

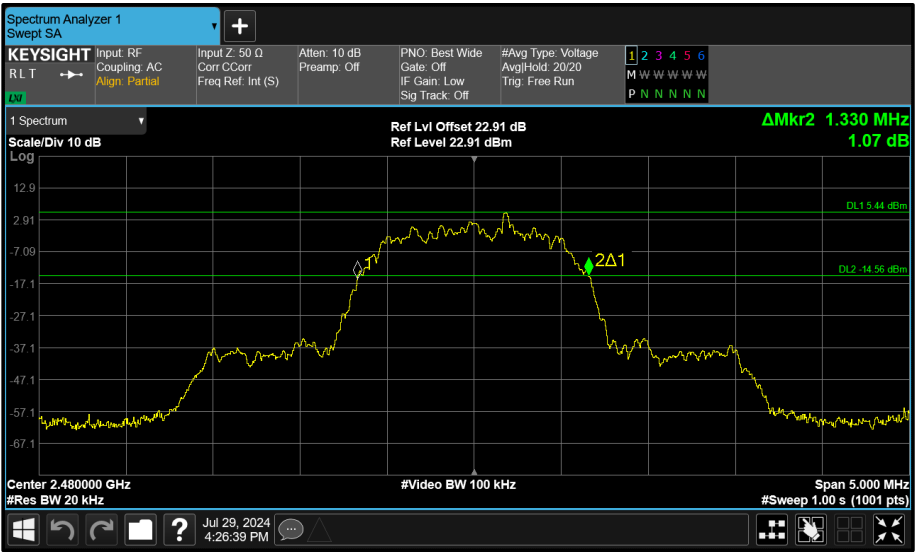


Figure 146 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth

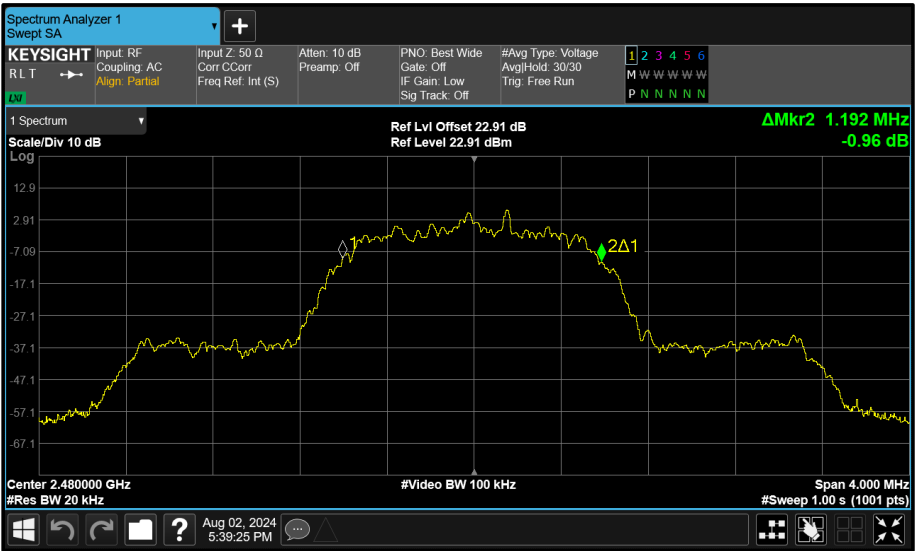


Figure 147 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth



| Test Configuration       |                                  |                 |              |
|--------------------------|----------------------------------|-----------------|--------------|
| Frequency Range:         | 2400-2483.5 MHz                  | Band:           | 2.4 GHz      |
| Limit Clause(s):         | FCC 15.247 (a)(1)<br>RSS-247 5.1 | Test Method(s): | C63.10 6.9.2 |
| Additional Reference(s): | -                                |                 |              |

| DUT Configuration      |                       |                          |   |
|------------------------|-----------------------|--------------------------|---|
| Mode:                  | iPA 8-DPSK (3-DH5)    | Duty Cycle (%):          | - |
| Antenna Configuration: | Beamforming           | DCCF (dB):               | - |
| Active Port(s):        | A+B (Core 0 + Core 1) | Peak Antenna Gain (dBi): | - |

| Test Frequency (MHz) | 20 dB Bandwidth (MHz) |       |   |   |
|----------------------|-----------------------|-------|---|---|
|                      | A                     | B     | C | D |
| 2402                 | 1.260                 | 1.265 | - | - |
| 2441                 | 1.265                 | 1.270 | - | - |
| 2480                 | 1.260                 | 1.265 | - | - |

**Table 79 - 20 dB Bandwidth Results**

| Test Frequency (MHz) | 99% Bandwidth (MHz) |       |   |   | Limit (kHz) |
|----------------------|---------------------|-------|---|---|-------------|
|                      | A                   | B     | C | D |             |
| 2402                 | 1.188               | 1.200 | - | - | -           |
| 2441                 | 1.192               | 1.196 | - | - | -           |
| 2480                 | 1.192               | 1.200 | - | - | -           |

**Table 80 - 99% Bandwidth Results**

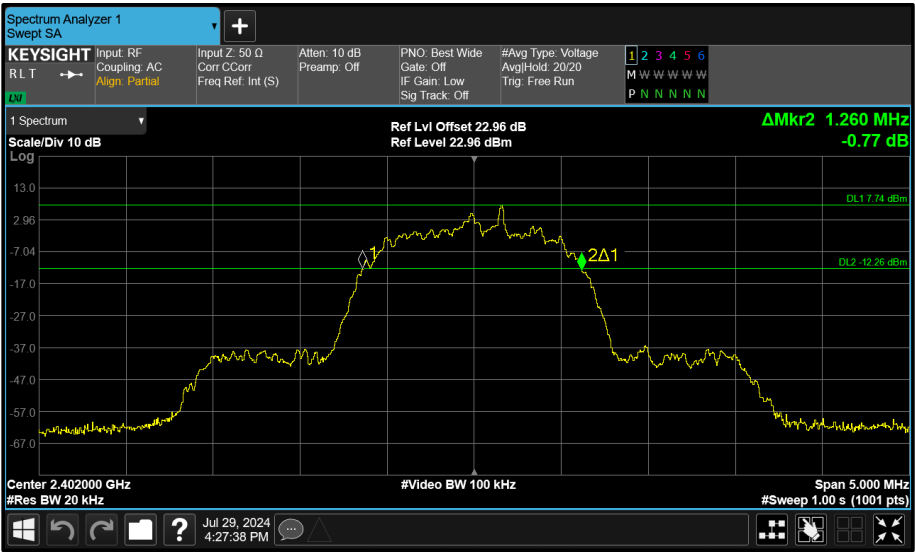


Figure 148 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

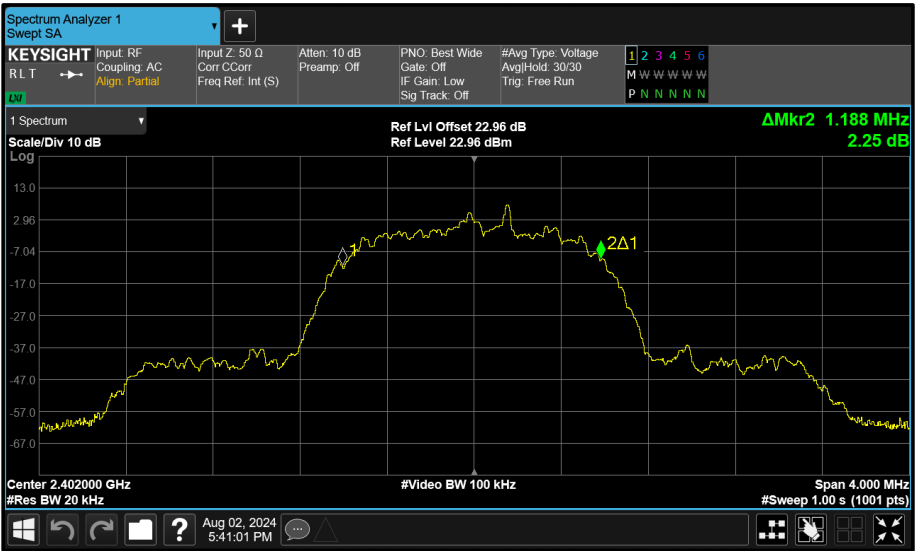


Figure 149 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

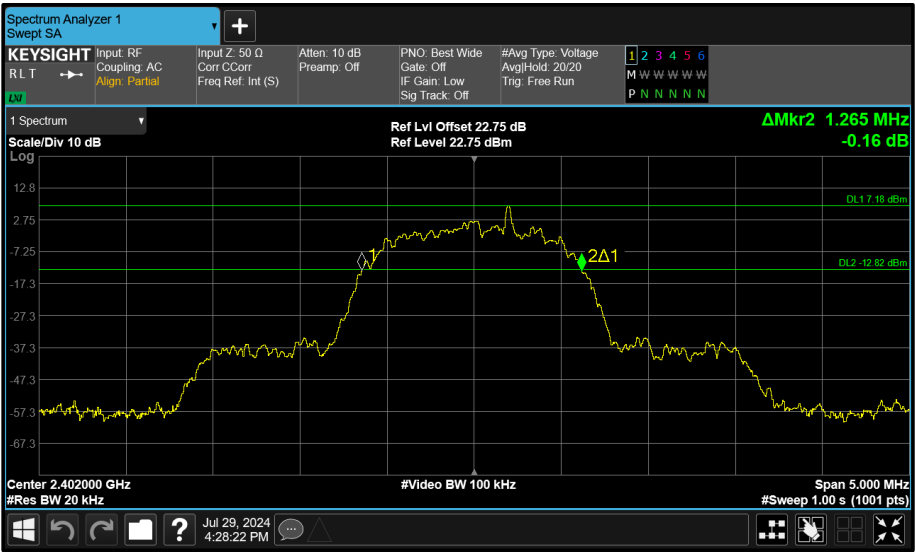


Figure 150 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

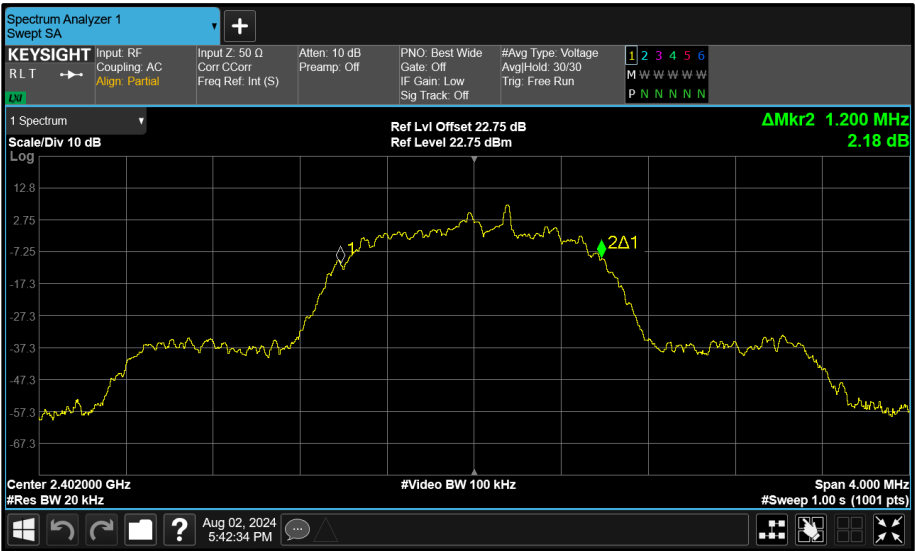


Figure 151 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

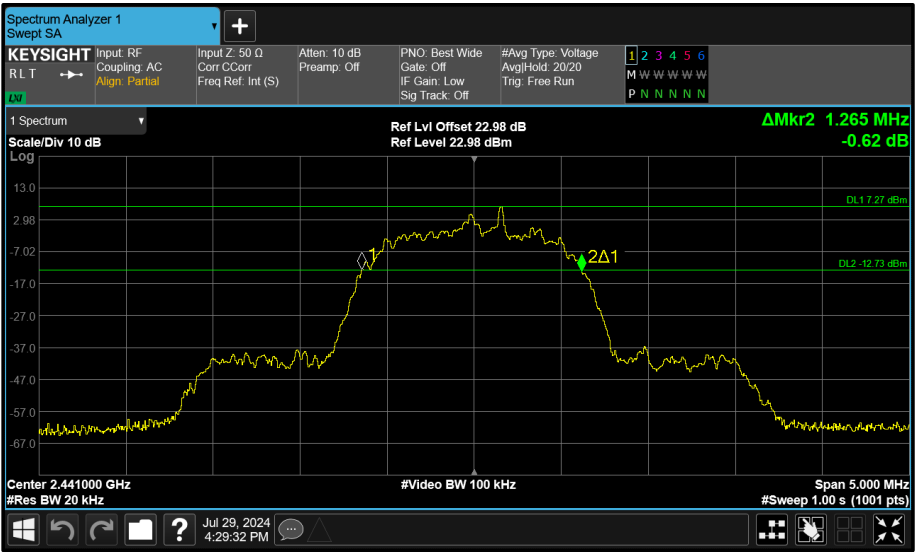


Figure 152 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

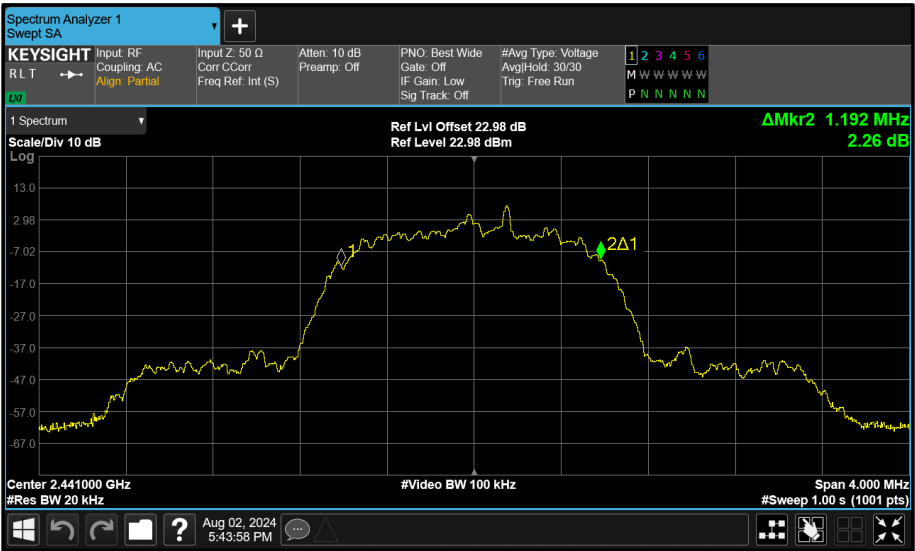


Figure 153 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

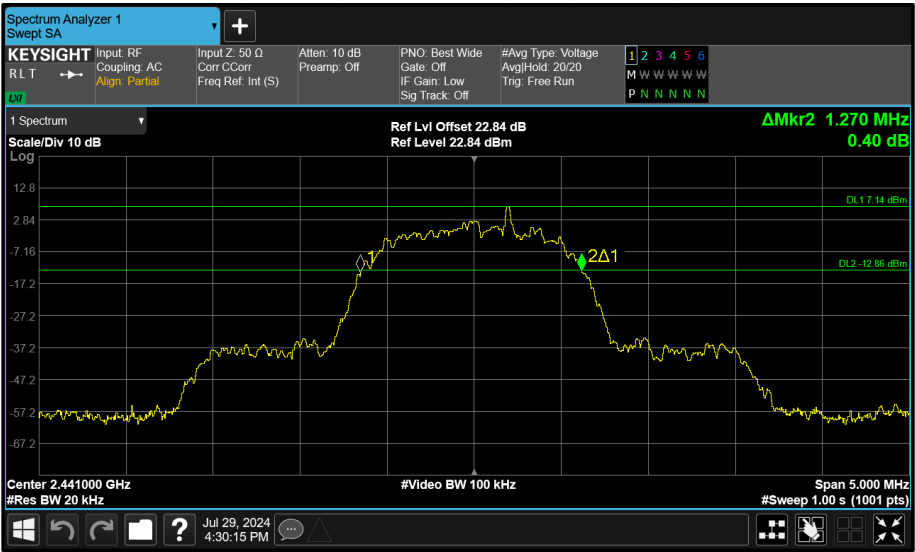


Figure 154 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

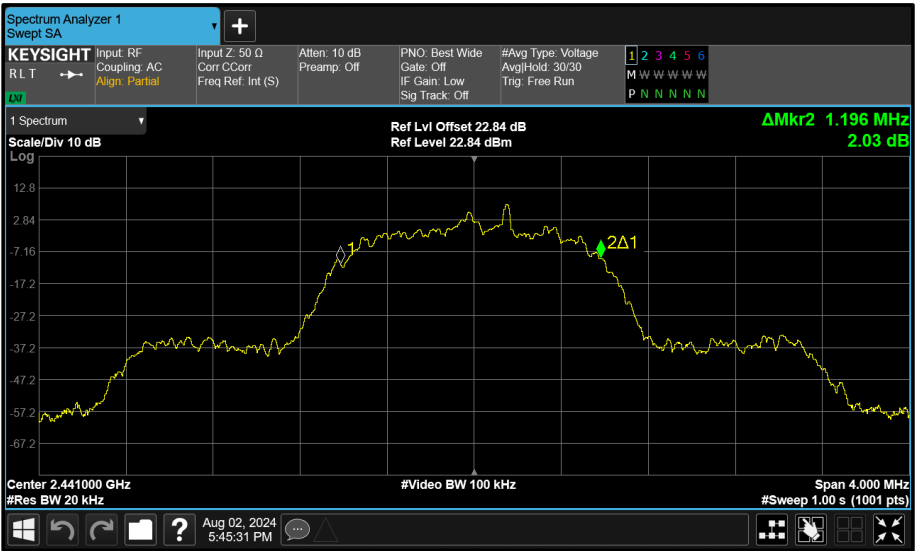


Figure 155 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth

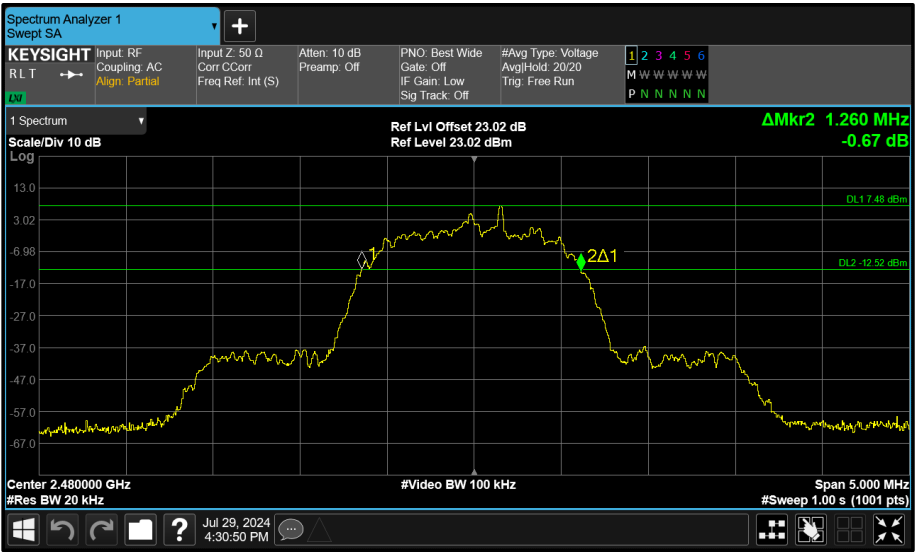


Figure 156 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth

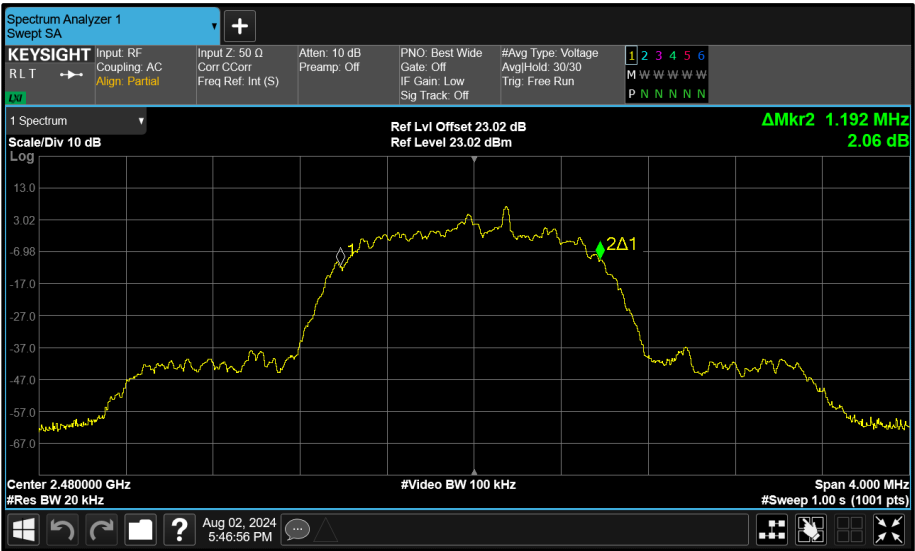


Figure 157 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth

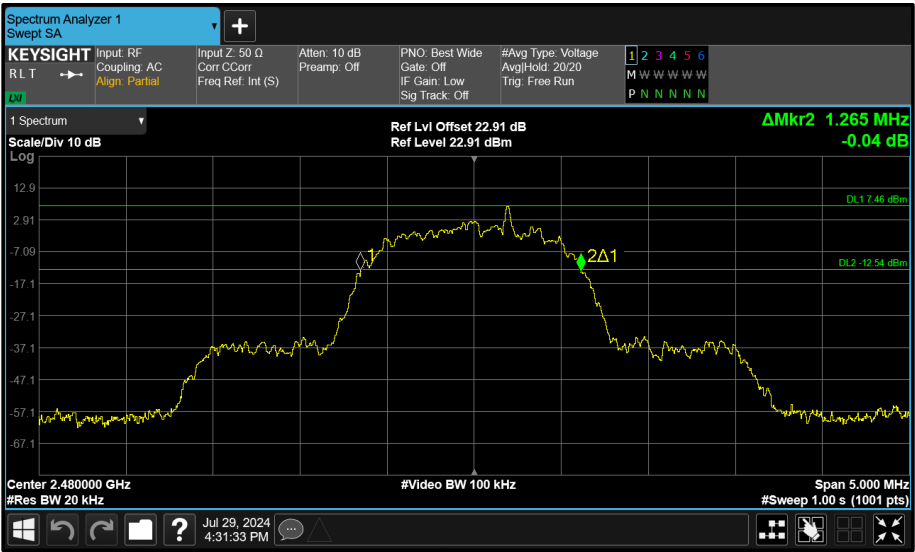


Figure 158 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth

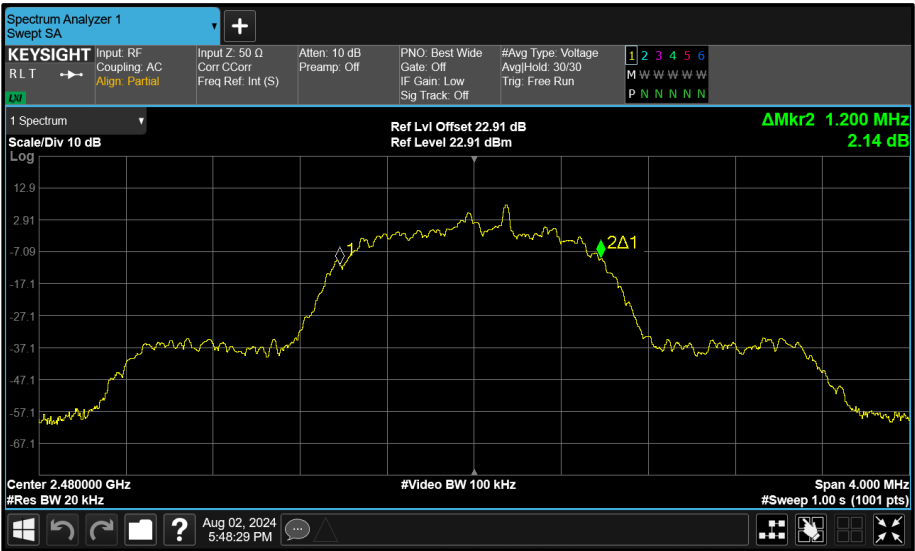


Figure 159 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth



| Test Configuration       |                                  |                 |              |
|--------------------------|----------------------------------|-----------------|--------------|
| Frequency Range:         | 2400-2483.5 MHz                  | Band:           | 2.4 GHz      |
| Limit Clause(s):         | FCC 15.247 (a)(1)<br>RSS-247 5.1 | Test Method(s): | C63.10 6.9.2 |
| Additional Reference(s): | -                                |                 |              |

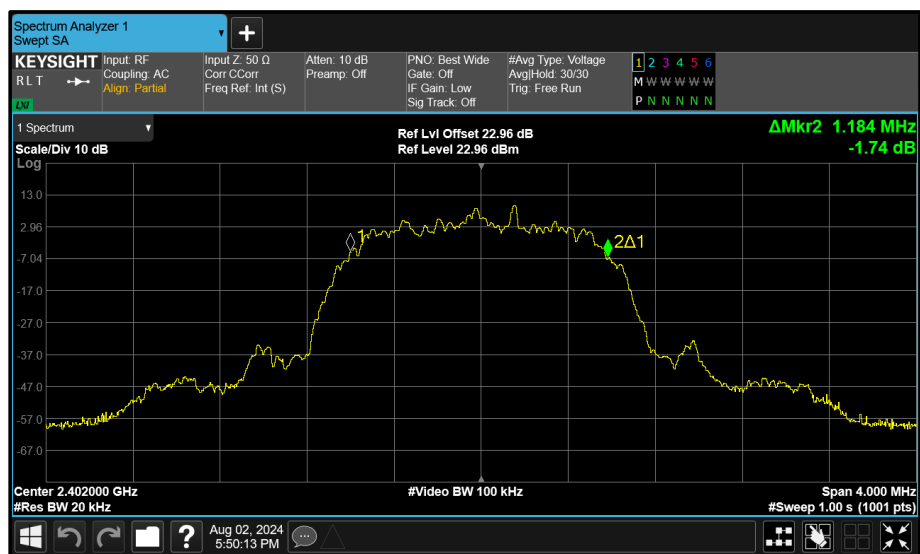
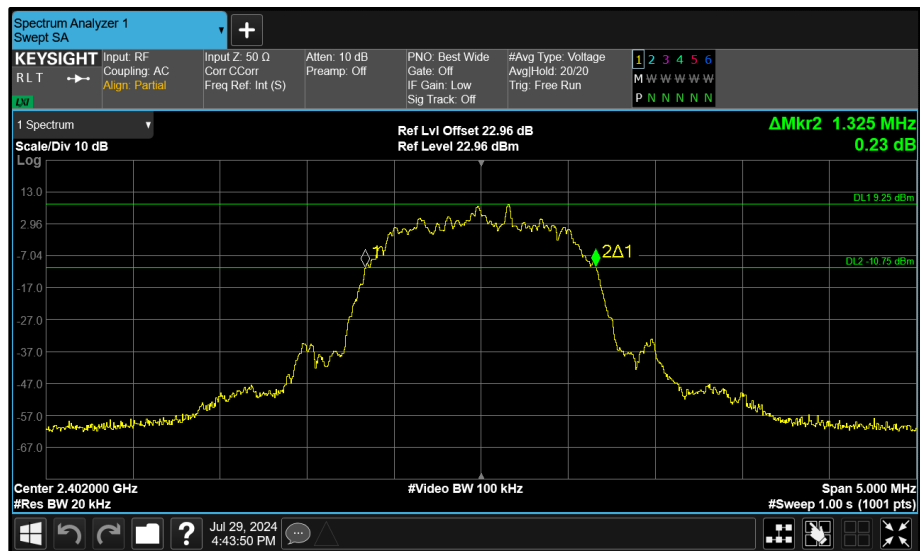
| DUT Configuration      |                           |                          |   |
|------------------------|---------------------------|--------------------------|---|
| Mode:                  | ePA $\pi/4$ DQPSK (2-DH5) | Duty Cycle (%):          | - |
| Antenna Configuration: | Beamforming               | DCCF (dB):               | - |
| Active Port(s):        | A+B (Core 0 + Core 1)     | Peak Antenna Gain (dBi): | - |

| Test Frequency (MHz) | 20 dB Bandwidth (MHz) |       |   |   |
|----------------------|-----------------------|-------|---|---|
|                      | A                     | B     | C | D |
| 2402                 | 1.325                 | 1.325 | - | - |
| 2441                 | 1.330                 | 1.330 | - | - |
| 2480                 | 1.325                 | 1.325 | - | - |

**Table 81 - 20 dB Bandwidth Results**

| Test Frequency (MHz) | 99% Bandwidth (MHz) |       |   |   | Limit (kHz) |
|----------------------|---------------------|-------|---|---|-------------|
|                      | A                   | B     | C | D |             |
| 2402                 | 1.184               | 1.184 | - | - | -           |
| 2441                 | 1.184               | 1.184 | - | - | -           |
| 2480                 | 1.180               | 1.184 | - | - | -           |

**Table 82 - 99% Bandwidth Results**



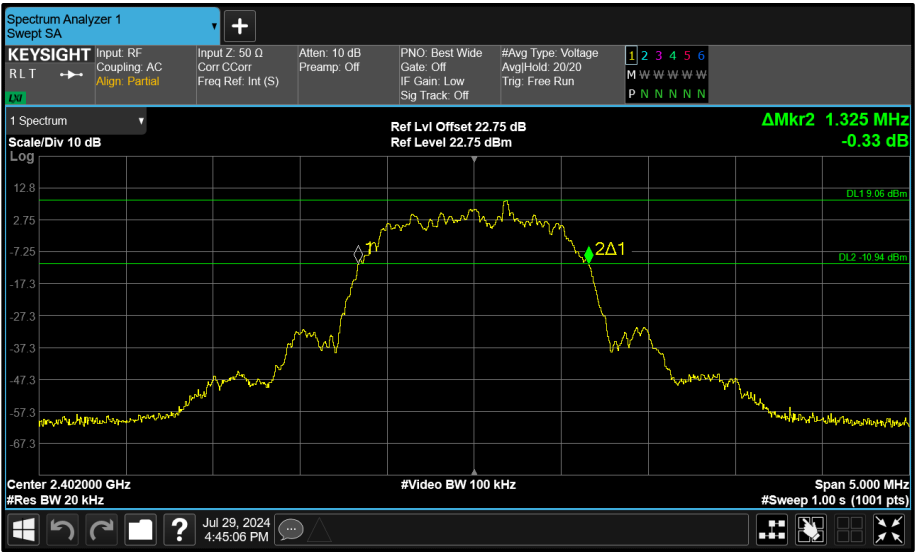


Figure 162 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

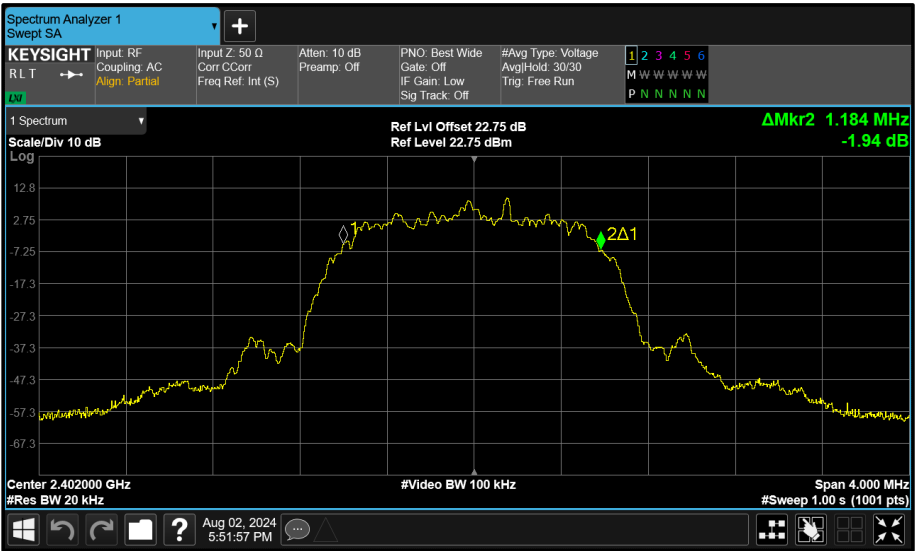


Figure 163 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

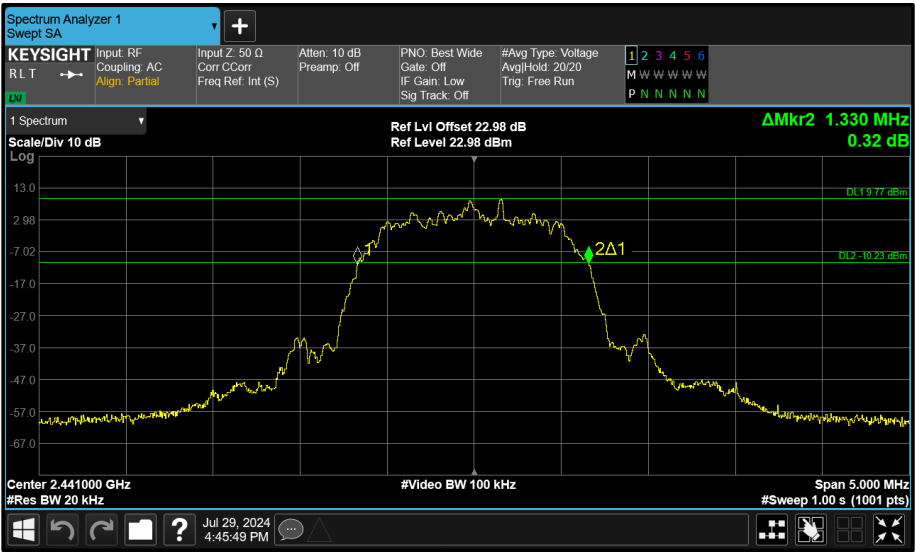


Figure 164 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

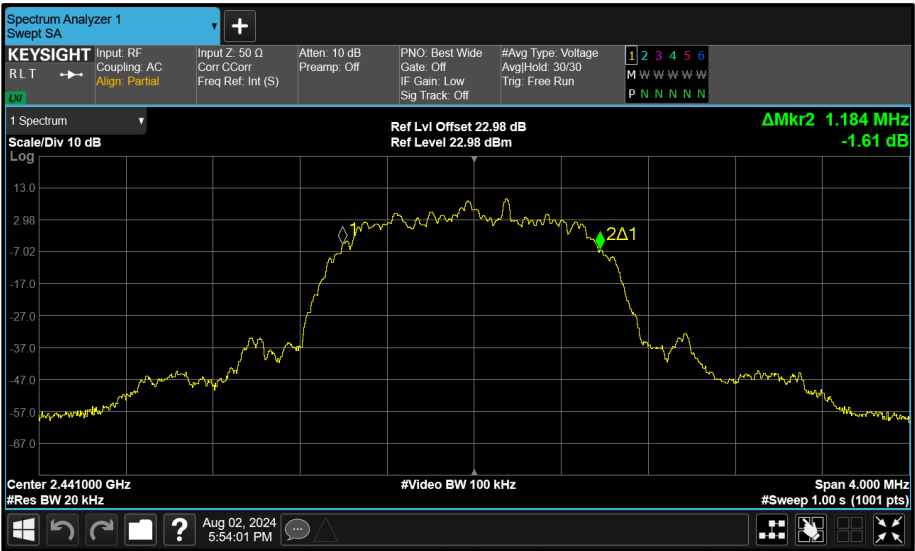


Figure 165 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

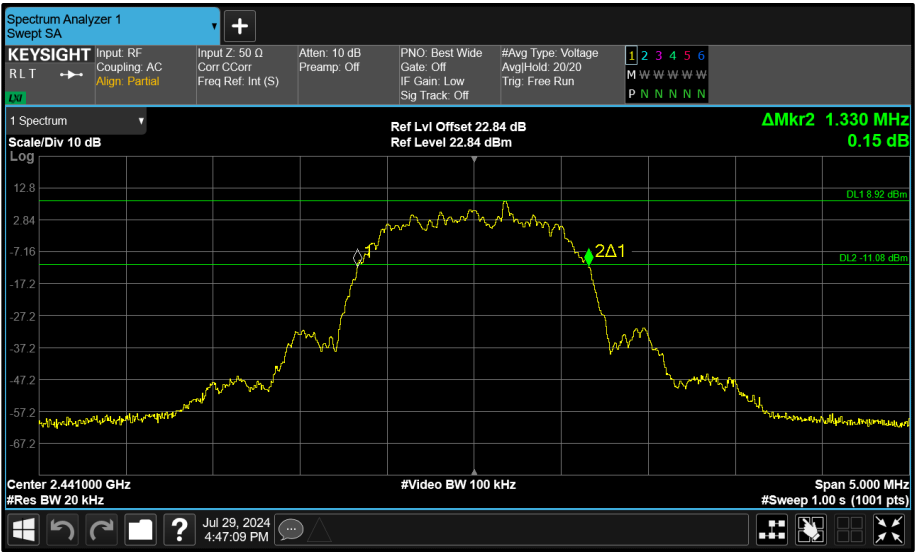


Figure 166 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

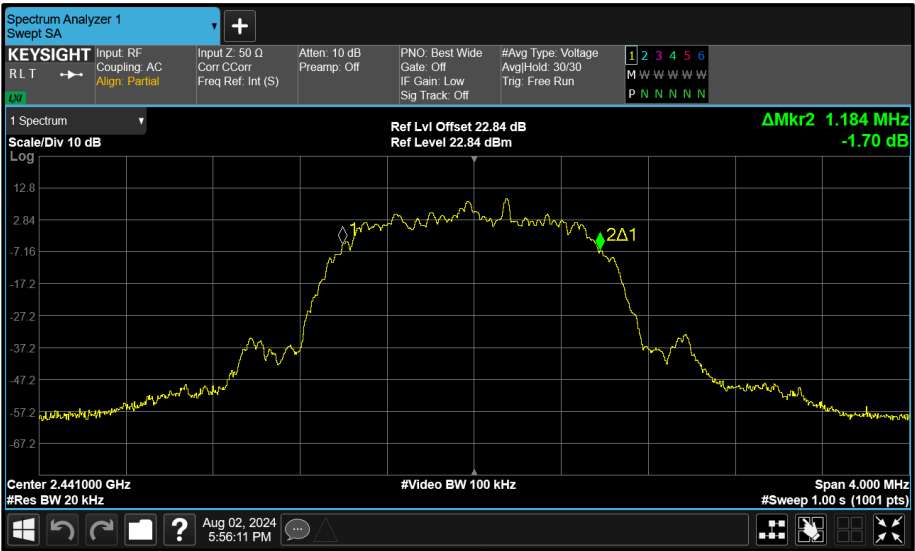


Figure 167 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth



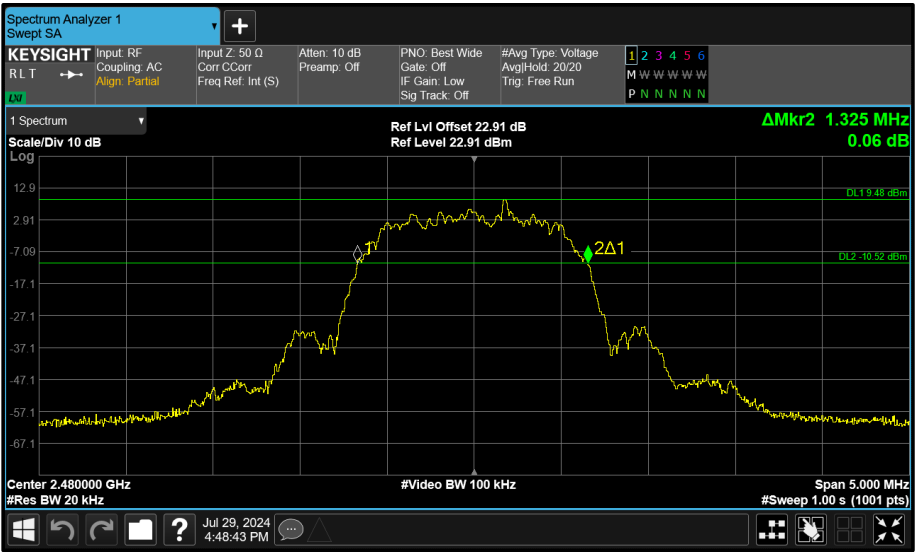


Figure 170 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth

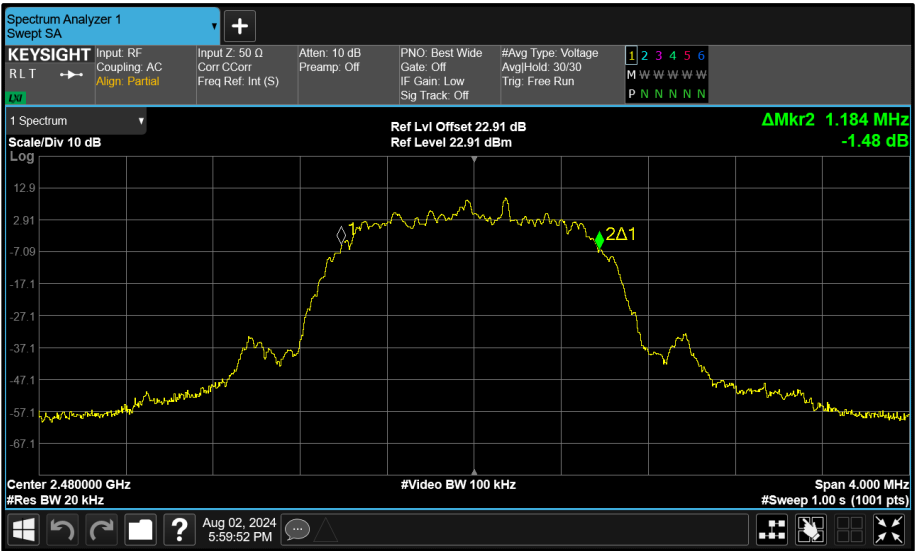


Figure 171 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth



| Test Configuration       |                                  |                 |              |
|--------------------------|----------------------------------|-----------------|--------------|
| Frequency Range:         | 2400-2483.5 MHz                  | Band:           | 2.4 GHz      |
| Limit Clause(s):         | FCC 15.247 (a)(1)<br>RSS-247 5.1 | Test Method(s): | C63.10 6.9.2 |
| Additional Reference(s): | -                                |                 |              |

| DUT Configuration      |                       |                          |   |
|------------------------|-----------------------|--------------------------|---|
| Mode:                  | ePA 8-DPSK (3-DH5)    | Duty Cycle (%):          | - |
| Antenna Configuration: | Beamforming           | DCCF (dB):               | - |
| Active Port(s):        | A+B (Core 0 + Core 1) | Peak Antenna Gain (dBi): | - |

| Test Frequency (MHz) | 20 dB Bandwidth (MHz) |       |   |   |
|----------------------|-----------------------|-------|---|---|
|                      | A                     | B     | C | D |
| 2402                 | 1.260                 | 1.260 | - | - |
| 2441                 | 1.260                 | 1.265 | - | - |
| 2480                 | 1.260                 | 1.260 | - | - |

**Table 83 - 20 dB Bandwidth Results**

| Test Frequency (MHz) | 99% Bandwidth (MHz) |       |   |   | Limit (kHz) |
|----------------------|---------------------|-------|---|---|-------------|
|                      | A                   | B     | C | D |             |
| 2402                 | 1.184               | 1.180 | - | - | -           |
| 2441                 | 1.184               | 1.184 | - | - | -           |
| 2480                 | 1.184               | 1.188 | - | - | -           |

**Table 84 - 99% Bandwidth Results**

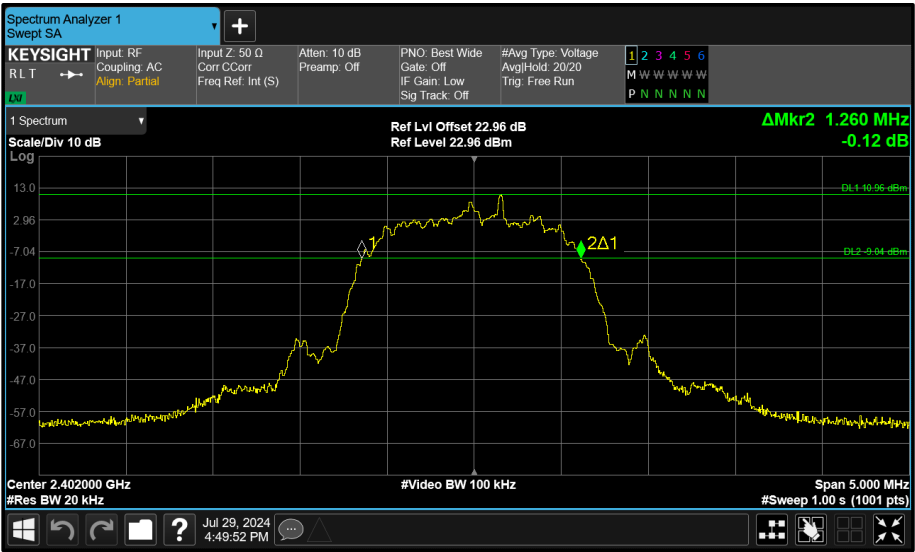


Figure 172 - Core 0 (A) 2402 MHz (CH0) 20 dB Bandwidth

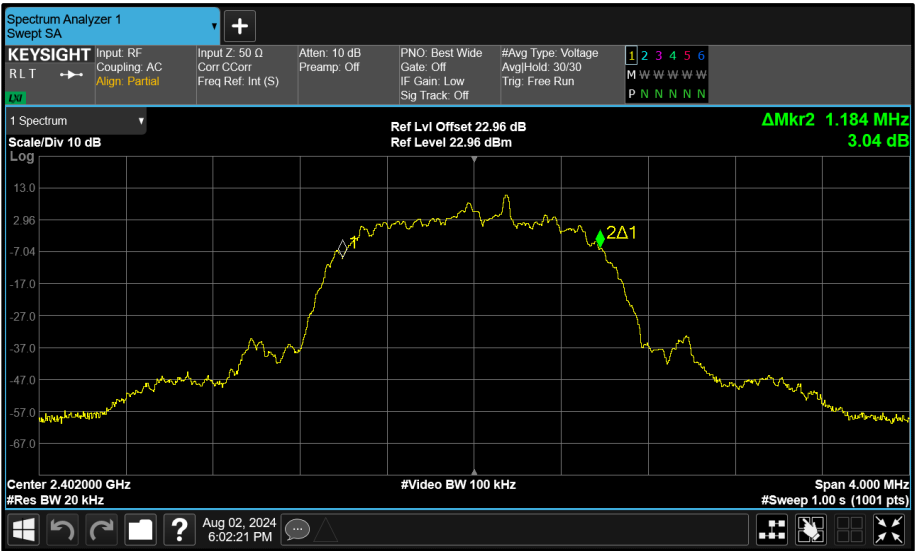


Figure 173 - Core 0 (A) 2402 MHz (CH0) 99% Bandwidth

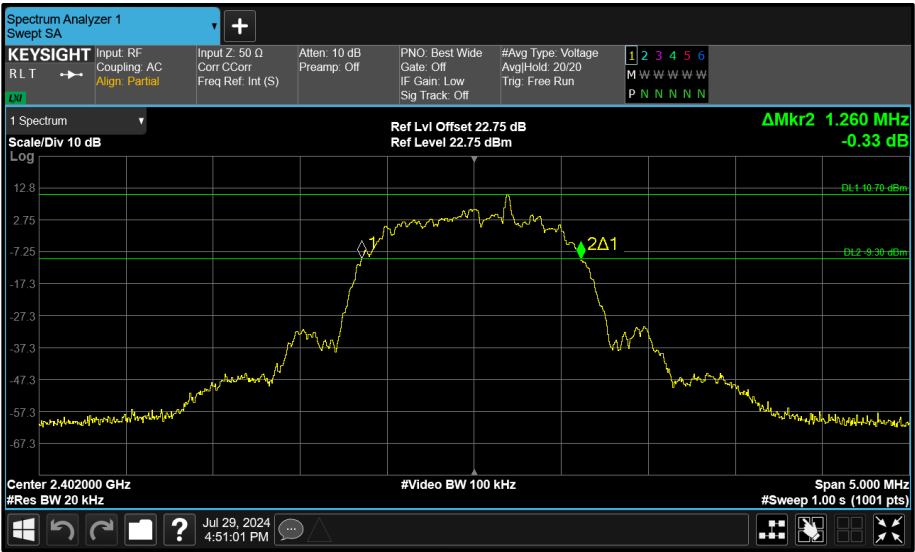


Figure 174 - Core 1 (B) 2402 MHz (CH0) 20 dB Bandwidth

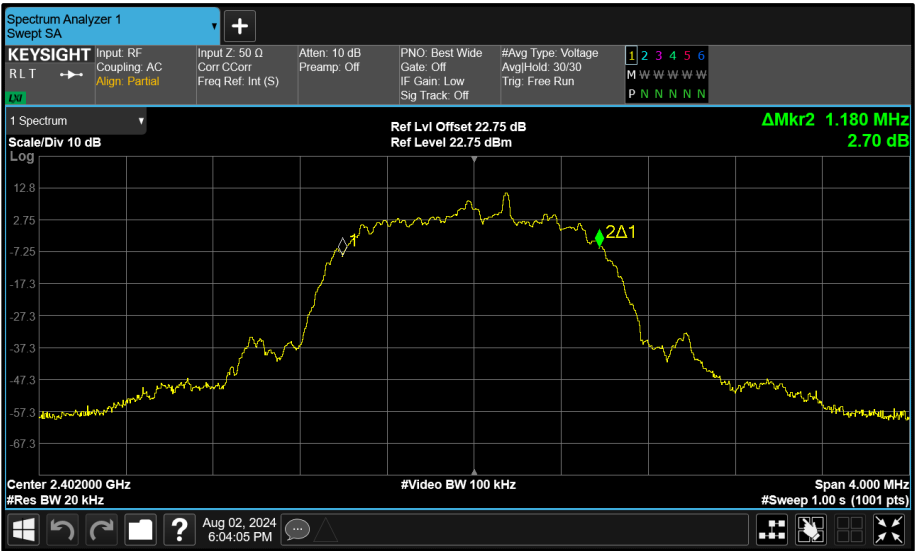


Figure 175 - Core 1 (B) 2402 MHz (CH0) 99% Bandwidth

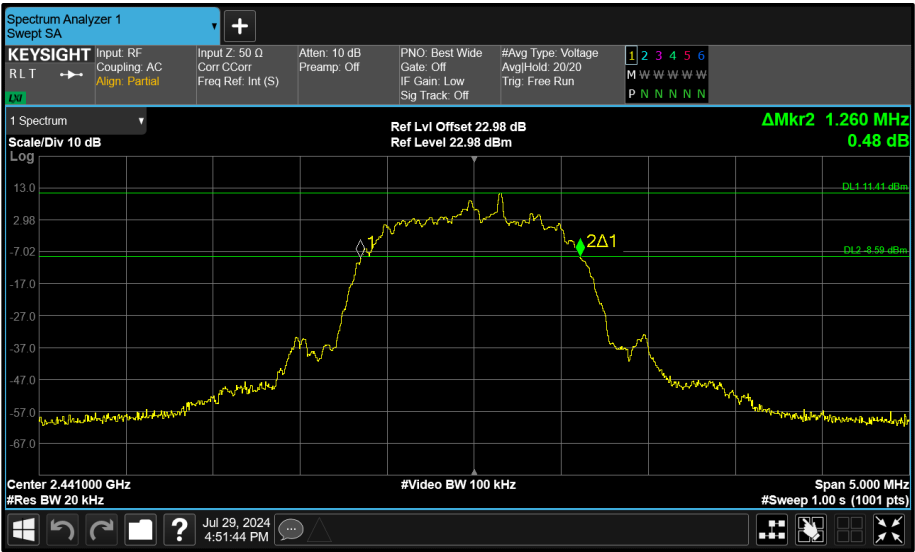


Figure 176 - Core 0 (A) 2441 MHz (CH39) 20 dB Bandwidth

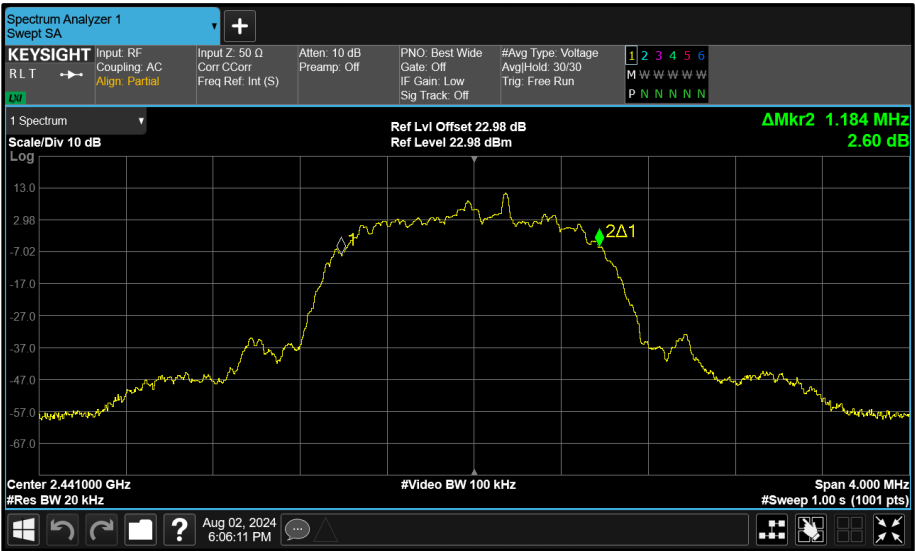


Figure 177 - Core 0 (A) 2441 MHz (CH39) 99% Bandwidth

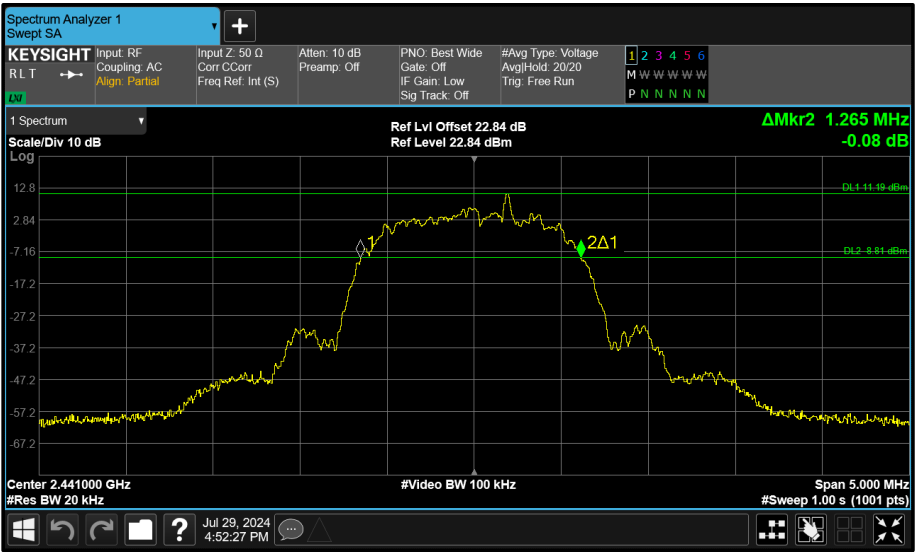


Figure 178 - Core 1 (B) 2441 MHz (CH39) 20 dB Bandwidth

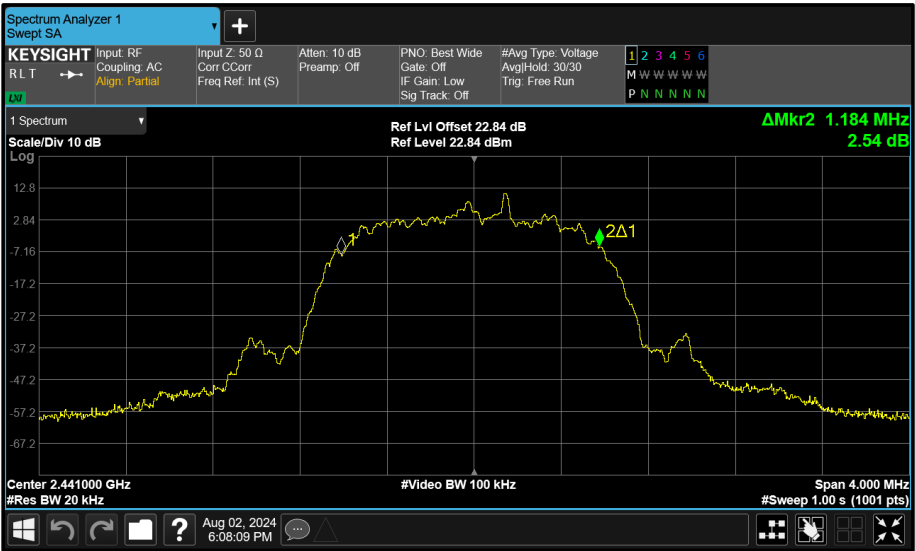


Figure 179 - Core 1 (B) 2441 MHz (CH39) 99% Bandwidth

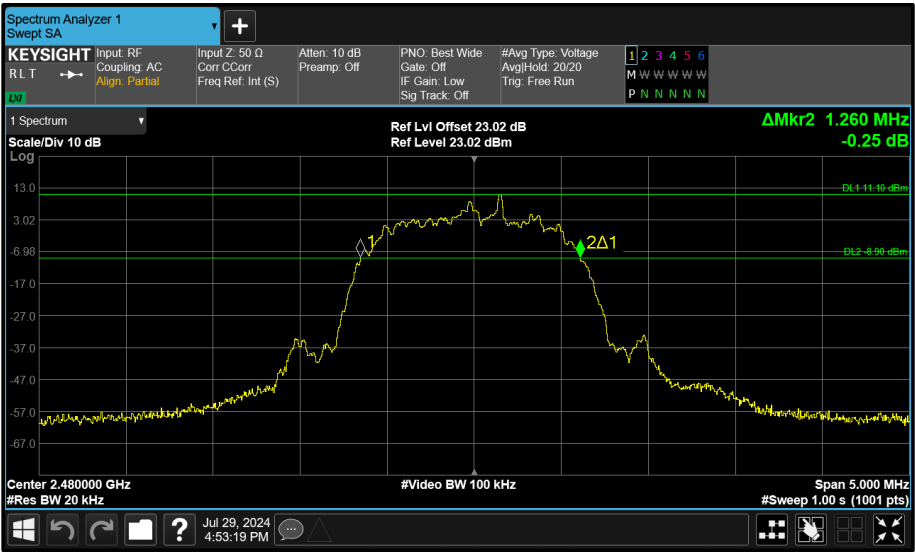


Figure 180 - Core 0 (A) 2480 MHz (CH78) 20 dB Bandwidth

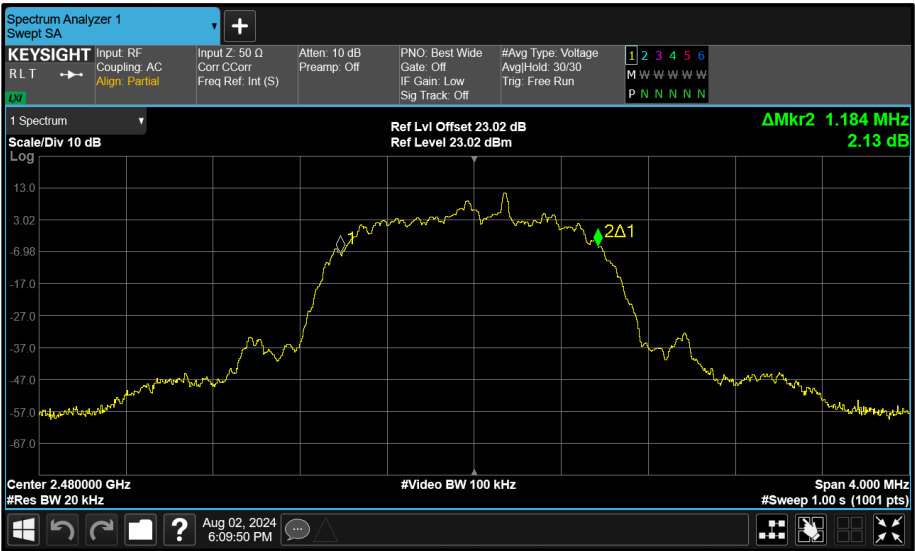


Figure 181 - Core 0 (A) 2480 MHz (CH78) 99% Bandwidth

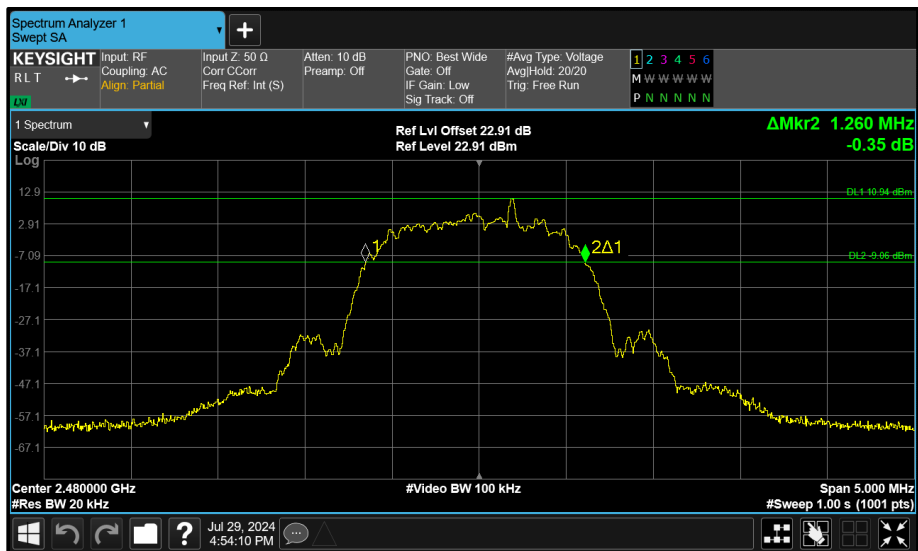


Figure 182 - Core 1 (B) 2480 MHz (CH78) 20 dB Bandwidth

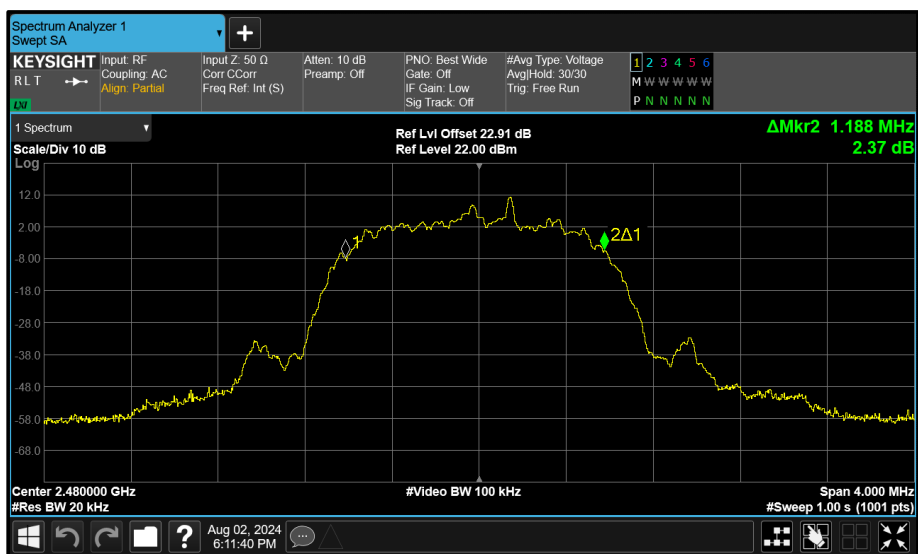


Figure 183 - Core 1 (B) 2480 MHz (CH78) 99% Bandwidth

FCC 47 CFR Part 15 and ISCED RSS-247 Limit Clause

None specified.



## 2.5.7 Test Location and Test Equipment Used

This test was carried out in RF Chamber 18 and RF Laboratory 14.

| Instrument                   | Manufacturer          | Type No.        | TE No. | Calibration Period (months) | Calibration Expiry Date |
|------------------------------|-----------------------|-----------------|--------|-----------------------------|-------------------------|
| Hygrometer                   | Rotronic              | I-1000          | 3068   | 12                          | 07-Nov-2024             |
| AC Programmable Power Supply | iTech                 | IT7324          | 5225   | -                           | O/P Mon                 |
| MXA Signal Analyser          | Keysight Technologies | N9020B          | 5529   | 24                          | 13-Dec-2024             |
| 1500VA AC Power Supply       | iTech                 | IT7324          | 5907   | -                           | O/P Mon                 |
| MXA Signal Analyser          | Keysight Technologies | N9020B          | 5919   | 24                          | 18-Mar-2026             |
| Digital Multimeter           | Fluke                 | 115             | 6145   | 12                          | 06-Jun-2025             |
| Signal Conditioning Unit     | TUV SUD               | SPECTRUM_SCU001 | 6426   | 12                          | 07-Feb-2025             |
| Signal Conditioning Unit     | TUV SUD               | SPECTRUM_SCU001 | 6519   | 12                          | 08-Feb-2025             |
| SCU Cable Assembly           | TUV SUD               | SPECTRUM_SCU_CA | 6520   | 12                          | 09-Feb-2025             |
| SCU Cable Assembly           | TUV SUD               | SPECTRUM_SCU_CA | 6521   | 12                          | 09-Feb-2025             |
| SCU Cable Assembly           | TUV SUD               | SPECTRUM_SCU_CA | 6522   | 12                          | 09-Feb-2025             |
| SCU Cable Assembly           | TUV SUD               | SPECTRUM_SCU_CA | 6752   | 12                          | 06-Feb-2025             |
| SCU Cable Assembly           | TUV SUD               | SPECTRUM_SCU_CA | 6753   | 12                          | 06-Feb-2025             |
| SCU Cable Assembly           | TUV SUD               | SPECTRUM_SCU_CA | 6754   | 12                          | 06-Feb-2025             |

**Table 85**

O/P Mon - Output Monitored using calibrated equipment



## **2.6 Maximum Conducted Output Power**

### **2.6.1 Specification Reference**

FCC 47 CFR Part 15C, Clause 15.247 (b)  
ISED RSS-247, Clause 5.4  
ISED RSS-GEN, Clause 6.12

### **2.6.2 Equipment Under Test and Modification State**

A3238, S/N: G76H79FX4L - Modification State 0

### **2.6.3 Date of Test**

26-July-2024 to 29-July-2024

### **2.6.4 Test Method**

The test was performed in accordance with ANSI C63.10 clause 7.8.5 using a power meter.

MIMO output port summing was performed in accordance with KDB 662911 D01. For the CDD results, the Directional Gain was calculated in accordance with clause F)2)f)(ii) using the calculations from F)2)f)(i) with worst-case individual gain and an array gain of zero.

### **2.6.5 Environmental Conditions**

|                     |                |
|---------------------|----------------|
| Ambient Temperature | 20.0 - 21.0 °C |
| Relative Humidity   | 58.2 - 60.8 %  |



## 2.6.6 Test Results

### 2.4 GHz Bluetooth BDR/EDR

| Test Configuration       |                                 |                 |              |
|--------------------------|---------------------------------|-----------------|--------------|
| Frequency Range:         | 2400-2483.5 MHz                 | Band:           | 2.4 GHz      |
| Limit Clause(s):         | 15.247 (b)(1)<br>RSS-247 5.4 b) | Test Method(s): | C63.10 7.8.5 |
| Additional Reference(s): | -                               |                 |              |

| DUT Configuration      |                |                          |      |
|------------------------|----------------|--------------------------|------|
| Mode:                  | iPA GFSK (DH5) | Duty Cycle (%):          | 76.7 |
| Antenna Configuration: | SISO           | DCCF (dB):               | -    |
| Active Port(s):        | A (Core 0)     | Peak Antenna Gain (dBi): | 1.80 |

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |   |   |   |   | Limit (dBm) | Margin (dB) |
|----------------------|--------------------------------------|---|---|---|---|-------------|-------------|
|                      | A                                    | B | C | D | Σ |             |             |
| 2402                 | 13.90                                | - | - | - | - | 30.00       | -16.10      |
| 2441                 | 13.52                                | - | - | - | - | 30.00       | -16.48      |
| 2480                 | 13.45                                | - | - | - | - | 30.00       | -16.55      |

**Table 86 - FCC Maximum Conducted (peak) Output Power Results**

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |   |   |   |   | Limit (dBm) | Margin (dB) | EIRP (dBm) | EIRP Limit (dBm) | EIRP Margin (dB) |
|----------------------|--------------------------------------|---|---|---|---|-------------|-------------|------------|------------------|------------------|
|                      | A                                    | B | C | D | Σ |             |             |            |                  |                  |
| 2402                 | 13.90                                | - | - | - | - | 30.00       | -16.10      | 15.70      | 36.00            | -20.30           |
| 2441                 | 13.52                                | - | - | - | - | 30.00       | -16.48      | 15.32      | 36.00            | -20.68           |
| 2480                 | 13.45                                | - | - | - | - | 30.00       | -16.55      | 15.25      | 36.00            | -20.75           |

**Table 87 - ISED Maximum Conducted (peak) Output Power Results**



| Test Configuration       |                                 |                 |              |
|--------------------------|---------------------------------|-----------------|--------------|
| Frequency Range:         | 2400-2483.5 MHz                 | Band:           | 2.4 GHz      |
| Limit Clause(s):         | 15.247 (b)(1)<br>RSS-247 5.4 b) | Test Method(s): | C63.10 7.8.5 |
| Additional Reference(s): | -                               |                 |              |

| DUT Configuration      |                           |                          |      |
|------------------------|---------------------------|--------------------------|------|
| Mode:                  | iPA $\pi/4$ DQPSK (2-DH5) | Duty Cycle (%):          | 77.1 |
| Antenna Configuration: | SISO                      | DCCF (dB):               | -    |
| Active Port(s):        | A (Core 0)                | Peak Antenna Gain (dBi): | 1.80 |

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |   |   |   |          | Limit (dBm) | Margin (dB) |
|----------------------|--------------------------------------|---|---|---|----------|-------------|-------------|
|                      | A                                    | B | C | D | $\Sigma$ |             |             |
| 2402                 | 11.90                                | - | - | - | -        | 30.00       | -18.10      |
| 2441                 | 11.91                                | - | - | - | -        | 30.00       | -18.09      |
| 2480                 | 11.99                                | - | - | - | -        | 30.00       | -18.01      |

**Table 88 - FCC Maximum Conducted (peak) Output Power Results**

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |   |   |   |          | Limit (dBm) | Margin (dB) | EIRP (dBm) | EIRP Limit (dBm) | EIRP Margin (dB) |
|----------------------|--------------------------------------|---|---|---|----------|-------------|-------------|------------|------------------|------------------|
|                      | A                                    | B | C | D | $\Sigma$ |             |             |            |                  |                  |
| 2402                 | 11.90                                | - | - | - | -        | 30.00       | -18.10      | 13.70      | 36.00            | -22.30           |
| 2441                 | 11.91                                | - | - | - | -        | 30.00       | -18.09      | 13.71      | 36.00            | -22.29           |
| 2480                 | 11.99                                | - | - | - | -        | 30.00       | -18.01      | 13.79      | 36.00            | -22.21           |

**Table 89 - ISSED Maximum Conducted (peak) Output Power Results**



| Test Configuration       |                                 |                 |              |
|--------------------------|---------------------------------|-----------------|--------------|
| Frequency Range:         | 2400-2483.5 MHz                 | Band:           | 2.4 GHz      |
| Limit Clause(s):         | 15.247 (b)(1)<br>RSS-247 5.4 b) | Test Method(s): | C63.10 7.8.5 |
| Additional Reference(s): | -                               |                 |              |

| DUT Configuration      |                    |                          |      |
|------------------------|--------------------|--------------------------|------|
| Mode:                  | iPA 8-DPSK (3-DH5) | Duty Cycle (%):          | 77.0 |
| Antenna Configuration: | SISO               | DCCF (dB):               | -    |
| Active Port(s):        | A (Core 0)         | Peak Antenna Gain (dBi): | 1.80 |

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |   |   |   |          | Limit (dBm) | Margin (dB) |
|----------------------|--------------------------------------|---|---|---|----------|-------------|-------------|
|                      | A                                    | B | C | D | $\Sigma$ |             |             |
| 2402                 | 12.24                                | - | - | - | -        | 30.00       | -17.76      |
| 2441                 | 12.33                                | - | - | - | -        | 30.00       | -17.67      |
| 2480                 | 12.35                                | - | - | - | -        | 30.00       | -17.65      |

**Table 90 - FCC Maximum Conducted (peak) Output Power Results**

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |   |   |   |          | Limit (dBm) | Margin (dB) | EIRP (dBm) | EIRP Limit (dBm) | EIRP Margin (dB) |
|----------------------|--------------------------------------|---|---|---|----------|-------------|-------------|------------|------------------|------------------|
|                      | A                                    | B | C | D | $\Sigma$ |             |             |            |                  |                  |
| 2402                 | 12.24                                | - | - | - | -        | 30.00       | -17.76      | 14.04      | 36.00            | -21.96           |
| 2441                 | 12.33                                | - | - | - | -        | 30.00       | -17.67      | 14.13      | 36.00            | -21.87           |
| 2480                 | 12.35                                | - | - | - | -        | 30.00       | -17.65      | 14.15      | 36.00            | -21.85           |

**Table 91 - ISSED Maximum Conducted (peak) Output Power Results**



| Test Configuration       |                                 |                 |              |
|--------------------------|---------------------------------|-----------------|--------------|
| Frequency Range:         | 2400-2483.5 MHz                 | Band:           | 2.4 GHz      |
| Limit Clause(s):         | 15.247 (b)(1)<br>RSS-247 5.4 b) | Test Method(s): | C63.10 7.8.5 |
| Additional Reference(s): | -                               |                 |              |

| DUT Configuration      |                |                          |      |
|------------------------|----------------|--------------------------|------|
| Mode:                  | iPA GFSK (DH5) | Duty Cycle (%):          | 76.8 |
| Antenna Configuration: | SISO           | DCCF (dB):               | -    |
| Active Port(s):        | C (Core 2)     | Peak Antenna Gain (dBi): | 0.20 |

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |   |       |   |          | Limit (dBm) | Margin (dB) |
|----------------------|--------------------------------------|---|-------|---|----------|-------------|-------------|
|                      | A                                    | B | C     | D | $\Sigma$ |             |             |
| 2402                 | -                                    | - | 13.47 | - | -        | 30.00       | -16.53      |
| 2441                 | -                                    | - | 13.56 | - | -        | 30.00       | -16.44      |
| 2480                 | -                                    | - | 13.50 | - | -        | 30.00       | -16.50      |

**Table 92 - FCC Maximum Conducted (peak) Output Power Results**

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |   |       |   |          | Limit (dBm) | Margin (dB) | EIRP (dBm) | EIRP Limit (dBm) | EIRP Margin (dB) |
|----------------------|--------------------------------------|---|-------|---|----------|-------------|-------------|------------|------------------|------------------|
|                      | A                                    | B | C     | D | $\Sigma$ |             |             |            |                  |                  |
| 2402                 | -                                    | - | 13.47 | - | -        | 30.00       | -16.53      | 13.67      | 36.00            | -22.33           |
| 2441                 | -                                    | - | 13.56 | - | -        | 30.00       | -16.44      | 13.76      | 36.00            | -22.24           |
| 2480                 | -                                    | - | 13.50 | - | -        | 30.00       | -16.50      | 13.70      | 36.00            | -22.30           |

**Table 93 - ISSED Maximum Conducted (peak) Output Power Results**



| Test Configuration       |                                 |                 |              |
|--------------------------|---------------------------------|-----------------|--------------|
| Frequency Range:         | 2400-2483.5 MHz                 | Band:           | 2.4 GHz      |
| Limit Clause(s):         | 15.247 (b)(1)<br>RSS-247 5.4 b) | Test Method(s): | C63.10 7.8.5 |
| Additional Reference(s): | -                               |                 |              |

| DUT Configuration      |                           |                          |      |
|------------------------|---------------------------|--------------------------|------|
| Mode:                  | iPA $\pi/4$ DQPSK (2-DH5) | Duty Cycle (%):          | 76.9 |
| Antenna Configuration: | SISO                      | DCCF (dB):               | -    |
| Active Port(s):        | C (Core 2)                | Peak Antenna Gain (dBi): | 0.20 |

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |   |       |   |          | Limit (dBm) | Margin (dB) |
|----------------------|--------------------------------------|---|-------|---|----------|-------------|-------------|
|                      | A                                    | B | C     | D | $\Sigma$ |             |             |
| 2402                 | -                                    | - | 11.93 | - | -        | 30.00       | -18.07      |
| 2441                 | -                                    | - | 11.62 | - | -        | 30.00       | -18.38      |
| 2480                 | -                                    | - | 11.95 | - | -        | 30.00       | -18.05      |

**Table 94 - FCC Maximum Conducted (peak) Output Power Results**

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |   |       |   |          | Limit (dBm) | Margin (dB) | EIRP (dBm) | EIRP Limit (dBm) | EIRP Margin (dB) |
|----------------------|--------------------------------------|---|-------|---|----------|-------------|-------------|------------|------------------|------------------|
|                      | A                                    | B | C     | D | $\Sigma$ |             |             |            |                  |                  |
| 2402                 | -                                    | - | 11.93 | - | -        | 30.00       | -18.07      | 12.13      | 36.00            | -23.87           |
| 2441                 | -                                    | - | 11.62 | - | -        | 30.00       | -18.38      | 11.82      | 36.00            | -24.18           |
| 2480                 | -                                    | - | 11.95 | - | -        | 30.00       | -18.05      | 12.15      | 36.00            | -23.85           |

**Table 95 - ISSED Maximum Conducted (peak) Output Power Results**



| Test Configuration       |                                 |                 |              |
|--------------------------|---------------------------------|-----------------|--------------|
| Frequency Range:         | 2400-2483.5 MHz                 | Band:           | 2.4 GHz      |
| Limit Clause(s):         | 15.247 (b)(1)<br>RSS-247 5.4 b) | Test Method(s): | C63.10 7.8.5 |
| Additional Reference(s): | -                               |                 |              |

| DUT Configuration      |                    |                          |      |
|------------------------|--------------------|--------------------------|------|
| Mode:                  | iPA 8-DPSK (3-DH5) | Duty Cycle (%):          | 77.0 |
| Antenna Configuration: | SISO               | DCCF (dB):               | -    |
| Active Port(s):        | C (Core 2)         | Peak Antenna Gain (dBi): | 0.20 |

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |   |       |   |          | Limit (dBm) | Margin (dB) |
|----------------------|--------------------------------------|---|-------|---|----------|-------------|-------------|
|                      | A                                    | B | C     | D | $\Sigma$ |             |             |
| 2402                 | -                                    | - | 12.41 | - | -        | 30.00       | -17.59      |
| 2441                 | -                                    | - | 12.40 | - | -        | 30.00       | -17.60      |
| 2480                 | -                                    | - | 12.32 | - | -        | 30.00       | -17.68      |

**Table 96 - FCC Maximum Conducted (peak) Output Power Results**

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |   |       |   |          | Limit (dBm) | Margin (dB) | EIRP (dBm) | EIRP Limit (dBm) | EIRP Margin (dB) |
|----------------------|--------------------------------------|---|-------|---|----------|-------------|-------------|------------|------------------|------------------|
|                      | A                                    | B | C     | D | $\Sigma$ |             |             |            |                  |                  |
| 2402                 | -                                    | - | 12.41 | - | -        | 30.00       | -17.59      | 12.61      | 36.00            | -23.39           |
| 2441                 | -                                    | - | 12.40 | - | -        | 30.00       | -17.60      | 12.60      | 36.00            | -23.40           |
| 2480                 | -                                    | - | 12.32 | - | -        | 30.00       | -17.68      | 12.52      | 36.00            | -23.48           |

**Table 97 - ISSED Maximum Conducted (peak) Output Power Results**



| Test Configuration       |                                 |                 |              |
|--------------------------|---------------------------------|-----------------|--------------|
| Frequency Range:         | 2400-2483.5 MHz                 | Band:           | 2.4 GHz      |
| Limit Clause(s):         | 15.247 (b)(1)<br>RSS-247 5.4 b) | Test Method(s): | C63.10 7.8.5 |
| Additional Reference(s): | -                               |                 |              |

| DUT Configuration      |                           |                          |      |
|------------------------|---------------------------|--------------------------|------|
| Mode:                  | ePA $\pi/4$ DQPSK (2-DH5) | Duty Cycle (%):          | 76.9 |
| Antenna Configuration: | SISO                      | DCCF (dB):               | -    |
| Active Port(s):        | A (Core 0)                | Peak Antenna Gain (dBi): | 1.80 |

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |   |   |   |          | Limit (dBm) | Margin (dB) |
|----------------------|--------------------------------------|---|---|---|----------|-------------|-------------|
|                      | A                                    | B | C | D | $\Sigma$ |             |             |
| 2402                 | 19.38                                | - | - | - | -        | 30.00       | -10.62      |
| 2441                 | 19.42                                | - | - | - | -        | 30.00       | -10.58      |
| 2480                 | 19.13                                | - | - | - | -        | 30.00       | -10.87      |

**Table 98 - FCC Maximum Conducted (peak) Output Power Results**

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |   |   |   |          | Limit (dBm) | Margin (dB) | EIRP (dBm) | EIRP Limit (dBm) | EIRP Margin (dB) |
|----------------------|--------------------------------------|---|---|---|----------|-------------|-------------|------------|------------------|------------------|
|                      | A                                    | B | C | D | $\Sigma$ |             |             |            |                  |                  |
| 2402                 | 19.38                                | - | - | - | -        | 30.00       | -10.62      | 21.18      | 36.00            | -14.82           |
| 2441                 | 19.42                                | - | - | - | -        | 30.00       | -10.58      | 21.22      | 36.00            | -14.78           |
| 2480                 | 19.13                                | - | - | - | -        | 30.00       | -10.87      | 20.93      | 36.00            | -15.07           |

**Table 99 - ISSED Maximum Conducted (peak) Output Power Results**



| Test Configuration       |                                 |                 |              |
|--------------------------|---------------------------------|-----------------|--------------|
| Frequency Range:         | 2400-2483.5 MHz                 | Band:           | 2.4 GHz      |
| Limit Clause(s):         | 15.247 (b)(1)<br>RSS-247 5.4 b) | Test Method(s): | C63.10 7.8.5 |
| Additional Reference(s): | -                               |                 |              |

| DUT Configuration      |                    |                          |      |
|------------------------|--------------------|--------------------------|------|
| Mode:                  | ePA 8-DPSK (3-DH5) | Duty Cycle (%):          | 76.9 |
| Antenna Configuration: | SISO               | DCCF (dB):               | -    |
| Active Port(s):        | A (Core 0)         | Peak Antenna Gain (dBi): | 1.80 |

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |   |   |   |          | Limit (dBm) | Margin (dB) |
|----------------------|--------------------------------------|---|---|---|----------|-------------|-------------|
|                      | A                                    | B | C | D | $\Sigma$ |             |             |
| 2402                 | 19.65                                | - | - | - | -        | 30.00       | -10.35      |
| 2441                 | 19.90                                | - | - | - | -        | 30.00       | -10.10      |
| 2480                 | 19.89                                | - | - | - | -        | 30.00       | -10.11      |

**Table 100 - FCC Maximum Conducted (peak) Output Power Results**

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |   |   |   |          | Limit (dBm) | Margin (dB) | EIRP (dBm) | EIRP Limit (dBm) | EIRP Margin (dB) |
|----------------------|--------------------------------------|---|---|---|----------|-------------|-------------|------------|------------------|------------------|
|                      | A                                    | B | C | D | $\Sigma$ |             |             |            |                  |                  |
| 2402                 | 19.65                                | - | - | - | -        | 30.00       | -10.35      | 21.45      | 36.00            | -14.55           |
| 2441                 | 19.90                                | - | - | - | -        | 30.00       | -10.10      | 21.70      | 36.00            | -14.30           |
| 2480                 | 19.89                                | - | - | - | -        | 30.00       | -10.11      | 21.69      | 36.00            | -14.31           |

**Table 101 - ISED Maximum Conducted (peak) Output Power Results**



| Test Configuration       |                                                     |                 |              |
|--------------------------|-----------------------------------------------------|-----------------|--------------|
| Frequency Range:         | 2400-2483.5 MHz                                     | Band:           | 2.4 GHz      |
| Limit Clause(s):         | 15.247 (b)(1)<br>RSS-247 5.4 b)                     | Test Method(s): | C63.10 7.8.5 |
| Additional Reference(s): | 662911 D01 v02r01 F)2)d)(i), 662911 D01 v02r01 E)1) |                 |              |

| DUT Configuration      |                       |                          |      |
|------------------------|-----------------------|--------------------------|------|
| Mode:                  | iPA GFSK (DH5)        | Duty Cycle (%):          | 76.7 |
| Antenna Configuration: | Beamforming           | DCCF (dB):               | -    |
| Active Port(s):        | A+B (Core 0 + Core 1) | Peak Antenna Gain (dBi): | 4.47 |

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |       |   |   |          | Limit (dBm) | Margin (dB) |
|----------------------|--------------------------------------|-------|---|---|----------|-------------|-------------|
|                      | A                                    | B     | C | D | $\Sigma$ |             |             |
| 2402                 | 13.63                                | 13.31 | - | - | 16.48    | 30.00       | -13.52      |
| 2441                 | 13.63                                | 13.31 | - | - | 16.48    | 30.00       | -13.52      |
| 2480                 | 13.48                                | 13.35 | - | - | 16.43    | 30.00       | -13.57      |

**Table 102 - FCC Maximum Conducted (peak) Output Power Results**

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |       |   |   |          | Limit (dBm) | Margin (dB) | EIRP (dBm) | EIRP Limit (dBm) | EIRP Margin (dB) |
|----------------------|--------------------------------------|-------|---|---|----------|-------------|-------------|------------|------------------|------------------|
|                      | A                                    | B     | C | D | $\Sigma$ |             |             |            |                  |                  |
| 2402                 | 13.63                                | 13.31 | - | - | 16.48    | 30.00       | -13.52      | 20.95      | 36.00            | -15.05           |
| 2441                 | 13.63                                | 13.31 | - | - | 16.48    | 30.00       | -13.52      | 20.95      | 36.00            | -15.05           |
| 2480                 | 13.48                                | 13.35 | - | - | 16.43    | 30.00       | -13.57      | 20.90      | 36.00            | -15.10           |

**Table 103 - ISD Maximum Conducted (peak) Output Power Results**



| Test Configuration       |                                                     |                 |              |
|--------------------------|-----------------------------------------------------|-----------------|--------------|
| Frequency Range:         | 2400-2483.5 MHz                                     | Band:           | 2.4 GHz      |
| Limit Clause(s):         | 15.247 (b)(1)<br>RSS-247 5.4 b)                     | Test Method(s): | C63.10 7.8.5 |
| Additional Reference(s): | 662911 D01 v02r01 F)2)d)(i), 662911 D01 v02r01 E)1) |                 |              |

| DUT Configuration      |                           |                          |      |
|------------------------|---------------------------|--------------------------|------|
| Mode:                  | iPA $\pi/4$ DQPSK (2-DH5) | Duty Cycle (%):          | 76.8 |
| Antenna Configuration: | Beamforming               | DCCF (dB):               | -    |
| Active Port(s):        | A+B (Core 0 + Core 1)     | Peak Antenna Gain (dBi): | 4.47 |

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |       |   |   |          | Limit (dBm) | Margin (dB) |
|----------------------|--------------------------------------|-------|---|---|----------|-------------|-------------|
|                      | A                                    | B     | C | D | $\Sigma$ |             |             |
| 2402                 | 11.62                                | 11.76 | - | - | 14.70    | 30.00       | -15.30      |
| 2441                 | 11.72                                | 11.69 | - | - | 14.72    | 30.00       | -15.28      |
| 2480                 | 11.91                                | 11.55 | - | - | 14.74    | 30.00       | -15.26      |

**Table 104 - FCC Maximum Conducted (peak) Output Power Results**

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |       |   |   |          | Limit (dBm) | Margin (dB) | EIRP (dBm) | EIRP Limit (dBm) | EIRP Margin (dB) |
|----------------------|--------------------------------------|-------|---|---|----------|-------------|-------------|------------|------------------|------------------|
|                      | A                                    | B     | C | D | $\Sigma$ |             |             |            |                  |                  |
| 2402                 | 11.62                                | 11.76 | - | - | 14.70    | 30.00       | -15.30      | 19.17      | 36.00            | -16.83           |
| 2441                 | 11.72                                | 11.69 | - | - | 14.72    | 30.00       | -15.28      | 19.19      | 36.00            | -16.81           |
| 2480                 | 11.91                                | 11.55 | - | - | 14.74    | 30.00       | -15.26      | 19.21      | 36.00            | -16.79           |

**Table 105 - ISED Maximum Conducted (peak) Output Power Results**



| Test Configuration       |                                                     |                 |              |
|--------------------------|-----------------------------------------------------|-----------------|--------------|
| Frequency Range:         | 2400-2483.5 MHz                                     | Band:           | 2.4 GHz      |
| Limit Clause(s):         | 15.247 (b)(1)<br>RSS-247 5.4 b)                     | Test Method(s): | C63.10 7.8.5 |
| Additional Reference(s): | 662911 D01 v02r01 F)2)d)(i), 662911 D01 v02r01 E)1) |                 |              |

| DUT Configuration      |                       |                          |      |
|------------------------|-----------------------|--------------------------|------|
| Mode:                  | iPA 8-DPSK (3-DH5)    | Duty Cycle (%):          | 76.9 |
| Antenna Configuration: | Beamforming           | DCCF (dB):               | -    |
| Active Port(s):        | A+B (Core 0 + Core 1) | Peak Antenna Gain (dBi): | 4.47 |

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |       |   |   |          | Limit (dBm) | Margin (dB) |
|----------------------|--------------------------------------|-------|---|---|----------|-------------|-------------|
|                      | A                                    | B     | C | D | $\Sigma$ |             |             |
| 2402                 | 12.41                                | 12.09 | - | - | 15.26    | 30.00       | -14.74      |
| 2441                 | 12.19                                | 11.96 | - | - | 15.09    | 30.00       | -14.91      |
| 2480                 | 12.36                                | 12.13 | - | - | 15.26    | 30.00       | -14.74      |

**Table 106 - FCC Maximum Conducted (peak) Output Power Results**

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |       |   |   |          | Limit (dBm) | Margin (dB) | EIRP (dBm) | EIRP Limit (dBm) | EIRP Margin (dB) |
|----------------------|--------------------------------------|-------|---|---|----------|-------------|-------------|------------|------------------|------------------|
|                      | A                                    | B     | C | D | $\Sigma$ |             |             |            |                  |                  |
| 2402                 | 12.41                                | 12.09 | - | - | 15.26    | 30.00       | -14.74      | 19.73      | 36.00            | -16.27           |
| 2441                 | 12.19                                | 11.96 | - | - | 15.09    | 30.00       | -14.91      | 19.55      | 36.00            | -16.45           |
| 2480                 | 12.36                                | 12.13 | - | - | 15.26    | 30.00       | -14.74      | 19.73      | 36.00            | -16.27           |

**Table 107 - ISD Maximum Conducted (peak) Output Power Results**



| Test Configuration       |                                                     |                 |              |
|--------------------------|-----------------------------------------------------|-----------------|--------------|
| Frequency Range:         | 2400-2483.5 MHz                                     | Band:           | 2.4 GHz      |
| Limit Clause(s):         | 15.247 (b)(1)<br>RSS-247 5.4 b)                     | Test Method(s): | C63.10 7.8.5 |
| Additional Reference(s): | 662911 D01 v02r01 F)2)d)(i), 662911 D01 v02r01 E)1) |                 |              |

| DUT Configuration      |                           |                          |      |
|------------------------|---------------------------|--------------------------|------|
| Mode:                  | ePA $\pi/4$ DQPSK (2-DH5) | Duty Cycle (%):          | 76.9 |
| Antenna Configuration: | Beamforming               | DCCF (dB):               | -    |
| Active Port(s):        | A+B (Core 0 + Core 1)     | Peak Antenna Gain (dBi): | 4.47 |

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |       |   |   |          | Limit (dBm) | Margin (dB) |
|----------------------|--------------------------------------|-------|---|---|----------|-------------|-------------|
|                      | A                                    | B     | C | D | $\Sigma$ |             |             |
| 2402                 | 15.90                                | 15.56 | - | - | 18.74    | 30.00       | -11.26      |
| 2441                 | 16.26                                | 15.81 | - | - | 19.05    | 30.00       | -10.95      |
| 2480                 | 16.07                                | 16.19 | - | - | 19.14    | 30.00       | -10.86      |

**Table 108 - FCC Maximum Conducted (peak) Output Power Results**

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |       |   |   |          | Limit (dBm) | Margin (dB) | EIRP (dBm) | EIRP Limit (dBm) | EIRP Margin (dB) |
|----------------------|--------------------------------------|-------|---|---|----------|-------------|-------------|------------|------------------|------------------|
|                      | A                                    | B     | C | D | $\Sigma$ |             |             |            |                  |                  |
| 2402                 | 15.90                                | 15.56 | - | - | 18.74    | 30.00       | -11.26      | 23.21      | 36.00            | -12.79           |
| 2441                 | 16.26                                | 15.81 | - | - | 19.05    | 30.00       | -10.95      | 23.52      | 36.00            | -12.48           |
| 2480                 | 16.07                                | 16.19 | - | - | 19.14    | 30.00       | -10.86      | 23.61      | 36.00            | -12.39           |

**Table 109 - ISD Maximum Conducted (peak) Output Power Results**



| Test Configuration       |                                                     |                 |              |
|--------------------------|-----------------------------------------------------|-----------------|--------------|
| Frequency Range:         | 2400-2483.5 MHz                                     | Band:           | 2.4 GHz      |
| Limit Clause(s):         | 15.247 (b)(1)<br>RSS-247 5.4 b)                     | Test Method(s): | C63.10 7.8.5 |
| Additional Reference(s): | 662911 D01 v02r01 F)2)d)(i), 662911 D01 v02r01 E)1) |                 |              |

| DUT Configuration      |                       |                          |      |
|------------------------|-----------------------|--------------------------|------|
| Mode:                  | ePA 8-DPSK (3-DH5)    | Duty Cycle (%):          | 76.9 |
| Antenna Configuration: | Beamforming           | DCCF (dB):               | -    |
| Active Port(s):        | A+B (Core 0 + Core 1) | Peak Antenna Gain (dBi): | 4.47 |

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |       |   |   |          | Limit (dBm) | Margin (dB) |
|----------------------|--------------------------------------|-------|---|---|----------|-------------|-------------|
|                      | A                                    | B     | C | D | $\Sigma$ |             |             |
| 2402                 | 16.50                                | 16.19 | - | - | 19.36    | 30.00       | -10.64      |
| 2441                 | 16.81                                | 16.92 | - | - | 19.88    | 30.00       | -10.12      |
| 2480                 | 16.62                                | 16.73 | - | - | 19.69    | 30.00       | -10.31      |

**Table 110 - FCC Maximum Conducted (peak) Output Power Results**

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |       |   |   |          | Limit (dBm) | Margin (dB) | EIRP (dBm) | EIRP Limit (dBm) | EIRP Margin (dB) |
|----------------------|--------------------------------------|-------|---|---|----------|-------------|-------------|------------|------------------|------------------|
|                      | A                                    | B     | C | D | $\Sigma$ |             |             |            |                  |                  |
| 2402                 | 16.50                                | 16.19 | - | - | 19.36    | 30.00       | -10.64      | 23.83      | 36.00            | -12.17           |
| 2441                 | 16.81                                | 16.92 | - | - | 19.88    | 30.00       | -10.12      | 24.34      | 36.00            | -11.66           |
| 2480                 | 16.62                                | 16.73 | - | - | 19.69    | 30.00       | -10.31      | 24.15      | 36.00            | -11.85           |

**Table 111 - ISSED Maximum Conducted (peak) Output Power Results**

FCC 47 CFR Part 15, Limit Clause 15.247 (b)(1)

For frequency Hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non overlapping Hopping channels, and all frequency Hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency Hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

ISSED RSS-247, Limit Clause 5.4 (b)

For FHSs operating in the band 2400-2483.5 MHz, the maximum peak conducted output power shall not exceed 1.0 W if the hopset uses 75 or more Hopping channel; the maximum peak conducted output power shall not exceed 0.125 W if the hopset uses less than 75 Hopping channel. The e.i.r.p. shall not exceed 4 W except as provided in section 5.4(e) of the specification.



## 2.6.7 Test Location and Test Equipment Used

This test was carried out in RF Chamber 18.

| Instrument                   | Manufacturer | Type No.        | TE No. | Calibration Period (months) | Calibration Expiry Date |
|------------------------------|--------------|-----------------|--------|-----------------------------|-------------------------|
| Hygrometer                   | Rotronic     | I-1000          | 3068   | 12                          | 07-Nov-2024             |
| AC Programmable Power Supply | iTech        | IT7324          | 5225   | -                           | O/P Mon                 |
| USB Power Sensor             | Boonton      | RTP5008         | 5820   | 12                          | 07-Feb-2025             |
| USB Power Sensor             | Boonton      | RTP5008         | 5821   | 12                          | 07-Feb-2025             |
| USB Power Sensor             | Boonton      | RTP5008         | 5822   | 12                          | 08-Feb-2025             |
| Digital Multimeter           | Fluke        | 115             | 6145   | 12                          | 06-Jun-2025             |
| Signal Conditioning Unit     | TUV SUD      | SPECTRUM_SCU001 | 6426   | 12                          | 07-Feb-2025             |
| SCU Cable Assembly           | TUV SUD      | SPECTRUM_SCU_CA | 6752   | 12                          | 06-Feb-2025             |
| SCU Cable Assembly           | TUV SUD      | SPECTRUM_SCU_CA | 6753   | 12                          | 06-Feb-2025             |
| SCU Cable Assembly           | TUV SUD      | SPECTRUM_SCU_CA | 6754   | 0                           | 06-Feb-2025             |

**Table 112**

O/P Mon - Output Monitored using calibrated equipment



## **2.7 Authorised Band Edges**

### **2.7.1 Specification Reference**

FCC 47 CFR Part 15C, Clause 15.247 (d)  
ISED RSS-247, Clause 5.5

### **2.7.2 Equipment Under Test and Modification State**

A3238, S/N: NQMK2V7Q9C - Modification State 0  
A3238, S/N: N4N7KFP797 - Modification State 0

### **2.7.3 Date of Test**

07-June-2024 to 12-June-2024

### **2.7.4 Test Method**

The test was performed in accordance with ANSI C63.10, clause 6.10.4.

### **2.7.5 Environmental Conditions**

|                     |                |
|---------------------|----------------|
| Ambient Temperature | 22.1 - 23.7 °C |
| Relative Humidity   | 39.6 - 46.6 %  |

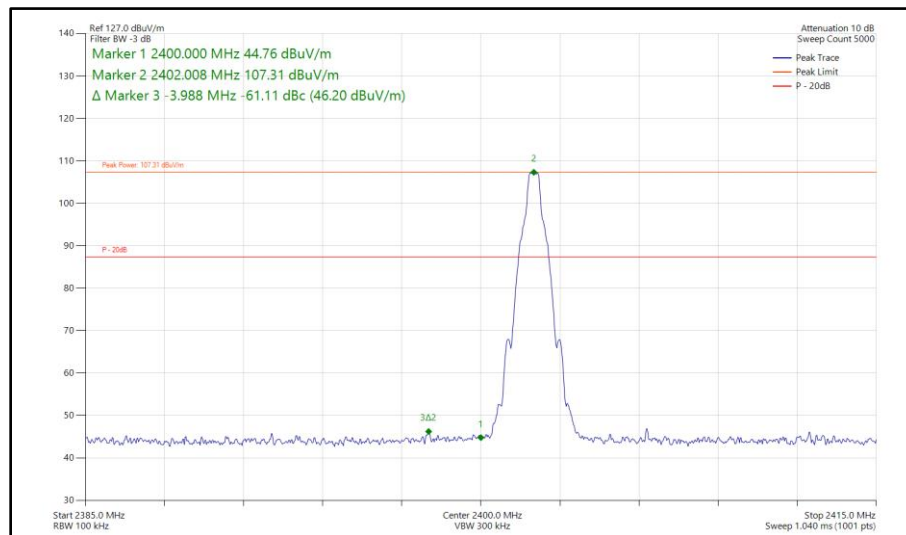
## 2.7.6 Test Results

### 2.4 GHz Bluetooth BDR/EDR

#### iPA - Core 0 (SISO)

| Mode    | Packet Type | TX Frequency (MHz) | Band Edge Frequency (MHz) | Level (dBc) |
|---------|-------------|--------------------|---------------------------|-------------|
| Static  | DH5         | 2402               | 2400                      | -61.11      |
| Static  | 2-DH5       | 2402               | 2400                      | -54.02      |
| Static  | 3-DH5       | 2402               | 2400                      | -54.00      |
| Hopping | DH5         | Hopping            | 2400                      | -44.70      |
| Hopping | 2-DH5       | Hopping            | 2400                      | -60.26      |
| Hopping | 3-DH5       | Hopping            | 2400                      | -47.15      |

**Table 113 - SISO Authorised Band Edge Results**



**Figure 184 - Bluetooth DH5, SISO, Core 0 - 2402 MHz  
Band Edge Frequency 2400 MHz**

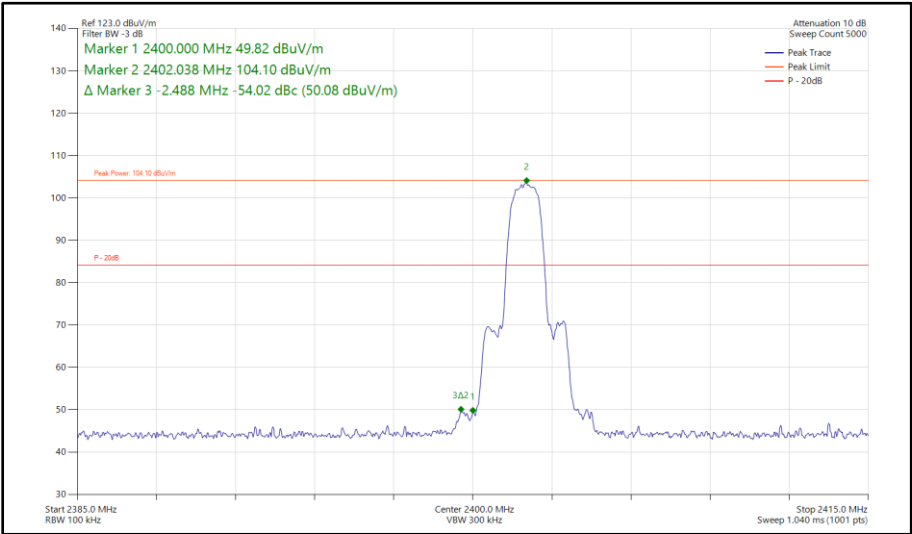


Figure 185 - Bluetooth 2-DH5, SISO, Core 0 - 2402 MHz  
Band Edge Frequency 2400 MHz

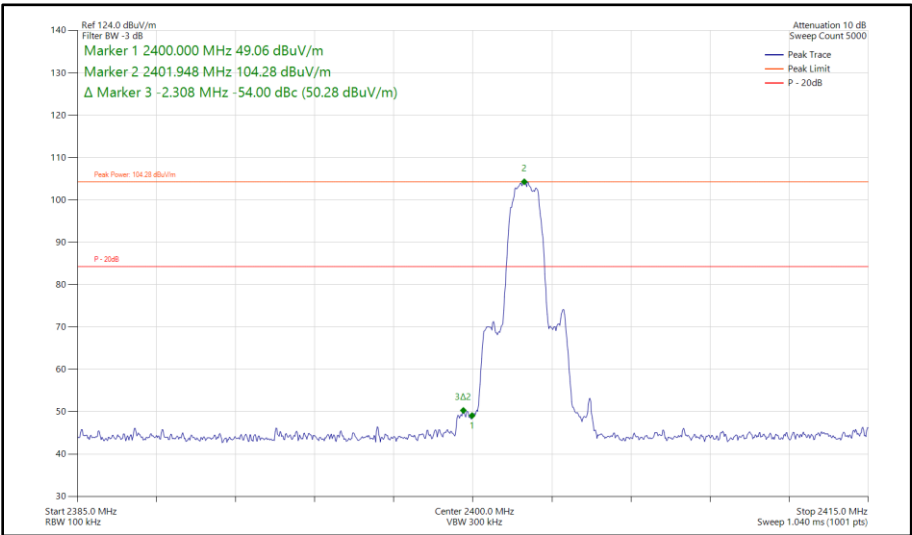
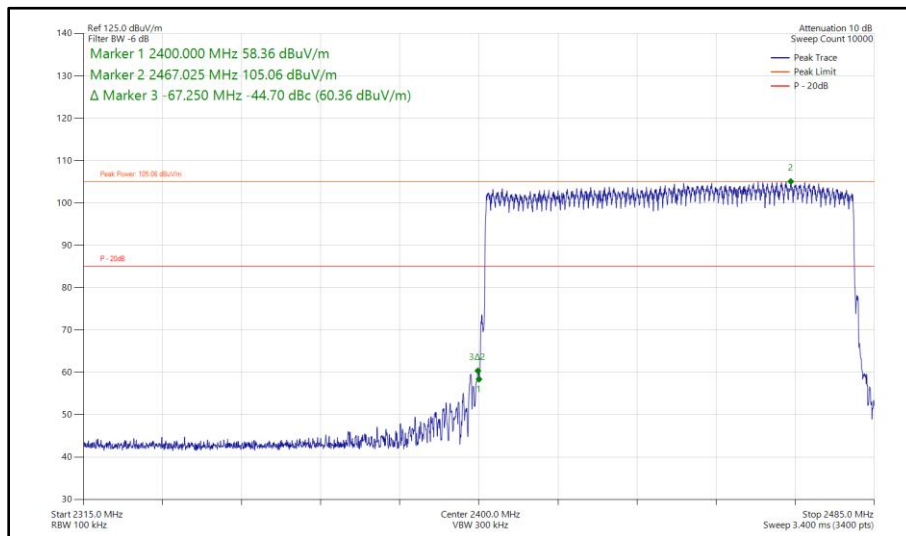
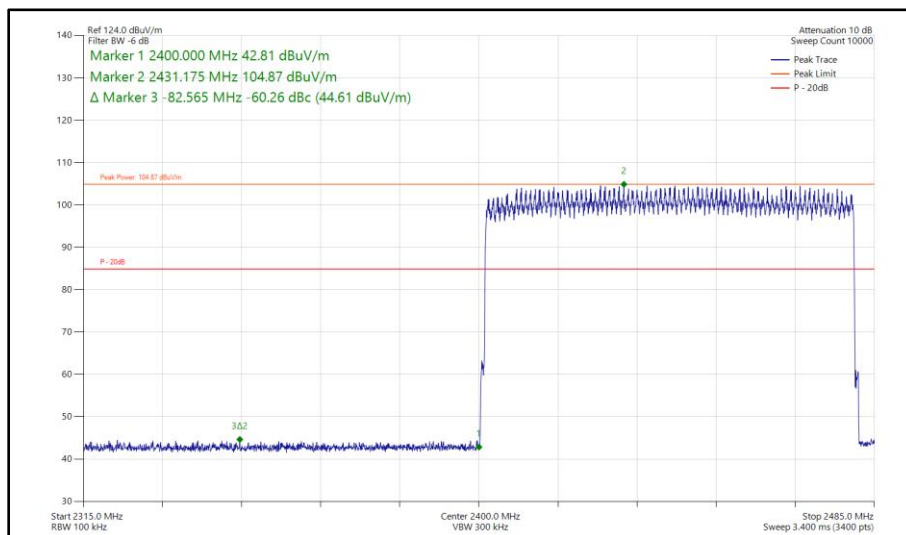


Figure 186 - Bluetooth 3-DH5, SISO, Core 0 - 2402 MHz  
Band Edge Frequency 2400 MHz



**Figure 187 - Bluetooth DH5, SISO, Core 0 - Hopping  
Band Edge Frequency 2400 MHz**



**Figure 188 - Bluetooth 2-DH5, SISO, Core 0 - Hopping  
Band Edge Frequency 2400 MHz**

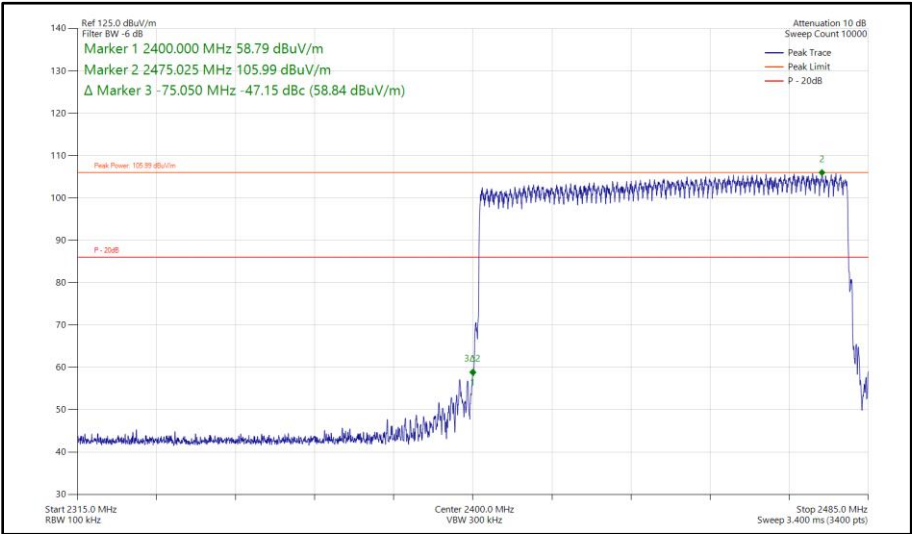


Figure 189 - Bluetooth 3-DH5, SISO, Core 0 - Hopping  
Band Edge Frequency 2400 MHz

iPA - Core 1 (SISO)

| Mode    | Packet Type | TX Frequency (MHz) | Band Edge Frequency (MHz) | Level (dBc) |
|---------|-------------|--------------------|---------------------------|-------------|
| Static  | DH5         | 2402               | 2400                      | -58.07      |
| Static  | 2-DH5       | 2402               | 2400                      | -52.09      |
| Static  | 3-DH5       | 2402               | 2400                      | -51.47      |
| Hopping | DH5         | Hopping            | 2400                      | -64.21      |
| Hopping | 2-DH5       | Hopping            | 2400                      | -58.56      |
| Hopping | 3-DH5       | Hopping            | 2400                      | -59.05      |

Table 114 - SISO Authorised Band Edge Results

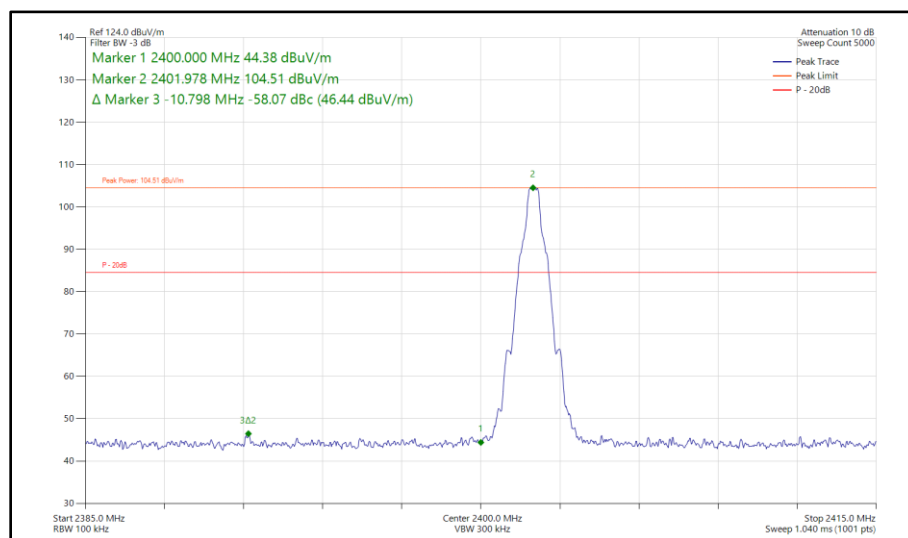


Figure 190 - Bluetooth DH5, SISO, Core 1 - 2402 MHz  
Band Edge Frequency 2400 MHz

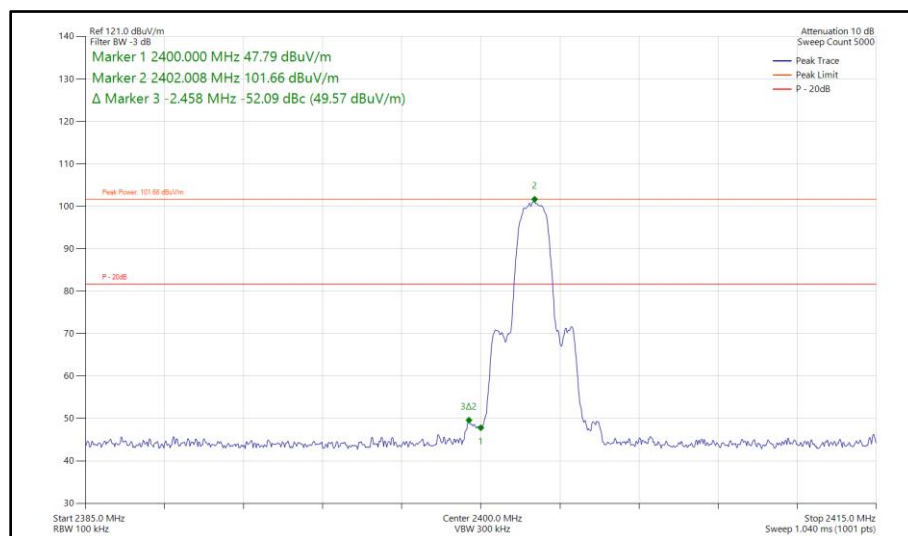
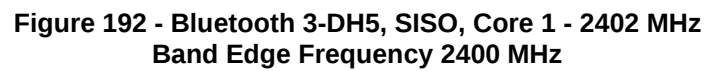


Figure 191 - Bluetooth 2-DH5, SISO, Core 1 - 2402 MHz  
Band Edge Frequency 2400 MHz



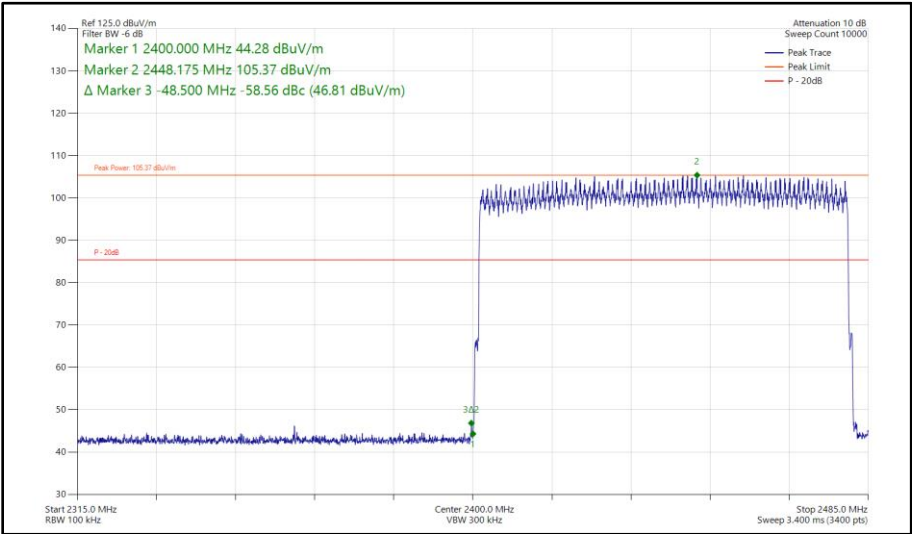


Figure 194 - Bluetooth 2-DH5, SISO, Core 1 - Hopping  
Band Edge Frequency 2400 MHz

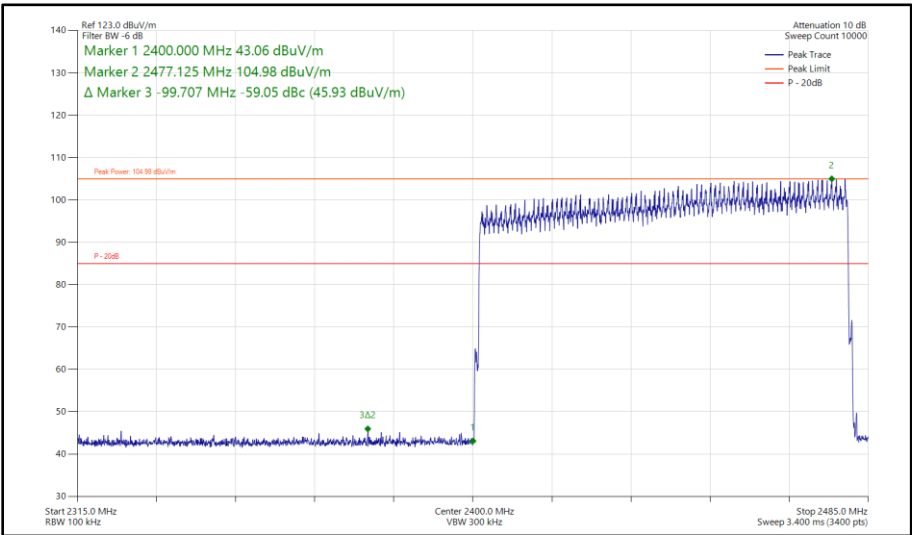


Figure 195 - Bluetooth 3-DH5, SISO, Core 1 - Hopping  
Band Edge Frequency 2400 MHz

iPA - Core 2 (SISO)

| Mode    | Packet Type | TX Frequency (MHz) | Band Edge Frequency (MHz) | Level (dBc) |
|---------|-------------|--------------------|---------------------------|-------------|
| Static  | DH5         | 2402               | 2400                      | -60.20      |
| Static  | 2-DH5       | 2402               | 2400                      | -55.27      |
| Static  | 3-DH5       | 2402               | 2400                      | -54.32      |
| Hopping | DH5         | Hopping            | 2400                      | -61.58      |
| Hopping | 2-DH5       | Hopping            | 2400                      | -58.70      |
| Hopping | 3-DH5       | Hopping            | 2400                      | -56.30      |

Table 115 - SISO Authorised Band Edge Results

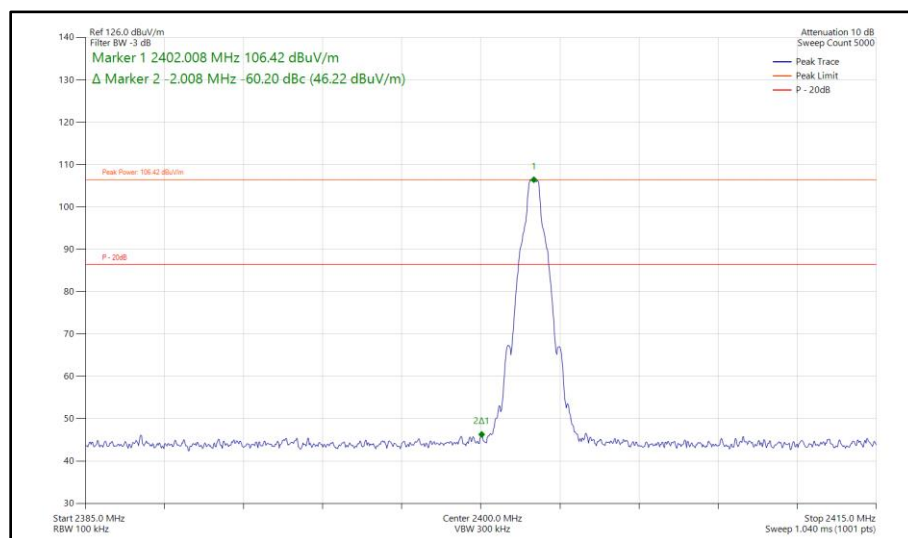


Figure 196 - Bluetooth DH5, SISO, Core 2 - 2402 MHz  
Band Edge Frequency 2400 MHz

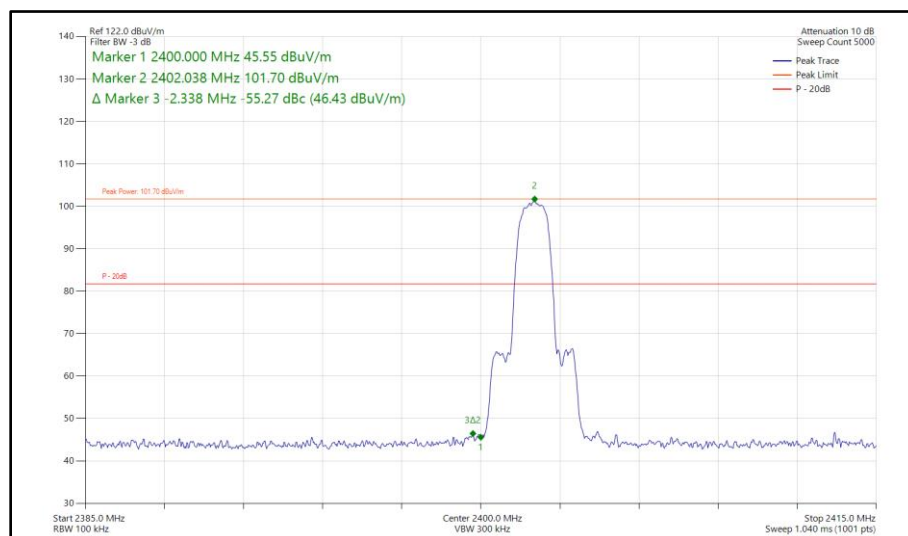
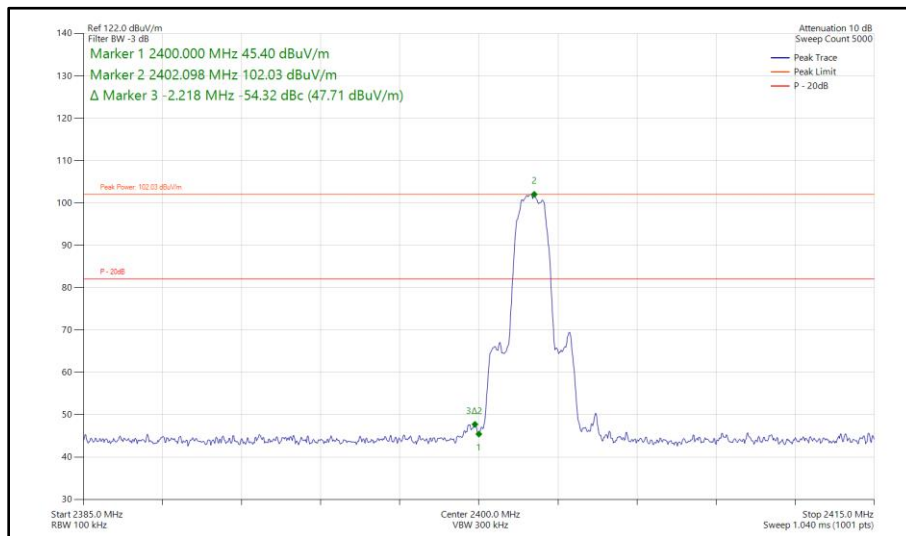
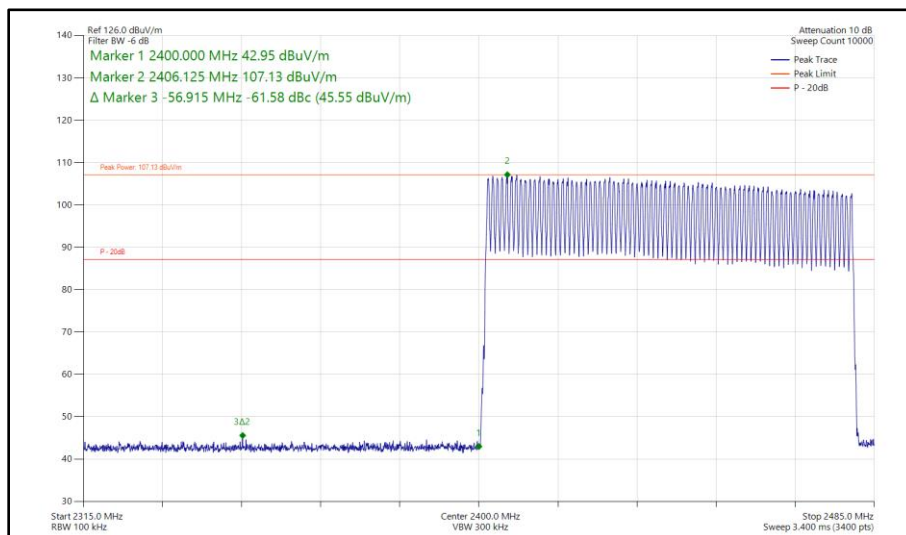


Figure 197 - Bluetooth 2-DH5, SISO, Core 2 - 2402 MHz  
Band Edge Frequency 2400 MHz



**Figure 198 - Bluetooth 3-DH5, SISO, Core 2 - 2402 MHz  
Band Edge Frequency 2400 MHz**



**Figure 199 - Bluetooth DH5, SISO, Core 2 - Hopping  
Band Edge Frequency 2400 MHz**

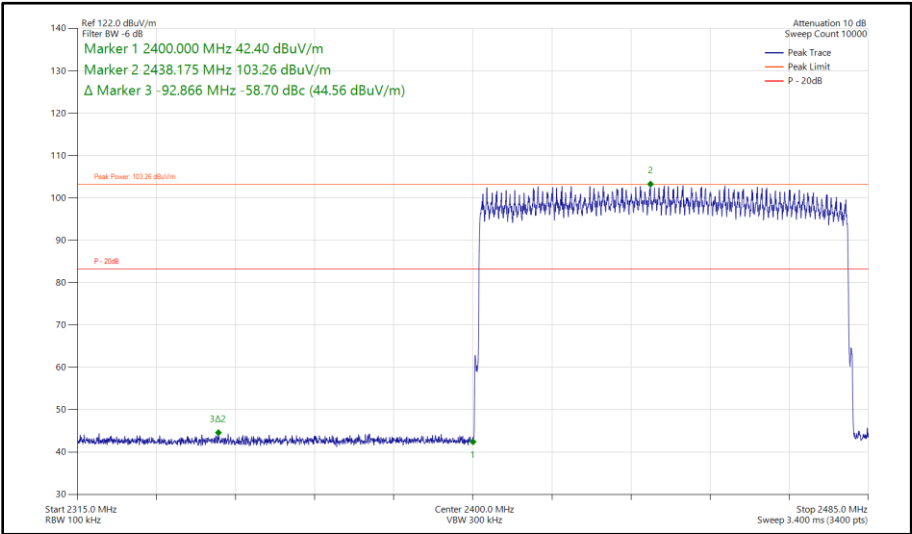


Figure 200 - Bluetooth 2-DH5, SISO, Core 2 - Hopping  
Band Edge Frequency 2400 MHz

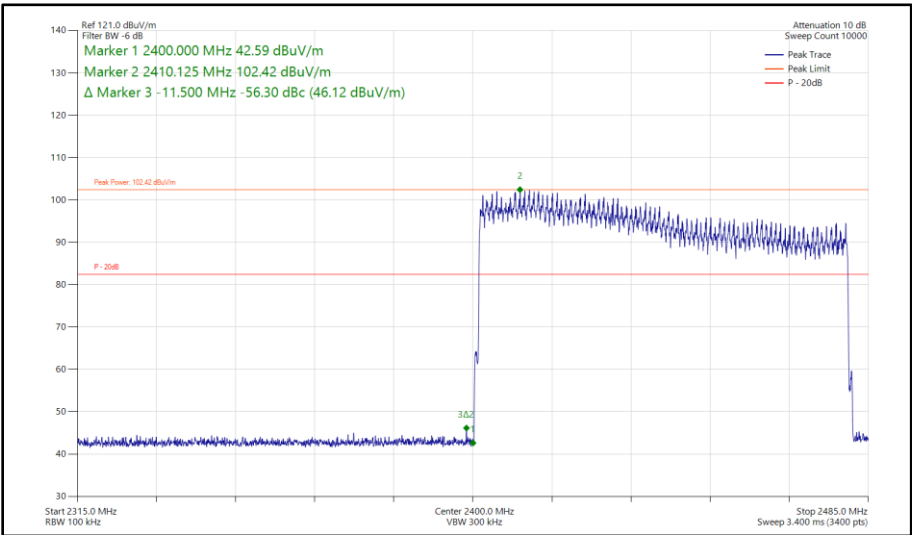


Figure 201 - Bluetooth 3-DH5, SISO, Core 2 - Hopping  
Band Edge Frequency 2400 MHz

iPA - Core 0 - Core 1 (MIMO)

| Mode    | Packet Type | TX Frequency (MHz) | Band Edge Frequency (MHz) | Level (dBc) |
|---------|-------------|--------------------|---------------------------|-------------|
| Static  | DH5         | 2402               | 2400                      | -63.94      |
| Static  | 2-DH5       | 2402               | 2400                      | -55.51      |
| Static  | 3-DH5       | 2402               | 2400                      | -55.36      |
| Hopping | DH5         | Hopping            | 2400                      | -65.89      |
| Hopping | 2-DH5       | Hopping            | 2400                      | -61.04      |
| Hopping | 3-DH5       | Hopping            | 2400                      | -61.29      |

Table 116 - MIMO Authorised Band Edge Results

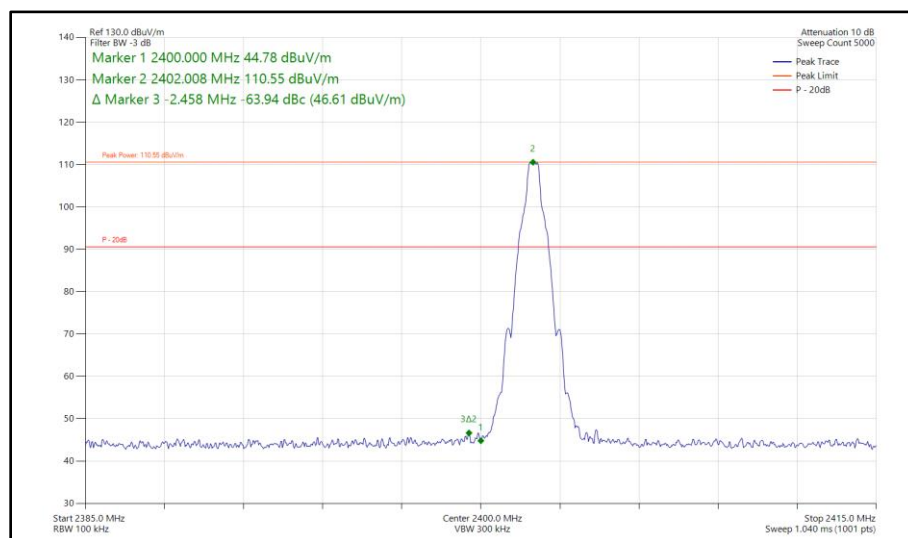


Figure 202 - Bluetooth DH5, MIMO, Core 0 - Core 1 - 2402 MHz  
Band Edge Frequency 2400 MHz

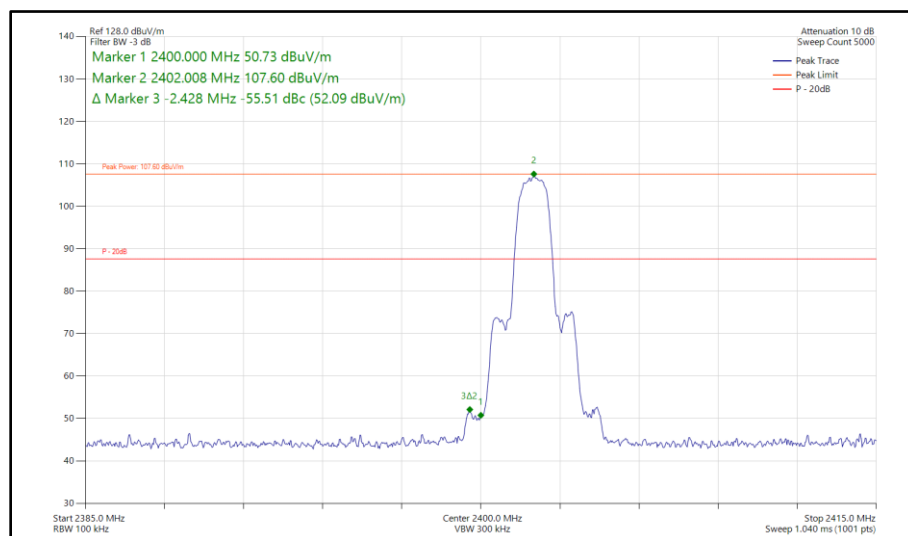
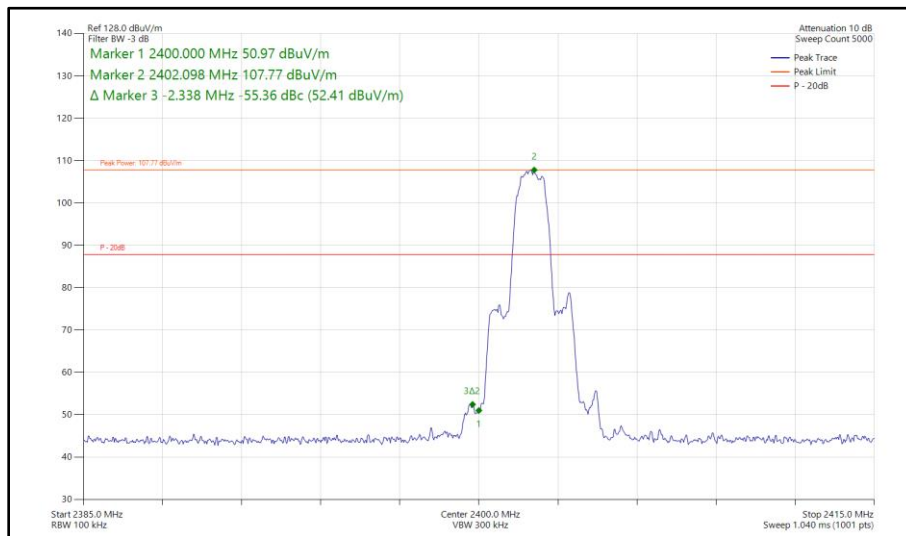


Figure 203 - Bluetooth 2-DH5, MIMO, Core 0 - Core 1 - 2402 MHz  
Band Edge Frequency 2400 MHz



**Figure 204 - Bluetooth 3-DH5, MIMO, Core 0 - Core 1 - 2402 MHz  
Band Edge Frequency 2400 MHz**



**Figure 205 - Bluetooth DH5, MIMO, Core 0 - Core 1 - Hopping  
Band Edge Frequency 2400 MHz**

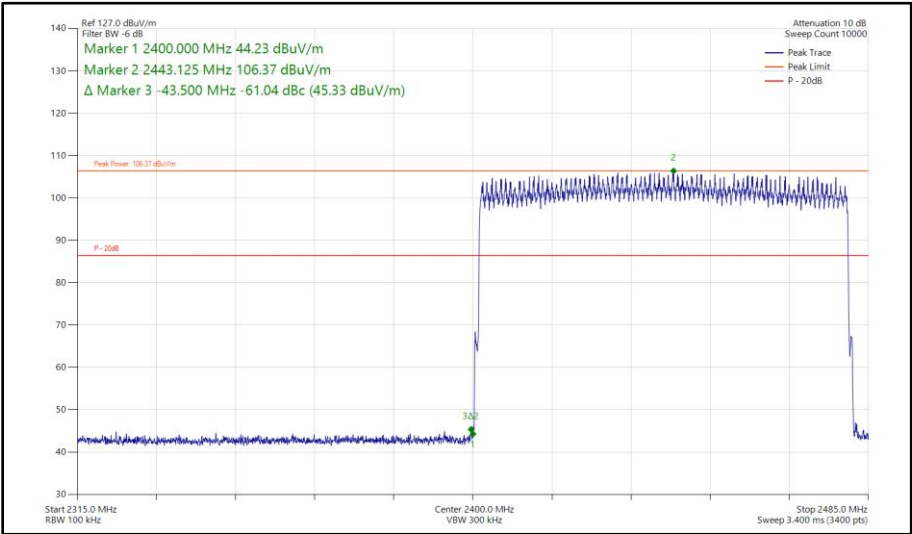


Figure 206 - Bluetooth 2-DH5, MIMO, Core 0 - Core 1 - Hopping Band Edge Frequency 2400 MHz

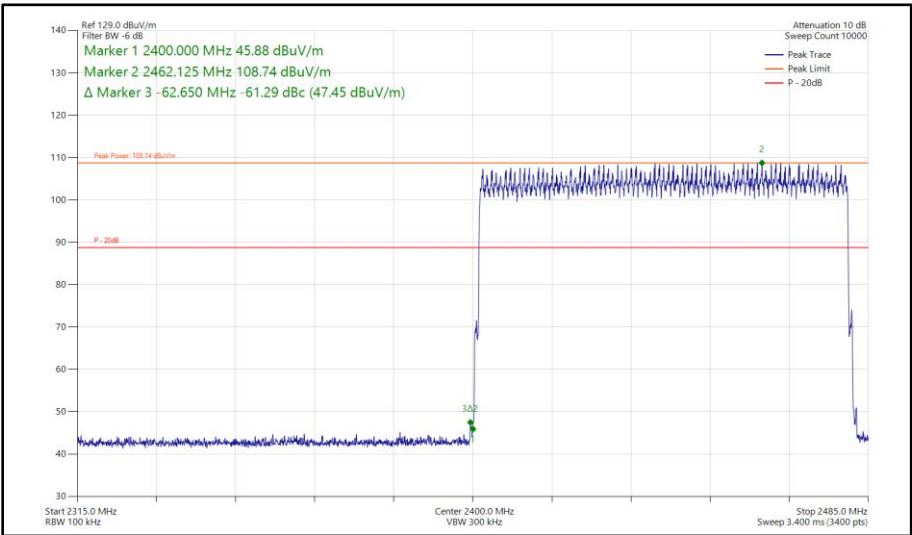


Figure 207 - Bluetooth 3-DH5, MIMO, Core 0 - Core 1 - Hopping Band Edge Frequency 2400 MHz

ePA - Core 0 (SISO)

| Mode    | Packet Type | TX Frequency (MHz) | Band Edge Frequency (MHz) | Level (dBc) |
|---------|-------------|--------------------|---------------------------|-------------|
| Static  | 2-DH5       | 2402               | 2400                      | -59.83      |
| Static  | 3-DH5       | 2402               | 2400                      | -54.17      |
| Hopping | 2-DH5       | Hopping            | 2400                      | -47.35      |
| Hopping | 3-DH5       | Hopping            | 2400                      | -45.22      |

Table 117 - SISO Authorised Band Edge Results

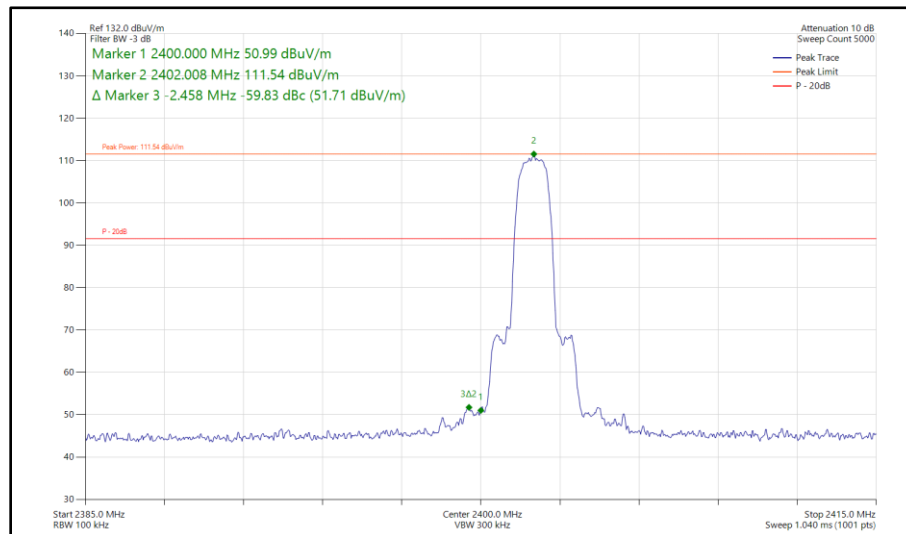


Figure 208 - Bluetooth 2-DH5, SISO, Core 0 - 2402 MHz  
Band Edge Frequency 2400 MHz

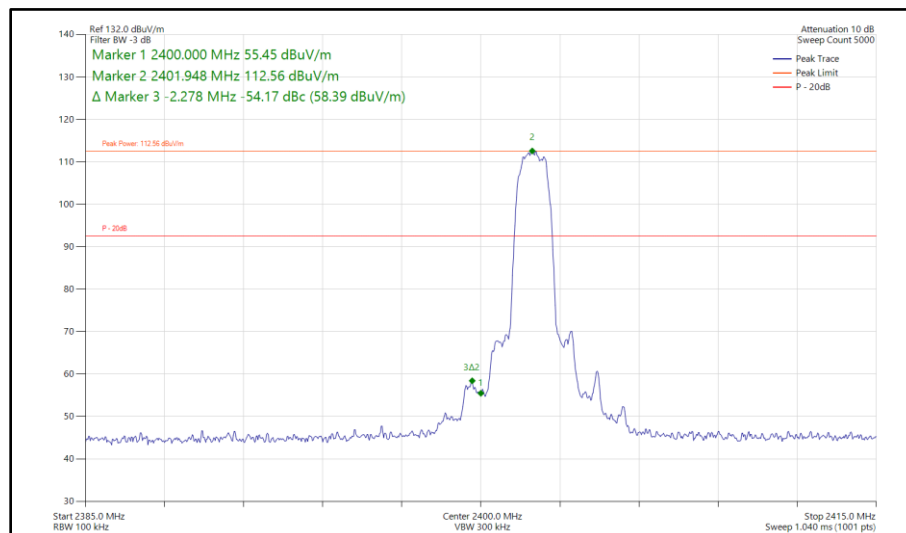


Figure 209 - Bluetooth 3-DH5, SISO, Core 0 - 2402 MHz  
Band Edge Frequency 2400 MHz

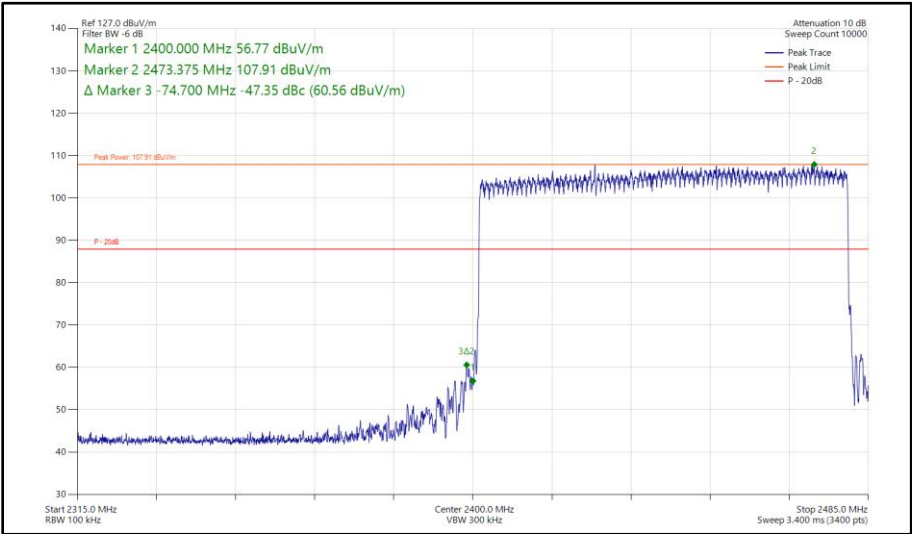


Figure 210 - Bluetooth 2-DH5, SISO, Core 0 - Hopping  
Band Edge Frequency 2400 MHz

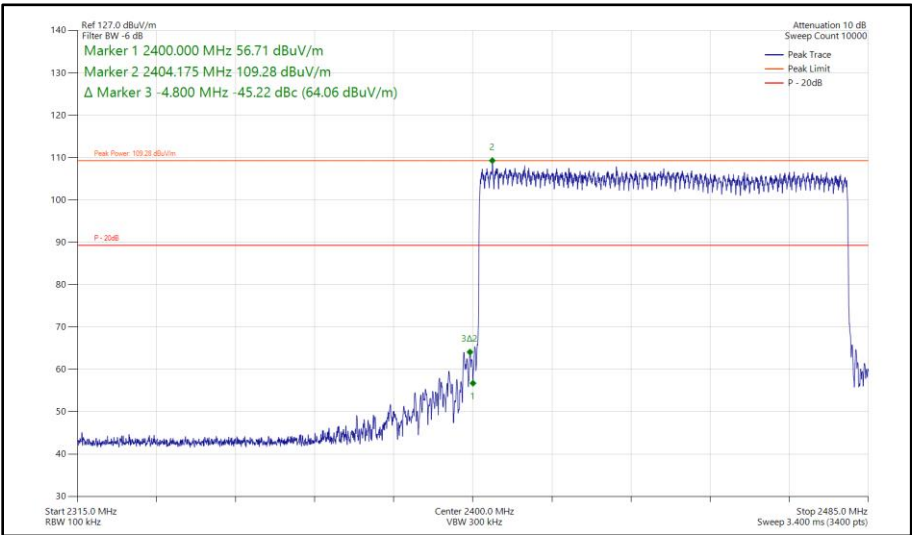


Figure 211 - Bluetooth 3-DH5, SISO, Core 0 - Hopping  
Band Edge Frequency 2400 MHz



ePA - Core 1 (SISO)

| Mode    | Packet Type | TX Frequency (MHz) | Band Edge Frequency (MHz) | Level (dBc) |
|---------|-------------|--------------------|---------------------------|-------------|
| Static  | 2-DH5       | 2402               | 2400                      | -56.96      |
| Static  | 3-DH5       | 2402               | 2400                      | -54.30      |
| Hopping | 2-DH5       | Hopping            | 2400                      | -61.29      |
| Hopping | 3-DH5       | Hopping            | 2400                      | -61.48      |

Table 118 - SISO Authorised Band Edge Results

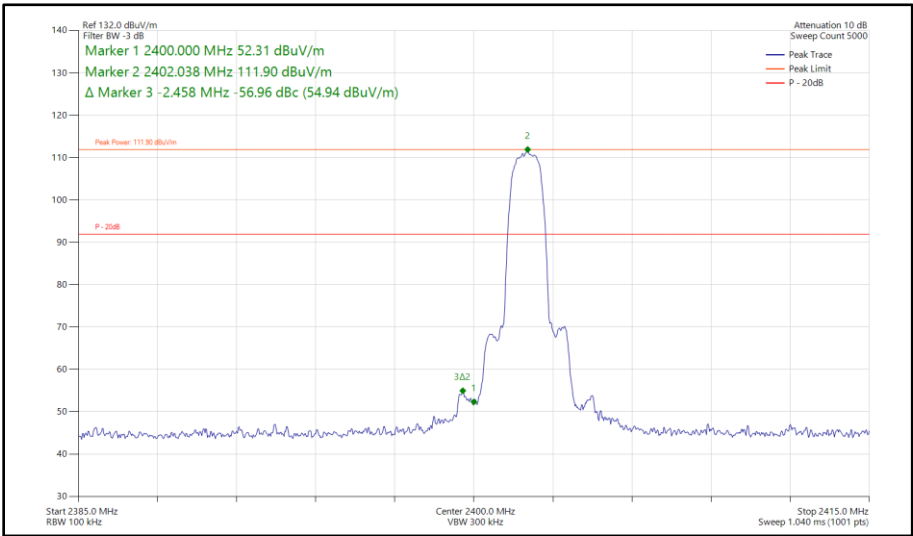


Figure 212 - Bluetooth 2-DH5, SISO, Core 1 - 2402 MHz  
Band Edge Frequency 2400 MHz

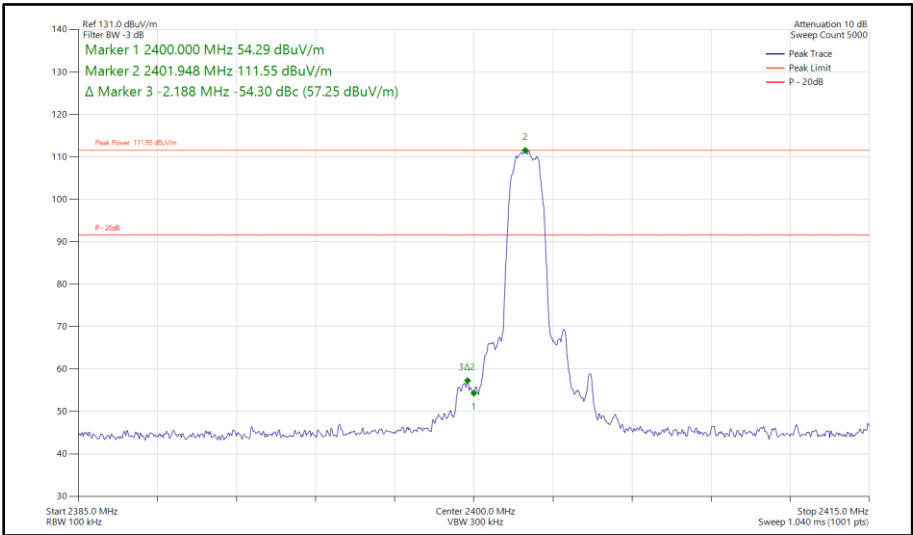


Figure 213 - Bluetooth 3-DH5, SISO, Core 1 - 2402 MHz  
Band Edge Frequency 2400 MHz

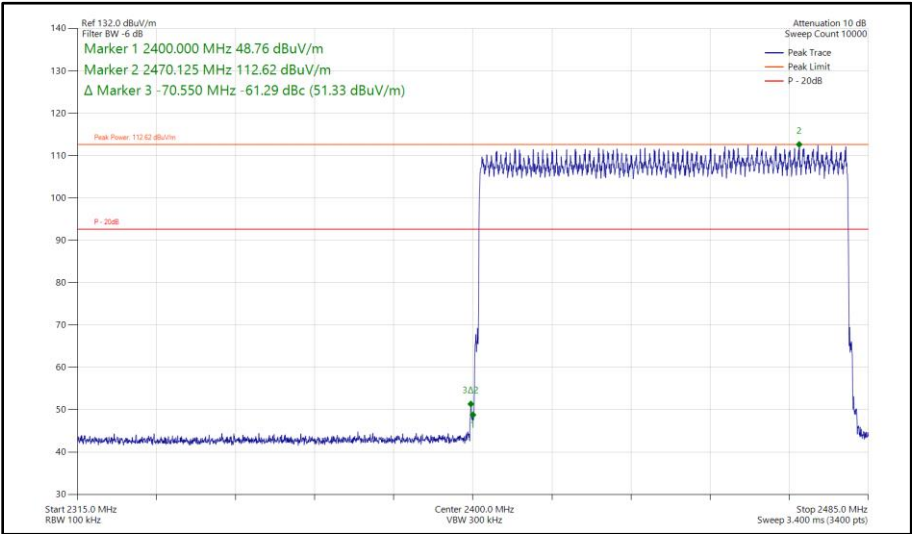


Figure 214 - Bluetooth 2-DH5, SISO, Core 1 - Hopping  
Band Edge Frequency 2400 MHz

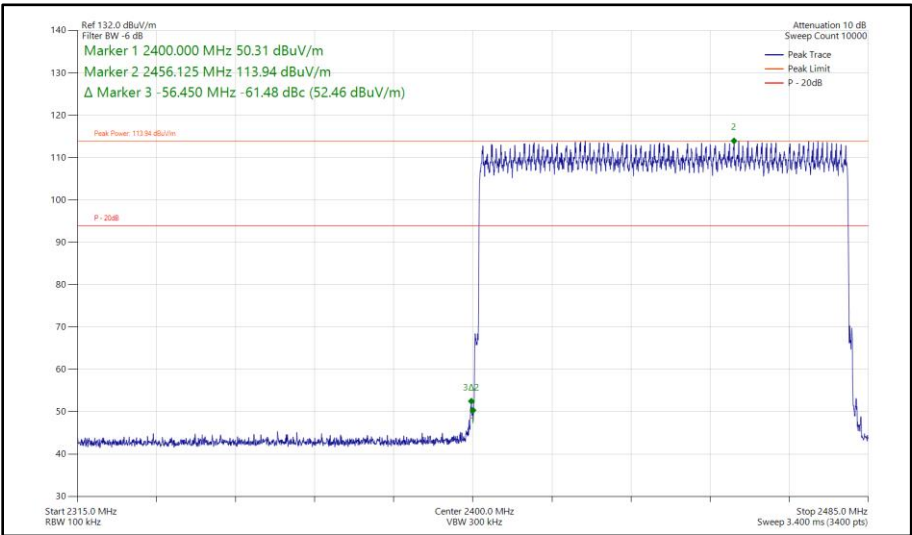


Figure 215 - Bluetooth 3-DH5, SISO, Core 1 - Hopping  
Band Edge Frequency 2400 MHz

ePA - Core 0 - Core 1 (MIMO)

| Mode    | Packet Type | TX Frequency (MHz) | Band Edge Frequency (MHz) | Level (dBc) |
|---------|-------------|--------------------|---------------------------|-------------|
| Static  | 2-DH5       | 2402               | 2400                      | -58.22      |
| Static  | 3-DH5       | 2402               | 2400                      | -54.34      |
| Hopping | 2-DH5       | Hopping            | 2400                      | -65.89      |
| Hopping | 3-DH5       | Hopping            | 2400                      | -62.47      |

Table 119 - MIMO Authorised Band Edge Results

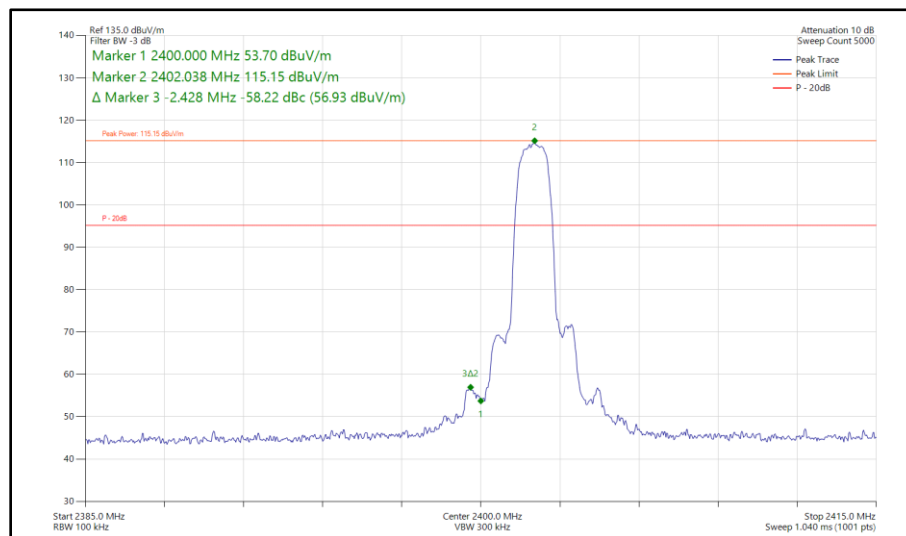


Figure 216 - Bluetooth 2-DH5, MIMO, Core 0 - Core 1 - 2402 MHz  
Band Edge Frequency 2400 MHz

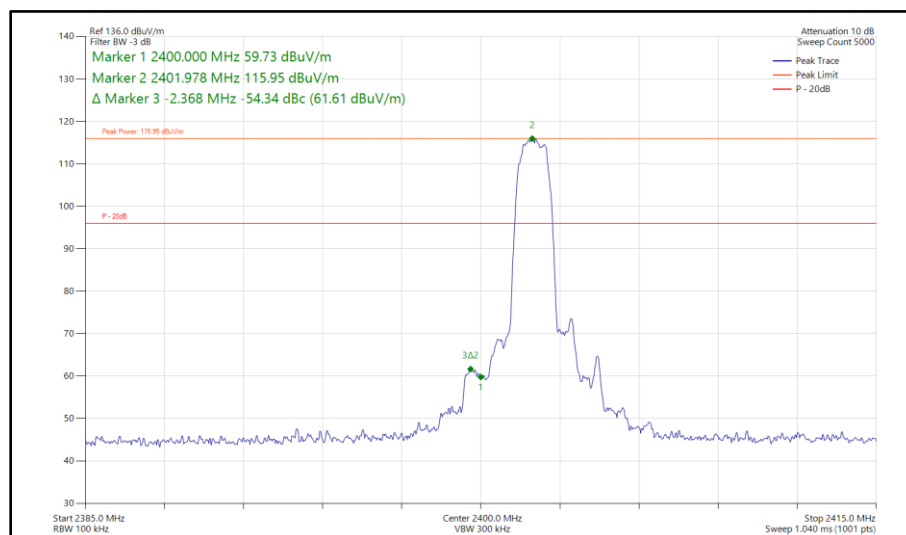


Figure 217 - Bluetooth 3-DH5, MIMO, Core 0 - Core 1 - 2402 MHz  
Band Edge Frequency 2400 MHz

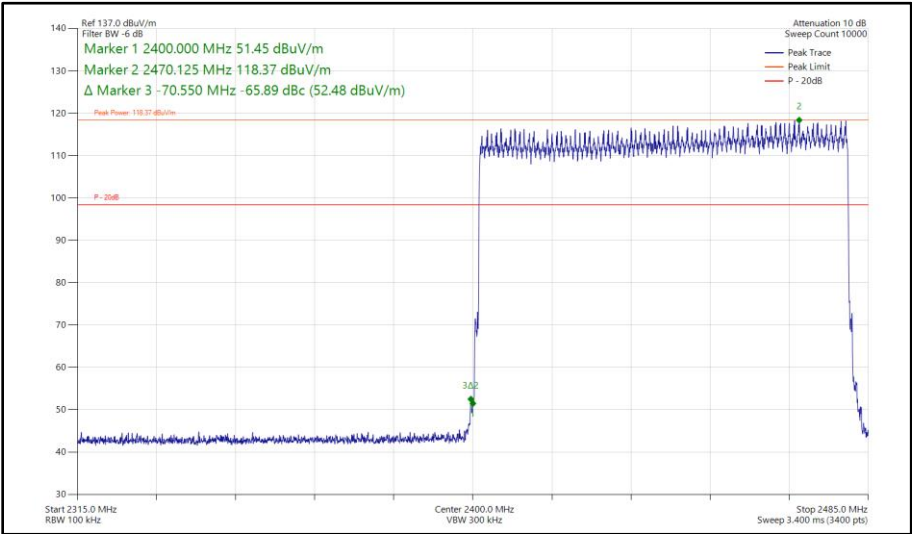


Figure 218 - Bluetooth 2-DH5, MIMO, Core 0 - Core 1 - Hopping Band Edge Frequency 2400 MHz

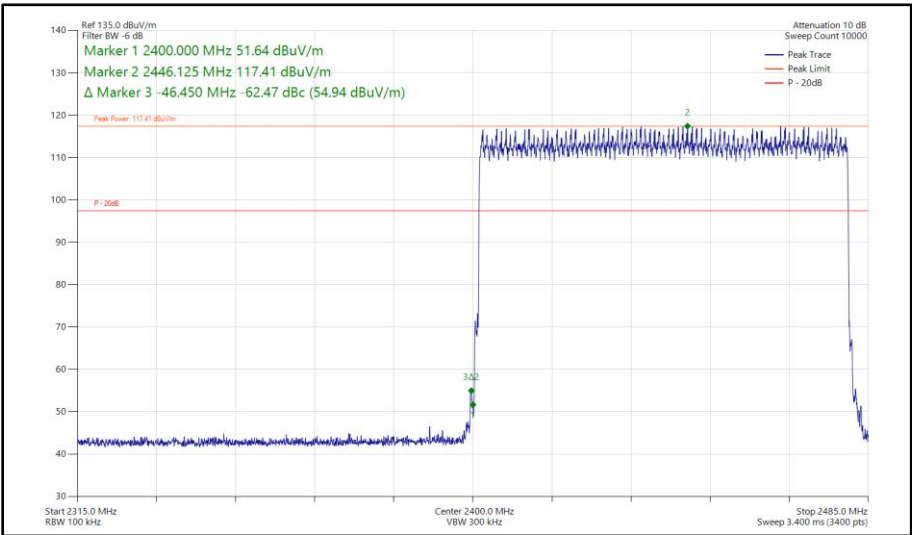


Figure 219 - Bluetooth 3-DH5, MIMO, Core 0 - Core 1 - Hopping Band Edge Frequency 2400 MHz



#### FCC 47 CFR Part 15, Limit Clause 15.247 (d)

20 dB below the fundamental measured in a 100 kHz bandwidth using a peak detector. If the transmitter complies with the conducted power limits, based on the use of RMS averaging over a time interval, the attenuation required shall be 30 dB below the fundamental instead of 20 dB.

#### ISED RSS-247, Limit Clause 5.5

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under Section 5.4(4), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

### **2.7.7 Test Location and Test Equipment Used**

This test was carried out in RF Chamber 14 and RF Chamber 15.

| Instrument                                       | Manufacturer       | Type No.             | TE No. | Calibration Period (months) | Calibration Expiry Date |
|--------------------------------------------------|--------------------|----------------------|--------|-----------------------------|-------------------------|
| Emissions Software                               | TUV SUD            | EmX V3.2.0           | 5125   | -                           | Software                |
| EMI Test Receiver                                | Rohde & Schwarz    | ESW44                | 5911   | 12                          | 11-Sep-2024             |
| EMI Test Receiver                                | Rohde & Schwarz    | ESW44                | 5912   | 12                          | 05-Jul-2024             |
| 1500W (300V 12A) AC Power Supply                 | iTech              | IT7324               | 5955   | -                           | O/P Mon                 |
| 1500W (300V 12A) AC Power Supply                 | iTech              | IT7324               | 5956   | -                           | O/P Mon                 |
| 5m Semi-Anechoic Chamber (Dual-Axis)             | Albatross Projects | RF Chamber 14        | 5958   | 36                          | 26-Apr-2025             |
| Compact Antenna Mast                             | Maturo Gmbh        | CAM4.0-P             | 5959   | -                           | TU                      |
| Mast & Turntable Controller                      | Maturo Gmbh        | FCU3.0               | 5960   | -                           | TU                      |
| Tilt Antenna Mast                                | Maturo Gmbh        | BAM4.5-P             | 5961   | -                           | TU                      |
| Turntable                                        | Maturo Gmbh        | TT1.5SI              | 5962   | -                           | TU                      |
| 5m Semi-Anechoic Chamber (Dual-Axis), Chamber 15 | Albatross Projects | RF Chamber 15        | 5963   | 36                          | 28-Apr-2025             |
| Compact Antenna Mast                             | Maturo Gmbh        | CAM4.0-P             | 5964   | -                           | TU                      |
| Mast & Turntable Controller                      | Maturo Gmbh        | FCU3.0               | 5966   | -                           | TU                      |
| Tilt Antenna Mast                                | Maturo Gmbh        | BAM4.5-P             | 5967   | -                           | TU                      |
| Turntable                                        | Maturo Gmbh        | TT1.5SI              | 5968   | -                           | TU                      |
| Cable (SMA to SMA 1m)                            | Junkosha           | MWX221-01000AMSAMS/A | 5996   | 12                          | 20-May-2025             |
| Cable (SMA to SMA 1m)                            | Junkosha           | MWX221-01000AMSAMS/A | 5997   | 12                          | 14-Sep-2024             |
| Cable (SMA to SMA 4.5m)                          | Junkosha           | MWX221-04500AMSAMS/A | 6002   | 12                          | 14-Sep-2024             |
| Cable (SMA to SMA 3m)                            | Junkosha           | MWX221-03000AMSAMS/A | 6021   | 12                          | 14-Sep-2024             |
| Horn Antenna (1-10 GHz)                          | Schwarzbeck        | BBHA9120B            | 6141   | 12                          | 05-May-2025             |



| Instrument                     | Manufacturer   | Type No.             | TE No. | Calibration Period (months) | Calibration Expiry Date |
|--------------------------------|----------------|----------------------|--------|-----------------------------|-------------------------|
| Horn Antenna (1-10 GHz)        | Schwarzbeck    | BBHA9120B            | 6142   | 12                          | 05-May-2025             |
| Digital Multimeter             | Fluke          | 115                  | 6145   | 12                          | 06-Jun-2025             |
| Digital Multimeter             | Fluke          | 115                  | 6147   | 12                          | 06-Jun-2025             |
| Humidity & Temperature meter   | R.S Components | 1364                 | 6149   | 12                          | 07-Jul-2024             |
| SAC Switch Unit                | TUV SUD        | TUV_SSU_001          | 6190   | 12                          | 22-Dec-2024             |
| Cable (SMA to SMA 3m)          | Junkosha       | MWX221-03000AMSAMS/A | 6316   | 12                          | 04-Feb-2025             |
| Humidity and Temperature Meter | R.S Components | 1364                 | 6486   | 12                          | 04-Jun-2025             |
| 1m Cable                       | Junkosha       | MWX241-01000AMSAMS/B | 6740   | 12                          | 01-Feb-2025             |
| 1m Cable                       | Junkosha       | MWX241-01000AMSAMS/B | 6741   | 12                          | 01-Feb-2025             |
| 6.5m Cable                     | Junkosha       | MWX221-06500AMSAMS/B | 6744   | 12                          | 01-Feb-2025             |

**Table 120**

TU - Traceability Unscheduled  
O/P Mon - Output Monitored using calibrated equipment



## **2.8 Spurious Radiated Emissions**

### **2.8.1 Specification Reference**

FCC 47 CFR Part 15C, Clause 15.209 and 15.247 (d)  
ISED RSS-247, Clause 3.3 and 5.5  
ISED RSS-GEN, Clause 6.13 and 8.9

### **2.8.2 Equipment Under Test and Modification State**

A3238, S/N: NQMK2V7Q9C - Modification State 0  
A3238, S/N: V4KFHR9J44 - Modification State 0

### **2.8.3 Date of Test**

15-June-2024 to 20-June-2024

### **2.8.4 Test Method**

This test was performed in accordance with ANSI C63.10, clause 6.3, 6.5 and 6.6.

The EUT was placed on the non-conducting platform in a manner typical of a normal installation.

In the 30 MHz to 1 GHz range pre-scans were only performed on the mid channel (2441 MHz) only.

The plots shown are the characterisation of the EUT. The limits on the plots represent the most stringent case for restricted bands, (74/54 dBuV/m) when compared to 20 dBc outside restricted bands. The limits shown have been used as a threshold to determine where further measurements are necessary. Where results are within 20 dB of the limits shown on the plots, further investigation was carried out and reported in results tables.

Ports on the EUT were terminated with loads as described in ANSI C63.4 clause 6.2.4. For EUT's with multiple connectors of the same type, additional interconnecting cables were connected, and pre-scans performed to determine whether the level of the emissions were increased by >2 dB.

The following conversion can be applied to convert from dBuV/m to uV/m:  
 $10^{(\text{Field Strength in dBuV/m}/20)}$

Above 18 GHz, the measurement distance was reduced to 1 m. The limit line was increased by  $20 \cdot \text{LOG}(3/1) = 9.54$  dB.

Where formal measurements have been necessary, the results have been presented in the emissions table.

Radiated spurious emissions tests have been conducted in DH5 (high power) mode as this represents worst case with respect to Power and PSD.

