Mesh Motion, Inc.

TEST REPORT FOR

BitLock
Model: BLT01

Tested To The Following Standards:

FCC Part 15 Subpart C Section(s)
15.247
(Partial Testing)

Report No.: 96385-8

Date of issue: December 31, 2014

ACCREDITED
Testing Certificates:
803.01, 803.02, 803.05, 803.06

This test report bears the accreditation symbol indicating that the testing performed herein meets the test and reporting requirements of ISO/IEC 17025 under the applicable scope of EMC testing for CKC Laboratories, Inc.

We strive to create long-term, trust based relationships by providing sound, adaptive, customer first testing services. We embrace each of our customers' unique EMC challenges, not as an interruption to set processes, but rather as the reason we are in business.

Testing the Future
CKC LABORATORIES, INC.

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ADMINISTRATIVE INFORMATION

Test Report Information

REPORT PREPARED FOR:

Mesh Motion, Inc.
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Kensington, CA 94708

REPRESENTATIVE: Mehrdad Majzoobi

REPORT PREPARED BY:

Morgan Tramontin
CKC Laboratories, Inc.
5046 Sierra Pines Drive
Mariposa, CA 95338

Project Number: 96385

DATE OF EQUIPMENT RECEIPT: December 4, 2014
DATE(S) OF TESTING: December 4 - 11, 2014

Report Authorization

The test data contained in this report documents the observed testing parameters pertaining to and are relevant for only the sample equipment tested in the agreed upon operational mode(s) and configuration(s) as identified herein. Compliance assessment remains the client's responsibility. This report may not be used to claim product endorsement by A2LA or any government agencies. This test report has been authorized for release under quality control from CKC Laboratories, Inc.

Steve Behm
Director of Quality Assurance & Engineering Services
CKC Laboratories, Inc.

Test Facility Information

Our laboratories are configured to effectively test a wide variety of product types. CKC utilizes first class test equipment, anechoic chambers, data acquisition and information services to create accurate, repeatable and affordable test results.

TEST LOCATION(S):
CKC Laboratories, Inc.
1120 Fulton Place
Fremont, CA 94539

Software Versions

CKC Laboratories Proprietary Software	Version
EMITest Emissions	5.00.14
Immunity	5.00.07

Site Registration & Accreditation Information

Location	CB #	TAIWAN	CANADA	FCC	JAPAN
Fremont	US0082	SL2-IN-E-1148R	3082B-1	958979	A-0149

SUMMARY OF RESULTS

Standard / Specification: FCC Part 15 Subpart C (Partial Testing)

Test Procedure	Description	Modifications*	Results
15.247(d)	Field Strength of Radiated Spurious Emissions and Bandedge	NA	Pass

Modifications*/Conditions During Testing

This list is a summary of the conditions noted for or modifications made to the equipment during testing.

Summary of Conditions
Note: CKC Laboratories was only contracted to perform Radiated Spurious Emissions.
No modifications were made during testing.

***Modifications listed above must be incorporated into all production units.**

EQUIPMENT UNDER TEST (EUT)

EQUIPMENT UNDER TEST

BitLock
Manuf: Mesh Motion, Inc.
Model: BLT01
Serial: Sample 1

PERIPHERAL DEVICES

The EUT was tested with the following peripheral device(s):

AC/DC Power Adapter for Laptop
Manuf: Toshiba
Model: PA3822U-1ACA
Serial: 200140722517585

Laptop
Manuf: Toshiba
Model: Satellite C55D-B5310
Serial: 8E181029P

Controller Board
Manuf: Mesh Motion, Inc.
Model: None
Serial: None

FCC PART 15 SUBPART C

This report contains EMC emissions test results under United States Federal Communications Commission (FCC) CFR 47 Section 15 Subpart C requirements for Intentional Radiators.

15.247(d) Field Strength of Radiated Spurious Emissions and Bandedge

Test Data

Test Location: CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170

Customer: **Mesh Motion, Inc.**
Specification: **15.247(d) / 15.209 Radiated Spurious Emissions**
Work Order #: **96385** Date: 12/5/2014
Test Type: **Radiated Scan** Time: 11:54:05
Equipment: **BitLock** Sequence#: 44
Manufacturer: Mesh Motion, Inc. Tested By: Hieu Song Nguyenpham
Model: BLT01
S/N: Sample 1

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
	AN00432	Loop Antenna	6502	4/2/2013	4/2/2015
	ANP00880	Cable	RG214U	6/13/2014	6/13/2016
	ANP05300	Cable	RG214/U	3/25/2013	3/25/2015

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
BitLock*	Mesh Motion, Inc.	BLT01	Sample 1

Support Devices:

Function	Manufacturer	Model #	S/N
AC/DC Power Adapter for Laptop	Toshiba	PA3822U-1ACA	200140722517585
Laptop	Toshiba	Satellite C55D-B5310	8E181029P
Controller Board	Mesh Motion, Inc.	None	None

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 9kHz to 30MHz

Firmware Used: Bitlock
Application: Bitlock
Temperature: 21.3°C
Humidity: 39%
Atmospheric Pressure: 101.0 kPa
High Clock: 24MHz
Test Method: KDB 558074 D01 DTS Meas Guidance v03r02

Transmitting operating frequency= 2.4GHz Band
RF Output=2.54 dBm
Gain of the antenna= -1.5dBi

The EUT is a bike lock. It is controlled through the BLE. It is placed on 80cm table and is powered by 3VDC. The EUT is connected to a controller board to control the EUT for testing purposes only. The EUT is set to continuously transmitting or receiving.

Note:
Transmit Mode
Low channel
No EUT emissions detected within 20dB of the limit.

Test Location: CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170

Customer: **Mesh Motion, Inc.**
Specification: **15.247(d) / 15.209 Radiated Spurious Emissions**
Work Order #: **96385** Date: 12/4/2014
Test Type: **Radiated Scan** Time: 10:51:22
Equipment: **BitLock** Sequence#: 3
Manufacturer: Mesh Motion, Inc. Tested By: Hieu Song Nguyenpham
Model: BLT01
S/N: Sample 1

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN00686	Preamp	8447D Opt 010	5/27/2014	5/27/2016
T2	AN00852	Biconilog Antenna	CBL 6111C	11/24/2014	11/24/2016
T3	ANP00880	Cable	RG214U	6/13/2014	6/13/2016
T4	ANP01183	Cable	CNT-195	9/3/2013	9/3/2015
T5	ANP05300	Cable	RG214/U	3/25/2013	3/25/2015
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
BitLock*	Mesh Motion, Inc.	BLT01	Sample 1

Support Devices:

Function	Manufacturer	Model #	S/N
AC/DC Power Adapter for Laptop	Toshiba	PA3822U-1ACA	200140722517585
Laptop	Toshiba	Satellite C55D-B5310	8E181029P
Controller Board	Mesh Motion, Inc.	None	None

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 30MHz to 1000MHz

Firmware Used: Bitlock
Application: Bitlock
Temperature: 21.3°C
Humidity: 39%
Atmospheric Pressure: 101.0 kPa
High Clock: 24MHz
Test Method: KDB 558074 D01 DTS Meas Guidance v03r02

Transmitting operating frequency= 2.4GHz Band
RF Output=2.54 dBm
Gain of the antenna= -1.5dBi

The EUT is a bike lock. It is controlled through the BLE. It is placed on 80cm table and is powered by 3VDC. The EUT is connected to a controller board to control the EUT for testing purposes only. The EUT is set to continuously transmitting or receiving.

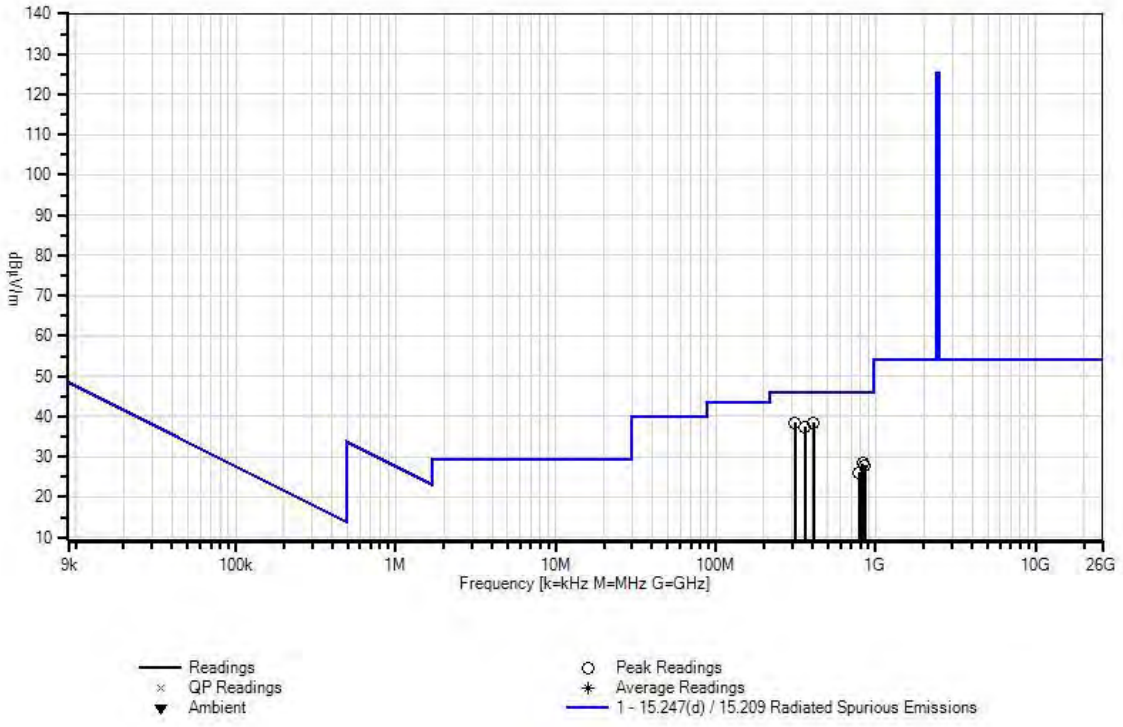
Note:
Transmit Mode
Low channel

Ext Attn: 0 dB

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	408.020M	47.8	-29.1 +0.6	+16.5	+2.0	+0.7	+0.0	38.5	46.0	-7.5	Horiz
2	312.044M	50.5	-28.4 +0.5	+13.7	+1.7	+0.5	+0.0	38.5	46.0	-7.5	Horiz
3	359.972M	47.7	-28.7 +0.6	+15.3	+1.9	+0.7	+0.0	37.5	46.0	-8.5	Horiz
4	828.440M	30.6	-29.4 +0.9	+22.3	+3.0	+1.0	+0.0	28.4	46.0	-17.6	Vert
5	855.347M	29.5	-29.3 +0.9	+22.6	+3.1	+1.0	+0.0	27.8	46.0	-18.2	Vert
6	782.554M	29.0	-29.5 +0.8	+21.7	+2.9	+1.2	+0.0	26.1	46.0	-19.9	Vert

CKC Laboratories, Inc Date: 12/4/2014 Time: 10:51:22 Mesh Motion, Inc WO#: 96385
Test Distance: 3 Meters Sequence#: 3



Test Location: CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170

Customer: **Mesh Motion, Inc.**
Specification: **15.247(d) / 15.209 Radiated Spurious Emissions**
Work Order #: **96385** Date: 12/5/2014
Test Type: **Radiated Scan** Time: 10:33:37
Equipment: **BitLock** Sequence#: 35
Manufacturer: Mesh Motion, Inc. Tested By: Hieu Song Nguyenpham
Model: BLT01
S/N: Sample 1

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T1	AN03302	Cable	32026-29094K-29094K-72TC	3/24/2014	3/24/2016
T2	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	4/2/2014	4/2/2016
T3	AN03114	Preamp	AMF-7D-00101800-30-10P	4/11/2013	4/11/2015
T4	ANP01210	Cable	FSJ1P-50A-4A	2/19/2013	2/19/2015
T5	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
T6	AN02113	Horn Antenna-ANSI C63.5	3115	1/24/2013	1/24/2015

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
BitLock*	Mesh Motion, Inc.	BLT01	Sample 1

Support Devices:

Function	Manufacturer	Model #	S/N
AC/DC Power Adapter for Laptop	Toshiba	PA3822U-1ACA	200140722517585
Laptop	Toshiba	Satellite C55D-B5310	8E181029P
Controller Board	Mesh Motion, Inc.	None	None

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 1000MHz to 12000MHz

Firmware Used: Bitlock
Application: Bitlock
Temperature: 21.3°C
Humidity: 39%
Atmospheric Pressure: 101.0 kPa
High Clock: 24MHz
Test Method: KDB 558074 D01 DTS Meas Guidance v03r02

Transmitting operating frequency= 2.4GHz Band
RF Output=2.54 dBm
Gain of the antenna= -1.5dBi

The EUT is a bike lock. It is controlled through the BLE. It is placed on 80cm table and is powered by 3VDC. The EUT is connected to a controller board to control the EUT for testing purposes only. The EUT is set continuously transmitting or receiving.

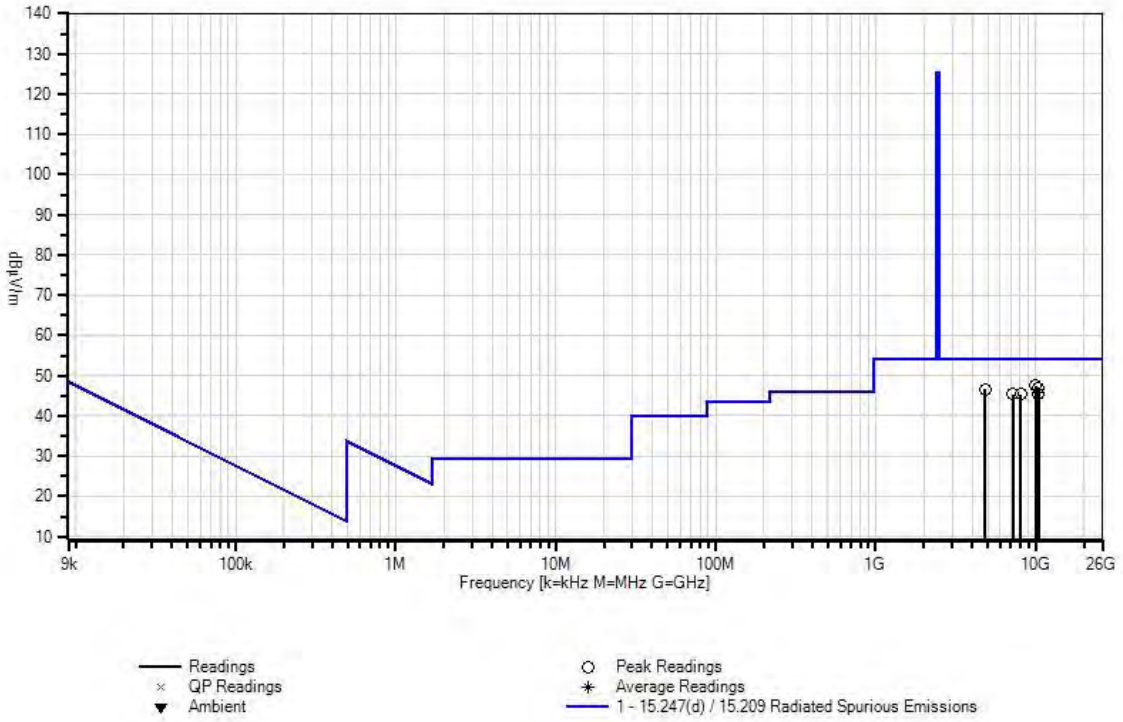
Note:
Transmit Mode
Low channel

Ext Attn: 0 dB

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	9992.986M	56.9	+2.4 +1.7	+0.2 +38.2	-58.2	+6.3	+0.0	47.5	54.0	-6.5	Vert
2	10416.409 M	56.7	+2.5 +1.7	+0.2 +38.1	-58.5	+6.1	+0.0	46.8	54.0	-7.2	Vert
3	4803.802M	65.2	+1.7 +1.1	+0.2 +32.9	-58.3	+3.8	+0.0	46.6	54.0	-7.4	Vert
4	10262.255 M	55.2	+2.5 +1.7	+0.2 +38.1	-58.4	+6.2	+0.0	45.5	54.0	-8.5	Horiz
5	7205.201M	60.0	+2.0 +1.3	+0.2 +35.9	-59.3	+5.3	+0.0	45.4	54.0	-8.6	Horiz
6	8086.081M	56.6	+2.2 +1.4	+0.2 +36.9	-57.4	+5.5	+0.0	45.4	54.0	-8.6	Horiz

CKC Laboratories, Inc Date: 12/5/2014 Time: 10:33:37 Mesh Motion, Inc WO#: 96385
Test Distance: 3 Meters Sequence#: 35



Test Location: CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170

Customer: **Mesh Motion, Inc.**
Specification: **15.247(d) / 15.209 Radiated Spurious Emissions**
Work Order #: **96385** Date: 12/4/2014
Test Type: **Radiated Scan** Time: 14:59:04
Equipment: **BitLock** Sequence#: 15
Manufacturer: Mesh Motion, Inc. Tested By: Hieu Song Nguyenpham
Model: BLT01
S/N: Sample 1

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T1	AN2693	Active Horn Antenna	AMFW-5F-18002650-20-10P	2/21/2013	2/21/2015
T2	AN03302	Cable	32026-29094K-29094K-72TC	3/24/2014	3/24/2016
T3	ANP06709	Cable	32026-29094K-29094K-72TC	9/18/2014	9/18/2016
T4	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
T5	ANP00928	Cable	various	1/23/2014	1/23/2016

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
BitLock*	Mesh Motion, Inc.	BLT01	Sample 1

Support Devices:

Function	Manufacturer	Model #	S/N
AC/DC Power Adapter for Laptop	Toshiba	PA3822U-1ACA	200140722517585
Laptop	Toshiba	Satellite C55D-B5310	8E181029P
Controller Board	Mesh Motion, Inc.	None	None

Test Conditions / Notes:

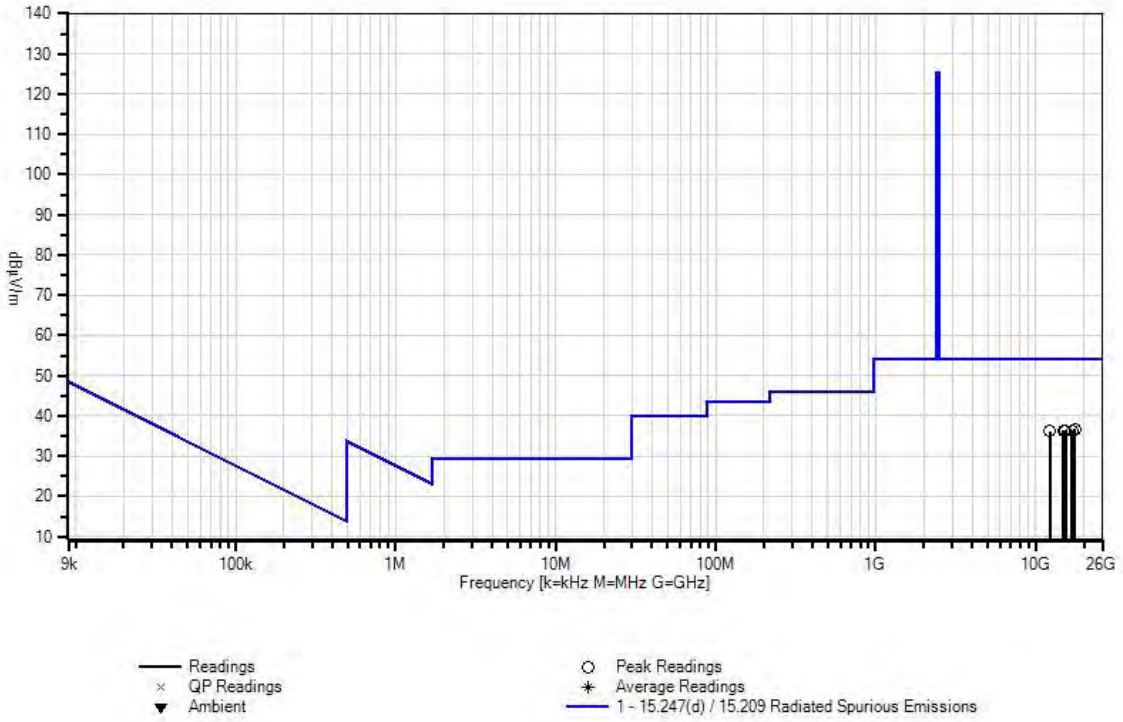
Radiated Spurious Emission
Frequency Range: 12000MHz to 18000MHz
Firmware Used: Bitlock
Application: Bitlock
Temperature: 21.3°C
Humidity: 39%
Atmospheric Pressure: 101.0 kPa
High Clock: 24MHz
Test Method: KDB 558074 D01 DTS Meas Guidance v03r02
Transmitting operating frequency= 2.4GHz Band
RF Output=2.54 dBm
Gain of the antenna= -1.5dBi
The EUT is a bike lock. It is controlled through the BLE. It is placed on 80cm table and is powered by 3VDC. The EUT is connected to a controller board to control the EUT for testing purposes only. The EUT is set to continuously transmitting or receiving.
Note:
Transmit Mode
Low channel

Ext Attn: 0 dB

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	17554.063 M	41.6	-14.1 +0.7	+3.2	+3.1	+2.2	+0.0	36.7	54.0	-17.3	Horiz
2	16839.175 M	43.4	-15.9 +0.6	+3.2	+3.0	+2.1	+0.0	36.4	54.0	-17.6	Vert
3	15324.098 M	43.3	-15.7 +0.8	+3.1	+2.9	+2.0	+0.0	36.4	54.0	-17.6	Horiz
4	14850.592 M	43.0	-15.4 +0.8	+3.0	+2.9	+2.0	+0.0	36.3	54.0	-17.7	Vert
5	15043.444 M	43.0	-15.4 +0.8	+3.0	+2.9	+2.0	+0.0	36.3	54.0	-17.7	Vert
6	12289.321 M	43.1	-15.1 +0.9	+2.7	+2.6	+1.9	+0.0	36.1	54.0	-17.9	Horiz

CKC Laboratories, Inc Date: 12/4/2014 Time: 14:59:04 Mesh Motion, Inc WO#: 96385
Test Distance: 3 Meters Sequence#: 15



Test Location: CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170

Customer: **Mesh Motion, Inc.**
Specification: **15.247(d) / 15.209 Radiated Spurious Emissions**
Work Order #: **96385** Date: 12/4/2014
Test Type: **Radiated Scan** Time: 16:48:47
Equipment: **BitLock** Sequence#: 30
Manufacturer: Mesh Motion, Inc. Tested By: Hieu Song Nguyenpham
Model: BLT01
S/N: Sample 1

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T1	AN03302	Cable	32026-29094K-29094K-72TC	3/24/2014	3/24/2016
T2	ANP06709	Cable	32026-29094K-29094K-72TC	9/18/2014	9/18/2016
T3	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
T4	AN02694	Horn Antenna-ANSI C63.5 Antenna Factors (dB)	AMFW-5F-18002650-20-10P	2/4/2013	2/4/2015
T5	ANP00929	Cable	various	1/23/2014	1/23/2016

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
BitLock*	Mesh Motion, Inc.	BLT01	Sample 1

Support Devices:

Function	Manufacturer	Model #	S/N
AC/DC Power Adapter for Laptop	Toshiba	PA3822U-1ACA	200140722517585
Laptop	Toshiba	Satellite C55D-B5310	8E181029P
Controller Board	Mesh Motion, Inc.	None	None

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 18000MHz to 25000MHz
Firmware Used: Bitlock
Application: Bitlock
Temperature: 21.3°C, Humidity: 39%, Atmospheric Pressure: 101.0 kPa
High Clock: 24MHz
Test Method: KDB 558074 D01 DTS Meas Guidance v03r02
Transmitting operating frequency= 2.4GHz Band
RF Output=2.54 dBm
Gain of the antenna= -1.5dBi
The EUT is a bike lock. It is controlled through the BLE. It is placed on 80cm table and is powered by 3VDC. The EUT is connected to a controller board to control the EUT for testing purposes only. The EUT is set to continuously transmitting or receiving.

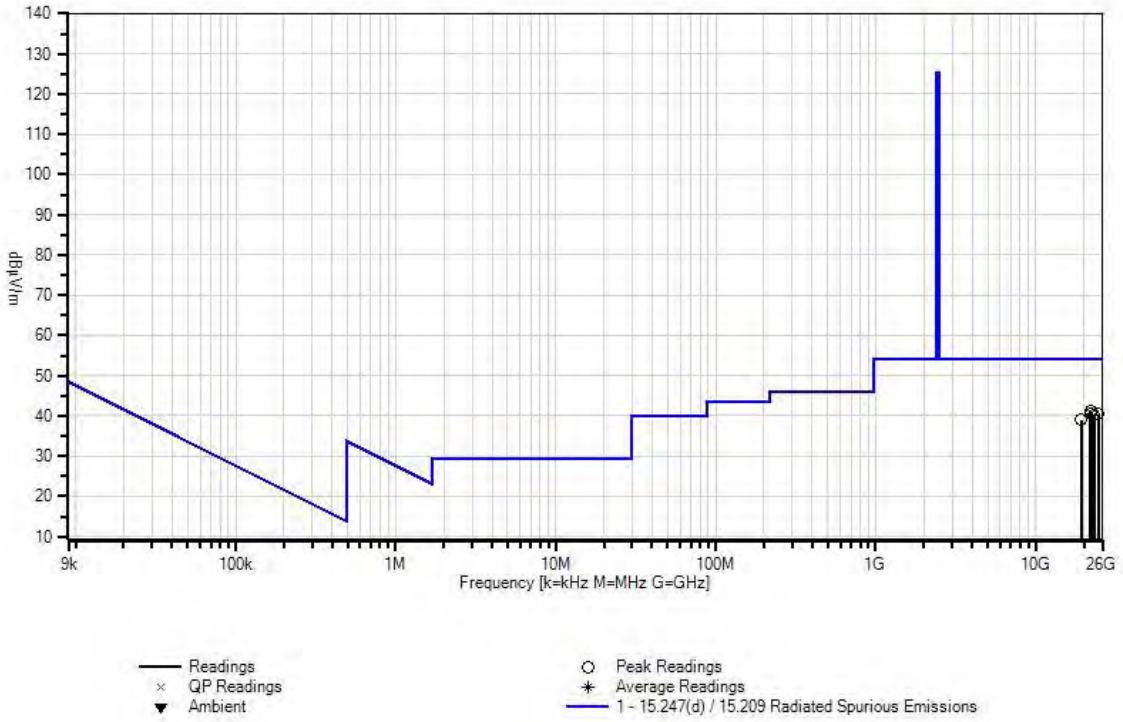
Note:
Transmit Mode
Low channel

Ext Attn: 0 dB

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	21865.037 M	46.0	+3.7 +3.0	+3.5	+2.4	-17.3	+0.0	41.3	54.0	-12.7	Horiz
2	22042.975 M	46.0	+3.7 +3.0	+3.5	+2.4	-17.4	+0.0	41.2	54.0	-12.8	Vert
3	22131.944 M	45.3	+3.7 +3.0	+3.6	+2.4	-17.4	+0.0	40.6	54.0	-13.4	Horiz
4	24475.687 M	44.4	+3.9 +3.0	+3.8	+2.6	-17.2	+0.0	40.5	54.0	-13.5	Vert
5	23048.608 M	44.9	+3.8 +3.0	+3.7	+2.5	-17.8	+0.0	40.1	54.0	-13.9	Vert
6	19124.687 M	43.1	+3.5 +3.3	+3.3	+2.2	-16.4	+0.0	39.0	54.0	-15.0	Horiz

CKC Laboratories, Inc Date: 12/4/2014 Time: 16:48:47 Mesh Motion, Inc WO#: 96385
Test Distance: 3 Meters Sequence#: 30



Test Location: CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170

Customer: **Mesh Motion, Inc.**
Specification: **15.247(d) / 15.209 Radiated Spurious Emissions**
Work Order #: **96385** Date: 12/5/2014
Test Type: **Radiated Scan** Time: 11:52:11
Equipment: **BitLock** Sequence#: 43
Manufacturer: Mesh Motion, Inc. Tested By: Hieu Song Nguyenpham
Model: BLT01
S/N: Sample 1

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
	AN00432	Loop Antenna	6502	4/2/2013	4/2/2015
	ANP00880	Cable	RG214U	6/13/2014	6/13/2016
	ANP05300	Cable	RG214/U	3/25/2013	3/25/2015

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
BitLock*	Mesh Motion, Inc.	BLT01	Sample 1

Support Devices:

Function	Manufacturer	Model #	S/N
AC/DC Power Adapter for Laptop	Toshiba	PA3822U-1ACA	200140722517585
Laptop	Toshiba	Satellite C55D-B5310	8E181029P
Controller Board	Mesh Motion, Inc.	None	None

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 9kHz to 30MHz

Firmware Used: Bitlock
Application: Bitlock
Temperature: 21.3°C
Humidity: 39%
Atmospheric Pressure: 101.0 kPa
High Clock: 24MHz
Test Method: KDB 558074 D01 DTS Meas Guidance v03r02

Transmitting operating frequency= 2.4GHz Band
RF Output=2.54 dBm
Gain of the antenna= -1.5dBi

The EUT is a bike lock. It is controlled through the BLE. It is placed on 80cm table and is powered by 3VDC. The EUT is connected to a controller board to control the EUT for testing purposes only. The EUT is set to continuously transmitting or receiving.

Note:
Transmit Mode
Middle channel
No EUT emissions detected within 20dB of the limit.

Test Location: CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170

Customer: **Mesh Motion, Inc.**
Specification: **15.247(d) / 15.209 Radiated Spurious Emissions**
Work Order #: **96385** Date: 12/4/2014
Test Type: **Radiated Scan** Time: 11:25:35
Equipment: **BitLock** Sequence#: 6
Manufacturer: Mesh Motion, Inc. Tested By: Hieu Song Nguyenpham
Model: BLT01
S/N: Sample 1

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN00686	Preamp	8447D Opt 010	5/27/2014	5/27/2016
T2	AN00852	Biconilog Antenna	CBL 6111C	11/24/2014	11/24/2016
T3	ANP00880	Cable	RG214U	6/13/2014	6/13/2016
T4	ANP01183	Cable	CNT-195	9/3/2013	9/3/2015
T5	ANP05300	Cable	RG214/U	3/25/2013	3/25/2015
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
BitLock*	Mesh Motion, Inc.	BLT01	Sample 1

Support Devices:

Function	Manufacturer	Model #	S/N
AC/DC Power Adapter for Laptop	Toshiba	PA3822U-1ACA	200140722517585
Laptop	Toshiba	Satellite C55D-B5310	8E181029P
Controller Board	Mesh Motion, Inc.	None	None

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 30MHz to 1000MHz

Firmware Used: Bitlock
Application: Bitlock
Temperature: 21.3°C
Humidity: 39%
Atmospheric Pressure: 101.0 kPa
High Clock: 24MHz
Test Method: KDB 558074 D01 DTS Meas Guidance v03r02

Transmitting operating frequency= 2.4GHz Band
RF Output=2.54 dBm
Gain of the antenna= -1.5dBi

The EUT is a bike lock. It is controlled through the BLE. It is placed on 80cm table and is powered by 3VDC. The EUT is connected to a controller board to control the EUT for testing purposes only. The EUT is set to continuously transmitting or receiving.

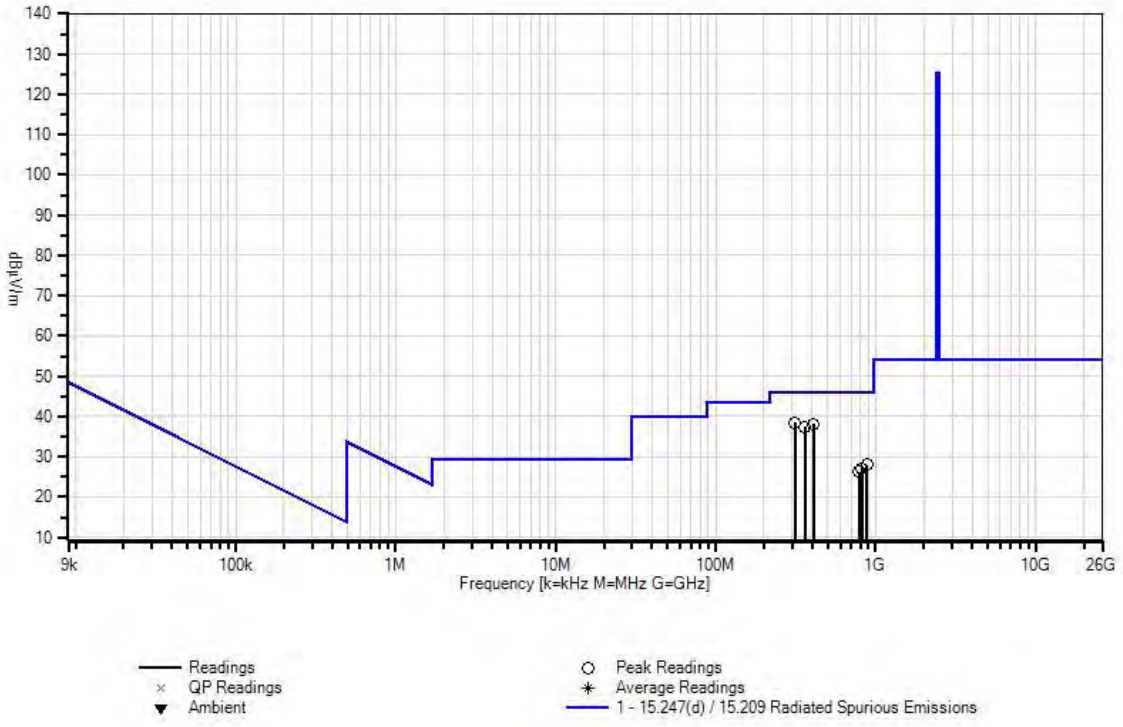
Note:
Transmit Mode
Middle channel

Ext Attn: 0 dB

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	312.044M	50.4	-28.4 +0.5	+13.7	+1.7	+0.5	+0.0	38.4	46.0	-7.6	Horiz
2	408.020M	47.4	-29.1 +0.6	+16.5	+2.0	+0.7	+0.0	38.1	46.0	-7.9	Horiz
3	359.972M	47.6	-28.7 +0.6	+15.3	+1.9	+0.7	+0.0	37.4	46.0	-8.6	Horiz
4	877.569M	29.4	-29.3 +0.9	+22.9	+3.1	+1.0	+0.0	28.0	46.0	-18.0	Vert
5	820.032M	29.3	-29.4 +0.9	+22.2	+3.0	+1.1	+0.0	27.1	46.0	-18.9	Vert
6	784.116M	29.1	-29.5 +0.8	+21.7	+2.9	+1.2	+0.0	26.2	46.0	-19.8	Vert

CKC Laboratories, Inc Date: 12/4/2014 Time: 11:25:35 Mesh Motion, Inc WO#: 96385
Test Distance: 3 Meters Sequence#: 6



Test Location: CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170

Customer: **Mesh Motion, Inc.**
Specification: **15.247(d) / 15.209 Radiated Spurious Emissions**
Work Order #: **96385** Date: 12/5/2014
Test Type: **Radiated Scan** Time: 11:14:07
Equipment: **BitLock** Sequence#: 38
Manufacturer: Mesh Motion, Inc. Tested By: Hieu Song Nguyenpham
Model: BLT01
S/N: Sample 1

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T1	AN03302	Cable	32026-29094K-29094K-72TC	3/24/2014	3/24/2016
T2	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	4/2/2014	4/2/2016
T3	AN03114	Preamp	AMF-7D-00101800-30-10P	4/11/2013	4/11/2015
T4	ANP01210	Cable	FSJ1P-50A-4A	2/19/2013	2/19/2015
T5	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
T6	AN02113	Horn Antenna-ANSI C63.5	3115	1/24/2013	1/24/2015

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
BitLock*	Mesh Motion, Inc.	BLT01	Sample 1

Support Devices:

Function	Manufacturer	Model #	S/N
AC/DC Power Adapter for Laptop	Toshiba	PA3822U-1ACA	200140722517585
Laptop	Toshiba	Satellite C55D-B5310	8E181029P
Controller Board	Mesh Motion, Inc.	None	None

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 1000MHz to 12000MHz

Firmware Used: Bitlock
Application: Bitlock
Temperature: 21.3°C
Humidity: 39%
Atmospheric Pressure: 101.0 kPa
High Clock: 24MHz
Test Method: KDB 558074 D01 DTS Meas Guidance v03r02

Transmitting operating frequency= 2.4GHz Band
RF Output=2.54 dBm
Gain of the antenna= -1.5dBi

The EUT is a bike lock. It is controlled through the BLE. It is placed on 80cm table and is powered by 3VDC. The EUT is connected to a controller board to control the EUT for testing purposes only. The EUT is set to continuously transmitting or receiving.

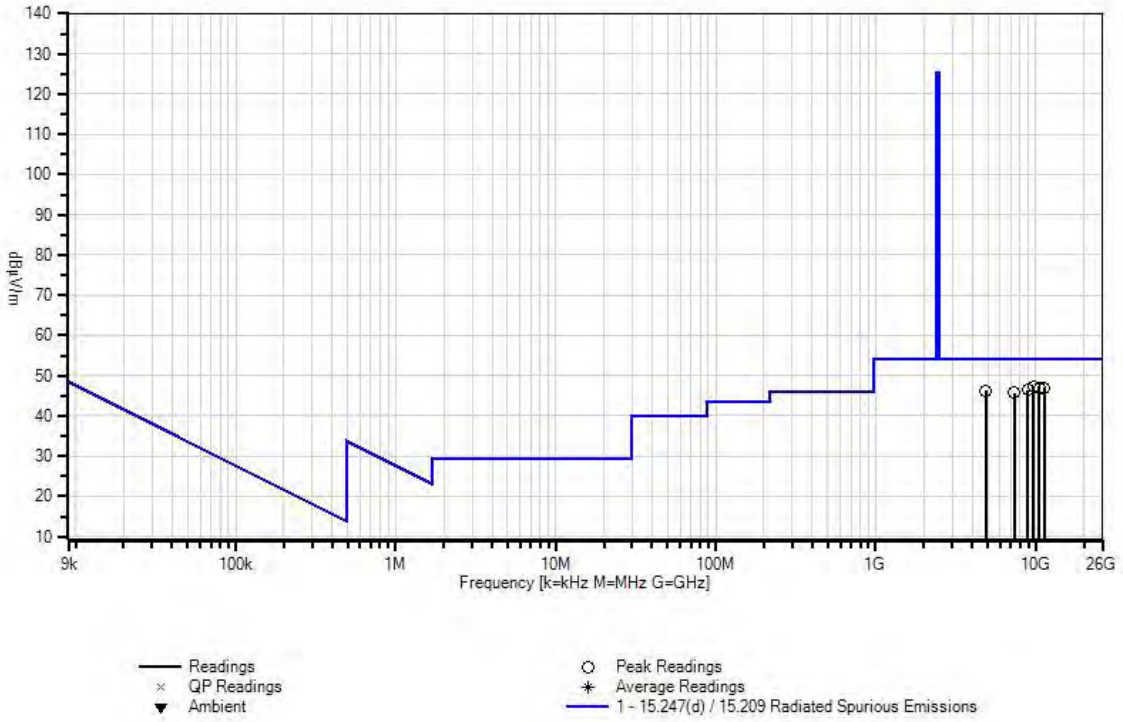
Note:
Transmit Mode
Middle channel

Ext Attn: 0 dB

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	9673.667M	56.4	+2.4 +1.6	+0.2 +37.8	-57.4	+6.2	+0.0	47.2	54.0	-6.8	Vert
2	11295.680 M	54.6	+2.6 +1.8	+0.2 +38.4	-56.8	+6.2	+0.0	47.0	54.0	-7.0	Vert
3	10483.476 M	56.5	+2.5 +1.8	+0.2 +38.1	-58.3	+6.1	+0.0	46.9	54.0	-7.1	Vert
4	8874.869M	54.7	+2.3 +1.6	+0.3 +37.8	-56.3	+6.0	+0.0	46.4	54.0	-7.6	Horiz
5	4879.878M	64.6	+1.7 +1.1	+0.2 +33.1	-58.2	+3.8	+0.0	46.3	54.0	-7.7	Horiz
6	7319.315M	59.9	+2.1 +1.3	+0.2 +36.2	-59.3	+5.4	+0.0	45.8	54.0	-8.2	Horiz

CKC Laboratories, Inc Date: 12/5/2014 Time: 11:14:07 Mesh Motion, Inc WO#: 96385
Test Distance: 3 Meters Sequence#: 38



Test Location: CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170

Customer: **Mesh Motion, Inc.**
Specification: **15.247(d) / 15.209 Radiated Spurious Emissions**
Work Order #: **96385** Date: 12/4/2014
Test Type: **Radiated Scan** Time: 15:23:17
Equipment: **BitLock** Sequence#: 18
Manufacturer: Mesh Motion, Inc. Tested By: Hieu Song Nguyenpham
Model: BLT01
S/N: Sample 1

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T1	AN2693	Active Horn Antenna	AMFW-5F-18002650-20-10P	2/21/2013	2/21/2015
T2	AN03302	Cable	32026-29094K-29094K-72TC	3/24/2014	3/24/2016
T3	ANP06709	Cable	32026-29094K-29094K-72TC	9/18/2014	9/18/2016
T4	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
T5	ANP00928	Cable	various	1/23/2014	1/23/2016

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
BitLock*	Mesh Motion, Inc.	BLT01	Sample 1

Support Devices:

Function	Manufacturer	Model #	S/N
AC/DC Power Adapter for Laptop	Toshiba	PA3822U-1ACA	200140722517585
Laptop	Toshiba	Satellite C55D-B5310	8E181029P
Controller Board	Mesh Motion, Inc.	None	None

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 12000MHz to 18000MHz
Firmware Used: Bitlock
Application: Bitlock
Temperature: 21.3°C, Humidity: 39%, Atmospheric Pressure: 101.0 kPa
High Clock: 24MHz
Test Method: KDB 558074 D01 DTS Meas Guidance v03r02
Transmitting operating frequency= 2.4GHz Band
RF Output=2.54 dBm
Gain of the antenna= -1.5dBi

The EUT is a bike lock. It is controlled through the BLE. It is placed on 80cm table and is powered by 3VDC. The EUT is connected to a controller board to control the EUT for testing purposes only. The EUT is set to continuously transmitting or receiving.

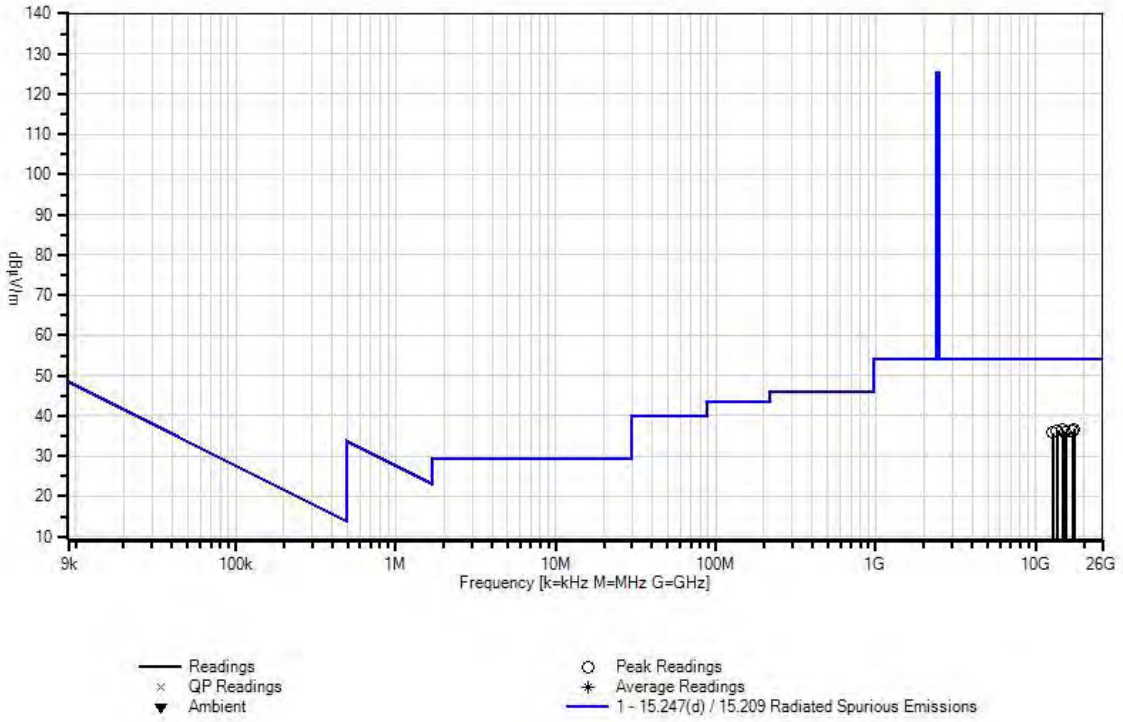
Note:
Transmit Mode
Middle channel

Ext Attn: 0 dB

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	17390.957 M	42.1	-14.6 +0.7	+3.2	+3.1	+2.2	+0.0	36.7	54.0	-17.3	Horiz
2	14679.937 M	43.4	-15.5 +0.8	+3.0	+2.8	+2.0	+0.0	36.5	54.0	-17.5	Horiz
3	13597.536 M	44.1	-16.2 +0.8	+2.9	+2.7	+2.0	+0.0	36.3	54.0	-17.7	Horiz
4	16924.198 M	42.8	-15.7 +0.7	+3.2	+3.0	+2.1	+0.0	36.1	54.0	-17.9	Vert
5	15394.653 M	42.9	-15.8 +0.8	+3.1	+2.9	+2.1	+0.0	36.0	54.0	-18.0	Vert
6	12754.028 M	43.6	-15.8 +0.8	+2.8	+2.6	+1.9	+0.0	35.9	54.0	-18.1	Vert

CKC Laboratories, Inc Date: 12/4/2014 Time: 15:23:17 Mesh Motion, Inc WO#: 96385
Test Distance: 3 Meters Sequence#: 18



Test Location: CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170

Customer: **Mesh Motion, Inc.**
Specification: **15.247(d) / 15.209 Radiated Spurious Emissions**
Work Order #: **96385** Date: 12/4/2014
Test Type: **Radiated Scan** Time: 16:29:40
Equipment: **BitLock** Sequence#: 27
Manufacturer: Mesh Motion, Inc. Tested By: Hieu Song Nguyenpham
Model: BLT01
S/N: Sample 1

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T1	AN03302	Cable	32026-29094K-29094K-72TC	3/24/2014	3/24/2016
T2	ANP06709	Cable	32026-29094K-29094K-72TC	9/18/2014	9/18/2016
T3	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
T4	AN02694	Horn Antenna-ANSI C63.5 Antenna Factors (dB)	AMFW-5F-18002650-20-10P	2/4/2013	2/4/2015
T5	ANP00929	Cable	various	1/23/2014	1/23/2016

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
BitLock*	Mesh Motion, Inc.	BLT01	Sample 1

Support Devices:

Function	Manufacturer	Model #	S/N
AC/DC Power Adapter for Laptop	Toshiba	PA3822U-1ACA	200140722517585
Laptop	Toshiba	Satellite C55D-B5310	8E181029P
Controller Board	Mesh Motion, Inc.	None	None

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 18000MHz to 25000MHz
Firmware Used: Bitlock
Application: Bitlock
Temperature: 21.3°C, Humidity: 39%, Atmospheric Pressure: 101.0 kPa
High Clock: 24MHz
Test Method: KDB 558074 D01 DTS Meas Guidance v03r02
Transmitting operating frequency= 2.4GHz Band
RF Output=2.54 dBm
Gain of the antenna= -1.5dBi
The EUT is a bike lock. It is controlled through the BLE. It is placed on 80cm table and is powered by 3VDC. The EUT is connected to a controller board to control the EUT for testing purposes only. The EUT is set to continuously transmitting or receiving.

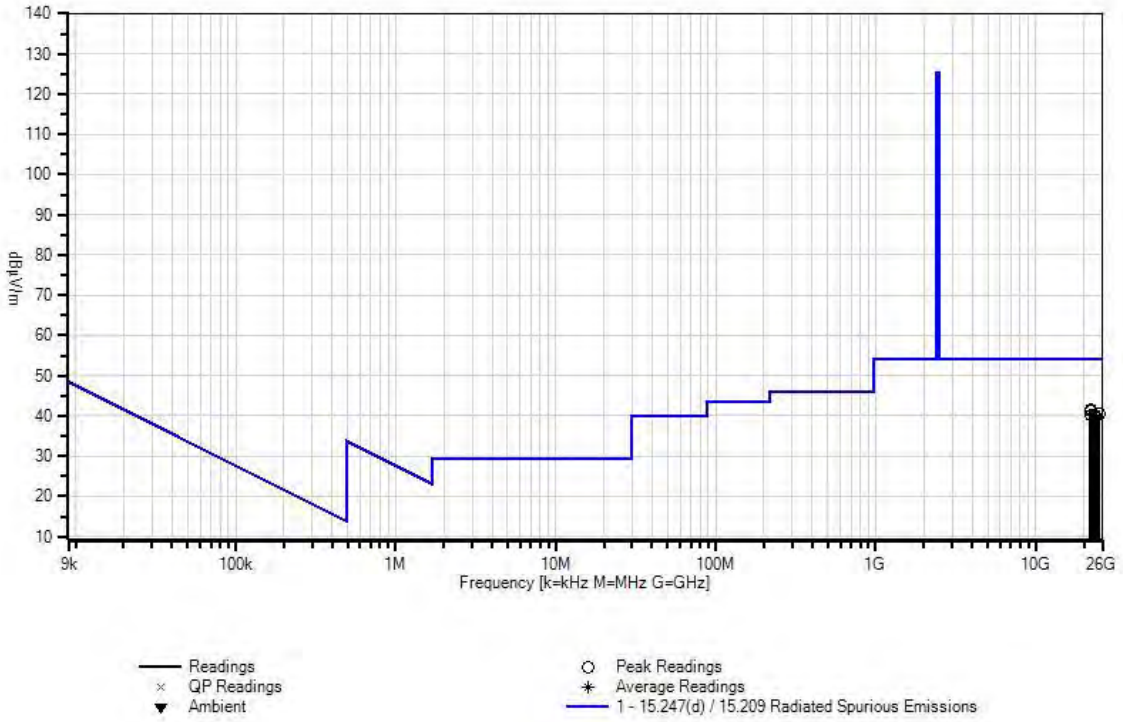
Note:
Transmit Mode
Middle channel

Ext Attn: 0 dB

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	21972.163 M	46.3	+3.7 +3.0	+3.5	+2.4	-17.3	+0.0	41.6	54.0	-12.4	Horiz
2	22070.211 M	45.9	+3.7 +3.0	+3.5	+2.4	-17.4	+0.0	41.1	54.0	-12.9	Vert
3	24832.456 M	44.1	+3.9 +3.1	+3.8	+2.6	-17.0	+0.0	40.5	54.0	-13.5	Vert
4	22213.650 M	45.0	+3.7 +3.0	+3.6	+2.4	-17.5	+0.0	40.2	54.0	-13.8	Horiz
5	23403.406 M	44.8	+3.8 +3.0	+3.7	+2.5	-17.8	+0.0	40.0	54.0	-14.0	Horiz
6	23651.765 M	44.3	+3.9 +3.0	+3.7	+2.5	-17.7	+0.0	39.7	54.0	-14.3	Vert

CKC Laboratories, Inc Date: 12/4/2014 Time: 16:29:40 Mesh Motion, Inc WO#: 96385
Test Distance: 3 Meters Sequence#: 27



Test Location: CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170

Customer: **Mesh Motion, Inc.**
Specification: **15.247(d) / 15.209 Radiated Spurious Emissions**
Work Order #: **96385** Date: 12/5/2014
Test Type: **Radiated Scan** Time: 11:48:41
Equipment: **BitLock** Sequence#: 42
Manufacturer: Mesh Motion, Inc. Tested By: Hieu Song Nguyenpham
Model: BLT01
S/N: Sample 1

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
	AN00432	Loop Antenna	6502	4/2/2013	4/2/2015
	ANP00880	Cable	RG214U	6/13/2014	6/13/2016
	ANP05300	Cable	RG214/U	3/25/2013	3/25/2015

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
BitLock*	Mesh Motion, Inc.	BLT01	Sample 1

Support Devices:

Function	Manufacturer	Model #	S/N
AC/DC Power Adapter for Laptop	Toshiba	PA3822U-1ACA	200140722517585
Laptop	Toshiba	Satellite C55D-B5310	8E181029P
Controller Board	Mesh Motion, Inc.	None	None

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 9kHz to 30MHz

Firmware Used: Bitlock
Application: Bitlock
Temperature: 21.3°C
Humidity: 39%
Atmospheric Pressure: 101.0 kPa
High Clock: 24MHz
Test Method: KDB 558074 D01 DTS Meas Guidance v03r02

Transmitting operating frequency= 2.4GHz Band
RF Output=2.54 dBm
Gain of the antenna= -1.5dBi

The EUT is a bike lock. It is controlled through the BLE. It is placed on 80cm table and is powered by 3VDC. The EUT is connected to a controller board to control the EUT for testing purposes only. The EUT is set to continuously transmitting or receiving.

Note:
Transmit Mode
High channel
No EUT emissions detected within 20dB of the limit

Test Location: CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170

Customer: **Mesh Motion, Inc.**
Specification: **15.247(d) / 15.209 Radiated Spurious Emissions**
Work Order #: **96385** Date: 12/4/2014
Test Type: **Radiated Scan** Time: 11:53:03
Equipment: **BitLock** Sequence#: 9
Manufacturer: Mesh Motion, Inc. Tested By: Hieu Song Nguyenpham
Model: BLT01
S/N: Sample 1

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN00686	Preamp	8447D Opt 010	5/27/2014	5/27/2016
T2	AN00852	Biconilog Antenna	CBL 6111C	11/24/2014	11/24/2016
T3	ANP00880	Cable	RG214U	6/13/2014	6/13/2016
T4	ANP01183	Cable	CNT-195	9/3/2013	9/3/2015
T5	ANP05300	Cable	RG214/U	3/25/2013	3/25/2015
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
BitLock*	Mesh Motion, Inc.	BLT01	Sample 1

Support Devices:

Function	Manufacturer	Model #	S/N
AC/DC Power Adapter for Laptop	Toshiba	PA3822U-1ACA	200140722517585
Laptop	Toshiba	Satellite C55D-B5310	8E181029P
Controller Board	Mesh Motion, Inc.	None	None

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 30MHz to 1000MHz

Firmware Used: Bitlock
Application: Bitlock
Temperature: 21.3°C
Humidity: 39%
Atmospheric Pressure: 101.0 kPa
High Clock: 24MHz
Test Method: KDB 558074 D01 DTS Meas Guidance v03r02

Transmitting operating frequency= 2.4GHz Band
RF Output=2.54 dBm
Gain of the antenna= -1.5dBi

The EUT is a bike lock. It is controlled through the BLE. It is placed on 80cm table and is powered by 3VDC. The EUT is connected to a controller board to control the EUT for testing purposes only. The EUT is set to continuously transmitting or receiving.

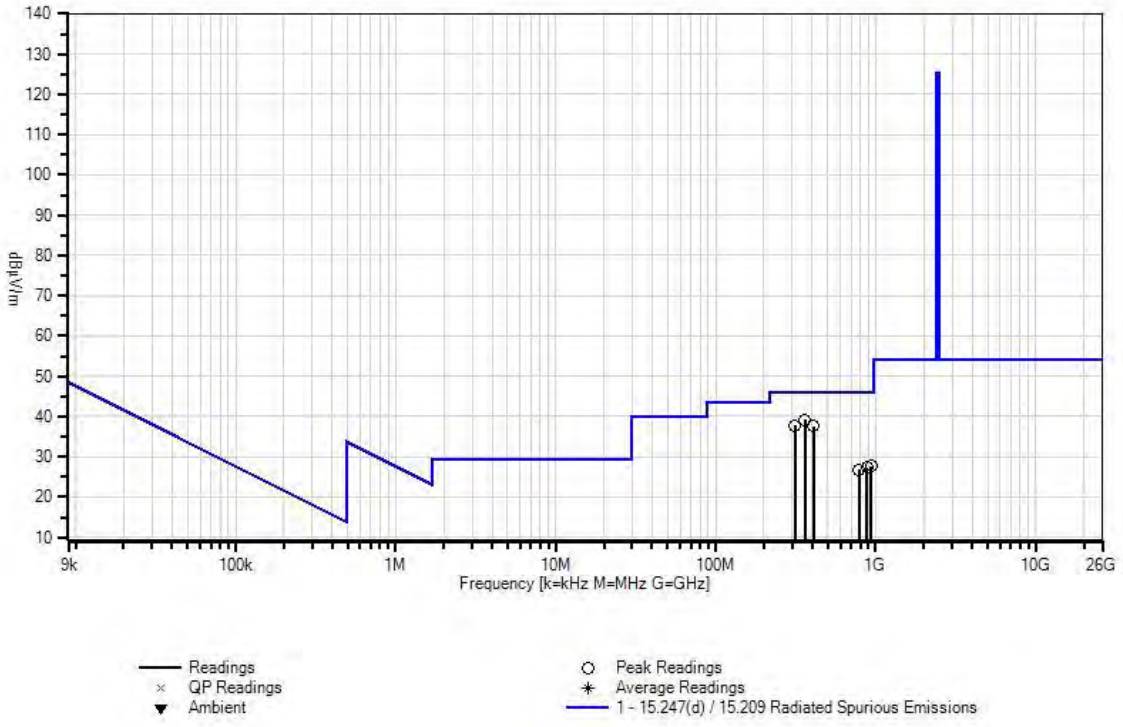
Note:
Transmit Mode
High channel

Ext Attn: 0 dB

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	360.052M	49.3	-28.7 +0.6	+15.3	+1.9	+0.7	+0.0	39.1	46.0	-6.9	Horiz
2	311.943M	49.8	-28.4 +0.5	+13.7	+1.7	+0.5	+0.0	37.8	46.0	-8.2	Horiz
3	407.918M	46.9	-29.1 +0.6	+16.5	+2.0	+0.7	+0.0	37.6	46.0	-8.4	Horiz
4	935.827M	27.9	-29.1 +0.9	+23.7	+3.2	+1.1	+0.0	27.7	46.0	-18.3	Vert
5	876.368M	28.8	-29.3 +0.9	+22.9	+3.1	+1.0	+0.0	27.4	46.0	-18.6	Vert
6	782.074M	29.7	-29.5 +0.8	+21.7	+2.9	+1.2	+0.0	26.8	46.0	-19.2	Vert

CKC Laboratories, Inc Date: 12/4/2014 Time: 11:53:03 Mesh Motion, Inc WO#: 96385
Test Distance: 3 Meters Sequence#: 9



Test Location: CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170

Customer: **Mesh Motion, Inc.**
Specification: **15.247(d) / 15.209 Radiated Spurious Emissions**
Work Order #: **96385** Date: 12/5/2014
Test Type: **Radiated Scan** Time: 11:44:06
Equipment: **BitLock** Sequence#: 41
Manufacturer: Mesh Motion, Inc. Tested By: Hieu Song Nguyenpham
Model: BLT01
S/N: Sample 1

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T1	AN03302	Cable	32026-29094K-29094K-72TC	3/24/2014	3/24/2016
T2	AN03309	High Pass Filter	11SH10-3000/T10000-O/O	4/2/2014	4/2/2016
T3	AN03114	Preamp	AMF-7D-00101800-30-10P	4/11/2013	4/11/2015
T4	ANP01210	Cable	FSJ1P-50A-4A	2/19/2013	2/19/2015
T5	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
T6	AN02113	Horn Antenna-ANSI C63.5	3115	1/24/2013	1/24/2015

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
BitLock*	Mesh Motion, Inc.	BLT01	Sample 1

Support Devices:

Function	Manufacturer	Model #	S/N
AC/DC Power Adapter for Laptop	Toshiba	PA3822U-1ACA	200140722517585
Laptop	Toshiba	Satellite C55D-B5310	8E181029P
Controller Board	Mesh Motion, Inc.	None	None

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 1000MHz to 12000MHz

Firmware Used: Bitlock
Application: Bitlock
Temperature: 21.3°C
Humidity: 39%
Atmospheric Pressure: 101.0 kPa
High Clock: 24MHz
Test Method: KDB 558074 D01 DTS Meas Guidance v03r02

Transmitting operating frequency= 2.4GHz Band
RF Output=2.54 dBm
Gain of the antenna= -1.5dBi

The EUT is a bike lock. It is controlled through the BLE. It is placed on 80cm table and is powered by 3VDC. The EUT is connected to a controller board to control the EUT for testing purposes only. The EUT is set to continuously transmitting or receiving.

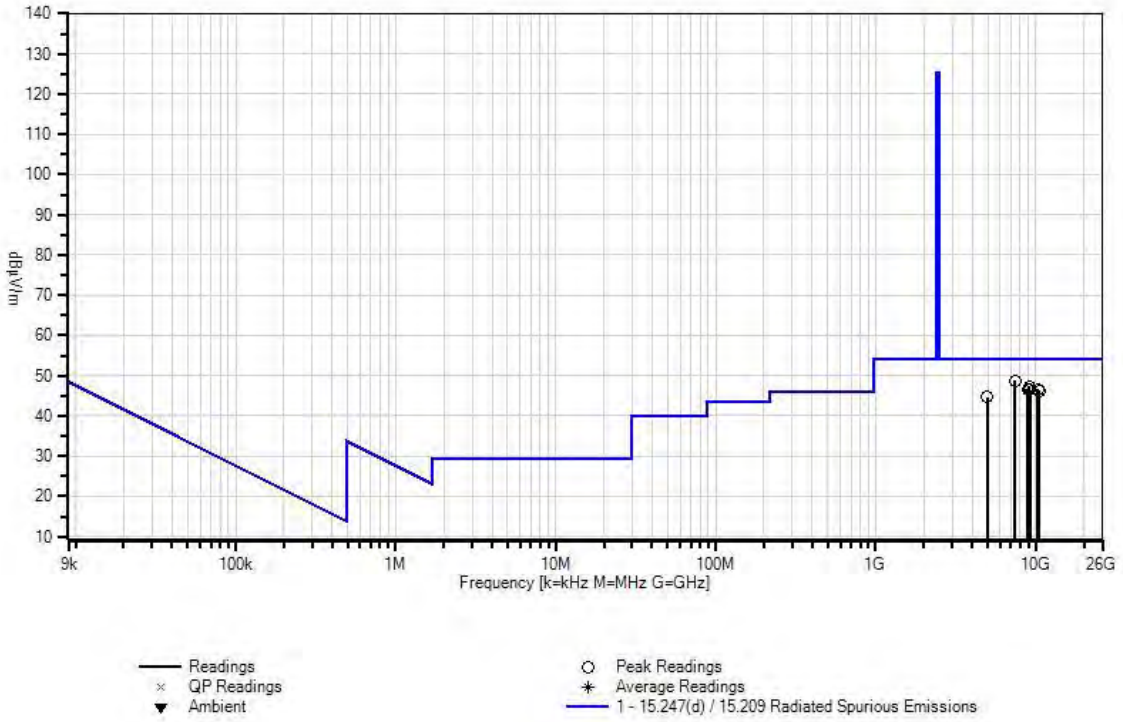
Note:
Transmit Mode
High channel

Ext Attn: 0 dB

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	7440.436M	62.6	+2.1 +1.4	+0.2 +36.3	-59.3	+5.4	+0.0	48.7	54.0	-5.3	Vert
2	9087.081M	56.1	+2.3 +1.6	+0.3 +37.8	-56.7	+6.0	+0.0	47.4	54.0	-6.6	Horiz
3	10334.327 M	56.6	+2.5 +1.7	+0.2 +38.1	-58.6	+6.2	+0.0	46.7	54.0	-7.3	Horiz
4	8875.870M	54.9	+2.3 +1.6	+0.3 +37.8	-56.3	+6.0	+0.0	46.6	54.0	-7.4	Horiz
5	9157.151M	55.2	+2.3 +1.6	+0.3 +37.8	-56.8	+6.0	+0.0	46.4	54.0	-7.6	Vert
6	10480.473 M	55.8	+2.5 +1.8	+0.2 +38.1	-58.3	+6.1	+0.0	46.2	54.0	-7.8	Vert
7	4959.958M	62.4	+1.7 +1.1	+0.2 +33.2	-57.9	+3.9	+0.0	44.6	54.0	-9.4	Vert

CKC Laboratories, Inc Date: 12/5/2014 Time: 11:44:06 Mesh Motion, Inc WO#: 96385
Test Distance: 3 Meters Sequence#: 41



Test Location: CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170

Customer: **Mesh Motion, Inc.**
Specification: **15.247(d) / 15.209 Radiated Spurious Emissions**
Work Order #: **96385** Date: 12/4/2014
Test Type: **Radiated Scan** Time: 15:46:41
Equipment: **BitLock** Sequence#: 21
Manufacturer: Mesh Motion, Inc. Tested By: Hieu Song Nguyenpham
Model: BLT01
S/N: Sample 1

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T1	AN2693	Active Horn Antenna	AMFW-5F-18002650-20-10P	2/21/2013	2/21/2015
T2	AN03302	Cable	32026-29094K-29094K-72TC	3/24/2014	3/24/2016
T3	ANP06709	Cable	32026-29094K-29094K-72TC	9/18/2014	9/18/2016
T4	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
T5	ANP00928	Cable	various	1/23/2014	1/23/2016

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
BitLock*	Mesh Motion, Inc.	BLT01	Sample 1

Support Devices:

Function	Manufacturer	Model #	S/N
AC/DC Power Adapter for Laptop	Toshiba	PA3822U-1ACA	200140722517585
Laptop	Toshiba	Satellite C55D-B5310	8E181029P
Controller Board	Mesh Motion, Inc.	None	None

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 12000MHz to 18000MHz
Firmware Used: Bitlock
Application: Bitlock
Temperature: 21.3°C, Humidity: 39%, Atmospheric Pressure: 101.0 kPa
High Clock: 24MHz
Test Method: KDB 558074 D01 DTS Meas Guidance v03r02
Transmitting operating frequency= 2.4GHz Band
RF Output=2.54 dBm
Gain of the antenna= -1.5dBi

The EUT is a bike lock. It is controlled through the BLE. It is placed on 80cm table and is powered by 3VDC. The EUT is connected to a controller board to control the EUT for testing purposes only. The EUT is set to continuously transmitting or receiving.

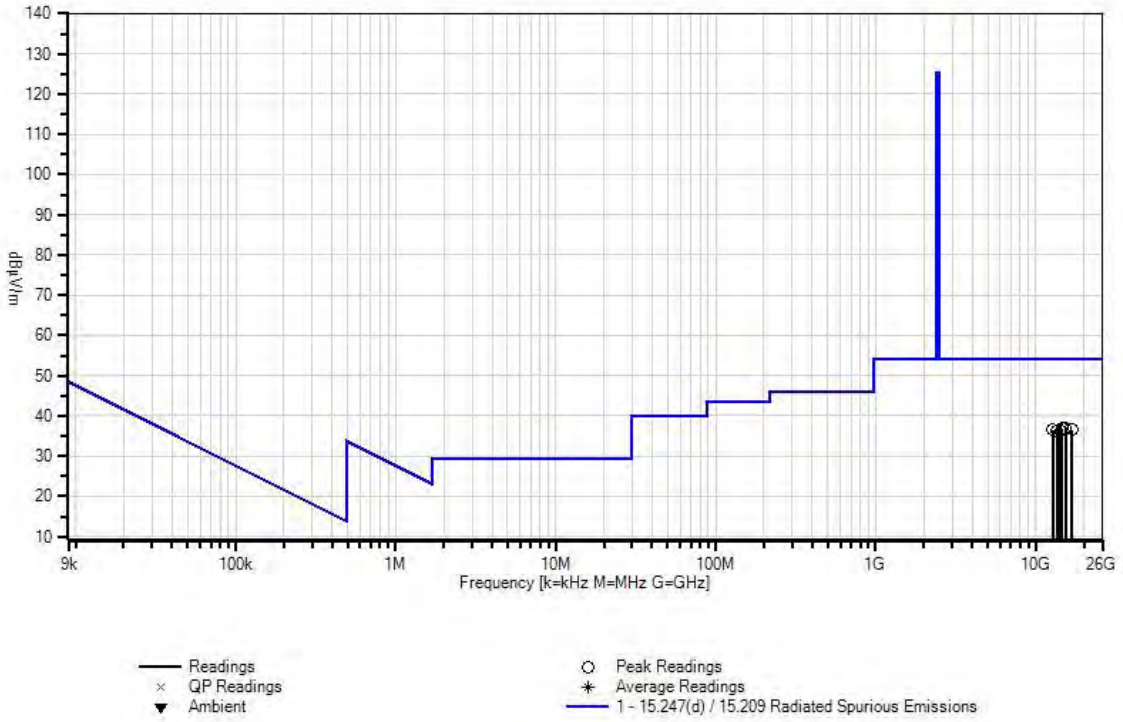
Note:
Transmit Mode
High channel

Ext Attn: 0 dB

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	15404.060 M	44.0	-15.8 +0.8	+3.1	+2.9	+2.1	+0.0	37.1	54.0	-16.9	Horiz
2	14515.594 M	43.6	-15.4 +0.8	+3.0	+2.8	+2.0	+0.0	36.8	54.0	-17.2	Horiz
3	16899.906 M	43.2	-15.7 +0.7	+3.2	+3.0	+2.1	+0.0	36.5	54.0	-17.5	Vert
4	12742.506 M	44.1	-15.7 +0.8	+2.8	+2.6	+1.9	+0.0	36.5	54.0	-17.5	Horiz
5	14216.658 M	43.5	-15.6 +0.8	+2.9	+2.8	+2.0	+0.0	36.4	54.0	-17.6	Vert
6	13589.036 M	44.2	-16.2 +0.8	+2.9	+2.7	+2.0	+0.0	36.4	54.0	-17.6	Vert

CKC Laboratories, Inc Date: 12/4/2014 Time: 15:46:41 Mesh Motion, Inc WO#: 96385
Test Distance: 3 Meters Sequence#: 21



Test Location: CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170

Customer: **Mesh Motion, Inc.**
Specification: **15.247(d) / 15.209 Radiated Spurious Emissions**
Work Order #: **96385** Date: 12/4/2014
Test Type: **Radiated Scan** Time: 16:10:41
Equipment: **BitLock** Sequence#: 24
Manufacturer: Mesh Motion, Inc. Tested By: Hieu Song Nguyenpham
Model: BLT01
S/N: Sample 1

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
T1	AN03302	Cable	32026-29094K-29094K-72TC	3/24/2014	3/24/2016
T2	ANP06709	Cable	32026-29094K-29094K-72TC	9/18/2014	9/18/2016
T3	ANP06712	Cable	32022-29094K-29094K-48TC	9/18/2014	9/18/2016
T4	AN02694	Horn Antenna-ANSI C63.5 Antenna Factors (dB)	AMFW-5F-18002650-20-10P	2/4/2013	2/4/2015
T5	ANP00929	Cable	various	1/23/2014	1/23/2016

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
BitLock*	Mesh Motion, Inc.	BLT01	Sample 1

Support Devices:

Function	Manufacturer	Model #	S/N
AC/DC Power Adapter for Laptop	Toshiba	PA3822U-1ACA	200140722517585
Laptop	Toshiba	Satellite C55D-B5310	8E181029P
Controller Board	Mesh Motion, Inc.	None	None

Test Conditions / Notes:

Radiated Spurious Emission
Frequency Range: 18000MHz to 25000MHz
Firmware Used: Bitlock
Application: Bitlock
Temperature: 21.3°C, Humidity: 39%, Atmospheric Pressure: 101.0 kPa
High Clock: 24MHz
Test Method: KDB 558074 D01 DTS Meas Guidance v03r02
Transmitting operating frequency= 2.4GHz Band
RF Output=2.54 dBm
Gain of the antenna= -1.5dBi
The EUT is a bike lock. It is controlled through the BLE. It is placed on 80cm table and is powered by 3VDC. The EUT is connected to a controller board to control the EUT for testing purposes only. The EUT is set to continuously transmitting or receiving.

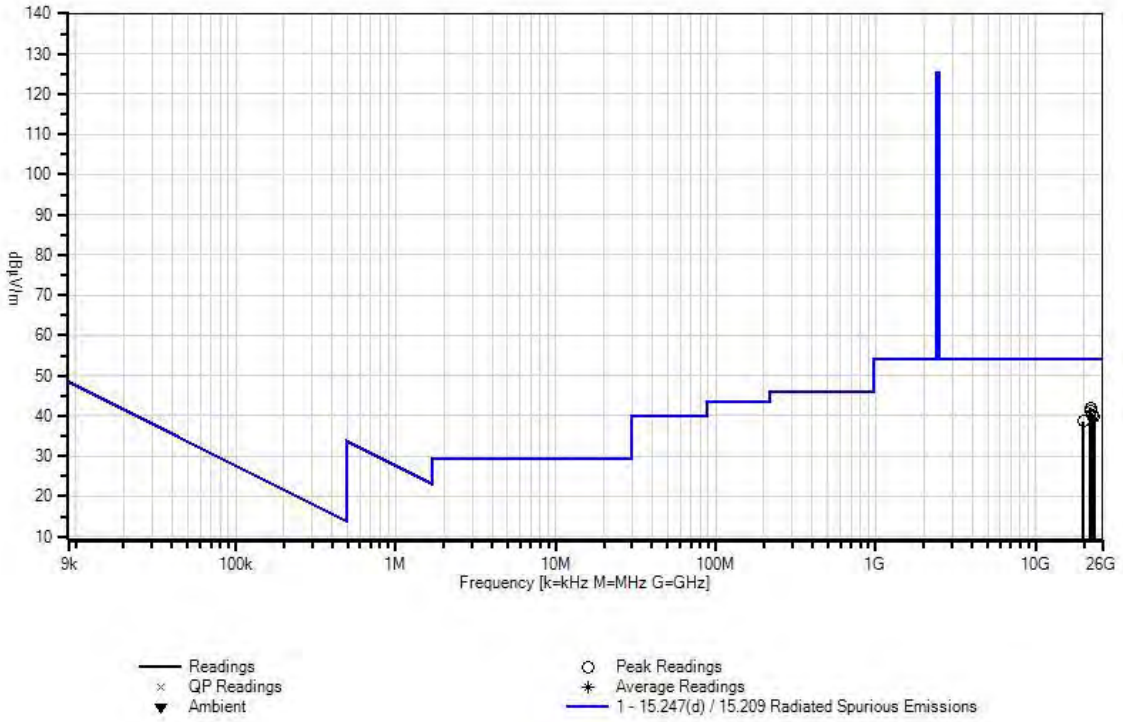
Note:
Transmit Mode
High channel

Ext Attn: 0 dB

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	22024.818 M	46.9	+3.7 +3.0	+3.5	+2.4	-17.4	+0.0	42.1	54.0	-11.9	Horiz
2	21937.665 M	46.7	+3.7 +3.0	+3.5	+2.4	-17.3	+0.0	42.0	54.0	-12.0	Horiz
3	21888.641 M	46.0	+3.7 +3.0	+3.5	+2.4	-17.3	+0.0	41.3	54.0	-12.7	Vert
4	22304.435 M	44.9	+3.8 +3.0	+3.6	+2.4	-17.5	+0.0	40.2	54.0	-13.8	Vert
5	23101.828 M	44.7	+3.8 +3.0	+3.7	+2.5	-17.8	+0.0	39.9	54.0	-14.1	Vert
6	19786.530 M	42.9	+3.5 +3.3	+3.4	+2.3	-16.7	+0.0	38.7	54.0	-15.3	Horiz

CKC Laboratories, Inc Date: 12/4/2014 Time: 16:10:41 Mesh Motion, Inc WO#: 96385
Test Distance: 3 Meters Sequence#: 24



Bandedge

Test Location: CKC Laboratories, Inc. • 1120 Fulton Place • Fremont, CA 94539 • (510) 249-1170

Customer: **Mesh Motion, Inc.**
Specification: **Band edge**
Work Order #: **96385** Date: 12/11/2014
Test Type: **Radiated Scan** Time: 16:41:58
Equipment: **BitLock** Sequence#: 36
Manufacturer: Mesh Motion, Inc. Tested By: Hieu Song Nguyenpham
Model: BLT01
S/N: Sample 1

***Test Equipment*:**

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN03471	RF Characteristics Analyzer	E4440A	12/19/2013	12/19/2015
	AN03302	Cable	32026-29094K-29094K-72TC	3/24/2014	3/24/2016
	ANP01210	Cable	FSJ1P-50A-4A	2/19/2013	2/19/2015
	AN02113	Horn Antenna-ANSI C63.5	3115	1/24/2013	1/24/2015

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
BitLock*	Mesh Motion, Inc.	BLT01	Sample 1

Support Devices:

Function	Manufacturer	Model #	S/N
AC/DC Power Adapter for Laptop	Toshiba	PA3822U-1ACA	200140722517585
Laptop	Toshiba	Satellite C55D-B5310	8E181029P
Controller Board	Mesh Motion, Inc.	None	None

Test Conditions / Notes:

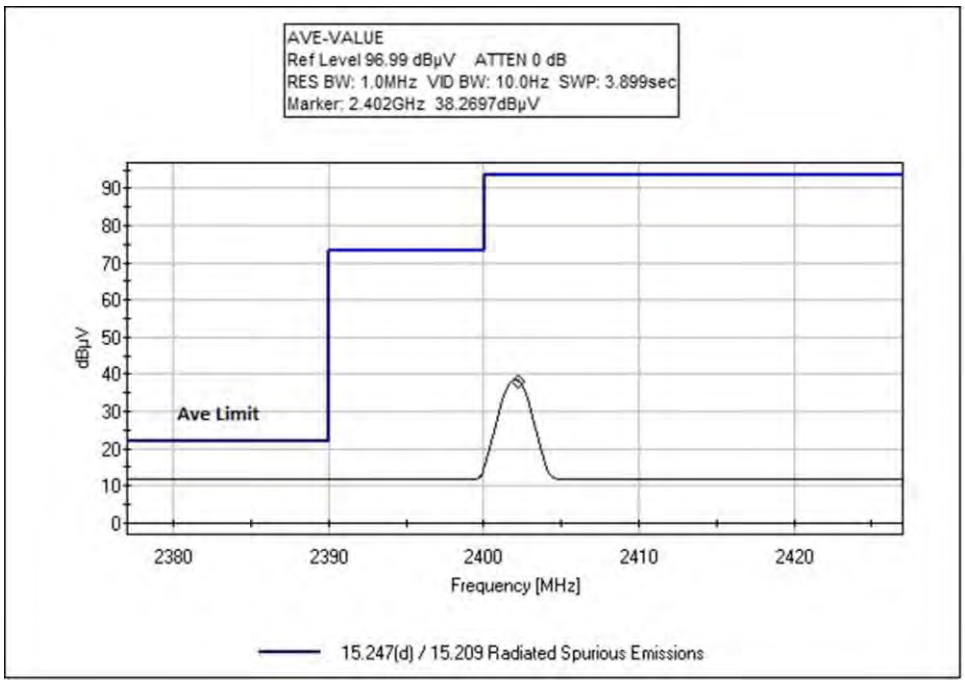
Band edge Set up

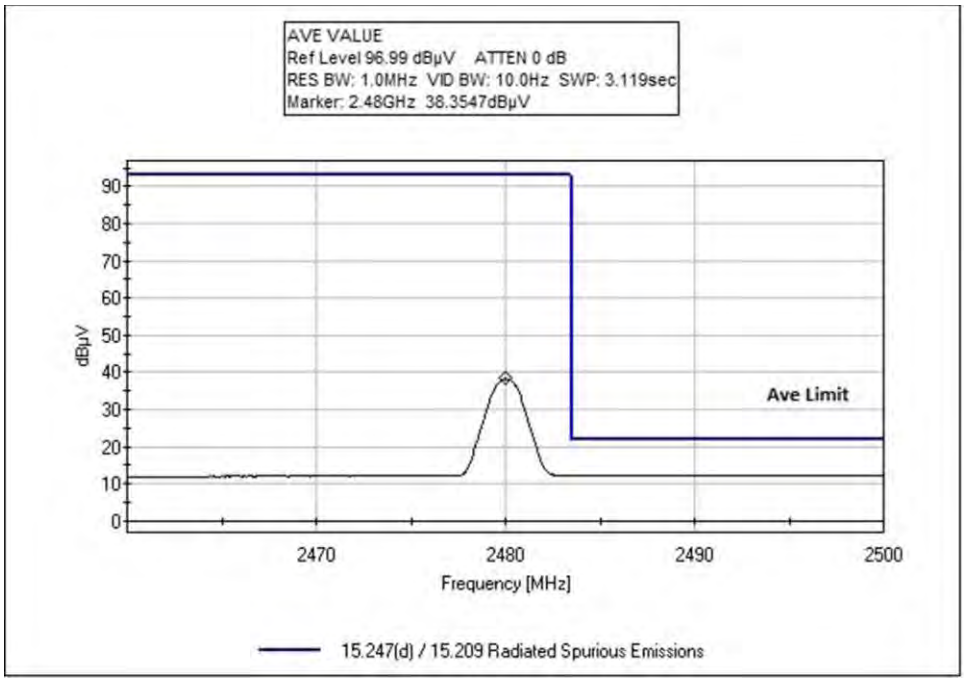
Firmware Used: Bitlock
Application: Bitlock
Temperature: 21.3°C
Humidity: 39%
Atmospheric Pressure: 101.0 kPa
High Clock: 24MHz
Test Method: KDB 558074 D01 DTS Meas Guidance v03r02

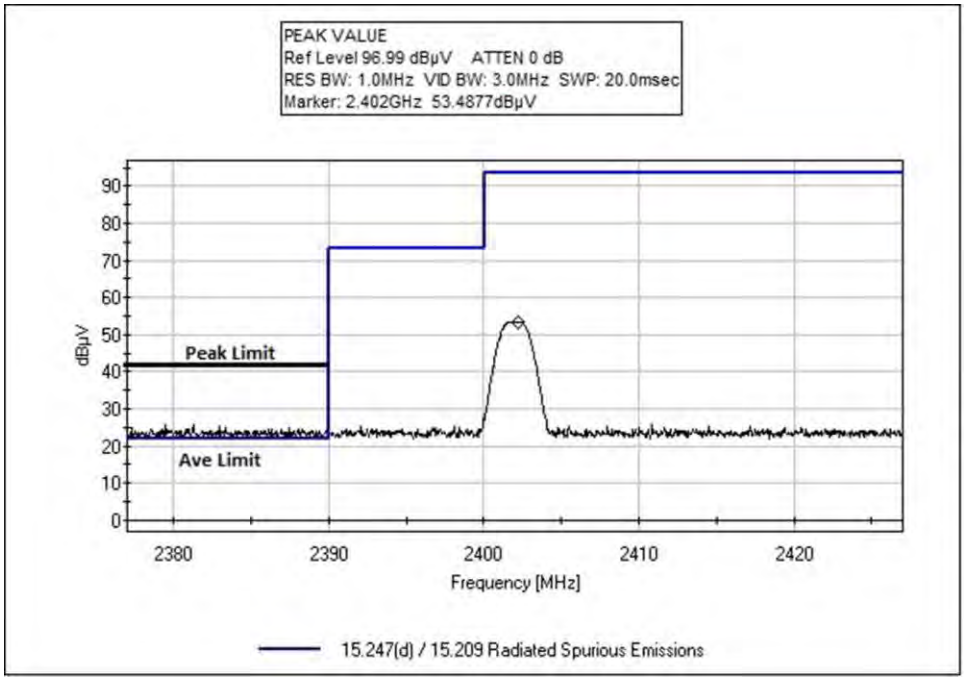
Transmitting operating frequency= 2.4GHz Band
RF Output=2.54 dBm
Gain of the antenna= -1.5dBi

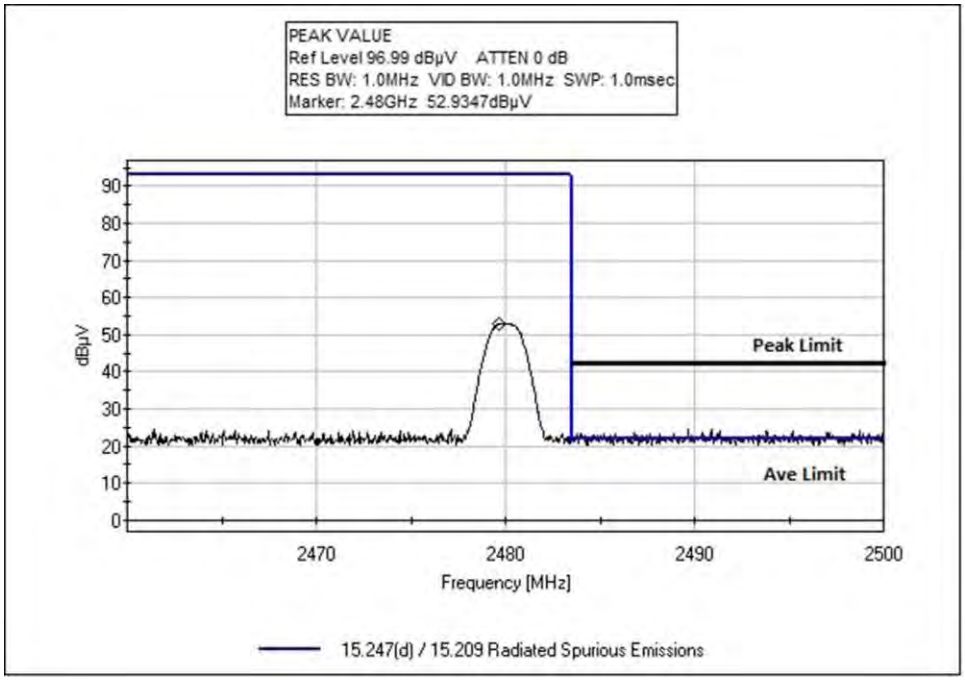
The EUT is a bike lock. It is controlled through the BLE. It is placed on 80cm table and is powered by 3VDC. The EUT is connected to a controller board to control the EUT for testing purposes only. The EUT is set to continuously transmitting or receiving.

Test Data

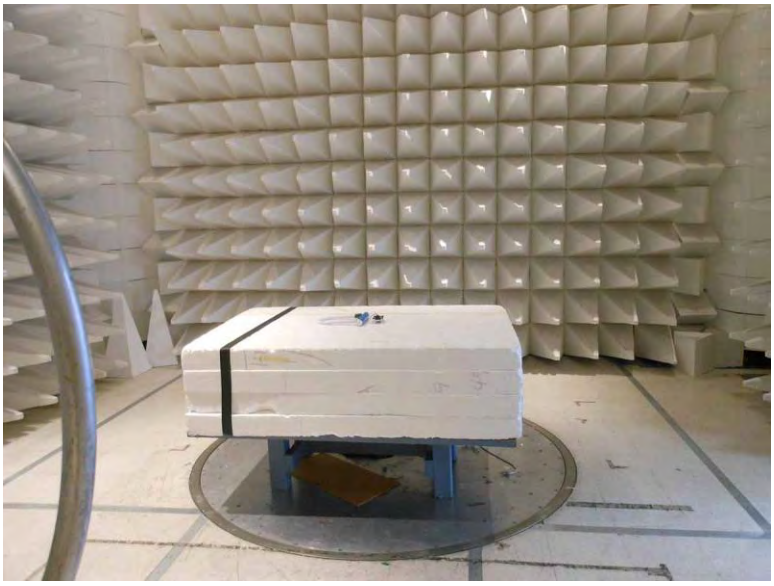

AVE-VALUE
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 10.0Hz SWP: 3.899sec
Marker: 2.402GHz 38.2697dBµV
dBµV
Ave Limit
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions


AVE VALUE
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 10.0Hz SWP: 3.119sec
Marker: 2.48GHz 38.3547dBµV
dBµV
Ave Limit
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

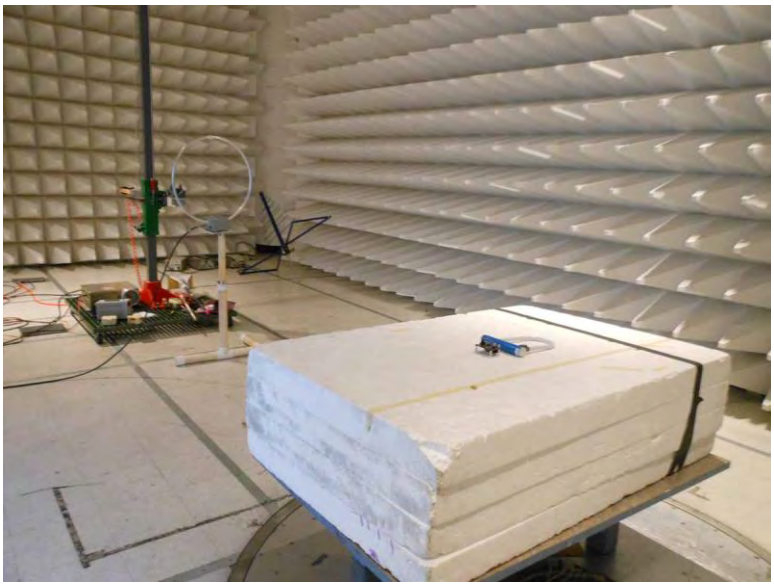

PEAK VALUE
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 3.0MHz SWP: 20.0msec
Marker: 2.402GHz 53.4877dBµV
dBµV
Peak Limit
Ave Limit
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions


PEAK VALUE
Ref Level 96.99 dBµV ATTEN 0 dB
RES BW: 1.0MHz VID BW: 1.0MHz SWP: 1.0msec
Marker: 2.48GHz 52.9347dBµV
dBµV
Peak Limit
Ave Limit
Frequency [MHz]
15.247(d) / 15.209 Radiated Spurious Emissions

Test Setup Photo(s)



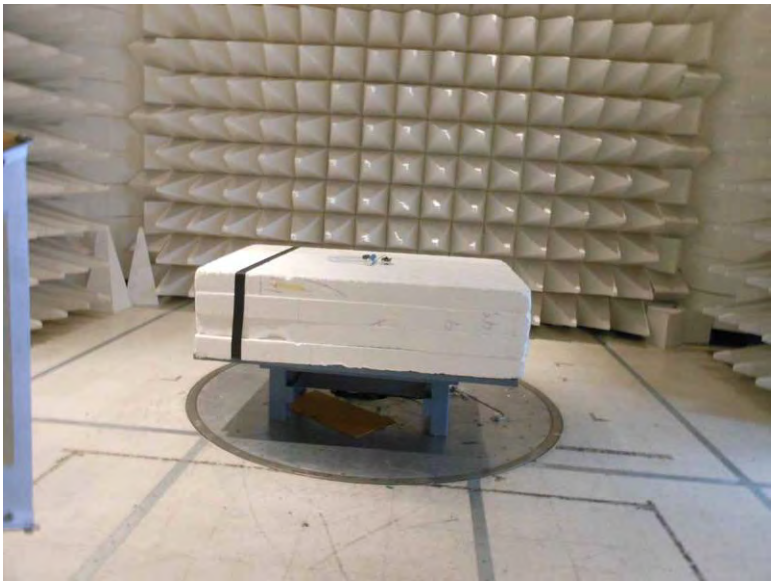
9kHz – 30MHz



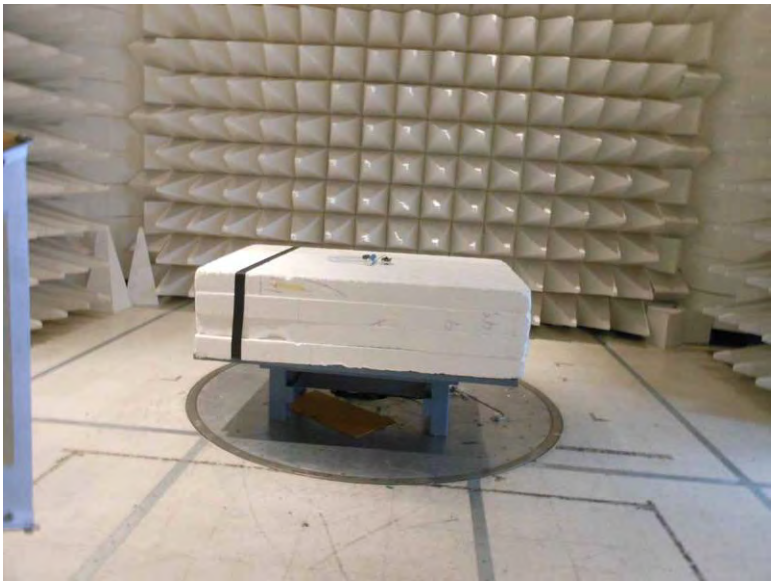
9kHz – 30MHz

30MHz – 1GHz

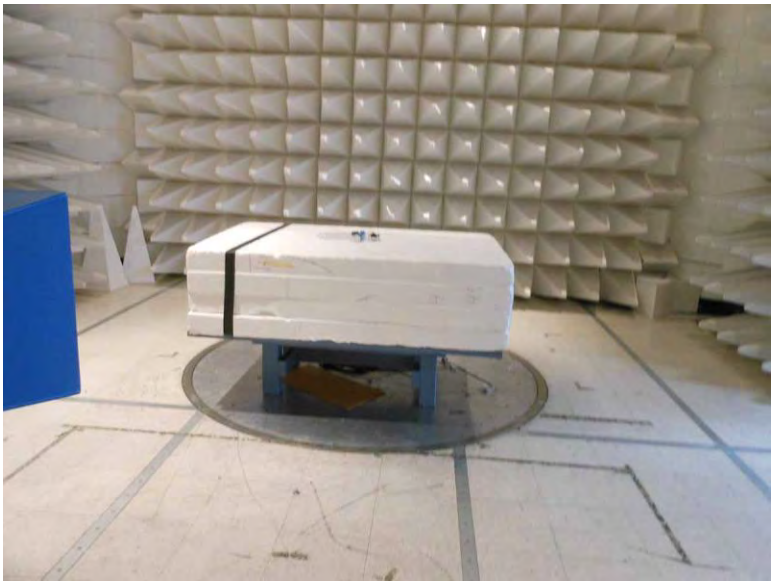
30MHz – 1GHz



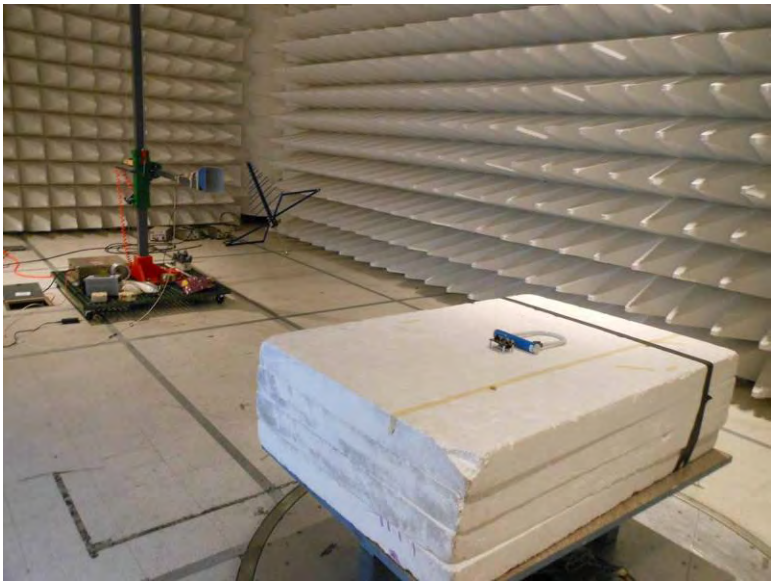
1GHz – 12GHz



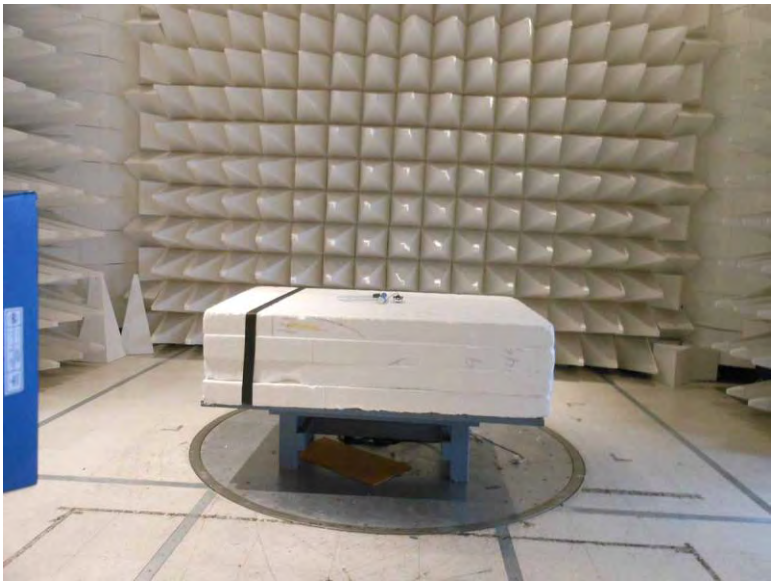
1GHz – 12GHz



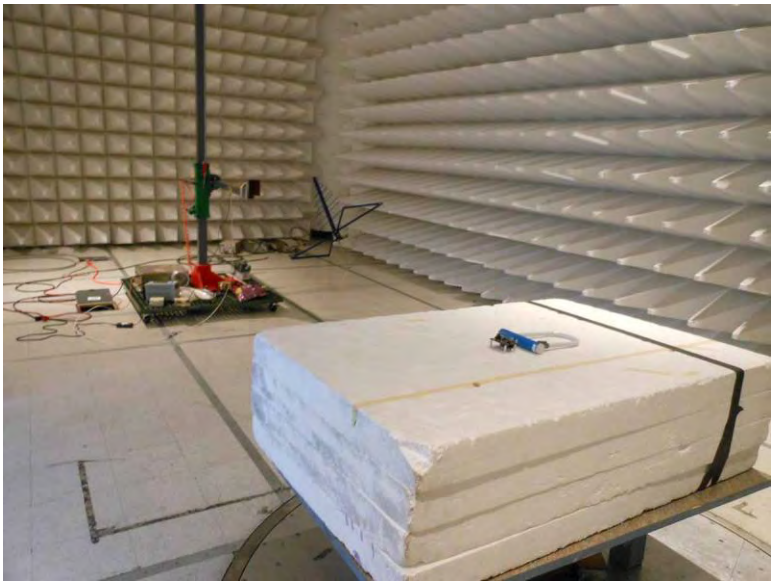
12GHz – 18GHz



12GHz – 18GHz



18GHz – 25GHz



18GHz – 25GHz

SUPPLEMENTAL INFORMATION

Measurement Uncertainty

Uncertainty Value	Parameter
4.73 dB	Radiated Emissions
3.34 dB	Mains Conducted Emissions
3.30 dB	Disturbance Power

The reported measurement uncertainties are calculated based on the worst case of all laboratory environments from CKC Laboratories, Inc. test sites. Only those parameters which require estimation of measurement uncertainty are reported. The reported worst case measurement uncertainty is less than the maximum values derived in CISPR 16-4-2. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k=2. Compliance is deemed to occur provided measurements are below the specified limits.

Emissions Test Details

TESTING PARAMETERS

Unless otherwise indicated, the following configuration parameters are used for equipment setup: The cables were routed consistent with the typical application by varying the configuration of the test sample. Interface cables were connected to the available ports of the test unit. The effect of varying the position of the cables was investigated to find the configuration that produced maximum emissions. Cables were of the type and length specified in the individual requirements. The length of cable that produced maximum emissions was selected.

The equipment under test (EUT) was set up in a manner that represented its normal use, as shown in the setup photographs. Any special conditions required for the EUT to operate normally are identified in the comments that accompany the emissions tables.

The emissions data was taken with a spectrum analyzer or receiver. Incorporating the applicable correction factors for distance, antenna, cable loss and amplifier gain, the data was reduced as shown in the table below. The corrected data was then compared to the applicable emission limits. Preliminary and final measurements were taken in order to ensure that all emissions from the EUT were found and maximized.

CORRECTION FACTORS

The basic spectrum analyzer reading was converted using correction factors as shown in the highest emissions readings in the tables. For radiated emissions in dBµV/m, the spectrum analyzer reading in dBµV was corrected by using the following formula. This reading was then compared to the applicable specification limit.

SAMPLE CALCULATIONS		
	Meter reading	(dBµV)
+	Antenna Factor	(dB)
+	Cable Loss	(dB)
-	Distance Correction	(dB)
-	Preamplifier Gain	(dB)
=	Corrected Reading	(dBµV/m)

TEST INSTRUMENTATION AND ANALYZER SETTINGS

The test instrumentation and equipment listed were used to collect the emissions data. A spectrum analyzer or receiver was used for all measurements. Unless otherwise specified, the following table shows the measuring equipment bandwidth settings that were used in designated frequency bands. For testing emissions, an appropriate reference level and a vertical scale size of 10 dB per division were used.

MEASURING EQUIPMENT BANDWIDTH SETTINGS PER FREQUENCY RANGE			
TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING
CONDUCTED EMISSIONS	150 kHz	30 MHz	9 kHz
RADIATED EMISSIONS	9 kHz	150 kHz	200 Hz
RADIATED EMISSIONS	150 kHz	30 MHz	9 kHz
RADIATED EMISSIONS	30 MHz	1000 MHz	120 kHz
RADIATED EMISSIONS	1000 MHz	>1 GHz	1 MHz

SPECTRUM ANALYZER/RECEIVER DETECTOR FUNCTIONS

The notes that accompany the measurements contained in the emissions tables indicate the type of detector function used to obtain the given readings. Unless otherwise noted, all readings were made in the "positive peak" detector mode. Whenever a "quasi-peak" or "average" reading was recorded, the measurement was annotated with a "QP" or an "Ave" on the appropriate rows of the data sheets. In cases where quasi-peak or average limits were employed and data exists for multiple measurement types for the same frequency then the peak measurement was retained in the report for reference, however the numbering for the affected row was removed and an arrow or carrot ("^") was placed in the far left-hand column indicating that the row above takes precedence for comparison to the limit. The following paragraphs describe in more detail the detector functions and when they were used to obtain the emissions data.

Peak

In this mode, the spectrum analyzer or receiver recorded all emissions at their peak value as the frequency band selected was scanned. By combining this function with another feature called "peak hold," the measurement device had the ability to measure intermittent or low duty cycle transient emission peak levels. In this mode the measuring device made a slow scan across the frequency band selected and measured the peak emission value found at each frequency across the band.

Quasi-Peak

Quasi-peak measurements were taken using the quasi-peak detector when the true peak values exceeded or were within 2 dB of a quasi-peak specification limit. Additional QP measurements may have been taken at the discretion of the operator.

Average

Average measurements were taken using the average detector when the true peak values exceeded or were within 2 dB of an average specification limit. Additional average measurements may have been taken at the discretion of the operator. If the specification or test procedure requires trace averaging, then the averaging was performed using 100 samples or as required by the specification. All other average measurements are performed using video bandwidth averaging. To make these measurements, the test engineer reduces the video bandwidth on the measuring device until the modulation of the signal is filtered out. At this point the measuring device is set into the linear mode and the scan time is reduced.