



Compliance Testing, LLC

Previously Flom Test Lab

EMI, EMC, RF Testing Experts Since 1963

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Prepared for: Thornwave Labs

Model: BT-DCPM

Description: Bluetooth Smart DC Power Meter

Serial Number: N/A

FCC ID: 2AM22-BTDCPM

To

FCC Part 1.1310

Date of Issue: August 8, 2017

On the behalf of the applicant:

**Thornwave Labs
4831 Shallowbrook Trail
Raleigh, NC 27616**

Attention of:

**Razvan Turiac
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**Prepared By
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Project No: p1770019**

**Poona Saber
Project Test Engineer**

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All results contained herein relate only to the sample tested



Test Report Revision History

Revision	Date	Revised By	Reason for Revision
1.0	July 26, 2017	Poona Saber	Original Document



ILAC / A2LA

Compliance Testing, LLC, has been accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer joint ISO-ILAC-IAF Communiqué dated January 2009)

The tests results contained within this test report all fall within our scope of accreditation, unless below

Please refer to <http://www.compliancetesting.com/labscope.html> for current scope of accreditation.

Testing Certificate Number: **2152.01**



FCC Site Reg. #349717

IC Site Reg. #2044A-2

Non-accredited tests contained in this report:

N/A

EUT Description

Model: BT-DCPM

Description: Bluetooth Smart DC Power Meter

Firmware: N/A

Software: N/A

Serial Number: N/A

Additional Information: Device is incorporating a Nordic Bluetooth version 4.0 chip with frequency range of 2402-2480



Source Based Time Averaged Power Calculation

Average Power calculations

Average Power = Peak Power * duty-cycle%

Tuned Frequency (MHz)	Peak Output power EIRP (dBm)	Antenna Gain (dBi)	Peak Output Power Conducted (mW)	Duty Cycle (%)	Average Power (mW)
2402	2.86	4	0.769	15.48	0.118

EUT comes to close proximity of human's body and is investigated below for SAR exclusion per KDB 447498

1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* $\leq$ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,25 where

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation²⁶
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

$$(0.118/5) \times \sqrt{2.402} = 0.036 \leq 3.0$$

Note: The test exclusions are applicable only when the minimum *test separation distance* is $\leq$ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum *test separation distance* is $<$ 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

END OF TEST REPORT