Radio Testing of the

Abbott Laboratories
BLE Dongle Model: BLU2000

In accordance with FCC Part 15 Subpart C §15.247 and IC RSS-247 Issue 2 February 2017

America

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Abbott Laboratories
15900 Valley View Court
Sylmar, California 91342
USA

COMMERCIAL-IN-CONFIDENCE

Date: February 2020
Document Number: 72152653A Rev.02 Issue 01 | Version Number: 01

Authorized Signatory	Alex Chang	February 12, 2020	Alex Chang

Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD document control rules.

EXECUTIVE SUMMARY
A sample of this product was tested and found to be in compliance with FCC Part 15 Subpart C §15.247 and IC RSS-247 Issue 2 February 2017.

A2LA Cert. No. 2955.13

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REPORT ON	Radio Testing of the Abbott Laboratories Model BLU2000 BLE Dongle
TEST REPORT NUMBER	72152653A Rev.02
TEST REPORT DATE	February 2020
PREPARED FOR	Abbott Laboratories 15900 Valley View Court Sylmar, California 91342 USA
CONTACT PERSON	Perry Li Principal Engineer perry.li@abbott.com (818) 493-3793
PREPARED BY	Ferdinand S. Custodio **Name** Authorized Signatory Title: Senior EMC Test Engineer / Wireless Team Lead
APPROVED BY	Alex Chang **Name** Authorized Signatory Title: Senior EMC/RF Wireless Test Engineer
DATED	February 12, 2020

Revision History

72152653A Rev.02 Issue 01 | Version Number: 01 Abbott Laboratories Model BLU2000 BLE Dongle					
DATE	OLD REVISION	NEW REVISION	REASON	PAGES AFFECTED	APPROVED BY
09/27/2019	—	Initial Release			Alex Chang
10/04/2019	Initial Release	Rev.01	Model number correction	Cover page, 2, 3, 5, 6, 8, and 13	Alex Chang
			Section 1.4.5 Data Rate correction	10	
02/12/2020	Rev.01	Rev.02	Industry Canada Company ID Code change	All	Alex Chang

CONTENTS

SECTION 1

1 REPORT SUMMARY

Radio Testing of the
Abbott Laboratories
BLU2000 BLE Dongle

1.1 Introduction

The information contained in this report is intended to show verification of the Abbott Laboratories BLU2000 BLE Dongle to the requirements of FCC Part 15 Subpart C §15.247 and IC RSS-247 Issue 2 February 2017.

Objective	To perform Radio testing to determine the Equipment Under Test's (EUT's) compliance with the test specification, for the series of tests carried out.
Manufacturer	Abbott Laboratories
EUT	BLE Dongle
Trade Name	BLU2000
Model Name	BLU2000
FCC ID	RIA-MRLN3650ACC
IC Number	7076A-MRLN3650ACC
FCC Classification	Low power Communications Device Transmitter (DTS)
Serial Number(s)	N/A
Number of Samples Tested	1
Test Specification/Issue/Date	• FCC Part 15 Subpart C §15.247 (October 1, 2018). • RSS-247–Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices (Issue 2, February 2017). • RSS-Gen - General Requirements for Compliance of Radio Apparatus (Issue 5, Amendment 1 March 2019).
Start of Test	August 27, 2019
Finish of Test	September 10, 2019
Name of Engineer(s)	Ferdinand Custodio
Related Document(s)	• ANSI C63.10-2013. American National Standard of Procedures for Compliance testing of Unlicensed Wireless Devices. • KDB 558074 D01 15.247 v05r02 Guidance for compliance measurements on Digital Transmission System, Frequency Hopping Spread Spectrum System, and Hybrid System Devices operating under Section 15.247 of the FCC rules. • Supporting documents for EUT certification are separate exhibits.

1.2 Brief Summary of Results

A brief summary of the tests carried out in accordance with FCC Part 15 Subpart C §15.247 and IC RSS-247 Issue 2 February 2017 with cross-reference to the corresponding IC RSS standard are shown below.

Section	§15.247 Spec Clause	RSS	Test Description	Result	Comments /Base Standard
2.1	§15.247(b)(3)	RSS-247 5.4(d)	Peak Output Power	Compliant	
2.2	§15.207(a)	RSS-Gen 8.8	Conducted Emissions	N/A	
2.3	-	RSS-Gen 6.7	99% Emission Bandwidth	Compliant	
2.4	§15.247(a)(2)	RSS-247 5.2(a)	Minimum 6 dB RF Bandwidth	Compliant	
2.5	§15.247(d)	RSS-247 5.5	Out-of-Band Emissions - Conducted	Compliant	
2.6	§15.247(d)	RSS-247 5.5	Band-edge Compliance of RF Conducted Emissions	Compliant	
2.7	§15.247(d)	RSS-247 5.5	Radiated Spurious Emissions	Compliant	
-	-	RSS-Gen 7.3 and 7.4	Receiver Spurious Emissions	N/A*	
2.8	§15.247(e)	RSS-247 5.2(b)	Power Spectral Density for Digitally Modulated Device	Compliant	

N/A* The EUT is USB powered and will be used with a dedicated host. Conducted Emissions verification of the host when tested as a system applies.
N/A* Not required as per RSS-Gen 5.3 The EUT does not fall into any category defined as Receiver under RSS-Gen.

1.3 Product Information

1.3.1 Technical Description

The Equipment Under Test (EUT) is an Abbott Laboratories BLU2000 BLE Dongle. The EUT is a Bluetooth Low Energy radio to USB interface which operates in the 2.4GHz ISM band. The EUT is an accessory to Merlin 3650 Programmer used as an interface with an implanted device.

1.3.2 EUT General Description

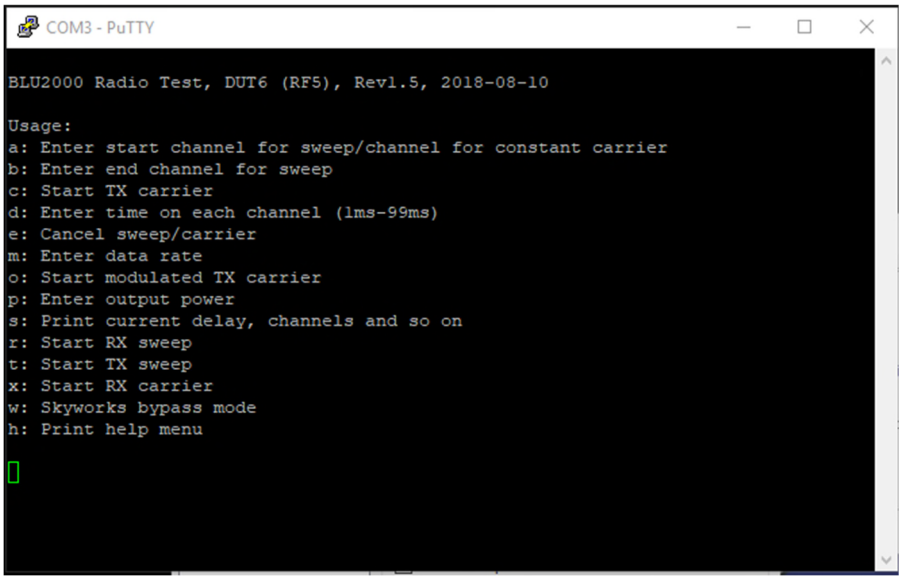
EUT Description	BLE Dongle
Trade Name	BLU2000
Model Name	BLU2000
Rated Voltage	USB powered
Mode Verified	BT LE
Capability	BT LE
Primary Unit (EUT)	☒ Production
	☐ Pre-Production
	☐ Engineering
Manufacturer Declared Temperature Range	10°C to 40°C (Host - Merlin 3650 Programmer)
Antenna Type	SMT Mini Antenna
Manufacturer	Johanson Technology
Antenna Model	P/N 2450AT18A100
Maximum Antenna Gain	0.5 dBi

1.3.3 Maximum Conducted Output Power

Bluetooth Low Energy (LE)	Frequency Range (MHz)	Gated RMS (dBm)	Gated EIRP (dBm)	Duty Cycle (%)
	2402-2480	6.9	7.4	90.2

1.4 EUT Test Configuration

1.4.1 Test Configuration Description

Test Configuration	Description
Default	EUT is connected to the support laptop. Using PuTTY Release 0.72 and the assigned COM Port, the test firmware (BLU2000 Radio Test) is loaded:  Variables during configuration are Channels, Data Rate and Output Power (Manufacturer recommended value is “4”).

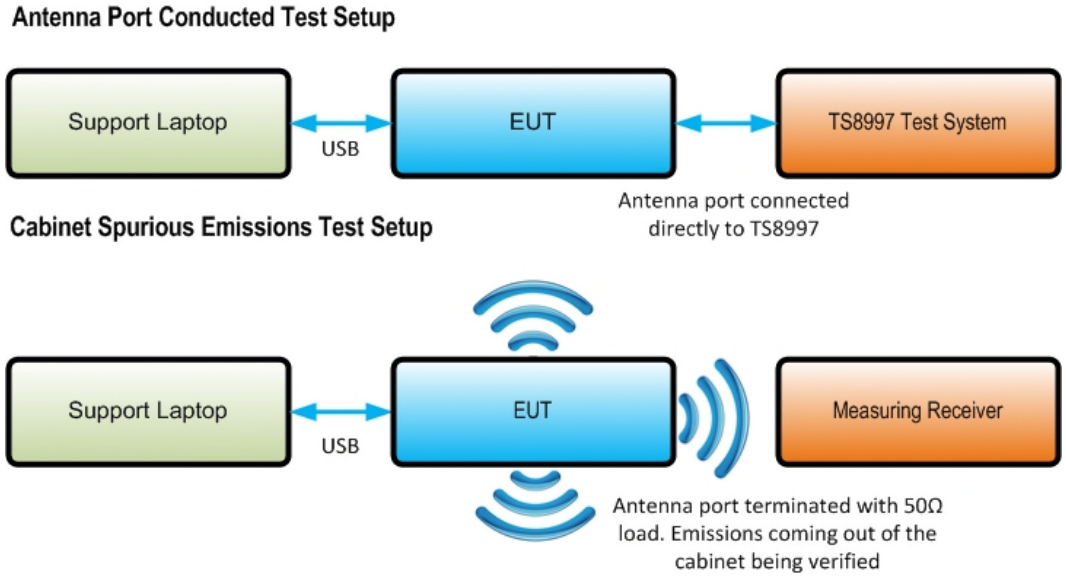
1.4.2 EUT Exercise Software

PuTTY Release 0.72 and BLU2000 Radio Test, DUT6 (RF5), Rev 1.5, 2018-08-10.

1.4.3 Support Equipment and I/O cables

Manufacturer	Equipment/Cable	Description
Lenovo	Support Laptop	Model: Thinkpad T530 Type 2392-45U S/N R9-RM96L
Lenovo	Support AC Adapter	PA-1900-171 S/N 11S92P1109Z1ZBTZ71C9A1

1.4.4 Simplified Test Configuration Diagram

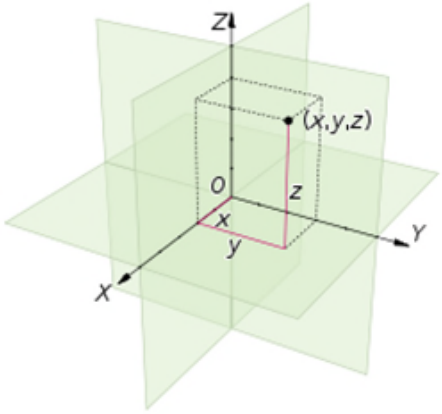


1.4.5 Worst Case Configuration

Worst-case configuration used in this test report as per Conducted Output Power measurements:

Mode	Channel	Data Rate
Bluetooth LE	37 (Low Channel)	1Mbps

EUT is a mobile device. Final installation position is only at X orientation when installed with the host (Merlin 3650 Programmer). For radiated measurements verifications performed using “X” configuration.



1.5 Deviations from The Standard

No deviations from the applicable test standards or test plan were made during testing.

1.6 Modification Record

Description of Modification	Modification Fitted By	Date Modification Fitted
Serial Number: N/A		
None	—	—

The table above details modifications made to the EUT during the test programme. The modifications incorporated during each test (if relevant) are recorded on the appropriate test pages.

1.7 Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

For conducted and radiated emissions, the equipment under test (EUT) was configured to measure its highest possible emission level. This level was based on the maximized cable configuration from exploratory testing per ANSI C63.10-2013. The test modes were adapted according to the Operating Instructions provided by the manufacturer/client.

1.8 Test Facility Location

1.8.1 TÜV SÜD America Inc. (Mira Mesa)

10040 Mesa Rim Road, San Diego, CA 92121-2912 (32.901268,-117.177681). Phone: 858 678 1400 FAX: 858 546 0364

1.8.2 TÜV SÜD America Inc. (Rancho Bernardo)

16936 Via Del Campo, San Diego, CA 92127-1708 (33.018644,-117.092409). Phone: 858 678 1400 Fax: 858 546 0364.

1.9 Test Facility Registration

1.9.1 FCC – Designation No.: US1146

TÜV SÜD America Inc. (San Diego), is an accredited test facility with the site description report on file and has met all the requirements specified in §2.948 of the FCC rules. The acceptance letter from the FCC is maintained in our files and the Designation is US1146.

1.9.2 Innovation, Science and Economic Development Canada (IC) Registration No.: 3067A-1 & 22806-1

The 10m Semi-anechoic chamber of TÜV SÜD America Inc. (San Diego Rancho Bernardo) has been registered by Certification and Engineering Bureau of Innovation, Science and Economic Development Canada for radio equipment testing with Registration No. 3067A-1.

The 3m Semi-anechoic chamber of TÜV SÜD America Inc. (San Diego Mira Mesa) has been registered by Certification and Engineering Bureau of Innovation, Science and Economic Development Canada for radio equipment testing with Registration No. 22806-1.

1.9.3 BSMI – Laboratory Code: SL2-IN-E-028R (US0102)

TÜV Product Service Inc. (San Diego) is a recognized EMC testing laboratory by the BSMI under the MRA (Mutual Recognition Arrangement) with the United States. Accreditation includes CNS 13438 up to 6GHz.

1.9.4 NCC (National Communications Commission - US0102)

TÜV SÜD America Inc. (San Diego) is listed as a Foreign Recognized Telecommunication Equipment Testing Laboratory and is accredited to ISO/IEC 17025 (A2LA Certificate No.2955.13) which under APEC TEL MRA Phase 1 was designated as a Conformity Assessment Body competent to perform testing of equipment subject to the Technical Regulations covered under its scope of accreditation including RTTE01, PLMN01 and PLMN08 for TTE type of testing and LP002 for Low-Power RF Device type of testing.

1.9.5 VCCI – Registration No. A-0280 and A-0281

TÜV SÜD America Inc. (San Diego) is a VCCI registered measurement facility which includes radiated field strength measurement, radiated field strength measurement above 1GHz, mains port interference measurement and telecommunication port interference measurement.

1.9.6 RRA – Identification No. US0102

TÜV SÜD America Inc. (San Diego) is National Radio Research Agency (RRA) recognized laboratory under Phase I of the APEC Tel MRA.

1.9.7 OFCA – U.S. Identification No. US0102

TÜV SÜD America Inc. (San Diego) is recognized by Office of the Communications Authority (OFCA) under Appendix B, Phase I of the APEC Tel MRA.

SECTION 2

2 TEST DETAILS

Radio Testing of the
Abbott Laboratories
BLU2000 BLE Dongle

2.1 Peak Output Power

2.1.1 Specification Reference

FCC 47 CFR Part 15, Clause 15.247(b)(3)
RSS-247, Clause 5.4 (d)

2.1.2 Standard Applicable

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands, the maximum peak conducted output shall not exceed 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

2.1.3 Equipment Under Test and Modification State

Serial No: N/A / Default Test Configuration

2.1.4 Date of Test/Initial of test personnel who performed the test

August 27, 2019 / FSC

2.1.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.1.6 Environmental Conditions (Rancho Bernardo Satellite Facility)

Ambient Temperature	26.3°C
Relative Humidity	48.5%
ATM Pressure	98.8kPa

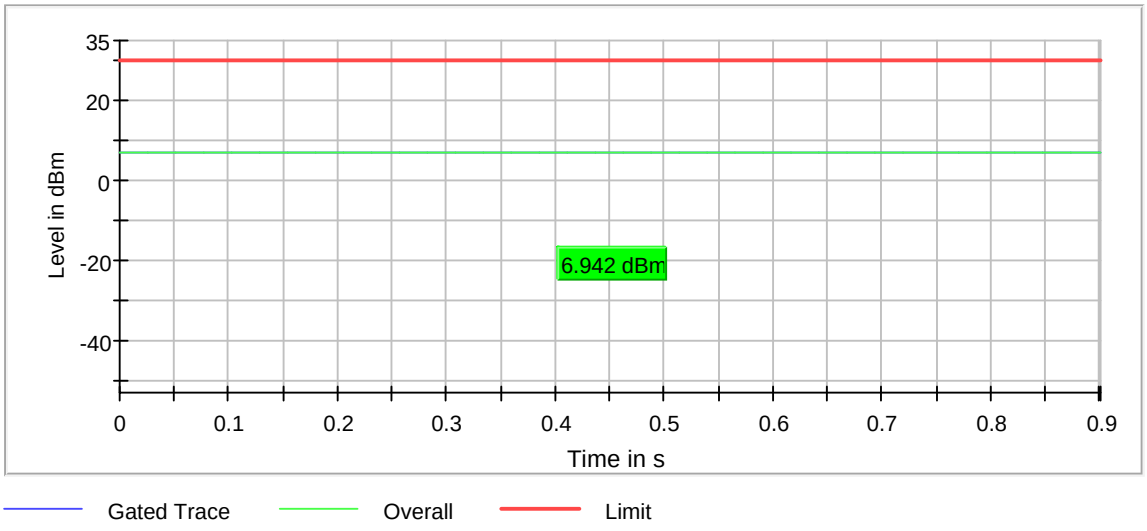
2.1.7 Additional Observations

- This is a conducted test using direct connection to the TS8997 Test System.
- The path loss was all accounted for with the test system calibration.
- Test methodology is per Test according to FCC title 47 part 15 §15.247(b), KDB 558074 D01 DTS Meas Guidance v05 and ANSI C63.10-2013 11.9.2.3.2.
- Only the worst-case data rate presented.

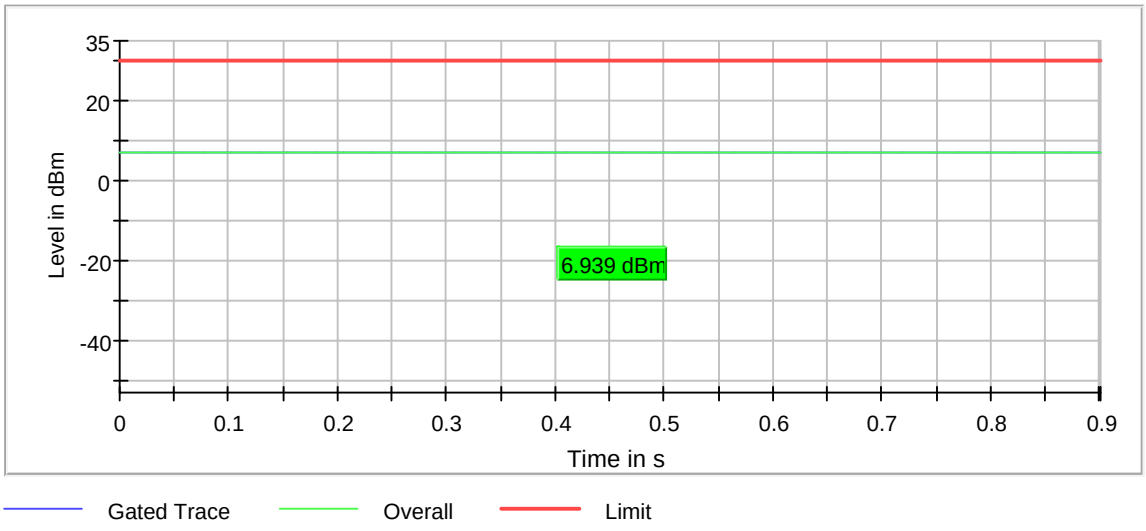
2.1.8 Test Results

DUT Frequency (MHz)	Gated RMS (dBm)	Limit Max (dBm)	Gated EIRP (dBm)	DutyCycle (%)	Result
2402.000000	6.9	30.0	6.9	90.169	PASS
2440.000000	6.9	30.0	6.9	90.171	PASS
2480.000000	6.2	30.0	6.2	90.177	PASS

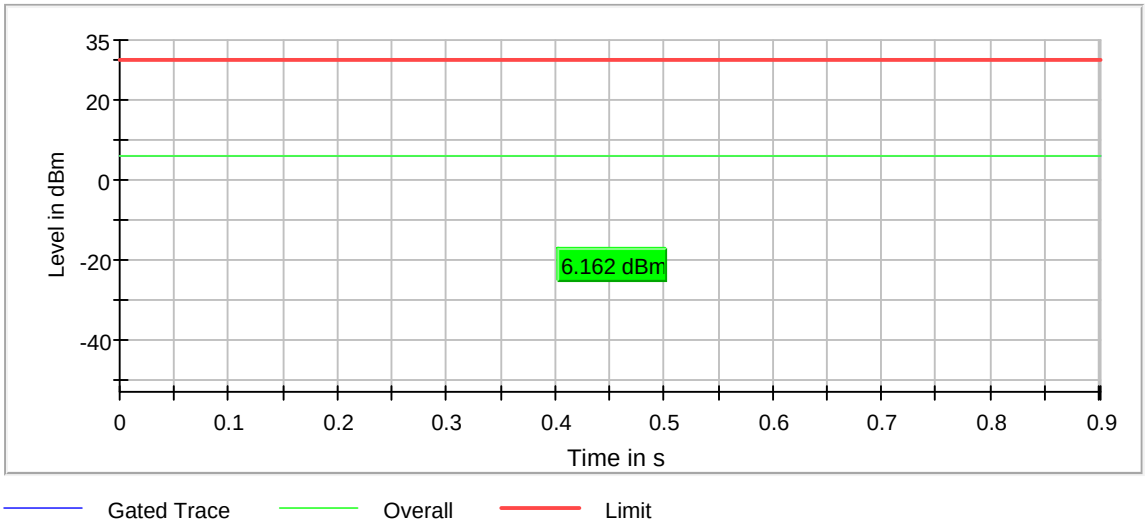
2.1.9 Test Plots



Bluetooth LE. Low Channel 2Mbps



Bluetooth LE. Mid Channel 2Mbps



Bluetooth LE. High Channel 2Mbps

2.2 Conducted Emissions

2.2.1 Specification Reference

FCC 47 CFR Part 15, Clause 15.207(a)
RSS-GEN, Clause 8.8

2.2.2 Standard Applicable

An intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 µH/50 ohms line impedance stabilization network (LISN).

Frequency of emission (MHz)	Conducted limit (dBµV)	
	Quasi-peak	Average
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50

**Decreases with the logarithm of the frequency.*

2.2.3 Equipment Under Test and Modification State

Serial No: N/A

2.2.4 Date of Test/Initial of test personnel who performed the test

N/A. The EUT is USB powered and will be used with a dedicated host. Conducted Emissions verification of the host when tested as a system applies.

2.3 99% Emission Bandwidth

2.3.1 Specification Reference

RSS-Gen Clause 6.7

2.3.2 Standard Applicable

The emission bandwidth (x dB) is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated x dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth.
When the occupied bandwidth limit is not stated in the applicable RSS or reference measurement method, the transmitted signal bandwidth shall be reported as the 99% emission bandwidth, as calculated or measured.

- The transmitter shall be operated at its maximum carrier power measured under normal test conditions.
- The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts.
- The resolution bandwidth (RBW) shall be in the range of 1% to 5% of the occupied bandwidth (OBW) and video bandwidth (VBW) shall be approximately 3x RBW.

Note: Video averaging is not permitted.
A peak, or peak hold, may be used in place of the sampling detector as this may produce a wider bandwidth than the actual bandwidth (worst-case measurement). Use of a peak hold may be necessary to determine the occupied bandwidth if the device is not transmitting continuously.
The trace data points are recovered and are directly summed in linear power level terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached and that frequency recorded. The process is repeated for the highest frequency data points (starting at the highest frequency, at the right side of the span, and going down in frequency). This frequency is then recorded.
The difference between the two recorded frequencies is the 99% occupied bandwidth.

2.3.3 Equipment Under Test and Modification State

Serial No: N/A / Default Test Configuration

2.3.4 Date of Test/Initial of test personnel who performed the test

August 27, 2019 / FSC

2.3.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.3.6 Environmental Conditions (Rancho Bernardo Satellite Facility)

Ambient Temperature	26.3°C
Relative Humidity	48.5%
ATM Pressure	98.8kPa

2.3.7 Additional Observations

- This is a conducted test using direct connection to the TS8997 Test System.
- The path loss was all accounted for with the test system calibration.
- Test methodology is per Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v05 and ANSI C63.10-2013 11.8.1.
- Only the worst-case data rate presented.

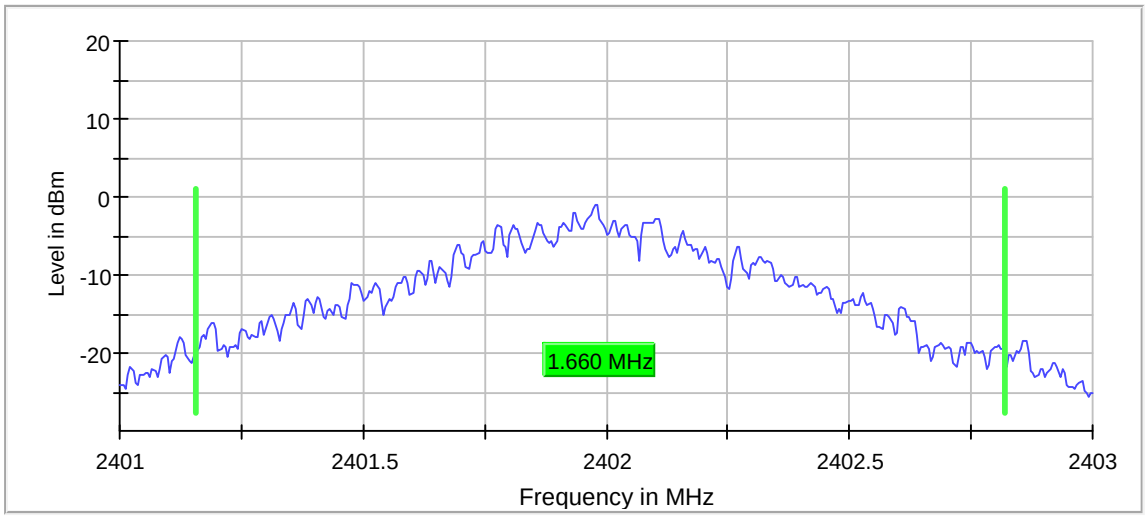
2.3.8 Measurement Settings

Setting	Instrument Value	Target Value
Span	2.000 MHz	2.000 MHz
RBW	10.000 kHz	>= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	400	~ 400
Sweeptime	189.648 µs	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	7 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.17 dB	0.30 dB

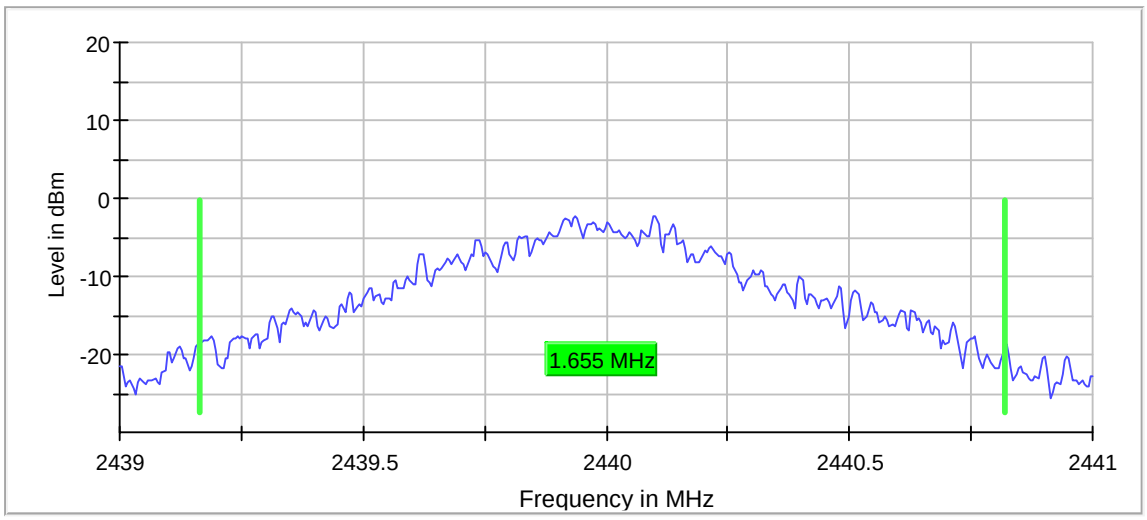
2.3.9 Test Results (For reporting purposes only)

DUT Frequency (MHz)	Bandwidth (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Result
2402.000000	1.660000	2401.157500	2402.817500	PASS
2440.000000	1.655000	2439.162500	2440.817500	PASS
2480.000000	1.650000	2479.167500	2480.817500	PASS

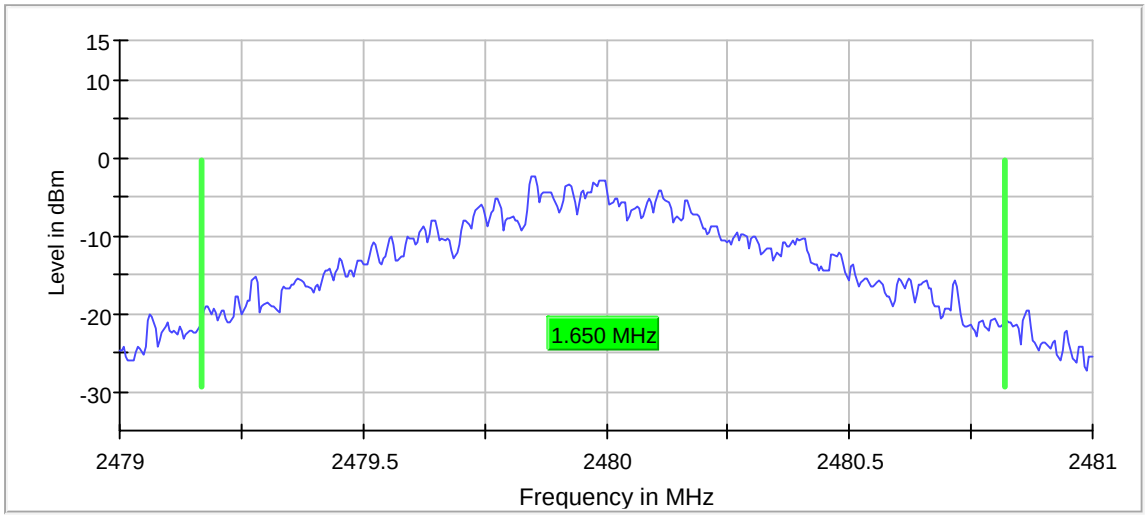
2.3.10 Test Results Plots



Bluetooth LE Low Channel



Bluetooth LE Mid Channel



Bluetooth LE High Channel

2.4 Minimum 6 dB RF Bandwidth

2.4.1 Specification Reference

FCC 47 CFR Part 15, Clause 15.247(a)(2)
RSS-247, Clause 5.2 (a)

2.4.2 Standard Applicable

(2) Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

2.4.3 Equipment Under Test and Modification State

Serial No: N/A / Default Test Configuration

2.4.4 Date of Test/Initial of test personnel who performed the test

August 27, 2019 / FSC

2.4.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.4.6 Environmental Conditions (Rancho Bernardo Satellite Facility)

Ambient Temperature	26.3°C
Relative Humidity	48.5%
ATM Pressure	98.8kPa

2.4.7 Additional Observations

- This is a conducted test using direct connection to the TS8997 Test System.
- The path loss was all accounted for with the test system calibration.
- Test methodology is per Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v05 and ANSI C63.10-2013 11.8.1.
- Only the worst-case data rate presented.

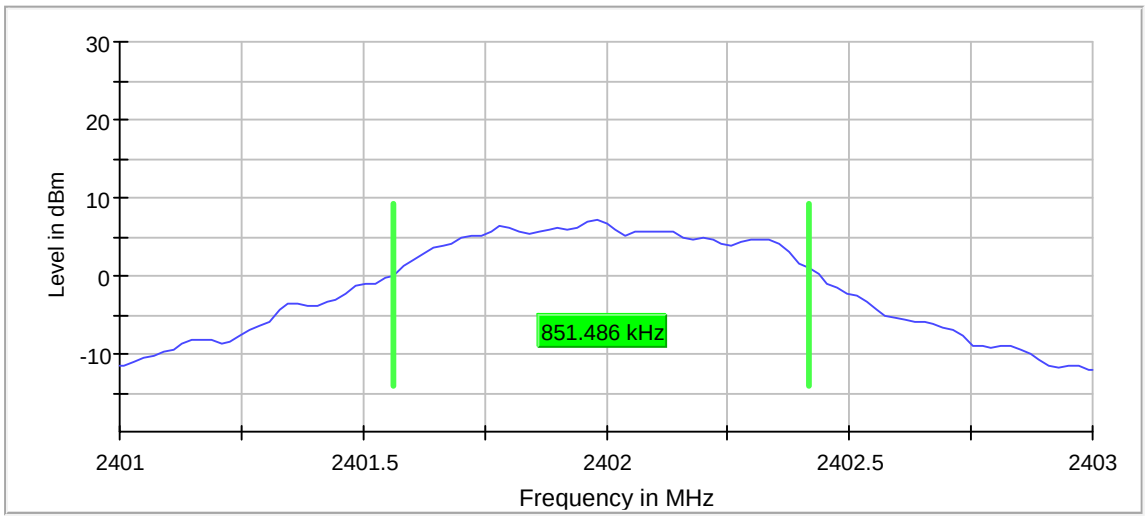
2.4.8 Measurement Settings

Setting	Instrument Value	Target Value
Span	2.000 MHz	2.000 MHz
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz
SweepPoints	101	~ 40
Sweeptime	18.938 µs	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	13 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.14 dB	0.50 dB

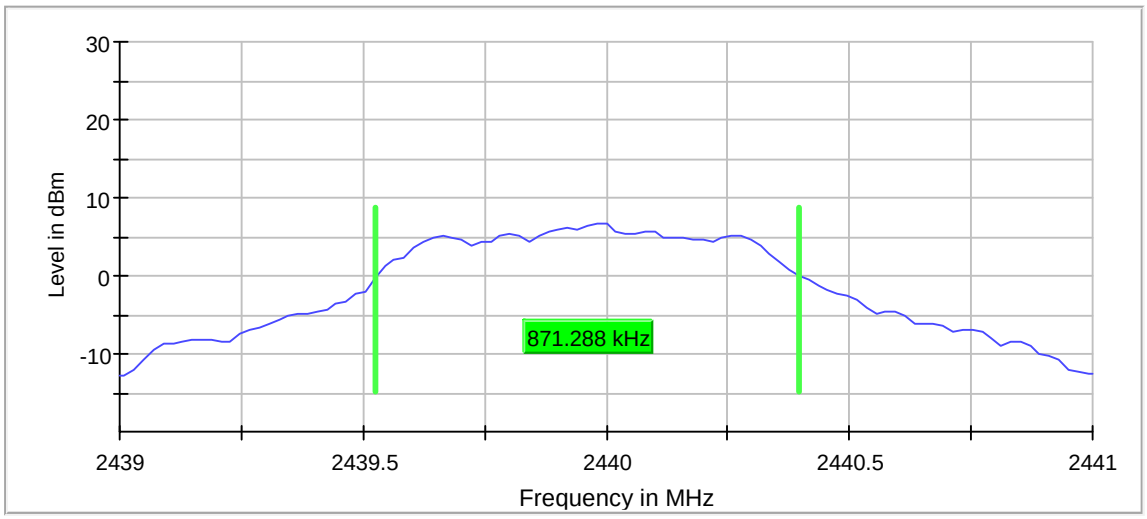
2.4.9 Test Results

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Result
2402.000000	0.851486	0.500000	2401.564356	2402.415842	PASS
2440.000000	0.871288	0.500000	2439.524752	2440.396040	PASS
2480.000000	0.871288	0.500000	2479.544554	2480.415842	PASS

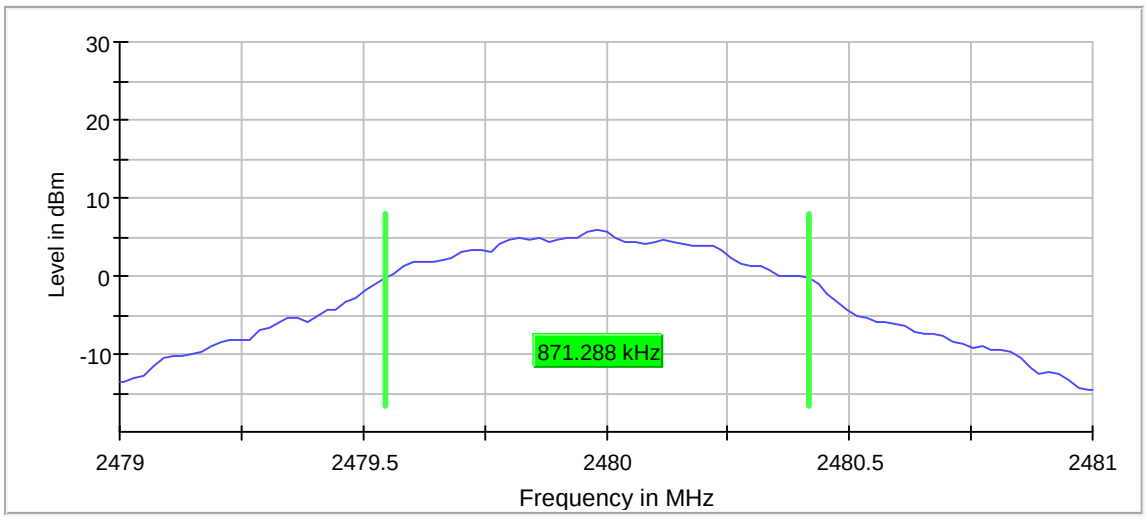
2.4.10 Test Results Plots



Bluetooth LE Low Channel



Bluetooth LE Mid Channel



Bluetooth LE High Channel

2.5 Out-of-Band Emissions - Conducted

2.5.1 Specification Reference

FCC 47 CFR Part 15, Clause 15.247(d)
RSS-247, Clause 5.5

2.5.2 Standard Applicable

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

2.5.3 Equipment Under Test and Modification State

Serial No: N/A / Default Test Configuration

2.5.4 Date of Test/Initial of test personnel who performed the test

August 27, 2019 / FSC

2.5.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.5.6 Environmental Conditions (Rancho Bernardo Satellite Facility)

Ambient Temperature	26.3°C
Relative Humidity	48.5%
ATM Pressure	98.8kPa

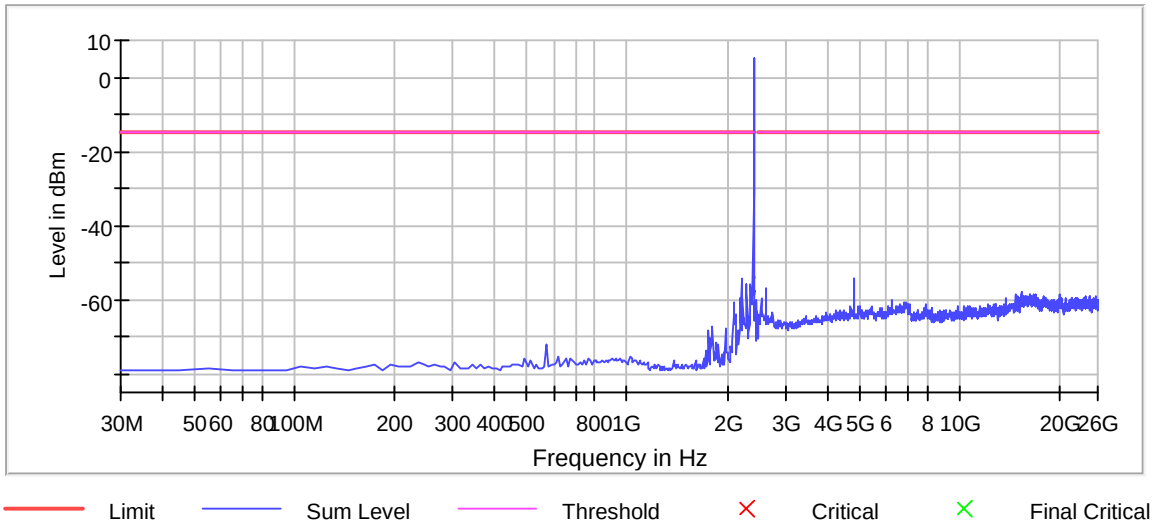
2.5.7 Additional Observations

- This is a conducted test using direct connection to the Spectrum Analyzer being controlled by the TS8997 Test System.
- The path loss was all accounted for with the test system calibration.
- Test methodology is per Test according to FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v05 and ANSI C63.10-2013 11.11.2 & 11.11.3.
- Only the worst-case data rate presented.
- EUT complies on all three channels verified. Observed margin from the limit is >20dB.

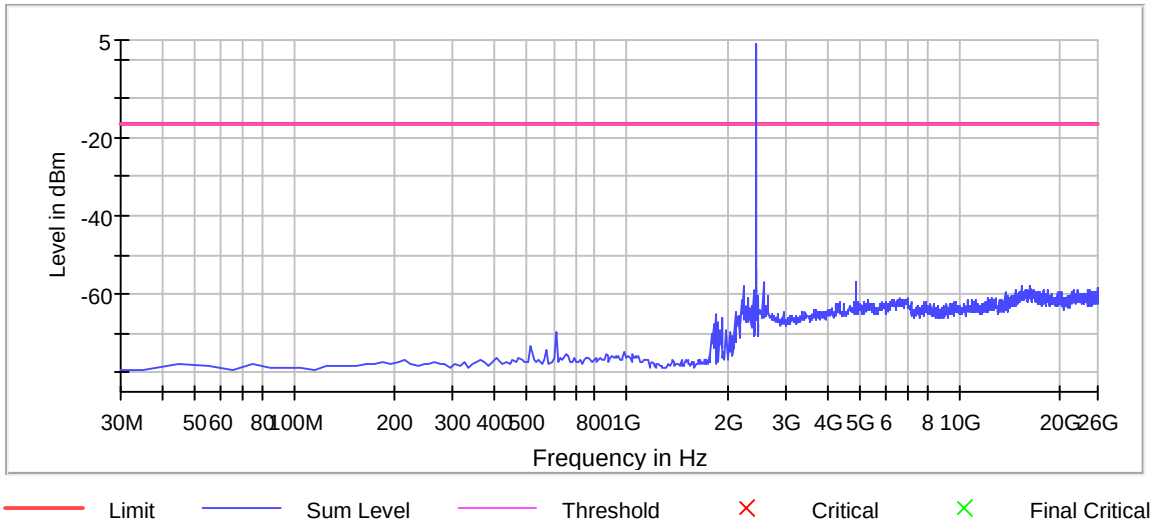
2.5.8 Pre Measurement Settings

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	238	~ 238
Sweeptime	23.700 ms	AUTO
Reference Level	-20.000 dBm	-30.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	3	3
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	7 / max. 40	max. 40
Stable	3 / 3	3
Max Stable Difference	0.00 dB	0.50 dB

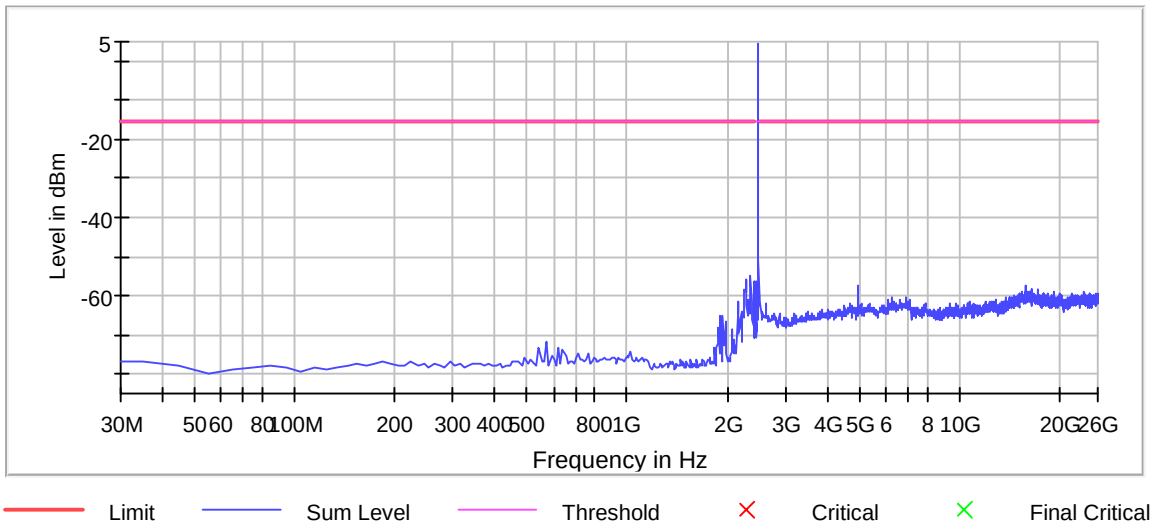
2.5.9 Test Results Plots



Bluetooth LE Low Channel



Bluetooth LE Mid Channel



Bluetooth LE High Channel

2.6 Band-Edge Compliance of RF Conducted Emissions

2.6.1 Specification Reference

FCC 47 CFR Part 15, Clause 15.247(d)
FCC 47 CFR Part 15, Clause 15.205
RSS-247, Clause 5.5

2.6.2 Standard Applicable

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

2.6.3 Equipment Under Test and Modification State

Serial No: N/A / Default Test Configuration

2.6.4 Date of Test/Initial of test personnel who performed the test

August 27, 2019 / FSC

2.6.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.6.6 Environmental Conditions (Rancho Bernardo Satellite Facility)

Ambient Temperature	26.3°C
Relative Humidity	48.5%
ATM Pressure	98.8kPa

2.6.7 Additional Observations

- This is a conducted test using direct connection to the Spectrum Analyzer being controlled by the TS8997 Test System.
- The path loss was all accounted for with the test system calibration.
- Test methodology is per Test according to FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v05 8.7 and ANSI C63.10-2013.
- Only the worst-case data rate presented.

2.6.8 Measurement Settings

Setting	Instrument Value	Target Value
Span	83.500 MHz	83.500 MHz
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1670	~ 1670
Sweeptime	94.727 µs	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	9 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.42 dB	0.50 dB

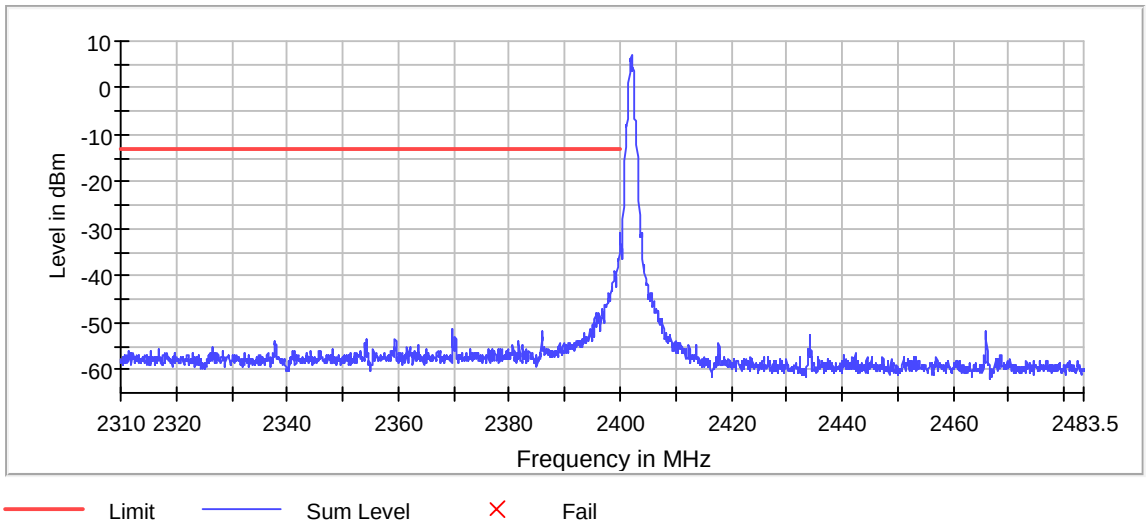
2.6.9 Test Results (Lower Band Edge)

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2399.975000	-30.8	17.7	-13.1	PASS
2399.925000	-31.8	18.7	-13.1	PASS
2399.875000	-32.3	19.3	-13.1	PASS
2399.825000	-35.1	22.0	-13.1	PASS
2399.675000	-36.5	23.4	-13.1	PASS
2399.625000	-36.7	23.6	-13.1	PASS
2399.775000	-36.7	23.6	-13.1	PASS
2399.725000	-36.7	23.7	-13.1	PASS
2399.575000	-37.5	24.4	-13.1	PASS
2399.525000	-37.9	24.9	-13.1	PASS
2399.475000	-38.2	25.1	-13.1	PASS
2399.025000	-38.9	25.8	-13.1	PASS
2399.075000	-39.1	26.0	-13.1	PASS
2398.975000	-39.3	26.2	-13.1	PASS
2399.425000	-39.6	26.5	-13.1	PASS

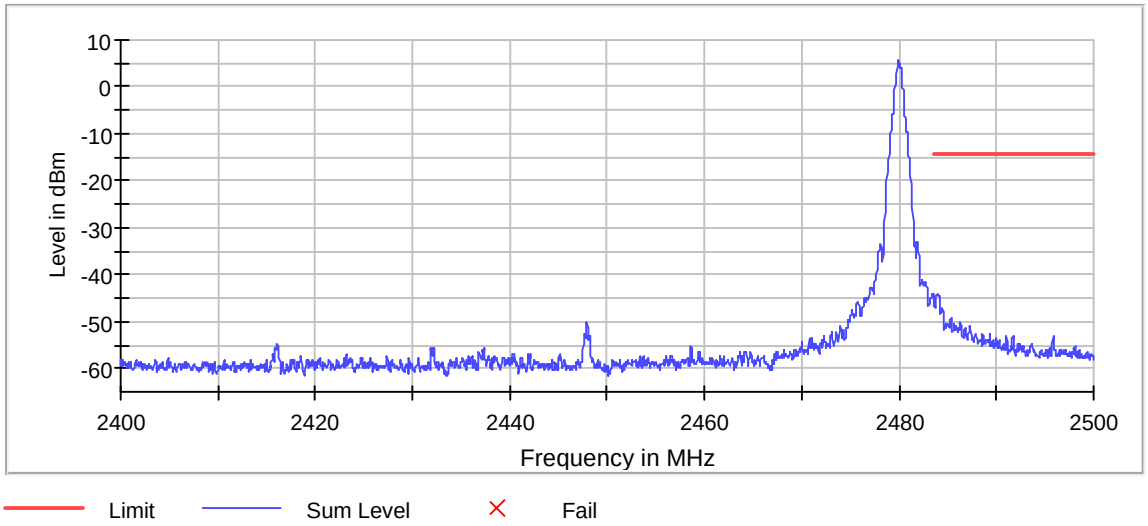
2.6.10 Test Results (Upper Band Edge)

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2483.975000	-44.0	29.7	-14.3	PASS
2484.025000	-44.0	29.7	-14.3	PASS
2483.925000	-44.1	29.8	-14.3	PASS
2483.875000	-44.3	30.1	-14.3	PASS
2484.075000	-44.6	30.3	-14.3	PASS
2484.125000	-44.7	30.5	-14.3	PASS
2483.825000	-45.4	31.1	-14.3	PASS
2483.525000	-45.7	31.4	-14.3	PASS
2484.175000	-45.9	31.6	-14.3	PASS
2483.625000	-46.1	31.9	-14.3	PASS
2483.575000	-46.2	31.9	-14.3	PASS
2483.675000	-46.6	32.3	-14.3	PASS
2483.775000	-46.7	32.5	-14.3	PASS
2483.725000	-47.1	32.8	-14.3	PASS
2484.425000	-47.1	32.8	-14.3	PASS

2.6.11 Test Plots



Bluetooth LE Low Band Edge 2400MHz



Bluetooth LE Upper Band Edge 2483.5MHz

Upper band edge calculation (2483.5 MHz) within Restricted Band:

- 2483.5 MHz (in the restricted bands)
- Procedure is per Clause 12.7.2 of ANSI C63.10-2013.
- Use the following formula as per Clause 12.7.2(d) of ANSI C63.10-2013.

E(dBµV/m) = EIRP (dBm) + 95.2
= (-45.7 dBm + 0.5 dBi antenna gain) + 95.2
= 50dBµV/m @ 3 meters (Peak complies with 54 dBµV/m Average limit)

2.7 Radiated Spurious Emissions

2.7.1 Specification Reference

FCC 47 CFR Part 15, Clause 15.247(d)
RSS-247, Clause 5.5

2.7.2 Standard Applicable

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

2.7.3 Equipment Under Test and Modification State

Serial No: N/A / Default Test Configuration

2.7.4 Date of Test/Initial of test personnel who performed the test

September 10, 2019 / FSC

2.7.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.7.6 Environmental Conditions (Rancho Bernardo Satellite Facility)

Ambient Temperature	26.2 °C
Relative Humidity	42.1 %
ATM Pressure	98.6 kPa

2.7.7 Additional Observations

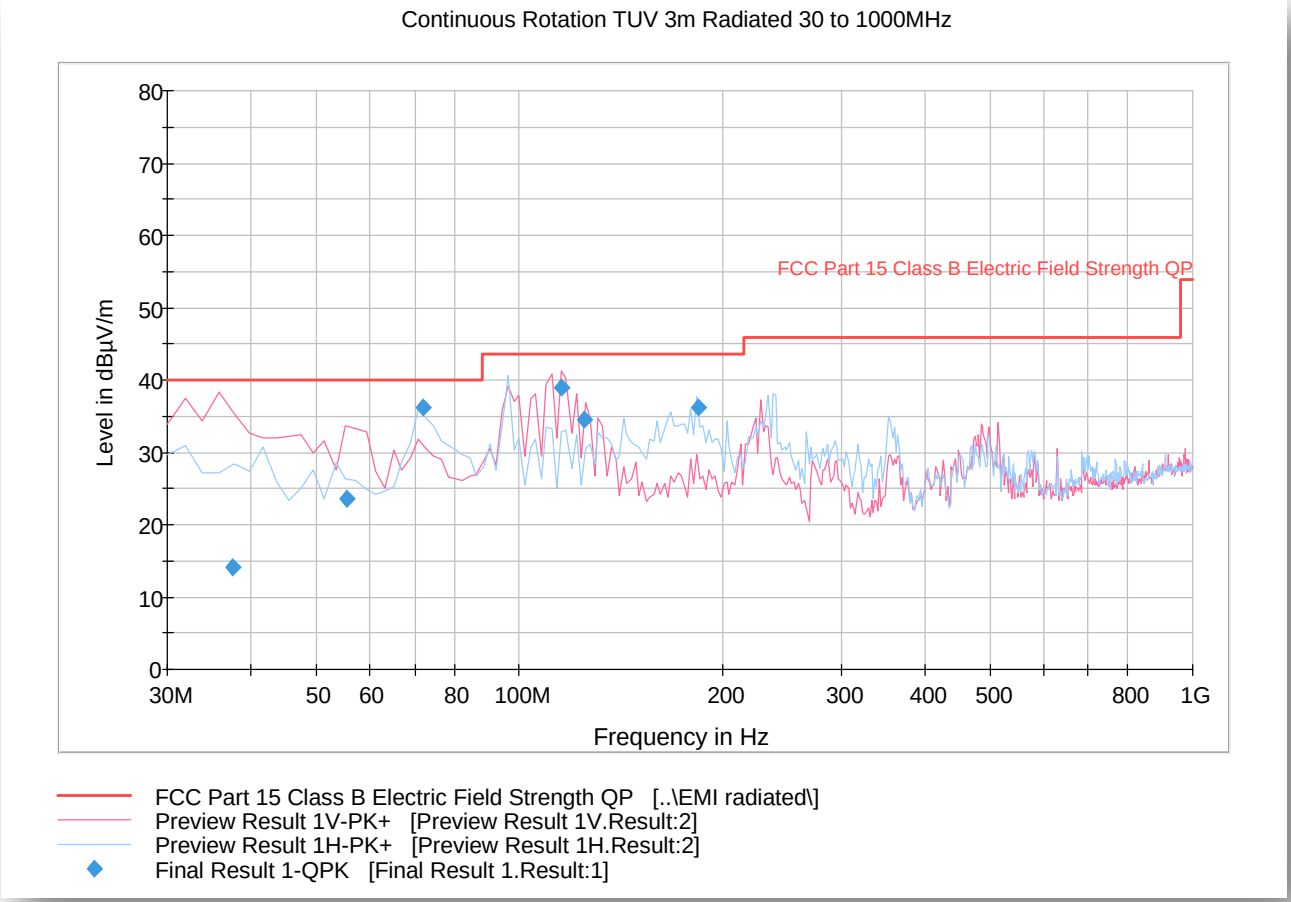
- This is a radiated test. The spectrum was searched from 30MHz to the 10th harmonic.
- There are no emissions found that do not comply to the restricted bands defined in FCC Part 15 Subpart C, 15.205 or Part 15.247(d).
- Only the worst case BLE (Low Channel) presented for below 1GHz. There are no significant differences in emissions between all channels.
- Only noise floor measurements observed above 18GHz.

- Measurement was done using EMC32 automated software. Reported level is the actual level with all the correction factors factored in. Correction Factor column is for informational purposes only. See Section 2.7.8 for sample computation.

2.7.8 Sample Computation (Radiated Emission)

Measuring equipment raw measurement (dbµV) @ 30 MHz			24.4
Correction Factor (dB)	Asset# 1066 (cable)	0.3	-12.6
	Asset# 1172 (cable)	0.3	
	Asset# 1016 (preamplifier)	-30.7	
	Asset# 1175(cable)	0.3	
	Asset# 1002 (antenna)	17.2	
Reported QuasiPeak Final Measurement (dbµV/m) @ 30MHz			**11.8**

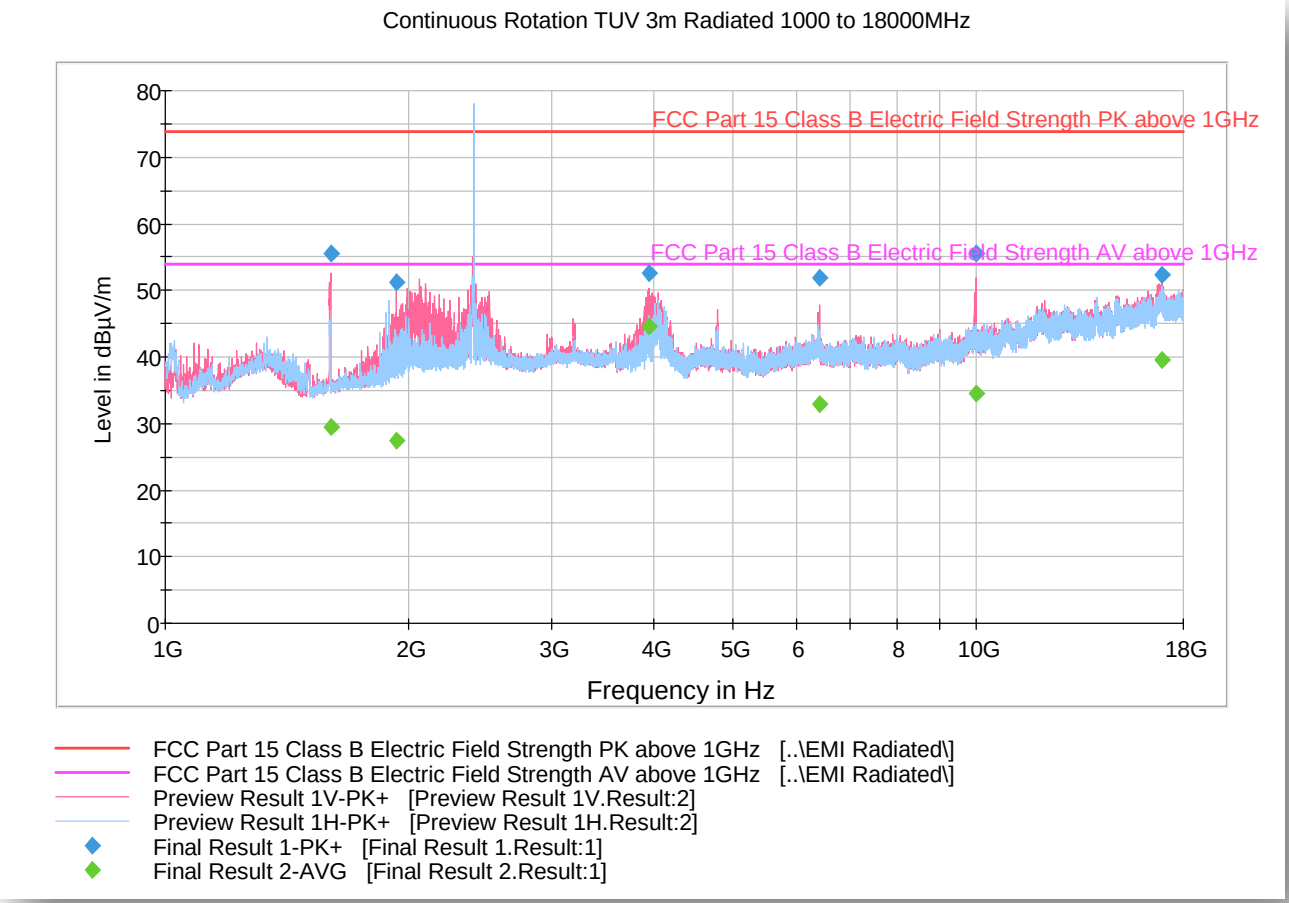
2.7.9 Worst case Test Results for Below 1GHz – Low Channel



Quasi Peak Data

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
37.431663	14.0	1000.	120.000	100.0	V	256.0	-11.0	26.0	40.0
55.390541	23.6	1000.	120.000	100.0	V	128.0	-15.9	16.4	40.0
72.021643	36.2	1000.	120.000	250.0	H	133.0	-17.2	3.8	40.0
115.73106	39.0	1000.	120.000	100.0	V	267.0	-14.5	4.5	43.5
124.85050	34.6	1000.	120.000	100.0	V	267.0	-14.5	8.9	43.5
184.76713	36.2	1000.	120.000	150.0	H	95.0	-11.4	7.3	43.5

2.7.10 Test Results for Above 1GHz - Low Channel



Peak Data

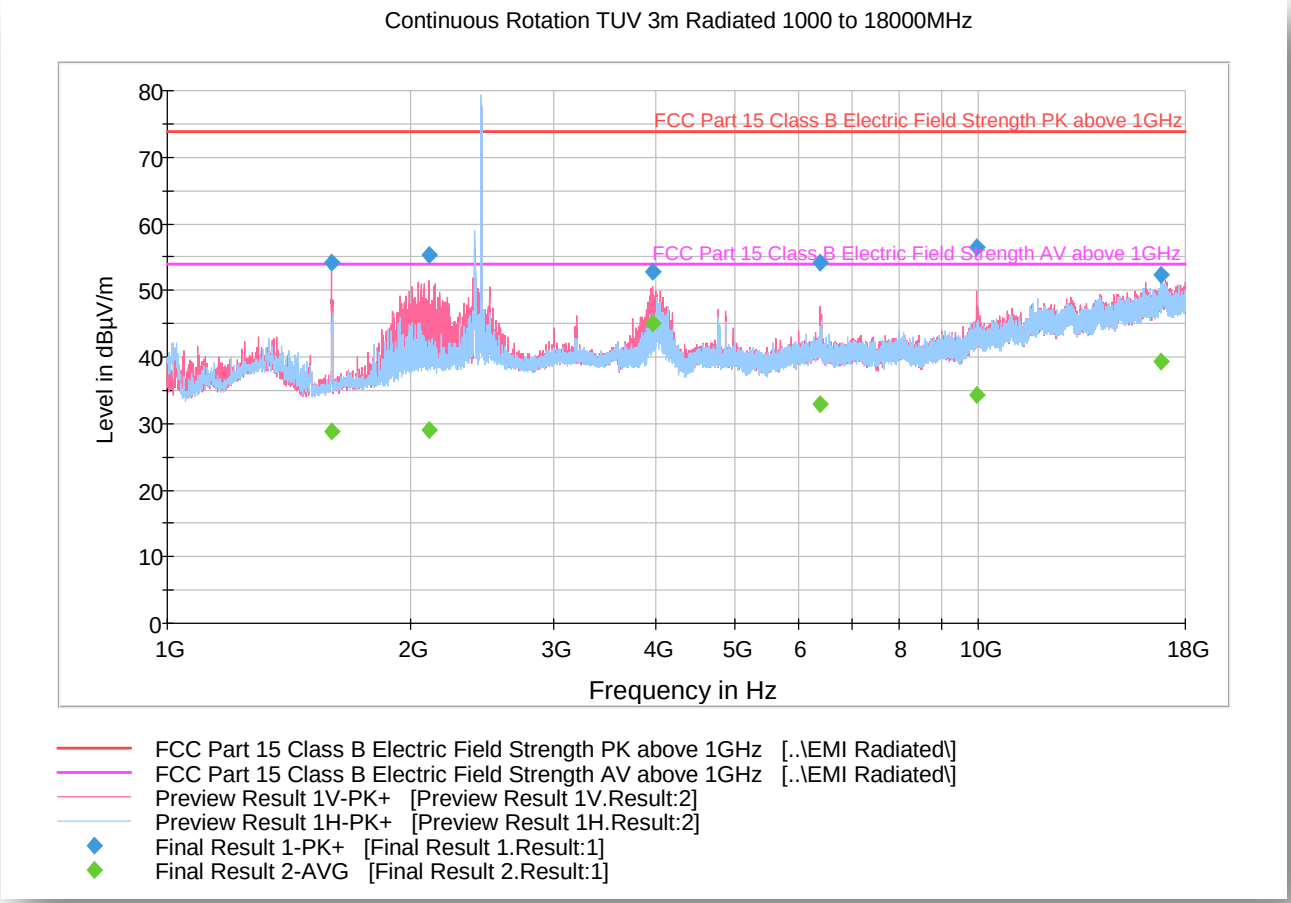
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1598.60000	55.6	1000.	1000.000	102.7	V	81.0	-5.8	18.3	73.9
1925.33333	51.3	1000.	1000.000	151.2	V	14.0	-2.4	22.6	73.9
3944.96666	52.6	1000.	1000.000	135.7	V	100.0	2.2	21.3	73.9
6398.50000	51.8	1000.	1000.000	151.6	V	127.0	6.4	22.1	73.9
9996.60000	55.6	1000.	1000.000	103.7	V	124.0	9.6	18.3	73.9
16959.0666	52.3	1000.	1000.000	389.1	V	131.0	17.9	21.6	73.9

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1598.60000	29.4	1000.	1000.000	102.7	V	81.0	-5.8	24.5	53.9
1925.33333	27.4	1000.	1000.000	151.2	V	14.0	-2.4	26.5	53.9
3944.96666	44.6	1000.	1000.000	135.7	V	100.0	2.2	9.3	53.9
6398.50000	32.8	1000.	1000.000	151.6	V	127.0	6.4	21.1	53.9
9996.60000	34.4	1000.	1000.000	103.7	V	124.0	9.6	19.5	53.9
16959.0666	39.6	1000.	1000.000	389.1	V	131.0	17.9	14.3	53.9

Test Notes: Measurement was performed without a 2.4GHz notch filter. Fundamental will be ignored for this test. No significant emissions observed above 18GHz. Measurements above 18GHz are noise floor figures.

2.7.11 Test Results for Above 1GHz - Middle Channel



Peak Data

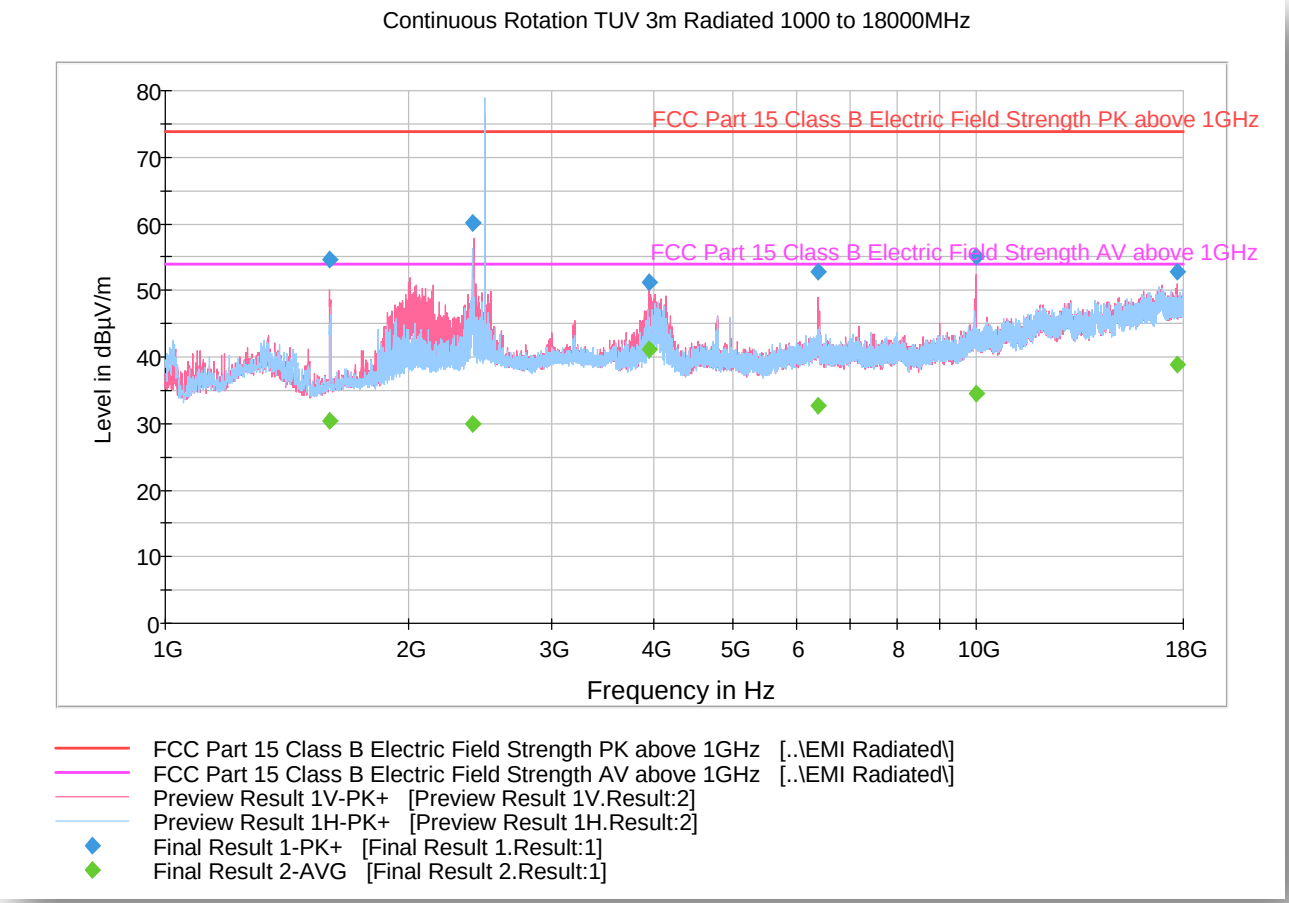
Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1596.13333	54.2	1000.	1000.000	103.7	V	84.0	-5.8	19.7	73.9
2102.86666	55.3	1000.	1000.000	103.7	V	93.0	-2.1	18.6	73.9
3972.16666	52.9	1000.	1000.000	395.1	V	101.0	2.3	21.0	73.9
6371.80000	54.1	1000.	1000.000	124.7	V	107.0	6.4	19.8	73.9
9957.30000	56.6	1000.	1000.000	132.7	V	114.0	9.5	17.3	73.9
16827.7000	52.4	1000.	1000.000	309.2	H	350.0	17.9	21.5	73.9

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1596.13333	28.8	1000.	1000.000	103.7	V	84.0	-5.8	25.1	53.9
2102.86666	28.9	1000.	1000.000	103.7	V	93.0	-2.1	25.0	53.9
3972.16666	45.1	1000.	1000.000	395.1	V	101.0	2.3	8.8	53.9
6371.80000	32.9	1000.	1000.000	124.7	V	107.0	6.4	21.0	53.9
9957.30000	34.4	1000.	1000.000	132.7	V	114.0	9.5	19.5	53.9
16827.7000	39.3	1000.	1000.000	309.2	H	350.0	17.9	14.6	53.9

Test Notes: Measurement was performed without a 2.4GHz notch filter. Fundamental will be ignored for this test. No significant emissions observed above 18GHz. Measurements above 18GHz are noise floor figures.

2.7.12 Test Results for Above 1GHz - High Channel



Peak Data

Frequency (MHz)	MaxPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1593.86666	54.6	1000.	1000.000	99.7	V	287.0	-5.8	19.3	73.9
2391.53333	60.2	1000.	1000.000	151.2	H	243.0	-1.0	13.7	73.9
3956.26666	51.3	1000.	1000.000	384.0	V	108.0	2.2	22.6	73.9
6371.56666	52.8	1000.	1000.000	127.7	V	114.0	6.4	21.1	73.9
9983.76666	55.0	1000.	1000.000	99.7	V	123.0	9.5	18.9	73.9
17684.8000	52.9	1000.	1000.000	244.4	V	91.0	17.9	21.0	73.9

Average Data

Frequency (MHz)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1593.86666	30.3	1000.	1000.000	99.7	V	287.0	-5.8	23.6	53.9
2391.53333	29.9	1000.	1000.000	151.2	H	243.0	-1.0	24.0	53.9
3956.26666	41.1	1000.	1000.000	384.0	V	108.0	2.2	12.8	53.9
6371.56666	32.7	1000.	1000.000	127.7	V	114.0	6.4	21.2	53.9
9983.76666	34.5	1000.	1000.000	99.7	V	123.0	9.5	19.4	53.9
17684.8000	39.0	1000.	1000.000	244.4	V	91.0	17.9	14.9	53.9

Test Notes: Measurement was performed without a 2.4GHz notch filter. Fundamental will be ignored for this test. No significant emissions observed above 18GHz. Measurements above 18GHz are noise floor figures.

2.8 Power Spectral Density

2.8.1 Specification Reference

FCC 47 CFR Part 15, Clause 15.247(e)
RSS-247, Clause 5.2(2)

2.8.2 Standard Applicable

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. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

2.8.3 Equipment Under Test and Modification State

Serial No: N/A / Default Test Configuration

2.8.4 Date of Test/Initial of test personnel who performed the test

August 27, 2019 / FSC

2.8.5 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.8.6 Environmental Conditions (Rancho Bernardo Satellite Facility)

Ambient Temperature	26.3°C
Relative Humidity	48.5%
ATM Pressure	98.8kPa

2.8.7 Additional Observations

- This is a conducted test using direct connection to the TS8997 Test System.
- The path loss was all accounted for with the test system calibration.
- Test methodology is per Test according to FCC title 47 part 15 §15.247(a),(e), KDB 558074 D01 DTS Meas Guidance v05 F and ANSI C63.10-2013.
- Only the worst-case data rate presented.

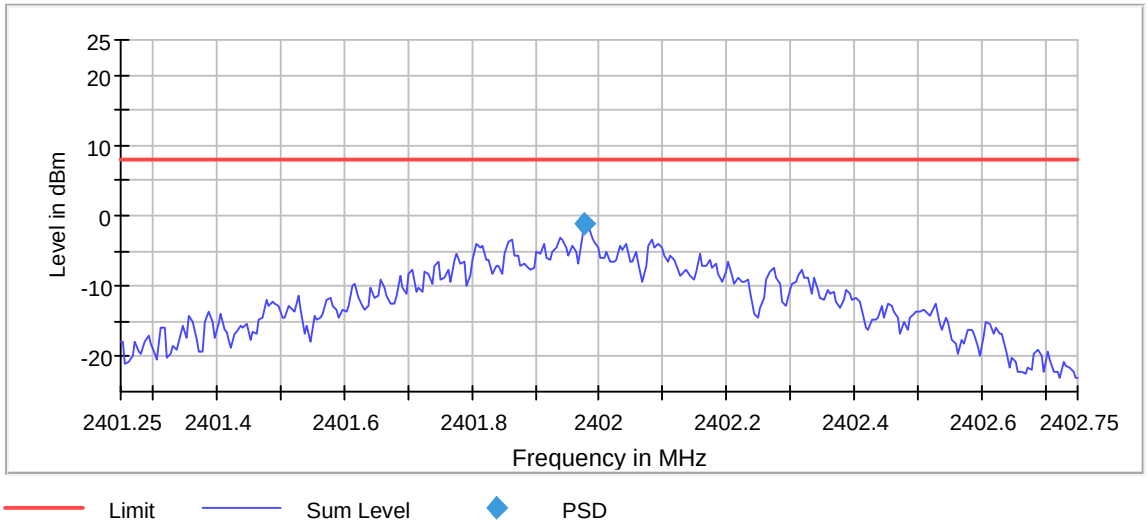
2.8.8 Measurement Settings

Setting	Instrument Value	Target Value
Span	1.500 MHz	1.500 MHz
RBW	10.000 kHz	<= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	300	~ 300
Sweeptime	6.000 ms	6.000 ms
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	RMS	RMS
SweepCount	1	1
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	34 / max. 150	max. 150
Stable	3 / 3	3
Max Stable Difference	0.16 dB	0.50 dB

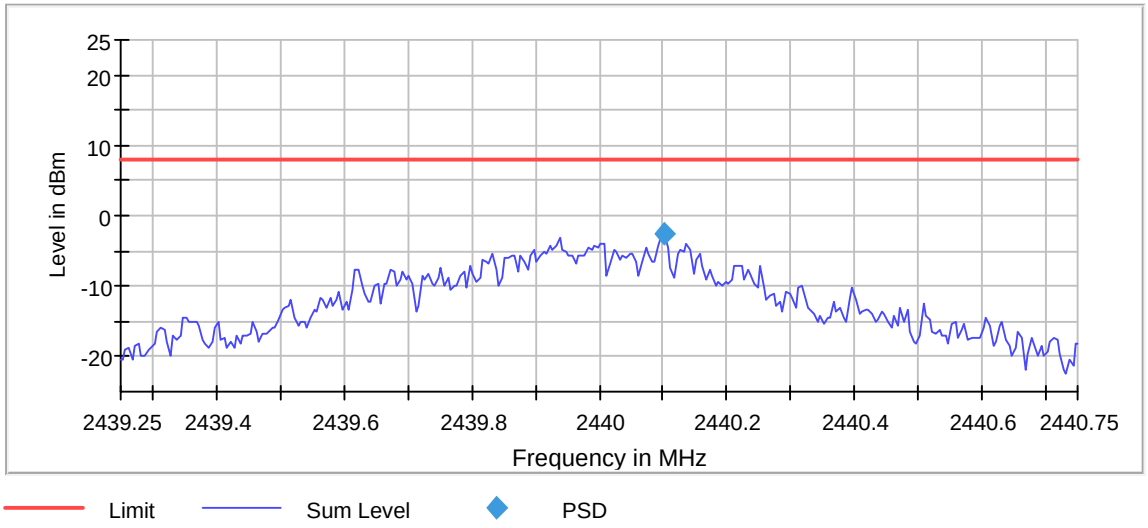
2.8.9 Test Results Summary

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2402.000000	2401.977500	-1.111	8.0	PASS
2440.000000	2440.102500	-2.533	8.0	PASS
2480.000000	2479.852500	-2.846	8.0	PASS

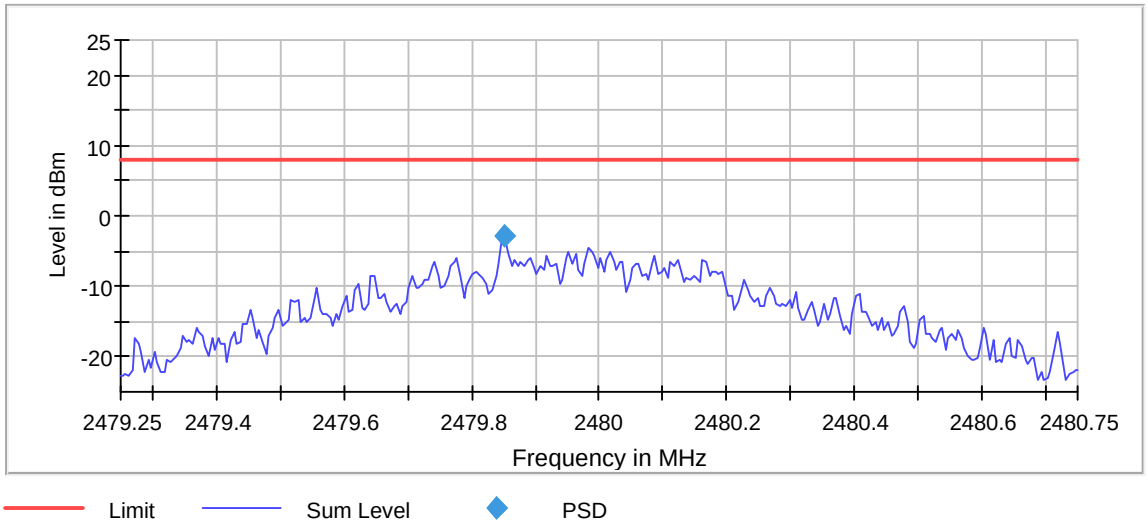
2.8.10 Test Results Plots



Bluetooth LE Low Channel



Bluetooth LE Middle Channel



Bluetooth LE High Channel

SECTION 3

3 TEST EQUIPMENT USED

3.1 Test Equipment Used

List of absolute measuring and other principal items of test equipment.

ID Number (SDGE/SDRB)	Test Equipment	Type	Serial Number	Manufacturer	Cal Date	Cal Due Date
Conducted Port Setup						
7643	Signal/Spectrum Analyzer	FSV30	1321.3008K30/103166	Rhode & Schwarz	04/04/18	04/04/20
7655	Vector Signal Generator	SMBV100A	260734	Rhode & Schwarz	11/19/18	11/19/19
7654	Signal Generator	SMB 100A	175750	Rhode & Schwarz	11/16/18	11/16/19
7656	OSP with B157	OSP120	101310	Rhode & Schwarz	01/23/19	01/23/20
8825	20dB Attenuator	46-20-34	BK5773	Weinschel Corp.	Verified by 7643 and 7654	
8832	20dB Attenuator	34-20-34	BP4150	MCE/Weinschel	Verified by 7643 and 7654	
Radiated Emission						
1033	Bilog Antenna	3142C	00044556	EMCO	11/06/18	11/06/20
7631	Double-ridged waveguide horn	3117	00205418	ETS-Lindgren	08/20/18	08/20/20
8628	Pre-amplifier	QLI-01182835-JO	8986002	Quinstar	03/07/19	03/07/20
1153	High-frequency cable	SucoFlex 100 SX	N/A	Suhner	Verified by 7643 and 7654	
8543	High-frequency cable	Micropore 19057793	N/A	United Microwave Products	Verified by 7643 and 7654	
1040	EMI Test Receiver	ESIB40	100292	Rhode & Schwarz	10/15/18	10/15/19
7620	EMI Test Receiver	ESU40	100399	Rhode & Schwarz	10/18/18	10/18/19
1016	Pre-Amplifier	PAM-0202	187	PAM	03/08/19	03/08/20
Miscellaneous						
11312	Mini Environmental Quality Meter	850027	CF099-56010-340	11312	04/16/19	04/16/20
-	Test Software	EMC32	V8.53	Rhode & Schwarz	N/A	

3.2 Measurement Uncertainty

Calculation of Measurement Uncertainty per CISPR 16-4-2:2011 with Corr. 1

3.2.1 Antenna Conducted Port Measurements

Antenna Port Conducted Measurements						
	Input Quantity (Contribution) X_i	Value	Prob. Dist.	Divisor	$u_i(x)$	$u_i(x)^2$
1	Receiver reading	0.10 dB	Normal, k=1	1.000	0.10	0.01
2	Cable attenuation	1.00 dB	Normal, k=2	2.000	0.50	0.25
3	Receiver sinewave accuracy	0.08 dB	Normal, k=2	2.000	0.04	0.00
4	Receiver pulse amplitude	0.00 dB	Rectangular	1.732	0.00	0.00
5	Receiver pulse repetition rate	0.00 dB	Rectangular	1.732	0.00	0.00
6	Noise floor proximity	0.00 dB	Rectangular	1.732	0.00	0.00
7	Frequency interpolation	0.10 dB	Rectangular	1.732	0.06	0.00
8	Mismatch	0.07 dB	U-shaped	1.414	0.05	0.00
	Combined standard uncertainty		Normal	0.52 dB		
	Expanded uncertainty		**Normal, k=2**	**1.03 dB**		

3.2.1 Radiated Measurements (Below 1GHz)

	Input Quantity (Contribution) X_i	Value	Prob. Dist.	Divisor	$u_i(x)$	$u_i(x)^2$
1	Receiver reading	0.10 dB	Normal, k=1	1.000	0.10	0.01
2	Attenuation: antenna-receiver	0.20 dB	Normal, k=2	2.000	0.10	0.01
3	Antenna factor AF	0.75 dB	Normal, k=2	2.000	0.38	0.14
4	Receiver sinewave accuracy	0.45 dB	Normal, k=2	2.000	0.23	0.05
5	Receiver pulse amplitude	1.50 dB	Rectangular	1.732	0.87	0.75
6	Receiver pulse repetition rate	1.50 dB	Rectangular	1.732	0.87	0.75
7	Noise floor proximity	0.50 dB	Rectangular	1.732	0.29	0.08
8	Mismatch: antenna-receiver	0.95 dB	U-shaped	1.414	0.67	0.45
9	AF frequency interpolation	0.30 dB	Rectangular	1.732	0.17	0.03
10	AF height deviations	0.10 dB	Rectangular	1.732	0.06	0.00
11	Directivity difference at 3 m	3.12 dB	Rectangular	1.732	1.80	3.24
12	Phase center location at 3 m	1.00 dB	Rectangular	1.732	0.58	0.33
13	Cross-polarisation	0.90 dB	Rectangular	1.732	0.52	0.27
14	Balance	0.00 dB	Rectangular	1.732	0.00	0.00
15	Site imperfections	3.76 dB	Triangular	2.449	1.54	2.36
16	Separation distance at 3 m	0.30 dB	Rectangular	1.732	0.17	0.03
17	Effect of setup table material	0.77 dB	Rectangular	1.732	0.44	0.20
18	Table height at 3 m	0.10 dB	Normal, k=2	2.000	0.05	0.00
19	Near-field effects	0.00 dB	Triangular	2.449	0.00	0.00
20	Effect of ambient noise on OATS	0.00 dB				0.00
	Combined standard uncertainty		Normal	2.95 dB		
	Expanded uncertainty		Normal, k=2	**5.90 dB**		

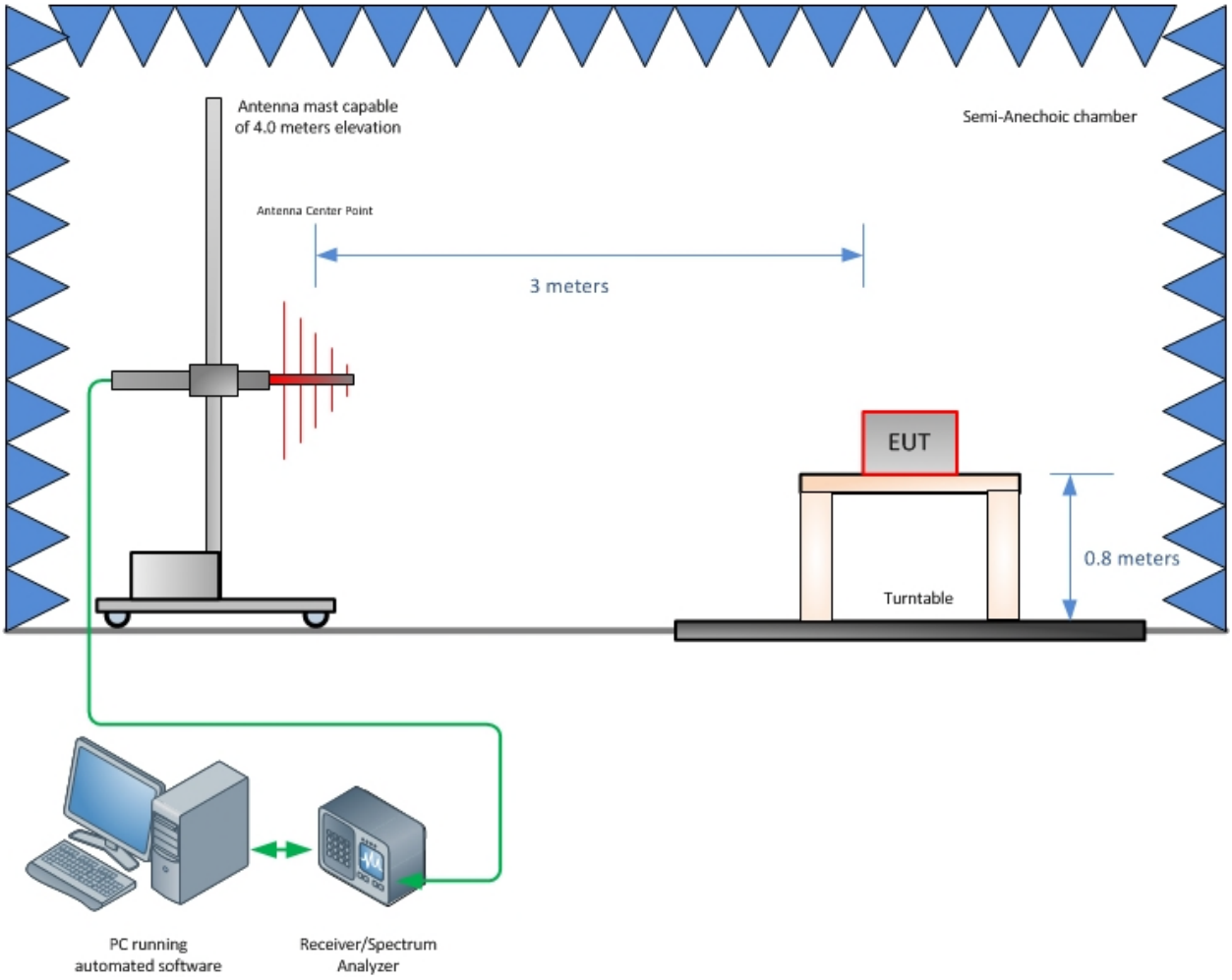
3.2.2 Radiated Emission Measurements (Above 1GHz)

	Input Quantity (Contribution) X_i	Value		Prob. Dist.	Divisor	$u_i(x)$	$u_i(x)^2$
1	Receiver reading	0.10	dB	Normal, k=1	1.000	0.10	0.01
2	Attenuation: antenna-receiver	0.20	dB	Normal, k=2	2.000	0.10	0.01
3	Antenna factor AF	0.75	dB	Normal, k=2	2.000	0.38	0.14
4	Receiver sinewave accuracy	0.45	dB	Normal, k=2	2.000	0.23	0.05
5	Receiver pulse amplitude	1.50	dB	Rectangular	1.732	0.87	0.75
6	Receiver pulse repetition rate	1.50	dB	Rectangular	1.732	0.87	0.75
7	Noise floor proximity	0.50	dB	Rectangular	1.732	0.29	0.08
8	Mismatch: antenna-receiver	0.95	dB	U-shaped	1.414	0.67	0.45
9	AF frequency interpolation	0.30	dB	Rectangular	1.732	0.17	0.03
10	AF height deviations	0.10	dB	Rectangular	1.732	0.06	0.00
11	Directivity difference at 3 m	3.12	dB	Rectangular	1.732	1.80	3.24
12	Phase center location at 3 m	1.00	dB	Rectangular	1.732	0.58	0.33
13	Cross-polarisation	0.90	dB	Rectangular	1.732	0.52	0.27
14	Balance	0.00	dB	Rectangular	1.732	0.00	0.00
15	Site imperfections	3.25	dB	Triangular	2.449	1.33	1.76
16	Separation distance at 3 m	0.30	dB	Rectangular	1.732	0.17	0.03
17	Effect of setup table material	0.77	dB	Rectangular	1.732	0.44	0.20
18	Table height at 3 m	0.10	dB	Normal, k=2	2.000	0.05	0.00
19	Near-field effects	0.00	dB	Triangular	2.449	0.00	0.00
20	Effect of ambient noise on OATS	0.00	dB				0.00
	Combined standard uncertainty			Normal	2.85	dB	
	Expanded uncertainty			**Normal, k=2**	**5.70**	**dB**	

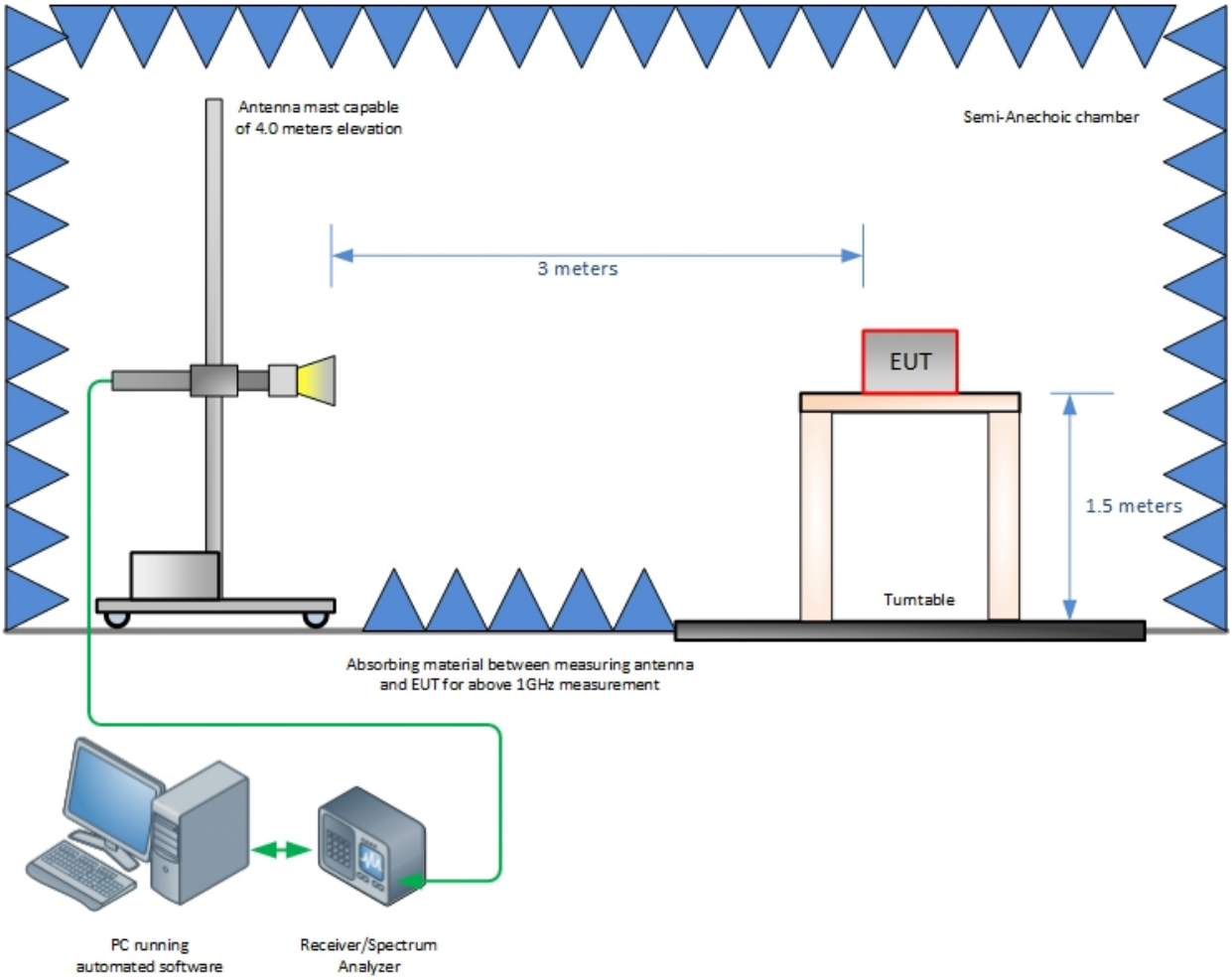
SECTION 4

4 Diagram of Test Setup

4.1 Test Setup Diagram



Radiated Emission Test Setup (Below 1GHz)



Radiated Emission Test Setup (Above 1GHz)

SECTION 5

5 ACCREDITATION, DISCLAIMERS AND COPYRIGHT

5.1 Accreditation, Disclaimers and Copyright

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