UNIFIED COMPLIANCE LABORATORY

427 West 12800 South
Draper, UT 84020

Test Report

Certification

FCC ID	SWX-U7LR
IC ID	6545A-U7LR
Equipment Under Test	U7-LR
Test Report Serial Number	TR9907_01
Date of Test(s)	7, 10 - 14 February and 31 March 2025
Report Issue Date	9 April 2025

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

NVLAP TESTING ilac-MRA

NVLAP LAB CODE 600241-0

Certification of Engineering Report

This report has been prepared by Unified Compliance Laboratory (UCL) to document compliance of the device described below with the requirement of Federal Communication Commissions (FCC) Part 15, Subpart 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 with the specifications provided by the manufacturer.

Applicant	Ubiquiti Inc.
Manufacturer	Ubiquiti Inc.
Brand Name	UBIQUITI
Model Number	U7-LR
FCC ID	SWX-U7LR
IC ID	6545A-U7LR

On this 9th day of April 2025, 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: Richard L. Winter

Revision History		
Revision	**Description**	**Date**
01	Original Report Release	9 April 2025

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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	U7-LR
Serial Number	FE0CCB4
Dimensions (cm)	17.6 x 17.6 x 4.3

2.2 Description of EUT

The U7-LR is a WiFi 6 access point that represents the next generation of competitively priced, prosumer wireless technology for home and enterprise users. The U7-LR provides high aggregate throughput speeds. The U7-LR transmit in the 2.4 GHz and 5 GHz frequency bands and uses integrated internal antennas. The U7-LR is power from a 802.3at PoE power adapter.

For CDD transmissions, directional gain is calculated as follows.

Array Gain = 10 log(NANT/NSS) dB
NANT = number of transmit antennas and
NSS = number of spatial streams. NSS = 1 considered worst case.

For power measurements on IEEE 802.11 devices, Array Gain = 0 dB for NANT ≤ 4;
For PSD measurements when Nss=1: Array Gain = 10 log(NANT/NSS) dB + Antenna Gain (dBi). Or 3.01 dB + 4 dBi = 7.01 dBi.

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: U7-LR SN: FE0CCB4	WiFi Access Point	See Section 2.4
BN: UBIQUITI MN: U-POE-at SN: N/A	PoE Power Adapter	Unshielded Cat 5e cable/1 meters

BN: Dell MN: XPS 13 SN: N/A	Laptop Personal Computer	Unshielded Cat 5e cable/1 meters

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
AC Mains	1	3 conductor power cord/80 cm
POE (POE Injector)	1	Unshielded Cat 5e cable/8 meters
LAN (POE Injector)	1	Unshielded Cat 5e cable/1 meters

2.5 Operating Environment

Power Supply	120 Volts ac Mains to 48 Volts PoE
AC Mains Frequency	60 Hz
Temperature	21.3 – 24.6 °C
Humidity	19.8 – 23.7 %
Barometric Pressure	1013 mBar

2.6 Operating Modes

The U7-LR 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

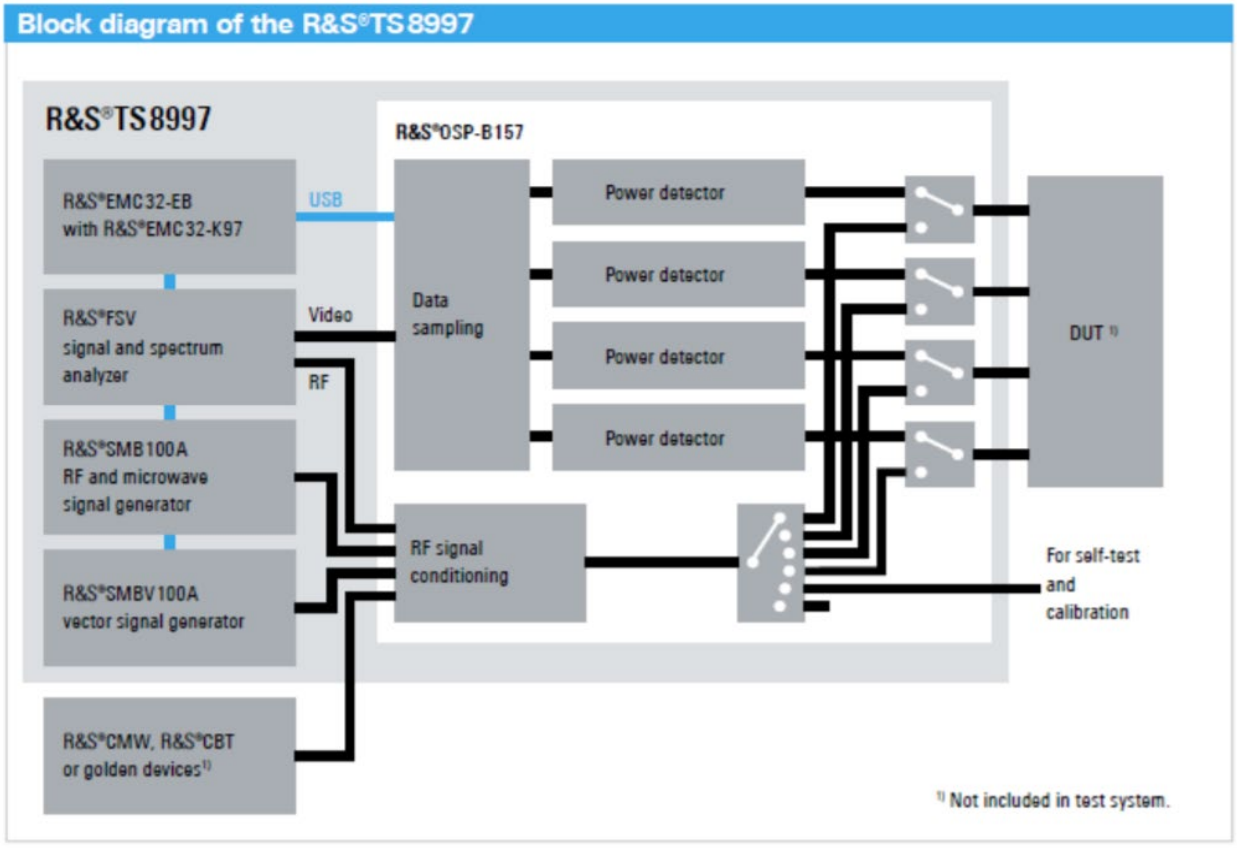


Diagram 1: Test Configuration Block Diagram

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	8/27/2024	8/27/2025
LISN	AFJ	LS16C/10	UCL-2512	7/08/2024	7/08/2025
ISN	Teseq	ISN T800	UCL-2974	7/09/2024	7/09/2025
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

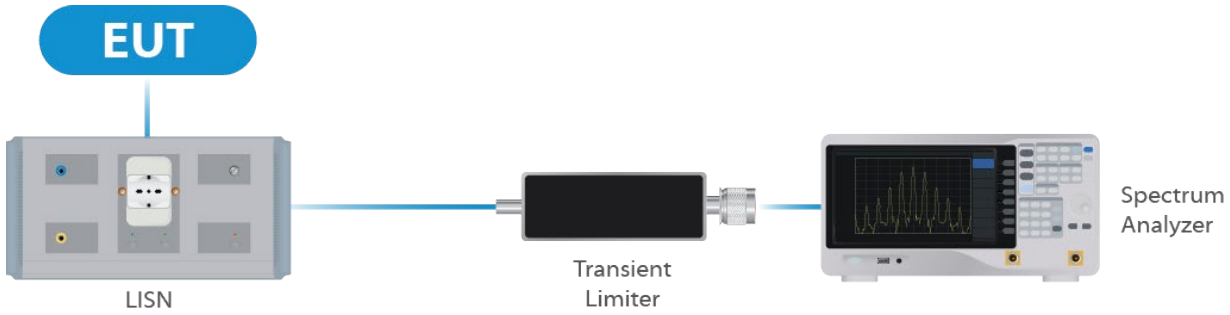


Figure 1: Conducted Emissions Test

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	1/16/2025	1/16/2026
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
Test Software	R&S	EMC32	UCL-9442	-	-

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

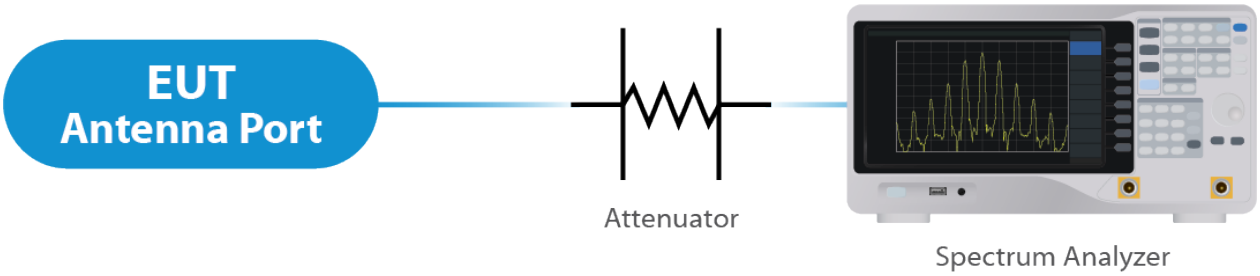


Figure 2: Direct Connect at the Antenna Port Test

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	12/27/2024	12/27/2025
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	3/22/2025
Double Ridge Horn Antenna	Scwarzbeck	BBHA 9120D	UCL-3065	3/10/2023	3/10/2025
Log Periodic	Scwarzbeck	STLP 9129	UCL-3068	2/11/2025	2/4/2027
10 - 40 GHz Horn Antenna	ETS-Lindgren	3116C	UCL-7209	6/6/2024	6/6/2026
1 – 18 GHz Amplifier	Com-Power	PAM 118A	UCL-3833	7/2/2024	7/2/2025
Test Software	Nexio	BatEMC	UCL-5253 & UCL-5249	N/A	N/A

Table 3: List of equipment used for Radiated Emissions

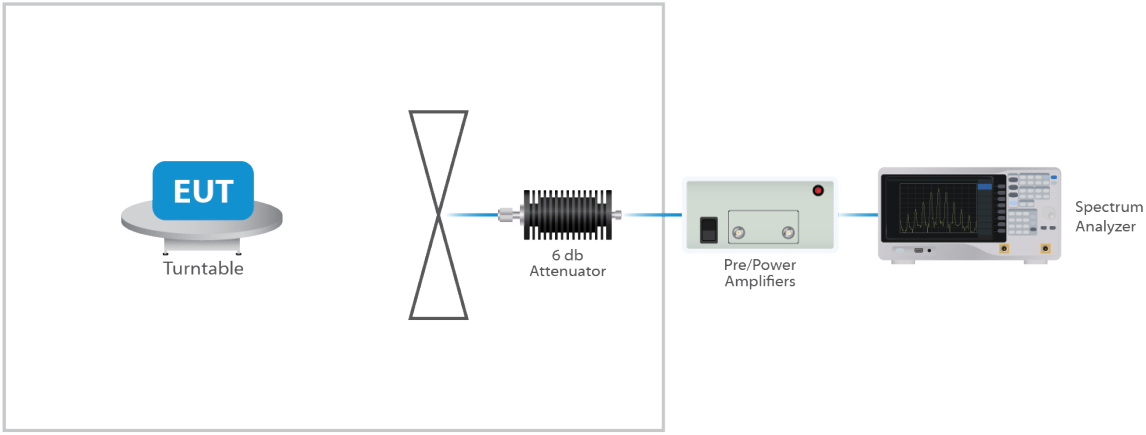


Figure 3: Radiated Emissions Test

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 (± dB)	Confidence (%)
Conducted Emissions	1.44	95
Radiated Emissions (9 kHz to 30 MHz)	2.50	95
Radiated Emissions (30 MHz to 1 GHz)	4.38	95
Radiated Emissions (1 GHz to 18 GHz)	4.37	95
Radiated Emissions (18 GHz to 40 GHz)	3.93	95
Direct Connect Tests	**K Factor**	**Value**
Emissions Bandwidth	2	2.0%
Output Power	2	1.0 dB
Peak Power Spectral Density	2	1.3 dB
Band Edge	2	0.8 dB
Transmitter Spurious Emissions	2	1.8 dB

5 Test Results

5.1 §15.203 Antenna Requirements

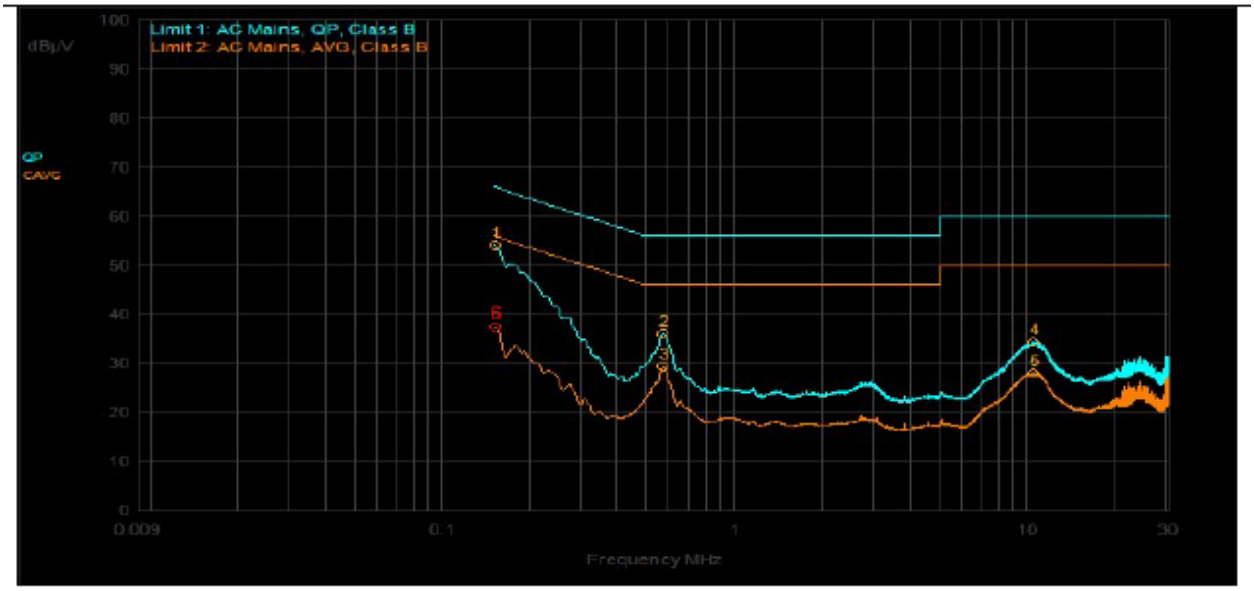
The EUT uses an integrated internal antenna. Per the manufacturer, the Maximum gain of the antenna per chain is 4 dBi. This is an 802.11 device and utilizes CDD as described in KDB 662911 D01. The antenna is not user replaceable.

See Section 2.2 for directional gain calculation.

Results

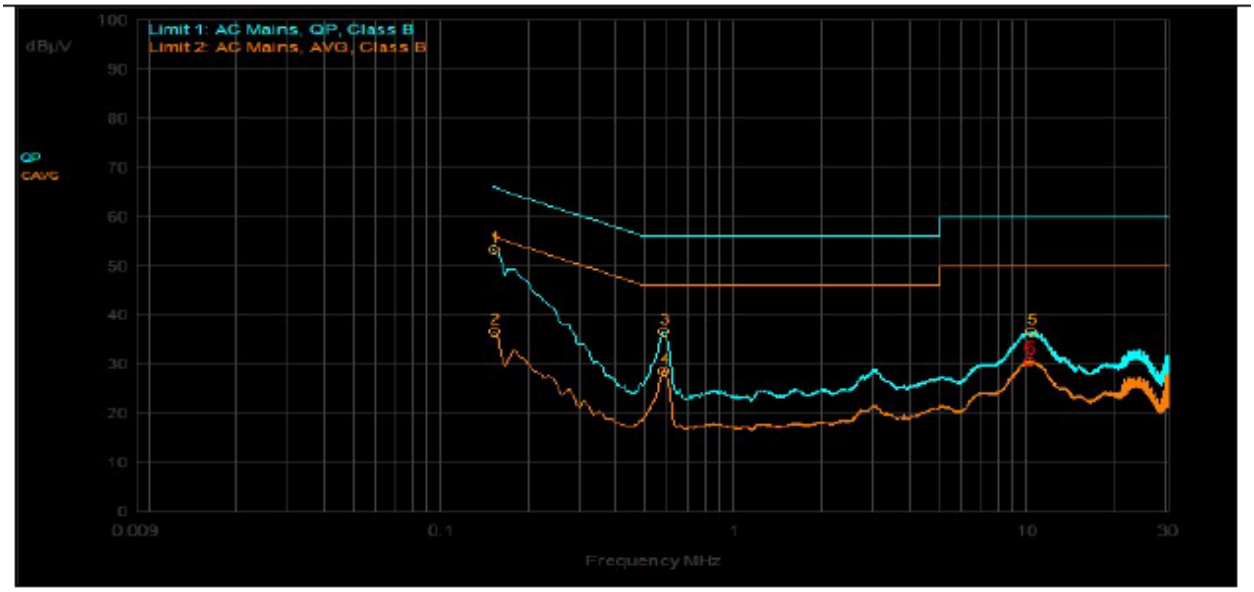
The EUT complied with the specification

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	150,000kHz	12.38	0.00		QPeak	41.75	54.13	66.00	-11.87			
2	561,000kHz	12.37	0.00		QPeak	23.65	36.02	56.00	-19.98			
4	10.266	12.19	0.00		QPeak	22.26	34.45	60.00	-25.55			
3	564,000kHz	12.37	0.00		C_AVG	16.98	29.35			46.00	-16.65	
5	10.257	12.19	0.00		C_AVG	15.76	27.95			50.00	-22.05	
6	150,000kHz	12.38	0.00		C_AVG	25.22	37.60			56.00	-18.40	

Graph 1: Conducted Emissions Plot - Neutral



ID	Frequency	Probe	Cable	Atten.	Detector	Meter Read	Meas Level	Limit 1	Limit 1 Dist.	Limit 2	Limit 2 Dist.	P/F
MU	MHz	dB	dB	dB	Type	dBµV	dBµV	dBµV	dB	dBµV	dB	P/F
1	150,000kHz	12.41	0.00		QPeak	40.91	53.32	66.00	-12.68			
3	573,000kHz	12.36	0.00		QPeak	24.40	36.76	56.00	-19.24			
5	10.185	12.23	0.00		QPeak	24.47	36.70	60.00	-23.30			
2	150,000kHz	12.41	0.00		C_AVG	24.34	36.75			56.00	-19.25	
4	573,000kHz	12.36	0.00		C_AVG	16.34	28.70			46.00	-17.30	
6	10.068	12.22	0.00		C_AVG	18.41	30.63			50.00	-19.37	

Graph 2: Conducted Emissions Plot – Line 1

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 662911 D01. Please see associated annex for details on instrument settings.

Mode	Frequency (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth (MHz)
b	2412	12.8	7.2
	2437	13.3	8.2
	2462	12.8	8.2
g	2412	16.8	16.5
	2437	17.8	16.5
	2462	16.8	16.4
n 20	2412	17.8	17.7
	2437	17.8	15.8
	2462	17.8	17.7
n 40	2422	36.5	30.2
	2437	36.5	35.7
	2452	36.5	32.0
ax 20	2412	19.0	18.0
	2437	19.3	18.2
	2462	19.3	16.0
ax 40	2422	38.0	34.7
	2437	38.5	35.2
	2452	37.5	37.1

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 662911 D01. Please see associated annex for details on instrument settings.

See Section 2.2 for directional gain calculation.

The maximum average RF conducted output power measured for this device was 25.84 dBm or 383.71 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 dBi.

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Total Summed Output Power * (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dBm)
b 20	2412	Mcs0_Nss2	20.5	24.41	4	28.41	36	-7.59
	2417	Mcs0_Nss2	20	24.07	4	28.07	36	-7.93
	2422	Mcs0_Nss2	21	25.44	4	29.44	36	-6.56
	2427	Mcs0_Nss2	21	25.44	4	29.44	36	-6.56
	2432	Mcs0_Nss2	21	24.82	4	28.82	36	-7.18
	2437	Mcs0_Nss2	21.5	25.84	4	29.84	36	-6.16
	2442	Mcs0_Nss2	21.5	25.73	4	29.73	36	-6.27
	2447	Mcs0_Nss2	21	25.40	4	29.40	36	-6.60
	2452	Mcs0_Nss2	20.5	25.22	4	29.22	36	-6.78
	2457	Mcs0_Nss2	20.5	25.32	4	29.32	36	-6.68
	2462	Mcs0_Nss2	18.5	23.92	4	27.92	36	-8.08
g 20	2412	Mcs0_Nss2	15.5	18.96	4	22.96	36	-13.04
	2417	Mcs0_Nss2	16.5	19.94	4	23.94	36	-12.06
	2422	Mcs0_Nss2	17.5	20.92	4	24.92	36	-11.08
	2427	Mcs0_Nss2	18	21.44	4	25.44	36	-10.56
	2432	Mcs0_Nss2	19	21.92	4	25.92	36	-10.08
	2437	Mcs0_Nss2	20	24.22	4	28.22	36	-7.78
	2442	Mcs0_Nss2	19.5	23.81	4	27.81	36	-8.18
	2447	Mcs0_Nss2	19	23.42	4	27.42	36	-8.58
	2452	Mcs0_Nss2	18	22.49	4	26.49	36	-9.51
	2457	Mcs0_Nss2	17.5	21.99	4	25.99	36	-10.01
	2462	Mcs0_Nss2	16.5	21.04	4	25.04	36	-10.96
n 20	2412	Mcs0_Nss2	15.5	18.92	4	22.92	36	-13.08
	2417	Mcs0_Nss2	16.5	19.83	4	23.83	36	-12.17

	2422	Mcs0_Nss2	17	20.36	4	24.36	36	-11.64
	2427	Mcs0_Nss2	18	21.33	4	25.33	36	-10.67
	2432	Mcs0_Nss2	18.5	21.90	4	25.90	36	10.10
	2437	Mcs0_Nss2	19	23.42	4	27.42	36	-8.58
	2442	Mcs0_Nss2	19.5	23.74	4	27.74	36	-8.26
	2447	Mcs0_Nss2	18.5	22.94	4	26.94	36	-9.06
	2452	Mcs0_Nss2	18	22.39	4	26.39	36	-9.61
	2457	Mcs0_Nss2	17	21.46	4	25.46	36	-10.54
	2462	Mcs0_Nss2	16	20.47	4	24.47	36	-11.53
n 40	2422	Mcs0_Nss2	16	18.64	4	22.64	36	-13.36
	2437	Mcs0_Nss2	17	20.80	4	24.80	36	-11.20
	2452	Mcs0_Nss2	16	19.76	4	23.76	36	-12.24
ax 20	2412	Mcs0_Nss2	15	18.61	4	22.61	36	-13.39
	2417	Mcs0_Nss2	16	19.55	4	23.55	36	-12.45
	2422	Mcs0_Nss2	16.5	20.03	4	24.03	36	-11.97
	2427	Mcs0_Nss2	17.5	21.05	4	25.05	36	-10.95
	2432	Mcs0_Nss2	18	21.55	4	25.55	36	-10.45
	2437	Mcs0_Nss2	18.5	23.11	4	27.11	36	-8-89
	2442	Mcs0_Nss2	18.5	23.13	4	27.13	36	-8.87
	2447	Mcs0_Nss2	18.5	23.08	4	27.08	36	-9.92
	2452	Mcs0_Nss2	17.5	22.11	4	26.11	36	-9.89
	2457	Mcs0_Nss2	17	21.62	4	25.62	36	-10.38
	2462	Mcs0_Nss2	16	20.65	4	24.65	36	-11.35
ax 40	2422	Mcs0_Nss2	15.5	18.36	4	22.36	36	-13.64
	2437	Mcs0_Nss2	16.5	20.56	4	24.56	36	-11.44
	2452	Mcs0_Nss2	15.5	19.47	4	23.47	36	-12.53

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 bans 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 (dBi) + Cable Loss (dB) - Pre-Amplifier Gain (dB), and is added to the Receiver reading.

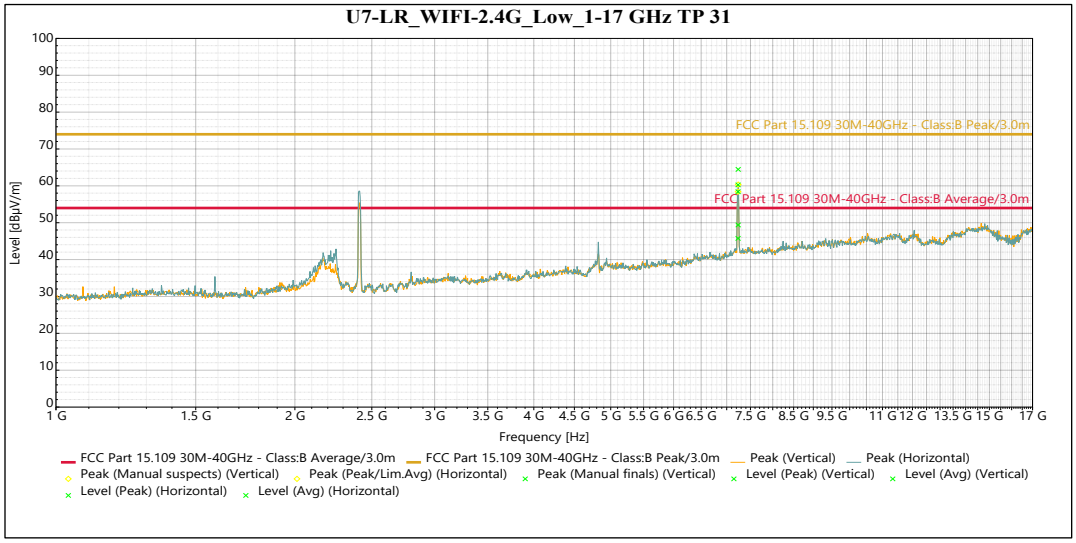
Result

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

QuasiPeak

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin	Azimuth (°)	Height	Pol.	Correction (dB)
35.26 MHz	34.55	40	-5.45	258	1.2	Vertical	-14.58
42.34 MHz	36.66	40	-3.34	268	1.2	Vertical	-18.41
707.94 MHz	25.82	47	-21.18	242	1	Vertical	-2.89
891.10 MHz	43.02	47	-3.98	105	3.51	Vertical	-1.73
914.98 MHz	25.26	47	-21.74	80	4	Vertical	-0.53
958.26 MHz	23.93	47	-23.07	146	1.49	Vertical	-0.29
152.24 MHz	33.84	40	-6.17	311	1.49	Horizontal	-16.48

Table 4: Radiated Emissions 30 – 1000 MHz



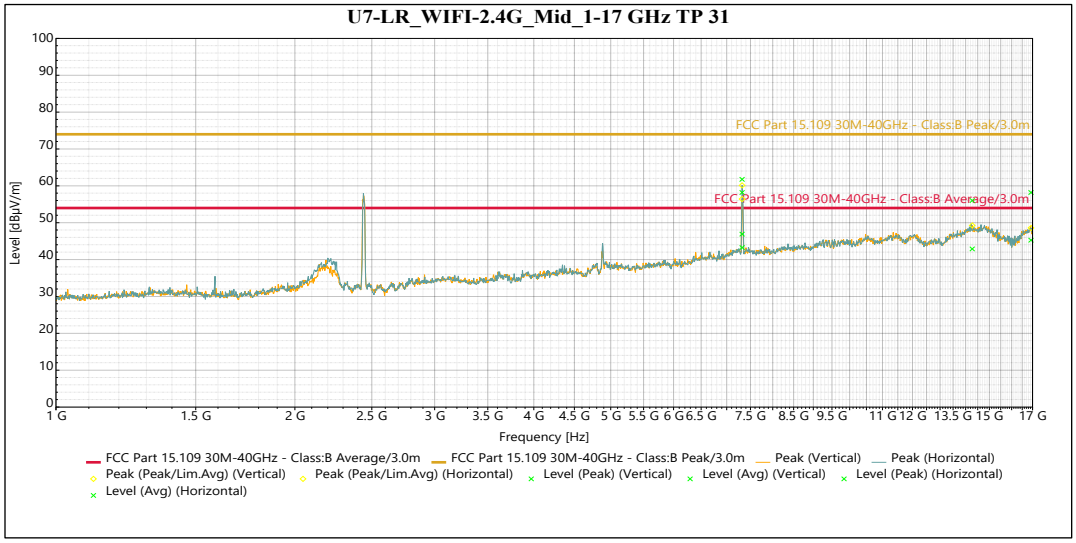
Peak

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
7.24 GHz	60.28	74.0	-13.72	33	3.80	Vertical	6.85
7.24 GHz	64.47	74.0	-9.53	69	1.84	Horizontal	6.84

Avg

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
7.24 GHz	45.76	54.0	-8.24	33	3.80	Vertical	6.85
7.24 GHz	49.40	54.0	-4.60	69	1.84	Horizontal	6.84

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



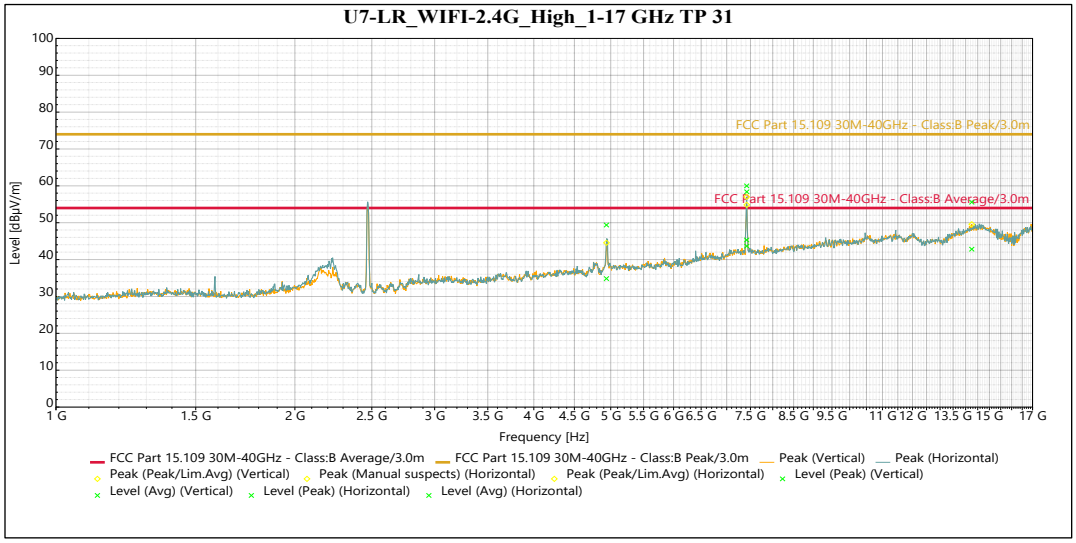
Peak

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
7.32 GHz	58.21	74.0	-15.79	33	3.307	Vertical	6.81
14.27 GHz	56.03	74.0	-17.97	133	3.798	Vertical	14.93
7.32 GHz	61.77	74.0	-12.23	70	2.227	Horizontal	6.81
16.93 GHz	58.20	74.0	-15.80	268	1.643	Horizontal	18.48

Avg

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
7.32 GHz	43.26	54.0	-10.74	33	3.307	Vertical	6.81
14.27 GHz	42.90	54.0	-11.10	133	3.798	Vertical	14.93
7.32 GHz	46.92	54.0	-7.08	70	2.227	Horizontal	6.81
16.93 GHz	45.27	54.0	-8.73	268	1.643	Horizontal	18.48

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



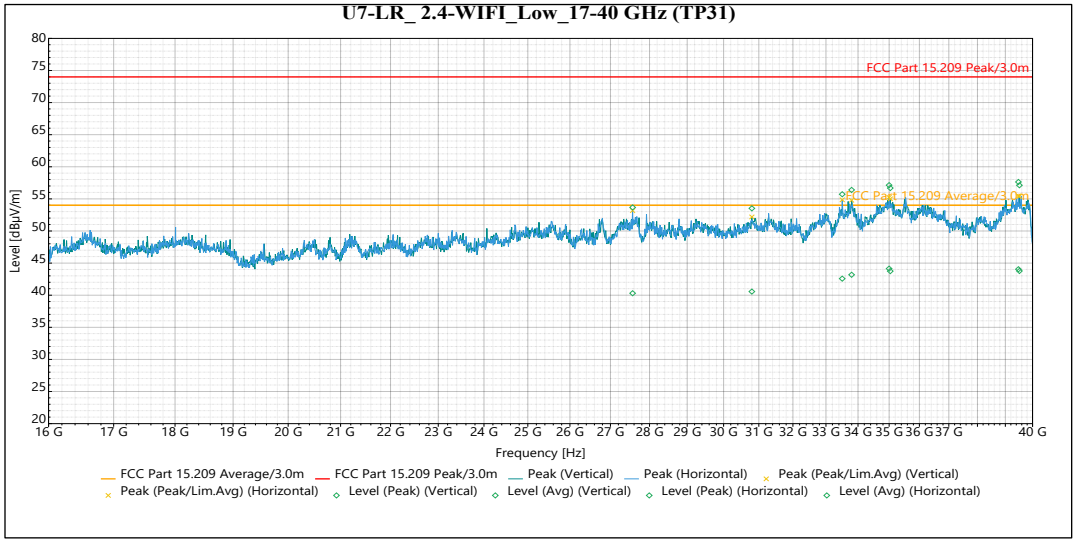
Peak

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
7.42 GHz	58.40	74.0	-15.60	39	1.5	Vertical	7.05
14.25 GHz	55.58	74.0	-18.42	1	3.656	Vertical	14.90
4.94 GHz	49.38	74.0	-24.62	76	1.834	Horizontal	0.09
7.42 GHz	60.00	74.0	-14.00	47	1.638	Horizontal	7.04

Avg

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
7.42 GHz	43.67	54.0	-10.33	39	1.5	Vertical	7.05
14.25 GHz	42.83	54.0	-11.17	1	3.656	Vertical	14.90
4.94 GHz	34.85	54.0	-19.15	76	1.834	Horizontal	0.09
7.42 GHz	45.33	54.0	-8.67	47	1.638	Horizontal	7.04

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



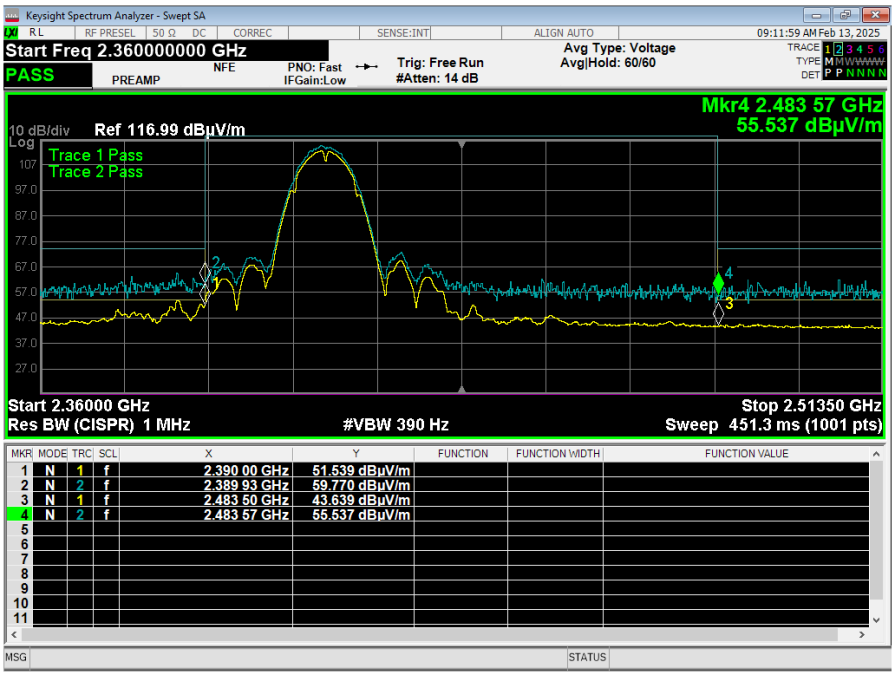
Peak

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
30.80 GHz	53.53	74.0	-20.47	264	Vertical	1.078
33.80 GHz	56.40	74.0	-17.60	1	Vertical	4.132
35.04 GHz	56.69	74.0	-17.31	107	Vertical	4.913
39.51 GHz	57.13	74.0	-16.87	76	Vertical	3.4
27.56 GHz	53.68	74.0	-20.32	351	Horizontal	1.795
33.50 GHz	55.73	74.0	-18.27	229	Horizontal	3.53
35.00 GHz	57.14	74.0	-16.86	173	Horizontal	5.119
39.48 GHz	57.64	74.0	-16.36	108	Horizontal	3.414

Avg

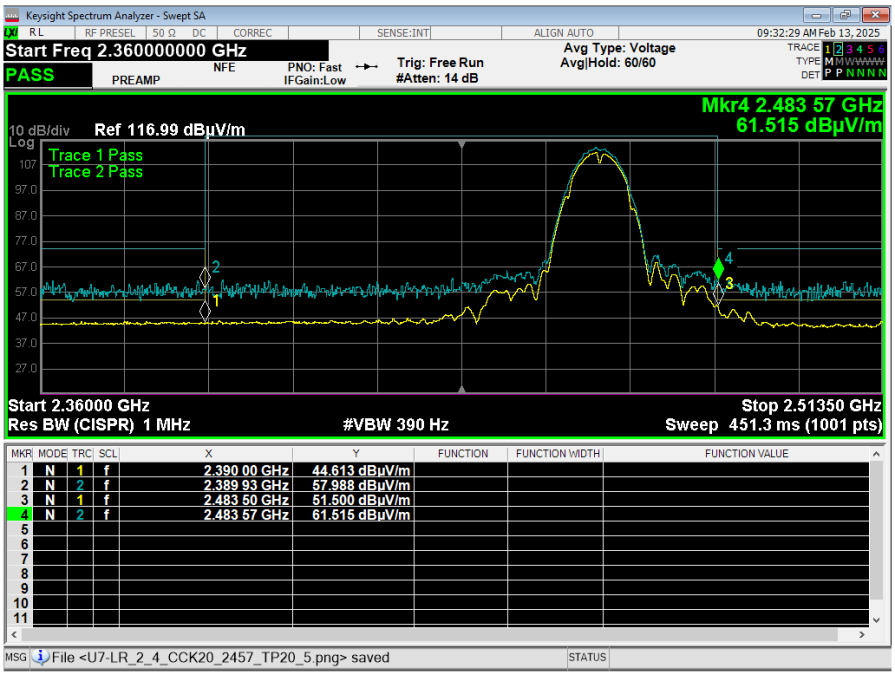
Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
30.80 GHz	40.57	54.0	-13.43	264	Vertical	1.078
33.80 GHz	43.19	54.0	-10.81	1	Vertical	4.132
35.04 GHz	43.75	54.0	-10.25	107	Vertical	4.913
39.51 GHz	43.78	54.0	-10.22	76	Vertical	3.4
27.56 GHz	40.31	54.0	-13.69	351	Horizontal	1.795
33.50 GHz	42.58	54.0	-11.42	229	Horizontal	3.53
35.00 GHz	44.14	54.0	-9.86	173	Horizontal	5.119
39.48 GHz	44.05	54.0	-9.95	108	Horizontal	3.414

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

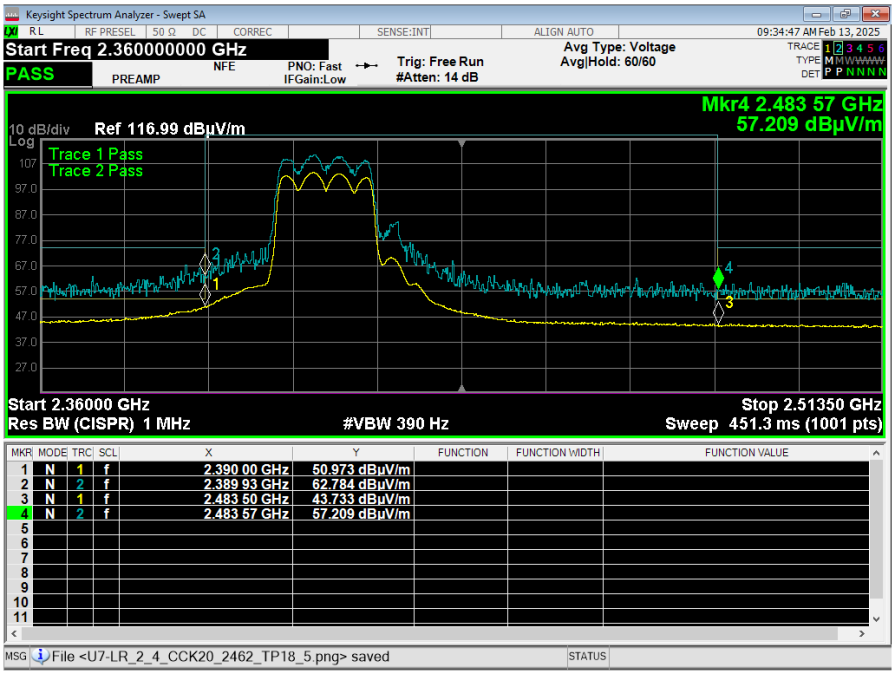


Graph 3: Lower Band Edge Plot – 2412 MHz – b Mode

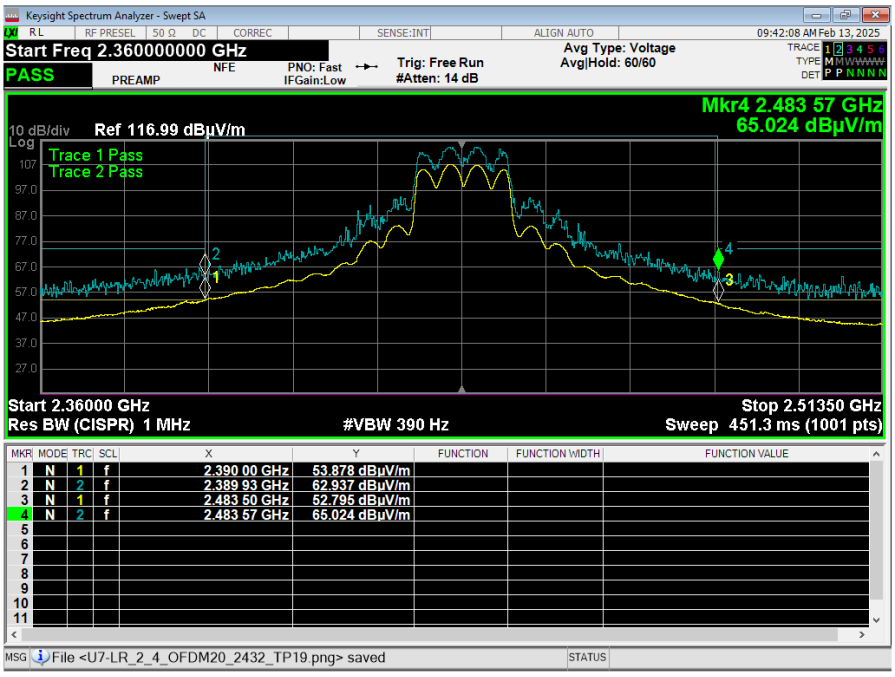
Graph 4: Middle Band Edge Plot – 2437 MHz – b Mode



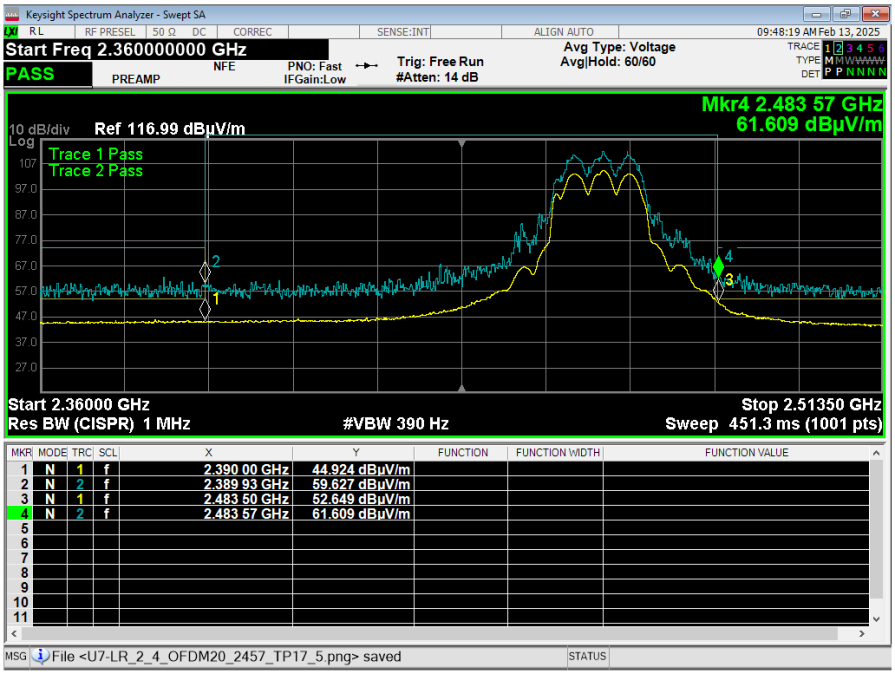
Graph 5: Upper Band Edge Plot – 2462 MHz – b Mode



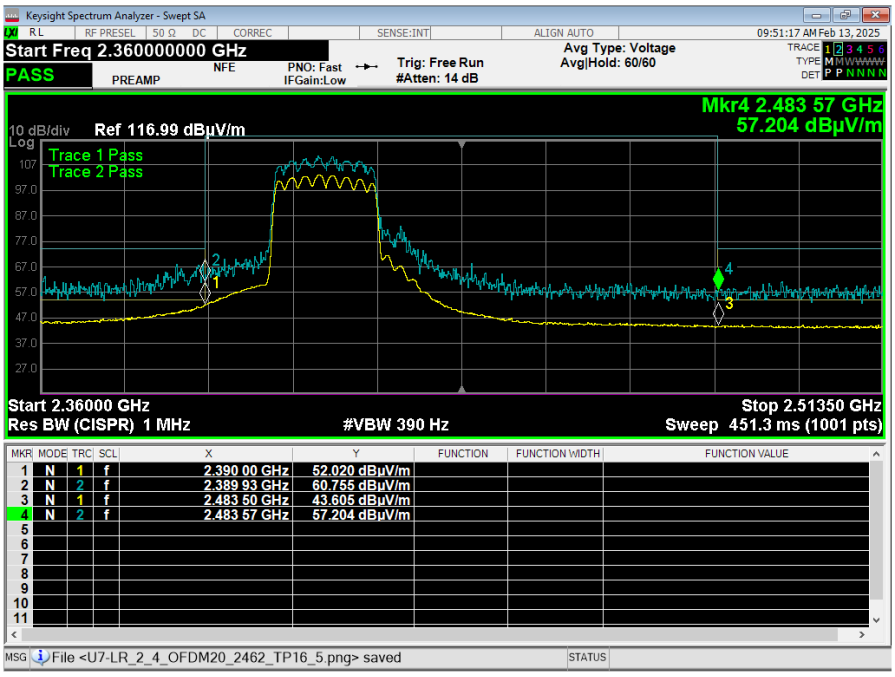
Graph 6: Lower Band Edge Plot – 2412 MHz – g Mode



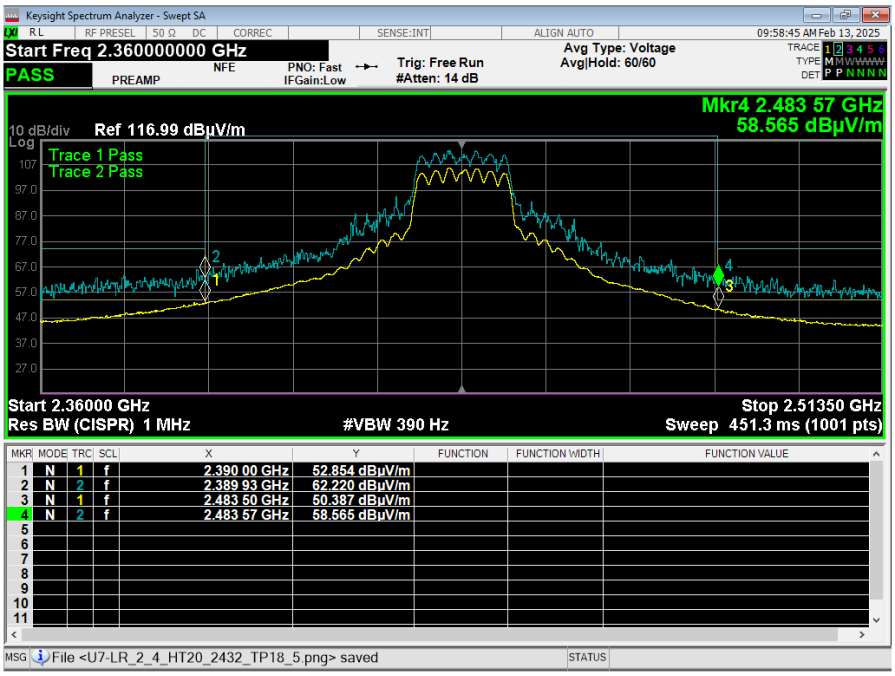
Graph 7: Middle Band Edge Plot – 2437 MHz – g Mode



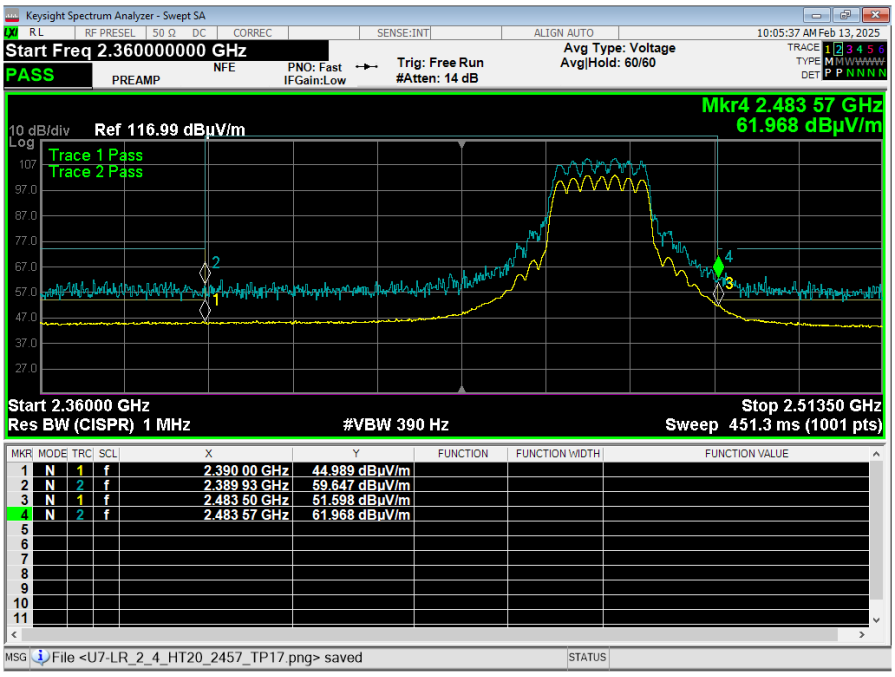
Graph 8: Upper Band Edge Plot – 2462 MHz – g Mode



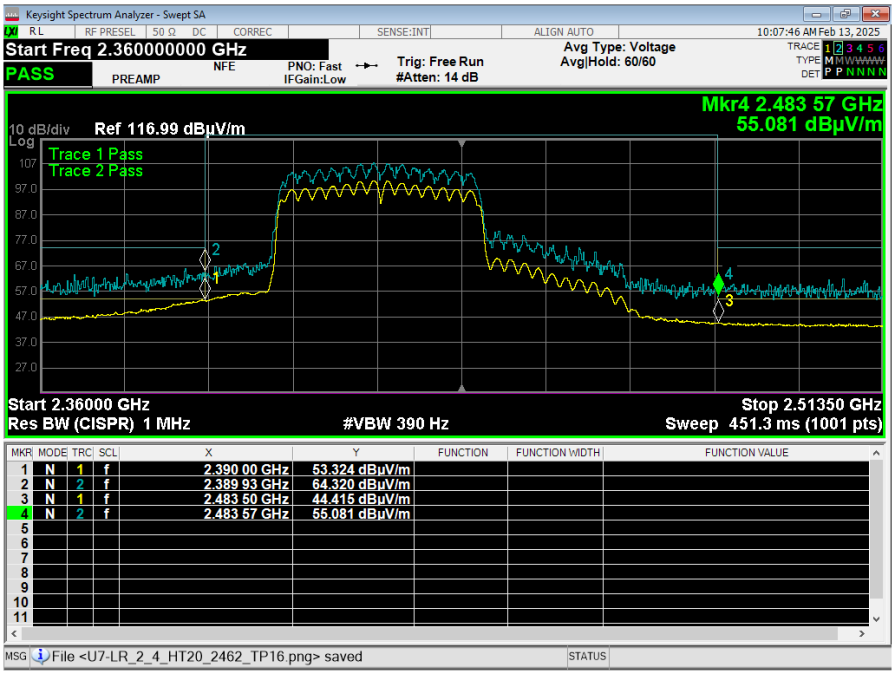
Graph 9: Lower Band Edge Plot – 2412 MHz – n20 Mode



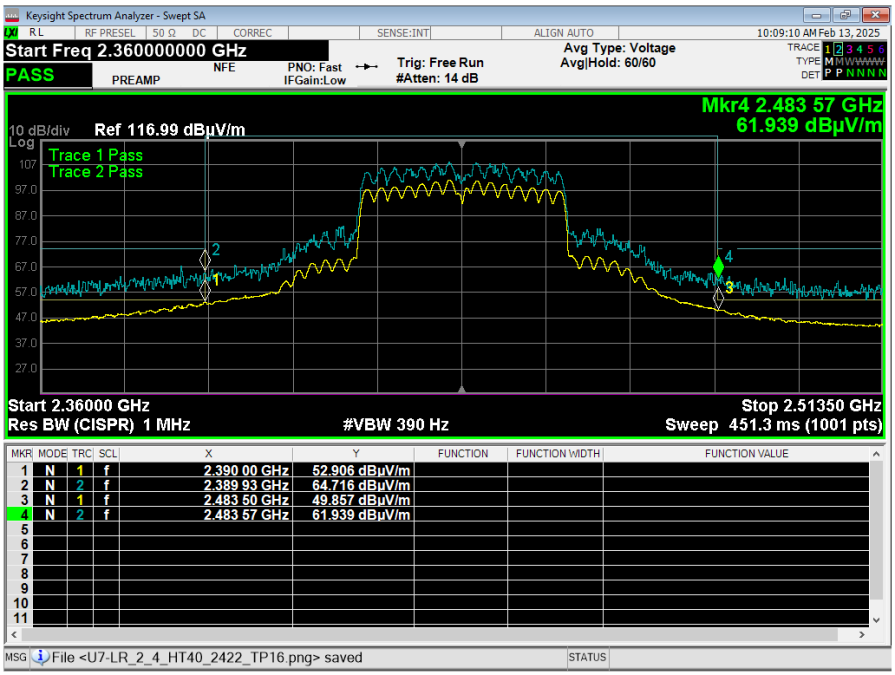
Graph 10: Middle Band Edge Plot – 2437 MHz – n20 Mode



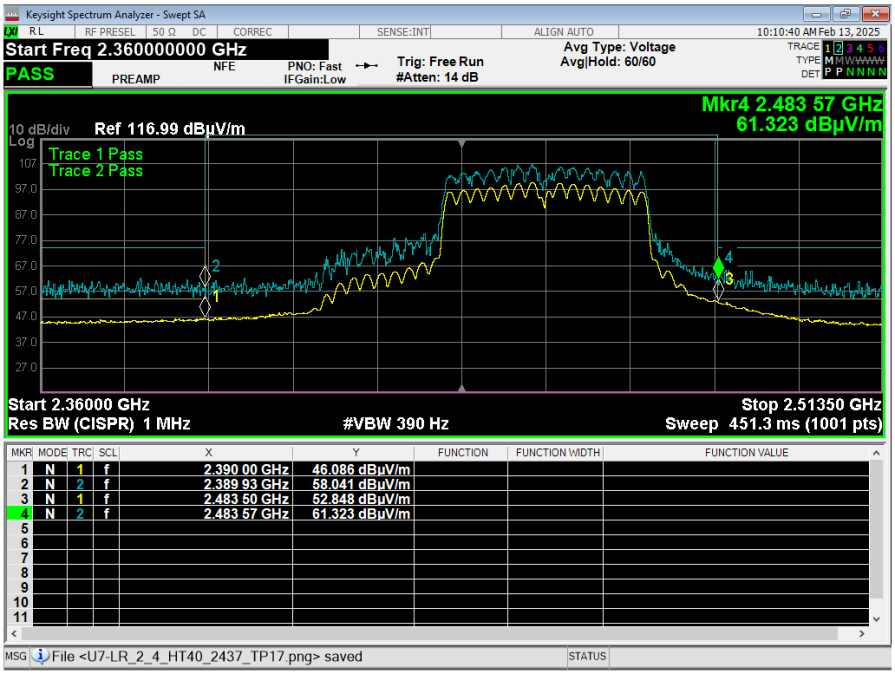
Graph 11: Upper Band Edge Plot – 2462 MHz – n20 Mode



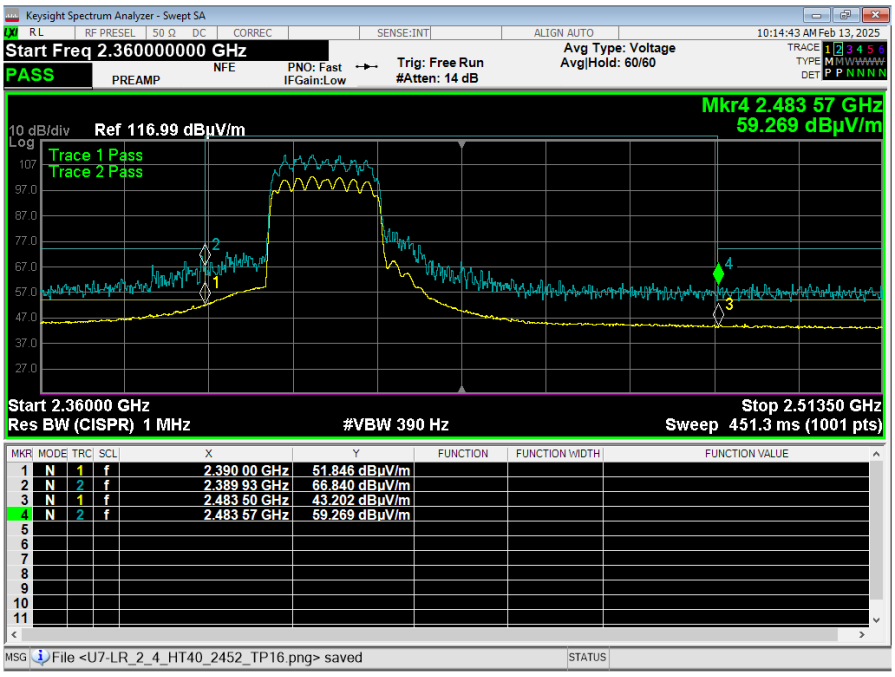
Graph 12: Lower Band Edge Plot – 2422 MHz – n40 Mode



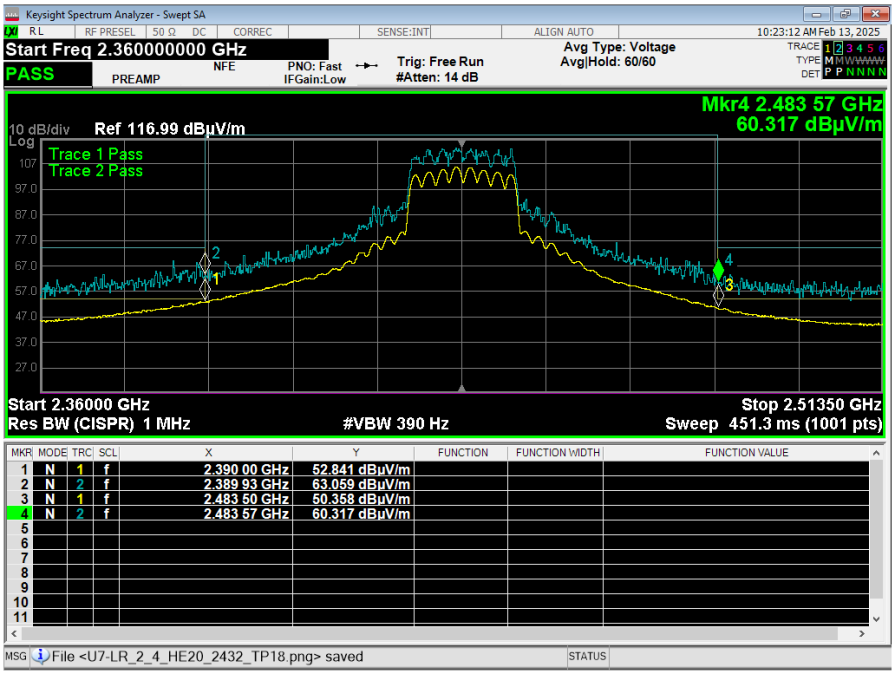
Graph 13: Middle Band Edge Plot – 2437 MHz – n40 Mode



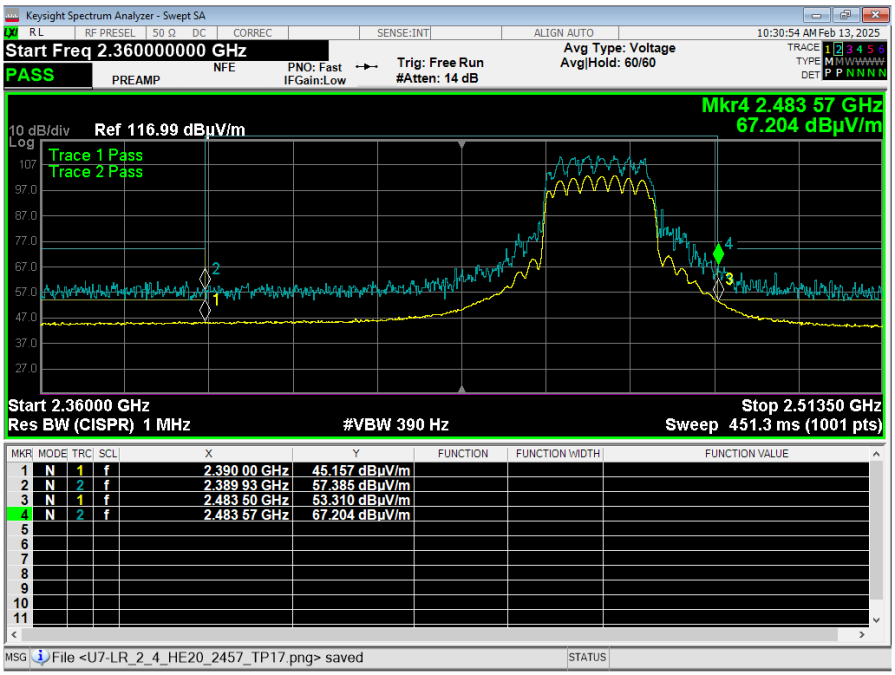
Graph 14: Upper Band Edge Plot – 2452 MHz – n40 Mode



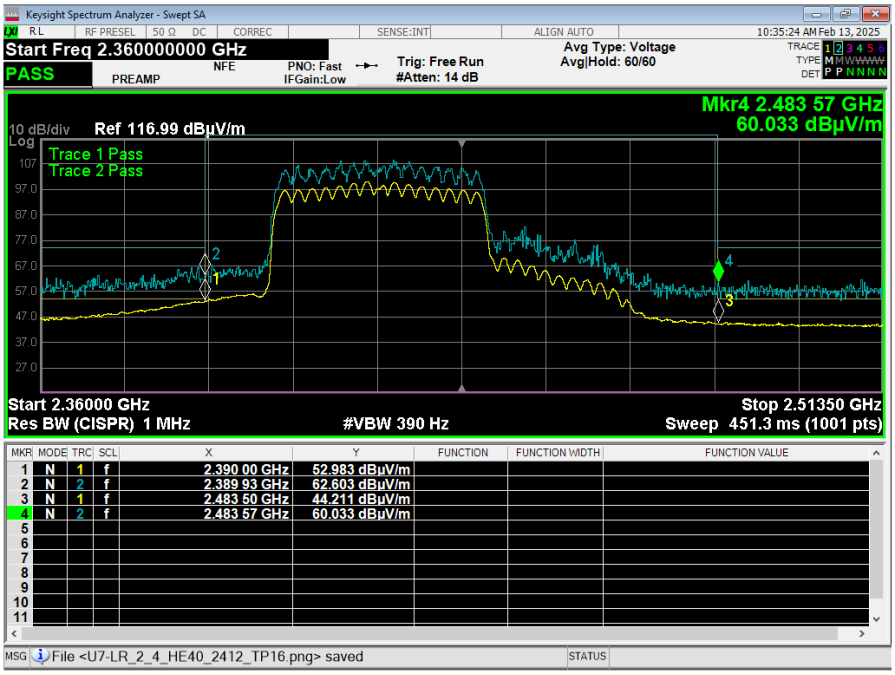
Graph 15: Lower Band Edge Plot – 2412 MHz – ax20 Mode



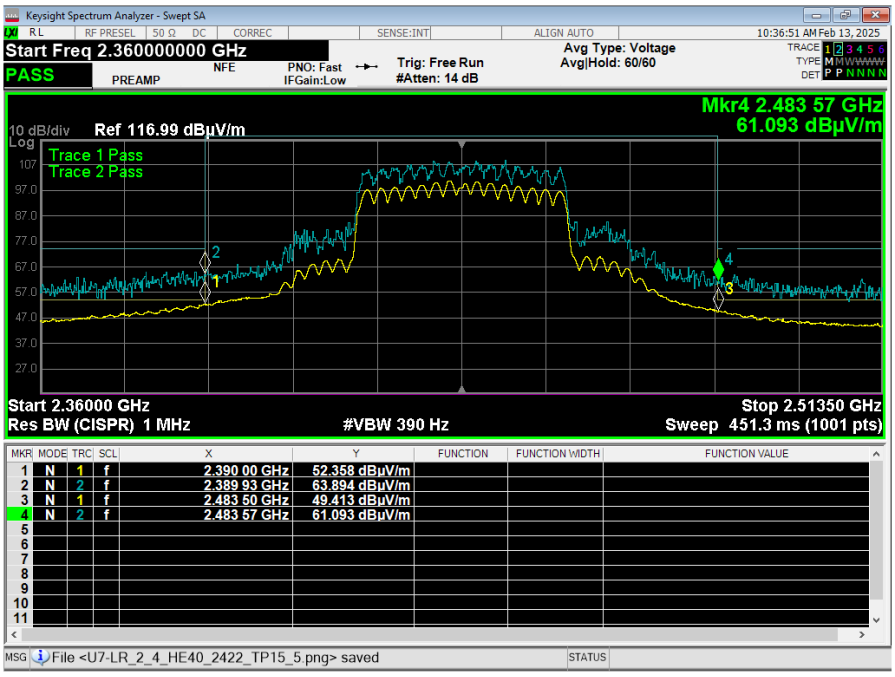
Graph 16: Middle Band Edge Plot – 2437 MHz – ax20 Mode



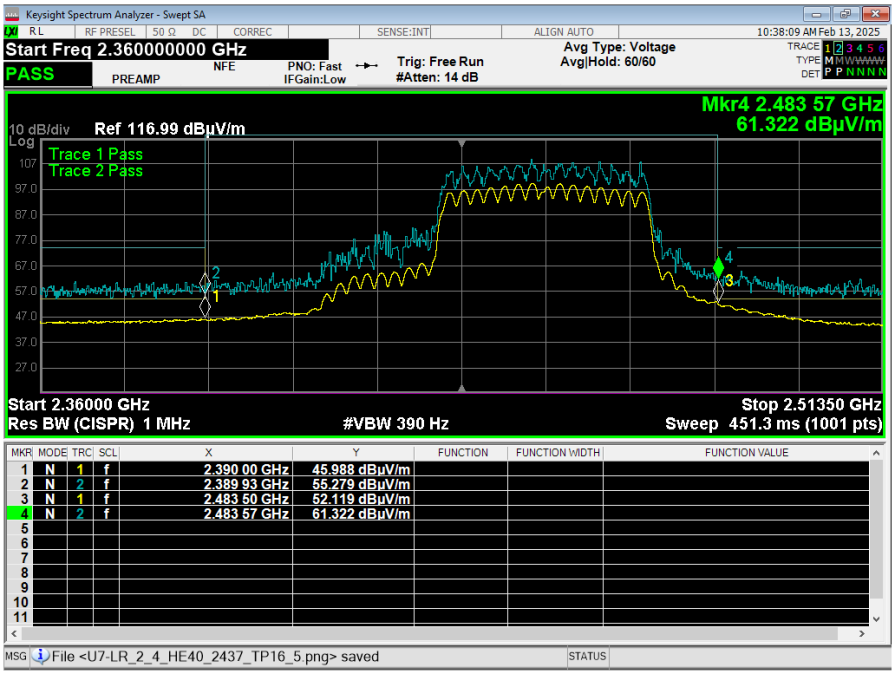
Graph 17: Upper Band Edge Plot – 2462 MHz – ax20 Mode



Graph 18: Lower Band Edge Plot – 2422 MHz – ax40 Mode



Graph 19: Middle Band Edge Plot – 2437 MHz – ax40 Mode



Graph 20: Upper Band Edge Plot – 2452 MHz – ax40 Mode

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 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 8 dBm in any 3 kHz band during any time interval of continuous transmission.

See Section 2.2 for directional gain calculation.

Mode	Frequency (MHz)	Data Rate	TP Setting	Total Sum PSD EIRP (dBm)	Antenna Gain (dBi)	Limit (dBm)	Margin (dBm)
b	2412	Msc0_Nss2	20.5	-7.14	4	8	-15.14
	2437	Msc0_Nss2	21.5	-5.08	4	8	-13.08
	2462	Msc0_Nss2	18.5	-7.86	4	8	-15.86
g	2412	Msc0_Nss2	15.5	-16.21	4	8	-24.21
	2437	Msc0_Nss2	20	-10.69	4	8	-18.68
	2462	Msc0_Nss2	16.5	-13.84	4	8	-21.84
n 20	2412	Msc0_Nss2	15.5	-16.32	4	8	-24.32
	2437	Msc0_Nss2	19	-11.51	4	8	-19.51
	2462	Msc0_Nss2	16	-14.78	4	8	-22.78
n 40	2422	Msc0_Nss2	16	-18.88	4	8	-26.88
	2437	Msc0_Nss2	17	-16.67	4	8	-24.67
	2452	Msc0_Nss2	16	-18.03	4	8	-26.03
ax 20	2412	Msc0_Nss2	15	-13.94	4	8	-21.94
	2437	Msc0_Nss2	18.5	-10.72	4	8	-18.72
	2462	Msc0_Nss2	16	-13.61	4	8	-21.61
ax 40	2422	Msc0_Nss2	15.5	-18.62	4	8	-26.62
	2437	Msc0_Nss2	16.5	-16.02	4	8	-24.02
	2452	Msc0_Nss2	15.5	-17.46	4	8	-25.46

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 --