



| Test Configuration       |                                                     |                 |                 |
|--------------------------|-----------------------------------------------------|-----------------|-----------------|
| Frequency Range:         | 2400-2483.5 MHz                                     | Band:           | 2.4 GHz         |
| Limit Clause(s):         | 15.247 (b)(3)<br>RSS-247 5.4 d)                     | Test Method(s): | C63.10 11.9.1.2 |
| Additional Reference(s): | 662911 D01 v02r01 F)2)d)(i), 662911 D01 v02r01 E)1) |                 |                 |

| DUT Configuration      |                           |                          |      |
|------------------------|---------------------------|--------------------------|------|
| Mode:                  | iPA $\pi/4$ DQPSK (4-DH5) | Duty Cycle (%):          | 78.1 |
| Antenna Configuration: | Beamforming               | DCCF (dB):               | -    |
| Active Port(s):        | A+B (Core 0 + Core 1)     | Peak Antenna Gain (dBi): | 7.66 |

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |      |   |   |          | Limit (dBm) | Margin (dB) |
|----------------------|--------------------------------------|------|---|---|----------|-------------|-------------|
|                      | A                                    | B    | C | D | $\Sigma$ |             |             |
| 2404                 | 9.08                                 | 8.93 | - | - | 12.02    | 28.34       | -16.32      |
| 2441                 | 8.56                                 | 8.99 | - | - | 11.79    | 28.34       | -16.55      |
| 2476                 | 8.91                                 | 8.86 | - | - | 11.90    | 28.34       | -16.44      |

**Table 81 - 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 | $\Sigma$ |             |             |            |                  |                  |
| 2404                 | 9.08                                 | 8.93 | - | - | 12.02    | 30.00       | -17.98      | 19.68      | 36.00            | -16.32           |
| 2441                 | 8.56                                 | 8.99 | - | - | 11.79    | 30.00       | -18.21      | 19.45      | 36.00            | -16.55           |
| 2476                 | 8.91                                 | 8.86 | - | - | 11.90    | 30.00       | -18.10      | 19.56      | 36.00            | -16.44           |

**Table 82 - 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)(3)<br>RSS-247 5.4 d)                     | Test Method(s): | C63.10 11.9.1.2 |
| Additional Reference(s): | 662911 D01 v02r01 F)2)d)(i), 662911 D01 v02r01 E)1) |                 |                 |

| DUT Configuration      |                           |                          |      |
|------------------------|---------------------------|--------------------------|------|
| Mode:                  | iPA $\pi/4$ DQPSK (8-DH5) | Duty Cycle (%):          | 78.2 |
| Antenna Configuration: | Beamforming               | DCCF (dB):               | -    |
| Active Port(s):        | A+B (Core 0 + Core 1)     | Peak Antenna Gain (dBi): | 7.66 |

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |      |   |   |          | Limit (dBm) | Margin (dB) |
|----------------------|--------------------------------------|------|---|---|----------|-------------|-------------|
|                      | A                                    | B    | C | D | $\Sigma$ |             |             |
| 2404                 | 8.94                                 | 8.19 | - | - | 11.59    | 28.34       | -16.75      |
| 2441                 | 8.94                                 | 8.68 | - | - | 11.82    | 28.34       | -16.52      |
| 2476                 | 9.27                                 | 8.66 | - | - | 11.99    | 28.34       | -16.35      |

**Table 83 - 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 | $\Sigma$ |             |             |            |                  |                  |
| 2404                 | 8.94                                 | 8.19 | - | - | 11.59    | 30.00       | -18.41      | 19.25      | 36.00            | -16.75           |
| 2441                 | 8.94                                 | 8.68 | - | - | 11.82    | 30.00       | -18.18      | 19.48      | 36.00            | -16.52           |
| 2476                 | 9.27                                 | 8.66 | - | - | 11.99    | 30.00       | -18.01      | 19.65      | 36.00            | -16.35           |

**Table 84 - 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)(3)<br>RSS-247 5.4 d)                     | Test Method(s): | C63.10 11.9.1.2 |
| Additional Reference(s): | 662911 D01 v02r01 F)2)d)(i), 662911 D01 v02r01 E)1) |                 |                 |

| DUT Configuration      |                       |                          |      |
|------------------------|-----------------------|--------------------------|------|
| Mode:                  | iPA GFSK (LE 1M)      | Duty Cycle (%):          | 60.4 |
| Antenna Configuration: | Beamforming           | DCCF (dB):               | -    |
| Active Port(s):        | A+B (Core 0 + Core 1) | Peak Antenna Gain (dBi): | 7.66 |

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |      |   |   |          | Limit (dBm) | Margin (dB) |
|----------------------|--------------------------------------|------|---|---|----------|-------------|-------------|
|                      | A                                    | B    | C | D | $\Sigma$ |             |             |
| 2402                 | 7.82                                 | 8.38 | - | - | 11.12    | 28.34       | -17.29      |
| 2440                 | 7.84                                 | 8.24 | - | - | 11.05    | 28.34       | -17.22      |
| 2480                 | 7.75                                 | 7.80 | - | - | 10.79    | 28.34       | -17.55      |

**Table 85 - 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                 | 7.82                                 | 8.38 | - | - | 11.12    | 30.00       | -18.88      | 18.78      | 36.00            | -17.22           |
| 2440                 | 7.84                                 | 8.24 | - | - | 11.05    | 30.00       | -18.95      | 18.71      | 36.00            | -17.29           |
| 2480                 | 7.75                                 | 7.80 | - | - | 10.79    | 30.00       | -19.21      | 18.45      | 36.00            | -17.55           |

**Table 86 - 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)(3)<br>RSS-247 5.4 d)                     | Test Method(s): | C63.10 11.9.1.2 |
| Additional Reference(s): | 662911 D01 v02r01 F)2)d)(i), 662911 D01 v02r01 E)1) |                 |                 |

| DUT Configuration      |                       |                          |      |
|------------------------|-----------------------|--------------------------|------|
| Mode:                  | iPA GFSK (LE 2M)      | Duty Cycle (%):          | 31.3 |
| Antenna Configuration: | Beamforming           | DCCF (dB):               | -    |
| Active Port(s):        | A+B (Core 0 + Core 1) | Peak Antenna Gain (dBi): | 7.66 |

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |      |   |   |          | Limit (dBm) | Margin (dB) |
|----------------------|--------------------------------------|------|---|---|----------|-------------|-------------|
|                      | A                                    | B    | C | D | $\Sigma$ |             |             |
| 2402                 | 7.64                                 | 8.33 | - | - | 11.01    | 28.34       | -17.33      |
| 2440                 | 7.91                                 | 8.28 | - | - | 11.11    | 28.34       | -17.23      |
| 2480                 | 7.81                                 | 7.98 | - | - | 10.91    | 28.34       | -17.43      |

**Table 87 - 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                 | 7.64                                 | 8.33 | - | - | 11.01    | 30.00       | -18.99      | 18.67      | 36.00            | -17.33           |
| 2440                 | 7.91                                 | 8.28 | - | - | 11.11    | 30.00       | -18.89      | 18.77      | 36.00            | -17.23           |
| 2480                 | 7.81                                 | 7.98 | - | - | 10.91    | 30.00       | -19.09      | 18.57      | 36.00            | -17.43           |

**Table 88 - 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)(3)<br>RSS-247 5.4 d)                     | Test Method(s): | C63.10 11.9.1.2 |
| Additional Reference(s): | 662911 D01 v02r01 F)2)d)(i), 662911 D01 v02r01 E)1) |                 |                 |

| DUT Configuration      |                           |                          |      |
|------------------------|---------------------------|--------------------------|------|
| Mode:                  | ePA $\pi/4$ DQPSK (4-DH5) | Duty Cycle (%):          | 78.1 |
| Antenna Configuration: | Beamforming               | DCCF (dB):               | -    |
| Active Port(s):        | A+B (Core 0 + Core 1)     | Peak Antenna Gain (dBi): | 7.66 |

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |       |   |   |          | Limit (dBm) | Margin (dB) |
|----------------------|--------------------------------------|-------|---|---|----------|-------------|-------------|
|                      | A                                    | B     | C | D | $\Sigma$ |             |             |
| 2404                 | 16.73                                | 16.97 | - | - | 19.86    | 28.34       | -8.48       |
| 2441                 | 16.84                                | 18.04 | - | - | 20.49    | 28.34       | -7.85       |
| 2476                 | 17.30                                | 17.85 | - | - | 20.60    | 28.34       | -7.74       |

**Table 89 - 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 | $\Sigma$ |             |             |            |                  |                  |
| 2404                 | 16.73                                | 16.97 | - | - | 19.86    | 30.00       | -10.14      | 27.52      | 36.00            | -8.48            |
| 2441                 | 16.84                                | 18.04 | - | - | 20.49    | 30.00       | -9.51       | 28.15      | 36.00            | -7.85            |
| 2476                 | 17.30                                | 17.85 | - | - | 20.60    | 30.00       | -9.40       | 28.26      | 36.00            | -7.74            |

**Table 90 - 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)(3)<br>RSS-247 5.4 d)                     | Test Method(s): | C63.10 11.9.1.2 |
| Additional Reference(s): | 662911 D01 v02r01 F)2)d)(i), 662911 D01 v02r01 E)1) |                 |                 |

| DUT Configuration      |                           |                          |      |
|------------------------|---------------------------|--------------------------|------|
| Mode:                  | ePA $\pi/4$ DQPSK (8-DH5) | Duty Cycle (%):          | 78.2 |
| Antenna Configuration: | Beamforming               | DCCF (dB):               | -    |
| Active Port(s):        | A+B (Core 0 + Core 1)     | Peak Antenna Gain (dBi): | 7.66 |

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |       |   |   |          | Limit (dBm) | Margin (dB) |
|----------------------|--------------------------------------|-------|---|---|----------|-------------|-------------|
|                      | A                                    | B     | C | D | $\Sigma$ |             |             |
| 2404                 | 15.91                                | 15.35 | - | - | 18.65    | 28.34       | -9.69       |
| 2441                 | 15.64                                | 15.94 | - | - | 18.80    | 28.34       | -9.54       |
| 2476                 | 15.87                                | 15.47 | - | - | 18.68    | 28.34       | -9.65       |

**Table 91 - 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 | $\Sigma$ |             |             |            |                  |                  |
| 2404                 | 15.91                                | 15.35 | - | - | 18.65    | 30.00       | -11.35      | 26.31      | 36.00            | -9.69            |
| 2441                 | 15.64                                | 15.94 | - | - | 18.80    | 30.00       | -11.20      | 26.46      | 36.00            | -9.54            |
| 2476                 | 15.87                                | 15.47 | - | - | 18.68    | 30.00       | -11.32      | 26.35      | 36.00            | -9.65            |

**Table 92 - 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)(3)<br>RSS-247 5.4 d)                     | Test Method(s): | C63.10 11.9.1.2 |
| Additional Reference(s): | 662911 D01 v02r01 F)2)d)(i), 662911 D01 v02r01 E)1) |                 |                 |

| DUT Configuration      |                       |                          |      |
|------------------------|-----------------------|--------------------------|------|
| Mode:                  | ePA GFSK (LE 1M)      | Duty Cycle (%):          | 60.5 |
| Antenna Configuration: | Beamforming           | DCCF (dB):               | -    |
| Active Port(s):        | A+B (Core 0 + Core 1) | Peak Antenna Gain (dBi): | 7.66 |

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |       |   |   |          | Limit (dBm) | Margin (dB) |
|----------------------|--------------------------------------|-------|---|---|----------|-------------|-------------|
|                      | A                                    | B     | C | D | $\Sigma$ |             |             |
| 2402                 | 16.84                                | 17.00 | - | - | 19.93    | 28.34       | -8.41       |
| 2440                 | 17.06                                | 16.41 | - | - | 19.76    | 28.34       | -8.58       |
| 2480                 | 16.63                                | 16.28 | - | - | 19.47    | 28.34       | -8.87       |

**Table 93 - 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                 | 16.84                                | 17.00 | - | - | 19.93    | 30.00       | -10.07      | 27.59      | 36.00            | -8.41            |
| 2440                 | 17.06                                | 16.41 | - | - | 19.76    | 30.00       | -10.24      | 27.42      | 36.00            | -8.58            |
| 2480                 | 16.63                                | 16.28 | - | - | 19.47    | 30.00       | -10.53      | 27.13      | 36.00            | -8.87            |

**Table 94 - 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)(3)<br>RSS-247 5.4 d)                     | Test Method(s): | C63.10 11.9.1.2 |
| Additional Reference(s): | 662911 D01 v02r01 F)2)d)(i), 662911 D01 v02r01 E)1) |                 |                 |

| DUT Configuration      |                       |                          |      |
|------------------------|-----------------------|--------------------------|------|
| Mode:                  | ePA GFSK (LE 2M)      | Duty Cycle (%):          | 31.3 |
| Antenna Configuration: | Beamforming           | DCCF (dB):               | -    |
| Active Port(s):        | A+B (Core 0 + Core 1) | Peak Antenna Gain (dBi): | 7.66 |

| Test Frequency (MHz) | Maximum Conducted Output Power (dBm) |       |   |   |          | Limit (dBm) | Margin (dB) |
|----------------------|--------------------------------------|-------|---|---|----------|-------------|-------------|
|                      | A                                    | B     | C | D | $\Sigma$ |             |             |
| 2402                 | 17.46                                | 17.82 | - | - | 20.65    | 28.34       | -7.69       |
| 2440                 | 16.89                                | 16.38 | - | - | 19.65    | 28.34       | -8.69       |
| 2480                 | 16.84                                | 16.54 | - | - | 19.70    | 28.34       | -8.64       |

**Table 95 - 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                 | 17.46                                | 17.82 | - | - | 20.65    | 30.00       | -9.35       | 28.29      | 36.00            | -7.69            |
| 2440                 | 16.89                                | 16.38 | - | - | 19.65    | 30.00       | -10.35      | 27.30      | 36.00            | -8.69            |
| 2480                 | 16.84                                | 16.54 | - | - | 19.70    | 30.00       | -10.30      | 27.34      | 36.00            | -8.64            |

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

FCC 47 CFR Part 15, Limit Clause 15.247 (b)(3)

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt.

### 2.3.7 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                 |
| 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             |
| 1500VA AC Power Supply       | iTech        | IT7324   | 5907   | -                           | O/P Mon                 |



| Instrument                       | Manufacturer | Type No.        | TE No. | Calibration Period (months) | Calibration Expiry Date |
|----------------------------------|--------------|-----------------|--------|-----------------------------|-------------------------|
| USB Power Sensors, 50MHz to 8GHz | Boonton      | RTP5008         | 5921   | 12                          | 05-Feb-2025             |
| USB Power Sensors, 50MHz to 8GHz | Boonton      | RTP5008         | 5922   | 12                          | 05-Feb-2025             |
| USB Power Sensors, 50MHz to 8GHz | Boonton      | RTP5008         | 5923   | 12                          | 05-Feb-2025             |
| 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 | 6517   | 12                          | 22-Feb-2025             |
| Signal Conditioning Unit         | TUV SUD      | SPECTRUM_SCU001 | 6518   | 12                          | 16-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 | 6526   | 12                          | 22-Feb-2025             |
| SCU Cable Assembly               | TUV SUD      | SPECTRUM_SCU_CA | 6527   | 12                          | 05-Mar-2025             |
| SCU Cable Assembly               | TUV SUD      | SPECTRUM_SCU_CA | 6528   | 12                          | 22-Feb-2025             |
| SCU Cable Assembly               | TUV SUD      | SPECTRUM_SCU_CA | 6529   | 12                          | 16-Feb-2025             |
| SCU Cable Assembly               | TUV SUD      | SPECTRUM_SCU_CA | 6530   | 12                          | 16-Feb-2025             |
| SCU Cable Assembly               | TUV SUD      | SPECTRUM_SCU_CA | 6531   | 12                          | 16-Feb-2025             |
| USB Wideband Power Sensor        | Boonton      | RTP5008         | 6585   | 12                          | 20-Feb-2025             |
| USB Wideband Power Sensor        | Boonton      | RTP5008         | 6586   | 12                          | 20-Feb-2025             |
| USB Wideband Power Sensor        | Boonton      | RTP5008         | 6587   | 12                          | 13-Feb-2025             |
| USB Wideband Power Sensor        | Boonton      | RTP5008         | 6588   | 12                          | 13-Feb-2025             |
| USB Wideband Power Sensor        | Boonton      | RTP5008         | 6589   | 12                          | 13-Feb-2025             |
| USB Wideband Power Sensor        | Boonton      | RTP5008         | 6590   | 12                          | 20-Feb-2025             |
| AC Programmable Power Supply     | iTech        | IT7324          | 6662   | -                           | O/P Mon                 |
| AC Programmable Power Supply     | iTech        | IT7324          | 6665   | -                           | O/P Mon                 |
| 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 SCU           | TUV SUD      | SPECTRUM_SCU_CA | 6754   | 0                           | 06-Feb-2025             |

**Table 97**

O/P Mon - Output Monitored using calibrated equipment



## **2.4 Authorised Band Edges**

### **2.4.1 Specification Reference**

FCC 47 CFR Part 15C, Clause 15.247 (d)

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

A3185, S/N: KXCL61LP9Q - Modification State 0  
A3185, S/N: FWGHH4D25Q - Modification State 0

### **2.4.3 Date of Test**

02-August-2024 to 08-August-2024

### **2.4.4 Test Method**

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

### **2.4.5 Environmental Conditions**

|                     |                |
|---------------------|----------------|
| Ambient Temperature | 22.2 - 23.1 °C |
| Relative Humidity   | 41.2 - 63.9 %  |



2.4.6 Test Results

2.4 GHz Bluetooth LE/HDR

iPA - Core 0 (SISO)

| Mode   | Packet Type | TX Frequency (MHz) | Band Edge Frequency (MHz) | Level (dBc) |
|--------|-------------|--------------------|---------------------------|-------------|
| Static | HDR4        | 2404               | 2400                      | -55.01      |
| Static | HDR8        | 2404               | 2400                      | -45.72      |
| Static | LE1M        | 2402               | 2400                      | -64.39      |
| Static | LE2M        | 2402               | 2400                      | -32.35      |

Table 98 - SISO Authorised Band Edge Results

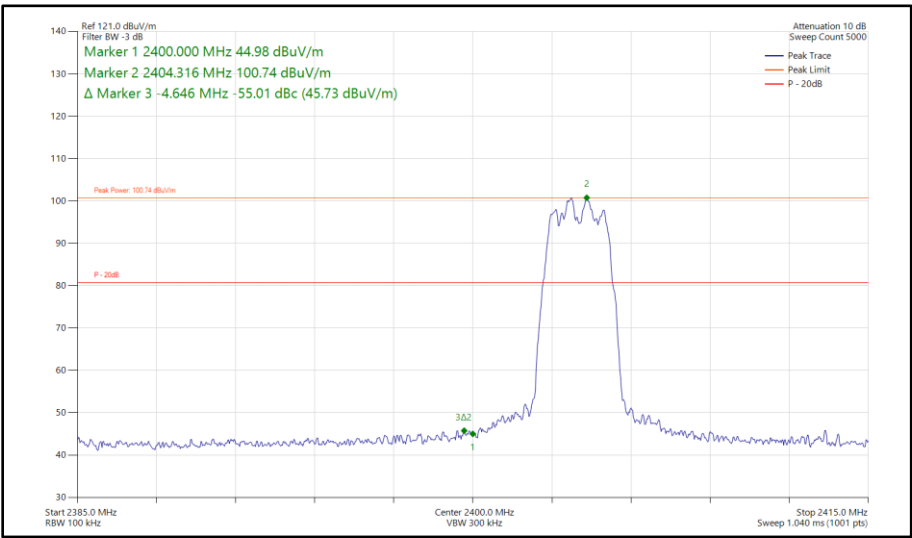


Figure 232 - Bluetooth HDR4, SISO, Core 0 - 2404 MHz  
Band Edge Frequency 2400 MHz

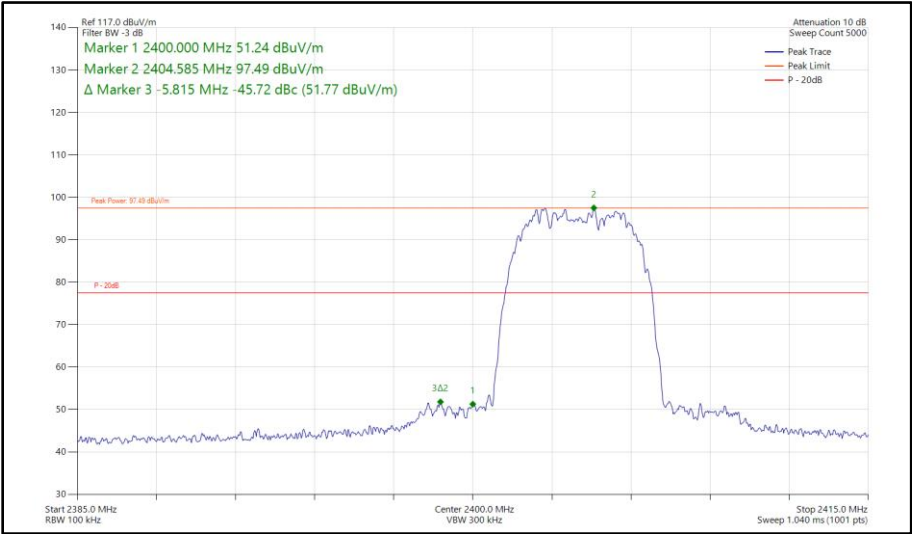


Figure 233 - Bluetooth HDR, SISO, Core 0 - 2404 MHz  
Band Edge Frequency 2400 MHz

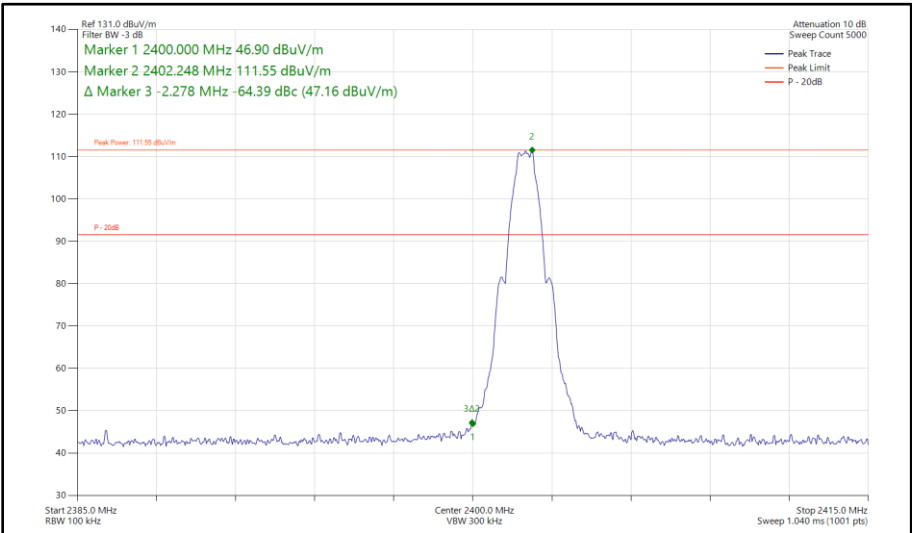


Figure 234 - Bluetooth LE1M, SISO, Core 0 - 2402 MHz  
Band Edge Frequency 2400 MHz

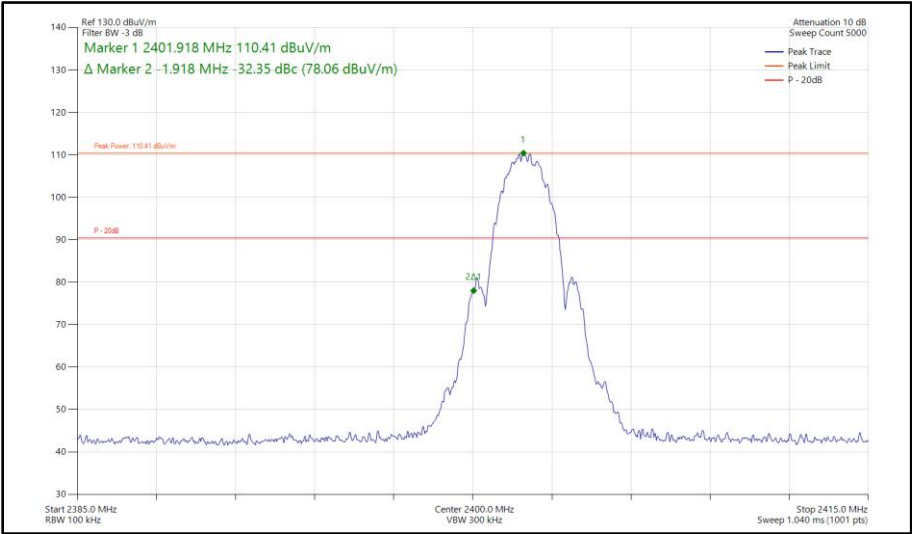


Figure 235 - Bluetooth LE2M, SISO, Core 0 - 2402 MHz  
Band Edge Frequency 2400 MHz

iPA - Core 1 (SISO)

| Mode   | Packet Type | TX Frequency (MHz) | Band Edge Frequency (MHz) | Level (dBc) |
|--------|-------------|--------------------|---------------------------|-------------|
| Static | HDR4        | 2404               | 2400                      | -54.79      |
| Static | HDR8        | 2404               | 2400                      | -48.01      |
| Static | LE1M        | 2402               | 2400                      | -61.93      |
| Static | LE2M        | 2402               | 2400                      | -34.99      |

Table 99 - SISO Authorised Band Edge Results

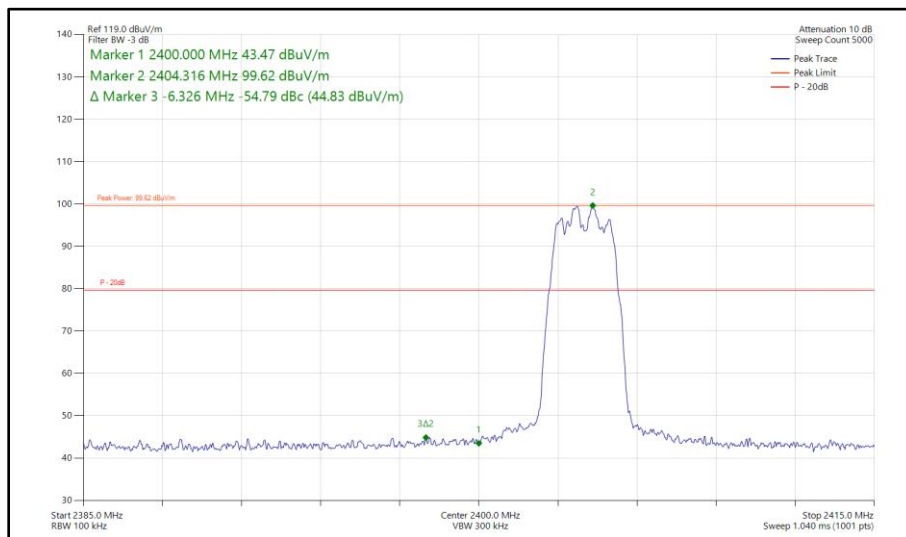


Figure 236 - Bluetooth HDR4, SISO, Core 1 - 2404 MHz  
Band Edge Frequency 2400 MHz

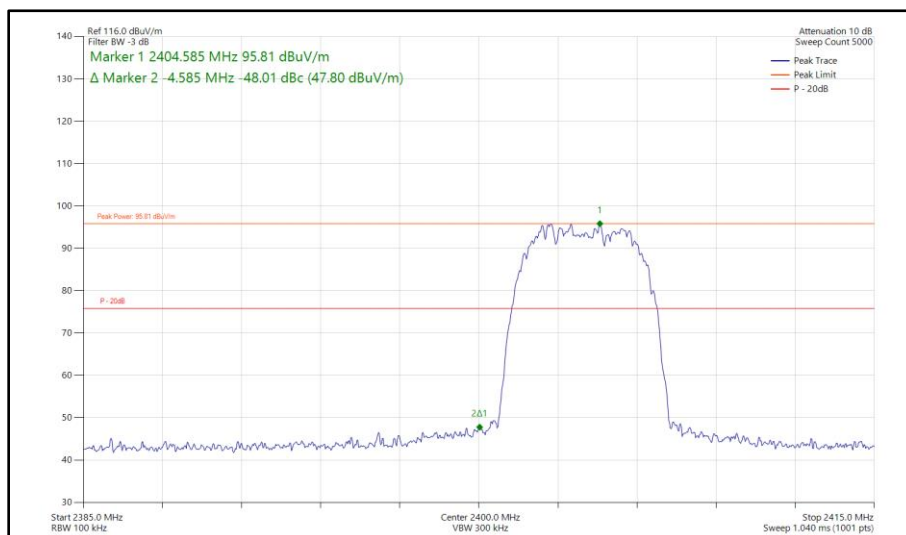


Figure 237 - Bluetooth HDR8, SISO, Core 1 - 2404 MHz  
Band Edge Frequency 2400 MHz

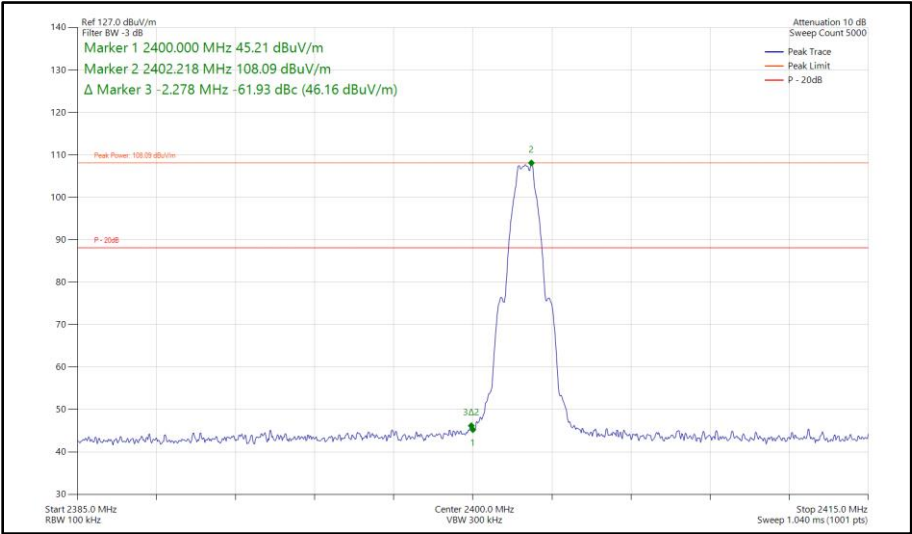


Figure 238 - Bluetooth LE1M, SISO, Core 1 - 2402 MHz  
Band Edge Frequency 2400 MHz

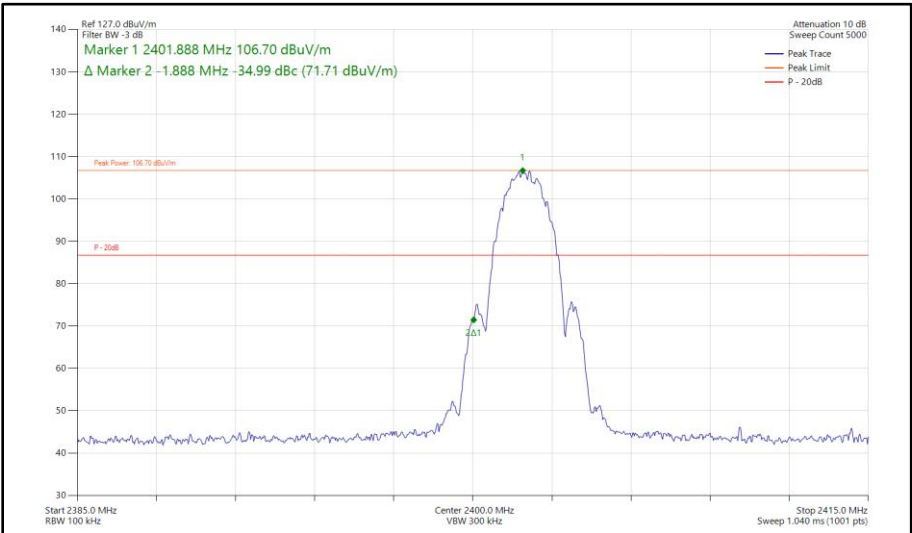


Figure 239 - Bluetooth LE2M, SISO, Core 1 - 2402 MHz  
Band Edge Frequency 2400 MHz

iPA - Core 2 (SISO)

| Mode   | Packet Type | TX Frequency (MHz) | Band Edge Frequency (MHz) | Level (dBc) |
|--------|-------------|--------------------|---------------------------|-------------|
| Static | HDR4        | 2404               | 2400                      | -56.35      |
| Static | HDR8        | 2404               | 2400                      | -43.28      |
| Static | LE1M        | 2402               | 2400                      | -64.09      |
| Static | LE2M        | 2402               | 2400                      | -31.61      |

Table 100 - SISO Authorised Band Edge Results

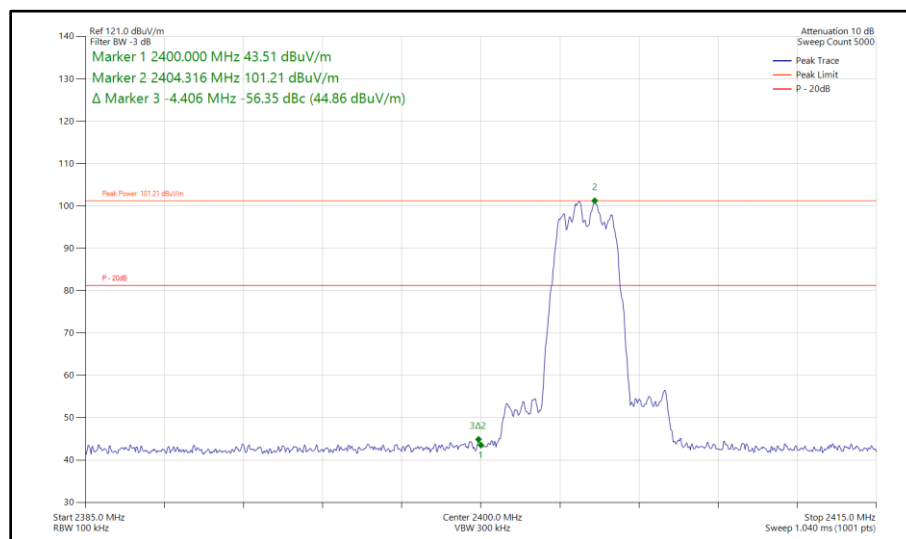


Figure 240 - Bluetooth HDR4, SISO, Core 2 - 2404 MHz  
Band Edge Frequency 2400 MHz

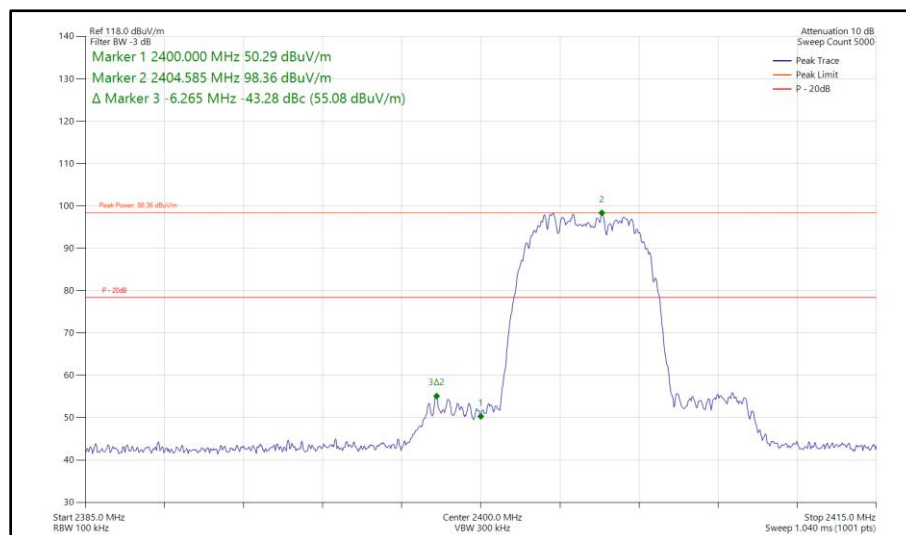


Figure 241 - Bluetooth HDR8, SISO, Core 2 - 2404 MHz  
Band Edge Frequency 2400 MHz

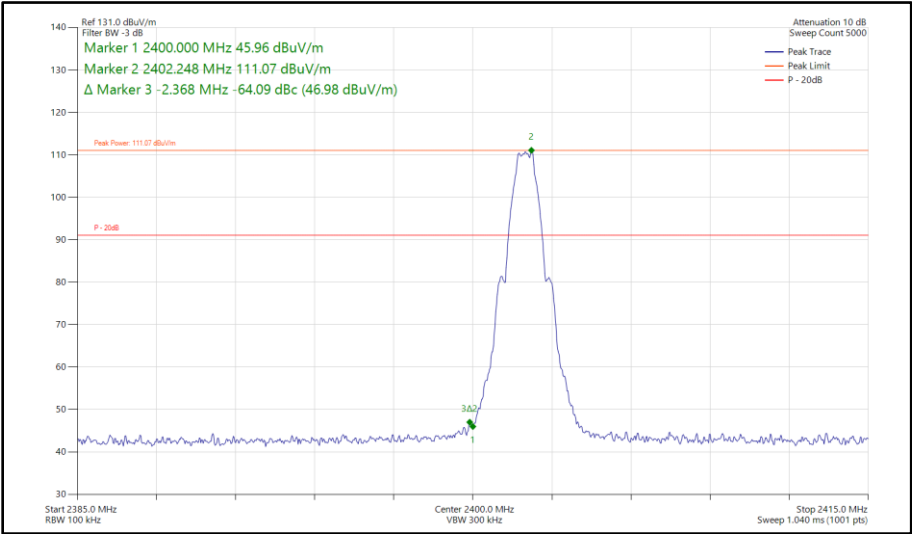


Figure 242 - Bluetooth LE1M, SISO, Core 2 - 2402 MHz  
Band Edge Frequency 2400 MHz

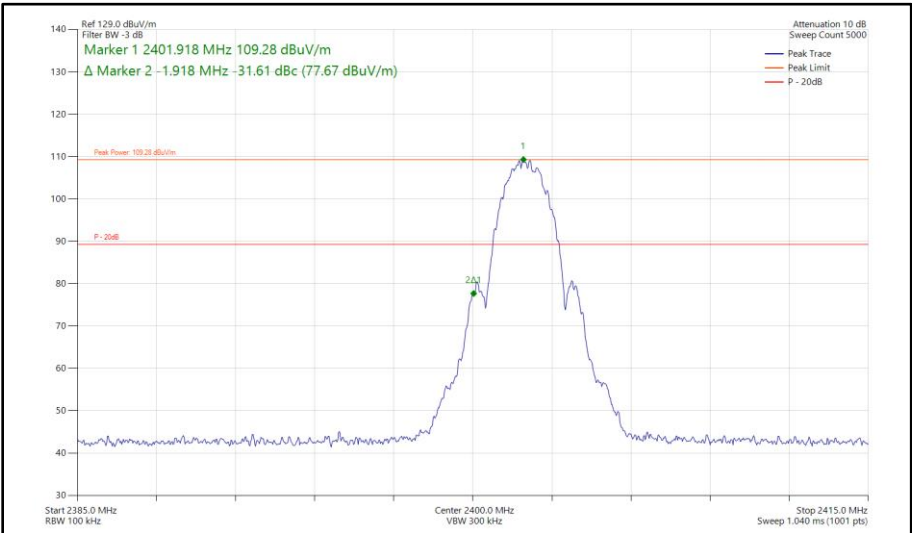


Figure 243 - Bluetooth LE2M, SISO, Core 2 - 2402 MHz  
Band Edge Frequency 2400 MHz

iPA - Core 0 - Core 1 (MIMO)

| Mode   | Packet Type | TX Frequency (MHz) | Band Edge Frequency (MHz) | Level (dBc) |
|--------|-------------|--------------------|---------------------------|-------------|
| Static | HDR4        | 2404               | 2400                      | -57.87      |
| Static | HDR8        | 2404               | 2400                      | -49.17      |
| Static | LE1M        | 2402               | 2400                      | -66.77      |
| Static | LE2M        | 2402               | 2400                      | -33.49      |

Table 101 - MIMO Authorised Band Edge Results

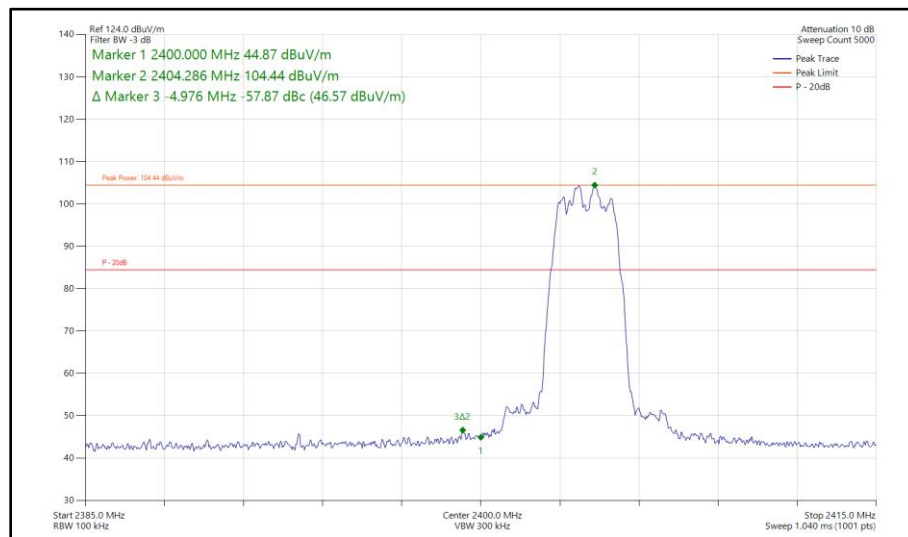


Figure 244 - Bluetooth HDR4, MIMO, Core 0 - Core 1 - 2404 MHz  
Band Edge Frequency 2400 MHz

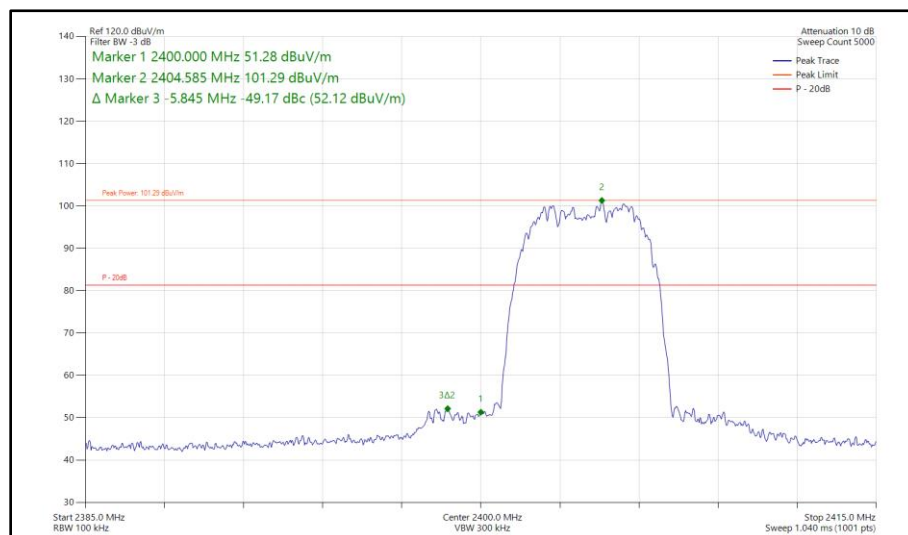


Figure 245 - Bluetooth HDR8, MIMO, Core 0 - Core 1 - 2404 MHz  
Band Edge Frequency 2400 MHz

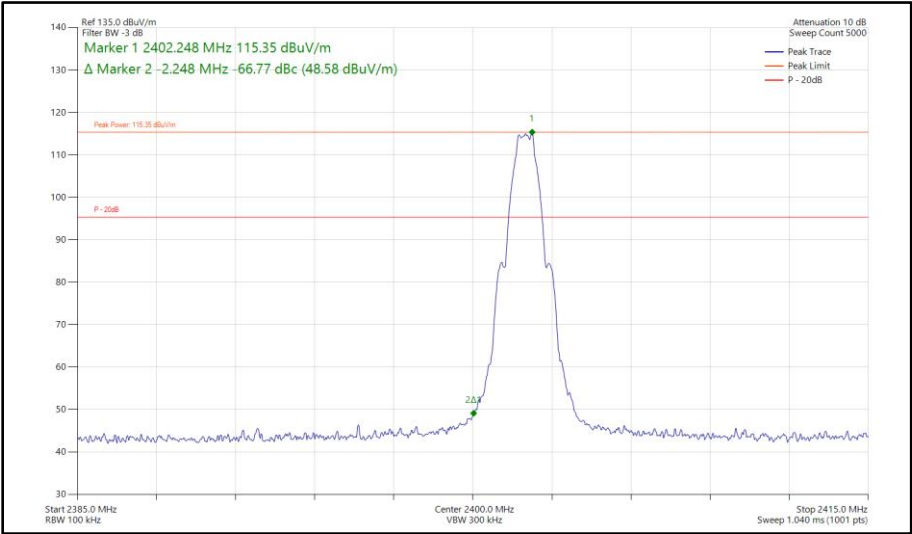


Figure 246 - Bluetooth LE1M, MIMO, Core 0 - Core 1 - 2402 MHz  
Band Edge Frequency 2400 MHz

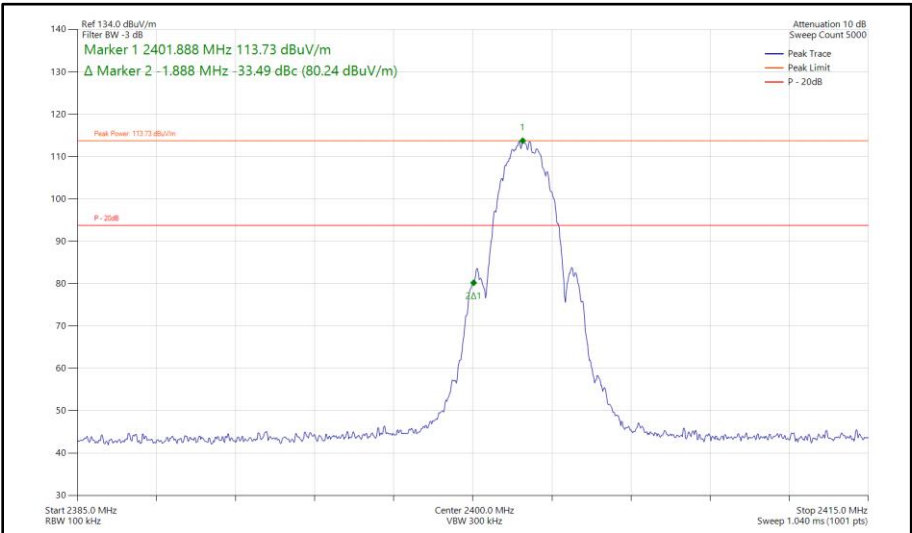


Figure 247 - Bluetooth LE2M, MIMO, Core 0 - Core 1 - 2402 MHz  
Band Edge Frequency 2400 MHz

ePA - Core 0 (SISO)

| Mode   | Packet Type | TX Frequency (MHz) | Band Edge Frequency (MHz) | Level (dBc) |
|--------|-------------|--------------------|---------------------------|-------------|
| Static | HDR4        | 2404               | 2400                      | -58.28      |
| Static | HDR8        | 2404               | 2400                      | -44.66      |
| Static | LE1M        | 2402               | 2400                      | -64.82      |
| Static | LE2M        | 2402               | 2400                      | -34.56      |

Table 102 - SISO Authorised Band Edge Results

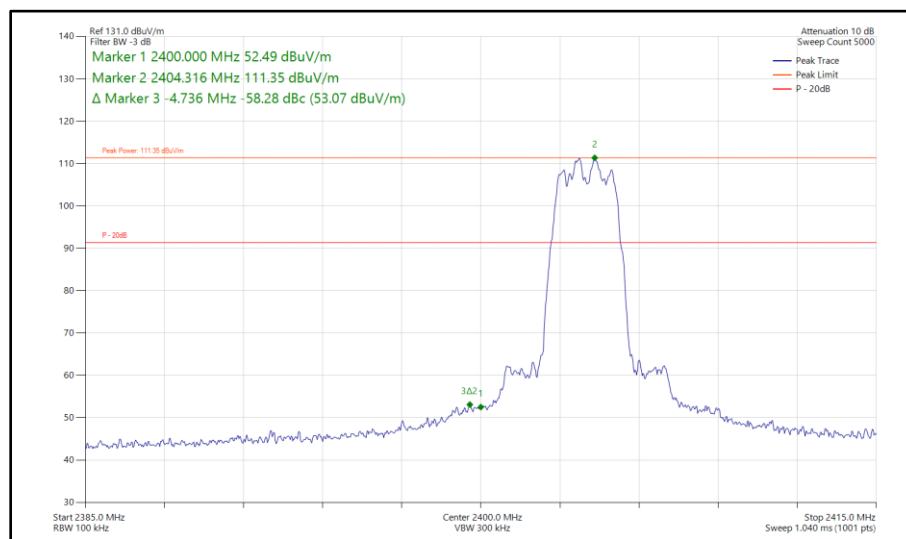


Figure 248 - Bluetooth HDR4, SISO, Core 0 - 2404 MHz  
Band Edge Frequency 2400 MHz

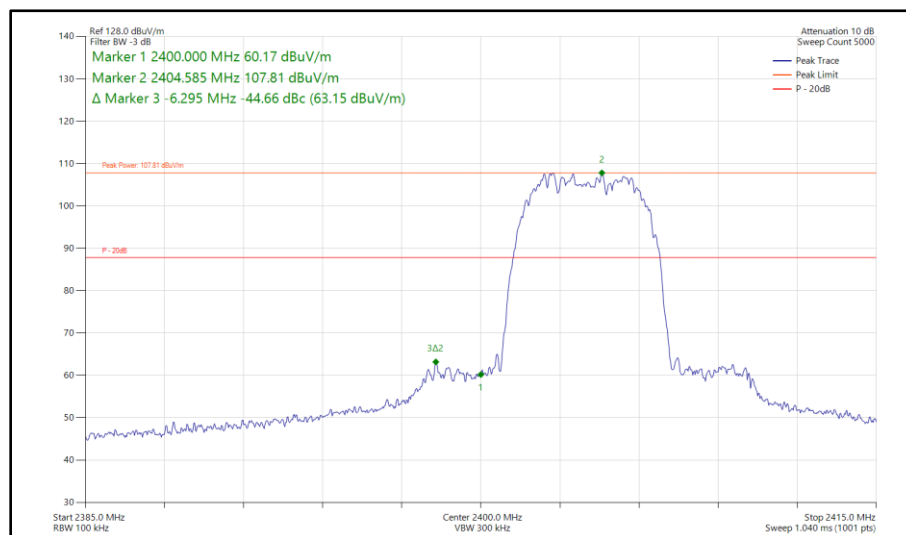


Figure 249 - Bluetooth HDR8, SISO, Core 0 - 2404 MHz  
Band Edge Frequency 2400 MHz

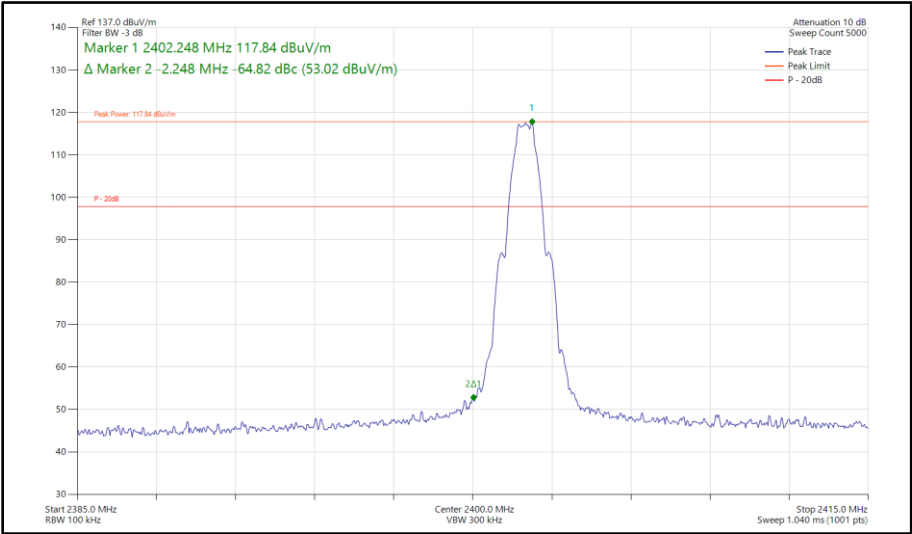


Figure 250 - Bluetooth LE1M, SISO, Core 0 - 2402 MHz  
Band Edge Frequency 2400 MHz

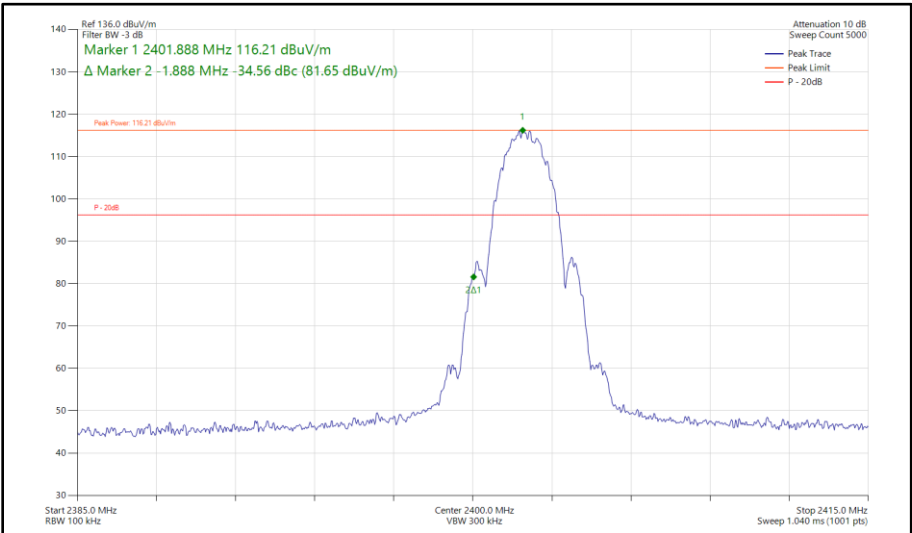


Figure 251 - Bluetooth LE2M, SISO, Core 0 - 2402 MHz  
Band Edge Frequency 2400 MHz

ePA - Core 1 (SISO)

| Mode   | Packet Type | TX Frequency (MHz) | Band Edge Frequency (MHz) | Level (dBc) |
|--------|-------------|--------------------|---------------------------|-------------|
| Static | HDR4        | 2404               | 2400                      | -57.63      |
| Static | HDR8        | 2404               | 2400                      | -48.00      |
| Static | LE1M        | 2402               | 2400                      | -65.16      |
| Static | LE2M        | 2402               | 2400                      | -34.77      |

Table 103 - SISO Authorised Band Edge Results

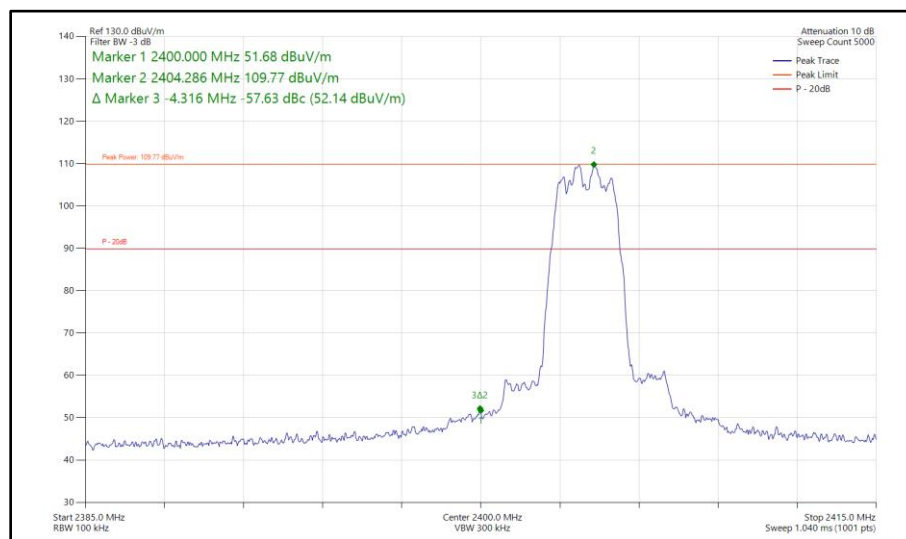


Figure 252 - Bluetooth HDR4, SISO, Core 1 - 2404 MHz  
Band Edge Frequency 2400 MHz

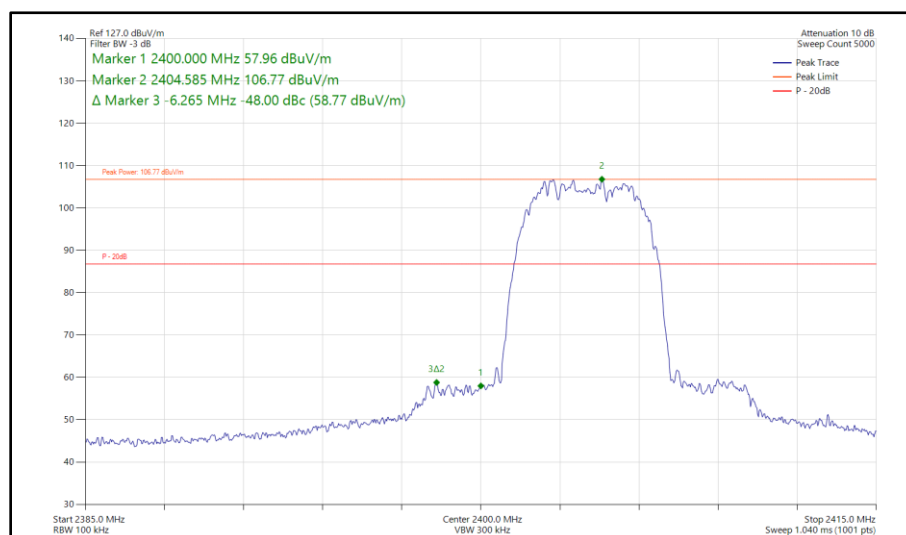


Figure 253 - Bluetooth HDR8, SISO, Core 1 - 2404 MHz  
Band Edge Frequency 2400 MHz

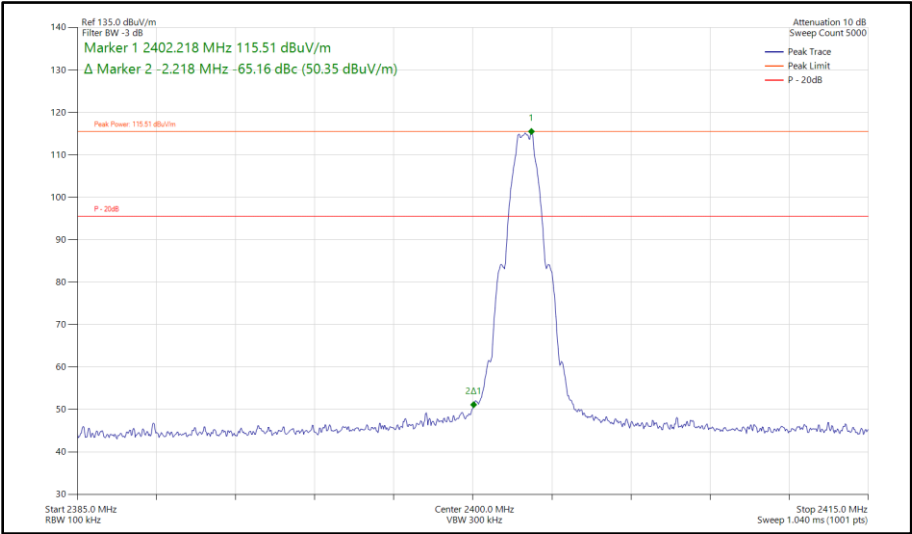


Figure 254 - Bluetooth LE1M, SISO, Core 1 - 2402 MHz  
Band Edge Frequency 2400 MHz

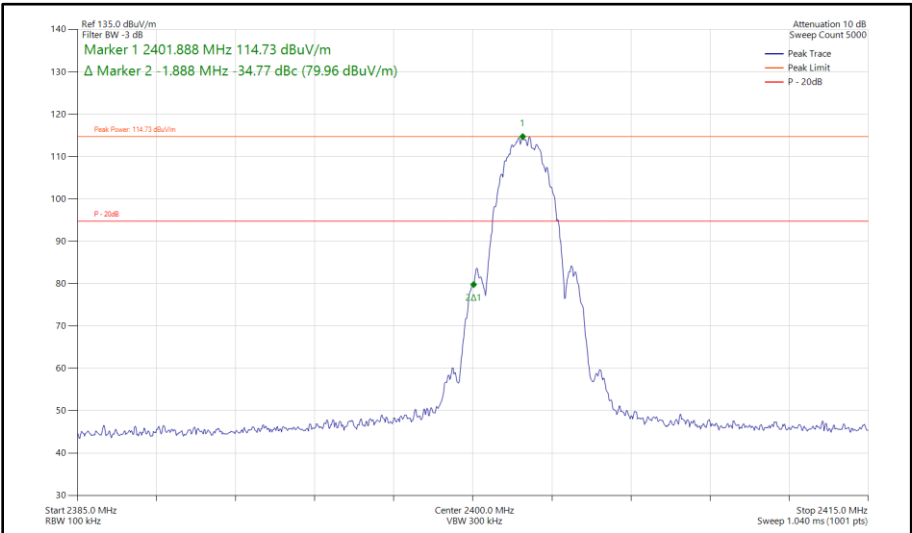


Figure 255 - Bluetooth LE2M, SISO, Core 1 - 2402 MHz  
Band Edge Frequency 2400 MHz

ePA - Core 0 - Core 1 (MIMO)

| Mode   | Packet Type | TX Frequency (MHz) | Band Edge Frequency (MHz) | Level (dBc) |
|--------|-------------|--------------------|---------------------------|-------------|
| Static | HDR4        | 2404               | 2400                      | -59.07      |
| Static | HDR8        | 2404               | 2400                      | -48.59      |
| Static | LE1M        | 2402               | 2400                      | -67.19      |
| Static | LE2M        | 2402               | 2400                      | -34.78      |

Table 104 - MIMO Authorised Band Edge Results

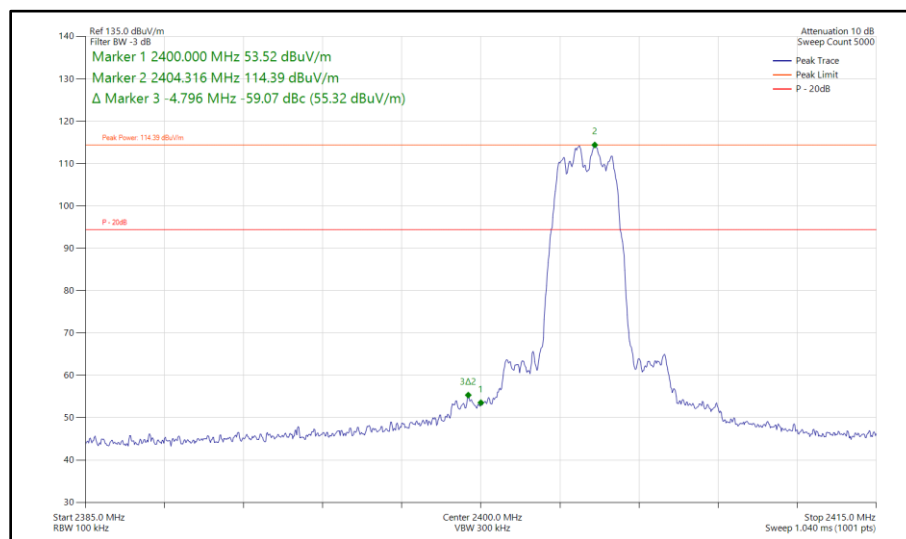


Figure 256 - Bluetooth HDR4, MIMO, Core 0 - Core 1 - 2404 MHz  
Band Edge Frequency 2400 MHz

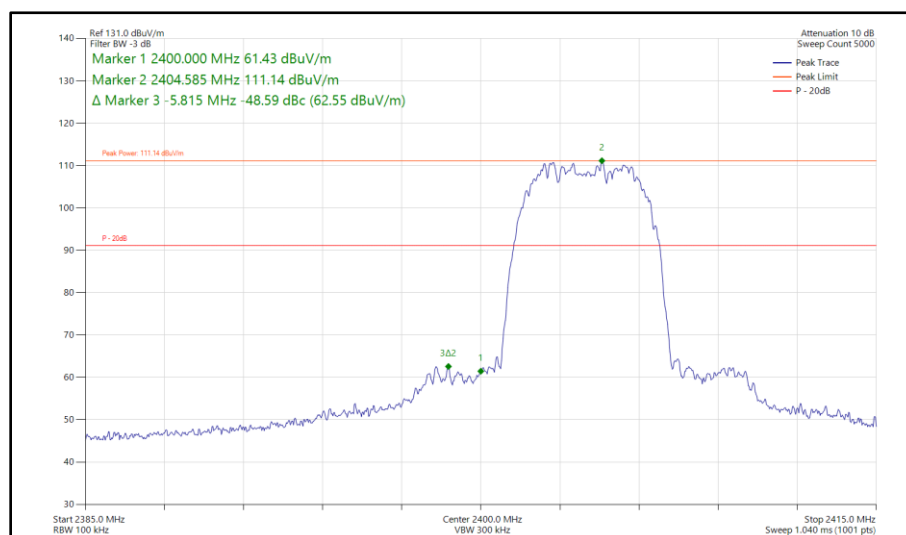
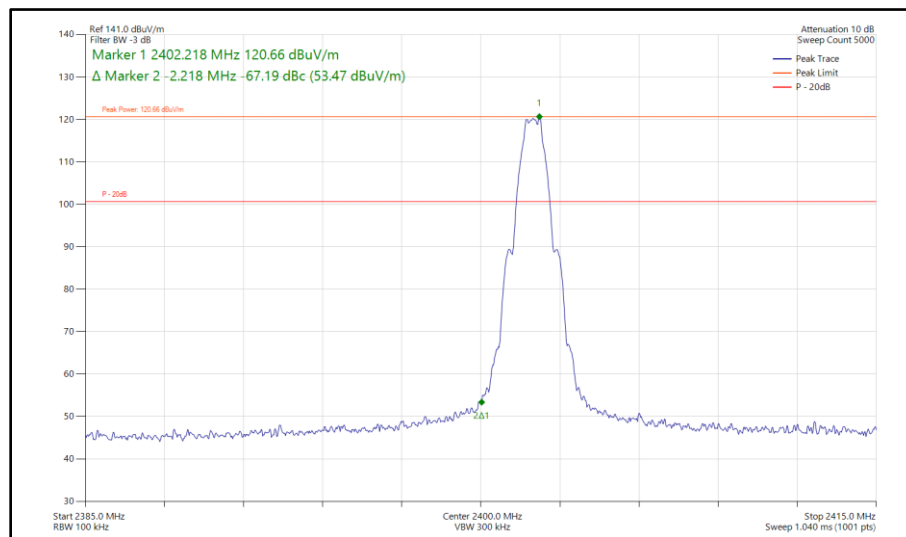
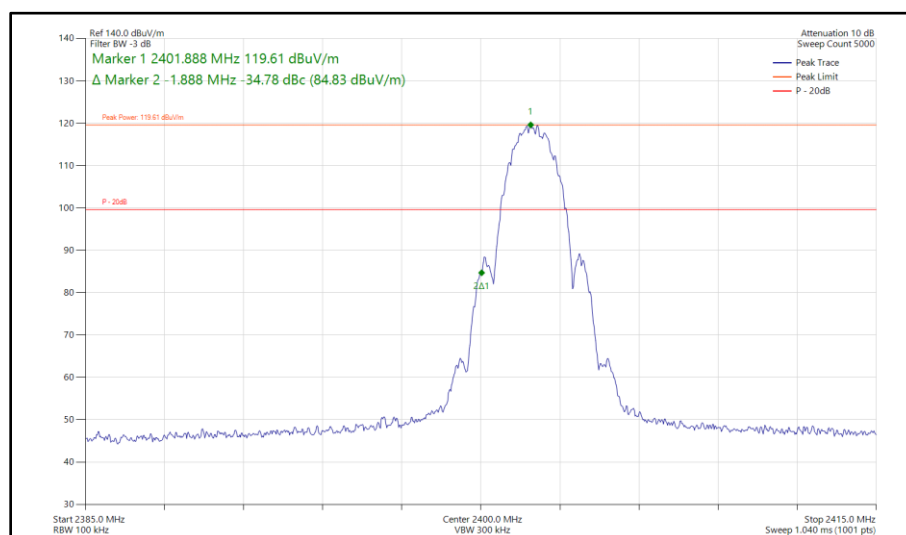


Figure 257 - Bluetooth HDR8, MIMO, Core 0 - Core 1 - 2404 MHz  
Band Edge Frequency 2400 MHz



**Figure 258 - Bluetooth LE1M, MIMO, Core 0 - Core 1 - 2402 MHz  
Band Edge Frequency 2400 MHz**



**Figure 259 - Bluetooth LE2M, MIMO, Core 0 - Core 1 - 2402 MHz  
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.



## 2.4.7 Test Location and Test Equipment Used

This test was carried out in RF Chamber 16.

| Instrument                          | Manufacturer       | Type No.             | TE No. | Calibration Period (months) | Calibration Expiry Date |
|-------------------------------------|--------------------|----------------------|--------|-----------------------------|-------------------------|
| Emissions Software                  | TUV SUD            | EmX V3.4.2           | 5125   | -                           | Software                |
| 1500W (300V 12A) AC Power Supply    | iTech              | IT7324               | 5957   | -                           | O/P Mon                 |
| 3m Semi-Anechoic Chamber, Chamber16 | Albatross Projects | RF Chamber 16        | 5972   | 36                          | 24-May-2025             |
| Mast & Turntable Controller         | Maturo Gmbh        | FCU3.0               | 5973   | -                           | TU                      |
| Tilt Antenna Mast                   | Maturo Gmbh        | BAM4.5-P             | 5974   | -                           | TU                      |
| Turntable                           | Maturo Gmbh        | TT1.5SI              | 5975   | -                           | TU                      |
| Cable (N to N 7m)                   | Junkosha           | MWX221-07000NMSNMS/B | 6005   | 12                          | 20-May-2025             |
| Cable (SMA to SMA 1m)               | Junkosha           | MWX221-01000AMSAMS/A | 6018   | 12                          | 10-Jun-2025             |
| Horn Antenna (1-10 GHz)             | Schwarzbeck        | BBHA9120B            | 6142   | 12                          | 05-May-2025             |
| Digital Multimeter                  | Fluke              | 115                  | 6146   | 12                          | 06-Jun-2025             |
| Humidity & Temperature meter        | R.S Components     | 1364                 | 6148   | 12                          | 29-Jul-2025             |
| EMI Test Receiver                   | Rohde & Schwarz    | ESW44                | 6294   | 12                          | 06-Jan-2025             |
| Cable (SMA to SMA 8m)               | Junkosha           | MWX221-08000AMSAMS/B | 6319   | 12                          | 04-Feb-2025             |
| SAC Switch Unit                     | TUV SUD            | TUV_SSU_004 PLC      | 6349   | 12                          | 07-May-2025             |

**Table 105**

TU - Traceability Unscheduled

O/P Mon - Output Monitored using calibrated equipment



## **2.5 Spurious Radiated Emissions**

### **2.5.1 Specification Reference**

FCC 47 CFR Part 15C, Clause 15.209 and 15.247 (d)

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

A3185, S/N: LD12H296C1 - Modification State 0

### **2.5.3 Date of Test**

14-August-2024 to 10-September-2024

### **2.5.4 Test Method**

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

For frequencies > 1 GHz, plots for average measurements were taken in accordance with ANSI C63.10, clause 11.12.2.5.1.

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

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.

In the 30 MHz to 1 GHz range pre-scans were only performed on the mid channel (2440 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 10 dB of the limits shown on the plots, further investigation was carried out and reported in results tables.

The following conversion can be applied to convert from dBμV/m to μV/m:  
 $10^{(\text{Field Strength in dB}\mu\text{V/m}/20)}$ .

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

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

### 2.5.5 Example Test Setup Diagram

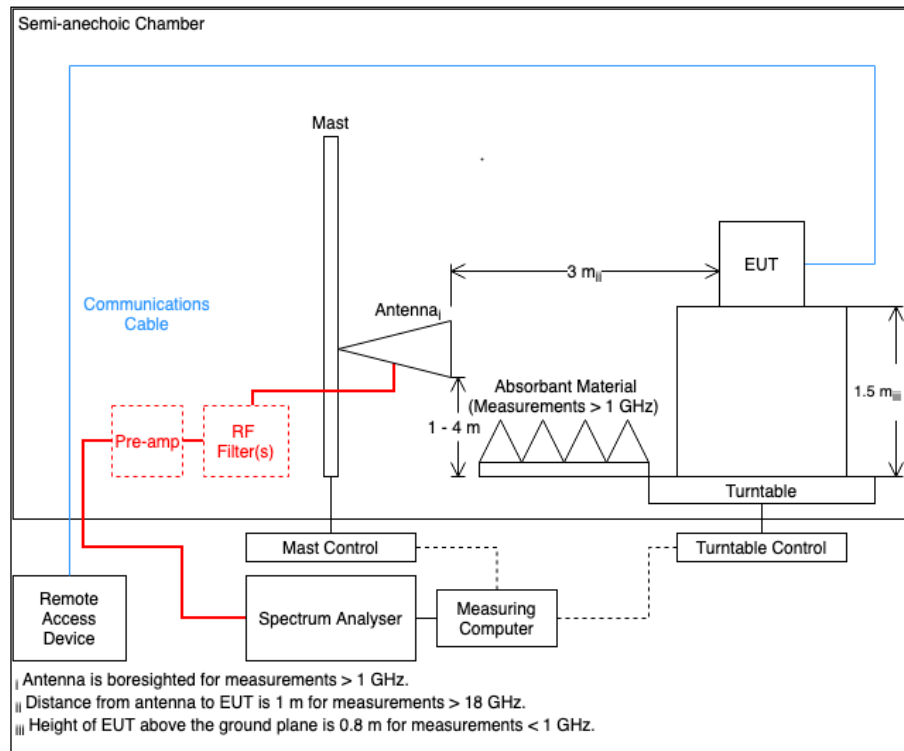


Figure 260

### 2.5.6 Environmental Conditions

|                     |                |
|---------------------|----------------|
| Ambient Temperature | 22.1 - 24.2 °C |
| Relative Humidity   | 38.6 - 56.2 %  |

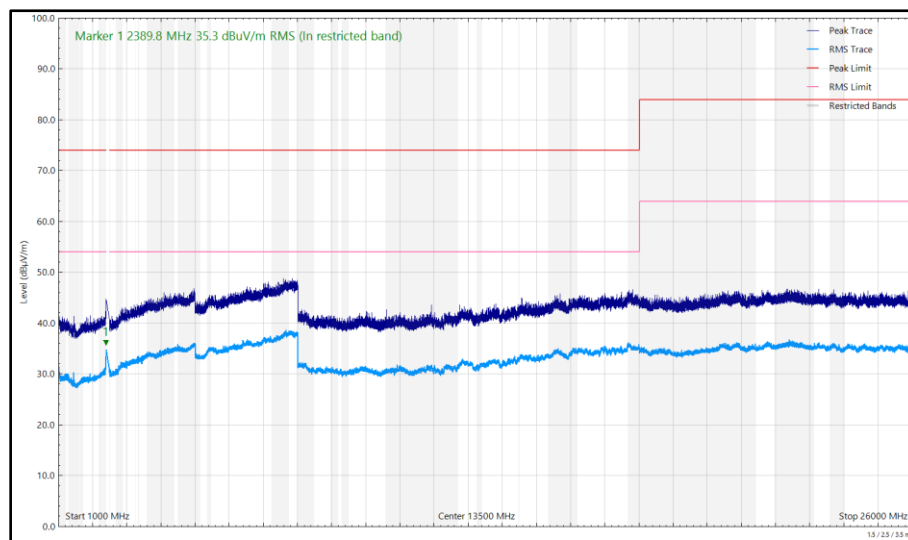
## 2.5.7 Test Results

### 2.4 GHz Bluetooth LE/HDR

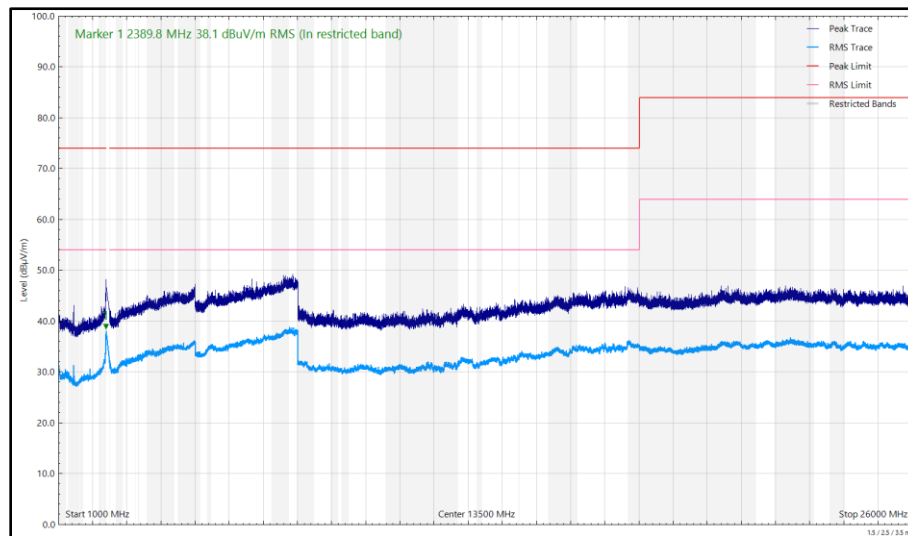
| Frequency (MHz) | Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|-----------------|----------------|----------------|-------------|----------|-----------|-------------|--------------|
| 2389.824        | 38.09          | 54.00          | -15.91      | RMS      | 7         | 340         | Vertical     |
| 2389.829        | 35.30          | 54.00          | -18.70      | RMS      | 59        | 384         | Horizontal   |

**Table 106 - 2402 MHz (CH37), LE1M, iPA, Core 0 + Core 1, 1 GHz to 26 GHz**

No other emissions found within 10 dB of the limit.



**Figure 261 - 2402 MHz (CH37), LE1M, iPA, Core 0 + Core 1, 1 GHz to 26 GHz, Horizontal**

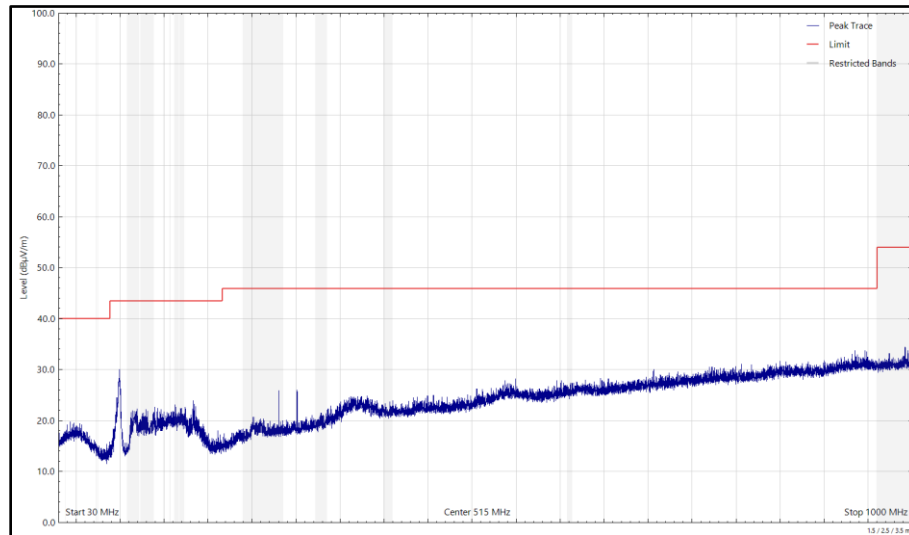


**Figure 262 - 2402 MHz (CH37), LE1M, iPA, Core 0 + Core 1, 1 GHz to 26 GHz, Vertical**

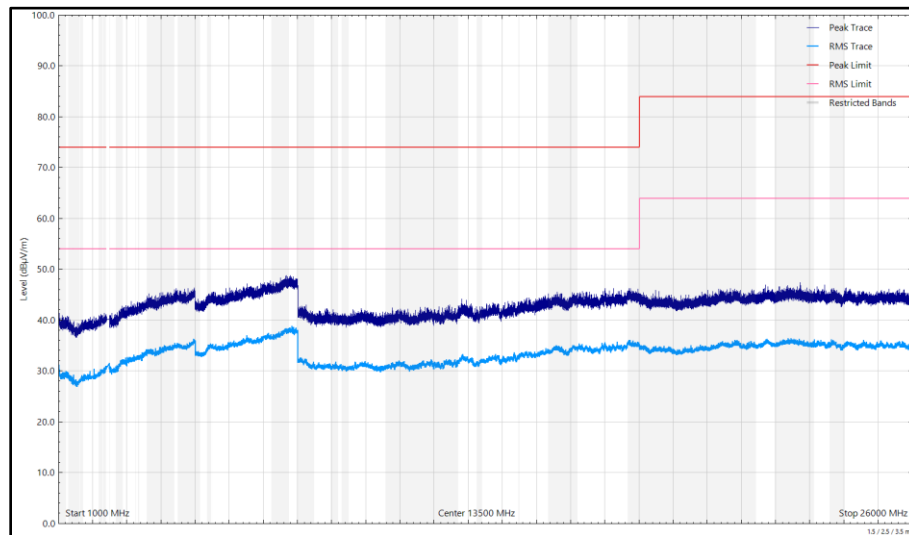
| Frequency (MHz) | Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|-----------------|----------------|----------------|-------------|----------|-----------|-------------|--------------|
| 2483.553        | 33.04          | 54.00          | -20.96      | RMS      | 20        | 317         | Vertical     |

**Table 107 - 2440 MHz (CH17), LE1M, iPA, Core 0 + Core 1, 30 MHz to 26 GHz**

No other emissions found within 10 dB of the limit.



**Figure 263 - 2440 MHz (CH17), LE1M, iPA, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)**



**Figure 264 - 2440 MHz (CH17), LE1M, iPA, Core 0 + Core 1, 1 GHz to 26 GHz, Horizontal**

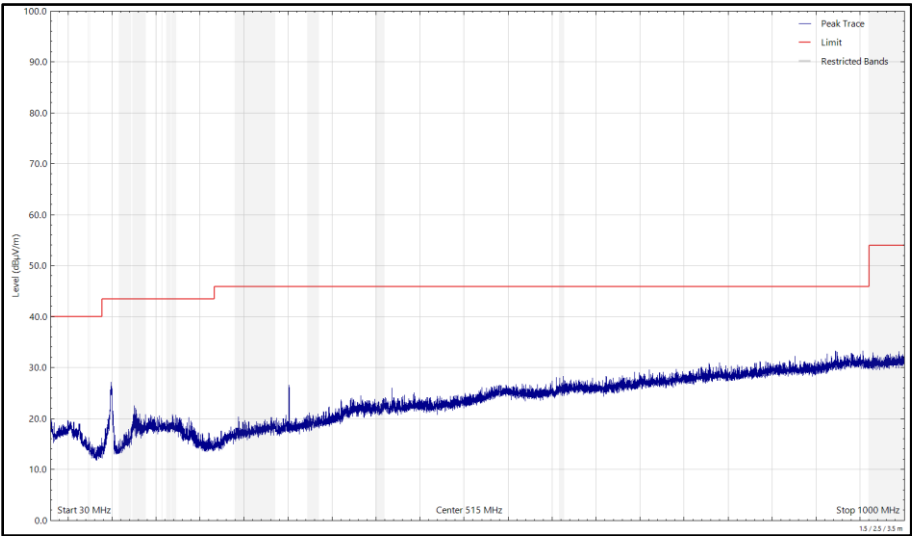


Figure 265 - 2440 MHz (CH17), LE1M, iPA, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)

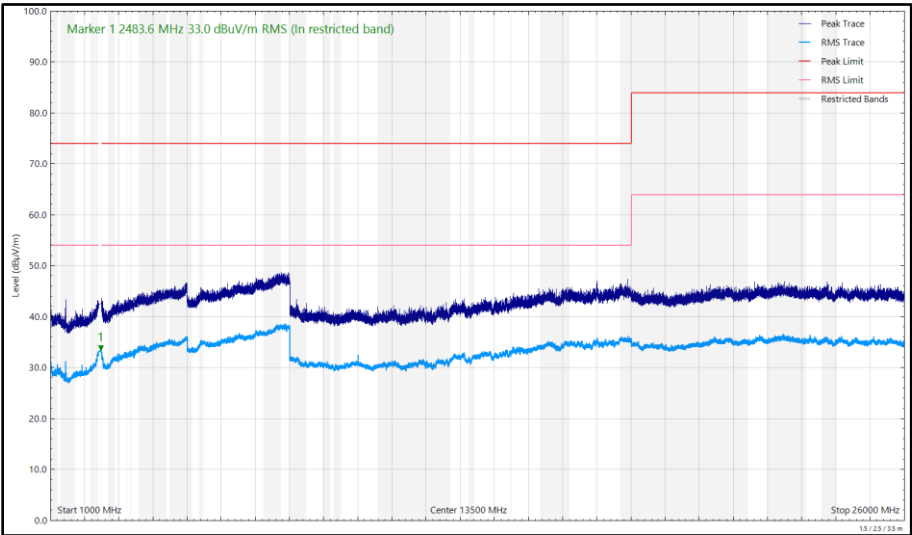
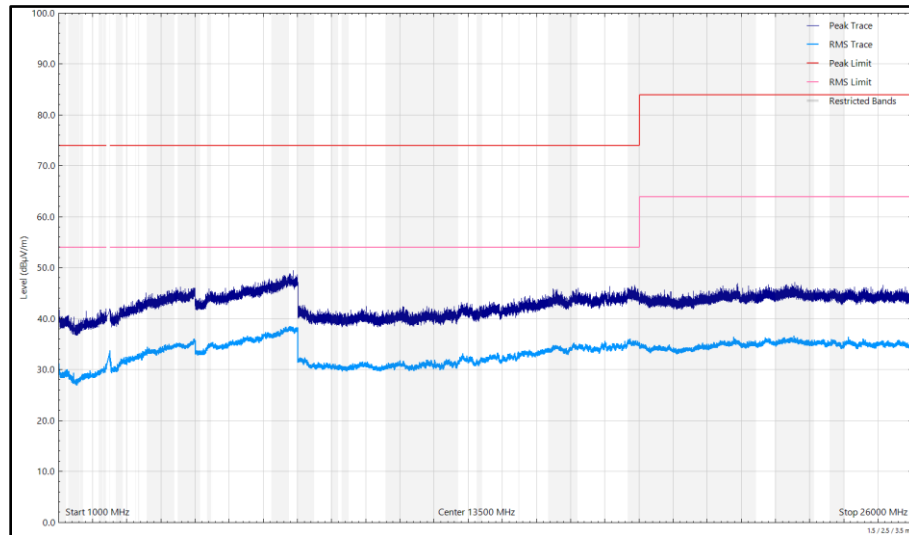


Figure 266 - 2440 MHz (CH17), LE1M, iPA, Core 0 + Core 1, 1 GHz to 26 GHz, Vertical

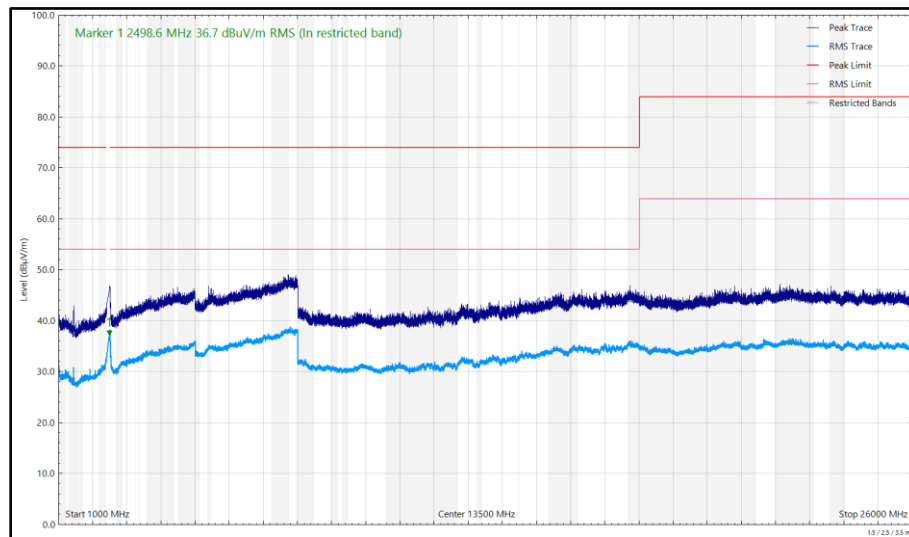
| Frequency (MHz) | Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|-----------------|----------------|----------------|-------------|----------|-----------|-------------|--------------|
| 2498.577        | 36.74          | 54.00          | -17.26      | RMS      | 7         | 345         | Vertical     |

**Table 108 - 2480 MHz (CH39), LE1M, iPA, Core 0 + Core 1, 1 GHz to 26 GHz**

No other emissions found within 10 dB of the limit.



**Figure 267 - 2480 MHz (CH39), LE1M, iPA, Core 0 + Core 1, 1 GHz to 26 GHz, Horizontal**



**Figure 268 - 2480 MHz (CH39), LE1M, iPA, Core 0 + Core 1, 1 GHz to 26 GHz, Vertical**



| Frequency (MHz) | Level (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|-----------------|----------------|----------------|-------------|----------|-----------|-------------|--------------|
| *               |                |                |             |          |           |             |              |

Table 109 - 2402 MHz (CH37), LE1M, iPA, Core 2, 1 GHz to 26 GHz

\*No emissions found within 10 dB of the limit.

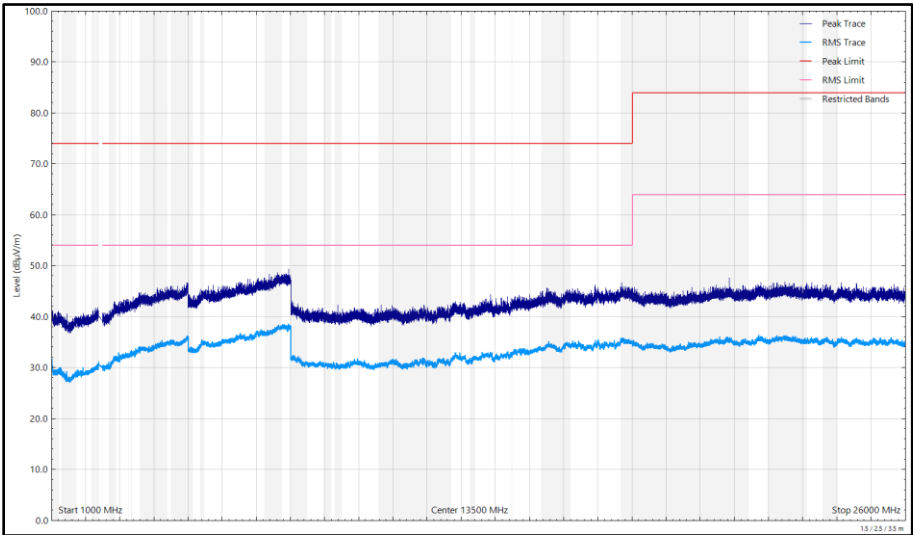


Figure 269 - 2402 MHz (CH37), LE1M, iPA, Core 2, 1 GHz to 26 GHz, Horizontal

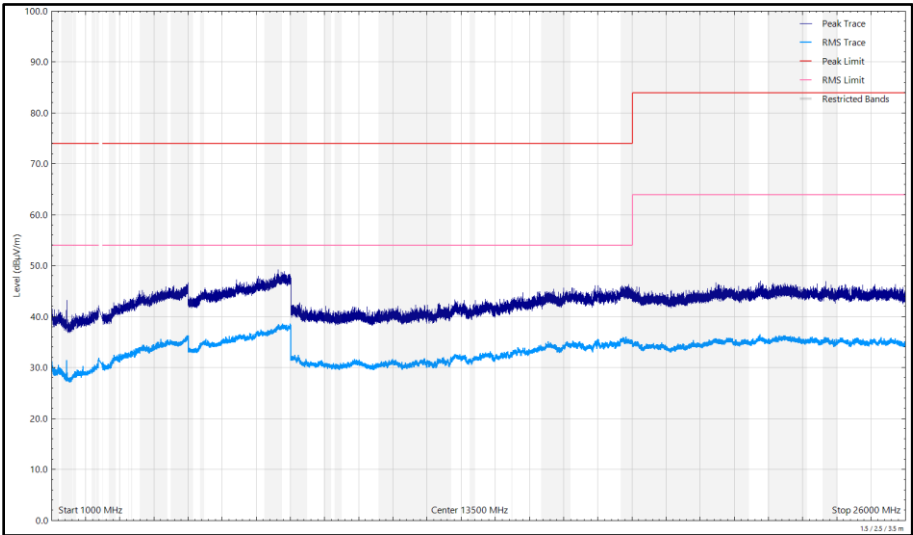
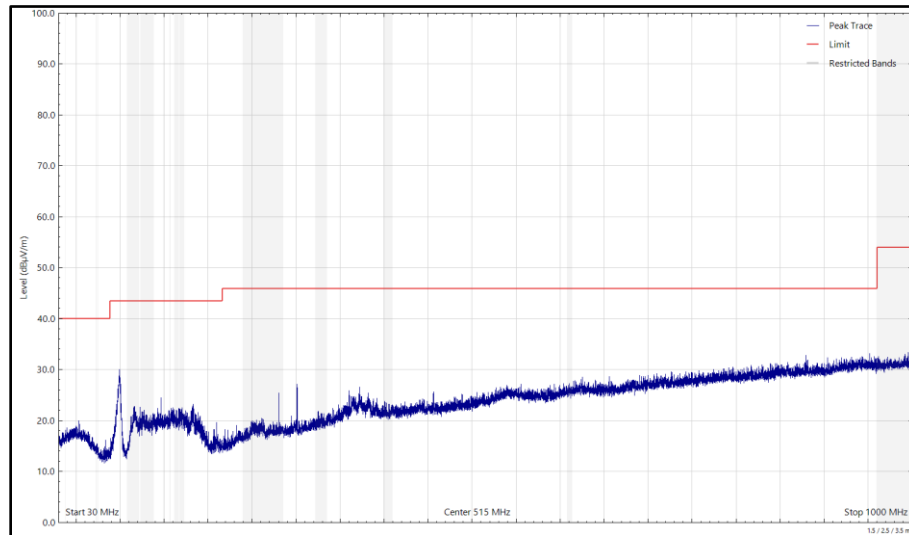


Figure 270 - 2402 MHz (CH37), LE1M, iPA, Core 2, 1 GHz to 26 GHz, Vertical

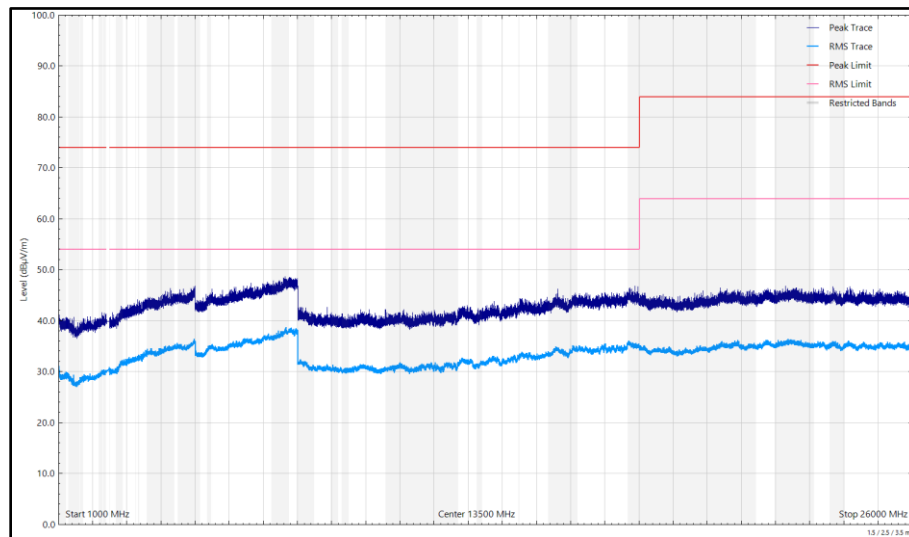
| Frequency (MHz) | Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|-----------------|----------------|----------------|-------------|----------|-----------|-------------|--------------|
| *               |                |                |             |          |           |             |              |

**Table 110 - 2440 MHz (CH17), LE1M, iPA, Core 2, 30 MHz to 26 GHz**

\*No emissions found within 10 dB of the limit.



**Figure 271 - 2440 MHz (CH17), LE1M, iPA, Core 2, 30 MHz to 1 GHz, Horizontal (Peak)**



**Figure 272 - 2440 MHz (CH17), LE1M, iPA, Core 2, 1 GHz to 26 GHz, Horizontal**

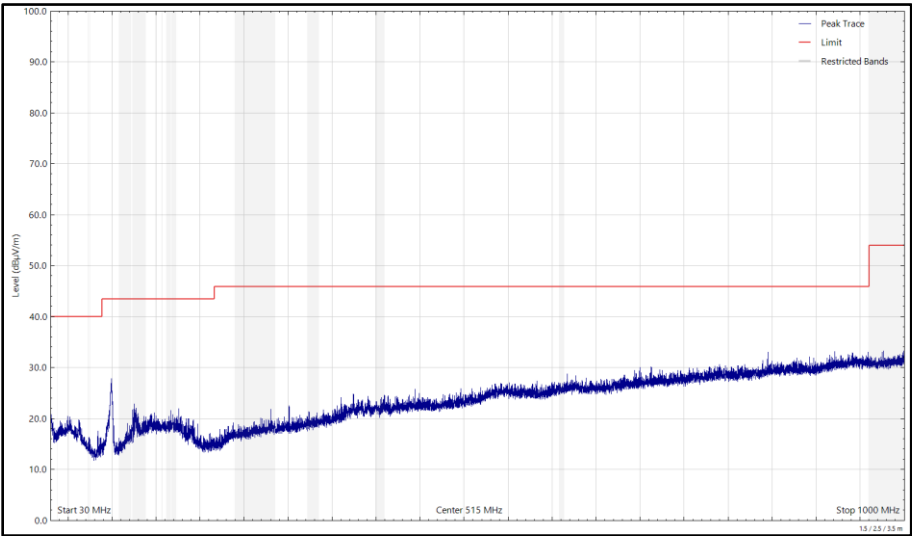


Figure 273 - 2440 MHz (CH17), LE1M, iPA, Core 2, 30 MHz to 1 GHz, Vertical (Peak)

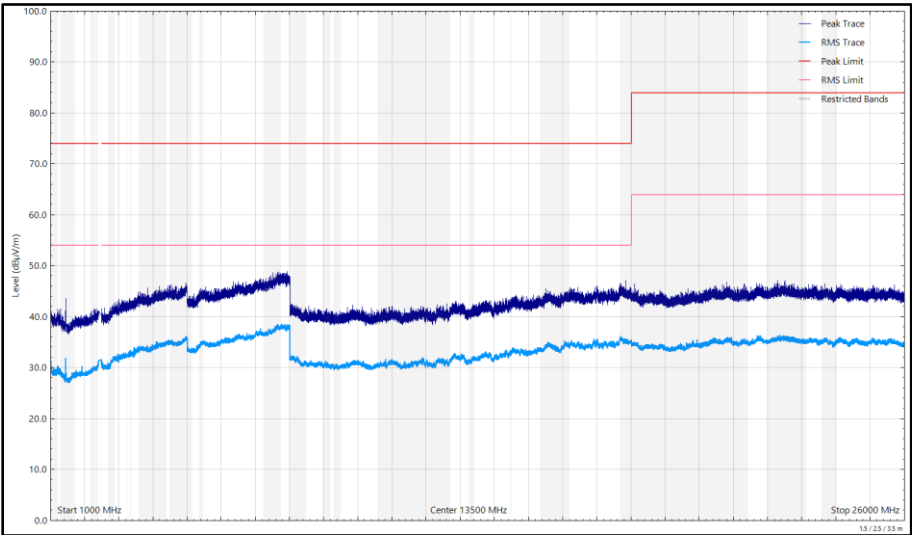
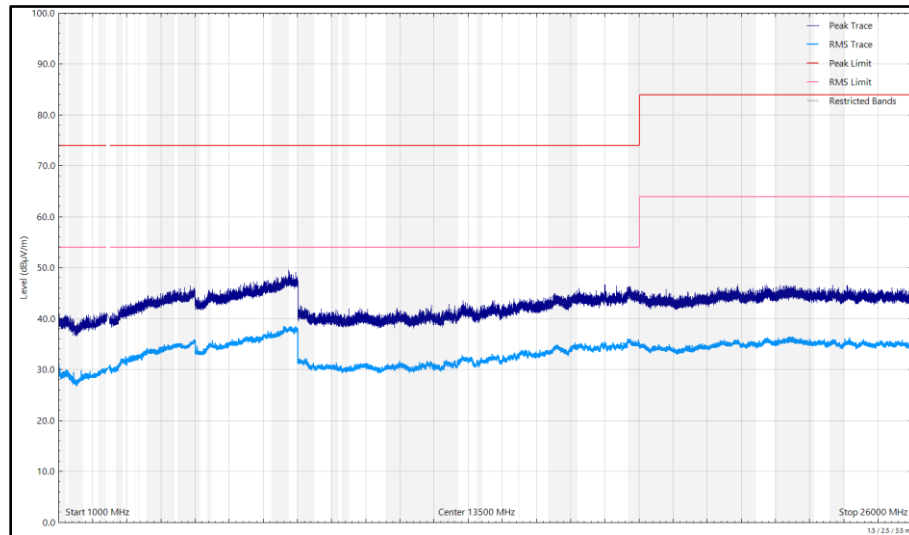


Figure 274 - 2440 MHz (CH17), LE1M, iPA, Core 2, 1 GHz to 26 GHz, Vertical

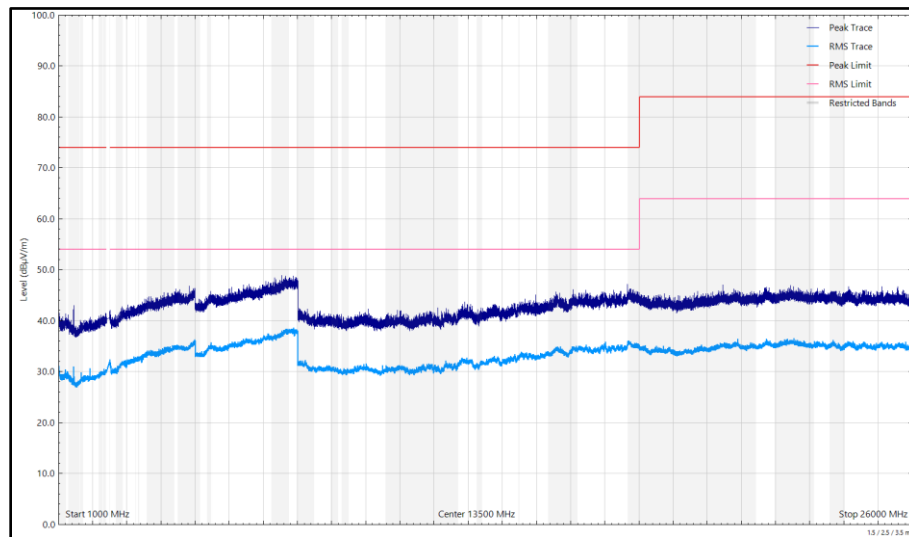
| Frequency (MHz) | Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|-----------------|----------------|----------------|-------------|----------|-----------|-------------|--------------|
| *               |                |                |             |          |           |             |              |

**Table 111 - 2480 MHz (CH39), LE1M, iPA, Core 2, 1 GHz to 26 GHz**

\*No emissions found within 10 dB of the limit.



**Figure 275 - 2480 MHz (CH39), LE1M, iPA, Core 2, 1 GHz to 26 GHz, Horizontal**

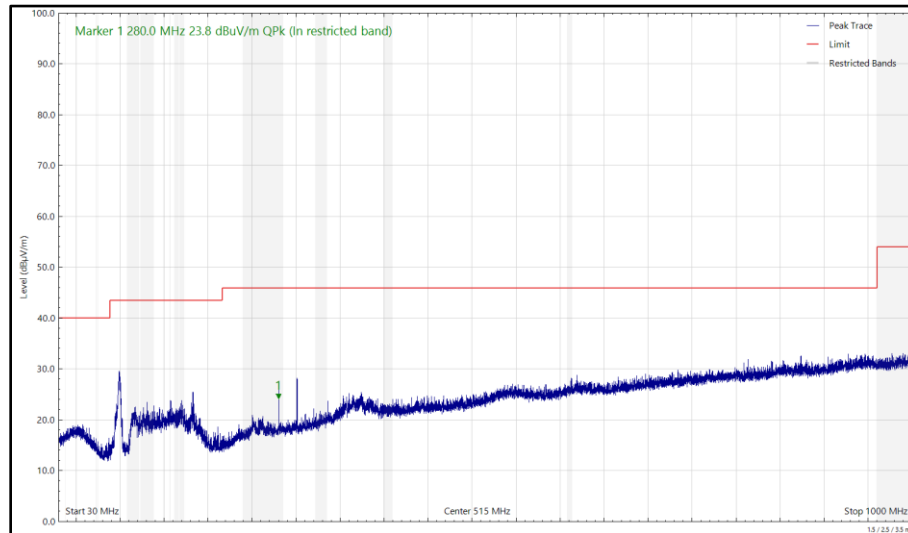


**Figure 276 - 2480 MHz (CH39), LE1M, iPA, Core 2, 1 GHz to 26 GHz, Vertical**

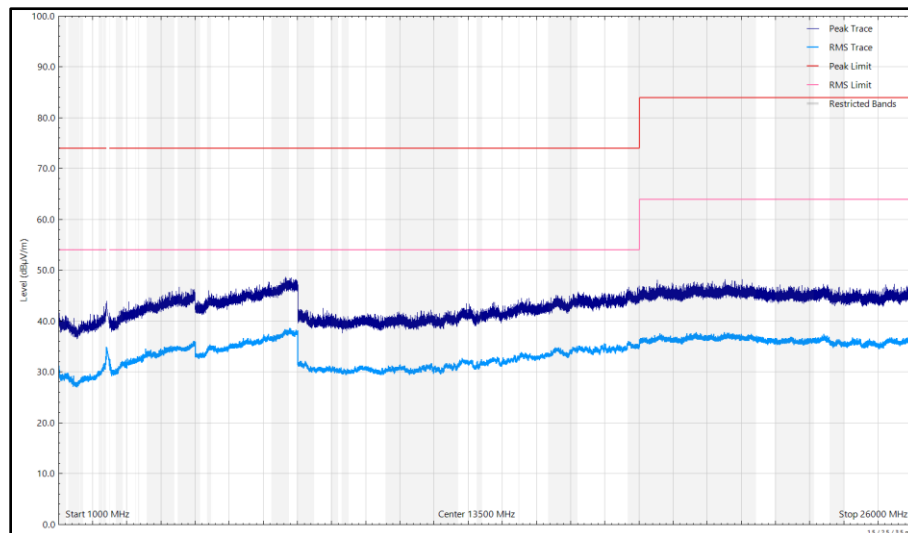
| Frequency (MHz) | Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|-----------------|----------------|----------------|-------------|----------|-----------|-------------|--------------|
| 279.991         | 23.80          | 46.00          | -22.20      | Q-Peak   | 78        | 100         | Horizontal   |
| 2389.822        | 35.54          | 54.00          | -18.46      | RMS      | 352       | 294         | Vertical     |

**Table 112 - 2440 MHz (CH17), HDR4, ePA, Core 0 + Core 1, 1 GHz to 26 GHz**

No other emissions found within 10 dB of the limit.



**Figure 277 - 2440 MHz (CH17), HDR4, ePA, Core 0 + Core 1, 30 MHz to 1 GHz, Horizontal (Peak)**



**Figure 278 - 2440 MHz (CH17), HDR4, ePA, Core 0 + Core 1, 1 GHz to 26 GHz, Horizontal**

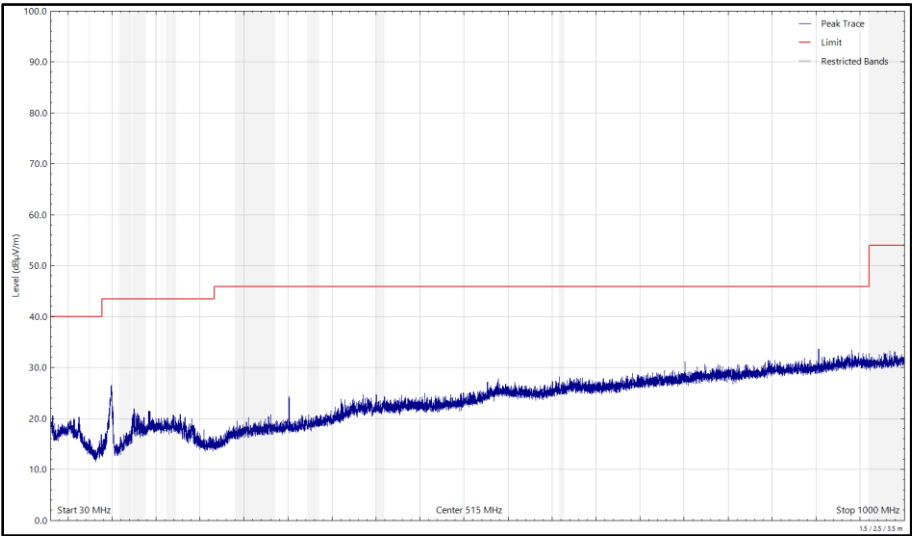


Figure 279 - 2440 MHz (CH17), HDR4, ePA, Core 0 + Core 1, 30 MHz to 1 GHz, Vertical (Peak)

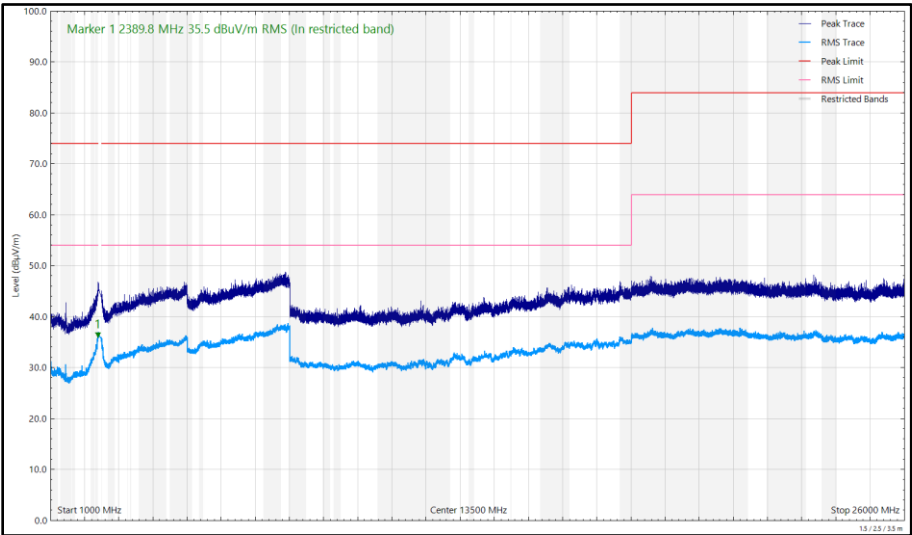
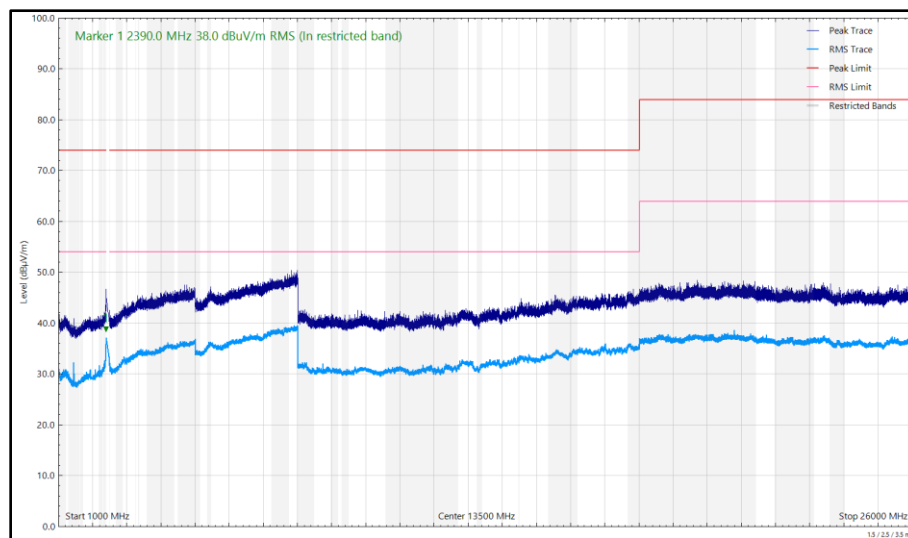


Figure 280 - 2440 MHz (CH17), HDR4, ePA, Core 0 + Core 1, 1 GHz to 26 GHz, Vertical

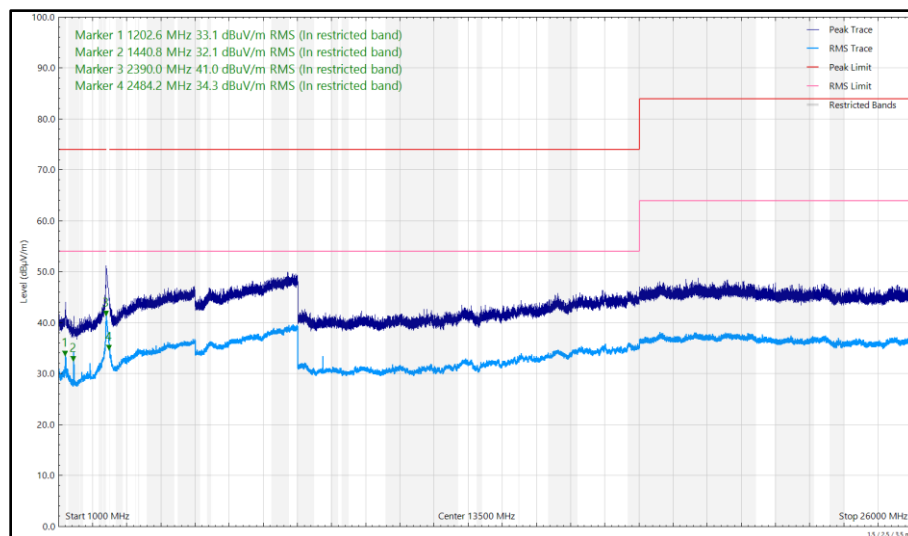
| Frequency (MHz) | Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|-----------------|----------------|----------------|-------------|----------|-----------|-------------|--------------|
| 1202.610        | 33.08          | 54.00          | -20.92      | RMS      | 238       | 151         | Vertical     |
| 1440.804        | 32.12          | 54.00          | -21.88      | RMS      | 104       | 245         | Vertical     |
| 2389.976        | 38.03          | 54.00          | -15.97      | RMS      | 53        | 385         | Horizontal   |
| 2389.994        | 41.04          | 54.00          | -12.96      | RMS      | 2         | 377         | Vertical     |
| 2484.242        | 34.28          | 54.00          | -19.72      | RMS      | 358       | 311         | Vertical     |

**Table 113 - 2404 MHz (CH0), HDR4, ePA, Core 0 + Core 1, 1 GHz to 26 GHz**

No other emissions found within 10 dB of the limit.



**Figure 281 - 2404 MHz (CH0), HDR4, ePA, Core 0 + Core 1, 1 GHz to 26 GHz, Horizontal**

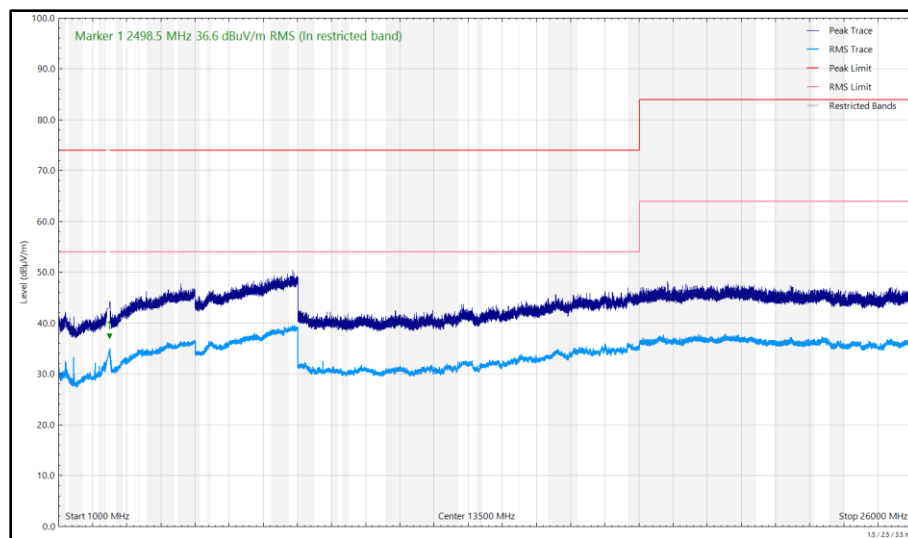


**Figure 282 - 2404 MHz (CH0), HDR4, ePA, Core 0 + Core 1, 1 GHz to 26 GHz, Vertical**

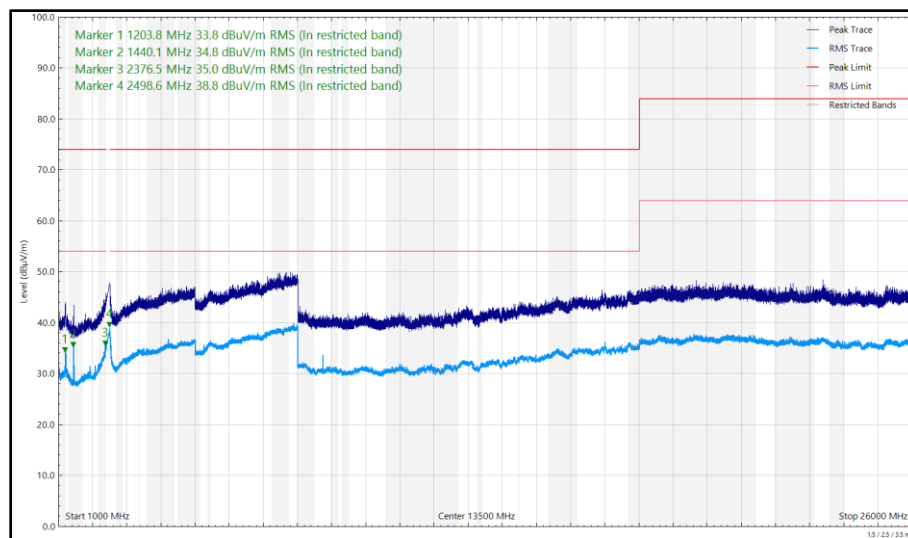
| Frequency (MHz) | Level (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Detector | Angle (°) | Height (cm) | Polarisation |
|-----------------|----------------|----------------|-------------|----------|-----------|-------------|--------------|
| 1203.765        | 33.83          | 54.00          | -20.17      | RMS      | 172       | 343         | Vertical     |
| 1440.058        | 34.83          | 54.00          | -19.17      | RMS      | 154       | 267         | Vertical     |
| 2376.473        | 35.03          | 54.00          | -18.97      | RMS      | 10        | 335         | Vertical     |
| 2498.543        | 36.57          | 54.00          | -17.43      | RMS      | 54        | 382         | Horizontal   |
| 2498.557        | 38.82          | 54.00          | -15.18      | RMS      | 27        | 270         | Vertical     |

**Table 114 - 2476 MHz (CH35), HDR4, ePA, Core 0 + Core 1, 1 GHz to 26 GHz**

No other emissions found within 10 dB of the limit.



**Figure 283 - 2476 MHz (CH35), HDR4, ePA, Core 0 + Core 1, 1 GHz to 26 GHz, Horizontal**



**Figure 284 - 2476 MHz (CH35), HDR4, ePA, Core 0 + Core 1, 1 GHz to 26 GHz, Vertical**



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

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator 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 the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

Attenuation below the general limits specified in § 15.209(a) is not required. In addition, 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).

### **2.5.8 Test Location and Test Equipment Used**

This test was carried out in RF Chamber 14, RF Chamber 15 and RF Chamber 17.

| Instrument                                       | Manufacturer       | Type No.             | TE No. | Calibration Period (months) | Calibration Expiry Date |
|--------------------------------------------------|--------------------|----------------------|--------|-----------------------------|-------------------------|
| Emissions Software                               | TUV SUD            | EmX V3.4.2           | 5125   | -                           | Software                |
| EMI Test Receiver                                | Rohde & Schwarz    | ESW44                | 5912   | 12                          | 07-Aug-2025             |
| Test Receiver                                    | Rohde & Schwarz    | ESW44                | 5914   | 12                          | 24-May-2025             |
| Cable (K Type 2m)                                | Junkosha           | MWX241-0200KMSKMS/B  | 5935   | 12                          | 10-Jun-2025             |
| DRG Horn Antenna (7.5-18GHz)                     | Schwarzbeck        | HWRD750              | 5939   | 12                          | 05-May-2025             |
| DRG Horn Antenna (7.5-18GHz)                     | Schwarzbeck        | HWRD750              | 5940   | 12                          | 05-May-2025             |
| TRILOG Super Broadband Test Antenna              | Schwarzbeck        | VULB 9168            | 5943   | 24                          | 24-May-2026             |
| 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             |
| 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 | 5997   | 12                          | 13-Sep-2025             |
| Cable (N to N 8m)                                | Junkosha           | MWX221-08000NMSNMS/A | 6006   | 12                          | 20-May-2025             |
| Cable (N to N 3m)                                | Junkosha           | MWX221-03000NMSNMS/A | 6025   | 12                          | 20-May-2025             |
| Horn Antenna (1-10 GHz)                          | Schwarzbeck        | BBHA9120B            | 6140   | 12                          | 05-May-2025             |



| Instrument                                   | Manufacturer        | Type No.                  | TE No. | Calibration Period (months) | Calibration Expiry Date |
|----------------------------------------------|---------------------|---------------------------|--------|-----------------------------|-------------------------|
| Digital Multimeter                           | Fluke               | 115                       | 6146   | 12                          | 06-Jun-2025             |
| Humidity & Temperature meter                 | R.S Components      | 1364                      | 6149   | 12                          | 12-Aug-2025             |
| SAC Switch Unit                              | TUV SUD             | TUV_SSU_001               | 6191   | 12                          | 18-Dec-2024             |
| 8GHz Highpass Filter                         | Wainwright          | WHKX 7150 8000 18000 50SS | 6195   | 12                          | 23-Apr-2025             |
| Pre Amp 8 - 18 GHz                           | Wright Technologies | APS06 0061                | 6198   | 12                          | 03-Jun-2025             |
| USB Spectrum Analyser                        | Signal Hound        | SA124B                    | 6295   | -                           | TU                      |
| USB Spectrum Analyser                        | Signal Hound        | SA124B                    | 6296   | -                           | TU                      |
| USB Spectrum Analyser                        | Signal Hound        | SA124B                    | 6297   | -                           | TU                      |
| USB Spectrum Analyser                        | Signal Hound        | SA124B                    | 6298   | -                           | TU                      |
| EMC Test Receiver                            | Rohde & Schwarz     | ESW44                     | 6333   | 12                          | 16-Feb-2025             |
| Humidity and Temperature Meter               | R.S Components      | 1364                      | 6346   | 12                          | 06-Mar-2025             |
| Humidity and Temperature Meter               | R.S Components      | 1364                      | 6486   | 12                          | 04-Jun-2025             |
| AC Power Supply                              | iTech               | IT7324                    | 6657   | -                           | O/P Mon                 |
| 3m Semi-Anechoic Chamber                     | Albatross Projects  | RF Chamber 17             | 6658   | 36                          | 28-Jan-2026             |
| Mast and Turntable Controller                | Maturo Gmbh         | FCU3.0                    | 6659   | -                           | TU                      |
| Tilt Antenna Mast                            | Maturo Gmbh         | BAM4.5-P                  | 6660   | -                           | TU                      |
| Turntable                                    | Maturo Gmbh         | TT1.5SI                   | 6661   | -                           | TU                      |
| 1m Cable                                     | Junkosha            | MWX241-01000AMSAMS/B      | 6740   | 12                          | 01-Feb-2025             |
| 6.5m Cable                                   | Junkosha            | MWX221-06500AMSAMS/B      | 6744   | 12                          | 01-Feb-2025             |
| Double Ridge Active Horn Antenna (18-40 GHz) | Com-Power           | AHA-840                   | 6771   | 24                          | 17-Jan-2025             |
| Mast & Turntable Controller                  | Maturo Gmbh         | FCU3.0                    | 6795   | -                           | TU                      |
| Tilt Antenna Mast                            | Maturo Gmbh         | BAM4.5-P                  | 6796   | -                           | TU                      |
| 8M SMA Cable                                 | Junkosha            | MWX221-08000AMSAMS/B      | 6834   | 12                          | 14-Aug-2025             |

**Table 115**

TU - Traceability Unscheduled

O/P Mon - Output Monitored using calibrated equipment



## **2.6 Power Spectral Density**

### **2.6.1 Specification Reference**

FCC 47 CFR Part 15C, Clause 15.247 (e)

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

A3185, S/N: GRJJT9QH7L - Modification State 0  
A3185, S/N: GHGG6N440H - Modification State 0  
A3185, S/N: HM9QNWPCFQ - Modification State 0

### **2.6.3 Date of Test**

05-September-2024 to 23-September-2024

### **2.6.4 Test Method**

This test was performed in accordance with ANSI C63.10, clause 11.10.2.

Where the EUT duty cycle was < 98 % and repeatable within 2 %, the spectrum analyser was set to trace (power) averaging and a duty cycle correction was added as calculated in the result tables below (Method AVGPSD-2).

MIMO output port summing was performed in accordance with KDB 662911 D01 E)2)b).

### **2.6.5 Environmental Conditions**

|                     |                |
|---------------------|----------------|
| Ambient Temperature | 20.8 - 22.8 °C |
| Relative Humidity   | 52.9 - 58.6 %  |



## 2.6.6 Test Results

### 2.4 GHz Bluetooth LE/HDR

|                          |                              |                 |                |
|--------------------------|------------------------------|-----------------|----------------|
| Test Configuration       |                              |                 |                |
| Frequency Range:         | 2400-2483.5 MHz              | Band:           | 2.4 GHz        |
| Limit Clause(s):         | 15.247 (e)<br>RSS-247 5.2 b) | Test Method(s): | C63.10 11.10.2 |
| Additional Reference(s): | -                            |                 |                |

|                        |                           |                          |      |
|------------------------|---------------------------|--------------------------|------|
| DUT Configuration      |                           |                          |      |
| Mode:                  | iPA $\pi/4$ DQPSK (4-DH5) | Duty Cycle (%):          | 78.1 |
| Antenna Configuration: | SISO                      | DCCF (dB):               | -    |
| Active Port(s):        | B (Core 1)                | Peak Antenna Gain (dBi): | 4.80 |

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |        |   |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|--------|---|---|----------|-------------------|-------------|
|                      |           | A             | B      | C | D | $\Sigma$ |                   |             |
| 2404                 | 3.0       | -             | -10.77 | - | - | -        | 8.00              | -18.77      |
| 2441                 | 3.0       | -             | -10.72 | - | - | -        | 8.00              | -18.72      |
| 2476                 | 3.0       | -             | -10.64 | - | - | -        | 8.00              | -18.64      |

**Table 116 - Maximum Power Spectral Density Results**

|                          |                              |                 |                |
|--------------------------|------------------------------|-----------------|----------------|
| Test Configuration       |                              |                 |                |
| Frequency Range:         | 2400-2483.5 MHz              | Band:           | 2.4 GHz        |
| Limit Clause(s):         | 15.247 (e)<br>RSS-247 5.2 b) | Test Method(s): | C63.10 11.10.2 |
| Additional Reference(s): | -                            |                 |                |

|                        |                           |                          |      |
|------------------------|---------------------------|--------------------------|------|
| DUT Configuration      |                           |                          |      |
| Mode:                  | iPA $\pi/4$ DQPSK (8-DH5) | Duty Cycle (%):          | 78.2 |
| Antenna Configuration: | SISO                      | DCCF (dB):               | -    |
| Active Port(s):        | B (Core 1)                | Peak Antenna Gain (dBi): | 4.80 |

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |        |   |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|--------|---|---|----------|-------------------|-------------|
|                      |           | A             | B      | C | D | $\Sigma$ |                   |             |
| 2404                 | 3.0       | -             | -10.35 | - | - | -        | 8.00              | -18.35      |
| 2441                 | 3.0       | -             | -10.53 | - | - | -        | 8.00              | -18.53      |
| 2476                 | 3.0       | -             | -11.17 | - | - | -        | 8.00              | -19.17      |

**Table 117 - Maximum Power Spectral Density Results**



| Test Configuration       |                              |                 |                |
|--------------------------|------------------------------|-----------------|----------------|
| Frequency Range:         | 2400-2483.5 MHz              | Band:           | 2.4 GHz        |
| Limit Clause(s):         | 15.247 (e)<br>RSS-247 5.2 b) | Test Method(s): | C63.10 11.10.2 |
| Additional Reference(s): | -                            |                 |                |

| DUT Configuration      |                  |                          |      |
|------------------------|------------------|--------------------------|------|
| Mode:                  | iPA GFSK (LE 1M) | Duty Cycle (%):          | 60.5 |
| Antenna Configuration: | SISO             | DCCF (dB):               | -    |
| Active Port(s):        | B (Core 1)       | Peak Antenna Gain (dBi): | 4.80 |

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |       |   |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|-------|---|---|----------|-------------------|-------------|
|                      |           | A             | B     | C | D | $\Sigma$ |                   |             |
| 2402                 | 3.0       | -             | -7.68 | - | - | -        | 8.00              | -15.68      |
| 2440                 | 3.0       | -             | -7.58 | - | - | -        | 8.00              | -15.58      |
| 2480                 | 3.0       | -             | -7.93 | - | - | -        | 8.00              | -15.93      |

**Table 118 - Maximum Power Spectral Density Results**

| Test Configuration       |                              |                 |                |
|--------------------------|------------------------------|-----------------|----------------|
| Frequency Range:         | 2400-2483.5 MHz              | Band:           | 2.4 GHz        |
| Limit Clause(s):         | 15.247 (e)<br>RSS-247 5.2 b) | Test Method(s): | C63.10 11.10.2 |
| Additional Reference(s): | -                            |                 |                |

| DUT Configuration      |                  |                          |      |
|------------------------|------------------|--------------------------|------|
| Mode:                  | iPA GFSK (LE 2M) | Duty Cycle (%):          | 31.3 |
| Antenna Configuration: | SISO             | DCCF (dB):               | -    |
| Active Port(s):        | B (Core 1)       | Peak Antenna Gain (dBi): | 4.80 |

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |        |   |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|--------|---|---|----------|-------------------|-------------|
|                      |           | A             | B      | C | D | $\Sigma$ |                   |             |
| 2402                 | 3.0       | -             | -9.77  | - | - | -        | 8.00              | -17.77      |
| 2440                 | 3.0       | -             | -9.95  | - | - | -        | 8.00              | -17.95      |
| 2480                 | 3.0       | -             | -10.19 | - | - | -        | 8.00              | -18.19      |

**Table 119 - Maximum Power Spectral Density Results**



| Test Configuration       |                              |                 |                |
|--------------------------|------------------------------|-----------------|----------------|
| Frequency Range:         | 2400-2483.5 MHz              | Band:           | 2.4 GHz        |
| Limit Clause(s):         | 15.247 (e)<br>RSS-247 5.2 b) | Test Method(s): | C63.10 11.10.2 |
| Additional Reference(s): | -                            |                 |                |

| DUT Configuration      |                           |                          |      |
|------------------------|---------------------------|--------------------------|------|
| Mode:                  | iPA $\pi/4$ DQPSK (4-DH5) | Duty Cycle (%):          | 78.1 |
| Antenna Configuration: | SISO                      | DCCF (dB):               | -    |
| Active Port(s):        | C (Core 2)                | Peak Antenna Gain (dBi): | 4.80 |

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |   |        |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|---|--------|---|----------|-------------------|-------------|
|                      |           | A             | B | C      | D | $\Sigma$ |                   |             |
| 2404                 | 3.0       | -             | - | -11.05 | - | -        | 8.00              | -19.05      |
| 2441                 | 3.0       | -             | - | -10.94 | - | -        | 8.00              | -18.94      |
| 2476                 | 3.0       | -             | - | -10.61 | - | -        | 8.00              | -18.61      |

**Table 120 - Maximum Power Spectral Density Results**

| Test Configuration       |                              |                 |                |
|--------------------------|------------------------------|-----------------|----------------|
| Frequency Range:         | 2400-2483.5 MHz              | Band:           | 2.4 GHz        |
| Limit Clause(s):         | 15.247 (e)<br>RSS-247 5.2 b) | Test Method(s): | C63.10 11.10.2 |
| Additional Reference(s): | -                            |                 |                |

| DUT Configuration      |                           |                          |      |
|------------------------|---------------------------|--------------------------|------|
| Mode:                  | iPA $\pi/4$ DQPSK (8-DH5) | Duty Cycle (%):          | 78.2 |
| Antenna Configuration: | SISO                      | DCCF (dB):               | -    |
| Active Port(s):        | C (Core 2)                | Peak Antenna Gain (dBi): | 4.80 |

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |   |        |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|---|--------|---|----------|-------------------|-------------|
|                      |           | A             | B | C      | D | $\Sigma$ |                   |             |
| 2404                 | 3.0       | -             | - | -10.83 | - | -        | 8.00              | -18.83      |
| 2441                 | 3.0       | -             | - | -10.90 | - | -        | 8.00              | -18.90      |
| 2476                 | 3.0       | -             | - | -10.78 | - | -        | 8.00              | -18.78      |

**Table 121 - Maximum Power Spectral Density Results**



| Test Configuration       |                              |                 |                |
|--------------------------|------------------------------|-----------------|----------------|
| Frequency Range:         | 2400-2483.5 MHz              | Band:           | 2.4 GHz        |
| Limit Clause(s):         | 15.247 (e)<br>RSS-247 5.2 b) | Test Method(s): | C63.10 11.10.2 |
| Additional Reference(s): | -                            |                 |                |

| DUT Configuration      |                  |                          |      |
|------------------------|------------------|--------------------------|------|
| Mode:                  | iPA GFSK (LE 1M) | Duty Cycle (%):          | 60.6 |
| Antenna Configuration: | SISO             | DCCF (dB):               | -    |
| Active Port(s):        | C (Core 2)       | Peak Antenna Gain (dBi): | 4.80 |

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |   |       |   |   | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|---|-------|---|---|-------------------|-------------|
|                      |           | A             | B | C     | D | Σ |                   |             |
| 2402                 | 3.0       | -             | - | -7.50 | - | - | 8.00              | -15.50      |
| 2440                 | 3.0       | -             | - | -7.94 | - | - | 8.00              | -15.94      |
| 2480                 | 3.0       | -             | - | -8.20 | - | - | 8.00              | -16.20      |

**Table 122 - Maximum Power Spectral Density Results**

| Test Configuration       |                              |                 |                |
|--------------------------|------------------------------|-----------------|----------------|
| Frequency Range:         | 2400-2483.5 MHz              | Band:           | 2.4 GHz        |
| Limit Clause(s):         | 15.247 (e)<br>RSS-247 5.2 b) | Test Method(s): | C63.10 11.10.2 |
| Additional Reference(s): | -                            |                 |                |

| DUT Configuration      |                  |                          |      |
|------------------------|------------------|--------------------------|------|
| Mode:                  | iPA GFSK (LE 2M) | Duty Cycle (%):          | 31.4 |
| Antenna Configuration: | SISO             | DCCF (dB):               | -    |
| Active Port(s):        | C (Core 2)       | Peak Antenna Gain (dBi): | 4.80 |

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |   |        |   |   | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|---|--------|---|---|-------------------|-------------|
|                      |           | A             | B | C      | D | Σ |                   |             |
| 2402                 | 3.0       | -             | - | -9.90  | - | - | 8.00              | -17.90      |
| 2440                 | 3.0       | -             | - | -10.20 | - | - | 8.00              | -18.20      |
| 2480                 | 3.0       | -             | - | -10.14 | - | - | 8.00              | -18.14      |

**Table 123 - Maximum Power Spectral Density Results**



| Test Configuration       |                              |                 |                |
|--------------------------|------------------------------|-----------------|----------------|
| Frequency Range:         | 2400-2483.5 MHz              | Band:           | 2.4 GHz        |
| Limit Clause(s):         | 15.247 (e)<br>RSS-247 5.2 b) | Test Method(s): | C63.10 11.10.2 |
| Additional Reference(s): | -                            |                 |                |

| DUT Configuration      |                           |                          |      |
|------------------------|---------------------------|--------------------------|------|
| Mode:                  | ePA $\pi/4$ DQPSK (4-DH5) | Duty Cycle (%):          | 78.1 |
| Antenna Configuration: | SISO                      | DCCF (dB):               | -    |
| Active Port(s):        | B (Core 1)                | Peak Antenna Gain (dBi): | 4.80 |

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |       |   |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|-------|---|---|----------|-------------------|-------------|
|                      |           | A             | B     | C | D | $\Sigma$ |                   |             |
| 2404                 | 3.0       | -             | -1.57 | - | - | -        | 8.00              | -9.57       |
| 2441                 | 3.0       | -             | -1.74 | - | - | -        | 8.00              | -9.74       |
| 2476                 | 3.0       | -             | -2.21 | - | - | -        | 8.00              | -10.21      |

**Table 124 - Maximum Power Spectral Density Results**

| Test Configuration       |                              |                 |                |
|--------------------------|------------------------------|-----------------|----------------|
| Frequency Range:         | 2400-2483.5 MHz              | Band:           | 2.4 GHz        |
| Limit Clause(s):         | 15.247 (e)<br>RSS-247 5.2 b) | Test Method(s): | C63.10 11.10.2 |
| Additional Reference(s): | -                            |                 |                |

| DUT Configuration      |                           |                          |      |
|------------------------|---------------------------|--------------------------|------|
| Mode:                  | ePA $\pi/4$ DQPSK (8-DH5) | Duty Cycle (%):          | 78.2 |
| Antenna Configuration: | SISO                      | DCCF (dB):               | -    |
| Active Port(s):        | B (Core 1)                | Peak Antenna Gain (dBi): | 4.80 |

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |       |   |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|-------|---|---|----------|-------------------|-------------|
|                      |           | A             | B     | C | D | $\Sigma$ |                   |             |
| 2404                 | 3.0       | -             | -3.74 | - | - | -        | 8.00              | -11.74      |
| 2441                 | 3.0       | -             | -3.95 | - | - | -        | 8.00              | -11.95      |
| 2476                 | 3.0       | -             | -3.49 | - | - | -        | 8.00              | -11.49      |

**Table 125 - Maximum Power Spectral Density Results**



| Test Configuration       |                              |                 |                |
|--------------------------|------------------------------|-----------------|----------------|
| Frequency Range:         | 2400-2483.5 MHz              | Band:           | 2.4 GHz        |
| Limit Clause(s):         | 15.247 (e)<br>RSS-247 5.2 b) | Test Method(s): | C63.10 11.10.2 |
| Additional Reference(s): | -                            |                 |                |

| DUT Configuration      |                  |                          |      |
|------------------------|------------------|--------------------------|------|
| Mode:                  | ePA GFSK (LE 1M) | Duty Cycle (%):          | 60.5 |
| Antenna Configuration: | SISO             | DCCF (dB):               | -    |
| Active Port(s):        | A (Core 0)       | Peak Antenna Gain (dBi): | 4.50 |

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |   |   |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|---|---|---|----------|-------------------|-------------|
|                      |           | A             | B | C | D | $\Sigma$ |                   |             |
| 2402                 | 3.0       | 1.03          | - | - | - | -        | 8.00              | -6.97       |
| 2440                 | 3.0       | 0.71          | - | - | - | -        | 8.00              | -7.29       |
| 2480                 | 3.0       | 0.76          | - | - | - | -        | 8.00              | -7.24       |

**Table 126 - Maximum Power Spectral Density Results**

| Test Configuration       |                              |                 |                |
|--------------------------|------------------------------|-----------------|----------------|
| Frequency Range:         | 2400-2483.5 MHz              | Band:           | 2.4 GHz        |
| Limit Clause(s):         | 15.247 (e)<br>RSS-247 5.2 b) | Test Method(s): | C63.10 11.10.2 |
| Additional Reference(s): | -                            |                 |                |

| DUT Configuration      |                  |                          |      |
|------------------------|------------------|--------------------------|------|
| Mode:                  | ePA GFSK (LE 2M) | Duty Cycle (%):          | 31.4 |
| Antenna Configuration: | SISO             | DCCF (dB):               | -    |
| Active Port(s):        | A (Core 0)       | Peak Antenna Gain (dBi): | 4.50 |

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |   |   |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|---|---|---|----------|-------------------|-------------|
|                      |           | A             | B | C | D | $\Sigma$ |                   |             |
| 2402                 | 3.0       | -1.44         | - | - | - | -        | 8.00              | -9.44       |
| 2440                 | 3.0       | -1.69         | - | - | - | -        | 8.00              | -9.69       |
| 2480                 | 3.0       | -1.23         | - | - | - | -        | 8.00              | -9.22       |

**Table 127 - Maximum Power Spectral Density Results**



| Test Configuration       |                              |                 |                |
|--------------------------|------------------------------|-----------------|----------------|
| Frequency Range:         | 2400-2483.5 MHz              | Band:           | 2.4 GHz        |
| Limit Clause(s):         | 15.247 (e)<br>RSS-247 5.2 b) | Test Method(s): | C63.10 11.10.2 |
| Additional Reference(s): | 662911 D01 v02r01 E)2)b)     |                 |                |

| DUT Configuration      |                           |                          |      |
|------------------------|---------------------------|--------------------------|------|
| Mode:                  | iPA $\pi/4$ DQPSK (4-DH5) | Duty Cycle (%):          | 78.1 |
| Antenna Configuration: | Beamforming               | DCCF (dB):               | -    |
| Active Port(s):        | A+B (Core 0 + Core 1)     | Peak Antenna Gain (dBi): | 7.66 |

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |        |   |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|--------|---|---|----------|-------------------|-------------|
|                      |           | A             | B      | C | D | $\Sigma$ |                   |             |
| 2404                 | 3.0       | -10.61        | -10.80 | - | - | -7.69    | 6.34              | -14.03      |
| 2441                 | 3.0       | -11.42        | -11.54 | - | - | -8.47    | 6.34              | -14.81      |
| 2476                 | 3.0       | -11.25        | -11.22 | - | - | -8.22    | 6.34              | -14.56      |

**Table 128 - FCC Maximum Power Spectral Density Results**

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |        |   |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|--------|---|---|----------|-------------------|-------------|
|                      |           | A             | B      | C | D | $\Sigma$ |                   |             |
| 2404                 | 3.0       | -10.61        | -10.80 | - | - | -7.69    | 8.00              | -15.69      |
| 2441                 | 3.0       | -11.42        | -11.54 | - | - | -8.47    | 8.00              | -16.47      |
| 2476                 | 3.0       | -11.25        | -11.22 | - | - | -8.22    | 8.00              | -16.22      |

**Table 129 - ISED Maximum Power Spectral Density Results**



| Test Configuration       |                              |                 |                |
|--------------------------|------------------------------|-----------------|----------------|
| Frequency Range:         | 2400-2483.5 MHz              | Band:           | 2.4 GHz        |
| Limit Clause(s):         | 15.247 (e)<br>RSS-247 5.2 b) | Test Method(s): | C63.10 11.10.2 |
| Additional Reference(s): | 662911 D01 v02r01 E)2)b)     |                 |                |

| DUT Configuration      |                           |                          |      |
|------------------------|---------------------------|--------------------------|------|
| Mode:                  | iPA $\pi/4$ DQPSK (8-DH5) | Duty Cycle (%):          | 78.2 |
| Antenna Configuration: | Beamforming               | DCCF (dB):               | -    |
| Active Port(s):        | A+B (Core 0 + Core 1)     | Peak Antenna Gain (dBi): | 7.66 |

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |        |   |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|--------|---|---|----------|-------------------|-------------|
|                      |           | A             | B      | C | D | $\Sigma$ |                   |             |
| 2404                 | 3.0       | -10.98        | -11.25 | - | - | -8.10    | 6.34              | -14.44      |
| 2441                 | 3.0       | -11.05        | -11.00 | - | - | -8.01    | 6.34              | -14.35      |
| 2476                 | 3.0       | -10.65        | -11.20 | - | - | -7.91    | 6.34              | -14.25      |

**Table 130 - FCC Maximum Power Spectral Density Results**

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |        |   |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|--------|---|---|----------|-------------------|-------------|
|                      |           | A             | B      | C | D | $\Sigma$ |                   |             |
| 2404                 | 3.0       | -10.98        | -11.25 | - | - | -8.10    | 8.00              | -16.10      |
| 2441                 | 3.0       | -11.05        | -11.00 | - | - | -8.01    | 8.00              | -16.01      |
| 2476                 | 3.0       | -10.65        | -11.20 | - | - | -7.91    | 8.00              | -15.91      |

**Table 131 - ISED Maximum Power Spectral Density Results**



| Test Configuration       |                              |                 |                |
|--------------------------|------------------------------|-----------------|----------------|
| Frequency Range:         | 2400-2483.5 MHz              | Band:           | 2.4 GHz        |
| Limit Clause(s):         | 15.247 (e)<br>RSS-247 5.2 b) | Test Method(s): | C63.10 11.10.2 |
| Additional Reference(s): | 662911 D01 v02r01 E)2)b)     |                 |                |

| DUT Configuration      |                       |                          |      |
|------------------------|-----------------------|--------------------------|------|
| Mode:                  | iPA GFSK (LE 1M)      | Duty Cycle (%):          | 60.4 |
| Antenna Configuration: | Beamforming           | DCCF (dB):               | -    |
| Active Port(s):        | A+B (Core 0 + Core 1) | Peak Antenna Gain (dBi): | 7.66 |

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |       |   |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|-------|---|---|----------|-------------------|-------------|
|                      |           | A             | B     | C | D | $\Sigma$ |                   |             |
| 2402                 | 3.0       | -7.95         | -8.49 | - | - | -5.20    | 6.34              | -11.54      |
| 2440                 | 3.0       | -8.04         | -8.32 | - | - | -5.17    | 6.34              | -11.51      |
| 2480                 | 3.0       | -8.18         | -8.27 | - | - | -5.21    | 6.34              | -11.55      |

**Table 132 - FCC Maximum Power Spectral Density Results**

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |       |   |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|-------|---|---|----------|-------------------|-------------|
|                      |           | A             | B     | C | D | $\Sigma$ |                   |             |
| 2402                 | 3.0       | -7.95         | -8.49 | - | - | -5.20    | 8.00              | -13.20      |
| 2440                 | 3.0       | -8.04         | -8.32 | - | - | -5.17    | 8.00              | -13.17      |
| 2480                 | 3.0       | -8.18         | -8.27 | - | - | -5.21    | 8.00              | -13.21      |

**Table 133 - ISED Maximum Power Spectral Density Results**



| Test Configuration       |                              |                 |                |
|--------------------------|------------------------------|-----------------|----------------|
| Frequency Range:         | 2400-2483.5 MHz              | Band:           | 2.4 GHz        |
| Limit Clause(s):         | 15.247 (e)<br>RSS-247 5.2 b) | Test Method(s): | C63.10 11.10.2 |
| Additional Reference(s): | 662911 D01 v02r01 E)2)b)     |                 |                |

| DUT Configuration      |                       |                          |      |
|------------------------|-----------------------|--------------------------|------|
| Mode:                  | iPA GFSK (LE 2M)      | Duty Cycle (%):          | 31.3 |
| Antenna Configuration: | Beamforming           | DCCF (dB):               | -    |
| Active Port(s):        | A+B (Core 0 + Core 1) | Peak Antenna Gain (dBi): | 7.66 |

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |        |   |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|--------|---|---|----------|-------------------|-------------|
|                      |           | A             | B      | C | D | $\Sigma$ |                   |             |
| 2402                 | 3.0       | -10.30        | -10.31 | - | - | -7.29    | 6.34              | -13.63      |
| 2440                 | 3.0       | -10.10        | -10.44 | - | - | -7.26    | 6.34              | -13.60      |
| 2480                 | 3.0       | -10.38        | -10.45 | - | - | -7.40    | 6.34              | -13.74      |

**Table 134 - FCC Maximum Power Spectral Density Results**

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |        |   |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|--------|---|---|----------|-------------------|-------------|
|                      |           | A             | B      | C | D | $\Sigma$ |                   |             |
| 2402                 | 3.0       | -10.30        | -10.31 | - | - | -7.29    | 8.00              | -15.29      |
| 2440                 | 3.0       | -10.10        | -10.44 | - | - | -7.26    | 8.00              | -15.26      |
| 2480                 | 3.0       | -10.38        | -10.45 | - | - | -7.40    | 8.00              | -15.40      |

**Table 135 - ISED Maximum Power Spectral Density Results**



| Test Configuration       |                              |                 |                |
|--------------------------|------------------------------|-----------------|----------------|
| Frequency Range:         | 2400-2483.5 MHz              | Band:           | 2.4 GHz        |
| Limit Clause(s):         | 15.247 (e)<br>RSS-247 5.2 b) | Test Method(s): | C63.10 11.10.2 |
| Additional Reference(s): | 662911 D01 v02r01 E)2)b)     |                 |                |

| DUT Configuration      |                           |                          |      |
|------------------------|---------------------------|--------------------------|------|
| Mode:                  | ePA $\pi/4$ DQPSK (4-DH5) | Duty Cycle (%):          | 78.1 |
| Antenna Configuration: | Beamforming               | DCCF (dB):               | -    |
| Active Port(s):        | A+B (Core 0 + Core 1)     | Peak Antenna Gain (dBi): | 7.66 |

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |       |   |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|-------|---|---|----------|-------------------|-------------|
|                      |           | A             | B     | C | D | $\Sigma$ |                   |             |
| 2404                 | 3.0       | -2.74         | -2.60 | - | - | 0.34     | 6.34              | -6.00       |
| 2441                 | 3.0       | -2.89         | -1.92 | - | - | 0.64     | 6.34              | -5.70       |
| 2476                 | 3.0       | -2.89         | -1.97 | - | - | 0.60     | 6.34              | -5.74       |

**Table 136 - FCC Maximum Power Spectral Density Results**

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |       |   |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|-------|---|---|----------|-------------------|-------------|
|                      |           | A             | B     | C | D | $\Sigma$ |                   |             |
| 2404                 | 3.0       | -2.74         | -2.60 | - | - | 0.34     | 8.00              | -7.66       |
| 2441                 | 3.0       | -2.89         | -1.92 | - | - | 0.64     | 8.00              | -7.36       |
| 2476                 | 3.0       | -2.89         | -1.97 | - | - | 0.60     | 8.00              | -7.40       |

**Table 137 - ISED Maximum Power Spectral Density Results**



| Test Configuration       |                              |                 |                |
|--------------------------|------------------------------|-----------------|----------------|
| Frequency Range:         | 2400-2483.5 MHz              | Band:           | 2.4 GHz        |
| Limit Clause(s):         | 15.247 (e)<br>RSS-247 5.2 b) | Test Method(s): | C63.10 11.10.2 |
| Additional Reference(s): | 662911 D01 v02r01 E)2)b)     |                 |                |

| DUT Configuration      |                           |                          |      |
|------------------------|---------------------------|--------------------------|------|
| Mode:                  | ePA $\pi/4$ DQPSK (8-DH5) | Duty Cycle (%):          | 78.2 |
| Antenna Configuration: | Beamforming               | DCCF (dB):               | -    |
| Active Port(s):        | A+B (Core 0 + Core 1)     | Peak Antenna Gain (dBi): | 7.66 |

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |       |   |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|-------|---|---|----------|-------------------|-------------|
|                      |           | A             | B     | C | D | $\Sigma$ |                   |             |
| 2404                 | 3.0       | -3.94         | -4.33 | - | - | -1.12    | 6.34              | -7.46       |
| 2441                 | 3.0       | -3.97         | -3.87 | - | - | -0.91    | 6.34              | -7.25       |
| 2476                 | 3.0       | -4.17         | -4.36 | - | - | -1.25    | 6.34              | -7.59       |

**Table 138 - FCC Maximum Power Spectral Density Results**

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |       |   |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|-------|---|---|----------|-------------------|-------------|
|                      |           | A             | B     | C | D | $\Sigma$ |                   |             |
| 2404                 | 3.0       | -3.94         | -4.33 | - | - | -1.12    | 8.00              | -9.12       |
| 2441                 | 3.0       | -3.97         | -3.87 | - | - | -0.91    | 8.00              | -8.91       |
| 2476                 | 3.0       | -4.17         | -4.36 | - | - | -1.25    | 8.00              | -9.25       |

**Table 139 - ISED Maximum Power Spectral Density Results**



| Test Configuration       |                              |                 |                |
|--------------------------|------------------------------|-----------------|----------------|
| Frequency Range:         | 2400-2483.5 MHz              | Band:           | 2.4 GHz        |
| Limit Clause(s):         | 15.247 (e)<br>RSS-247 5.2 b) | Test Method(s): | C63.10 11.10.2 |
| Additional Reference(s): | 662911 D01 v02r01 E)2)b)     |                 |                |

| DUT Configuration      |                       |                          |      |
|------------------------|-----------------------|--------------------------|------|
| Mode:                  | ePA GFSK (LE 1M)      | Duty Cycle (%):          | 60.5 |
| Antenna Configuration: | Beamforming           | DCCF (dB):               | -    |
| Active Port(s):        | A+B (Core 0 + Core 1) | Peak Antenna Gain (dBi): | 7.66 |

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |      |   |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|------|---|---|----------|-------------------|-------------|
|                      |           | A             | B    | C | D | $\Sigma$ |                   |             |
| 2402                 | 3.0       | 0.76          | 0.38 | - | - | 3.58     | 6.34              | -2.76       |
| 2440                 | 3.0       | 0.92          | 0.88 | - | - | 3.91     | 6.34              | -2.43       |
| 2480                 | 3.0       | 0.25          | 0.44 | - | - | 3.36     | 6.34              | -2.98       |

**Table 140 - FCC Maximum Power Spectral Density Results**

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |      |   |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|------|---|---|----------|-------------------|-------------|
|                      |           | A             | B    | C | D | $\Sigma$ |                   |             |
| 2402                 | 3.0       | 0.76          | 0.38 | - | - | 3.58     | 8.00              | -4.42       |
| 2440                 | 3.0       | 0.92          | 0.88 | - | - | 3.91     | 8.00              | -4.09       |
| 2480                 | 3.0       | 0.25          | 0.44 | - | - | 3.36     | 8.00              | -4.64       |

**Table 141 - ISED Maximum Power Spectral Density Results**



| Test Configuration       |                              |                 |                |
|--------------------------|------------------------------|-----------------|----------------|
| Frequency Range:         | 2400-2483.5 MHz              | Band:           | 2.4 GHz        |
| Limit Clause(s):         | 15.247 (e)<br>RSS-247 5.2 b) | Test Method(s): | C63.10 11.10.2 |
| Additional Reference(s): | 662911 D01 v02r01 E)2)b)     |                 |                |

| DUT Configuration      |                       |                          |      |
|------------------------|-----------------------|--------------------------|------|
| Mode:                  | ePA GFSK (LE 2M)      | Duty Cycle (%):          | 31.3 |
| Antenna Configuration: | Beamforming           | DCCF (dB):               | -    |
| Active Port(s):        | A+B (Core 0 + Core 1) | Peak Antenna Gain (dBi): | 7.66 |

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |       |   |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|-------|---|---|----------|-------------------|-------------|
|                      |           | A             | B     | C | D | $\Sigma$ |                   |             |
| 2402                 | 3.0       | -1.24         | -1.68 | - | - | 1.55     | 6.34              | -4.79       |
| 2440                 | 3.0       | -1.86         | -1.88 | - | - | 1.14     | 6.34              | -5.20       |
| 2480                 | 3.0       | -1.50         | -1.68 | - | - | 1.42     | 6.34              | -4.92       |

**Table 142 - FCC Maximum Power Spectral Density Results**

| Test Frequency (MHz) | RBW (kHz) | PSD (dBm/RBW) |       |   |   |          | Limit (dBm/3 kHz) | Margin (dB) |
|----------------------|-----------|---------------|-------|---|---|----------|-------------------|-------------|
|                      |           | A             | B     | C | D | $\Sigma$ |                   |             |
| 2402                 | 3.0       | -1.24         | -1.68 | - | - | 1.55     | 8.00              | -6.45       |
| 2440                 | 3.0       | -1.86         | -1.88 | - | - | 1.14     | 8.00              | -6.86       |
| 2480                 | 3.0       | -1.50         | -1.68 | - | - | 1.42     | 8.00              | -6.58       |

**Table 143 - ISED Maximum Power Spectral Density Results**

FCC 47 CFR Part 15, Limit Clause 15.247 (e)

The power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.



## 2.6.7 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             |
| MXA Signal Analyser          | Keysight Technologies | N9020B          | 6417   | 24                          | 26-Feb-2025             |
| MXA Signal Analyser          | Keysight Technologies | N9020B          | 6419   | 24                          | 28-Feb-2025             |
| Signal Conditioning Unit     | TUV SUD               | SPECTRUM_SCU001 | 6426   | 12                          | 07-Feb-2025             |
| Signal Conditioning Unit     | TUV SUD               | SPECTRUM_SCU001 | 6517   | 12                          | 22-Feb-2025             |
| Signal Conditioning Unit     | TUV SUD               | SPECTRUM_SCU001 | 6518   | 12                          | 16-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 | 6526   | 12                          | 22-Feb-2025             |
| SCU Cable Assembly           | TUV SUD               | SPECTRUM_SCU_CA | 6527   | 12                          | 05-Mar-2025             |
| SCU Cable Assembly           | TUV SUD               | SPECTRUM_SCU_CA | 6528   | 12                          | 22-Feb-2025             |
| SCU Cable Assembly           | TUV SUD               | SPECTRUM_SCU_CA | 6529   | 12                          | 16-Feb-2025             |
| SCU Cable Assembly           | TUV SUD               | SPECTRUM_SCU_CA | 6530   | 12                          | 16-Feb-2025             |
| SCU Cable Assembly           | TUV SUD               | SPECTRUM_SCU_CA | 6531   | 12                          | 16-Feb-2025             |
| AC Programmable Power Supply | iTech                 | IT7324          | 6665   | -                           | O/P Mon                 |
| 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 SCU       | TUV SUD               | SPECTRUM_SCU_CA | 6754   | 0                           | 06-Feb-2025             |

**Table 144**

O/P Mon - Output Monitored using calibrated equipment



### 3 Measurement Uncertainty

For a 95% confidence level, the measurement uncertainties for defined systems are:

| Test Name                      | Measurement Uncertainty                                        |
|--------------------------------|----------------------------------------------------------------|
| Restricted Band Edges          | 30 MHz to 1 GHz: $\pm 5.2$ dB<br>1 GHz to 40 GHz: $\pm 6.3$ dB |
| Emission Bandwidth             | $\pm 144.25$ kHz                                               |
| Maximum Conducted Output Power | $\pm 1.38$ dB                                                  |
| Authorised Band Edges          | 30 MHz to 1 GHz: $\pm 5.2$ dB<br>1 GHz to 40 GHz: $\pm 6.3$ dB |
| Spurious Radiated Emissions    | 30 MHz to 1 GHz: $\pm 5.2$ dB<br>1 GHz to 40 GHz: $\pm 6.3$ dB |
| Power Spectral Density         | $\pm 1.49$ dB                                                  |

**Table 145**

#### Measurement Uncertainty Decision Rule – Accuracy Method

Determination of conformity with the specification limits is based on the decision rule according to IEC Guide 115:2021, Clause 4.4.3 (Procedure 2). The measurement results are directly compared with the test limit to determine conformance with the requirements of the standard.

Risk: The uncertainty of measurement about the measured result is negligible with regard to the final pass/fail decision. The measurement result can be directly compared with the test limit to determine conformance with the requirement (compare IEC Guide 115). The level of risk to falsely accept and falsely reject items is further described in ILAC-G8.