



427 West 12800 South  
 Draper, UT 84020

## Test Report Certification

<b>FCC ID</b>	SWX-UXGEP
<b>IC ID</b>	6545A-UXGEP
<b>Equipment Under Test</b>	UXG-Enterprise
<b>Test Report Serial Number</b>	TR8917_01
<b>Date of Test(s)</b>	29 February through 26 March 2024
<b>Report Issue Date</b>	28 March 2024

Test Specification	Applicant
47 CFR FCC Part 15, Subpart C	Ubiquiti Inc. 685 Third Avenue New York, NY 10017 U.S.A.



NVLAP LAB CODE 600241-0

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## Certification of Engineering Report

This report has been prepared by Unified Compliance Laboratory (UCL) to document compliance of the device described below with the requirement of Federal Communication Commissions (FCC) Part 15, Subpart C. This report may be reproduced in full. Partial reproduction of this report may only be made with the written consent of the laboratory. The results in this report apply only to the sample tested.

<b>Applicant</b>	Ubiquiti Inc.
<b>Manufacturer</b>	Ubiquiti Inc.
<b>Brand Name</b>	UBIQUITI
<b>Model Number</b>	UXG-Enterprise
<b>FCC ID</b>	SWX-UXGEP
<b>IC ID</b>	6545A-UXGEP

On this 28th day of March 2024, I individually and for Unified Compliance Laboratory certify that the statements made in this engineering report are true, complete, and correct to the best of my knowledge and are made in good faith.

Although NVLAP has accredited the Unified Compliance Laboratory testing facilities, this report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the U.S. federal government.

Unified Compliance Laboratory



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Written By: Clay Allred



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Reviewed By: Richard L. Winter

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<b>Revision History</b>		
<b>Revision</b>	<b>Description</b>	<b>Date</b>
01	Original Report Release	28 March 2024

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# 1 Client Information

## 1.1 Applicant

<b>Company</b>	Ubiquiti Inc. 685 Third Avenue New York, NY 10017 U.S.A.
<b>Contact Name</b>	Alex Macon
<b>Title</b>	Compliance

## 1.2 Manufacturer

<b>Company</b>	Ubiquiti Inc. 685 Third Avenue New York, NY 10017 U.S.A.
<b>Contact Name</b>	Alex Macon
<b>Title</b>	Compliance

## 2 Equipment Under Test (EUT)

### 2.1 Identification of EUT

<b>Brand Name</b>	UBIQUITI
<b>Model Number</b>	UXG-Enterprise
<b>Serial Number</b>	9C05D63D3FC9
<b>Dimensions (cm)</b>	17.4 x 12.8 x 17

### 2.2 Description of EUT

The UXG-Enterprise is a dual-WAN security gateway with 25G SFP28 ports designed to protect large-sized networks with enterprise-grade firewall configuration and threat management features. It contains a BLE radio for management and setup.

This report covers the circuitry of the device subject to FCC Part 15, Subpart C. The circuitry of the device subject to FCC Part 15 Subpart B was found to be compliant and is covered under a separate Unified Compliance Laboratory test report.

### 2.3 EUT and Support Equipment

The EUT and support equipment used during the test are listed below.

<b>Brand Name Model Number Serial Number</b>	<b>Description</b>	<b>Name of Interface Ports / Interface Cables</b>
BN: UBIQUITI MN: UXG-Enterprise SN: 9C05D63D3FC9	Security Gateway	See Section 2.4
BN: Dell MN: XPS SN: N/A	Laptop Personal Computer	Unshielded Cat 5e cable/1 meters

Notes: (1) EUT

(2) Interface port connected to EUT (See Section 2.4)

The support equipment listed above was not modified in order to achieve compliance with this standard.

### 2.4 Interface Ports on EUT

<b>Name of Ports</b>	<b>No. of Ports Fitted to EUT</b>	<b>Cable Description/Length</b>
AC Mains	2	3 conducted power cord/180 cm
WAN	1	SFP28 25G Fiber /3+ meters
	1	RJ45 2.5GbE /3+ meters
LAN	2	SFP+ 10G Fiber /3+ meters
	1	SFP28 25G Fiber /3+ meters
	1	RJ45 2.5GbE /3+ meters

## 2.5 Operating Environment

<b>Power Supply</b>	120 VAC
<b>AC Mains Frequency</b>	60 Hz
<b>Temperature</b>	20-22.6°C
<b>Humidity</b>	16.66-20.61%
<b>Barometric Pressure</b>	1004 mBar

## 2.6 Operating Modes

The UXG-Enterprise was connected to a personal computer laptop and tested using test software in order to enable to constant duty cycle greater or equal to 98% of the Bluetooth transceiver.

## 2.7 EUT Exercise Software

EUT firmware version 1.0 was used to operate the transmitter using a constant transmit mode.

## 2.8 Block Diagram of Test Configuration

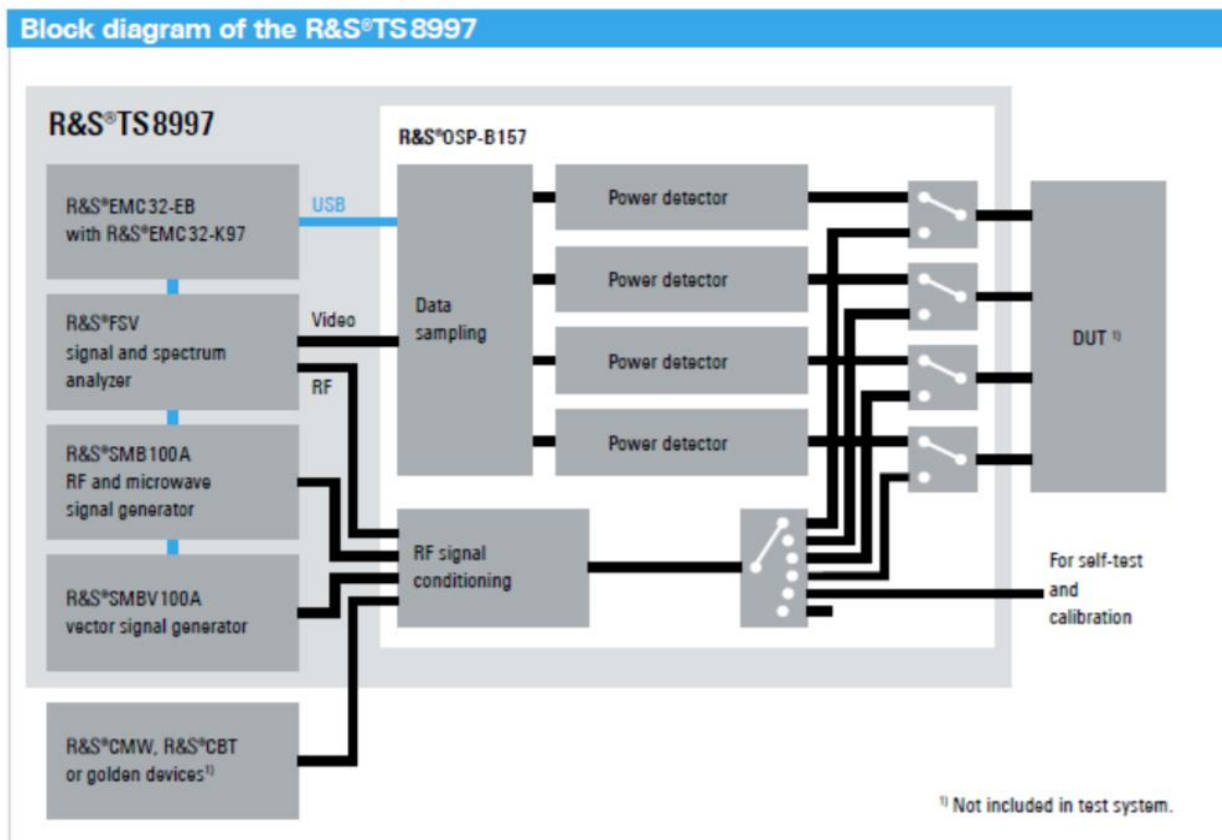


Diagram 1: Test Configuration Block Diagram

## 2.9 Modification Incorporated/Special Accessories on EUT

There were no modifications made to the EUT during testing to comply with the specification.

## 2.10 Deviation, Opinions Additional Information or Interpretations from Test Standard

There were no deviations, opinions, additional information or interpretations from the test specification.



### 3 Test Specification, Method and Procedures

#### 3.1 Test Specification

<b>Title</b>	47 CFR FCC Part 15, Subpart C 15.203, 15.207 and 15.247 Limits and methods of measurement of radio interference characteristics of radio frequency devices.
<b>Purpose of Test</b>	The tests were performed to demonstrate initial compliance

#### 3.2 Methods & Procedures

##### 3.2.1 47 CFR FCC Part 15 Section 15.203

See test standard for details.

##### 3.2.2 47 CFR FCC Part 15 Section 15.207

See test standard for details.

##### 3.2.3 47 CFR FCC Part 15 Section 15.247

See test standard for details.

#### 3.3 FCC Part 15, Subpart C

##### 3.3.1 Summary of Tests

FCC Section	ISED Section	Environmental Phenomena	Frequency Range (MHZ)	Result
15.203	N/A	Antenna requirements	Structural Requirement	Compliant
15.207	RSS-Gen	Conducted Disturbance at Mains Port	0.15 to 30	Compliant
15.247(a)	RSS-247 § 5.2	Bandwidth Requirement	2400 to 2483.5	Compliant
15.247(b)	RSS-247 § 5.4	Peak Output Power	2400 to 2483.5	Compliant
15.247(d)	RSS-247 § 5.4	Antenna Conducted Spurious Emissions	0.009 to 26000	N/A
15.247(d)	RSS-247 § 5.4	Radiated Spurious Emissions	0.009 to 26000	Compliant
15.247(e)	RSS-247 § 5.2	Peak Power Spectral Density	2400 to 2483.5	Compliant

The testing was performed according to the procedures in ANSI C63.10-2013, KDB 558074 and 47 CFR Part 15. Where applicable, KDB 662911 was followed to sum required measurements.

### **3.4 Results**

In the configuration tested, the EUT complied with the requirements of the specification.

### **3.5 Test Location**

Testing was performed at the Unified Compliance Laboratory located at 427 West 12800 South, Draper, UT 84020. Unified Compliance Laboratory is accredited by National Voluntary Laboratory Accreditation Program (NVLAP); NVLAP Code 600241-0 which is effective until 30 June 2024. This site has also been registered with Innovations, Science and Economic Development (ISED) department and was accepted under Appendix B, Phase 1 procedures of the APEC Tel MRA for Canadian recognition. ISED No.: 25346, effective until 30 June 2024.

Unified Compliance Laboratory has been assigned Designation Number US5037 by the FCC and Conformity Assessment Number US0223 by ISED.

## 4 Test Equipment

### 4.1 Conducted Emissions at Mains Ports

Type of Equipment	Manufacturer	Model Number	Asset Number	Date of Last Calibration	Due Date of Calibration
EMI Receiver	AFJ	FFT3010	UCL-2500	7/13/2023	7/13/2024
LISN	AFJ	LS16C/10	UCL-2512	5/26/2023	5/26/2024
ISN	Teseq	ISN T800	UCL-2974	6/27/2022	6/27/2024
LISN	AFJ	LS16C\10	UCL-6749	1/29/2024	1/29/2025
AC Power Source	Laplace Instruments	AC1000A	UCL-2857	N/A	N/A
Test Software	UCL	Revision 1	UCL-3107	N/A	N/A

Table 1: List of equipment used for Conducted Emissions Testing at Mains Port

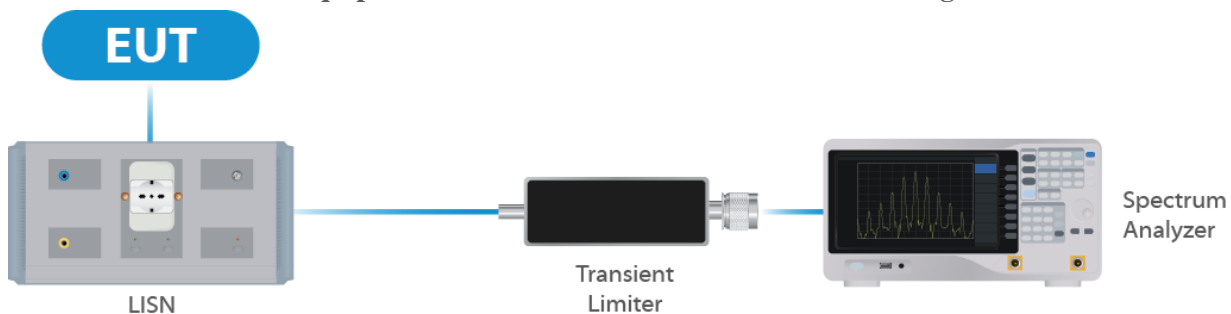


Figure 1: Conducted Emissions Test

### 4.2 Direct Connect at the Antenna Port Tests

Type of Equipment	Manufacturer	Model Number	Asset Number	Date of Last Calibration	Due Date of Calibration
Spectrum Analyzer	R&S	FSV40	UCL-2861	11/27/2023	11/27/2024
Signal Generator	R&S	SMB100A	UCL-2864	N/A	N/A
Vector Signal Generator	R&S	SMBV100A	UCL-2873	N/A	N/A
Switch Extension	R&S	OSP-B157WX	UCL-2867	2/22/2023	3/20/2024
Switch Extension	R&S	OSP-150W	UCL-2870	2/22/2023	6/7/2024

Table 2: List of equipment used for Direct Connect at the Antenna Port

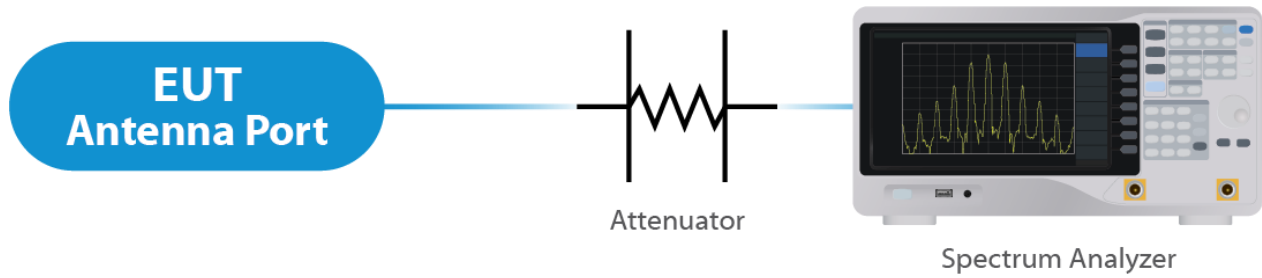


Figure 2: Direct Connect at the Antenna Port Test

### 4.3 Radiated Emissions

Type of Equipment	Manufacturer	Model Number	Asset Number	Date of Last Calibration	Due Date of Calibration
EMI Receiver	Keysight	N9038A	UCL-2778	1/25/2024	1/29/2025
Pre-Amplifier 9 kHz – 1 GHz	Sonoma Instruments	310N	UCL-2889	1/19/2024	1/19/2026
Broadband Antenna	Scwarzbeck	VULB 9163	UCL-3062	2/22/2023	2/22/2025
Broadband Antenna	Scwarzbeck	VULB 9163	UCL-3071	1/11/2023	1/11/2025
Double Ridge Horn Antenna	Scwarzbeck	BBHA 9120D	UCL-3065	9/22/2022	9/22/2024
Log Periodic	Scwarzbeck	STLP 9129	UCL-3068	1/27/2023	1/27/2025
15 - 40 GHz Horn Antenna	Scwarzbeck	BBHA 9170	UCL-2487	6/09/2022	6/09/2024
1 – 18 GHz Amplifier	Com-Power	PAM 118A	UCL-3833	1/19/2024	1/19/2026
Test Software	UCL	Revision 1	UCL-3108	N/A	N/A

Table 3: List of equipment used for Radiated Emissions

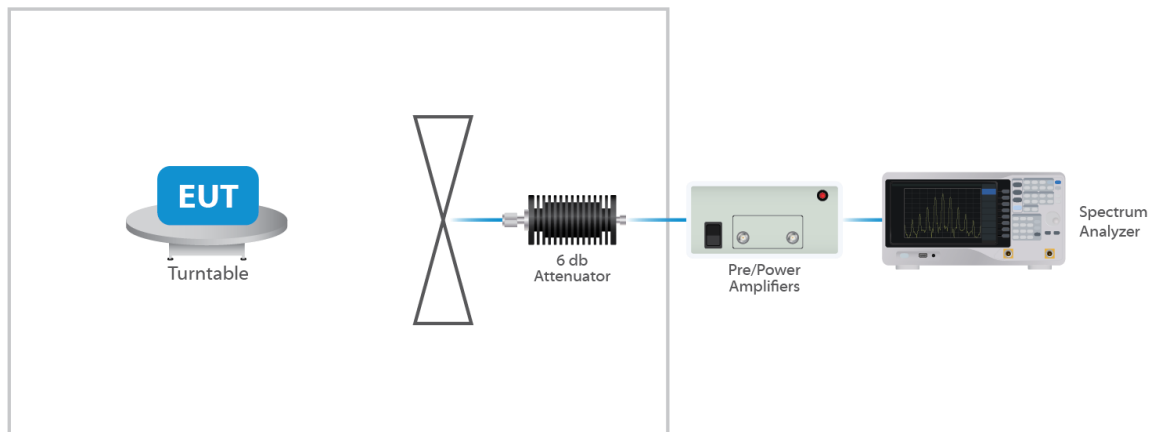


Figure 3: Radiated Emissions Test

## 4.4 Equipment Calibration

All applicable equipment is calibrated using either an independent calibration laboratory or Unified Compliance Laboratory personnel at intervals defined in ANSI C63.4:2014 following outlined calibration procedures. All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST). Supporting documentation relative to traceability is on file and is available for examination upon request.

## 4.5 Measurement Uncertainty

Test	Uncertainty ( $\pm$ dB)	Confidence (%)
Conducted Emissions	1.44	95
Radiated Emissions (9 kHz to 30 MHz)	2.50	95
Radiated Emissions (30 MHz to 1 GHz)	4.38	95
Radiated Emissions (1 GHz to 18 GHz)	4.37	95
Radiated Emissions (18 GHz to 40 GHz)	3.93	95
<b>Direct Connect Tests</b>	<b>K Factor</b>	<b>Value</b>
Emissions Bandwidth	2	2.0%
Output Power	2	1.0 dB
Peak Power Spectral Density	2	1.3 dB
Band Edge	2	0.8 dB
Transmitter Spurious Emissions	2	1.8 dB

## 5 Test Results

### 5.1 §15.203 Antenna Requirements

The EUT uses an internal PIFA antenna manufactured by Ubiquiti (p/N: 117-05976). As per the manufacturer, the Maximum gain of the antenna is 3.0 dBi. The antenna is not user replaceable.

#### Results

The EUT complied with the specification

## 5.2 Conducted Emissions at Mains Ports (Hot Lead)

Frequency (MHZ)	Detector	Receiver Measured Level (dB $\mu$ V)	Correction Factor (dB/m)	Corrected Receiver Level (dB $\mu$ V)	Limit Class B Limit (dB $\mu$ V)	Margin (dB)
4935	Quasi-Peak (Note 2)	42.09	12.4	54.50	73	- 18.5
4230	Quasi-Peak (Note 2)	41.16	12.4	53.55	73	- 19.5
4209	Quasi-Peak (Note 2)	39.84	12.4	52.23	73	- 20.8
3606	Quasi-Peak (Note 2)	39.03	12.4	51.42	73	- 21.6
5169	Quasi-Peak (Note 2)	38.98	12.4	51.39	73	- 21.6
4935	Average (Note 2)	40.97	12.4	53.38	60	- 6.6
5169	Average (Note 2)	37.45	12.4	49.86	60	- 10.1
4209	Average (Note 2)	38.58	12.4	50.97	60	- 9.0
4230	Average (Note 2)	40.16	12.4	52.55	60	- 7.5
3606	Average (Note 2)	37.66	12.4	50.05	60	- 10.0

Note 1: The reference detector used for the measurements was Quasi-Peak or Peak and the data was compared to the average limit; therefore, the EUT was deemed to meet both the average and quasi-peak limits.

Note 2: The reference detector used for the measurements was quasi-peak and average and the data was compared to the respective limits.

### Sample Field Strength Calculation

*Correction Factor = LISN Insertion Loss + Cable Insertion Loss + Transient Limiter Insertion Loss*

*Conducted Emissions Amplitude = Receiver Reading + Correction Factor*

### Result

The EUT complied with the specification limit by a margin of -6.6 dB.

### 5.3 Conducted Emissions at Mains Ports (Neutral Lead)

Frequency (MHZ)	Detector	Receiver Measured Level (dB $\mu$ V)	Correction Factor (dB/m)	Corrected Receiver Level (dB $\mu$ V)	Limit Class B Limit (dB $\mu$ V)	Margin (dB)
4.935	Quasi-Peak (Note 2)	42.02	12.4	54.45	73	- 18.6
4.230	Quasi-Peak (Note 2)	41.01	12.4	53.42	73	- 19.6
4.209	Quasi-Peak (Note 2)	39.85	12.4	52.26	73	- 20.7
3.606	Quasi-Peak (Note 2)	39.06	12.4	51.46	73	- 21.5
5.169	Quasi-Peak (Note 2)	38.74	12.4	51.17	73	- 21.8
4.935	Average (Note 2)	41.07	12.4	53.50	60	- 6.5
5.169	Average (Note 2)	37.34	12.4	49.77	60	- 10.2
4.209	Average (Note 2)	38.67	12.4	51.08	60	- 8.9
4.230	Average (Note 2)	40.05	12.4	52.46	60	- 7.5
3.606	Average (Note 2)	37.35	12.4	49.75	60	- 10.3

Note 1: The reference detector used for the measurements was Quasi-Peak or Peak and the data was compared to the average limit; therefore, the EUT was deemed to meet both the average and quasi-peak limits.

Note 2: The reference detector used for the measurements was quasi-peak and average and the data was compared to the respective limits.

#### Sample Field Strength Calculation

*Correction Factor = LISN Insertion Loss + Cable Insertion Loss + Transient Limiter Insertion Loss*

*Conducted Emissions Amplitude = Receiver Reading + Correction Factor*

#### Result

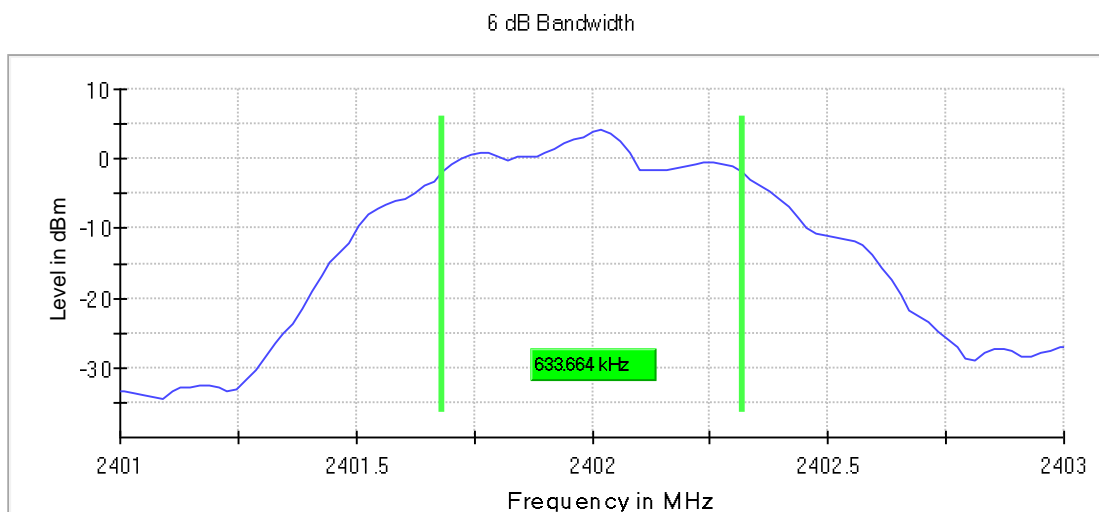
The EUT complied with the specification limit by a margin of -6.5 dB.

### 5.4 §15.247(a)(2) Emissions Bandwidth

Frequency (MHz)	Emissions 6 dB Bandwidth (MHz)	Emissions 99% Bandwidth (MHz)
2402	0.634	1.0
2442	0.614	0.99
2480	0.634	0.985

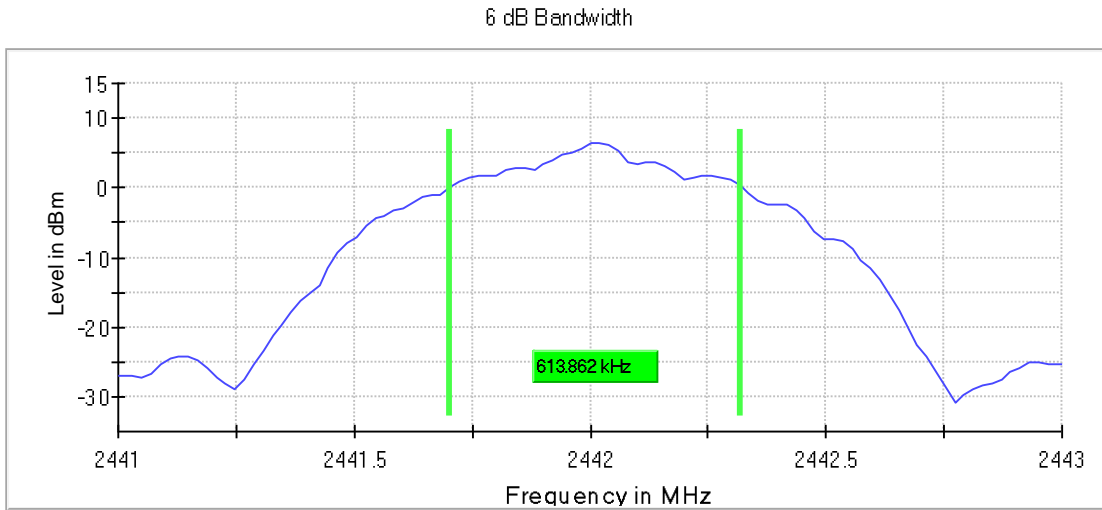
**Result**

In the configuration tested, the 6 dB bandwidth was greater than 500 kHz; therefore, the EUT complied with the requirements of the specification (see spectrum analyzer plot below and within the Annex).

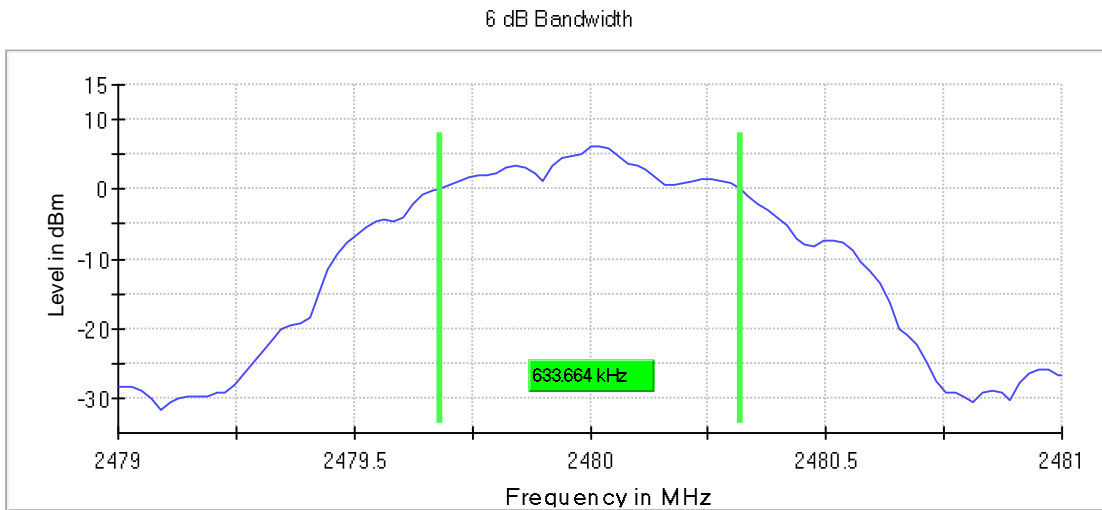


**Graph 1: 2402 6dB Emissions Bandwidth**





**Graph 2: 2442 6dB Emissions Bandwidth**



**Graph 3: 2480 6dB Emissions Bandwidth**

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## 5.5 §15.247(b)(3) Maximum Average Output Power

The maximum average RF conducted output power measured for this device was 6.67 dBm or 4.6 mW. The limit is 30 dBm or 1 Watt when using antennas with 6 dBi or less gain. The antenna has a gain of 3.0 dBi.

Frequency (MHz)	Measured Output Power (dBm)	Output Power (mW)
2402	4.31	2.7
2442	6.67	4.6
2480	6.37	4.3

### Result

In the configuration tested, the maximum average RF output power was less than 1 watt; therefore, the EUT complied with the requirements of the specification (see spectrum analyzer plot within the Annex).

## 5.6 §15.247(d) Spurious Emissions

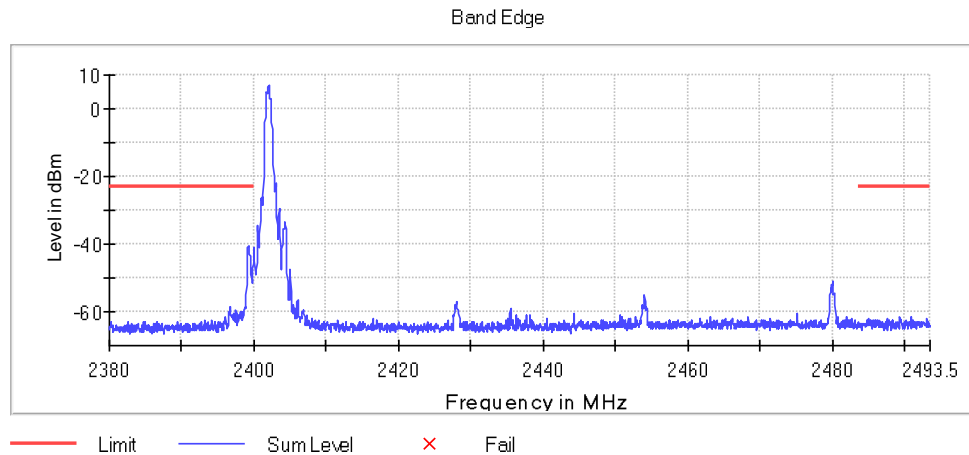
### 5.6.1 Conducted Spurious Emissions

The frequency range from the lowest frequency generated or used in the device to the tenth harmonic of the highest fundamental frequency was investigated to measure any antenna-conducted emissions. The table show the measurement data from spurious emissions noted across the frequency range when transmitting at the lowest frequency, middle frequency and upper frequency. Shown within the Annex are plot(s) with the EUT tuned to the upper and lower channels. These demonstrate compliance with the provisions of this section at the band edges.

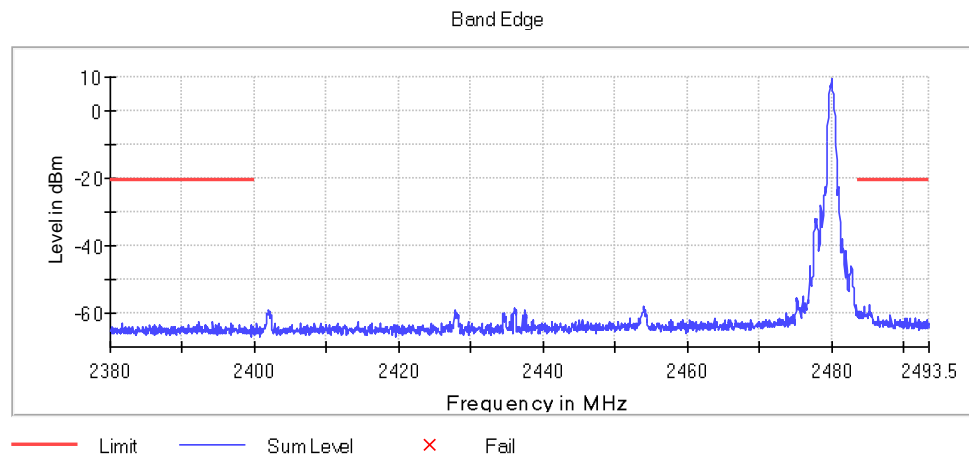
The emissions must be attenuated 30 dB below the highest power spectral density level measured within the authorized band as measured with a 100 kHz RBW.

#### Result

Conducted spurious emissions were attenuated 30 dB or more below the fundamental; therefore, the EUT complies with the specification.



**Graph 4: Lower Band Edge Plot**



**Graph 5: Upper Band Edge Plot**

## 5.6.2 Radiated Spurious Emissions in the Restricted Bands of §15.205

The frequency range from the lowest frequency generated or used in the device to the tenth harmonic of the highest fundamental emissions was investigated to measure any radiated emissions in the restricted bands. The following tables show measurements of any emissions that fell into the restricted bands of §15.205. The tables show the worst-case emissions measured from the EUT. For frequencies above 18.0 GHz, a measurement distance of 1 meter was used. The noise floor was a minimum of 6 dB below the limits. The emissions in the restricted bands must meet the limits specified in §15.209. Tabular data for each of the spurious emissions is shown below for each of the units. Plots of the band edges are also shown.

### Result

All emissions in the restricted bands of §15.205 met the limits specified in §15.209; therefore, the EUT complies with the specification.

Frequency	Det	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
4.3996 GHz	PK	50.976	74	-23.024	39	1.63	Vertical	-6.771
4.4 GHz	PK	53.303	74	-20.697	192	1.63	Vertical	-6.77
4.9995 GHz	PK	46.574	74	-27.426	345	1.628	Vertical	-5.644
5 GHz	PK	48.903	74	-25.097	208	2.132	Vertical	-5.642
11.865 GHz	PK	57.041	74	-16.959	2	2.133	Vertical	8.157
11.894 GHz	PK	55.915	74	-18.085	11	1.628	Vertical	8.225
13.888 GHz	PK	59.04	74	-14.96	28	2.132	Vertical	10.842
14.375 GHz	PK	60.259	74	-13.741	22	1.847	Vertical	11.972
4.3996 GHz	AV	38.24	54	-15.76	39	1.63	Vertical	-6.771
4.4 GHz	AV	44.836	54	-9.164	192	1.63	Vertical	-6.77
4.9995 GHz	AV	38.325	54	-15.675	345	1.628	Vertical	-5.644
5 GHz	AV	44.851	54	-9.149	208	2.132	Vertical	-5.642
11.865 GHz	AV	43.973	54	-10.027	2	2.133	Vertical	8.157
11.894 GHz	AV	42.665	54	-11.335	11	1.628	Vertical	8.225
13.888 GHz	AV	46.16	54	-7.84	28	2.132	Vertical	10.842
14.375 GHz	AV	49.395	54	-4.605	22	1.847	Vertical	11.972
14.452 GHz	PK	56.669	74	-17.331	101	2.336	Horizontal	11.663
14.519 GHz	PK	56.433	74	-17.567	173	1.628	Horizontal	11.771
14.452 GHz	AV	43.777	54	-10.223	101	2.336	Horizontal	11.663
14.519 GHz	AV	43.821	54	-10.179	173	1.628	Horizontal	11.771
16.496 GHz	PK	54.518	74	-19.482	7	1.5	Vertical	0.35
16.814 GHz	PK	53.429	74	-20.571	2	1.5	Vertical	-0.041
17.344 GHz	PK	51.367	74	-22.633	5	1.5	Vertical	-0.325
16.496 GHz	AV	41.074	54	-12.926	7	1.5	Vertical	0.35
16.814 GHz	AV	40.012	54	-13.988	2	1.5	Vertical	-0.041
17.344 GHz	AV	38.489	54	-15.511	5	1.5	Vertical	-0.325
16.358 GHz	PK	50.397	74	-23.603	189	1.5	Horizontal	0.589
17.958 GHz	PK	51.391	74	-22.609	345	1.5	Horizontal	-0.577
24.754 GHz	PK	51.349	74	-22.651	261	1.5	Horizontal	1.498

Frequency	Det	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
16.358 GHz	AV	36.184	54	-17.816	189	1.5	Horizontal	0.589
17.958 GHz	AV	37.79	54	-16.21	345	1.5	Horizontal	-0.577
24.754 GHz	AV	37.015	54	-16.985	261	1.5	Horizontal	1.498

**Table 4: Transmitting at the Lowest Frequency**

Frequency	Det	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
4.4001 GHz	PK	50.11	74	-23.89	342	1.63	Vertical	-6.77
4.9999 GHz	PK	50.317	74	-23.683	180	2.637	Vertical	-5.643
11.814 GHz	PK	57.163	74	-16.837	2	2.133	Vertical	8.102
11.815 GHz	PK	56.948	74	-17.052	9	2.638	Vertical	8.103
13.886 GHz	PK	58.628	74	-15.372	1	3.14	Vertical	10.838
14.391 GHz	PK	58.509	74	-15.491	8	2.339	Vertical	12.02
4.4001 GHz	AV	43.317	54	-10.683	342	1.63	Vertical	-6.77
4.9999 GHz	AV	46.768	54	-7.232	180	2.637	Vertical	-5.643
11.814 GHz	AV	44.169	54	-9.831	2	2.133	Vertical	8.102
11.815 GHz	AV	43.794	54	-10.206	9	2.638	Vertical	8.103
13.886 GHz	AV	44.979	54	-9.021	1	3.14	Vertical	10.838
14.391 GHz	AV	45.632	54	-8.368	8	2.339	Vertical	12.02
13.981 GHz	PK	56.712	74	-17.288	33	3.808	Horizontal	11.098
14.08 GHz	PK	56.621	74	-17.379	305	3.313	Horizontal	11.143
13.981 GHz	AV	43.532	54	-10.468	33	3.808	Horizontal	11.098
14.08 GHz	AV	43.367	54	-10.633	305	3.313	Horizontal	11.143
16.481 GHz	PK	53.734	74	-20.266	355	1.5	Vertical	0.424
18.172 GHz	PK	51.145	74	-22.855	358	1.5	Vertical	-0.523
20.996 GHz	PK	50.663	74	-23.337	126	1.5	Vertical	0.815
24.449 GHz	PK	51.907	74	-22.093	9	1.5	Vertical	1.41
16.481 GHz	AV	40.312	54	-13.688	355	1.5	Vertical	0.424
18.172 GHz	AV	37.534	54	-16.466	358	1.5	Vertical	-0.523
20.996 GHz	AV	36.527	54	-17.473	126	1.5	Vertical	0.815
24.449 GHz	AV	36.963	54	-17.037	9	1.5	Vertical	1.41
16.505 GHz	PK	50.381	74	-23.619	87	1.5	Horizontal	0.308
18.007 GHz	PK	52.871	74	-21.129	11	1.5	Horizontal	-0.653
20.046 GHz	PK	49.926	74	-24.074	42	1.5	Horizontal	0.161
24.283 GHz	PK	51.659	74	-22.341	3	1.5	Horizontal	1.937
16.505 GHz	AV	36.718	54	-17.282	87	1.5	Horizontal	0.308
18.007 GHz	AV	38.733	54	-15.267	11	1.5	Horizontal	-0.653
20.046 GHz	AV	35.679	54	-18.321	42	1.5	Horizontal	0.161
24.283 GHz	AV	37.04	54	-16.96	3	1.5	Horizontal	1.937

**Table 5: Transmitting at the Middle Frequency**

Frequency	Det	Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
4.3997 GHz	PK	52.775	74	-21.225	157	2.638	Vertical	-6.77
4.4 GHz	PK	50.681	74	-23.319	206	1.844	Vertical	-6.77
5 GHz	PK	49.665	74	-24.335	180	2.637	Vertical	-5.642
10.907 GHz	PK	56.011	74	-17.989	1	3.646	Vertical	7.661
11.778 GHz	PK	56.767	74	-17.233	5	2.336	Vertical	8.072
11.799 GHz	PK	57.107	74	-16.893	12	2.637	Vertical	8.086
13.902 GHz	PK	58.677	74	-15.323	34	2.638	Vertical	10.875
13.92 GHz	PK	59.628	74	-14.372	1	2.637	Vertical	10.956
4.3997 GHz	AV	45.961	54	-8.039	157	2.638	Vertical	-6.77
4.4 GHz	AV	43.858	54	-10.142	206	1.844	Vertical	-6.77
5 GHz	AV	46.091	54	-7.909	180	2.637	Vertical	-5.642
10.907 GHz	AV	42.669	54	-11.331	1	3.646	Vertical	7.661
11.778 GHz	AV	44.033	54	-9.967	5	2.336	Vertical	8.072
11.799 GHz	AV	43.411	54	-10.589	12	2.637	Vertical	8.086
13.902 GHz	AV	45.754	54	-8.246	34	2.638	Vertical	10.875
13.92 GHz	AV	46.446	54	-7.554	1	2.637	Vertical	10.956
13.9 GHz	PK	56.148	74	-17.852	85	3.812	Horizontal	10.869
14.351 GHz	PK	57.549	74	-16.451	51	1.844	Horizontal	11.877
16.975 GHz	PK	57.49	74	-16.51	257	3.142	Horizontal	13.554
13.9 GHz	AV	43.195	54	-10.805	85	3.812	Horizontal	10.869
14.351 GHz	AV	43.977	54	-10.023	51	1.844	Horizontal	11.877
16.975 GHz	AV	44.07	54	-9.93	257	3.142	Horizontal	13.554
16.744 GHz	PK	54.191	74	-19.809	7	1.5	Vertical	-0.264
17.942 GHz	PK	50.675	74	-23.325	217	1.5	Vertical	-0.39
20.199 GHz	PK	50.117	74	-23.883	13	1.5	Vertical	0.204
24.185 GHz	PK	50.785	74	-23.215	202	1.5	Vertical	0.533
16.744 GHz	AV	40.804	54	-13.196	7	1.5	Vertical	-0.264
17.942 GHz	AV	36.851	54	-17.149	217	1.5	Vertical	-0.39
20.199 GHz	AV	36.467	54	-17.533	13	1.5	Vertical	0.204
24.185 GHz	AV	36.093	54	-17.907	202	1.5	Vertical	0.533
16.423 GHz	PK	51.091	74	-22.909	62	1.5	Horizontal	0.356
17.965 GHz	PK	51.542	74	-22.458	5	1.5	Horizontal	-0.647
20.317 GHz	PK	50.034	74	-23.966	334	1.5	Horizontal	0.332
24.101 GHz	PK	51.173	74	-22.827	156	1.5	Horizontal	1.125
16.423 GHz	AV	37.314	54	-16.686	62	1.5	Horizontal	0.356
17.965 GHz	AV	38.144	54	-15.856	5	1.5	Horizontal	-0.647
20.317 GHz	AV	36.335	54	-17.665	334	1.5	Horizontal	0.332
24.101 GHz	AV	36.491	54	-17.509	156	1.5	Horizontal	1.125

**Table 6: Transmitting at the Highest Frequency**

## 5.7 §15.247(e) Maximum Average Power Spectral Density

The maximum average power spectral density conducted from the intentional radiator of the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. Results of this testing are summarized.

<b>Frequency (MHz)</b>	<b>Measurement (dBm)</b>	<b>Criteria (dBm)</b>
2402	-1.56	8.0
2442	0.82	8.0
2480	0.51	8.0

### **Result**

The maximum average power spectral density was less than the limit of 8 dBm; therefore, the EUT complies with the specification.

-- End of Test Report --