

# TEST REPORT

|                        |                                             |
|------------------------|---------------------------------------------|
| EUT Description        | WLAN and BT, 2x2 PCIe M.2 2230 adapter card |
| Brand Name             | Intel®                                      |
| Model Name             | BE201NGW                                    |
| FCC ID                 | PD9BE201NG                                  |
| Date of Test Start/End | 2023-11-10 / 2023-12-29                     |
| Features               | 2x2 WiFi - Bluetooth®<br>(see section 5)    |

|                     |                                                      |
|---------------------|------------------------------------------------------|
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|                     |                                               |
|---------------------|-----------------------------------------------|
| Reference Standards | FCC CFR Title 47 Part 15 E<br>(see section 1) |
|---------------------|-----------------------------------------------|

|                            |                                                                                                    |
|----------------------------|----------------------------------------------------------------------------------------------------|
| Test Report identification | 231109-03.TR01                                                                                     |
| Revision Control           | Rev. 00<br>This test report revision replaces any previous test report revision<br>(see section 8) |

The test results relate only to the samples tested.  
Reference to accreditation shall be used only by full reproduction of test report.

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## 1. Standards, reference documents and applicable test methods

1. FCC Title 47 CFR part 15 – Subpart E – Unlicensed National Information Infrastructure Devices. 2021-10-01 Edition
2. FCC Title 47 CFR part 15 - Subpart C – §15.209 Radiated emission limits; general requirements. 2021-10-01 Edition
3. FCC OET KDB 789033 D02 v02r01 General U-NII Test Procedures New Rules – Guidelines for compliance testing of Unlicensed National Information Infrastructure (U-NII) Devices (Part 15, Subpart E).
4. FCC OET KDB 662911 D01 v02r01 - Emissions Testing of Transmitters with Multiple Outputs in the Same Band.
5. ANSI C63.10-2013 American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

## 2. General conditions, competences and guarantees

- ✓ Intel Corporation SAS Wireless RF Lab (Intel WRF Lab) is an ISO/IEC 17025:2017 laboratory accredited by the American Association for Laboratory Accreditation (A2LA) with the certificate number 3478.01.
- ✓ Intel Corporation SAS Wireless RF Lab (Intel WRF Lab) is an Accredited Test Firm recognized by the FCC, with Designation Number FR0011.
- ✓ Intel WRF Lab declines any responsibility with respect to the identified information provided by the customer and that may affect the validity of results.
- ✓ Intel WRF Lab only provides testing services and is committed to providing reliable, unbiased test results and interpretations.
- ✓ Intel WRF Lab is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.
- ✓ Intel WRF Lab has developed calibration and proficiency programs for its measurement equipment to ensure correlated and reliable results to its customers.
- ✓ This report is only referred to the item that has undergone the test.
- ✓ This report does not imply an approval of the product by the Certification Bodies or competent Authorities.

## 3. Environmental Conditions

- ✓ At the site where the measurements were performed the following limits were not exceeded during the tests:

|             |              |
|-------------|--------------|
| Temperature | 23.0+/-1.9C  |
| Humidity    | 51.9+/-21.0% |

#### 4. Test samples

| Sample | Control #     | Description                    | Model          | Serial #       | Date of receipt | Note                                       |
|--------|---------------|--------------------------------|----------------|----------------|-----------------|--------------------------------------------|
| #01    | 231109-03.S04 | WiFi 7 Module                  | BE201NGW       | A002A5B1A56C   | 2023-11-10      | Used for Conducted tests                   |
|        | 231109-03.S53 | WiFi 7 Module                  | BE201NGW       | 4C496C6BD41A   | 2023-12-21      |                                            |
|        | 200203-01.S10 | Laptop                         | HP (HSN-I38C)  | 000951007L     | 2023-04-24      |                                            |
|        | 231109-03.S31 | CRF DB 2230 BNJ Extender Board | PCB00862-00_A  | ASS00862-01-0A | 2023-11-10      |                                            |
| #02    | 231109-03.S09 | WiFi 7 Module                  | BE201NGW       | A002A5B1A61B   | 2023-11-13      | Used for Radiated Spurious Emissions tests |
|        | 220225-03.S07 | Microwave Absorber             | Eccosorb BSR-1 | -              | 2022-03-14      |                                            |
|        | 231109-03.S48 | Adaptor                        | PCB00866-00_A  | 124627         | 2023-11-24      |                                            |
|        | 200611-03.S31 | Extender                       | ADEXELEC       | -              | 2020-08-19      |                                            |
|        | 200504-04.S07 | Laptop                         | Latitude 5401  | BVHLK13        | 2020-06-02      |                                            |
|        | 230223-02.S47 | Triband Antenna                | -              | 005            | 2023-04-20      |                                            |
|        | 230223-02.S48 | Triband Antenna                | -              | 006            | 2023-04-20      |                                            |
| #03    | 231109-03.S01 | WiFi 7 Module                  | BE201NGW       | A002A5B1A620   | 2023-11-24      | Used for Radiated Spurious Emissions tests |
|        | 220225-03.S07 | Microwave Absorber             | Eccosorb BSR-1 | -              | 2022-03-14      |                                            |
|        | 231109-03.S47 | Adaptor                        | PCB00866-00_A  | 124727         | 2023-11-24      |                                            |
|        | 220915-09.S01 | Extender                       | ADEXELEC       | -              | 2022-04-06      |                                            |
|        | 200611-03.S30 | Laptop                         | Latitude 5401  | 6DJLK13        | 2020-08-19      |                                            |
|        | 230223-02.S49 | Triband Antenna                | -              | 007            | 2023-04-20      |                                            |
|        | 230223-02.S50 | Triband Antenna                | -              | 008            | 2023-04-20      |                                            |

## 5. EUT Features

The herein information is provided by the customer.

Intel WRF Lab declines any responsibility for the accuracy of the stated customer provided information, especially if it has any impact on the correctness of test results presented in this report.

|                        |                                         |                      |                      |
|------------------------|-----------------------------------------|----------------------|----------------------|
| Brand Name             | Intel®                                  |                      |                      |
| Model Name             | BE201NGW                                |                      |                      |
| Software Version       | DRTU.05312.99.0.84 / DRTU.05490.99.0.85 |                      |                      |
| Driver Version         | 99.0.84.6 / 99.0.85.2                   |                      |                      |
| Prototype / Production | Production                              |                      |                      |
| Supported Radios       | 802.11b/g/n/ac/ax/be                    | 2.4GHz               |                      |
|                        | 802.11a/n/ac/ax/be                      | 5.2GHz               |                      |
|                        |                                         | 5.6GHz               |                      |
|                        |                                         | 5.8GHz               |                      |
|                        | 802.11ax/be                             | 6.0GHz               |                      |
| Antenna Information    | Bluetooth                               | 2.4GHz               |                      |
|                        | Transmitter                             | Chain A(1)           | Chain B(2)           |
|                        | Manufacturer                            | Intel WRF Lab        | Intel WRF Lab        |
|                        | Antenna type                            | PIFA                 | PIFA                 |
|                        | Part number                             | WRF-Tri Band-Antenna | WRF-Tri Band-Antenna |
|                        | Declared antenna gain (dBi)             | +5.15                | +5.15                |

## 6. Remarks and comments

1. No deviations were made from the test methods listed in section 1 of this report
2. Only the worst-case plot per 802.11 mode and test case measurements have been reported excepted for band edge measurements where all plots are reported

## 7. Test Verdicts summary

The statement of conformity to applicable standards in the table below are based on the measured values, without taking into account the measurement uncertainties.

### 7.1. 802.11 a/n/ac/ax/be – U-NII-1

| FCC part                 | Test name                                                   | Verdict |
|--------------------------|-------------------------------------------------------------|---------|
| 15.407 (a) (1)           | Power Limits. Maximum output power                          | Pass    |
| 15.407 (a) (1)           | Power spectral density                                      | Pass    |
| 15.407 (b) (1)<br>15.209 | Undesirable emissions limits: Band Edge (conducted)         | Pass    |
| 15.407 (b) (1)<br>15.209 | Undesirable emissions limits: Spurious emissions (radiated) | Pass    |
| 15.407 (6)<br>15.207     | AC power-line conducted emission measurements               | Pass    |

### 7.2. 802.11 a/n/ac/ax/be – U-NII-2A

| FCC part                 | Test name                                                   | Verdict |
|--------------------------|-------------------------------------------------------------|---------|
| 15.407 (a) (2)           | Power Limits. Maximum output power                          | Pass    |
| 15.407 (a) (2)           | Power spectral density                                      | Pass    |
| 15.407 (b) (2)<br>15.209 | Undesirable emissions limits: Band Edge (conducted)         | Pass    |
| 15.407 (b) (2)<br>15.209 | Undesirable emissions limits: Spurious emissions (radiated) | Pass    |
| 15.407 (6)<br>15.207     | AC power-line conducted emission measurements               | Pass    |

## 8. Document Revision History

| Revision # | Modified by             | Revision Details |
|------------|-------------------------|------------------|
| Rev. 00    | T.MATHIEU<br>R.SIMONINI | First Issue      |

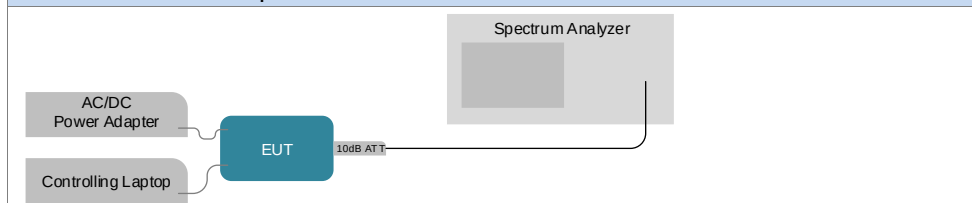
# Annex A. Test & System Description

## A.1 Measurement System

Measurements were performed using the following setups, made in accordance to the general provisions of FCC OET KDB 789033 D02 General UNII Test Procedures.

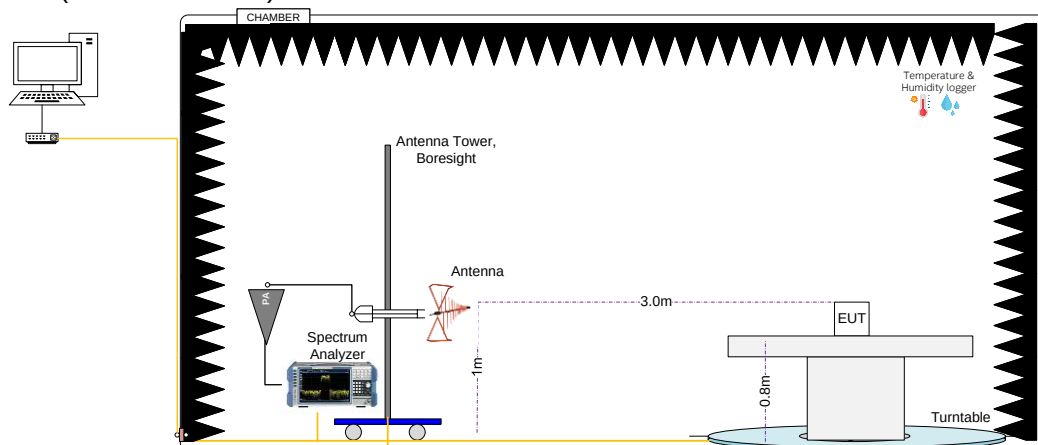
The DUT was installed in a test fixture and this test fixture is connected to a laptop computer and AC/DC power adapter. The laptop computer was used to configure the EUT to continuously transmit at a specified output power using all different modes and modulation schemes, using the Intel proprietary tool DRTU.

Conducted test setup

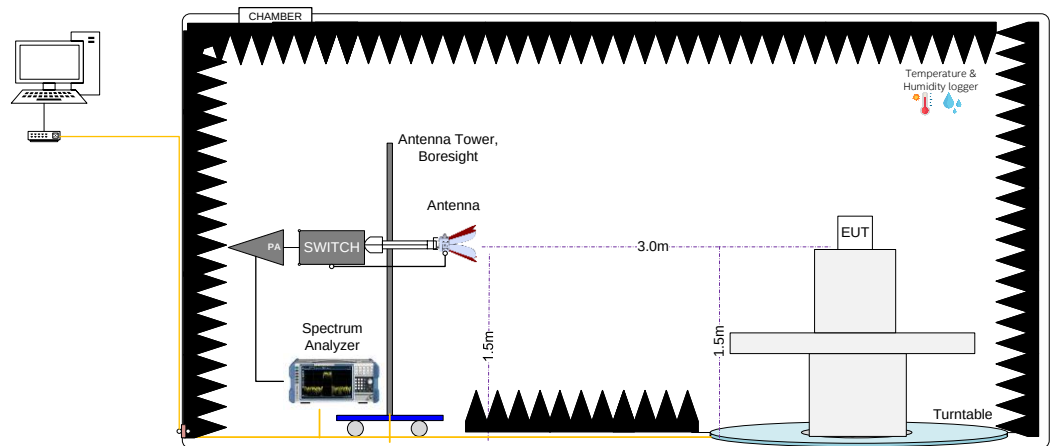


Radiated test setup

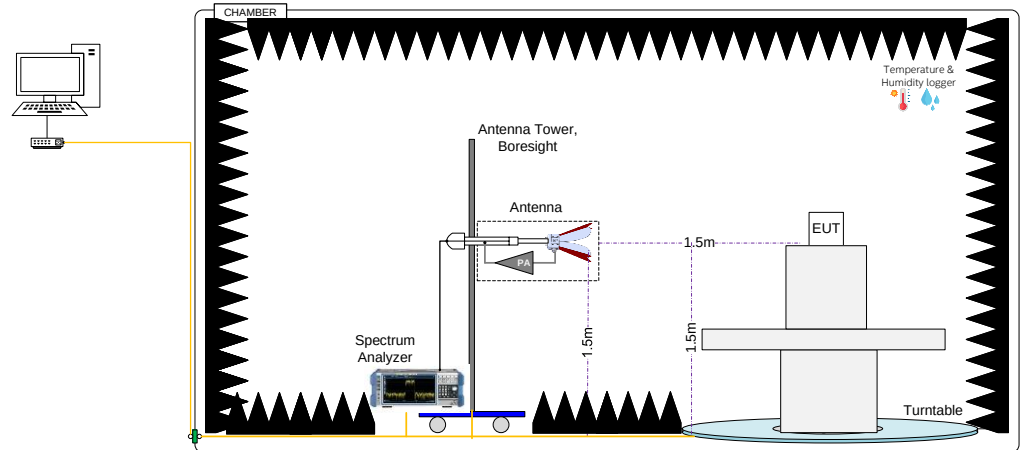
Radiated Setup 30MHz - 1GHz (Transmitter tests)



### Radiated Setup 1GHz – 10GHz (Transmitter tests)



### Radiated Setup 10GHz – 40GHz (Transmitter tests)



### Sample Calculation

The spurious received voltage  $V(\text{dB}\mu\text{V})$  in the spectrum Analyzer is converted to Electric field strength using the transducer factor  $F$  corresponding to the Rx path Loss:

$$F(\text{dB/m}) = \text{Rx Antenna Factor (dB/m)} + \text{Cable losses (dB)} - \text{Amplifiers Gain (dBi)}$$

$$E(\text{dB}\mu\text{V/m}) = V(\text{dB}\mu\text{V}) + F(\text{dB/m})$$

For field strength measurements made at other than the distance at which the applicable limit is specified, the field strength of the emission at the distance specified by the limit is deduced as follows:

$$E_{\text{SpecLimit}} = E_{\text{Meas}} + 20 \cdot \log(D_{\text{Meas}}/D_{\text{SpecLimit}})$$

where

$E_{\text{SpecLimit}}$  is the field strength of the emission at the distance specified by the limit, in  $\text{dB}\mu\text{V/m}$

$E_{\text{Meas}}$  is the field strength of the emission at the measurement distance, in  $\text{dB}\mu\text{V/m}$

$D_{\text{Meas}}$  is the measurement distance, in m

$D_{\text{SpecLimit}}$  is the distance specified by the limit, in m



A.2 Test Equipment List

Conducted setup

| ID#     | Device                   | Type/Model    | Serial #    | Manufacturer    | Cal. Date  | Cal. Due Date |
|---------|--------------------------|---------------|-------------|-----------------|------------|---------------|
| 131-000 | Spectrum Analyzer        | FSV40         | 101425      | Rohde & Schwarz | 2022-07-10 | 2024-07-10    |
| 018-003 | RF cable 50cm            | PE360-50CM    | N/A         | PASTERNAK       | 2023-03-03 | 2024-03-03    |
| 018-001 | 10dB Attenuator + MH4    | N/A           | N/A         | N/A             | 2023-03-03 | 2024-03-03    |
| 407-000 | Temp & Humidity Logger   | RA12E-TH1-RAS | RA12-E16EDA | AVITECH         | 2023-07-12 | 2025-07-12    |
| 413-000 | Measurement SW v1.4.10.8 | Octopi        | N/A         | Step AT         | N/A        | N/A           |

N/A: Not Applicable

Radiated Setup #1

| ID#     | Device                         | Type/Model   | Serial #               | Manufacturer        | Cal. Date  | Cal. Due Date |
|---------|--------------------------------|--------------|------------------------|---------------------|------------|---------------|
| 006-000 | Anechoic Chamber               | FACT3        | 5720                   | ETS-Lindgren        | 2022-01-21 | 2024-01-21    |
| 006-008 | Measurement SW, v11.30         | EMC32        | 100623                 | Rohde & Schwarz     | N/A        | N/A           |
| 259-000 | Temp & Humidity Logger         | RA12E-TH-RAS | RA12-B9BD70            | Avtech              | 2022-06-27 | 2024-06-27    |
| 006-001 | Turn Table                     | ETS          | -                      | ETS-Lindgren        | N/A        | N/A           |
| 006-011 | Boresight antenna mast         | BAM 4.0-P    | P/278/2890.01          | Maturo              | N/A        | N/A           |
| 007-008 | Double Horn Ridged antenna +PA | 3116C-PA     | 00169308bis + 00196308 | ETS-Lindgren        | 2023-0-30  | 2025-05-30    |
| 057-000 | Double Horn Ridged antenna     | 3117         | 167062                 | ETS-Lindgren        | 2022-07-08 | 2024-07-08    |
| 058-000 | Double Horn Ridged antenna     | 3116C        | 157511                 | ETS-Lindgren        | 2022-10-21 | 2024-10-21    |
| 006-061 | Bi-Log Periodic antenna        | CBL6143A     | 61382                  | Teseq               | 2022-10-24 | 2024-10-24    |
| 147-000 | Spectrum analyzer              | FSW43        | 101847                 | Rohde & Schwarz     | 2022-11-30 | 2024-11-30    |
| 301-000 | Amplifier 9kHz-1300MHz         | 8447F        | 3113A07440             | HP                  | 2023-03-03 | 2024-03-03    |
| 261-000 | Amplifier 1GHz-18GHz           | 3117-PA      | 00157993               | ETS-Lindgren        | 2023-02-20 | 2024-02-20    |
| 502-006 | Amplifier 0.5GHz-40GHz         | DEPA0540-43  | 2023A05                | Diamond Engineering | 2023-06-09 | 2024-06-09    |
| 009-007 | RF Filter                      | ZHSS-k11G+   | 8493 1831830           | Mini-Circuits       | 2023-06-09 | 2024-06-09    |
| 006-068 | RF Switch                      | RC-2SP6T-40  | 02112090061            | Micro-Circuits      | 2023-08-22 | 2024-08-22    |
| 006-059 | Cable 7m – 25MHz to 40GHz      | R286304174   | 20.46.369              | Radiall             | 2023-02-20 | 2024-02-20    |
| 006-063 | Cable 30cm – 1GHz to 40GHz     | PE371-12     | -                      | Pasternack          | 2023-02-27 | 2024-02-27    |
| 006-064 | Cable 30cm – 1GHz to 40GHz     | PE371-12     | -                      | Pasternack          | 2023-02-27 | 2024-02-27    |
| 006-065 | Cable 60cm – 25MHz to 1GHz     | PE300-24     | -                      | Pasternack          | 2023-06-02 | 2024-06-02    |

N/A: Not Applicable

Radiated Setup #2

| ID#     | Device                       | Type/Model      | Serial #    | Manufacturer    | Cal. Date  | Cal. Due Date |
|---------|------------------------------|-----------------|-------------|-----------------|------------|---------------|
| 127-000 | Spectrum Analyzer            | FSV40           | 101358      | Rohde & Schwarz | 2023-01-27 | 2025-01-27    |
| 007-007 | Double Ridge Horn (1- 18GHz) | 3117            | 00152266    | ETS Lindgren    | 2022-03-29 | 2024-03-29    |
| 007-006 | Switch & Positioner          | EMCenter        | 00151232    | ETS Lindgren    | N/A        | N/A           |
| 007-011 | RF Cable 1-18GHz - 6.5m      | 140-8500-11-51  | 001         | Atem            | 2023-02-15 | 2024-02-15    |
| 007-005 | Measurement SW, v11.20.00    | EMC32           | 100401      | Rohde & Schwarz | N/A        | N/A           |
| 007-000 | Anechoic chamber             | RFD-FA-100      | 5996        | ETS Lindgren    | 2021-09-14 | 2024-03-14    |
| 007-003 | Antenna Tower                | 2171B-3.0M      | 00150123    | ETS Lindgren    | N/A        | N/A           |
| 007-002 | Turntable                    | -               | -           | ETS Lindgren    | N/A        | N/A           |
| 007-014 | RF Cable 18-40 GHz 6m        | R286304009      | 1747364     | Radiall         | 2023-02-16 | 2024-02-16    |
| 007-022 | RF Cable 1-18GHz, 1.5m       | 0501050991200GX | 19.23.493   | Radiall         | 2023-02-13 | 2024-02-13    |
| 007-015 | RF Cable 1GHz-18GHz 1.5m     | -               | -           | Spirent         | 2023-02-13 | 2024-02-13    |
| 007-018 | RF Cable 1-9.5GHz 1.2m       | 0500990991200KE | -           | Radiall         | 2023-02-13 | 2024-02-13    |
| 007-020 | RF Cable 1-18GHz, 1.2 m      | 2301761761200PJ | 12.22.1104  | Radiall         | 2023-02-15 | 2024-02-15    |
| 325-000 | Temp & Humidity Logger       | RA12E-TH1-RAS   | RA12-B9B7C6 | Avtech          | 2022-01-17 | 2024-01-17    |

N/A: Not Applicable

## Shared Radiated Equipment

| ID#     | Device                 | Type/Model | Serial # | Manufacturer    | Cal. Date  | Cal. Due Date |
|---------|------------------------|------------|----------|-----------------|------------|---------------|
| 412-000 | DRTU Power finder V2.1 | -          | -        | Intel           | NA         | NA            |
| 139-000 | Power Sensor           | NRP-Z81    | 104383   | Rohde & Schwarz | 2023-04-21 | 2025-04-21    |
| 061-000 | Power Sensor           | NRP-Z81    | 104386   | Rohde & Schwarz | 2022-03-25 | 2024-03-25    |
| 140-000 | Power Sensor           | NRP-Z81    | 104382   | Rohde & Schwarz | 2022-03-25 | 2024-03-25    |
| 423-000 | Power Sensor           | NRP-Z81    | 101152   | Rohde & Schwarz | 2022-05-18 | 2024-05-18    |

N/A: Not Applicable

### A.3 Measurement Uncertainty Evaluation

The system uncertainty evaluation is shown in the table below with a coverage factor of  $k = 2$  to indicate a 95% level of confidence:

| Measurement type                      | Uncertainty | Unit |
|---------------------------------------|-------------|------|
| Timing                                | $\pm 0.12$  | %    |
| Power Spectral density                | $\pm 1.47$  | dB   |
| Occupied bandwidth                    | $\pm 2.07$  | %    |
| Conducted Power                       | $\pm 1.03$  | dB   |
| Conducted Spurious Emission <26.5 GHz | $\pm 3.45$  | dB   |
| Radiated tests <1GHz                  | $\pm 6.40$  | dB   |
| Radiated tests 1GHz – 40 GHz          | $\pm 6.04$  | dB   |

# Annex B. Test Results U-NII-1 & U-NII-2A

The herein test results were performed by:

| Test case measurement                               | Test Personnel       |
|-----------------------------------------------------|----------------------|
| 26dB & 99% bandwidth                                | T.MATHIEU            |
| Power Limits. Maximum output power                  | T.MATHIEU            |
| Power spectral density                              | T.MATHIEU            |
| Undesirable emissions limits: Band Edge (conducted) | T.MATHIEU            |
| Undesirable emissions limits (radiated)             | K.KHATIB, R.SIMONINI |

## B.1 Test Conditions

For 802.11a mode the EUT can transmit at both CHAIN A and CHAIN B RF outputs individually, but not simultaneously.

For 802.11n20 & 802.11ax/be20 (20 MHz channel bandwidth), 802.11n40 & 802.11ax/be40 (40MHz channel bandwidth), 802.11ac80 & 802.11ax/be80 (80MHz channel bandwidth) and 802.11ac160 & 802.11ax/be160 (160MHz channel bandwidth) modes the EUT can transmit at both CHAIN A and CHAIN B RF outputs individually, and also simultaneously.

The following data rates were selected based on preliminary testing that identified those rates as the worst cases for output power and spurious levels at the band edges:

| Transmission | Mode        | Bandwidth (MHz) | Worst Case Data Rate |
|--------------|-------------|-----------------|----------------------|
| SISO         | 802.11a     | 20              | 6Mbps                |
|              | 802.11n     | 20              | HT0                  |
|              |             | 40              | HT0                  |
|              | 802.11ac    | 80              | VHT0                 |
|              |             | 160             | VHT0                 |
|              | 802.11ax/be | 20/40/80/160    | MCS0                 |
| MIMO         | 802.11n     | 20/40           | HT8                  |
|              | 802.11ac    | 80/160          | VHT0                 |
|              | 802.11ax/be | 20/40/80/160    | MCS0                 |

Alternative channels to the lowest and highest channels per band have been also tested for Band Edge compliance.

## B.2 Test Results Tables U-NII-1

### B.2.1 26dB & 99% Bandwidth

#### Test procedure

The conducted setup shown in section *Test & System Description* was used to measure the 26dB & 99% Bandwidth. The antenna terminal of the EUT is connected to the spectrum analyzer through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss.

#### Results tables

| Mode       | Rate  | Antenna | Channel | Freq [MHz] | 26dB BW [MHz] | 99% BW [MHz] |
|------------|-------|---------|---------|------------|---------------|--------------|
| 802.11a    | 6Mbps | SISO A  | 36      | 5180       | 24.20         | 16.72        |
|            |       |         | 40      | 5200       | 24.60         | 16.68        |
|            |       |         | 48      | 5240       | 23.95         | 16.68        |
|            |       | SISO B  | 36      | 5180       | 24.65         | 16.72        |
|            |       |         | 40      | 5200       | 24.50         | 16.72        |
|            |       |         | 48      | 5240       | 24.50         | 16.72        |
| 802.11n20  | HT0   | SISO A  | 36      | 5180       | 24.80         | 17.80        |
|            |       |         | 40      | 5200       | 24.70         | 17.72        |
|            |       |         | 48      | 5240       | 24.70         | 17.92        |
|            |       | SISO B  | 36      | 5180       | 25.00         | 17.80        |
|            |       |         | 40      | 5200       | 25.05         | 17.80        |
|            |       |         | 48      | 5240       | 25.05         | 17.80        |
|            | HT8   | MIMO A  | 36      | 5180       | 24.90         | 17.80        |
|            |       |         | 40      | 5200       | 24.40         | 17.80        |
|            |       |         | 48      | 5240       | 24.50         | 17.84        |
|            |       | MIMO B  | 36      | 5180       | 24.60         | 17.84        |
|            |       |         | 40      | 5200       | 24.50         | 17.80        |
|            |       |         | 48      | 5240       | 24.60         | 17.76        |
| 802.11n40  | HT0   | SISO A  | 38      | 5190       | 43.20         | 36.16        |
|            |       |         | 46      | 5230       | 44.10         | 36.08        |
|            |       | SISO B  | 38      | 5190       | 43.92         | 36.08        |
|            |       |         | 46      | 5230       | 45.45         | 36.32        |
|            | HT8   | MIMO A  | 38      | 5190       | 43.56         | 36.08        |
|            |       |         | 46      | 5230       | 43.29         | 36.08        |
|            |       | MIMO B  | 38      | 5190       | 42.21         | 36.00        |
|            |       |         | 46      | 5230       | 42.66         | 36.16        |
| 802.11ac80 | VHT0  | SISO A  | 42      | 5210       | 86.45         | 75.12        |
|            |       | SISO B  |         |            | 87.02         | 75.12        |
|            |       | MIMO A  |         |            | 86.64         | 75.12        |
|            |       | MIMO B  |         |            | 85.50         | 75.00        |

Max Value

| Mode          | Rate | Antenna | Channel | Freq [MHz] | RU config. | 26dB BW [MHz] | 99% BW [MHz] |
|---------------|------|---------|---------|------------|------------|---------------|--------------|
| 802.11ax/be20 | MCS0 | SISO A  | 36      | 5180       | Full       | 23.85         | 18.96        |
|               |      |         |         |            | 26/0       | 20.55         | 18.36        |
|               |      |         |         |            | 52/37      | 20.55         | 17.92        |
|               |      |         |         |            | 106/53     | 24.20         | 18.20        |
|               |      |         | 40      | 5200       | Full       | 24.00         | 18.88        |
|               |      |         |         |            | 48         | 5240          | Full         |
|               |      | SISO B  | 36      | 5180       | Full       | 24.35         | 18.92        |
|               |      |         |         |            | 26/0       | 20.55         | 18.24        |
|               |      |         |         |            | 52/37      | 20.60         | 18.24        |
|               |      |         |         |            | 106/53     | 23.25         | 18.28        |
|               |      |         | 40      | 5200       | Full       | 24.05         | 18.92        |
|               |      |         |         |            | 48         | 5240          | Full         |
|               |      | MIMO A  | 36      | 5180       | Full       | 24.40         | 18.92        |
|               |      |         |         |            | 26/0       | 20.30         | 18.20        |
|               |      |         |         |            | 52/37      | 20.55         | 18.08        |
|               |      |         |         |            | 106/53     | 22.05         | 18.24        |
|               |      |         | 40      | 5200       | Full       | 23.65         | 18.88        |
|               |      |         |         |            | 48         | 5240          | Full         |
|               |      | MIMO B  | 36      | 5180       | Full       | 23.80         | 18.96        |
|               |      |         |         |            | 26/0       | 20.00         | 18.08        |
|               |      |         |         |            | 52/37      | 20.45         | 18.04        |
|               |      |         |         |            | 106/53     | 20.90         | 17.92        |
|               |      |         | 40      | 5200       | Full       | 24.65         | 19.04        |
|               |      |         |         |            | 48         | 5240          | Full         |
| 802.11ax/be40 | MCS0 | SISO A  | 38      | 5190       | Full       | 43.02         | 37.52        |
|               |      |         |         |            | 242/61     | 24.48         | 18.72        |
|               |      |         | 46      | 5230       | Full       | 43.92         | 37.68        |
|               |      |         | SISO B  | 38         | 5190       | Full          | 43.29        |
|               |      |         |         | 46         | 5230       | 242/61        | 24.12        |
|               |      |         | 46      | 5230       | Full       | 45.72         | 37.76        |
|               |      |         | MIMO A  | 38         | 5190       | Full          | 42.75        |
|               |      |         |         | 46         | 5230       | 242/61        | 26.46        |
|               |      |         | 46      | 5230       | Full       | 42.39         | 37.68        |
|               |      |         | MIMO B  | 38         | 5190       | Full          | 42.84        |
|               |      |         |         | 46         | 5230       | 242/61        | 26.73        |
|               |      |         |         | 46         | 5230       | Full          | 43.20        |
| 802.11ax/be80 | MCS0 | SISO A  | 42      | 5210       | Full       | 84.36         | 76.92        |
|               |      |         |         |            |            | 484/65        | 44.27        |
|               |      | SISO B  |         |            | Full       | 83.79         | 76.80        |
|               |      |         |         |            |            | 484/65        | 43.51        |
|               |      | MIMO A  |         |            | Full       | 84.55         | 76.80        |
|               |      |         |         |            |            | 484/65        | 42.94        |
|               |      | MIMO B  |         |            | Full       | 83.22         | 76.68        |
|               |      |         |         |            |            | 484/65        | 44.46        |

Max Value

See Section B.4.1 for the screenshot results.

## B.2.2 Power Limits. Maximum Output power & Maximum power spectral density

### Test limits

| FCC part               | Limits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15.407<br>(a) (1) (iv) | For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. |

### Test procedure

The Maximum Conducted Output Power was measured using the channel integration method according to section E) 2) e) (Method SA-2 Alternative) of FCC OET KDB 789033 D02

The maximum power spectral density (PSD) was measured using the method according to section F) (Method SA-2 Alternative) of FCC OET KDB 789033 D02

In the measure-and-sum approach for MIMO mode, the conducted emission level (e.g., transmit power or power in specified bandwidth) is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically in linear power units to determine the total emission level from the device.

The EIRP power (dBm) is calculated by adding the declared maximum antenna gain to the measured conducted power.

The conducted setup shown in section *Test & System Description* was used to measure the maximum conducted output power and power spectral density. The antenna terminal of the EUT is connected to the spectrum analyser through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss.

## Results tables

### Duty cycle

| Mode          | Rate  | Antenna | Duty Cycle [%] |
|---------------|-------|---------|----------------|
| 802.11a       | 6Mbps | SISO A  | 97.739         |
|               |       | SISO B  | 97.739         |
| 802.11n20     | HT0   | SISO A  | 98.785         |
|               |       | SISO B  | 98.785         |
|               | HT8   | MIMO A  | 99.574         |
|               |       | MIMO B  | 99.574         |
| 802.11ax/be20 | MCS0  | SISO A  | 98.778         |
|               |       | SISO B  | 98.778         |
|               |       | MIMO A  | 99.671         |
|               |       | MIMO B  | 99.671         |
| 802.11n40     | HT0   | SISO A  | 98.8           |
|               |       | SISO B  | 98.8           |
|               | HT8   | MIMO A  | 99.353         |
|               |       | MIMO B  | 99.353         |
| 802.11ax/be40 | MCS0  | SISO A  | 98.793         |
|               |       | SISO B  | 98.793         |
|               |       | MIMO A  | 99.895         |
|               |       | MIMO B  | 99.895         |
| 802.11ac80    | VHT0  | SISO A  | 98.795         |
|               |       | SISO B  | 98.795         |
|               |       | MIMO A  | 98.777         |
|               |       | MIMO B  | 98.777         |
| 802.11ax/be80 | MCS0  | SISO A  | 98.793         |
|               |       | SISO B  | 98.793         |
|               |       | MIMO A  | 98.784         |
|               |       | MIMO B  | 98.784         |

### Maximum output power

| Mode       | Rate  | Channel | Freq [MHz] | Antenna      | Average Conducted Output Power [dBm] | Avg Max* Conducted Output Power [dBm] | Avg Max*. EIRP [dBm] | Avg Max* Conducted Power [mW] |
|------------|-------|---------|------------|--------------|--------------------------------------|---------------------------------------|----------------------|-------------------------------|
| 802.11a    | 6Mbps | 36      | 5180       | SISO A       | 21.12                                | 21.22                                 | 26.37                | 132.41                        |
|            |       |         |            | SISO B       | 20.92                                | 21.02                                 | 26.17                | 126.45                        |
|            |       | 40      | 5200       | SISO A       | 21.08                                | 21.18                                 | 26.33                | 131.20                        |
|            |       |         |            | SISO B       | 21.13                                | 21.23                                 | 26.38                | 132.72                        |
|            |       | 48      | 5240       | SISO A       | 21.14                                | 21.24                                 | 26.39                | 133.02                        |
|            |       |         |            | SISO B       | 21.03                                | 21.13                                 | 26.28                | 129.70                        |
| 802.11n20  | HT0   | 36      | 5180       | SISO A       | 21.07                                | 21.07                                 | 26.22                | 127.94                        |
|            |       |         |            | SISO B       | 21.41                                | 21.41                                 | 26.56                | 138.36                        |
|            |       | 40      | 5200       | SISO A       | 20.99                                | 20.99                                 | 26.14                | 125.60                        |
|            |       |         |            | SISO B       | 21.06                                | 21.06                                 | 26.21                | 127.64                        |
|            |       | 48      | 5240       | SISO A       | 21.11                                | 21.11                                 | 26.26                | 129.12                        |
|            |       |         |            | SISO B       | 21.53                                | 21.53                                 | 26.68                | 142.23                        |
|            | HT8   | 36      | 5180       | MIMO A       | 18.45                                | 18.45                                 | 23.60                | 69.98                         |
|            |       |         |            | MIMO B       | 17.92                                | 17.92                                 | 23.07                | 61.94                         |
|            |       |         |            | Combined A+B | 21.20                                | 21.20                                 | 26.35                | 131.93                        |
|            |       |         |            | MIMO A       | 18.41                                | 18.41                                 | 23.56                | 69.34                         |
|            |       | 40      | 5200       | MIMO B       | 18.14                                | 18.14                                 | 23.29                | 65.16                         |
|            |       |         |            | Combined A+B | 21.29                                | 21.29                                 | 26.44                | 134.51                        |
|            |       | 48      | 5240       | MIMO A       | 18.47                                | 18.47                                 | 23.62                | 70.31                         |
|            |       |         |            | MIMO B       | 18.05                                | 18.05                                 | 23.20                | 63.83                         |
|            |       |         |            | Combined A+B | 21.28                                | 21.28                                 | 26.43                | 134.13                        |
| 802.11n40  | HT0   | 38      | 5190       | SISO A       | 20.17                                | 20.17                                 | 25.32                | 103.99                        |
|            |       |         |            | SISO B       | 20.04                                | 20.04                                 | 25.19                | 100.93                        |
|            |       | 46      | 5230       | SISO A       | 21.75                                | 21.75                                 | 26.90                | 149.62                        |
|            |       |         |            | SISO B       | 21.14                                | 21.14                                 | 26.29                | 130.02                        |
|            | HT8   | 38      | 5190       | MIMO A       | 18.63                                | 18.63                                 | 23.78                | 72.95                         |
|            |       |         |            | MIMO B       | 18.52                                | 18.52                                 | 23.67                | 71.12                         |
|            |       |         |            | Combined A+B | 21.59                                | 21.59                                 | 26.74                | 144.07                        |
|            |       | 46      | 5230       | MIMO A       | 20.72                                | 20.72                                 | 25.87                | 118.03                        |
|            |       |         |            | MIMO B       | 20.59                                | 20.59                                 | 25.74                | 114.55                        |
|            |       |         |            | Combined A+B | 23.67                                | 23.67                                 | 28.82                | 232.58                        |
| 802.11ac80 | VHT0  | 42      | 5210       | SISO A       | 21.15                                | 21.15                                 | 26.30                | 130.32                        |
|            |       |         |            | SISO B       | 20.58                                | 20.58                                 | 25.73                | 114.29                        |
|            |       |         |            | MIMO A       | 19.15                                | 19.15                                 | 24.30                | 82.22                         |
|            |       |         |            | MIMO B       | 19.04                                | 19.04                                 | 24.19                | 80.17                         |
|            |       |         |            | Combined A+B | 22.11                                | 22.11                                 | 27.26                | 162.39                        |

\*Maximum values are the duty cycle compensated values calculated from the average (measured) values

Max Value

Min Value



| Mode          | Rate | Channel | Freq [MHz] | Antenna      | RU config. | Average Conducted Output Power [dBm] | Avg Max* Conducted Output Power [dBm] | Avg Max*. EIRP [dBm] | Avg Max* Conducted Power [mW] |
|---------------|------|---------|------------|--------------|------------|--------------------------------------|---------------------------------------|----------------------|-------------------------------|
| 802.11ax/be20 | MCS0 | 36      | 5180       | SISO A       | Full       | 20.95                                | 20.95                                 | 26.10                | 124.45                        |
|               |      |         |            |              | 26/0       | 12.61                                | 12.61                                 | 17.76                | 18.24                         |
|               |      |         |            |              | 52/37      | 15.75                                | 15.75                                 | 20.90                | 37.58                         |
|               |      |         |            |              | 106/53     | 18.68                                | 18.68                                 | 23.83                | 73.79                         |
|               |      |         |            | SISO B       | Full       | 21.33                                | 21.33                                 | 26.48                | 135.83                        |
|               |      |         |            |              | 26/0       | 12.97                                | 12.97                                 | 18.12                | 19.82                         |
|               |      |         |            |              | 52/37      | 15.99                                | 15.99                                 | 21.14                | 39.72                         |
|               |      |         |            |              | 106/53     | 18.57                                | 18.57                                 | 23.72                | 71.94                         |
|               |      |         |            | MIMO A       | Full       | 18.56                                | 18.56                                 | 23.71                | 71.78                         |
|               |      |         |            |              | 26/0       | 10.16                                | 10.16                                 | 15.31                | 10.38                         |
|               |      |         |            |              | 52/37      | 13.15                                | 13.15                                 | 18.30                | 20.65                         |
|               |      |         |            |              | 106/53     | 16.36                                | 16.36                                 | 21.51                | 43.25                         |
|               |      | 40      | 5200       | MIMO B       | Full       | 18.30                                | 18.30                                 | 23.45                | 67.61                         |
|               |      |         |            |              | 26/0       | 9.82                                 | 9.82                                  | 14.97                | 9.59                          |
|               |      |         |            |              | 52/37      | 12.97                                | 12.97                                 | 18.12                | 19.82                         |
|               |      |         |            |              | 106/53     | 15.75                                | 15.75                                 | 20.90                | 37.58                         |
|               |      |         |            | Combined A+B | Full       | 21.44                                | 21.44                                 | 26.59                | 139.39                        |
|               |      |         |            |              | 26/0       | 13.00                                | 13.00                                 | 18.15                | 19.97                         |
|               |      |         |            |              | 52/37      | 16.07                                | 16.07                                 | 21.22                | 40.47                         |
|               |      |         |            |              | 106/53     | 19.08                                | 19.08                                 | 24.23                | 80.84                         |
|               |      |         |            | SISO A       | Full       | 20.94                                | 20.94                                 | 26.09                | 124.17                        |
|               |      |         |            | SISO B       | Full       | 21.50                                | 21.50                                 | 26.65                | 141.25                        |
|               |      |         |            | MIMO A       | Full       | 18.47                                | 18.47                                 | 23.62                | 70.31                         |
|               |      |         |            | MIMO B       | Full       | 18.58                                | 18.58                                 | 23.73                | 72.11                         |
|               |      |         |            | Combined A+B | Full       | 21.54                                | 21.54                                 | 26.69                | 142.42                        |
|               |      | 48      | 5240       | SISO A       | Full       | 21.62                                | 21.62                                 | 26.77                | 145.21                        |
|               |      |         |            | SISO B       | Full       | 21.42                                | 21.42                                 | 26.57                | 138.68                        |
|               |      |         |            | MIMO A       | Full       | 18.57                                | 18.57                                 | 23.72                | 71.94                         |
|               |      |         |            | MIMO B       | Full       | 18.41                                | 18.41                                 | 23.56                | 69.34                         |
|               |      |         |            | Combined A+B | Full       | 21.50                                | 21.50                                 | 26.65                | 141.29                        |
| 802.11ax/be40 | MCS0 | 38      | 5190       | SISO A       | Full       | 20.40                                | 20.40                                 | 25.55                | 109.65                        |
|               |      |         |            |              | 242/61     | 21.75                                | 21.75                                 | 26.90                | 149.62                        |
|               |      |         |            | SISO B       | Full       | 19.41                                | 19.41                                 | 24.56                | 87.30                         |
|               |      |         |            |              | 242/61     | 21.33                                | 21.33                                 | 26.48                | 135.83                        |
|               |      |         |            | MIMO A       | Full       | 18.31                                | 18.31                                 | 23.46                | 67.76                         |
|               |      |         |            |              | 242/61     | 18.26                                | 18.26                                 | 23.41                | 66.99                         |
|               |      |         |            | MIMO B       | Full       | 17.90                                | 17.90                                 | 23.05                | 61.66                         |
|               |      |         |            |              | 242/61     | 17.71                                | 17.71                                 | 22.86                | 59.02                         |
|               |      | 46      | 5230       | Combined A+B | Full       | 21.12                                | 21.12                                 | 26.27                | 129.42                        |
|               |      |         |            |              | 242/61     | 21.00                                | 21.00                                 | 26.15                | 126.01                        |
|               |      |         |            | SISO A       | Full       | 21.70                                | 21.70                                 | 26.85                | 147.91                        |
|               |      |         |            | SISO B       | Full       | 21.03                                | 21.03                                 | 26.18                | 126.77                        |
|               |      |         |            | MIMO A       | Full       | 20.91                                | 20.91                                 | 26.06                | 123.31                        |
|               |      |         |            | MIMO B       | Full       | 20.47                                | 20.47                                 | 25.62                | 111.43                        |
|               |      |         |            | Combined A+B | Full       | 23.71                                | 23.71                                 | 28.86                | 234.74                        |
| 802.11ax/be80 | MCS0 | 42      | 5210       | SISO A       | Full       | 21.05                                | 21.05                                 | 26.20                | 127.35                        |
|               |      |         |            |              | 484/65     | 20.97                                | 20.97                                 | 26.12                | 125.03                        |
|               |      |         |            | SISO B       | Full       | 20.52                                | 20.52                                 | 25.67                | 112.72                        |
|               |      |         |            |              | 484/65     | 20.50                                | 20.50                                 | 25.65                | 112.20                        |
|               |      |         |            | MIMO A       | Full       | 18.93                                | 18.93                                 | 24.08                | 78.16                         |
|               |      |         |            |              | 484/65     | 19.41                                | 19.41                                 | 24.56                | 87.30                         |
|               |      |         |            | MIMO B       | Full       | 18.50                                | 18.50                                 | 23.65                | 70.79                         |
|               |      |         |            |              | 484/65     | 18.98                                | 18.98                                 | 24.13                | 79.07                         |
|               |      |         |            | Combined A+B | Full       | 21.73                                | 21.73                                 | 26.88                | 148.96                        |
|               |      |         |            |              | 484/65     | 22.21                                | 22.21                                 | 27.36                | 166.36                        |

\*Maximum values are the duty cycle compensated values calculated from the average (measured) values

Max Value



Min Value

### Maximum power spectral Density (PSD)

| Mode       | Rate  | Channel | Freq [MHz] | Antenna      | Average conducted PSD [dBm/MHz] | Maximum* conducted PSD [dBm/MHz] |
|------------|-------|---------|------------|--------------|---------------------------------|----------------------------------|
| 802.11a    | 6Mbps | 36      | 5180       | SISO A       | 10.56                           | 10.66                            |
|            |       |         |            | SISO B       | 10.44                           | 10.54                            |
|            |       | 40      | 5200       | SISO A       | 10.56                           | 10.66                            |
|            |       |         |            | SISO B       | 10.66                           | 10.76                            |
|            |       | 48      | 5240       | SISO A       | 10.68                           | 10.78                            |
|            |       |         |            | SISO B       | 10.53                           | 10.63                            |
| 802.11n20  | HT0   | 36      | 5180       | SISO A       | 10.28                           | 10.28                            |
|            |       |         |            | SISO B       | 10.72                           | 10.72                            |
|            |       | 40      | 5200       | SISO A       | 10.35                           | 10.35                            |
|            |       |         |            | SISO B       | 10.39                           | 10.39                            |
|            |       | 48      | 5240       | SISO A       | 10.44                           | 10.44                            |
|            |       |         |            | SISO B       | 10.88                           | 10.88                            |
|            | HT8   | 36      | 5180       | MIMO A       | 7.88                            | 7.88                             |
|            |       |         |            | MIMO B       | 7.18                            | 7.18                             |
|            |       |         |            | Combined A+B | 10.55                           | 10.55                            |
|            |       | 40      | 5200       | MIMO A       | 7.66                            | 7.66                             |
|            |       |         |            | MIMO B       | 7.44                            | 7.44                             |
|            |       |         |            | Combined A+B | 10.56                           | 10.56                            |
|            |       | 48      | 5240       | MIMO A       | 7.72                            | 7.72                             |
|            |       |         |            | MIMO B       | 7.39                            | 7.39                             |
|            |       |         |            | Combined A+B | 10.57                           | 10.57                            |
| 802.11n40  | HT0   | 38      | 5190       | SISO A       | 6.12                            | 6.12                             |
|            |       |         |            | SISO B       | 6.03                            | 6.03                             |
|            |       | 46      | 5230       | SISO A       | 7.79                            | 7.79                             |
|            |       |         |            | SISO B       | 6.98                            | 6.98                             |
|            | HT8   | 38      | 5190       | MIMO A       | 4.45                            | 4.45                             |
|            |       |         |            | MIMO B       | 4.33                            | 4.33                             |
|            |       |         |            | Combined A+B | 7.40                            | 7.40                             |
|            |       | 46      | 5230       | MIMO A       | 6.71                            | 6.71                             |
|            |       |         |            | MIMO B       | 6.56                            | 6.56                             |
|            |       |         |            | Combined A+B | 9.65                            | 9.65                             |
| 802.11ac80 | VHT0  | 42      | 5210       | SISO A       | 3.93                            | 3.93                             |
|            |       |         |            | SISO B       | 3.40                            | 3.40                             |
|            |       |         |            | MIMO A       | 1.98                            | 1.98                             |
|            |       |         |            | MIMO B       | 1.89                            | 1.89                             |
|            |       |         |            | Combined A+B | 4.95                            | 4.95                             |

\* Maximum values are the duty cycle compensated values calculated from the measured average values

| Mode          | Rate | #Ch | Freq [MHz] | Antenna      | RU config. | Average cond.PSD [dBm/MHz] | Max*cond.PSD [dBm/MHz] |
|---------------|------|-----|------------|--------------|------------|----------------------------|------------------------|
| 802.11ax/be20 | MCS0 | 36  | 5180       | SISO A       | Full       | 10.29                      | 10.29                  |
|               |      |     |            |              | 26/0       | 10.21                      | 10.21                  |
|               |      |     |            |              | 52/37      | 10.51                      | 10.51                  |
|               |      |     |            |              | 106/53     | 10.30                      | 10.30                  |
|               |      |     |            | SISO B       | Full       | 10.60                      | 10.60                  |
|               |      |     |            |              | 26/0       | 10.49                      | 10.49                  |
|               |      |     |            |              | 52/37      | 10.82                      | 10.82                  |
|               |      |     |            |              | 106/53     | 10.10                      | 10.10                  |
|               |      |     |            | MIMO A       | Full       | 7.74                       | 7.74                   |
|               |      |     |            |              | 26/0       | 7.71                       | 7.71                   |
|               |      |     |            |              | 52/37      | 7.72                       | 7.72                   |
|               |      |     |            |              | 106/53     | 7.81                       | 7.81                   |
|               |      |     |            | MIMO B       | Full       | 7.44                       | 5.35                   |
|               |      |     |            |              | 26/0       | 7.40                       | 7.40                   |
|               |      |     |            |              | 52/37      | 7.56                       | 7.56                   |
|               |      |     |            |              | 106/53     | 7.30                       | 7.30                   |
|               |      |     |            | Combined A+B | Full       | 10.60                      | 10.60                  |
|               |      |     |            |              | 26/0       | 10.57                      | 10.57                  |
|               |      |     |            |              | 52/37      | 10.65                      | 10.65                  |
|               |      |     |            |              | 106/53     | 10.57                      | 10.57                  |
|               |      | 40  | 5200       | SISO A       | Full       | 10.34                      | 10.34                  |
|               |      |     |            | SISO B       | Full       | 10.70                      | 10.70                  |
|               |      |     |            | MIMO A       | Full       | 7.79                       | 7.79                   |
|               |      |     |            | MIMO B       | Full       | 7.72                       | 7.72                   |
|               |      |     |            | Combined A+B | Full       | 10.77                      | 10.77                  |
|               |      | 48  | 5240       | SISO A       | Full       | 10.81                      | 10.81                  |
|               |      |     |            | SISO B       | Full       | 10.64                      | 10.64                  |
|               |      |     |            | MIMO A       | Full       | 7.78                       | 7.78                   |
|               |      |     |            | MIMO B       | Full       | 7.65                       | 7.65                   |
|               |      |     |            | Combined A+B | Full       | 10.73                      | 10.73                  |
| 802.11ax/be40 | MCS0 | 38  | 5190       | SISO A       | Full       | 6.17                       | 6.17                   |
|               |      |     |            |              | 242/61     | 10.85                      | 10.85                  |
|               |      |     |            | SISO B       | Full       | 5.27                       | 5.27                   |
|               |      |     |            |              | 242/61     | 10.37                      | 10.37                  |
|               |      |     |            | MIMO A       | Full       | 4.45                       | 4.45                   |
|               |      |     |            |              | 242/61     | 7.33                       | 7.33                   |
|               |      | 46  | 5230       | MIMO B       | Full       | 3.70                       | 3.70                   |
|               |      |     |            |              | 242/61     | 6.89                       | 6.89                   |
|               |      |     |            | Combined A+B | Full       | 7.10                       | 7.10                   |
|               |      |     |            |              | 242/61     | 10.13                      | 10.13                  |
| 802.11ax/be80 | MCS0 | 42  | 5210       | SISO A       | Full       | 3.94                       | 3.94                   |
|               |      |     |            |              | 484/65     | 6.75                       | 6.75                   |
|               |      |     |            | SISO B       | Full       | 3.42                       | 3.42                   |
|               |      |     |            |              | 484/65     | 6.20                       | 6.20                   |
|               |      |     |            | MIMO A       | Full       | 1.84                       | 1.84                   |
|               |      |     |            |              | 484/65     | 5.17                       | 5.17                   |
|               |      |     |            | MIMO B       | Full       | 1.28                       | 1.28                   |
|               |      |     |            |              | 484/65     | 4.82                       | 4.82                   |
|               |      |     |            | Combined A+B | Full       | 4.58                       | 4.58                   |
|               |      |     |            |              | 484/65     | 8.01                       | 8.01                   |

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\* Maximum values are the duty cycle compensated values calculated from the measured average values

**See Section B.4.2 for the screenshot results.**

## B.2.3 Undesirable emission limits : out of band (Conducted)

### Test limits

| FCC part         | Limits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                         |                       |                         |                    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------------------|-------------------------|--------------------|-------|-----|----|---|--------|-----|------|---|---------|-----|----|---|-----------|-----|----|---|
| 15.407 (b) (1)   | For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                         |                       |                         |                    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
| 15.209           | <p>Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a):</p> <table><tr><th>Freq Range (MHz)</th><th>Field Strength (μV/m)</th><th>Field Strength (dBμV/m)</th><th>Meas. Distance (m)</th></tr><tr><td>30-88</td><td>100</td><td>40</td><td>3</td></tr><tr><td>88-216</td><td>150</td><td>43.5</td><td>3</td></tr><tr><td>216-960</td><td>200</td><td>46</td><td>3</td></tr><tr><td>Above 960</td><td>500</td><td>54</td><td>3</td></tr></table> <p>The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.</p> <p>For average radiated emission measurements above 1000 MHz, there is also a limit specified when measuring with peak detector function, corresponding to 20 dB above the indicated values in the table.</p> | Freq Range (MHz)        | Field Strength (μV/m) | Field Strength (dBμV/m) | Meas. Distance (m) | 30-88 | 100 | 40 | 3 | 88-216 | 150 | 43.5 | 3 | 216-960 | 200 | 46 | 3 | Above 960 | 500 | 54 | 3 |
| Freq Range (MHz) | Field Strength (μV/m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Field Strength (dBμV/m) | Meas. Distance (m)    |                         |                    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
| 30-88            | 100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 40                      | 3                     |                         |                    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
| 88-216           | 150                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 43.5                    | 3                     |                         |                    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
| 216-960          | 200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 46                      | 3                     |                         |                    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
| Above 960        | 500                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 54                      | 3                     |                         |                    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |

### Test procedure

The conducted setup shown in section *Test & System Description* was used to measure undesirable emissions on the out of band domain. The antenna terminal of the EUT is connected to the spectrum analyzer through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss and the declared antenna gain.

Both lower and upper side of the out of band were performed using the integration method as defined in the out of band measurements section (paragraph II.G.3.d) of FCC OET KDB 789033 D02

In case of out of band measurements falling in restricted bands, the declared antenna gain is also compensated in the graph.

For out of band measurements falling in restricted bands, the following limits in dBm were applied for the average detector after the conversion from the limits detailed above in dBμV/m, according to FCC 47 CFR part 15 - Subpart C – §15.209(a). The limits in dBm for peak detector are 20dB above the indicated values in the table.

| §15.209(a)       |              |                                   | Converted values                     |             |
|------------------|--------------|-----------------------------------|--------------------------------------|-------------|
| Freq Range (MHz) | Distance (m) | Field strength (microvolts/meter) | Field strength (dB microvolts/meter) | Power (dBm) |
| Above 960        | 3            | 500                               | 54.0                                 | -41.2       |

**See Section B.4.3 for the screenshot results.**

## B.2.4 Radiated spurious emission

### Standard references

| FCC part         | Limits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                         |                       |                         |                    |             |             |   |     |             |              |   |     |            |    |   |    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------------------|-------------------------|--------------------|-------------|-------------|---|-----|-------------|--------------|---|-----|------------|----|---|----|-------|-----|----|---|--------|-----|------|---|---------|-----|----|---|-----------|-----|----|---|
| 15.407 (b) (1)   | For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                         |                       |                         |                    |             |             |   |     |             |              |   |     |            |    |   |    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
| 15.209           | <p>Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a):</p> <table><tr><th>Freq Range (MHz)</th><th>Field Strength (μV/m)</th><th>Field Strength (dBμV/m)</th><th>Meas. Distance (m)</th></tr><tr><td>0.009-0.490</td><td>2400/f(kHz)</td><td>-</td><td>300</td></tr><tr><td>0.490-1.705</td><td>24000/f(kHz)</td><td>-</td><td>300</td></tr><tr><td>1.705-30.0</td><td>30</td><td>-</td><td>30</td></tr><tr><td>30-88</td><td>100</td><td>40</td><td>3</td></tr><tr><td>88-216</td><td>150</td><td>43.5</td><td>3</td></tr><tr><td>216-960</td><td>200</td><td>46</td><td>3</td></tr><tr><td>Above 960</td><td>500</td><td>54</td><td>3</td></tr></table> <p>The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector. For average radiated emission measurements above 1000 MHz, there is also a limit specified when measuring with peak detector function, corresponding to 20 dB above the indicated values in the table.</p> | Freq Range (MHz)        | Field Strength (μV/m) | Field Strength (dBμV/m) | Meas. Distance (m) | 0.009-0.490 | 2400/f(kHz) | - | 300 | 0.490-1.705 | 24000/f(kHz) | - | 300 | 1.705-30.0 | 30 | - | 30 | 30-88 | 100 | 40 | 3 | 88-216 | 150 | 43.5 | 3 | 216-960 | 200 | 46 | 3 | Above 960 | 500 | 54 | 3 |
| Freq Range (MHz) | Field Strength (μV/m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Field Strength (dBμV/m) | Meas. Distance (m)    |                         |                    |             |             |   |     |             |              |   |     |            |    |   |    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
| 0.009-0.490      | 2400/f(kHz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | -                       | 300                   |                         |                    |             |             |   |     |             |              |   |     |            |    |   |    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
| 0.490-1.705      | 24000/f(kHz)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | -                       | 300                   |                         |                    |             |             |   |     |             |              |   |     |            |    |   |    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
| 1.705-30.0       | 30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | -                       | 30                    |                         |                    |             |             |   |     |             |              |   |     |            |    |   |    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
| 30-88            | 100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 40                      | 3                     |                         |                    |             |             |   |     |             |              |   |     |            |    |   |    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
| 88-216           | 150                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 43.5                    | 3                     |                         |                    |             |             |   |     |             |              |   |     |            |    |   |    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
| 216-960          | 200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 46                      | 3                     |                         |                    |             |             |   |     |             |              |   |     |            |    |   |    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
| Above 960        | 500                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 54                      | 3                     |                         |                    |             |             |   |     |             |              |   |     |            |    |   |    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |

### Test procedure

The radiated setup shown in section *Test & System Description* was used to measure the radiated spurious emissions. Depending of the frequency range and bands being tested, different antennas and filters were used. The final measurement is done by varying the antenna height, the EUT azimuth over 360° and for both Vertical and Horizontal polarizations.

The radiated spurious emission was measured on the worst case configuration selected from the section B.2.2 and using the low, middle and high channels.

## Test Results

### Radiated spurious - 30 MHz to 1 GHz

#### Radiated Spurious – All modes

| Frequency | Level  | Detector   | Limit  | Margin | Polarization |
|-----------|--------|------------|--------|--------|--------------|
| MHz       | dBμV/m | ---        | dBμV/m | dB     | ---          |
| 32.6      | 33.3   | Quasi-Peak | 40.0   | 6.7    | V            |
| 47.8      | 35.8   | Quasi-Peak | 40.0   | 4.2    | V            |
| 86.1      | 37.3   | Quasi-Peak | 40.0   | 2.7    | V            |

Note 1: The spurious signals detected do not depend on either the operating channel or the modulation mode.

## 802.11a

### 1 GHz – 40 GHz, 802.11a, 6Mbps, Chain A

#### Radiated Spurious – CH36

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7769.8    | 56.7   | Peak     | 68.2   | 11.5   | H     |
| 10353.0   | 63.2   | Peak     | 68.2   | 5.0    | H     |
| 10358.5   | 63.0   | Peak     | 68.2   | 5.2    | H     |

#### Radiated Spurious – CH40

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7798.1    | 57.6   | Peak     | 68.2   | 10.6   | H     |
| 10402.0   | 64.7   | Peak     | 68.2   | 3.5    | H     |

#### Radiated Spurious – CH48

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7858.8    | 57.0   | Peak     | 68.2   | 11.2   | H     |
| 10485.0   | 66.0   | Peak     | 68.2   | 2.2    | H     |
| 10489.5   | 63.9   | Peak     | 68.2   | 4.3    | H     |



## 1 GHz – 40 GHz, 802.11a, 6Mbps, Chain B

### Radiated Spurious – CH36

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7770.1    | 58.3   | Peak     | 68.2   | 9.9    | H     |
| 10360.5   | 55.2   | Peak     | 68.2   | 13.0   | V     |
| 15530.5   | 47.9   | Peak     | 74.0   | 26.1   | H     |
| 15531.5   | 39.7   | Average  | 54.0   | 14.3   | H     |

### Radiated Spurious – CH40

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7799.8    | 57.7   | Peak     | 68.2   | 10.5   | H     |
| 10401.5   | 54.0   | Peak     | 68.2   | 14.2   | H     |
| 15594.5   | 39.1   | Average  | 54.0   | 14.9   | H     |
| 15596.5   | 47.9   | Peak     | 74.0   | 26.1   | H     |

### Radiated Spurious – CH48

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7859.9    | 58.4   | Peak     | 68.2   | 9.8    | H     |
| 10481.0   | 52.4   | Peak     | 68.2   | 15.8   | H     |

## 802.11n

### 1 GHz – 40 GHz, 802.11n20, HT0, Chain A

#### Radiated Spurious – CH36

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7768.6    | 58.2   | Peak     | 68.2   | 10.0   | H     |
| 10353.0   | 61.3   | Peak     | 68.2   | 6.9    | H     |
| 10500.0   | 47.9   | Peak     | 68.2   | 20.3   | V     |

#### Radiated Spurious – CH40

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7803.6    | 57.2   | Peak     | 68.2   | 11.0   | H     |
| 10396.5   | 64.0   | Peak     | 68.2   | 4.2    | H     |
| 10401.0   | 65.2   | Peak     | 68.2   | 3.0    | H     |

#### Radiated Spurious – CH48

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 1124.6    | 36.2   | Average  | 54.0   | 17.8   | V     |
| 1125.1    | 45.4   | Peak     | 74.0   | 28.6   | V     |
| 10476.0   | 64.8   | Peak     | 68.2   | 3.4    | H     |
| 10478.5   | 64.2   | Peak     | 68.2   | 4.0    | H     |

## 1 GHz – 40 GHz, 802.11n20, HT0, Chain B

### Radiated Spurious – CH36

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7770.7    | 58.2   | Peak     | 68.2   | 10.0   | H     |
| 10358.5   | 54.5   | Peak     | 68.2   | 13.7   | V     |
| 15543.0   | 41.5   | Average  | 54.0   | 12.5   | H     |
| 15543.0   | 51.6   | Peak     | 74.0   | 22.4   | H     |

### Radiated Spurious – CH40

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7799.3    | 58.0   | Peak     | 68.2   | 10.2   | H     |
| 10400.0   | 53.8   | Peak     | 68.2   | 14.4   | H     |

### Radiated Spurious – CH48

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7860.2    | 60.2   | Peak     | 68.2   | 8.0    | H     |
| 10482.0   | 52.0   | Peak     | 68.2   | 16.2   | H     |

## 1 GHz – 40 GHz, 802.11n20, HT8, Chain A+B

### Radiated Spurious – CH36

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBµV/m | ---      | dBµV/m | dB     | ---   |
| 7768.6    | 60.6   | Peak     | 68.2   | 7.6    | H     |
| 15542.9   | 47.5   | Peak     | 74.0   | 26.5   | H     |
| 15542.9   | 40.4   | Average  | 54.0   | 13.6   | H     |

### Radiated Spurious – CH40

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBµV/m | ---      | dBµV/m | dB     | ---   |
| 7796.3    | 59.9   | Peak     | 68.2   | 8.3    | H     |
| 10401.0   | 64.6   | Peak     | 68.2   | 3.6    | H     |
| 10405.5   | 63.7   | Peak     | 68.2   | 4.5    | V     |

### Radiated Spurious – CH48

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBµV/m | ---      | dBµV/m | dB     | ---   |
| 7859.0    | 61.6   | Peak     | 68.2   | 6.6    | H     |
| 10483.0   | 64.4   | Peak     | 68.2   | 3.8    | H     |

## 1 GHz – 40 GHz, 802.11n40, HT0, Chain A

### Radiated Spurious – CH38

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 1187.4    | 44.6   | Peak     | 74.0   | 29.4   | V     |
| 1187.4    | 36.8   | Average  | 54.0   | 17.2   | V     |
| 10380.5   | 56.2   | Peak     | 68.2   | 12.0   | H     |

### Radiated Spurious – CH46

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 9440.8    | 56.1   | Peak     | 74.0   | 17.9   | V     |
| 9440.8    | 45.8   | Average  | 54.0   | 8.2    | H     |
| 10440.5   | 59.3   | Peak     | 68.2   | 8.9    | H     |
| 10462.0   | 61.0   | Peak     | 68.2   | 7.2    | H     |

## 1 GHz – 40 GHz, 802.11n40, HT0, Chain B

### Radiated Spurious – CH38

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7792.8    | 57.5   | Peak     | 68.2   | 10.7   | H     |
| 10365.0   | 51.8   | Peak     | 68.2   | 16.4   | H     |
| 15560.5   | 38.0   | Average  | 54.0   | 16.0   | H     |
| 15564.5   | 47.1   | Peak     | 74.0   | 26.9   | H     |

### Radiated Spurious – CH46

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7843.6    | 57.2   | Peak     | 68.2   | 10.9   | H     |
| 10458.5   | 51.8   | Peak     | 68.2   | 16.4   | H     |

## 1 GHz – 40 GHz, 802.11n40, HT8, Chain A+B

### Radiated Spurious – CH38

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBµV/m | ---      | dBµV/m | dB     | ---   |
| 7794.9    | 57.8   | Peak     | 68.2   | 10.4   | H     |
| 10381.0   | 61.3   | Peak     | 68.2   | 6.9    | H     |

### Radiated Spurious – CH46

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBµV/m | ---      | dBµV/m | dB     | ---   |
| 9436.4    | 56.1   | Peak     | 74.0   | 17.9   | V     |
| 9436.4    | 46.7   | Average  | 54.0   | 7.3    | V     |
| 10459.0   | 56.2   | Peak     | 68.2   | 12.0   | H     |

## 802.11ac

## 1 GHz – 40 GHz, 802.11ac80, VHT0, Chain A

### Radiated Spurious – CH42

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBµV/m | ---      | dBµV/m | dB     | ---   |
| 8293.3    | 55.5   | Peak     | 74.0   | 18.5   | V     |
| 8293.3    | 44.5   | Average  | 54.0   | 9.5    | V     |
| 10417.0   | 53.0   | Peak     | 68.2   | 15.2   | H     |

## 1 GHz – 40 GHz, 802.11ac80, VHT0, Chain B

### Radiated Spurious – CH42

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBµV/m | ---      | dBµV/m | dB     | ---   |
| 8238.8    | 45.0   | Average  | 54.0   | 9.0    | H     |
| 8245.8    | 55.8   | Peak     | 74.0   | 18.2   | V     |
| 10419.0   | 50.5   | Peak     | 68.2   | 17.7   | H     |

## 1 GHz – 40 GHz, 802.11ac80, VHT0, Chain A+B

### Radiated Spurious – CH42

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7815.6    | 58.1   | Peak     | 68.2   | 10.1   | H     |
| 10409.0   | 54.8   | Peak     | 68.2   | 13.4   | H     |

## 1 GHz – 40 GHz, 802.11ac160, VHT0, Chain A

### Radiated Spurious – CH50

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7978.9    | 59.5   | Peak     | 68.2   | 8.7    | V     |
| 10499.5   | 48.5   | Peak     | 68.2   | 19.7   | V     |

## 1 GHz – 40 GHz, 802.11ac160, VHT0, Chain B

### Radiated Spurious – CH50

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 8184.0    | 44.9   | Average  | 54.0   | 9.1    | H     |
| 8184.3    | 56.0   | Peak     | 74.0   | 18.0   | H     |
| 10499.5   | 48.1   | Peak     | 68.2   | 20.1   | V     |

## 1 GHz – 40 GHz, 802.11ac160, VHT0, Chain A+B

### Radiated Spurious – CH50

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7971.0    | 59.0   | Peak     | 68.2   | 9.2    | V     |
| 10500.0   | 49.6   | Peak     | 68.2   | 18.6   | V     |

# 802.11ax/be

## 1 GHz – 40 GHz, 802.11ax/be20, MCS0, Chain A

### Radiated Spurious – CH36

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7756.7    | 61.8   | Peak     | 68.2   | 6.4    | H     |
| 10342.5   | 55.2   | Peak     | 68.2   | 13.0   | H     |

### Radiated Spurious – CH40

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7787.6    | 62.1   | Peak     | 68.2   | 6.1    | H     |
| 10383.0   | 54.7   | Peak     | 68.2   | 13.5   | H     |

### Radiated Spurious – CH48

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7847.4    | 61.5   | Peak     | 68.2   | 6.7    | H     |
| 10463.0   | 54.0   | Peak     | 68.2   | 14.2   | H     |

## 1 GHz – 40 GHz, 802.11ax/be20, MCS0, Chain B

### Radiated Spurious – CH36

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7757.0    | 58.3   | Peak     | 68.2   | 9.9    | H     |
| 10343.0   | 51.8   | Peak     | 68.2   | 16.4   | V     |
| 15514.5   | 49.0   | Peak     | 74.0   | 25.0   | V     |
| 15515.0   | 39.5   | Average  | 54.0   | 14.5   | H     |
| 25857.0   | 51.6   | Peak     | 68.2   | 16.6   | H     |



### Radiated Spurious – CH40

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBµV/m | ---      | dBµV/m | dB     | ---   |
| 7787.9    | 59.4   | Peak     | 68.2   | 8.8    | H     |
| 10384.0   | 55.5   | Peak     | 68.2   | 12.7   | V     |
| 15573.5   | 38.1   | Average  | 54.0   | 15.9   | H     |
| 15573.5   | 48.0   | Peak     | 74.0   | 26.0   | H     |
| 25959.0   | 52.8   | Peak     | 68.2   | 15.4   | H     |

### Radiated Spurious – CH48

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBµV/m | ---      | dBµV/m | dB     | ---   |
| 7846.8    | 62.0   | Peak     | 68.2   | 6.2    | H     |
| 10462.5   | 52.1   | Peak     | 68.2   | 16.1   | V     |
| 10500.0   | 49.1   | Peak     | 68.2   | 19.1   | V     |

## 1 GHz – 40 GHz, 802.11ax/be20, MCS0, Chain A+B

### Radiated Spurious – CH36

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBµV/m | ---      | dBµV/m | dB     | ---   |
| 7756.7    | 59.0   | Peak     | 68.2   | 9.2    | H     |
| 10343.0   | 65.2   | Peak     | 68.2   | 3.0    | H     |
| 15514.5   | 46.9   | Peak     | 74.0   | 27.1   | H     |
| 15514.5   | 38.8   | Average  | 54.0   | 15.2   | H     |

### Radiated Spurious – CH40

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBµV/m | ---      | dBµV/m | dB     | ---   |
| 7787.3    | 61.4   | Peak     | 68.2   | 6.8    | H     |
| 10382.0   | 57.5   | Peak     | 68.2   | 10.7   | V     |
| 15574.5   | 47.9   | Peak     | 74.0   | 26.1   | H     |
| 15575.0   | 37.6   | Average  | 54.0   | 16.4   | V     |
| 25958.5   | 53.9   | Peak     | 68.2   | 14.3   | H     |

**Radiated Spurious – CH48**

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBµV/m | ---      | dBµV/m | dB     | ---   |
| 7846.8    | 61.9   | Peak     | 68.2   | 6.3    | H     |
| 10463.5   | 57.8   | Peak     | 68.2   | 10.4   | H     |

**1 GHz – 40 GHz, 802.11ax/be40, MCS0, Chain A**
**Radiated Spurious – CH38F**

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBµV/m | ---      | dBµV/m | dB     | ---   |
| 7771.3    | 63.1   | Peak     | 68.2   | 5.1    | H     |
| 10360.5   | 53.9   | Peak     | 68.2   | 14.3   | H     |
| 10499.5   | 48.3   | Peak     | 68.2   | 19.9   | V     |

**Radiated Spurious – CH46**

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBµV/m | ---      | dBµV/m | dB     | ---   |
| 7829.9    | 60.9   | Peak     | 68.2   | 7.3    | H     |
| 10439.5   | 57.6   | Peak     | 68.2   | 10.6   | H     |
| 10500.0   | 48.4   | Peak     | 68.2   | 19.8   | V     |

## 1 GHz – 40 GHz, 802.11ax/be40, MCS0, Chain B

### Radiated Spurious – CH38

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7770.7    | 60.4   | Peak     | 68.2   | 7.8    | H     |
| 10361.5   | 51.2   | Peak     | 68.2   | 17.0   | H     |
| 10500.0   | 49.3   | Peak     | 68.2   | 18.9   | V     |
| 15540.5   | 37.8   | Average  | 54.0   | 16.2   | H     |
| 15541.5   | 49.6   | Peak     | 74.0   | 24.4   | H     |
| 25904.5   | 53.4   | Peak     | 68.2   | 14.8   | H     |

### Radiated Spurious – CH46

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7830.2    | 58.9   | Peak     | 68.2   | 9.3    | H     |
| 10440.5   | 51.4   | Peak     | 68.2   | 16.8   | H     |
| 10499.5   | 49.0   | Peak     | 68.2   | 19.2   | V     |

## 1 GHz – 40 GHz, 802.11ax/be40, MCS0, Chain A+B

### Radiated Spurious – CH38

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7770.4    | 62.1   | Peak     | 68.2   | 6.1    | H     |
| 10360.5   | 56.8   | Peak     | 68.2   | 11.4   | H     |
| 10500.0   | 47.5   | Peak     | 68.2   | 20.7   | V     |
| 15541.0   | 47.4   | Peak     | 74.0   | 26.6   | H     |
| 15541.5   | 38.4   | Average  | 54.0   | 15.6   | H     |
| 25901.0   | 53.8   | Peak     | 68.2   | 14.4   | H     |

### Radiated Spurious – CH46

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7829.6    | 62.2   | Peak     | 68.2   | 6.0    | H     |
| 10440.5   | 56.1   | Peak     | 68.2   | 12.1   | H     |
| 10500.0   | 48.5   | Peak     | 68.2   | 19.7   | V     |
| 26103.0   | 51.2   | Peak     | 68.2   | 17.0   | H     |

## 1 GHz – 40 GHz, 802.11ax/be80, MCS0, Chain A

### Radiated Spurious – CH42

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7783.5    | 63.4   | Peak     | 68.2   | 4.8    | H     |
| 10377.5   | 51.7   | Peak     | 68.2   | 16.5   | H     |
| 10500.0   | 48.6   | Peak     | 68.2   | 19.6   | V     |

## 1 GHz – 40 GHz, 802.11ax/be80, MCS0, Chain B

### Radiated Spurious – CH42

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7783.2    | 60.5   | Peak     | 68.2   | 7.7    | H     |
| 10376.5   | 53.0   | Peak     | 68.2   | 15.2   | H     |
| 10500.0   | 49.5   | Peak     | 68.2   | 18.7   | V     |
| 15565.5   | 47.8   | Peak     | 74.0   | 26.2   | H     |
| 15565.5   | 39.1   | Average  | 54.0   | 14.9   | H     |
| 25943.5   | 53.6   | Peak     | 68.2   | 14.6   | H     |

## 1 GHz – 40 GHz, 802.11ax/be80, MCS0, Chain A+B

### Radiated Spurious – CH42

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7784.1    | 63.1   | Peak     | 68.2   | 5.1    | H     |
| 10376.5   | 57.4   | Peak     | 68.2   | 10.8   | H     |
| 10500.0   | 50.0   | Peak     | 68.2   | 18.2   | V     |
| 25940.0   | 51.4   | Peak     | 68.2   | 16.8   | H     |

## 1 GHz – 40 GHz, 802.11ax/be160, MCS0, Chain A

### Radiated Spurious – CH50

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7795.8    | 57.2   | Peak     | 68.2   | 11.0   | H     |
| 10394.5   | 54.9   | Peak     | 68.2   | 13.3   | V     |

## 1 GHz – 40 GHz, 802.11ax/be160, MCS0, Chain B

### Radiated Spurious – CH50

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7796.3    | 64.8   | Peak     | 68.2   | 3.4    | H     |
| 10393.5   | 51.2   | Peak     | 68.2   | 17.0   | H     |
| 10500.0   | 51.1   | Peak     | 68.2   | 17.1   | V     |
| 25985.5   | 53.1   | Peak     | 68.2   | 15.1   | H     |

## 1 GHz – 40 GHz, 802.11ax/be160, MCS0, Chain A+B

### Radiated Spurious – CH50

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7796.0    | 62.7   | Peak     | 68.2   | 5.5    | H     |
| 10395.0   | 56.6   | Peak     | 68.2   | 11.6   | H     |
| 10500.0   | 50.2   | Peak     | 68.2   | 18.0   | V     |
| 25984.0   | 52.8   | Peak     | 68.2   | 15.4   | H     |

### B.3 Test Results Tables U-NII-2A

#### B.3.1 26dB & 99% Bandwidth

##### Test procedure

The conducted setup shown in section *Test & System Description* was used to measure the 26dB & 99% Bandwidth. The antenna terminal of the EUT is connected to the spectrum through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss.

##### Results tables

| Mode        | Rate  | Antenna | Channel | Freq [MHz] | 26dB BW [MHz] | 99% BW [MHz] |
|-------------|-------|---------|---------|------------|---------------|--------------|
| 802.11a     | 6Mbps | SISO A  | 52      | 5260       | 24.15         | 16.68        |
|             |       |         | 56      | 5280       | 24.50         | 16.68        |
|             |       |         | 64      | 5320       | 24.60         | 16.76        |
|             |       | SISO B  | 52      | 5260       | 24.60         | 16.72        |
|             |       |         | 56      | 5280       | 24.15         | 16.72        |
|             |       |         | 64      | 5320       | 24.25         | 16.72        |
| 802.11n20   | HT0   | SISO A  | 52      | 5260       | 24.40         | 17.80        |
|             |       |         | 56      | 5280       | 24.95         | 17.76        |
|             |       |         | 64      | 5320       | 25.25         | 17.80        |
|             |       | SISO B  | 52      | 5260       | 24.95         | 17.84        |
|             |       |         | 56      | 5280       | 24.90         | 17.88        |
|             |       |         | 64      | 5320       | 25.20         | 17.80        |
|             | HT8   | MIMO A  | 52      | 5260       | 25.10         | 17.80        |
|             |       |         | 56      | 5280       | 24.80         | 17.88        |
|             |       |         | 64      | 5320       | 24.90         | 17.84        |
|             |       | MIMO B  | 52      | 5260       | 24.80         | 17.84        |
|             |       |         | 56      | 5280       | 24.95         | 17.80        |
|             |       |         | 64      | 5320       | 24.55         | 17.80        |
| 802.11n40   | HT0   | SISO A  | 54      | 5270       | 44.64         | 36.24        |
|             |       |         | 62      | 5310       | 43.47         | 36.08        |
|             |       | SISO B  | 54      | 5270       | 45.99         | 36.16        |
|             |       |         | 62      | 5310       | 43.74         | 36.08        |
|             | HT8   | MIMO A  | 54      | 5270       | 43.47         | 36.16        |
|             |       |         | 62      | 5310       | 43.29         | 36.00        |
|             |       | MIMO B  | 54      | 5270       | 43.29         | 36.16        |
|             |       |         | 62      | 5310       | 43.11         | 36.08        |
| 802.11ac80  | VHT0  | SISO A  | 58      | 5290       | 88.54         | 75.12        |
|             |       | SISO B  |         |            | 88.35         | 75.12        |
|             |       | MIMO A  |         |            | 87.59         | 75.12        |
|             |       | MIMO B  |         |            | 86.26         | 75.12        |
| 802.11ac160 | VHT0  | SISO A  | 50      | 5250       | 165.66        | 153.75       |
|             |       | SISO B  |         |            | 164.34        | 153.75       |
|             |       | MIMO A  |         |            | 164.67        | 153.75       |
|             |       | MIMO B  |         |            | 164.67        | 153.75       |

Max Value

| Mode           | Rate | Antenna | Channel | Freq [MHz] | RU config. | 26dB BW [MHz] | 99% BW [MHz] |
|----------------|------|---------|---------|------------|------------|---------------|--------------|
| 802.11ax/be20  | MCS0 | SISO A  | 52      | 5260       | Full       | 23.80         | 19.04        |
|                |      |         | 56      | 5280       | Full       | 24.75         | 18.92        |
|                |      |         | 64      | 5320       | Full       | 23.80         | 18.92        |
|                |      |         |         |            | 26/8       | 20.75         | 18.08        |
|                |      |         |         |            | 52/40      | 21.30         | 18.36        |
|                |      |         |         |            | 106/54     | 24.05         | 18.20        |
|                |      | SISO B  | 52      | 5260       | Full       | 25.25         | 18.96        |
|                |      |         | 56      | 5280       | Full       | 24.95         | 18.96        |
|                |      |         | 64      | 5320       | Full       | 24.40         | 18.92        |
|                |      |         |         |            | 26/8       | 21.05         | 18.52        |
|                |      |         |         |            | 52/40      | 21.40         | 18.32        |
|                |      |         |         |            | 106/54     | 23.50         | 18.36        |
|                |      | MIMO A  | 52      | 5260       | Full       | 24.30         | 18.88        |
|                |      |         | 56      | 5280       | Full       | 24.80         | 18.96        |
|                |      |         | 64      | 5320       | Full       | 24.65         | 18.96        |
|                |      |         |         |            | 26/8       | 20.85         | 18.32        |
|                |      |         |         |            | 52/40      | 21.45         | 17.44        |
|                |      |         |         |            | 106/54     | 21.85         | 18.20        |
|                |      | MIMO B  | 52      | 5260       | Full       | 24.15         | 18.92        |
|                |      |         | 56      | 5280       | Full       | 23.80         | 18.92        |
|                |      |         | 64      | 5320       | Full       | 24.05         | 18.92        |
|                |      |         |         |            | 26/8       | 20.65         | 18.16        |
|                |      |         |         |            | 52/40      | 20.30         | 18.16        |
|                |      |         |         |            | 106/54     | 20.40         | 18.08        |
| 802.11ax/be40  | MCS0 | SISO A  | 54      | 5270       | Full       | 43.65         | 37.60        |
|                |      |         | 62      | 5310       | Full       | 42.93         | 37.60        |
|                |      |         |         |            | 242/62     | 24.48         | 18.88        |
|                |      | SISO B  | 54      | 5270       | Full       | 43.47         | 37.36        |
|                |      |         | 62      | 5310       | Full       | 42.93         | 37.60        |
|                |      |         |         |            | 242/62     | 24.75         | 18.88        |
|                |      | MIMO A  | 54      | 5270       | Full       | 43.83         | 37.52        |
|                |      |         | 62      | 5310       | Full       | 44.28         | 37.52        |
|                |      |         |         |            | 242/62     | 26.82         | 18.88        |
|                |      | MIMO B  | 54      | 5270       | Full       | 43.20         | 37.52        |
|                |      |         | 62      | 5310       | Full       | 41.85         | 37.68        |
|                |      |         |         |            | 242/62     | 27.09         | 18.80        |
| 802.11ax/be80  | MCS0 | SISO A  | 58      | 5290       | Full       | 84.93         | 76.80        |
|                |      |         |         |            | 484/66     | 43.51         | 37.32        |
|                |      | SISO B  |         |            | Full       | 83.41         | 76.80        |
|                |      |         |         |            | 484/66     | 44.27         | 37.32        |
|                |      | MIMO A  |         |            | Full       | 83.22         | 76.68        |
|                |      |         |         |            | 484/66     | 48.64         | 37.44        |
|                |      | MIMO B  |         |            | Full       | 82.65         | 76.68        |
|                |      |         |         |            | 484/66     | 49.40         | 37.44        |
| 802.11ax/be160 | MCS0 | SISO A  | 50      | 5250       | FullBW     | 163.68        | 155.25       |
|                |      |         |         |            | 80m/67     | 84.15         | 77.00        |
|                |      |         |         |            | 80m/S67    | 84.15         | 76.75        |
|                |      | SISO B  |         |            | FullBW     | 164.34        | 155.25       |
|                |      |         |         |            | 80m/67     | 83.49         | 76.75        |
|                |      |         |         |            | 80m/S67    | 88.77         | 77.50        |
|                |      | MIMO A  |         |            | FullBW     | 163.35        | 155.50       |
|                |      |         |         |            | 80m/67     | 84.48         | 76.75        |
|                |      |         |         |            | 80m/S67    | 89.10         | 77.50        |
|                |      | MIMO B  |         |            | FullBW     | 163.68        | 155.25       |
|                |      |         |         |            | 80m/67     | 84.15         | 77.00        |
|                |      |         |         |            | 80m/S67    | 89.76         | 77.50        |

Max Value

See Section B.5.1 for the screenshot results.



### B.3.2 Power Limits. Maximum Output power & Maximum power spectral density

#### Test limits

| FCC part          | Limits                                                                                                                                                                                                                                                                                                                                   |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15.407<br>(a) (2) | For the 5.25–5.35 GHz and 5.47–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1 megahertz band. |

#### Test procedure

The Maximum Conducted Output Power was measured using the channel integration method according to section E) 2) e) (Method SA-2 Alternative) of FCC OET KDB 789033 D02

The maximum power spectral density (PSD) was measured using the method according to section F) (Method SA-2 Alternative) of FCC OET KDB 789033 D02

In the measure-and-sum approach for MIMO mode, the conducted emission level (e.g., transmit power or power in specified bandwidth) is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically in linear power units to determine the total emission level from the device.

The EIRP power (dBm) is calculated by adding the declared maximum antenna gain to the measured conducted power. The declared maximum antenna gain is +5.15dBi.

The conducted setup shown in section *Test & System Description* was used to measure the maximum conducted output power and power spectral density. The antenna terminal of the EUT is connected to the spectrum analyser through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss.

## Results tables

### Duty cycle

| Mode          | Rate  | Antenna | Duty Cycle [%] |
|---------------|-------|---------|----------------|
| 802.11a       | 6Mbps | SISO A  | 97.739         |
|               |       | SISO B  | 97.739         |
| 802.11n20     | HT0   | SISO A  | 98.785         |
|               |       | SISO B  | 98.785         |
|               | HT8   | MIMO A  | 99.574         |
|               |       | MIMO B  | 99.574         |
| 802.11ax/be20 | MCS0  | SISO A  | 98.778         |
|               |       | SISO B  | 98.778         |
|               |       | MIMO A  | 99.671         |
|               |       | MIMO B  | 99.671         |
| 802.11n40     | HT0   | SISO A  | 98.8           |
|               |       | SISO B  | 98.8           |
|               | HT8   | MIMO A  | 99.353         |
|               |       | MIMO B  | 99.353         |
| 802.11ax/be40 | MCS0  | SISO A  | 98.793         |
|               |       | SISO B  | 98.793         |
|               |       | MIMO A  | 99.895         |
|               |       | MIMO B  | 99.895         |
| 802.11ac80    | VHT0  | SISO A  | 98.795         |
|               |       | SISO B  | 98.795         |
|               |       | MIMO A  | 98.777         |
|               |       | MIMO B  | 98.777         |
| 802.11ax/be80 | MCS0  | SISO A  | 98.793         |
|               |       | SISO B  | 98.793         |
|               |       | MIMO A  | 98.784         |
|               |       | MIMO B  | 98.784         |

### Maximum output power

| Mode        | Rate  | Channel | Freq [MHz] | Antenna      | Average Conducted Output Power [dBm] | Avg Max* Conducted Output Power [dBm] | Avg Max*. EIRP [dBm] | Avg Max* Conducted Power [mW] |
|-------------|-------|---------|------------|--------------|--------------------------------------|---------------------------------------|----------------------|-------------------------------|
| 802.11a     | 6Mbps | 52      | 5260       | SISO A       | 21.05                                | 21.15                                 | 26.30                | 130.30                        |
|             |       |         |            | SISO B       | 21.13                                | 21.23                                 | 26.38                | 132.72                        |
|             |       | 56      | 5280       | SISO A       | 21.11                                | 21.21                                 | 26.36                | 132.11                        |
|             |       |         |            | SISO B       | 21.12                                | 21.22                                 | 26.37                | 132.41                        |
|             |       | 64      | 5320       | SISO A       | 21.10                                | 21.20                                 | 26.35                | 131.81                        |
|             |       |         |            | SISO B       | 20.88                                | 20.98                                 | 26.13                | 125.29                        |
| 802.11n20   | HT0   | 52      | 5260       | SISO A       | 20.95                                | 20.95                                 | 26.10                | 124.45                        |
|             |       |         |            | SISO B       | 21.14                                | 21.14                                 | 26.29                | 130.02                        |
|             |       | 56      | 5280       | SISO A       | 21.07                                | 21.07                                 | 26.22                | 127.94                        |
|             |       |         |            | SISO B       | 21.10                                | 21.10                                 | 26.25                | 128.82                        |
|             |       | 64      | 5320       | SISO A       | 21.02                                | 21.02                                 | 26.17                | 126.47                        |
|             |       |         |            | SISO B       | 21.36                                | 21.36                                 | 26.51                | 136.77                        |
|             | HT8   | 52      | 5260       | MIMO A       | 18.38                                | 18.38                                 | 23.53                | 68.87                         |
|             |       |         |            | MIMO B       | 18.12                                | 18.12                                 | 23.27                | 64.86                         |
|             |       |         |            | Combined A+B | 21.26                                | 21.26                                 | 26.41                | 133.73                        |
|             |       |         |            | MIMO A       | 18.47                                | 18.47                                 | 23.62                | 70.31                         |
|             |       | 56      | 5280       | MIMO B       | 18.04                                | 18.04                                 | 23.19                | 63.68                         |
|             |       |         |            | Combined A+B | 21.27                                | 21.27                                 | 26.42                | 133.99                        |
|             |       | 64      | 5320       | MIMO A       | 18.43                                | 18.43                                 | 23.58                | 69.66                         |
|             |       |         |            | MIMO B       | 17.83                                | 17.83                                 | 22.98                | 60.67                         |
|             |       |         |            | Combined A+B | 21.15                                | 21.15                                 | 26.30                | 130.34                        |
| 802.11n40   | HT0   | 54      | 5270       | SISO A       | 21.96                                | 21.96                                 | 27.11                | 157.04                        |
|             |       |         |            | SISO B       | 21.37                                | 21.37                                 | 26.52                | 137.09                        |
|             |       | 62      | 5310       | SISO A       | 21.02                                | 21.02                                 | 26.17                | 126.47                        |
|             |       |         |            | SISO B       | 19.98                                | 19.98                                 | 25.13                | 99.54                         |
|             | HT8   | 54      | 5270       | MIMO A       | 20.57                                | 20.57                                 | 25.72                | 114.02                        |
|             |       |         |            | MIMO B       | 20.61                                | 20.61                                 | 25.76                | 115.08                        |
|             |       |         |            | Combined A+B | 23.60                                | 23.60                                 | 28.75                | 229.11                        |
|             |       | 62      | 5310       | MIMO A       | 20.86                                | 20.86                                 | 26.01                | 121.90                        |
|             |       |         |            | MIMO B       | 17.83                                | 17.83                                 | 22.98                | 60.67                         |
|             |       |         |            | Combined A+B | 22.61                                | 22.61                                 | 27.76                | 182.57                        |
| 802.11ac80  | VHT0  | 58      | 5290       | SISO A       | 21.14                                | 21.14                                 | 26.29                | 130.02                        |
|             |       |         |            | SISO B       | 20.14                                | 20.14                                 | 25.29                | 103.28                        |
|             |       |         |            | MIMO A       | 19.23                                | 19.23                                 | 24.38                | 83.75                         |
|             |       |         |            | MIMO B       | 18.44                                | 18.44                                 | 23.59                | 69.82                         |
|             |       |         |            | Combined A+B | 21.86                                | 21.86                                 | 27.01                | 153.58                        |
| 802.11ac160 | VHT0  | 50      | 5250       | SISO A       | 18.49                                | 18.49                                 | 23.64                | 70.63                         |
|             |       |         |            | SISO B       | 18.16                                | 18.16                                 | 23.31                | 65.46                         |
|             |       |         |            | MIMO A       | 17.01                                | 17.01                                 | 22.16                | 50.23                         |
|             |       |         |            | MIMO B       | 16.54                                | 16.54                                 | 21.69                | 45.08                         |
|             |       |         |            | Combined A+B | 19.79                                | 19.79                                 | 24.94                | 95.32                         |

\*Maximum values are the duty cycle compensated values calculated from the average (measured) values

Max Value

Min Value

| Mode          | Rate | Channel | Freq [MHz] | Antenna      | RU config. | Average Conducted Output Power [dBm] | Avg Max* Conducted Output Power [dBm] | Avg Max*. EIRP [dBm] | Avg Max* Conducted Power [mW] |
|---------------|------|---------|------------|--------------|------------|--------------------------------------|---------------------------------------|----------------------|-------------------------------|
| 802.11ax/be20 | MCS0 | 52      | 5260       | SISO A       | Full       | 21.53                                | 21.53                                 | 26.68                | 142.23                        |
|               |      |         |            | SISO B       | Full       | 21.52                                | 21.52                                 | 26.67                | 141.91                        |
|               |      |         |            | MIMO A       | Full       | 18.81                                | 18.81                                 | 23.96                | 76.03                         |
|               |      |         |            | MIMO B       | Full       | 18.46                                | 18.46                                 | 23.61                | 70.15                         |
|               |      |         |            | Combined A+B | Full       | 21.65                                | 21.65                                 | 26.80                | 146.18                        |
|               |      | 56      | 5280       | SISO A       | Full       | 21.63                                | 21.63                                 | 26.78                | 145.55                        |
|               |      |         |            | SISO B       | Full       | 21.55                                | 21.55                                 | 26.70                | 142.89                        |
|               |      |         |            | MIMO A       | Full       | 18.38                                | 18.38                                 | 23.53                | 68.87                         |
|               |      |         |            | MIMO B       | Full       | 18.04                                | 18.04                                 | 23.19                | 63.68                         |
|               |      |         |            | Combined A+B | Full       | 21.22                                | 21.22                                 | 26.37                | 132.54                        |
|               |      | 64      | 5320       | SISO A       | Full       | 21.57                                | 21.57                                 | 26.72                | 143.55                        |
|               |      |         |            |              | 26/8       | 12.88                                | 12.88                                 | 18.03                | 19.41                         |
|               |      |         |            |              | 52/40      | 15.53                                | 15.53                                 | 20.68                | 35.73                         |
|               |      |         |            |              | 106/54     | 18.58                                | 18.58                                 | 23.73                | 72.11                         |
|               |      |         |            | SISO B       | Full       | 21.25                                | 21.25                                 | 26.40                | 133.35                        |
|               |      |         |            |              | 26/8       | 12.81                                | 12.81                                 | 17.96                | 19.10                         |
|               |      |         |            |              | 52/40      | 15.88                                | 15.88                                 | 21.03                | 38.73                         |
|               |      |         |            |              | 106/54     | 18.46                                | 18.46                                 | 23.61                | 70.15                         |
|               |      |         |            | MIMO A       | Full       | 18.51                                | 18.51                                 | 23.66                | 70.96                         |
|               |      |         |            |              | 26/8       | 10.00                                | 10.00                                 | 15.15                | 10.00                         |
|               |      |         |            |              | 52/40      | 12.58                                | 12.58                                 | 17.73                | 18.11                         |
|               |      |         |            |              | 106/54     | 16.14                                | 16.14                                 | 21.29                | 41.11                         |
|               |      |         |            | MIMO B       | Full       | 18.28                                | 18.28                                 | 23.43                | 67.30                         |
|               |      |         |            |              | 26/8       | 9.63                                 | 9.63                                  | 14.78                | 9.18                          |
|               |      |         |            |              | 52/40      | 12.92                                | 12.92                                 | 18.07                | 19.59                         |
|               |      |         |            |              | 106/54     | 15.68                                | 15.68                                 | 20.83                | 36.98                         |
|               |      |         |            | Combined A+B | Full       | 21.41                                | 21.41                                 | 26.56                | 138.26                        |
|               |      |         |            |              | 26/8       | 12.83                                | 12.83                                 | 17.98                | 19.18                         |
|               |      |         |            |              | 52/40      | 15.76                                | 15.76                                 | 20.91                | 37.70                         |
|               |      |         |            |              | 106/54     | 18.93                                | 18.93                                 | 24.08                | 78.10                         |
| 802.11ax/be40 | MCS0 | 54      | 5270       | SISO A       | Full       | 21.91                                | 21.91                                 | 27.06                | 155.24                        |
|               |      |         |            | SISO B       | Full       | 21.56                                | 21.56                                 | 26.71                | 143.22                        |
|               |      |         |            | MIMO A       | Full       | 20.81                                | 20.81                                 | 25.96                | 120.50                        |
|               |      |         |            | MIMO B       | Full       | 20.48                                | 20.48                                 | 25.63                | 111.69                        |
|               |      |         |            | Combined A+B | Full       | 23.66                                | 23.66                                 | 28.81                | 232.19                        |
|               |      | 62      | 5310       | SISO A       | Full       | 20.94                                | 20.94                                 | 26.09                | 124.17                        |
|               |      |         |            |              | 242/62     | 21.65                                | 21.65                                 | 26.80                | 146.22                        |
|               |      |         |            | SISO B       | Full       | 19.88                                | 19.88                                 | 25.03                | 97.27                         |
|               |      |         |            |              | 242/62     | 21.34                                | 21.34                                 | 26.49                | 136.14                        |
|               |      |         |            | MIMO A       | Full       | 20.80                                | 20.80                                 | 25.95                | 120.23                        |
|               |      |         |            |              | 242/62     | 18.80                                | 18.80                                 | 23.95                | 75.86                         |
|               |      |         |            | MIMO B       | Full       | 17.31                                | 17.31                                 | 22.46                | 53.83                         |
|               |      |         |            |              | 242/62     | 18.62                                | 18.62                                 | 23.77                | 72.78                         |
|               |      |         |            | Combined A+B | Full       | 22.41                                | 22.41                                 | 27.56                | 174.05                        |
|               |      |         |            |              | 242/62     | 21.72                                | 21.72                                 | 26.87                | 148.64                        |

| Mode           | Rate | Channel | Freq [MHz] | Antenna      | RU config. | Average Conducted Ouput Power [dBm] | Avg Max* Conducted Ouput Power [dBm] | Avg Max*. EIRP [dBm] | Avg Max* Conducted Power [mW] |
|----------------|------|---------|------------|--------------|------------|-------------------------------------|--------------------------------------|----------------------|-------------------------------|
| 802.11ax/be80  | MCS0 | 58      | 5290       | SISO A       | Full       | 21.12                               | 21.12                                | 26.27                | 129.42                        |
|                |      |         |            |              | 484/66     | 20.56                               | 20.56                                | 25.71                | 113.76                        |
|                |      |         |            | SISO B       | Full       | 20.09                               | 20.09                                | 25.24                | 102.09                        |
|                |      |         |            |              | 484/66     | 19.96                               | 19.96                                | 25.11                | 99.08                         |
|                |      |         |            | MIMO A       | Full       | 19.17                               | 19.17                                | 24.32                | 82.60                         |
|                |      |         |            |              | 484/66     | 19.74                               | 19.74                                | 24.89                | 94.19                         |
|                |      |         |            | MIMO B       | Full       | 18.41                               | 18.41                                | 23.56                | 69.34                         |
|                |      |         |            |              | 484/66     | 16.47                               | 16.47                                | 21.62                | 44.36                         |
|                |      |         |            | Combined A+B | Full       | 21.82                               | 21.82                                | 26.97                | 151.95                        |
|                |      |         |            |              | 484/66     | 21.42                               | 21.42                                | 26.57                | 138.55                        |
| 802.11ax/be160 | MCS0 | 50      | 5250       | SISO A       | FullBW     | 18.44                               | 18.44                                | 23.59                | 69.82                         |
|                |      |         |            |              | 80m/67     | 19.93                               | 19.93                                | 25.08                | 98.40                         |
|                |      |         |            |              | 80m/S67    | 19.98                               | 19.98                                | 25.13                | 99.54                         |
|                |      |         |            | SISO B       | FullBW     | 18.14                               | 18.14                                | 23.29                | 65.16                         |
|                |      |         |            |              | 80m/67     | 19.53                               | 19.53                                | 24.68                | 89.74                         |
|                |      |         |            |              | 80m/S67    | 17.39                               | 17.39                                | 22.54                | 54.83                         |
|                |      |         |            | MIMO A       | FullBW     | 17.02                               | 17.02                                | 22.17                | 50.35                         |
|                |      |         |            |              | 80m/67     | 18.53                               | 18.53                                | 23.68                | 71.29                         |
|                |      |         |            |              | 80m/S67    | 19.54                               | 19.54                                | 24.69                | 89.95                         |
|                |      |         |            | MIMO B       | FullBW     | 16.51                               | 16.51                                | 21.66                | 44.77                         |
|                |      |         |            |              | 80m/67     | 18.42                               | 18.42                                | 23.57                | 69.50                         |
|                |      |         |            |              | 80m/S67    | 17.38                               | 17.38                                | 22.53                | 54.70                         |
|                |      |         |            | Compinet A+B | FullBW     | 19.78                               | 19.78                                | 24.93                | 95.12                         |
|                |      |         |            |              | 80m/67     | 21.49                               | 21.49                                | 26.64                | 140.79                        |
|                |      |         |            |              | 80m/S67    | 21.60                               | 21.60                                | 26.75                | 144.65                        |

\*Maximum values are the duty cycle compensated values calculated from the average (measured) values

Max/Min Value

### Maximum Power Spectral Density (PSD)

| Mode        | Rate  | Channel | Freq [MHz] | Antenna      | Average conducted PSD [dBm/MHz] | Maximum* conducted PSD [dBm/MHz] |
|-------------|-------|---------|------------|--------------|---------------------------------|----------------------------------|
| 802.11a     | 6Mbps | 52      | 5260       | SISO A       | 10.63                           | 10.73                            |
|             |       |         |            | SISO B       | 10.58                           | 10.68                            |
|             |       | 56      | 5280       | SISO A       | 10.62                           | 10.72                            |
|             |       |         |            | SISO B       | 10.80                           | 10.90                            |
|             |       | 64      | 5320       | SISO A       | 10.61                           | 10.71                            |
|             |       |         |            | SISO B       | 10.42                           | 10.52                            |
| 802.11n20   | HT0   | 52      | 5260       | SISO A       | 10.29                           | 10.29                            |
|             |       |         |            | SISO B       | 10.39                           | 10.39                            |
|             |       | 56      | 5280       | SISO A       | 10.33                           | 10.33                            |
|             |       |         |            | SISO B       | 10.35                           | 10.35                            |
|             |       | 64      | 5320       | SISO A       | 10.47                           | 10.47                            |
|             |       |         |            | SISO B       | 10.60                           | 10.60                            |
|             | HT8   | 52      | 5260       | MIMO A       | 7.69                            | 7.69                             |
|             |       |         |            | MIMO B       | 7.49                            | 7.49                             |
|             |       |         |            | Combined A+B | 10.60                           | 10.60                            |
|             |       | 56      | 5280       | MIMO A       | 7.87                            | 7.87                             |
|             |       |         |            | MIMO B       | 7.52                            | 7.52                             |
|             |       |         |            | Combined A+B | 10.71                           | 10.71                            |
|             |       | 64      | 5320       | MIMO A       | 7.76                            | 7.76                             |
|             |       |         |            | MIMO B       | 7.34                            | 7.34                             |
|             |       |         |            | Combined A+B | 10.57                           | 10.57                            |
| 802.11n40   | HT0   | 54      | 5270       | SISO A       | 7.89                            | 7.89                             |
|             |       |         |            | SISO B       | 7.38                            | 7.38                             |
|             |       | 62      | 5310       | SISO A       | 6.90                            | 6.90                             |
|             |       |         |            | SISO B       | 5.80                            | 5.80                             |
|             | HT8   | 54      | 5270       | MIMO A       | 6.46                            | 6.46                             |
|             |       |         |            | MIMO B       | 6.57                            | 6.57                             |
|             |       |         |            | Combined A+B | 9.53                            | 9.53                             |
|             |       | 62      | 5310       | MIMO A       | 6.73                            | 6.73                             |
|             |       |         |            | MIMO B       | 3.65                            | 3.65                             |
|             |       |         |            | Combined A+B | 8.47                            | 8.47                             |
| 802.11ac80  | VHT0  | 58      | 5290       | SISO A       | 3.86                            | 3.86                             |
|             |       |         |            | SISO B       | 3.01                            | 3.01                             |
|             |       |         |            | MIMO A       | 1.98                            | 1.98                             |
|             |       |         |            | MIMO B       | 1.31                            | 1.31                             |
|             |       |         |            | Combined A+B | 4.67                            | 4.67                             |
| 802.11ac160 | VHT0  | 50      | 5250       | SISO A       | -1.46                           | -1.46                            |
|             |       |         |            | SISO B       | -1.89                           | -1.89                            |
|             |       |         |            | MIMO A       | -3.04                           | -3.04                            |
|             |       |         |            | MIMO B       | -3.48                           | -3.48                            |
|             |       |         |            | Combined A+B | -0.24                           | -0.24                            |

\* Maximum values are the duty cycle compensated values calculated from the measured average values

| Mode          | Rate | #Ch | Freq [MHz] | Antenna      | RU config. | Average conducted PSD [dBm/MHz] | Maximum* conducted PSD [dBm/MHz] |
|---------------|------|-----|------------|--------------|------------|---------------------------------|----------------------------------|
| 802.11ax/be20 | MCS0 | 52  | 5260       | SISO A       | Full       | 10.73                           | 10.73                            |
|               |      |     |            | SISO B       | Full       | 10.68                           | 10.68                            |
|               |      |     |            | MIMO A       | Full       | 7.89                            | 7.89                             |
|               |      |     |            | MIMO B       | Full       | 7.85                            | 7.85                             |
|               |      |     |            | Combined A+B | Full       | 10.88                           | 10.88                            |
|               |      | 56  | 5280       | SISO A       | Full       | 10.82                           | 10.82                            |
|               |      |     |            | SISO B       | Full       | 10.76                           | 10.76                            |
|               |      |     |            | MIMO A       | Full       | 7.70                            | 7.70                             |
|               |      |     |            | MIMO B       | Full       | 7.32                            | 7.32                             |
|               |      |     |            | Combined A+B | Full       | 10.52                           | 10.52                            |

| Mode           | Rate | #Ch | Freq [MHz] | Antenna      | RU config. | Average conducted PSD [dBm/MHz] | Maximum* conducted PSD [dBm/MHz] |
|----------------|------|-----|------------|--------------|------------|---------------------------------|----------------------------------|
|                |      | 64  | 5320       | SISO A       | Full       | 10.79                           | 10.79                            |
|                |      |     |            |              | 26/8       | 10.43                           | 10.43                            |
|                |      |     |            |              | 52/40      | 10.30                           | 10.30                            |
|                |      |     |            |              | 106/54     | 10.14                           | 10.14                            |
|                |      |     |            | SISO B       | Full       | 10.37                           | 10.37                            |
|                |      |     |            |              | 26/8       | 10.41                           | 10.41                            |
|                |      |     |            |              | 52/40      | 10.43                           | 10.43                            |
|                |      |     |            |              | 106/54     | 10.15                           | 10.15                            |
|                |      |     |            | MIMO A       | Full       | 7.75                            | 7.75                             |
|                |      |     |            |              | 26/8       | 7.35                            | 7.35                             |
|                |      |     |            |              | 52/40      | 7.21                            | 7.21                             |
|                |      |     |            |              | 106/54     | 7.81                            | 7.81                             |
|                |      |     |            | MIMO B       | Full       | 7.33                            | 7.33                             |
|                |      |     |            |              | 26/8       | 7.30                            | 7.30                             |
|                |      |     |            |              | 52/40      | 7.62                            | 7.62                             |
|                |      |     |            |              | 106/54     | 7.31                            | 7.31                             |
|                |      |     |            | Combined A+B | Full       | 10.56                           | 10.56                            |
|                |      |     |            |              | 26/8       | 10.34                           | 10.34                            |
|                |      |     |            |              | 52/40      | 10.43                           | 10.43                            |
|                |      |     |            |              | 106/54     | 10.58                           | 10.58                            |
| 802.11ax/be40  | MCS0 | 54  | 5270       | SISO A       | Full       | 7.92                            | 7.92                             |
|                |      |     |            | SISO B       | Full       | 7.45                            | 7.45                             |
|                |      |     |            | MIMO A       | Full       | 6.59                            | 6.59                             |
|                |      |     |            | MIMO B       | Full       | 6.30                            | 6.30                             |
|                |      |     |            | Combined A+B | Full       | 9.46                            | 9.46                             |
|                |      | 62  | 5310       | SISO A       | Full       | 6.87                            | 6.87                             |
|                |      |     |            |              | 242/62     | 10.88                           | 10.88                            |
|                |      |     |            | SISO B       | Full       | 5.73                            | 5.73                             |
|                |      |     |            |              | 242/62     | 10.53                           | 10.53                            |
|                |      |     |            | MIMO A       | Full       | 6.54                            | 6.54                             |
|                |      |     |            |              | 242/62     | 7.90                            | 7.90                             |
|                |      |     |            | MIMO B       | Full       | 3.18                            | 3.18                             |
|                |      |     |            |              | 242/62     | 7.62                            | 7.62                             |
|                |      |     |            | Combined A+B | Full       | 8.19                            | 8.19                             |
|                |      |     |            |              | 242/62     | 10.77                           | 10.77                            |
| 802.11ax/be80  | MCS0 | 58  | 5290       | SISO A       | Full       | 4.05                            | 4.05                             |
|                |      |     |            |              | 484/66     | 6.20                            | 6.20                             |
|                |      |     |            | SISO B       | Full       | 3.12                            | 3.12                             |
|                |      |     |            |              | 484/66     | 5.59                            | 5.59                             |
|                |      |     |            | MIMO A       | Full       | 2.12                            | 2.12                             |
|                |      |     |            |              | 484/66     | 5.54                            | 5.54                             |
|                |      |     |            | MIMO B       | Full       | 1.19                            | 1.19                             |
|                |      |     |            |              | 484/66     | 2.17                            | 2.17                             |
|                |      |     |            | Combined A+B | Full       | 4.69                            | 4.69                             |
|                |      |     |            |              | 484/66     | 7.18                            | 7.18                             |
| 802.11ax/be160 | MCS0 | 50  | 5250       | SISO A       | FullBW     | -1.72                           | -1.72                            |
|                |      |     |            |              | 80m/67     | 2.89                            | 2.89                             |
|                |      |     |            |              | 80m/S67    | 2.78                            | 2.78                             |
|                |      |     |            | SISO B       | FullBW     | -1.93                           | -1.93                            |
|                |      |     |            |              | 80m/67     | 2.36                            | 2.36                             |
|                |      |     |            |              | 80m/S67    | 0.26                            | 0.26                             |
|                |      |     |            | MIMO A       | FullBW     | -3.07                           | -3.07                            |
|                |      |     |            |              | 80m/67     | 1.50                            | 1.50                             |
|                |      |     |            |              | 80m/S67    | 2.30                            | 2.30                             |
|                |      |     |            | MIMO B       | FullBW     | -3.40                           | -3.40                            |
|                |      |     |            |              | 80m/67     | 1.19                            | 1.19                             |
|                |      |     |            |              | 80m/S67    | 0.21                            | 0.21                             |
|                |      |     |            | Compinet A+B | FullBW     | -0.22                           | -0.22                            |
|                |      |     |            |              | 80m/67     | 4.36                            | 4.36                             |
|                |      |     |            |              | 80m/S67    | 4.39                            | 4.39                             |

\* Maximum values are the duty cycle compensated values calculated from the measured average values

See Section B.5.2 for the screenshot results.

### B.3.3 Undesirable emissions limits : out of band (Conducted)

#### Test limits

| FCC part         | Limits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                         |                       |                         |                    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------------------|-------------------------|--------------------|-------|-----|----|---|--------|-----|------|---|---------|-----|----|---|-----------|-----|----|---|
| 15.407 (b) (2)   | For transmitters operating in the 5.25–5.35 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                         |                       |                         |                    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
| 15.209           | <p>Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a):</p> <table><tr><th>Freq Range (MHz)</th><th>Field Strength (μV/m)</th><th>Field Strength (dBμV/m)</th><th>Meas. Distance (m)</th></tr><tr><td>30-88</td><td>100</td><td>40</td><td>3</td></tr><tr><td>88-216</td><td>150</td><td>43.5</td><td>3</td></tr><tr><td>216-960</td><td>200</td><td>46</td><td>3</td></tr><tr><td>Above 960</td><td>500</td><td>54</td><td>3</td></tr></table> <p>The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.</p> <p>For average radiated emission measurements above 1000 MHz, there is also a limit specified when measuring with peak detector function, corresponding to 20 dB above the indicated values in the table.</p> | Freq Range (MHz)        | Field Strength (μV/m) | Field Strength (dBμV/m) | Meas. Distance (m) | 30-88 | 100 | 40 | 3 | 88-216 | 150 | 43.5 | 3 | 216-960 | 200 | 46 | 3 | Above 960 | 500 | 54 | 3 |
| Freq Range (MHz) | Field Strength (μV/m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Field Strength (dBμV/m) | Meas. Distance (m)    |                         |                    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
| 30-88            | 100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 40                      | 3                     |                         |                    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
| 88-216           | 150                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 43.5                    | 3                     |                         |                    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
| 216-960          | 200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 46                      | 3                     |                         |                    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
| Above 960        | 500                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 54                      | 3                     |                         |                    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |

#### Test procedure

The conducted setup shown in section *Test & System Description* was used to measure undesirable emissions on the Band Edge domain. The antenna terminal of the EUT is connected to the spectrum analyzer through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss and the declared antenna gain.

Both lower and upper side of the out of band were performed using the integration method as defined in the out of band measurements section (paragraph II.G.3.d) of FCC OET KDB 789033 D02

In case of out of band measurements falling in restricted bands, the declared antenna gain is also compensated in the graph.

For out of band measurements falling in restricted bands, the following limits in dBm were applied for the average detector after the conversion from the limits detailed above in dBμV/m, according to FCC 47 CFR part 15 - Subpart C – §15.209(a). The limits in dBm for peak detector are 20dB above the indicated values in the table.

| §15.209(a)       |              |                                   | Converted values                     |             |
|------------------|--------------|-----------------------------------|--------------------------------------|-------------|
| Freq Range (MHz) | Distance (m) | Field strength (microvolts/meter) | Field strength (dB microvolts/meter) | Power (dBm) |
| 960-25000        | 3            | 500                               | 53.98                                | -41.2       |

**See Section B.5.3 for the screenshot results.**



### B.3.4 Radiated spurious emission

#### Standard references

| FCC part         | Limits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         |                       |                         |                    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------------------|-------------------------|--------------------|-------|-----|----|---|--------|-----|------|---|---------|-----|----|---|-----------|-----|----|---|
| 15.407 (a) (2)   | For the 5.25–5.35 GHz and 5.47–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1 megahertz band.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                         |                       |                         |                    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
| 15.209           | <p>Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a):</p> <table><tr><th>Freq Range (MHz)</th><th>Field Strength (μV/m)</th><th>Field Strength (dBμV/m)</th><th>Meas. Distance (m)</th></tr><tr><td>30-88</td><td>100</td><td>40</td><td>3</td></tr><tr><td>88-216</td><td>150</td><td>43.5</td><td>3</td></tr><tr><td>216-960</td><td>200</td><td>46</td><td>3</td></tr><tr><td>Above 960</td><td>500</td><td>54</td><td>3</td></tr></table> <p>The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector. For average radiated emission measurements above 1000 MHz, there is also a limit specified when measuring with peak detector function, corresponding to 20 dB above the indicated values in the table.</p> | Freq Range (MHz)        | Field Strength (μV/m) | Field Strength (dBμV/m) | Meas. Distance (m) | 30-88 | 100 | 40 | 3 | 88-216 | 150 | 43.5 | 3 | 216-960 | 200 | 46 | 3 | Above 960 | 500 | 54 | 3 |
| Freq Range (MHz) | Field Strength (μV/m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Field Strength (dBμV/m) | Meas. Distance (m)    |                         |                    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
| 30-88            | 100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 40                      | 3                     |                         |                    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
| 88-216           | 150                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 43.5                    | 3                     |                         |                    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
| 216-960          | 200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 46                      | 3                     |                         |                    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |
| Above 960        | 500                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 54                      | 3                     |                         |                    |       |     |    |   |        |     |      |   |         |     |    |   |           |     |    |   |

#### Test procedure

The radiated setup shown in section *Test & System Description* was used to measure the radiated spurious emissions. Depending of the frequency range and bands being tested, different antennas and filters were used.

The final measurement is done by varying the antenna height, the EUT azimuth over 360° and for both Vertical and Horizontal polarizations.

The radiated spurious emission was measured on the worst case configuration selected from the section B.2.2 and using the low, middle and high channels.

## Test Results

### Radiated spurious - 30 MHz to 1 GHz

#### Radiated Spurious – All modes

| Frequency | Level  | Detector   | Limit  | Margin | Polarization |
|-----------|--------|------------|--------|--------|--------------|
| MHz       | dBμV/m | ---        | dBμV/m | dB     | ---          |
| 32.6      | 34.4   | Quasi-Peak | 40.0   | 5.6    | V            |
| 47.8      | 35.5   | Quasi-Peak | 40.0   | 4.5    | V            |
| 87.5      | 36.2   | Quasi-Peak | 40.0   | 3.8    | V            |

Note 1: The spurious signals detected do not depend on either the operating channel or the modulation mode.

## 802.11a

### 1 GHz – 40 GHz, 802.11a, 6Mbps, Chain A

#### Radiated Spurious – CH52

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 8267.1    | 45.0   | Average  | 54.0   | 9.0    | V     |
| 8267.4    | 55.9   | Peak     | 74.0   | 18.1   | V     |
| 10520.5   | 64.1   | Peak     | 68.2   | 4.1    | H     |
| 10529.5   | 62.7   | Peak     | 68.2   | 5.5    | H     |
| 38951.0   | 58.9   | Peak     | 74.0   | 15.1   | H     |
| 38951.0   | 46.5   | Average  | 54.0   | 7.5    | V     |

#### Radiated Spurious – CH56

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 1249.7    | 44.8   | Peak     | 74.0   | 29.2   | V     |
| 1249.7    | 35.8   | Average  | 54.0   | 18.2   | V     |
| 10551.5   | 62.9   | Peak     | 68.2   | 5.3    | H     |
| 10560.5   | 66.1   | Peak     | 68.2   | 2.1    | H     |

**Radiated Spurious – CH64**

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBµV/m | ---      | dBµV/m | dB     | ---   |
| 1249.7    | 45.4   | Peak     | 74.0   | 28.6   | V     |
| 1249.7    | 35.8   | Average  | 54.0   | 18.2   | V     |
| 10635.5   | 58.2   | Peak     | 74.0   | 15.8   | H     |
| 10635.5   | 46.2   | Average  | 54.0   | 7.8    | H     |

**1 GHz – 40 GHz, 802.11a, 6Mbps, Chain B**
**Radiated Spurious – CH52**

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBµV/m | ---      | dBµV/m | dB     | ---   |
| 7886.8    | 59.9   | Peak     | 68.2   | 8.3    | H     |
| 10524.5   | 53.6   | Peak     | 68.2   | 14.6   | H     |
| 38945.5   | 59.4   | Peak     | 74.0   | 14.6   | H     |
| 38945.5   | 46.4   | Average  | 54.0   | 7.6    | H     |

**Radiated Spurious – CH56**

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBµV/m | ---      | dBµV/m | dB     | ---   |
| 7920.9    | 59.7   | Peak     | 68.2   | 8.5    | H     |
| 10556.5   | 53.7   | Peak     | 68.2   | 14.5   | H     |

**Radiated Spurious – CH64**

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBµV/m | ---      | dBµV/m | dB     | ---   |
| 7979.2    | 59.8   | Peak     | 68.2   | 8.4    | H     |
| 10635.5   | 50.4   | Peak     | 74.0   | 23.6   | V     |
| 10635.5   | 44.4   | Average  | 54.0   | 9.6    | V     |

# 802.11n

## 1 GHz – 40 GHz, 802.11n20, HT0, Chain A

### Radiated Spurious – CH52

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBµV/m | ---      | dBµV/m | dB     | ---   |
| 9480.4    | 57.7   | Peak     | 74.0   | 16.3   | H     |
| 9480.4    | 46.6   | Average  | 54.0   | 7.4    | H     |
| 10523.5   | 64.5   | Peak     | 68.2   | 3.7    | H     |
| 10527.5   | 63.6   | Peak     | 68.2   | 4.6    | H     |

### Radiated Spurious – CH56

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBµV/m | ---      | dBµV/m | dB     | ---   |
| 1249.7    | 44.1   | Peak     | 74.0   | 29.9   | V     |
| 1249.7    | 36.0   | Average  | 54.0   | 18.0   | V     |
| 10558.0   | 65.7   | Peak     | 68.2   | 2.5    | H     |
| 10563.5   | 64.5   | Peak     | 68.2   | 3.7    | H     |

### Radiated Spurious – CH64

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBµV/m | ---      | dBµV/m | dB     | ---   |
| 7973.7    | 60.5   | Peak     | 68.2   | 7.7    | V     |
| 10637.5   | 58.3   | Peak     | 74.0   | 15.7   | H     |
| 10637.5   | 47.1   | Average  | 54.0   | 6.9    | H     |
| 10640.5   | 57.9   | Peak     | 74.0   | 16.1   | H     |
| 10640.5   | 47.0   | Average  | 54.0   | 7.0    | H     |

## 1 GHz – 40 GHz, 802.11n20, HT0, Chain B

### Radiated Spurious – CH52

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7889.4    | 58.9   | Peak     | 68.2   | 9.3    | H     |
| 10519.5   | 54.7   | Peak     | 68.2   | 13.5   | V     |

### Radiated Spurious – CH56

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7916.8    | 58.8   | Peak     | 68.2   | 9.4    | H     |
| 10556.0   | 52.2   | Peak     | 68.2   | 16.0   | H     |

### Radiated Spurious – CH64

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7977.8    | 60.2   | Peak     | 68.2   | 8.0    | H     |
| 10637.0   | 50.7   | Peak     | 74.0   | 23.3   | V     |
| 10637.0   | 44.3   | Average  | 54.0   | 9.7    | V     |

## 1 GHz – 40 GHz, 802.11n20, HT8, Chain A+B

### Radiated Spurious – CH52

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7889.7    | 60.0   | Peak     | 68.2   | 8.2    | H     |
| 23967.8   | 49.2   | Peak     | 74.0   | 24.8   | V     |
| 23967.8   | 40.9   | Average  | 54.0   | 13.1   | V     |
| 39819.2   | 55.7   | Peak     | 74.0   | 18.3   | V     |
| 39819.2   | 48.0   | Average  | 54.0   | 6.0    | H     |

### Radiated Spurious – CH56

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7919.1    | 59.5   | Peak     | 68.2   | 8.7    | H     |
| 10551.5   | 63.8   | Peak     | 68.2   | 4.4    | H     |
| 10556.5   | 65.0   | Peak     | 68.2   | 3.2    | H     |

### Radiated Spurious – CH64

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7979.2    | 63.6   | Peak     | 68.2   | 4.6    | H     |
| 10640.5   | 60.8   | Peak     | 74.0   | 13.2   | H     |
| 10640.5   | 48.0   | Average  | 54.0   | 6.0    | H     |

## 1 GHz – 40 GHz, 802.11n40, HT0, Chain A

### Radiated Spurious – CH54

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 9423.5    | 57.6   | Peak     | 74.0   | 16.4   | V     |
| 9423.5    | 46.5   | Average  | 54.0   | 7.5    | H     |
| 10535.0   | 56.4   | Peak     | 68.2   | 11.8   | H     |

### Radiated Spurious – CH62

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 9449.8    | 46.4   | Average  | 54.0   | 7.6    | H     |
| 9450.1    | 55.8   | Peak     | 74.0   | 18.2   | H     |
| 10622.0   | 56.0   | Peak     | 74.0   | 18.0   | H     |
| 10622.0   | 43.9   | Average  | 54.0   | 10.1   | H     |

## 1 GHz – 40 GHz, 802.11n40, HT0, Chain B

### Radiated Spurious – CH54

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7905.1    | 58.0   | Peak     | 68.2   | 10.2   | H     |
| 10500.0   | 47.5   | Peak     | 68.2   | 20.7   | V     |
| 10536.5   | 50.8   | Peak     | 68.2   | 17.4   | V     |

### Radiated Spurious – CH62

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7976.6    | 59.7   | Peak     | 68.2   | 8.5    | V     |
| 10624.5   | 49.3   | Peak     | 74.0   | 24.7   | V     |
| 10624.5   | 40.8   | Average  | 54.0   | 13.2   | V     |

# 1 GHz – 40 GHz, 802.11n40, HT8, Chain A+B

## Radiated Spurious – CH54

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7896.7    | 59.0   | Peak     | 68.2   | 9.2    | H     |
| 10539.0   | 59.7   | Peak     | 68.2   | 8.5    | V     |

## Radiated Spurious – CH62

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7981.5    | 60.1   | Peak     | 68.2   | 8.1    | H     |
| 10620.5   | 55.9   | Peak     | 74.0   | 18.1   | V     |
| 10620.5   | 46.4   | Average  | 54.0   | 7.6    | V     |



# 802.11ac

## 1 GHz – 40 GHz, 802.11ac80, VHT0, Chain A

### Radiated Spurious – CH58

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 8256.6    | 55.8   | Peak     | 74.0   | 18.2   | H     |
| 8257.8    | 45.0   | Average  | 54.0   | 9.0    | H     |
| 10601.0   | 52.5   | Peak     | 74.0   | 21.5   | H     |
| 10601.0   | 40.4   | Average  | 54.0   | 13.6   | H     |

## 1 GHz – 40 GHz, 802.11ac80, VHT0, Chain B

### Radiated Spurious – CH58

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 8264.2    | 44.7   | Average  | 54.0   | 9.3    | H     |
| 8264.8    | 55.4   | Peak     | 74.0   | 18.6   | V     |
| 10499.5   | 47.7   | Peak     | 68.2   | 20.5   | V     |
| 10601.0   | 39.8   | Average  | 54.0   | 14.2   | V     |
| 10601.5   | 47.3   | Peak     | 74.0   | 26.7   | V     |

## 1 GHz – 40 GHz, 802.11ac80, VHT8, Chain A+B

### Radiated Spurious – CH58

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7931.4    | 55.9   | Peak     | 68.2   | 12.3   | H     |
| 10605.5   | 54.4   | Peak     | 74.0   | 19.6   | H     |
| 10605.5   | 40.6   | Average  | 54.0   | 13.4   | H     |

# 802.11ax/be

## 1 GHz – 40 GHz, 802.11ax/be20, MCS0, Chain A

### Radiated Spurious – CH52

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBµV/m | ---      | dBµV/m | dB     | ---   |
| 7878.0    | 61.8   | Peak     | 68.2   | 6.4    | H     |
| 10503.5   | 52.2   | Peak     | 68.2   | 16.0   | H     |

### Radiated Spurious – CH56

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBµV/m | ---      | dBµV/m | dB     | ---   |
| 7907.5    | 60.2   | Peak     | 68.2   | 8.0    | H     |
| 10542.5   | 53.4   | Peak     | 68.2   | 14.8   | H     |

### Radiated Spurious – CH64

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBµV/m | ---      | dBµV/m | dB     | ---   |
| 7967.5    | 59.1   | Peak     | 68.2   | 9.1    | H     |
| 10622.0   | 54.8   | Peak     | 74.0   | 19.2   | H     |
| 10622.5   | 42.7   | Average  | 54.0   | 11.3   | H     |

# 1 GHz – 40 GHz, 802.11ax/be20, MCS0, Chain B

## Radiated Spurious – CH52

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7877.4    | 61.4   | Peak     | 68.2   | 6.8    | H     |
| 10499.5   | 48.0   | Peak     | 68.2   | 20.2   | V     |

## Radiated Spurious – CH56

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7907.8    | 58.9   | Peak     | 68.2   | 9.3    | H     |
| 10499.5   | 49.6   | Peak     | 68.2   | 18.6   | V     |

## Radiated Spurious – CH64

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7967.5    | 60.5   | Peak     | 68.2   | 7.7    | H     |
| 10622.0   | 46.3   | Peak     | 74.0   | 27.7   | V     |
| 10622.0   | 38.2   | Average  | 54.0   | 15.8   | V     |

## 1 GHz – 40 GHz, 802.11ax/be20, MCS0, Chain A+B

### Radiated Spurious – CH52

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7877.7    | 59.3   | Peak     | 68.2   | 8.9    | H     |
| 10503.0   | 54.2   | Peak     | 68.2   | 14.0   | H     |

### Radiated Spurious – CH56

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7907.2    | 61.6   | Peak     | 68.2   | 6.6    | H     |
| 10543.0   | 56.9   | Peak     | 68.2   | 11.3   | H     |

### Radiated Spurious – CH64

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7967.3    | 61.8   | Peak     | 68.2   | 6.4    | H     |
| 10622.5   | 54.3   | Peak     | 74.0   | 19.7   | H     |
| 10623.0   | 42.5   | Average  | 54.0   | 11.5   | H     |

## 1 GHz – 40 GHz, 802.11ax/be40, MCS0, Chain A

### Radiated Spurious – CH54

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7891.1    | 59.2   | Peak     | 68.2   | 9.0    | H     |
| 10499.5   | 50.8   | Peak     | 68.2   | 17.4   | V     |
| 10521.0   | 52.3   | Peak     | 68.2   | 15.9   | H     |

### Radiated Spurious – CH62

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7951.2    | 58.9   | Peak     | 68.2   | 9.3    | H     |
| 10600.5   | 40.8   | Average  | 54.0   | 13.2   | V     |
| 10600.5   | 52.3   | Peak     | 74.0   | 21.7   | H     |

## 1 GHz – 40 GHz, 802.11ax/be40, MCS0, Chain B

### Radiated Spurious – CH54

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7890.5    | 58.9   | Peak     | 68.2   | 9.3    | H     |
| 10499.5   | 49.5   | Peak     | 68.2   | 18.7   | V     |

### Radiated Spurious – CH62

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7951.2    | 61.5   | Peak     | 68.2   | 6.7    | H     |
| 10600.5   | 51.8   | Peak     | 74.0   | 22.2   | V     |
| 10600.5   | 39.6   | Average  | 54.0   | 14.4   | V     |

## 1 GHz – 40 GHz, 802.11ax/be40, MCS0, Chain A+B

### Radiated Spurious – CH54

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7890.5    | 61.8   | Peak     | 68.2   | 6.4    | H     |
| 10521.0   | 65.6   | Peak     | 68.2   | 2.6    | H     |

### Radiated Spurious – CH62

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7950.6    | 61.9   | Peak     | 68.2   | 6.3    | H     |
| 10600.5   | 53.5   | Peak     | 74.0   | 20.5   | H     |
| 10600.5   | 43.0   | Average  | 54.0   | 11.0   | H     |

## 1 GHz – 40 GHz, 802.11ax/be80, MCS0, Chain A

### Radiated Spurious – CH58

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7902.8    | 60.6   | Peak     | 68.2   | 7.6    | H     |
| 10536.5   | 54.5   | Peak     | 68.2   | 13.7   | H     |

## 1 GHz – 40 GHz, 802.11ax/be80, MCS0, Chain B

### Radiated Spurious – CH58

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7903.7    | 59.6   | Peak     | 68.2   | 8.6    | H     |
| 10537.5   | 50.9   | Peak     | 68.2   | 17.3   | H     |

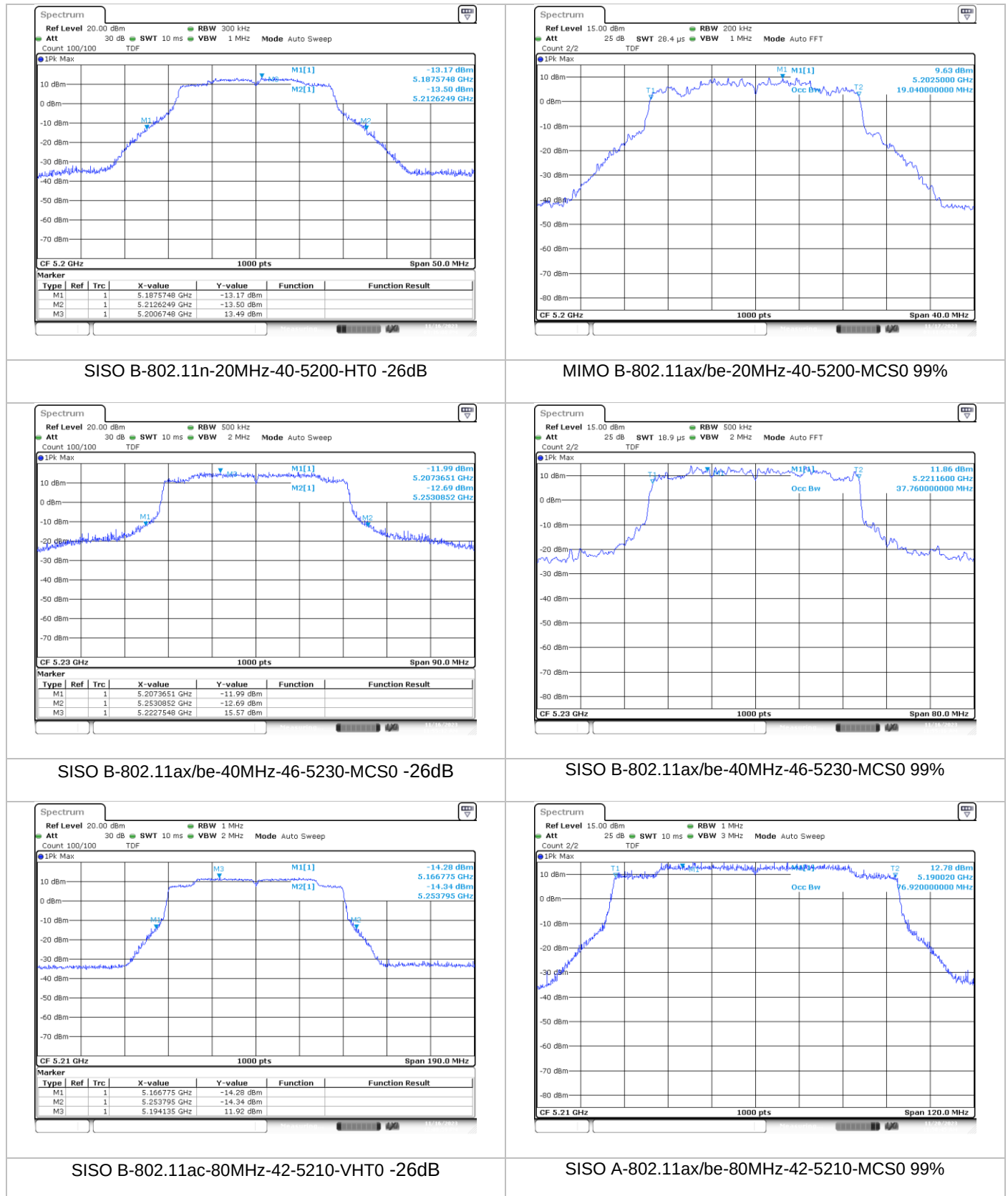
## 1 GHz – 40 GHz, 802.11ax/be80, MCS0, Chain A+B

### Radiated Spurious – CH58

| Frequency | Level  | Detector | Limit  | Margin | Polar |
|-----------|--------|----------|--------|--------|-------|
| MHz       | dBμV/m | ---      | dBμV/m | dB     | ---   |
| 7903.4    | 62.3   | Peak     | 68.2   | 5.9    | H     |
| 10537.0   | 56.6   | Peak     | 68.2   | 11.6   | H     |

## B.4 Test Results Screenshot U-NII-1

### B.4.1 26dB and 99% Bandwidth

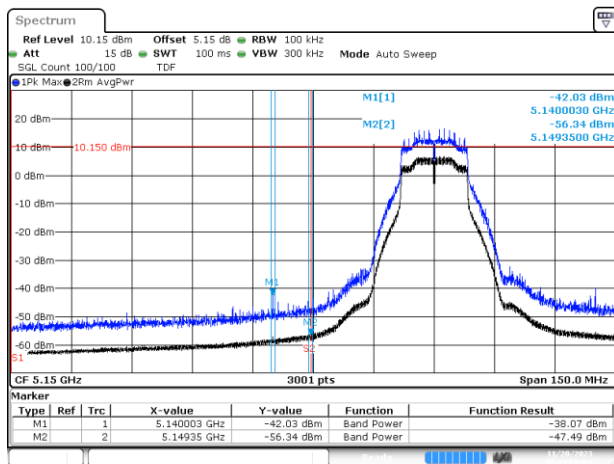




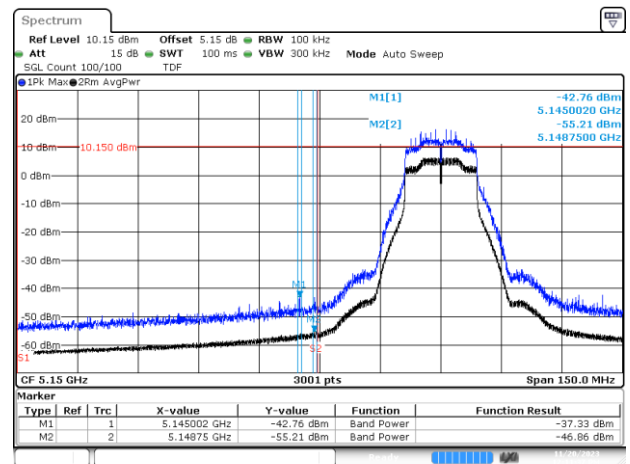
### B.4.2 Power Limits. Maximum Output power & Maximum power spectral density



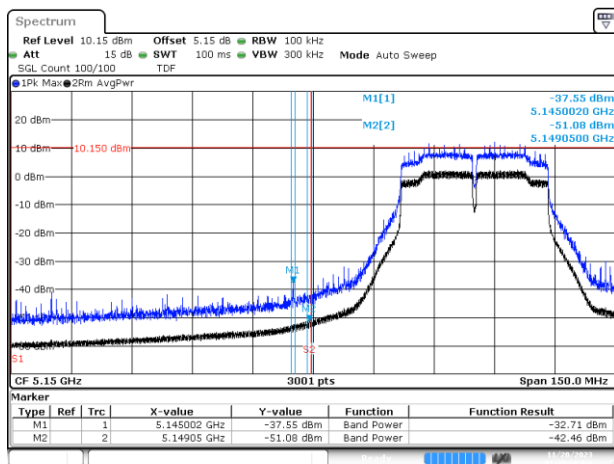
### B.4.3 Undesirable emission limits : out of band (Conducted)



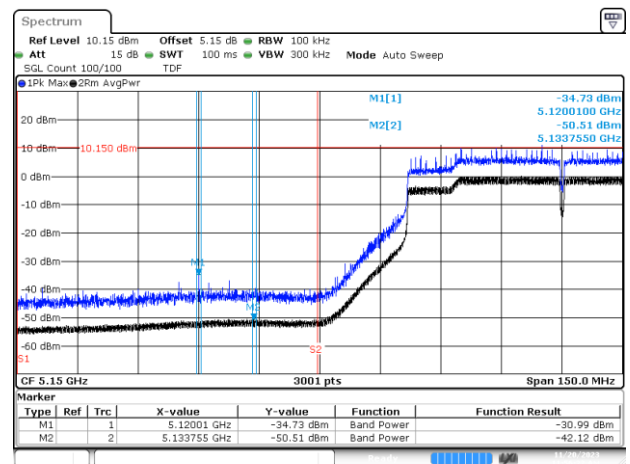
BE-R-LOW, SISO-A, 802.11a20-6Mbps, Ch36



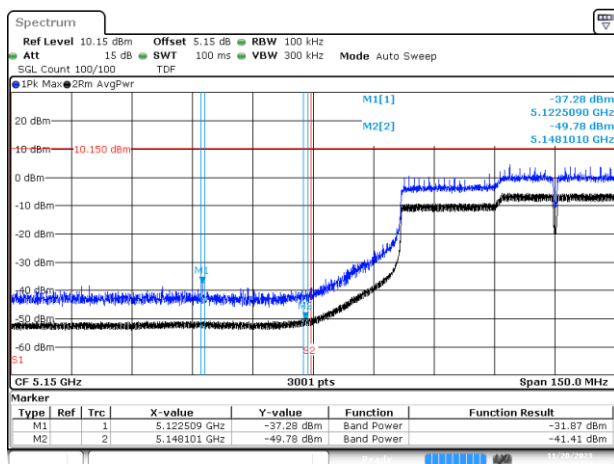
BE-R-LOW, SISO-A, 802.11n20-HT0, Ch36



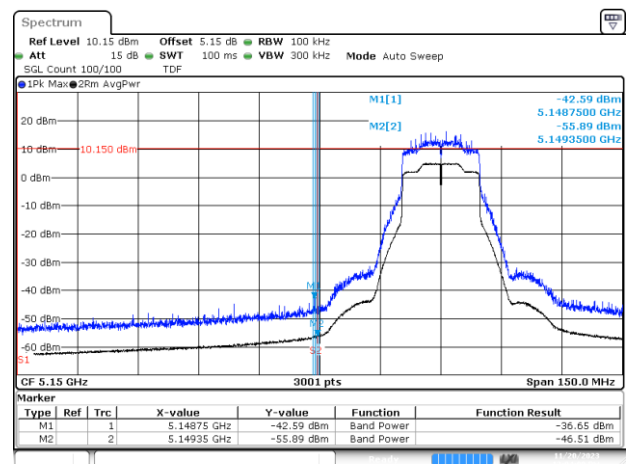
BE-R-LOW, SISO-A, 802.11n40-HT0, Ch38



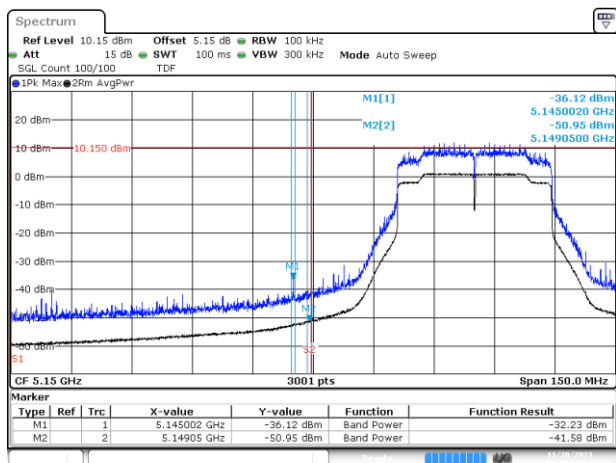
BE-R-LOW, SISO-A, 802.11ac80-VHT0, Ch42



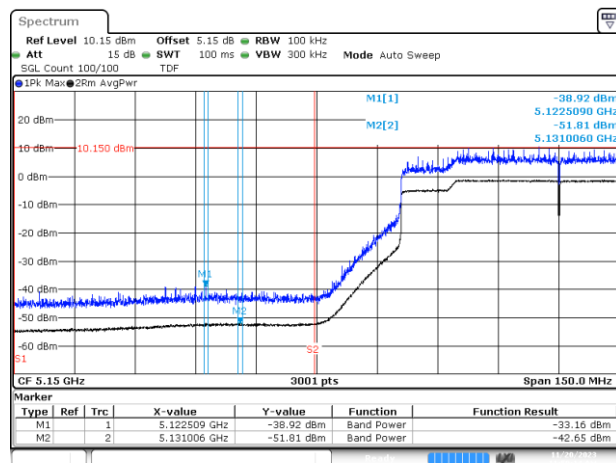
BE-R-LOW, SISO-A, 802.11ac160-VHT0, Ch50



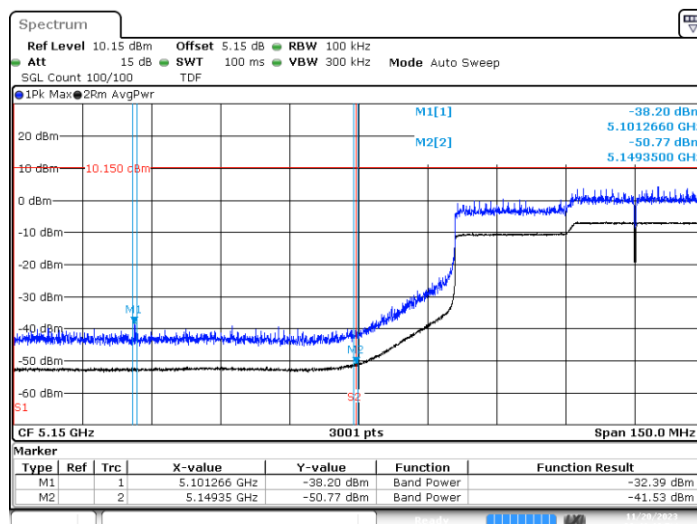
BE-R-LOW, SISO-A, 802.11ax/be20-MCS0, Ch36



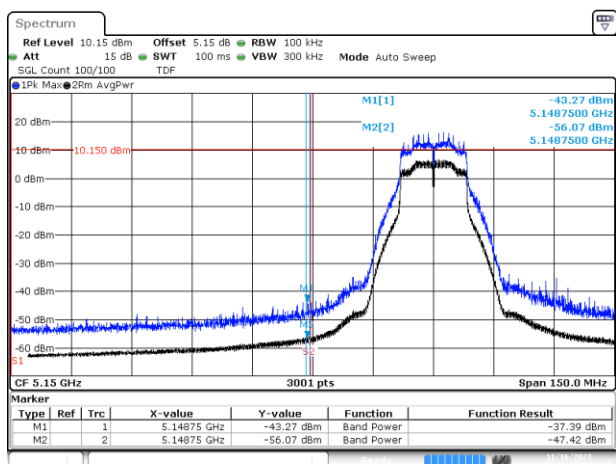
BE-R-LOW, SISO-A, 802.11ax/be40-MCS0, Ch38



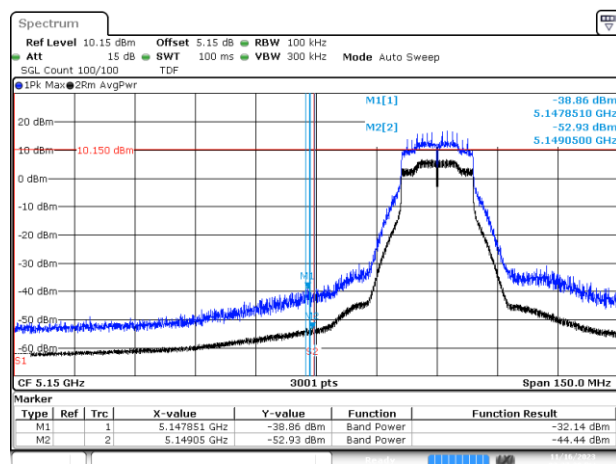
BE-R-LOW, SISO-A, 802.11ax/be80-MCS0, Ch42



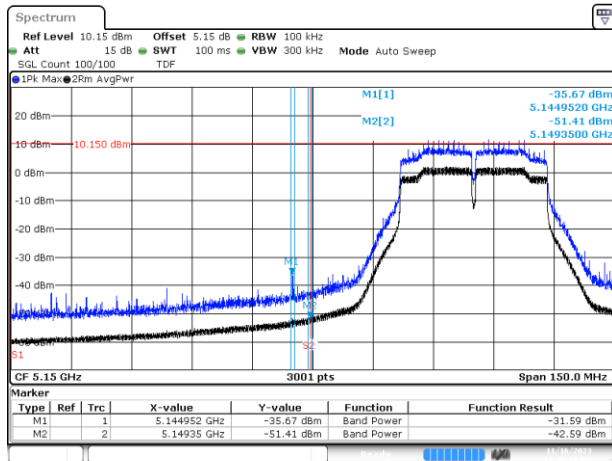
BE-R-LOW, SISO-A, 802.11ax/be160-MCS0, Ch50



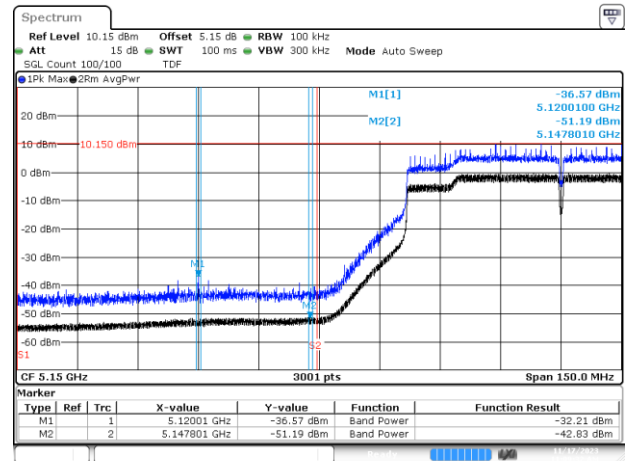
BE-R-LOW, SISO-B, 802.11a20-6Mbps, Ch36



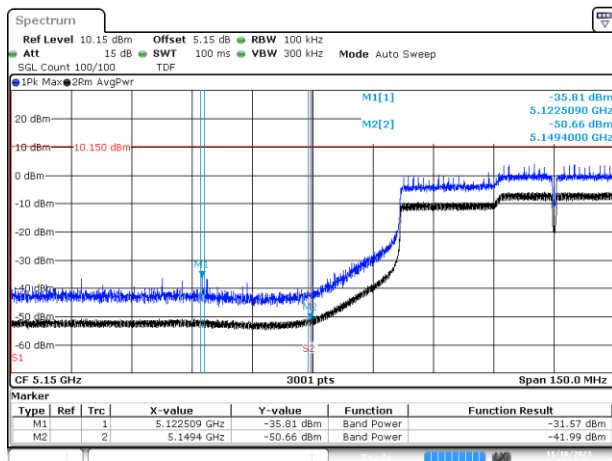
BE-R-LOW, SISO-B, 802.11n20-HT0, Ch36



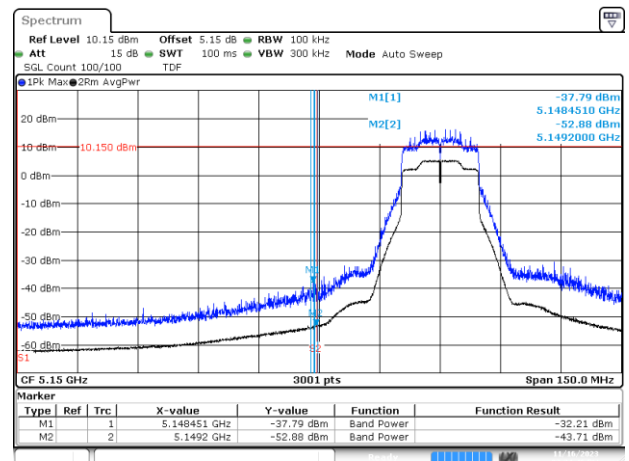
BE-R-LOW, SISO-B, 802.11n40-HT0, Ch38



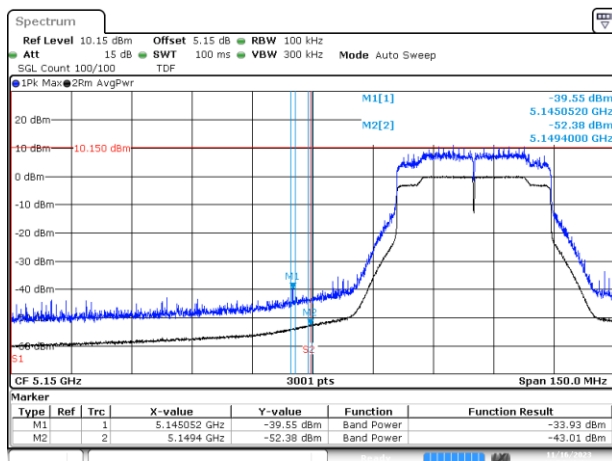
BE-R-LOW, SISO-B, 802.11ac80-VHT0, Ch42



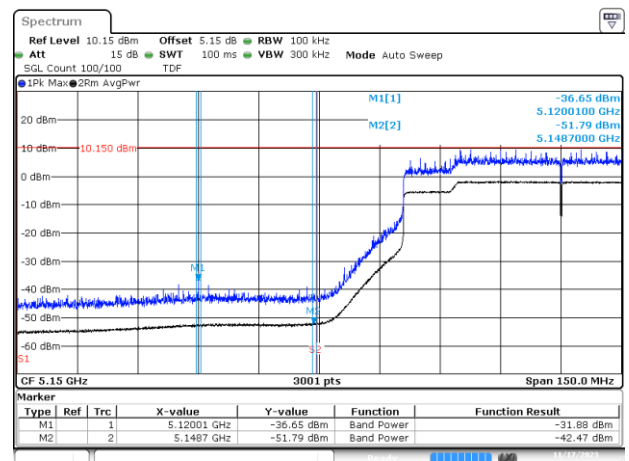
BE-R-LOW, SISO-B, 802.11ac160-VHT0, Ch50



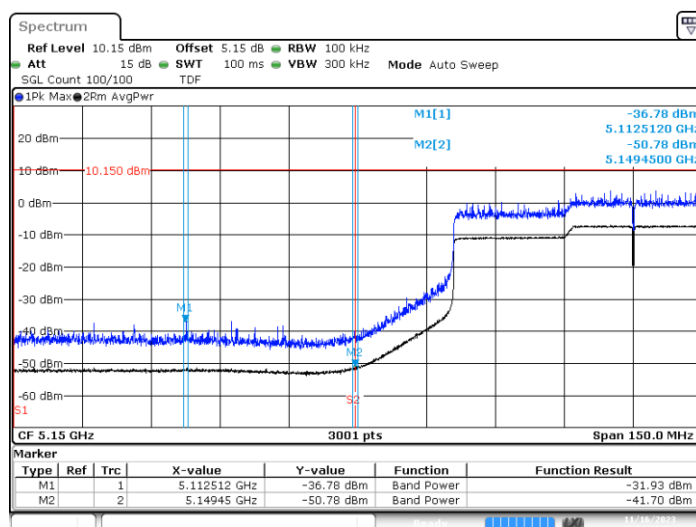
BE-R-LOW, SISO-B, 802.11ax/be20-MCS0, Ch36



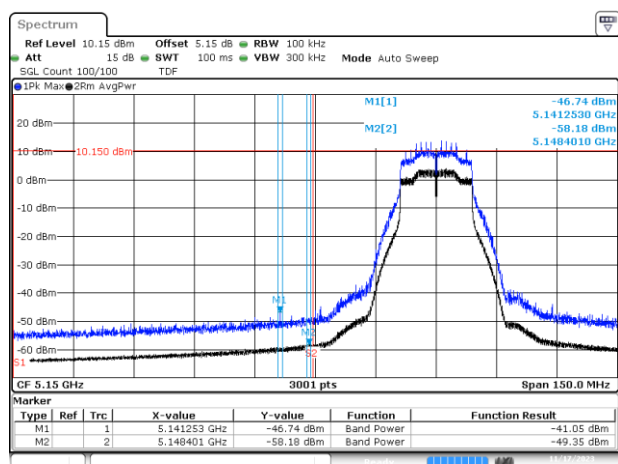
BE-R-LOW, SISO-B, 802.11ax/be40-MCS0, Ch38



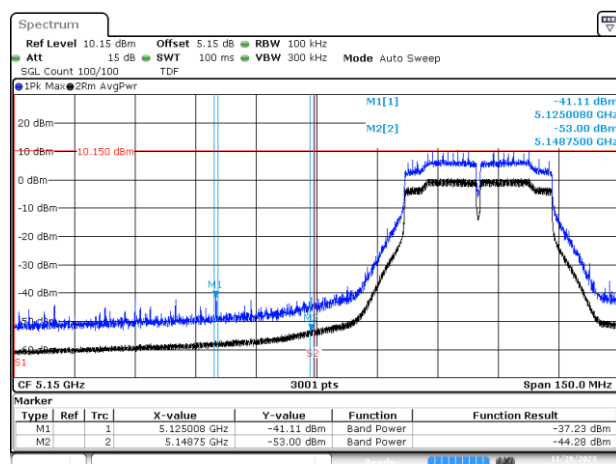
BE-R-LOW, SISO-B, 802.11ax/be80-MCS0, Ch42



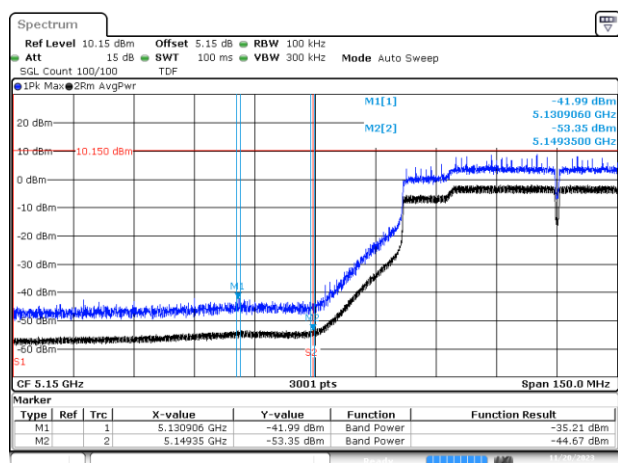
BE-R-LOW, SISO-B, 802.11ax/be160-MCS0, Ch50



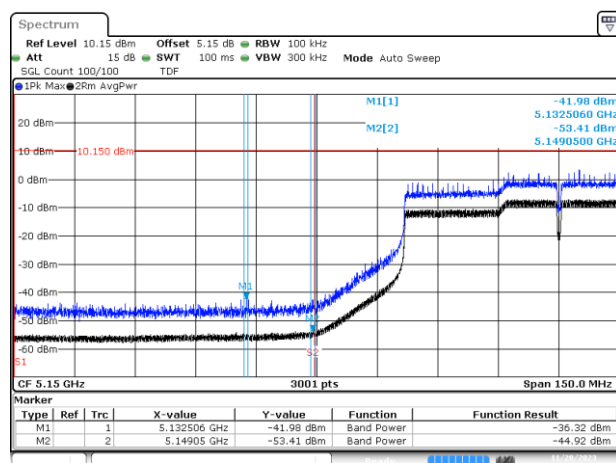
BE-R-LOW, MIMO-A, 802.11n20-HT0, Ch36



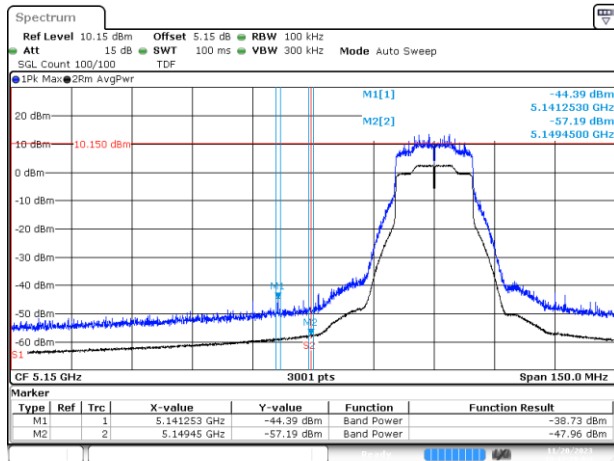
BE-R-LOW, MIMO-A, 802.11n40-HT0, Ch38



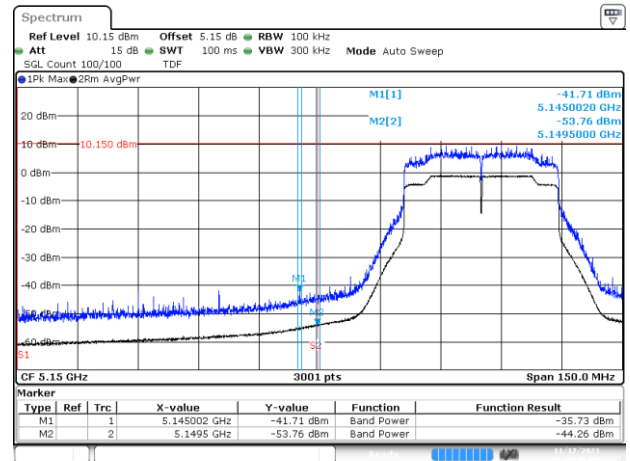
BE-R-LOW, MIMO-A, 802.11ac80-VHT0, Ch42



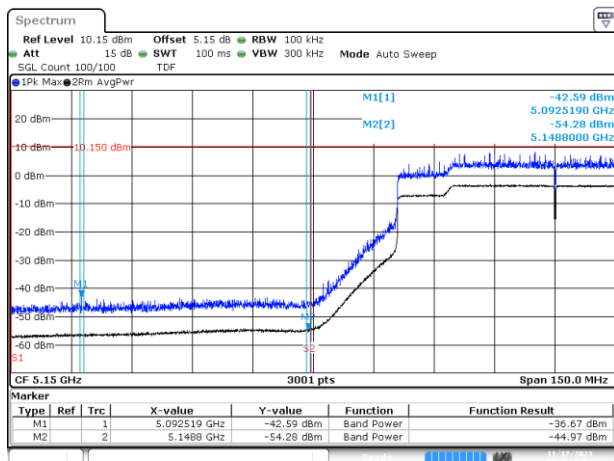
BE-R-LOW, MIMO-A, 802.11ac160-VHT0, Ch50



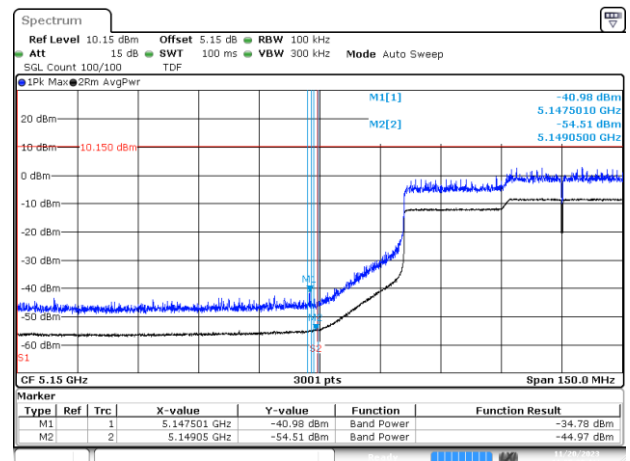
BE-R-LOW, MIMO-A, 802.11ax/be20-MCS0, Ch36



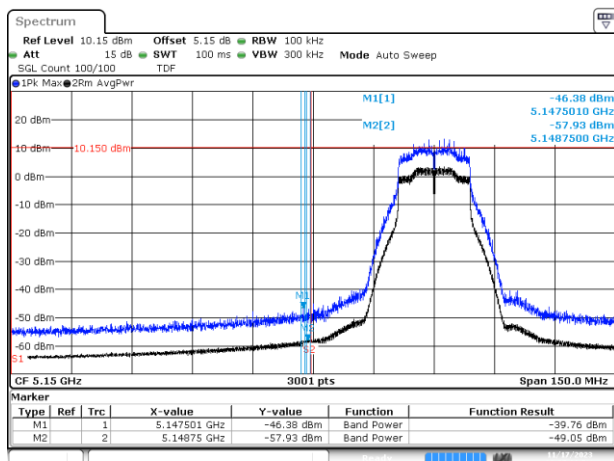
BE-R-LOW, MIMO-A, 802.11ax/be40-MCS0, Ch38



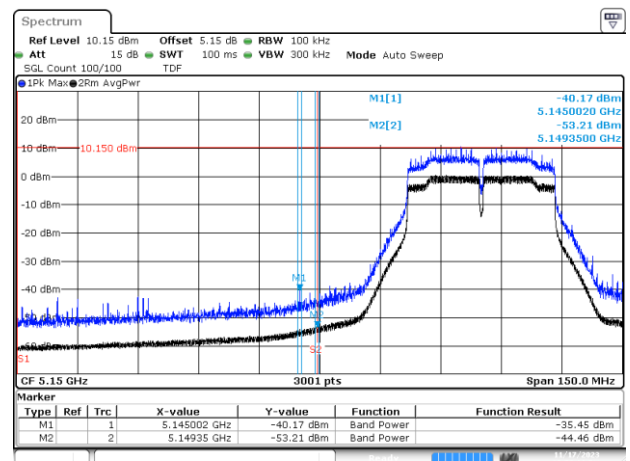
BE-R-LOW, MIMO-A, 802.11ax/be80-MCS0, Ch42



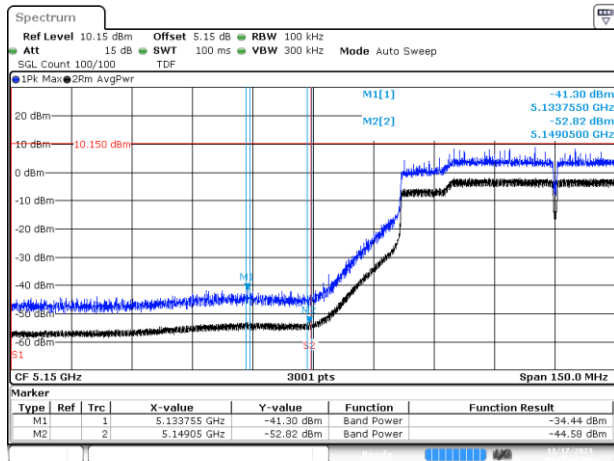
BE-R-LOW, MIMO-A, 802.11ax/be160-MCS0, Ch50



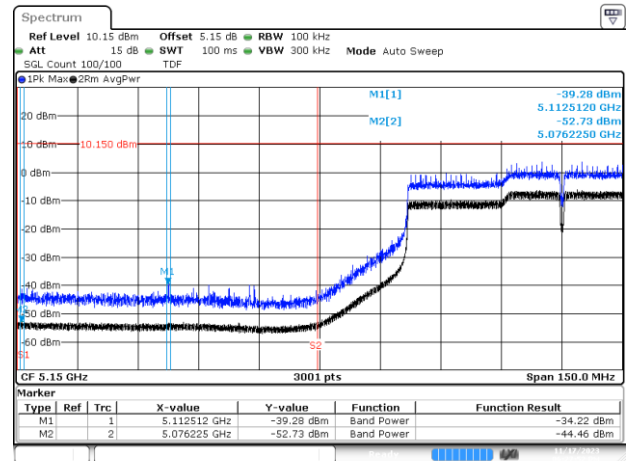
BE-R-LOW, MIMO-B, 802.11n20-HT0, Ch36



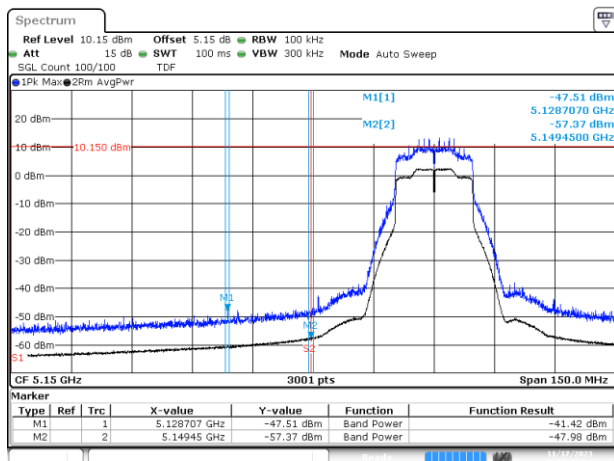
BE-R-LOW, MIMO-B, 802.11n40-HT0, Ch38



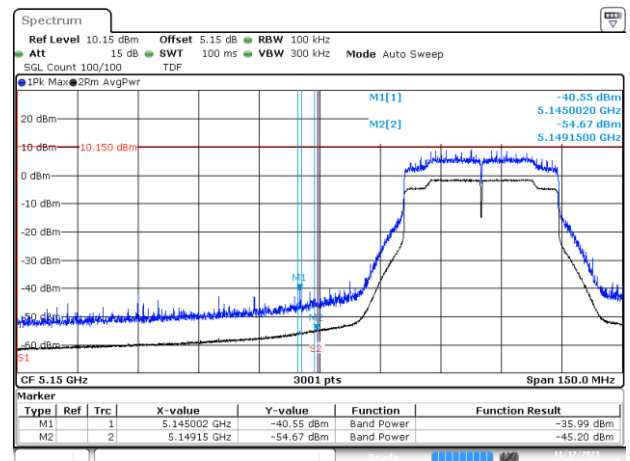
BE-R-LOW, MIMO-B, 802.11ac80-VHT0, Ch42



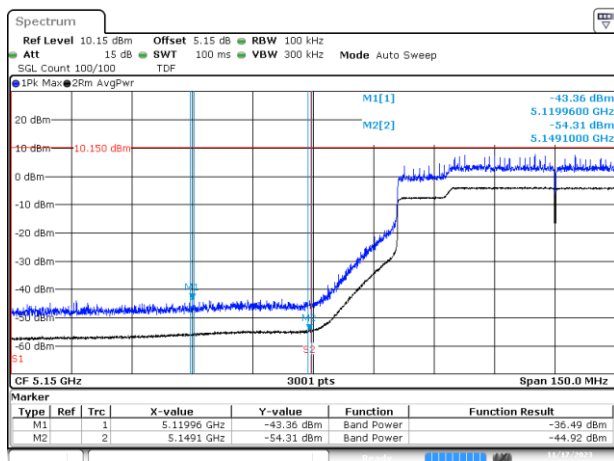
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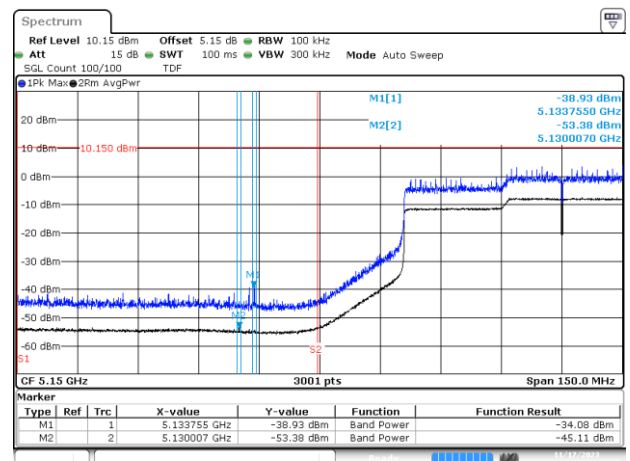
BE-R-LOW, MIMO-B, 802.11ax/be20-MCS0, Ch36



BE-R-LOW, MIMO-B, 802.11ax/be40-MCS0, Ch38



BE-R-LOW, MIMO-B, 802.11ax/be80-MCS0, Ch42



BE-R-LOW, MIMO-B, 802.11ax/be160-MCS0, Ch50



## B.5 Test Results Screenshot U-NII-2A

### B.5.1 26dB and 99% Bandwidth

