ISRAEL TESTING LABORATORIES
Global Certifications You Can Trust

ACCREDITED
TESTING Cert No.1152.01

DATE: 25 February 2019

I.T.L. (PRODUCT TESTING) LTD.

FCC Radio Test Report

for

Orcam Technologies Ltd.

Equipment under test:

Wearable Camera, Vision System

MyEye2, Revision B

Tested by: _____
M. Zohar

Approved by: _____
D. Shidlowsky

ISRAEL TESTING LABORATORIES
Global Certifications You Can Trust

ACCREDITED
TESTING Cert No.1152.01

Measurement/Technical Report for

Orcam Technologies Ltd.

Wearable Camera, Vision System

MyEye2, Revision B

FCC ID: 2AAWI-MYEYE2REVB

This report concerns:	Original Grant:	X
	Class I Change:	
	Class II Change:	

Equipment type: DSS Part 15 Spread Spectrum Transmitter

Limits used: 47CFR15 Section 15.247

Measurement procedures used are KDB 558074 D01 v05 and ANSI C63.10: 2013

Application for Certification prepared by:

R. Pinchuck
ITL (Product Testing) Ltd.
1 Bat Sheva St.
Lod 7116002
e-mail Rpinchuck@itlglobal.org

Applicant for this device: (different from "prepared by")

Ram Ben Yehuda
3 Kiryat Mada St.
PO Box 45157
Jerusalem, 9777603, Israel
Tel: +972-2-591-7805
Fax: +972-2-586-0121
e-mail: Rami.Ben-Yehuda@orcam.com

TABLE OF CONTENTS

1. General Information

1.1 *Administrative Information*

Manufacturer:	Orcam Technologies Ltd.
Manufacturer's Address:	3 Kiryat Mada St. P.O. Box 45157 Jerusalem, 9777603, Israel Tel: +972-2-591-7805 Fax: +972-2-586-0121
Manufacturer's Representative:	Ram Ben-Yehuda
Equipment Under Test (E.U.T):	Wearable Camera, Vision System
Equipment Model No.:	MyEye2, Revision B
Equipment Serial No.:	181600023
Date of Receipt of E.U.T:	June 11, 2018
Start of Test:	June 11, 2018
End of Test:	October 17, 2018
Test Laboratory Location:	I.T.L (Product Testing) Ltd. 1 Batsheva St., Lod ISRAEL 7120101
Test Specifications:	FCC Part 15, Subpart C, Section 15.247

1.2 *List of Accreditations*

The EMC laboratory of I.T.L. is accredited by the following bodies:

1. The American Association for Laboratory Accreditation (A2LA) (U.S.A.), Certificate No. 1152.01.
2. The Federal Communications Commission (FCC) (U.S.A.), FCC Designation No. IL1005.
3. The Israel Ministry of the Environment (Israel), Registration No. 1104/01.
4. Industry Canada (Canada), IC File No.: 46405-4025; Site Nos. IC 4025A-1, IC 4025A-2.

I.T.L. Product Testing Ltd. is accredited by the American Association for Laboratory Accreditation (A2LA) and the results shown in this test report have been determined in accordance with I.T.L.'s terms of accreditation unless stated otherwise in the report.

1.3 *Product Description*

The MyEye2 Revision B is a vision system that intended to help Visually Impaired. The device can read, recognizes faces, identify objects and products.
The system consists wearable camera which can add on glasses and external certified AC/DC adaptor (charger).

Working voltage	3.7VDC Rechargeable battery operated via AC/DC adapter
Mode of operation	Transceiver
Modulations	STD/EDR
Assigned Frequency Range	2400.0-2483.5MHz
Operating Frequency Range	2402.0-2480.0MHz
Antenna Gain	-2.0dBi
Modulation BW	~1MHz

1.4 *Test Methodology*

Radiated testing was performed according to the procedures in KDB 558074 D01 v05 and ANSI C63.10: 2013. Radiated testing was performed at an antenna to EUT distance of 3 meters.

1.5 *Test Facility*

Emissions tests were performed at I.T.L.'s testing facility in Lod, Israel. I.T.L.'s EMC Laboratory is accredited by A2LA, certificate No. 1152.01 and its FCC Designation Number is IL1005.

1.6 *Measurement Uncertainty*

Conducted Emission

Conducted Emission (CISPR 11, EN 55011, CISPR 22, EN 55022, ANSI C63.4) 0.15 – 30 MHz:

Expanded Uncertainty (95% Confidence, K=2):

± 3.6 dB

Radiated Emission

Radiated Emission (CISPR 11, EN 55011, CISPR 22, EN 55022, ANSI C63.4) for open site:
30-1000MHz:
Expanded Uncertainty (95% Confidence, K=2):
± 4.96 dB

1 GHz to 6 GHz
Expanded Uncertainty (95% Confidence, K=2):
±5.19 dB

>6 GHz
Expanded Uncertainty (95% Confidence, K=2):
±5.51 dB

2. System Test Configuration

2.1 *Justification*

1. The E.U.T contains a transceiver: IEEE 802.15.1 standard (STD/EDR).
2. The unit was evaluated while transmitting at the low channel (2402MHz), the mid channel (2440MHz) and the high channel (2480MHz).
3. The evaluation was performed with the E.U.T connected to typical AC/DC adapter via laptop for charge mode as the "worst case".
4. Conducted Emission AC Line testing was performed with 2 optional charge modes: AC/DC adapter via laptop & AC/DC adapter wall charger.
5. Final radiated emission test was performed after exploratory emission testing that was performed in 3 orthogonal polarities to determine the "worst case" radiation.
6. The results are shown below.

Orientation	Frequency (MHz)	Fundamental (dBuV/m)	2nd Harmonic (dBuV/m)	3rd Harmonic (dBuV/m)	Band Edge (dBuV/m)
X axis	2402.0	**95.7**	54.6	67.6	62.4
	2440.0	**96.2**	54.3	68.2	-
	2480.0	**97.0**	48.8	64.5	62.6
Y axis	2402.0	93.8	50.2	67.7	62.4
	2440.0	94.6	54.3	68.1	-
	2480.0	96.4	49.2	68.2	62.6
Z axis	2402.0	92.1	49.4	63.0	62.4
	2440.0	93.0	49.5	62.0	-
	2480.0	93.8	48.4	63.5	62.2

Figure 1. Screening Results

According to above results the "worst case" for fundamental & spurious emission was the X axis for all channels except for spurious emission for high channel that was the Y axis.

2.2 *EUT Exercise Software*

No special exercise software was used.

2.3 *Special Accessories*

Equipment	Manufacturer	Part #	Serial #
laptop	DELL	E5440	N/A
AC/DC adapter	DELL	NSW26272	N/A
AC/DC wall charger	EDACPOWER ELEC.	EM1005AVEU	171531626

2.4 *Equipment Modifications*

No modifications were needed in order to achieve compliance.

2.5 *Configuration of Tested System*

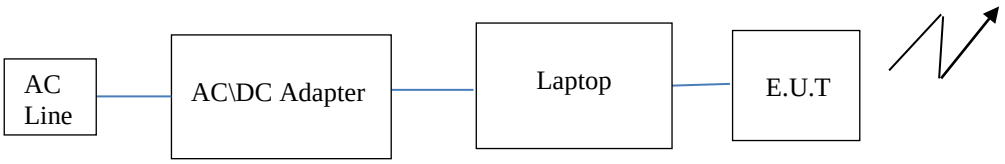

Figure 2. Configuration of Tested System

3. Conducted & Radiated Measurement Test Set-Up Photos

Figure 3. Conducted Emission from AC Line Test, AC/DC adapter via laptop charge mode

Figure 4. Conducted Emission from AC line Test, AC/DC wall charger mode

Figure 5. Radiated Emission Test, 0.009-30MHz

Figure 6. Radiated Emission Test, 30-200MHz

Figure 7. Radiated Emission Test, 200-1000MHz

Figure 8. Radiated Emission Test, 1-18GHz

Figure 9. Radiated Emission Test, 18-25GHz

4. Conducted Emission From AC Mains

4.1 *Test Specification*

FCC Part 15, Subpart C, Section 15.207

4.2 *Test Procedure*

(Temperature (22°C)/ Humidity (61%RH))

The E.U.T operation mode and test setup are as described in Section 2 of this report. In order to minimize background noise interference, the conducted emission testing was performed inside a shielded room, with the E.U.T placed on a 0.8 meter high wooden table, 0.4 meter from the room's vertical wall. In the case of a floor-standing E.U.T., it was placed on the horizontal ground plane.

The E.U.T was powered from 115 V AC / 60 Hz via 50 Ohm / 50 µHn Line Impedance Stabilization Network (LISN) on the phase and neutral lines. The LISN's were grounded to the shielded room ground plane (floor), and were kept at least 0.8 meters from the nearest boundary of the E.U.T

The center of the E.U.T.'s AC cable was folded back and forth, in order to form a bundle less than 0.40 meters and a total cable length of 1 meter.

The effect of varying the position of the cables was investigated to find the configuration that produces maximum emission.

The emission voltages at the LISN's outputs were measured using a computerized receiver, complying with CISPR 16 requirements. The specification limits are loaded to the receiver and are displayed on the receiver's spectrum display.

The E.U.T was evaluated in TX operation mode.

A frequency scan between 0.15 and 30 MHz was performed at 9 kHz I.F. band width, using peak detection.

The spectral components having the highest level on each line were measured using a quasi-peak and average detector.

4.3 *Test Limit*

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.

4.4 *Test Results*

JUDGEMENT: Passed by 4.9 dB

The margin between the emission levels and the specification limit is, in the worst case, 10.49 dB for the phase line at 0.410 MHz and 4.9 dB at 0.410 MHz for the neutral line.

The EUT met the F.C.C. Part 15, Subpart C specification requirements.

The details of the highest emissions are given in *Figure 10* to *Figure 17.*

Conducted Emission

E.U.T Description	Wearable Camera, Vision System
Type	MyEye2, Revision B
Serial Number:	181600023

Specification:	FCC Part 15, Subpart C
Lead:	Phase
Detectors: :	Peak, Quasi-peak, Average
Power Operation	AC/DC adapter via laptop

EDIT PEAK LIST (Final Measurement Results)

Trace1: CE22BQP
Trace2: CE22BAP
Trace3: ---

	TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1	Quasi Peak	162 kHz	34.24	-31.12
2	Average	170 kHz	21.21	-33.74
2	Average	406 kHz	27.03	-20.69
1	Quasi Peak	410 kHz	33.95	-23.69
2	Average	438 kHz	31.30	-15.79
1	Quasi Peak	442 kHz	37.01	-20.01
1	Quasi Peak	750 kHz	19.82	-36.17
2	Average	1.118 MHz	19.85	-26.14
2	Average	1.694 MHz	18.21	-27.78
1	Quasi Peak	1.802 MHz	29.87	-26.12
1	Quasi Peak	2.162 MHz	30.93	-25.06
2	Average	2.162 MHz	19.98	-26.01
1	Quasi Peak	4.782 MHz	17.01	-38.98
2	Average	5.038 MHz	14.68	-35.31
1	Quasi Peak	10.066 MHz	23.13	-36.87
2	Average	10.066 MHz	16.24	-33.75
1	Quasi Peak	10.526 MHz	20.60	-39.39
2	Average	15.102 MHz	16.65	-33.34
2	Average	25.174 MHz	20.66	-29.33
1	Quasi Peak	25.182 MHz	25.27	-34.72

Date: 17.OCT.2018 10:09:14

Figure 10. Detectors: Peak, Quasi-peak, Average

Note: QP Delta/Av Delta refers to the test results obtained minus specified requirement; thus a positive number indicates failure, and a negative result indicates that the product passes the test.

Conducted Emission

E.U.T Description	Wearable Camera, Vision System
Type	MyEye2, Revision B
Serial Number:	181600023

Specification:	FCC Part 15, Subpart C
Lead:	Phase
Detectors:	Peak, Quasi-peak, Average
Power Operation	AC/DC adapter via laptop

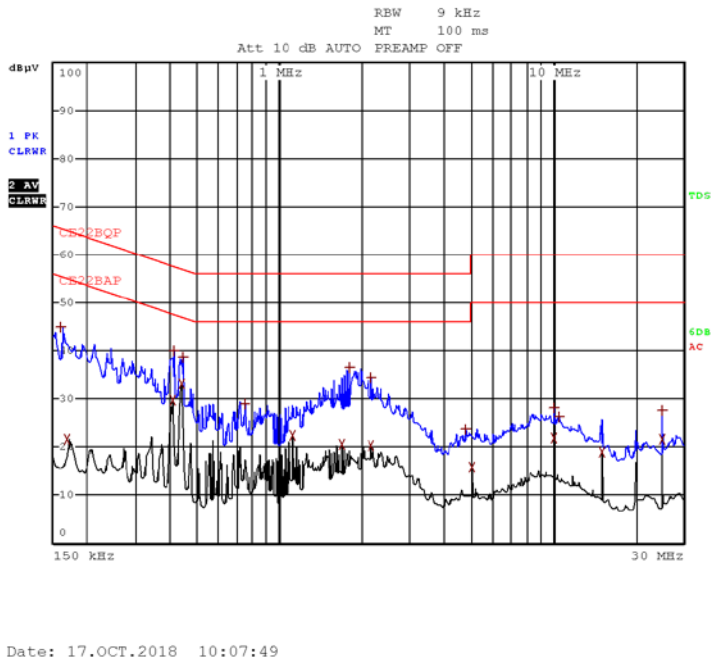

Figure 11. Detectors: Peak, Quasi-peak, Average

Conducted Emission

E.U.T Description	Wearable Camera, Vision System
Type	MyEye2, Revision B
Serial Number:	181600023

Specification:	FCC Part 15, Subpart C
Lead:	Neutral
Detectors:	Peak, Quasi-peak, Average
Power Operation	AC/DC adapter via laptop

EDIT PEAK LIST (Final Measurement Results)

Trace1: CE22BQP
Trace2: CE22BAP
Trace3: ---

	TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1	Quasi Peak	154 kHz	36.67	-29.11
2	Average	238 kHz	20.21	-31.95
1	Quasi Peak	406 kHz	36.45	-21.27
2	Average	406 kHz	28.89	-18.83
2	Average	438 kHz	31.39	-15.70
1	Quasi Peak	442 kHz	37.89	-19.13
2	Average	1.118 MHz	14.52	-31.47
1	Quasi Peak	1.202 MHz	17.12	-38.87
2	Average	1.726 MHz	15.01	-30.99
1	Quasi Peak	1.882 MHz	28.71	-27.28
1	Quasi Peak	2.202 MHz	27.85	-28.14
2	Average	2.374 MHz	16.72	-29.27
1	Quasi Peak	4.742 MHz	18.02	-37.98
2	Average	5.034 MHz	15.61	-34.38
1	Quasi Peak	10.07 MHz	23.85	-36.14
2	Average	10.07 MHz	20.01	-29.99
2	Average	15.102 MHz	18.41	-31.58
1	Quasi Peak	15.106 MHz	21.37	-38.62
1	Quasi Peak	25.166 MHz	24.11	-35.88
2	Average	25.174 MHz	18.40	-31.59

Date: 17.OCT.2018 10:19:38

Figure 12. Detectors: Peak, Quasi-peak, Average

Note: QP Delta/Av Delta refers to the test results obtained minus specified requirement; thus a positive number indicates failure, and a negative result indicates that the product passes the test.

Conducted Emission

E.U.T Description	Wearable Camera, Vision System
Type	MyEye2, Revision B
Serial Number:	181600023

Specification:	FCC Part 15, Subpart C
Lead:	Neutral
Detectors:	Peak, Quasi-peak, Average
Power Operation	AC/DC adapter via laptop

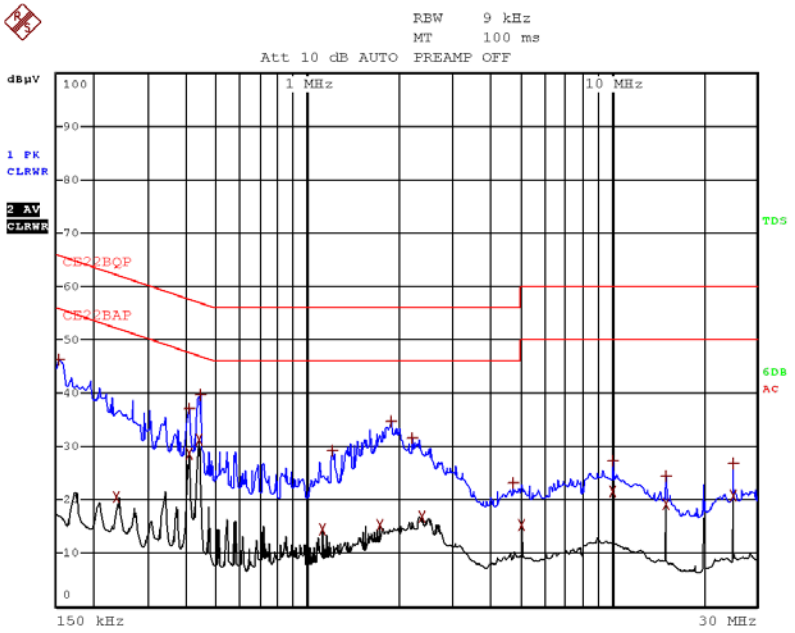

Figure 13 Detectors: Peak, Quasi-peak, Average

Date: 17.OCT.2018 10:18:07

Conducted Emission

E.U.T Description	Wearable Camera, Vision System
Type	MyEye2, Revision B
Serial Number:	181600023

Specification:	FCC Part 15, Subpart C
Lead:	Phase
Detectors: :	Peak, Quasi-peak, Average
Power Operation	AC/DC wall charger

EDIT PEAK LIST (Final Measurement Results)

Trace1: CE22BQP
Trace2: CE22BAP
Trace3: ---

TRACE		FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1	Quasi Peak	234 kHz	43.01	-19.29
2	Average	234 kHz	29.23	-23.07
2	Average	406 kHz	36.72	-11.00
1	Quasi Peak	410 kHz	47.15	-10.49
1	Quasi Peak	642 kHz	37.19	-18.80
2	Average	642 kHz	25.41	-20.58
1	Quasi Peak	814 kHz	39.66	-16.33
2	Average	1.166 MHz	25.84	-20.15
2	Average	1.282 MHz	25.10	-20.89
1	Quasi Peak	1.506 MHz	32.58	-23.41
1	Quasi Peak	2.162 MHz	34.40	-21.59
2	Average	2.162 MHz	21.21	-24.78
1	Quasi Peak	3.926 MHz	26.63	-29.36
2	Average	5.034 MHz	29.73	-20.26
1	Quasi Peak	6.87 MHz	33.89	-26.10
2	Average	10.07 MHz	32.07	-17.92
1	Quasi Peak	15.11 MHz	34.90	-25.09
2	Average	15.11 MHz	27.93	-22.07
1	Quasi Peak	18.894 MHz	28.29	-31.70
2	Average	20.146 MHz	21.27	-28.73

Date: 17.OCT.2018 10:53:14

Figure 14. Detectors: Peak, Quasi-peak, Average

Note: QP Delta/Av Delta refers to the test results obtained minus specified requirement; thus a positive number indicates failure, and a negative result indicates that the product passes the test.

Conducted Emission

E.U.T Description	Wearable Camera, Vision System
Type	MyEye2, Revision B
Serial Number:	181600023

Specification:	FCC Part 15, Subpart C
Lead:	Phase
Detectors:	Peak, Quasi-peak, Average
Power Operation	AC/DC wall charger

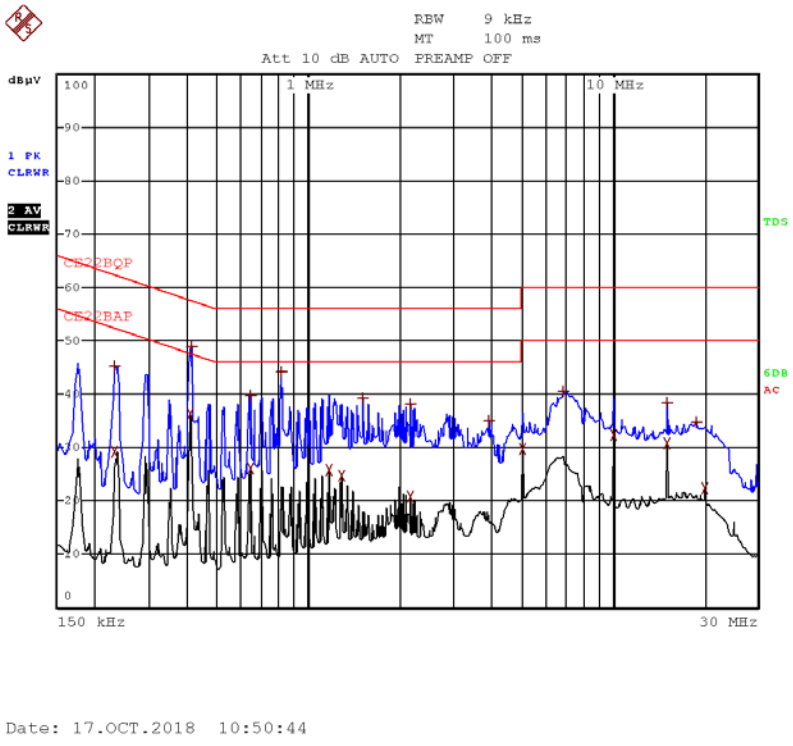

Figure 15. Detectors: Peak, Quasi-peak, Average

Conducted Emission

E.U.T Description	Wearable Camera, Vision System
Type	MyEye2, Revision B
Serial Number:	181600023

Specification:	FCC Part 15, Subpart C
Lead:	Neutral
Detectors:	Peak, Quasi-peak, Average
Power Operation	AC/DC wall charger

EDIT PEAK LIST (Final Measurement Results)

Trace1: CE22BQP
Trace2: CE22BAP
Trace3: ---

	TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1	Quasi Peak	234 kHz	43.54	-18.76
2	Average	234 kHz	35.14	-17.15
1	Quasi Peak	410 kHz	49.93	-7.71
2	Average	410 kHz	42.74	-4.90
1	Quasi Peak	638 kHz	39.42	-16.57
2	Average	702 kHz	31.66	-14.33
1	Quasi Peak	818 kHz	44.13	-11.86
2	Average	1.11 MHz	30.33	-15.67
1	Quasi Peak	1.274 MHz	36.37	-19.62
2	Average	1.286 MHz	30.91	-15.08
1	Quasi Peak	2.154 MHz	33.36	-22.63
2	Average	2.166 MHz	23.68	-22.31
1	Quasi Peak	3.666 MHz	27.79	-28.20
2	Average	5.034 MHz	28.29	-21.70
1	Quasi Peak	10.066 MHz	34.57	-25.42
2	Average	10.074 MHz	30.01	-19.98
1	Quasi Peak	15.106 MHz	35.64	-24.35
2	Average	15.106 MHz	28.64	-21.35
2	Average	20.138 MHz	20.23	-29.76
1	Quasi Peak	22.958 MHz	26.41	-33.58

Date: 17.OCT.2018 10:44:01

Figure 16. Detectors: Peak, Quasi-peak, Average

Note: QP Delta/Av Delta refers to the test results obtained minus specified requirement; thus a positive number indicates failure, and a negative result indicates that the product passes the test.

Conducted Emission

E.U.T Description	Wearable Camera, Vision System
Type	MyEye2, Revision B
Serial Number:	181600023

Specification:	FCC Part 15, Subpart C
Lead:	Neutral
Detectors:	Peak, Quasi-peak, Average
Power Operation	AC/DC wall charger

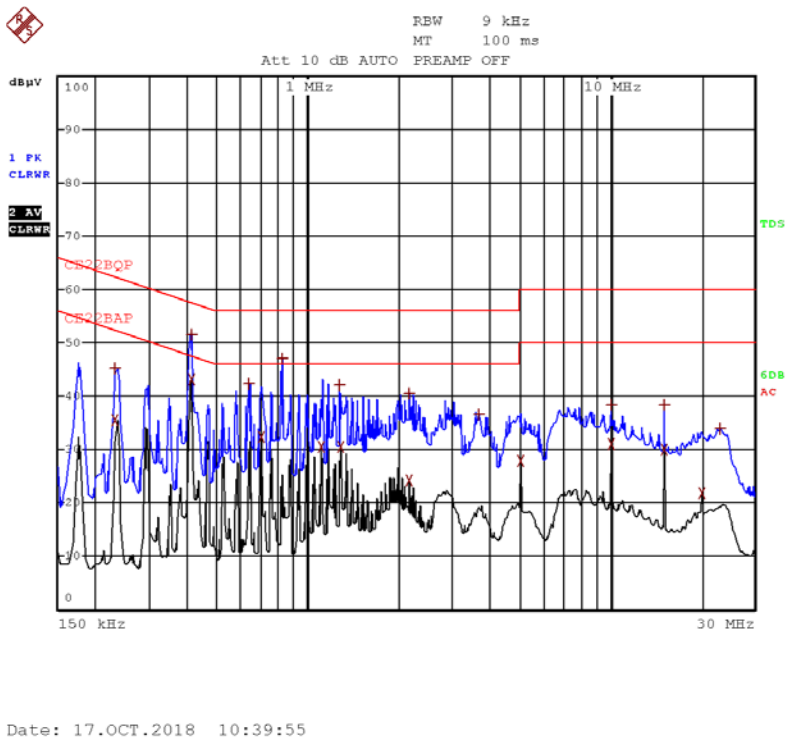

Figure 17 Detectors: Peak, Quasi-peak, Average

4.5 *Test Equipment Used; Conducted Emission*

Instrument	Manufacturer	Model	Serial No.	Last Calibration Date	Next Calibration Due
LISN	Fischer	FCC-LISN-25A	127	July 20, 2018	July 31, 2019
Transient Limiter	HP	11947A	3107A03041	June 25, 2018	June 25, 2019
EMI Receiver	Rohde & Schwarz	ESCI7	100724	February 19, 2018	February 28, 2019
Low Loss Cable	Huber Suner	-	705A009301 EIM	October 1, 2017	October 21, 2018

Figure 18 Test Equipment Used

5. 20dB Minimum Bandwidth

5.1 *Test Specification*

FCC, Part 15, Subpart C: section 15.247(a)(1)

5.2 *Test Procedure*

(Temperature (22°C)/ Humidity (57%RH))
The E.U.T operation mode and test set-up are as described in Section 2 of this report.
The E.U.T was tested in the chamber, and placed on a remote-controlled turntable.
The E.U.T was placed on a non-metallic table, 1.5 meters above the ground and 3 meter distance from testing antenna.
The spectrum analyzer was set to the following parameters:
Span = ~ 2 to 3 times the 20 dB bandwidth, centered on a hopping channel RBW ≥ 1% of the 20 dB bandwidth
Detector Function: Peak, Trace: Maximum Hold.

5.3 *Test Limit*

N/A

5.4 *Test Results*

modulation	Operation Frequency	Bandwidth Reading
(STD/EDR)	(MHz)	(kHz)
STD	2402.0	874.3
	2440.0	882.2
	2480.0	802.4
EDR	2402.0	1335.5
	2440.0	1269.5
	2480.0	1305.4

Figure 19 Test Results

JUDGEMENT: Passed

For additional information see *Figure 20* to *Figure 25*.

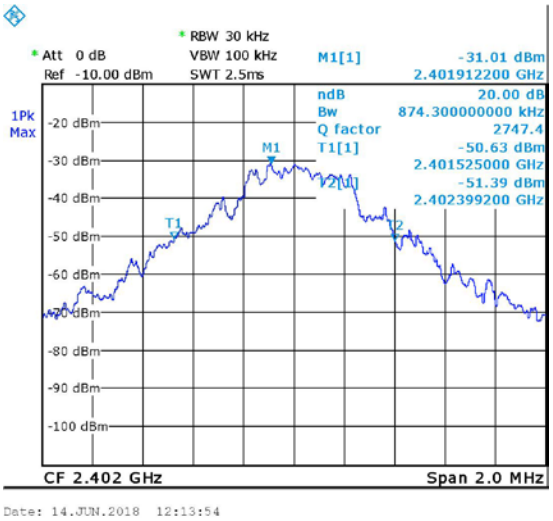

Figure 20. 2402MHz, STD

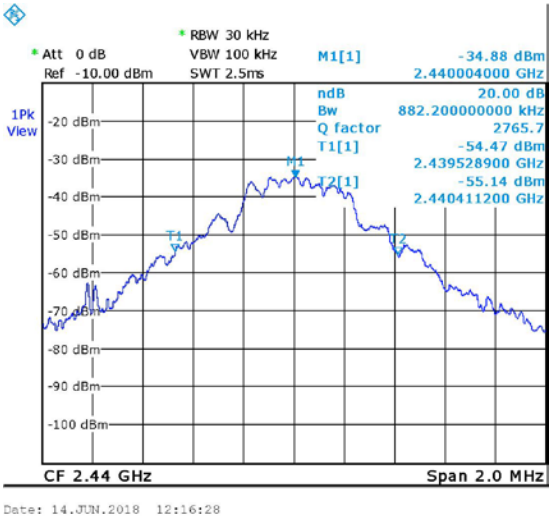

Figure 21. 2440MHz, STD

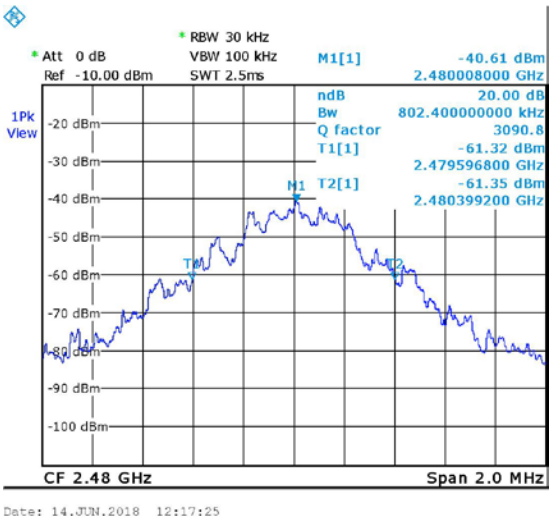

Figure 22. 2480MHz, STD

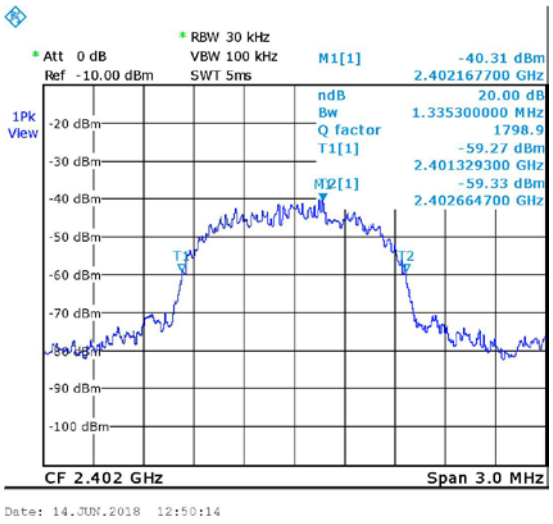

Figure 23. 2402MHz, EDR

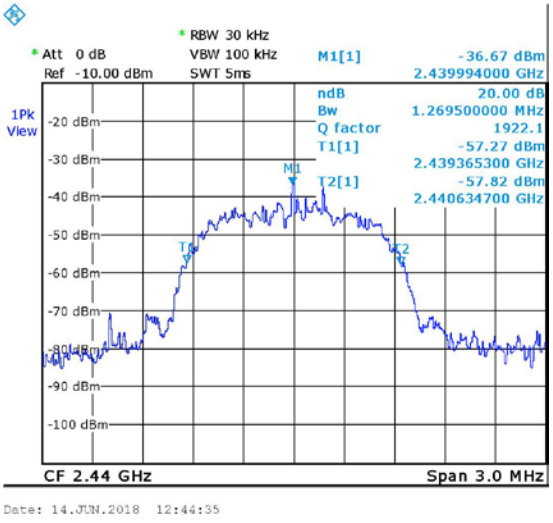

Figure 24. 2440MHz, EDR

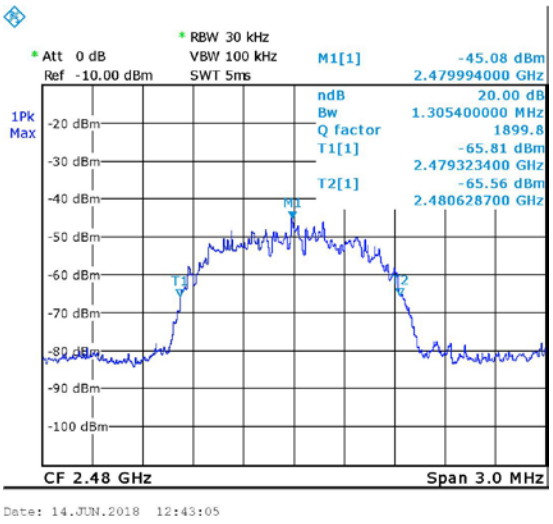

Figure 25. 2480MHz, EDR

5.5 *Test Equipment Used, 20 dB Minimum Bandwidth*

Instrument	Manufacturer	Model	Serial No.	Last Calibration Date	Next Calibration Due
Spectrum Analyzer	R&S	FSL6	100194	February 19, 2018	February 19, 2019
Horn Antenna	ETS	3115	6142	May 31, 2018	May 31, 2021
RF Cable	Commscope ORS	0623 WBC-400	G020132	October 1, 2017	October 31, 2018
Semi Anechoic Civil Chamber	ETS	S81	SL 11643	NCR	NCR

Figure 26 Test Equipment Used

6. Occupied Bandwidth

6.1 *Test Specification*

FCC, Part 15, Subpart C: section 2.1048

6.2 *Test Procedure*

(Temperature (22°C)/ Humidity (57%RH))
The E.U.T operation mode and test set-up are as described in Section 2 of this report.
The E.U.T was tested in the chamber, and placed on a remote-controlled turntable.
The E.U.T was placed on a non-metallic table, 1.5 meters above the ground and 3 meter distance from testing antenna.
The spectrum analyzer was set to the following parameters:
Span between 1.5 times and 5.0 times the OBW.
RBW in the range of 1% to 5% of the OBW.
Detector Function: Peak, Trace: Maximum Hold.
99% occupied bandwidth function set on.

6.3 *Test Limit*

N/A

6.4 *Test Results*

modulation	Operation Frequency	Bandwidth Reading
(STD/EDR)	(MHz)	(kHz)
STD	2402.0	886.2
	2440.0	898.2
	2480.0	916.1
EDR	2402.0	1197.6
	2440.0	1187.6
	2480.0	1197.6

Figure 27 Test Results

JUDGEMENT: Passed

For additional information see to *Figure 28* to *Figure 33.*

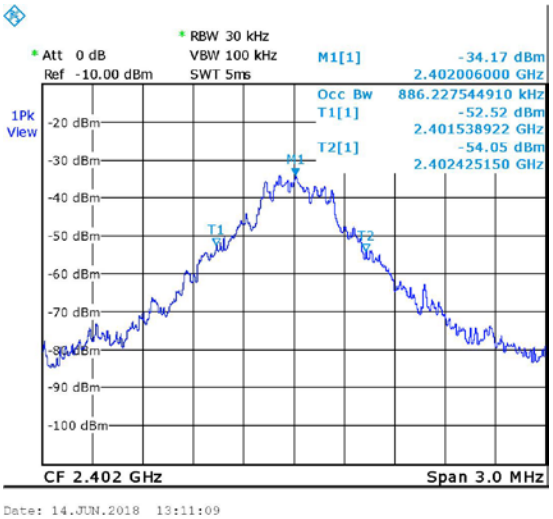

Figure 28. 2402MHz, STD

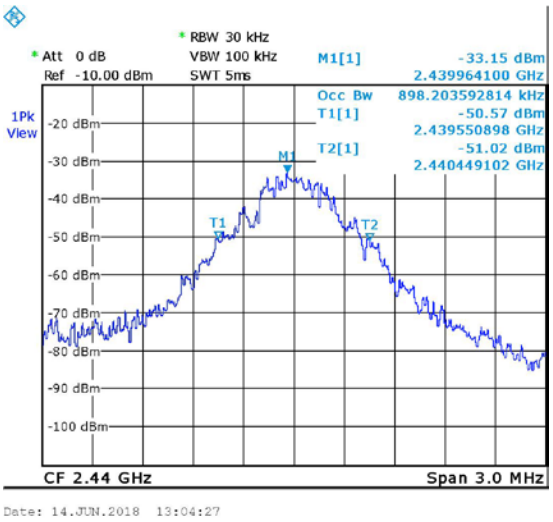

Figure 29. 2440MHz, STD

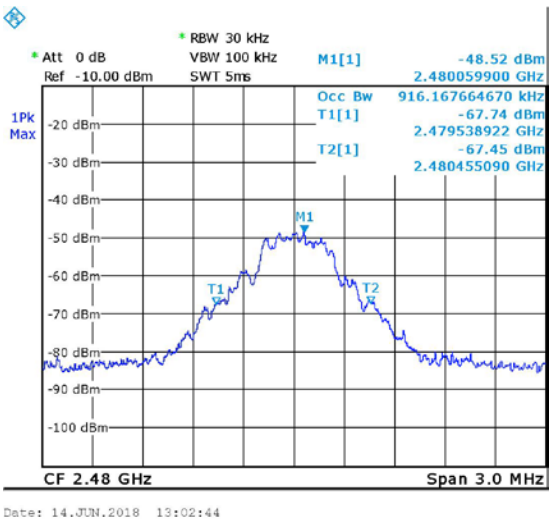

Figure 30. 2480MHz, STD

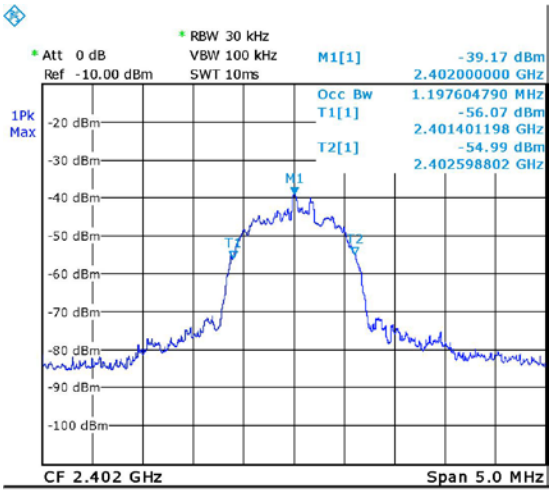

Figure 31. 2402MHz, EDR

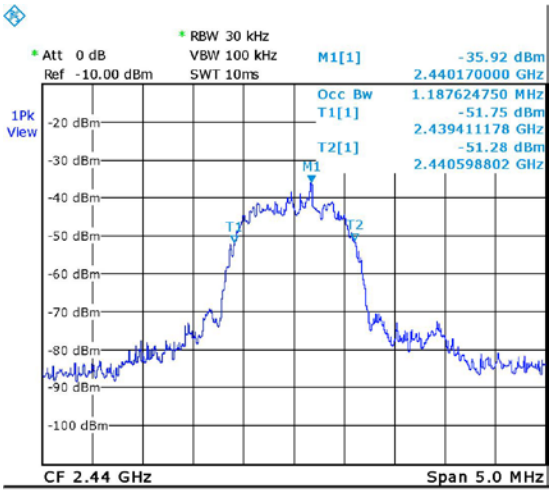

Figure 32. 2440MHz, EDR

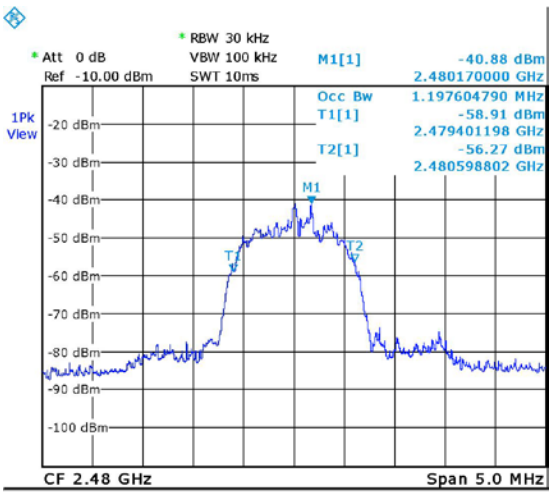

Figure 33. 2480MHz, EDR

6.5 *Test Equipment Used, Occupied Bandwidth*

Instrument	Manufacturer	Model	Serial No.	Last Calibration Date	Next Calibration Due
Spectrum Analyzer	R&S	FSL6	100194	February 19, 2018	February 19, 2019
Horn Antenna	ETS	3115	6142	May 31, 2018	May 31, 2021
RF Cable	Commscope ORS	0623 WBC-400	G020132	October 1, 2017	October 31, 2018
Semi Anechoic Civil Chamber	ETS	S81	SL 11643	NCR	NCR

Figure 34 Test Equipment Used

7. Number of Hopping Frequencies

7.1 *Test Specification*

FCC, Part 15, Subpart C Section 15.247(a)(1)(iii)

7.2 *Test Procedure*

(Temperature (20°C)/ Humidity (62%RH))
The E.U.T operation mode and test set-up are as described in Section 2 of this report.
The E.U.T was tested in the chamber, and placed on a remote-controlled turntable.
The E.U.T was placed on a non-metallic table, 1.5 meters above the ground and 3 meter distance from testing antenna.

The E.U.T. was set to hopping mode.
The spectrum analyzer was set to the following parameters:

Band of Operation: 2400M-2483.5 MHz
RBW: 30 kHz, VBW: 100 kHz
Detector Function: Peak, Trace: Maximum Hold

7.3 *Test Limit*

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15/75 Channels.

7.4 *Test Results*

Modulation	Number of Hopping Frequencies	Limit
STD	79	≥15/75
EDR	79	≥15/75

Figure 35 Test Results

JUDGEMENT: Passed

For additional information see *Figure 36* to *Figure 43.*

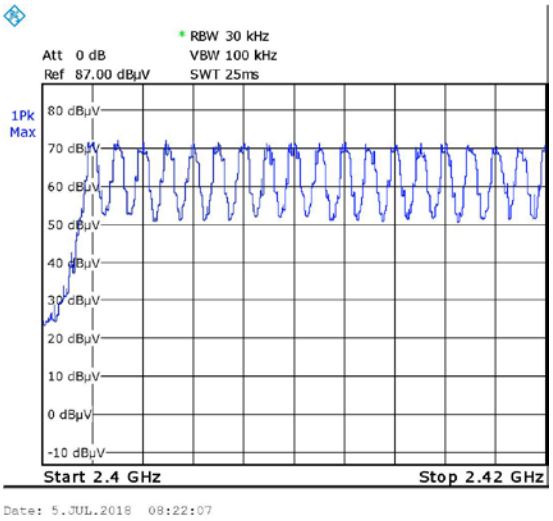

Figure 36. Number of Channels, Band 1, STD

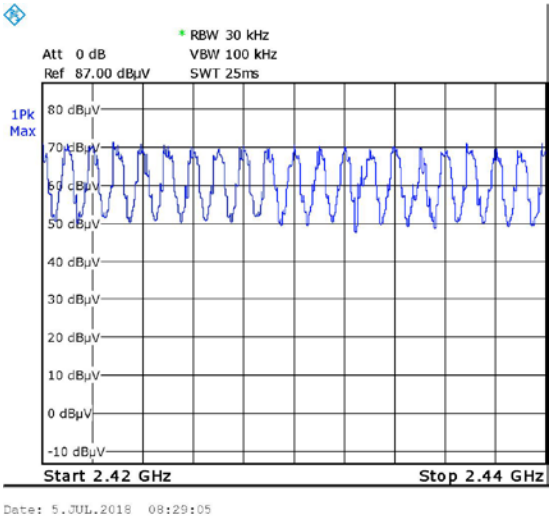

Figure 37. Number of Channels, Band 2, STD

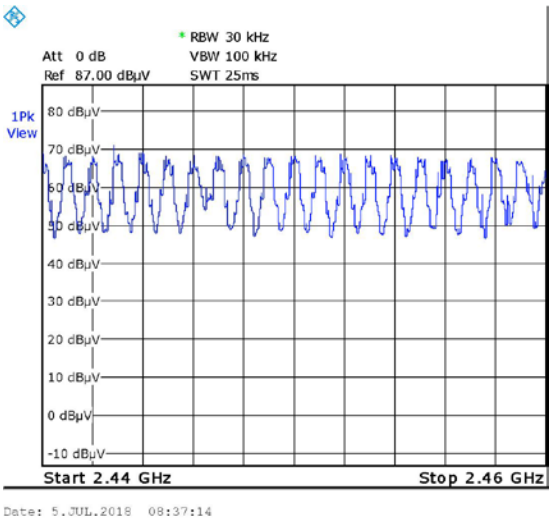

Figure 38. Number of Channels, Band 3, STD

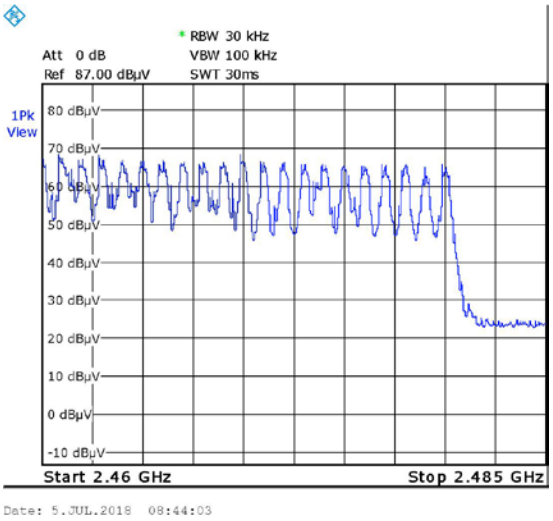

Figure 39. Number of Channels, Band 4, STD

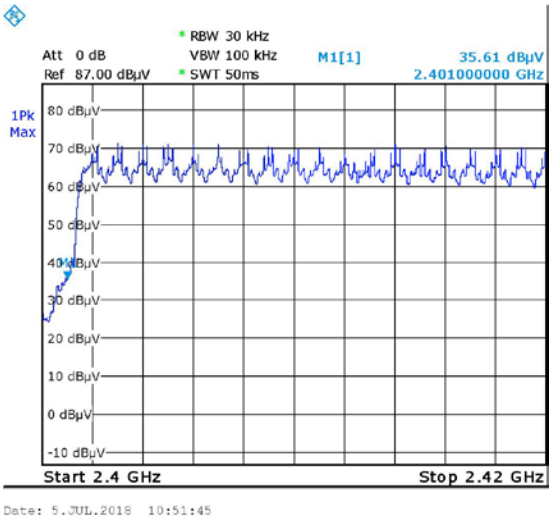

Figure 40. Number of Channels, Band 1, EDR

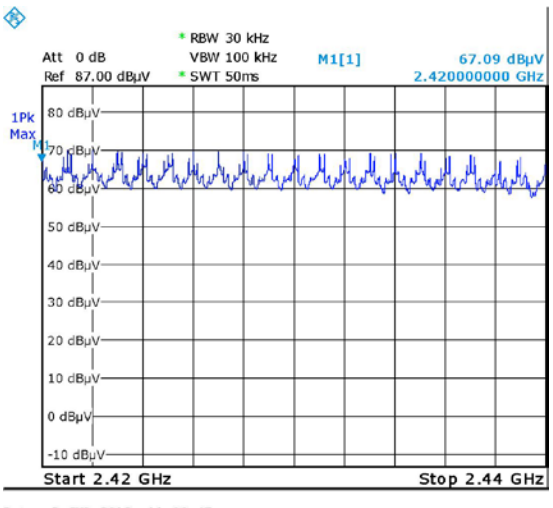

Figure 41. Number of Channels, Band 2, EDR

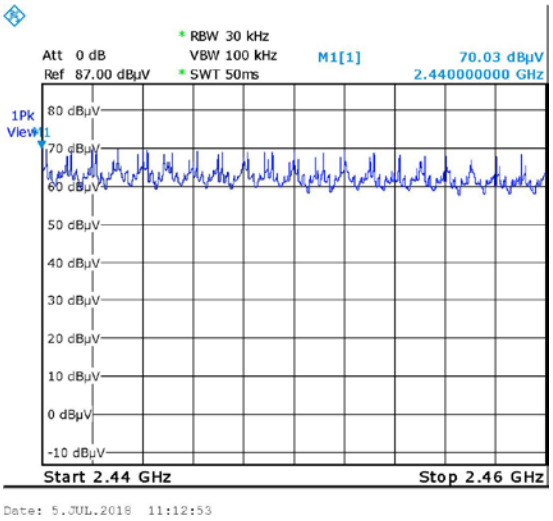

Figure 42. Number of Channels, Band 3, EDR

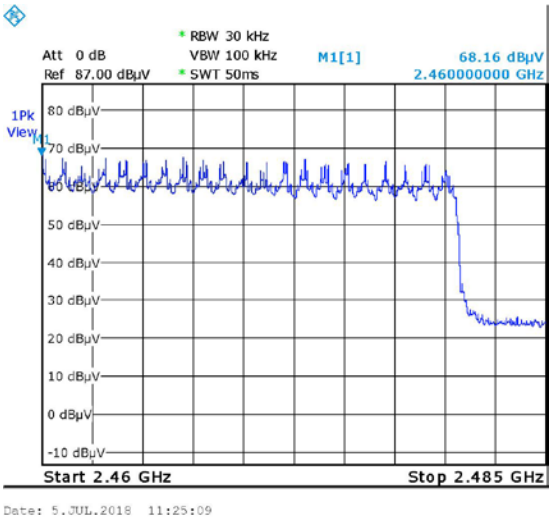

Figure 43. Number of Channels, Band 4, EDR

7.5 *Test Equipment Used, Number of Hopping Frequencies*

Instrument	Manufacturer	Model	Serial No.	Last Calibration Date	Next Calibration Due
EMI Receiver	R&S	FSL6	100194	February 19. 2018	February 19. 2019
Horn Antenna	ETS	3115	6142	May 31, 2018	May 31, 2021
RF Cable	Commscope ORS	0623 WBC-400	G020132	October 1, 2017	October 31, 2018
Semi Anechoic Civil Chamber	ETS	S81	SL 11643	NCR	NCR

Figure 44 Test Equipment Used

8. Channel Frequency Separation

8.1 *Test Specification*

FCC Part 15, Subpart C, 15.247(a) (1)

8.2 *Test Procedure*

(Temperature (22°C)/ Humidity (61%RH))
The E.U.T operation mode and test set-up are as described in Section 2 of this report.
The E.U.T was tested in the chamber, and placed on a remote-controlled turntable.
The E.U.T was placed on a non-metallic table, 1.5 meters above the ground and 3 meter distance from testing antenna.

The E.U.T. was set to hopping mode.

The spectrum analyzer was set to the following parameters:
Span = wide enough to capture two adjacent channels, RBW≥ 1% of the span
Detector Function: Peak, Trace: Maximum Hold.

8.3 *Test Limit*

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

8.4 *Test Results*

Modulation	Channel Frequency Separation	Specification
(STD/EDR)	(kHz)	(kHz)
STD	1083.8	882.2
EDR	1006.0	0.666*1335.5=890.0

Figure 45 Test Results

JUDGEMENT: Passed

For additional information see *Figure 46* and *Figure 47*.

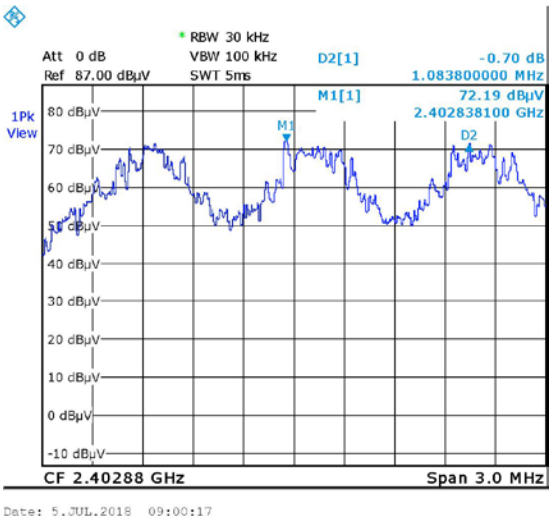

Figure 46. Channel Frequency Separation, STD

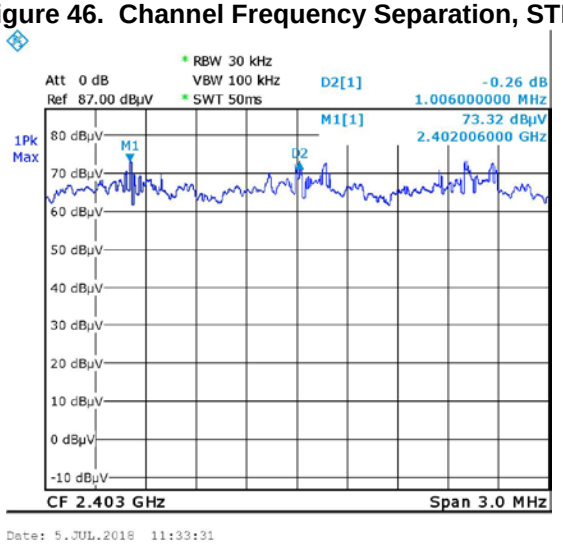

Figure 47. Channel Frequency Separation, EDR

8.5 *Test Equipment Used, Channel Frequency Separation*

Instrument	Manufacturer	Model	Serial No.	Last Calibration Date	Next Calibration Due
Spectrum Analyzer	R&S	FSL6	100194	February 19, 2018	February 19, 2019
Horn Antenna	ETS	3115	6142	May 31, 2018	May 31, 2021
RF Cable	Commscope ORS	0623 WBC-400	G020132	October 1, 2017	October 31, 2018
Semi Anechoic Civil Chamber	ETS	S81	SL 11643	NCR	NCR

Figure 48 Test Equipment Used

9. Peak Output Power

9.1 *Test Specification*

F.C.C. Part 15, Subpart C: section 15.247(b)(1)

9.2 *Test Procedure*

(Temperature (20°C)/ Humidity (62%RH))
The E.U.T operation mode and test set-up are as described in Section 2 of this report.
The E.U.T was tested in the chamber, and placed on a remote-controlled turntable.
The E.U.T was placed on a non-metallic table, 1.5 meters above the ground and 3 meter distance from testing antenna.
The spectrum analyzer was set to the following parameters:
Span = ~5 times the 20 dB bandwidth, centered on a hopping channel
RBW ≥ of the 20 dB bandwidth of the emission being measured
Detector Function: Peak, Trace: Maximum Hold.
Radiated output power levels were measured at selected operation frequencies and the results were converted to power level according to the formula as shown below:

$$P = \frac{(E_{V/m} \times d)^2}{(30 \times G)} \text{ [W]}$$

E - Field Strength (V/m)

d – Distance from transmitter (m)

G – Antenna gain

P – Peak power (W)

9.3 *Test Limit*

The maximum peak conducted output power of the intentional radiator shall not exceed the following: For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts. (The limits above applies to antenna gain until 6dBi).

9.4 *Test Results*

Modulation	Operation Frequency	Pol.	Field Strength	EIRP	Antenna Gain	Conducted Power	Conducted Power	Limit	Margin
(STD/EDR)	(MHz)	(V/H)	(dBuV/m)	(dBm)	(dBi)	(dBm)	(mW)	(mW)	(mW)
STD	2402.0	V	89.8	-5.4	-2.0	-3.4	0.4	1000.0	-999.6
		H	95.7	0.5	-2.0	2.5	1.8	1000.0	-998.2
	2440.0	V	91.6	-3.6	-2.0	-1.6	0.7	1000.0	-999.3
		H	96.2	1.0	-2.0	3.0	2.0	1000.0	-998.0
	2480.0	V	94.7	-0.5	-2.0	1.5	1.4	1000.0	-998.6
		H	97.1	1.9	-2.0	3.9	2.4	1000.0	-997.6
EDR	2402.0	V	91.7	-3.5	-2.0	-1.5	0.7	1000.0	-999.3
		H	96.3	1.1	-2.0	3.1	2.0	1000.0	-998.0
	2440.0	V	92.9	-2.3	-2.0	-0.3	0.9	1000.0	-999.1
		H	96.8	1.6	-2.0	3.6	2.3	1000.0	-997.7
	2480.0	V	94.6	-0.6	-2.0	1.4	1.4	1000.0	-998.6
		H	96.3	1.1	-2.0	3.1	2.0	1000.0	-998.0

Figure 49 Radiated Power Output Test Results

JUDGEMENT: Passed by-997.6 mW

For additional information see *Figure 50* to *Figure 61*.

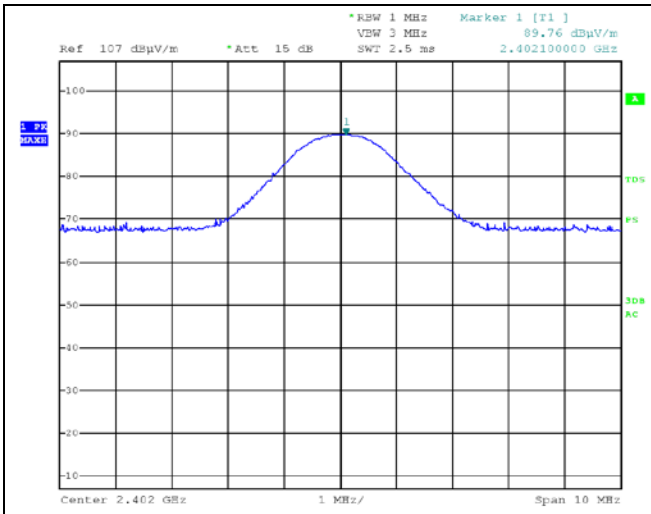

Figure 50 2402MHz, Vertical, basic

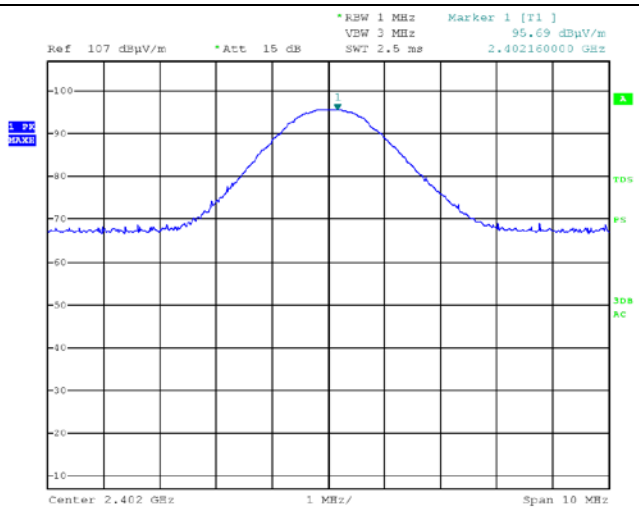

Figure 51 2402MHz, Horizontal, basic

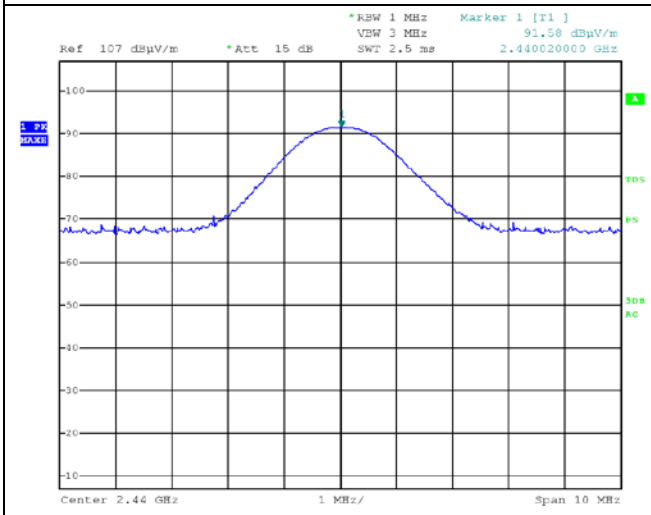

Figure 52 2440MHz, Vertical, basic

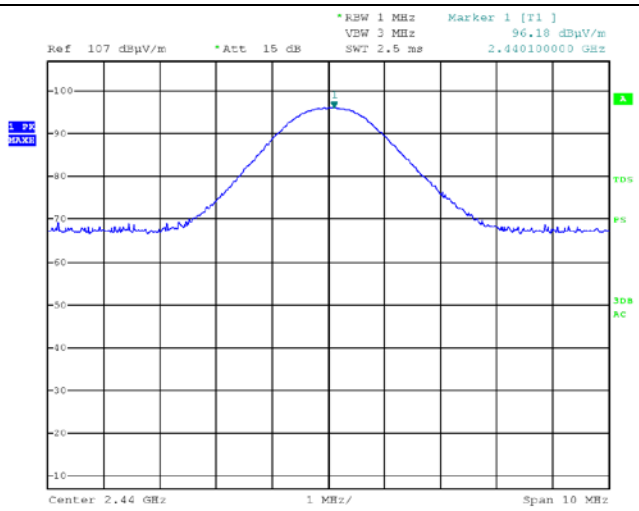

Figure 53 2440MHz, Horizontal, basic

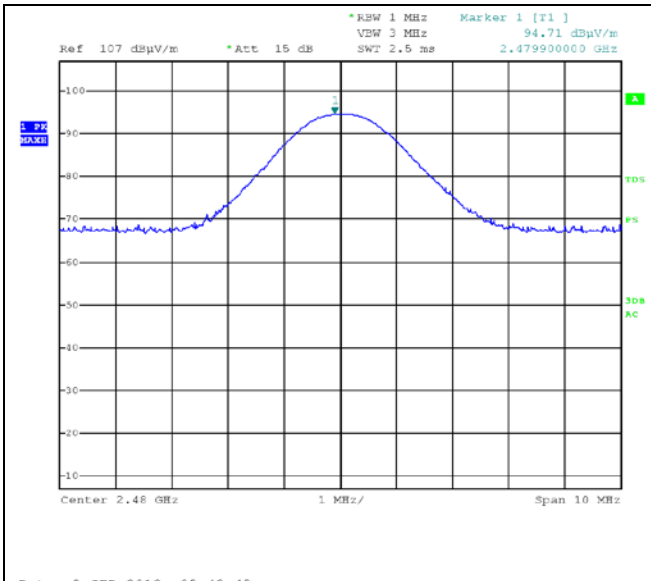

Figure 54 2480MHz, Vertical, basic

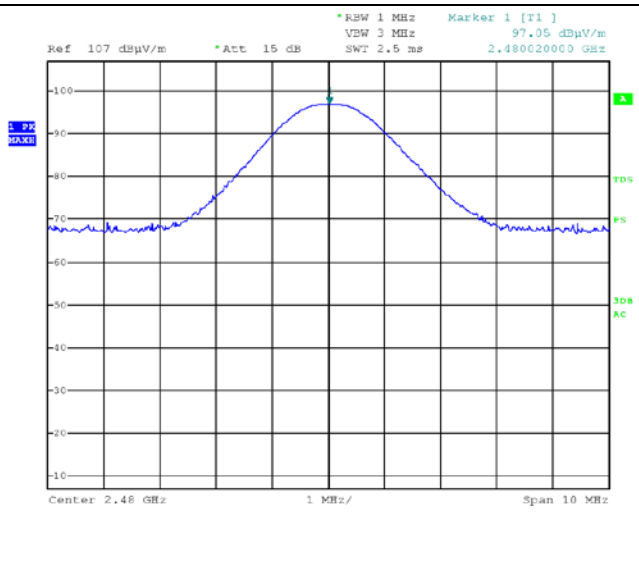

Figure 55 2480MHz, Horizontal, basic

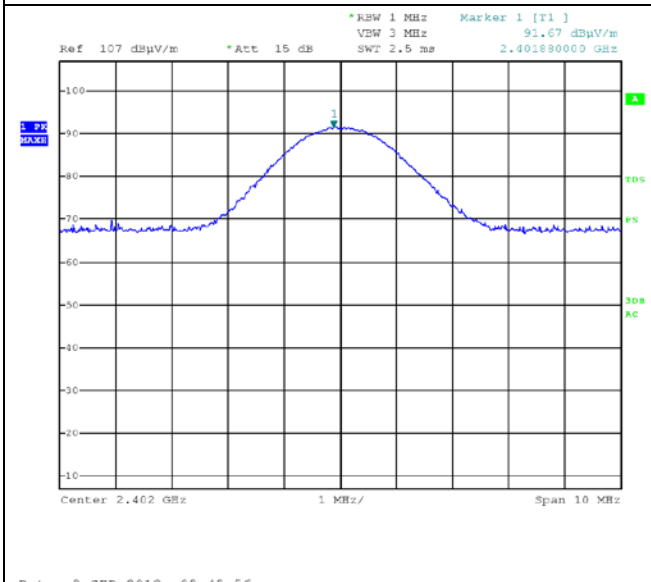

Figure 56 2402MHz, Vertical, EDR

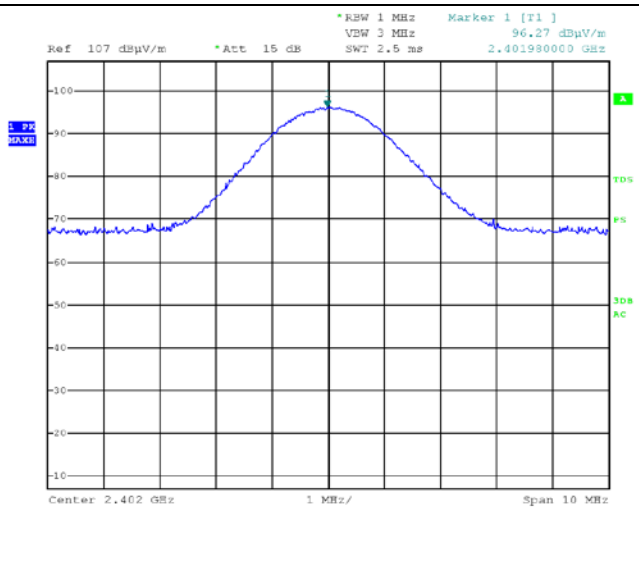

Figure 57 2402MHz, Horizontal, EDR

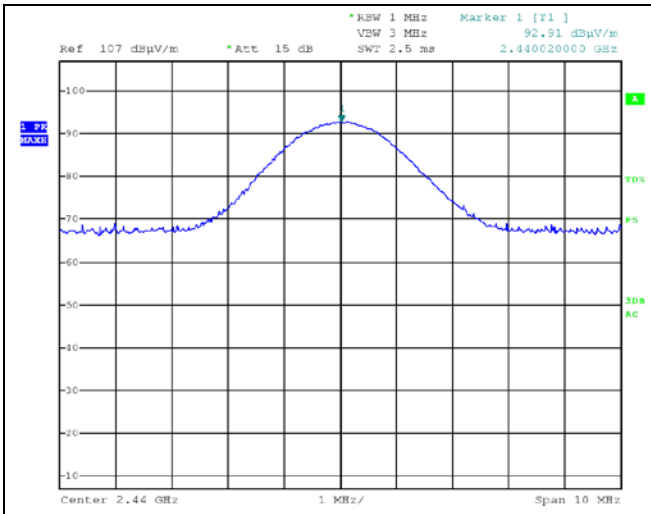

Figure 58 2440MHz, Vertical, EDR

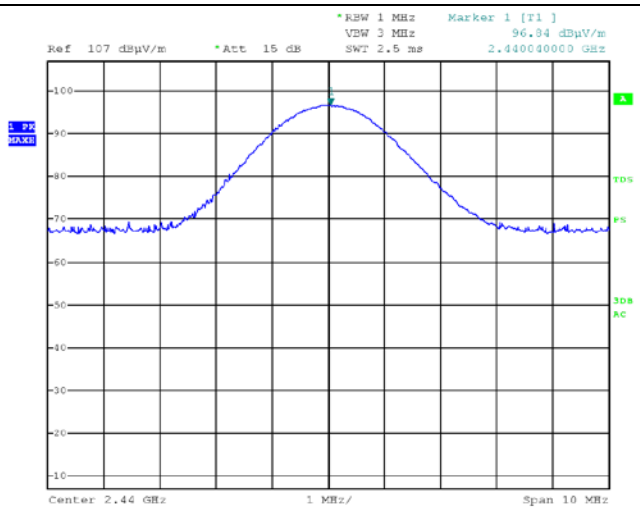

Figure 59 2440MHz, Horizontal, EDR

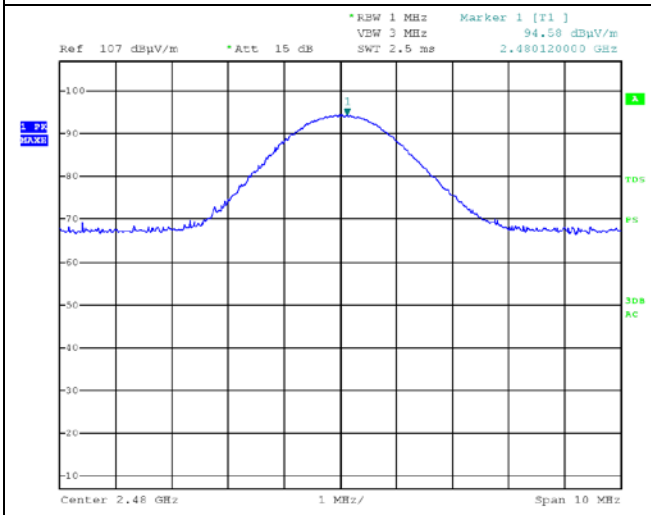

Figure 60 2480MHz, Vertical, EDR

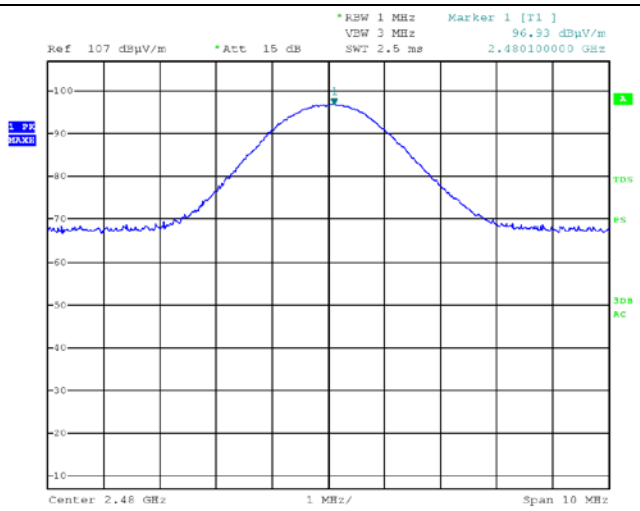

Figure 61 2480MHz, Horizontal, EDR

9.5 *Test Equipment Used, Peak Output Power*

Instrument	Manufacturer	Model	Serial No.	Last Calibration Date	Next Calibration Due
EMI Receiver	R&S	ESCI7	100724	February 19, 2018	February 28, 2019
Horn Antenna	ETS	3115	6142	May 31, 2018	May 31, 2021
RF Cable	Commscope ORS	0623 WBC-400	G020132	October 1, 2017	October 31, 2018
Semi Anechoic Civil Chamber	ETS	S81	SL 11643	NCR	NCR

Figure 62 Test Equipment Used

10. Dwell Time on Each Channel

10.1 *Test Specification*

FCC Part 15, sub part C, Section 15.247(a)(1)(iii)

10.2 *Test Procedure*

(Temperature (22°C)/ Humidity (61%RH))
The E.U.T operation mode and test set-up are as described in Section 2 of this report.
The E.U.T was tested in the chamber, and placed on a remote-controlled turntable.
The E.U.T was placed on a non-metallic table, 1.5 meters above the ground and 3 meter distance from testing antenna.
The spectrum analyzer was set to the following parameters:
Span = zero span, centered on a hopping channel, RBW≥ 1MHz
Detector Function: Peak, Trace: Maximum Hold

10.3 *Test Limit*

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

10.4 *Test Results*

JUDGEMENT: Passed

The E.U.T met the requirements of the FCC Part 15, Section 15.247(a)(1)(i).

Additional information of the results is given in *Figure 63* to *Figure 66.*

Results for STD:

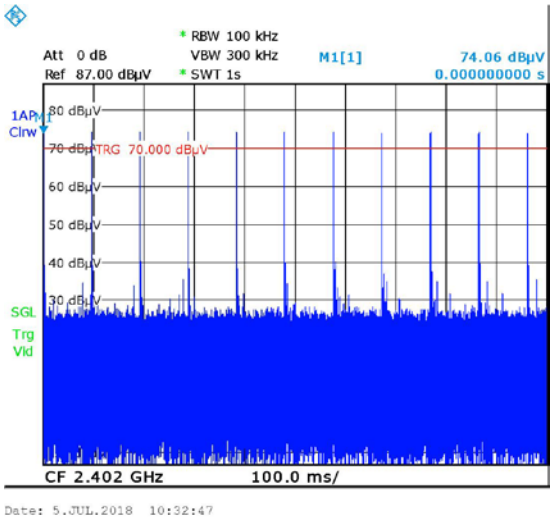

Figure 63 Number of Bursts in 1 sec=11

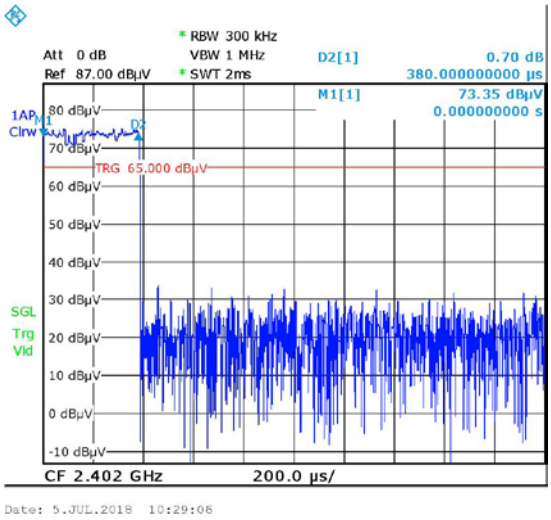

Figure 64 Burst Duration =0.38msec

DWELL TIME (31.6*11)*0.38m= 132msec<400msec

Results for EDR:

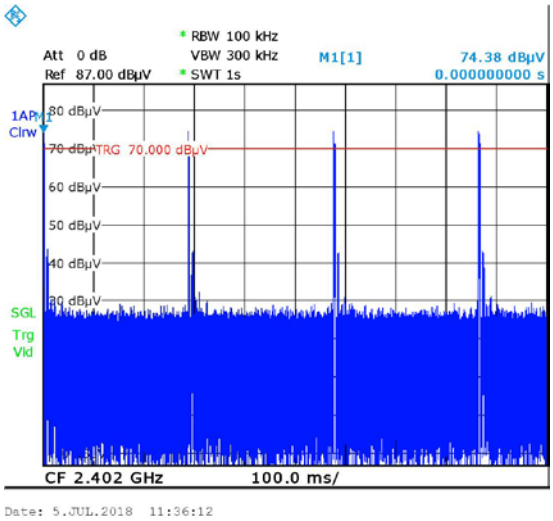

Figure 65 — Number of Bursts in 1 sec=4

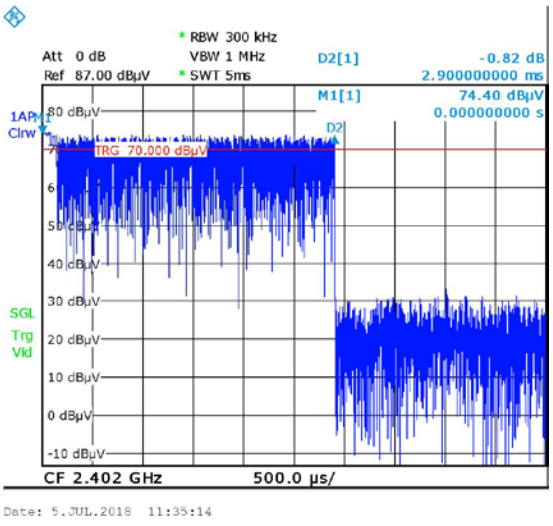

Figure 66 — Burst Duration =2.9msec

DWELL TIME = (31.6*4)*2.9m = 366.6msec<400msec

10.5 *Test Equipment Used, Dwell Time on Each Channel*

Instrument	Manufacturer	Model	Serial No.	Last Calibration Date	Next Calibration Due
Spectrum Analyzer	R&S	FSL6	100194	February 19, 2018	February 19, 2019
Horn Antenna	ETS	3115	6142	May 31, 2018	May 31, 2021
RF Cable	Commscope ORS	0623 WBC-400	G020132	October 1, 2017	October 31, 2018
Semi Anechoic Civil Chamber	ETS	S81	SL 11643	NCR	NCR

Figure 67 Test Equipment Used

11. Band Edge

11.1 *Test Specification*

FCC Part 15, Section 15.247(d)

11.2 *Test Procedure*

(Temperature (20°C)/ Humidity (61%RH))
The E.U.T operation mode and test set-up are as described in Section 2 of this report.
The E.U.T was tested in the chamber, and placed on a remote-controlled turntable.
The E.U.T was placed on a non-metallic table, 1.5 meters above the ground and 3 meter distance from testing antenna.
The transmitter unit operated in 2 modes: hopping enabled and hopping disabled.
The RBW was set to 100 kHz.

The EMI receiver was adjusted to the transmission channel at the maximum level.
The display line was set to 20 dBc and the EMC analyzer was set to the band edge frequencies.

The E.U.T. was tested at the lower and the upper channels.

11.3 *Test Limit*

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.

11.4 *Test Results*

Modulation	Mode	Operation Frequency	Band Edge Frequency	Spectrum Level	Limit	Margin
(STD/EDR)	(Hopping/ Non-Hopping)	(MHz)	(MHz)	(dBuV/m)	(dBuV/m)	(dB)
STD	Hopping	2402-2480	2400.0	29.3	54.0	-24.7
			2483.5	28.1	47.6	-19.5
	Non-Hopping	2402.0	2400.0	28.4	61.7	-33.3
		2480.0	2483.5	28.6	51.5	-22.9
EDR	Hopping	2402-2480	2400.0	27.7	53.4	-25.7
			2483.5	28.4	44.0	-15.6
	Non-Hopping	2402.0	2400.0	29.7	60.0	-30.3
		2480.0	2483.5	26.4	67.8	-41.4

Figure 68 Band Edge Test Results

JUDGEMENT: Passed by 15.6

For additional information see *Figure 69* to *Figure 76.*

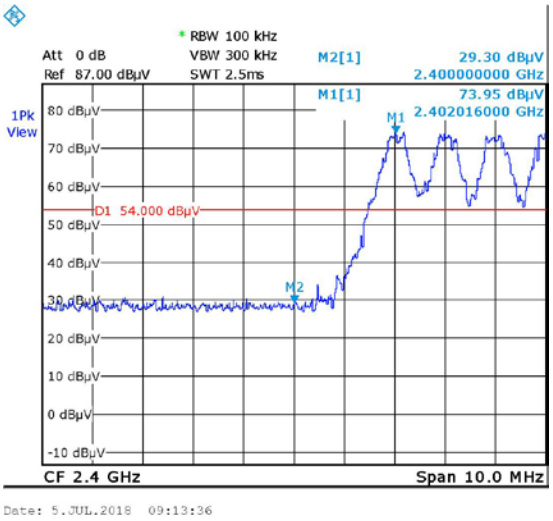

Figure 69 Hopping, Band Edge Low, STD

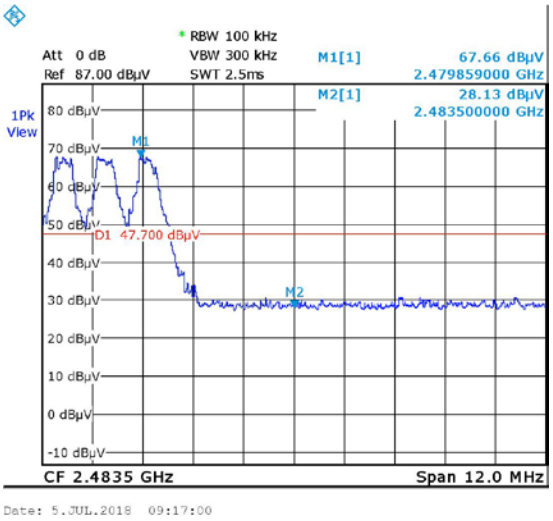

Figure 70 Hopping, Band Edge High, STD

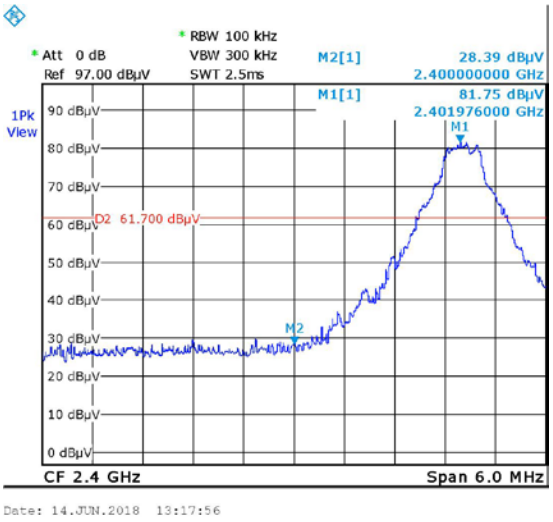

Figure 71 Non-Hopping, Band Edge Low, STD

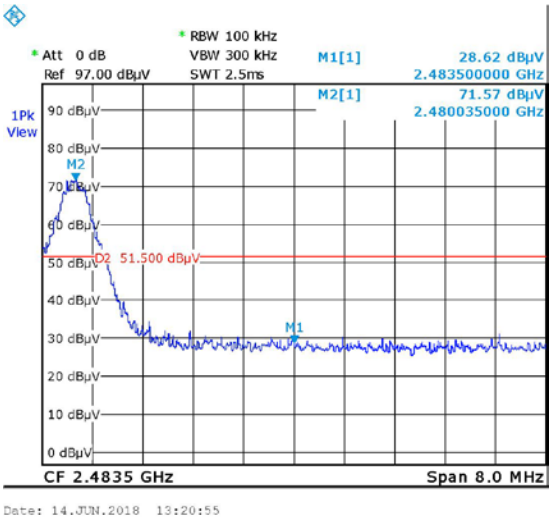

Figure 72 Non-Hopping, Band Edge High, STD

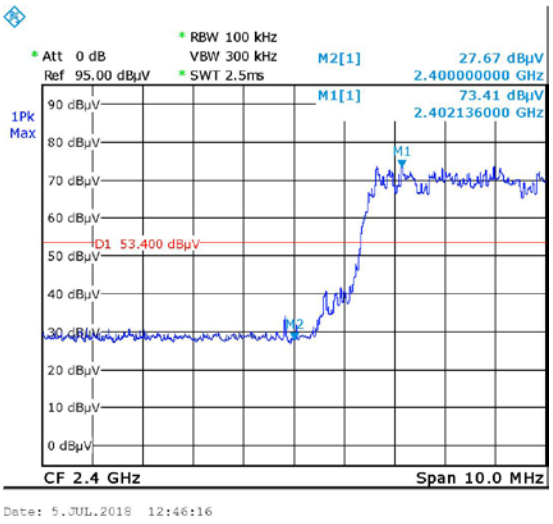

Figure 73 Hopping, Band Edge Low, EDR

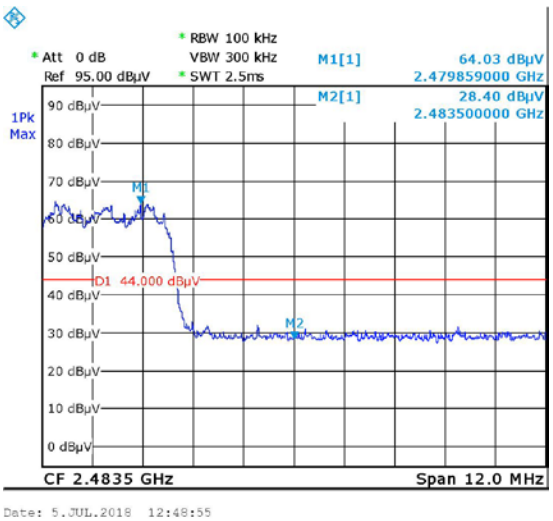

Figure 74 Hopping, Band Edge High, EDR

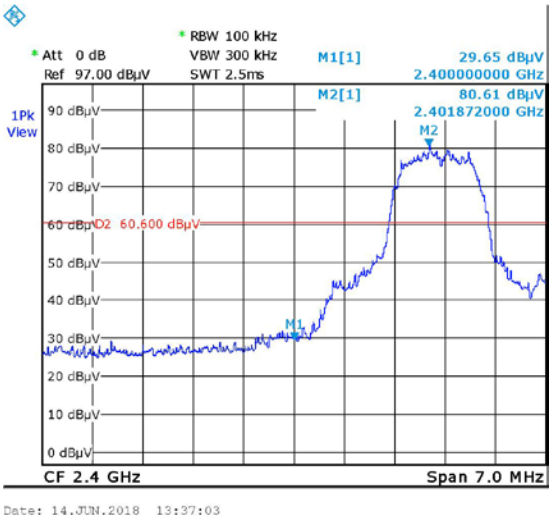

Figure 75 Non-Hopping, Band Edge Low, EDR

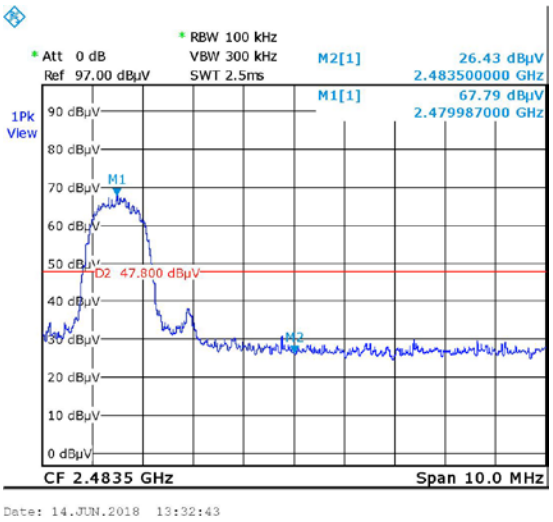

Figure 76 Non-Hopping, Band Edge High, EDR

11.5 *Test Equipment Used, Band Edge*

Instrument	Manufacturer	Model	Serial No.	Last Calibration Date	Next Calibration Due
Spectrum Analyzer	R&S	FSL6	100194	February 19, 2018	February 19, 2019
Horn Antenna	ETS	3115	6142	May 31, 2018	May 31, 2021
RF Cable	Commscope ORS	0623 WBC-400	G020132	October 1, 2017	October 31, 2018
Semi Anechoic Civil Chamber	ETS	S81	SL 11643	NCR	NCR

Figure 77 Test Equipment Used

12. Emissions in Non-Restricted Frequency Bands

12.1 *Test Specification*

FCC, Part 15, Subpart C, Section 247(d)

12.2 *Test Procedure*

(Temperature (20°C)/ Humidity (61%RH))
The E.U.T. operation mode and test set-up are as described in Section 2 of this report.

For measurements between 0.009MHz-30MHz:

The E.U.T was tested inside the shielded room at a distance of 3 meters and the E.U.T was placed on a non-metallic table, 0.8 meters above the ground. The frequency range 0.009MHz-30MHz was scanned. The readings were maximized by the turntable azimuth between 0-360°, and the antenna polarization.
The emissions were measured at a distance of 3 meters.

For measurements between 30.0MHz-1.0GHz:
A preliminary measurement to characterize the E.U.T was performed inside the shielded room at a distance of 3 meters, using peak detection mode and broadband antennas. The preliminary measurements produced a list of the highest emissions. The E.U.T was then transferred to the open site, and placed on a remote-controlled turntable. The E.U.T was placed on a non-metallic table, 0.8 meters above the ground. The frequency range 30.0MHz -1.0GHz was scanned and the list of the highest emissions was verified and updated accordingly.
The readings were maximized by adjusting the antenna height between 1-4 meters, the turntable azimuth between 0-360°, and the antenna polarization.
The emissions were measured at a distance of 3 meters.

For measurements between 1.0GHz-25.0GHz:

The E.U.T was tested inside the shielded room at a distance of 3 meters and the E.U.T was placed on a non-metallic table, 1.5 meters above the ground. The frequency range 1.0GHz -25.0GHz was scanned. The readings were maximized by the turntable azimuth between 0-360°, and the antenna polarization.
The emissions were measured at a distance of 3 meters.

RBW was set to 100kHz, detector set to max peak and trace to “max hold”

12.3 *Test Limit*

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.

12.4 *Test Results*

JUDGEMENT: Passed

The EUT met the requirements of the F.C.C. Part 15, Subpart C, Section 247 (d) specification.

All detected emissions were greater than 20dBc below the fundamental level.

12.5 *Test Equipment Used, Emissions in Non -Restricted Frequency Bands*

Instrument	Manufacturer	Model	Serial No.	Last Calibration Date	Next Calibration Due
EMI Receiver	R&S	ESCI7	100724	February 19, 2018	February 19, 2019
EMI Receiver	HP	8542E	3906A00276	February 19, 2018	February 19, 2019
RF Filter Section	HP	85420E	3705A00248	February 19, 2018	February 19, 2019
Spectrum Analyzer	HP	8593EM	3536A00120 ADI	February 20, 2018	February 20, 2019
Biconical Antenna	EMCO	3110B	9912-3337	May 15, 2017	May 15, 2019
Log Periodic Antenna	EMCO	3146	9505-4081	May 31, 2018	May 31, 2019
Horn Antenna	ETS	3115	29845	May 31, 2018	May 31 2021
Horn Antenna	ARA	SWH-28	1007	December 13, 2017	December 13, 2020
Active Loop Antenna	EMCO	6502	9506-2950	October 19, 2018	October 31, 2019
MicroWave System Amplifier	HP	83006A	3104A00589	October 1, 2018	October 31, 2019
Low Noise Amplifier 1GHz-18GHz	Miteq	AFSX4-02001800-50-8P	-	October 1, 2018	October 31, 2019
RF Cable Chamber	Commscope ORS	0623 WBC-400	G020132-	October 1, 2018	October 31, 2019
RF Cable Oats	EIM	RG214-11N(X2)	-	August 13, 2018	August 31, 2019
High Pass Band Filter	Meuro	MFL040120H50	902252	October 1, 2018	October 31, 2019
Semi Anechoic Civil Chamber	ETS	S81	SL 11643	NCR	NCR
Antenna Mast	ETS	2070-2	9608-1497	NCR	NCR
Turntable	ETS	2087	-	NCR	NCR
Mast & Table Controller	ETS/EMCO	2090	9608-1456	NCR	NCR

Figure 78 Test Equipment Used

13. Emissions in Restricted Frequency Bands

13.1 *Test Specification*

FCC, Part 15, Subpart C, Sections 247(d), 15.205, 15.209

13.2 *Test Procedure*

(Temperature (22°C)/ Humidity (62%RH))
The E.U.T. operation mode and test set-up are as described in Section 2 of this report.

For measurements between 0.009MHz-30MHz:

The E.U.T was tested inside the shielded room at a distance of 3 meters and the E.U.T was placed on a non-metallic table, 0.8 meters above the ground. The frequency range 0.009MHz-30MHz was scanned. The readings were maximized by the turntable azimuth between 0-360°, and the antenna polarization.
The emissions were measured at a distance of 3 meters.

For measurements between 30.0MHz-1.0GHz:
A preliminary measurement to characterize the E.U.T was performed inside the shielded room at a distance of 3 meters, using peak detection mode and broadband antennas. The preliminary measurements produced a list of the highest emissions. The E.U.T was then transferred to the open site, and placed on a remote-controlled turntable. The E.U.T was placed on a non-metallic table, 0.8 meters above the ground. The frequency range 30.0MHz -1.0GHz was scanned and the list of the highest emissions was verified and updated accordingly.
The readings were maximized by adjusting the antenna height between 1-4 meters, the turntable azimuth between 0-360°, and the antenna polarization.
The emissions were measured at a distance of 3 meters.

For measurements between 1.0GHz-25.0GHz:

The E.U.T was tested inside the shielded room at a distance of 3 meters and the E.U.T was placed on a non-metallic table, 1.5 meters above the ground. The frequency range 1.0GHz -25.0GHz was scanned. The readings were maximized by the turntable azimuth between 0-360°, and the antenna polarization.
The emissions were measured at a distance of 3 meters.

The levels of the emissions within the frequency ranges of the restricted bands (Section 15.205 of FCC Part 15) were compared to the limits of the table in Section 15.209 (a), General Requirements.

13.3 *Test Limit*

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))

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)	Field strength* (dBµV/m)	Field strength* (dBµV/m)@3m
0.009-0.490	2400/F(kHz)	300	48.5-13.8	128.5-73.8
0.490-1.705	24000/F(kHz)	30	33.8-23.0	73.8-63.0
1.705-30.0	30	30	29.5	69.5
30-88	100	3	40.0	40.0
88-216	150	3	43.5	43.5
216-960	200	3	46.0	46.0
Above 960	500	3	54.0	54.0

*The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector. For average radiated emission measurements above 1000 MHz, there is also a limit corresponding to 20 dB above the indicated values in the table is specified when measuring with peak detector function.

13.4 *Test Results*

JUDGEMENT: Passed

The EUT met the requirements of the F.C.C. Part 15, Subpart C 209 specification.

For additional information see *Figure 79* and *Figure 80.*

Radiated Emission

E.U.T Description Wearable Camera, Vision System
Type MyEye2, Revision B
Serial Number: 181600023

Specification: FCC, Part 15, Subpart C, Sections 15.209, 15.205, 15.247(d)

Antenna Polarization: Horizontal/Vertical
Frequency Range: 9 kHz to 25.0 GHz
Modulation: STD
Detector: Peak, Average

Operation Frequency	Freq.	Pol.	Peak Reading	Peak Limit	Peak Margin	Average Reading	Average Limit	Average Margin
(MHz)	(MHz)	(H/V)	(dBµV/m)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV/m)	(dB)
2402.0	2390.0	V	64.7	74.0	-9.3	22.4	54.0	-31.6
	2390.0	H	64.6	74.0	-9.4	22.3	54.0	-31.7
	7206.0	V	64.7	74.0	-9.3	22.4	54.0	-31.6
	7206.0	H	67.6	74.0	-6.4	25.3	54.0	-28.7
2440.0	4880.0	V	45.8	74.0	-28.2	3.5	54.0	-50.5
	4880.0	H	54.3	74.0	-19.7	12.0	54.0	-42.0
	7320.0	V	61.7	74.0	-12.3	19.4	54.0	-34.6
	7320.0	H	68.2	74.0	-5.8	25.9	54.0	-28.1
2480.0	7440.0	V	68.2	74.0	-5.8	25.9	54.0	-28.1
	7440.0	H	62.9	74.0	-11.1	20.6	54.0	-33.4
	2483.5	V	64.7	74.0	-9.3	22.4	54.0	-31.6
	2483.5	H	64.5	74.0	-9.5	22.2	54.0	-31.8

Figure 79. Radiated Emission Results

Margin refers to the test results obtained minus specified requirement; thus a positive number indicates failure, and a negative result indicates that the product passes the test.

"Peak Amp" includes correction factor.

* "Correction Factor" = Antenna Factor + Cable Loss- Low Noise Amplifier Gain

Radiated Emission

E.U.T Description Wearable Camera, Vision System
Type MyEye2, Revision B
Serial Number: 181600023

Specification: FCC, Part 15, Subpart C, Sections 15.209, 15.205, 15.247(d)

Antenna Polarization: Horizontal/Vertical
Frequency range: 9 kHz to 25.0 GHz
Modulation: EDR
Detector: Peak, Average

Operation Frequency	Freq.	Pol.	Peak Reading	Peak Limit	Peak Margin	Average Reading	Average Limit	Average Margin
(MHz)	(MHz)	(H/V)	(dBµV/m)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV/m)	(dB)
2402.0	2390.0	V	64.5	74.0	-9.5	33.8	54.0	-20.2
	2390.0	H	64.8	74.0	-9.2	34.1	54.0	-19.9
	7206.0	V	64.3	74.0	-9.7	33.6	54.0	-20.4
	7206.0	H	66.0	74.0	-8.0	35.3	54.0	-18.7
2440.0	4880.0	V	44.9	74.0	-29.1	14.2	54.0	-39.8
	4880.0	H	46.3	74.0	-27.7	15.6	54.0	-38.4
	7320.0	V	67.6	74.0	-6.4	36.9	54.0	-17.1
	7320.0	H	70.1	74.0	-3.9	39.4	54.0	-14.6
2480.0	7440.0	V	70.5	74.0	-3.5	39.8	54.0	-14.2
	7440.0	H	67.9	74.0	-6.1	37.2	54.0	-16.8
	2483.5	V	64.8	74.0	-9.2	34.1	54.0	-19.9
	2483.5	H	64.6	74.0	-9.4	33.9	54.0	-20.1

Figure 80. Radiated Emission Results

Margin refers to the test results obtained minus specified requirement; thus a positive number indicates failure, and a negative result indicates that the product passes the test.

"Peak Amp" includes correction factor.

* "Correction Factor" = Antenna Factor + Cable Loss- Low Noise Amplifier Gain

13.5 *Test Equipment Used, Emissions in Restricted Frequency Bands*

Instrument	Manufacturer	Model	Serial No.	Last Calibration Date	Next Calibration Due
EMI Receiver	R&S	ESCI7	100724	February 19, 2018	February 19, 2019
EMI Receiver	HP	8542E	3906A00276	February 19, 2018	February 19, 2019
RF Filter Section	HP	85420E	3705A00248	February 19, 2018	February 19, 2019
Spectrum Analyzer	HP	8593EM	3536A00120 ADI	February 20, 2018	February 20, 2019
Biconical Antenna	EMCO	3110B	9912-3337	May 15, 2017	May 15, 2019
Log Periodic Antenna	EMCO	3146	9505-4081	May 31, 2018	May 31, 2019
Horn Antenna	ETS	3115	29845	May 31, 2018	May 31 2021
Horn Antenna	ARA	SWH-28	1007	December 13, 2017	December 13, 2020
Active Loop Antenna	EMCO	6502	9506-2950	October 19, 2018	October 31, 2019
MicroWave System Amplifier	HP	83006A	3104A00589	October 1, 2018	October 31, 2019
Low Noise Amplifier 1GHz-18GHz	Miteq	AFSX4-02001800-50-8P	-	October 1, 2018	October 31, 2019
RF Cable Chamber	Commscope ORS	0623 WBC-400	G020132-	October 1, 2018	October 31, 2019
RF Cable Oats	EIM	RG214-11N(X2)	-	August 13, 2018	August 31, 2019
High Pass Band Filter	Meuro	MFL040120H50	902252	October 1, 2018	October 31, 2019
Semi Anechoic Civil Chamber	ETS	S81	SL 11643	NCR	NCR
Antenna Mast	ETS	2070-2	9608-1497	NCR	NCR
Turntable	ETS	2087	-	NCR	NCR
Mast & Table Controller	ETS/EMCO	2090	9608-1456	NCR	NCR

Figure 81 Test Equipment Used

14. Avg. Factor Calculation

1. Pulse period = 1 (worst scenario)
2. Pulse duration = 1 (worst scenario)
3. Basic Burst duration = 0.38msec
4. EDR Burst duration= 2.9msec

5. $$\text{Average Factor} = 20\log\left[\frac{\text{Pulse duration}}{\text{Pulse period}} \times \frac{\text{burst duration}}{100\text{msec}} \times \text{Num of burst within } 100\text{msec}\right]$$

6. STD Average factor = -42.3

7. EDR Average factor = -30.7

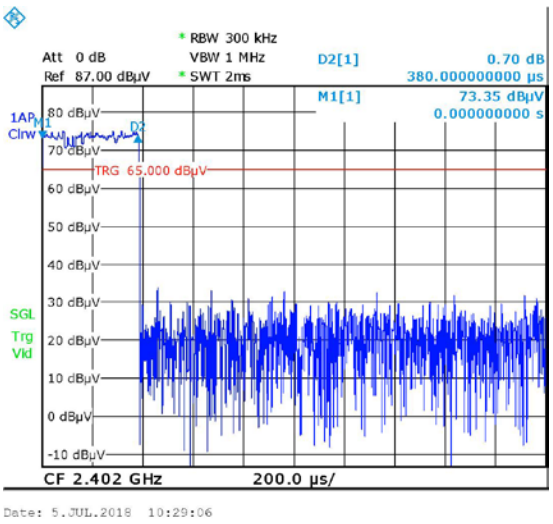

Figure 82. Burst Duration, STD

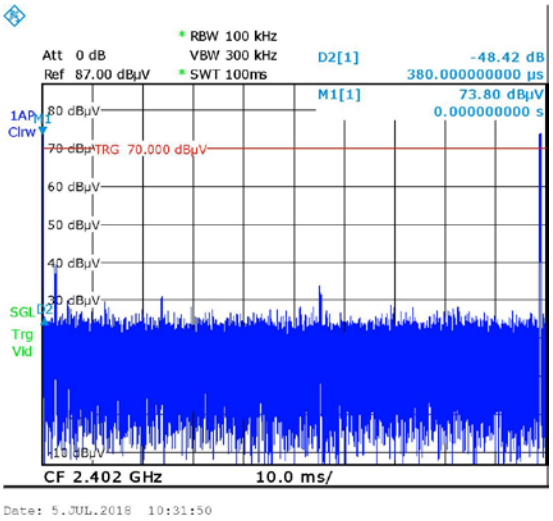

Figure 83. Number of Bursts in 100msec=2, STD

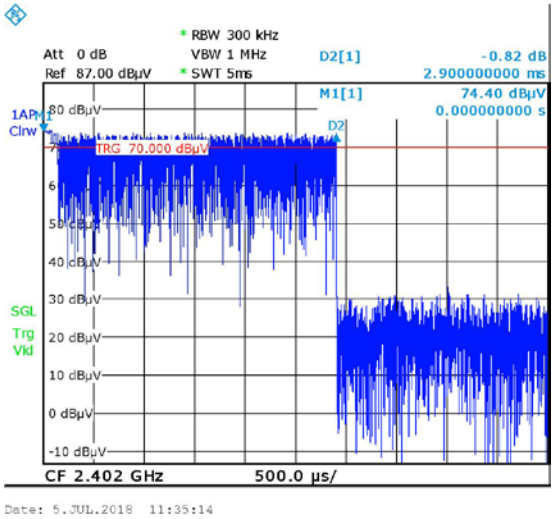

Figure 84. Burst Duration, EDR

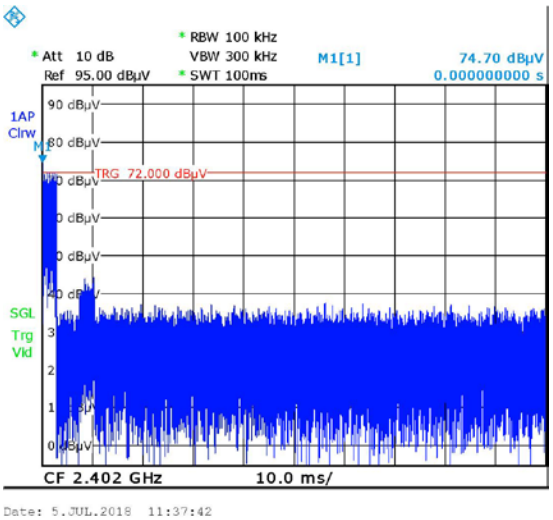

Figure 85. Number of Bursts in 100msec=1, EDR

14.1 *Test Equipment Used, Average Factor*

Instrument	Manufacturer	Model	Serial Number	Last Calibration Date	Next Calibration Due
Spectrum Analyzer	Rodhe & Schwarz	FSL6	100194	February 19, 2018	February 28, 2019

Figure 86 Test Equipment Used

15. Antenna Gain/Information

The antenna gain is -2.0dBi.

16. R.F Exposure/Safety

Typical use of the E.U.T. is as a wearable camera.

The typical distance between the E.U.T. and the user is 0.5 cm.

SAR Testing Exclusion Based on Section 4.3.1 and Appendix A of KDB 447498 D01 V06 Requirements

For FCC

Section 4.3.1 and Appendix A of KDB447498 D01 V06 was used as the guidance as follows:

Conducted power output = 3.9dBm + (-2dBi_ (antenna gain) = 1.9dBm = 1.55mW

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] *· [√f(GHz)]

=1.55/5 * 1.55=0.48 this value is less than 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR.

The SAR measurement is not necessary.

17. APPENDIX A - CORRECTION FACTORS

17.1 *Correction factors for RF OATS Cable 35m ITL #1911*

Frequency (MHz)	Ref&cable loss (dBm)	Ref loss (dBm)	Cable loss (dB)
1.00	0.7	0.2	0.5
10.00	1.3	0.3	1
20.00	1.7	0.3	1.34
30.00	2.0	0.5	1.5
50.00	2.3	0.5	1.83
100.00	3.0	0.3	2.67
150.00	3.7	0.5	3.17
200.00	4.3	0.5	3.83
250.00	4.5	0.3	4.17
300.00	5.0	0.5	4.5
350.00	5.7	0.5	5.17
400.00	6.0	0.5	5.5
450.00	6.5	0.7	5.83
500.00	6.8	0.5	6.33
550.00	7.2	0.5	6.67
600.00	7.5	0.7	6.83
650.00	7.7	0.5	7.17
700.00	8.3	0.7	7.66
750.00	8.5	0.7	7.83
800.00	8.8	0.7	8.16
850.00	9.0	0.5	8.5
900.00	9.5	0.7	8.83
950.00	9.7	0.8	8.84
1000.00	9.7	0.7	9

17.2 *Correction factor for RF CABLE for Semi Anechoic Chamber*

ITL # 1840

Frequency (GHz)	loss Result (dB)
0.5	-1.0
1.0	-1.4
1.5	-1.7
2.0	-2.0
2.5	-2.3
3.0	-2.6
3.5	-2.8
4.0	-3.1
4.5	-3.3
5.0	-3.6
5.5	-3.7
6.0	-4.0
6.5	-4.4
7.0	-4.7
7.5	-4.8
8.0	-5.0
8.5	-5.1
9.0	-5.6
9.5	-5.8
10.0	-6.0
10.5	-6.2
11.0	-6.2
11.5	-6.0
12.0	-6.0
12.5	-6.1
13.0	-6.3
13.5	-6.5
14.0	-6.7
14.5	-7.0
15.0	-7.3
15.5	-7.5
16.0	-7.6
16.5	-8.0
17.0	-8.0
17.5	-8.1
18.0	-8.2
18.5	-8.2
19.0	-8.3
19.5	-8.6
20.0	-8.5

NOTES:

1. The cable is manufactured by Commscope

2. The cable type is 0623 WBC-400, serial # G020132 and 10m long

17.3 *Correction factors for Active Loop Antenna*

Model 6502 S/N 9506-2950

ITL # 1075:

f(MHz)	MAF(dBs/m)	AF(dB/m)
0.01	-33.1	18.4
0.02	-37.2	14.3
0.03	-38.2	13.3
0.05	-39.8	11.7
0.1	-40.1	11.4
0.2	-40.3	11.2
0.3	-40.3	11.2
0.5	-40.3	11.2
0.7	-40.3	11.2
1	-40.1	11.4
2	-40	11.5
3	-40	11.5
4	-40.1	11.4
5	-40.2	11.3
6	-40.4	11.1
7	-40.4	11.1
8	-40.4	11.1
9	-40.5	11
10	-40.5	11
20	-41.5	10
30	-43.5	8

17.4 *Correction factors for biconical antenna – ITL # 1356*

Model: EMCO 3110B

Serial No.:9912-3337

Frequency	**ITL 1356 AF**
[MHz]	**[dB/m]**
30	14.77
35	13.46
40	12.57
45	11.62
50	10.87
60	9.19
70	9.52
80	9.55
90	9.27
100	10.20
120	11.18
140	12.02
160	12.62
180	13.44
200	14.82

17.5 *Correction factors for log periodic antenna – ITL # 1349*

Model: EMCO 3146

Serial No.:9505-4081

Frequency	**ITL 1349 AF**
[MHz]	**[dB/m]**
200	11.31
250	11.85
300	14.47
400	15.12
500	17.69
600	18.45
700	20.52
800	20.77
900	21.97
1000	23.21

17.6 *Correction factors for Horn Antenna*

Model: 3115
Serial number:6142
3 meter range; ITL # 1354

Frequency	**Antenna #1: ITL 1354 AF1**
[MHz]	**[dB/m]**
1000	23.64
1500	26.14
2000	27.20
2500	28.20
3000	29.63
3500	31.28
4000	31.97
4500	32.25
5000	33.34
5500	33.67
6000	34.63
6500	35.71
7000	35.92
7500	36.34
8000	37.21
8500	37.28
9000	37.24
9500	37.28
10000	37.37
10500	37.77
11000	37.96
11500	38.55
12000	38.52
13000	39.30
14000	40.75
15000	40.32
16000	42.51
17000	42.35
18000	41.58

17.7 *Correction factors for Double –Ridged Waveguide Horn ANTENNA*

Model: 3115
Serial number:29845
3 meter range; ITL # 1352

FREQUENCY (GHz)	AFE (dB/m)	FREQUENCY (GHz)	AFE (dB/m)
0.75	25	9.5	38
1.0	23.5	10.0	38.5
1.5	26.0	10.5	38.5
2.0	29.0	11.0	38.5
2.5	27.5	11.5	38.5
3.0	30.0	12.0	38.0
3.5	31.5	12.5	38.5
4.0	32.5	13.0	40.0
4.5	32.5	13.5	41.0
5.0	33.0	14.0	40.0
5.5	35.0	14.5	39.0
6.0	36.5	15.0	38.0
6.5	36.5	15.5	37.5
7.0	37.5	16.0	37.5
7.5	37.5	16.5	39.0
8.0	37.5	17.0	40.0
8.5	38.0	17.5	42.0
9.0	37.5	18.0	42.5

17.8 *Correction factors for* *Horn Antenna*

Model: SWH-28
at 3 meter range.

CALIBRATION DATA

3 m distance

Frequency, MHz	Measured antenna factor, dB/m [1]
18000	32.4
18500	32.0
19000	32.3
19500	32.4
20000	32.3
20500	32.8
21000	32.8
21500	32.7
22000	33.1
22500	33.0
23000	33.1
23500	33.8
24000	33.5
24500	33.5
25000	33.8
25500	33.9
26000	34.2
26500	34.7

[1] The antenna factor shall be added to receiver reading in dBµV to obtain field strength in dBµV/m.

ITL #:1353