UNIFIED COMPLIANCE LABORATORY

427 West 12800 South
Draper, UT 84020

Test Report

Certification

FCC ID	SWX-UX7
ISED ID	6545A-UX7
Equipment Under Test	UX7
Test Report Serial Number	TR9481_02
Date of Tests	9, 18-20 September, 7 October 2024
Report Issue Date	7 November 2024

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

NVLAP TESTING ilac-MRA

NVLAP LAB CODE 600241-0

Certification of Engineering Report

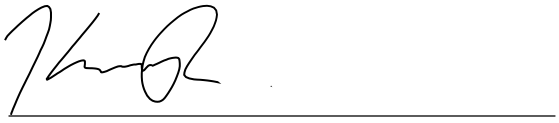
This report has been prepared by Unified Compliance Laboratory (UCL) to document compliance of the device described below with the requirement of Federal Communication Commissions (FCC) Part 15, Subpart E. This report may be reproduced in full. Partial reproduction of this report may only be made with 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
FCC ID	SWX-UX7
ISED ID	6545A-UX7

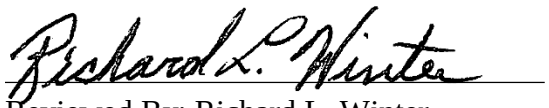
On this 7th day of November 2024, I individually and for Unified Compliance Laboratory certify that the statements made in this engineering report are true, complete, and correct to the best of my knowledge and are made in good faith.

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



Written By: Kimberly Rodriguez



Reviewed By: Richard L. Winter

Revision History		
Revision	**Description**	**Date**
01	Original Report Release	7 November 2024
02	Amend FCC and IC ID	3 December 2024

Table of Contents

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
Serial Number	942A6F4226AE
Dimensions (cm)	11.7 x 11.7 x 4.3

2.2 Description of EUT

The UX7 is a WiFi 7 access point designed for wide-ranging wireless coverage while maintaining overall network capacity. The UX7 operates in the 2.4 GHz, 5 GHz, and 6 GHz range. The UX7 has a Bluetooth management radio for easy setup and administration of the wireless system. The UX7 is powered from a USB-C connector.

Band	WiFi Mode	Modulation Bandwidth	Modulation Type	Frequency (MHz)
UNII-1	a	20 MHz	OFDM	5180, 5200, 5210, 5240
	ax	20 MHz	HE	5180, 5200, 5210, 5240
	ax	40 MHz	HE	5190, 5230
	ax	80 MHz	HE	5210

This report covers the circuitry of the device subject to FCC Part 15, Subpart E. 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	240 Volts AC Mains to USB-C Power
AC Mains Frequency	50 Hz
Temperature	21.8 – 23.5 °C
Humidity	25.7 – 41.5 %
Barometric Pressure	1019 mBar

2.6 Operating Modes

The UX7 was tested using test software in order to enable a constant transmission. The measurements within this report are corrected to reference a 100% duty cycle. All emission modes of 802.11 a/ax were investigated. All measurements are reported with the worst-case mode (802.11ax) unless otherwise stated.

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

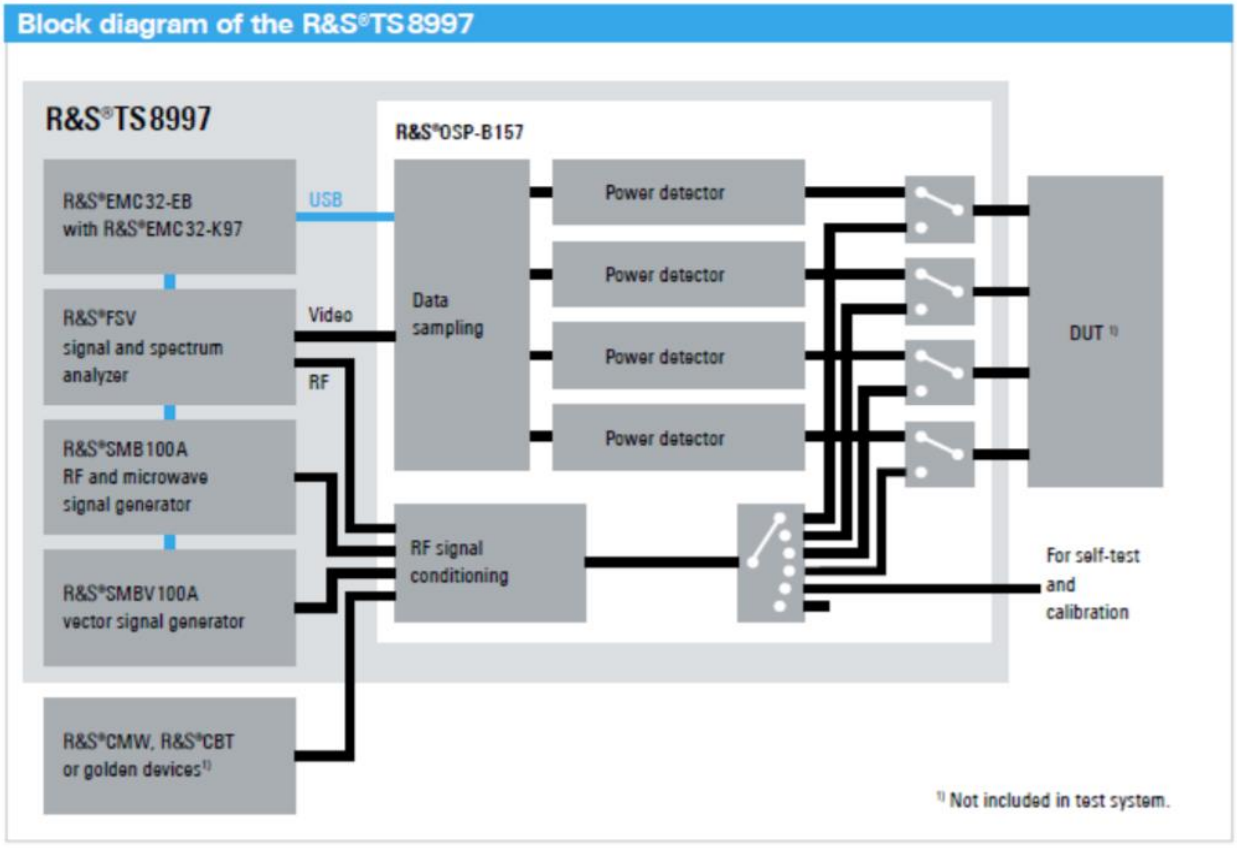


Diagram 1: Test Configuration Block Diagram

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 E, Section 15.407 Limits and methods of measurement of radio interference characteristics of Unlicensed National Information Infrastructure 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 15.407

See test standard for details.

3.3 FCC Part 15, Subpart E

3.3.1 Summary of Tests

FCC Section	ISED Section	Environmental Phenomena	Frequency Range (MHZ)	Result
15.407(a)	N/A	Antenna requirements	Structural Requirement	Compliant
15.407(b)	RSS-Gen	Conducted Disturbance at Mains Port	0.15 to 30	Compliant
15.407(c)	RSS-247 §6.2.2, §6.2.3	Bandwidth Requirement	5180 to 5240	Compliant
15.407(e)	RSS-247 §6.2.2, §6.2.3	Peak Output Power	5180 to 5240	Compliant
15.407(f)	RSS-247 §6.2.2, §6.2.3	Antenna Conducted Spurious Emissions	0.009 to 40000	N/A
15.407(g)	RSS-247 §6.2.2, §6.2.3	Radiated Spurious Emissions	0.009 to 40000	Compliant
15.407(h)	RSS-247 §6.2.2, §6.2.3	Peak Power Spectral Density	5180 to 5240	Compliant
The testing was performed according to the procedures in ANSI C63.10-2013, KDB 789033 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 chamber 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 as was accepted under Appendix B, Phase 1 procedures of the APEC Tel MRA for Canadian recognition. ISED No.: 25346, effective until 30 June 2025.

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-6754	1/23/2024	2/26/2025
LISN	AFJ	LS16C/10	UCL-2512	7/08/2024	7/08/2025
ISN	Teseq	ISN T800	UCL-2974	7/09/2024	7/09/2025
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

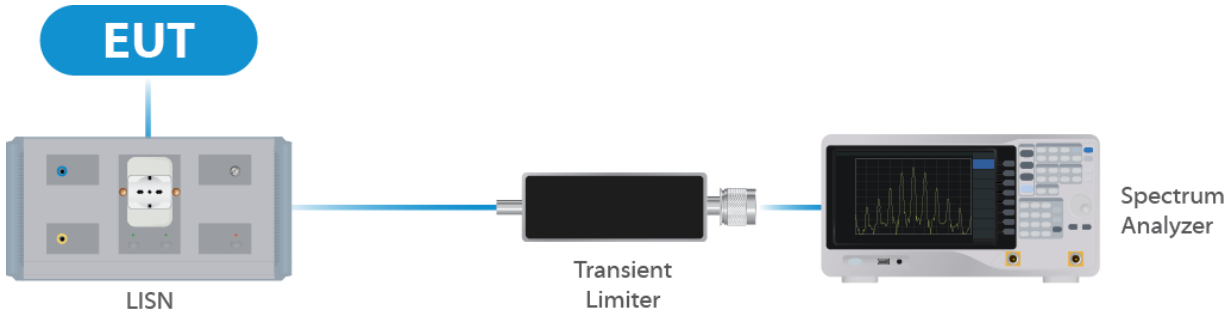


Figure 1: Conducted Emissions Test

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	4/12/2024	4/19/2025
Switch Extension	R&S	OSP-150W	UCL-2870	4/12/2024	4/19/2025

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

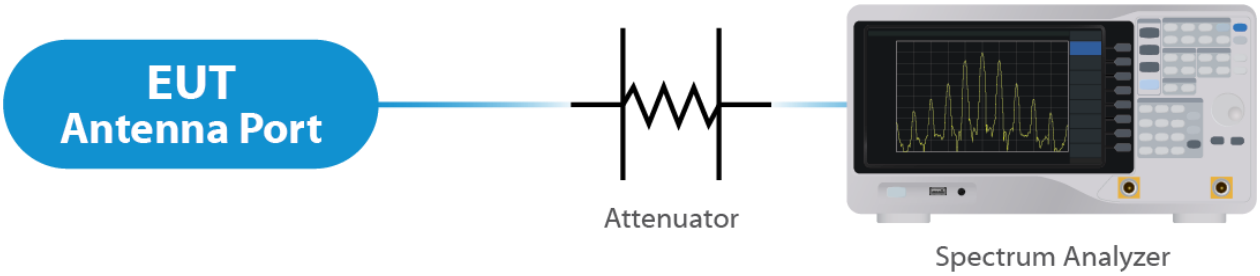


Figure 2: Direct Connect at the Antenna Port Test

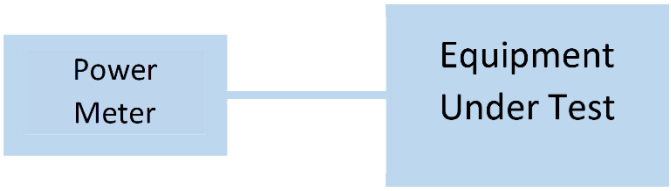


Figure 3: Output Power Measurement

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	3/10/2023	3/10/2025
Log Periodic	Scwarzbeck	STLP 9129	UCL-3068	1/27/2023	1/27/2025
15 - 40 GHz Horn Antenna	Scwarzbeck	BBHA 9170	UCL-2487	3/10/2023	3/10/2025
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

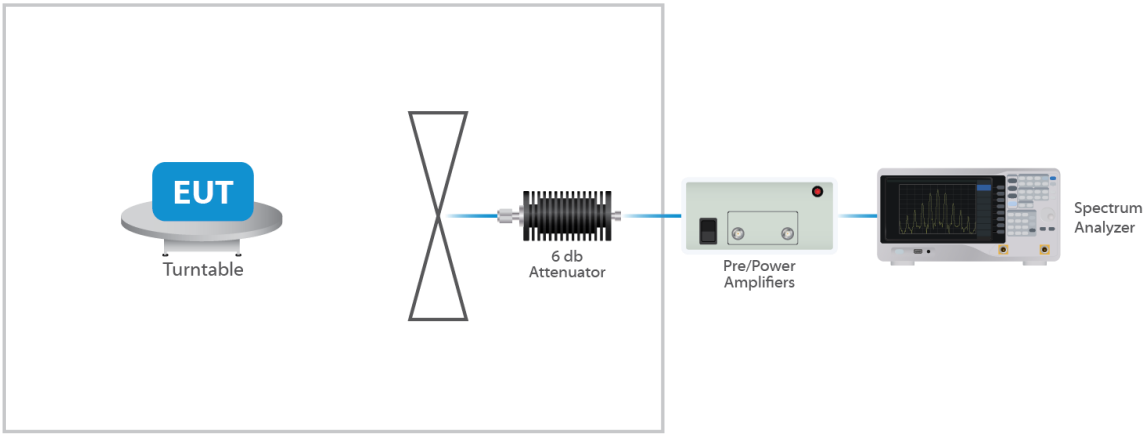


Figure 4: Radiated Emissions Test

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 (± 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 integral antenna. Per the manufacturer, the Maximum gain of the antenna per chain is 7 dBi. This is an 802.11 device and utilizes CDD as described in KDB 662911 D01. The antenna is not user replaceable. For CDD transmissions, directional gain is calculated as follows.

Array Gain = 10 log(NANT/NSS) dB
NANT = number of transmit antennas and
NSS = number of spatial streams. NSS = 1 considered worst case.

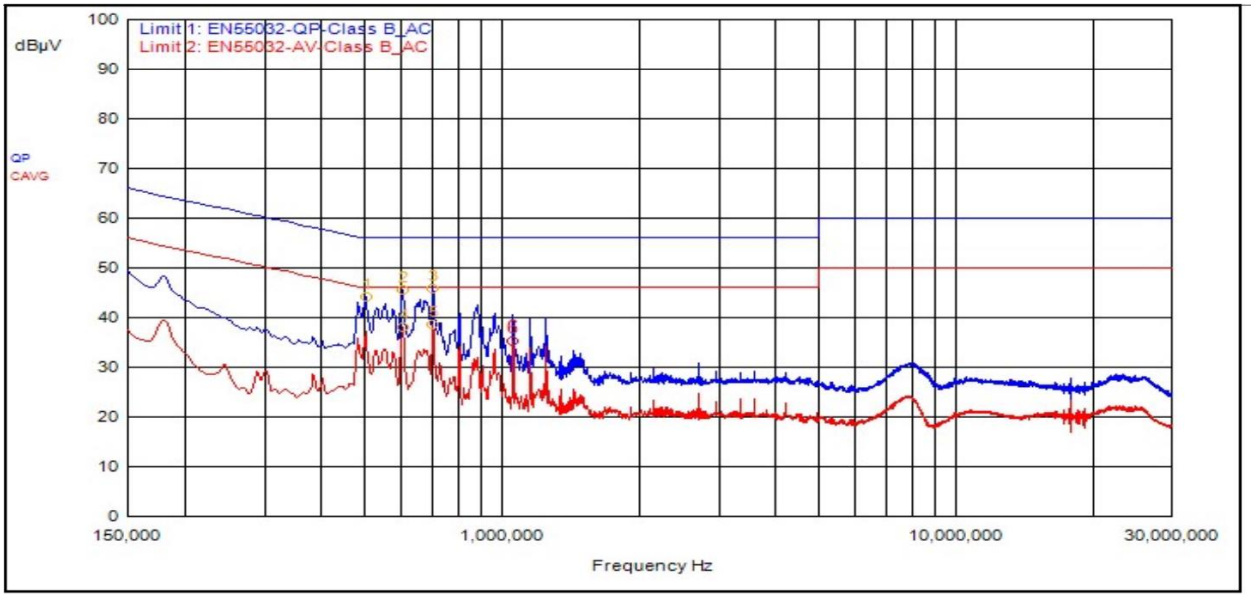
For power measurements on IEEE 802.11 devices, Array Gain = 0 dB for NANT ≤ 4;
For PSD measurements when Nss=1: Array Gain = 10 log(NANT/NSS) dB + Antenna Gain (dBi). Or 3.01 dB + 7 dBi = 10.01 dBi.

Results

The EUT complied with the specification

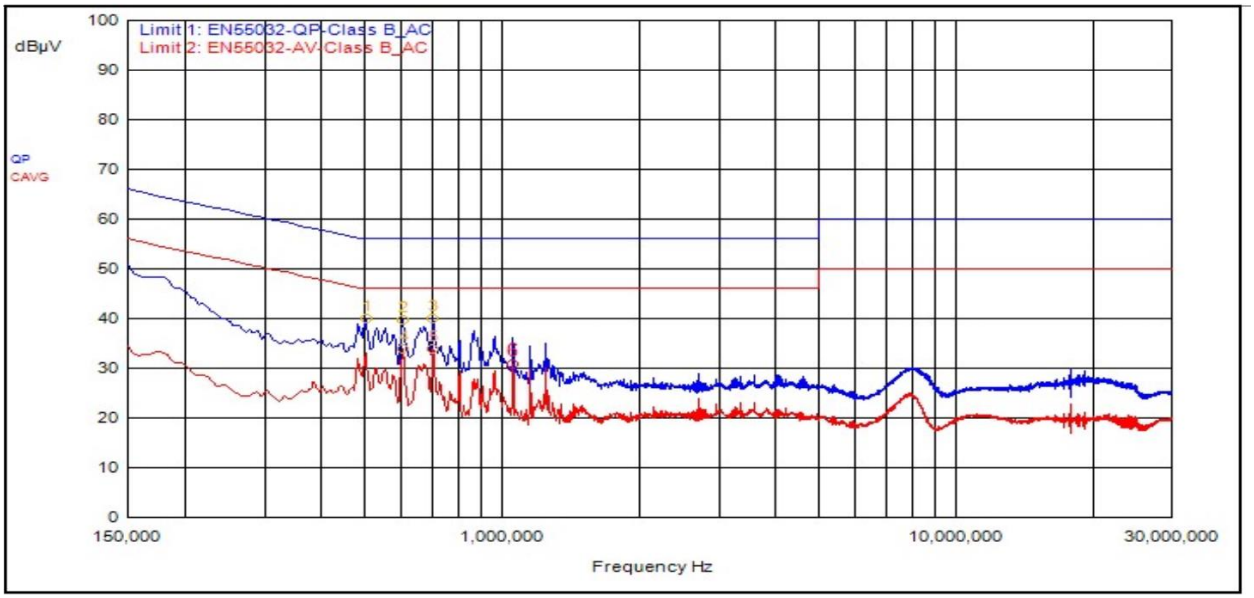
5.2 Conducted Emissions at Mains Ports Data

5.2.1 Line



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	705,000kHz	9.50			QPeak	36.47	45.97	56.00	-10.03			
2	603,000kHz	9.50			QPeak	36.03	45.53	56.00	-10.47			
1	501,000kHz	9.49			QPeak	34.78	44.27	56.00	-11.73			
4	606,000kHz	9.50			C_AVG	28.49	37.99			46.00	-8.01	
5	705,000kHz	9.50			C_AVG	29.04	38.54			46.00	-7.46	
6	1.059	9.58			C_AVG	25.65	35.23			46.00	-10.77	

5.2.2 Neutral



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
1	501,000kHz	9.64			QPeak	30.41	40.05	56.00	-15.95			
3	705,000kHz	9.54			QPeak	30.33	39.87	56.00	-16.13			
2	603,000kHz	9.59			QPeak	30.02	39.61	56.00	-16.39			
4	606,000kHz	9.59			C_AVG	24.26	33.85			46.00	-12.15	
5	705,000kHz	9.54			C_AVG	24.44	33.98			46.00	-12.02	
6	1.059	9.56			C_AVG	21.14	30.70			46.00	-15.30	

Result

The EUT complied with the specification limit.

5.3 §15.403(i) 26 dB Emissions Bandwidth

All chains were measured under the guidance of KDB 789033 Section II.C. and KDB 662911 D01.

Nominal BW (MHz)	Frequency (MHz)	99% Bandwidth (MHz)	Emissions 26 dB Bandwidth (MHz)
OFDM20	5180	17.75	22.30
OFDM20	5210	31.25	48.00
OFDM20	5240	33.00	48.40
HE20	5180	19.25	23.50
HE20	5210	26.53	50.80
HE20	5240	32.87	53.00
HE40	5190	38.50	43.05
HE40	5230	38.50	55.20
HE80	5210	79.00	90.00

Result

All chains were tested and the highest bandwidth per chain is reported above.
The 26 dB bandwidths are reported for information purposes. Please see Annex for all bandwidth measurements.

5.4 §15.407(a)(2) Maximum Average Output Power

All chains were measured and summed under the guidance of KDB 789033 Section II. E.2. and KDB 662911 D01. Please see associated annex for details on instrument settings.
The maximum average RF conducted output power measured for this device was 27.42 dBm or 552.08 mW. The limit is 30 dBm, or 1 Watt when using an antenna with 23 dBi (Fixed point to point) or less gain. The antenna has a gain of 7 dBi.

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Conducted Output Power	Measured EIRP	Measured PSD
OFDM 20	5180	Mcs0-Nss2	21	22.34	29.34	10.10
OFDM 20	5210	Mcs0-Nss2	27	27.42	34.42	15.13
OFDM 20	5240	Mcs0-Nss2	30	26.92	33.92	14.54
HE 20	5180	Mcs0-Nss2	22	23.20	30.20	10.47
HE 20	5210	Mcs0-Nss2	26	26.58	33.58	13.89
HE 20	5240	Mcs0-Nss2	30	26.95	33.95	14.01
HE 40	5190	Mcs0-Nss2	19	20.46	27.46	4.99
HE 40	5230	Mcs0-Nss2	23	24.62	31.62	8.86
HE 80	5210	Mcs0-Nss2	20	21.16	28.16	2.55

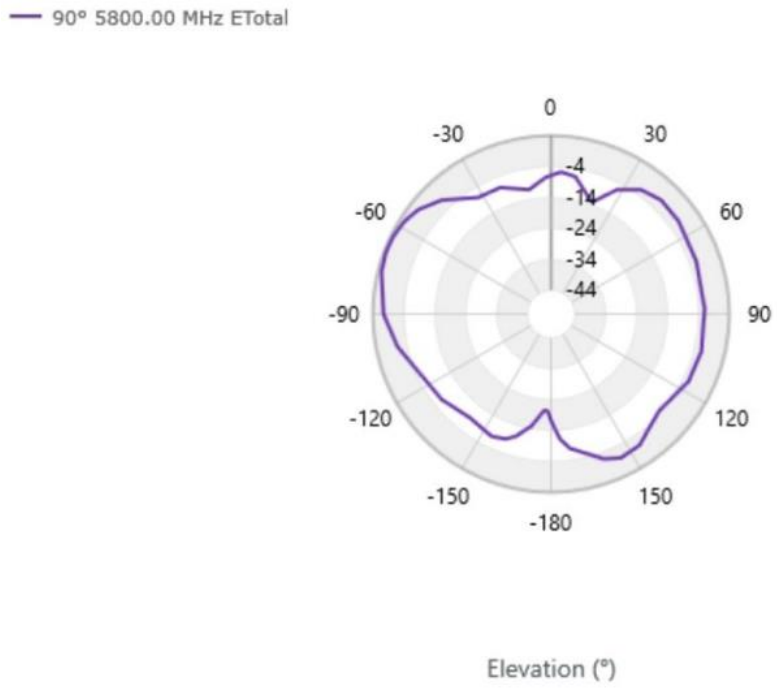
Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Conducted Output Power	Measured EIRP	Measured PSD
OFDM 20	5180	Mcs0-Nss1	21	22.34	29.34	10.10
OFDM 20	5210	Mcs0-Nss1	24	24.42	31.42	12.13
OFDM 20	5240	Mcs0-Nss1	28	24.92	31.92	12.54
HE 20	5180	Mcs0-Nss1	22	23.20	30.20	10.47
HE 20	5210	Mcs0-Nss1	25	25.58	32.58	12.89
HE 20	5240	Mcs0-Nss1	28	24.95	31.95	12.01
HE 40	5190	Mcs0-Nss1	19	20.46	27.46	4.99
HE 40	5230	Mcs0-Nss1	23	24.62	31.62	8.86
HE 80	5210	Mcs0-Nss1	20	21.16	28.16	2.55

5.4.1 Canada Use (Indoor Only)

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Conducted Output Power	Measured EIRP	Measured PSD
OFDM 20	5180	Mcs0	13	14.57	21.57	2.26
OFDM 20	5210	Mcs0	13	14.60	21.60	2.32
OFDM 20	5240	Mcs0	13	14.65	21.65	2.22
HE 20	5180	Mcs0	13	14.67	21.67	1.79
HE 20	5210	Mcs0	13	14.70	21.70	1.84
HE 20	5240	Mcs0	13	14.71	21.71	1.82
HE 40	5190	Mcs0	14	15.58	22.58	0.13
HE 40	5230	Mcs0	14	15.90	22.90	0.16
HE 80	5210	Mcs0	14	15.40	22.40	-3.24

Result

In the configuration tested, the maximum summed average RF output power was less than 1 watt; therefore, the EUT compiled with the requirements of the specification (see spectrum analyzer plots in attached Annex).



Plot 1: Elevation Plot Greater Then 30-Degrees From Horizon

5.5 §15.407(b) 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 graphs show the measurement data from spurious emissions noted across the frequency range when transmitting at the lowest frequency, middle frequency and upper frequency. Shown below are plots with the EUT turned to the upper and lower channels with the antenna gain of 7 dBi accounted for. These demonstrate compliance with the provisions of this section at the band edges.

The emissions must be remain below -27 dBm EIRP.

Result

Conducted spurious emissions were below -27 dBm; therefore, the EUT complies with the specification.

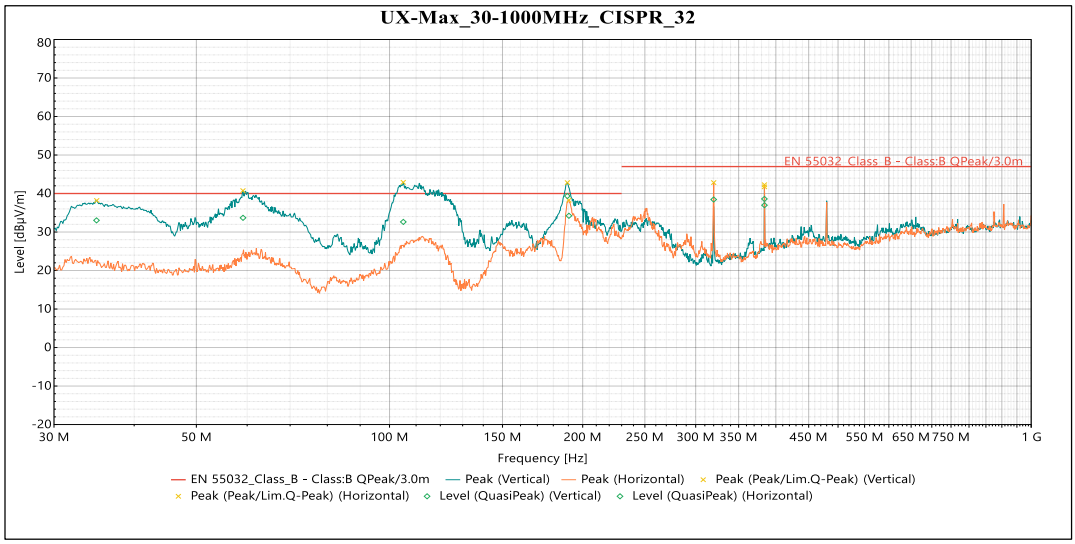
5.5.2 Radiated Spurious Emissions in the Restricted Bands of § 15.205

The EUT uses various power settings based on the channel in use. In order to reduce test time, the radiated spurious emissions at the lowest, middle, and highest channel were measured at the maximum power of TP30, as this setting was found to be worst case for spurious emissions. Power was subsequently reduced during in-band and band edge testing. The band edge at the restricted band ending at 5150 MHz was measured using radiated measurement. All emissions modes were tested, and the worst-case measurement are shown below. For frequencies above 1 GHz, a measurement of 3 meters was used. For frequencies below 1 GHz, a measurement distance of 10 meters was used.

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

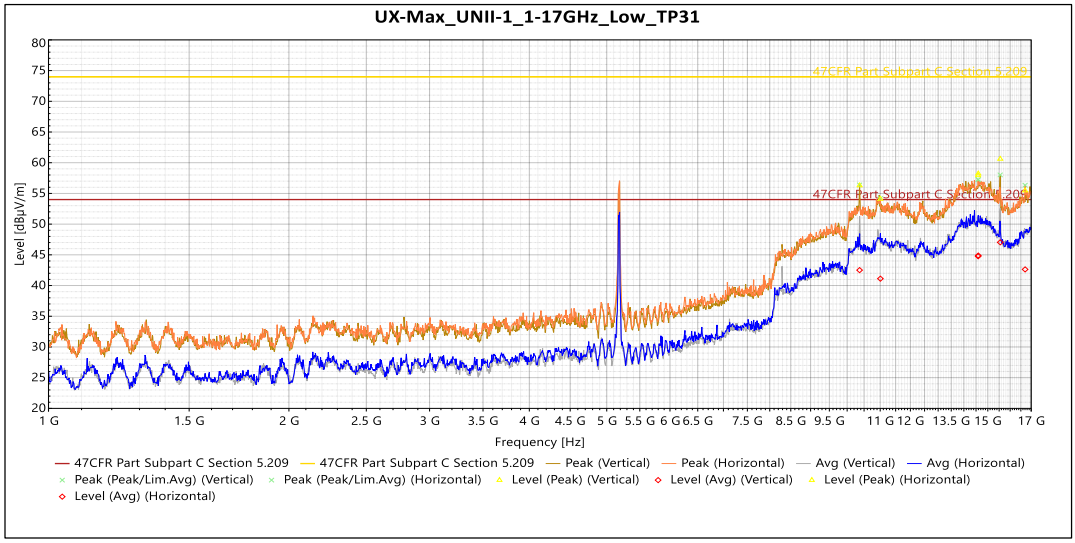
Result

All emissions in the restricted bands of § 15.205 met the limits specified in § 15.209; therefore, the EUT complies with the specification. All emissions me the limits specified in § 15.407(b). Representative band edge plots are included in this report.



Frequency	SR #	Level (dBµV/m)	Limit (dBµV/m)	Margin	Azimuth (°)	Height	Pol.	RBW (Hz)	Correction (dB)
34.945975 MHz	QP	33.027	40	-6.973	200	1	Vertical	120 kHz	-10.415
59.11511 MHz	QP	33.683	40	-6.317	349	1.13	Vertical	120 kHz	-8.763
105.073162 MHz	QP	32.625	40	-7.375	166	1.13	Vertical	120 kHz	-8.953
189.288564 MHz	QP	39.353	40	-0.647	168	1.13	Vertical	120 kHz	-9.976
383.934924 MHz	QP	38.59	47	-8.41	151	1.13	Vertical	120 kHz	-4.861
190.368388 MHz	QP	34.215	40	-5.785	288	1.35	Horizontal	120 kHz	-9.777
320.023216 MHz	QP	38.442	47	-8.558	109	1.13	Horizontal	120 kHz	-6.691
384.019152 MHz	QP	36.961	47	-10.039	351	2.14	Horizontal	120 kHz	-4.857

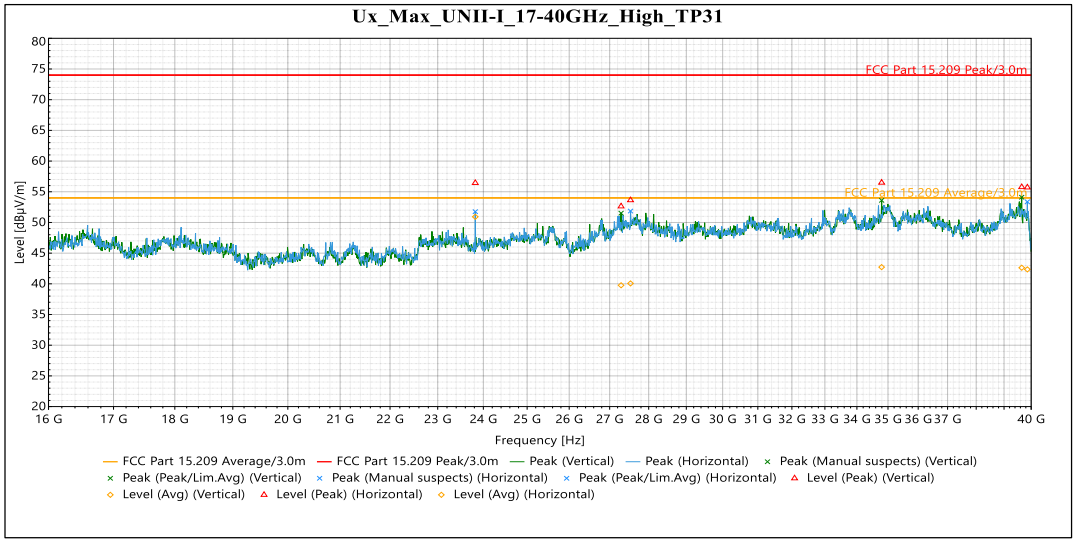
Table 4: Radiated Emissions within 30MHz-1GHz



Frequency	SR #	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
10.3656021 GHz	Peak	56.296	74	-17.704	135	3.728	Vertical	1 MHz	9.202
14.5938518 GHz	Peak	58.228	74	-15.772	261	1.5	Vertical	1 MHz	14.089
15.5477951 GHz	Peak	60.614	74	-13.386	236	2.292	Vertical	1 MHz	11.349

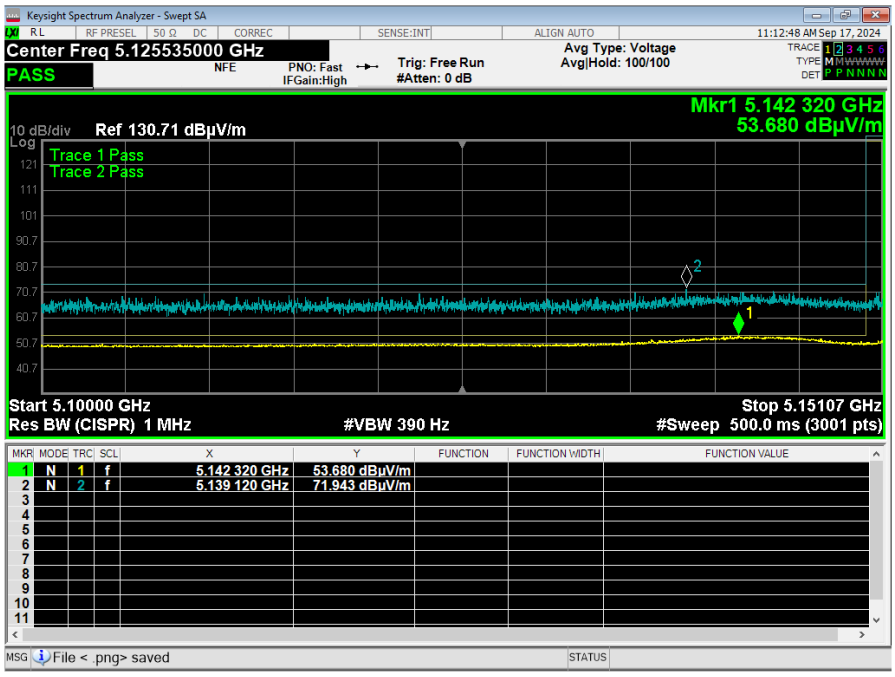
Frequency	SR #	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
10.3656021 GHz	AVG	42.51	54	-11.49	135	3.728	Vertical	0 Hz	9.202
14.5938518 GHz	AVG	44.886	54	-9.114	261	1.5	Vertical	0 Hz	14.089
15.5477951 GHz	AVG	47.036	54	-6.964	236	2.292	Vertical	0 Hz	11.349
11.0061673 GHz	Peak	54.102	74	-19.898	192	3.728	Horizontal	1 MHz	10.765
14.589249 GHz	Peak	57.934	74	-16.066	135	1.5	Horizontal	1 MHz	14.053
16.7043027 GHz	Peak	55.458	74	-18.542	356	2.867	Horizontal	1 MHz	13.567
11.0061673 GHz	AVG	41.119	54	-12.881	192	3.728	Horizontal	0 Hz	10.765
14.589249 GHz	AVG	44.767	54	-9.233	135	1.5	Horizontal	0 Hz	14.053
16.7043027 GHz	AVG	42.629	54	-11.371	356	2.867	Horizontal	0 Hz	13.567

Table 5: Emissions 1-17GHz Transmitting on the Low Frequency 5180 MHz

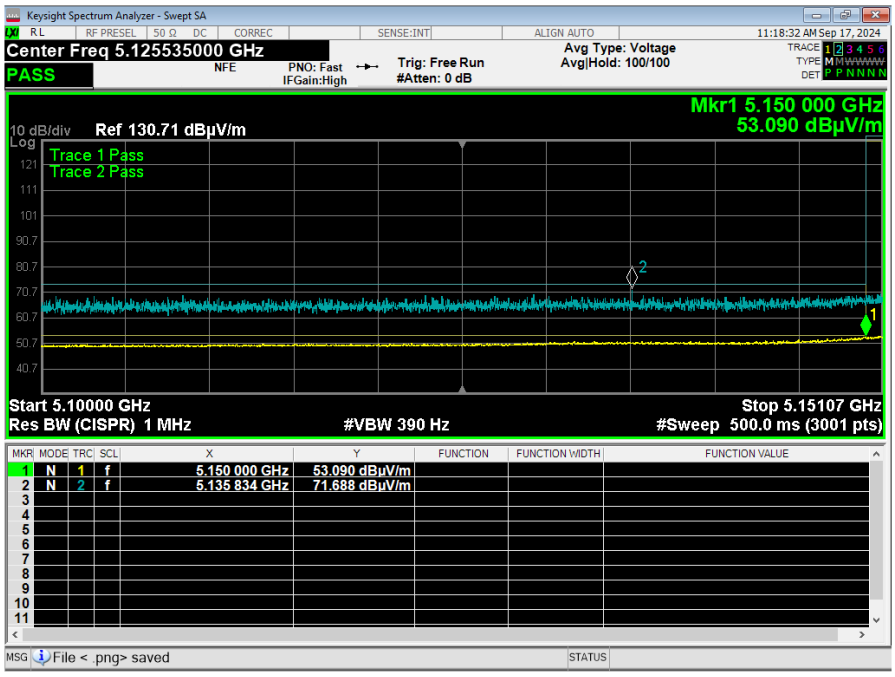


Frequency	SR #	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Pol.	RBW (Hz)	Correction (dB)
27.2886677 GHz	Peak	52.62	74	-21.38	9	Vertical	1 MHz	2.804
34.7932938 GHz	Peak	56.484	74	-17.516	286	Vertical	1 MHz	5.123
39.648126 GHz	Peak	55.765	74	-18.235	286	Vertical	1 MHz	3.894
27.2886677 GHz	AVG	39.763	54	-14.237	9	Vertical	0 Hz	2.804
34.7932938 GHz	AVG	42.72	54	-11.28	286	Vertical	0 Hz	5.123
39.648126 GHz	AVG	42.621	54	-11.379	286	Vertical	0 Hz	3.894
23.8200857 GHz	Peak	56.436	74	-17.564	91	Horizontal	1 MHz	1.103
27.5296195 GHz	Peak	53.626	74	-20.374	76	Horizontal	1 MHz	2.683
39.8580589 GHz	Peak	55.708	74	-18.292	220	Horizontal	1 MHz	3.564
23.8200857 GHz	AVG	50.918	54	-3.082	91	Horizontal	0 Hz	1.103
27.5296195 GHz	AVG	40.064	54	-13.936	76	Horizontal	0 Hz	2.683
39.8580589 GHz	AVG	42.353	54	-11.647	220	Horizontal	0 Hz	3.564

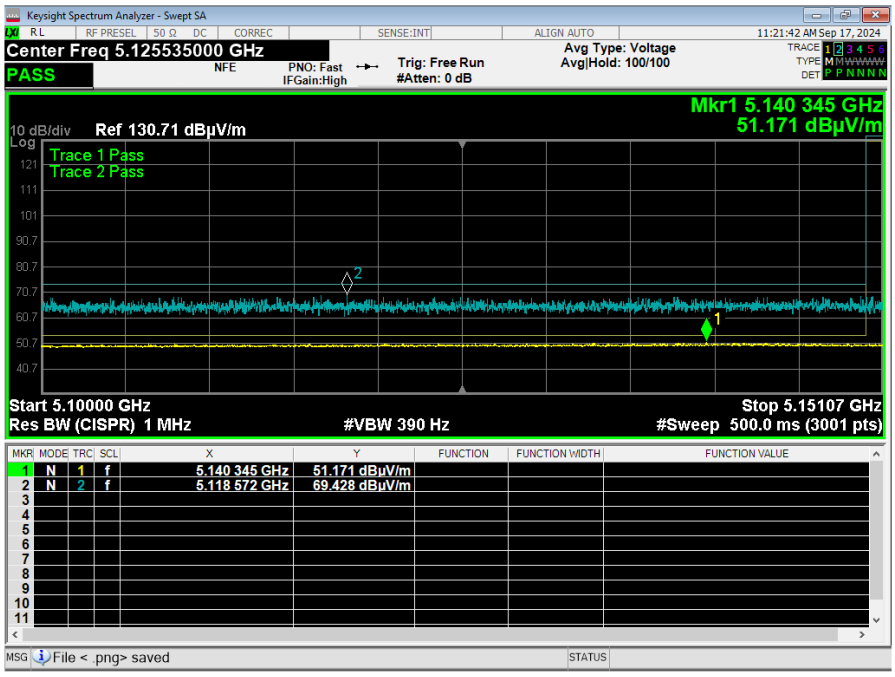
Table 6: Emissions 17-40GHz Transmitting on the Highest Frequency 5240 MHz



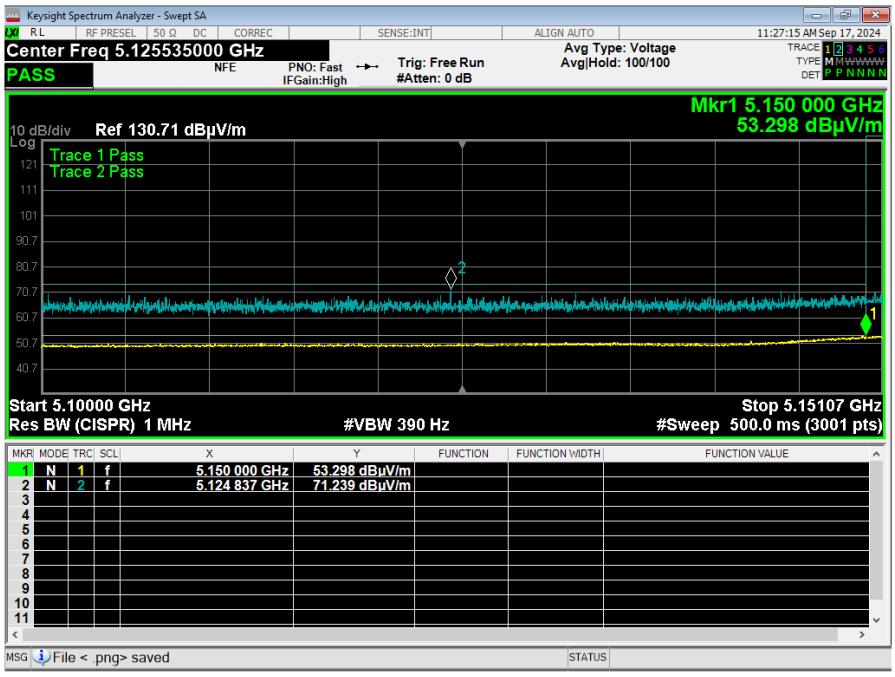
Plot 1: Band Edge HE20 5180MHz



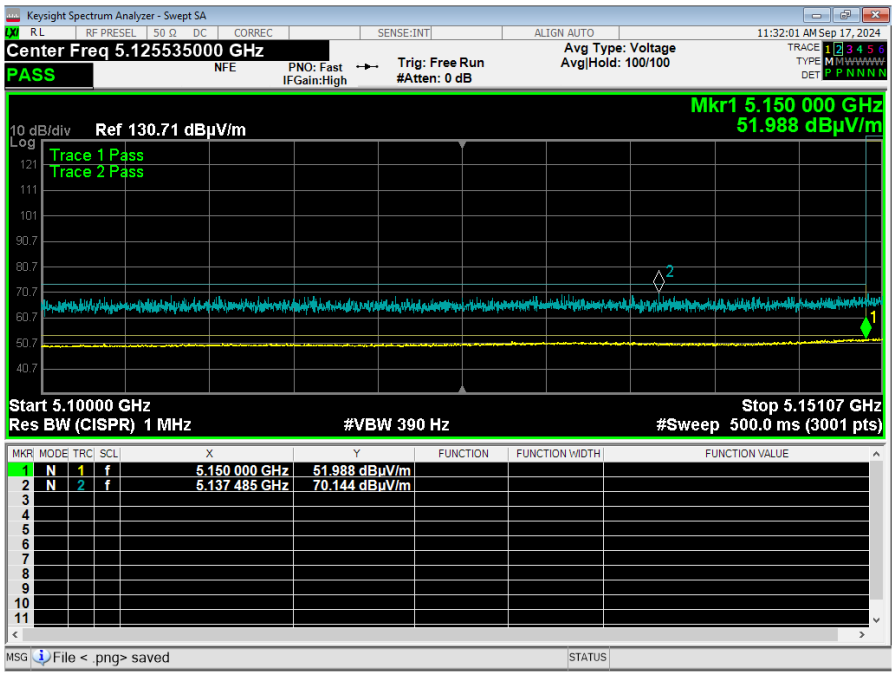
Plot 2: Band Edge HE20 5210MHz



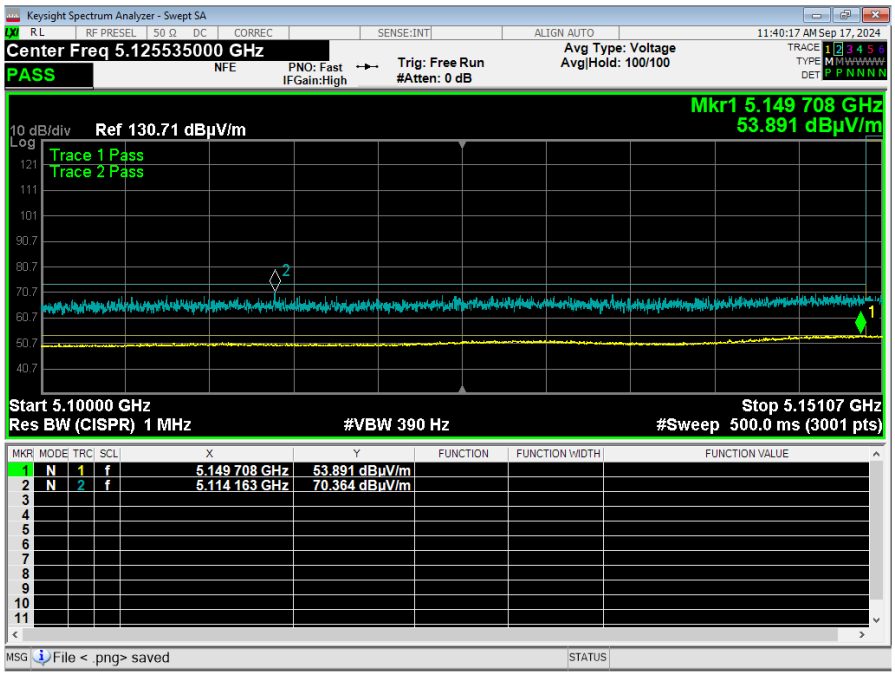
Plot 3: Band Edge HE20 5240MHz



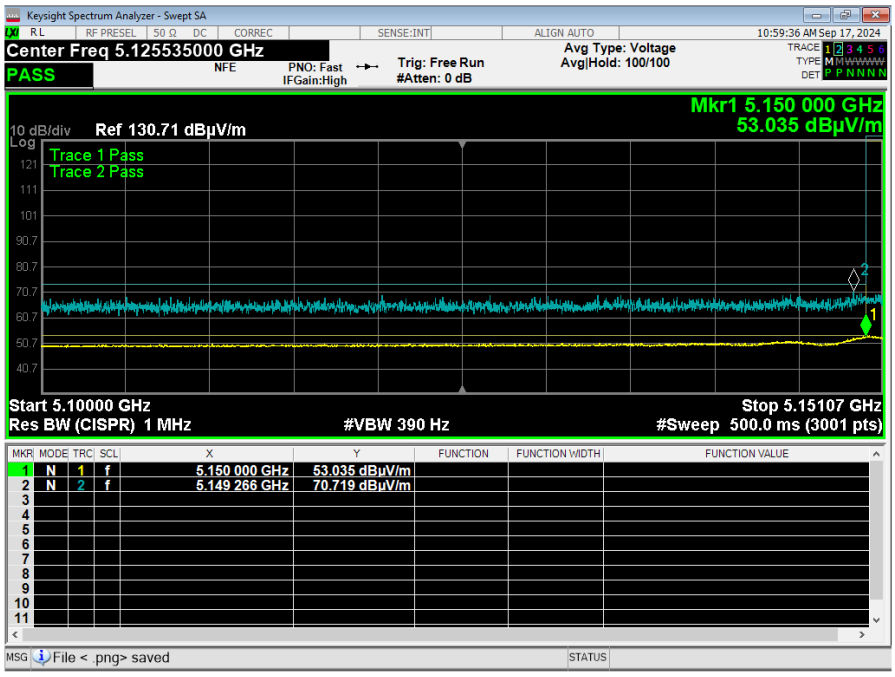
Plot 4: Band Edge HE40 5190MHz



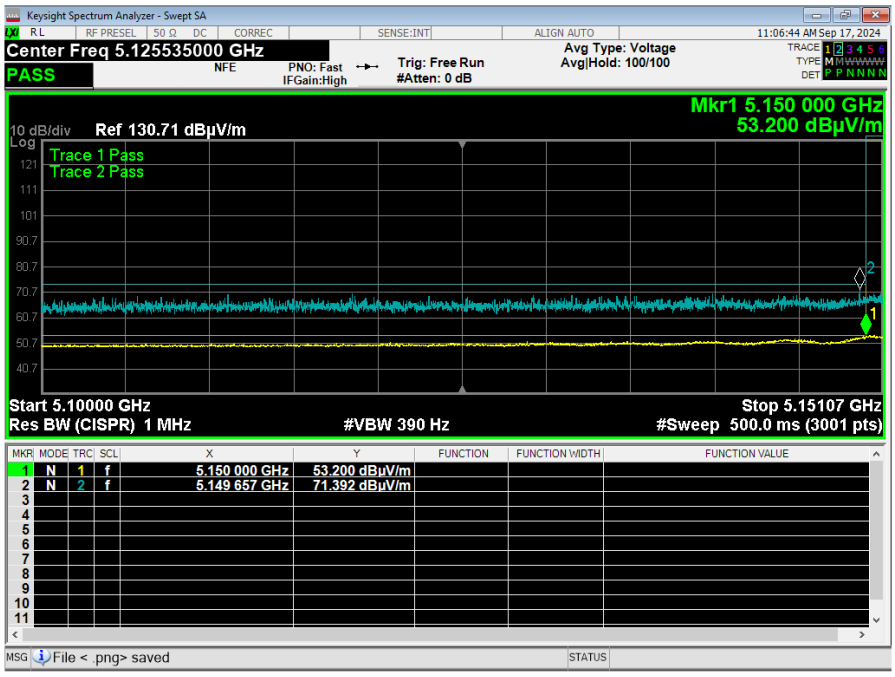
Plot 5: Band Edge HE40 5230MHz



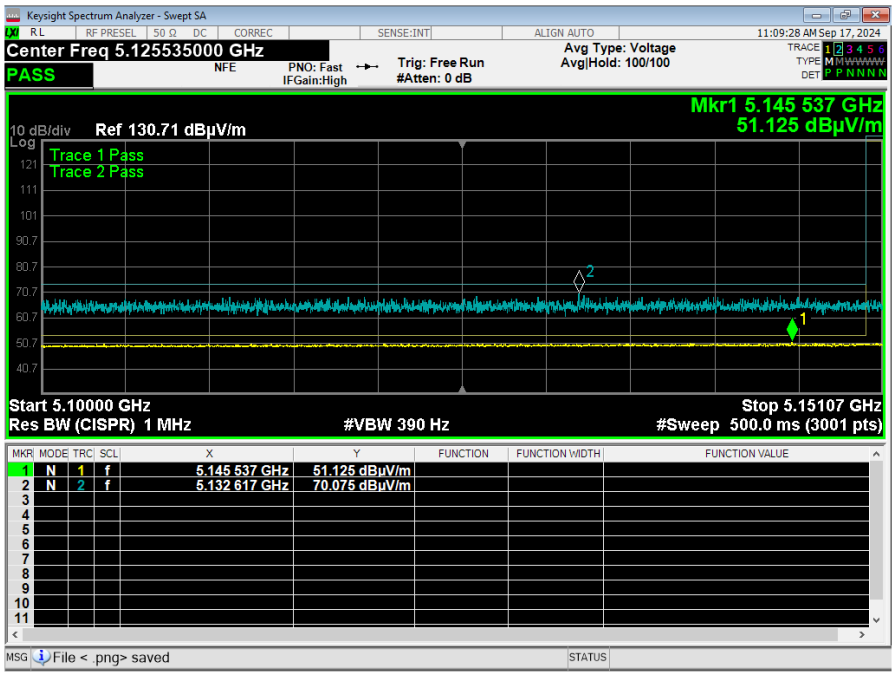
Plot 6: Band Edge HE80 5210MHz



Plot 7: Band Edge OFDM20 5180MHz



Plot 8: Band Edge OFDM20 5210MHz



Plot 9: Band Edge OFDM20 5240MHz

5.6 §15.407(a) Maximum Power Spectral Density

All chains were measured and summed under the guidance of KDB 789033 Section II. F. and KDB 662911 D01. Please see associated annex for details on instrument settings.

The maximum average power spectral density conducted from the intentional radiator of the antenna shall not be greater than 17 dBm in any 1 MHz band during any time interval of continuous transmission.
As per KDB 662911, when the EUT is using spatial-multiplexing in HT to HE modes, there is not additional array gain to accommodate. When the EUT uses Nss=1 data rates, the antenna gain is 7 dBi + Array gain of 3.01 dB which is a total of 10.01 dBi
Results of this testing are summarized.

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Measured PSD
OFDM 20	5180	Mcs0-Nss2	21	10.10
OFDM 20	5210	Mcs0-Nss2	27	15.13
OFDM 20	5240	Mcs0-Nss2	30	14.54
HE 20	5180	Mcs0-Nss2	22	10.47
HE 20	5210	Mcs0-Nss2	26	13.89
HE 20	5240	Mcs0-Nss2	30	14.01
HE 40	5190	Mcs0-Nss2	19	4.99
HE 40	5230	Mcs0-Nss2	23	8.86
HE 80	5210	Mcs0-Nss2	20	2.55

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Measured PSD
OFDM 20	5180	Mcs0-Nss1	21	10.10
OFDM 20	5210	Mcs0-Nss1	24	12.13
OFDM 20	5240	Mcs0-Nss1	28	12.54
HE 20	5180	Mcs0-Nss1	22	10.47
HE 20	5210	Mcs0-Nss1	25	12.89
HE 20	5240	Mcs0-Nss1	28	12.01
HE 40	5190	Mcs0-Nss1	19	4.99
HE 40	5230	Mcs0-Nss1	23	8.86
HE 80	5210	Mcs0-Nss1	20	2.55

Result

The maximum summed average power spectral density was less than the limit of 17dBm; therefore, the EUT complies with the specification.

-- End of Test Report --