



427 West 12800 South
Draper, UT 84020

Test Report Certification

FCC ID	SWX-E7CP
IC ID	6545A-E7CP
Equipment Under Test	E7-Campus
Test Report Serial Number	TR9075_01
Date of Test(s)	8, 17, 20 – 23 and 28 May 2024
Report Issue Date	24 June 2024

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

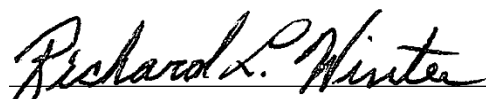
This report has been prepared by Unified Compliance Laboratory (UCL) to document compliance of the device described below with the requirement of Federal Communication Commissions (FCC) Part 15, Subpart C. This report may be reproduced in full. Partial reproduction of this report may only be made with the written consent of the laboratory. The results in this report apply only to the sample tested.

Applicant	Ubiquiti Inc.
Manufacturer	Ubiquiti Inc.
Brand Name	UBIQUITI
Model Number	E7-Campus
FCC ID	SWX-E7CP
IC ID	6545A-E7CP

On this 24th day of June 2024, I individually and for Unified Compliance Laboratory certify that the statements made in this engineering report are true, complete, and correct to the best of my knowledge and are made in good faith.

Although NVLAP has accredited the Unified Compliance Laboratory testing facilities, this report must not be used to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the U.S. federal government.

Unified Compliance Laboratory


Written By: Joseph W. Jackson
Reviewed By: Richard L. Winter

Revision History		
Revision	Description	Date
01	Original Report Release	24 June 2024

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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

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	E7-Campus
Serial Number	F4E2C61FFB30
Dimensions (cm)	25.0 x 25.0 x 4.6

2.2 Description of EUT

The E7-Campus is a WiFi 7 access point with (1) 10GbE PoE port and (1) 1GbE PoE port. The E7-Campus transmits in the 2.4 GHz, 5 GHz, and 6 GHz frequency bands using integral antennas and is powered by an 802.3++ PoE power adapter.

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.

Brand Name Model Number Serial Number	Description	Name of Interface Ports / Interface Cables
BN: UBIQUITI MN: E7-Campus (Note 1) SN: F4E2C61FFB30	Access Point	PoE Input / Shielded Cat 5E cable
BN: UBIQUITI MN: U-POE++ SN: N/A	PoE Injector	PoE Output / Shielded Cat 5E to E7, and Ethernet / unshielded Cat 5E to PC
BN: DELL MN: XPS SN: N/A	Laptop PC	Ethernet / un-shielded Cat 5E

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 E7 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 Volts AC to POE 48 Volts
AC Mains Frequency	60 Hz
Temperature	21.5 – 22.7 °C
Humidity	21.7 – 29.5 %
Barometric Pressure	1009 mBar

2.6 Operating Modes

The E7-Campus was connected to a personal computer laptop and tested using test software in order to enable to constant duty cycle greater or equal to 98% of the WiFi transceiver. All emission modes of 802.11 b/g/n/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

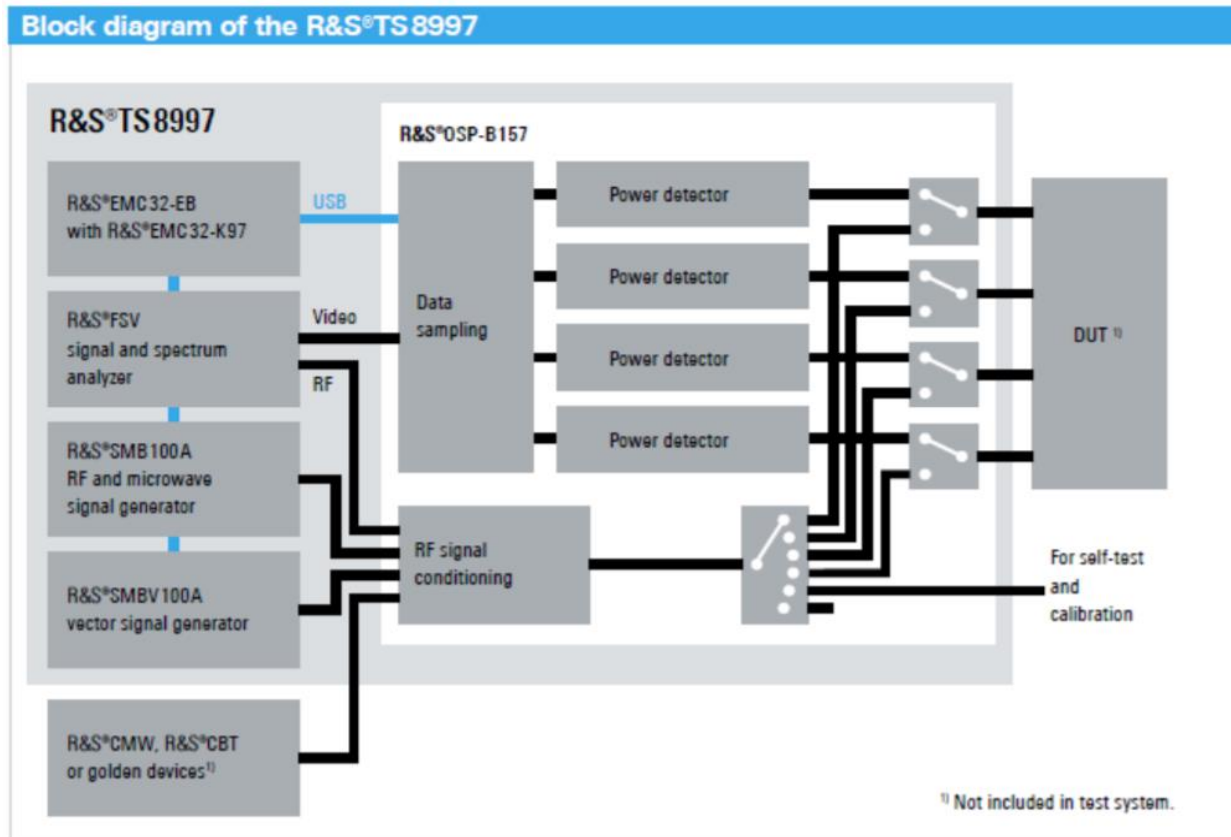


Diagram 1: Test Configuration Block Diagram

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 C 15.203, 15.207 and 15.247 Limits and methods of measurement of radio interference characteristics of radio frequency 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 15.203

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 2025. 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 2025.

Unified Compliance Laboratory has been assigned Designation Number US5037 by the FCC and Conformity Assessment Number US0223 by ISED.

4 Test Equipment

4.1 Conducted Emissions at Mains Ports

Type of Equipment	Manufacturer	Model Number	Asset Number	Date of Last Calibration	Due Date of Calibration
EMI Receiver	AFJ	FFT3010	UCL-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	6/27/2023	6/27/2024
LISN	AFJ	LS16C\10	UCL-6749	1/29/2024	1/29/2025
AC Power Source	Laplace Instruments	AC1000A	UCL-2857	N/A	N/A
Test Software	UCL	Revision 1	UCL-3107	N/A	N/A

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

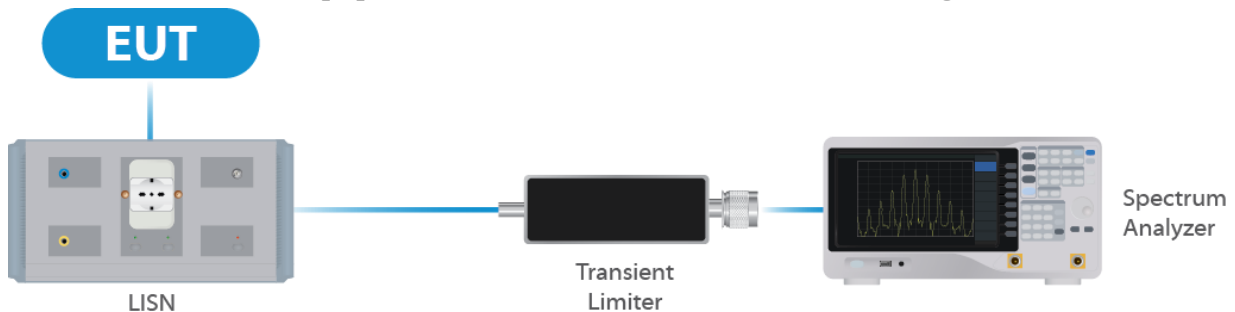


Figure 1: Conducted Emissions Test

4.2 Direct Connect at the Antenna Port Tests

Type of Equipment	Manufacturer	Model Number	Asset Number	Date of Last Calibration	Due Date of Calibration
Spectrum Analyzer	R&S	FSV40	UCL-2861	11/27/2023	11/27/2024
Signal Generator	R&S	SMB100A	UCL-2864	N/A	N/A
Vector Signal Generator	R&S	SMBV100A	UCL-2873	N/A	N/A
Switch Extension	R&S	OSP-B157WX	UCL-2867	4/12/2024	4/19/2025
Switch Extension	R&S	OSP-150W	UCL-2870	4/12/2024	4/19/2025

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

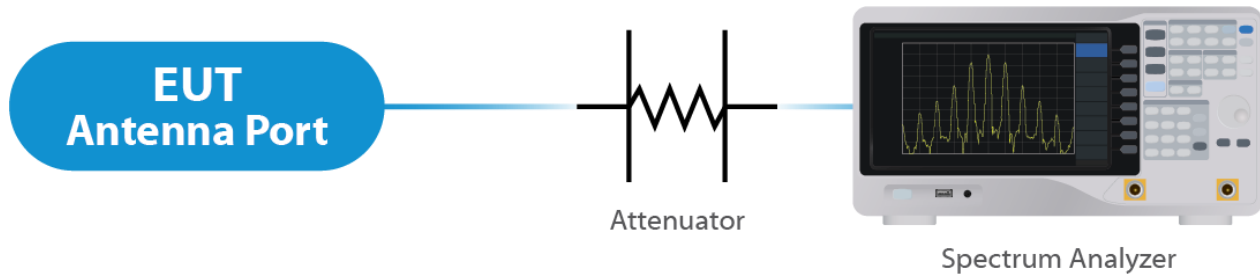


Figure 2: Direct Connect at the Antenna Port Test

4.3 Radiated Emissions

Type of Equipment	Manufacturer	Model Number	Asset Number	Date of Last Calibration	Due Date of Calibration
EMI Receiver	Keysight	N9038A	UCL-2778	1/25/2024	1/29/2025
Pre-Amplifier 9 kHz – 1 GHz	Sonoma Instruments	310N	UCL-2889	1/19/2024	1/19/2026
Broadband Antenna	Scwarzbeck	VULB 9163	UCL-3062	2/22/2023	2/22/2025
Broadband Antenna	Scwarzbeck	VULB 9163	UCL-3071	1/11/2023	1/11/2025
Double Ridge Horn Antenna	Scwarzbeck	BBHA 9120D	UCL-3065	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	3/10/2023	3/10/2025
1 – 18 GHz Amplifier	Com-Power	PAM 118A	UCL-3833	1/19/2024	1/19/2026
Test Software	UCL	Revision 1	UCL-3108	N/A	N/A

Table 3: List of equipment used for Radiated Emissions

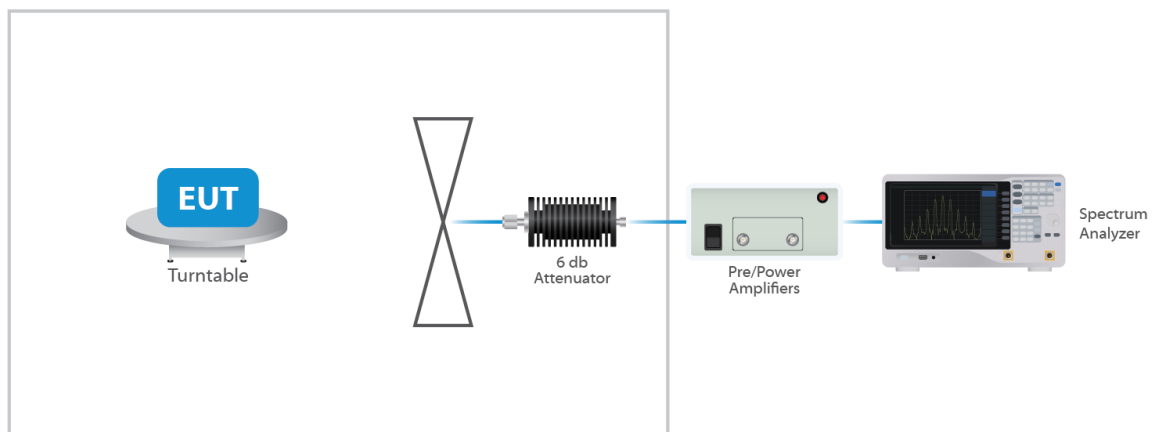


Figure 3: Radiated Emissions Test

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
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 integrated patch antenna. Per the manufacturer, the Maximum gain of the antenna per chain is 9.0 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 = $10 \log(\text{NANT}/\text{NSS})$ dB

NANT = number of transmit antennas and

NSS = number of spatial streams. NSS = 1 considered worst case.

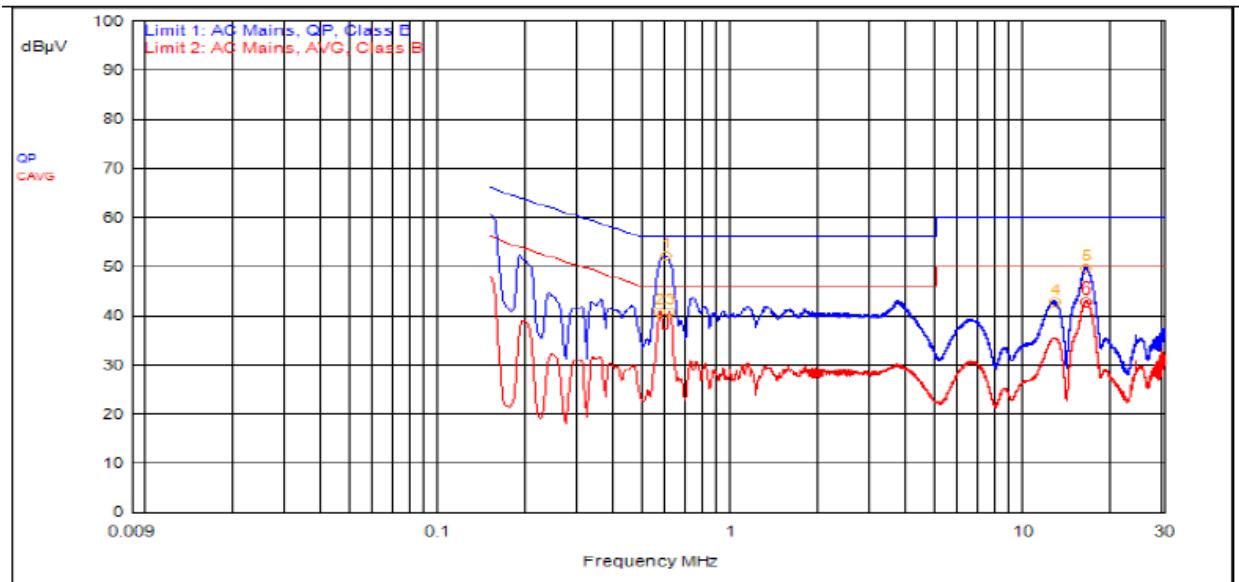
For power measurements on IEEE 802.11 devices, Array Gain = 0 dB for $\text{NANT} \leq 4$;

For PSD measurements when $\text{Nss}=1$: Array Gain = $10 \log (\text{NANT}/\text{NSS})$ dB + Antenna Gain (dBi). Or $3.01 \text{ dB} + 9.0 \text{ dBi} = 12.01 \text{ dBi}$.

Results

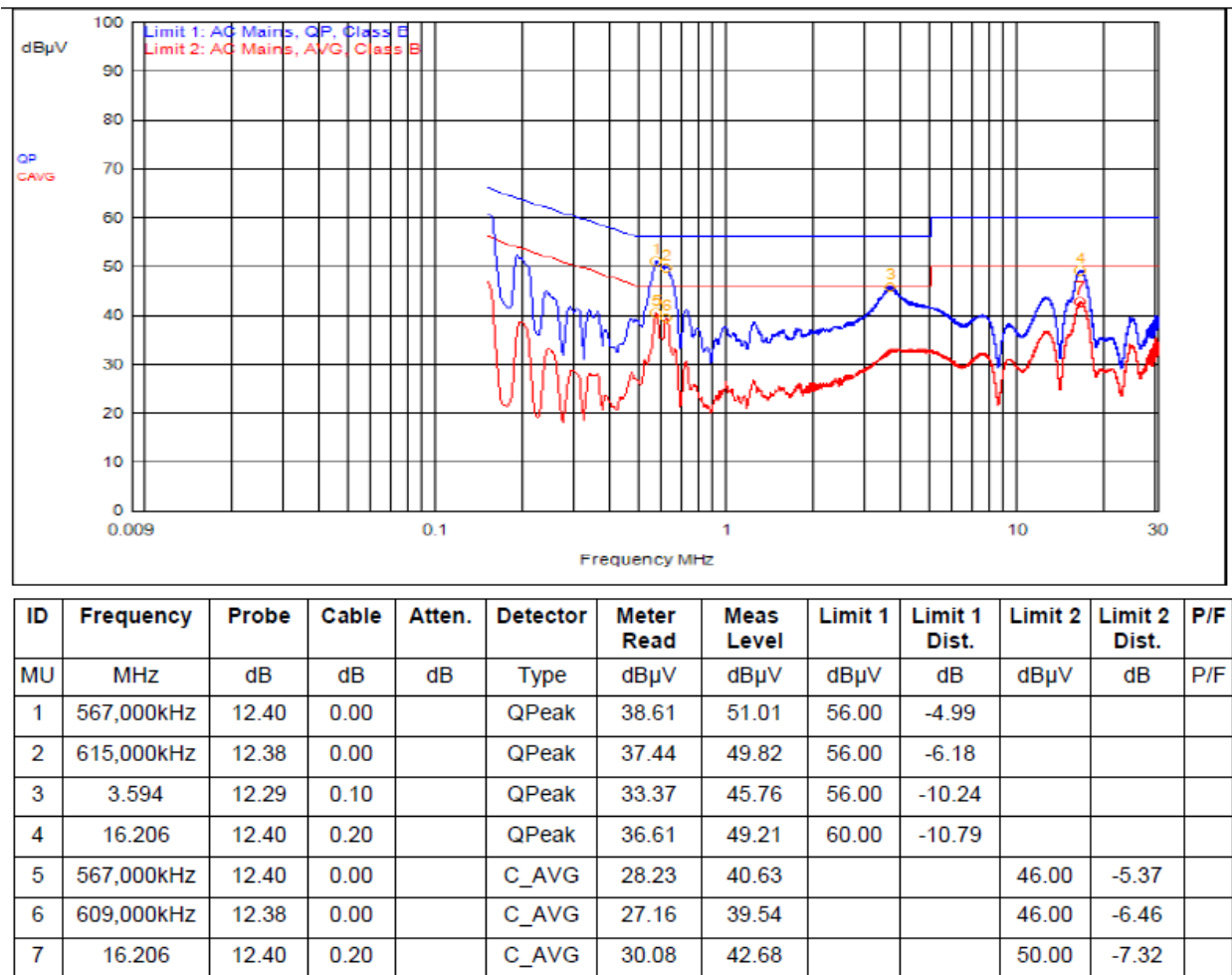
The EUT complied with the specification

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.	P/F
MU	MHz	dB	dB	dB	Type	dBμV	dBμV	dBμV	dB	dBμV	dB	P/F
1	591,000kHz	12.40	0.00		QPeak	39.70	52.10	56.00	-3.90			
5	16.143	12.43	0.20		QPeak	37.04	49.67	60.00	-10.33			
4	12.678	12.40	0.20		QPeak	30.24	42.84	60.00	-17.16			
2	567,000kHz	12.41	0.00		C_AVG	28.53	40.94			46.00	-5.06	
3	612,000kHz	12.40	0.00		C_AVG	28.43	40.83			46.00	-5.17	
6	16.155	12.43	0.20		C_AVG	30.17	42.80			50.00	-7.20	

Graph 1: Conducted Emissions Plot - Neutral



Graph 2: Conducted Emissions Plot – Line 1

Result

The EUT complied with the specification limit.

5.3 11.1§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	6.6
	2437	12.8	6.8
	2462	12.6	9.7
g	2412	16.5	16.4
	2437	16.5	16.5
	2462	16.5	15.4
n 20	2412	17.8	17.7
	2437	17.8	11.4
	2462	17.8	17.3
n 40	2422	36.3	25.2
	2437	36.0	35.8
	2452	36.3	31.4
ax 20	2412	18.9	11.1
	2437	19.0	11.4
	2462	18.9	17.2
ax 40	2422	38.0	36.2
	2437	37.8	26.6
	2452	38.0	34.7

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 26.47 dBm or 443.61 mW. The limit is 30 dBm or 1 Watt when using antennas with 6 dBi or less gain. The antenna has a gain of 9.0 dBi therefor the adjusted conducted average output limit is 27 dBm.

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Conducted Output Power *	Measured EIRP
b 20	2412	Mcs0	24	25.96	34.96
	2417	Mcs0	24	26.26	35.26
	2422	Mcs0	24	26.19	35.19
	2427	Mcs0	24	26.10	35.10
	2432	Mcs0	24	26.07	35.07
	2437	Mcs0	23	25.21	34.21
	2442	Mcs0	23	25.13	34.13
	2447	Mcs0	23	25.21	34.21
	2452	Mcs0	25	26.47	35.47
	2457	Mcs0	25	26.43	35.43
g 20	2412	Mcs0	22	23.95	32.95
	2417	Mcs0	24	25.74	34.374
	2422	Mcs0	24	25.90	34.90
	2427	Mcs0	24	25.91	34.91
	2432	Mcs0	24	25.86	34.86
	2437	Mcs0	23	24.81	33.81
	2442	Mcs0	23	24.65	33.65
	2447	Mcs0	22	23.67	32.67
	2452	Mcs0	23	24.48	33.48
	2457	Mcs0	23	24.42	33.42
n 20	2412	Mcs0	22	23.93	32.93
	2417	Mcs0	23	24.85	33.85
	2422	Mcs0	23	24.64	33.64
	2427	Mcs0	23	24.81	33.81
	2432	Mcs0	23	24.76	33.76

	2437	Mcs0	23	24.71	33.71
	2442	Mcs0	23	24.54	33.54
	2447	Mcs0	23	24.52	33.52
	2452	Mcs0	23	24.35	33.35
	2457	Mcs0	23	24.36	33.36
	2462	Mcs0	22	23.67	32.67
n 40	2422	Mcs0	20	22.30	31.30
	2437	Mcs0	21	23.17	32.17
	2452	Mcs0	20	20.25	31.25
ax 20	2412	Mcs0	22	22.94	31.98
	2417	Mcs0	23	24.81	33.81
	2422	Mcs0	22	23.72	32.72
	2427	Mcs0	23	24.69	33.69
	2432	Mcs0	23	24.90	33.90
	2437	Mcs0	23	24.69	33.69
	2442	Mcs0	23	24.73	33.73
	2447	Mcs0	23	24.84	33.84
	2452	Mcs0	22	23.64	32.64
	2457	Mcs0	22	23.59	32.59
	2462	Mcs0	20	21.73	30.73
ax 40	2422	Mcs0	20	22.43	31.43
	2437	Mcs0	21	23.11	32.11
	2452	Mcs0	19	21.25	30.25

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

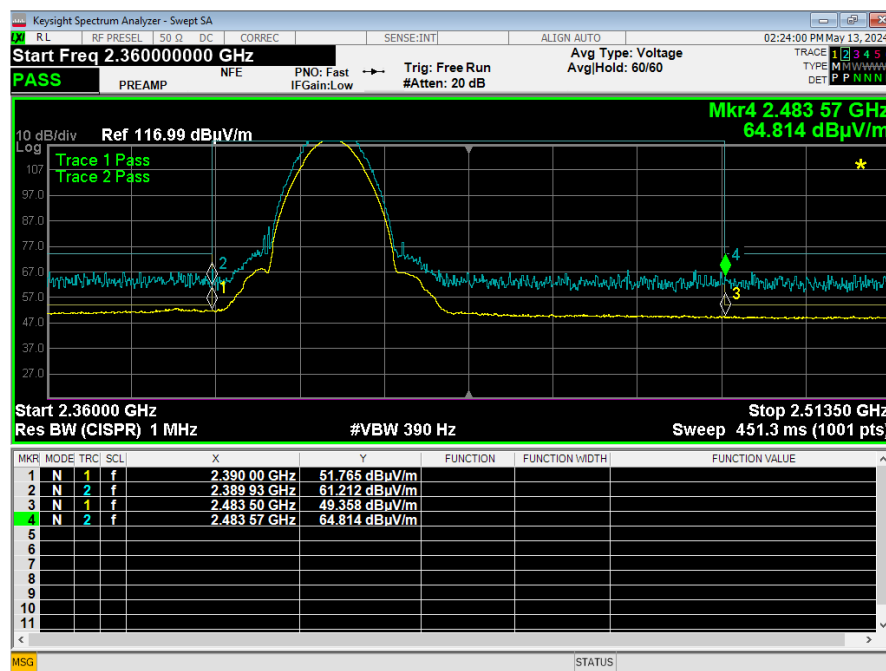
5.5.1 Conducted Spurious Emissions

The frequency range from the lowest frequency generated or used in the device to the tenth harmonic of the highest fundamental frequency was investigated to measure any antenna-conducted emissions. The table show the measurement data from spurious emissions noted across the frequency range when transmitting at the lowest frequency, middle frequency and upper frequency. Shown below are plot(s) with the EUT tuned to the upper and lower channels. These demonstrate compliance with the provisions of this section at the band edges.

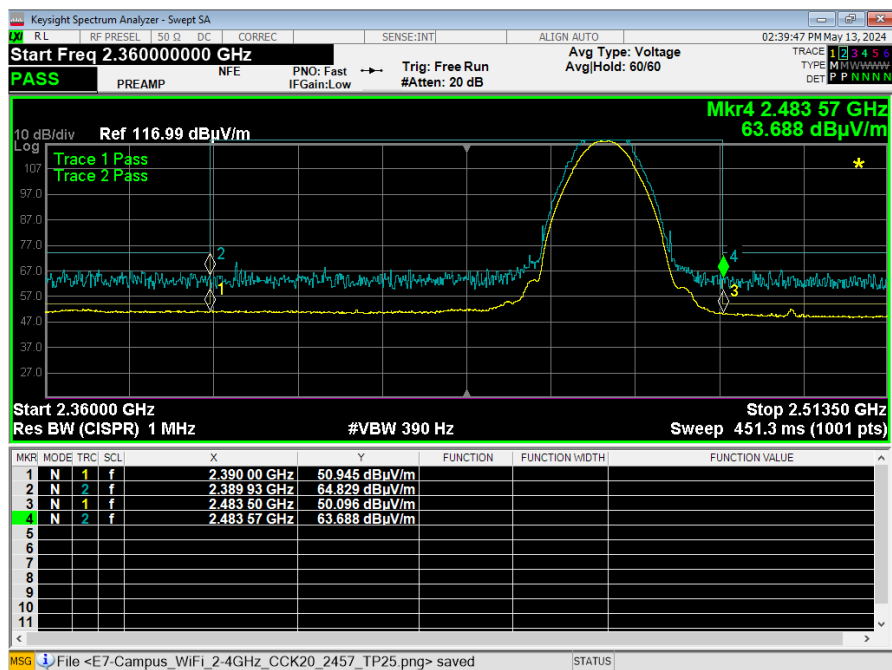
The emissions must be attenuated 30 dB or more below the highest power spectral density level measured within the authorized band as measured with a 100 kHz RBW.

Result

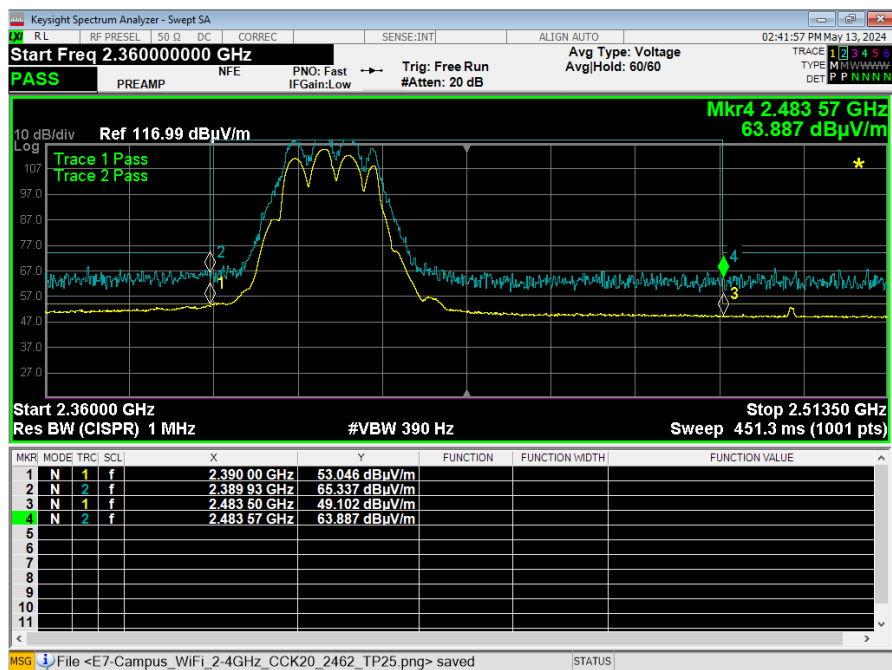
Conducted spurious emissions were attenuated 30 dB or more below the fundamental; therefore, the EUT complies with the specification.



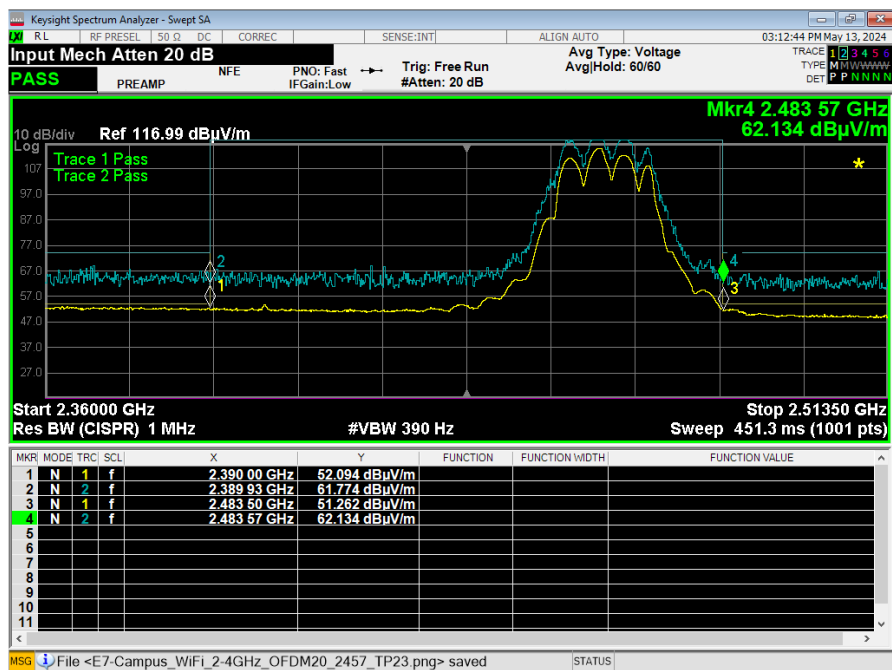
Graph 3: Lower Band Edge Plot b Mode 20 MHz



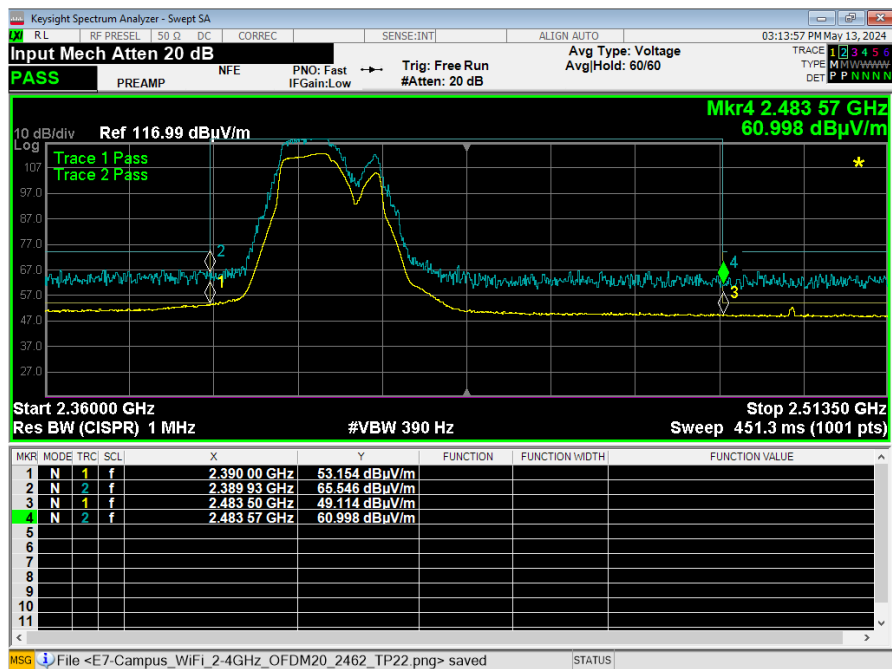
Graph 4: Upper Band Edge Plot b Mode 20 MHz



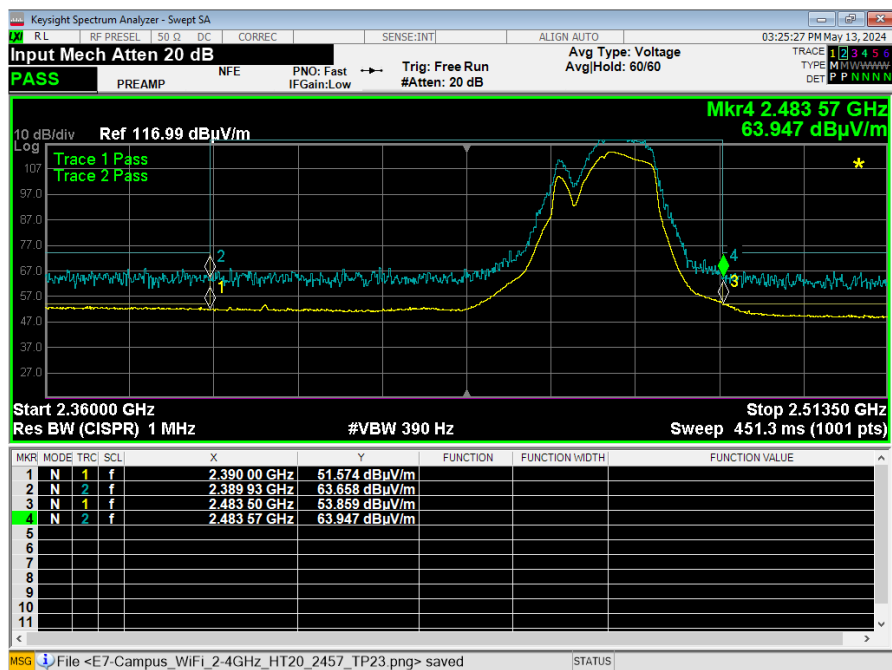
Graph 5: Lower Band Edge Plot g Mode 20 MHz



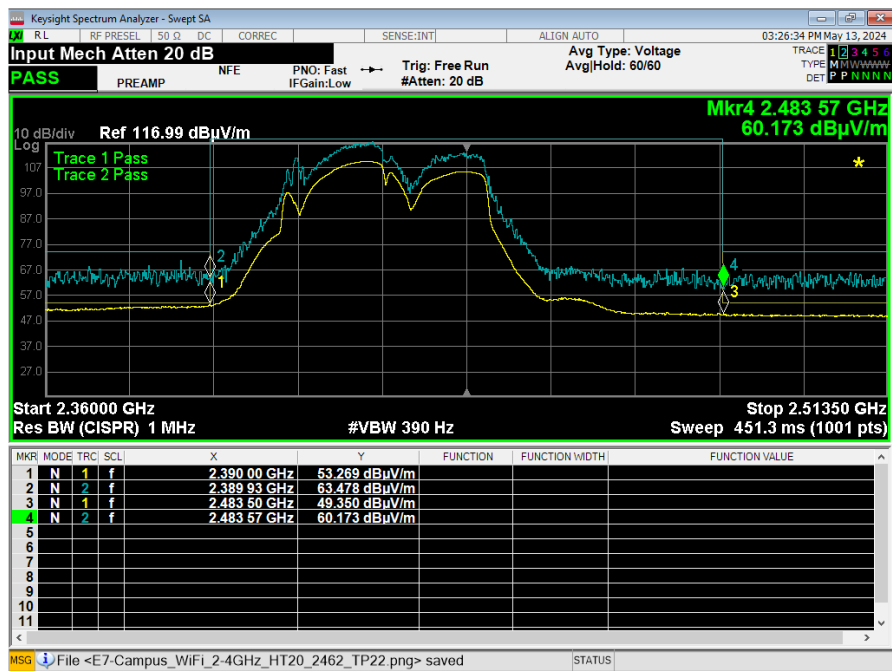
Graph 6: Upper Band Edge Plot g Model 20 MHz



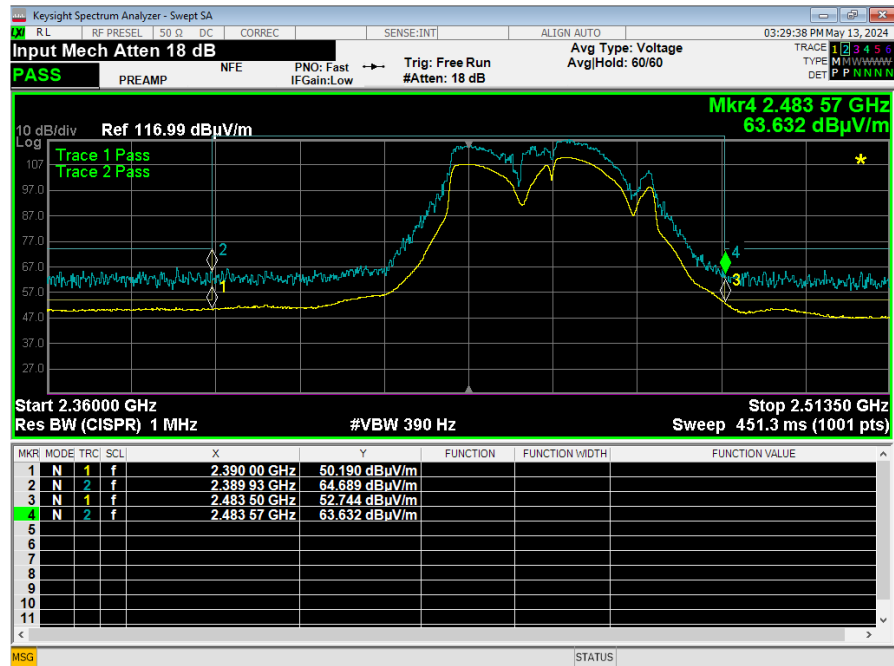
Graph 7: Lower Band Edge Plot n Mode 20 MHz



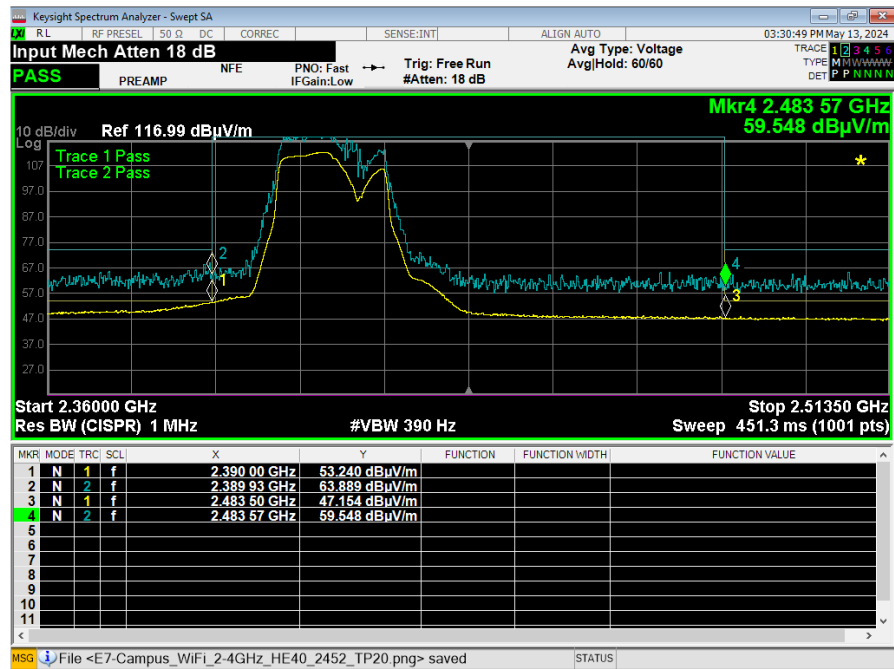
Graph 8: Upper Band Edge Plot n Mode 20 MHz



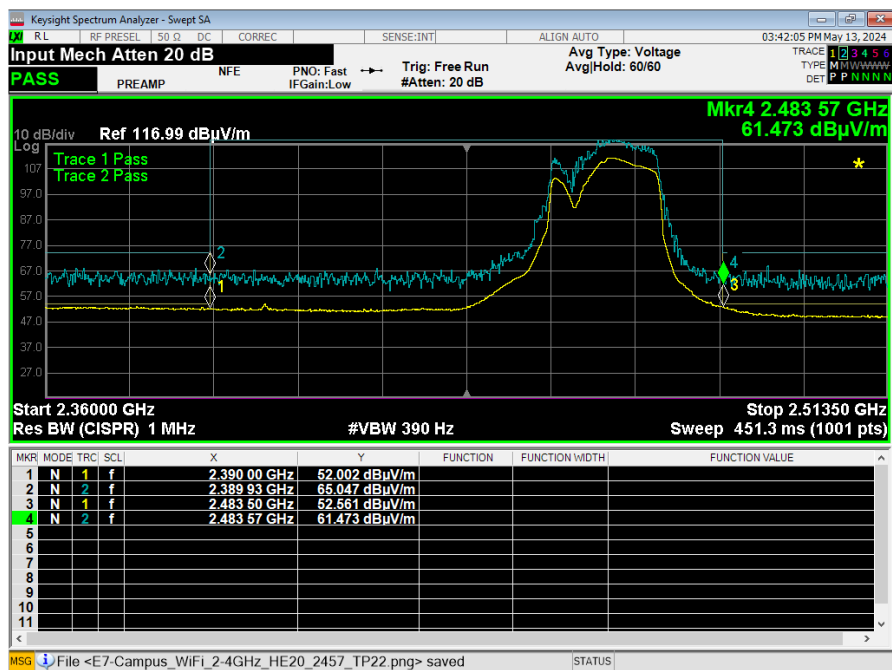
Graph 9: Lower Band Edge Plot n Mode 40 MHz



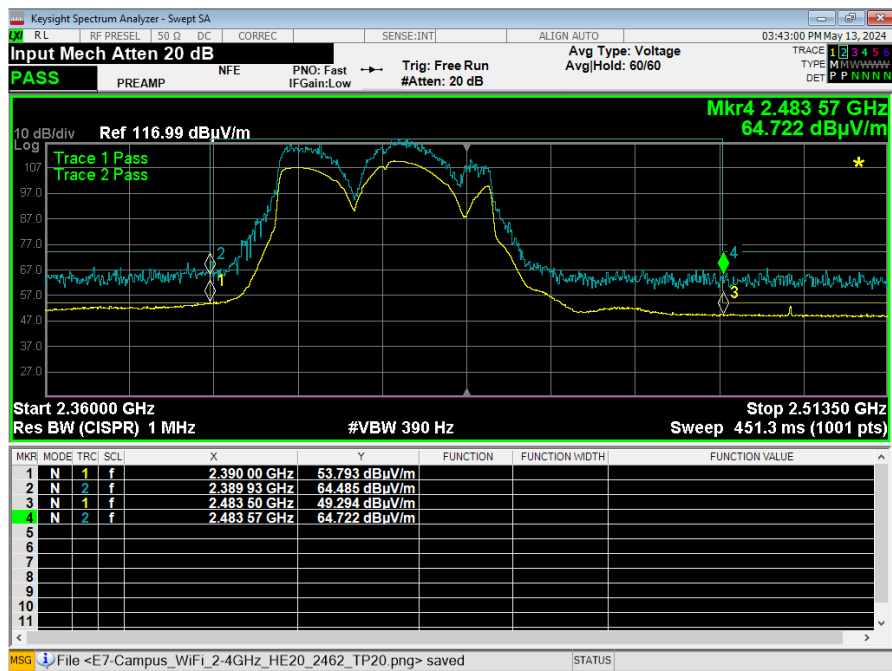
Graph 10: Upper Band Edge Plot n Mode 40 MHz



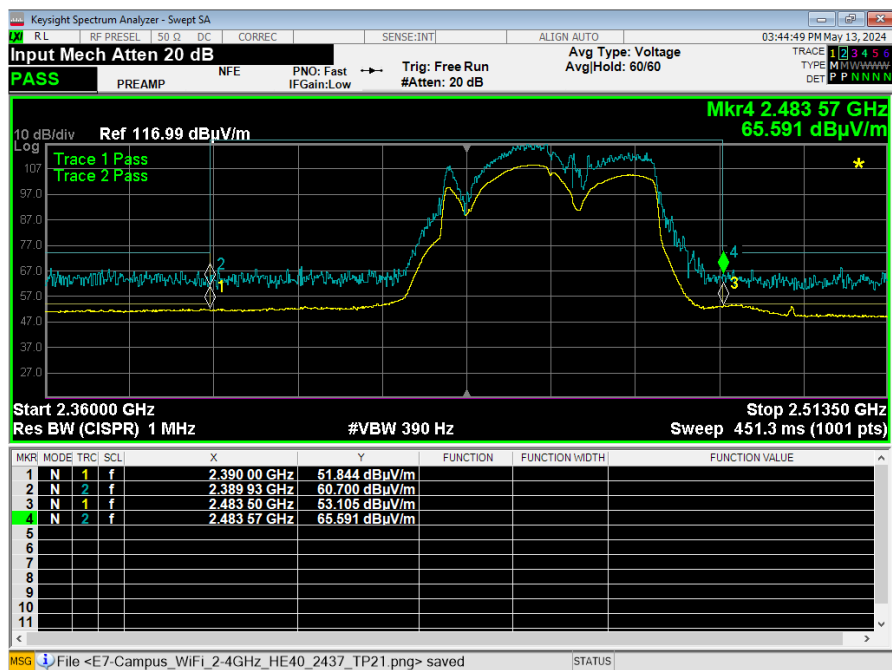
Graph 11: Lower Band Edge Plot ax Mode 20 MHz



Graph 12: Upper Band Edge Plot ax Mode 20 MHz



Graph 13: Lower Band Edge Plot ax Mode 40 MHz



Graph 14: Upper Band Edge Plot ax Mode 40 MHz

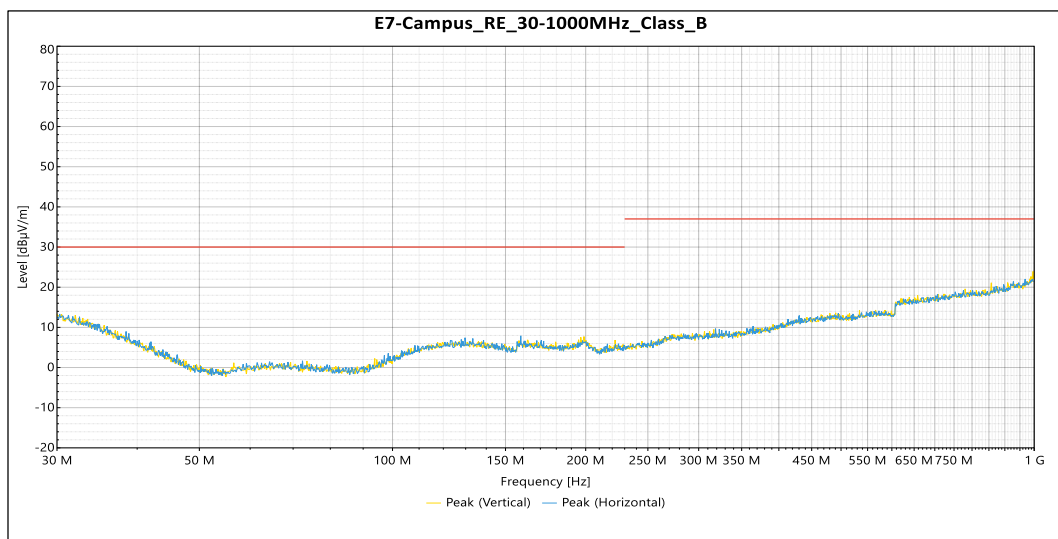
5.5.2 Radiated Spurious Emissions in the Restricted Bands of §15.205

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

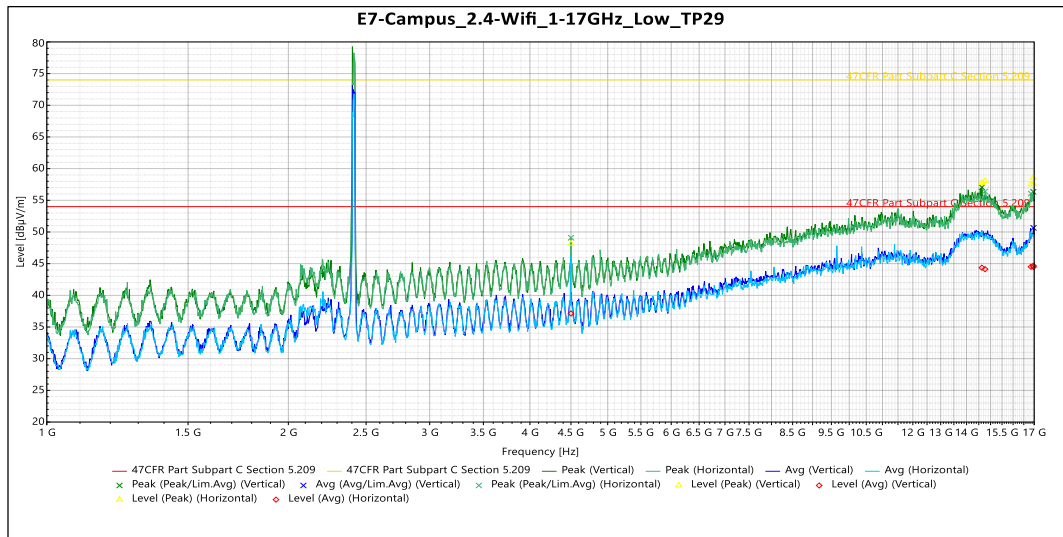
All emissions in the restricted bands of §15.205 met the limits specified in §15.209; therefore, the EUT complies with the specification.



Quasi-Peak

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
No significant emissions were observed from 30 – 1000 MHz in the Vertical orientation of the antenna							
No significant emissions were observed from 30 – 1000 MHz in the Horizontal orientation of the antenna							

Table 4: Radiated Emissions 30 – 1000 MHz



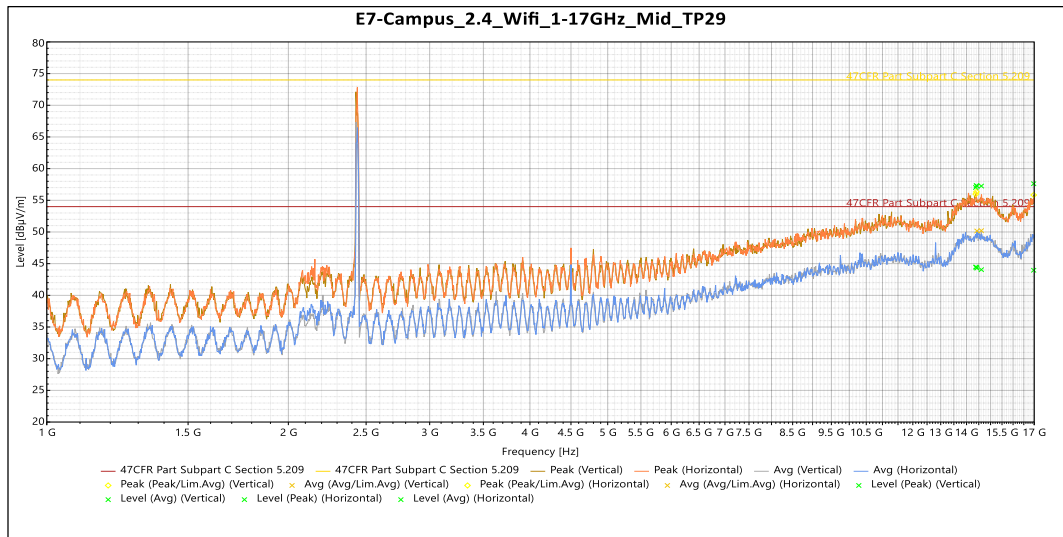
Peak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
14.63 GHz	57.752	74	-16.248	13	3.808	Vertical	11.543
16.959 GHz	58.573	74	-15.427	344	1.5	Vertical	13.522
16.967 GHz	57.579	74	-16.421	138	2.133	Vertical	13.574
4.5001 GHz	48.162	74	-25.838	216	1.5	Horizontal	-6.676
14.763 GHz	58.017	74	-15.983	126	3.643	Horizontal	11.387
16.846 GHz	57.525	74	-16.475	99	3.81	Horizontal	13.218

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
14.63 GHz	44.363	54	-9.637	13	3.808	Vertical	11.543
16.959 GHz	44.68	54	-9.32	344	1.5	Vertical	13.522
16.967 GHz	44.481	54	-9.519	138	2.133	Vertical	13.574
4.5001 GHz	37.141	54	-16.859	216	1.5	Horizontal	-6.676
14.763 GHz	44.126	54	-9.874	126	3.643	Horizontal	11.387
16.846 GHz	44.506	54	-9.494	99	3.81	Horizontal	13.218

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



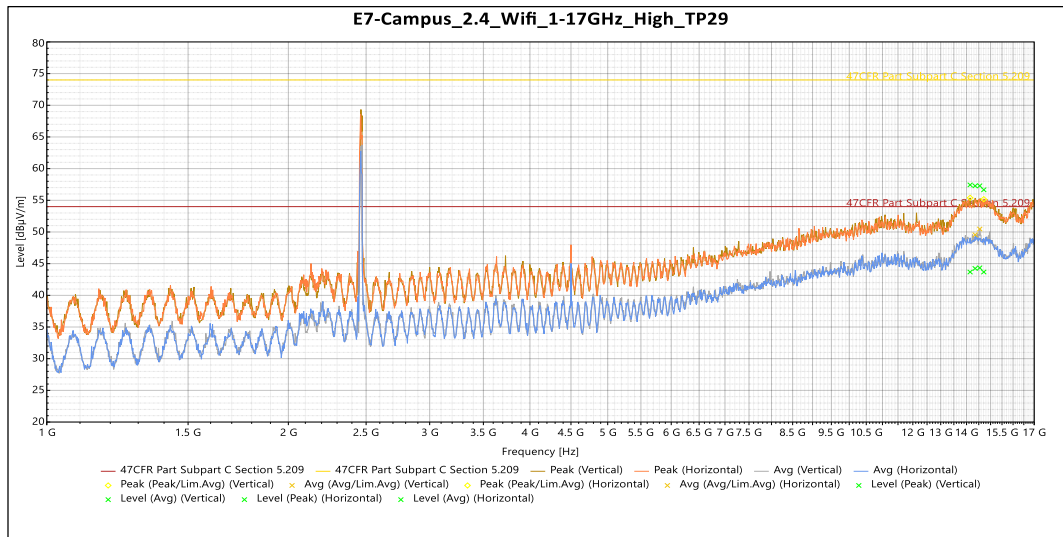
Peak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
14.375 GHz	57.028	74	-16.972	359	3.809	Vertical	11.972
14.608 GHz	57.252	74	-16.748	68	3.812	Vertical	11.587
16.975 GHz	57.619	74	-16.381	132	2.336	Vertical	13.554
14.402 GHz	57.325	74	-16.675	339	3.319	Horizontal	12.031
14.424 GHz	57.242	74	-16.758	14	3.812	Horizontal	11.849

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
14.375 GHz	44.455	54	-9.545	359	3.809	Vertical	11.972
14.608 GHz	44.047	54	-9.953	68	3.812	Vertical	11.587
16.975 GHz	43.959	54	-10.041	132	2.336	Vertical	13.554
14.402 GHz	44.442	54	-9.558	339	3.319	Horizontal	12.031
14.424 GHz	44.305	54	-9.695	14	3.812	Horizontal	11.849

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



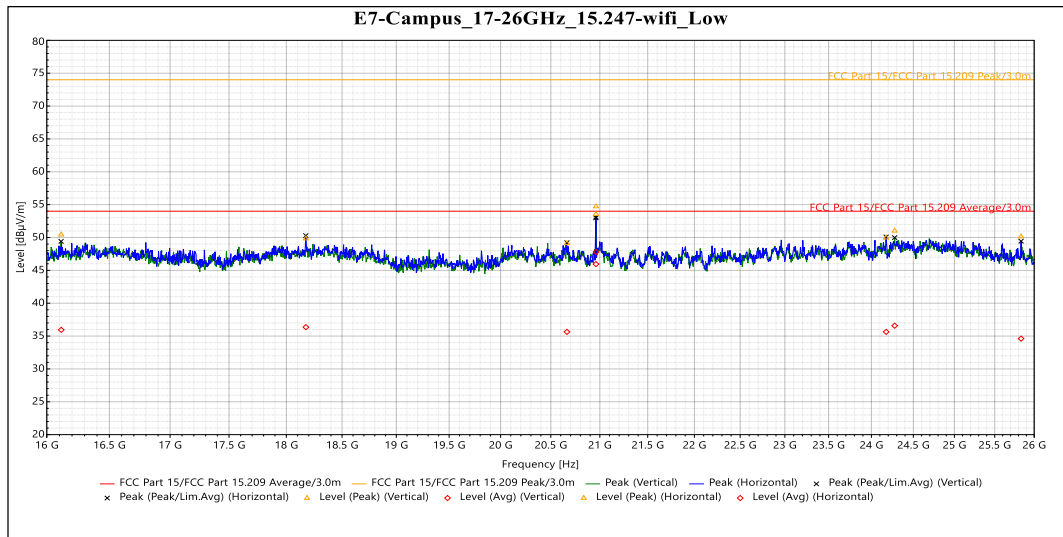
Peak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
14.145 GHz	57.431	74	-16.569	336	3.808	Vertical	11.033
14.54 GHz	57.291	74	-16.709	174	3.811	Vertical	11.86
14.35 GHz	57.277	74	-16.723	112	3.808	Horizontal	11.869
14.711 GHz	56.663	74	-17.337	263	3.812	Horizontal	11.521

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
14.145 GHz	43.684	54	-10.316	336	3.808	Vertical	11.033
14.54 GHz	44.335	54	-9.665	174	3.811	Vertical	11.86
14.35 GHz	44.239	54	-9.761	112	3.808	Horizontal	11.869
14.711 GHz	43.681	54	-10.319	263	3.812	Horizontal	11.521

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)
16.114 GHz	50.423	74	-23.577	312	Vertical	1.364
20.663 GHz	49.123	74	-24.877	68	Vertical	-0.012
20.96 GHz	54.71	74	-19.29	324	Vertical	0.342
24.276 GHz	51.007	74	-22.993	204	Vertical	1.894
18.174 GHz	49.83	74	-24.17	357	Horizontal	-0.524
20.96 GHz	53.553	74	-20.447	353	Horizontal	0.342
24.175 GHz	49.968	74	-24.032	148	Horizontal	0.567
25.833 GHz	50.125	74	-23.875	335	Horizontal	0.301

Avg

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
16.114 GHz	35.936	54	-18.064	312	Vertical	1.364
20.663 GHz	35.643	54	-18.357	68	Vertical	-0.012
20.96 GHz	47.8	54	-6.2	324	Vertical	0.342
24.276 GHz	36.569	54	-17.431	204	Vertical	1.894
18.174 GHz	36.358	54	-17.642	357	Horizontal	-0.524
20.96 GHz	45.954	54	-8.046	353	Horizontal	0.342
24.175 GHz	35.64	54	-18.36	148	Horizontal	0.567
25.833 GHz	34.614	54	-19.386	335	Horizontal	0.301

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

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 9.0 dBi + Array gain of 3.01 dB which is a total of 12.01 dBi.

Mode	Frequency (MHz)	Measurement (dBm)	Criteria (dBm)
b	2412	1.43	8.0
	2437	0.89	8.0
	2462	1.23	8.0
g	2412	-6.57	8.0
	2437	-5.37	8.0
	2462	-7.45	8.0
n 20	2412	-8.30	8.0
	2437	-7.77	8.0
	2462	-8.93	8.0
n 40	2422	-13.69	8.0
	2437	-11.39	8.0
	2452	-13.72	8.0
ax 20	2412	-9.28	8.0
	2437	-8.34	8.0
	2462	-11.32	8.0
ax 40	2422	-12.97	8.0
	2437	-12.49	8.0
	2452	-14.41	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 --