

Page 1 of 25

Radio Frequency TEST REPORT

Report No.: 180200293TWN-001

Model No.: OYOPGPRO01 Issued Date: Mar. 30, 2018

Applicant: OYO Fitness, LLC

330 W 47th St. Suite 201 Kansas City, MO 64112

Test Method/ Standard: 47 CFR FCC Part 15.249 & ANSI C63.10 2013

Test By: Intertek Testing Services Taiwan Ltd.

No. 11, Lane 275, Ko-Nan 1 Street, Chia-Tung Li, Shiang-Shan District, Hsinchu City, Taiwan

It may be duplicated completely for legal use with the allowance of the applicant. It shall not be reproduced except in full, without the written approval of Intertek Laboratory. The test result(s) in this report only applies to the tested sample(s).

The test report was prepared by:

Sunny Liu/Senior Officer

Testing Laboratory 0597

These measurements were taken by:

Durant Wei/ Engineer

The test report was reviewed by:

Name Rico Deng Title Supervisor

Copyright © 2018 Intertek



Page 2 of 25

Revision History

| Report No. | Issue Date | Revision Summary |
|------------------|---------------|------------------|
| 180200293TWN-001 | Mar. 30, 2018 | Original report |



Page 3 of 25

Table of Contents

| Summary of Tests | 4 |
|---|----------|
| 1. General information | 5 |
| 2. Test specifications | 6 6 |
| 3. 20dB Bandwidth test | 7 7 |
| 4. Radiated emission test FCC 15.249 (C) 4.1 Operating environment 4.2 Test setup & procedure 4.3 Emission limit 4.3.1 Fundamental and harmonics emission limits 4.3.2 General radiated emission limits 4.4 Radiated spurious emission test data 4.4.1 Measurement results: frequency range from 9 kHz to 30 MHz 4.4.2 Measurement results: frequencies equal to or less than 1 GHz 4.4.3 Measurement results: Fundamental | |
| 5. Radiated emission on the band edge FCC 15.249(d) | 17 |
| 6. Conducted emission test FCC 15.207 | 20 20 |
| Appendix A: Test equipment list | 23 |
| Appendix B: Measurement Uncertainty | 25 |



Page 4 of 25

Summary of Tests

| Test | Reference | Results |
|--------------------------------|-------------------|---------|
| 20dB Bandwidth | 15.215(c) | Pass |
| Radiated Emission test | 15.249(c), 15.209 | Pass |
| Emission on the Band Edge | 15.249(d) | Pass |
| Conducted Emission of AC Power | 15.207 | Pass |



Page 5 of 25

1. General information

1.1 Identification of the EUT

Product: DoubleFlex Black PRO/Personal Gym PRO

Model No.: OYOPGPRO01

Brand Name: NIL

Operating Frequency: 2402 MHz ~ 2480 MHz

Channel Number: 2402+2k, $k = 0^39$, 40 channels

Rated Power: DC 5 V
Access scheme: FHSS
Power Cord: N/A

Sample Received: Feb. 26, 2018

Sample condition: Workable

Testing date: Mar. 22, 2018 ~ Mar. 26, 2018

Note 1: The test report only allows to be revised within three years from its original issued date unless further standard or the requirement was noticed.

Note 2: When determining the test conclusion, the Measurement Uncertainty of test has been considered.

Note 3: Except where explicitly agreed in writing, all work and services performed by Intertek is subject to our standard Terms and Conditions which can be obtained at our website: http://www.intertek-twn.com/terms/. Intertek's responsibility and liability are limited to the terms and conditions of the agreement.

This report is made solely on the basis of your instructions and / or information and materials supplied by you and provide no warranty on the tested sample(s) be truly representative of the sample source. The report is not intended to be a recommendation for any particular course of action, you are responsible for acting as you see fit on the basis of the report results. Intertek is under no obligation to refer to or report upon any facts or circumstances which are outside the specific instructions received and accepts no responsibility to any parties whatsoever, following the issue of the report, for any matters arising outside the agreed scope of the works. This report does not discharge or release you from your legal obligations and duties to any other person. You are the only one authorized to permit copying or distribution of this report (and then only in its entirety). Any such third parties to whom this report may be circulated rely on the content of the report solely at their own risk.

1.2 Antenna description

The chip antenna is fixed to the EUT, not allow for replacement of a broken antenna.

Antenna Gain: 1.6 dBi

Antenna Type: PCB Antenna

Connector Type: Fixed



Page 6 of 25

2. Test specifications

2.1 Test standard

The EUT was performed according to the procedures in FCC Part 15 Subpart C Paragraph 15.249 for non-spread spectrum devices.

The test of radiated measurements according to FCC Part15 Section 15.33(a) had been conducted and the field strength of this frequency band were all meet limit requirement, thus we evaluate the EUT pass the specified test.

2.2 Operation mode

The EUT was supplied with DC 5 V from Notebook PC (Test voltage: 230 Vac, 50 Hz).

The signal is maximized through rotation and placement in the three orthogonal axes.







X axis Y axis Z axis

After verifying three axes, we found the maximum electromagnetic field was occurred at Y axis. The final test data was executed under this configuration.

2.3 Peripherals equipment

| Peripherals | Brand | Model No. | Serial No. | Description of Data Cable |
|-------------|-------|--------------|------------|----------------------------------|
| Notebook PC | DELL | Laitude D610 | 5YWZK1S | USB shielded cable 0.5 meter × 1 |



Page 7 of 25

3. 20dB Bandwidth test

3.1 Operating environment

Temperature: 25 $^{\circ}$ C Relative Humidity: 50 % Atmospheric Pressure: 1008 hPa

3.2 Test setup & procedure

- Step 1: The 20dB bandwidth was measured using a 50 ohm spectrum analyzer
- Step 2: The span range for the SA display shall be between two times and five times the OBW.
- Step 3: The nominal IF filter bandwidth (3 dB RBW) should be approximately 1 % to 5 % of the OBW, unless otherwise specified, depending on the applicable requirement.
- Step 4: The test was performed at 1 channel. The maximum 20dB modulation bandwidth is in the following Table.

3.3 Measured data of modulated bandwidth test results

Single TX

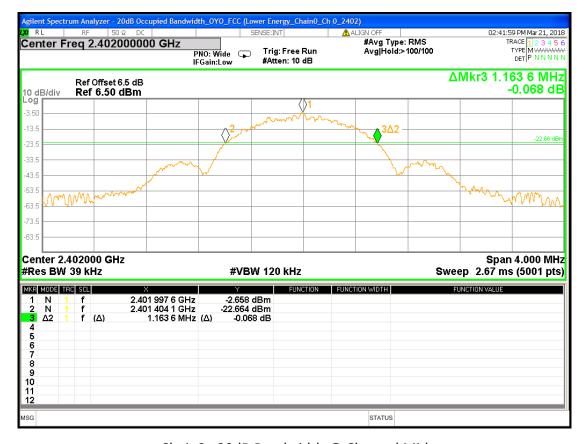
| Mode | Frequency (MHz) | 20dB Occupied Bandwidth (MHz) |
|------|--------------------|----------------------------------|
| | 2402 | 1.1636 |
| BLE | 2440 | 1.1574 |
| | 2480 | 1.1519 |

Please see the plot below.



Page 8 of 25

Chain0: 20dB Bandwidth @ Channel Low



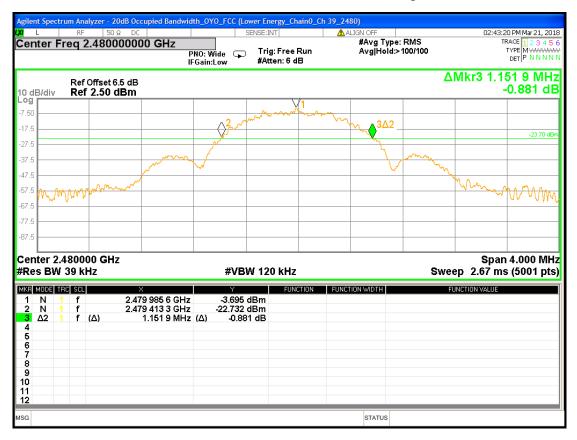
Chain0: 20dB Bandwidth @ Channel Mid





Page 9 of 25

Chain0: 20dB Bandwidth @ Channel High





Page 10 of 25

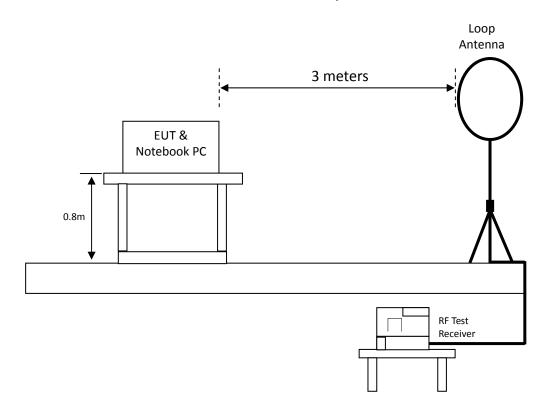
4. Radiated emission test FCC 15.249 (C)

4.1 Operating environment

Temperature: 25 $^{\circ}$ C Relative Humidity: 50 % Atmospheric Pressure: 1008 hPa

4.2 Test setup & procedure

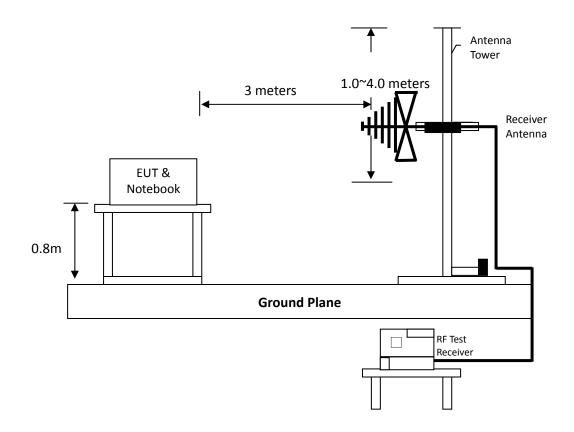
Radiated emission from 9kHz to 30MHz uses Loop Antenna:



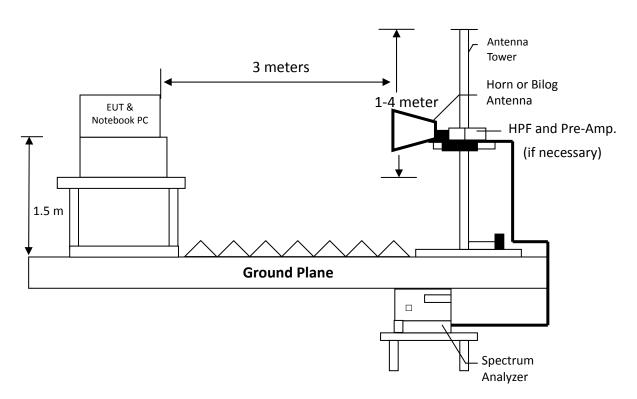


Page 11 of 25

Radiated emission below 1GHz using Bilog Antenna



Radiated emission above 1GHz using Horn Antenna





Page 12 of 25

Radiated emissions were invested cover the frequency range from 30MHz to 1000MHz using a receiver RBW of 120kHz record QP reading, and the frequency over 1GHz using a spectrum analyzer RBW of 1MHz and 10Hz VBW record Average reading. (15.209 paragraph), the Peak reading (1 MHz RBW/ 3 MHz VBW) recorded also on the report.

The EUT for testing is arranged on a turntable. If some peripherals apply to the EUT, the peripherals will be connected to EUT and the whole system. During the test, all cables were arranged to produce worst-case emissions. The signal is maximized through rotation. The height of antenna and polarization is changing constantly for exploring for maximum signal level. The height of antenna can be up to 4 meters and down to 1 meter.

The measurement for radiated emission will be done at the distance of three meters unless the signal level is too low to measure at that distance. In the case of the reading under noise floor, a pre-amplifier is used and/or the test is conducted at a closer distance. And then all readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance.

The EUT configuration please refers to the "Spurious set-up photo.pdf".

4.3 Emission limit

4.3.1 Fundamental and harmonics emission limits

| Frequency | Field Strength | of Fundamental | Field Strength of Harmonics | | | |
|-------------|----------------|----------------|-----------------------------|-------------|--|--|
| (MHz) | (mV/m@3m) | (dBuV/m@3m) | (uV/m@3m) | (dBuV/m@3m) | | |
| 2400-2483.5 | 50 | 94 | 500 | 54 | | |



Page 13 of 25

4.3.2 General radiated emission limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

| Frequency MHz | 15.209 Limits (dBμV/m@3m) |
|------------------|------------------------------|
| 30-88 | 40 |
| 88-216 | 43.5 |
| 216-960 | 46 |
| Above 960 | 54 |

Remark:

- 1. In the above table, the tighter limit applies at the band edges.
- 2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system

4.4 Radiated spurious emission test data

4.4.1 Measurement results: frequency range from 9 kHz to 30 MHz

The test was performed on EUT under continuously transmitting mode. The worst case occurred at channel 0.

EUT: OYOPGPRO01

| Mode | Chain | Channel | Detector | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Corrected Reading (dBuV/m) | Limit (dBµV/m) | Margin (dB) |
|------|-------|---------|----------|--------------------|------------------|----------------|----------------------------------|-------------------|----------------|
| BLE | Ch0 | 0 | PK | 0.02 | 20.3 | 20.27 | 40.57 | 121.58 | -81.01 |
| BLE | Ch0 | 0 | PK | 0.03 | 20.27 | 22.49 | 42.75 | 118.06 | -75.31 |
| BLE | Ch0 | 0 | PK | 0.06 | 19.57 | 25.11 | 44.67 | 112.04 | -67.37 |
| BLE | Ch0 | 0 | PK | 0.09 | 19.25 | 23.6 | 42.85 | 108.52 | -65.67 |
| BLE | Ch0 | 0 | QP | 0.10 | 19.17 | 25.35 | 44.52 | 107.6 | -63.08 |
| BLE | Ch0 | 0 | PK | 0.12 | 19.11 | 22.85 | 41.96 | 106.02 | -64.06 |
| BLE | Ch0 | 0 | PK | 0.15 | 19.09 | 28.91 | 47.99 | 104.08 | -56.09 |
| BLE | Ch0 | 0 | PK | 0.45 | 18.95 | 23.5 | 42.44 | 94.54 | -52.1 |
| BLE | Ch0 | 0 | QP | 0.69 | 18.99 | 27.23 | 46.21 | 70.83 | -24.62 |
| BLE | Ch0 | 0 | QP | 1.64 | 18.96 | 15.27 | 34.22 | 63.31 | -29.09 |
| BLE | Ch0 | 0 | QP | 2.00 | 18.87 | 15.89 | 34.76 | 69.54 | -34.78 |
| BLE | Ch0 | 0 | QP | 2.18 | 18.83 | 15.83 | 34.66 | 69.54 | -34.88 |



Page 14 of 25

4.4.2 Measurement results: frequencies equal to or less than 1 GHz

The test was performed on EUT under continuously transmitting mode. The worst case occurred at channel 0.

EUT: OYOPGPRO01

| Mode | Channel | Ant Polarity | Detector | Frequency (MHz) | Factor (dB/m) | Reading (dBuV) | Corrected Reading (dBuV/m) | (dBμV/ | Margin (dB) |
|------|---------|-----------------|----------|--------------------|------------------|-------------------|----------------------------------|--------|----------------|
| BLE | 0 | V | QP | 41.64 | 20.16 | 0.2 | 20.36 | 40 | -19.64 |
| BLE | 0 | V | QP | 150.28 | 20.55 | 0.32 | 20.87 | 43.5 | -22.63 |
| BLE | 0 | V | QP | 297.72 | 21.7 | 0.8 | 22.49 | 46 | -23.51 |
| BLE | 0 | V | QP | 472.32 | 26.34 | 1.38 | 27.73 | 46 | -18.27 |
| BLE | 0 | V | QP | 555.74 | 28.19 | 1.5 | 29.7 | 46 | -16.3 |
| BLE | 0 | V | QP | 732.28 | 31.25 | 2.33 | 33.58 | 46 | -12.42 |
| BLE | 0 | Н | QP | 41.64 | 20.16 | 0.17 | 20.33 | 40 | -19.67 |
| BLE | 0 | Н | QP | 152.22 | 20.58 | 0.27 | 20.85 | 43.5 | -22.65 |
| BLE | 0 | Н | QP | 439.34 | 25.54 | 1 | 26.54 | 46 | -19.46 |
| BLE | 0 | Н | QP | 582.9 | 28.77 | 1.56 | 30.33 | 46 | -15.67 |
| BLE | 0 | Н | QP | 732.28 | 31.25 | 2.97 | 34.21 | 46 | -11.79 |
| BLE | 0 | Н | QP | 751.68 | 31.61 | 1.92 | 33.53 | 46 | -12.47 |

- 1. Corr. Factor = Antenna Factor + Cable Loss
- 2. Corrected Level = Reading + Corr. Factor



Page 15 of 25

4.4.3 Measurement results: frequency above 1GHz

EUT: OYOPGPRO01

| Mode | Chain | Ch | Ant Polarity | Detector | Freq. (MHz) | Preamp (dB) | Factor (dB/m) | Reading (dBµV) | Corrected Reading (dBμV/m) | Limit (dBµV/m) | Margin (dB) |
|------|--------|----|-----------------|----------|----------------|----------------|------------------|----------------|----------------------------------|-------------------|----------------|
| BLE | Chain0 | 0 | Н | PK | 1328 | 37.33 | 29.68 | 11.39 | 41.07 | 74 | -32.93 |
| BLE | Chain0 | 0 | Н | PK | 2274 | 37.37 | 35.53 | 16 | 51.53 | 74 | -22.47 |
| BLE | Chain0 | 0 | Н | PK | 2530 | 37.37 | 35.31 | 18.17 | 53.48 | 74 | -20.52 |
| BLE | Chain0 | 0 | Н | PK | 4804 | 37.14 | 5.68 | 38.15 | 43.82 | 74 | -30.18 |
| BLE | Chain0 | 0 | V | PK | 1332 | 37.33 | 29.69 | 18.92 | 48.6 | 74 | -25.4 |
| BLE | Chain0 | 0 | V | PK | 2274 | 37.37 | 35.53 | 18.87 | 54.41 | 74 | -19.59 |
| BLE | Chain0 | 0 | V | AV | 2274 | 37.37 | 35.53 | 15.83 | 51.36 | 54 | -2.64 |
| BLE | Chain0 | 0 | V | PK | 2530 | 37.37 | 35.31 | 18.07 | 53.38 | 74 | -20.62 |
| BLE | Chain0 | 0 | V | PK | 4804 | 37.14 | 5.68 | 40.03 | 45.7 | 74 | -28.3 |
| BLE | Chain0 | 19 | Н | PK | 1328 | 37.33 | 29.68 | 11.56 | 41.24 | 74 | -32.76 |
| BLE | Chain0 | 19 | Н | PK | 2312 | 37.37 | 35.48 | 16.2 | 51.68 | 74 | -22.32 |
| BLE | Chain0 | 19 | Н | PK | 2570 | 37.38 | 35.45 | 17.79 | 53.24 | 74 | -20.76 |
| BLE | Chain0 | 19 | Н | PK | 4962 | 37.09 | 6.33 | 33.37 | 39.71 | 74 | -34.29 |
| BLE | Chain0 | 19 | Н | PK | 7440 | 36.42 | 13.14 | 28.62 | 41.76 | 74 | -32.24 |
| BLE | Chain0 | 19 | V | PK | 1064 | 37.26 | 29.2 | 17.5 | 46.69 | 74 | -27.31 |
| BLE | Chain0 | 19 | V | PK | 1328 | 37.33 | 29.68 | 17.36 | 47.04 | 74 | -26.96 |
| BLE | Chain0 | 19 | ٧ | PK | 1728 | 37.37 | 32.7 | 13.02 | 45.73 | 74 | -28.27 |
| BLE | Chain0 | 19 | V | PK | 2312 | 37.37 | 35.48 | 16.81 | 52.28 | 74 | -21.72 |
| BLE | Chain0 | 19 | V | PK | 2570 | 37.38 | 35.45 | 15.65 | 51.1 | 74 | -22.9 |
| BLE | Chain0 | 19 | V | PK | 4880 | 37.12 | 5.99 | 36.5 | 42.49 | 74 | -31.51 |
| BLE | Chain0 | 19 | V | PK | 7320 | 36.47 | 12.68 | 31.93 | 44.61 | 74 | -29.39 |
| BLE | Chain0 | 39 | Н | PK | 1328 | 37.33 | 29.68 | 17.47 | 47.15 | 74 | -26.85 |
| BLE | Chain0 | 39 | Н | PK | 2352 | 37.37 | 35.42 | 17.01 | 52.43 | 74 | -21.57 |
| BLE | Chain0 | 39 | Н | PK | 2608 | 37.39 | 35.58 | 16.31 | 51.89 | 74 | -22.11 |
| BLE | Chain0 | 39 | Н | PK | 4962 | 37.09 | 6.33 | 33.37 | 39.71 | 74 | -34.29 |
| BLE | Chain0 | 39 | Н | PK | 7440 | 36.42 | 13.14 | 28.62 | 41.76 | 74 | -32.24 |
| BLE | Chain0 | 39 | V | PK | 1064 | 37.26 | 29.2 | 13.37 | 42.57 | 74 | -31.43 |
| BLE | Chain0 | 39 | V | PK | 1248 | 37.3 | 29.53 | 13.03 | 42.56 | 74 | -31.44 |
| BLE | Chain0 | 39 | V | PK | 1328 | 37.33 | 29.68 | 15.98 | 45.66 | 74 | -28.34 |
| BLE | Chain0 | 39 | V | PK | 2352 | 37.37 | 35.42 | 16.2 | 51.62 | 74 | -22.38 |
| BLE | Chain0 | 39 | V | PK | 2608 | 37.39 | 35.58 | 15.48 | 51.06 | 74 | -22.94 |
| BLE | Chain0 | 39 | V | PK | 4960 | 37.09 | 6.32 | 36.55 | 42.87 | 74 | -31.13 |
| BLE | Chain0 | 39 | V | PK | 7440 | 36.42 | 13.14 | 32.09 | 45.23 | 74 | -28.77 |

- 1. Correction Factor = Antenna Factor + Cable Loss—Preamp. Gain
- 2. The frequency measured ranges from 1GHz to 25GHz. The data value listed above which is higher than the noise floor, the others please refer to noise floor level.



Page 16 of 25

4.4.4 Measurement results: Fundamental

EUT : OYOPGPRO01

| Mode | Chain | Ch | Ant Polarity | Detector | Freq. (MHz) | Preamp (dB) | Factor (dB/m) | Reading (dBµV) | Corrected Reading (dBµV/m) | Limit (dBµV/m) | Margin (dB) |
|------|--------|----|-----------------|----------|----------------|----------------|------------------|----------------|----------------------------------|-------------------|----------------|
| BLE | Chain0 | 0 | Н | PK | 2402 | 37.37 | 35.35 | 60.42 | 95.77 | 114 | -18.23 |
| BLE | Chain0 | 0 | Н | AV | 2402 | 37.37 | 35.35 | 56.35 | 91.7 | 94 | -2.3 |
| BLE | Chain0 | 0 | V | PK | 2402 | 37.37 | 35.35 | 61.01 | 96.35 | 114 | -17.65 |
| BLE | Chain0 | 0 | V | AV | 2402 | 37.37 | 35.35 | 56.67 | 92.02 | 94 | -1.98 |
| BLE | Chain0 | 19 | Н | PK | 2440 | 37.37 | 35.29 | 59.26 | 94.54 | 114 | -19.46 |
| BLE | Chain0 | 19 | Н | AV | 2440 | 37.37 | 35.29 | 55.01 | 90.3 | 94 | -3.7 |
| BLE | Chain0 | 19 | V | PK | 2440 | 37.37 | 35.29 | 57.74 | 93.03 | 114 | -20.97 |
| BLE | Chain0 | 19 | V | AV | 2440 | 37.37 | 35.29 | 54.05 | 89.34 | 94 | -4.66 |
| BLE | Chain0 | 39 | Н | PK | 2480 | 37.37 | 35.23 | 59.93 | 95.16 | 114 | -18.84 |
| BLE | Chain0 | 39 | Н | AV | 2480 | 37.37 | 35.23 | 56.05 | 91.28 | 94 | -2.72 |
| BLE | Chain0 | 39 | V | PK | 2480 | 37.37 | 35.23 | 56.67 | 91.9 | 114 | -22.1 |
| BLE | Chain0 | 39 | V | AV | 2480 | 37.37 | 35.23 | 53.15 | 88.38 | 94 | -5.62 |

- 1. Correction Factor = Antenna Factor + Cable Loss- Preamp. Gain
- 2. The frequency measured ranges from 1GHz to 25GHz. The data value listed above which is higher than the noise floor, the others please refer to noise floor level.



Page 17 of 25

5. Radiated emission on the band edge FCC 15.249(d)

5.1 Operating environment

Temperature: 25 $^{\circ}$ C Relative Humidity: 50 % Atmospheric Pressure: 1008 hPa

5.2 Radiated emission on the band edge test data

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental (2470MHz) or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

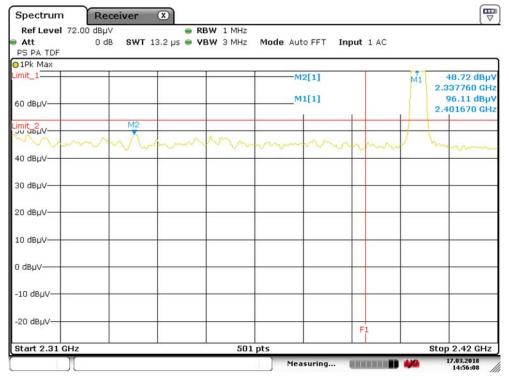
| | Frequency | Spectrum | Ant. | Correction | Reading | Corrected | Limit | Margin | Restricted band |
|-------|-----------|----------|-------|------------|---------|-----------|----------|--------|-----------------|
| Mode | | Analyzer | Pol. | Factor | | Reading | @ 3 m | | Dallu |
| | (MHz) | Detector | (H/V) | (dB/m) | (dBµV) | (dBµV/m) | (dBµV/m) | (dB) | (MHz) |
| | 2337.76 | PK | V | 35.44 | 13.28 | 48.72 | 74 | -25.28 | 2310~2390 |
| DT4.0 | 2337.98 | AV | V | 35.44 | 8.04 | 43.48 | 54 | -10.52 | 2510 2590 |
| BT4.0 | 2490.54 | PK | V | 35.21 | 12.17 | 47.38 | 74 | -26.62 | 2483.5~2500 |
| | 2499.93 | AV | V | 35.20 | 0.09 | 35.29 | 54 | -18.71 | 2483.5 2500 |

Remark: Correction Factor = Antenna Factor + Cable Loss



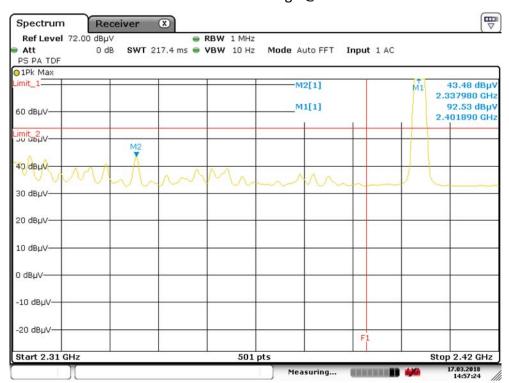
Page 18 of 25

Chain0: Restricted Band Bandedge @ BLE Mode Ch0 PK

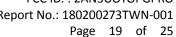


Date: 17.MAR.2018 14:56:08

Chain0: Restricted Band Bandedge @ BLE Mode Ch0 AV

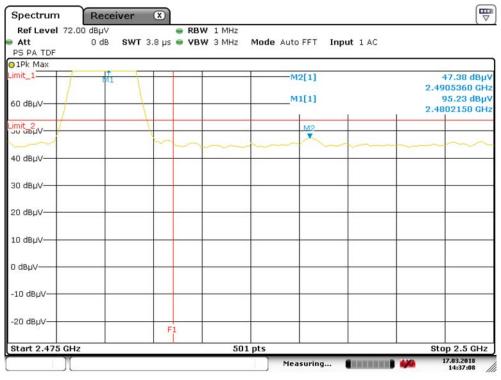


Date: 17.MAR.2018 14:57:24



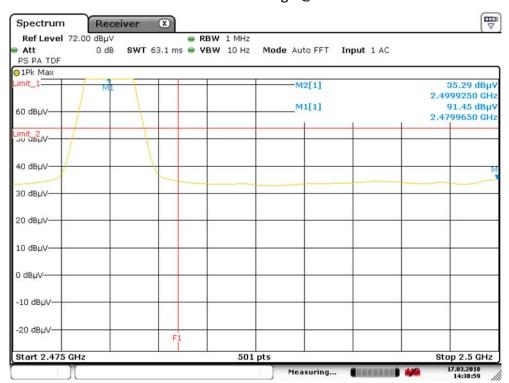


Chain0: Restricted Band Bandedge @ BLE Mode Ch39 PK



Date: 17.MAR.2018 14:37:08

Chain0: Restricted Band Bandedge @ BLE Mode Ch39 AV



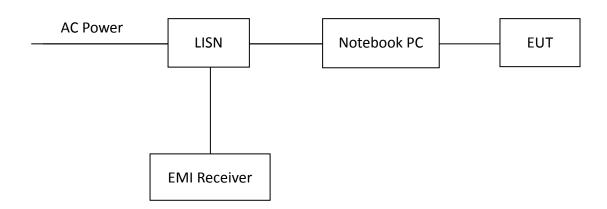
Date: 17.MAR.2018 14:38:59



Page 20 of 25

6. Conducted emission test FCC 15.207

6.1 Test Procedure



The EUT along with its peripherals were placed on a 1.0 meter(W)×1.5meter(L) and 0.8 meter in height wooden table and the EUT was adjusted to maintain a 0.4meter space from a vertical reference plane. The EUT was connected to power mains through a Artificial Mains Network (LISN), which provided 50 ohm coupling impedance for measuring instrument and the chassis ground was bounded to the horizontal ground plane of shielded room.

The excess power cable between the EUT and the AMN was bundled. All connecting cables of EUT and peripherals were moved to find the maximum emission

6.2 Conducted Emission Limit

| | Maximum RF Line Voltage | | | | |
|--------------------|--------------------------|-------|--|--|--|
| Frequency (MHz) | Class B equipment (dBµV) | | | | |
| | Q.P. | Avg. | | | |
| 0.15~0.50 | 66~56 | 56~46 | | | |
| 0.50~5.00 | 56 | 46 | | | |
| 5.00~30.0 | 60 | 50 | | | |



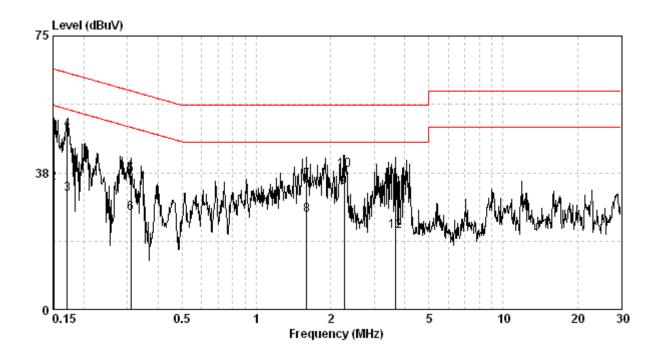
Page 21 of 25

6.3 Conducted Emission Data

| Phase: | Live Line | | | |
|-----------------------|-----------|----------------------|------------|--------------|
| Temperature: | 22 | $^{\circ}\mathbb{C}$ | Model No.: | OYOPGPRO01 |
| Relative Humidity: | 51 | % | Test Date: | Mar.19, 2018 |
| Atmospheric Pressure: | 1008 | hPa | Remark: | N/A |

| Frequency | Corr. Factor | Reading QP | Level QP | Limit QP | Reading AV | Level AV | Limit AV | (| rgin (dB) |
|--|--|--|--|--|--|--|--|--|--|
| (MHz) | (dB) | (dBu∀) | (dBu∀) | (dBu∀) | (dBuV) | (dBuV) | (dBuV) | QP | ΑV |
| 0.151 0.171 0.310 1.602 2.273 3.661 | 9.36 9.36 9.37 9.48 9.52 9.53 | 39.58 39.75 27.44 26.05 28.59 23.67 | 48.94 49.11 36.81 35.52 38.10 33.21 | 65.96 64.90 59.97 56.00 56.00 56.00 | 25.22 22.22 17.12 16.46 23.89 11.97 | 34.58 31.57 26.49 25.94 33.40 21.50 | 55.96 54.90 49.97 46.00 46.00 46.00 | -17.02 -15.79 -23.16 -20.48 -17.90 -22.79 | -21.38 -23.33 -23.48 -20.06 -12.60 -24.50 |

- 1. Corr. Factor (dB) = AMN Factor (dB) + Cable Loss (dB)
- 2. Level (dBuV) = Corr. Factor (dB) + Reading (dBuV)
- 3. Margin (dB) = Level (dBuV) Limit (dBuV)



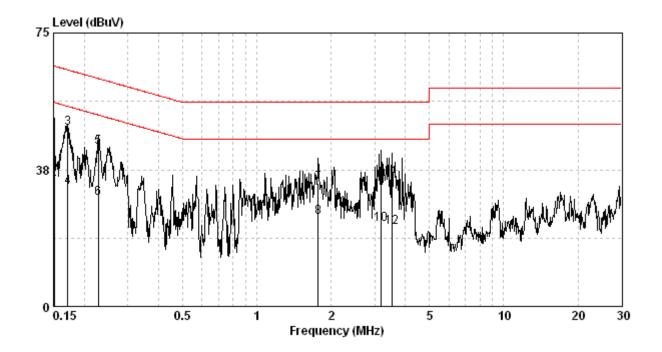


Page 22 of 25

| Phase: | Neutral Line | | | | | |
|-----------------------|--------------|------------------------|------------|--------------|--|--|
| Temperature: | 22 | $^{\circ}\!\mathbb{C}$ | Model No.: | OYOPGPRO01 | | |
| Relative Humidity: | 51 | % | Test Date: | Mar.19, 2018 | | |
| Atmospheric Pressure: | 1008 | hPa | Remark: | N/A | | |

| Frequency (MHz) | Corr. Factor (dB) | Reading QP (dBuV) | Level QP (dBuV) | Limit QP (dBuV) | Reading AV (dBuV) | Level AV (dBuV) | Limit AV (dBuV) | | rgin dB) AV |
|--------------------|-------------------------|-------------------------|-----------------------|-----------------------|-------------------------|-----------------------|-----------------------|--------|-------------------|
| 0.151 | 9.62 | 39.04 | 48.66 | 65.96 | 25.26 | 34.87 | 55.96 | -17.30 | -21.09 |
| 0.171 | 9.62 | 39.29 | 48.91 | 64.90 | 23.04 | 32.66 | 54.90 | -15.99 | -22.24 |
| 0.228 | 9.62 | 33.97 | 43.59 | 62.52 | 20.02 | 29.64 | 52.52 | -18.93 | -22.88 |
| 1.772 | 9.74 | 23.93 | 33.67 | 56.00 | 14.65 | 24.39 | 46.00 | -22.33 | -21.61 |
| 3.190 | 9.78 | 23.52 | 33.30 | 56.00 | 12.80 | 22.58 | 46.00 | -22.70 | -23.42 |
| 3.528 | 9.78 | 25.54 | 35.32 | 56.00 | 12.01 | 21.79 | 46.00 | -20.68 | -24.21 |

- 1. Corr. Factor (dB) = AMN Factor (dB) + Cable Loss (dB)
- 2. Level (dBuV) = Corr. Factor (dB) + Reading (dBuV)
- 3. Margin (dB) = Level (dBuV) Limit (dBuV)





Page 23 of 25

Appendix A: Test equipment list

| Test Equipment/ Test site | Brand | Model No. | Serial No. | Calibration Date | Next Calibration Date |
|--------------------------------------|--------------------------------|-----------------------|-------------|---------------------|-----------------------------|
| ESCI EMI Test Receiver | Rohde & Schwarz | ESCI | 100018 | 2017/11/21 | 2018/11/20 |
| Spectrum Analyzer | Rohde & Schwarz | FSP30 | 100245 | 2018/02/23 | 2019/02/22 |
| Horn Antenna (1-18G) | SHWARZBECK | BBHA 9120 D | 9120D-456 | 2018/01/23 | 2019/01/22 |
| Horn Antenna (14-42G) | SHWARZBECK | BBHA 9170 | BBHA9170159 | 2017/09/04 | 2020/09/02 |
| Broadband Antenna | SHWARZBECK | VULB 9168 | 9168-172 | 2017/04/05 | 2018/04/04 |
| Pre-Amplifier | EMC Co. | EMC12635SE | 980205 | 2017/11/28 | 2018/11/27 |
| Pre-Amplifier | MITEQ | JS4-2600400027 -8A | 828825 | 2017/08/23 | 2018/08/22 |
| Power Meter | Anritsu | ML2495A | 0844001 | 2017/10/18 | 2018/10/17 |
| Power Sensor | Anritsu | MA2411B | 0738452 | 2017/05/23 | 2018/05/22 |
| Signal Analyzer | Agilent | N9030A | MY51380492 | 2017/08/29 | 2018/08/28 |
| 966-2(A) Cable 9kHz~26.5GHz | SUHNER | SMA / EX 100 | N/A | 2017/08/15 | 2018/08/14 |
| 966-2(B) Cable 9kHz~26.5GHz | SUHNER | SUCOFLEX 104P | CB0005 | 2017/08/15 | 2018/08/14 |
| RF Cable 9kHz~26.5GHz | SUHNER | SUCOFLEX 102 | CB0006 | 2017/05/04 | 2018/05/03 |
| 966-2_3m Semi-Anechoic Chamber | 966_2 | CEM-966_2 | N/A | 2017/03/29 | 2018/03/28 |
| High Pass Filter | Wainwright | WHKX3.0/ 18G-12SS | N/A | 2017/06/02 | 2018/06/01 |
| Active Loop Antenna | SCHWARZBECK MESS-ELEKTRONIC | FMZB1519 | 1519-067 | 2017/03/30 | 2018/03/29 |

Note: No Calibration Required (NCR).



Page 24 of 25

| Test Equipment/ Test site | Brand | Model No. | Serial No. | Calibration Date | Next Calibration Date |
|------------------------------------|-----------|--------------|-------------|---------------------|-----------------------------|
| EMI Receiver | R&S | ESCI | 100059 | 2017/11/13 | 2018/11/12 |
| Two-Line V-Network | R&S | ENV216 | 101159 | 2017/06/03 | 2018/06/02 |
| Artificial Mains Network (LISN) | SCHAFFNER | MN2050D | 1586 | 2017/05/31 | 2018/05/30 |
| CON-1 Shielded Room | N/A | N/A | N/A | NCR | NCR |
| CON-1 Cable | SUHNER | SUCOFLEX-104 | 26438414 | 2017/05/04 | 2018/05/03 |
| Test software | Audix | e3 | 4.20040112L | NCR | NCR |

Note: No Calibration Required (NCR).



Page 25 of 25

Appendix B: Measurement Uncertainty

This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of k=2.

| Item | Uncertainty |
|--|-------------|
| Vertically polarized radiated disturbances from 30MHz~1GHz in a semi-anechoic chamber at a distance of 3m | 5.14 dB |
| Horizontally polarized radiated disturbances from 30MHz~1GHz in a semi-anechoic chamber at a distance of 3m | 5.22 dB |
| Vertically polarized Radiated disturbances from 1GHz~18GHz in a semi-anechoic chamber at a distance of 3m | 3.64 dB |
| Horizontally polarized Radiated disturbances from 1GHz~18GHz in a semi-anechoic chamber at a distance of 3m | 3.64 dB |
| Vertically polarized Radiated disturbances from 18GHz~40GHz in a semi-anechoic chamber at a distance of 3m | 2.68 dB |
| Horizontally polarized Radiated disturbances from 18GHz~40GHz in a semi-anechoic chamber at a distance of 3m | 2.68 dB |
| Radiated disturbances from 9kHz~30MHz in a semi-anechoic chamber at a distance of 3m | 3.54 dB |
| Emission on the Band Edge Test | 3.64 dB |
| 20dB Bandwidth | 1.22 dB |
| AC Power Line Conducted Emission | 2.48 dB |