



427 West 12800 South
Draper, UT 84020

Test Report Certification

FCC ID	SWX-U7ID
ISED ID	6545A-U7ID
Equipment Under Test	U7-Industrial
Test Report Serial Number	TR10944_01
Date of Test(s)	18 - 22, 26 - 29 May; 4 June; 14, 24, 28, 30 July 2026
Report Issue Date	20 August 2026

Test Specification	Applicant
47 CFR FCC Part 15, Subpart E RSS-247, Issue 4 (July 2025)	Ubiquiti Inc. 685 Third Avenue New York, NY 10017 U.S.A.



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	U7-Industrial
FCC ID	SWX-U7ID
ISED ID	6545A-U7ID

On this 20th day of August 2026, 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: Joseph W. Jackson
Reviewed By: Kimberly DeBole

Revision History		
Revision	Description	Date
01	Original Report Release	8/20/2026

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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 Officer

1.2 Manufacturer

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

2 Equipment Under Test (EUT)

2.1 Identification of EUT

Brand Name	UBIQUITI
Model Number	U7-Industrial
Serial Number	B02601
Dimensions (cm)	17.0 x 15.0 x 3.5

2.2 Description of EUT

The U7-Industrial is an outdoor WiFi 7 access point with a dual band 2.4 GHz and 5 GHz 2x2 transmitter. The U7-Industrial supports 3.6 Gbps aggregate throughput rate. The U7-Industrial contains built-in high-gain antennas with removable reflectors for adjustable beam width, or external omni antennas for 360-degree coverage. The U7-Industrial is powered by a U-POE+ power adapter.

This device does not support channel puncturing.

For CDD transmission, direction gain is calculated as follows.

Array Gain = $10 \log(\text{NANT}/\text{NSS})$ 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 $\text{NANT} \leq 4$;

For PSD measurements when $\text{Nss}=1$: Array Gain = $10 \log(\text{NANT}/\text{NSS})$ dB + Antenna Gain (dBi). Or $3.01 \text{ dB} + 12 \text{ dBi} = 15.01 \text{ dBi}$ for the internal Patch antenna.

For PSD measurements when $\text{Nss}=1$: Array Gain = $10 \log(\text{NANT}/\text{NSS})$ dB + Antenna Gain (dBi). Or $3.01 \text{ dB} + 10 \text{ dBi} = 13.01 \text{ dBi}$ for the internal Patch antenna.

For PSD measurements when $\text{Nss}=1$: Array Gain = $10 \log(\text{NANT}/\text{NSS})$ dB + Antenna Gain (dBi). Or $3.01 \text{ dB} + 6 \text{ dBi} = 9.01 \text{ dBi}$ for the external Dipole antenna.

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.

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
	be	20 MHz	EHT	5745, 5775, 5825
	be	40 MHz	EHT	5755, 5775, 5795
	be	80 MHz	EHT	5775

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: U7-Industrial SN: B02601	Wireless Access Point	See Section 2.4
BN: UBIQUITI MN: U-POE+ SN: N/A	PoE Injector	PoE Output / Shielded Cat 5E/ unshielded Cat 5E to AE
BN: Dell MN: XPS 13 SN: N/A	Laptop Personal Computer (For Testing Only)	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
PoE Input	1	3m Unshielded Cat 5E
PoE Output (PoE Injector)	1	3m Unshielded Cat 5E to U7- Pro-XG-Wall PoE Input
LAN (PoE Injector)	1	1m 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 to PoE Power
AC Mains Frequency	60 Hz
Temperature	21.1 - 22.9 °C
Humidity	23.4 - 30.8 %
Barometric Pressure	1012 mBar

2.6 Operating Modes

The U7-Industrial 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/b/e were investigated. All measurements are reported with the worst-case mode (802.11b/e maximum conducted output power and maximum power spectral density) 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

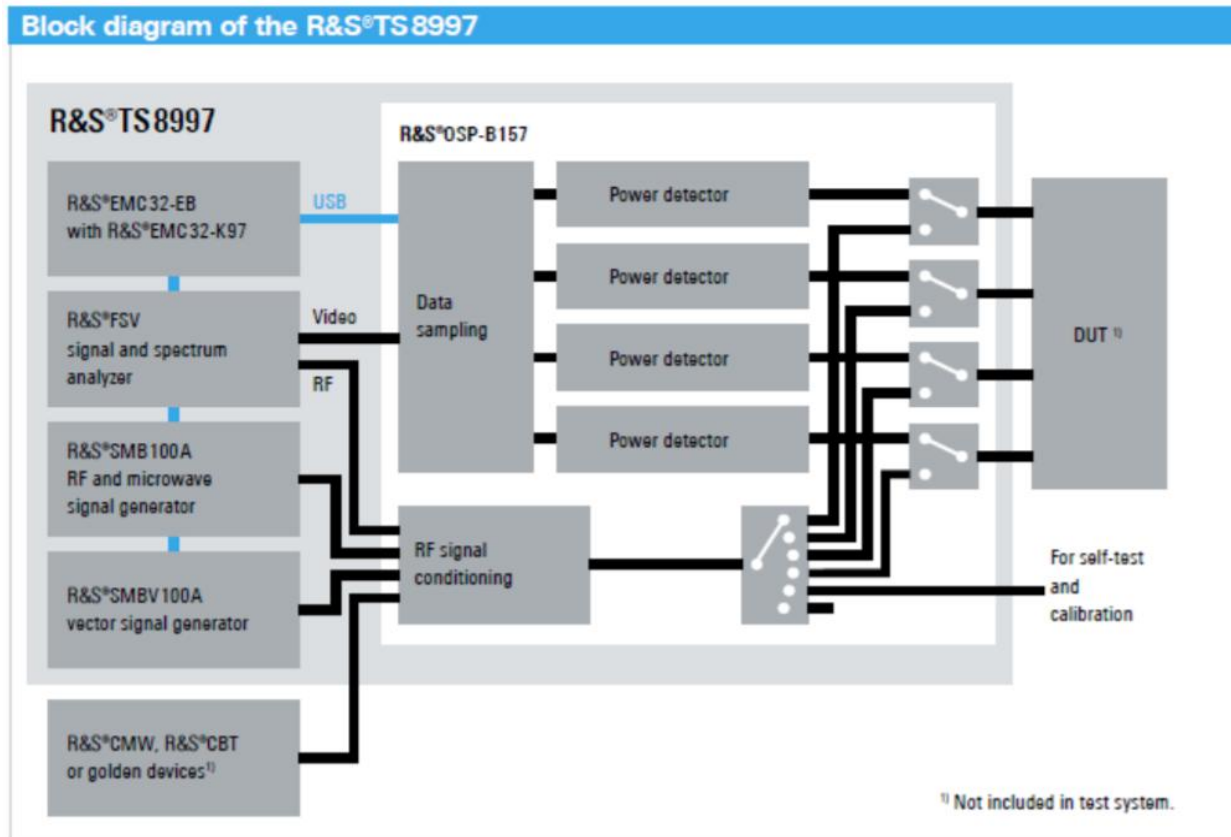


Diagram 1: Test Configuration Block Diagram

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
15.203	N/A	Antenna requirements	Structural Requirement	Compliant
15.207	RSS-Gen	Conducted Disturbance at Mains Port	0.15 to 30	Compliant
15.407(a)	RSS-247 §6.2.2	Bandwidth Requirement	5725 to 5850	Compliant
15.407(a)	RSS-247 §6.2.2, §6.2.3	Peak Output Power	5725 to 5850	Compliant
15.407(b)	RSS-247 §6.2.2, §6.2.3	Antenna Conducted Spurious Emissions	0.009 to 40000	N/A Note ¹
15.209	RSS-247 §6.2.2, §6.2.3	Radiated Spurious Emissions	0.009 to 40000	Compliant
15.407(a)	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 C63.10-2020+Cor.1-2023+C63.10a-2024+Errata to C63.10a-2024, KDB 558074 and 47 CFR Part 15. Where applicable, KDB 662911 was followed to sum required measurements. Note ¹: Radiated Spurious was performed per 15.209 with the antenna unterminated.				

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 2027. 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 2027.

Unified Compliance Laboratory has been assigned Registration Number 376708 by the FCC, MRA Designation Number US5037 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	11/18/2025	11/18/2026
LISN	AFJ	LS16C/10	UCL-2512	8/12/2025	8/12/2026
ISN	Teseq	ISN T800	UCL-2974	8/12/2025	8/12/2026
AC Power Source	Laplace Instruments	AC1000A	UCL-2857	N/A	N/A
Test Software	AFJ	AFJ FFT3010	UCL-3107	N/A	N/A

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

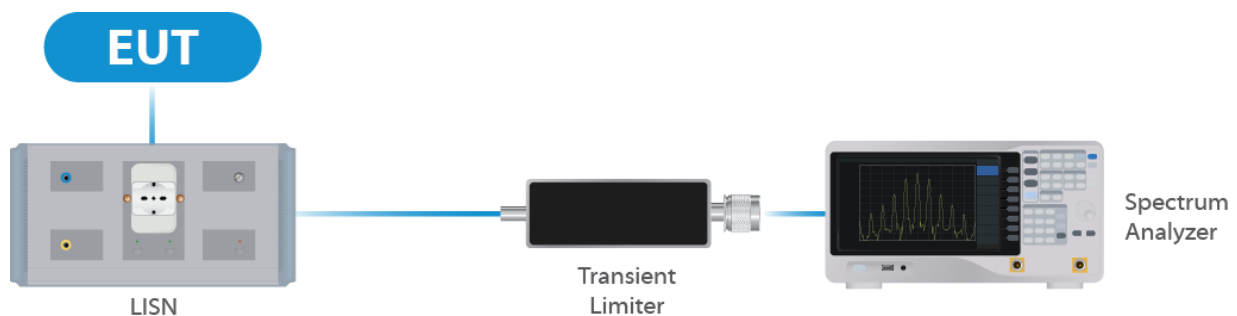


Figure 1: Conducted Emissions Test

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	3/18/2026	3/18/2027
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	4/7/2026	4/7/2027
Switch Extension	R&S	OSP-150W	UCL-2870	4/6/2026	4/6/2027
Test Software	R&S	EMC32	UCL-9442	--	--

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

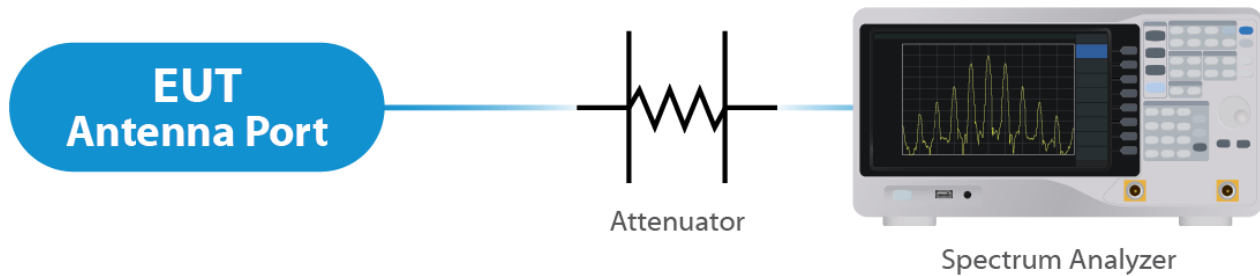


Figure 2: Direct Connect at the Antenna Port Test



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	12/18/2025	12/18/2026
Pre-Amplifier 9 kHz – 1 GHz	Sonoma Instruments	310N	UCL-2889	7/22/2025	7/22/2026
Tri Log Antenna	Scwarzbeck	VULB 9163	UCL-3062	12/16/2025	12/16/2027
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
15 - 40 GHz Horn Antenna	Scwarzbeck	BBHA 9170	UCL-2487	4/7/2025	4/7/2027
1 – 18 GHz Amplifier	Com-Power	PAM 118A	UCL-3833	7/22/2025	7/22/2026
Test Software	Nexio	BatEMC	UCL-5253 & UCL- 5249	N/A	N/A

Table 3: List of equipment used for Radiated Emissions

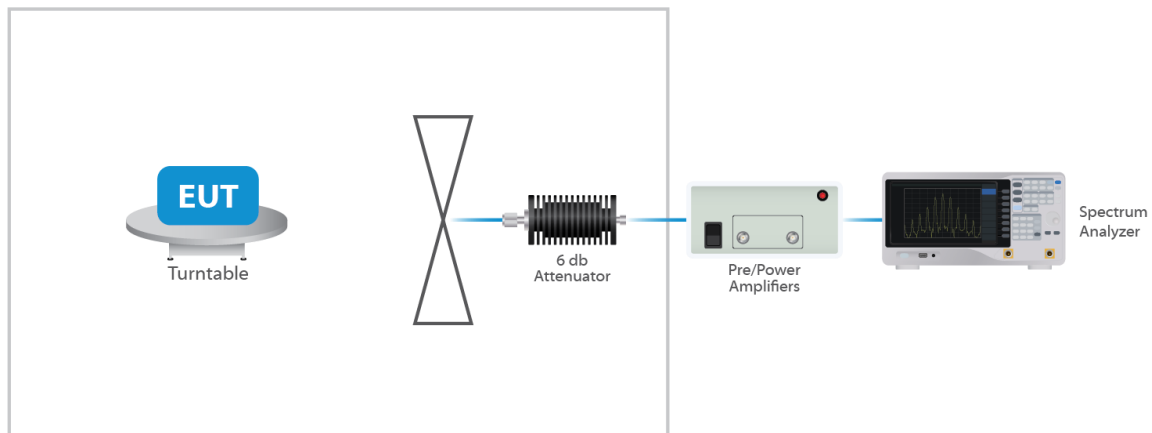


Figure 4: Radiated Emissions Test

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 ($\pm$ 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 Patch antenna and an external Dipole antenna.

Per the manufacturer, the Maximum gain of the internal Patch antenna per chain is 12.0 or 10 dBi. Per the manufacturer, the Maximum gain of the external Dipole antenna per chain is 6.0 dBi.

This is an 802.11 device and utilizes CDD as described in KDB 662911 D01.

The internal Patch antenna is not user replaceable. The external Dipole antenna is user replaceable.

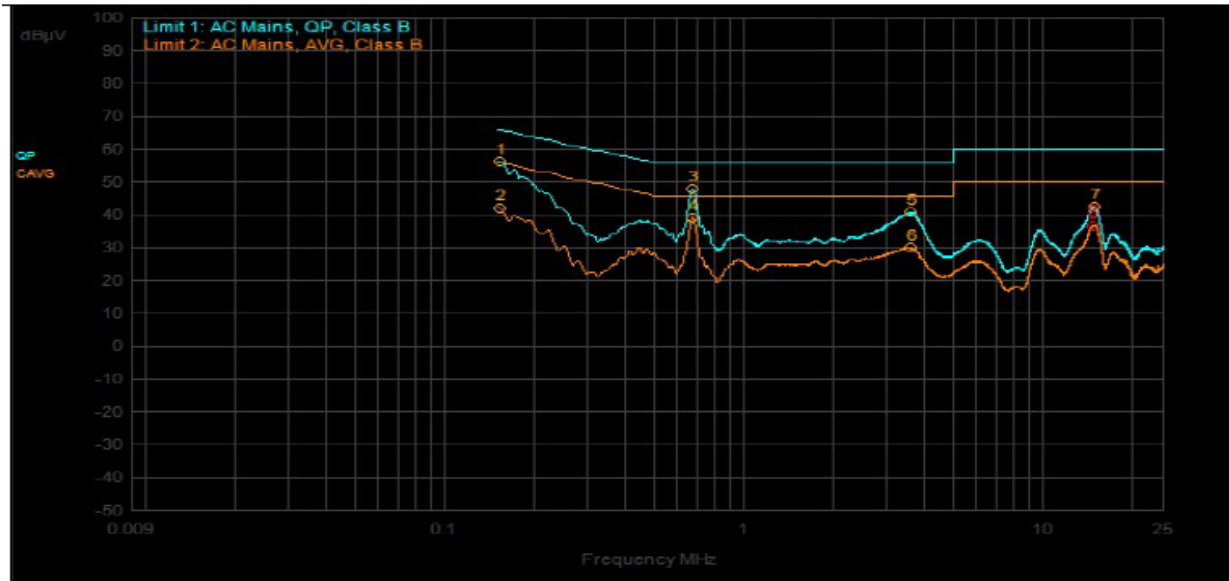
See Section 2.2 for directional gain calculation.

Results

The EUT complied with the specification

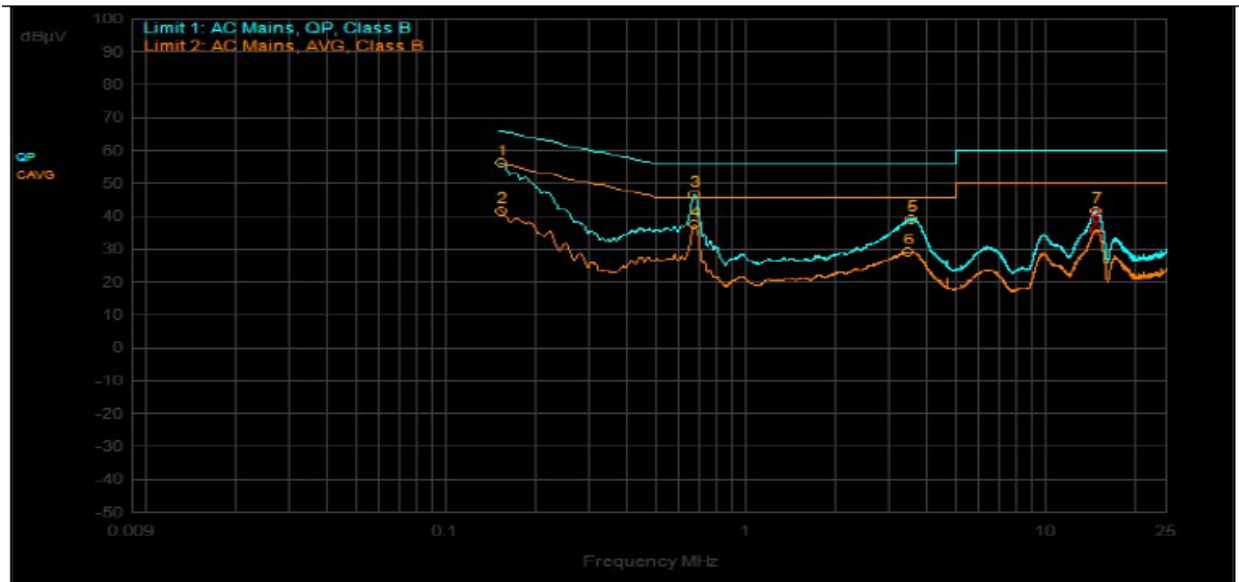
5.2 §15.207 Conducted Emissions at Mains Ports Data

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	672,000kHz	12.33	0.00		QPeak	35.54	47.87	56.00	-8.13			
1	153,000kHz	12.34	0.00		QPeak	44.10	56.44	65.84	-9.39			
5	3.570	12.30	0.00		QPeak	28.38	40.68	56.00	-15.32			
7	14.748	12.38	0.08		QPeak	29.85	42.31	60.00	-17.69			
2	153,000kHz	12.34	0.00		C_AVG	29.61	41.95			55.84	-13.89	
4	672,000kHz	12.33	0.00		C_AVG	26.73	39.06			46.00	-6.94	
6	3.597	12.30	0.00		C_AVG	17.58	29.88			46.00	-16.12	
8	14.610	12.38	0.08		C_AVG	24.18	36.64			50.00	-13.36	

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
3	672,000kHz	12.33	0.00		QPeak	34.31	46.64	56.00	-9.36			
1	153,000kHz	12.29	0.00		QPeak	43.90	56.19	65.84	-9.64			
5	3.513	12.31	0.00		QPeak	26.76	39.07	56.00	-16.93			
7	14.544	12.23	0.08		QPeak	29.32	41.63	60.00	-18.37			
2	153,000kHz	12.29	0.00		C_AVG	29.33	41.62			55.84	-14.21	
4	669,000kHz	12.33	0.00		C_AVG	25.21	37.54			46.00	-8.46	
6	3.456	12.31	0.00		C_AVG	16.82	29.13			46.00	-16.87	
8	14.514	12.23	0.08		C_AVG	23.54	35.85			50.00	-14.15	

Result

The EUT complied with the specification limit.

5.3 §15.407(a) 26 dB Emissions Bandwidth

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

5.3.1 Internal Antenna

Nominal BW (MHz)	Frequency (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)
a 20	5745	16.8	21.9
a 20	5775	16.9	22.9
a 20	5825	17.1	23.2
be 20	5745	19.2	22.2
be 20	5775	19.2	22.5
be 20	5825	19.0	22.8
be 40	5755	38.0	43.8
be 40	5775	38.3	43.3
be 40	5795	38.0	42.3
be 80	5775	78.0	85.0

5.3.2 External Antenna

Nominal BW (MHz)	Frequency (MHz)	99% Bandwidth (MHz)	26 dB Bandwidth (MHz)
a 20	5745	31.0	46.5
a 20	5775	31.6	48.8
a 20	5825	32.2	48.0
be 20	5745	32.1	51.3
be 20	5775	32.1	53.5
be 20	5825	32.8	51.5
be 40	5755	38.8	67.0
be 40	5775	45.8	98.5
be 40	5795	38.8	50.0
be 80	5775	78.0	84.0

Result

All chains were tested and the highest bandwidth per chain is reported above. 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 662911 D01. Please see associated annex for details on instrument settings.

See Section 2.2 for directional gain calculation.

For the internal antenna the maximum average RF conducted output power measured for this device was 23.96 dBm or 248.89 mW. The limit is 30 dBm (adjusted limit 24 dBm), or 1 Watt (adjusted limit 0.251 Watt) when using antennas with 6 dBi or less gain. The antenna has a gain of 12 dBi.

For the external antenna the maximum average RF conducted output power measured for this device was 27.62 dBm or 578.10 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.

5.4.1 Internal Antenna Max Gain 12 dBi

Nss>1

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Total Summed Output Power* (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dBm)
OFDM 20	5745	Mcs0_Nss2	20	23.34	12	35.34	36	-0.66
OFDM 20	5775	Mcs0_Nss2	20	23.71	12	35.71	36	-0.29
OFDM 20	5825	Mcs0_Nss2	20	23.96	12	35.96	36	-0.04
EHT 20	5745	Mcs0_Nss2	20	23.44	12	35.44	36	-0.56
EHT 20	5775	Mcs0_Nss2	20	23.92	12	35.92	36	-0.08
EHT 20	5825	Mcs0_Nss2	20	23.53	12	35.53	36	-0.47
EHT 40	5755	Mcs0_Nss2	20	23.53	12	35.53	36	-0.47
EHT 40	5775	Mcs0_Nss2	20	23.89	12	35.89	36	-0.11
EHT 40	5795	Mcs0_Nss2	19	23.17	12	35.17	36	-0.83
EHT 80	5775	Mcs0_Nss2	20	23.64	12	35.64	36	-0.36

Nss=1

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Total Summed Output Power* (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dBm)
OFDM 20	5745	Mcs0_Nss1	20	23.34	12	35.34	36	-0.66
OFDM 20	5775	Mcs0_Nss1	20	23.71	12	35.71	36	-0.29
OFDM 20	5825	Mcs0_Nss1	20	23.96	12	35.96	36	-0.04
EHT 20	5745	Mcs0_Nss1	20	23.44	12	35.44	36	-0.56
EHT 20	5775	Mcs0_Nss1	20	23.92	12	35.92	36	-0.08
EHT 20	5825	Mcs0_Nss1	20	23.53	12	35.53	36	-0.47
EHT 40	5755	Mcs0_Nss1	20	23.53	12	35.53	36	-0.47
EHT 40	5775	Mcs0_Nss1	20	23.89	12	35.89	36	-0.11
EHT 40	5795	Mcs0_Nss1	19	23.17	12	35.17	36	-0.83
EHT 80	5775	Mcs0_Nss1	20	23.64	12	35.64	36	-0.36

5.4.2 Internal Antenna Max Gain 10 dBi
Nss>1

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Total Summed Output Power* (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dBm)
OFDM 20	5745	Mcs0_Nss2	22	25.23	10	35.23	36	-0.77
OFDM 20	5775	Mcs0_Nss2	22	25.55	10	35.55	36	-0.45
OFDM 20	5825	Mcs0_Nss2	22	25.81	10	35.81	36	-0.19
EHT 20	5745	Mcs0_Nss2	22	25.33	10	35.33	36	-0.67
EHT 20	5775	Mcs0_Nss2	22	25.75	10	35.75	36	-0.25
EHT 20	5825	Mcs0_Nss2	21	25.15	10	35.15	36	-0.85
EHT 40	5755	Mcs0_Nss2	22	25.43	10	35.43	36	-0.57
EHT 40	5775	Mcs0_Nss2	22	25.82	10	35.82	36	-0.18
EHT 40	5795	Mcs0_Nss2	21	25.07	10	35.07	36	-0.93
EHT 80	5775	Mcs0_Nss2	20	23.66	10	33.66	36	-2.34

Nss=1

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Total Summed Output Power* (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dBm)
OFDM 20	5745	Mcs0_Nss1	22	25.23	10	35.23	36	-0.77
OFDM 20	5775	Mcs0_Nss1	22	25.55	10	35.55	36	-0.45
OFDM 20	5825	Mcs0_Nss1	22	25.81	10	35.81	36	-0.19
EHT 20	5745	Mcs0_Nss1	22	25.33	10	35.33	36	-0.67
EHT 20	5775	Mcs0_Nss1	22	25.75	10	35.75	36	-0.25
EHT 20	5825	Mcs0_Nss1	21	25.15	10	35.15	36	-0.85
EHT 40	5755	Mcs0_Nss1	22	25.43	10	35.43	36	-0.57
EHT 40	5775	Mcs0_Nss1	22	25.82	10	35.82	36	-0.18
EHT 40	5795	Mcs0_Nss1	21	25.07	10	35.07	36	-0.93
EHT 80	5775	Mcs0_Nss1	20	23.66	10	33.66	36	-2.34

5.4.3 External Antenna Max Gain 6 dBi
Nss>1

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Total Summed Output Power* (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dBm)
OFDM 20	5745	Mcs0_Nss2	29	27.51	6	33.51	36	-2.49
OFDM 20	5775	Mcs0_Nss2	29	27.61	6	33.61	36	-2.39
OFDM 20	5825	Mcs0_Nss2	28	27.45	6	33.45	36	-2.55
EHT 20	5745	Mcs0_Nss2	28	27.46	6	33.46	36	-2.54
EHT 20	5775	Mcs0_Nss2	28	27.62	6	33.62	36	-2.38
EHT 20	5825	Mcs0_Nss2	26	27.22	6	33.22	36	-2.78
EHT 40	5755	Mcs0_Nss2	24	25.71	6	31.71	36	-4.29
EHT 40	5775	Mcs0_Nss2	24	26.98	6	32.98	36	-3.02
EHT 40	5795	Mcs0_Nss2	23	26.80	6	32.80	36	-3.20
EHT 80	5775	Mcs0_Nss2	22	24.02	6	30.02	36	-5.98

Nss=1

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Total Summed Output Power* (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dBm)
OFDM 20	5745	Mcs0_Nss1	29	27.51	6	33.51	36	-2.49
OFDM 20	5775	Mcs0_Nss1	29	27.61	6	33.61	36	-2.39
OFDM 20	5825	Mcs0_Nss1	28	27.45	6	33.45	36	-2.55
EHT 20	5745	Mcs0_Nss1	28	27.46	6	33.46	36	-2.54
EHT 20	5775	Mcs0_Nss1	28	27.62	6	33.62	36	-2.38
EHT 20	5825	Mcs0_Nss1	26	27.22	6	33.22	36	-2.78
EHT 40	5755	Mcs0_Nss1	24	25.71	6	31.71	36	-4.29
EHT 40	5775	Mcs0_Nss1	24	26.98	6	32.98	36	-3.02
EHT 40	5795	Mcs0_Nss1	23	26.80	6	32.80	36	-3.20
EHT 80	5775	Mcs0_Nss1	22	24.02	6	30.02	36	-5.98

Result

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

* Gated EIRP shown in the Annex is the conducted measurement.

5.5 §15.407(b)(7) Spurious Emissions

5.5.1 Radiated Spurious Emissions in the Restricted Bands of § 15.205

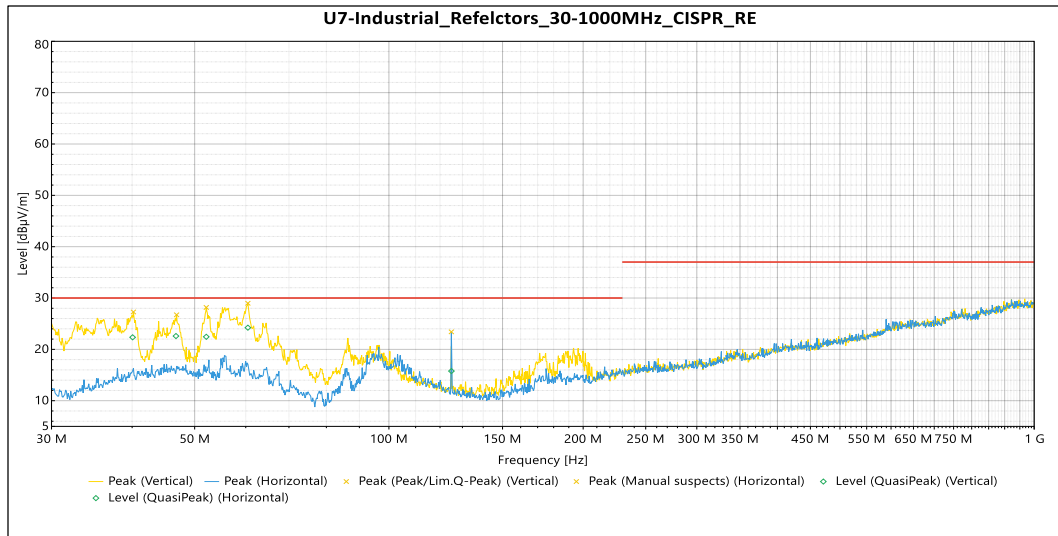
The EUT uses various power settings based on the channel in use. In order to reduce test time, the radiated spurious emissions at the lowest, middle, and highest channel were measured at the maximum power of TP30.

Correction Factor = Antenna Factor (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. See Annex for Conducted Band edge plots.

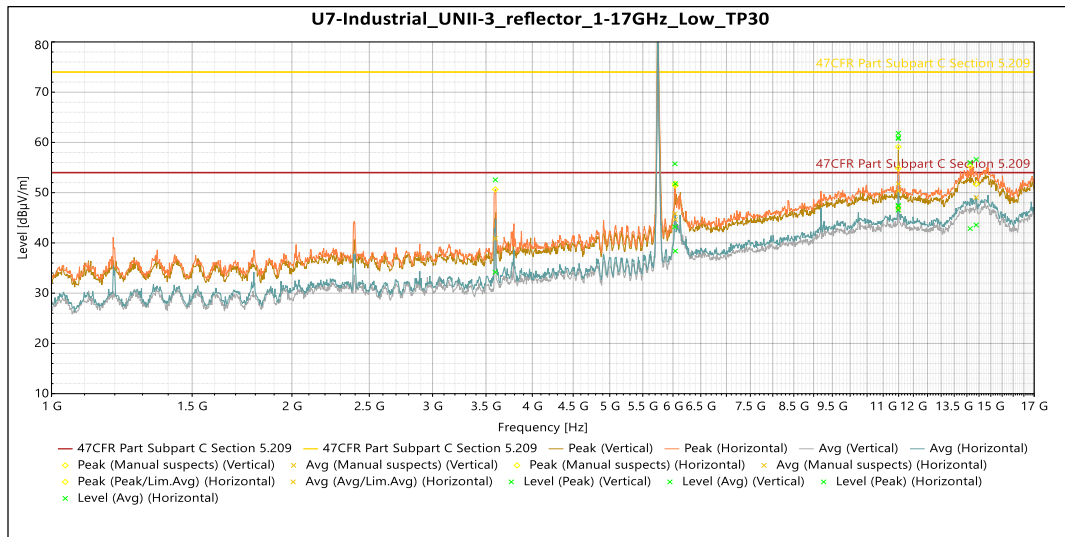
Internal Antenna



QuasiPeak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin	Azimuth (°)	Height	Pol.	Correction (dB)
40.07 MHz	22.35	30.0	-7.65	4	1.07	Vertical	-13.23
46.78 MHz	22.59	30.0	-7.41	1	2.46	Vertical	-12.03
52.12 MHz	22.44	30.0	-7.56	15	2.11	Vertical	-12.53
60.46 MHz	24.22	30.0	-5.78	9	3.66	Vertical	-14.37
124.99 MHz	15.77	30.0	-14.23	329	2.77	Horizontal	-16.63

Table 4: Radiated Emissions 30 – 1000 MHz



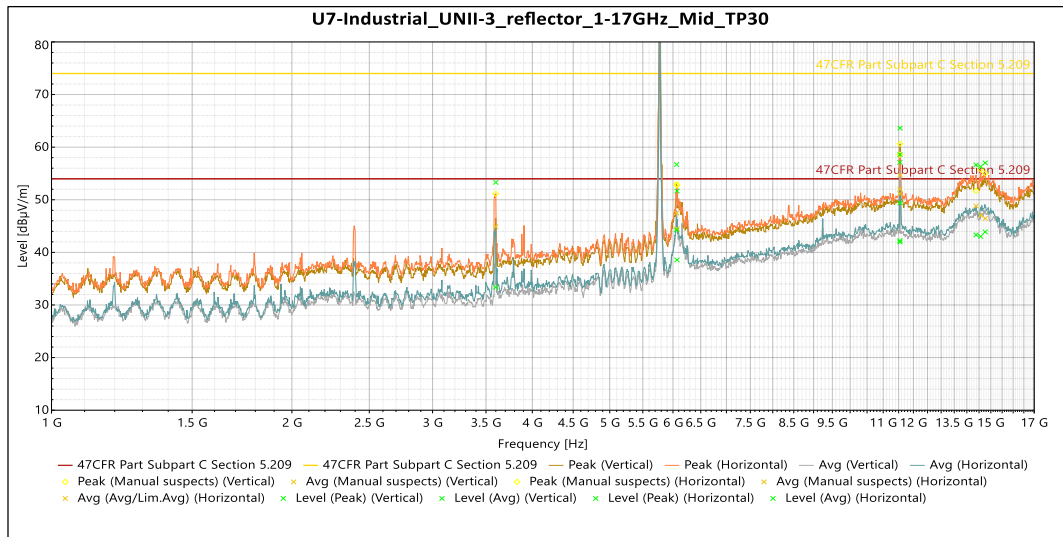
Peak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
6.03 GHz	55.74	74.0	-18.26	102	1.638	Vertical	-4.74
11.49 GHz	61.83	74.0	-12.17	99	2.142	Vertical	7.84
14.38 GHz	56.61	74.0	-17.39	121	3.656	Vertical	11.16
3.60 GHz	52.57	74.0	-21.43	110	3.307	Horizontal	-10.28
6.04 GHz	51.78	74.0	-22.22	80	1.5	Horizontal	-4.70
11.49 GHz	60.95	74.0	-13.05	100	1.643	Horizontal	7.85
14.13 GHz	56.00	74.0	-18.00	32	4	Horizontal	11.06

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
6.03 GHz	43.22	54.0	-10.78	102	1.638	Vertical	-4.74
11.49 GHz	47.36	54.0	-6.64	99	2.142	Vertical	7.84
14.38 GHz	43.56	54.0	-10.44	121	3.656	Vertical	11.16
3.60 GHz	34.16	54.0	-19.84	110	3.307	Horizontal	-10.28
6.04 GHz	38.39	54.0	-15.61	80	1.5	Horizontal	-4.70
11.49 GHz	47.44	54.0	-6.56	100	1.643	Horizontal	7.85
14.13 GHz	42.85	54.0	-11.15	32	4	Horizontal	11.06

Table 5: Radiated Emissions 1 – 17 GHz at the Lowest Frequency



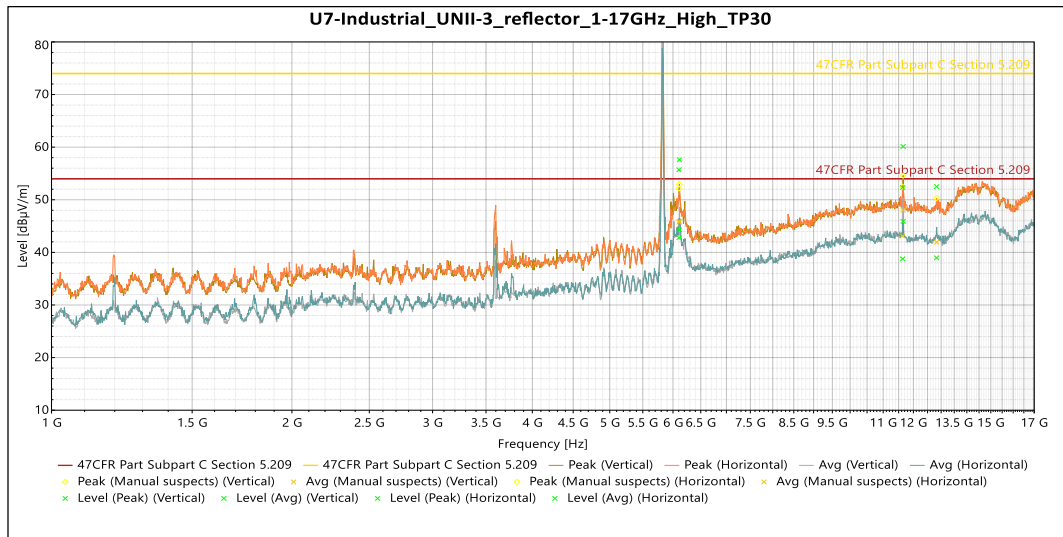
Peak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
6.05 GHz	56.69	74.0	-17.31	97	1.638	Vertical	-4.62
11.55 GHz	63.61	74.0	-10.39	103	2.142	Vertical	7.97
14.38 GHz	56.63	74.0	-17.37	16	4	Vertical	11.15
14.76 GHz	57.01	74.0	-16.99	45	3.798	Vertical	11.95
3.60 GHz	53.30	74.0	-10.70	110	3.311	Horizontal	-10.27
6.07 GHz	51.66	74.0	-22.34	82	1.5	Horizontal	-4.62
11.54 GHz	58.58	74.0	-15.42	100	1.643	Horizontal	7.99
14.57 GHz	56.30	74.0	-17.70	293	3.657	Horizontal	11.45

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
6.05 GHz	44.25	54.0	-9.75	97	1.638	Vertical	-4.62
11.55 GHz	49.39	54.0	-4.61	103	2.142	Vertical	7.97
14.38 GHz	43.34	54.0	-10.66	16	4	Vertical	11.15
14.76 GHz	43.90	54.0	-10.10	45	3.798	Vertical	11.95
3.60 GHz	33.38	54.0	-20.62	110	3.311	Horizontal	-10.27
6.07 GHz	38.58	54.0	-15.42	82	1.5	Horizontal	-4.62
11.54 GHz	42.24	54.0	-11.76	100	1.643	Horizontal	7.99
14.57 GHz	43.04	54.0	-10.96	293	3.657	Horizontal	11.45

Table 6: Radiated Emissions 1 – 17 GHz at the Middle Frequency



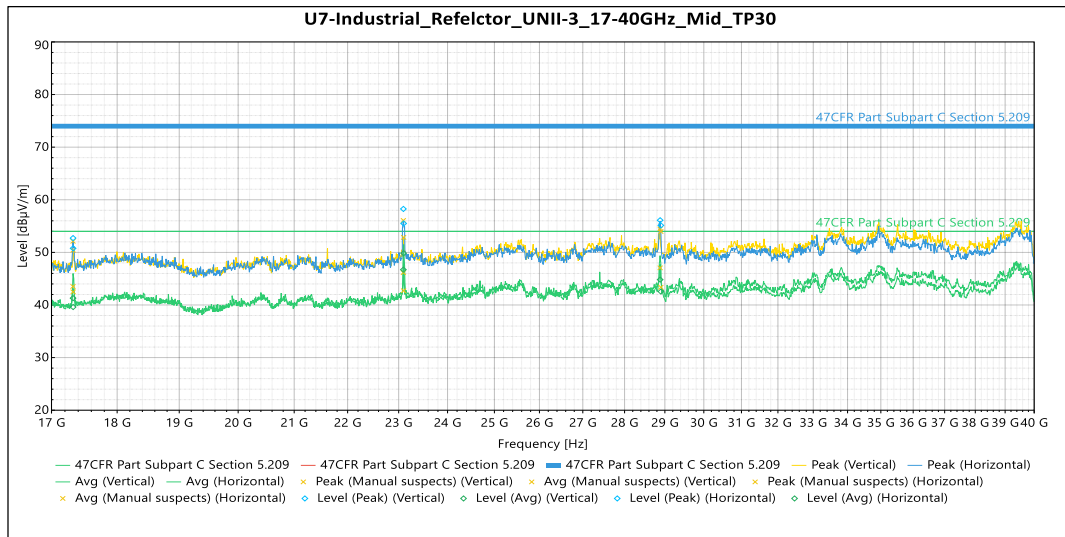
Peak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
6.11 GHz	57.60	74.0	-16.40	105	1.643	Vertical	-4.54
11.65 GHz	60.12	74.0	-13.88	97	1.638	Vertical	8.03
6.11 GHz	55.71	74.0	-18.29	100	1.643	Horizontal	-4.59
11.63 GHz	52.32	74.0	-21.68	100	2.146	Horizontal	8.09
12.83 GHz	52.49	74.0	-21.51	353	4	Horizontal	7.47

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
6.11 GHz	44.27	54.0	-9.73	105	1.643	Vertical	-4.54
11.65 GHz	45.89	54.0	-8.11	97	1.638	Vertical	8.03
6.11 GHz	42.79	54.0	-11.21	100	1.643	Horizontal	-4.59
11.63 GHz	38.77	54.0	-15.23	100	2.146	Horizontal	8.09
12.83 GHz	38.97	54.0	-15.03	353	4	Horizontal	7.47

Table 7: Radiated Emissions 1 – 17 GHz at the Highest Frequency



Peak

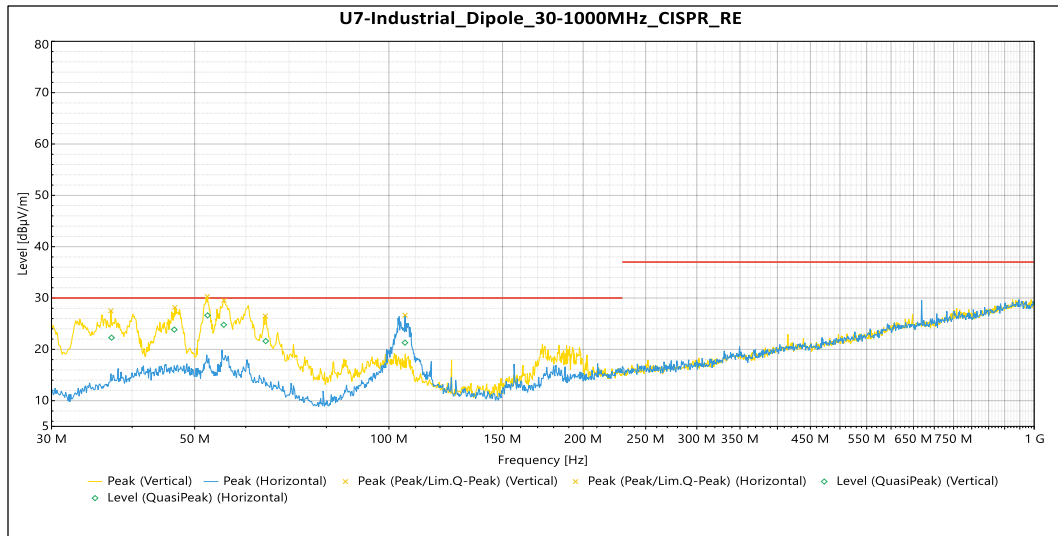
Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
17.32 GHz	50.77	74.0	-23.23	102	Vertical	-0.68
23.10 GHz	55.49	74.0	-18.51	87	Vertical	0.54
28.88 GHz	56.11	74.0	-17.89	83	Vertical	0.88
17.32 GHz	52.71	74.0	-21.29	110	Horizontal	-0.68
23.10 GHz	58.26	74.0	-15.74	97	Horizontal	0.53
28.90 GHz	55.13	74.0	-18.87	93	Horizontal	0.69

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
17.32 GHz	39.61	54.0	-14.39	102	Vertical	-0.68
23.10 GHz	49.84	54.0	-4.16	87	Vertical	0.54
28.88 GHz	44.82	54.0	-9.18	83	Vertical	0.88
17.32 GHz	41.30	54.0	-12.70	110	Horizontal	-0.68
23.10 GHz	46.71	54.0	-7.29	97	Horizontal	0.53
28.90 GHz	42.55	54.0	-11.45	93	Horizontal	0.69

Table 8: Radiated Emissions 17 – 40 GHz at the Middle Frequency (worse case)

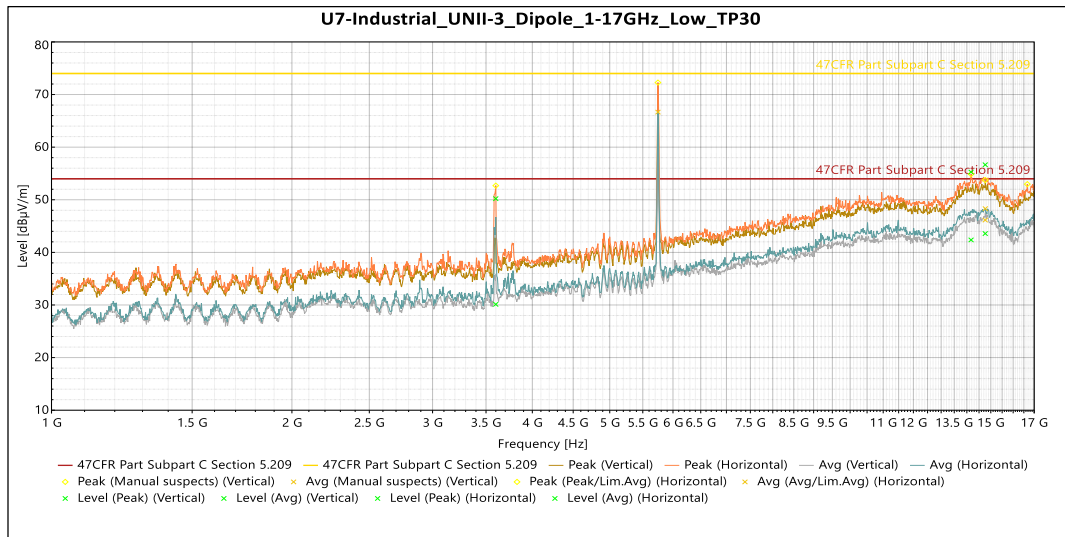
External Antenna



QuasiPeak

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin	Azimuth (°)	Height	Pol.	Correction (dB)
37.17 MHz	22.28	30.0	-7.72	15	1.47	Vertical	-14.48
46.50 MHz	23.85	30.0	-6.15	18	3.35	Vertical	-12.03
52.35 MHz	26.63	30.0	-3.37	71	3.11	Vertical	-12.58
55.48 MHz	24.78	30.0	-5.22	339	3.12	Vertical	-13.19
64.44 MHz	21.61	30.0	-8.39	181	3.64	Vertical	-15.35
105.89 MHz	21.30	30.0	-8.70	330	3.88	Horizontal	-14.19

Table 9: Radiated Emissions 30 – 1000 MHz



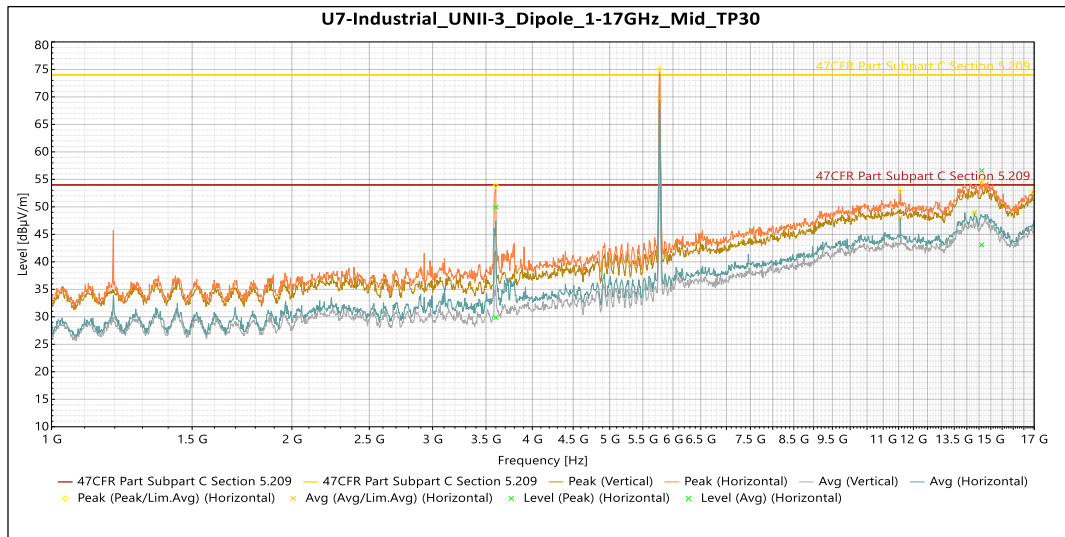
Peak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
14.76 GHz	56.65	74.0	-17.35	80	4	Vertical	11.95
3.60 GHz	50.21	74.0	-23.79	131	3.798	Horizontal	-10.27
14.17 GHz	55.26	74.0	-18.74	280	3.798	Horizontal	11.04

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
14.76 GHz	43.58	54.0	-10.42	80	4	Vertical	11.95
3.60 GHz	30.12	54.0	-23.88	131	3.798	Horizontal	-10.27
14.17 GHz	42.37	54.0	-11.63	280	3.798	Horizontal	11.04

Table 10: Radiated Emissions 1 – 17 GHz at the Lowest Frequency



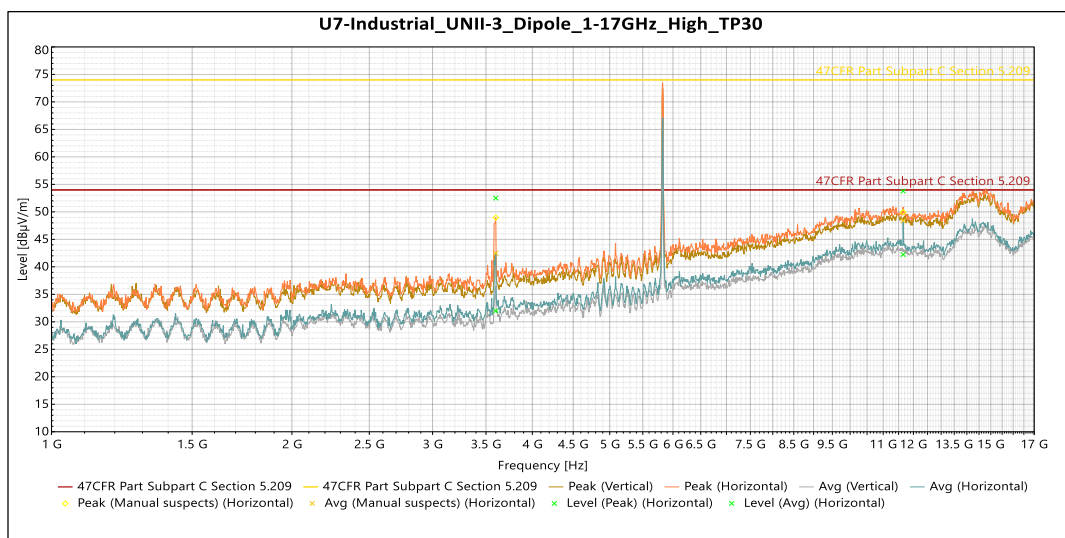
Peak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
No significant emission were observed in the vertical orientation of the antenna							
3.60 GHz	49.94	74.0	-24.06	132	3.802	Horizontal	-10.37
14.61 GHz	56.59	74.0	-17.41	321	3.798	Horizontal	11.87

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
No significant emission were observed in the vertical orientation of the antenna							
3.60 GHz	29.89	54.0	-24.11	132	3.802	Horizontal	-10.37
14.61 GHz	43.10	54.0	-10.90	321	3.798	Horizontal	11.87

Table 11: Radiated Emissions 1 – 17 GHz at the Middle Frequency



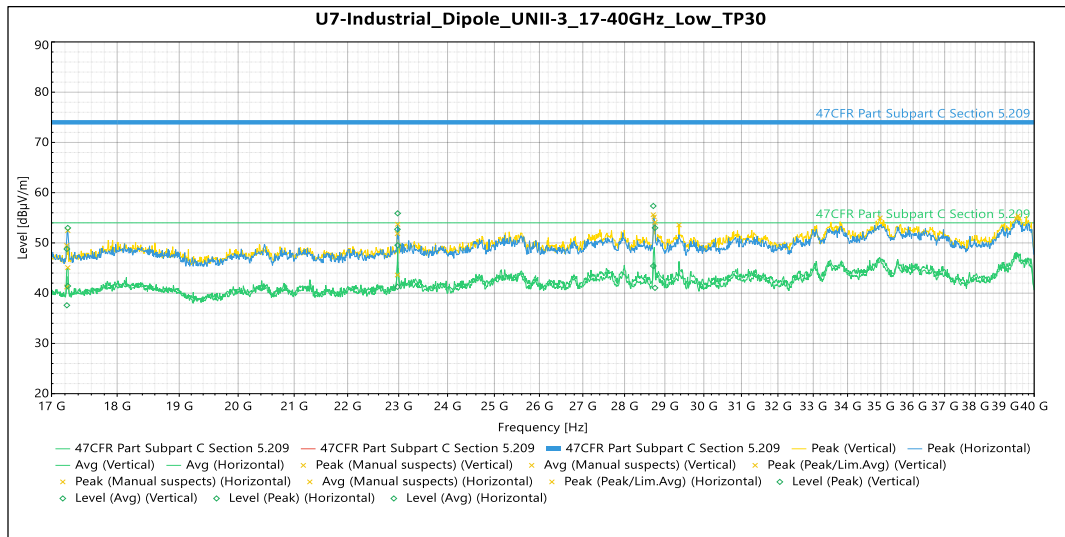
Peak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
No significant emission were observed in the vertical orientation of the antenna							
3.60 GHz	52.50	74.0	-21.50	77	2.6245	Horizontal	-10.27
11.65 GHz	53.77	74.0	-20.23	214	3.149	Horizontal	8.03

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
No significant emission were observed in the vertical orientation of the antenna							
3.60 GHz	31.99	54.0	-22.01	77	2.6245	Horizontal	-10.27
11.65 GHz	42.23	54.0	-11.77	214	3.149	Horizontal	8.03

Table 12: Radiated Emissions 1 – 17 GHz at the Highest Frequency



Peak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
17.23 GHz	48.79	74.0	-25.21	173	Vertical	-0.80
22.98 GHz	52.70	74.0	-21.30	120	Vertical	0.34
28.75 GHz	52.99	74.0	-21.01	145	Vertical	1.40
17.24 GHz	52.98	74.0	-21.02	86	Horizontal	-0.78
22.98 GHz	55.89	74.0	-18.11	155	Horizontal	0.36
28.71 GHz	57.35	74.0	-16.65	125	Horizontal	1.01

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
17.23 GHz	37.59	54.0	-16.41	173	Vertical	-0.80
22.98 GHz	41.25	54.0	-12.75	120	Vertical	0.34
28.75 GHz	41.05	54.0	-12.95	145	Vertical	1.40
17.24 GHz	41.42	54.0	-12.58	86	Horizontal	-0.78
22.98 GHz	49.54	54.0	-4.46	155	Horizontal	0.36
28.71 GHz	45.40	54.0	-8.60	125	Horizontal	1.01

Table 13: Radiated Emissions 17 – 40 GHz at the Lowest 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 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 30 dBm (internal antenna adjusted to 24 dBm) in any 500 kHz band during any time interval of continuous transmission.

See Section 2.2 for directional gain calculation.

Results of this testing are summarized.

5.6.1 Internal Antenna 12 dBi

Nss>1

Modulation (BW)	Freq. (MHz)	Data Rate	TP Setting	Total Sum PSD EIRP (dBm)	Antenna Gain (dBi)	Limit (dBm)	Margin (dBm)
OFDM 20	5745	Mcs0_Nss2	20	10.10	12	24	-13.90
OFDM 20	5775	Mcs0_Nss2	20	10.42	12	24	-13.58
OFDM 20	5825	Mcs0_Nss2	20	10.61	12	24	-13.39
EHT 20	5745	Mcs0_Nss2	20	9.63	12	24	-14.37
EHT 20	5775	Mcs0_Nss2	20	10.07	12	24	-13.93
EHT 20	5825	Mcs0_Nss2	20	10.39	12	24	-13.61
EHT 40	5755	Mcs0_Nss2	20	7.06	12	24	-16.94
EHT 40	5775	Mcs0_Nss2	20	7.35	12	24	-16.65
EHT 40	5795	Mcs0_Nss2	19	6.68	12	24	-17.32
EHT 80	5775	Mcs0_Nss2	20	4.17	12	24	-19.83

Nss=1

Modulation (BW)	Freq. (MHz)	Data Rate	TP Setting	Total Sum PSD EIRP (dBm)	Antenna Gain (dBi)	Limit (dBm)	Margin (dBm)
OFDM 20	5745	Mcs0_Nss1	20	10.10	12	14.99	-4.89
OFDM 20	5775	Mcs0_Nss1	20	10.42	12	14.99	-4.57
OFDM 20	5825	Mcs0_Nss1	20	10.61	12	14.99	-4.38
EHT 20	5745	Mcs0_Nss1	20	9.63	12	14.99	-5.36
EHT 20	5775	Mcs0_Nss1	20	10.07	12	14.99	-4.92
EHT 20	5825	Mcs0_Nss1	20	10.39	12	14.99	-4.60
EHT 40	5755	Mcs0_Nss1	20	7.06	12	14.99	-7.93
EHT 40	5775	Mcs0_Nss1	20	7.35	12	14.99	-7.64
EHT 40	5795	Mcs0_Nss1	19	6.68	12	14.99	-8.31
EHT 80	5775	Mcs0_Nss1	20	4.17	12	14.99	-10.82

5.6.2 Internal Antenna 10 dBi
Nss>1

Modulation (BW)	Freq. (MHz)	Data Rate	TP Setting	Total Sum PSD EIRP (dBm)	Antenna Gain (dBi)	Limit (dBm)	Margin (dBm)
OFDM 20	5745	Mcs0_Nss2	22	11.97	10	24	-12.03
OFDM 20	5775	Mcs0_Nss2	22	12.39	10	24	-11.61
OFDM 20	5825	Mcs0_Nss2	22	12.57	10	24	-11.43
EHT 20	5745	Mcs0_Nss2	22	11.49	10	24	-12.51
EHT 20	5775	Mcs0_Nss2	22	11.97	10	24	-12.03
EHT 20	5825	Mcs0_Nss2	21	11.25	10	24	-12.75
EHT 40	5755	Mcs0_Nss2	22	8.98	10	24	-15.02
EHT 40	5775	Mcs0_Nss2	22	9.27	10	24	-14.73
EHT 40	5795	Mcs0_Nss2	21	8.65	10	24	-15.35
EHT 80	5775	Mcs0_Nss2	20	4.24	10	24	-19.76

Nss=1

Modulation (BW)	Freq. (MHz)	Data Rate	TP Setting	Total Sum PSD EIRP (dBm)	Antenna Gain (dBi)	Limit (dBm)	Margin (dBm)
OFDM 20	5745	Mcs0_Nss1	22	11.97	10	14.99	-3.02
OFDM 20	5775	Mcs0_Nss1	22	12.39	10	14.99	-2.60
OFDM 20	5825	Mcs0_Nss1	22	12.57	10	14.99	-2.42
EHT 20	5745	Mcs0_Nss1	22	11.49	10	14.99	-3.50
EHT 20	5775	Mcs0_Nss1	22	11.97	10	14.99	-3.02
EHT 20	5825	Mcs0_Nss1	21	11.25	10	14.99	-3.74
EHT 40	5755	Mcs0_Nss1	22	8.98	10	14.99	-6.01
EHT 40	5775	Mcs0_Nss1	22	9.27	10	14.99	-5.72
EHT 40	5795	Mcs0_Nss1	21	8.65	10	14.99	-6.34
EHT 80	5775	Mcs0_Nss1	20	4.24	10	14.99	-10.75

5.6.3 External Antenna
Nss>1

Modulation (BW)	Freq. (MHz)	Data Rate	TP Setting	Total Sum PSD EIRP (dBm)	Antenna Gain (dBi)	Limit (dBm)	Margin (dBm)
OFDM 20	5745	Mcs0_Nss2	29	14.23	6	30	-15.77
OFDM 20	5775	Mcs0_Nss2	29	14.33	6	30	-15.67
OFDM 20	5825	Mcs0_Nss2	28	13.99	6	30	-16.01
EHT 20	5745	Mcs0_Nss2	28	13.50	6	30	-16.50
EHT 20	5775	Mcs0_Nss2	28	13.66	6	30	-16.34
EHT 20	5825	Mcs0_Nss2	26	13.19	6	30	-16.81
EHT 40	5755	Mcs0_Nss2	24	9.08	6	30	-20.92
EHT 40	5775	Mcs0_Nss2	24	9.69	6	30	-20.31
EHT 40	5795	Mcs0_Nss2	23	8.79	6	30	-21.21
EHT 80	5775	Mcs0_Nss2	22	4.62	6	30	-25.38

Nss=1

Modulation (BW)	Freq. (MHz)	Data Rate	TP Setting	Total Sum PSD EIRP (dBm)	Antenna Gain (dBi)	Limit (dBm)	Margin (dBm)
OFDM 20	5745	Mcs0_Nss1	29	14.23	6	26.99	-12.76
OFDM 20	5775	Mcs0_Nss1	29	14.33	6	26.99	-12.66
OFDM 20	5825	Mcs0_Nss1	28	13.99	6	26.99	-13.00
EHT 20	5745	Mcs0_Nss1	28	13.50	6	26.99	-13.49
EHT 20	5775	Mcs0_Nss1	28	13.66	6	26.99	-13.33
EHT 20	5825	Mcs0_Nss1	26	13.19	6	26.99	-13.80
EHT 40	5755	Mcs0_Nss1	24	9.08	6	26.99	-17.91
EHT 40	5775	Mcs0_Nss1	24	9.69	6	26.99	-17.30
EHT 40	5795	Mcs0_Nss1	23	8.79	6	26.99	-18.20
EHT 80	5775	Mcs0_Nss1	22	4.62	6	26.99	-22.37

Result

The maximum summed average power spectral density was less than the limit of 30 dBm (internal antenna adjusted to 24 dBm); therefore, the EUT complies with the specification.

-- End of Test Report --