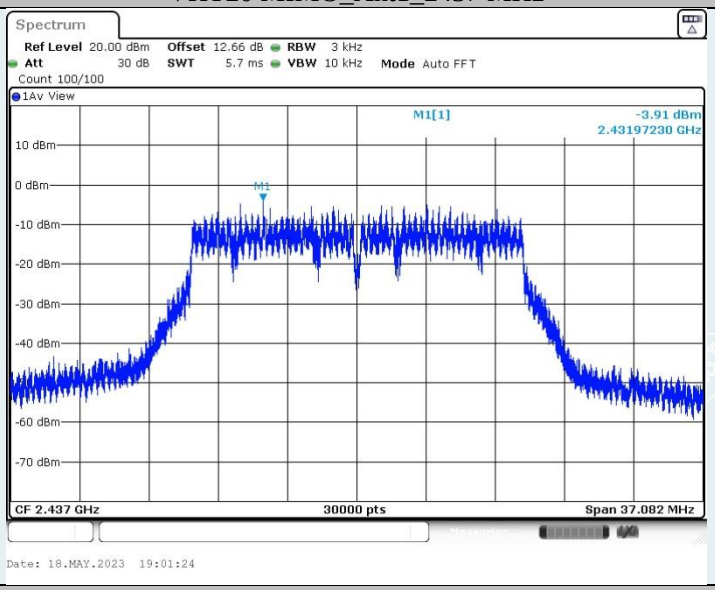
|  |
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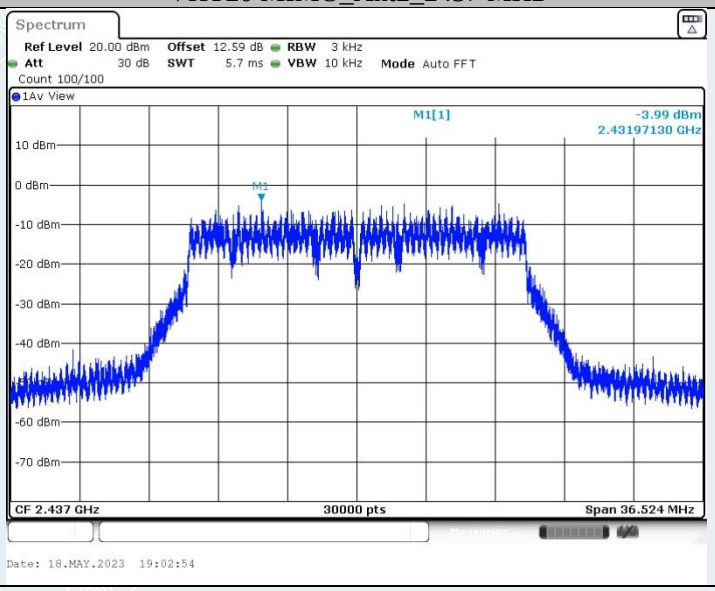
|  |

| VHT20 MIMO_Ant1_2462 MHz |
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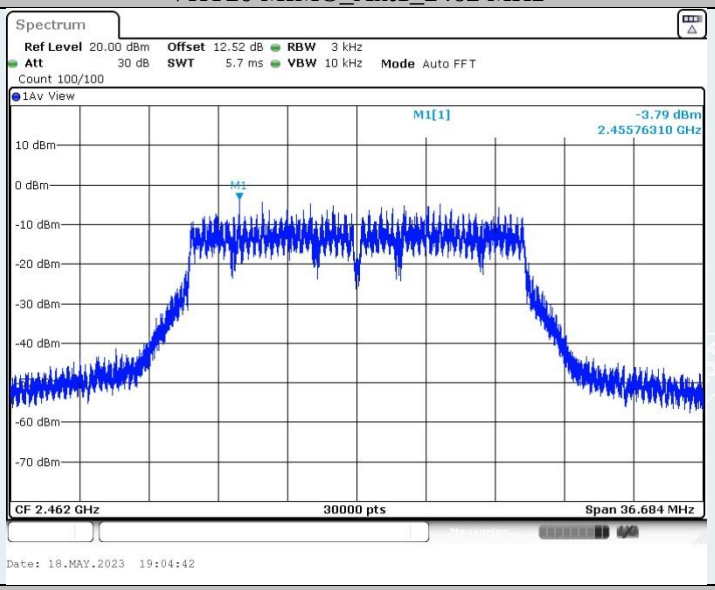
|  |
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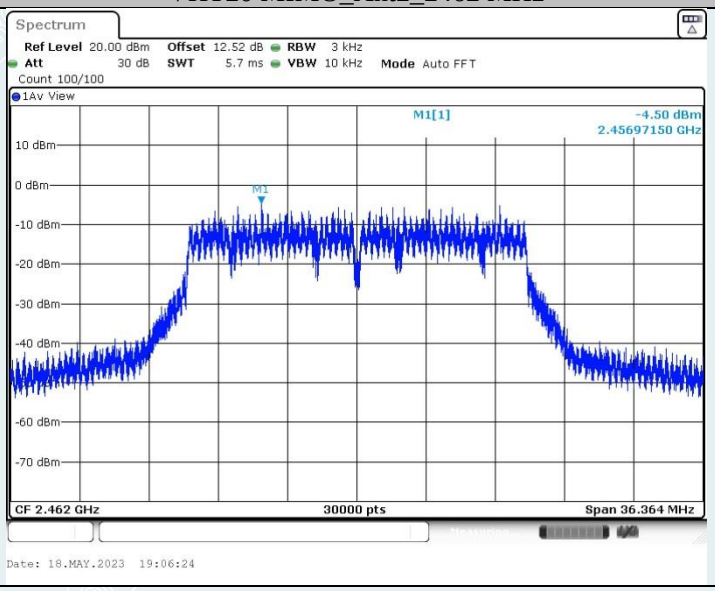
|  |

| VHT40 MIMO_Ant1_2422 MHz |
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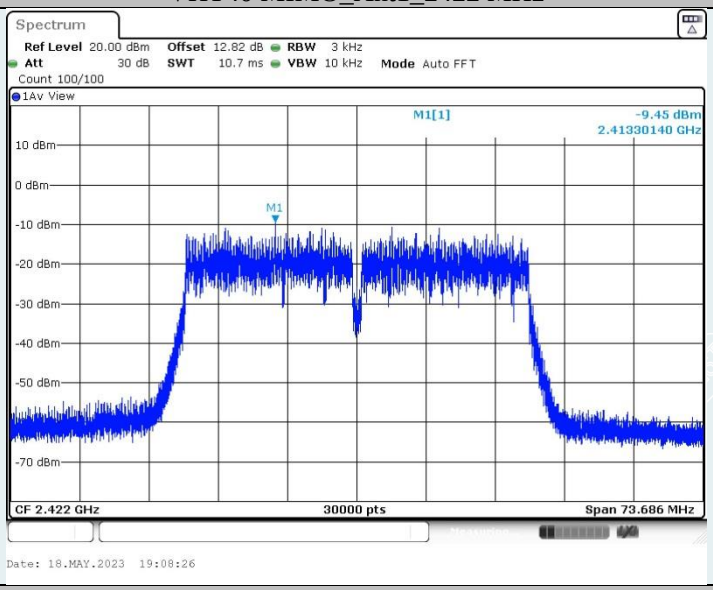
|  |
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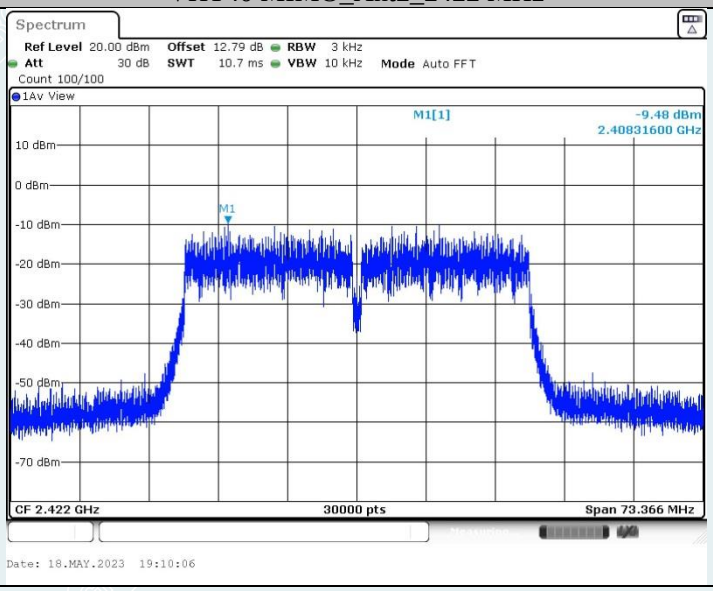
|  |

| VHT40 MIMO_Ant1_2437 MHz |
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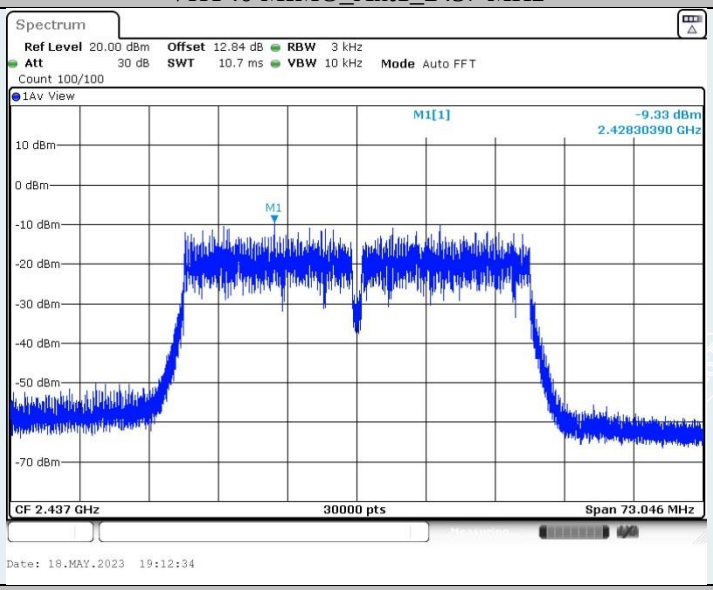
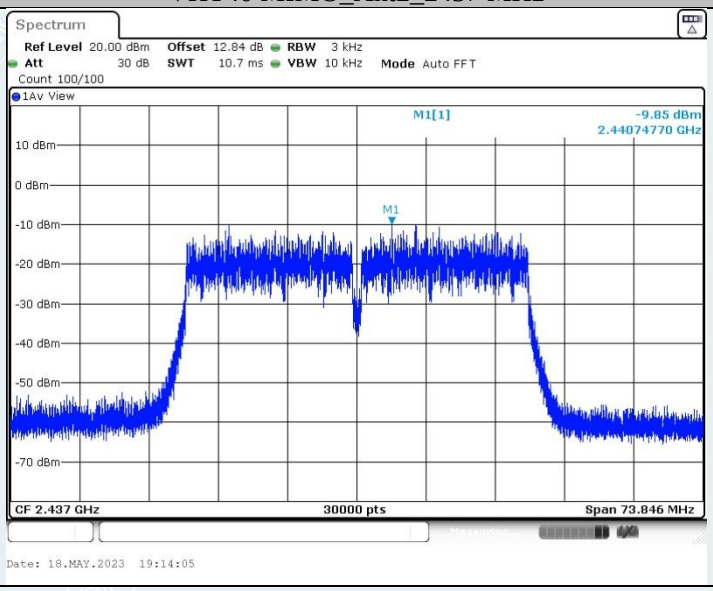
|  |
| VHT40 MIMO_Ant2_2437 MHz |
|  |

| VHT40 MIMO_Ant1_2452 MHz |
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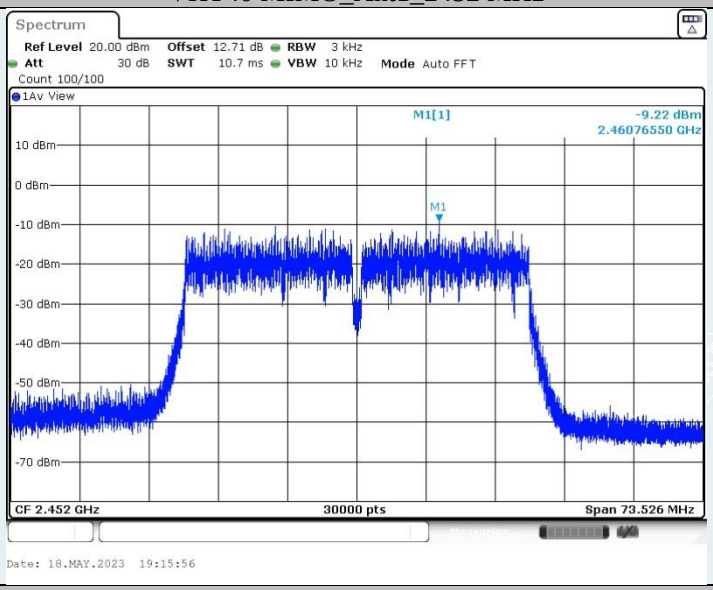
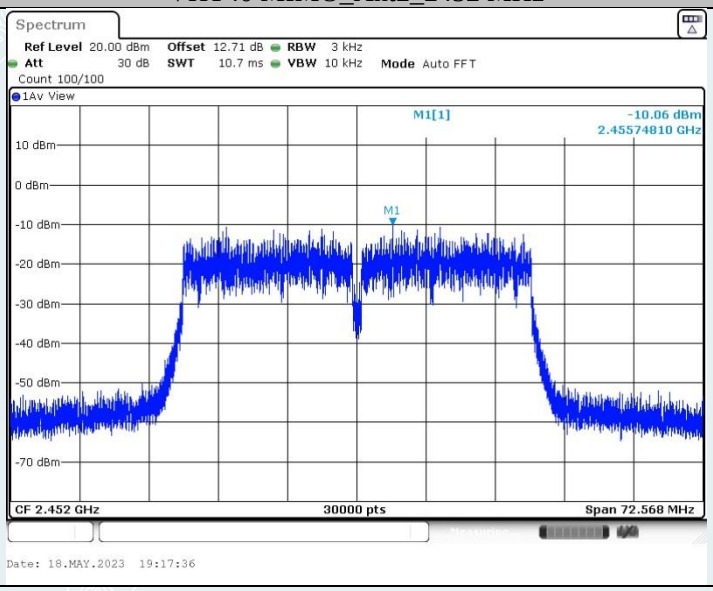
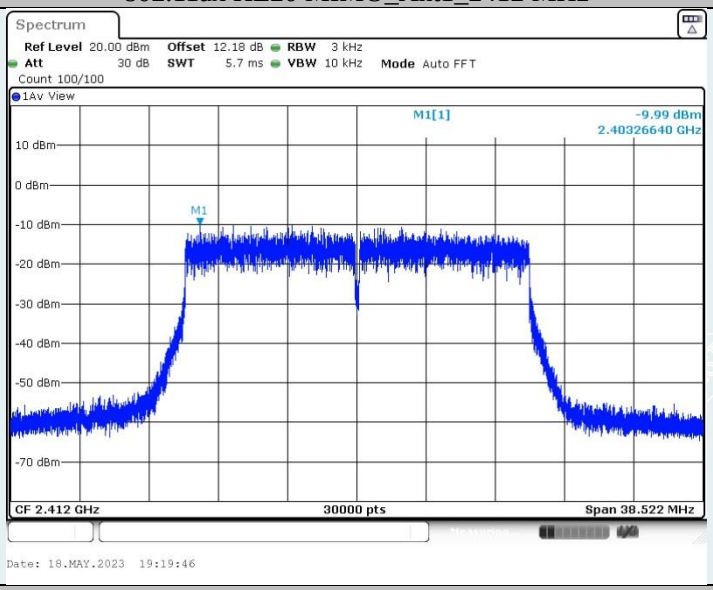
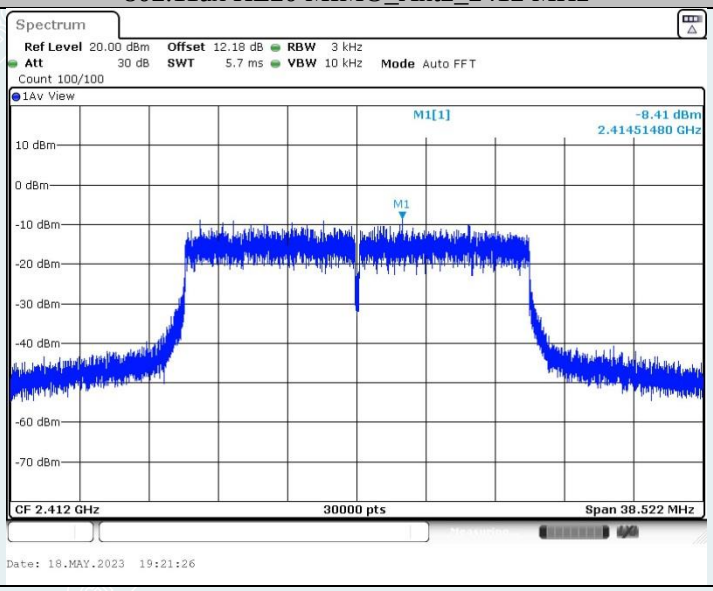
|  |
| VHT40 MIMO_Ant2_2452 MHz |
|  |

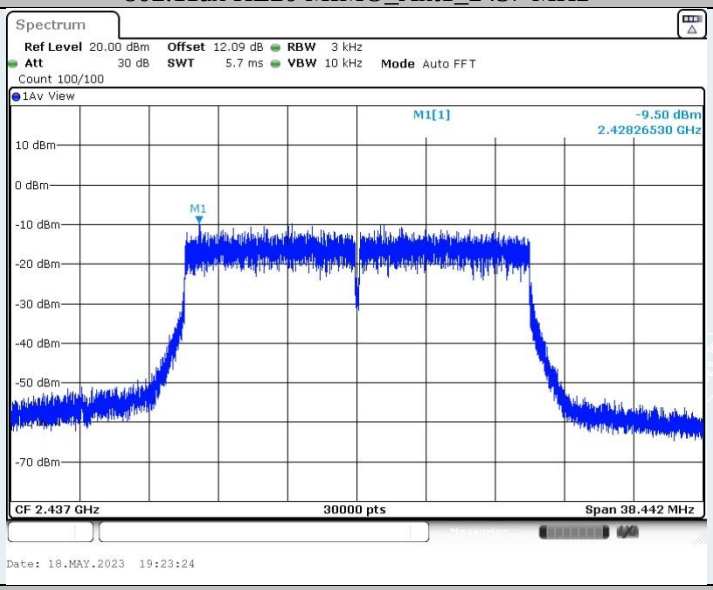
802.11ax HE20 MIMO_Ant1_2412 MHz



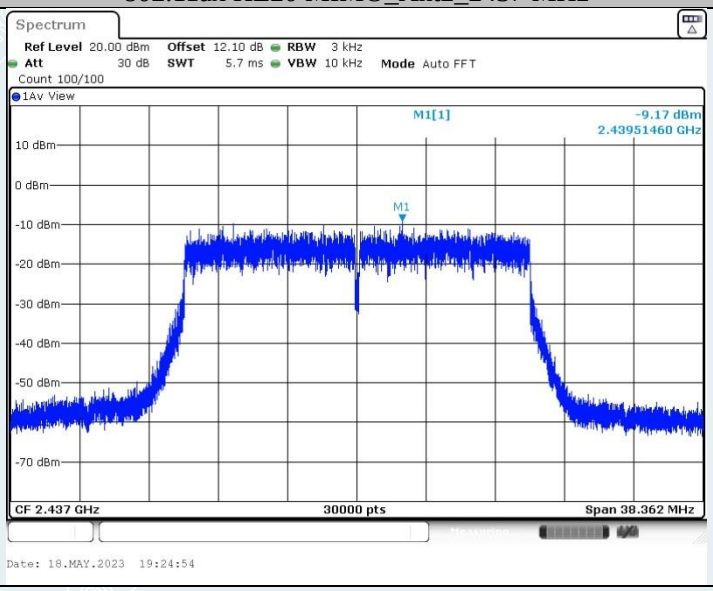

802.11ax HE20 MIMO_Ant2_2412 MHz



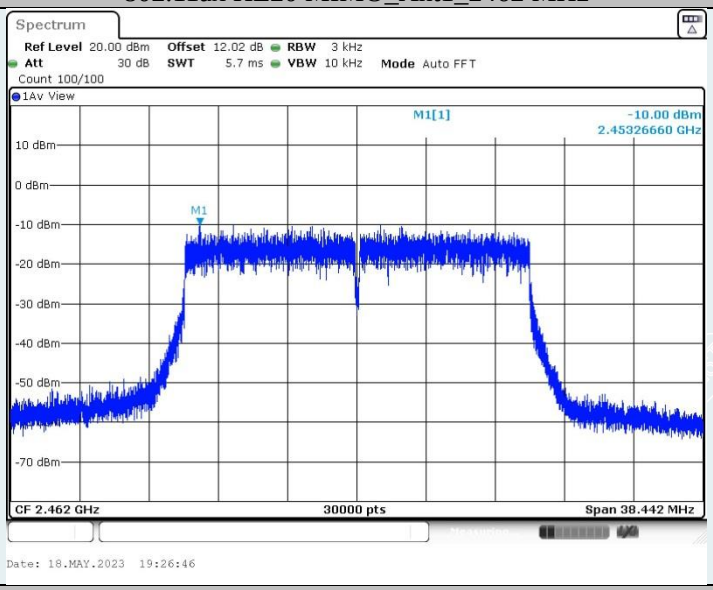
802.11ax HE20 MIMO_Ant1_2437 MHz



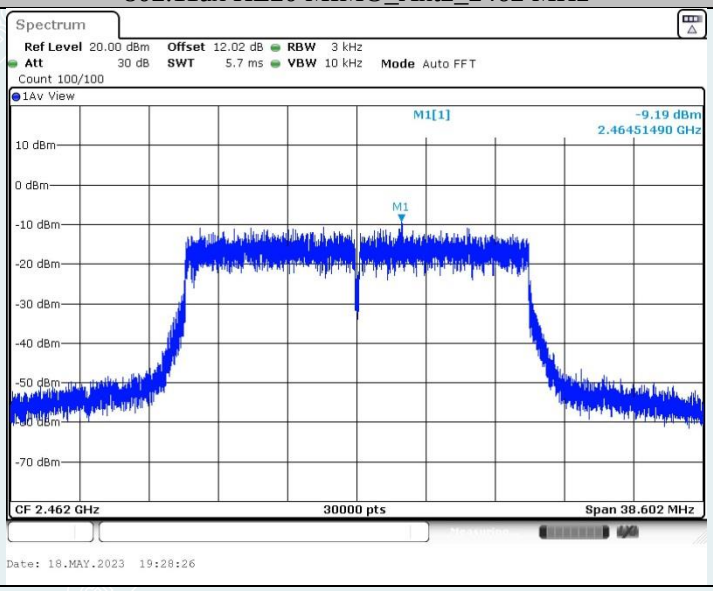

802.11ax HE20 MIMO_Ant2_2437 MHz



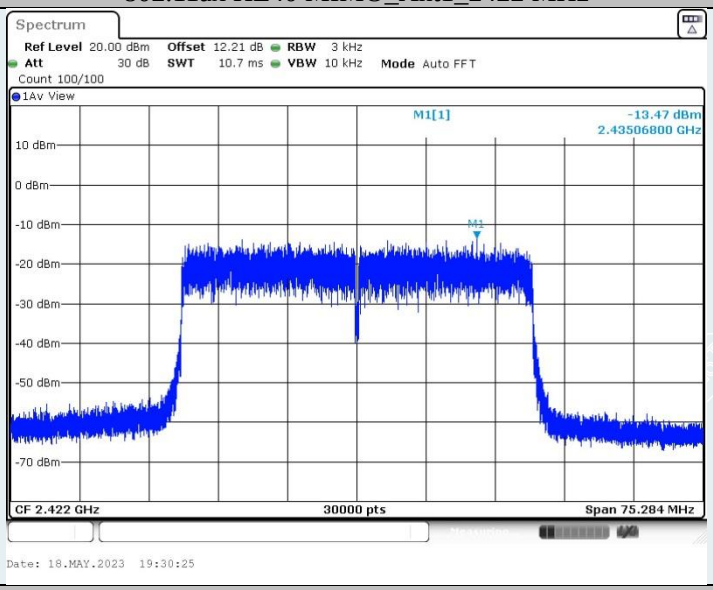
802.11ax HE20 MIMO_Ant1_2462 MHz



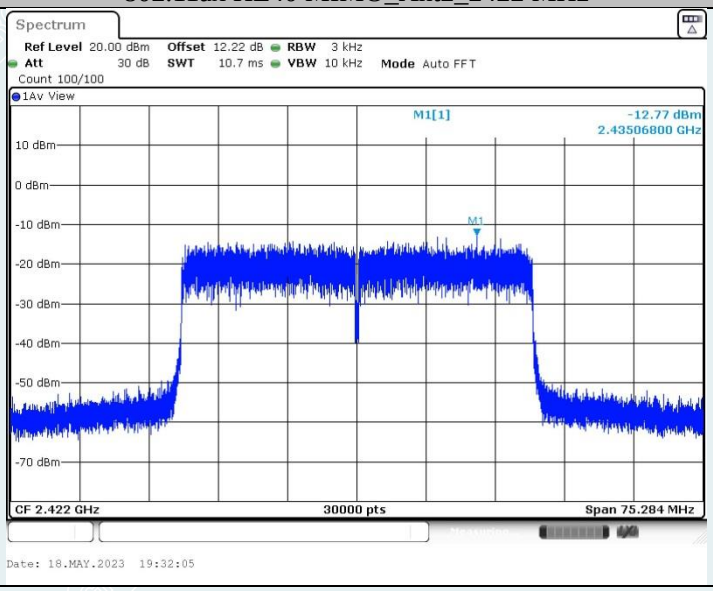

802.11ax HE20 MIMO_Ant2_2462 MHz



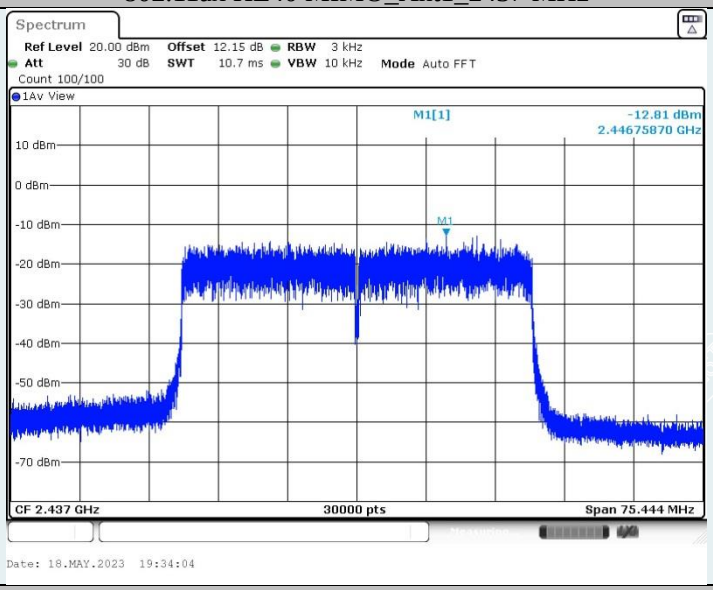
802.11ax HE40 MIMO_Ant1_2422 MHz



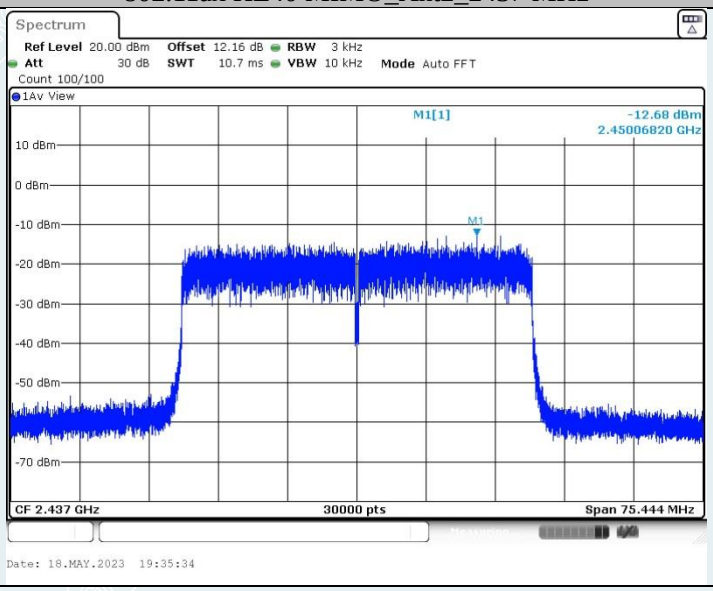

802.11ax HE40 MIMO_Ant2_2422 MHz



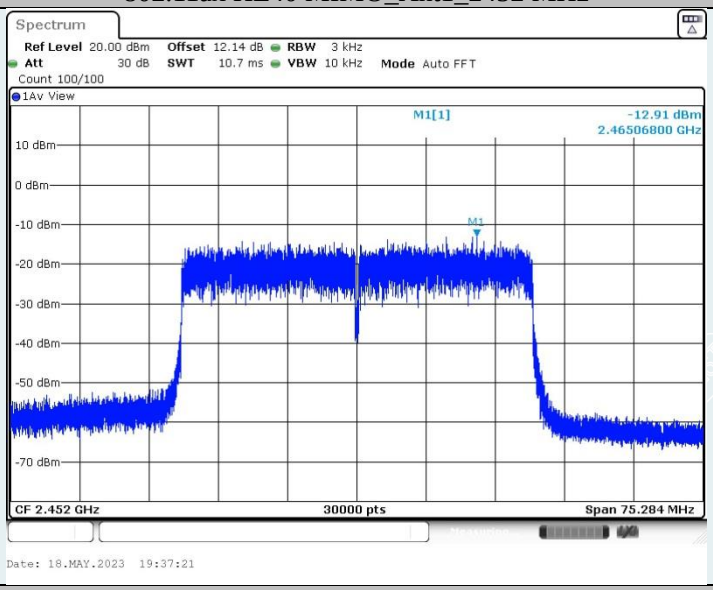
802.11ax HE40 MIMO_Ant1_2437 MHz



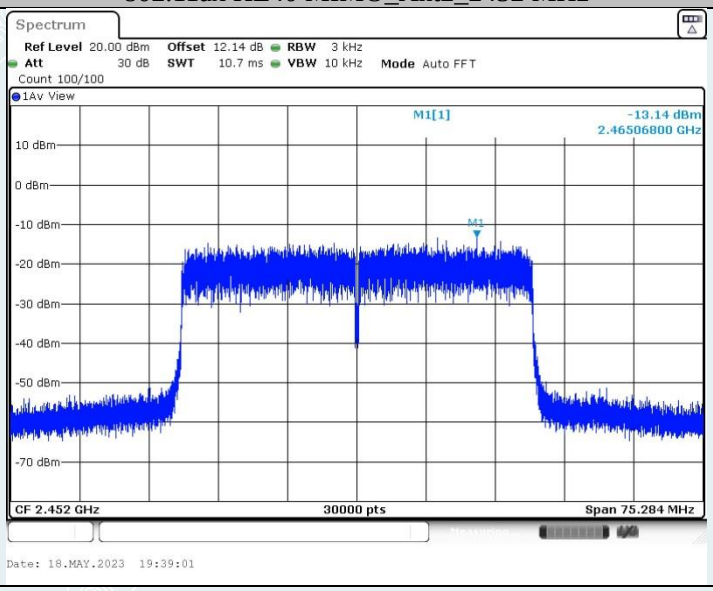

802.11ax HE40 MIMO_Ant2_2437 MHz



802.11ax HE40 MIMO_Ant1_2452 MHz




802.11ax HE40 MIMO_Ant2_2452 MHz



Environment: 22.5℃/54%RH/101.0kPa Voltage:AC120V/60Hz
Tested By:Huang Tianmei Date: 2023-05-18
Non Beamforming-SDM

| TestMode | Antenna | Frequency [MHz] | PSD (dBm/3kHz) | Duty Factor | Total PSD with Duty Factor (dBm/3kHz) | Limit[dBm/ 3kHz] | Verdict |
|---|---|---|---|---|---|---|---|
| 802.11n HT20 MIMO | Ant1 | 2412 | -6.12 | 2.48 | -3.64 | ≤8.00 | PASS |
| | Ant2 | 2412 | -4.98 | 2.48 | -2.50 | ≤8.00 | PASS |
| | total | 2412 | -2.50 | 2.48 | -0.02 | ≤8.00 | PASS |
| | Ant1 | 2437 | -5.70 | 2.48 | -3.22 | ≤8.00 | PASS |
| | Ant2 | 2437 | -5.18 | 2.48 | -2.70 | ≤8.00 | PASS |
| | total | 2437 | -2.42 | 2.48 | 0.06 | ≤8.00 | PASS |
| | Ant1 | 2462 | -6.07 | 2.48 | -3.59 | ≤8.00 | PASS |
| | Ant2 | 2462 | -5.16 | 2.48 | -2.68 | ≤8.00 | PASS |
| | total | 2462 | -2.58 | 2.48 | -0.10 | ≤8.00 | PASS |
| 802.11n HT40 MIMO | Ant1 | 2422 | -9.87 | 2.81 | -7.06 | ≤8.00 | PASS |
| | Ant2 | 2422 | -9.23 | 2.81 | -6.42 | ≤8.00 | PASS |
| | total | 2422 | -6.53 | 2.81 | -3.72 | ≤8.00 | PASS |
| | Ant1 | 2437 | -10.13 | 2.81 | -7.32 | ≤8.00 | PASS |
| | Ant2 | 2437 | -9.15 | 2.81 | -6.34 | ≤8.00 | PASS |
| | total | 2437 | -6.60 | 2.81 | -3.79 | ≤8.00 | PASS |
| | Ant1 | 2452 | -10.4 | 2.81 | -7.59 | ≤8.00 | PASS |
| | Ant2 | 2452 | -10.17 | 2.81 | -7.36 | ≤8.00 | PASS |
| | total | 2452 | -7.27 | 2.81 | -4.46 | ≤8.00 | PASS |
| VHT20 MIMO | Ant1 | 2412 | -4.47 | 0.79 | -3.68 | ≤8.00 | PASS |
| | Ant2 | 2412 | -4.74 | 0.79 | -3.95 | ≤8.00 | PASS |
| | total | 2412 | -1.59 | 0.79 | -0.80 | ≤8.00 | PASS |
| | Ant1 | 2437 | -3.38 | 0.79 | -2.59 | ≤8.00 | PASS |
| | Ant2 | 2437 | -4.74 | 0.79 | -3.95 | ≤8.00 | PASS |
| | total | 2437 | -1.00 | 0.79 | -0.21 | ≤8.00 | PASS |
| | Ant1 | 2462 | -4.52 | 0.79 | -3.73 | ≤8.00 | PASS |
| | Ant2 | 2462 | -4.63 | 0.79 | -3.84 | ≤8.00 | PASS |
| | total | 2462 | -1.56 | 0.79 | -0.77 | ≤8.00 | PASS |
| VHT40 MIMO | Ant1 | 2422 | -10.39 | 0.90 | -9.49 | ≤8.00 | PASS |
| | Ant2 | 2422 | -10.12 | 0.90 | -9.22 | ≤8.00 | PASS |
| | total | 2422 | -7.24 | 0.90 | -6.34 | ≤8.00 | PASS |
| | Ant1 | 2437 | -10.26 | 0.90 | -9.36 | ≤8.00 | PASS |
| | Ant2 | 2437 | -10.52 | 0.90 | -9.62 | ≤8.00 | PASS |
| | total | 2437 | -7.38 | 0.90 | -6.48 | ≤8.00 | PASS |
| | Ant1 | 2452 | -10.84 | 0.90 | -9.94 | ≤8.00 | PASS |
| | Ant2 | 2452 | -10.42 | 0.90 | -9.52 | ≤8.00 | PASS |
| | total | 2452 | -7.61 | 0.90 | -6.71 | ≤8.00 | PASS |

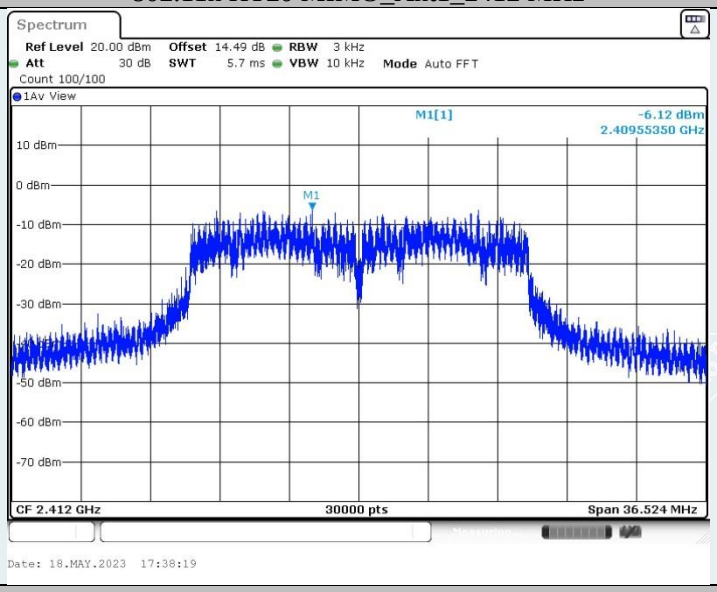
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 802.11ax HE20 MIMO | Ant1 | 2412 | -7.34 | 0.39 | -6.95 | ≤8.00 | PASS |
| | Ant2 | 2412 | -8.65 | 0.39 | -8.26 | ≤8.00 | PASS |
| | total | 2412 | -4.94 | 0.39 | -4.55 | ≤8.00 | PASS |
| | Ant1 | 2437 | -6.89 | 0.39 | -6.5 | ≤8.00 | PASS |
| | Ant2 | 2437 | -8.68 | 0.39 | -8.29 | ≤8.00 | PASS |
| | total | 2437 | -4.68 | 0.39 | -4.29 | ≤8.00 | PASS |
| | Ant1 | 2462 | -7.96 | 0.39 | -7.57 | ≤8.00 | PASS |
| | Ant2 | 2462 | -8.81 | 0.39 | -8.42 | ≤8.00 | PASS |
| | total | 2462 | -5.35 | 0.39 | -4.96 | ≤8.00 | PASS |
| 802.11ax HE40 MIMO | Ant1 | 2422 | -13.88 | 0.54 | -13.34 | ≤8.00 | PASS |
| | Ant2 | 2422 | -13.35 | 0.54 | -12.81 | ≤8.00 | PASS |
| | total | 2422 | -10.60 | 0.54 | -10.06 | ≤8.00 | PASS |
| | Ant1 | 2437 | -13.97 | 0.54 | -13.43 | ≤8.00 | PASS |
| | Ant2 | 2437 | -13.3 | 0.54 | -12.76 | ≤8.00 | PASS |
| | total | 2437 | -10.61 | 0.54 | -10.07 | ≤8.00 | PASS |
| | Ant1 | 2452 | -14.24 | 0.54 | -13.70 | ≤8.00 | PASS |
| | Ant2 | 2452 | -13.17 | 0.54 | -12.63 | ≤8.00 | PASS |
| | total | 2452 | -10.66 | 0.54 | -10.12 | ≤8.00 | PASS |

Note

1. The measured results were corrected by duty cycle factor (section 2.8)
2. This EUT supports MIMO 2X2, any transmit signals are correlated with each other. for Power Spectral Density measurements on IEEE 802.11 devices. According to the calculation of SDM independent spatial stream formula, Directional gain = $G_{ANTMAX}$ + 10 log($N_{ANT}/N_{SS}$) dBi,where $N_{SS}$ =2, $N_{ANT}$ =2, Directional gain =3.97+10 log(2/2)dBi=3.97dBi, So do not consider the limit rollback.

**---------- The following blanks ----------**

802.11n HT20 MIMO_Ant1_2412 MHz




802.11n HT20 MIMO_Ant2_2412 MHz