

Produkte  
Products

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                              |                                                                                                                                                                |                                                                                                                                     |                                                             |                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|-----------------------------------------|
| <b>Prüfbericht - Nr.: 14041158 001</b>                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                              |                                                                                                                                                                | <b>Seite 1 von 15</b>                                                                                                               |                                                             |                                         |
| <i>Test Report No.:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                              |                                                                                                                                                                | <i>Page 1 of 15</i>                                                                                                                 |                                                             |                                         |
| <b>Auftraggeber:</b><br><i>Client:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                              | R2P Pet Ltd<br>Suite UG305, Chinachem Golden Plaza, 77 Mody Road<br>Tsimshatsui East<br>Hong Kong                                                              |                                                                                                                                     |                                                             |                                         |
| <b>Gegenstand der Prüfung:</b> Bluetooth Pedometer for Pet<br><i>Test Item:</i>                                                                                                                                                                                                                                                                                                                                                                                                     |                                              |                                                                                                                                                                |                                                                                                                                     |                                                             |                                         |
| <b>Bezeichnung:</b><br><i>Identification:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                              | Please refer to multiple models on page 3                                                                                                                      |                                                                                                                                     | <b>Serien-Nr.:</b><br><i>Serial No.:</i> Engineering sample |                                         |
| <b>Wareneingangs-Nr.:</b><br><i>Receipt No.:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                              | A000230785-001,<br>A000230785-002                                                                                                                              |                                                                                                                                     | <b>Eingangsdatum:</b> 21.07.2015<br><i>Date of Receipt:</i> |                                         |
| <b>Prüfart:</b><br><i>Testing Location:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                              | Hong Kong Productivity Council<br>HKPC Building, 78 Tat Chee Avenue, Kowloon, Hong Kong                                                                        |                                                                                                                                     |                                                             |                                         |
| <b>Zustand des Prüfgegenstandes bei Anlieferung:</b><br><i>Condition of test item at delivery:</i>                                                                                                                                                                                                                                                                                                                                                                                  |                                              |                                                                                                                                                                | Test sample(s) is/are not damaged and suitable for testing.                                                                         |                                                             |                                         |
| <b>Prüfgrundlage:</b><br><i>Test Specification:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                              | FCC Part 15 Subpart C<br>RSS-210 Issue 8<br>RSS-Gen Issue 4<br>ANSI C63.10-2013                                                                                |                                                                                                                                     |                                                             |                                         |
| <b>Prüfresultat:</b><br><i>Test Results:</i>                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                              | Das vorstehend beschriebene Gerät wurde geprüft und entspricht oben genannter Prüfgrundlage.<br><br>The above mentioned product was tested and <b>passed</b> . |                                                                                                                                     |                                                             |                                         |
| <b>Prüflaboratorium:</b><br><i>Testing Laboratory:</i>                                                                                                                                                                                                                                                                                                                                                                                                                              |                                              | TÜV Rheinland Hong Kong Ltd.<br>8 - 10/F., Goldin Financial Global Square, 7 Wang Tai Road, Kowloon Bay<br>Kowloon, Hong Kong                                  |                                                                                                                                     |                                                             |                                         |
| <b>geprüft/ tested by:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                              |                                                                                                                                                                | <b>kontrolliert/ reviewed by:</b>                                                                                                   |                                                             |                                         |
| 06.10.2015 Hugo Wan<br>Senior Project Manager<br>                                                                                                                                                                                                                                                                                                                                                |                                              |                                                                                                                                                                | 06.10.2015 Sharon Li<br>Department Manager<br> |                                                             |                                         |
| <b>Datum</b><br><i>Date</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>Name/Stellung</b><br><i>Name/Position</i> | <b>Unterschrift</b><br><i>Signature</i>                                                                                                                        | <b>Datum</b><br><i>Date</i>                                                                                                         | <b>Name/Stellung</b><br><i>Name/Position</i>                | <b>Unterschrift</b><br><i>Signature</i> |
| <b>Sonstiges:</b> FCC ID 2AEMWPAL<br>IC: 20437-PAL                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                              |                                                                                                                                                                |                                                                                                                                     |                                                             |                                         |
| <b>Other Aspects</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                              |                                                                                                                                                                |                                                                                                                                     |                                                             |                                         |
| <b>Abkürzungen:</b> P(ass) = entspricht Prüfgrundlage<br>F(ail) = entspricht nicht Prüfgrundlage<br>N/A = nicht anwendbar<br>N/T = nicht getestet                                                                                                                                                                                                                                                                                                                                   |                                              |                                                                                                                                                                | <b>Abbreviations:</b> P(ass) = passed<br>F(ail) = failed<br>N/A = not applicable<br>N/T = not tested                                |                                                             |                                         |
| <b>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</b><br><i>This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.</i> |                                              |                                                                                                                                                                |                                                                                                                                     |                                                             |                                         |

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## Product information

### Manufacturers declarations

|                                         | <b>Transceiver BLE Mode</b> |
|-----------------------------------------|-----------------------------|
| Operating frequency range               | 2402 - 2480 MHz             |
| Type of modulation                      | GFSK                        |
| Number of channels                      | 40                          |
| Channel separation                      | 2 MHz                       |
| Type of antenna                         | PCB Antenna                 |
| Antenna gain (dBi)                      | 0                           |
| Power level                             | fix                         |
| Type of equipment                       | stand alone radio device    |
| Connection to public utility power line | No                          |
| Nominal voltage                         | V <sub>nor</sub> : 3.0 VDC  |
| Independent Operation Modes             | Transmitting<br>Receiving   |

### Product function and intended use

The Equipment Under Test (EUT) is a Bluetooth pedometer for pet which connects with the smartphone for logging the pet activity.

For details, please refer to the user manual.

There are 5 models as shown in below table. They are identical to each other in schematics, PCB layouts, components used and housing except model number and color only. Due to equivalence of the 5 models, model PAL was selected as a representative model for testing.

### FCC ID 2AEMWPAL

#### IC: 20437-PAL

| <b>Models</b>             |
|---------------------------|
| PAL                       |
| Details PAL               |
| Details Pet Activity Link |
| PAL "Pet Activity Link"   |
| Pet Activity Link         |

### Submitted documents

Circuit Diagram  
 Block Diagram  
 Bill of material  
 User manual  
 Rating Label  
 Declaration of equivalence letter

## **Independent Operation Modes**

The basic operation modes are:

- Bluetooth communication link maintained with data transfer.

For further information refer to User Manual

## **Related Submittal(s) Grants**

This is a single application for certification of the transmitter.

## Test Set-up and Operation Mode

### Principle of Configuration Selection

**Emission:** The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

### Test Operation and Test Software

Test operation should refer to test methodology.

- Test mode operating firmware was downloaded into EUT. The EUT can transmit at 2402, 2440 or 2480MHz channel upon pressing of button.

### Special Accessories and Auxiliary Equipment

The product has been tested together with the following additional accessories:

- none

### Countermeasures to achieve EMC Compliance

- none

## Test Methodology

### Radiated Emission

The radiated emission measurements were performed according to the procedures in ANSI C63.10-2013.

For emission measurement at or below 1GHz, the equipment under test (EUT) was placed at the middle of the 80 cm height turntable. For emission testing above 1GHz, the EUT was placed at the middle of 1.5m height turntable. In above two measurement, the turntable is 3 meters far from the measuring antenna. During the testing, the EUT was operated standalone and arranged for maximum emissions. The EUT was tested in three orthogonal planes.

The investigation is performed with the EUT rotated 360 °, the antenna height scanned between 1m and 4m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations. Repeat the measurement steps until the maximum emissions were obtained.

All radiated tests were performed at an antenna to EUT with 3 meters distance, unless stated otherwise in particular parts of this test report.

### Field Strength Calculation

The field strength at 3 m was established by adding the meter reading of the spectrum analyzer to the factors associated with antenna correction factor, cable loss, preamplifiers and filter attenuation.

The equation is expressed as follow:

$$FS = R + AF + CF + FA - PA$$

Where FS = Field Strength in dBuV/m at 3 meters.  
R = Reading of Spectrum Analyzer in dBuV.  
AF = Antenna Factor in dB.  
CF = Cable Attenuation Factor in dB.  
FA = Filter Attenuation Factor in dB.  
PA = Preamplifier Factor in dB.

FA and PA are only be used for the measuring frequency above 1 GHz.

## List of Test and Measurement Instruments

### Hong Kong Productivity Council

(Registration number: 90656, IC Registration number: 4780A-1)

| Equipment                                  | Manufacturer    | Type         | S/N        | Cal. Date   | Due Date    |
|--------------------------------------------|-----------------|--------------|------------|-------------|-------------|
| Semi-anechoic Chamber                      | Frankonia       | Nil          | Nil        | 14 Apr 2015 | 14 Apr 2016 |
| Cable                                      | Hubersuhner     | SUCOFLEX 104 | 72799 /6   | 31 Mar 2014 | 31 Mar 2016 |
| Test Receiver                              | R & S           | ESU26        | 100050     | 12 Feb 2015 | 12 Feb 2016 |
| Bi-conical Antenna                         | R & S           | HK116        | 100241     | 11 Jun 2013 | 22 Oct 2015 |
| Log Periodic Antenna                       | R & S           | HL223        | 841516/017 | 10 Jun 2013 | 16 Oct 2015 |
| Coaxial cable                              | Harbour         | LL335        | N/A        | 10 Jun 2014 | 10 Jun 2016 |
| Microwave amplifier 0.5-26.5GHz, 25dB gain | HP              | 83017A       | 3950M00241 | 17 Jul 2014 | 17 Jul 2016 |
| High Pass Filter (cutoff freq. =1000MHz)   | Trilithic       | 23042        | 9829213    | 28 Oct 2013 | 28 Oct 2015 |
| Horn Antenna                               | EMCO            | 3115         | 9002-3347  | 11 Jun 2013 | 07 Oct 2015 |
| Active Loop Antenna                        | EMCO            | 6502         | 9107-2651  | 17 May 2014 | 28 Oct 2015 |
| Spectrum Analyzer                          | Rohde & Schwarz | FSP30        | 100007     | 13 Jan 2015 | 13 Jan 2017 |

## Results FCC Part 15 – Subpart C / RSS-Gen, RSS-210

|                                                           |                                                                                                                                                                                                                                                                                                                               |             |
|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>FCC 15.203 / RSS-Gen 7.1.2 – Antenna Requirement 1</b> |                                                                                                                                                                                                                                                                                                                               | <b>Pass</b> |
| <b>FCC Requirement:</b>                                   | No antenna other than that furnished by the responsible party shall be used with the device                                                                                                                                                                                                                                   |             |
| <b>IC Requirement:</b>                                    | A transmitter can only be sold or operated with antennas with which it was approved. Any antenna of the same type having equal or lesser gain as an antenna that had been successfully tested with the transmitter, will also be considered approved with the transmitter, and may be used and marketed with the transmitter. |             |
| <b>Results:</b>                                           | Permanent attached antenna                                                                                                                                                                                                                                                                                                    |             |
| <b>Verdict:</b>                                           | Pass                                                                                                                                                                                                                                                                                                                          |             |

  

|                                                           |                                                                                                                                                                                                              |             |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>FCC 15.204 / RSS-Gen 7.1.2 – Antenna Requirement 2</b> |                                                                                                                                                                                                              | <b>Pass</b> |
| <b>FCC Requirement:</b>                                   | Provide information for every antenna proposed for the use with the EUT                                                                                                                                      |             |
| <b>IC Requirement:</b>                                    | When a measurement at the antenna connector is used to determine RF output power, the effective gain of the device's antenna shall be stated, based on measurement or on data from the antenna manufacturer. |             |
| <b>Results:</b>                                           | a) Antenna type: PCB Antenna<br>b) Manufacturer: N/A<br>c) model no: N/A<br>d) Gain with reference to an isotropic radiator: 0 dBi                                                                           |             |
| <b>Verdict:</b>                                           | Pass                                                                                                                                                                                                         |             |

  

|                                                   |                                                                                                                                                                                                      |             |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>RSS-Gen 5.4 – Transmitter External Control</b> |                                                                                                                                                                                                      | <b>Pass</b> |
| <b>IC Requirement:</b>                            | The device shall not have any external controls accessible to the user that enable it to be adjusted, selected or programmed to operate in violation of the limits prescribed in the applicable RSS. |             |
| <b>Results:</b>                                   | The device does not have any transmitter external controls accessible to the user that can be adjusted and operated in violation of the limits of this standard.                                     |             |
| <b>Verdict:</b>                                   | Pass                                                                                                                                                                                                 |             |

  

|                                                                                      |  |            |
|--------------------------------------------------------------------------------------|--|------------|
| <b>FCC 15.207 / RSS-Gen 7.2.4 – Disturbance Voltage on AC Mains</b>                  |  | <b>N/A</b> |
| The EUT does not have AC mains power input power, hence this test is not applicable. |  |            |

| <b>FCC 15.247 (a)(2) / RSS-210 A8.2 (a) – 6dB Bandwidth Measurement</b>                                                                                                                                                                                                                                                           |                     |                  | <b>Pass</b>         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------|---------------------|
| <b>FCC Requirement:</b> Systems using digital modulation techniques may operate in the 902 – 928 MHz, 2400 – 2483.5 MHz, and 5725 – 5850 MHz bands. The minimum 6dB bandwidth shall be at least 500kHz.                                                                                                                           |                     |                  |                     |
| <b>IC Requirement:</b> The minimum -6 dB bandwidth shall be at least 500 kHz.                                                                                                                                                                                                                                                     |                     |                  |                     |
| Test Specification : KDB 558074 D01 DTS Measurement Guidance v03r02 / RSS-Gen<br>Mode of operation : BLE Tx mode, (2402MHz, 2440MHz, 2480MHz)<br>Port of testing : Temporary antenna port<br>Detector : Peak<br>RBW/VBW : 100KHz/ 300KHz<br>Supply voltage : 3.0 VDC from DC power supply<br>Temperature : 23°C<br>Humidity : 50% |                     |                  |                     |
| <b>Results:</b> For test protocols please refer to Appendix 1, page 2-3, 15-16.                                                                                                                                                                                                                                                   |                     |                  |                     |
| Channel frequency (MHz)                                                                                                                                                                                                                                                                                                           | 6 dB left (MHz)     | 6 dB right (MHz) | 6dB bandwidth (MHz) |
| 2402                                                                                                                                                                                                                                                                                                                              | 0.342               | 0.306            | 0.648               |
| 2440                                                                                                                                                                                                                                                                                                                              | 0.330               | 0.312            | 0.642               |
| 2480                                                                                                                                                                                                                                                                                                                              | 0.336               | 0.312            | 0.648               |
| Channel frequency (MHz)                                                                                                                                                                                                                                                                                                           | 99% bandwidth (MHz) |                  |                     |
| 2402                                                                                                                                                                                                                                                                                                                              | 0.996               |                  |                     |
| 2440                                                                                                                                                                                                                                                                                                                              | 1.008               |                  |                     |
| 2480                                                                                                                                                                                                                                                                                                                              | 1.014               |                  |                     |

| <b>FCC 15.247 (b) (1), (3) / RSS-210 A8.4 (4) – Maximum Peak Output Power</b>                                                                                                                                                                                                                                                                                            |                                 |                        |                    |               | <b>Pass</b> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|------------------------|--------------------|---------------|-------------|
| <b>FCC Requirement:</b> For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850MHz bands: 1 Watt (30dBm)                                                                                                                                                                                                                                 |                                 |                        |                    |               |             |
| <b>IC Requirement:</b> For systems employing digital modulation techniques operating in the bands 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz, the maximum peak conducted output power shall not exceed 1 W.                                                                                                                                                          |                                 |                        |                    |               |             |
| Test Specification : KDB 558074 D01 DTS Measurement Guidance v03r02 / RSS-Gen<br>Mode of operation : BLE Tx mode, (2402MHz, 2440MHz, 2480MHz)<br>Port of testing : Temporary antenna port<br>Detector : Peak<br>RBW/VBW : $\geq$ DTS BW / $\geq$ 3xRBW<br>Span : $\geq$ 3 x RBW<br>Supply voltage : 3.0 VDC from DC power supply<br>Temperature : 23°C<br>Humidity : 50% |                                 |                        |                    |               |             |
| <b>Results:</b> For test protocols please refer to Appendix 1, page 4-5.                                                                                                                                                                                                                                                                                                 |                                 |                        |                    |               |             |
| Frequency (MHz)                                                                                                                                                                                                                                                                                                                                                          | Maximum peak output power (dBm) | Cable attenuation (dB) | Output power (dBm) | Limit (W/dBm) | Verdict     |
| 2402                                                                                                                                                                                                                                                                                                                                                                     | -4.18                           | 0.00                   | -4.18              | 1 / 30.0      | Pass        |
| 2440                                                                                                                                                                                                                                                                                                                                                                     | -4.91                           | 0.00                   | -4.91              | 1 / 30.0      | Pass        |
| 2480                                                                                                                                                                                                                                                                                                                                                                     | -5.43                           | 0.00                   | -5.43              | 1 / 30.0      | Pass        |

| <b>FCC 15.247 (d) / RSS-210 A8.5 – Spurious Conducted Emissions</b>                                                                                                                                                                                                                                                                                                                                                                                                        |                                 |                             |                              |                   | <b>Pass</b>    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-----------------------------|------------------------------|-------------------|----------------|
| Test Specification : KDB 558074 D01 DTS Measurement Guidance v03r02 / RSS-Gen<br>Mode of operation : Tx mode (2402MHz, 2440MHz, 2480MHz)<br>Port of testing : Temporary antenna port<br>Detector : Peak<br>RBW/VBW : 100 kHz / 300 kHz<br>Supply voltage : 3.0 VDC from DC power supply<br>Temperature : 23 °C<br>Humidity : 50 %                                                                                                                                          |                                 |                             |                              |                   |                |
| <b>FCC Requirement:</b> 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.                                     |                                 |                             |                              |                   |                |
| <b>IC Requirement:</b> 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. |                                 |                             |                              |                   |                |
| <b>Results:</b> All three transmit frequency modes comply with the limit stated in subclause 15.247(d). For test protocols refer to Appendix 1, page 6-11.                                                                                                                                                                                                                                                                                                                 |                                 |                             |                              |                   |                |
| <b>Operating frequency (MHz)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Spurious frequency (MHz)</b> | <b>Spurious Level (dBm)</b> | <b>Reference value (dBm)</b> | <b>Delta (dB)</b> | <b>Verdict</b> |
| 2402                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.0690                          | -28.45                      | -4.48                        | -23.97            | Pass           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2328.780                        | -43.74                      | -4.48                        | -39.26            | Pass           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 4804.000                        | -32.61                      | -4.48                        | -28.13            | Pass           |
| 2440                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.0690                          | -25.42                      | -5.14                        | -20.28            | Pass           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1218.000                        | -47.70                      | -5.14                        | -42.56            | Pass           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 4848.000                        | -33.92                      | -5.14                        | -28.78            | Pass           |
| 2480                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.0690                          | -35.60                      | -5.68                        | -29.92            | Pass           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1241.760                        | -47.30                      | -5.68                        | -41.62            | Pass           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 4936.000                        | -33.00                      | -5.68                        | -27.32            | Pass           |

| FCC 15.247 (d) / RSS-Gen 7.2.2, 7.2.5 – Spurious Radiated Emissions                                                                                                                                                                                                                                                                                                                                                                          |              | Pass                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------------|
| Test Specification : ANSI C63.10 – 2014<br>Mode of operation : Tx mode (2402MHz, 2440MHz, 2480MHz), hopping off<br>Port of testing : Enclosure<br>Detector : Peak<br>RBW/VBW : 100 kHz / 300 kHz for f < 1 GHz<br>1 MHz / 3 MHz for f > 1 GHz<br>Supply voltage : 3.0 VDC from battery<br>Temperature : 23°C<br>Humidity : 50%                                                                                                               |              |                        |
| <b>FCC Requirement:</b> In any 100kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands, as defined in section15.205(a), must also comply with the radiated emission limits specified in section 15.209(a).                                                                                                                |              |                        |
| <b>IC Requirement:</b> Spurious emissions from licence-exempt transmitters shall comply with the field strength limits shown in RSS-Gen table 5.<br>Unwanted emissions falling into restricted bands of Table 3 shall comply with the limits specified in RSS-Gen. Unwanted emissions not falling within restricted frequency bands shall either comply with the limits specified in the applicable RSS, or with those specified in RSS-Gen. |              |                        |
| <b>Results:</b> Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and packet types.<br><br>All three transmit frequency modes comply with the field strength within the restricted bands. There is no spurious found below 30MHz.                                                                                                                                    |              |                        |
| Tx frequency 2402MHz Vertical Polarization                                                                                                                                                                                                                                                                                                                                                                                                   |              |                        |
| Freq MHz                                                                                                                                                                                                                                                                                                                                                                                                                                     | Level dBµV/m | Limit/ Detector dBµV/m |
| 2366.128                                                                                                                                                                                                                                                                                                                                                                                                                                     | 50.63        | 74.0 / P               |
| 2366.064                                                                                                                                                                                                                                                                                                                                                                                                                                     | 33.32        | 54.0 / A               |
| 4803.376                                                                                                                                                                                                                                                                                                                                                                                                                                     | 53.77        | 74.0 / P               |
| 4804.008                                                                                                                                                                                                                                                                                                                                                                                                                                     | 40.85        | 54.0 / A               |
| 7206.592                                                                                                                                                                                                                                                                                                                                                                                                                                     | 60.67        | 74.0 / P               |
| 7206.056                                                                                                                                                                                                                                                                                                                                                                                                                                     | 49.25        | 54.0 / A               |
| Tx frequency 2402MHz Horizontal Polarization                                                                                                                                                                                                                                                                                                                                                                                                 |              |                        |
| Freq MHz                                                                                                                                                                                                                                                                                                                                                                                                                                     | Level dBµV/m | Limit/ Detector dBµV/m |
| 2310.832                                                                                                                                                                                                                                                                                                                                                                                                                                     | 55.77        | 74.0 / P               |
| 2310.832                                                                                                                                                                                                                                                                                                                                                                                                                                     | 33.33        | 54.0 / A               |
| 4804.128                                                                                                                                                                                                                                                                                                                                                                                                                                     | 55.00        | 74.0 / P               |
| 4803.968                                                                                                                                                                                                                                                                                                                                                                                                                                     | 43.76        | 54.0 / A               |
| 7205.920                                                                                                                                                                                                                                                                                                                                                                                                                                     | 59.19        | 74.0 / P               |
| 7206.104                                                                                                                                                                                                                                                                                                                                                                                                                                     | 47.13        | 54.0 / A               |
| Tx frequency 2440MHz Vertical Polarization                                                                                                                                                                                                                                                                                                                                                                                                   |              |                        |
| Freq MHz                                                                                                                                                                                                                                                                                                                                                                                                                                     | Level dBµV/m | Limit/ Detector dBµV/m |
| 4880.472                                                                                                                                                                                                                                                                                                                                                                                                                                     | 56.76        | 74.0 / P               |

|                                              |                         |                                   |
|----------------------------------------------|-------------------------|-----------------------------------|
| 4879.952                                     | 48.66                   | 54.0 / A                          |
| 7319.672                                     | 59.22                   | 74.0 / P                          |
| 7319.904                                     | 47.22                   | 54.0 / A                          |
| Tx frequency 2440MHz Horizontal Polarization |                         |                                   |
| <b>Freq<br/>MHz</b>                          | <b>Level<br/>dBµV/m</b> | <b>Limit/ Detector<br/>dBµV/m</b> |
| 4879.608                                     | 53.87                   | 74.0 / P                          |
| 4879.912                                     | 43.26                   | 54.0 / A                          |
| 7320.552                                     | 58.97                   | 74.0 / P                          |
| 7319.808                                     | 46.06                   | 54.0 / A                          |
| Tx frequency 2480MHz Vertical Polarization   |                         |                                   |
| <b>Freq<br/>MHz</b>                          | <b>Level<br/>dBµV/m</b> | <b>Limit/ Detector<br/>dBµV/m</b> |
| 2484.741                                     | 48.85                   | 74.0 / P                          |
| 2483.500                                     | 34.01                   | 54.0 / A                          |
| 4960.368                                     | 56.94                   | 74.0 / P                          |
| 4959.928                                     | 48.62                   | 54.0 / A                          |
| 7439.224                                     | 59.60                   | 74.0 / P                          |
| 7439.856                                     | 48.19                   | 54.0 / A                          |
| Tx frequency 2480MHz Horizontal Polarization |                         |                                   |
| <b>Freq<br/>MHz</b>                          | <b>Level<br/>dBµV/m</b> | <b>Limit/ Detector<br/>dBµV/m</b> |
| 2484.758                                     | 54.31                   | 74.0 / P                          |
| 2483.500                                     | 39.22                   | 54.0 / A                          |
| 4960.600                                     | 54.60                   | 74.0 / P                          |
| 4959.925                                     | 43.30                   | 54.0 / A                          |
| 7439.188                                     | 58.49                   | 74.0 / P                          |
| 7439.650                                     | 45.26                   | 54.0 / A                          |

| <b>FCC 15.247 (d) / RSS-210 A8.5 – Band Edge Compliance in conducted emissions</b>                                                                                                                                                                                                                                                                                                                                                                                         |                                 |                             |                              |                   | <b>Pass</b>    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-----------------------------|------------------------------|-------------------|----------------|
| Test Specification : KDB 558074 D01 DTS Measurement Guidance v03r02 / RSS-Gen<br>Mode of operation : BLE Tx mode (2402MHz, 2480MHz)<br>Port of testing : Temporary antenna port<br>Detector : Peak<br>RBW/VBW : 100 kHz / 300 kHz<br>Supply voltage : 3.0 VDC from DC power supply<br>Temperature : 23°C<br>Humidity : 50%                                                                                                                                                 |                                 |                             |                              |                   |                |
| <b>FCC Requirement:</b> 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.                                     |                                 |                             |                              |                   |                |
| <b>IC Requirement:</b> 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. |                                 |                             |                              |                   |                |
| <b>Results:</b> The peak found outside any 100 kHz bandwidth of the operating frequency band comply with the requirement. For test protocols refer to Appendix 1, page 12.                                                                                                                                                                                                                                                                                                 |                                 |                             |                              |                   |                |
| <b>Operating frequency (MHz)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>Spurious frequency (MHz)</b> | <b>Spurious Level (dBm)</b> | <b>Reference value (dBm)</b> | <b>Delta (dB)</b> | <b>Verdict</b> |
| 2402                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2399.560                        | -49.37                      | -4.48                        | -44.89            | Pass           |
| 2480                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2483.580                        | -55.52                      | -5.68                        | -49.84            | Pass           |

| FCC 15.247 (e) / RSS-210 A8.2 (b) – Power Spectral Density                                                                                                                                                                                                                                                                                                                                |                     |             | Pass    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------|---------|
| <b>FCC Requirement:</b> For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.                                                                                                                                         |                     |             |         |
| <b>IC Requirement:</b> The transmitter power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.                                                                                                                                                                        |                     |             |         |
| Test Specification : KDB 558074 D01 DTS Measurement Guidance v03r02 / RSS-Gen<br>Mode of operation : BLE Tx mode (2402MHz, 2440MHz, 2480MHz)<br>Port of testing : Temporary antenna port<br>Detector : Peak<br>RBW/VBW : $\geq 100$ KHz / $\geq 3 \times$ RBW<br>span : $\geq 1.5 \times$ DTS BW<br>Supply voltage : 3.0 VDC from DC power supply<br>Temperature : 23°C<br>Humidity : 50% |                     |             |         |
| <b>Results:</b> For test protocols please refer to Appendix 1, page 21-22.                                                                                                                                                                                                                                                                                                                |                     |             |         |
| Operating frequency (MHz)                                                                                                                                                                                                                                                                                                                                                                 | Power density (dBm) | Limit (dBm) | Verdict |
| 2402                                                                                                                                                                                                                                                                                                                                                                                      | -4.48               | 8.0         | Pass    |
| 2440                                                                                                                                                                                                                                                                                                                                                                                      | -5.14               | 8.0         | Pass    |
| 2480                                                                                                                                                                                                                                                                                                                                                                                      | -5.68               | 8.0         | Pass    |