



PCTEST ENGINEERING LABORATORY, INC.

7185 Oakland Mills Road, Columbia, MD 21046 USA

Tel. 410.290.6652 / Fax 410.290.6654

<http://www.pctest.com>



MEASUREMENT REPORT FCC PART 15.249

Applicant Name:

Shark Dreams, LLC

555 Fayetteville Street, Suite 300

Raleigh, NC 27601-3034

Date of Testing:

11/28-12/12/2017

Test Site/Location:

PCTEST Lab. Columbia, MD, USA

Test Report Serial No.:

1M1711240301-01.2AN25

FCC ID:

2AN25-LIVIT1

APPLICANT:

Shark Dreams LLC

Application Type:

Certification

Model:

LIVIT1

EUT Type:

Prescription Medication Monitor

Frequency Range:

2402 – 2480MHz

FCC Classification:

Low Power Communications Device Transmitter (DXX)

FCC Rule Part(s):


Part 15 Subpart C (15.249)

Test Procedure(s):

ANSI C63.10-2013

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.10-2013. Test results reported herein relate only to the item(s) tested.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.


Randy Ortanez
President



| | | | | |
|---|---|--|-------------|---------------------------------|
| FCC ID: 2AN25-LIVIT1 |  | MEASUREMENT REPORT (CERTIFICATION) | SHARKDREAMS | Approved by: Quality Manager |
| Test Report S/N: 1M1711240301-01.2AN25 | Test Dates: 11/28-12/12/2017 | EUT Type: Prescription Medication Monitor | | Page 1 of 25 |

© 2017 PCTEST Engineering Laboratory, Inc.

V 7.20 11/20/2017

All rights reserved. Unless otherwise specified, no part of this report may be reproduced or utilized in any part, form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from PCTEST Engineering Laboratory, Inc. If you have any questions about this international copyright or have an enquiry about obtaining additional rights to this report or assembly of contents thereof, please contact INFO@PCTEST.COM.

TABLE OF CONTENTS

| | | |
|-----|---|----|
| 1.0 | INTRODUCTION | 3 |
| 1.1 | Scope | 3 |
| 1.2 | PCTEST Test Location | 3 |
| 1.3 | Test Facility / Accreditations | 3 |
| 2.0 | PRODUCT INFORMATION | 4 |
| 2.1 | Equipment Description | 4 |
| 2.2 | Device Capabilities | 4 |
| 2.3 | Test Configuration | 4 |
| 2.4 | EMI Suppression Device(s)/Modifications | 4 |
| 3.0 | DESCRIPTION OF TESTS | 5 |
| 3.1 | Evaluation Procedure | 5 |
| 3.2 | Radiated Emissions | 5 |
| 3.3 | Environmental Conditions | 5 |
| 4.0 | ANTENNA REQUIREMENTS | 6 |
| 5.0 | MEASUREMENT UNCERTAINTY | 7 |
| 6.0 | TEST EQUIPMENT CALIBRATION DATA | 8 |
| 7.0 | TEST RESULTS | 9 |
| 7.1 | Summary | 9 |
| 7.2 | Occupied Bandwidth Measurement | 10 |
| 7.3 | Transmitter Output Power Measurement | 12 |
| 7.4 | Fundamental Field Strength Level Measurement | 14 |
| 7.5 | Radiated Spurious Emission Measurements | 15 |
| 7.6 | Radiated Spurious Emissions Measurements – Below 1GHz | 21 |
| 8.0 | CONCLUSION | 25 |

| | | | | |
|--|---|---|---|--|
| FCC ID: 2AN25-LIVIT1 |  | MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1711240301-01.2AN25 | Test Dates: 11/28-12/12/2017 | EUT Type: Prescription Medication Monitor | Page 2 of 25 | |

1.0 INTRODUCTION

1.1 Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Innovation, Science and Economic Development Canada.

1.2 PCTEST Test Location

These measurement tests were conducted at the PCTEST Engineering Laboratory, Inc. facility located at 7185 Oakland Mills Road, Columbia, MD 21046. The measurement facility is compliant with the test site requirements specified in ANSI C63.4-2014.

1.3 Test Facility / Accreditations

Measurements were performed at PCTEST Engineering Lab located in Columbia, MD 21046, U.S.A.

- PCTEST is an ISO 17025-2005 accredited test facility under the American Association for Laboratory Accreditation (A2LA) with Certificate number 2041.01 for Specific Absorption Rate (SAR), Hearing Aid Compatibility (HAC) testing, where applicable, and Electromagnetic Compatibility (EMC) testing for FCC and Innovation, Science, and Economic Development Canada rules.
- PCTEST TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC 17065-2012 by A2LA (Certificate number 2041.03) in all scopes of FCC Rules and ISSED Standards (RSS).
- PCTEST facility is a registered (22831) test laboratory with the site description on file with ISSED.

| | | | | |
|--|---|---|---|--|
| FCC ID: 2AN25-LIVIT1 |  | MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1711240301-01.2AN25 | Test Dates: 11/28-12/12/2017 | EUT Type: Prescription Medication Monitor | Page 3 of 25 | |

2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Shark Dreams LLC FCC ID: 2AN25-LIVIT1**. The test data contained in this report pertains only to the emissions due to the EUT's Bluetooth (LE) transmitter.

Test Device Serial No.: 21NOV-1

2.2 Device Capabilities

This device contains the following capabilities:

Bluetooth (LE)

| Ch. | Frequency (MHz) |
|-----|-----------------|
| 37 | 2402 |
| 38 | 2426 |
| 39 | 2480 |

Table 2-1. Frequency/ Channel Operations

2.3 Test Configuration

The EUT was tested per the guidance of ANSI C63.10-2013. ANSI C63.10-2013 was used to reference the appropriate EUT setup for radiated spurious emissions testing. See Section 3.2 for radiated emissions test setups

2.4 EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and no modifications were made during testing.

| | | | | |
|---|---|--|---|---------------------------------|
| FCC ID: 2AN25-LIVIT1 |  | MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1711240301-01.2AN25 | Test Dates: 11/28-12/12/2017 | EUT Type: Prescription Medication Monitor | Page 4 of 25 | |

3.0 DESCRIPTION OF TESTS

3.1 Evaluation Procedure

The measurement procedure described in the American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices (ANSI C63.10-2013) was used in the measurement of the EUT.

Deviation from measurement procedure.....None

3.2 Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. The test site inside the chamber is a 6m x 5.2m elliptical, obstruction-free area in accordance with Figure 5.7 of Clause 5 in ANSI C63.4-2014. Absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections for measurements above 1GHz. An 80cm tall test table made of Styrodur is placed on top of the turn table. For measurements above 1GHz, an additional Styrodur pedestal is placed on top of the test table to bring the total table height to 1.5m.

For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33(b)(1) depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1 meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up was placed on top of the 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, mode of operation, turntable azimuth, and receive antenna height was noted for each frequency found.

Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, whichever produced the worst-case emissions.

3.3 Environmental Conditions

The temperature is controlled within range of 15°C to 35°C. The relative humidity is controlled within range of 10% to 75%. The atmospheric pressure is monitored within the range 86-106kPa (860-1060mbar).

| | | | | |
|---|---|--|--------------|---------------------------------|
| FCC ID: 2AN25-LIVIT1 |  | MEASUREMENT REPORT (CERTIFICATION) | SHARKDREAMS | Approved by: Quality Manager |
| Test Report S/N: 1M1711240301-01.2AN25 | Test Dates: 11/28-12/12/2017 | EUT Type: Prescription Medication Monitor | Page 5 of 25 | |

4.0 ANTENNA REQUIREMENTS

Excerpt from §15.203 of the FCC Rules/Regulations:

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.”

- The antennas of the EUT are **permanently attached**.
- There are no provisions for connection to an external antenna.

Conclusion:

The EUT complies with the requirement of §15.203.

| | | | | |
|---|---|--|--------------|---------------------------------|
| FCC ID: 2AN25-LIVIT1 |  | MEASUREMENT REPORT (CERTIFICATION) | SHARKDREAMS | Approved by: Quality Manager |
| Test Report S/N: 1M1711240301-01.2AN25 | Test Dates: 11/28-12/12/2017 | EUT Type: Prescription Medication Monitor | Page 6 of 25 | |

5.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2013. All measurement uncertainty values are shown with a coverage factor of $k = 2$ to indicate a 95% level of confidence. The measurement uncertainty shown below meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

| Contribution | Expanded Uncertainty (\pm dB) |
|----------------------------------|----------------------------------|
| Conducted Bench Top Measurements | 1.13 |
| Line Conducted Disturbance | 3.09 |
| Radiated Disturbance (<1GHz) | 4.98 |
| Radiated Disturbance (>1GHz) | 5.07 |
| Radiated Disturbance (>18GHz) | 5.09 |

| | | | | |
|---|---|--|-------------|---------------------------------|
| FCC ID: 2AN25-LIVIT1 |  | MEASUREMENT REPORT (CERTIFICATION) | SHARKDREAMS | Approved by: Quality Manager |
| Test Report S/N: 1M1711240301-01.2AN25 | Test Dates: 11/28-12/12/2017 | EUT Type: Prescription Medication Monitor | | Page 7 of 25 |

6.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST). Measurements antennas used during testing were calibrated in accordance to the requirements of ANSI C63.5-2017.

| Manufacturer | Model | Description | Cal Date | Cal Interval | Cal Due | Serial Number |
|-----------------|---------------|--|------------|--------------|------------|---------------|
| - | RE1 | Radiated Emissions Cable Set (UHF/EHF) | 6/21/2017 | Annual | 6/21/2018 | RE1 |
| - | WL40-1 | Conducted Cable Set (40GHz) | 6/14/2017 | Annual | 6/14/2018 | WL40-1 |
| Agilent | N9020A | MXA Signal Analyzer | 12/28/2016 | Annual | 12/28/2017 | US46470561 |
| COM-Power | AL-130R | Active Loop Antenna | 6/5/2017 | Annual | 6/5/2018 | 121085 |
| Emco | 3115 | Horn Antenna (1-18GHz) | 3/10/2016 | Biennial | 3/10/2018 | 9704-5182 |
| EMCO | 3160-09 | Small Horn (18 - 26.5GHz) | 8/23/2016 | Biennial | 8/23/2018 | 135427 |
| Huber+Suhner | Sucoflex 102A | 40GHz Radiated Cable | 5/19/2017 | Annual | 5/19/2018 | 251425001 |
| Rohde & Schwarz | ESU26 | EMI Test Receiver (26.5GHz) | 4/19/2017 | Annual | 4/19/2018 | 100342 |
| Rohde & Schwarz | FSW67 | Signal / Spectrum Analyzer | 8/11/2017 | Annual | 8/11/2018 | 103200 |
| Rohde & Schwarz | SFUNIT-Rx | Shielded Filter Unit | 7/3/2017 | Annual | 7/3/2018 | 102134 |
| Rohde & Schwarz | TS-PR26 | 18-26.5 GHz Pre-Amplifier | 5/11/2017 | Annual | 5/11/2018 | 100040 |
| Rohde & Schwarz | TS-PR8 | Preamplifier-Antenna SYS; 30MHz-8GHz | 10/19/2017 | Annual | 10/19/2018 | 102324 |
| Sunol | DRH-118 | Horn Antenna (1-18GHz) | 8/11/2017 | Biennial | 8/11/2019 | A050307 |
| Sunol Sciences | JB6 | JB6 Antenna | 9/27/2016 | Biennial | 9/27/2018 | A082816 |

Table 6-1. Annual Test Equipment Calibration Schedule

| | | | | |
|---|---|--|--------------|---------------------------------|
| FCC ID: 2AN25-LIVIT1 |  | MEASUREMENT REPORT (CERTIFICATION) | SHARKDREAMS | Approved by: Quality Manager |
| Test Report S/N: 1M1711240301-01.2AN25 | Test Dates: 11/28-12/12/2017 | EUT Type: Prescription Medication Monitor | Page 8 of 25 | |

7.0 TEST RESULTS

7.1 Summary

Company Name: Shark Dreams
 FCC ID: 2AN25-LIVIT1
 Method/System: Low Power Communications Device Transmitter (DXX)
 Number of Channels: 3

| FCC Part Section(s) | RSS Section(s) | Test Description | Test Limit | Test Condition | Test Result | Reference |
|------------------------------|----------------|---|--|----------------|-------------|-------------------|
| 2.1049 | RSS-Gen [6.6] | Occupied Bandwidth | N/A | CONDUCTED | PASS | Section 7.2 |
| 2.1046 | RSS-Gen [6.12] | Transmitter Output Power | N/A | | PASS | Section 7.3 |
| 15.249(a)(e) | RSS-210 [B.10] | Fundamental Field Strength Level | < 50 mV/m | RADIATED | PASS | Section 7.4 |
| 15.249(a)(e) | RSS-210 [B.10] | Harmonic Field Strength Level | < 500 μ V/m | | PASS | Section 7.5 |
| 15.205, 15.209, 15.249(d)(e) | RSS-Gen [8.9] | General Field Strength Limits (Restricted Bands and Radiated Emission Limits) | < 15.209 limits or 50dB below the level of the fundamental (RSS-Gen [8.9]) | | PASS | Sections 7.5, 7.6 |

Table 7-1. Summary of Test Results

Notes:

- 1) All modes of operation were investigated. The test results shown in the following sections represent the worst case emissions.
- 2) For radiated band edge, automated test software was used to measure emissions and capture the corresponding plots necessary to show compliance. The measurement software utilized is PCTEST "Chamber Automation," Version 1.1.5.
- 3) All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables, attenuators, and couplers.

| | | | | |
|---|---|--|---|---------------------------------|
| FCC ID: 2AN25-LIVIT1 |  | MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1711240301-01.2AN25 | Test Dates: 11/28-12/12/2017 | EUT Type: Prescription Medication Monitor | Page 9 of 25 | |

7.2 Occupied Bandwidth Measurement

§2.1049; RSS-Gen (6.6)

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured. The spectrum analyzers' "occupied bandwidth" measurement function was used to record the occupied bandwidth.

| Frequency [MHz] | Data Rate [Mbps] | Channel No. | Bluetooth Mode | Measured Bandwidth [MHz] |
|-----------------|------------------|-------------|----------------|--------------------------|
| 2402 | 1.0 | 37 | LE | 1.0951 |
| 2440 | 1.0 | 38 | LE | 1.0914 |
| 2480 | 1.0 | 39 | LE | 1.0905 |

Table 7-2. Occupied Bandwidth Measurement

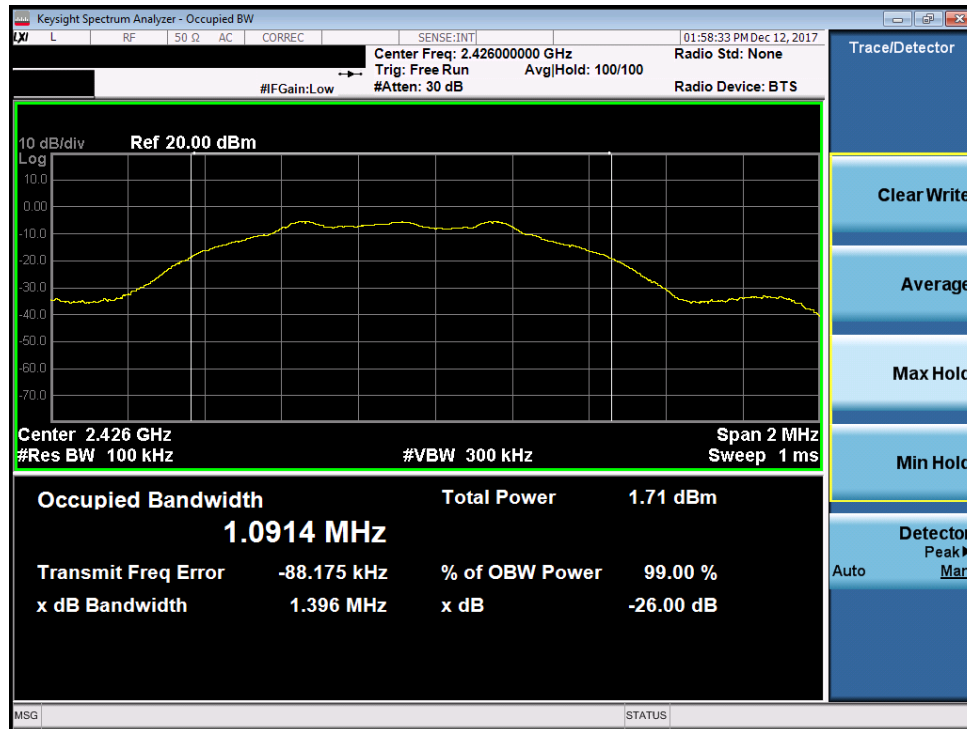


Figure 7-1. Test Instrument & Measurement Setup

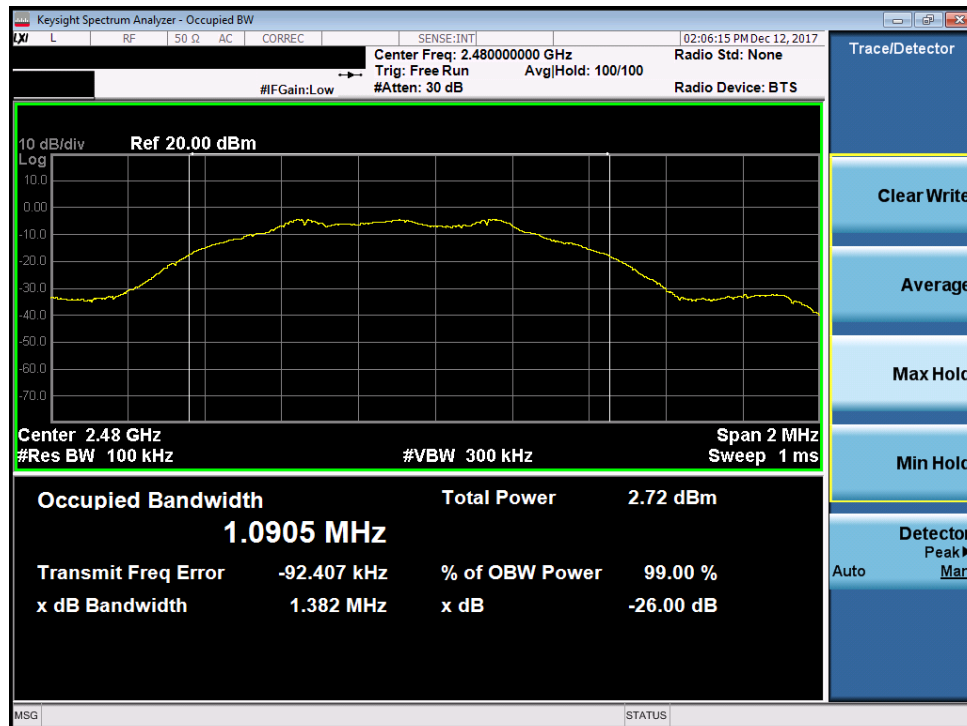


Plot 7-1. Occupied Bandwidth Plot (BTLE - Ch. 37)

| | | | | |
|---|---|--|-------------|---------------------------------|
| FCC ID: 2AN25-LIVIT1 | PCTEST ENGINEERING LABORATORY, INC. | MEASUREMENT REPORT (CERTIFICATION) | SHARKDREAMS | Approved by: Quality Manager |
| Test Report S/N: 1M1711240301-01.2AN25 | Test Dates: 11/28-12/12/2017 | EUT Type: Prescription Medication Monitor | | Page 10 of 25 |



Plot 7-2. Occupied Bandwidth Plot (BTLE – Ch. 38)



Plot 7-3. Occupied Bandwidth Plot (BTLE – Ch. 39)

| | | | | |
|---|---|--|-------------|---------------------------------|
| FCC ID: 2AN25-LIVIT1 | PCTEST ENGINEERING LABORATORY, INC. | MEASUREMENT REPORT (CERTIFICATION) | SHARKDREAMS | Approved by: Quality Manager |
| Test Report S/N: 1M1711240301-01.2AN25 | Test Dates: 11/28-12/12/2017 | EUT Type: Prescription Medication Monitor | | Page 11 of 25 |

7.3 Transmitter Output Power Measurement

§2.1046; RSS-Gen (6.12)

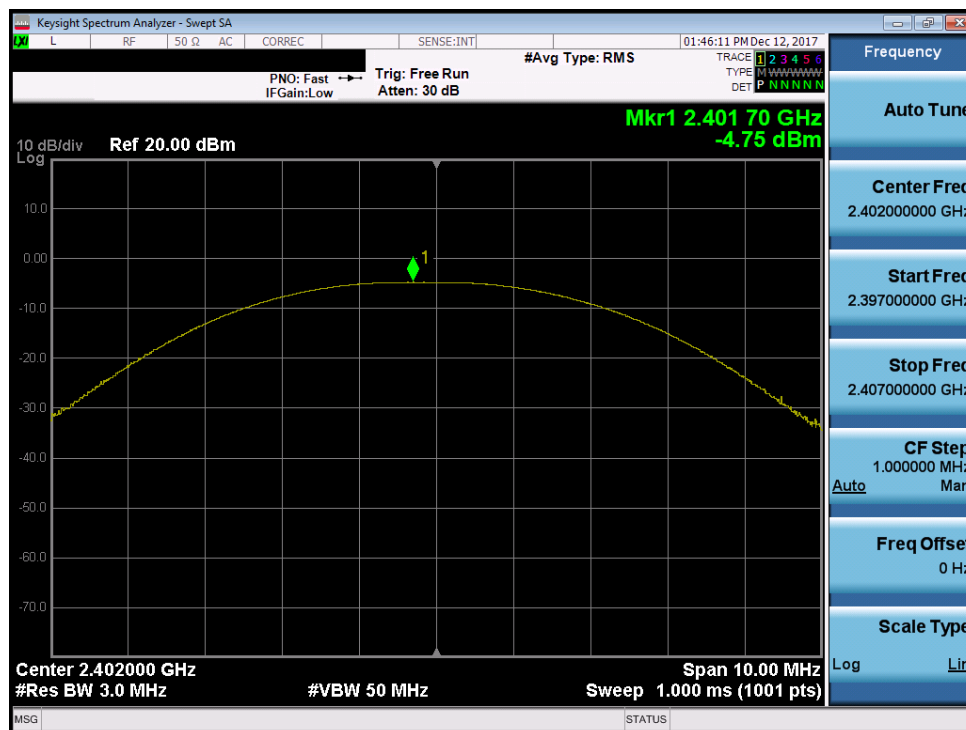
The transmitter antenna terminal of the EUT is connected to the input of a spectrum analyzer. Measurements are made while the EUT is operating at maximum power and at the appropriate frequencies.

| Frequency [MHz] | Data Rate [Mbps] | Channel No. | Bluetooth Mode | Peak Conducted Power | |
|-----------------|------------------|-------------|----------------|----------------------|-------|
| | | | | [dBm] | [mW] |
| 2402 | 1.0 | 37 | LE | -4.75 | 0.335 |
| 2440 | 1.0 | 38 | LE | -4.47 | 0.357 |
| 2480 | 1.0 | 39 | LE | -3.22 | 0.476 |

Table 7-3. Conducted Output Power Measurement

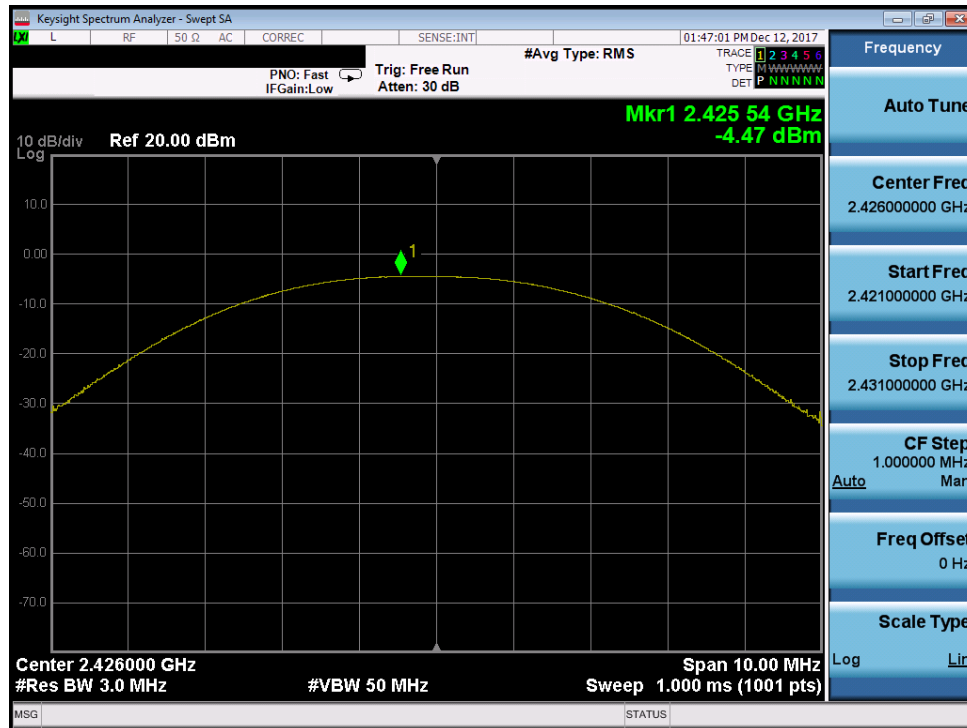


Figure 7-2. Test Instrument & Measurement Setup

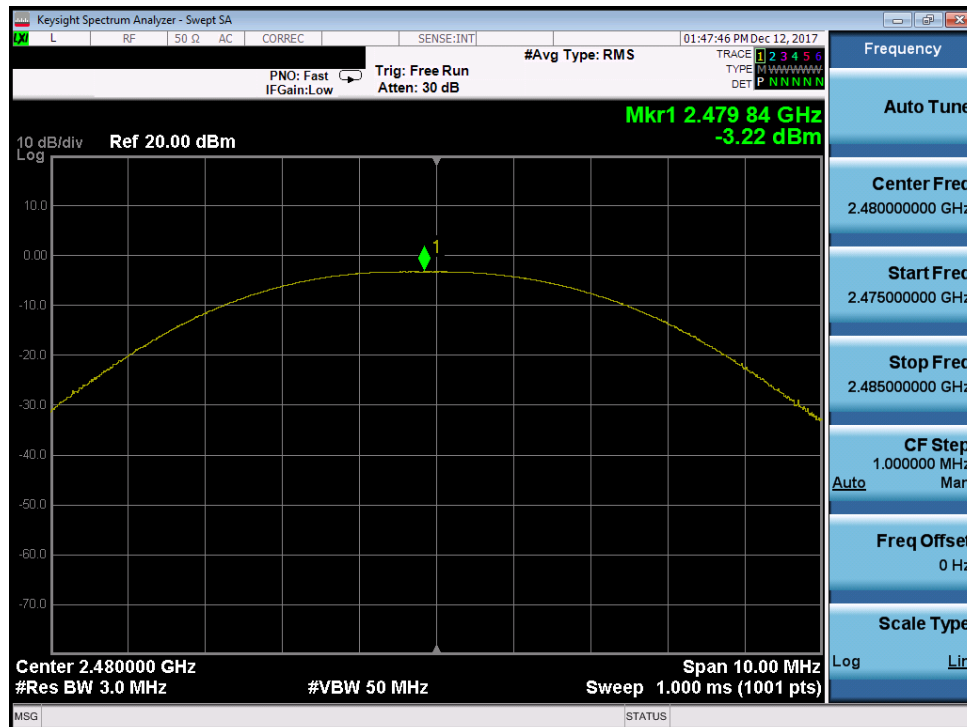


Plot 7-4. Peak Power Plot (BTLE – Ch. 37)

| | | | | |
|---|---|--|-------------|---------------------------------|
| FCC ID: 2AN25-LIVIT1 | PCTEST ENGINEERING LABORATORY, INC. | MEASUREMENT REPORT (CERTIFICATION) | SHARKDREAMS | Approved by: Quality Manager |
| Test Report S/N: 1M1711240301-01.2AN25 | Test Dates: 11/28-12/12/2017 | EUT Type: Prescription Medication Monitor | | Page 12 of 25 |



Plot 7-5. Peak Power Plot (BTLE – Ch. 38)



Plot 7-6. Peak Power Plot (BTLE – Ch. 39)

| | | | | |
|---|---|--|---|---------------------------------|
| FCC ID: 2AN25-LIVIT1 |  MEASUREMENT REPORT (CERTIFICATION) | |  | Approved by: Quality Manager |
| Test Report S/N: 1M1711240301-01.2AN25 | Test Dates: 11/28-12/12/2017 | EUT Type: Prescription Medication Monitor | | Page 13 of 25 |

7.4 Fundamental Field Strength Level Measurement

§15.249(a)(e); RSS-210 (B.10)

Measurement is made while the EUT is operating in non-hopping transmission mode. The field strengths shown below were measured using a spectrum analyzer. Peak field strength measurements are performed in the analyzers' swept spectrum mode using a peak detector with RBW = 3MHz and VBW ≥ RBW.

The maximum permissible average field strength level is 50mV/m (93.98dBμV/m). The maximum permissible peak field strength level is 500mV/m (113.98 dBμV/m).

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBμV/m] | Limit [dBμV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|-------------------------|----------------|-------------|
| 2402.00 | Peak | H | 367 | 187 | -29.38 | 6.87 | 84.49 | 93.98 | -9.49 |
| 2426.00 | Peak | H | 279 | 155 | -25.01 | 7.12 | 89.11 | 93.98 | -4.87 |
| 2480.00 | Peak | H | 175 | 170 | -29.97 | 6.53 | 83.56 | 93.98 | -10.42 |

Table 7-4. Field Strength Measurements

| | | | | |
|---|---|--|-------------|---------------------------------|
| FCC ID: 2AN25-LIVIT1 |  | MEASUREMENT REPORT (CERTIFICATION) | SHARKDREAMS | Approved by: Quality Manager |
| Test Report S/N: 1M1711240301-01.2AN25 | Test Dates: 11/28-12/12/2017 | EUT Type: Prescription Medication Monitor | | Page 14 of 25 |

7.5 Radiated Spurious Emission Measurements

§15.205 §15.209 §15.249 (d)(e); RSS-210 (B.10), RSS-Gen (8.9)

| Frequency | Field Strength [$\mu\text{V/m}$] | Measured Distance [Meters] |
|-------------------|---------------------------------------|-------------------------------|
| 0.009 – 0.490 MHz | 2400/F (kHz) | 300 |
| 0.490 – 1.705 MHz | 24000/F (kHz) | 30 |
| 1.705 – 30.00 MHz | 30 | 30 |
| 30.00 – 88.00 MHz | 100 | 3 |
| 88.00 – 216.0 MHz | 150 | 3 |
| 216.0 – 960.0 MHz | 200 | 3 |
| Above 960.0 MHz | 500 | 3 |

Table 7-5. Radiated Limits

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

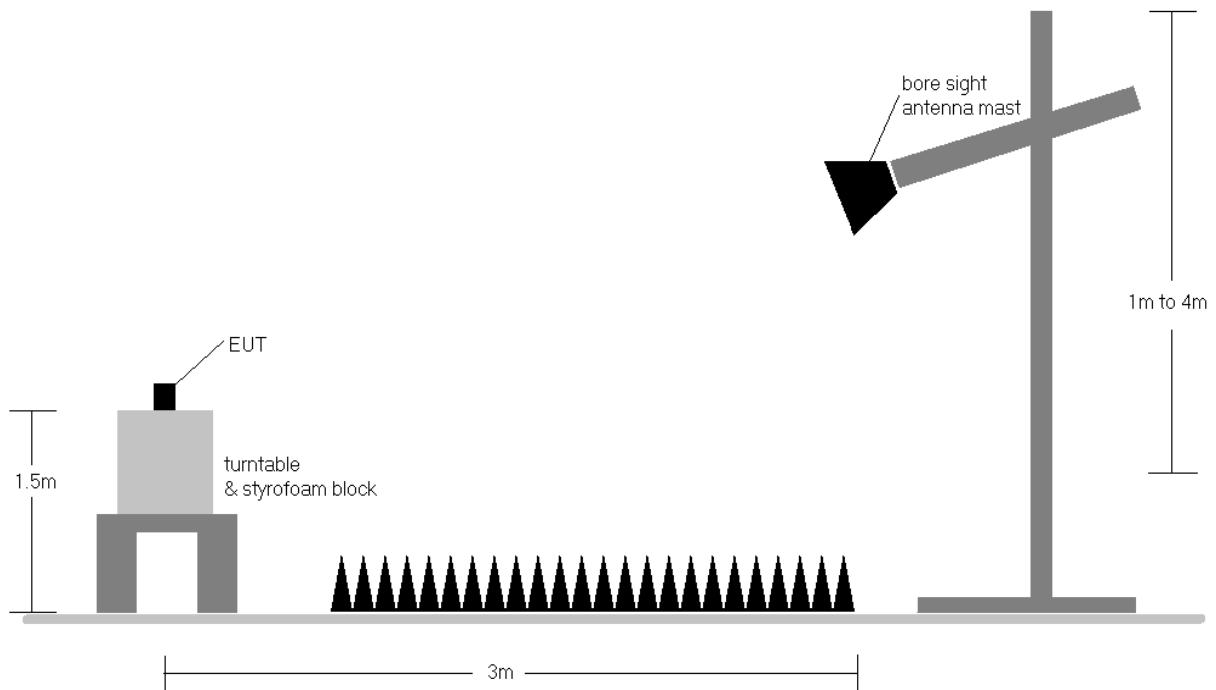


Figure 7-3. Radiated Test Setup

| | | | | |
|---|---|--|-------------|---------------------------------|
| FCC ID: 2AN25-LIVIT1 | PCTEST ENGINEERING LABORATORY, INC. | MEASUREMENT REPORT (CERTIFICATION) | SHARKDREAMS | Approved by: Quality Manager |
| Test Report S/N: 1M1711240301-01.2AN25 | Test Dates: 11/28-12/12/2017 | EUT Type: Prescription Medication Monitor | | Page 15 of 25 |

Sample Calculation

- Pk. Field Strength Level $_{[dB\mu V/m]} = \text{Analyzer Level }_{[dBm]} + 107 + \text{AFCL }_{[dB/m]}$
- $\text{AFCL }_{[dB/m]} = \text{Antenna Factor }_{[dB/m]} + \text{Cable Loss }_{[dB]}$
- $\text{Margin }_{[dB]} = \text{Field Strength Level }_{[dB\mu V/m]} - \text{Limit }_{[dB\mu V/m]}$

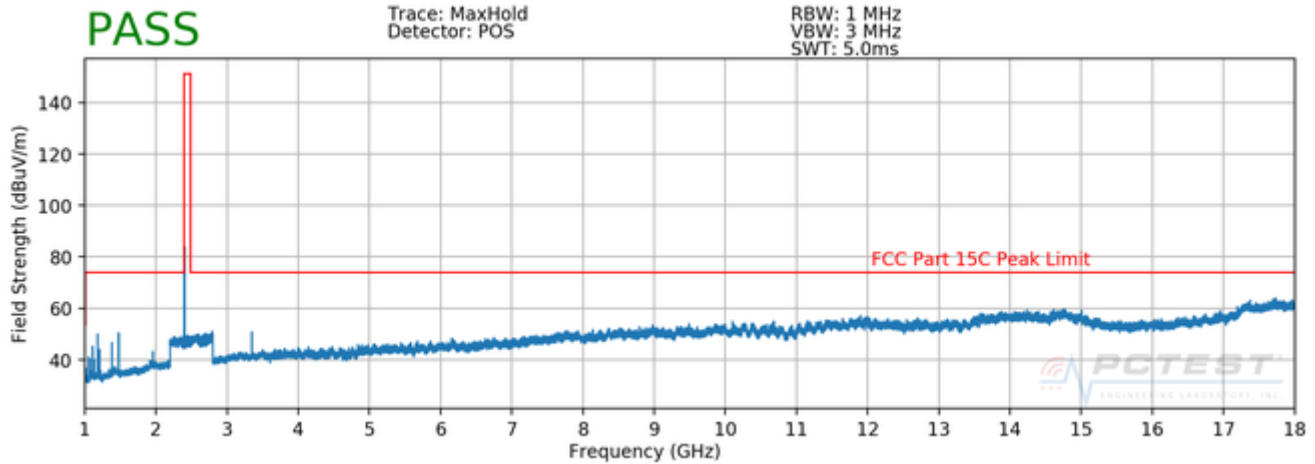
Test Notes

1. The spectrum is measured from 9kHz to the 10th harmonic and the worst-case emissions are reported. There were no non-harmonic emissions detected whose levels were within 20dB of the applicable limits so only harmonic emissions data is shown in this section.
2. All emissions lying in restricted bands specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-5. Per 15.249(d) and RSS-210 (B.10), the radiated emissions limits from 15.209 and RSS-Gen Section 8.10 were used since they were less than the limit of 50dB of attenuation from the measured fundamental field strength level.
3. Peak measurements > 1GHz using RBW = 1MHz and VBW = 3MHz.
4. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
5. This unit was tested with its standard battery.
6. The "-" shown in the following RSE tables are used to denote a noise floor measurement.
7. All emissions were found to be at noise floor levels. As such, only peak measurements were taken and compared with the average radiated spurious emission limit to demonstrate compliance.

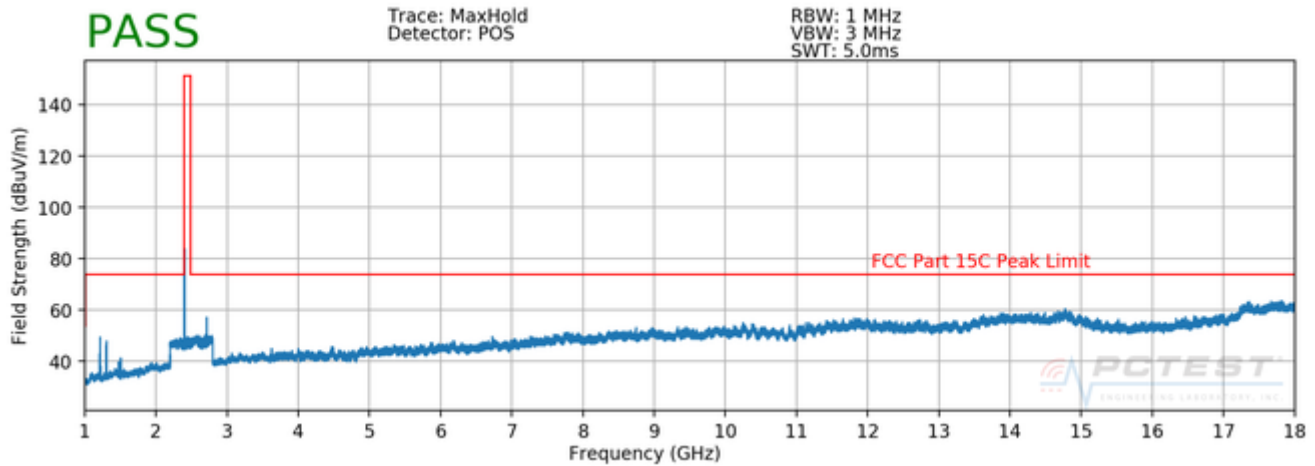
| | | | | |
|---|---|--|---------------|---------------------------------|
| FCC ID: 2AN25-LIVIT1 |  | MEASUREMENT REPORT (CERTIFICATION) | SHARKDREAMS | Approved by: Quality Manager |
| Test Report S/N: 1M1711240301-01.2AN25 | Test Dates: 11/28-12/12/2017 | EUT Type: Prescription Medication Monitor | Page 16 of 25 | |

Radiated Spurious Emission Measurements

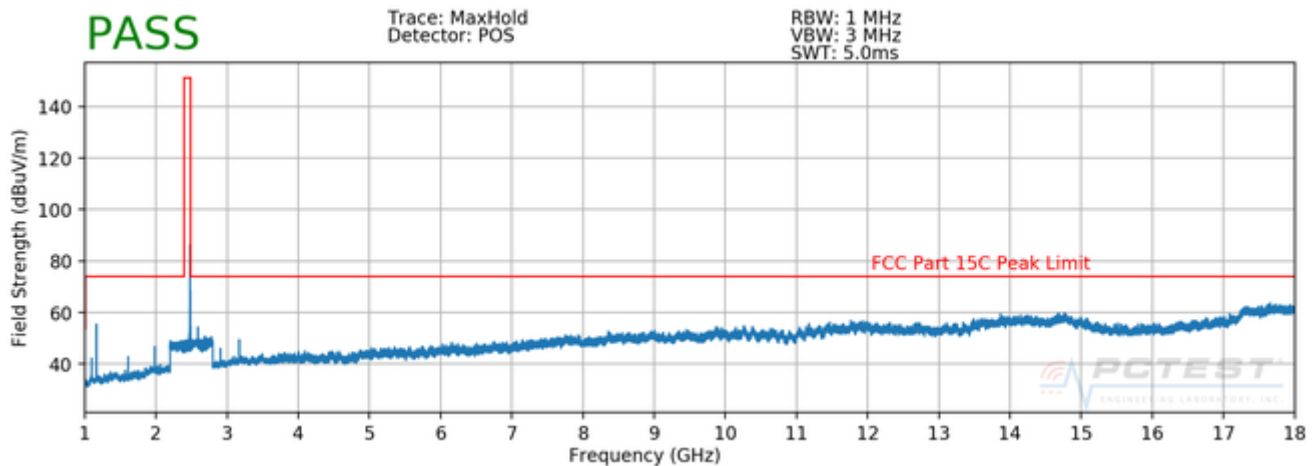
§15.205 §15.209 §15.247 (d); RSS-Gen [8.9]



Plot 7-7. Radiated Spurious Plot above 1GHz (Low Channel, Ant. Pol. H)

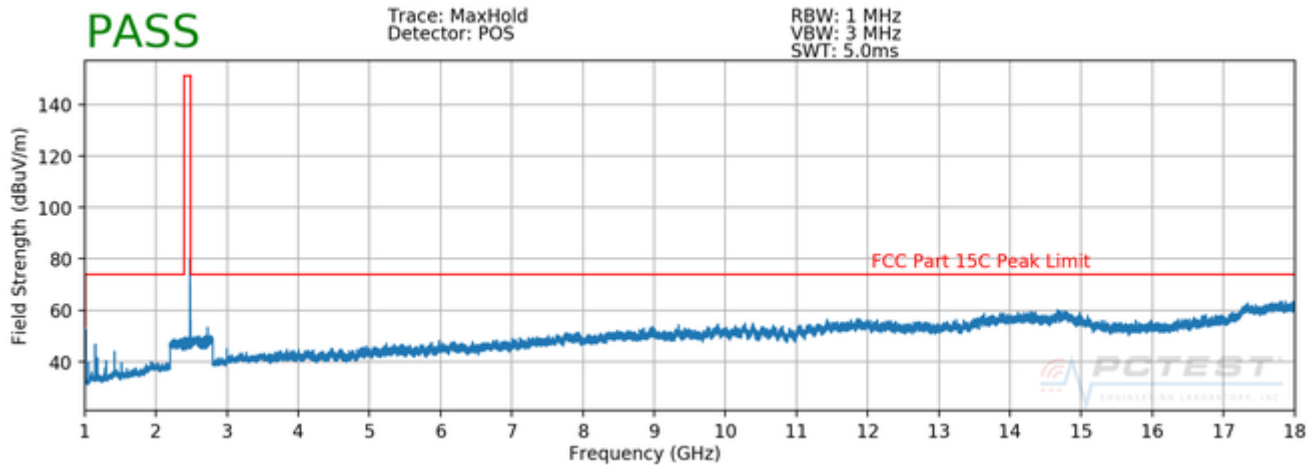


Plot 7-8. Radiated Spurious Plot above 1GHz (Low Channel, Ant. Pol. V)

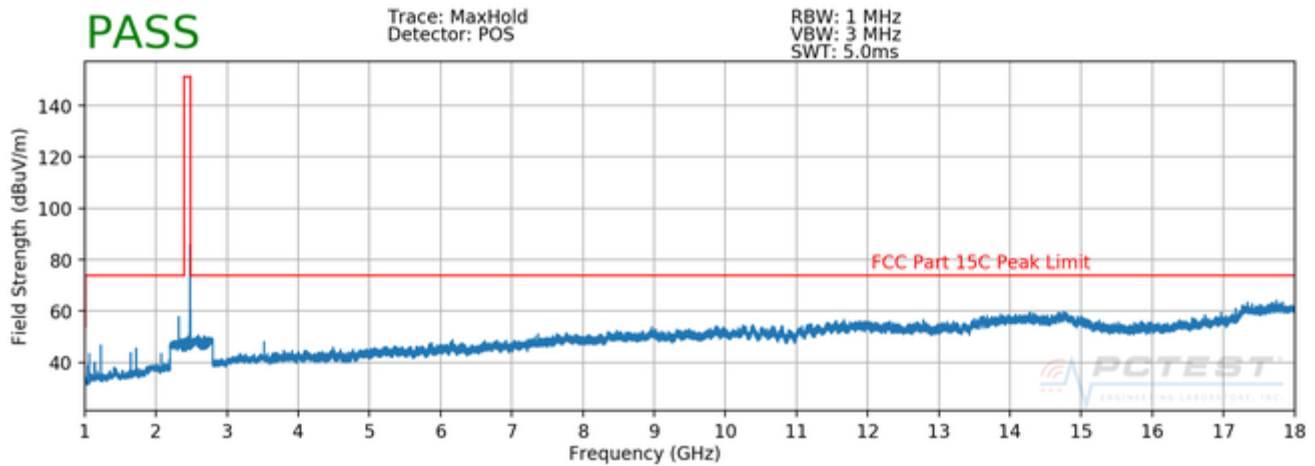


Plot 7-9. Radiated Spurious Plot above 1GHz (Mid Channel, Ant. Pol. H)

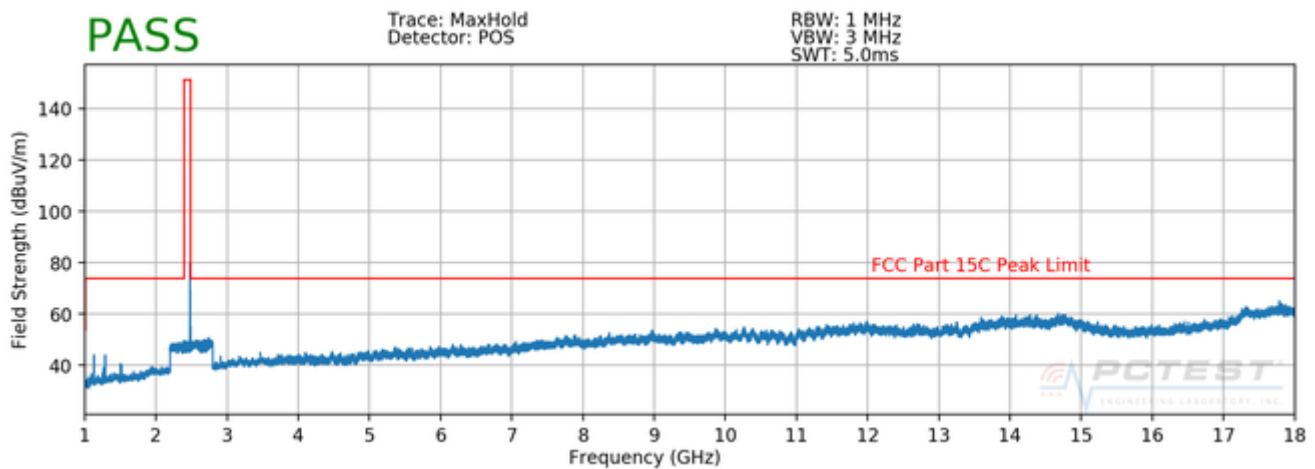
| | | | | |
|---|---|--|-------------|---------------------------------|
| FCC ID: 2AN25-LIVIT1 | PCTEST ENGINEERING LABORATORY, INC. | MEASUREMENT REPORT (CERTIFICATION) | SHARKDREAMS | Approved by: Quality Manager |
| Test Report S/N: 1M1711240301-01.2AN25 | Test Dates: 11/28-12/12/2017 | EUT Type: Prescription Medication Monitor | | Page 17 of 25 |



Plot 7-10. Radiated Spurious Plot above 1GHz (Mid Channel, Ant. Pol. V)



Plot 7-11. Radiated Spurious Plot above 1GHz (High Channel, Ant. Pol. H)



Plot 7-12. Radiated Spurious Plot above 1GHz (High Channel, Ant. Pol. V)

| | | | | |
|---|---|--|-------------|---------------------------------|
| FCC ID: 2AN25-LIVIT1 | PCTEST ENGINEERING LABORATORY, INC. | MEASUREMENT REPORT (CERTIFICATION) | SHARKDREAMS | Approved by: Quality Manager |
| Test Report S/N: 1M1711240301-01.2AN25 | Test Dates: 11/28-12/12/2017 | EUT Type: Prescription Medication Monitor | | Page 18 of 25 |

Radiated Spurious Emission Measurements

§15.205 §15.209 §15.249 (d)(e); RSS-210 (B.10), RSS-Gen (8.9)

Worst Case Mode: Bluetooth LE
 Measurement Distance: 3 Meters
 Operating Frequency: 2402MHz
 Channel: 37

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|-------------------------|----------------|-------------|
| 4804.00 | Peak | V | - | - | -64.73 | 2.41 | 44.68 | 53.98 | -9.30 |
| 12010.00 | Peak | V | - | - | -72.80 | 16.34 | 50.54 | 53.98 | -3.44 |

Table 7-6. Radiated Measurements

Worst Case Mode: Bluetooth LE
 Measurement Distance: 3 Meters
 Operating Frequency: 2426MHz
 Channel: 38

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|-------------------------|----------------|-------------|
| 4852.00 | Peak | V | - | - | -65.36 | 3.95 | 45.59 | 53.98 | -8.39 |
| 7278.00 | Peak | V | - | - | -65.52 | 9.07 | 50.55 | 53.98 | -3.43 |
| 12130.00 | Peak | V | - | - | -72.41 | 15.84 | 50.43 | 53.98 | -3.55 |

Table 7-7. Radiated Measurements

| | | | | |
|--|---|---|---|--|
| FCC ID: 2AN25-LIVIT1 |  MEASUREMENT REPORT (CERTIFICATION) | |  | Approved by: Quality Manager |
| Test Report S/N: 1M1711240301-01.2AN25 | Test Dates: 11/28-12/12/2017 | EUT Type: Prescription Medication Monitor | | Page 19 of 25 |

Radiated Spurious Emission Measurements

§15.205 §15.209 §15.249 (d)(e); RSS-210 (B.10), RSS-Gen (8.9)

Worst Case Mode: Bluetooth LE
Measurement Distance: 3 Meters
Operating Frequency: 2480MHz
Channel: 39

| Frequency [MHz] | Detector | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Analyzer Level [dBm] | AFCL [dB/m] | Field Strength [dBµV/m] | Limit [dBµV/m] | Margin [dB] |
|-----------------|----------|-----------------|---------------------|----------------------------|----------------------|-------------|-------------------------|----------------|-------------|
| 4960.00 | Peak | V | - | - | -66.38 | 4.93 | 45.55 | 53.98 | -8.42 |
| 7440.00 | Peak | V | - | - | -66.91 | 8.96 | 49.05 | 53.98 | -4.93 |
| 12400.00 | Peak | V | - | - | -72.91 | 16.09 | 50.18 | 53.98 | -3.80 |

Table 7-8. Radiated Measurements

| | | | | |
|--|---|---|---|--|
| FCC ID: 2AN25-LIVIT1 |  MEASUREMENT REPORT (CERTIFICATION) | |  | Approved by: Quality Manager |
| Test Report S/N: 1M1711240301-01.2AN25 | Test Dates: 11/28-12/12/2017 | EUT Type: Prescription Medication Monitor | | Page 20 of 25 |

7.6 Radiated Spurious Emissions Measurements – Below 1GHz

§15.209; RSS-Gen [8.9]

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for radiated spurious emissions. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR and Table 6 of RSS-Gen (8.10) must not exceed the limits shown in Table 7-9 per Section 15.209 and RSS-Gen (8.9).

| Frequency | Field Strength [μV/m] | Measured Distance [Meters] |
|-------------------|--------------------------|-------------------------------|
| 0.009 – 0.490 MHz | 2400/F (kHz) | 300 |
| 0.490 – 1.705 MHz | 24000/F (kHz) | 30 |
| 1.705 – 30.00 MHz | 30 | 30 |
| 30.00 – 88.00 MHz | 100 | 3 |
| 88.00 – 216.0 MHz | 150 | 3 |
| 216.0 – 960.0 MHz | 200 | 3 |
| Above 960.0 MHz | 500 | 3 |

Table 7-9. Radiated Limits

Test Procedures Used

ANSI C63.10-2013

Test Settings

Quasi-Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 120kHz (for emissions from 30MHz – 1GHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

| | | | | |
|---|---|--|---------------|---------------------------------|
| FCC ID: 2AN25-LIVIT1 |  | MEASUREMENT REPORT (CERTIFICATION) | SHARKDREAMS | Approved by: Quality Manager |
| Test Report S/N: 1M1711240301-01.2AN25 | Test Dates: 11/28-12/12/2017 | EUT Type: Prescription Medication Monitor | Page 21 of 25 | |

Test Setup

The EUT and measurement equipment were set up as shown in the diagrams below.

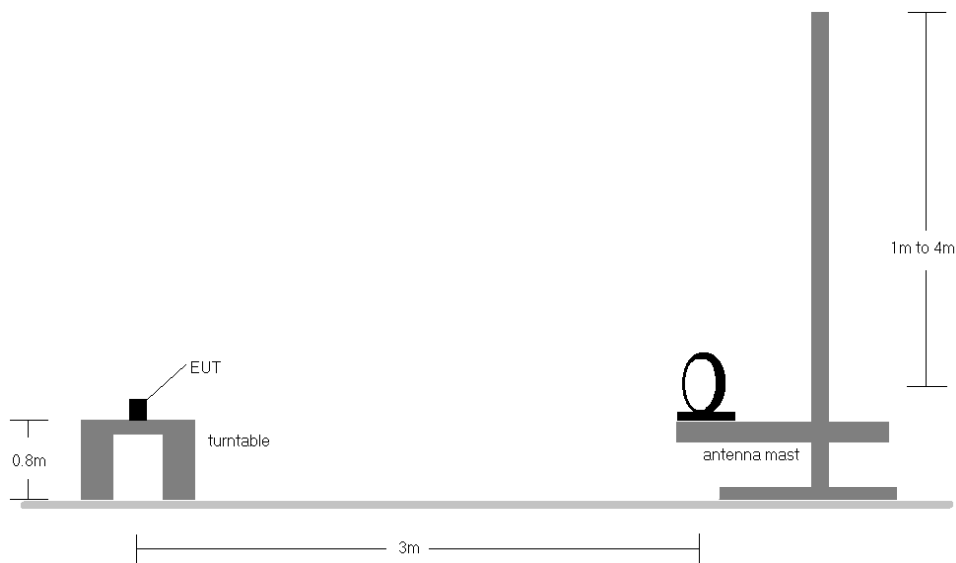


Figure 7-4. Radiated Test Setup < 30Mhz

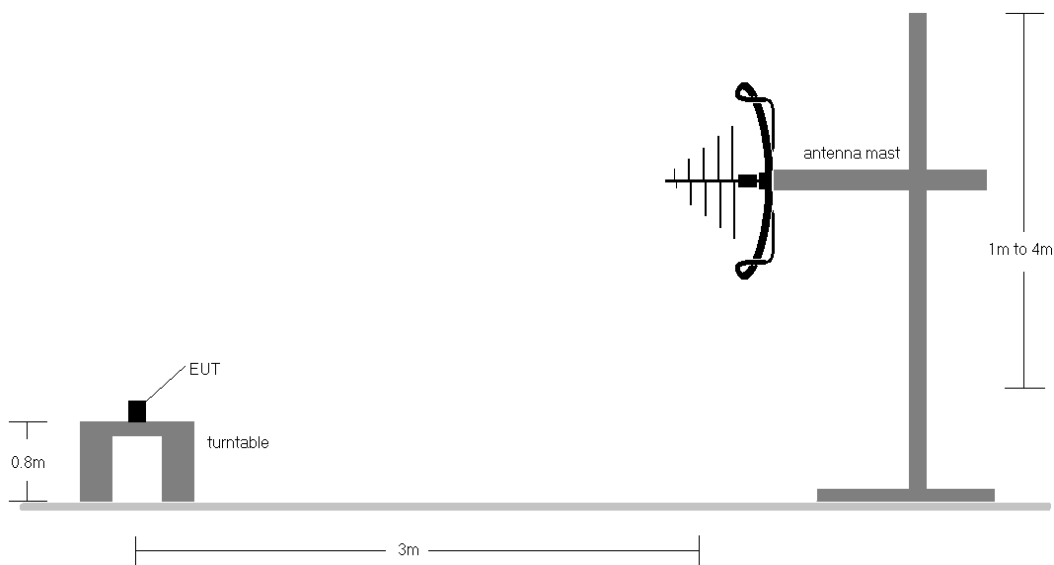


Figure 7-5. Radiated Test Setup < 1GHz

| | | | | |
|---|---|--|-------------|---------------------------------|
| FCC ID: 2AN25-LIVIT1 | PCTEST ENGINEERING LABORATORY, INC. | MEASUREMENT REPORT (CERTIFICATION) | SHARKDREAMS | Approved by: Quality Manager |
| Test Report S/N: 1M1711240301-01.2AN25 | Test Dates: 11/28-12/12/2017 | EUT Type: Prescription Medication Monitor | | Page 22 of 25 |

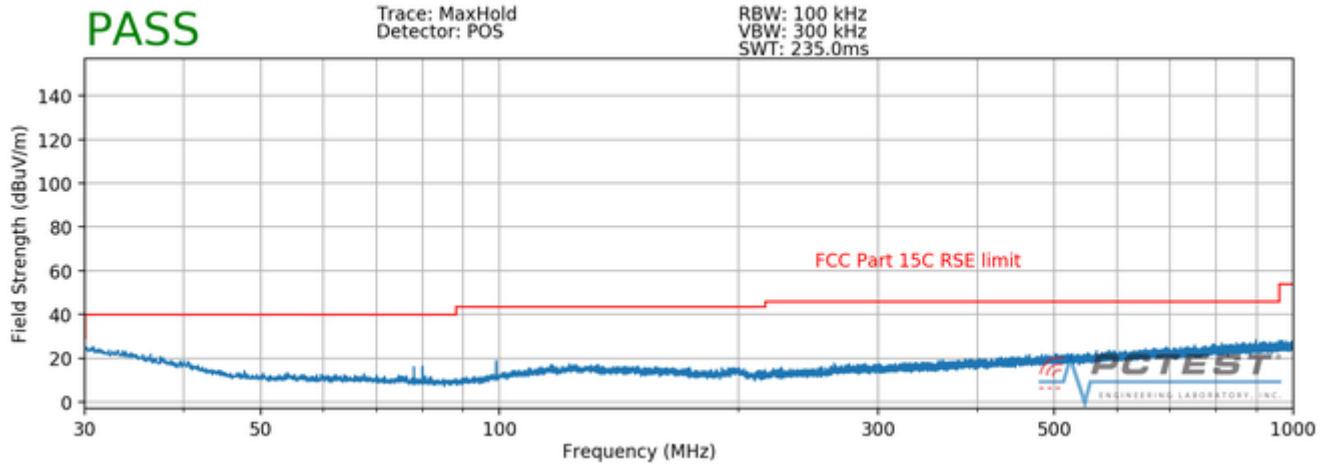
Test Notes

1. All emissions lying in restricted bands specified in §15.205 and RSS-Gen (8.10) are below the limit shown in Table 7-9.
2. The broadband receive antenna is manipulated through vertical and horizontal polarizations during the tests. The EUT is manipulated through three orthogonal planes.
3. This unit was tested with its standard battery.
4. The spectrum is investigated using a peak detector and final measurements are recorded using CISPR quasi peak detector. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
5. Emissions were measured at a 3 meter test distance.
6. Emissions are investigated while operating on the center channel of the mode, band, and modulation that produced the worst case results during the transmitter spurious emissions testing.
7. No spurious emissions were detected within 20dB of the limit below 30MHz.
8. The results recorded using the broadband antenna is known to correlate with the results obtained by using a tuned dipole with an acceptable degree of accuracy. The VSWR for the measurement antenna was found to be less than 2:1.
9. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. There were no emissions detected in the 30MHz – 1GHz frequency range, as shown in the subsequent plots.

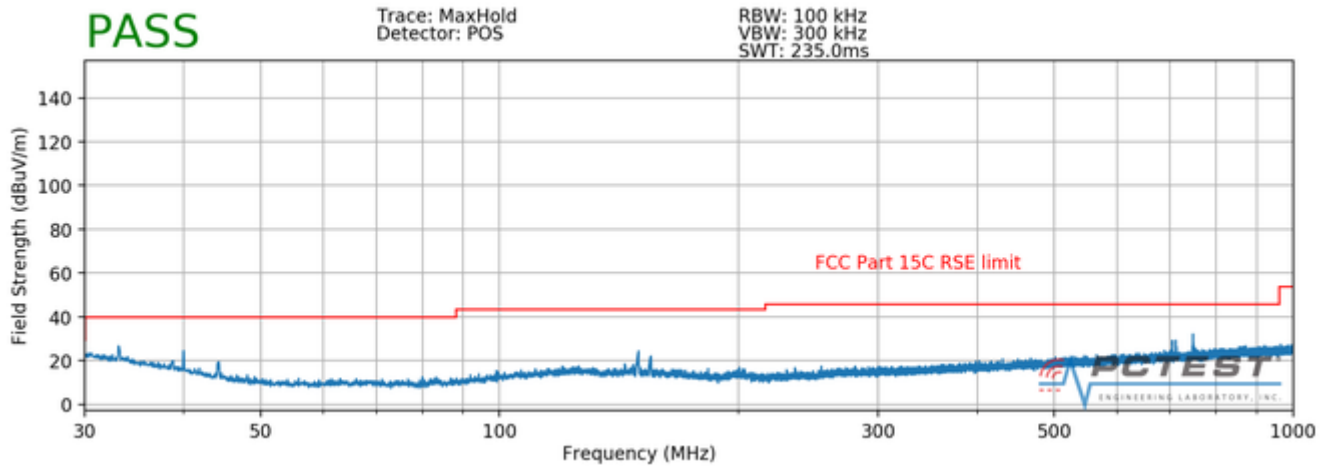
| | | | | |
|--|---|---|---|--|
| FCC ID: 2AN25-LIVIT1 |  | MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1711240301-01.2AN25 | Test Dates: 11/28-12/12/2017 | EUT Type: Prescription Medication Monitor | Page 23 of 25 | |

Radiated Spurious Emissions Measurements (Below 1GHz)

§15.209; RSS-Gen [8.9]



Plot 7-13. Radiated Spurious Plot below 1GHz (Pol. H)



Plot 7-14. Radiated Spurious Plot below 1GHz (Pol. V)

| | | | | |
|---|---|--|-------------|---------------------------------|
| FCC ID: 2AN25-LIVIT1 | PCTEST ENGINEERING LABORATORY, INC. | MEASUREMENT REPORT (CERTIFICATION) | SHARKDREAMS | Approved by: Quality Manager |
| Test Report S/N: 1M1711240301-01.2AN25 | Test Dates: 11/28-12/12/2017 | EUT Type: Prescription Medication Monitor | | Page 24 of 25 |

8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Shark Dreams LLC Prescription Medication Monitor FCC ID: 2AN25-LIVIT1** is compliant with Part 15 Subpart C (15.249) of the FCC Rules.

| | | | | |
|--|---|---|---|--|
| FCC ID: 2AN25-LIVIT1 |  | MEASUREMENT REPORT (CERTIFICATION) |  | Approved by: Quality Manager |
| Test Report S/N: 1M1711240301-01.2AN25 | Test Dates: 11/28-12/12/2017 | EUT Type: Prescription Medication Monitor | Page 25 of 25 | |