



427 West 12800 South
Draper, UT 84020

Test Report Certification

FCC ID	SWX-UX7SP
IC ID	6545A-UX7SP
Equipment Under Test	UX7-SP
Test Report Serial Number	TR10043_01
Date of Tests	3, 21, 24, 28 March; 11 June 2025
Report Issue Date	12 June 2025

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



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 with the specifications provided by the manufacturer.

Applicant	Ubiquiti Inc.
Manufacturer	Ubiquiti Inc.
Brand Name	UBIQUITI
Model Number	UX7-SP
FCC ID	SWX-UX7SP
IC ID	6545-UX7SP

On this 12th day of June 2025, 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. Unified Compliance laboratory is not responsible for incorrect information provided by the manufacturer.

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



Written By: Kimberly DeBole



Reviewed By: Richard L. Winter

Revision History		
Revision	Description	Date
01	Original Report Release	12 June 2025

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1 Client Information

1.1 Applicant

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

1.2 Manufacturer

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

2 Equipment Under Test (EUT)

2.1 Identification of EUT

Brand Name	UBIQUITI
Model Number	UX7-SP
Serial Number	8478487e893b
Dimensions (cm)	11.7 x 11.7 x 4.25

2.2 Description of EUT

The UX7-SP is an access point designed for wide-ranging wireless coverage while maintaining overall network capacity. The UX7-SP operates in the 2.4 GHz and 5 GHz range. The UX7-SP has a Bluetooth management radio for easy setup and administration of the wireless system. The UX7-SP is powered from a USB-C connector.

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.

Brand Name Model Number Serial Number	Description	Name of Interface Ports / Interface Cables
BN: UBIQUITI MN: UX7 SN: 942A6F422528	Wireless Access Point	See Section 2.4
BN: UBIQUITI MN: GP-M015-QC SN: N/A	USB C Power Adapter	2 conductor power cord/80 cm
BN: Dell MN: XPS 13 SN: N/A	Laptop Personal Computer	LAN Port / Un-shielded Cat 5e cable (Note 2)

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

Name of Ports	No. of Ports Fitted to EUT	Cable Description/Length
AC / USB-C	1	2 conductor power cord/80 cm
LAN	1	Un-shielded Cat 5e cable/5 meter
WAN	1	Un-shielded Cat 5e cable/5 meter

2.5 Operating Environment

Power Supply	120 Volts AC Mains to USB-C Power
AC Mains Frequency	60 Hz
Temperature	22.2 – 24 °C
Humidity	24.37 – 39.5 %
Barometric Pressure	1016 mBar

2.6 Operating Modes

The UX7-SP 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

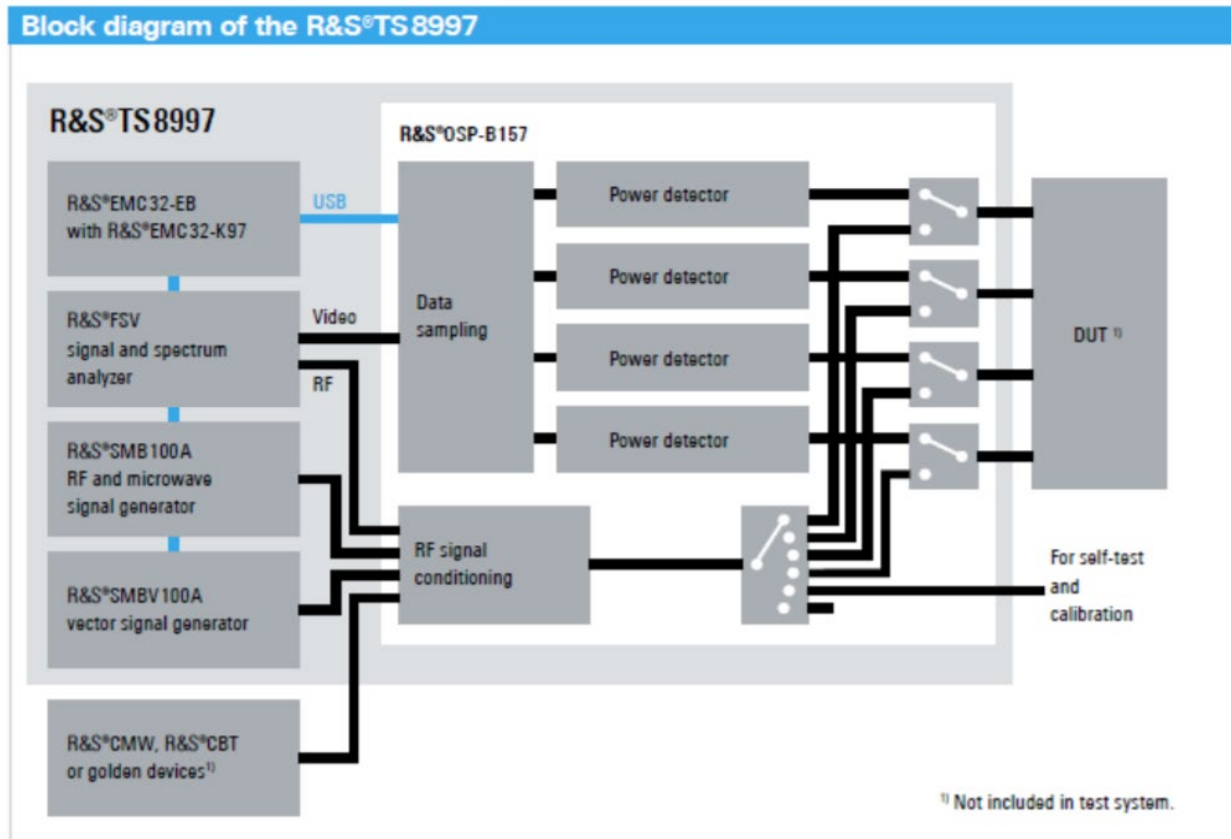


Diagram 1: Test Configuration Block Diagram

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

Title	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.
Purpose of Test	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 2480	Compliant
15.247(b)	RSS-247 § 5.4	Peak Output Power	2400 to 2480	Compliant
15.247(d)	RSS-247 § 5.4	Antenna Conducted Spurious Emissions	0.009 to 40000	N/A
15.247(d)	RSS-247 § 5.4	Radiated Spurious Emissions	0.009 to 40000	Compliant
15.247(e)	RSS-247 § 5.2	Peak Power Spectral Density	2400 to 2480	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 3-Meter and 10-Meter chambers 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 2025. 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 2026.

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	8/27/2024	8/27/2025
LISN	AFJ	LS16C/10	UCL-2512	7/08/2024	7/08/2025
ISN	Teseq	ISN T800	UCL-2974	7/09/2024	7/09/2025
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

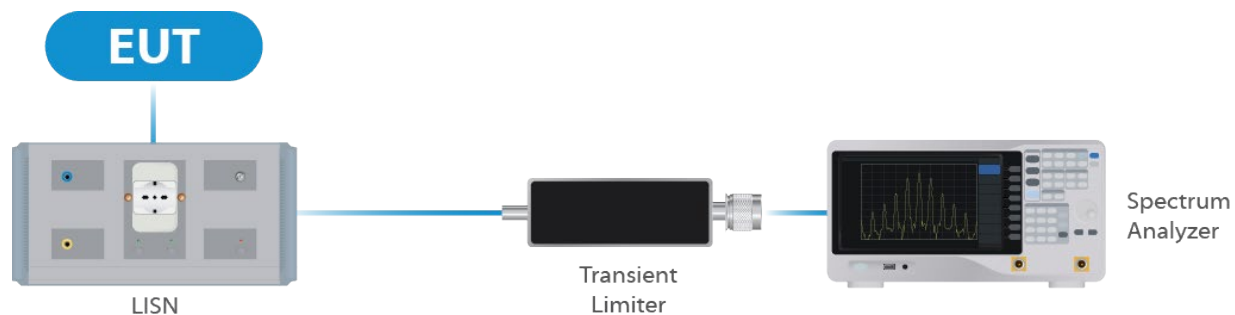


Figure 1: Conducted Emissions Test

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	1/16/2025	1/16/2026
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	4/28/2025	1/16/2026
Switch Extension	R&S	OSP-150W	UCL-2870	4/28/2025	1/16/2026
Test Software	R&S	EMC32	UCL-9442	--	--

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

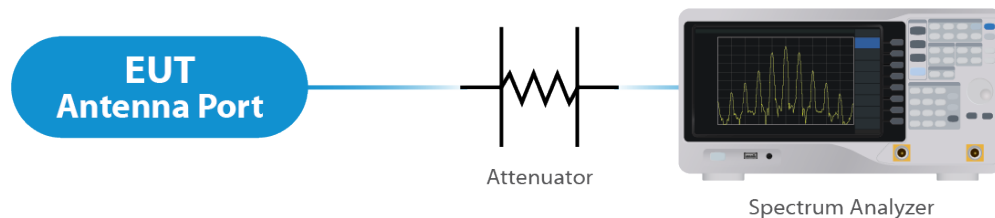


Figure 2: Direct Connect at the Antenna Port Test

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	12/27/2024	12/27/2025
Pre-Amplifier 9 kHz – 1 GHz	Sonoma Instruments	310N	UCL-2889	1/19/2024	1/19/2026
Broadband Antenna	ETS-Lindgren	3142E	UCL-9782	2/6/2025	2/6/2026
Double Ridge Horn Antenna	Scwarzbeck	BBHA 9120D	UCL-3065	4/2/2025	4/2/2027
Log Periodic	Scwarzbeck	STLP 9129	UCL-3068	2/11/2025	2/4/2027
10 - 40 GHz Horn Antenna	ETS-Lindgren	3116C	UCL-7209	6/6/2024	6/6/2026
1 – 18 GHz Amplifier	Com-Power	PAM 118A	UCL-3833	7/2/2024	7/2/2025
Test Software	Nexio	BatEMC	UCL-5253 & UCL-5249	N/A	N/A

Table 3: List of equipment used for Radiated Emissions

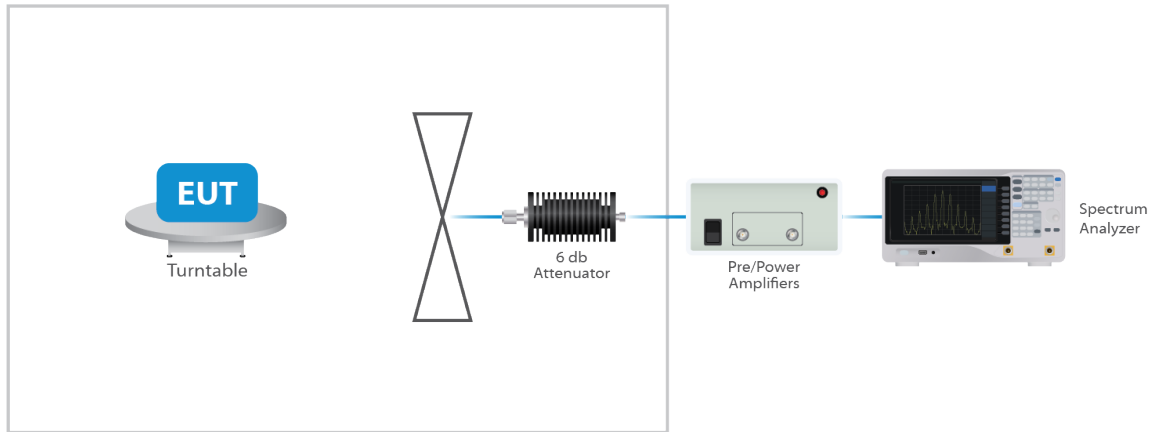


Figure 3: Radiated Emissions Test

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
Direct Connect Tests	K Factor	Value
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 antenna. As per the manufacturer, the Maximum gain of the antenna is 0 dBi. The antenna is not user replaceable.

Results

The EUT complied with the specification.

5.2 Conducted Emissions at Mains Ports Data

Frequency (MHZ)	AC Mains Lead	Detector	Measured Level (dBμV)	Limit (dBμV)	Margin (dB)
0.681	Hot Lead	Quasi-Peak (Note 2)	40.94	56.00	- 15.06
0.177	Hot Lead	Quasi-Peak (Note 2)	48.48	64.63	- 16.15
0.738	Hot Lead	Quasi-Peak (Note 2)	35.44	56.00	- 20.56
0.153	Hot Lead	Average (Note 2)	37.79	55.84	- 18.05
0.672	Hot Lead	Average (Note 2)	29.82	46.00	- 16.18
0.738	Hot Lead	Average (Note 2)	25.25	46.00	- 20.75
0.672	Neutral Lead	Quasi-Peak (Note 2)	47.14	56.00	- 8.86
0.153	Neutral Lead	Quasi-Peak (Note 2)	50.71	65.84	- 15.13
0.804	Neutral Lead	Quasi-Peak (Note 2)	38.34	56.00	- 17.66
0.153	Neutral Lead	Average (Note 2)	39.20	55.84	- 16.64
0.672	Neutral Lead	Average (Note 2)	39.63	46.00	- 6.37
0.825	Neutral Lead	Average (Note 2)	33.50	46.00	- 12.50

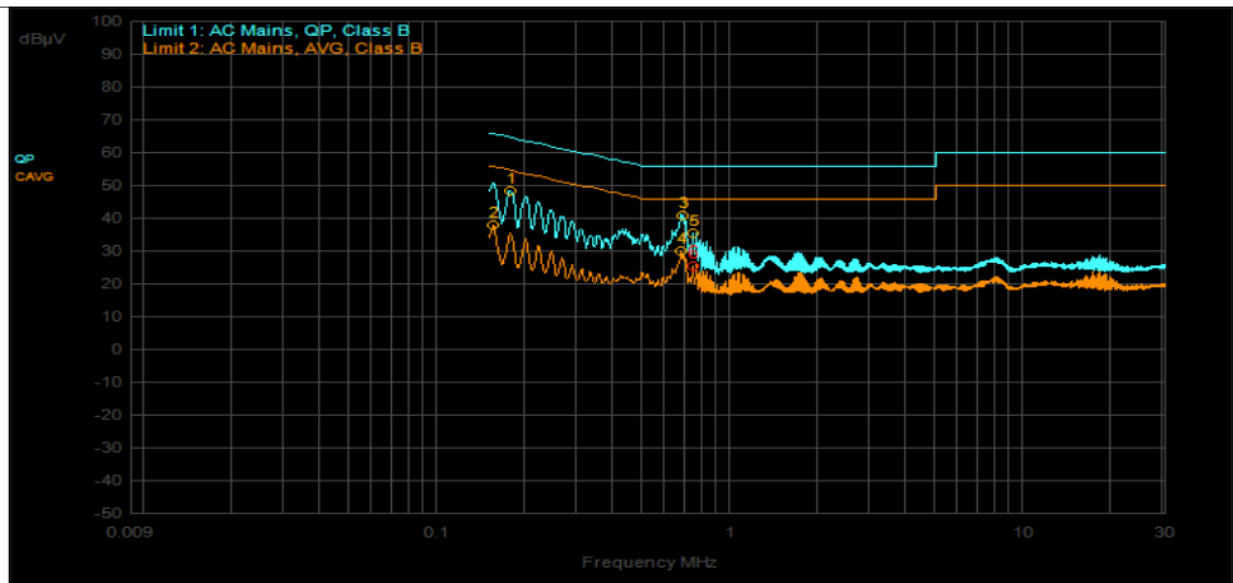
Note 1: The reference detector used for the measurements was Quasi-Peak or Peak and the data was compared to the average limit: therefore, the EUT was deemed to meet both the average and quasi-peak limits.

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

Note 3: The device the transceiver is in is a Class A device and the limits shown are from §15.207 which are the same as the limits for a Class B device under §15.107. These emissions were investigated and were found to be at the same level regardless of whether the transceivers of the device were not powered, powered and idle, or powered and active, therefore, the conducted emissions of the transceivers were deemed compliant with the requirements of the standard.

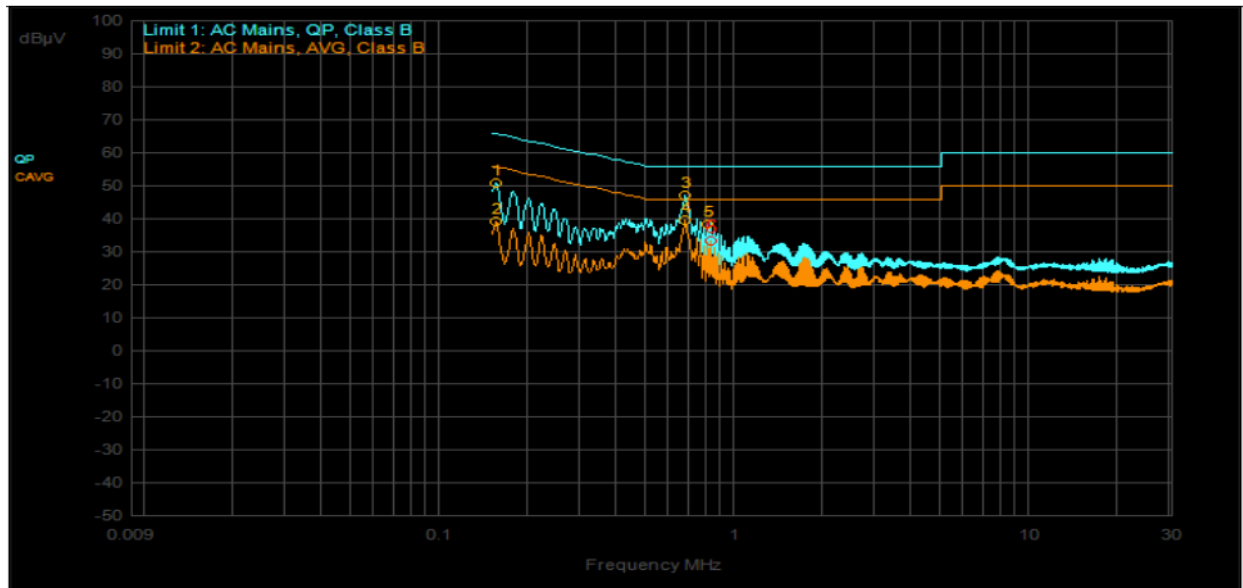
Result

The EUT complied with the specification limit.



ID	Frequency	Probe	Cable	Atten.	Detector	Meter Read	Meas Level	Limit 1	Limit 1 Dist.	Limit 2	Limit 2 Dist.	P/F
MU	MHz	dB	dB	dB	Type	dBμV	dBμV	dBμV	dB	dBμV	dB	P/F
3	681,000kHz	12.39	0.00		QPeak	28.55	40.94	56.00	-15.06			
1	177,000kHz	12.38	0.00		QPeak	36.10	48.48	64.63	-16.15			
5	738,000kHz	12.39	0.00		QPeak	23.05	35.44	56.00	-20.56			
2	153,000kHz	12.41	0.00		C_AVG	25.38	37.79			55.84	-18.05	
4	672,000kHz	12.38	0.00		C_AVG	17.44	29.82			46.00	-16.18	
6	738,000kHz	12.39	0.00		C_AVG	13.16	25.55			46.00	-20.45	

Graph 1: Conducted Emissions Plot - Line 1



ID	Frequency	Probe	Cable	Atten.	Detector	Meter Read	Meas Level	Limit 1	Limit 1 Dist.	Limit 2	Limit 2 Dist.	P/F
MU	MHz	dB	dB	dB	Type	dBμV	dBμV	dBμV	dB	dBμV	dB	P/F
3	672,000kHz	12.37	0.00		QPeak	34.77	47.14	56.00	-8.86			
1	153,000kHz	12.38	0.00		QPeak	38.33	50.71	65.84	-15.13			
5	804,000kHz	12.37	0.04		QPeak	25.93	38.34	56.00	-17.66			
2	153,000kHz	12.38	0.00		C_AVG	26.82	39.20			55.84	-16.64	
4	672,000kHz	12.37	0.00		C_AVG	27.26	39.63			46.00	-6.37	
6	825,000kHz	12.37	0.10		C_AVG	21.03	33.50			46.00	-12.50	

Graph 2: Conducted Emissions Plot – Neutral

5.3 §15.247(a)(2) Emissions Bandwidth

Frequency (MHz)	Emissions 6 dB Bandwidth (MHz)	Emissions 99% Bandwidth (MHz)
2402	0.72	0.99
2442	0.65	0.99
2480	0.63	0.99

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 within the Annex).

5.4 §15.247(b)(3) Maximum Average Output Power

The maximum average RF conducted output power measured for this device was 5.88 dBm or 3.87 mW. The limit is 30 dBm or 1 Watt when using antennas with 6 dBi or less gain. The antenna has a gain of 0 dBi.

Frequency (MHz)	Measured Output Power (dBm)	Output Power (mW)
2402	5.38	3.45
2442	5.88	3.87
2480	5.88	3.87

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).

5.5 §15.247(d) Spurious Emissions

5.5.1 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 plots 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.

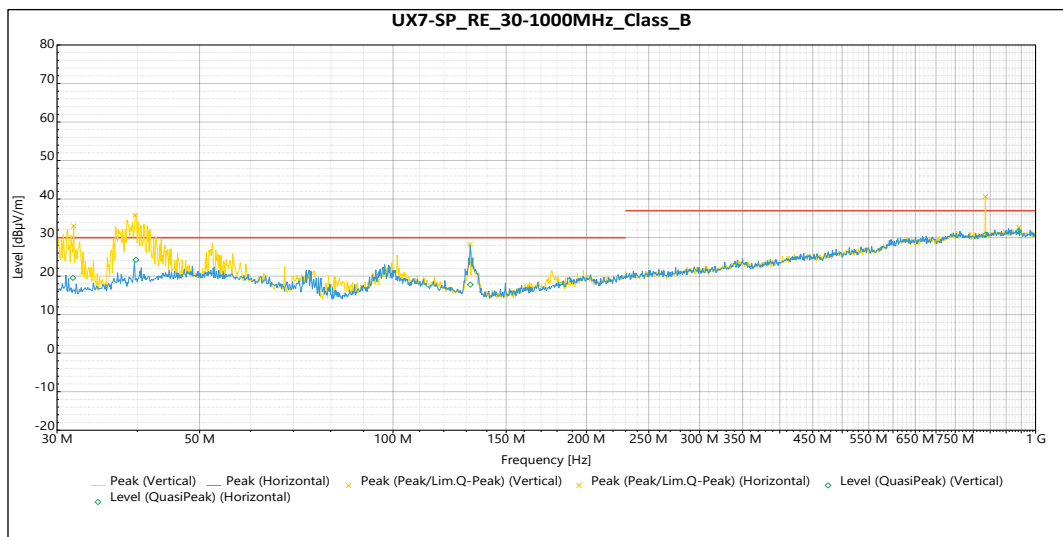
5.5.2 Radiated Spurious Emissions in the Restricted Bands of §15.205

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.

Correction Factor = Antenna Factor (dBi) + Cable Loss (dB) - Pre-Amplifier Gain (dB), and is added to the Receiver reading.

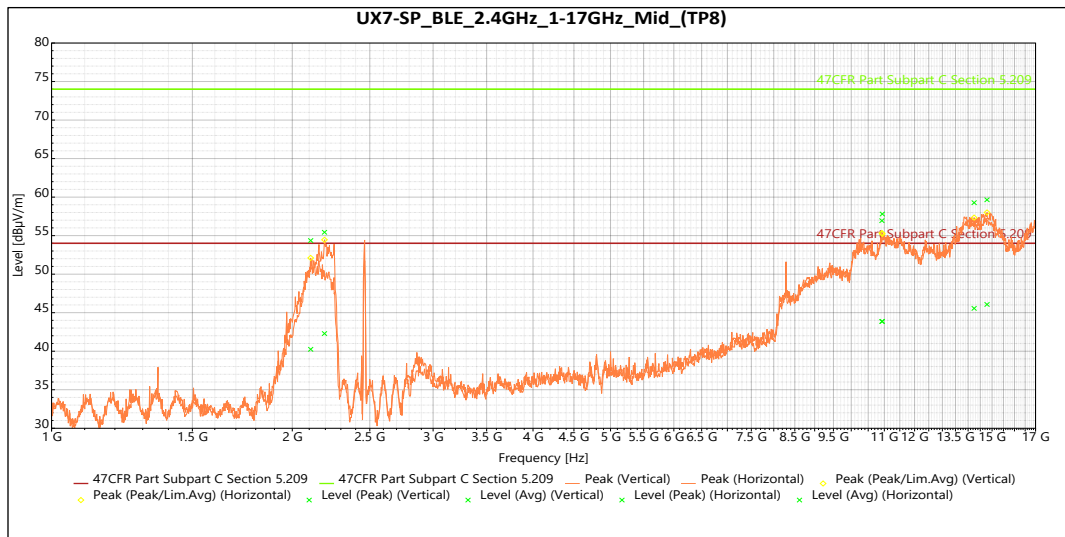
Result

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



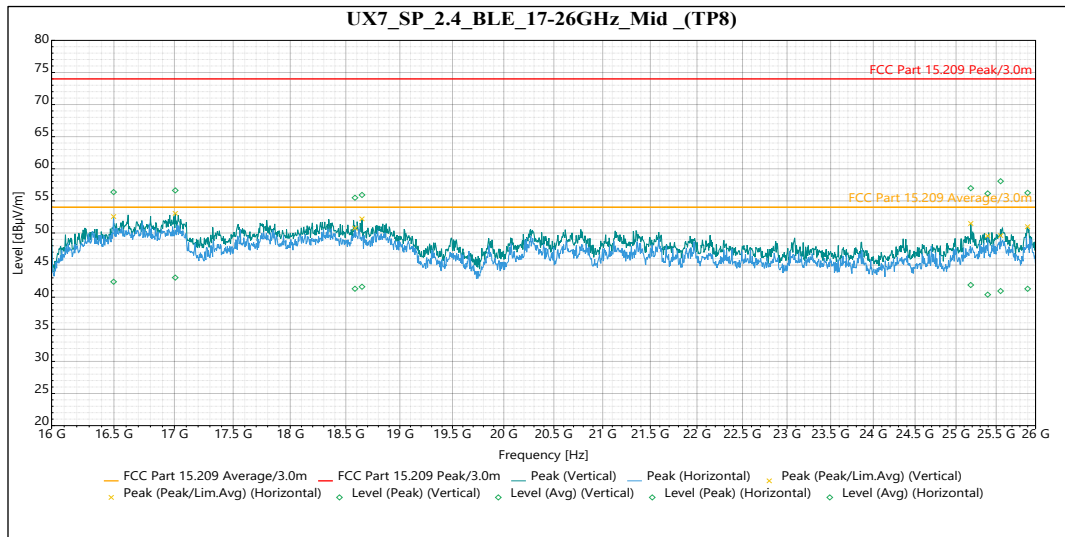
Frequency	SR #	Level (dBµV/m)	Limit (dBµV/m)	Margin	Azimuth (°)	Height	Pol.	Meas. Time	Correction (dB)
31.756 MHz	QP	19.552	30	-10.448	210	1.85	Vertical	15	-11.819
39.805 MHz	QP	24.238	30	-5.762	226	1.05	Vertical	15	-9.23
835.4 MHz	QP	30.694	37	-6.306	159	1.9	Vertical	15	0.43
131.94 MHz	QP	17.787	30	-12.213	322	3.97	Horizontal	15	-13.114
941.95 MHz	QP	31.668	37	-5.332	307	3.12	Horizontal	15	1.812

Table 4: Radiated Emissions within 30 MHz to 1 GHz



Frequency	SR #	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
2.1944 GHz	Peak	55.44	74	-18.56	302	3.307	Vertical	-16.234
10.923 GHz	Peak	56.946	74	-17.054	45	3.798	Vertical	12.091
14.784 GHz	Peak	59.654	74	-14.346	308	2.816	Vertical	14.719
2.1944 GHz	Avg	42.295	54	-11.705	302	3.307	Vertical	-16.234
10.923 GHz	Avg	43.859	54	-10.141	45	3.798	Vertical	12.091
14.784 GHz	Avg	46.071	54	-7.929	308	2.816	Vertical	14.719
2.1089 GHz	Peak	54.367	74	-19.633	229	2.329	Horizontal	-17.069
10.936 GHz	Peak	57.808	74	-16.192	324	4	Horizontal	12.119
14.245 GHz	Peak	59.28	74	-14.72	149	3.311	Horizontal	14.268
2.1089 GHz	Avg	40.25	54	-13.75	229	2.329	Horizontal	-17.069
10.936 GHz	Avg	43.876	54	-10.124	324	4	Horizontal	12.119
14.245 GHz	Avg	45.564	54	-8.436	149	3.311	Horizontal	14.268

Table 5: Radiated Emissions within 1-17GHz Transmitting at the Middle Frequency



Frequency	SR #	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
17.007007 GHz	1	56.635	74	-17.365	28	Vertical	7.177
18.6485815 GHz	1	55.926	74	-18.074	51	Vertical	6.333
25.1820834 GHz	1	56.983	74	-17.017	311	Vertical	8.674
25.8988689 GHz	1	56.259	74	-17.741	13	Vertical	8.875
17.007007 GHz	1	43.053	54	-10.947	28	Vertical	7.177
18.6485815 GHz	1	41.626	54	-12.374	51	Vertical	6.333
25.1820834 GHz	1	41.903	54	-12.097	311	Vertical	8.674
25.8988689 GHz	1	41.312	54	-12.688	13	Vertical	8.875
16.4975254 GHz	2	56.373	74	-17.627	304	Horizontal	8.071
18.5839451 GHz	2	55.489	74	-18.511	314	Horizontal	6.236
25.3935357 GHz	2	56.161	74	-17.839	314	Horizontal	8.985
25.5556862 GHz	2	58.068	74	-15.932	23	Horizontal	9.794
16.4975254 GHz	2	42.407	54	-11.593	304	Horizontal	8.071
18.5839451 GHz	2	41.316	54	-12.684	314	Horizontal	6.236
25.3935357 GHz	2	40.401	54	-13.599	314	Horizontal	8.985
25.5556862 GHz	2	40.964	54	-13.036	23	Horizontal	9.794

Table 6: Radiated Emissions within 17-26GHz Transmitting at the Middle Frequency

5.6 §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.

Frequency (MHz)	Measurement (dBm)	Criteria (dBm)
2404	-1.12	8.0
2442	-0.63	8.0
2480	-0.65	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 --