



427 West 12800 South  
Draper, UT 84020

## Test Report Certification

<b>FCC ID</b>	SWX-U6EPIW
<b>IC ID</b>	6545A-U6EPIW
<b>Equipment Under Test</b>	U6-Enterprise-IW
<b>Test Report Serial Number</b>	TR6799_01
<b>Date of Test(s)</b>	15, 22, 23 November; 22 December 2021 and 4 January 2022
<b>Report Issue Date</b>	14 January 2022

Test Specification	Applicant
47 CFR FCC Part 15, Subpart C	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 C. This report may be reproduced in full. Partial reproduction of this report may only be made with the written consent of the laboratory. The results in this report apply only to the sample tested.

<b>Applicant</b>	Ubiquiti Inc.
<b>Manufacturer</b>	Ubiquiti Inc.
<b>Brand Name</b>	UniFi
<b>Model Number</b>	U6-Enterprise-IW
<b>FCC ID</b>	SWX-U6EPIW
<b>IC ID</b>	6545A-U6EPIW

On this 14<sup>th</sup> day of January 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:

---

<b>Revision History</b>		
<b>Revision</b>	<b>Description</b>	<b>Date</b>
01	Original Report Release	14 January 2022

## Table of Contents

1	Client Information.....	5
1.1	Applicant.....	5
1.2	Manufacturer.....	5
2	Equipment Under Test (EUT).....	6
2.1	Identification of EUT .....	6
2.2	Description of EUT .....	6
2.3	EUT and Support Equipment.....	6
2.4	Interface Ports on EUT .....	6
2.5	Operating Environment.....	7
2.6	Operating Modes.....	7
2.7	EUT Exercise Software.....	7
2.8	Block Diagram of Test Configuration .....	8
2.9	Modification Incorporated/Special Accessories on EUT.....	8
2.10	Deviation, Opinions Additional Information or Interpretations from Test Standard.....	8
3	Test Specification, Method and Procedures.....	9
3.1	Test Specification.....	9
3.2	Methods & Procedures.....	9
3.3	FCC Part 15, Subpart C .....	9
3.4	Results.....	10
3.5	Test Location .....	10
4	Test Equipment .....	11
4.1	Conducted Emissions at Mains Ports.....	11
4.2	Direct Connect at the Antenna Port Tests.....	11
4.3	Radiated Emissions.....	12
4.4	Equipment Calibration .....	13
4.5	Measurement Uncertainty.....	13
5	Test Results.....	14
5.1	§15.203 Antenna Requirements.....	14
5.2	Conducted Emissions at Mains Ports Data .....	14
5.3	§15.247(a)(2) Emissions Bandwidth.....	16
5.4	§15.247(b)(3) Maximum Average Output Power.....	17
5.5	§15.247(d) Spurious Emissions .....	19
5.6	§15.247(e) Maximum Average Power Spectral Density .....	30

# 1 Client Information

## 1.1 Applicant

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

## 1.2 Manufacturer

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

## 2 Equipment Under Test (EUT)

### 2.1 Identification of EUT

<b>Brand Name</b>	UniFi
<b>Model Number</b>	U6-Enterprise-IW
<b>Serial Number</b>	68D79A0505E9
<b>Dimensions (cm)</b>	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.

This report covers the circuitry of the device subject to FCC Part 15, Subpart C. The circuitry of the device subject to FCC Part 15 Subpart B was found to be compliant and is covered under a separate Unified Compliance Laboratory test report.

### 2.3 EUT and Support Equipment

The EUT and support equipment used during the test are listed below.

<b>Brand Name Model Number Serial Number</b>	<b>Description</b>	<b>Name of Interface Ports / Interface Cables</b>
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

<b>Name of Ports</b>	<b>No. of Ports Fitted to EUT</b>	<b>Cable Description/Length</b>
----------------------	-----------------------------------	---------------------------------

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

<b>Power Supply</b>	120 Volts ac to 48 Volts PoE Power
<b>AC Mains Frequency</b>	60 Hz
<b>Temperature</b>	22.1 – 23.7 °C
<b>Humidity</b>	16.9 – 29.3 %
<b>Barometric Pressure</b>	1007 mBar

## 2.6 Operating Modes

The U6-Enterprise-IW was connected to a personal computer laptop and tested using test software in order to enable to constant duty cycle the measurements within this report are corrected to reference a 100% duty cycle. All emission modes of 802.11 b/g/n/ax were investigated. All measurements are reported with the worst-case mode (802.11 ax) 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

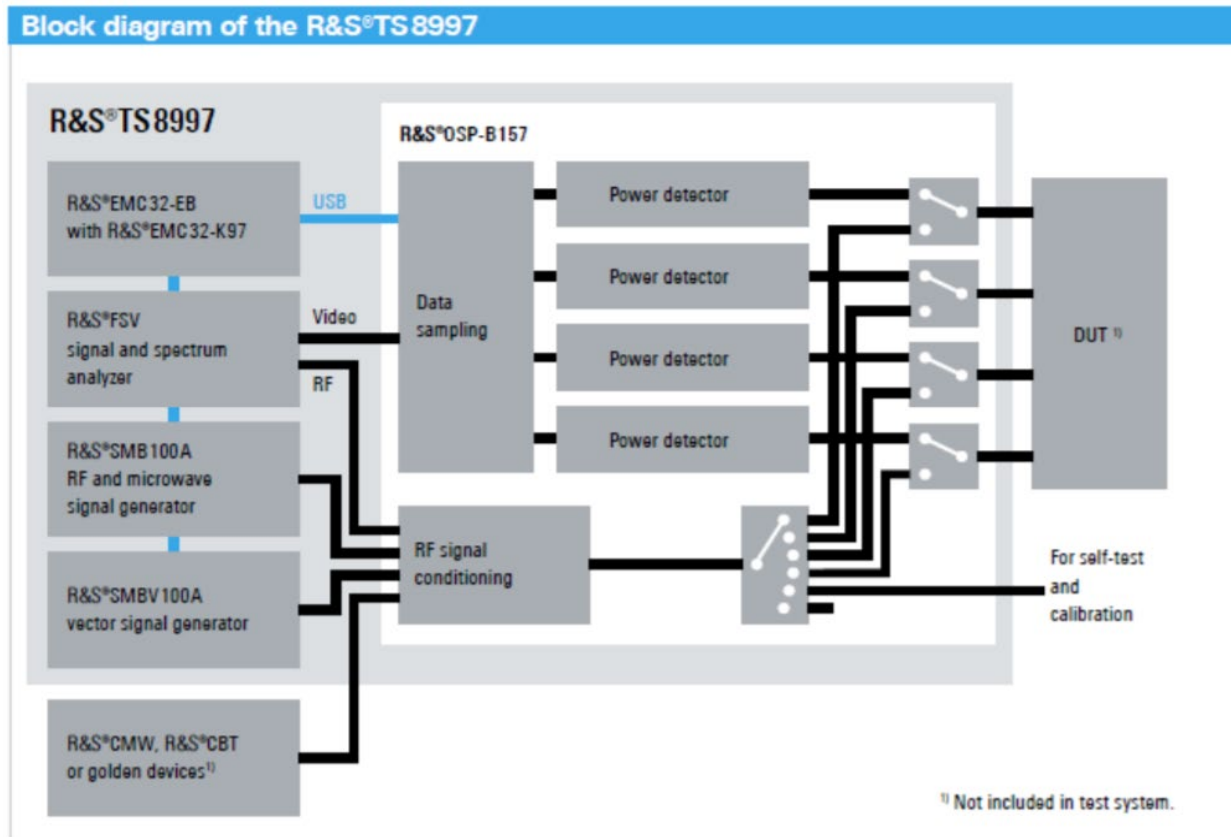


Diagram 1: Test Configuration Block Diagram

## 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

<b>Title</b>	47 CFR FCC Part 15, Subpart C 15.203, 15.207 and 15.247 Limits and methods of measurement of radio interference characteristics of radio frequency devices.
<b>Purpose of Test</b>	The tests were performed to demonstrate initial compliance

#### 3.2 Methods & Procedures

##### 3.2.1 47 CFR FCC Part 15 Section 15.203

See test standard for details.

##### 3.2.2 47 CFR FCC Part 15 Section 15.207

See test standard for details.

##### 3.2.3 47 CFR FCC Part 15 Section 15.247

See test standard for details.

#### 3.3 FCC Part 15, Subpart C

##### 3.3.1 Summary of Tests

FCC Section	ISED Section	Environmental Phenomena	Frequency Range (MHZ)	Result
15.203	N/A	Antenna requirements	Structural Requirement	Compliant
15.207	RSS-Gen	Conducted Disturbance at Mains Port	0.15 to 30	Compliant
15.247(a)	RSS-247 § 5.2	Bandwidth Requirement	2412 to 2462	Compliant
15.247(b)	RSS-247 § 5.4	Peak Output Power	2412 to 2462	Compliant
15.247(d)	RSS-247 § 5.4	Antenna Conducted Spurious Emissions	0.009 to 40000	N/A
15.247(d)	RSS-247 § 5.4	Radiated Spurious Emissions	0.009 to 40000	Compliant
15.247(e)	RSS-247 § 5.2	Peak Power Spectral Density	2412 to 2462	Compliant

The testing was performed according to the procedures in ANSI C63.10-2013, KDB 558074 and 47 CFR Part 15. Where applicable, KDB 662911 was followed to sum required measurements.

### **3.4 Results**

In the configuration tested, the EUT complied with the requirements of the specification.

### **3.5 Test Location**

Testing was performed at the Unified Compliance Laboratory 3-Meter and 10-Meter chambers located at 427 West 12800 South, Draper, UT 84020. Unified Compliance Laboratory is accredited by National Voluntary Laboratory Accreditation Program (NVLAP); NVLAP Code 600241-0 which is effective until 30 June 2022. This site has also been registered with Innovations, Science and Economic Development (ISED) department and was accepted under Appendix B, Phase 1 procedures of the APEC Tel MRA for Canadian recognition. ISED No.: 25346, effective until 30 June 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

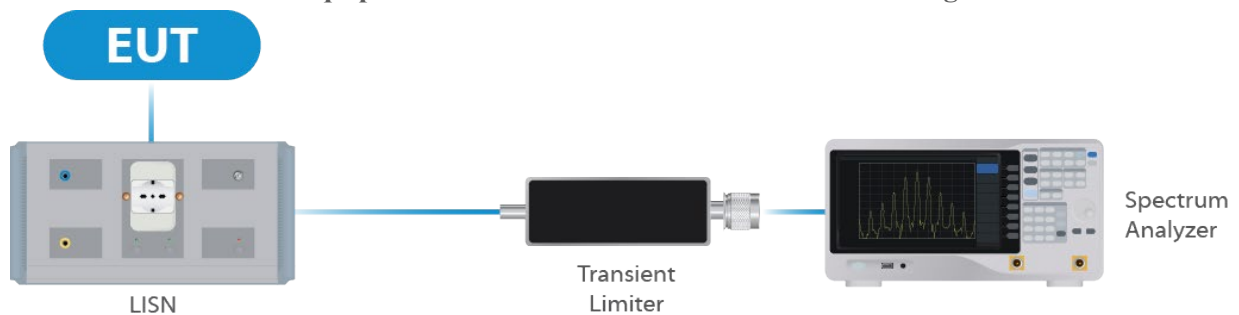


Figure 1: Conducted Emissions Test

### 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	01/03/2022	01/03/2023
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	01/03/2022	01/03/2023
Switch Extension	R&S	OSP-150W	UCL-2870	01/03/2022	01/03/2023

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

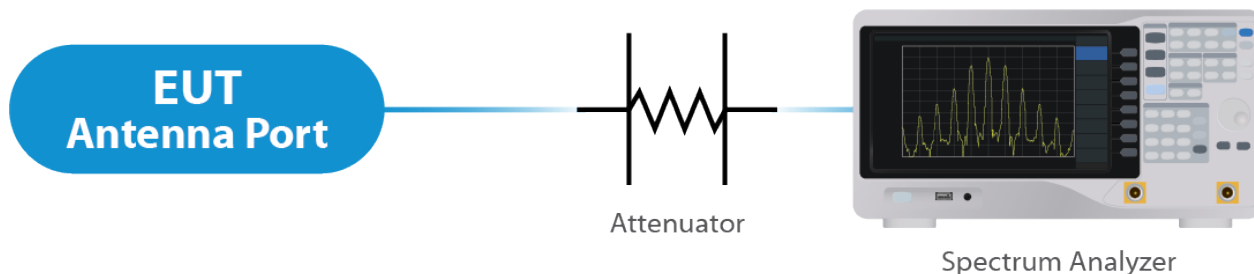


Figure 2: Direct Connect at the Antenna Port Test

### 4.3 Radiated Emissions

Type of Equipment	Manufacturer	Model Number	Asset Number	Date of Last Calibration	Due Date of Calibration
EMI Receiver	Keysight	N9038A	UCL-2778	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

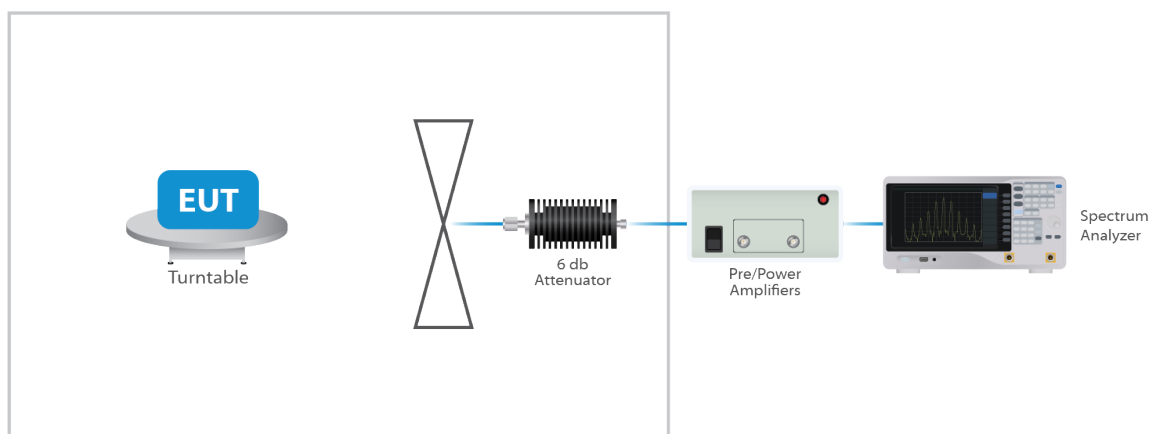


Figure 3: Radiated Emissions Test

## 4.4 Equipment Calibration

All applicable equipment is calibrated using either an independent calibration laboratory or Unified Compliance Laboratory personnel at intervals defined in ANSI C63.4:2014 following outlined calibration procedures. All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST). Supporting documentation relative to traceability is on file and is available for examination upon request.

## 4.5 Measurement Uncertainty

Test	Uncertainty ( $\pm$ dB)	Confidence (%)
Conducted Emissions	1.44	95
Radiated Emissions (9 kHz to 30 MHz)	2.50	95
Radiated Emissions (30 MHz to 1 GHz)	4.38	95
Radiated Emissions (1 GHz to 18 GHz)	4.37	95
Radiated Emissions (18 GHz to 40 GHz)	3.93	95
<b>Direct Connect Tests</b>	<b>K Factor</b>	<b>Value</b>
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. The maximum gain of the antenna per chain is 4.0 dBi. This is an 802.11 device and utilizes CDD as described in KDB 662911 D01. The antenna is not user replaceable.

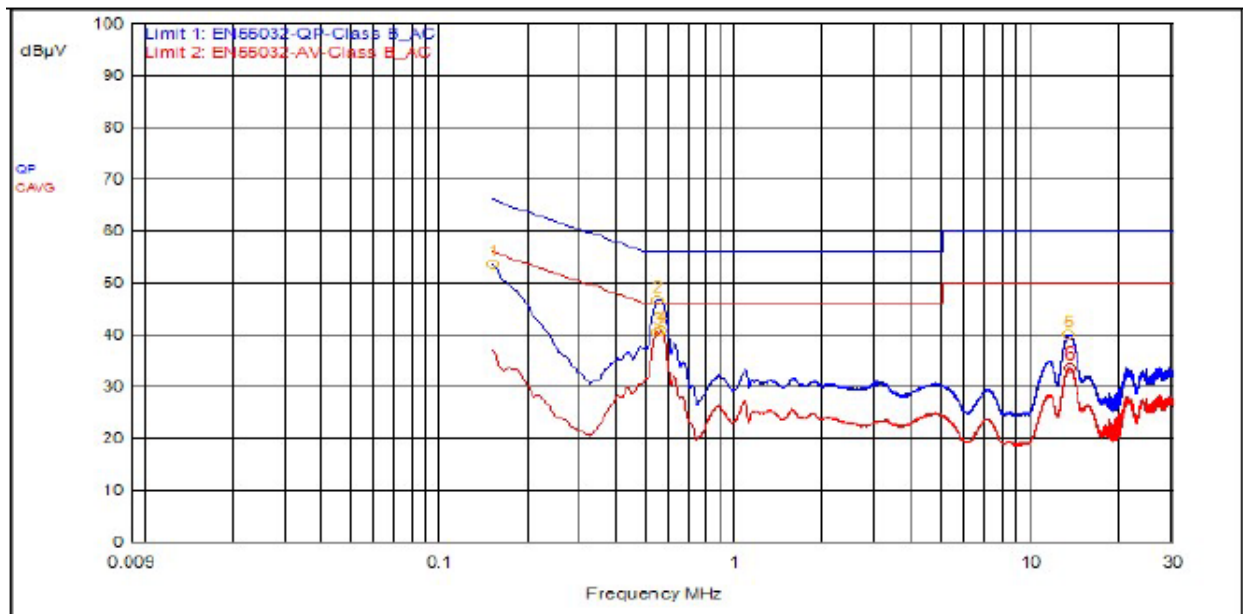
For power measurements on IEEE 802.11 devices, Array Gain = 0 dB for NANT ≤ 4;

For PSD measurements Array Gain = 10 log(NANT/NSS) dB = 3.01dB

#### Results

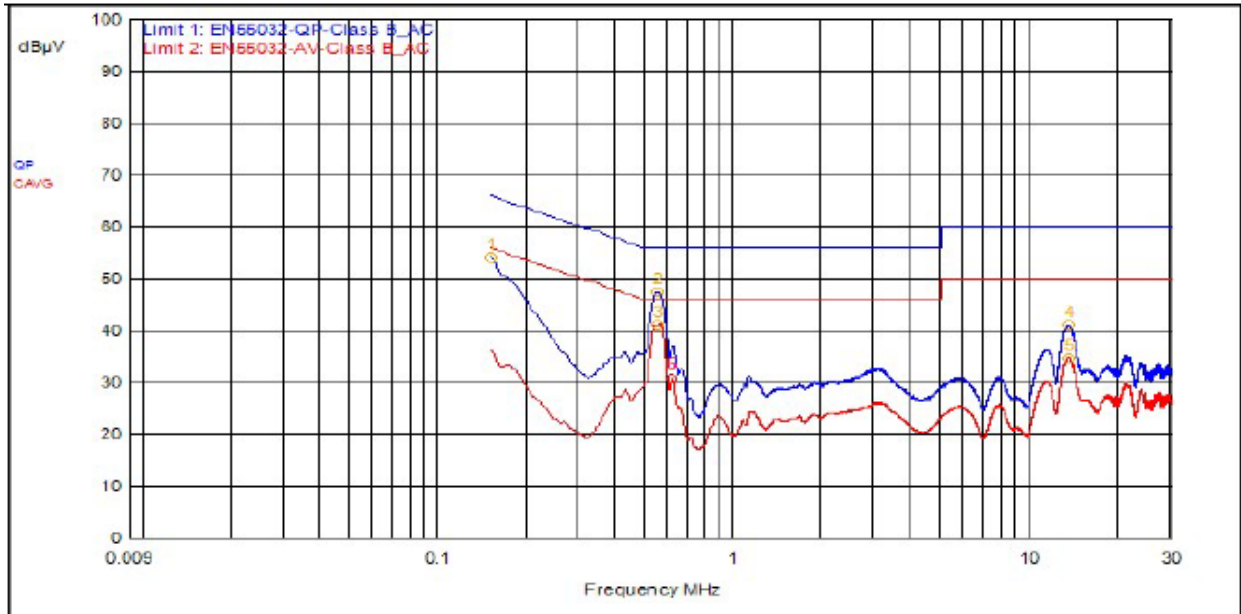
The EUT complied with the specification

### 5.2 Conducted Emissions at Mains Ports Data



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

Graph 1: Conducted Emissions Plot – Line 1



ID	Frequency	Probe	Cable	Atten.	Detector	Meter Read	Meas Level	Limit 1	Limit 1 Dist.	Limit 2	Limit 2 Dist.
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

**Graph 2: Conducted Emissions Plot – Neutral**

**Result**

The EUT complied with the specification limit.

### 5.3 §15.247(a)(2) Emissions Bandwidth

All chains were measured under the guidance of KDB 558074 Section 8.2. and KDB 66291 D01. Please see associated annex for details on instrument settings.

Mode	Frequency (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth (MHz)
b	2412	12.7	8.2
	2437	13.1	8.3
	2462	13.0	8.2
g	2412	16.3	12.7
	2437	16.3	14.3
	2462	16.3	16.4
n 20	2412	17.5	16.4
	2437	17.5	17.4
	2462	17.6	16.4
n 40	2422	37.8	36.4
	2437	37.8	34.1
	2452	37.8	37.5
ax 20	2412	18.9	12.6
	2437	18.9	18.1
	2462	18.9	17.1
ax 40	2422	37.8	23.5
	2437	37.5	36.9
	2452	37.8	36.4

#### Result

All chains were tested and the highest bandwidth per chain is reported above.

In the configuration tested, the 6 dB bandwidth was greater than 500 kHz; therefore, the EUT complied with the requirements of the specification (see spectrum analyzer plot within the Annex).



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

All chains were measured and summed under the guidance of KDB 558074 Section 8.3.2.3. 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 24.46 dBm or 279.25 mW. The limit is 30 dBm or 1 Watt when using antennas with 6 dBi or less gain. The antenna has a gain of 4.0 dBi.

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Conducted Output Power *	Measured EIRP
b 20	2412	Mcs0	20.5	22.87	26.87
	2417	Mcs0	21.5	23.37	27.37
	2422	Mcs0	22.0	23.89	27.89
	2427	Mcs0	22.5	23.94	27.94
	2432	Mcs0	22.5	23.65	27.65
	2437	Mcs0	22.5	23.78	27.78
	2442	Mcs0	23.0	24.46	28.46
	2447	Mcs0	22.0	23.43	27.43
	2452	Mcs0	22.0	23.95	27.95
	2457	Mcs0	22.0	23.62	27.62
g 20	2412	Mcs0	16.5	18.95	22.95
	2417	Mcs0	19.0	21.27	25.27
	2422	Mcs0	20.0	21.95	25.95
	2427	Mcs0	21.0	22.36	26.36
	2432	Mcs0	21.0	22.41	26.41
	2437	Mcs0	21.0	22.50	26.50
	2442	Mcs0	21.0	22.47	26.47
	2447	Mcs0	20.5	22.24	26.24
	2452	Mcs0	20.0	22.07	26.07
	2457	Mcs0	19.5	21.60	25.60
n 20	2412	Mcs0	17.0	19.00	23.00
	2417	Mcs0	19.5	21.33	25.33
	2422	Mcs0	20.0	21.58	25.58
	2427	Mcs0	21.0	21.61	25.61
	2432	Mcs0	21.5	22.49	26.49

	2437	Mcs0	21.5	22.60	26.60
	2442	Mcs0	21.0	22.13	26.13
	2447	Mcs0	21.0	22.25	26.25
	2452	Mcs0	20.5	22.17	26.17
	2457	Mcs0	20.0	21.59	25.59
	2462	Mcs0	17.5	19.15	23.15
n 40	2422	Mcs0	15.0	16.64	20.64
	2437	Mcs0	15.0	16.56	20.56
	2452	Mcs0	14.0	15.77	19.77
ax 20	2412	Mcs0	16.0	18.19	22.19
	2417	Mcs0	17.5	19.65	23.65
	2422	Mcs0	19.5	21.38	25.38
	2427	Mcs0	20.5	21.81	25.81
	2432	Mcs0	21.0	22.18	26.18
	2437	Mcs0	20.5	21.94	25.94
	2442	Mcs0	20.5	21.90	25.90
	2447	Mcs0	20.0	21.59	25.59
	2452	Mcs0	19.0	20.97	24.97
	2457	Mcs0	18.5	20.47	24.47
	2462	Mcs0	16.5	19.34	23.34
ax 40	2422	Mcs0	15.0	16.66	20.66
	2437	Mcs0	15.0	16.57	20.57
	2452	Mcs0	14.0	15.82	19.82

## Result

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

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

## 5.5 §15.247(d) Spurious Emissions

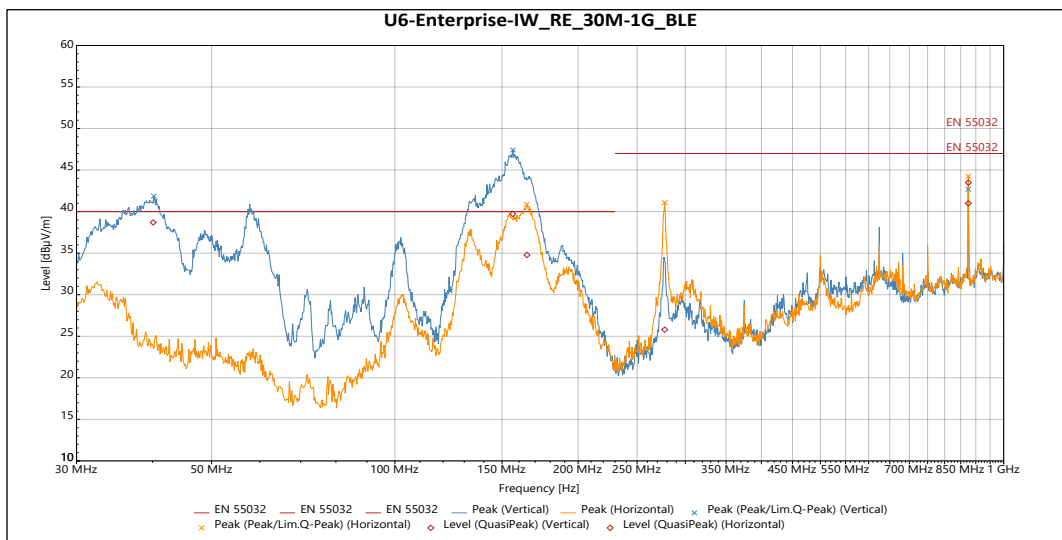
### 5.5.1 Radiated Spurious Emissions in the Restricted Bands of §15.205

The frequency range from the lowest frequency generated or used in the device to the tenth harmonic of the highest fundamental emissions was investigated to measure any radiated emissions in the restricted bands. The following tables show measurements of any emissions that fell into the restricted bands of §15.205. The tables show the worst-case emissions measured from the EUT. For frequencies above 18.0 GHz, a measurement distance of 1 meter was used. The noise floor was a minimum of 6 dB below the limits. The emissions in the restricted bands must meet the limits specified in §15.209. Tabular data for each of the spurious emissions is shown below for each of the units. Plots of the band edges are also shown.

Correction Factor = Antenna Factor + 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.

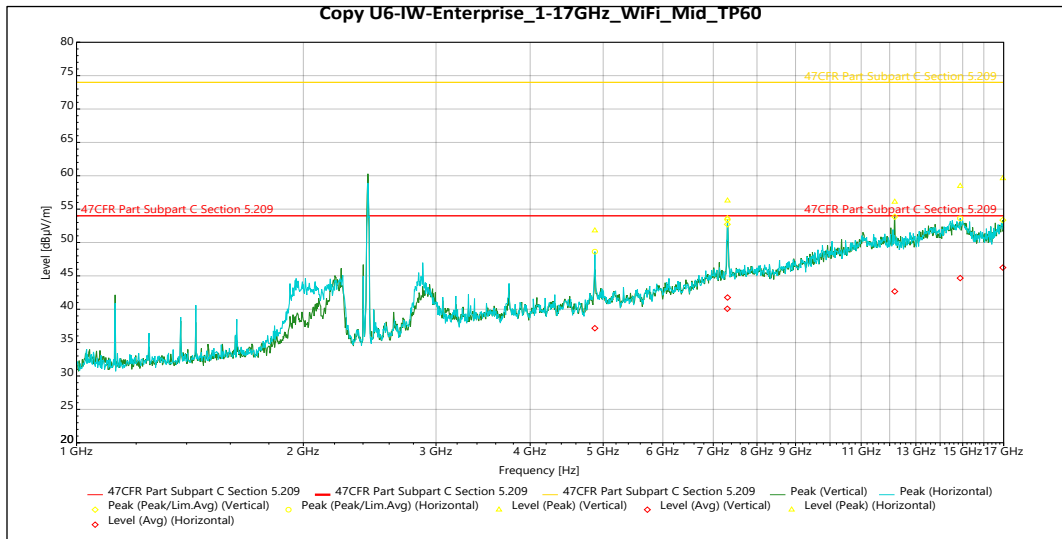


#### QuasiPeak

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



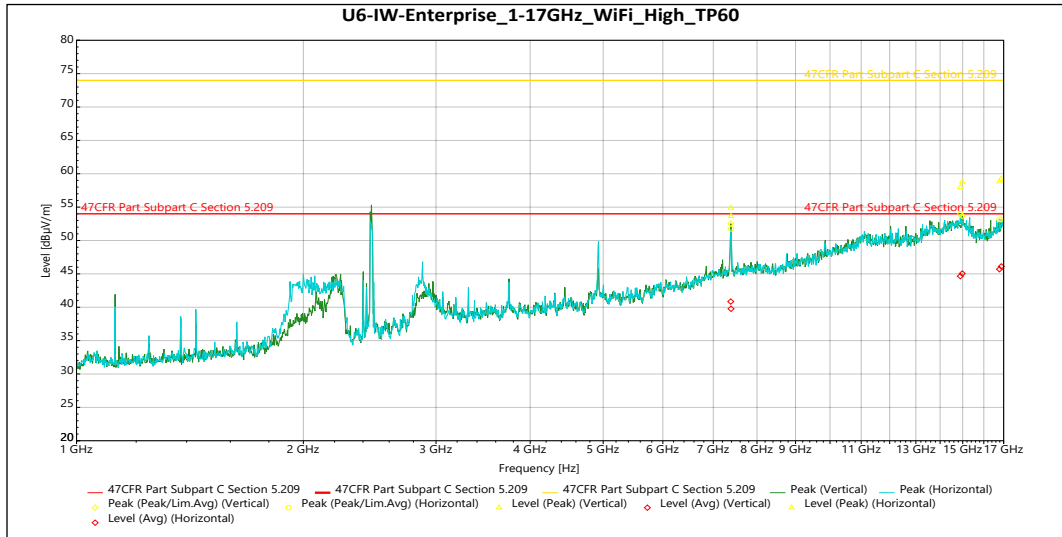

**Peak**

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
7.3075 GHz	53.621	74	-20.379	338	1.693	Vertical	8.096
12.188 GHz	56.087	74	-17.913	2	1.63	Vertical	13.65
16.958 GHz	59.613	74	-14.387	10	2.174	Vertical	18.363
4.8744 GHz	51.789	74	-22.211	342	3.282	Horizontal	1.566
7.3112 GHz	56.271	74	-17.729	338	1.5	Horizontal	8.109
14.886 GHz	58.458	74	-15.542	1	3.619	Horizontal	15.862

**Avg**

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
7.3075 GHz	40.07	54	-13.93	338	1.693	Vertical	8.096
12.188 GHz	42.672	54	-11.328	2	1.63	Vertical	13.65
16.958 GHz	46.243	54	-7.757	10	2.174	Vertical	18.363
4.8744 GHz	37.156	54	-16.844	342	3.282	Horizontal	1.566
7.3112 GHz	41.76	54	-12.24	338	1.5	Horizontal	8.109
14.886 GHz	44.673	54	-9.327	1	3.619	Horizontal	15.862

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

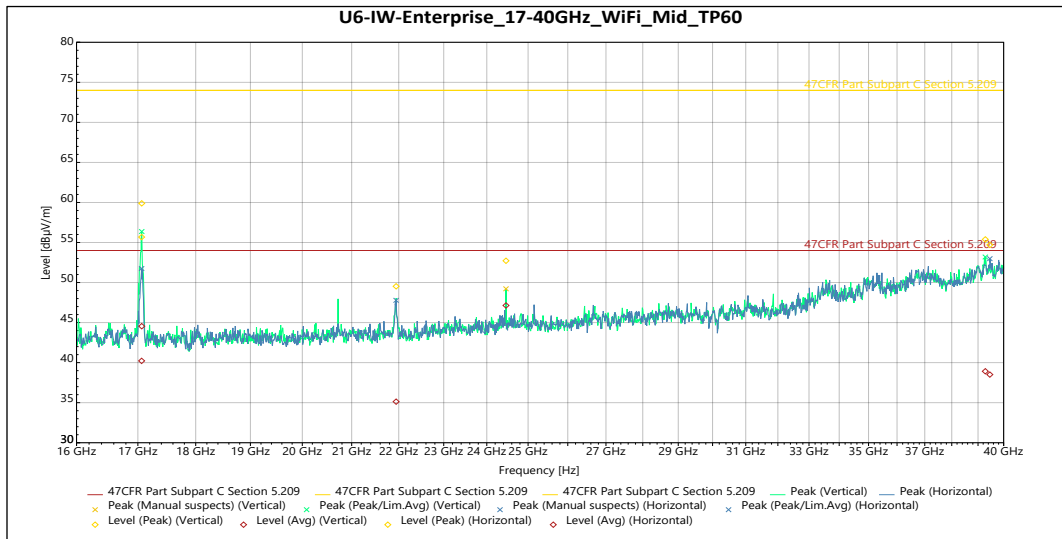

**Peak**

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
7.3842 GHz	54.867	74	-19.133	26	2.049	Vertical	8.254
14.98 GHz	58.803	74	-15.197	11	3.979	Vertical	15.953
16.878 GHz	59.235	74	-14.765	220	2.747	Vertical	18.011
7.3896 GHz	53.641	74	-20.359	1	2.227	Horizontal	8.255
14.895 GHz	57.963	74	-16.037	338	3.26	Horizontal	15.797
16.785 GHz	58.825	74	-15.175	28	2.748	Horizontal	17.516

**Avg**

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
7.3842 GHz	40.846	54	-13.154	26	2.049	Vertical	8.254
14.98 GHz	45.054	54	-8.946	11	3.979	Vertical	15.953
16.878 GHz	46.118	54	-7.882	220	2.747	Vertical	18.011
7.3896 GHz	39.774	54	-14.226	1	2.227	Horizontal	8.255
14.895 GHz	44.662	54	-9.338	338	3.26	Horizontal	15.797
16.785 GHz	45.703	54	-8.297	28	2.748	Horizontal	17.516

**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)
17.065 GHz	59.886	74	-14.114	314	Vertical	-5.675
24.46 GHz	52.721	74	-21.279	53	Vertical	-5.414
39.282 GHz	55.391	74	-18.609	73	Vertical	3.115
17.063 GHz	55.682	74	-18.318	58	Horizontal	-5.668
21.943 GHz	49.525	74	-24.475	1	Horizontal	-5.679
39.458 GHz	54.699	74	-19.301	94	Horizontal	3.738

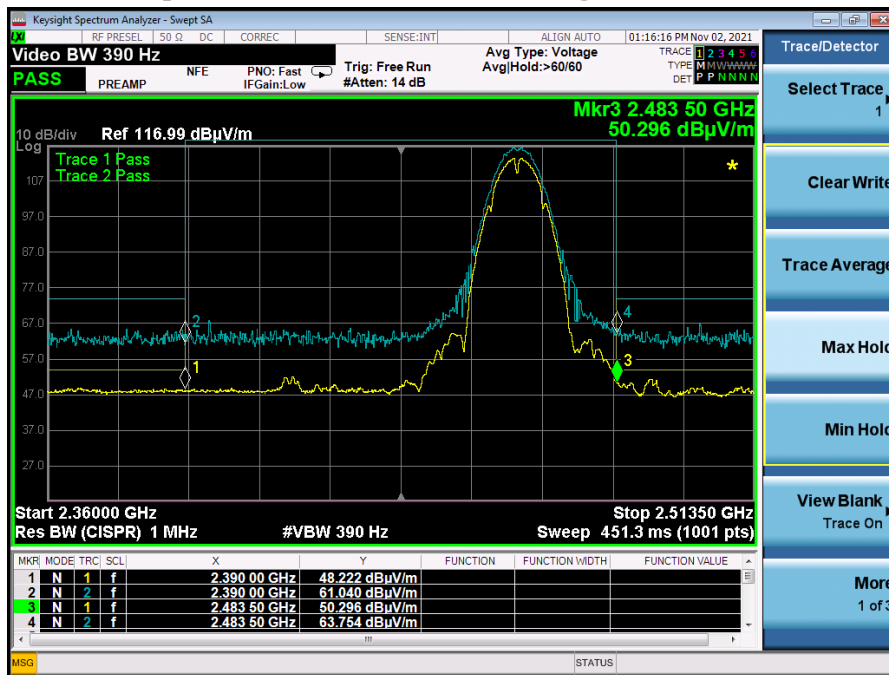
**Avg**

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
17.065 GHz	44.553	54	-9.447	314	Vertical	-5.675
24.46 GHz	47.142	54	-6.858	53	Vertical	-5.414
39.282 GHz	38.916	54	-15.084	73	Vertical	3.115
17.063 GHz	40.217	54	-13.783	58	Horizontal	-5.668
21.943 GHz	35.129	54	-18.871	1	Horizontal	-5.679
39.458 GHz	38.506	54	-15.494	94	Horizontal	3.738

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

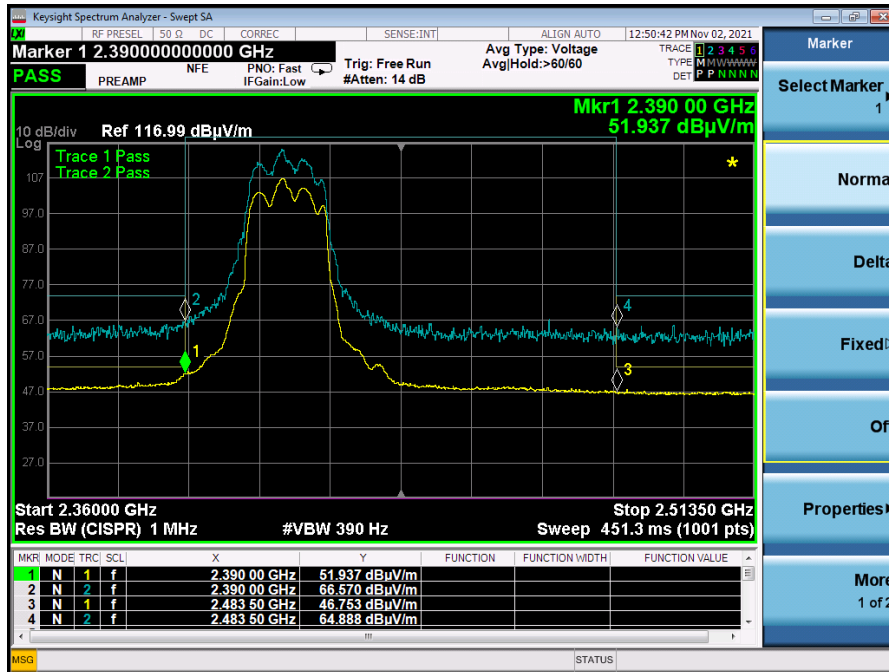


Graph 3: Radiated Lower Band Edge Plot – b Mode

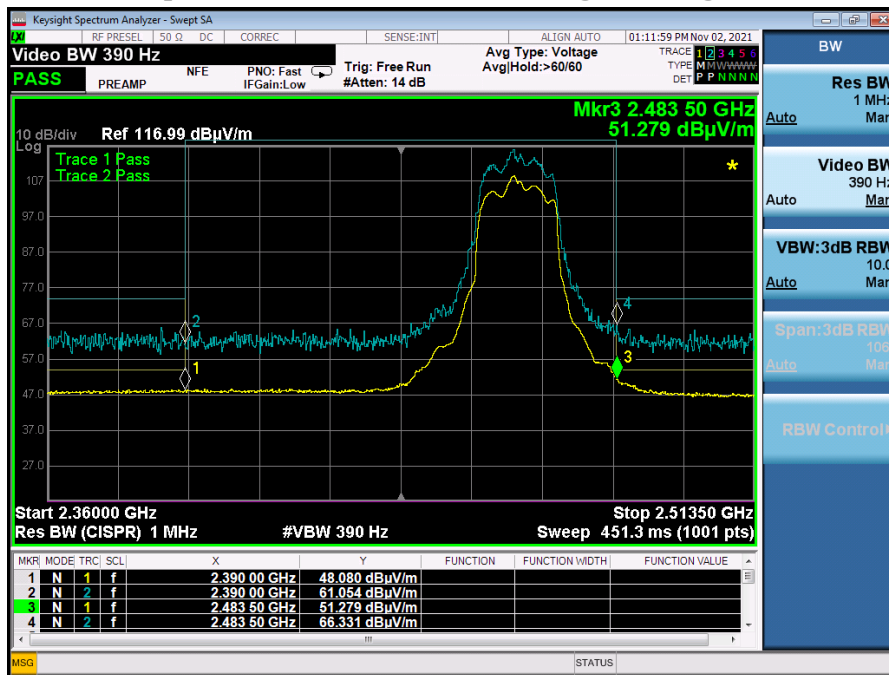


Graph 4: Radiated Upper Band Edge Plot – b Mode

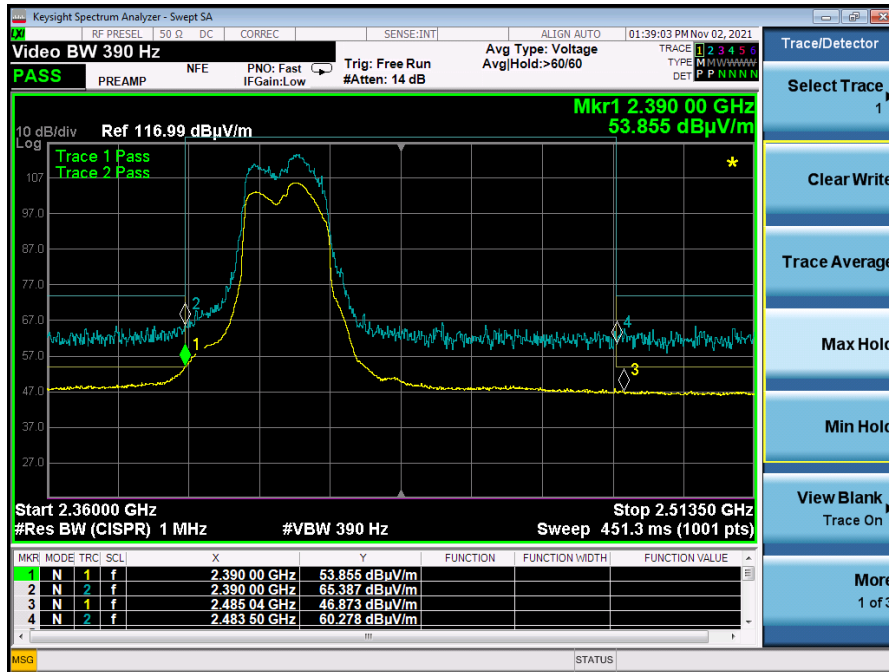




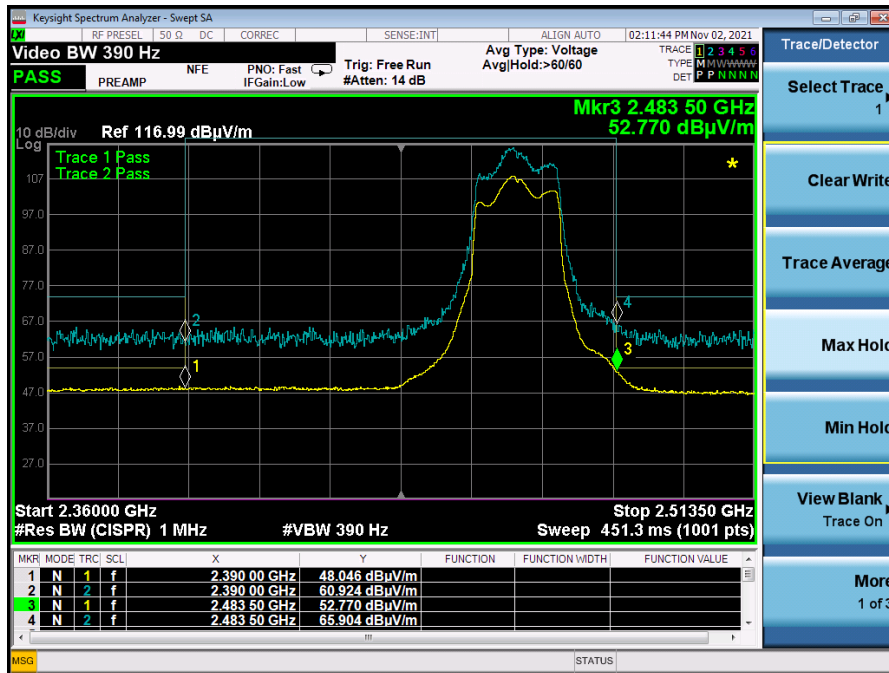
Graph 5: Radiated Lower Band Edge Plot – g Mode



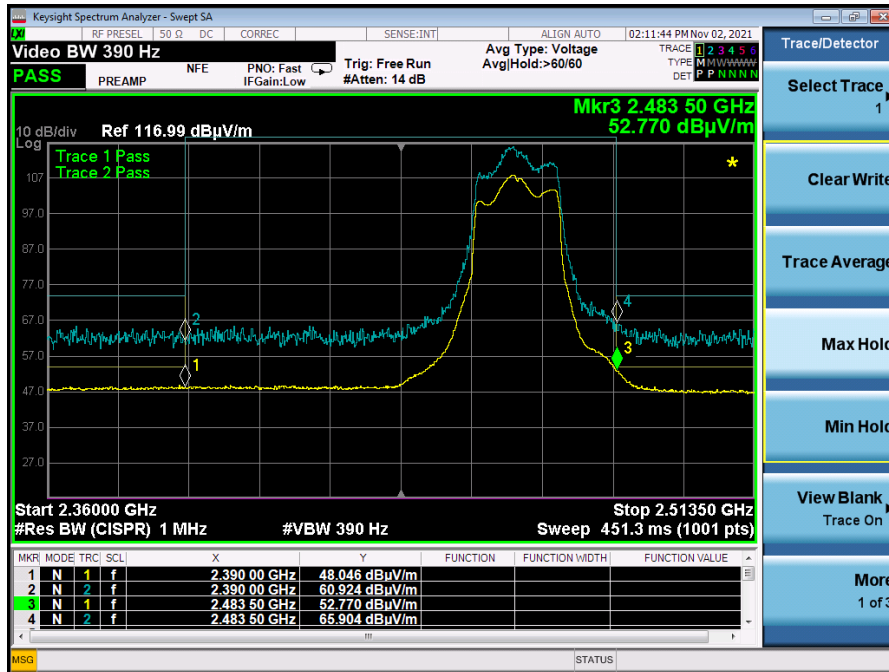
Graph 6: Radiated Upper Band Edge Plot g Mode



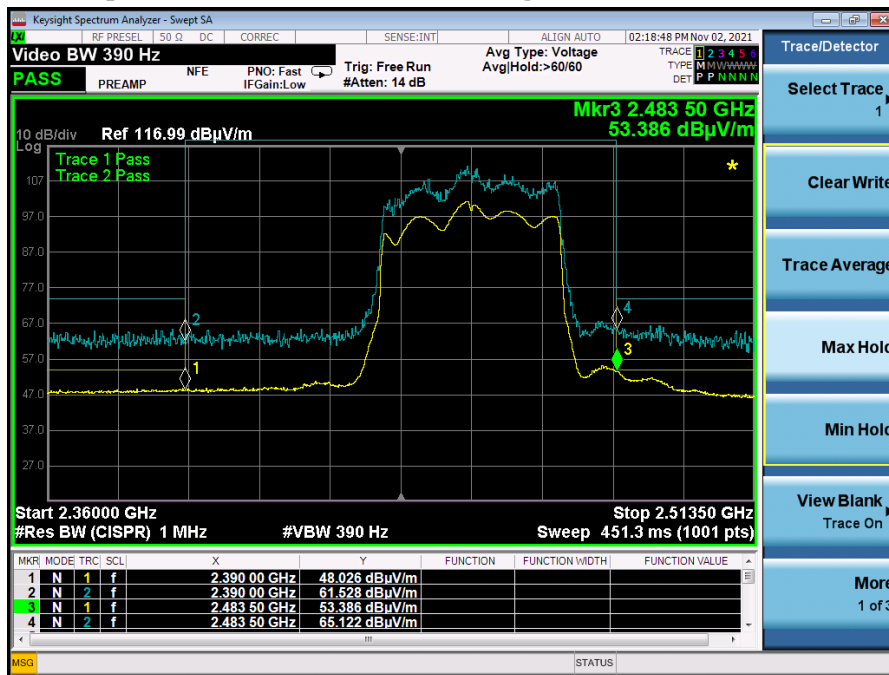
Graph 7: Radiated Lower Band Edge Plot – n Mode 20 MHz



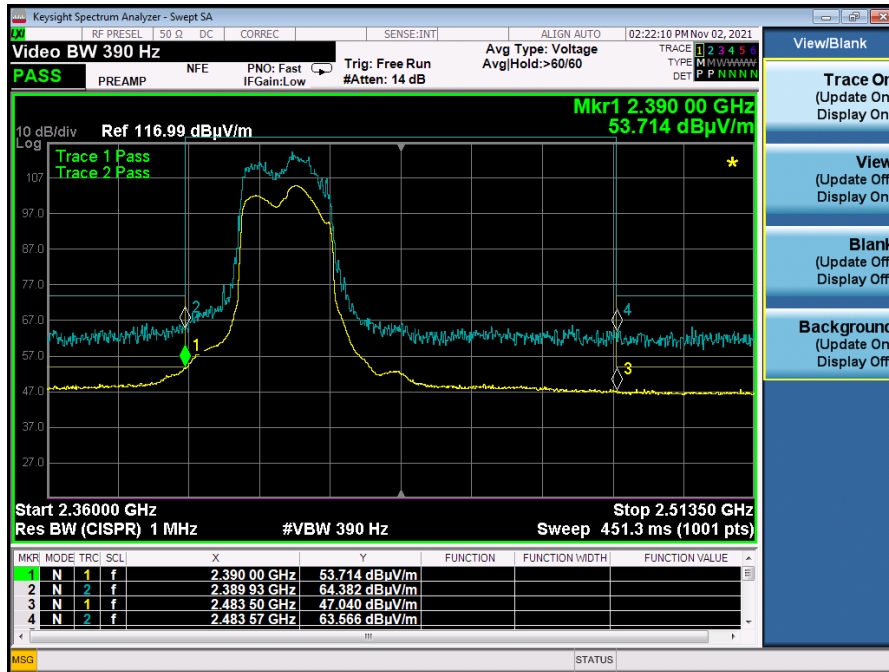
Graph 8: Radiated Upper Band Edge Plot – n Mode 20 MHz



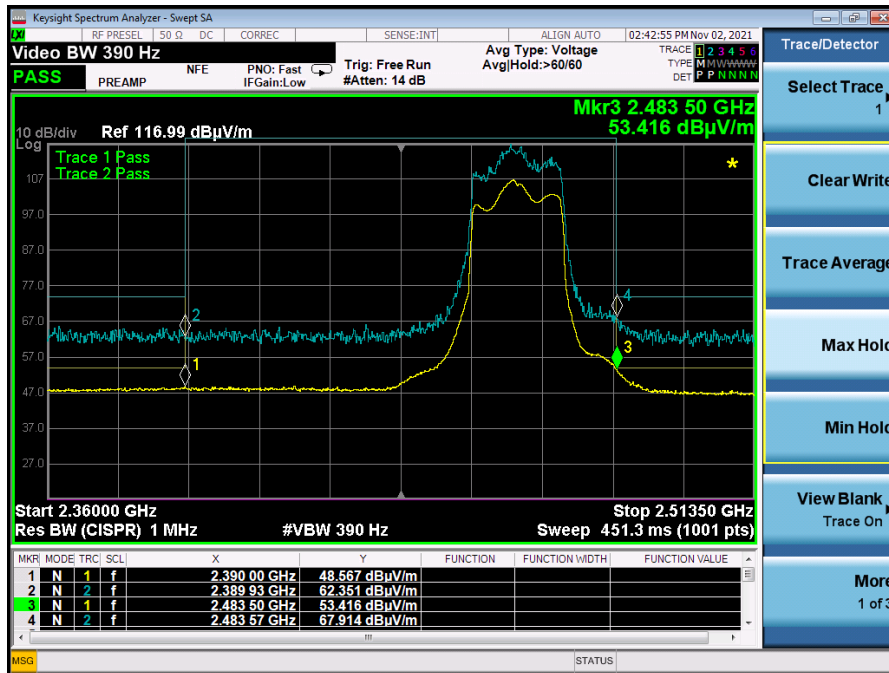
**Graph 9: Radiated Lower Band Edge Plot – n Mode 40 MHz**



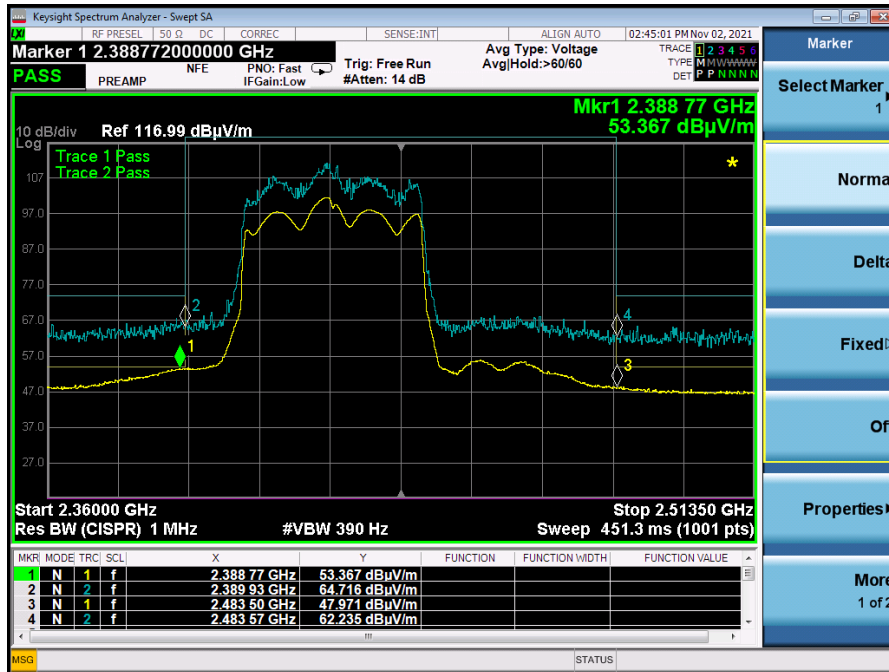
**Graph 10: Radiated Upper Band Edge Plot – n Mode 40 MHz**



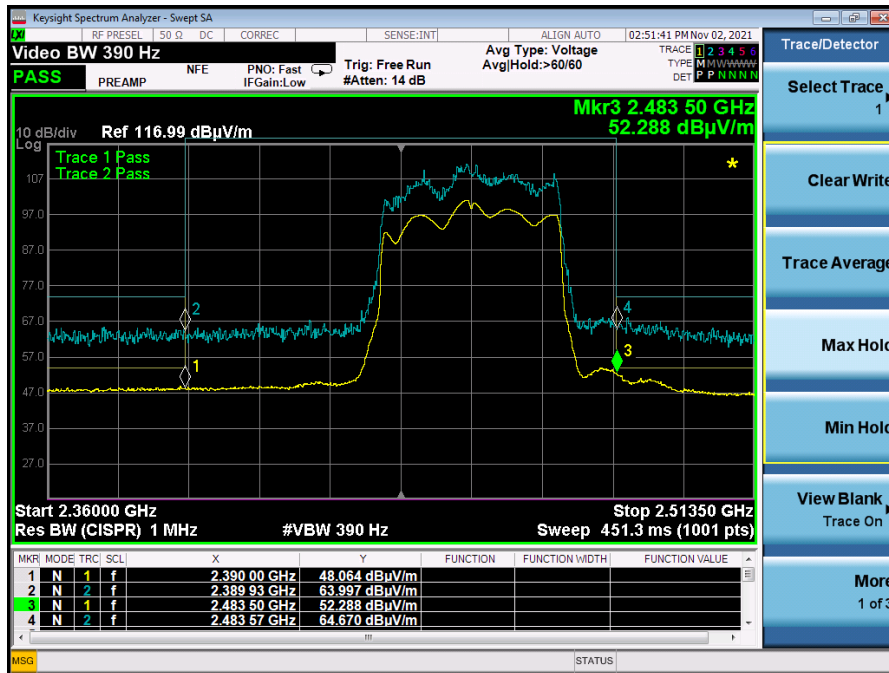
**Graph 11: Radiated Lower Band Edge Plot – ac Mode 20 MHz**



**Graph 12: Radiated Upper Band Edge Plot – ac Mode 20 MHz**



Graph 13: Radiated Lower Band Edge Plot – ac Mode 40 MHz



Graph 14: Radiated Upper Band Edge Plot – ac Mode 40 MHz

## 5.6 §15.247(e) Maximum Average Power Spectral Density

All chains were measured and summed under the guidance of KDB 558074 Section 8.4. 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 8 dBm in any 3 kHz band during any time interval of continuous transmission. The antenna gain is 4.0 dBi + Array gain of 3.01 dB which is a total of 7.01 dBi.

Mode	Frequency (MHz)	Measurement (dBm)	Criteria (dBm)
b	2412	-9.10	8.0
	2437	-8.37	8.0
	2462	-9.41	8.0
g	2412	-14.08	8.0
	2437	-10.28	8.0
	2462	-13.67	8.0
n 20	2412	-15.74	8.0
	2437	-11.95	8.0
	2462	-15.49	8.0
n 40	2422	-21.43	8.0
	2437	-22.41	8.0
	2452	-23.00	8.0
ax 20	2412	-18.36	8.0
	2437	-14.04	8.0
	2462	-21.34	8.0
ax 40	2422	-21.64	8.0
	2437	-21.91	8.0
	2452	-23.17	8.0

**Result**

The maximum average power spectral density was less than the limit of 8 dBm; therefore, the EUT complies with the specification.

-- End of Test Report --