UNIFIED COMPLIANCE LABORATORY

427 West 12800 South
Draper, UT 84020

Test Report

Certification

FCC ID	SWX-U7PROM
ISED ID	6545A-U7PROM
Equipment Under Test	U7-Pro-Max
Test Report Serial Number	TR8789_01
Date of Test(s)	9 – 10, 15 January and 28 February 2024
Report Issue Date	12 March 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.

Applicant	Ubiquiti Inc.
Manufacturer	Ubiquiti Inc.
Brand Name	UBIQUITI
Model Number	U7-Pro-Max
FCC ID	SWX-U7PROM
ISED ID	6545A-U7PROM

On this 27th day of February 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

Evan J. Hartzell

Written By: Evan J. Hartzell

Richard L. Winter

Reviewed By: Richard L. Winter

Revision History		
Revision	**Description**	**Date**
01	Original Report Release	12 March 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	U7-Pro-Max
Serial Number	1FB 64B
Dimensions (cm)	20.6 x 20.6 x 4.6

2.2 Description of EUT

The U7-Pro-Max is a PoE powered WiFi 7 access point with a 2.5 GbE PoE port. The U7-Pro-Max provides a 12.2 Gbps aggregate throughput rate. The U7-Pro-Max transmits in the 2.4 GHz, 5 GHz, and 6 GHz frequency bands and uses integral antennas and a dedicated spectral scanning radio. The U7-Pro-Max is powered by an 802.3at PoE power adapter. The U7-Pro-Max has a receiver York Scanner Module.

The table below show the channels used within the different modulation bandwidths.

Band	WiFi Mode	Modulation Bandwidth	Modulation Type	Frequency (MHz)
UNII-3	a	20 MHz	OFDM	5745, 5775, 5825
	ax	20 MHz	HE	5745, 5775, 5825
	ax	40 MHz	HE	5755, 5775, 5795
	ax	80 MHz	HE	5775

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

BN: UBIQUITI MN: U7-Pro-Max SN: 1FB 64B	Access Point	PoE Input / Shielded
BN: UBIQUITI MN: GP-h480-065G SN: N/A	PoE Injector	PoE Output / Shielded Cat 5E to U7-Pro-Max, and Ethernet / unshielded Cat 5E to PC
BN: DELL MN: XPS SN: N/A	Laptop PC	Ethernet / un-shielded Cat 5E
BN: UBIQUITI MN: U7-Pro-Max SN: 1FB 64B	Access Point	PoE Input / Shielded

BN: UBIQUITI MN: GP-h480-065G SN: N/A	PoE Injector	PoE Output / Shielded Cat 5E to U7-Pro-Max, and Ethernet / unshielded Cat 5E to PC

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
PoE Input	1	7m Shielded Cat 5E
PoE Output (PoE Injector)	1	7m Shielded Cat 5E to U7-Pro-Max PoE Input
LAN (PoE Injector)	1	unshielded Cat 5E to Laptop PC
AC (PoE Injector)	1	3 Conductor power cord to AC mains/80cm

2.5 Operating Environment

Power Supply	120 VAC
AC Mains Frequency	60 Hz
Temperature	21.8-22.8°C
Humidity	15.28-21.8 %
Barometric Pressure	1012 mBar

2.6 Operating Modes

The U7-Pro-Max 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

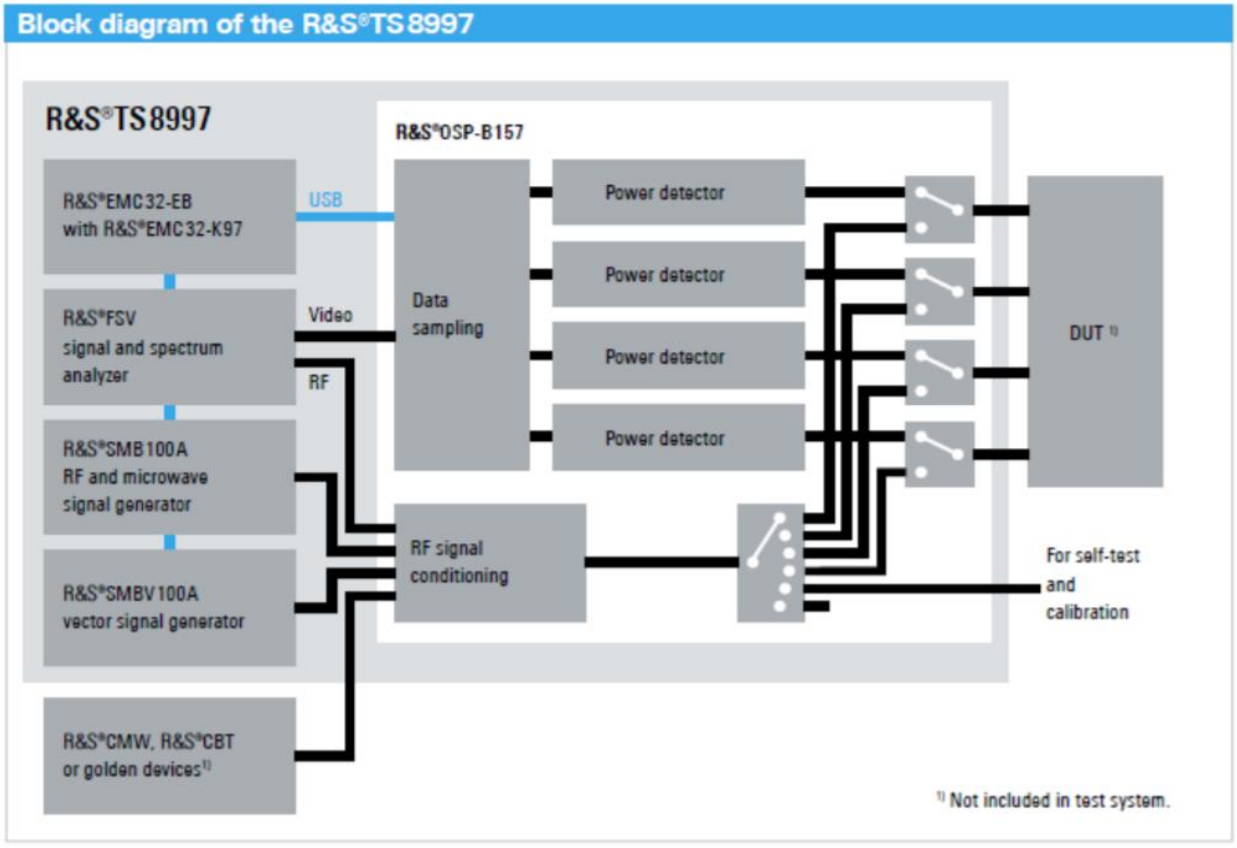


Diagram 1: Test Configuration Block Diagram

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	5725 to 5850	Compliant
15.407(e)	RSS-247 §6.2.2, §6.2.3	Peak Output Power	5725 to 5850	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	5725 to 5850	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 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 as 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	Com-Power	LIN-120C	UCL-2612	1/24/2023	1/24/2024
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

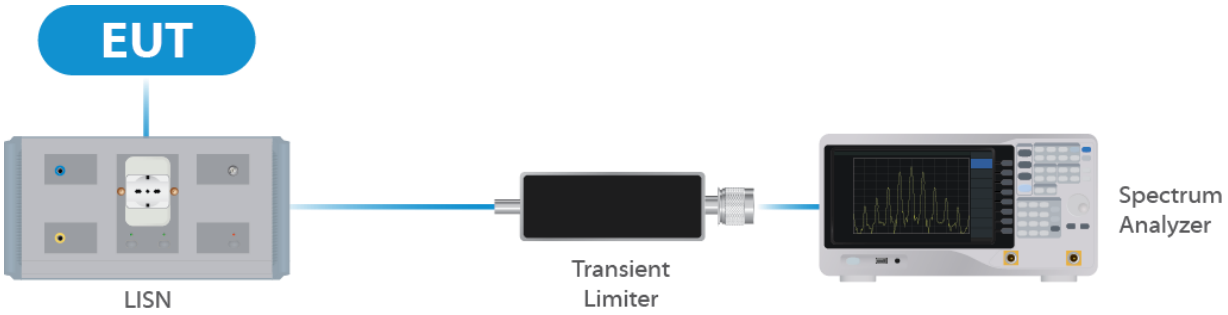


Figure 1: Conducted Emissions Test

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	2/22/2024
Switch Extension	R&S	OSP-150W	UCL-2870	2/22/2023	2/22/2024

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

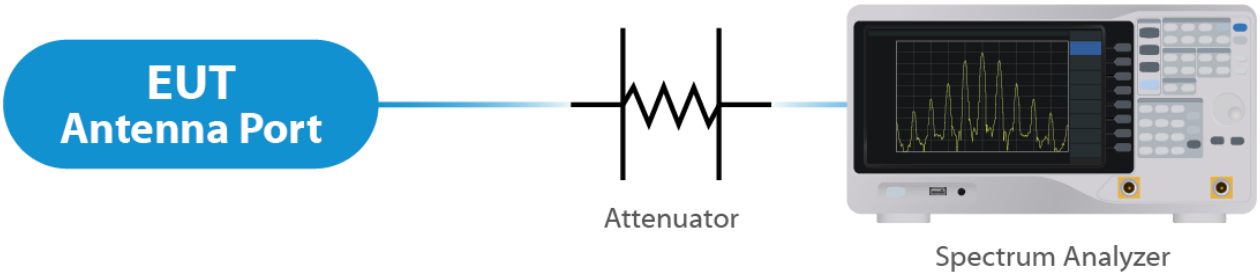


Figure 2: Direct Connect at the Antenna Port Test

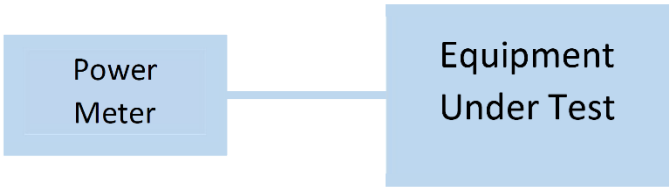


Figure 3: Output Power Measurement

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	1/27/2023	1/27/2024
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

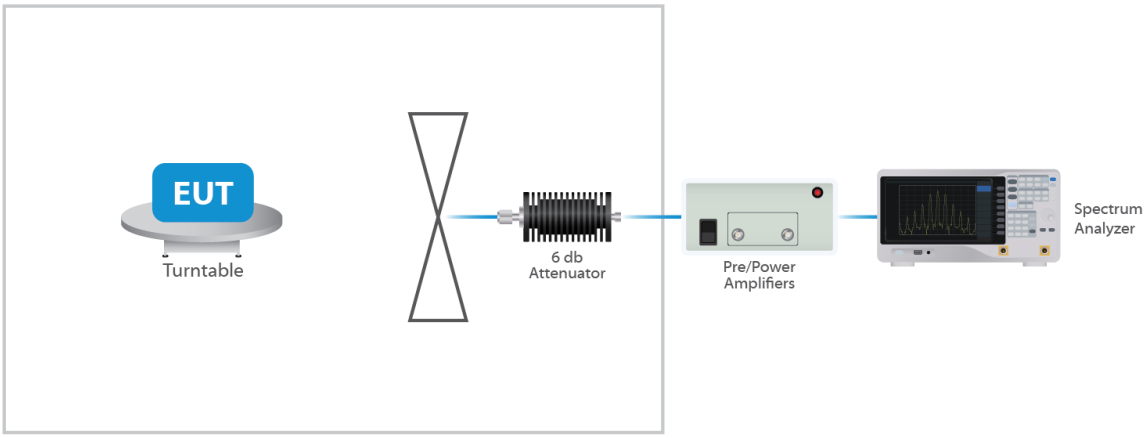


Figure 4: Radiated Emissions Test

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 integrated antenna structure. Per the manufacturer, the Maximum gain of the antenna per chain is 6 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.

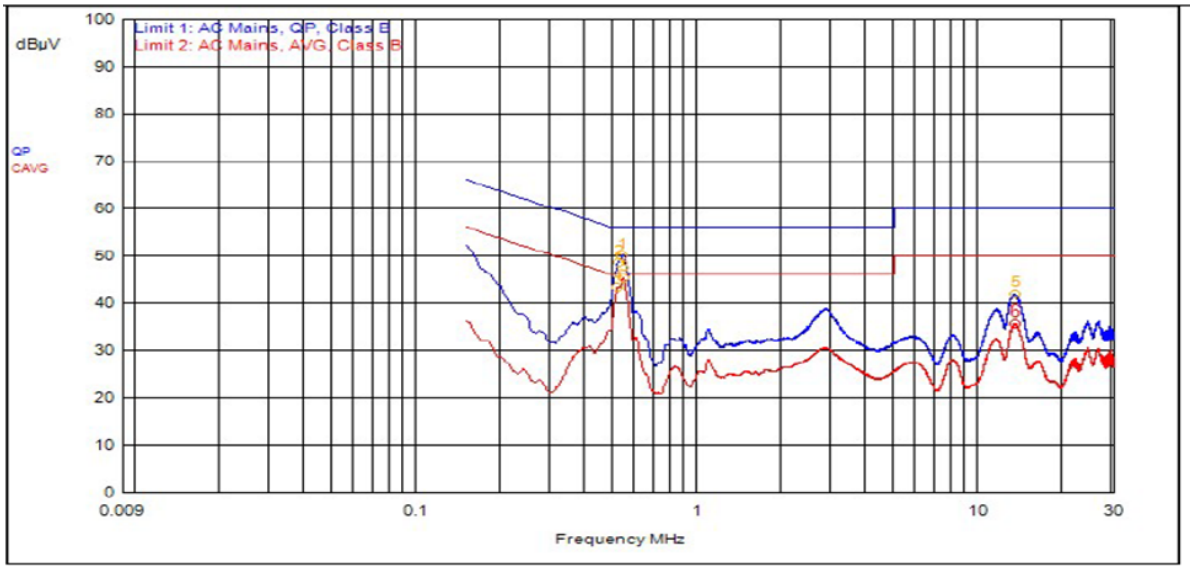
For power measurements on IEEE 802.11 devices, Array Gain = 0 dB for NANT ≤ 4;
For PSD measurements when Nss=1: Array Gain = 10 log(NANT/NSS) dB + Antenna Gain (dBi). Or 6.02 dB + 6 dBi = 12.02 dBi.

Results

The EUT complied with the specification

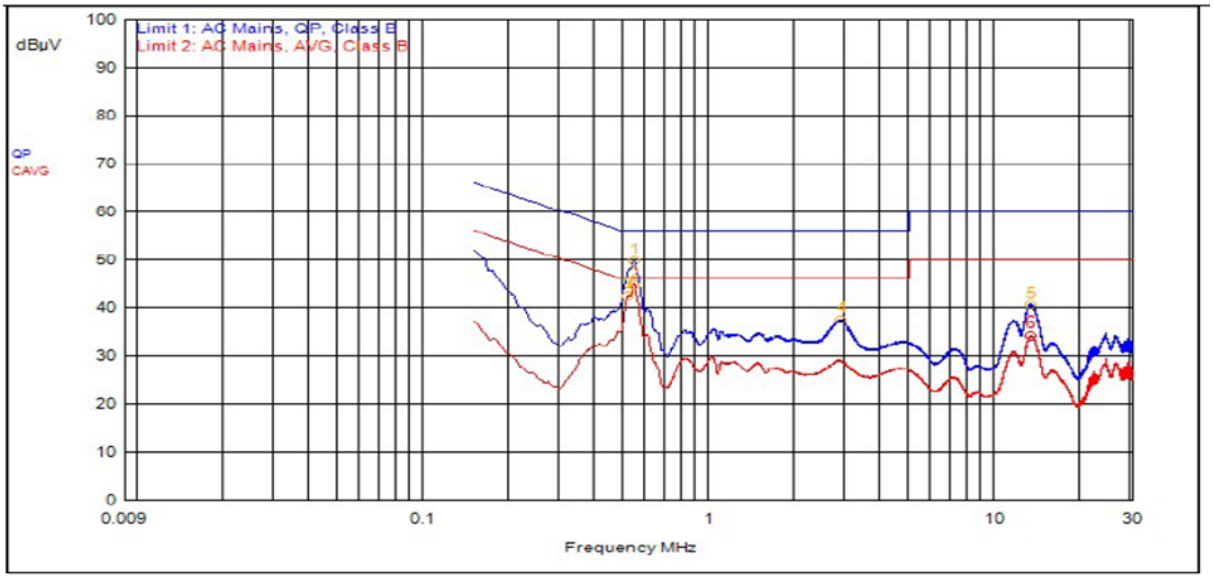
5.2 Conducted Emissions at Mains Ports Data

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
1	537,000kHz	12.41	0.00		QPeak	37.70	50.11	56.00	-5.89			
2	519,000kHz	12.42	0.00		QPeak	36.28	48.70	56.00	-7.30			
5	13.263	12.40	0.20		QPeak	29.24	41.84	60.00	-18.16			
3	540,000kHz	12.41	0.00		C_AVG	32.82	45.23			46.00	-0.77	
4	516,000kHz	12.42	0.00		C_AVG	30.97	43.39			46.00	-2.61	
6	13.320	12.41	0.20		C_AVG	22.93	35.54			50.00	-14.46	

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	540,000kHz	12.42	0.00		QPeak	37.28	49.70	56.00	-6.30			
4	2.862	12.29	0.10		QPeak	25.08	37.47	56.00	-18.53			
5	13.215	12.43	0.20		QPeak	28.02	40.65	60.00	-19.35			
2	543,000kHz	12.42	0.00		C_AVG	32.44	44.86			46.00	-1.14	
3	516,000kHz	12.43	0.00		C_AVG	30.17	42.60			46.00	-3.40	
6	13.200	12.42	0.20		C_AVG	21.42	34.04			50.00	-15.96	

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 66291 D01. Please see associated annex for details on instrument settings.

Nominal BW (MHz)	Frequency (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)
20	5745	19.10	44.80
20	5775	19.70	41.60
20	5825	29.10	51.40
40	5755	38.25	41.85
40	5775	38.25	42.30
40	5795	38.75	54.45
80	5775	78.00	89.50

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)(3) Maximum Average Output Power

All chains were measured and summed under the guidance of KDB 789033 Section II. E.2. and KDB 66291 D01. Please see associated annex for details on instrument settings.
The maximum average RF conducted output power measured for this device was 29.66 dBm or 924.70 mW. The limit is 30 dBm, or 1 Watt when using antennas with 6 dBi or less gain. The antenna has a gain of 6 dBi.

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Conducted Output Power	Measured EIRP	Measured PSD
OFDM 20	5745	Mcs0_Nss4	26	29.53	35.53	11.36
OFDM 20	5775	Mcs0_Nss4	26	29.61	35.61	11.48
OFDM 20	5825	Mcs0_Nss4	27	29.03	35.03	10.83
HE 20	5745	Mcs0_Nss4	26	29.56	35.56	10.93
HE 20	5775	Mcs0_Nss4	26	29.66	35.66	11.04
HE 20	5825	Mcs0_Nss4	27	29.12	35.12	10.43
HE 40	5755	Mcs0_Nss4	24	28.15	34.15	6.72
HE 40	5775	Mcs0_Nss4	24	28.24	34.24	6.83
HE 40	5795	Mcs0_Nss4	25	28.86	34.86	7.55
HE 80	5775	Mcs0_Nss4	23	27.15	33.15	2.97

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Conducted Output Power	Measured EIRP	Measured PSD
OFDM 20	5745	Mcs0_Nss1	26	29.53	35.53	11.36
OFDM 20	5775	Mcs0_Nss1	26	29.61	35.61	11.48
OFDM 20	5825	Mcs0_Nss1	27	29.03	35.03	10.83
HE 20	5745	Mcs0_Nss1	26	29.56	35.56	10.93
HE 20	5775	Mcs0_Nss1	26	29.66	35.66	11.04
HE 20	5825	Mcs0_Nss1	27	29.12	35.12	10.43
HE 40	5755	Mcs0_Nss1	24	28.15	34.15	6.72
HE 40	5775	Mcs0_Nss1	24	28.24	34.24	6.83
HE 40	5795	Mcs0_Nss1	25	28.86	34.86	7.55
HE 80	5775	Mcs0_Nss1	23	27.15	33.15	2.97

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).

5.5 §15.407(b)(7) Spurious Emissions

5.5.1 Conducted Spurious Emissions

The frequency ranges 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 within the annex below are plots with the EUT turned to the upper and lower channels with the antenna gain of 6 dBi accounted for. These demonstrate compliance with the provisions of this section at the band edges.

All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Result

Conducted spurious emissions were attenuated below the limit; therefore, the EUT complies with the specification.

5.5.2 Radiated Spurious Emissions in the Restricted Bands of § 15.205

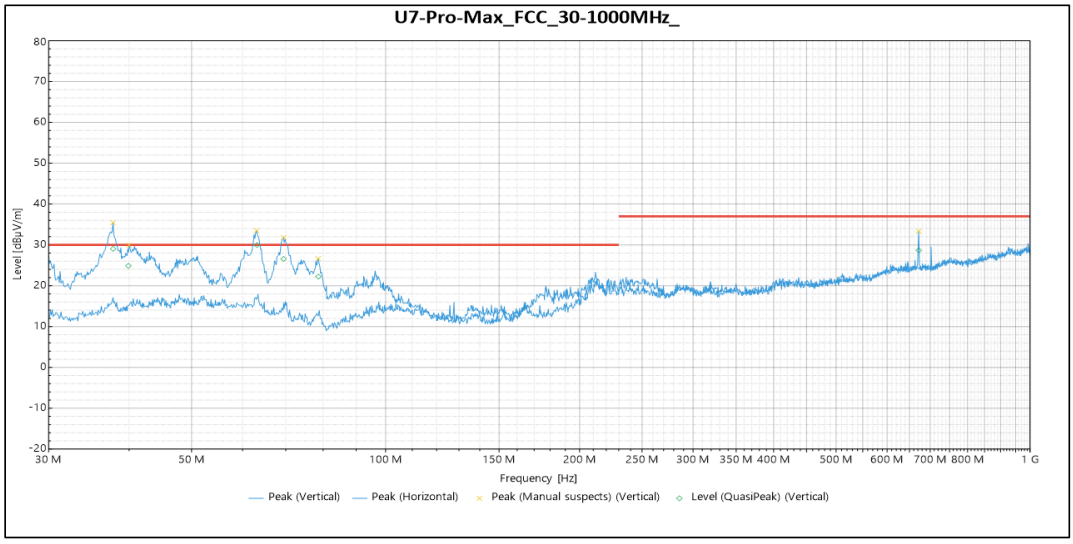
The EUT uses various power settings based on the channel in use. In order to reduce test time, the radiated spurious emissions at the lowest, middle, and highest channel were measured at the maximum power of TP30.

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. See Annex for Conducted Band edge plots.

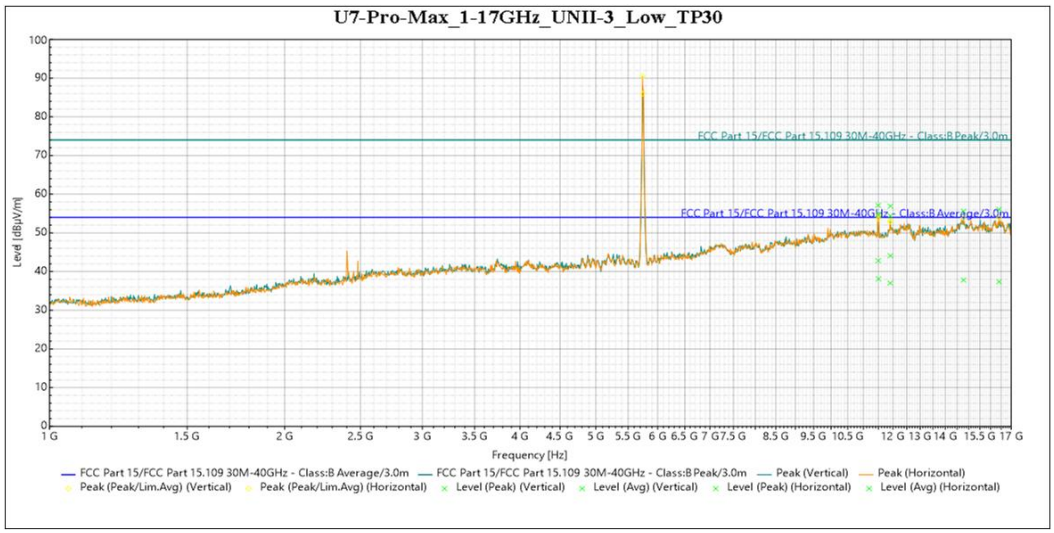
EUT



QuasiPeak

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin	Azimuth (°)	Pol.	Correction (dB)
37.769 MHz	29.054	30	-0.946	215	Vertical	-14.696
39.89 MHz	24.87	30	-5.13	75	Vertical	-13.531
63.164 MHz	29.972	30	-0.028	123	Vertical	-14.843
69.458 MHz	26.573	30	-3.427	99	Vertical	-16.754
78.66 MHz	22.249	30	-7.751	272	Vertical	-19.447
671.8 MHz	28.679	37	-8.321	77	Vertical	-6.121

Table 4: Radiated Emissions 30 – 1000 MHz



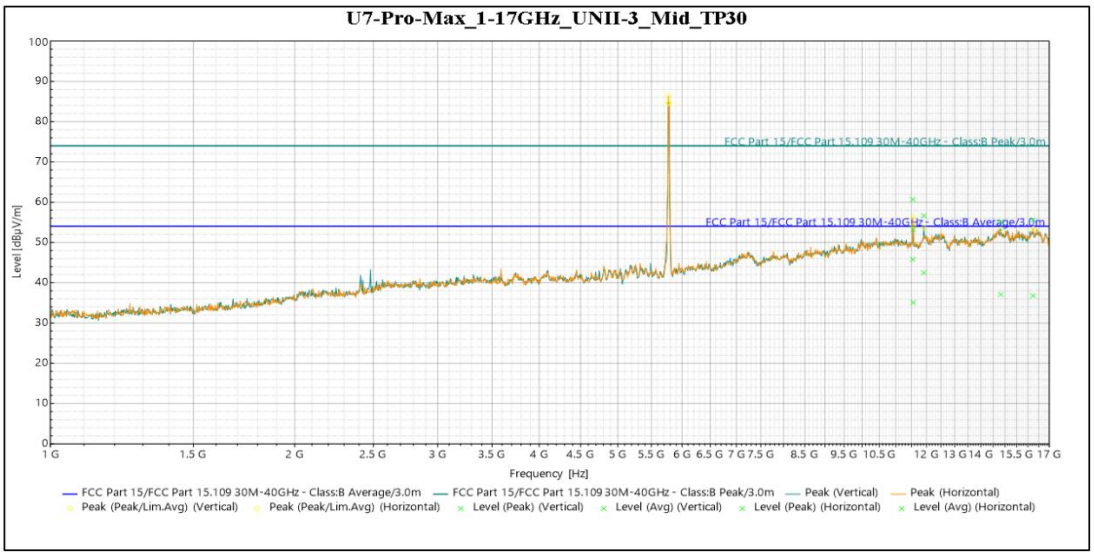
Peak

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
11.49 GHz	57.115	74	-16.885	19	Vertical	14.614
11.91 GHz	56.9	74	-17.1	13	Vertical	16.544
14.773 GHz	55.589	74	-18.411	148	Vertical	16.905
11.5 GHz	54.709	74	-19.291	74	Horizontal	14.615
11.904 GHz	54.399	74	-19.601	117	Horizontal	16.552
16.401 GHz	56.077	74	-17.923	281	Horizontal	17.931

Avg

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
11.49 GHz	42.8	54	-11.2	19	Vertical	14.614
11.91 GHz	44.095	54	-9.905	13	Vertical	16.544
14.773 GHz	37.813	54	-16.187	148	Vertical	16.905
11.5 GHz	38.114	54	-15.886	74	Horizontal	14.615
11.904 GHz	37.04	54	-16.96	117	Horizontal	16.552
16.401 GHz	37.377	54	-16.623	281	Horizontal	17.931

Table 5: Radiated Emissions 1 – 17 GHz on the Lowest Frequency 5745 MHz



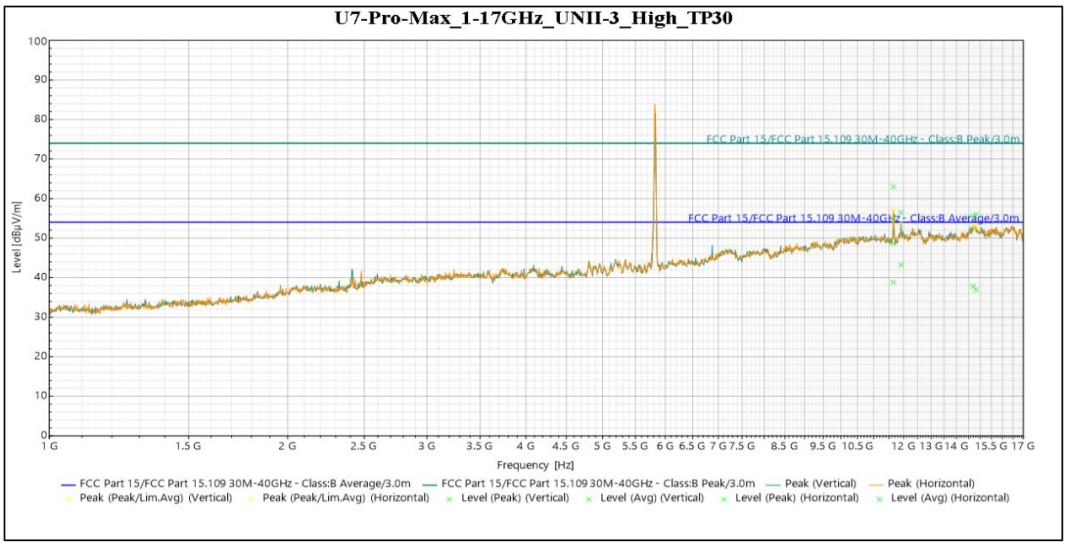
Peak

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
11.558 GHz	53.232	74	-20.768	130	3.448	Vertical	14.679
11.91 GHz	56.639	74	-17.361	11	1.692	Vertical	16.544
14.812 GHz	55.133	74	-18.867	113	1.638	Vertical	16.673
11.544 GHz	60.709	74	-13.291	88	1.5	Horizontal	14.663
16.235 GHz	55.633	74	-18.367	117	3.802	Horizontal	17.552

Avg

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
11.558 GHz	35.095	54	-18.905	130	3.448	Vertical	14.679
11.91 GHz	42.533	54	-11.467	11	1.692	Vertical	16.544
14.812 GHz	37.067	54	-16.933	113	1.638	Vertical	16.673
11.544 GHz	45.795	54	-8.205	88	1.5	Horizontal	14.663
16.235 GHz	36.762	54	-17.238	117	3.802	Horizontal	17.552

Table 6: Radiated Emissions 1 – 17 GHz on the Middle Frequency 5775 MHz



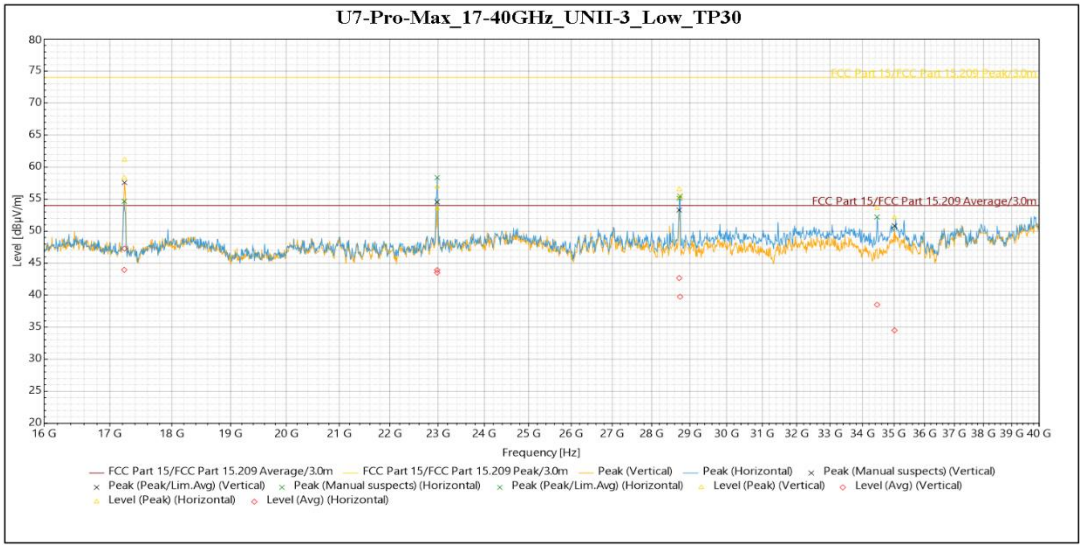
Peak

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
11.646 GHz	54.987	74	-19.013	34	1.82	Vertical	14.5
11.91 GHz	56.545	74	-17.455	355	2.398	Vertical	16.544
14.688 GHz	55.463	74	-18.537	196	3.625	Vertical	17.31
11.646 GHz	63.009	74	-10.991	93	2.181	Horizontal	14.5
14.812 GHz	56.051	74	-17.949	344	2.222	Horizontal	16.673

Avg

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
11.646 GHz	38.801	54	-15.199	34	1.82	Vertical	14.5
11.91 GHz	43.214	54	-10.786	355	2.398	Vertical	16.544
14.688 GHz	37.867	54	-16.133	196	3.625	Vertical	17.31
11.646 GHz	48.599	54	-5.401	93	2.181	Horizontal	14.5
14.812 GHz	36.925	54	-17.075	344	2.222	Horizontal	16.673

Table 7: Radiated Emissions 1 – 17 GHz on the Highest Frequency 5825 MHz



Peak

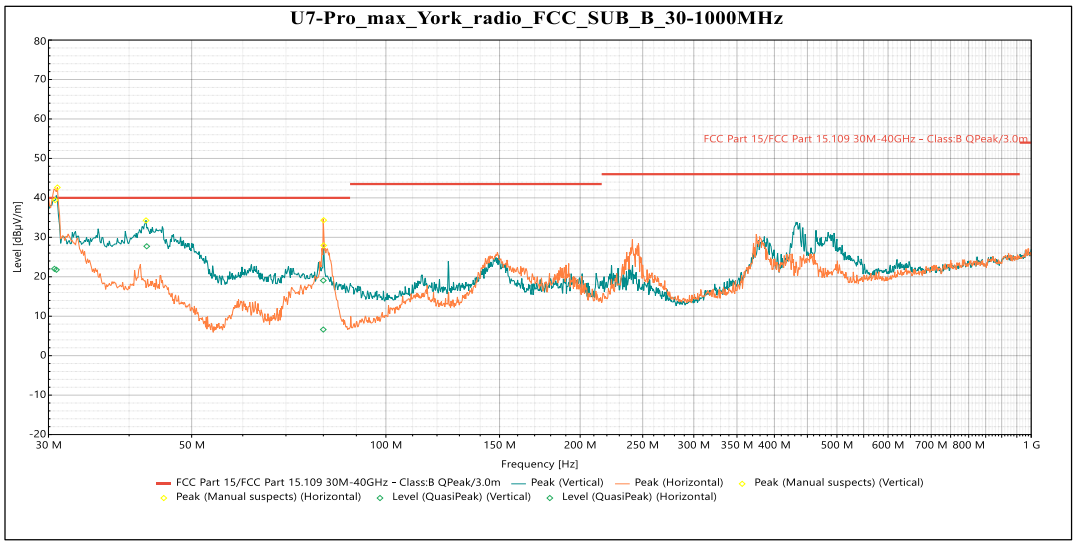
Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
17.231 GHz	61.128	74	-12.872	48	Vertical	-0.102
22.98 GHz	53.546	74	-20.454	29	Vertical	0.308
28.717 GHz	56.511	74	-17.489	76	Vertical	1.043
35.015 GHz	52.126	74	-21.874	336	Vertical	3.684
17.227 GHz	58.341	74	-15.659	55	Horizontal	-0.038
22.98 GHz	56.911	74	-17.089	19	Horizontal	0.308
28.742 GHz	55.362	74	-18.638	32	Horizontal	1.036
34.457 GHz	53.57	74	-20.43	93	Horizontal	1.6

Avg

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
17.231 GHz	47.285	54	-6.715	48	Vertical	-0.102
22.98 GHz	43.509	54	-10.491	29	Vertical	0.308
28.717 GHz	42.684	54	-11.316	76	Vertical	1.043
35.015 GHz	34.509	54	-19.491	336	Vertical	3.684
17.227 GHz	43.964	54	-10.036	55	Horizontal	-0.038
22.98 GHz	43.932	54	-10.068	19	Horizontal	0.308
28.742 GHz	39.748	54	-14.252	32	Horizontal	1.036
34.457 GHz	38.512	54	-15.488	93	Horizontal	1.6

Table 8: Radiated Emissions 17 – 40 GHz

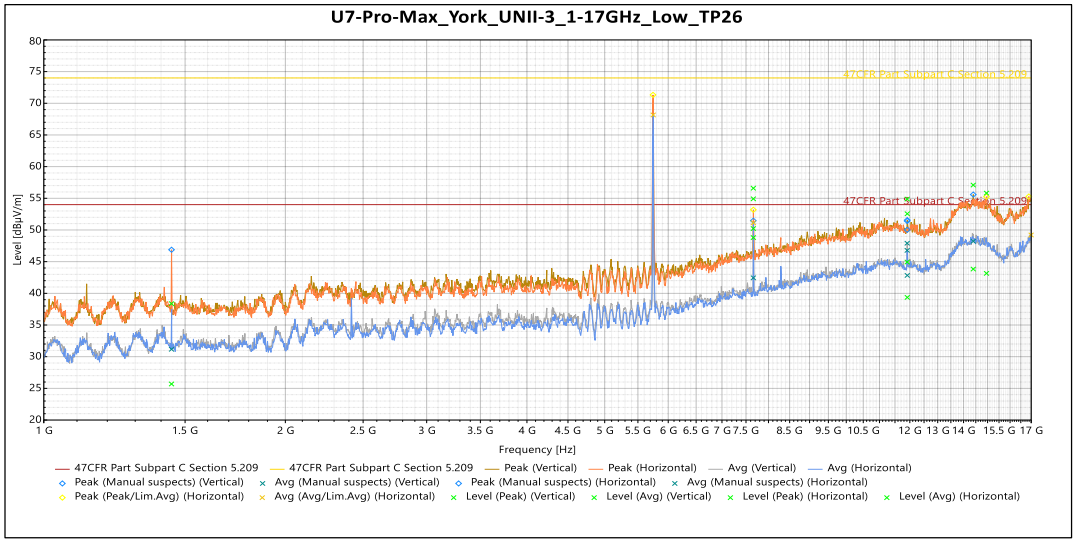
York Module



QuasiPeak

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin	Azimuth (°)	Height	Pol.	Correction (dB)
30.64 MHz	22.014	40	-17.986	307	1.128	Vertical	-8.155
42.595 MHz	27.726	40	-12.274	36	1.132	Vertical	-16.243
79.988 MHz	19.05	40	-20.95	289	2.207	Vertical	-20.517
30.865 MHz	21.773	40	-18.227	265	3.65	Horizontal	-8.335
79.98 MHz	6.624	40	-33.376	296	3.868	Horizontal	-20.517

Table 9: Radiated Emissions 30 – 1000 MHz



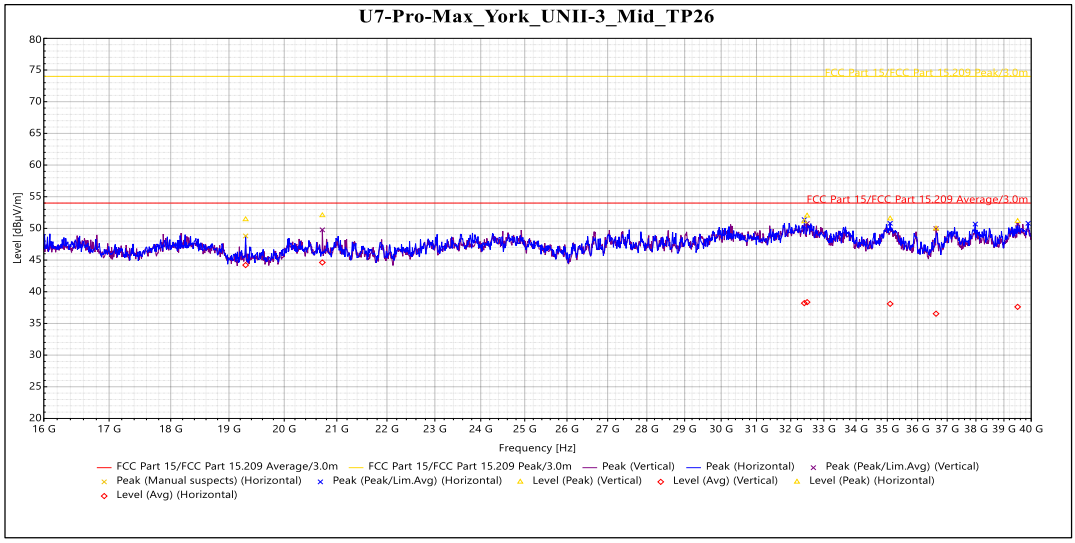
Peak

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
7.66 GHz	54.925	74	-19.075	160	1.628	Vertical	1.156
11.913 GHz	52.558	74	-21.442	15	1.5	Vertical	8.297
14.397 GHz	57.091	74	-16.909	306	3.81	Vertical	12.038
1.4427 GHz	38.367	74	-35.633	188	3.809	Horizontal	-13.18
7.6598 GHz	56.592	74	-17.408	137	1.63	Horizontal	1.156
11.91 GHz	54.878	74	-19.122	114	1.629	Horizontal	8.285
14.953 GHz	55.818	74	-18.182	309	1.632	Horizontal	11.515

Avg

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
7.66 GHz	48.801	54	-5.199	160	1.628	Vertical	1.156
11.913 GHz	39.356	54	-14.644	15	1.5	Vertical	8.297
14.397 GHz	43.826	54	-10.174	306	3.81	Vertical	12.038
1.4427 GHz	25.688	54	-28.312	188	3.809	Horizontal	-13.18
7.6598 GHz	50.217	54	-3.783	137	1.63	Horizontal	1.156
11.91 GHz	44.941	54	-9.059	114	1.629	Horizontal	8.285
14.953 GHz	43.15	54	-10.85	309	1.632	Horizontal	11.515

Table 10: Radiated Emissions 1 – 17 GHz on the Lowest Frequency (worse case)



Peak

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
20.719928 GHz	52.055	74	-21.945	1	Vertical	-0.745
32.4898641 GHz	51.992	74	-22.008	3	Vertical	2.29
36.619037 GHz	49.965	74	-24.035	174	Vertical	3.525
39.4997986 GHz	51.143	74	-22.857	58	Vertical	2.782
19.2959078 GHz	51.422	74	-22.578	37	Horizontal	-0.488
32.4057045 GHz	51.097	74	-22.903	337	Horizontal	1.99
35.0928196 GHz	51.53	74	-22.47	192	Horizontal	3.806

Avg

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
20.719928 GHz	44.625	54	-9.375	1	Vertical	-0.745
32.4898641 GHz	38.362	54	-15.638	3	Vertical	2.29
36.619037 GHz	36.535	54	-17.465	174	Vertical	3.525
39.4997986 GHz	37.613	54	-16.387	58	Vertical	2.782
19.2959078 GHz	44.212	54	-9.788	37	Horizontal	-0.488
32.4057045 GHz	38.197	54	-15.803	337	Horizontal	1.99
35.0928196 GHz	38.09	54	-15.91	192	Horizontal	3.806

Table 11: Radiated Emissions 17 – 40 GHz on the Middle Frequency (worse case)

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 66291 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 30 dBm in any 500 kHz band during any time interval of continuous transmission. Results of this testing are summarized.
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 6 dBi + Array gain of 6.02 dB which is a total of 12.02 dbi

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Measured PSD
OFDM 20	5745	Mcs0_Nss4	26	11.36
OFDM 20	5775	Mcs0_Nss4	26	11.48
OFDM 20	5825	Mcs0_Nss4	27	10.83
HE 20	5745	Mcs0_Nss4	26	10.93
HE 20	5775	Mcs0_Nss4	26	11.04
HE 20	5825	Mcs0_Nss4	27	10.43
HE 40	5755	Mcs0_Nss4	24	6.72
HE 40	5775	Mcs0_Nss4	24	6.83
HE 40	5795	Mcs0_Nss4	25	7.55
HE 80	5775	Mcs0_Nss4	23	2.97

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Measured PSD
OFDM 20	5745	Mcs0_Nss1	26	11.36
OFDM 20	5775	Mcs0_Nss1	26	11.48
OFDM 20	5825	Mcs0_Nss1	27	10.83
HE 20	5745	Mcs0_Nss1	26	10.93
HE 20	5775	Mcs0_Nss1	26	11.04
HE 20	5825	Mcs0_Nss1	27	10.43
HE 40	5755	Mcs0_Nss1	24	6.72
HE 40	5775	Mcs0_Nss1	24	6.83
HE 40	5795	Mcs0_Nss1	25	7.55

HE 80	5775	Mcs0_Nss1	23	2.97

Result

The maximum summed average power spectral density was less than the limit of 30 dBm; therefore, the EUT complies with the specification.

-- End of Test Report --