

Test report

294513-4R1TRFWL

Date of issue: October 28, 2015

Applicant:

Tait Limited

Product:

Portable Transceiver (with Bluetooth Module)

Model:

TPDL3A

FCC ID:

CASTPDL3A

IC Registration number:

737A-TPDL3A

Specifications:

- ◆ **FCC 47 CFR Part 15 Subpart C, §15.247 – Partial**
Operation in the 902–928 MHz, 2400–2483.5 MHz, 5725–5850 MHz
- ◆ **RSS-247, Issue 1, May 2015, Section 5 – Partial**
Digital Transmission Systems (DTSS), Frequency Hopping Systems (FHSs)
and Licence-Exempt Local Area Network (LE-LAN) Devices

Test location

| | |
|--------------|--|
| Company name | Nemko Canada Inc. |
| Address | 303 River Road |
| City | Ottawa |
| Province | Ontario |
| Postal code | K1V 1H2 |
| Country | Canada |
| Telephone | +1 613 737 9680 |
| Facsimile | +1 613 737 9691 |
| Toll free | +1 800 563 6336 |
| Website | www.nemko.com |
| Site number | FCC: 176392; IC: 2040A-4 (3 m semi anechoic chamber) |

| | |
|--------------------|---|
| Tested by | Predrag Golic, EMC Specialist |
| Reviewed by | Andrey Adelberg, Senior Wireless/EMC Specialist |
| Review date | October 28, 2015 |
| Reviewer signature | |

Limits of responsibility

Note that the results contained in this report relate only to the items tested and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.

This test report has been completed in accordance with the requirements of ISO/IEC 17025. All results contain in this report are within Nemko Canada's ISO/IEC 17025 accreditation.

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Section 1. Report summary

1.1 Applicant and manufacturer

| | |
|--------------|-----------------------------|
| Company name | Tait Limited |
| Address | 245 Wooldridge Road |
| City | Harewood, Christchurch 8051 |
| Country | New Zealand |

1.2 Test specifications

| | |
|--|--|
| FCC 47 CFR Part 15, Subpart C, Clause 15.247 | Operation in the 902–928 MHz, 2400–2483.5 MHz |
| RSS-247, Issue 1, May 2015, Section 5 | Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices |

1.3 Test methods

| | |
|-----------------------------------|--|
| DA 00-705 Released March 30, 2000 | Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems |
| ANSI C63.10 v2013 | American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices |

1.4 Statement of compliance

In the configuration tested, the EUT was found compliant.

Testing was completed against all relevant requirements of the test standard. Results obtained indicate that the product under test complies in full with the requirements tested. The test results relate only to the items tested.

See “Summary of test results” for full details.

1.5 Exclusions

Limited number of tests is performed as per quote Q10282106R2.

1.6 Test report revision history

| Revision # | Details of changes made to test report |
|------------|--|
| TRF | Original report issued |
| R1TRF | Updated applicant's address and output power results |

Section 2. Summary of test results

2.1 FCC Part 15 Subpart C, general requirements test results

| Part | Test description | Verdict |
|------------|---------------------------|-------------------------|
| §15.207(a) | Conducted limits | Not tested |
| §15.31(e) | Variation of power source | Not tested ¹ |
| §15.203 | Antenna requirement | Not tested ² |

Notes: ¹ Measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, was performed with the supply voltage varied between 85 % and 115 % of the nominal rated supply voltage. No noticeable output power variation was observed

² The Antenna is located within the enclosure of EUT and is non-detachable.

Limited testing was performed as per quote #Q10282106R2

2.2 FCC Part 15 Subpart C, intentional radiators test results

| Part | Test description | Verdict |
|--------------------|--|----------------|
| §15.247(a)(1)(i) | Frequency hopping systems operating in the 902–928 MHz band | Not applicable |
| §15.247(a)(1)(ii) | Frequency hopping systems operating in the 5725–5850 MHz band | Not applicable |
| §15.247(a)(1)(iii) | Frequency hopping systems operating in the 2400–2483.5 MHz band | Not tested |
| §15.247(a)(2) | Minimum 6 dB bandwidth for systems using digital modulation techniques | Not applicable |
| §15.247(b)(1) | Maximum peak output power of frequency hopping systems operating in the 2400–2483.5 MHz band and 5725–5850 MHz band | Pass |
| §15.247(b)(2) | Maximum peak output power of Frequency hopping systems operating in the 902–928 MHz band | Not applicable |
| §15.247(b)(3) | Maximum peak output power of systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands | Not applicable |
| §15.247(c)(1) | Fixed point-to-point operation with directional antenna gains greater than 6 dBi | Not applicable |
| §15.247(c)(2) | Transmitters operating in the 2400–2483.5 MHz band that emit multiple directional beams | Not applicable |
| §15.247(d) | Spurious emissions | Pass |
| §15.247(e) | Power spectral density for digitally modulated devices | Not applicable |
| §15.247(f) | Time of occupancy for hybrid systems | Not applicable |

Note: EUT operates in two modes: frequency hopping device (BT) and digitally modulated device (BLE)

Limited testing was performed as per quote #Q10282106R2

2.3 IC RSS-GEN, Issue 4, test results

| Part | Test description | Verdict |
|-------|--|----------------|
| 7.1.2 | Receiver radiated emission limits | Not applicable |
| 7.1.3 | Receiver conducted emission limits | Not applicable |
| 8.8 | Power Line Conducted Emissions Limits for Licence-Exempt Radio Apparatus | Not tested |

Notes: ¹ According to sections 5.2 and 5.3 of RSS-Gen, Issue 4 the EUT does not have a stand-alone receiver neither scanner receiver, therefore exempt from receiver requirements.

Limited testing was performed as per quote #Q10282106R2

2.4 IC RSS-247, Issue 1, test results

| Part | Test description | Verdict |
|---------|--|----------------|
| 5.1 | Frequency Hopping Systems (FHSs) | |
| 5.1 (1) | Bandwidth of a frequency hopping channel | Not tested |
| 5.1 (2) | Minimum channel spacing for frequency hopping systems | Not tested |
| 5.1 (3) | Frequency hopping systems operating in the 902–928 MHz band | Not applicable |
| 5.1 (4) | Frequency hopping systems operating in the 2400–2483.5 MHz band | Not tested |
| 5.1 (5) | Frequency hopping systems operating in the 5725–5850 MHz band | Not applicable |
| 5.2 | Digital Transmission Systems (DTSS) | |
| 5.2 (1) | Minimum 6 dB bandwidth | Not applicable |
| 5.2 (2) | Maximum power spectral density | Not applicable |
| 5.3 | Hybrid Systems | |
| 5.3 (1) | Digital modulation turned off | Not applicable |
| 5.3 (2) | Frequency hopping turned off | Not applicable |
| 5.4 | Transmitter output power and e.i.r.p. requirements | |
| 5.4 (1) | Frequency hopping systems operating in the 902–928 MHz band | Not applicable |
| 5.4 (2) | Frequency hopping systems operating in the 2400–2483.5 MHz band | Pass |
| 5.4 (3) | Frequency hopping systems operating in the 5725–5850 MHz | Not applicable |
| 5.4 (4) | Systems employing digital modulation techniques | Not applicable |
| 5.4 (5) | Point-to-point systems in 2400–2483.5 MHz and 5725–5850 MHz band | Not applicable |
| 5.4 (6) | Transmitters which operate in the 2400–2483.5 MHz band with multiple directional beams | Not applicable |
| 5.5 | Out-of-band emissions | Pass |

Notes: Limited testing was performed as per quote #Q10282106R2

Section 3. Equipment under test (EUT) details

3.1 Sample information

| | |
|------------------------|-------------------------|
| Receipt date | September 16, 2015 |
| Nemko sample ID number | 133000350 and 133000351 |

3.2 EUT information

| | |
|---------------|--|
| Product name | Bluetooth Module (within Portable Transceiver) |
| Model | TPDL3A |
| Serial number | 25714893 and 25714901 |

3.3 Technical information

| | |
|---|--|
| Applicant IC company number | 737A |
| IC UPN number | TPDL3A |
| All used IC test site(s) Reg. number | 2040A-4 |
| RSS number and Issue number | RSS-247 Issue 1, May 2015 |
| Frequency band | 2400–2483.5 MHz |
| Frequency Min (MHz) | 2402 |
| Frequency Max (MHz) | 2480 |
| Measured BW (kHz) (6 dB) | Not tested |
| Calculated BW (kHz), as per TRC-43 | N/A |
| Type of modulation | GFSK, QPSK, 8PSK |
| Emission classification (F1D, G1D, D1D) | F1E |
| Transmitter spurious, Units @ distance | 29.1 dBμV/m at 404.8 MHz @ 3 m |
| Power requirements | (All tests were performed with fully charged battery.) the charger uses 115 V _{AC} 60 Hz. |
| Antenna information | The EUT uses a unique antenna coupling/ non-detachable antenna to the intentional radiator. Manufacturer: Murata Manufacturer Part Number: LBEE18XQFC-414 Antenna gain: 1.39 dBi |

3.4 Product description and theory of operation

Internal Bluetooth is provided in the TP9000 hand-portable terminals.

The internal Bluetooth capability of the portable shall be limited to using the Bluetooth Headset and Handsfree profiles for connection to a single monophonic Bluetooth audio headset. In this way, Bluetooth technology is being used to provision for a wireless audio connection between the TPD radio and Bluetooth headset. No data will be passed across the Bluetooth link between the TPD radio and Bluetooth headset. The Bluetooth audio link, once enabled, will maintain a continuous Bluetooth audio link between the TPD radio and headset, and audio transmitted will be controlled either by the TPD radio or a wired-PTT tethered to the TPD radio. Operation of a wireless PTT hosted on the Bluetooth headset or elsewhere shall not be compatible with the TPD radio at first release.

3.5 EUT exercise details

As provided by the Tait TPD Bluetooth CCTM Control Ed 02 document - previously supplied.

3.6 EUT setup diagram

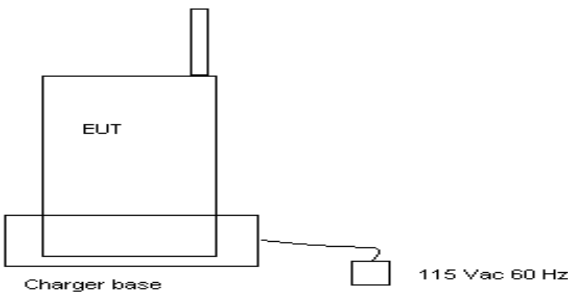


Figure 3.6-1: Setup diagram

Section 4. Engineering considerations

4.1 Modifications incorporated in the EUT

There were no modifications performed to the EUT during this assessment.

4.2 Technical judgment

None

4.3 Deviations from laboratory tests procedures

No deviations were made from laboratory procedures.

Section 5. Test conditions

5.1 Atmospheric conditions

| | |
|-------------------|---------------|
| Temperature | 15–30 °C |
| Relative humidity | 20–75 % |
| Air pressure | 860–1060 mbar |

When it is impracticable to carry out tests under these conditions, a note to this effect stating the ambient temperature and relative humidity during the tests shall be recorded and stated.

5.2 Power supply range

The normal test voltage for equipment to be connected to the mains shall be the nominal mains voltage. For the purpose of the present document, the nominal voltage shall be the declared voltage, or any of the declared voltages $\pm 5\%$, for which the equipment was designed.



Section 6. Measurement uncertainty

6.1 Uncertainty of measurement

Measurement uncertainty budgets for the tests are detailed below. Measurement uncertainty calculations assume a coverage factor of $K = 2$ with 95% certainty.

| Test name | Measurement uncertainty, dB |
|-----------------------------------|-----------------------------|
| All antenna port measurements | 0.55 |
| Conducted spurious emissions | 1.13 |
| Radiated spurious emissions | 3.78 |
| AC power line conducted emissions | 3.55 |

Section 7. Test equipment

7.1 Test equipment list

Table 7.1-1: Equipment list

| Equipment | Manufacturer | Model no. | Asset no. | Cal cycle | Next cal. |
|----------------------------|------------------|--------------|-----------|-----------|--------------|
| 3 m EMI test chamber | TDK | SAC-3 | FA002047 | 1 year | Feb. 25/16 |
| Flush mount turntable | Sunol | FM2022 | FA002082 | — | NCR |
| Controller | Sunol | SC104V | FA002060 | — | NCR |
| Antenna mast | Sunol | TLT2 | FA002061 | — | NCR |
| Receiver/spectrum analyzer | Rohde & Schwarz | ESU 26 | FA002043 | 1 year | Jan. 07/16 |
| Receiver/spectrum analyzer | Rohde & Schwarz | ESU 40 | FA002071 | 1 year | April. 06/16 |
| Spectrum analyzer | Rohde & Schwarz | FSU | FA001877 | 1 year | Mar. 27/16 |
| Bilog antenna | Sunol June 21/14 | JB3 | FA002108 | 1 year | Apr. 12/16 |
| Horn antenna #2 | EMCO | 3115 | FA000825 | 1 year | Aug. 31/16 |
| 50 Ω coax cable | Huber + Suhner | NONE | FA002392 | 1 year | May 05/16 |
| 50 Ω coax cable | Huber + Suhner | NONE | FA002074 | 1 year | May 05/16 |
| 1–18 GHz pre-amplifier | JCA | JCA118-503 | FA002091 | 1 year | May 05/16 |
| 18–26 GHz pre-amplifier | Narda | BBS-1826N612 | FA001550 | — | VOU |
| Horn antenna 18–26.5 GHz | Electro-metrics | SH-50/60-1 | FA000479 | — | VOU |

Note: NCR - no calibration required, VOU - verify on use

Section 8. Testing data

8.1 FCC 15.247(b) and RSS-247 5.4 (2) Transmitter output power and e.i.r.p. requirements

8.1.1 Definitions and limits

FCC:

- (b) The maximum peak conducted output power of the intentional radiator shall not exceed the following:
- (1) For frequency hopping systems operating in the 2400–2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725–5850 MHz band: 1 watt (30 dBm). For all other frequency hopping systems in the 2400–2483.5 MHz band: 0.125 watts (21 dBm).
 - (4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

IC:

For FHSs operating in the band 2400–2483.5 MHz, the maximum peak conducted output power shall not exceed 1.0 W (30 dBm) and the e.i.r.p. shall not exceed 4 W (36 dBm) if the hopset uses 75 or more hopping channels; the maximum peak conducted output power shall not exceed 0.125 W (21 dBm) and the e.i.r.p. shall not exceed 0.5 W (27 dBm) if the hopset uses less than 75 hopping channels.

8.1.2 Test summary

| | | | |
|---------------|-----------------|-------------------|-----------|
| Test date | October 8, 2015 | Temperature | 23 °C |
| Test engineer | Kevin Rose | Air pressure | 1020 mbar |
| Verdict | Pass | Relative humidity | 31 % |

8.1.3 Observations, settings and special notes

EUT was set to transmit in BT mode. Spectrum analyser settings for output power:

| | |
|----------------------|----------|
| Resolution bandwidth | 3 MHz |
| Video bandwidth | ≥ RBW |
| Frequency span | 20 MHz |
| Detector mode | Peak |
| Trace mode | Max Hold |

8.1.4 Test data

Table 8.1-1: Output power and EIRP results

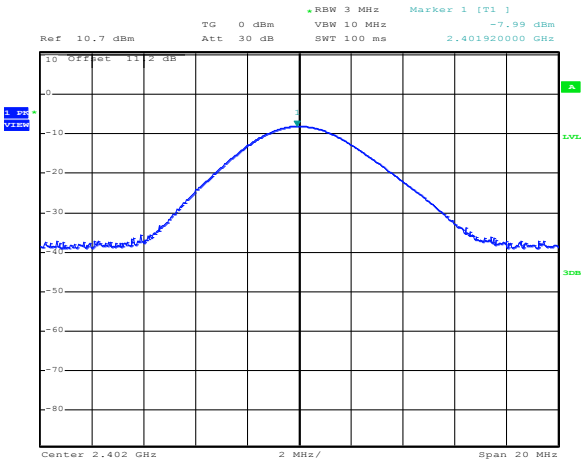
| Frequency, MHz | Output power, dBm | Output power limit, dBm | Margin, dB | Antenna gain, dBi | EIRP, dBm | EIRP limit, dBm | EIRP margin, dB |
|----------------|-------------------|-------------------------|------------|-------------------|-----------|-----------------|-----------------|
| 2402 | -7.99 | 30.00 | 37.99 | 1.39 | -6.60 | 36.00 | 42.60 |
| 2440 | -6.95 | 30.00 | 36.95 | 1.39 | -5.56 | 36.00 | 41.56 |
| 2480 | -6.04 | 30.00 | 36.04 | 1.39 | -4.65 | 36.00 | 40.65 |

EIRP = Output power + Antenna gain

EUT was transmitting with GFSK modulation during measurement.

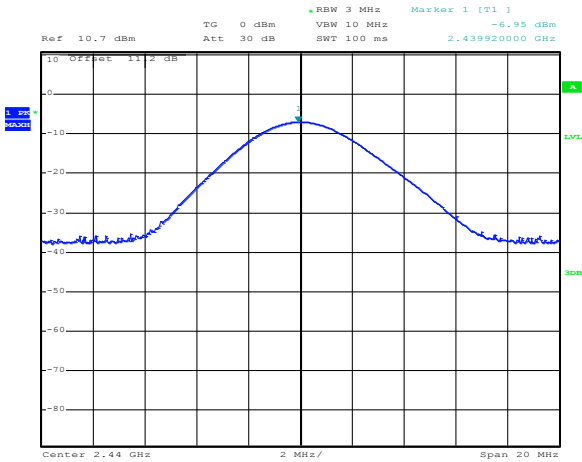
Section 8
Test name
Specification

Testing data
FCC 15.247(b) and RSS-247 5.4 (2) Transmitter output power and e.i.r.p. requirements
FCC Part 15 Subpart C and RSS-247, Issue 1



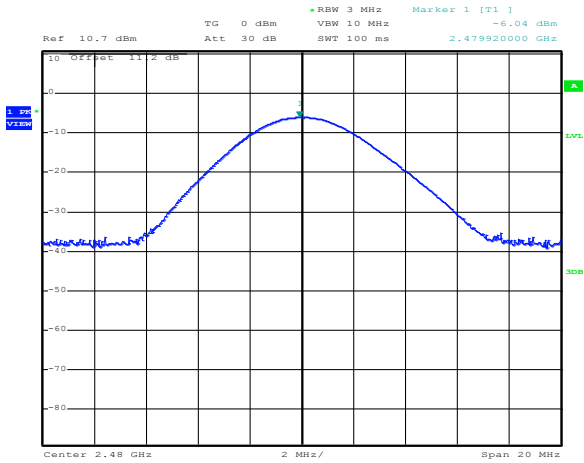
Date: 8.OCT.2015 15:01:47

Figure 8.1-1: Output power on low channel



Date: 8.OCT.2015 15:05:11

Figure 8.1-2: Output power on mid channel



Date: 8.OCT.2015 15:03:40

Figure 8.1-3: Output power on high channel

8.2 FCC 15.247(d) and RSS-247 5.5 Spurious (out-of-band) emissions

8.2.1 Definitions and limits

FCC:

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) (see §15.205(c)).

IC:

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

Table 8.2-1: FCC §15.209 and RSS-Gen – Radiated emission limits

| Frequency, MHz | Field strength of emissions | | Measurement distance, m |
|-------------------|-----------------------------|---------------------------------|-------------------------|
| | µV/m | dBµV/m | |
| 0.009–0.490 | 2400/F | $67.6 - 20 \times \log_{10}(F)$ | 300 |
| 0.490–1.705 | 24000/F | $87.6 - 20 \times \log_{10}(F)$ | 30 |
| 1.705–30.0 | 30 | 29.5 | 30 |
| 30–88 | 100 | 40.0 | 3 |
| 88–216 | 150 | 43.5 | 3 |
| 216–960 | 200 | 46.0 | 3 |
| above 960 | 500 | 54.0 | 3 |

Notes: In the emission table above, the tighter limit applies at the band edges.

For frequencies above 1 GHz the limit on peak RF emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test

Table 8.2-2: IC restricted frequency bands

| MHz | MHz | MHz | GHz |
|-----------------|---------------------|---------------|-------------|
| 0.090–0.110 | 12.51975–12.52025 | 399.9–410 | 5.35–5.46 |
| 2.1735–2.1905 | 12.57675–12.57725 | 608–614 | 7.25–7.75 |
| 3.020–3.026 | 13.36–13.41 | 960–1427 | 8.025–8.5 |
| 4.125–4.128 | 16.42–16.423 | 1435–1626.5 | 9.0–9.2 |
| 4.17725–4.17775 | 16.69475–16.69525 | 1645.5–1646.5 | 9.3–9.5 |
| 4.20725–4.20775 | 16.80425–16.80475 | 1660–1710 | 10.6–12.7 |
| 5.677–5.683 | 25.5–25.67 | 1718.8–1722.2 | 13.25–13.4 |
| 6.215–6.218 | 37.5–38.25 | 2200–2300 | 14.47–14.5 |
| 6.26775–6.26825 | 73–74.6 | 2310–2390 | 15.35–16.2 |
| 6.31175–6.31225 | 74.8–75.2 | 2655–2900 | 17.7–21.4 |
| 8.291–8.294 | 108–138 | 3260–3267 | 22.01–23.12 |
| 8.362–8.366 | 156.52475–156.52525 | 3332–3339 | 23.6–24.0 |
| 8.37625–8.38675 | 156.7–156.9 | 3345.8–3358 | 31.2–31.8 |
| 8.41425–8.41475 | 240–285 | 3500–4400 | 36.43–36.5 |
| 12.29–12.293 | 322–335.4 | 4500–5150 | Above 38.6 |

Note: Certain frequency bands listed in Table 8.2-2 and above 38.6 GHz are designated for low-power licence-exempt applications. These frequency bands and the requirements that apply to the devices are set out in this Standard

Table 8.2-3: FCC restricted frequency bands

| MHz | MHz | MHz | GHz |
|-------------------|---------------------|---------------|-------------|
| 0.090–0.110 | 16.42–16.423 | 399.9–410 | 4.5–5.15 |
| 0.495–0.505 | 16.69475–16.69525 | 608–614 | 5.35–5.46 |
| 2.1735–2.1905 | 16.80425–16.80475 | 960–1240 | 7.25–7.75 |
| 4.125–4.128 | 25.5–25.67 | 1300–1427 | 8.025–8.5 |
| 4.17725–4.17775 | 37.5–38.25 | 1435–1626.5 | 9.0–9.2 |
| 4.20725–4.20775 | 73–74.6 | 1645.5–1646.5 | 9.3–9.5 |
| 6.215–6.218 | 74.8–75.2 | 1660–1710 | 10.6–12.7 |
| 6.26775–6.26825 | 108–121.94 | 1718.8–1722.2 | 13.25–13.4 |
| 6.31175–6.31225 | 123–138 | 2200–2300 | 14.47–14.5 |
| 8.291–8.294 | 149.9–150.05 | 2310–2390 | 15.35–16.2 |
| 8.362–8.366 | 156.52475–156.52525 | 2483.5–2500 | 17.7–21.4 |
| 8.37625–8.38675 | 156.7–156.9 | 2690–2900 | 22.01–23.12 |
| 8.41425–8.41475 | 162.0125–167.17 | 3260–3267 | 23.6–24.0 |
| 12.29–12.293 | 167.72–173.2 | 3332–3339 | 31.2–31.8 |
| 12.51975–12.52025 | 240–285 | 3345.8–3358 | 36.43–36.5 |
| 12.57675–12.57725 | 322–335.4 | 3600–4400 | Above 38.6 |
| 13.36–13.41 | | | |

8.2.2 Test summary

| | | | |
|---------------|--------------------|-------------------|-----------|
| Test date | September 17, 2015 | Temperature | 22 °C |
| Test engineer | Predrag Golic | Air pressure | 1000 mbar |
| Verdict | Pass | Relative humidity | 30 % |

8.2.3 Observations, settings and special notes

The spectrum was searched from 30 MHz to the 10th harmonic.
Radiated measurements were performed at a distance of 3 m.
Since fundamental power was tested using peak method, the spurious emissions limit is –20 dBc/100 kHz

Spectrum analyser settings for radiated measurements within restricted bands below 1 GHz:

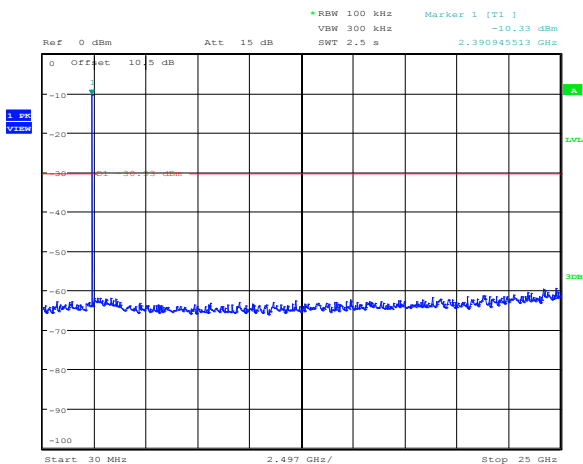
| | |
|-----------------------|----------|
| Resolution bandwidth: | 100 kHz |
| Video bandwidth: | 300 kHz |
| Detector mode: | Peak |
| Trace mode: | Max Hold |

Spectrum analyser settings for peak radiated measurements within restricted bands above 1 GHz:

| | |
|-----------------------|----------|
| Resolution bandwidth: | 1 MHz |
| Video bandwidth: | 3 MHz |
| Detector mode: | Peak |
| Trace mode: | Max Hold |

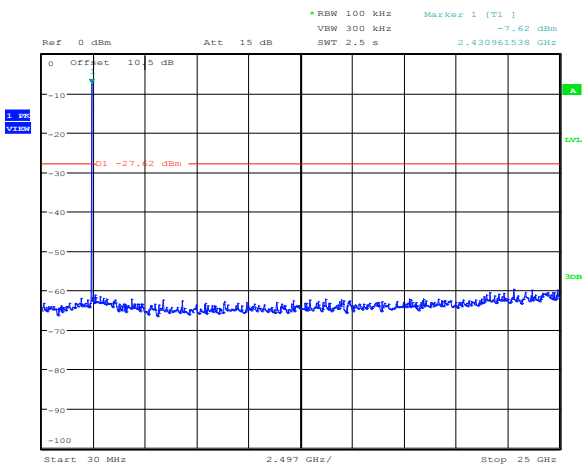
Spectrum analyser settings for average radiated measurements within restricted bands above 1 GHz:

| | |
|-----------------------|----------|
| Resolution bandwidth: | 1 MHz |
| Video bandwidth: | 10 Hz |
| Detector mode: | Peak |
| Trace mode: | Max Hold |



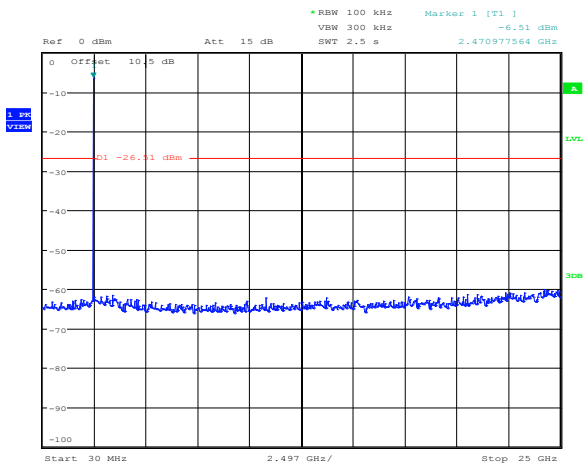
Date: 17.SEP.2015 13:55:51

Figure 8.2-1: Conducted spurious emissions, low channel



Date: 17.SEP.2015 13:58:52

Figure 8.2-2: Conducted spurious emissions, mid channel



Date: 17.SEP.2015 14:00:33

Figure 8.2-3: Conducted spurious emissions, high channel

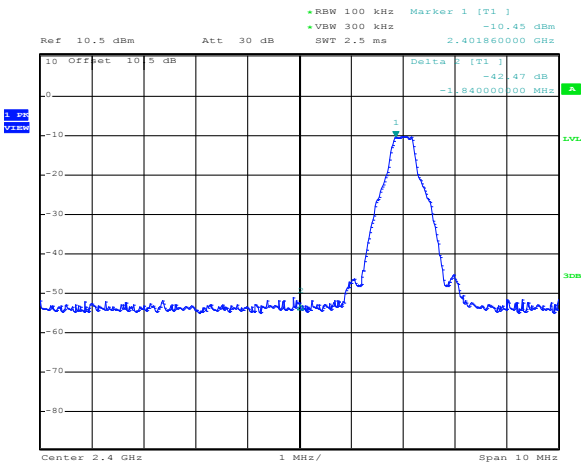
Table 8.2-4: Radiated spurious emissions results

| Frequency (MHz) | Peak field strength (dBμV/m) | Average limit (dBμV/m) | Margin (dB) |
|-----------------|------------------------------|------------------------|-------------|
| 2390.0 | 50.60 | 54.00 | 3.40 |
| 2483.5 | 33.10 | 54.00 | 20.90 |

Note: Peak measurement results were below the average limit line.

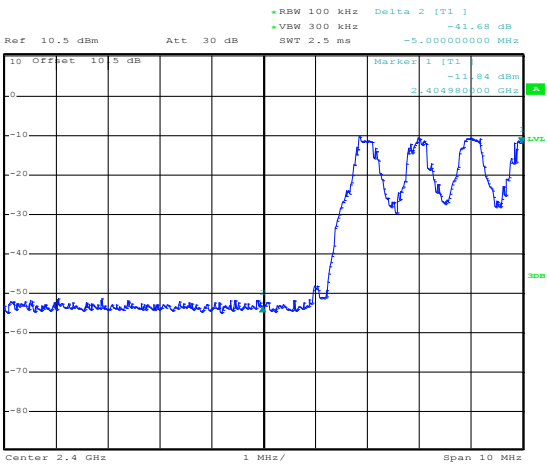
Section 8
Test name
Specification

Testing data
FCC 15.247(d) and RSS-247 5.5 Spurious (out-of-band) emissions
FCC Part 15 Subpart C and RSS-247, Issue 1



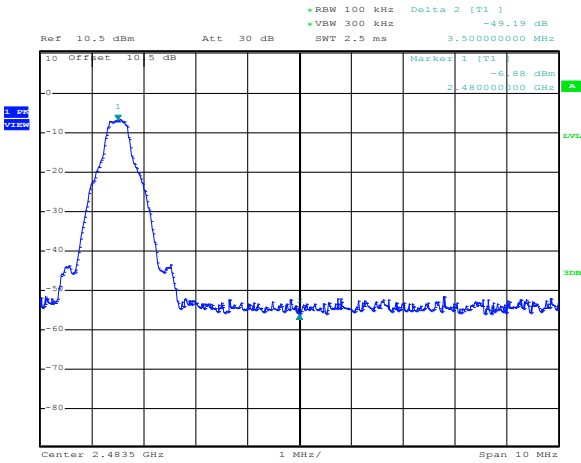
Date: 21.SEP.2015 07:00:47

Figure 8.2-4: Lower band edge emission, hopping is turned off



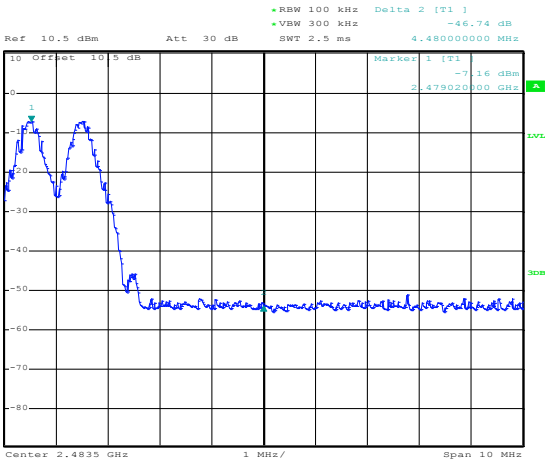
Date: 21.SEP.2015 07:03:38

Figure 8.2-5: Lower band edge emission, hopping is turned on



Date: 21.SEP.2015 07:06:53

Figure 8.2-6: Upper band edge emission, hopping is turned off



Date: 21.SEP.2015 07:09:03

Figure 8.2-7: Upper band edge emission, hopping is turned on

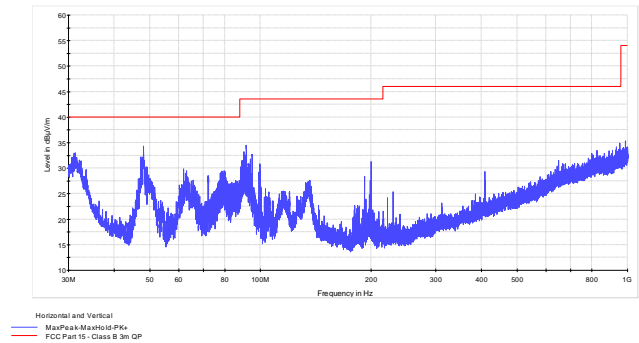


Figure 8.2-8: Radiated spurious emissions below 1 GHz, low channel

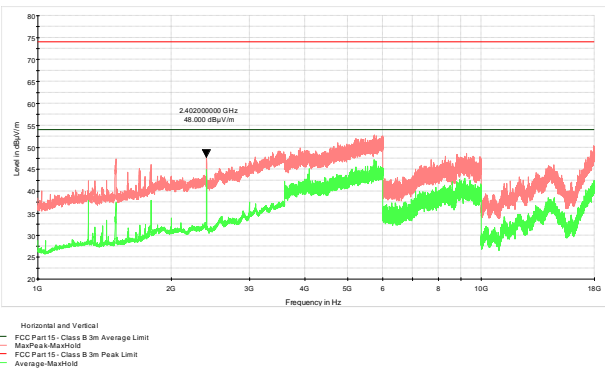


Figure 8.2-9: Radiated spurious emissions above 1 GHz, low channel

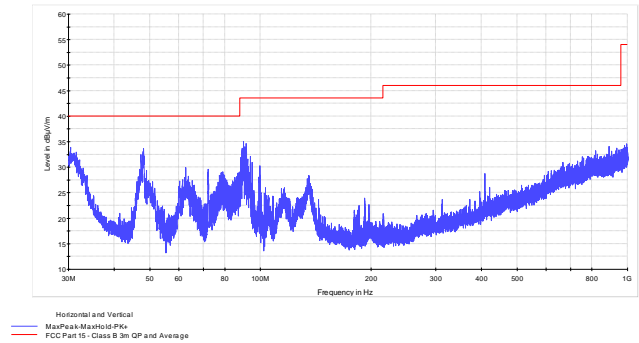


Figure 8.2-10: Radiated spurious emissions below 1 GHz, mid channel

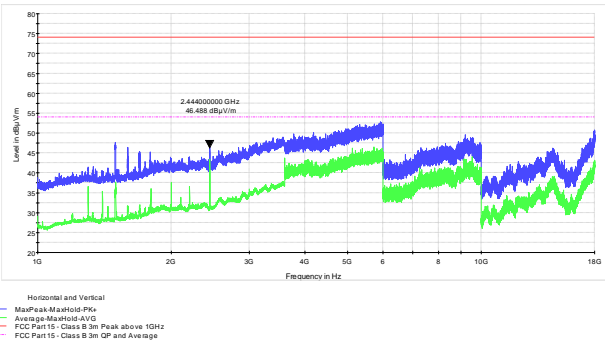


Figure 8.2-11: Radiated spurious emissions above 1 GHz, mid channel

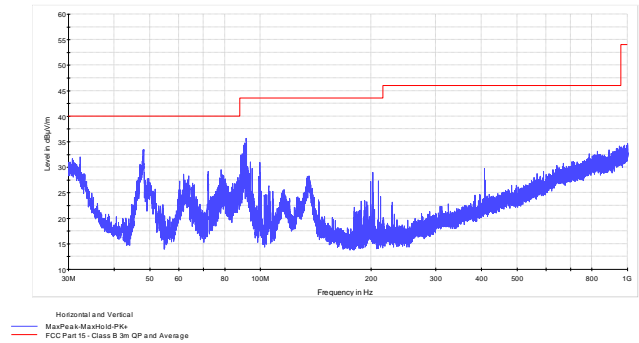


Figure 8.2-12: Radiated spurious emissions below 1 GHz, high channel

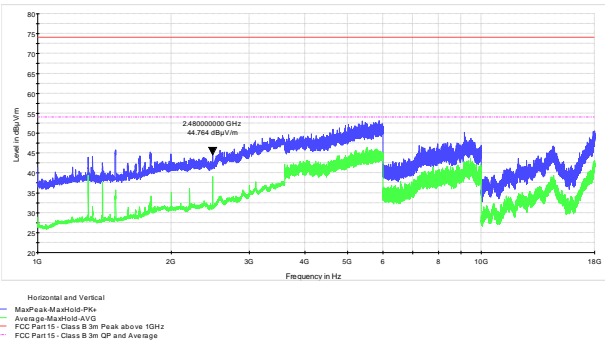


Figure 8.2-13: Radiated spurious emissions above 1 GHz, high channel

Section 9. Block diagrams of test set-ups

9.1 Radiated emissions set-up

