



427 West 12800 South
Draper, UT 84020

Test Report Certification

FCC ID	SWX-U6EPIW
ISED ID	6545A-U6EPIW
Equipment Under Test	U6-Enterprise-IW
Test Report Serial Number	TR6801_01
Date of Test(s)	15, 29 November; 1, 2 December 2021 and 4 January 2022
Report Issue Date	03 March 2022

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



Certification of Engineering Report

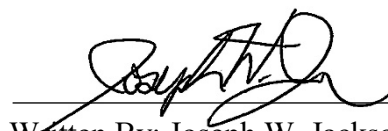
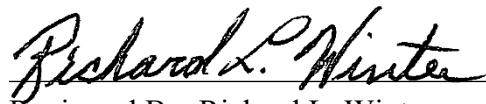
This report has been prepared by Unified Compliance Laboratory (UCL) to document compliance of the device described below with the requirement of Federal Communication Commissions (FCC) Part 15, Subpart E. This report may be reproduced in full. Partial reproduction of this report may only be made with 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	UniFi
Model Number	U6-Enterprise-IW
FCC ID	SWX-U6EPIW
ISED ID	6545A-U6EPIW

On this 3rd day of March 2022, 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: Joseph W. Jackson
Reviewed By: Richard L. Winter

Revision History		
Revision	Description	Date
01	Original Report Release	03 March 2022

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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	Mark Feil
Title	Compliance Manager

1.2 Manufacturer

Company	Ubiquiti Inc. 685 Third Avenue New York, NY 10017 U.S.A.
Contact Name	Mark Feil
Title	Compliance Manager

2 Equipment Under Test (EUT)

2.1 Identification of EUT

Brand Name	UniFi
Model Number	U6-Enterprise-IW
Serial Number	68D79A0505E9
Dimensions (cm)	16.0 x 15.7 x 3.4

2.2 Description of EUT

The U6-Enterprise-IW is an in-wall mounted access point with four-stream WiFi 6 that provides up to 5.3+ Gbps aggregate throughput rate. The U6-Enterprise-IW has 2.4 GHz (2x2), 5 GHz (4x4) and 6 GHz (4x4) transmitters. The U6-Enterprise-IW has an Ethernet port for data transfer and is powered by an 802.3at PoE Power Adapter. The U6-Enterprise-IW has a Bluetooth management radio to achieve setup and operation. The U6-Enterprise-IW is designed for indoor use.

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
	n	20 MHz	HT	5745, 5775, 5825
	n	40 MHz	HT	5755, 5775, 5795
	ac	20 MHz	VHT	5745, 5775, 5825
	ac	40 MHz	VHT	5755, 5775, 5795
	ac	80 MHz	VHT	5775
	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

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
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BN: UniFi MN: U6-Enterprise-IW (Note 1) SN: 68D79A0505E9	WiFi Access Point	See Section 2.4
BN: Ubiquiti MN: UPOE-at SN: N/A	PoE Power Adapter	Shielded or Un-Shielded Cat 5e cable (Note 2)
BN: Dell MN: XPS 13 SN: N/A	Laptop Personal Computer	Shielded or 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	1	Shielded or Un-Shielded Cat 5e Cable/> 3 Meters
Data	1	Shielded or Un-Shielded Cat 5e Cable/> 3 Meters

2.5 Operating Environment

Power Supply	120 Volts ac to 48 Volts PoE Power
AC Mains Frequency	60 Hz
Temperature	22.1 – 23.7 °C
Humidity	16.9 – 29.3 %
Barometric Pressure	1015 mBar

2.6 Operating Modes

The U6-Enterprise-IW 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/n/ac/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

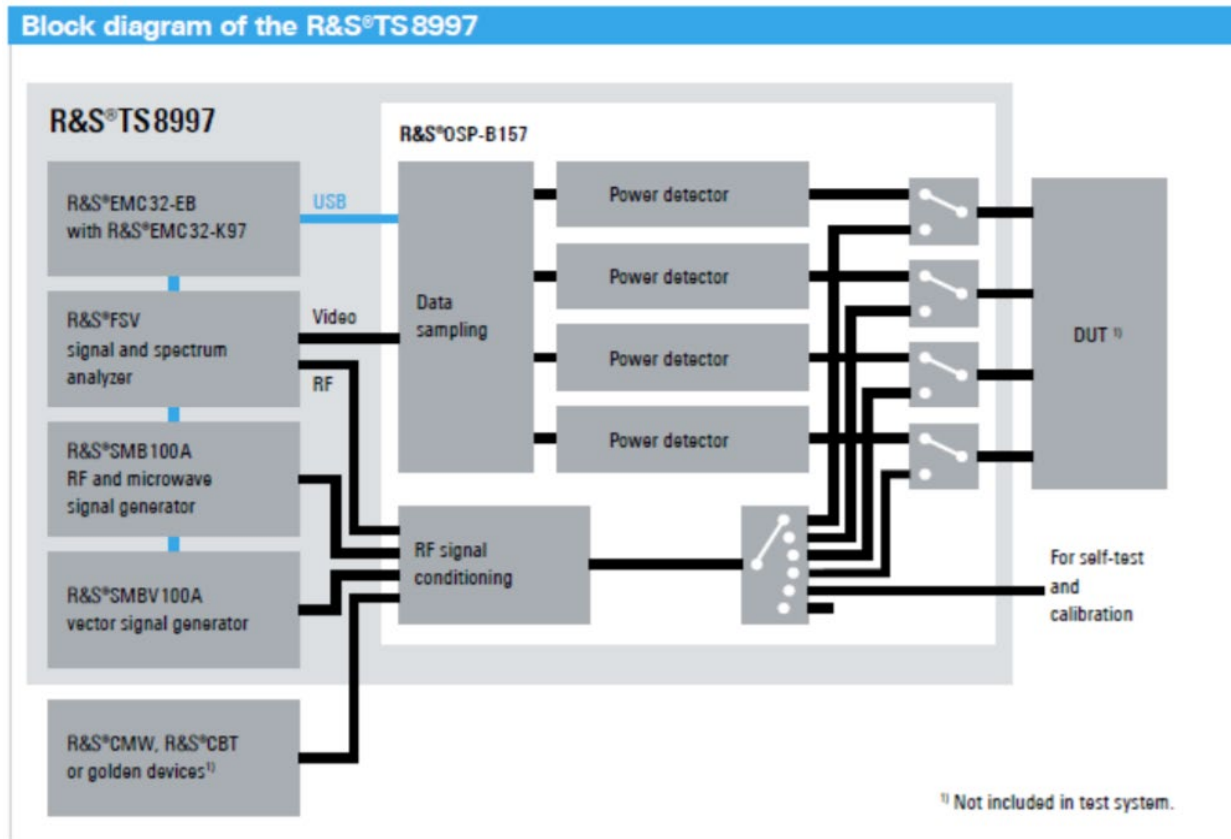


Diagram 1: Test Configuration Block Diagram

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 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 2022. 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 2022. Unified Compliance Laboratory has been assigned 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	9/18/2020	3/17/2022
LISN	AFJ	LS16C/10	UCL-2512	5/26/2020	5/26/2022
Cat6 ISN	Teseq	ISN T8-Cat6	UCL-2971	5/18/2020	5/18/2022
ISN	Teseq	ISN T800	UCL-2974	6/4/2021	6/4/2022
LISN	Com-Power	LIN-120C	UCL-2612	5/19/2021	5/19/2022
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

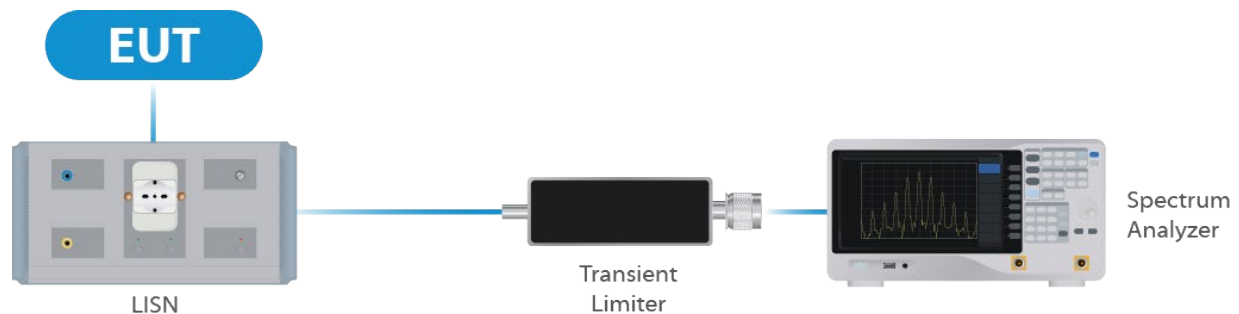


Figure 1: Conducted Emissions Test

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	1/03/2022	1/03/2023
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	1/03/2022	1/03/2023
Switch Extension	R&S	OSP-150W	UCL-2870	1/03/2022	1/03/2023

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

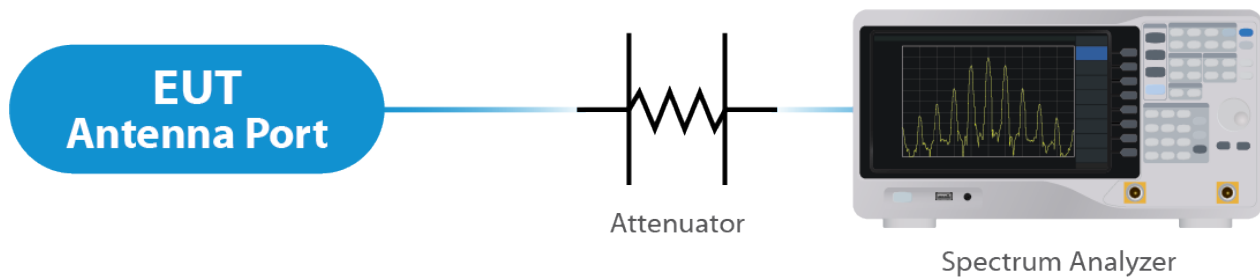


Figure 2: Direct Connect at the Antenna Port Test



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	6/21/2021	6/21/2022
Pre-Amplifier 9 kHz – 1 GHz	Sonoma Instruments	310N	UCL-2889	10/7/2021	10/7/2022
Broadband Antenna	Scwarzbeck	VULB 9163	UCL-3062	8/28/2020	8/27/2022
Broadband Antenna	Scwarzbeck	VULB 9163	UCL-3071	5/19/2020	5/19/2022
Double Ridge Horn Antenna	Scwarzbeck	BBHA 9120D	UCL-3065	7/8/2021	7/8/2022
Log Periodic	Scwarzbeck	STLP 9129	UCL-3068	11/16/2020	11/16/2022
15 - 40 GHz Horn Antenna	Scwarzbeck	BBHA 9170	UCL-2487	5/21/2020	5/21/2022
1 – 18 GHz Amplifier	Com-Power	PAM 118A	UCL-3833	10/7/2021	10/7/2022
Test Software	UCL	Revision 1	UCL-3108	N/A	N/A

Table 3: List of equipment used for Radiated Emissions

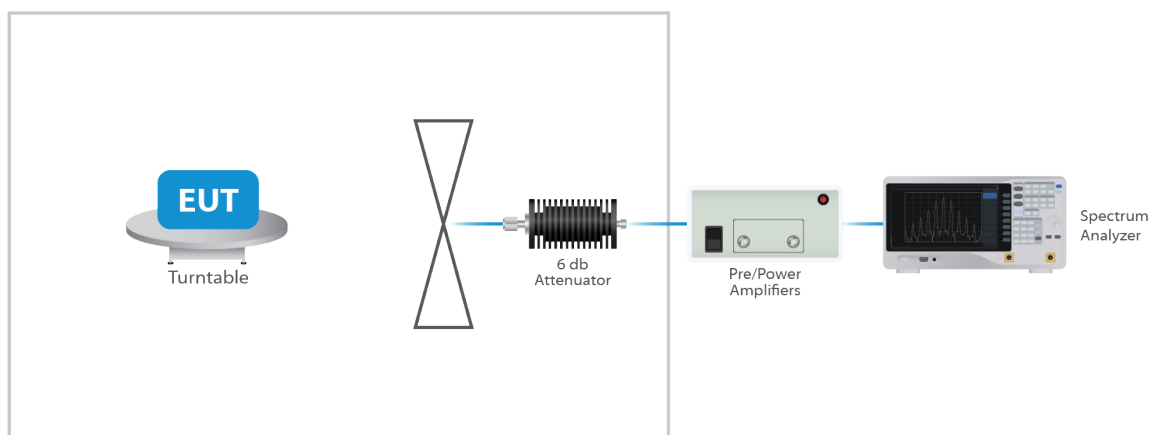


Figure 4: Radiated Emissions Test

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 ($\pm$ 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 integral folding antenna structure. The maximum gain of the antenna per chain is 5.8 dBi. This is an 802.11 device and utilizes CDD as described in KDB 662911 D01. The antenna is not user replaceable.

For power measurements on IEEE 802.11 devices, Array Gain = 0 dB for NANT ≤ 4;

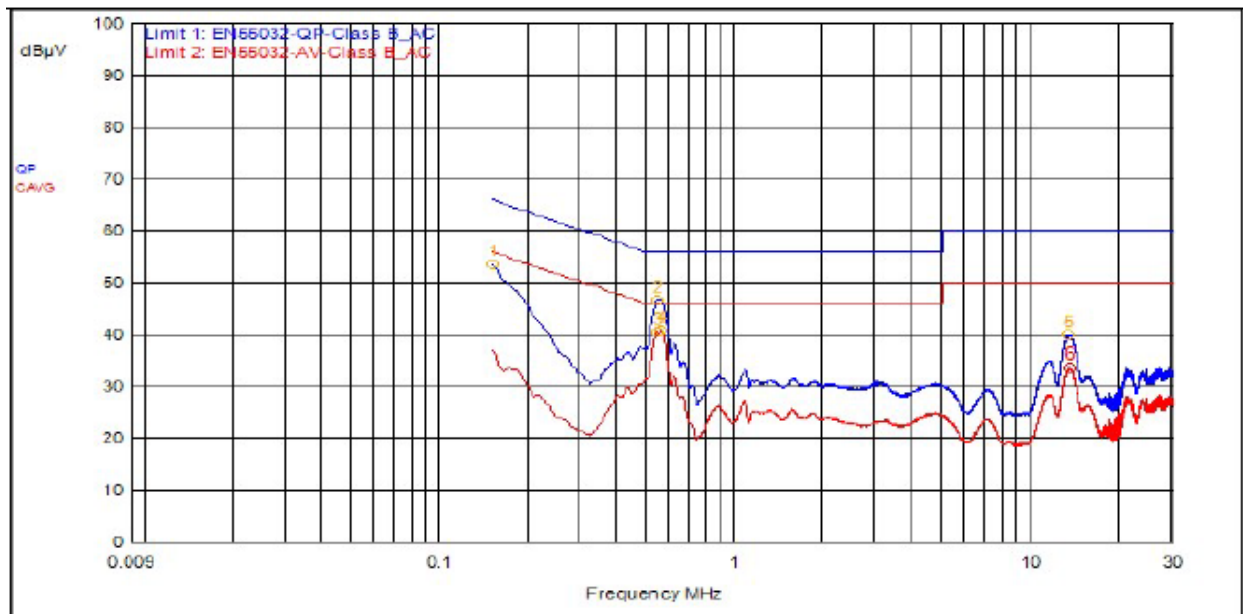
For PSD measurements when Nss=1: Array Gain = 10 log(NANT/NSS) dB = 6.02dB

Results

The EUT complied with the specification

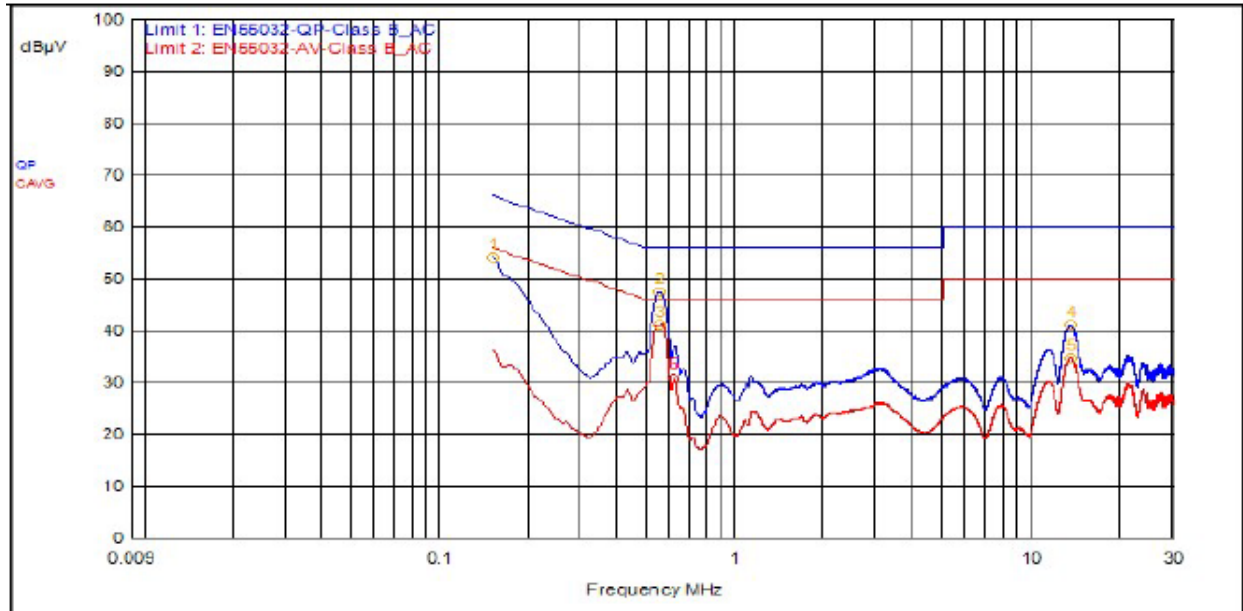
5.2 Conducted Emissions at Mains Ports Data

5.2.1 Line



ID	Frequency	Probe	Cable	Atten.	Detector	Meter Read	Meas Level	Limit 1	Limit 1 Dist.	Limit 2	Limit 2 Dist.
2	543,000kHz	9.5	0.1		QPeak	37.1	46.7	56.0	-9.3		
1	150,000kHz	9.5	0.0		QPeak	44.2	53.7	66.0	-12.3		
5	13.161MHz	9.6	0.3		QPeak	30.0	39.9	60.0	-20.1		
3	540,000kHz	9.5	0.1		C_AVG	30.8	40.5			46.0	-5.5
4	558,000kHz	9.5	0.1		C_AVG	31.0	40.7			46.0	-5.3
6	13.260MHz	9.6	0.3		C_AVG	23.6	33.5			50.0	-16.5

5.2.2 Neutral



ID	Frequency	Probe	Cable	Atten.	Detector	Meter Read	Meas Level	Limit 1	Limit 1 Dist.	Limit 2	Limit 2 Dist.
2	549,000kHz	9.5	0.1		QPeak	37.9	47.5	56.0	-8.5		
1	150,000kHz	9.5	0.0		QPeak	44.6	54.1	66.0	-11.9		
4	13.266MHz	9.6	0.3		QPeak	31.1	41.0	60.0	-19.0		
3	549,000kHz	9.5	0.1		C_AVG	31.5	41.2			46.0	-4.8
5	13.260MHz	9.6	0.3		C_AVG	24.9	34.8			50.0	-15.2
6	612,000kHz	9.5	0.2		C_AVG	21.0	30.7			46.0	-15.3

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)
a20	5745	25.8	40.0
a20	5775	34.0	40.0
a20	5825	35.2	40.0
n20	5745	24.1	40.0
n20	5775	35.3	40.0
n20	5825	36.1	40.0
n40	5755	36.8	71.6
n40	5775	37.5	77.7
n40	5795	40.3	78.0
ac20	5745	23.1	39.5
ac20	5775	35.4	40.0
ac20	5825	30.5	40.0
ac40	5755	36.5	65.4
ac40	5775	44.8	79.2
ac40	5795	49.3	80.0
ac80	5775	76.5	157.8
ax20	5745	21.4	39.9
ax20	5775	34.9	40.0
ax20	5825	30.5	40.0
ax40	5755	38.3	71.0
ax40	5775	38.5	77.4
ax40	5795	47.8	79.2

ax80	5775	77.5	133.0
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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 28.01 dBm or 632.41 mW. The limit is 30 dBm, or 1 Watt when using antennas with 6 dBi or less gain. The antenna has a gain of 5.8 dBi.

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Conducted Output Power *	Measured EIRP	Measured PSD
OFDM 20	5745	Mcs0	46	27.67	33.47	10.42
OFDM 20	5775	Mcs0	49	27.85	33.65	10.60
OFDM 20	5825	Mcs0	49	27.25	33.05	9.53
HT 20	5745	Mcs0	46	27.71	33.51	9.35
HT 20	5775	Mcs0	49	27.99	33.79	9.46
HT 20	5825	Mcs0	49	27.36	33.16	8.70
HT 40	5755	Mcs0	41	26.01	31.81	4.76
HT 40	5775	Mcs0	42	26.36	32.16	5.17
HT 40	5795	Mcs0	42	26.29	32.09	5.00
VHT 20	5745	Mcs0	46	27.63	33.43	9.31
VHT 20	5775	Mcs0	49	28.01	33.81	9.54
VHT 20	5825	Mcs0	45	27.03	23.83	8.46
VHT 40	5755	Mcs0	41	25.72	31.52	4.46
VHT 40	5775	Mcs0	43	26.83	32.63	5.50
VHT 40	5795	Mcs0	43	26.71	32.51	5.44
VHT 80	5775	Mcs0	38	25.44	31.24	1.03
HE 20	5745	Mcs0	45	27.28	33.08	8.95
HE 20	5775	Mcs0	49	28.01	33.81	9.48
HE 20	5825	Mcs0	45	27.02	32.82	8.36
HE 40	5755	Mcs0	42	26.24	32.04	4.80
HE 40	5775	Mcs0	42	26.25	32.05	4.75
HE 40	5795	Mcs0	43	26.71	32.51	5.25
HE 80	5775	Mcs0	36	23.27	29.07	-0.97

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 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 are plots with the EUT turned to the upper and lower channels with the antenna gain of 5.8 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.

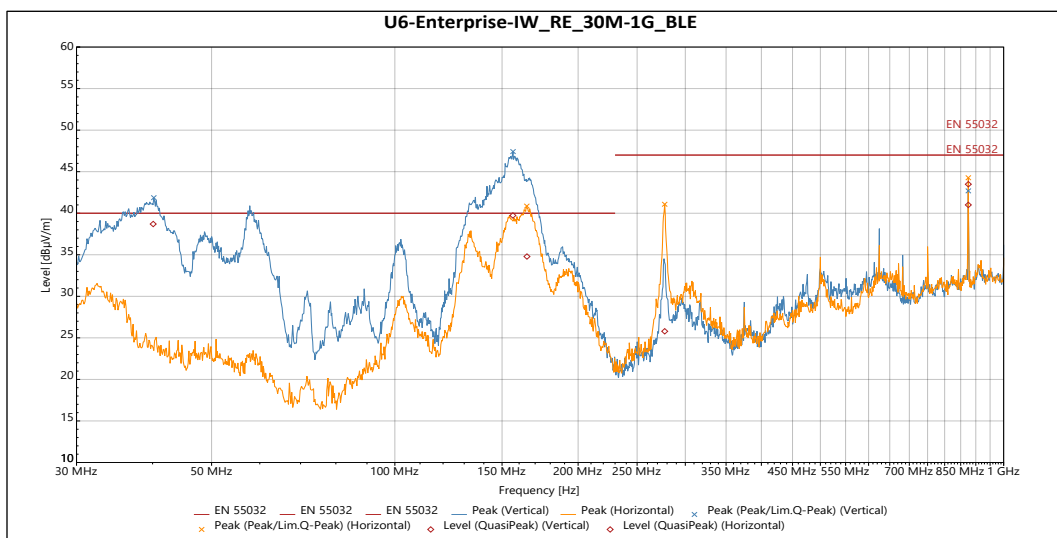
5.5.2 Radiated Spurious Emissions in the Restricted Bands of § 15.205

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 TP49.

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

Result

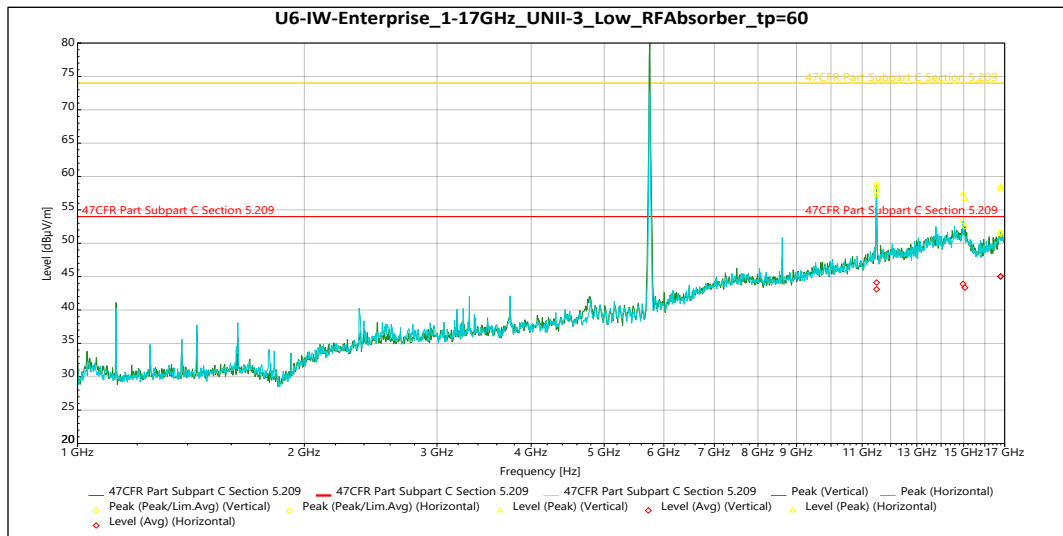
All emissions in the restricted bands of § 15.205 met the limits specified in § 15.209; therefore, the EUT complies with the specification. See Annex for Conducted Band edge plots.



QuasiPeak

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin	Azimuth (°)	Height	Pol.	Correction (dB)
40.093 MHz	38.695	40	-1.305	323	1.134	Vertical	-6.283
156.27 MHz	39.728	40	-0.272	183	1	Vertical	-12.25
875 MHz	41.003	47	-5.997	207	1.858	Vertical	2.897
164.82 MHz	34.788	40	-5.212	186	2.602	Horizontal	-11.693
277.52 MHz	25.79	47	-21.21	66	3.292	Horizontal	-7.248
875.02 MHz	43.49	47	-3.51	97	2.246	Horizontal	2.897

Table 4: Radiated Emissions 30 – 1000 MHz



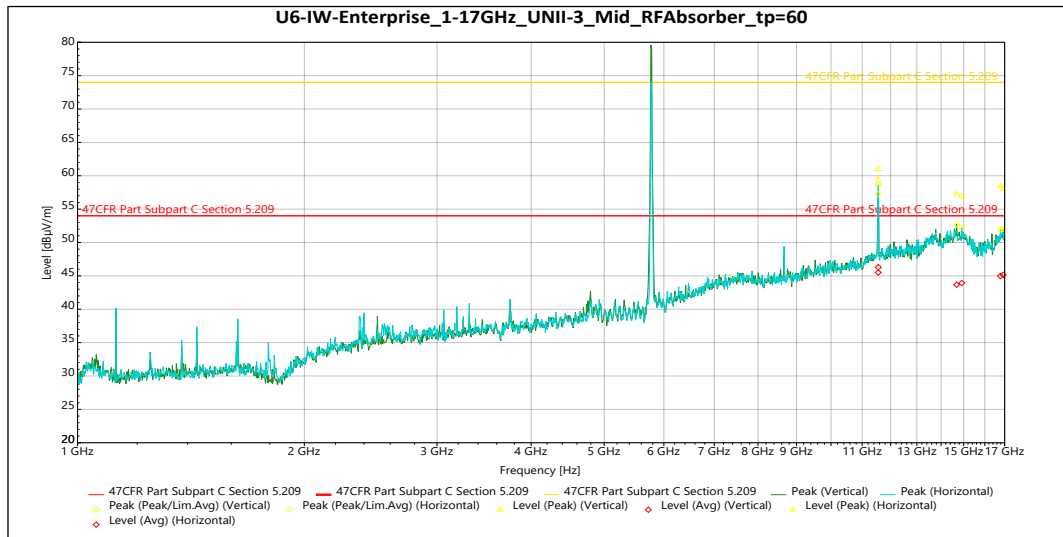
Peak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
11.491 GHz	57.194	74	-16.806	58	1.636	Vertical	12.149
15.058 GHz	56.65	74	-17.35	346	2.531	Vertical	14.422
16.792 GHz	58.157	74	-15.843	227	2.891	Vertical	16.884
11.496 GHz	58.479	74	-15.521	56	3.097	Horizontal	12.19
14.975 GHz	57.419	74	-16.581	252	3.803	Horizontal	14.794
16.792 GHz	58.489	74	-15.511	334	3.806	Horizontal	16.884

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
11.491 GHz	43.111	54	-10.889	58	1.636	Vertical	12.149
15.058 GHz	43.347	54	-10.653	346	2.531	Vertical	14.422
16.792 GHz	45.03	54	-8.97	227	2.891	Vertical	16.884
11.496 GHz	44.119	54	-9.881	56	3.097	Horizontal	12.19
14.975 GHz	43.907	54	-10.093	252	3.803	Horizontal	14.794
16.792 GHz	45.042	54	-8.958	334	3.806	Horizontal	16.884

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



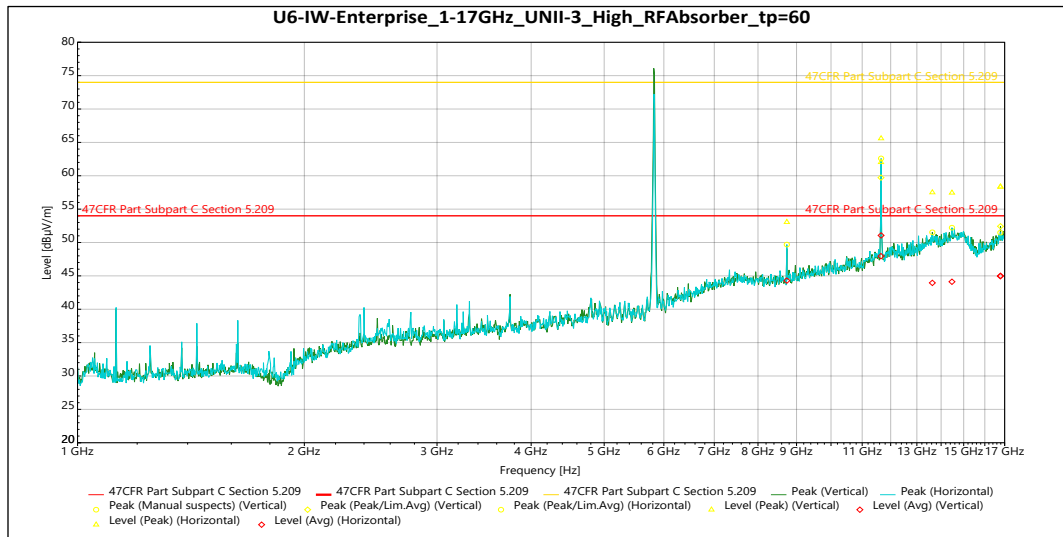
Peak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
11.55 GHz	59.418	74	-14.582	12	3.802	Vertical	12.27
14.679 GHz	57.276	74	-16.724	39	2.396	Vertical	14.686
16.929 GHz	58.007	74	-15.993	74	3.62	Vertical	17.057
11.556 GHz	60.995	74	-13.005	56	3.628	Horizontal	12.35
14.914 GHz	56.911	74	-17.089	180	1.692	Horizontal	14.905
16.781 GHz	58.472	74	-15.528	279	1.995	Horizontal	16.777

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
11.55 GHz	45.498	54	-8.502	12	3.802	Vertical	12.27
14.679 GHz	43.677	54	-10.323	39	2.396	Vertical	14.686
16.929 GHz	45.156	54	-8.844	74	3.62	Vertical	17.057
11.556 GHz	46.303	54	-7.697	56	3.628	Horizontal	12.35
14.914 GHz	43.918	54	-10.082	180	1.692	Horizontal	14.905
16.781 GHz	44.971	54	-9.029	279	1.995	Horizontal	16.777

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



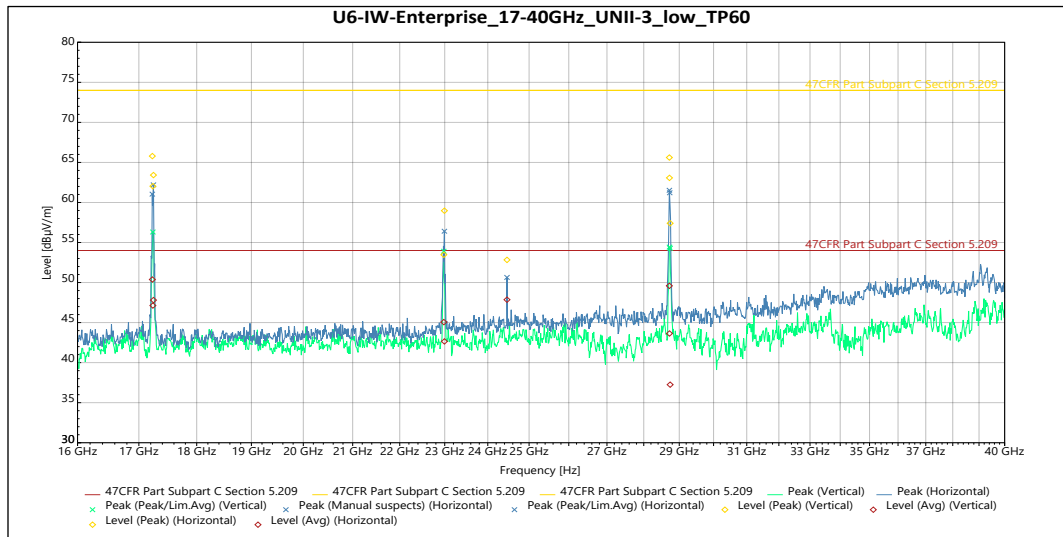
Peak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
11.65 GHz	62.029	74	-11.971	340	3.453	Vertical	12.478
13.63 GHz	57.496	74	-16.504	117	3.802	Vertical	14.481
16.785 GHz	58.381	74	-15.619	71	2.046	Vertical	16.816
8.7376 GHz	53.058	74	-20.942	3	2.512	Horizontal	8.627
11.654 GHz	65.595	74	-8.405	51	3.098	Horizontal	12.498
14.472 GHz	57.449	74	-16.551	51	2.682	Horizontal	14.907
16.779 GHz	58.326	74	-15.674	235	1.715	Horizontal	16.757

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
11.65 GHz	47.951	54	-6.049	340	3.453	Vertical	12.478
13.63 GHz	43.953	54	-10.047	117	3.802	Vertical	14.481
16.785 GHz	45.008	54	-8.992	71	2.046	Vertical	16.816
8.7376 GHz	44.29	54	-9.71	3	2.512	Horizontal	8.627
11.654 GHz	51.061	54	-2.939	51	3.098	Horizontal	12.498
14.472 GHz	44.122	54	-9.878	51	2.682	Horizontal	14.907
16.779 GHz	44.954	54	-9.046	235	1.715	Horizontal	16.757

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



Peak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
17.237 GHz	62.032	74	-11.968	37	Vertical	-5.617
22.98 GHz	53.473	74	-20.527	22	Vertical	-4.999
28.721 GHz	63.07	74	-10.93	356	Vertical	-4.947
28.74 GHz	57.396	74	-16.604	350	Vertical	-4.901
17.228 GHz	65.793	74	-8.207	1	Horizontal	-5.62
17.247 GHz	63.419	74	-10.581	2	Horizontal	-5.659
22.993 GHz	58.971	74	-15.029	359	Horizontal	-4.579
24.46 GHz	52.828	74	-21.172	43	Horizontal	-5.498
28.718 GHz	65.607	74	-8.393	321	Horizontal	-4.965

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
17.237 GHz	47.125	54	-6.875	37	Vertical	-5.617
22.98 GHz	45.055	54	-8.945	22	Vertical	-4.999
28.721 GHz	43.637	54	-10.363	356	Vertical	-4.947
28.74 GHz	37.248	54	-16.752	350	Vertical	-4.901
17.228 GHz	50.381	54	-3.619	1	Horizontal	-5.62
17.247 GHz	47.812	54	-6.188	2	Horizontal	-5.659
22.993 GHz	42.646	54	-11.354	359	Horizontal	-4.579
24.46 GHz	47.862	54	-6.138	43	Horizontal	-5.498
28.718 GHz	49.595	54	-4.405	321	Horizontal	-4.965

Table 8: Radiated Emissions on the Lowest Frequency 5845 MHz 17 – 40 GHz (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 HE modes, there is not additional array gain to accommodate. When the EUT uses Nss=1 data rates, the antenna gain is 5.8 dBi + Array gain of 6.02 dB which is a total of 11.82 dBi.

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Measured PSD
OFDM 20	5745	Mcs0_Nss4	46	10.42
OFDM 20	5775	Mcs0_Nss4	49	10.60
OFDM 20	5825	Mcs0_Nss4	49	9.53
HT 20	5745	Mcs0_Nss4	46	9.35
HT 20	5775	Mcs0_Nss4	49	9.46
HT 20	5825	Mcs0_Nss4	49	8.70
HT 40	5755	Mcs0_Nss4	41	4.76
HT 40	5775	Mcs0_Nss4	42	5.17
HT 40	5795	Mcs0_Nss4	42	5.00
VHT 20	5745	Mcs0_Nss4	46	9.31
VHT 20	5775	Mcs0_Nss4	49	9.54
VHT 20	5825	Mcs0_Nss4	45	8.46
VHT 40	5755	Mcs0_Nss4	41	4.46
VHT 40	5775	Mcs0_Nss4	43	5.50
VHT 40	5795	Mcs0_Nss4	43	5.44
VHT 80	5775	Mcs0_Nss4	38	1.03
HE 20	5745	Mcs0_Nss4	45	8.95
HE 20	5775	Mcs0_Nss4	49	9.48
HE 20	5825	Mcs0_Nss4	45	8.36
HE 40	5755	Mcs0_Nss4	42	4.80
HE 40	5775	Mcs0_Nss4	42	4.75
HE 40	5795	Mcs0_Nss4	43	5.25
HE 80	5775	Mcs0_Nss4	36	-0.97

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Measured PSD
OFDM 20	5745	Mcs0_Nss1	46	10.42
OFDM 20	5775	Mcs0_Nss1	49	10.60
OFDM 20	5825	Mcs0_Nss1	49	9.53
HT 20	5745	Mcs0_Nss1	46	9.35
HT 20	5775	Mcs0_Nss1	49	9.46
HT 20	5825	Mcs0_Nss1	49	8.70
HT 40	5755	Mcs0_Nss1	41	4.76
HT 40	5775	Mcs0_Nss1	42	5.17
HT 40	5795	Mcs0_Nss1	42	5.00
VHT 20	5745	Mcs0_Nss1	46	9.31
VHT 20	5775	Mcs0_Nss1	49	9.54
VHT 20	5825	Mcs0_Nss1	45	8.46
VHT 40	5755	Mcs0_Nss1	41	4.46
VHT 40	5775	Mcs0_Nss1	43	5.50
VHT 40	5795	Mcs0_Nss1	43	5.44
VHT 80	5775	Mcs0_Nss1	38	1.03
HE 20	5745	Mcs0_Nss1	45	8.95
HE 20	5775	Mcs0_Nss1	49	9.48
HE 20	5825	Mcs0_Nss1	45	8.36
HE 40	5755	Mcs0_Nss1	42	4.80
HE 40	5775	Mcs0_Nss1	42	4.75
HE 40	5795	Mcs0_Nss1	43	5.25
HE 80	5775	Mcs0_Nss1	36	-0.97

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 --