



427 West 12800 South
Draper, UT 84020

Test Report Certification

FCC ID	SWX-U7ID
IC ID	6545A-U7ID
Equipment Under Test	U7-Industrial
Test Report Serial Number	TR10940_02
Date of Test(s)	13 - 15, 18 - 22, 26 May; 2 - 4 June; 14, 24, 26, 31 July 2026
Report Issue Date	20 August 2026

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



NVLAP LAB CODE 600241-0

Certification of Engineering Report

This report has been prepared by Unified Compliance Laboratory (UCL) to document compliance of the device described below with the requirement of Federal Communication Commissions (FCC) Part 15, Subpart 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-Industrial
FCC ID	SWX-U7ID
IC ID	6545A-U7ID

On this 20th day of August 2026, I individually and for Unified Compliance Laboratory certify that the statements made in this engineering report are true, complete, and correct to the best of my knowledge and are made in good faith. Unified Compliance laboratory is not responsible for incorrect information provided by the manufacturer.

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

Unified Compliance Laboratory


Written By: Joseph W. Jackson
Reviewed By: Kimberly DeBole

Revision History		
Revision	Description	Date
01	Original Report Release	8/20/2026
02	Revised PSD tables in Section 5.6 for the higher gain antennas	8/25/2026

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1 Client Information

1.1 Applicant

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

1.2 Manufacturer

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

2 Equipment Under Test (EUT)

2.1 Identification of EUT

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

2.2 Description of EUT

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

This device does not support channel puncturing.

For CDD transmission, direction gain is calculated as follows.

Array Gain = $10 \log(\text{NANT}/\text{NSS})$ dB

NANT = number of transmit antennas and NSS = number of spatial streams. NSS = 1 considered worst case. For power measurements on IEEE 802.11 devices, Array Gain = 0 dB for $\text{NANT} \leq 4$;

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

For PSD measurements when $\text{Nss}=1$: Array Gain = $10 \log(\text{NANT}/\text{NSS})$ dB + Antenna Gain (dBi). Or $3.01 \text{ dB} + 8 \text{ dBi} = 11.01 \text{ dBi}$ for the internal Patch antenna.

For PSD measurements when $\text{Nss}=1$: Array Gain = $10 \log(\text{NANT}/\text{NSS})$ dB + Antenna Gain (dBi). Or $3.01 \text{ dB} + 5 \text{ dBi} = 8.01 \text{ dBi}$ for the external Dipole antenna.

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-Industrial SN: B02601	Wireless Access Point	See Section 2.4
BN: UBIQUITI MN: U-POE+ SN: N/A	PoE Injector	PoE Output / Shielded Cat 5E/ unshielded Cat 5E to AE
BN: Dell MN: XPS 13 SN: N/A	Laptop Personal Computer (For Testing Only)	LAN Port / Un-shielded Cat 5e cable (Note 2)

Notes: (1) EUT

(2) Interface port connected to EUT (See Section 2.4)

The support equipment listed above was not modified to achieve compliance with this standard.

2.4 Interface Ports on EUT

Name of Ports	No. of Ports Fitted to EUT	Cable Description/Length
PoE Input	1	3m Unshielded Cat 5E
PoE Output (PoE Injector)	1	3m Unshielded Cat 5E to U7- Pro-XG-Wall PoE Input
LAN (PoE Injector)	1	1m unshielded Cat 5E to Laptop PC
AC (PoE Injector)	1	3 Conductor power cord to AC mains/80cm

2.5 Operating Environment

Power Supply	120 Vac to PoE Power
AC Mains Frequency	60 Hz
Temperature	21.3 - 22.9 °C
Humidity	23.8 - 30.3 %
Barometric Pressure	1015 mBar

2.6 Operating Modes

The U7-Industrial was connected to a personal computer laptop and tested using test software in order to enable to constant duty cycle of the WiFi transceiver. All emission modes of 802.11 b/g/n/be were investigated. All measurements are reported with the worst-case mode (802.11be maximum conducted output power and maximum power spectral density) unless otherwise stated.

2.7 EUT Exercise Software

EUT firmware version 1.0 was used to operate the transmitter using a constant transmit mode.

2.8 Block Diagram of Test Configuration

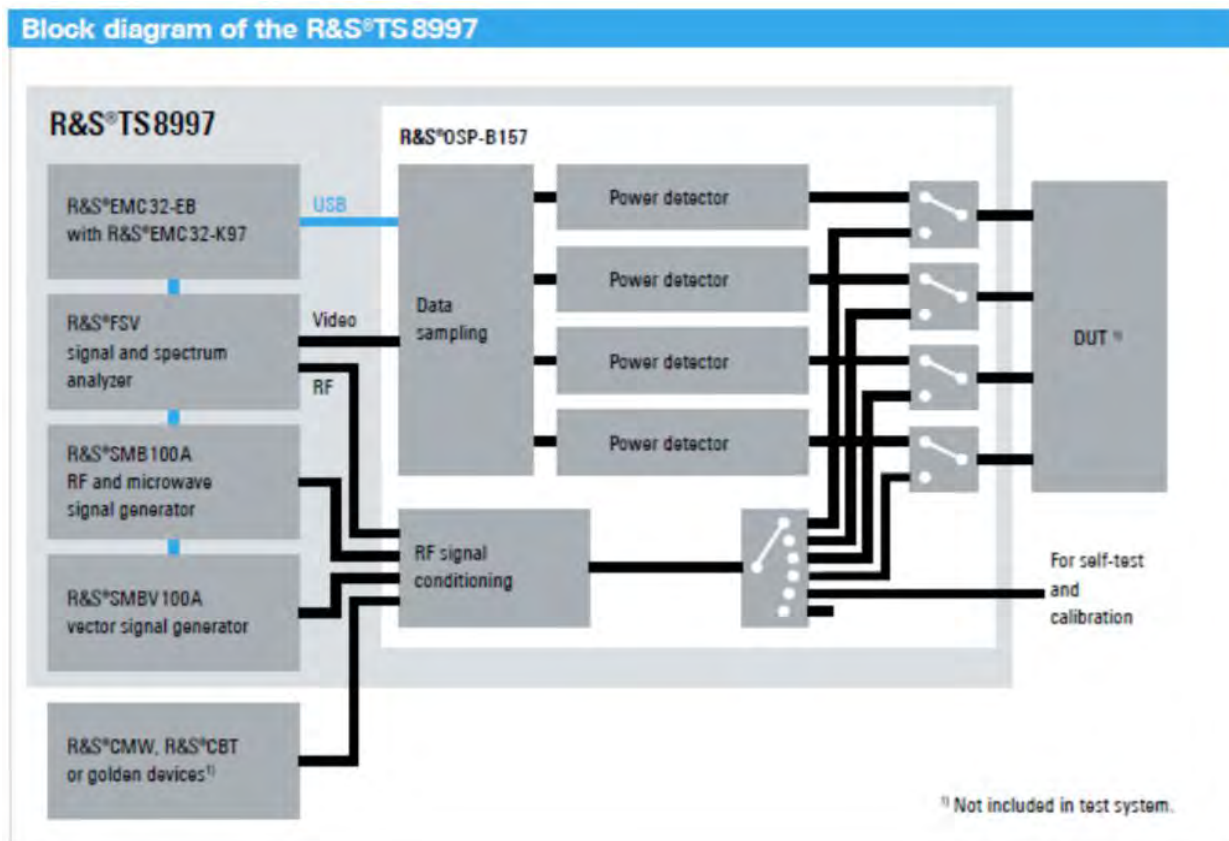


Diagram 1: Test Configuration Block Diagram

2.9 Modification Incorporated/Special Accessories on EUT

There were no modifications made to the EUT during testing to comply with the specification.

2.10 Deviation, Opinions Additional Information or Interpretations from Test Standard

There were no deviations, opinions, additional information or interpretations from the test specification.

3 Test Specification, Method and Procedures

3.1 Test Specification

Title	47 CFR FCC Part 15, Subpart 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 26000	N/A
15.247(d)	RSS-247 § 5.4	Radiated Spurious Emissions	0.009 to 26000	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 C63.10-2020+Cor.1-2023+C63.10a-2024+Errata to C63.10a-2024, KDB 558074 and 47 CFR Part 15. Where applicable, KDB 662911 was followed to sum required measurements.				

3.4 Results

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

3.5 Test Location

Testing was performed at the Unified Compliance Laboratory 3-Meter and 10-Meter chambers located at 427 West 12800 South, Draper, UT 84020. Unified Compliance Laboratory is accredited by National Voluntary Laboratory Accreditation Program (NVLAP); NVLAP Code 600241-0 which is effective until 30 June 2027. This site has also been registered with Innovations, Science and Economic Development (ISED) department and was accepted under Appendix B, Phase 1 procedures of the APEC Tel MRA for Canadian recognition. ISED No.: 25346, effective until 30 June 2027.

Unified Compliance Laboratory has been assigned Registration Number 376708 by the FCC, MRA Designation Number US5037 and Conformity Assessment Number US0223 by ISED.

4 Test Equipment

4.1 Conducted Emissions at Mains Ports

Type of Equipment	Manufacturer	Model Number	Asset Number	Date of Last Calibration	Due Date of Calibration
EMI Receiver	AFJ	FFT3010	UCL-2500	11/18/2025	11/18/2026
LISN	AFJ	LS16C/10	UCL-2512	8/12/2025	8/12/2026
ISN	Teseq	ISN T800	UCL-2974	8/12/2025	8/12/2026
AC Power Source	Laplace Instruments	AC1000A	UCL-2857	N/A	N/A
Test Software	AFJ	AFJ FFT3010	UCL-3107	N/A	N/A

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

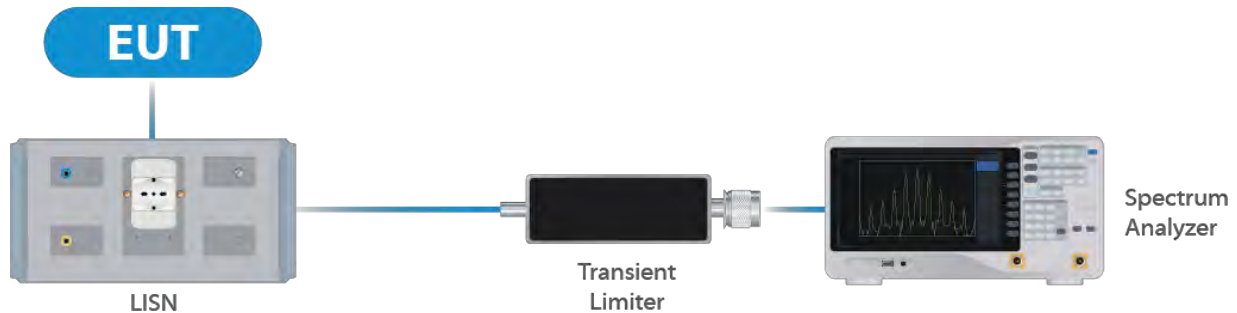


Figure 1: Conducted Emissions Test

4.2 Direct Connect at the Antenna Port Tests

Type of Equipment	Manufacturer	Model Number	Asset Number	Date of Last Calibration	Due Date of Calibration
Spectrum Analyzer	R&S	FSV40	UCL-2861	3/18/2026	3/18/2027
Signal Generator	R&S	SMB100A	UCL-2864	N/A	N/A
Vector Signal Generator	R&S	SMBV100A	UCL-2873	N/A	N/A
Switch Extension	R&S	OSP-B157WX	UCL-2867	4/7/2026	4/7/2027
Switch Extension	R&S	OSP-150W	UCL-2870	4/6/2026	4/6/2027
Test Software	R&S	EMC32	UCL-9442	--	--

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

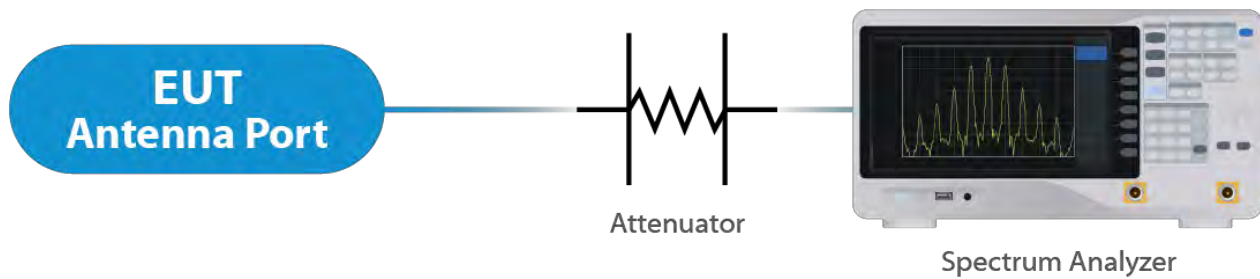


Figure 2: Direct Connect at the Antenna Port Test

4.3 Radiated Emissions

Type of Equipment	Manufacturer	Model Number	Asset Number	Date of Last Calibration	Due Date of Calibration
EMI Receiver	Keysight	N9038A	UCL-2778	12/18/2025	12/18/2026
Pre-Amplifier 9 kHz – 1 GHz	Sonoma Instruments	310N	UCL-2889	7/22/2025	7/22/2026
Tri Log Antenna	Scwarzbeck	VULB 9163	UCL-3062	12/16/2025	12/16/2027
Double Ridge Horn Antenna	Scwarzbeck	BBHA 9120D	UCL-3065	4/2/2025	4/2/2027
Log Periodic	Scwarzbeck	STLP 9129	UCL-3068	2/11/2025	2/4/2027
15 - 40 GHz Horn Antenna	Scwarzbeck	BBHA 9170	UCL-2487	4/7/2025	4/7/2027
1 – 18 GHz Amplifier	Com-Power	PAM 118A	UCL-3833	7/22/2025	7/22/2026
Test Software	Nexio	BatEMC	UCL-5253 & UCL- 5249	N/A	N/A

Table 3: List of equipment used for Radiated Emissions

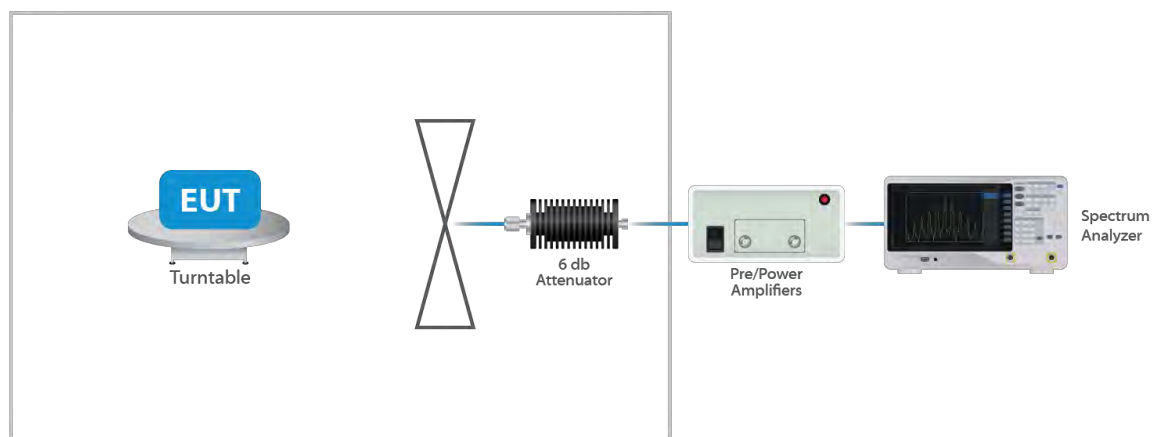


Figure 3: Radiated Emissions Test

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 Patch antenna and an external Dipole antenna.

Per the manufacturer, the Maximum gain of the internal Patch antenna per chain is 10.0 or 8.0 dBi. Per the manufacturer, the Maximum gain of the external Dipole antenna per chain is 5.0 dBi.

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

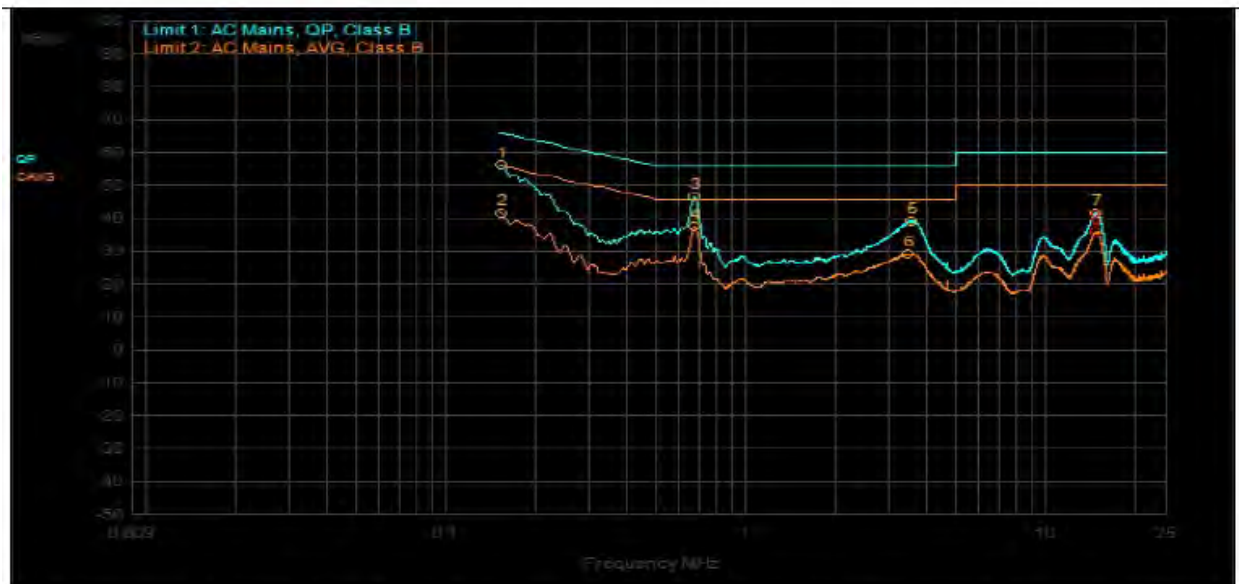
The internal Patch antenna is not user replaceable. The external Dipole antenna is user replaceable.

See Section 2.2 for directional gain calculation.

Results

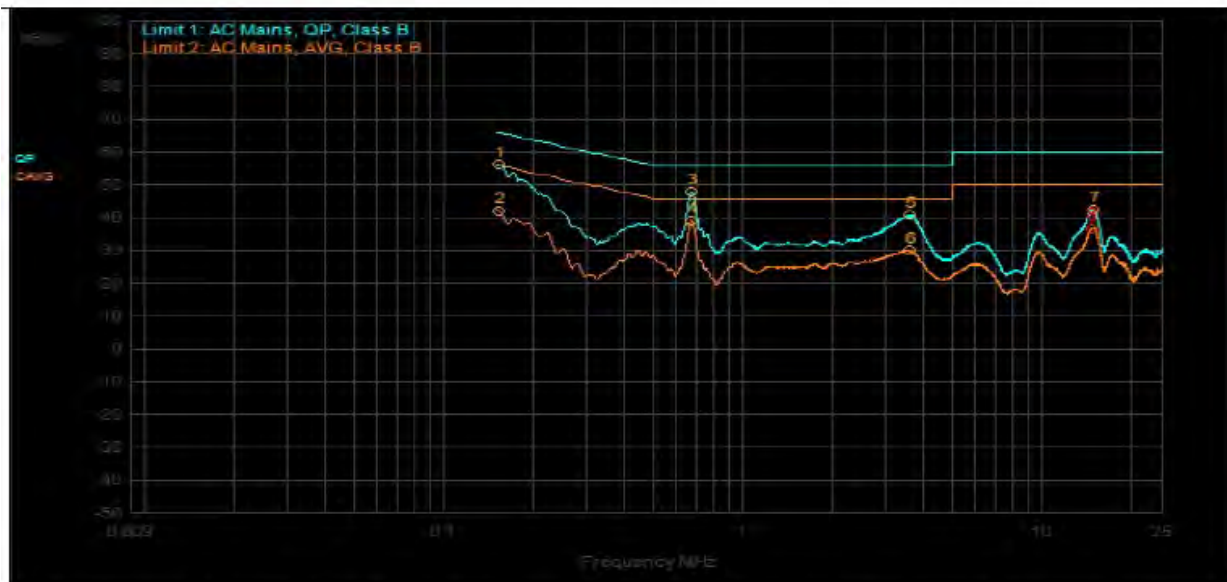
The EUT complied with the specification

5.2 §15.207 Conducted Emissions at Mains Ports Data



ID	Frequency	Probe	Cable	Atten.	Detector	Meter Read	Meas Level	Limit 1	Limit 1 Dist.	Limit 2	Limit 2 Dist.	P/F
MU	MHz	dB	dB	dB	Type	dBμV	dBμV	dBμV	dB	dBμV	dB	P/F
3	672,000kHz	12.33	0.00		QPeak	34.31	46.64	56.00	-9.36			
1	153,000kHz	12.29	0.00		QPeak	43.90	56.19	65.84	-9.64			
5	3.513	12.31	0.00		QPeak	26.76	39.07	56.00	-16.93			
7	14.544	12.23	0.08		QPeak	29.32	41.63	60.00	-18.37			
2	153,000kHz	12.29	0.00		C_AVG	29.33	41.62			55.84	-14.21	
4	669,000kHz	12.33	0.00		C_AVG	25.21	37.54			46.00	-8.46	
6	3.456	12.31	0.00		C_AVG	16.82	29.13			46.00	-16.87	
8	14.514	12.23	0.08		C_AVG	23.54	35.85			50.00	-14.15	

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
3	672,000kHz	12.33	0.00		QPeak	35.54	47.87	56.00	-8.13			
1	153,000kHz	12.34	0.00		QPeak	44.10	56.44	65.84	-9.39			
5	3.570	12.30	0.00		QPeak	28.38	40.68	56.00	-15.32			
7	14.748	12.38	0.08		QPeak	29.85	42.31	60.00	-17.69			
2	153,000kHz	12.34	0.00		C_AVG	29.61	41.95			55.84	-13.89	
4	672,000kHz	12.33	0.00		C_AVG	26.73	39.06			46.00	-6.94	
6	3.597	12.30	0.00		C_AVG	17.58	29.88			46.00	-16.12	
8	14.610	12.38	0.08		C_AVG	24.18	36.64			50.00	-13.36	

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.

5.3.1 Internal Antenna 10 dBi

Mode	Frequency (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth (MHz)
b	2412	13.0	5.5
	2437	12.6	8.2
	2462	13.0	6.1
g	2412	16.6	16.4
	2437	16.6	12.7
	2462	16.6	16.4
n 20	2412	17.7	12.7
	2437	18.0	17.7
	2462	17.7	17.7
n 40	2422	36.3	35.8
	2437	36.5	35.9
	2452	36.3	34.9
be 20	2412	18.9	19.1
	2437	18.9	18.5
	2462	19.0	18.1
be 40	2422	38.0	29.9
	2437	37.8	35.2
	2452	37.8	37.5

5.3.2 External Antenna

Mode	Frequency (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth (MHz)
b	2412	12.7	8.2
	2437	12.4	6.8
	2462	12.7	6.2
g	2412	16.8	15.2
	2437	16.8	16.1
	2462	16.6	15.8
n 20	2412	17.8	16.8
	2437	17.8	17.7
	2462	17.7	16.6
n 40	2422	36.5	35.8
	2437	36.5	35.9
	2452	36.3	35.2
be 20	2412	18.9	18.6
	2437	19.0	16.9
	2462	18.9	19.0
be 40	2422	37.8	30.4
	2437	38.0	30.7
	2452	38.0	37.6

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.

For the internal antenna the maximum average RF conducted output power measured for this device was 25.85 dBm or 242.66 mW. The limit is 30 dBm, or 1 Watt when using antennas with 6 dBi or less gain. The antenna has a gain of 10 dBi or 8 dBi.

For the external antenna the maximum average RF conducted output power measured for this device was 22.70 dBm or 186.21 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 dBi.

5.4.1 Internal Antenna 10 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	23	25.03	10	35.03	36	-0.97
	2417	Mcs0_Nss2	23	25.04	10	35.04	36	-0.96
	2422	Mcs0_Nss2	23	25.05	10	35.05	36	-0.95
	2427	Mcs0_Nss2	23	25.04	10	35.04	36	-0.96
	2432	Mcs0_Nss2	23	25.00	10	35.00	36	-1.00
	2437	Mcs0_Nss2	23	25.01	10	35.01	36	-0.99
	2442	Mcs0_Nss2	23	24.96	10	34.96	36	-1.04
	2447	Mcs0_Nss2	23	24.97	10	34.97	36	-1.03
	2452	Mcs0_Nss2	23	24.98	10	34.98	36	-1.02
	2457	Mcs0_Nss2	23	25.05	10	35.05	36	-0.95
	2462	Mcs0_Nss2	23	25.15	10	35.15	36	-0.85
g 20	2412	Mcs0_Nss2	21	23.10	10	33.10	36	-2.90
	2417	Mcs0_Nss2	22	23.94	10	33.94	36	-2.06
	2422	Mcs0_Nss2	23	24.82	10	34.82	36	-1.18
	2427	Mcs0_Nss2	24	25.75	10	35.75	36	-0.25
	2432	Mcs0_Nss2	24	25.75	10	35.75	36	-0.25
	2437	Mcs0_Nss2	24	25.78	10	35.78	36	-0.22
	2442	Mcs0_Nss2	24	25.82	10	35.82	36	-0.18

	2447	Mcs0_Nss2	21	23.01	10	33.01	36	-2.99
	2452	Mcs0_Nss2	21	23.04	10	33.04	36	-2.96
	2457	Mcs0_Nss2	21	23.03	10	33.03	36	-2.97
	2462	Mcs0_Nss2	21	23.03	10	33.03	36	-2.97
n 20	2412	Mcs0_Nss2	21	22.90	10	32.90	36	-3.10
	2417	Mcs0_Nss2	21	22.86	10	32.86	36	-3.14
	2422	Mcs0_Nss2	22	23.88	10	33.88	36	-2.12
	2427	Mcs0_Nss2	23	24.60	10	34.60	36	-1.40
	2432	Mcs0_Nss2	24	25.75	10	35.75	36	-0.25
	2437	Mcs0_Nss2	24	25.85	10	35.85	36	-0.15
	2442	Mcs0_Nss2	24	25.49	10	35.49	36	-0.51
	2447	Mcs0_Nss2	21	23.14	10	33.14	36	-2.86
	2452	Mcs0_Nss2	21	23.14	10	33.14	36	-2.86
	2457	Mcs0_Nss2	21	23.15	10	33.15	36	-2.85
n 40	2462	Mcs0_Nss2	18	19.81	10	29.81	36	-6.19
	2422	Mcs0_Nss2	17	19.56	10	29.56	36	-6.44
	2437	Mcs0_Nss2	19	21.27	10	31.27	36	-4.73
be 20	2452	Mcs0_Nss2	17	19.43	10	29.43	36	-6.57
	2412	Mcs0_Nss2	19	21.00	10	31.00	36	-5.00
	2417	Mcs0_Nss2	20	21.97	10	31.97	36	-4.03
	2422	Mcs0_Nss2	22	23.78	10	33.78	36	-2.22
	2427	Mcs0_Nss2	23	24.59	10	34.59	36	-1.41
	2432	Mcs0_Nss2	24	25.80	10	35.80	36	-0.20
	2437	Mcs0_Nss2	24	25.85	10	35.85	36	-0.15
	2442	Mcs0_Nss2	23	24.87	10	34.87	36	-1.13
	2447	Mcs0_Nss2	21	22.79	10	32.79	36	-3.21
	2452	Mcs0_Nss2	21	22.74	10	32.74	36	-3.26
be 40	2457	Mcs0_Nss2	21	23.20	10	33.20	36	-2.80
	2462	Mcs0_Nss2	20	22.35	10	32.35	36	-3.65
	2422	Mcs0_Nss2	19	21.14	10	31.14	36	-4.86
	2437	Mcs0_Nss2	20	22.44	10	32.44	36	-3.56
	2452	Mcs0_Nss2	15	17.37	10	27.37	36	-8.63

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_Nss1	23	25.03	10	35.03	36	-0.97
	2417	Mcs0_Nss1	23	25.04	10	35.04	36	-0.96
	2422	Mcs0_Nss1	23	25.05	10	35.05	36	-0.95
	2427	Mcs0_Nss1	23	25.04	10	35.04	36	-0.96
	2432	Mcs0_Nss1	23	25.00	10	35.00	36	-1.00
	2437	Mcs0_Nss1	23	25.01	10	35.01	36	-0.99
	2442	Mcs0_Nss1	23	24.96	10	34.96	36	-1.04
	2447	Mcs0_Nss1	23	24.97	10	34.97	36	-1.03
	2452	Mcs0_Nss1	23	24.98	10	34.98	36	-1.02
	2457	Mcs0_Nss1	23	25.05	10	35.05	36	-0.95
	2462	Mcs0_Nss1	23	25.15	10	35.15	36	-0.85
g 20	2412	Mcs0_Nss1	21	23.10	10	33.10	36	-2.90
	2417	Mcs0_Nss1	22	23.94	10	33.94	36	-2.06
	2422	Mcs0_Nss1	23	24.82	10	34.82	36	-1.18
	2427	Mcs0_Nss1	24	25.75	10	35.75	36	-0.25
	2432	Mcs0_Nss1	24	25.75	10	35.75	36	-0.25
	2437	Mcs0_Nss1	24	25.78	10	35.78	36	-0.22
	2442	Mcs0_Nss1	24	25.82	10	35.82	36	-0.18
	2447	Mcs0_Nss1	21	23.01	10	33.01	36	-2.99
	2452	Mcs0_Nss1	21	23.04	10	33.04	36	-2.96
	2457	Mcs0_Nss1	21	23.03	10	33.03	36	-2.97
	2462	Mcs0_Nss1	21	23.03	10	33.03	36	-2.97
n 20	2412	Mcs0_Nss1	21	22.90	10	32.90	36	-3.10
	2417	Mcs0_Nss1	21	22.86	10	32.86	36	-3.14
	2422	Mcs0_Nss1	22	23.88	10	33.88	36	-2.12
	2427	Mcs0_Nss1	23	24.60	10	34.60	36	-1.40
	2432	Mcs0_Nss1	24	25.75	10	35.75	36	-0.25
	2437	Mcs0_Nss1	24	25.85	10	35.85	36	-0.15
	2442	Mcs0_Nss1	24	25.49	10	35.49	36	-0.51
	2447	Mcs0_Nss1	21	23.14	10	33.14	36	-2.86
	2452	Mcs0_Nss1	21	23.14	10	33.14	36	-2.86
	2457	Mcs0_Nss1	21	23.15	10	33.15	36	-2.85
	2462	Mcs0_Nss1	18	19.81	10	29.81	36	-6.19

n 40	2422	Mcs0_Nss1	17	19.56	10	29.56	36	-6.44
	2437	Mcs0_Nss1	19	21.27	10	31.27	36	-4.73
	2452	Mcs0_Nss1	17	19.43	10	29.43	36	-6.57
be 20	2412	Mcs0_Nss1	19	21.00	10	31.00	36	-5.00
	2417	Mcs0_Nss1	20	21.97	10	31.97	36	-4.03
	2422	Mcs0_Nss1	22	23.78	10	33.78	36	-2.22
	2427	Mcs0_Nss1	23	24.59	10	34.59	36	-1.41
	2432	Mcs0_Nss1	24	25.80	10	35.80	36	-0.20
	2437	Mcs0_Nss1	24	25.85	10	35.85	36	-0.15
	2442	Mcs0_Nss1	23	24.87	10	34.87	36	-1.13
	2447	Mcs0_Nss1	21	22.79	10	32.79	36	-3.21
	2452	Mcs0_Nss1	21	22.74	10	32.74	36	-3.26
	2457	Mcs0_Nss1	21	23.20	10	33.20	36	-2.80
	2462	Mcs0_Nss1	20	22.35	10	32.35	36	-3.65
be 40	2422	Mcs0_Nss1	19	21.14	10	31.14	36	-4.86
	2437	Mcs0_Nss1	20	22.44	10	32.44	36	-3.56
	2452	Mcs0_Nss1	15	17.37	10	27.37	36	-8.63

5.4.2 Internal Antenna 8 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	25	27.41	8	35.41	36	-0.59
	2417	Mcs0_Nss2	25	27.34	8	35.34	36	-0.66
	2422	Mcs0_Nss2	25	27.33	8	35.33	36	-0.67
	2427	Mcs0_Nss2	25	27.23	8	35.23	36	-0.77
	2432	Mcs0_Nss2	25	27.20	8	35.20	36	-0.80
	2437	Mcs0_Nss2	25	27.25	8	35.25	36	-0.75
	2442	Mcs0_Nss2	25	27.24	8	35.24	36	-0.76
	2447	Mcs0_Nss2	25	27.36	8	35.36	36	-0.64
	2452	Mcs0_Nss2	25	27.42	8	35.42	36	-0.58
	2457	Mcs0_Nss2	25	27.36	8	35.36	36	-0.64
	2462	Mcs0_Nss2	24	26.35	8	34.35	36	-1.65
g 20	2412	Mcs0_Nss2	23	25.16	8	33.16	36	-2.84
	2417	Mcs0_Nss2	23	25.13	8	33.13	36	-2.87
	2422	Mcs0_Nss2	24	26.09	8	34.09	36	-1.91
	2427	Mcs0_Nss2	24	26.00	8	34.00	36	-2.00
	2432	Mcs0_Nss2	24	25.99	8	33.99	36	-2.01
	2437	Mcs0_Nss2	24	25.97	8	33.97	36	-2.03
	2442	Mcs0_Nss2	24	26.11	8	34.11	36	-1.89
	2447	Mcs0_Nss2	23	26.11	8	34.11	36	-1.89
	2452	Mcs0_Nss2	22	24.22	8	32.22	36	-3.78
	2457	Mcs0_Nss2	22	24.20	8	32.20	36	-3.80
	2462	Mcs0_Nss2	20	22.27	8	30.27	36	-5.73
n 20	2412	Mcs0_Nss2	21	23.24	8	31.24	36	-4.76
	2417	Mcs0_Nss2	21	23.25	8	31.25	36	-4.75
	2422	Mcs0_Nss2	22	23.85	8	31.85	36	-4.15
	2427	Mcs0_Nss2	23	24.74	8	32.74	36	-3.26
	2432	Mcs0_Nss2	24	25.70	8	33.70	36	-2.30
	2437	Mcs0_Nss2	24	25.67	8	33.67	36	-2.33
	2442	Mcs0_Nss2	24	26.16	8	34.16	36	-1.84
	2447	Mcs0_Nss2	23	25.27	8	33.27	36	-2.73
	2452	Mcs0_Nss2	22	24.31	8	32.31	36	-3.69
	2457	Mcs0_Nss2	21	22.90	8	30.90	36	-5.10

	2462	Mcs0_Nss2	21	22.89	8	30.89	36	-5.11
n 40	2422	Mcs0_Nss2	19	21.62	8	29.62	36	-6.38
	2437	Mcs0_Nss2	20	22.73	8	30.73	36	-5.27
	2452	Mcs0_Nss2	18	20.62	8	28.62	36	-7.38
be 20	2412	Mcs0_Nss2	21	23.26	8	31.26	36	-4.74
	2417	Mcs0_Nss2	23	24.96	8	32.96	36	-3.04
	2422	Mcs0_Nss2	23	25.03	8	33.03	36	-2.97
	2427	Mcs0_Nss2	24	26.15	8	34.15	36	-1.85
	2432	Mcs0_Nss2	23	24.81	8	32.81	36	-3.19
	2437	Mcs0_Nss2	24	25.81	8	33.81	36	-2.19
	2442	Mcs0_Nss2	23	25.14	8	33.14	36	-2.86
	2447	Mcs0_Nss2	22	23.89	8	31.89	36	-4.11
	2452	Mcs0_Nss2	21	23.30	8	31.30	36	-4.7
	2457	Mcs0_Nss2	21	23.36	8	31.36	36	-4.64
be 40	2462	Mcs0_Nss2	18	20.18	8	28.18	36	-7.82
	2422	Mcs0_Nss2	19	21.61	8	29.61	36	-6.39
	2437	Mcs0_Nss2	20	22.31	8	30.31	36	-5.69
	2452	Mcs0_Nss2	18	20.66	8	28.66	36	-7.34

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_Nss1	25	27.41	8	35.41	36	-0.59
	2417	Mcs0_Nss1	25	27.34	8	35.34	36	-0.66
	2422	Mcs0_Nss1	25	27.33	8	35.33	36	-0.67
	2427	Mcs0_Nss1	25	27.23	8	35.23	36	-0.77
	2432	Mcs0_Nss1	25	27.20	8	35.20	36	-0.80
	2437	Mcs0_Nss1	25	27.25	8	35.25	36	-0.75
	2442	Mcs0_Nss1	25	27.24	8	35.24	36	-0.76
	2447	Mcs0_Nss1	25	27.36	8	35.36	36	-0.64
	2452	Mcs0_Nss1	25	27.42	8	35.42	36	-0.58
	2457	Mcs0_Nss1	25	27.36	8	35.36	36	-0.64
g 20	2462	Mcs0_Nss1	24	26.35	8	34.35	36	-1.65
	2412	Mcs0_Nss1	23	25.16	8	33.16	36	-2.84
	2417	Mcs0_Nss1	23	25.13	8	33.13	36	-2.87
	2422	Mcs0_Nss1	24	26.09	8	34.09	36	-1.91

	2427	Mcs0_Nss1	24	26.00	8	34.00	36	-2.00
	2432	Mcs0_Nss1	24	25.99	8	33.99	36	-2.01
	2437	Mcs0_Nss1	24	25.97	8	33.97	36	-2.03
	2442	Mcs0_Nss1	24	26.11	8	34.11	36	-1.89
	2447	Mcs0_Nss1	23	26.11	8	34.11	36	-1.89
	2452	Mcs0_Nss1	22	24.22	8	32.22	36	-3.78
	2457	Mcs0_Nss1	22	24.20	8	32.20	36	-3.80
	2462	Mcs0_Nss1	20	22.27	8	30.27	36	-5.73
n 20	2412	Mcs0_Nss1	21	23.24	8	31.24	36	-4.76
	2417	Mcs0_Nss1	21	23.25	8	31.25	36	-4.75
	2422	Mcs0_Nss1	22	23.85	8	31.85	36	-4.15
	2427	Mcs0_Nss1	23	24.74	8	32.74	36	-3.26
	2432	Mcs0_Nss1	24	25.70	8	33.70	36	-2.30
	2437	Mcs0_Nss1	24	25.67	8	33.67	36	-2.33
	2442	Mcs0_Nss1	24	26.16	8	34.16	36	-1.84
	2447	Mcs0_Nss1	23	25.27	8	33.27	36	-2.73
	2452	Mcs0_Nss1	22	24.31	8	32.31	36	-3.69
	2457	Mcs0_Nss1	21	22.90	8	30.90	36	-5.10
	2462	Mcs0_Nss1	21	22.89	8	30.89	36	-5.11
n 40	2422	Mcs0_Nss1	19	21.62	8	29.62	36	-6.38
	2437	Mcs0_Nss1	20	22.73	8	30.73	36	-5.27
	2452	Mcs0_Nss1	18	20.62	8	28.62	36	-7.38
be 20	2412	Mcs0_Nss1	21	23.26	8	31.26	36	-4.74
	2417	Mcs0_Nss1	23	24.96	8	32.96	36	-3.04
	2422	Mcs0_Nss1	23	25.03	8	33.03	36	-2.97
	2427	Mcs0_Nss1	24	26.15	8	34.15	36	-1.85
	2432	Mcs0_Nss1	23	24.81	8	32.81	36	-3.19
	2437	Mcs0_Nss1	24	25.81	8	33.81	36	-2.19
	2442	Mcs0_Nss1	23	25.14	8	33.14	36	-2.86
	2447	Mcs0_Nss1	22	23.89	8	31.89	36	-4.11
	2452	Mcs0_Nss1	21	23.30	8	31.30	36	-4.7
	2457	Mcs0_Nss1	21	23.36	8	31.36	36	-4.64
	2462	Mcs0_Nss1	18	20.18	8	28.18	36	-7.82
be 40	2422	Mcs0_Nss1	19	21.61	8	29.61	36	-6.39
	2437	Mcs0_Nss1	20	22.31	8	30.31	36	-5.69
	2452	Mcs0_Nss1	18	20.66	8	28.66	36	-7.34

5.4.3 External Antenna

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	25	25.58	5	30.58	36	-5.42
	2417	Mcs0_Nss2	27	27.75	5	32.75	36	-3.25
	2422	Mcs0_Nss2	26	26.67	5	31.67	36	-4.33
	2427	Mcs0_Nss2	27	27.71	5	32.71	36	-3.29
	2432	Mcs0_Nss2	27	27.75	5	32.75	36	-3.25
	2437	Mcs0_Nss2	27	27.88	5	32.88	36	-3.12
	2442	Mcs0_Nss2	27	27.67	5	32.67	36	-3.33
	2447	Mcs0_Nss2	27	29.48	5	34.48	36	-1.52
	2452	Mcs0_Nss2	27	29.36	5	34.36	36	-1.64
	2457	Mcs0_Nss2	27	29.41	5	34.41	36	-1.59
	2462	Mcs0_Nss2	26	26.59	5	31.59	36	-4.41
g 20	2412	Mcs0_Nss2	24	24.43	5	29.43	36	-6.57
	2417	Mcs0_Nss2	24	24.41	5	29.41	36	-6.59
	2422	Mcs0_Nss2	25	25.45	5	30.45	36	-5.55
	2427	Mcs0_Nss2	25	25.39	5	30.39	36	-5.61
	2432	Mcs0_Nss2	25	25.36	5	30.36	36	-5.64
	2437	Mcs0_Nss2	26	26.39	5	31.39	36	-4.61
	2442	Mcs0_Nss2	26	26.35	5	31.35	36	-4.65
	2447	Mcs0_Nss2	25	25.49	5	30.49	36	-5.51
	2452	Mcs0_Nss2	25	25.47	5	30.47	36	-5.53
	2457	Mcs0_Nss2	24	24.40	5	29.40	36	-6.60
	2462	Mcs0_Nss2	23	23.32	5	28.32	36	-7.68
n 20	2412	Mcs0_Nss2	21	21.57	5	26.57	36	-9.43
	2417	Mcs0_Nss2	23	23.48	5	28.48	36	-7.52
	2422	Mcs0_Nss2	24	24.47	5	29.47	36	-6.53
	2427	Mcs0_Nss2	25	25.06	5	30.06	36	-5.94
	2432	Mcs0_Nss2	25	25.57	5	30.57	36	-5.43
	2437	Mcs0_Nss2	25	25.59	5	30.59	36	-5.41
	2442	Mcs0_Nss2	25	25.01	5	30.01	36	-5.99
	2447	Mcs0_Nss2	25	25.20	5	30.20	36	-5.80
	2452	Mcs0_Nss2	24	24.51	5	29.51	36	-6.49
	2457	Mcs0_Nss2	24	23.89	5	28.89	36	-7.11

	2462	Mcs0_Nss2	24	23.83	5	28.83	36	-7.17
n 40	2422	Mcs0_Nss2	18	18.91	5	23.91	36	-12.09
	2437	Mcs0_Nss2	22	22.67	5	27.67	36	-8.33
	2452	Mcs0_Nss2	18	18.96	5	23.96	36	-12.04
be 20	2412	Mcs0_Nss2	22	22.54	5	27.54	36	-8.46
	2417	Mcs0_Nss2	23	23.47	5	28.47	36	-7.53
	2422	Mcs0_Nss2	24	24.05	5	29.05	36	-6.95
	2427	Mcs0_Nss2	24	24.14	5	29.14	36	-6.86
	2432	Mcs0_Nss2	25	25.48	5	30.48	36	-5.52
	2437	Mcs0_Nss2	25	25.04	5	30.04	36	-5.96
	2442	Mcs0_Nss2	25	25.54	5	30.54	36	-5.46
	2447	Mcs0_Nss2	25	24.00	5	29.00	36	-7.00
	2452	Mcs0_Nss2	24	24.05	5	29.05	36	-6.95
	2457	Mcs0_Nss2	23	23.46	5	28.46	36	-7.54
	2462	Mcs0_Nss2	20	20.49	5	25.49	36	-10.51
be 40	2422	Mcs0_Nss2	20	20.93	5	25.93	36	-10.07
	2437	Mcs0_Nss2	24	24.78	5	29.78	36	-6.22
	2452	Mcs0_Nss2	20	20.44	5	25.44	36	-10.56

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_Nss1	25	25.58	5	30.58	36	-5.42
	2417	Mcs0_Nss1	27	27.75	5	32.75	36	-3.25
	2422	Mcs0_Nss1	26	26.67	5	31.67	36	-4.33
	2427	Mcs0_Nss1	27	27.71	5	32.71	36	-3.29
	2432	Mcs0_Nss1	27	27.75	5	32.75	36	-3.25
	2437	Mcs0_Nss1	27	27.88	5	32.88	36	-3.12
	2442	Mcs0_Nss1	27	27.67	5	32.67	36	-3.33
	2447	Mcs0_Nss1	27	29.48	5	34.48	36	-1.52
	2452	Mcs0_Nss1	27	29.36	5	34.36	36	-1.64
	2457	Mcs0_Nss1	27	29.41	5	34.41	36	-1.59
	2462	Mcs0_Nss1	26	26.59	5	31.59	36	-4.41
g 20	2412	Mcs0_Nss1	24	24.43	5	29.43	36	-6.57
	2417	Mcs0_Nss1	24	24.41	5	29.41	36	-6.59
	2422	Mcs0_Nss1	25	25.45	5	30.45	36	-5.55

	2427	Mcs0_Nss1	25	25.39	5	30.39	36	-5.61
	2432	Mcs0_Nss1	25	25.36	5	30.36	36	-5.64
	2437	Mcs0_Nss1	26	26.39	5	31.39	36	-4.61
	2442	Mcs0_Nss1	26	26.35	5	31.35	36	-4.65
	2447	Mcs0_Nss1	25	25.49	5	30.49	36	-5.51
	2452	Mcs0_Nss1	25	25.47	5	30.47	36	-5.53
	2457	Mcs0_Nss1	24	24.40	5	29.40	36	-6.60
	2462	Mcs0_Nss1	23	23.32	5	28.32	36	-7.68
n 20	2412	Mcs0_Nss1	21	21.57	5	26.57	36	-9.43
	2417	Mcs0_Nss1	23	23.48	5	28.48	36	-7.52
	2422	Mcs0_Nss1	24	24.47	5	29.47	36	-6.53
	2427	Mcs0_Nss1	25	25.06	5	30.06	36	-5.94
	2432	Mcs0_Nss1	25	25.57	5	30.57	36	-5.43
	2437	Mcs0_Nss1	25	25.59	5	30.59	36	-5.41
	2442	Mcs0_Nss1	25	25.01	5	30.01	36	-5.99
	2447	Mcs0_Nss1	25	25.20	5	30.20	36	-5.80
	2452	Mcs0_Nss1	24	24.51	5	29.51	36	-6.49
	2457	Mcs0_Nss1	24	23.89	5	28.89	36	-7.11
	2462	Mcs0_Nss1	24	23.83	5	28.83	36	-7.17
n 40	2422	Mcs0_Nss1	18	18.91	5	23.91	36	-12.09
	2437	Mcs0_Nss1	22	22.67	5	27.67	36	-8.33
	2452	Mcs0_Nss1	18	18.96	5	23.96	36	-12.04
be 20	2412	Mcs0_Nss1	22	22.54	5	27.54	36	-8.46
	2417	Mcs0_Nss1	23	23.47	5	28.47	36	-7.53
	2422	Mcs0_Nss1	24	24.05	5	29.05	36	-6.95
	2427	Mcs0_Nss1	24	24.14	5	29.14	36	-6.86
	2432	Mcs0_Nss1	25	25.48	5	30.48	36	-5.52
	2437	Mcs0_Nss1	25	25.04	5	30.04	36	-5.96
	2442	Mcs0_Nss1	25	25.54	5	30.54	36	-5.46
	2447	Mcs0_Nss1	25	24.00	5	29.00	36	-7.00
	2452	Mcs0_Nss1	24	24.05	5	29.05	36	-6.95
	2457	Mcs0_Nss1	23	23.46	5	28.46	36	-7.54
	2462	Mcs0_Nss1	20	20.49	5	25.49	36	-10.51
be 40	2422	Mcs0_Nss1	20	20.93	5	25.93	36	-10.07
	2437	Mcs0_Nss1	24	24.78	5	29.78	36	-6.22
	2452	Mcs0_Nss1	20	20.44	5	25.44	36	-10.56

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 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.

5.5.2 Radiated Spurious Emissions in the Restricted Bands of §15.205

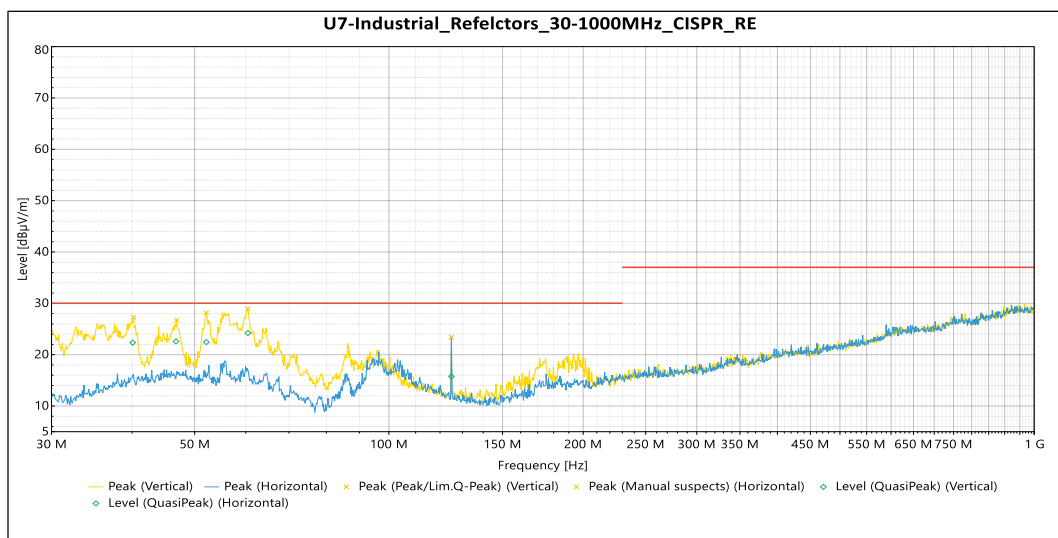
The frequency range from the lowest frequency generated or used in the device to the tenth harmonic of the highest fundamental emissions was investigated to measure any radiated emissions in the restricted bands. The following tables show measurements of any emissions that fell into the restricted bands 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 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.

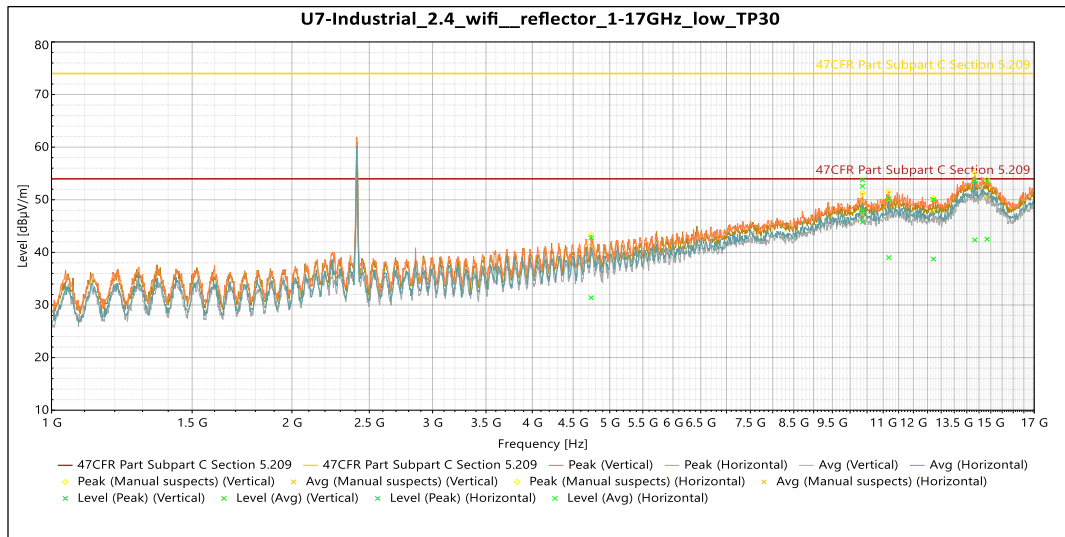
Internal Antenna



QuasiPeak

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

Table 4: Radiated Emissions 30 – 1000 MHz



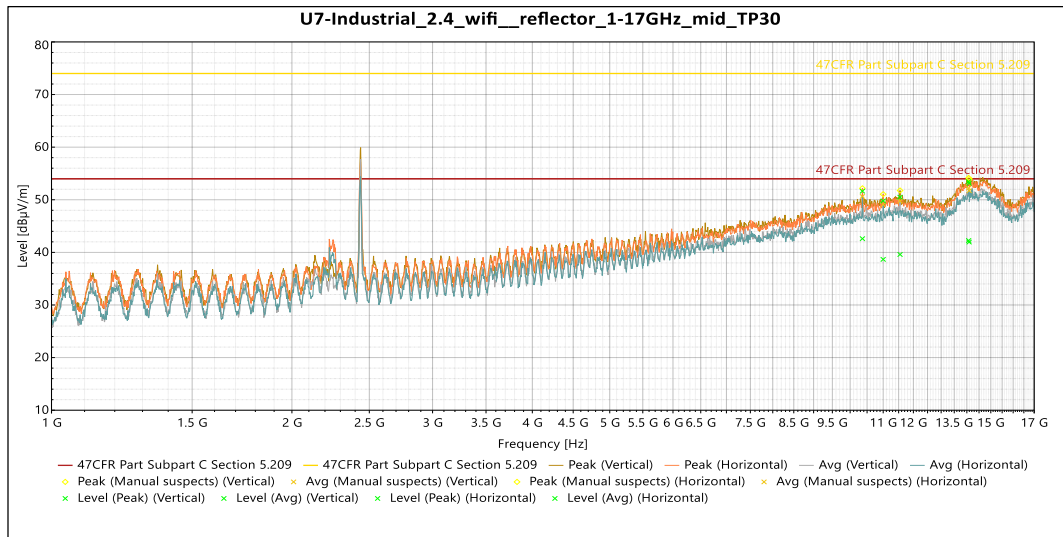
Peak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
10.36 GHz	52.57	74.0	-21.43	87	1.638	Vertical	6.71
12.71 GHz	50.03	74.0	-23.97	23	4	Vertical	7.21
14.84 GHz	53.57	74.0	-20.43	204	3.798	Vertical	11.78
4.74 GHz	42.75	74.0	-31.25	216	3.802	Horizontal	-7.60
10.36 GHz	53.78	74.0	-20.22	74	1.834	Horizontal	6.71
11.18 GHz	50.19	74.0	-23.81	250	4	Horizontal	7.24
14.33 GHz	53.61	74.0	-20.39	39	3.802	Horizontal	11.10

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
10.36 GHz	45.76	54.0	-8.24	87	1.638	Vertical	6.71
12.71 GHz	38.74	54.0	-15.26	23	4	Vertical	7.21
14.84 GHz	42.51	54.0	-11.49	204	3.798	Vertical	11.78
4.74 GHz	31.39	54.0	-22.61	216	3.802	Horizontal	-7.60
10.36 GHz	47.89	54.0	-6.11	74	1.834	Horizontal	6.71
11.18 GHz	39.02	54.0	-14.98	250	4	Horizontal	7.24
14.33 GHz	42.36	54.0	-11.64	39	3.802	Horizontal	11.10

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



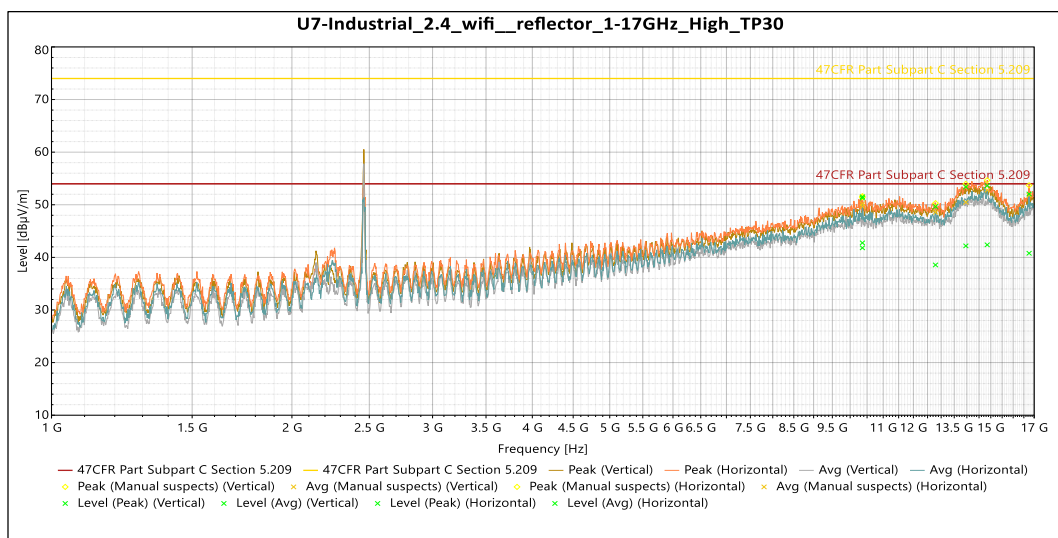
Peak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
11.55 GHz	50.49	74.0	-23.51	231	4	Vertical	7.97
14.07 GHz	53.45	74.0	-20.55	231	3.798	Vertical	10.96
10.36 GHz	51.63	74.0	-22.37	51	3.311	Horizontal	6.71
11.00 GHz	49.78	74.0	-24.22	215	3.307	Horizontal	7.34
14.09 GHz	53.13	74.0	-20.87	212	3.802	Horizontal	10.92

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
11.55 GHz	39.60	54.0	-14.40	231	4	Vertical	7.97
14.07 GHz	42.25	54.0	-11.75	231	3.798	Vertical	10.96
10.36 GHz	42.61	54.0	-11.39	51	3.311	Horizontal	6.71
11.00 GHz	38.67	54.0	-15.33	215	3.307	Horizontal	7.34
14.09 GHz	41.95	54.0	-12.05	212	3.802	Horizontal	10.92

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



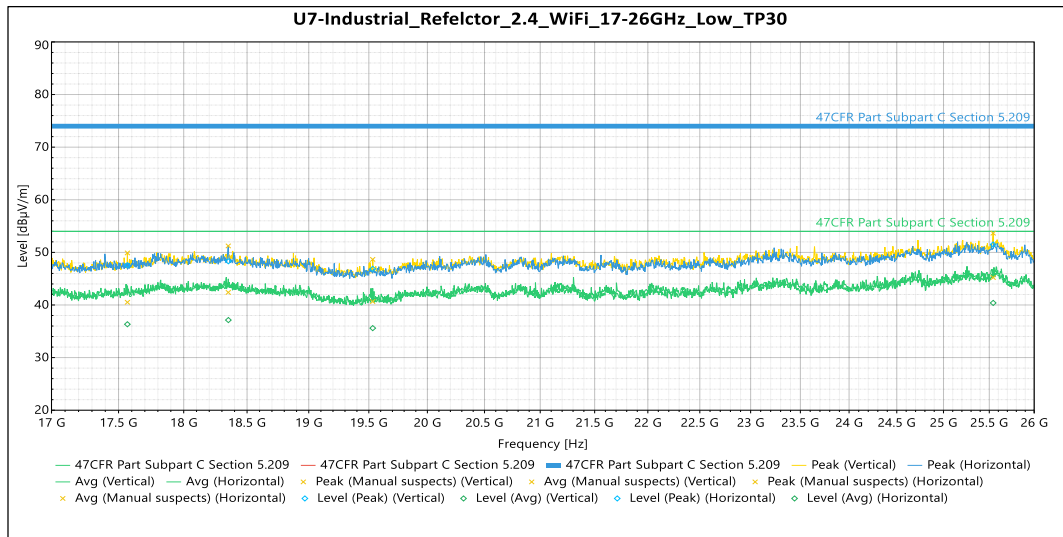
Peak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
10.36 GHz	51.28	74.0	-22.72	50	3.798	Vertical	6.71
12.79 GHz	49.66	74.0	-24.34	138	3.802	Vertical	7.50
13.96 GHz	53.39	74.0	-20.61	315	3.802	Vertical	10.75
10.36 GHz	51.52	74.0	-22.48	51	3.307	Horizontal	6.71
14.85 GHz	53.63	74.0	-20.37	157	3.307	Horizontal	11.86
16.75 GHz	52.05	74.0	-21.95	112	3.798	Horizontal	11.39

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
10.36 GHz	41.81	54.0	-12.19	50	3.798	Vertical	6.71
12.79 GHz	38.56	54.0	-15.44	138	3.802	Vertical	7.50
13.96 GHz	42.18	54.0	-11.82	315	3.802	Vertical	10.75
10.36 GHz	42.75	54.0	-11.25	51	3.307	Horizontal	6.71
14.85 GHz	42.38	54.0	-11.62	157	3.307	Horizontal	11.86
16.75 GHz	40.78	54.0	-13.22	112	3.798	Horizontal	11.39

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



Peak

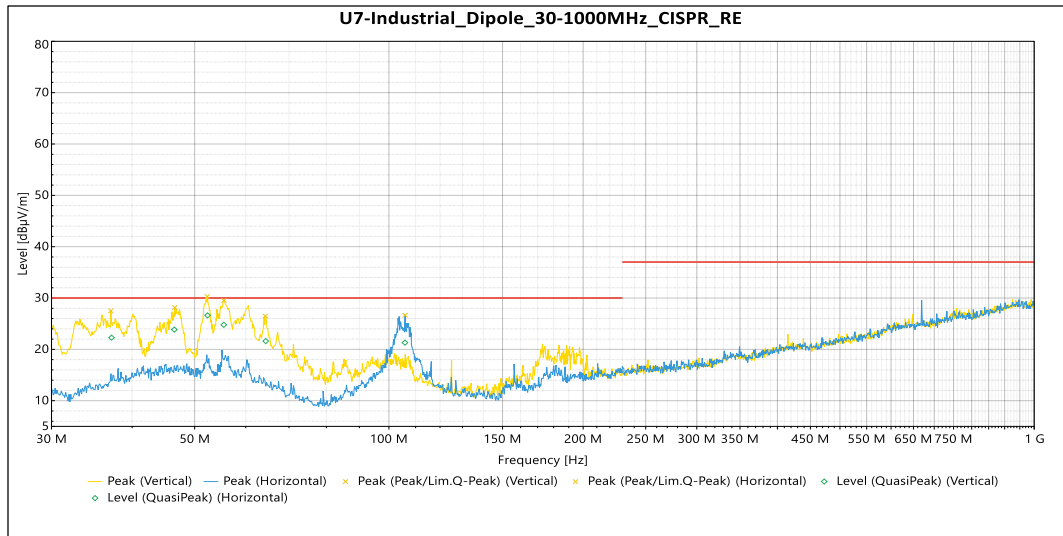
Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
17.57 GHz	47.56	74.0	-26.44	173	Vertical	-0.97
19.53 GHz	46.87	74.0	-27.13	128	Vertical	-1.14
25.54 GHz	51.51	74.0	-22.49	2	Vertical	2.74
18.35 GHz	48.31	74.0	-25.69	82	Horizontal	-0.61

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
17.57 GHz	36.33	54.0	-17.67	173	Vertical	-0.97
19.53 GHz	35.60	54.0	-18.40	128	Vertical	-1.14
25.54 GHz	40.39	54.0	-13.61	2	Vertical	2.74
18.35 GHz	37.13	54.0	-16.87	82	Horizontal	-0.61

Table 8: Radiated Emissions 17 – 26 GHz at the Middle Frequency (worse case)

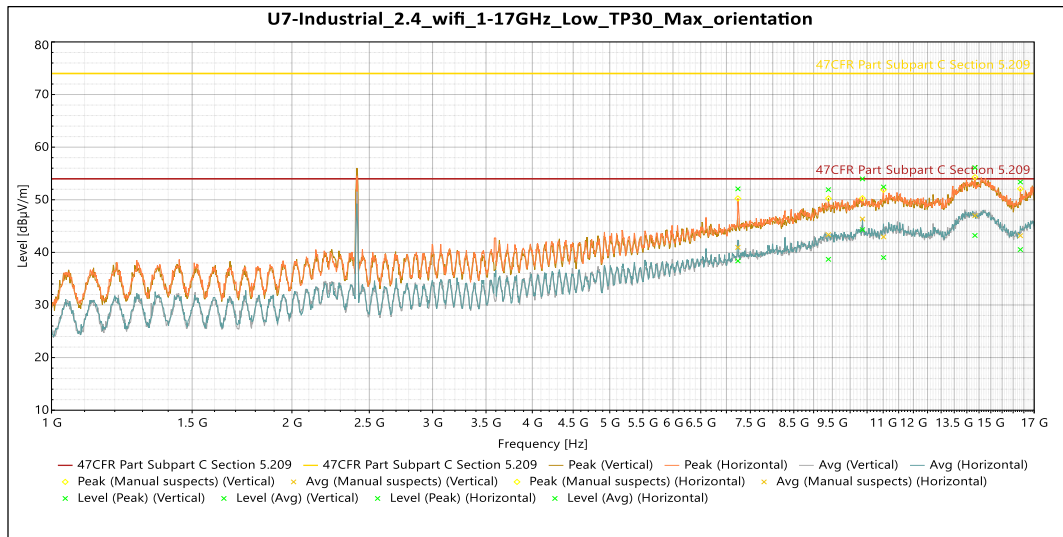
External Antenna



QuasiPeak

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

Table 9: Radiated Emissions 30 – 1000 MHz



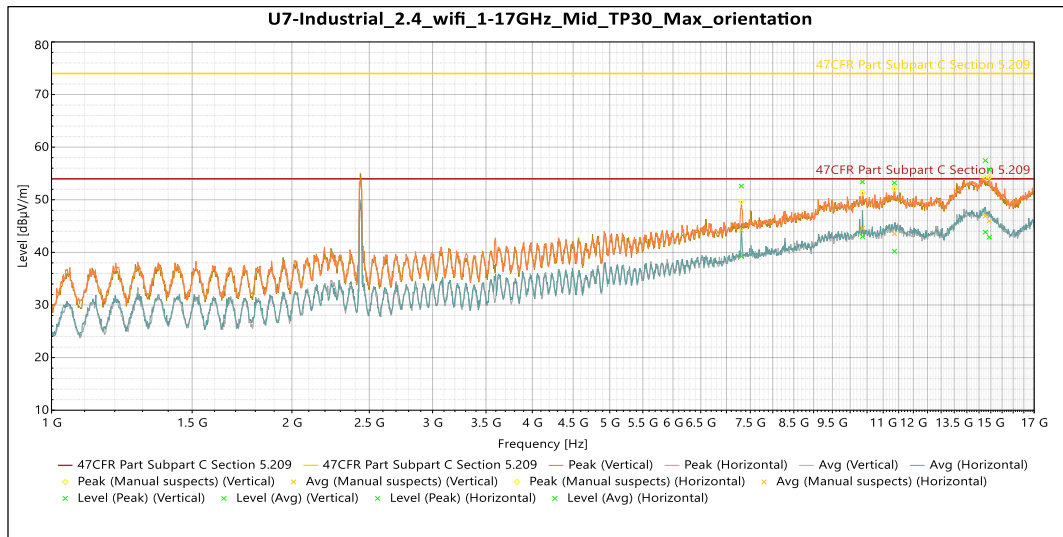
Peak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
9.39 GHz	51.92	74.0	-22.08	5	3.644	Vertical	5.28
7.34 GHz	52.07	74.0	-21.93	83	2.337	Horizontal	-0.42
10.36 GHz	53.97	74.0	-20.03	137	2.14	Horizontal	6.71
11.01 GHz	52.43	74.0	-21.57	288	1.63	Horizontal	7.30
14.33 GHz	56.11	74.0	-17.89	238	3.646	Horizontal	11.11
16.34 GHz	53.38	74.0	-20.62	219	3.319	Horizontal	9.52

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
9.39 GHz	38.68	54.0	-15.32	5	3.644	Vertical	5.25
10.36 GHz	38.37	54.0	-16.63	83	2.337	Horizontal	-0.42
11.01 GHz	44.32	54.0	-9.68	137	2.14	Horizontal	6.71
14.33 GHz	39.02	54.0	-14.98	288	1.63	Horizontal	7.30
16.34 GHz	43.21	54.0	-10.79	238	3.646	Horizontal	11.11
10.36 GHz	40.53	54.0	-13.47	219	3.319	Horizontal	9.52

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



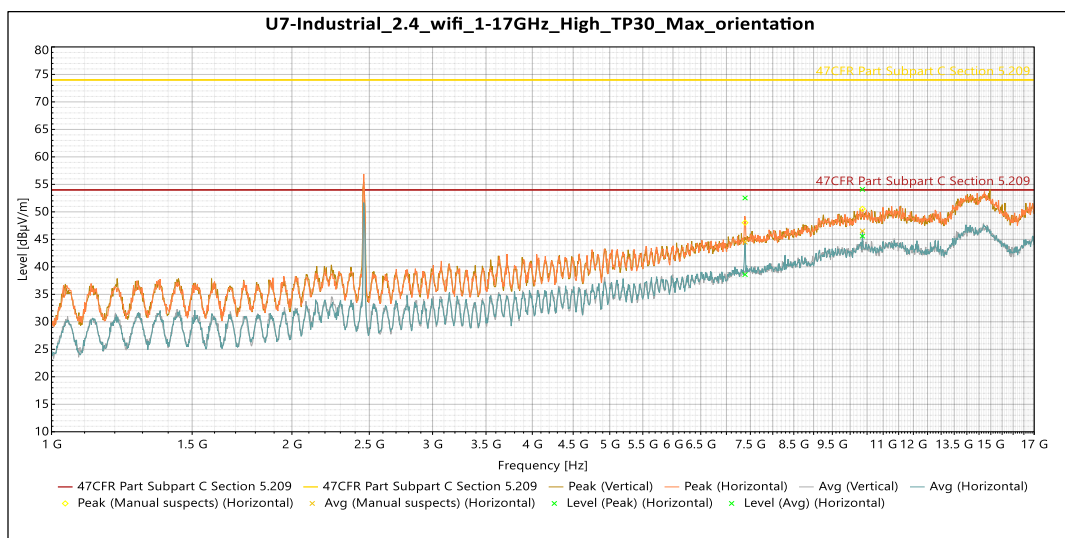
Peak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
11.36 GHz	53.23	74.0	-20.77	274	3.319	Vertical	7.49
14.77 GHz	57.45	74.0	-16.55	168	3.318	Vertical	11.94
7.31 GHz	52.59	74.0	-21.41	90	1.5	Horizontal	-0.20
10.36 GHz	53.40	74.0	-20.60	67	1.632	Horizontal	6.71
14.94 GHz	55.69	74.0	-18.31	126	4	Horizontal	11.43

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
11.36 GHz	40.22	54.0	-13.78	274	3.319	Vertical	7.49
14.77 GHz	43.84	54.0	-10.16	168	3.318	Vertical	11.94
7.31 GHz	39.23	54.0	-14.77	90	1.5	Horizontal	-0.20
10.36 GHz	43.02	54.0	-10.98	67	1.632	Horizontal	6.71
14.94 GHz	42.90	54.0	-11.10	126	4	Horizontal	11.43

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



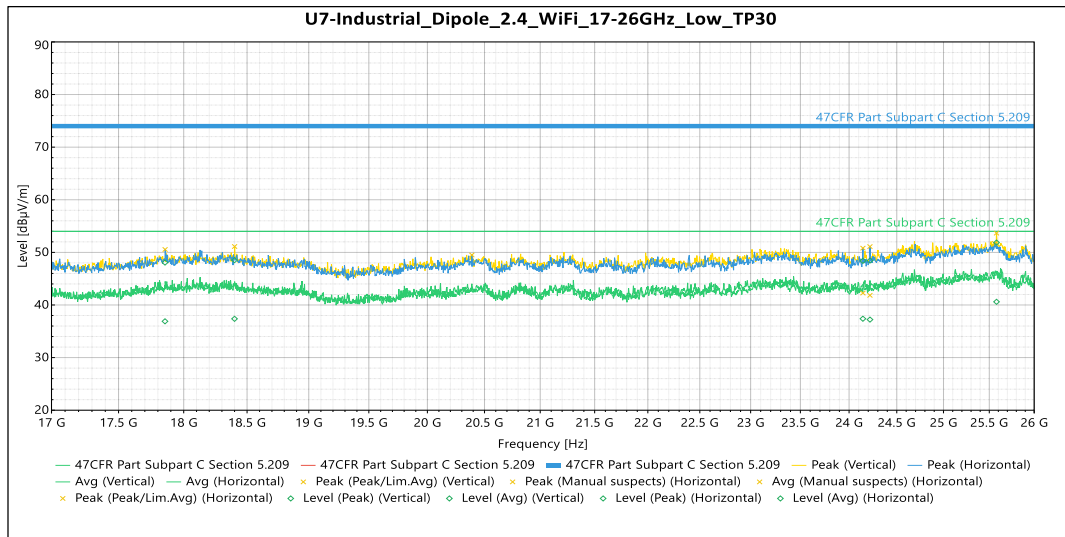
Peak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
No significant emission were observed in the vertical orientation of the antenna							
7.39 GHz	52.52	74.0	-21.48	87	2.132	Horizontal	0.02
10.36 GHz	54.09	74.0	-19.91	163	2.136	Horizontal	6.71

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
No significant emission were observed in the vertical orientation of the antenna							
7.39 GHz	38.60	54.0	-15.40	87	2.132	Horizontal	0.02
10.36 GHz	45.59	54.0	-8.41	163	2.136	Horizontal	6.71

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



Peak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
18.40 GHz	48.52	74.0	-25.48	130	Vertical	-0.73
25.58 GHz	51.86	74.0	-22.14	243	Vertical	3.05
17.86 GHz	48.06	74.0	-25.94	215	Horizontal	-0.61
24.14 GHz	48.39	74.0	-25.61	118	Horizontal	0.32
24.22 GHz	48.44	74.0	-25.56	88	Horizontal	0.44

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
18.40 GHz	37.37	54.0	-16.63	130	Vertical	-0.73
25.58 GHz	40.60	54.0	-13.40	243	Vertical	3.05
17.86 GHz	36.90	54.0	-17.10	215	Horizontal	-0.61
24.14 GHz	37.38	54.0	-16.62	118	Horizontal	0.32
24.22 GHz	37.22	54.0	-16.78	88	Horizontal	0.44

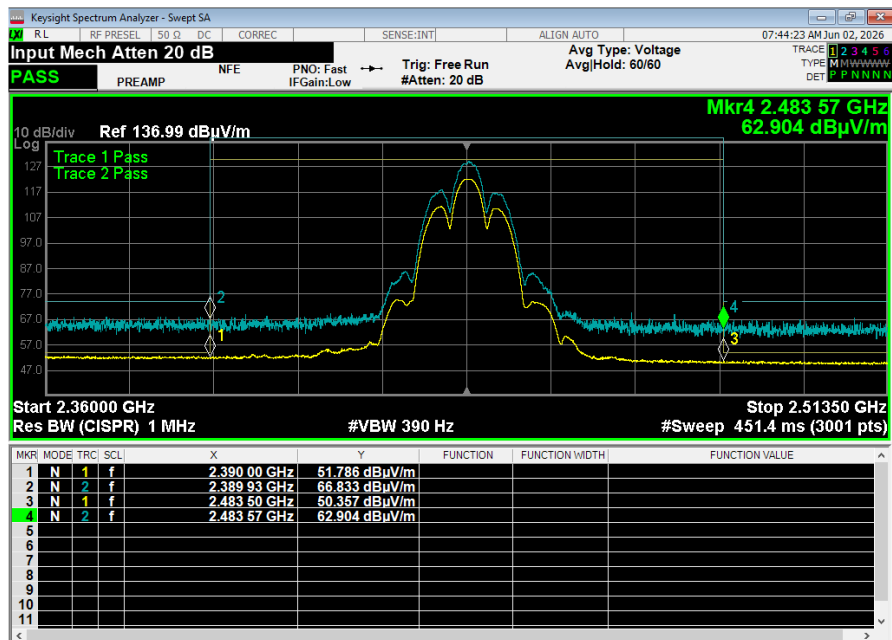
Table 13: Radiated Emissions 17 – 26 GHz at the Lowest Frequency (worse case)

5.5.3 Band Edge

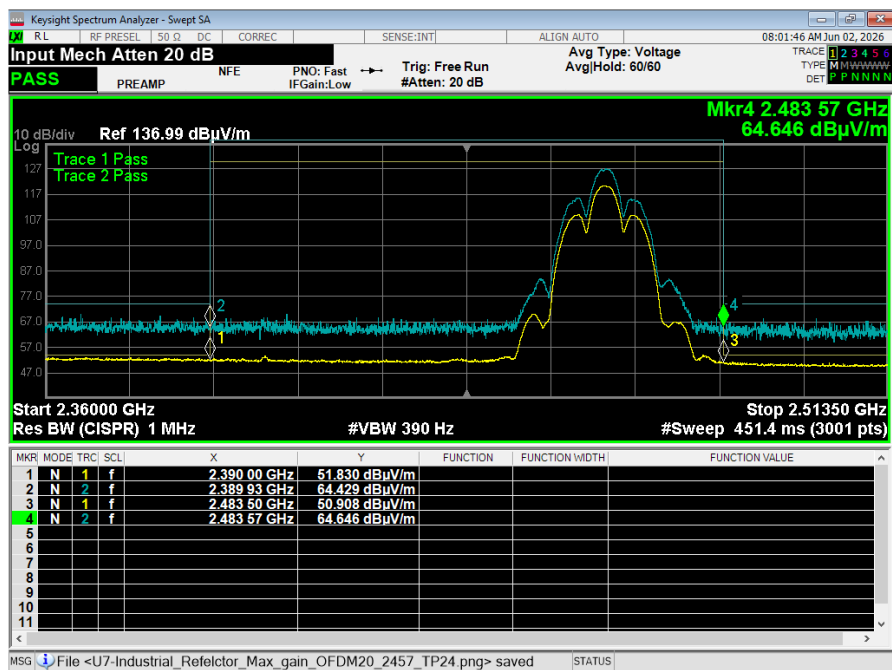
Internal Antenna



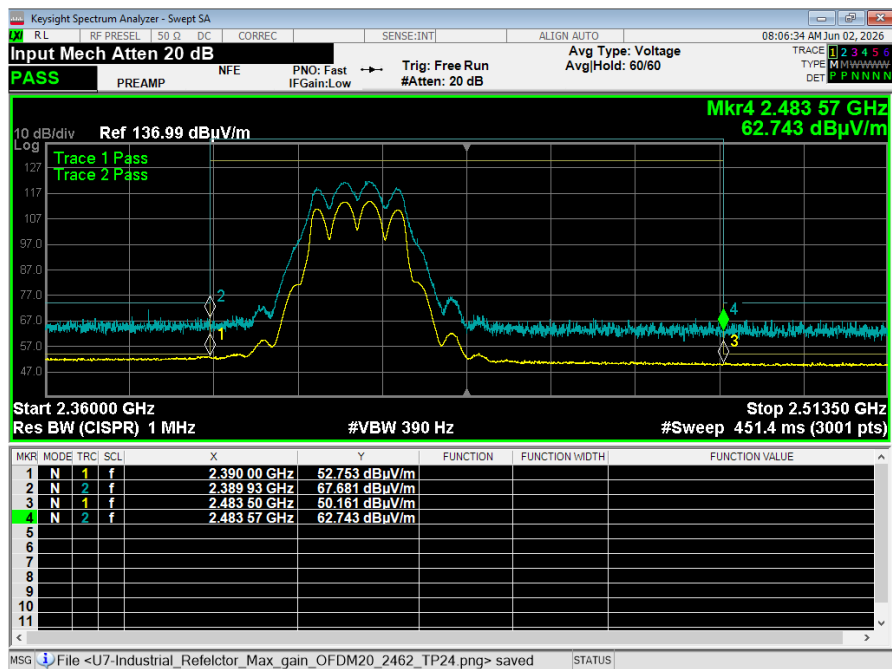
Graph 3: Lower Band Edge Plot – 2412 MHz – b Mode



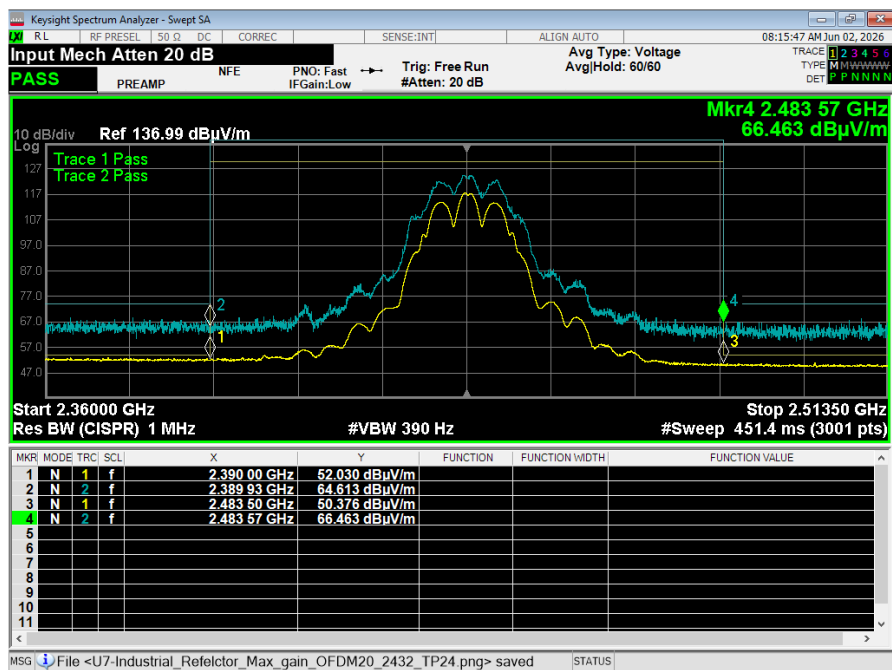
Graph 4: Middle Band Edge Plot – 2437 MHz – b Mode



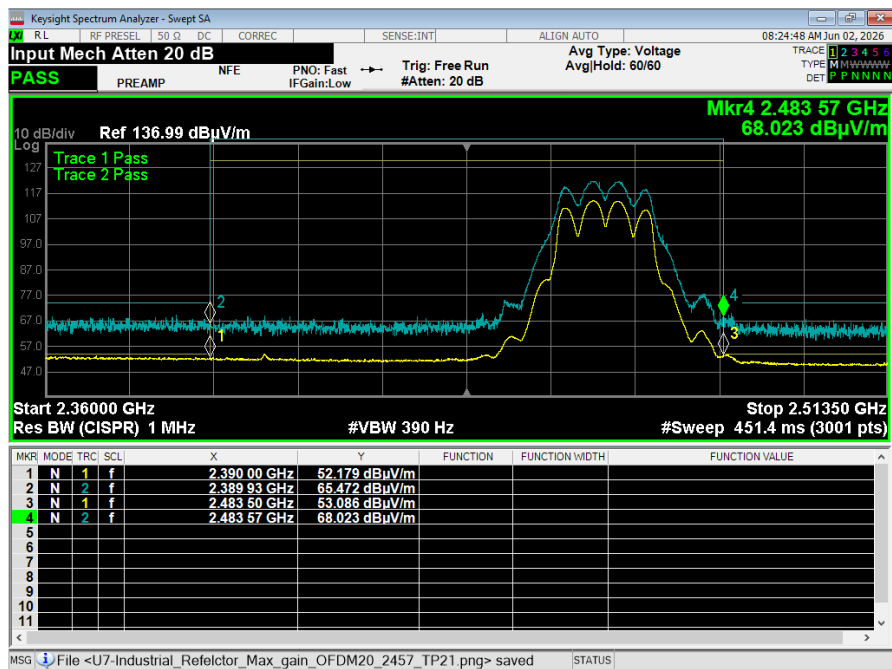
Graph 5: Upper Band Edge Plot – 2462 MHz – b Mode



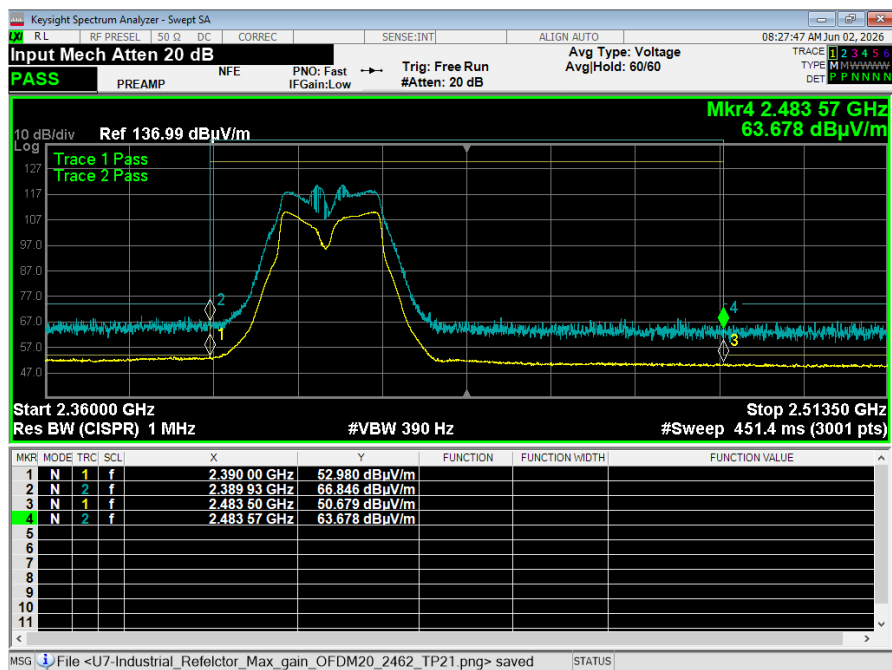
Graph 6: Lower Band Edge Plot – 2412 MHz – g Mode



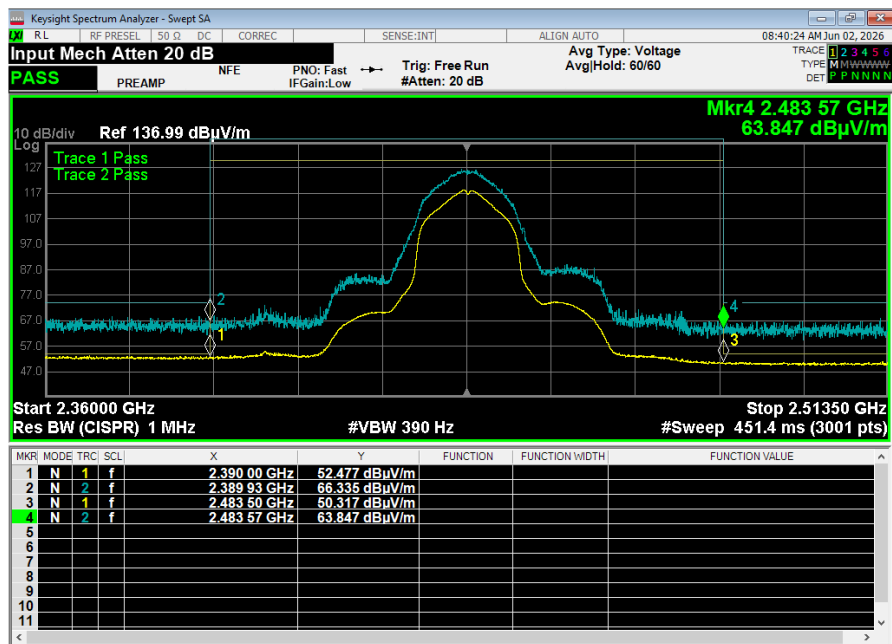
Graph 7: Middle Band Edge Plot – 2437 MHz – g Mode



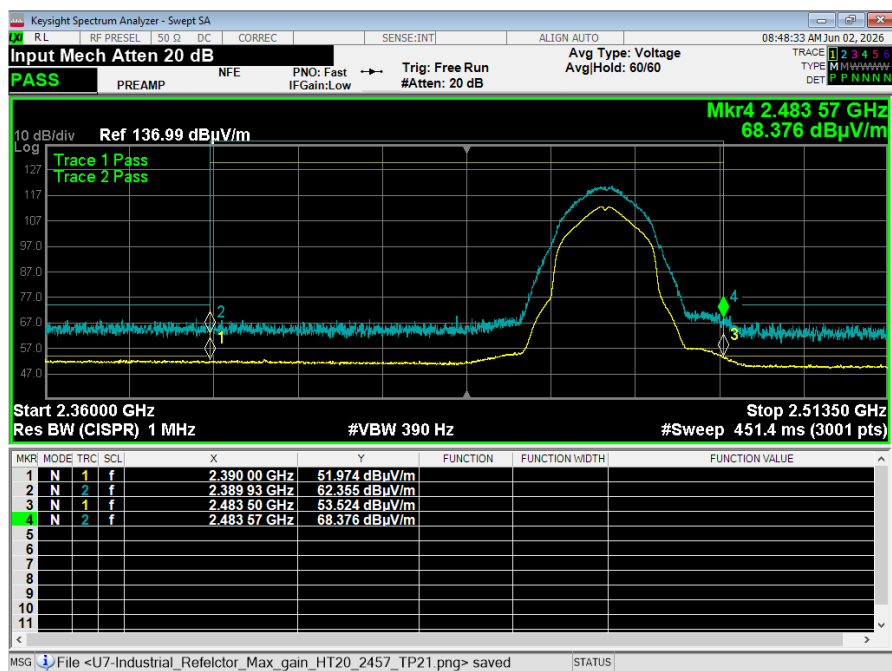
Graph 8: Upper Band Edge Plot – 2462 MHz – g Mode



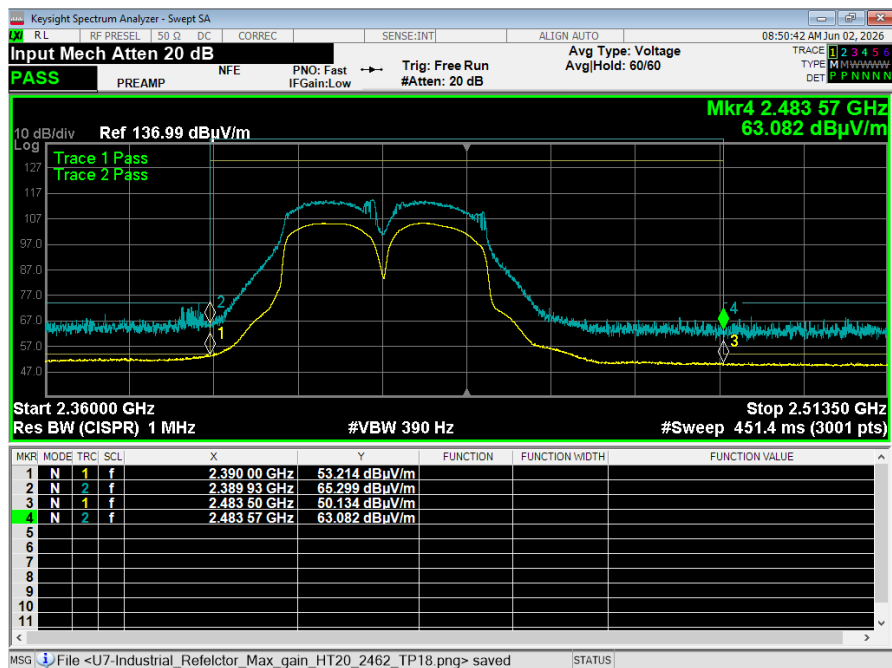
Graph 9: Lower Band Edge Plot – 2412 MHz – n20 Mode



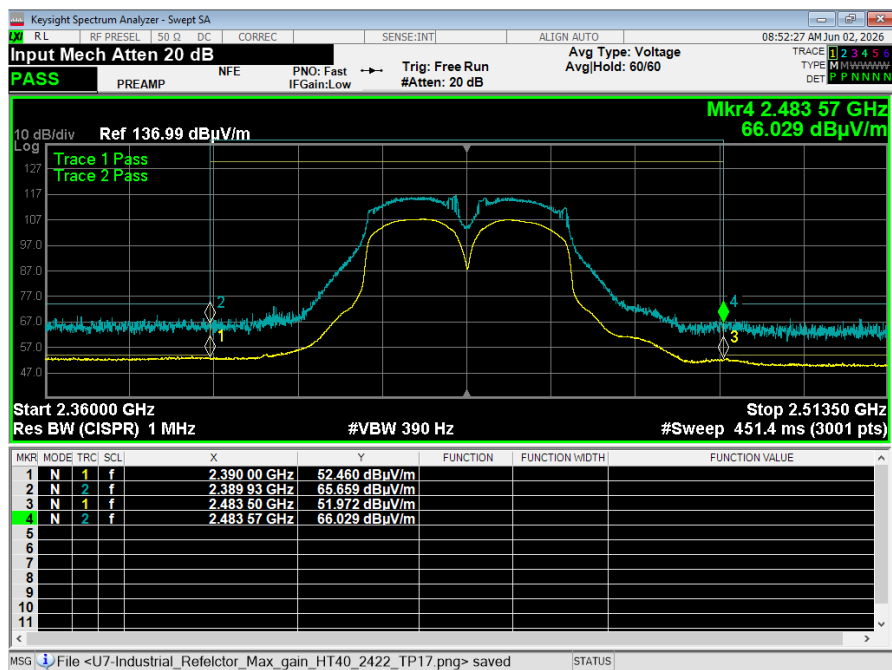
Graph 10: Middle Band Edge Plot – 2437 MHz – n20 Mode



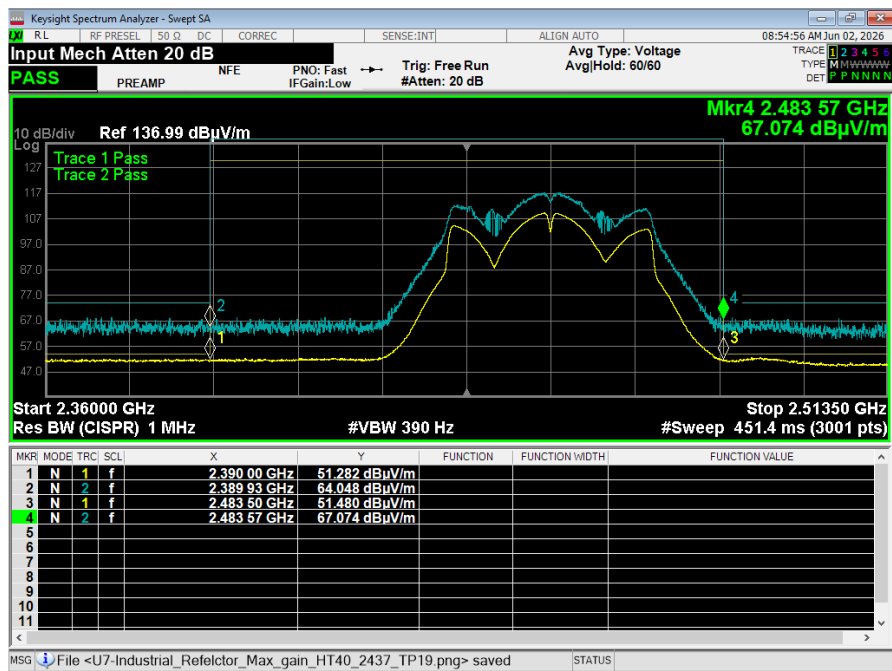
Graph 11: Upper Band Edge Plot – 2462 MHz – n20 Mode



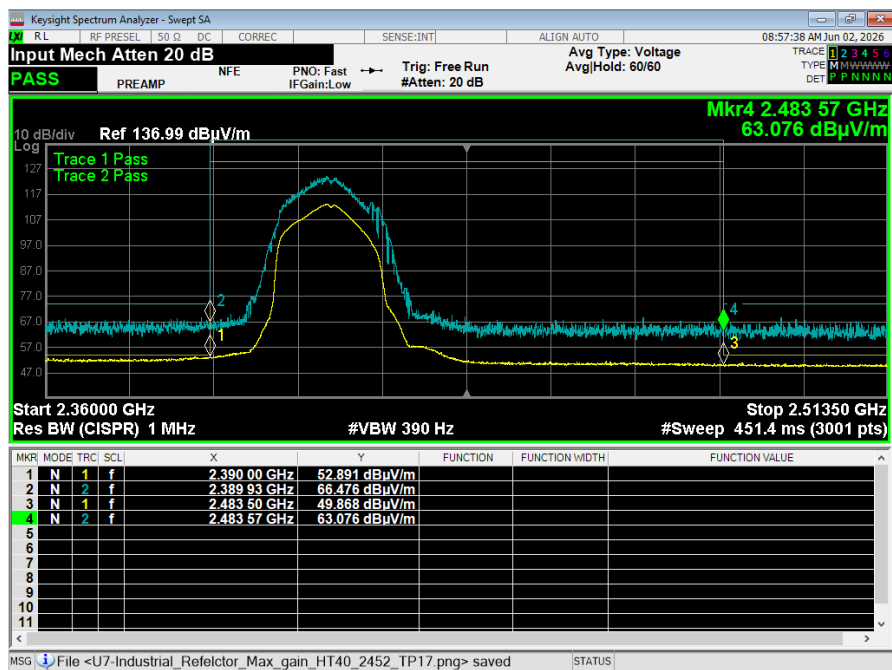
Graph 12: Lower Band Edge Plot – 2422 MHz – n40 Mode



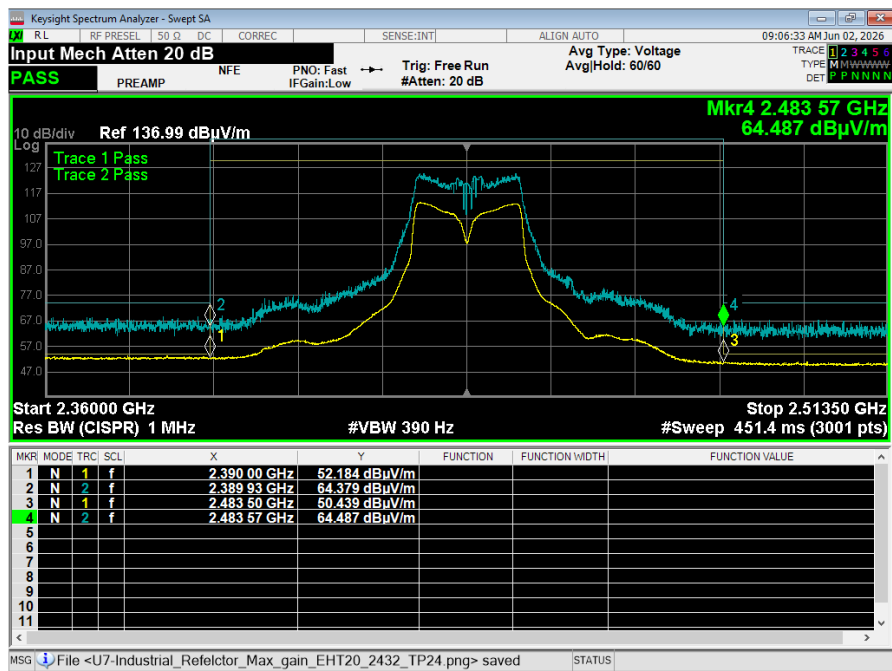
Graph 13: Middle Band Edge Plot – 2437 MHz – n40 Mode



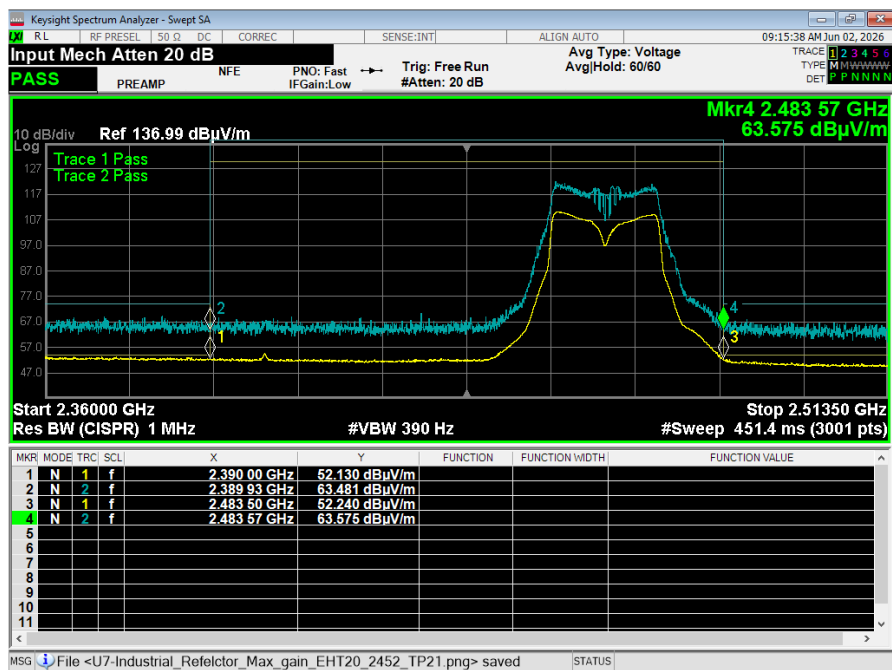
Graph 14: Upper Band Edge Plot – 2452 MHz – n40 Mode



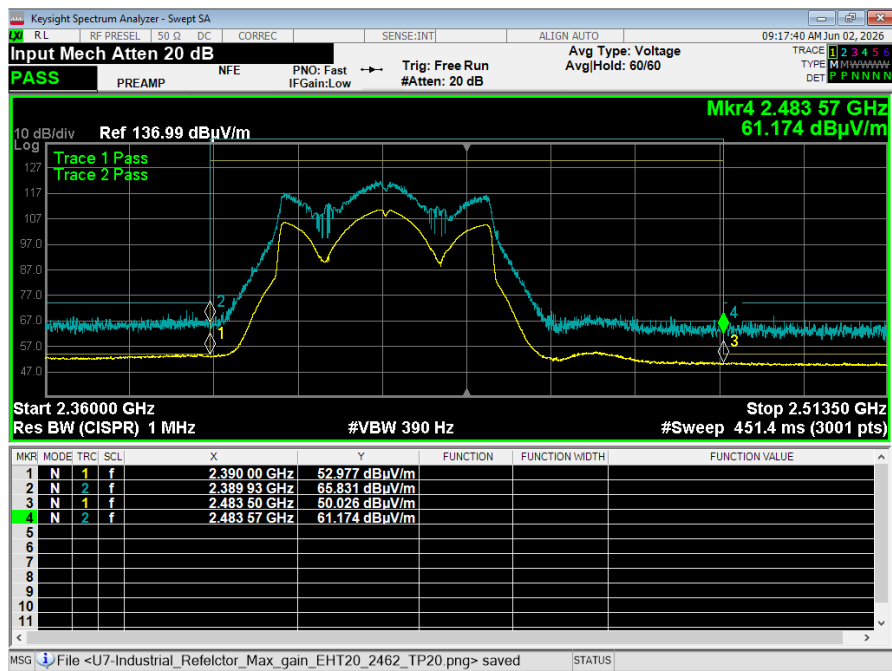
Graph 15: Lower Band Edge Plot – 2412 MHz – be20 Mode



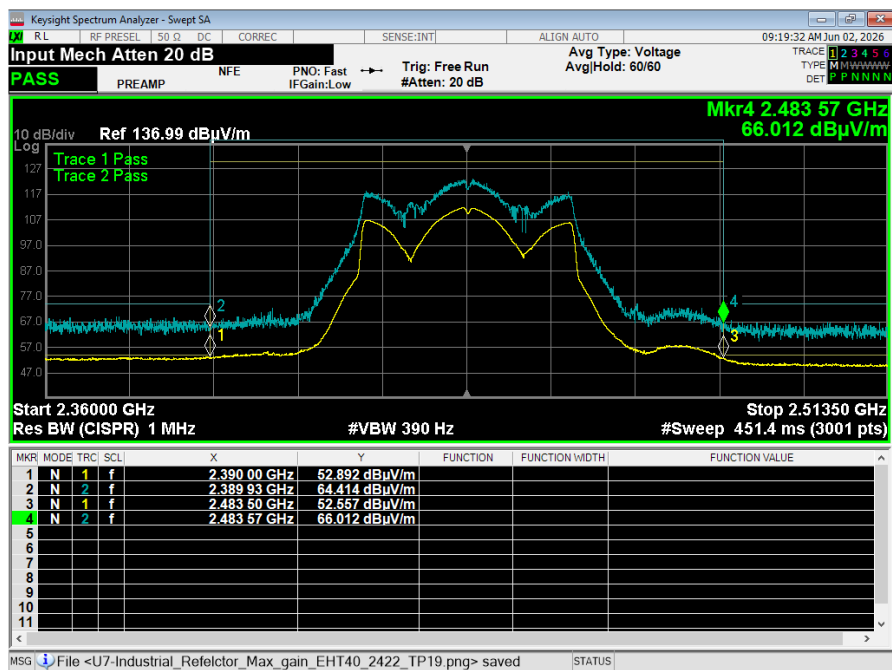
Graph 16: Middle Band Edge Plot – 2437 MHz – be20 Mode



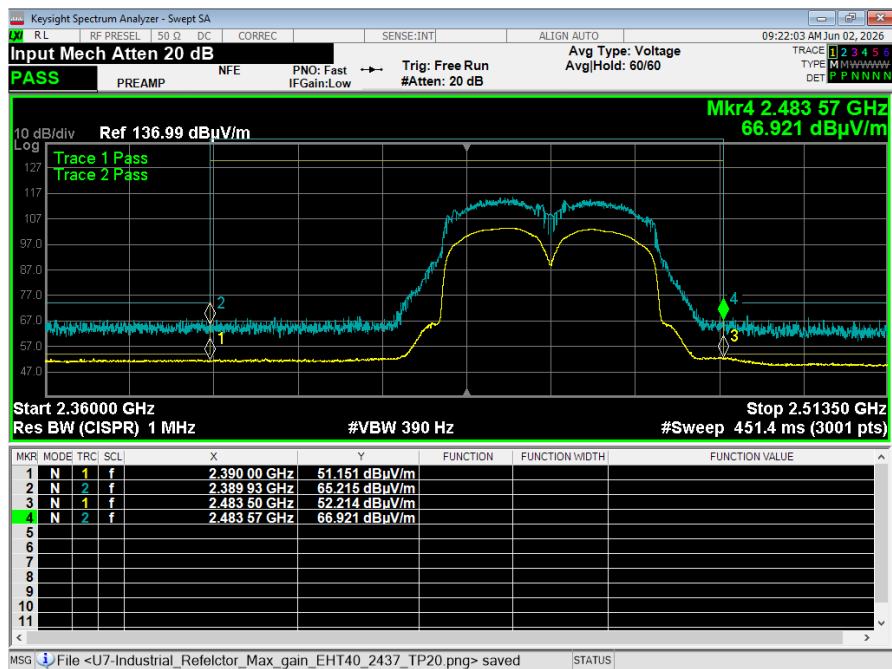
Graph 17: Upper Band Edge Plot – 2462 MHz – be20 Mode



Graph 18: Lower Band Edge Plot – 2422 MHz – be40 Mode

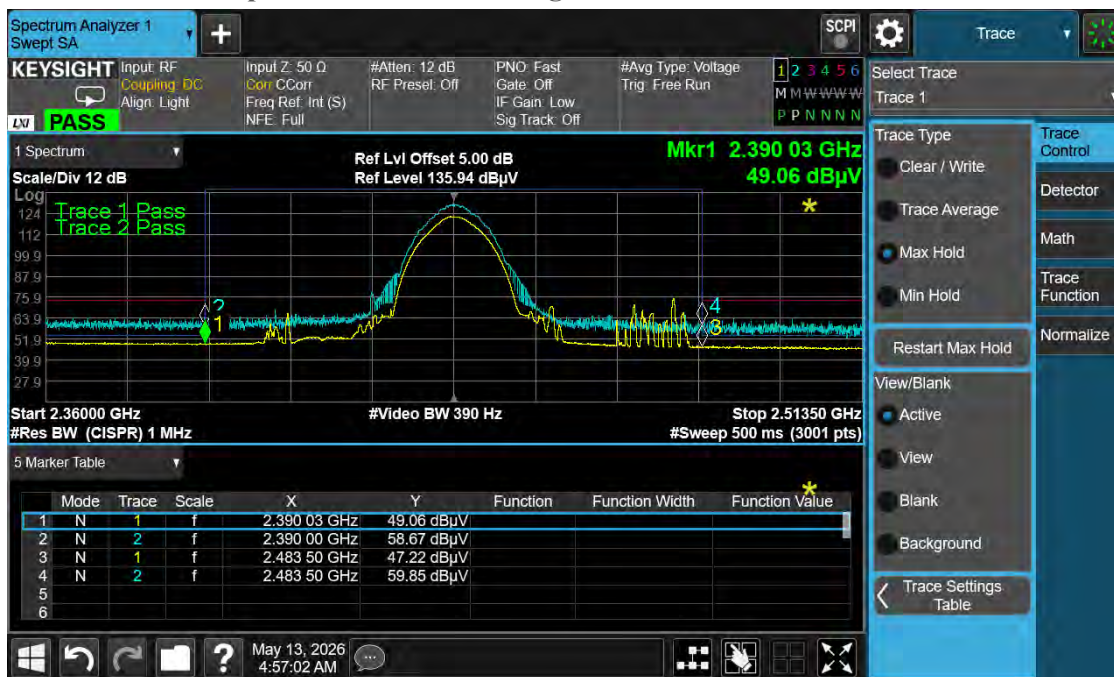
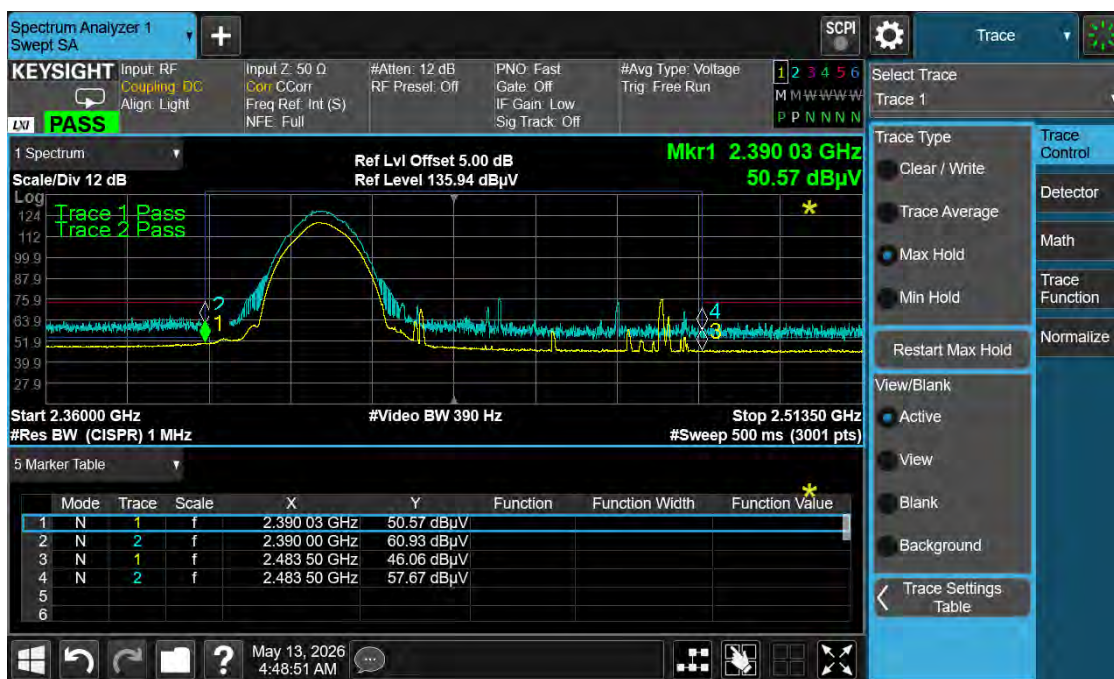


Graph 19: Middle Band Edge Plot – 2437 MHz – be40 Mode



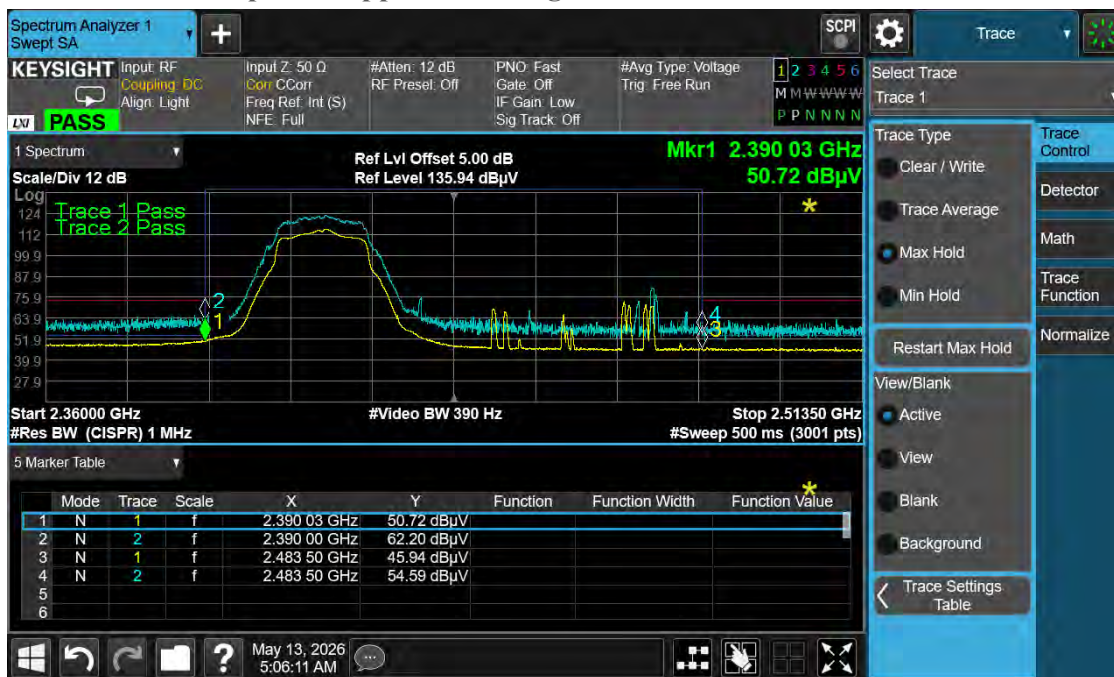
Graph 20: Upper Band Edge Plot – 2452 MHz – be40 Mode

External Antenna

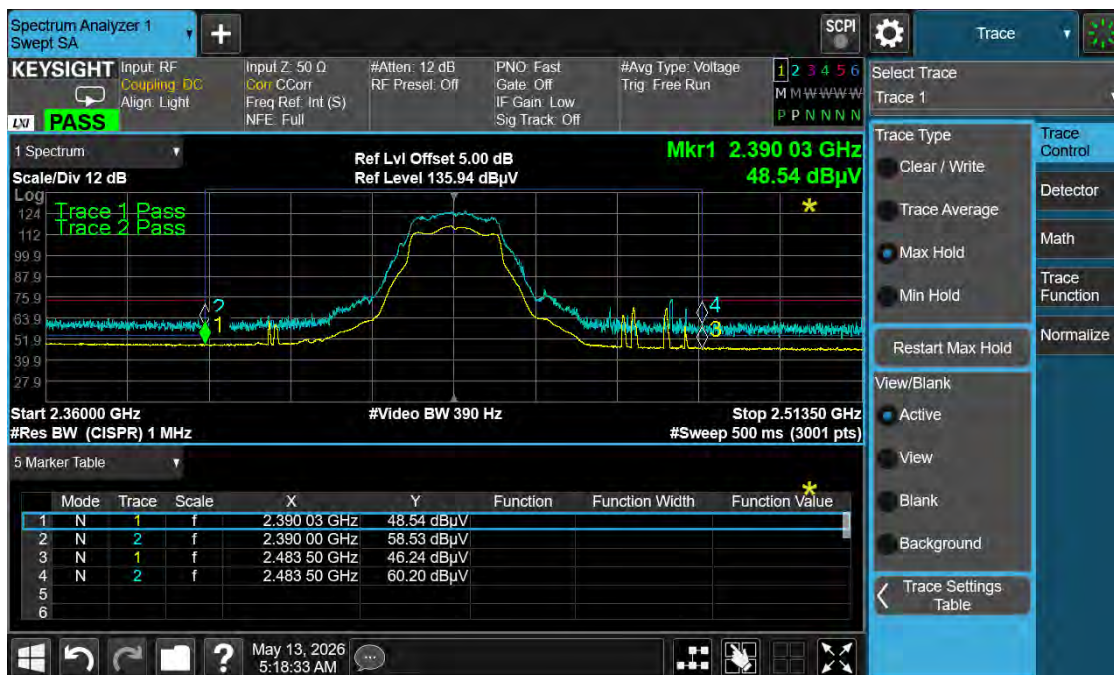




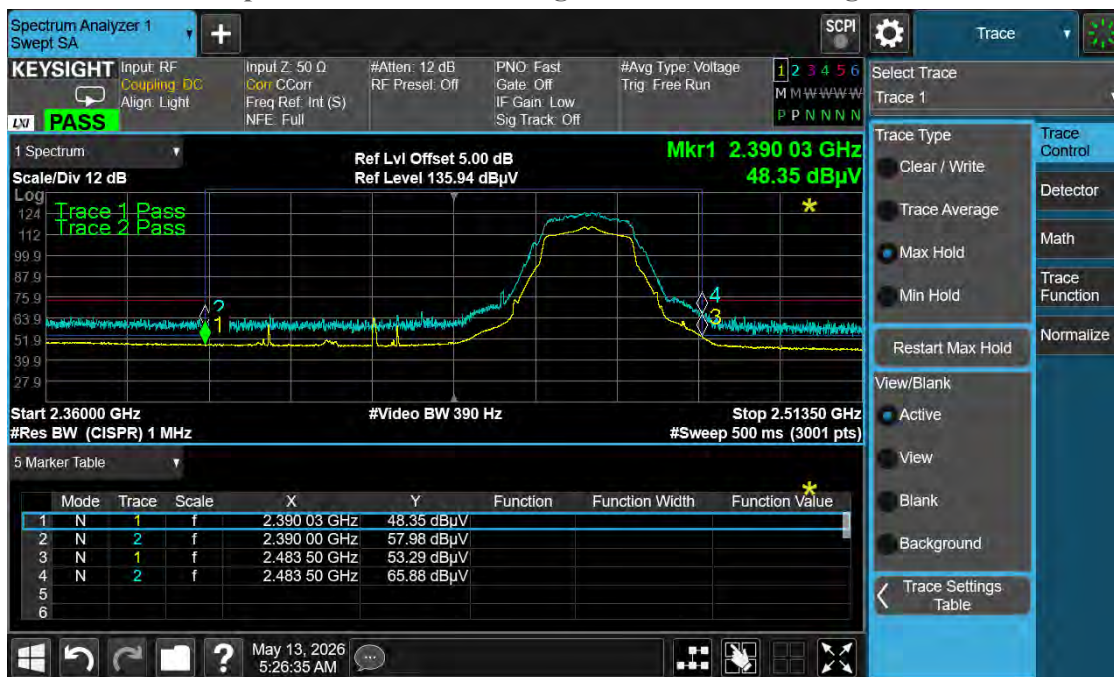
Graph 23: Upper Band Edge Plot – 2462 MHz – b Mode



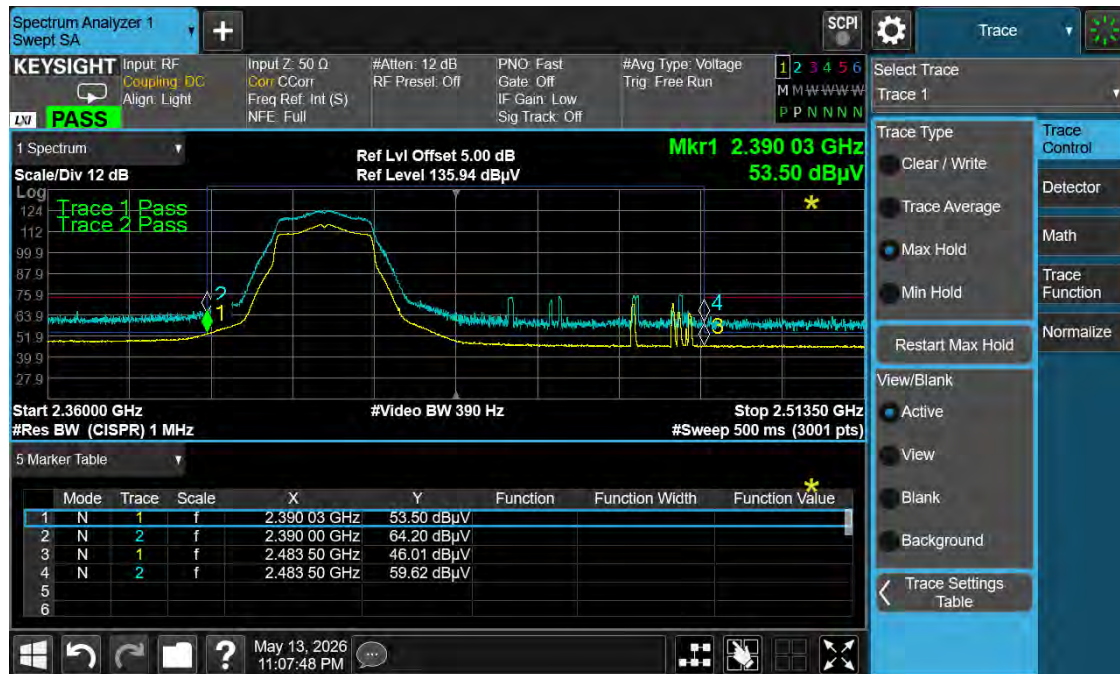
Graph 24: Lower Band Edge Plot – 2412 MHz – g Mode



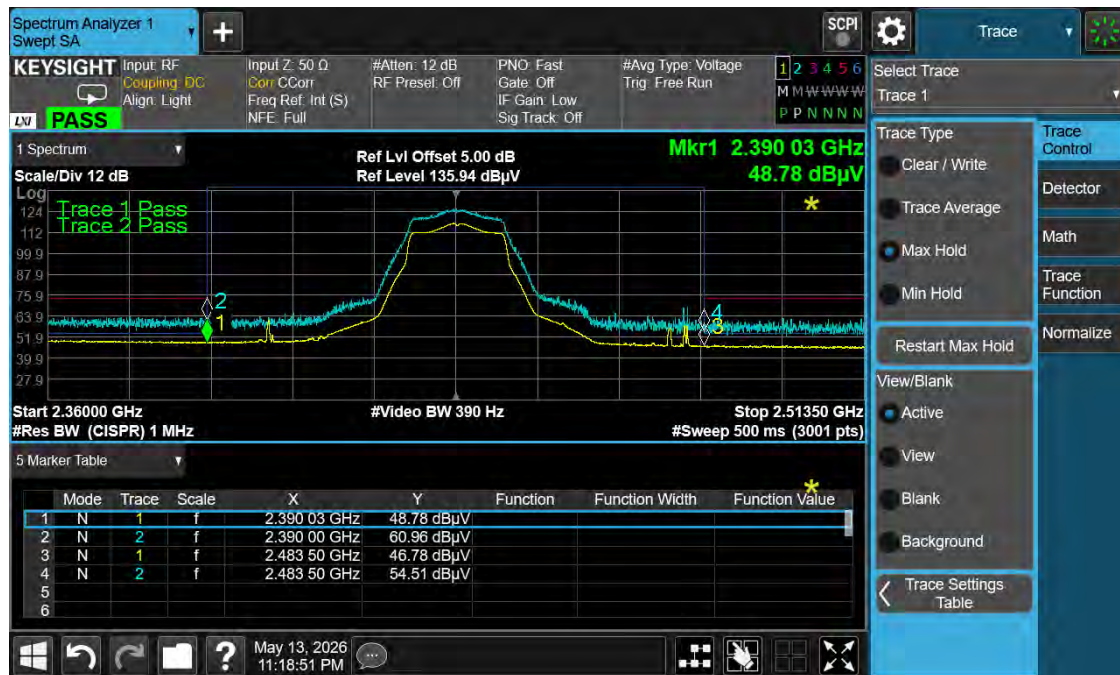
Graph 25: Middle Band Edge Plot – 2437 MHz – g Mode



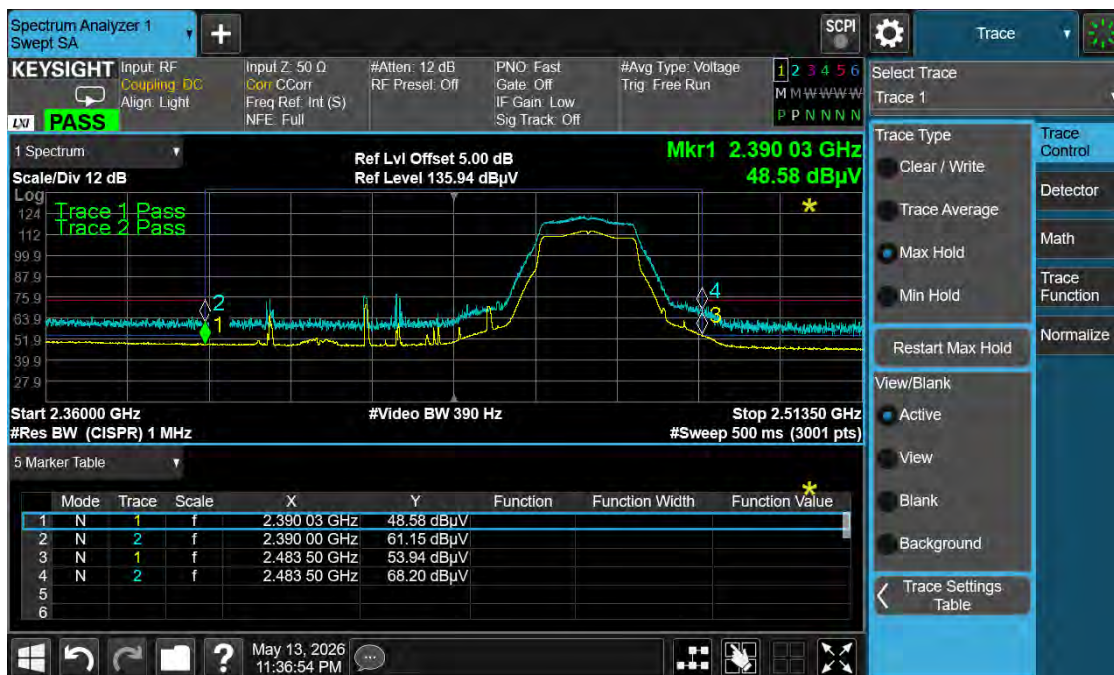
Graph 26: Upper Band Edge Plot – 2462 MHz – g Mode



Graph 27: Lower Band Edge Plot – 2412 MHz – n20 Mode



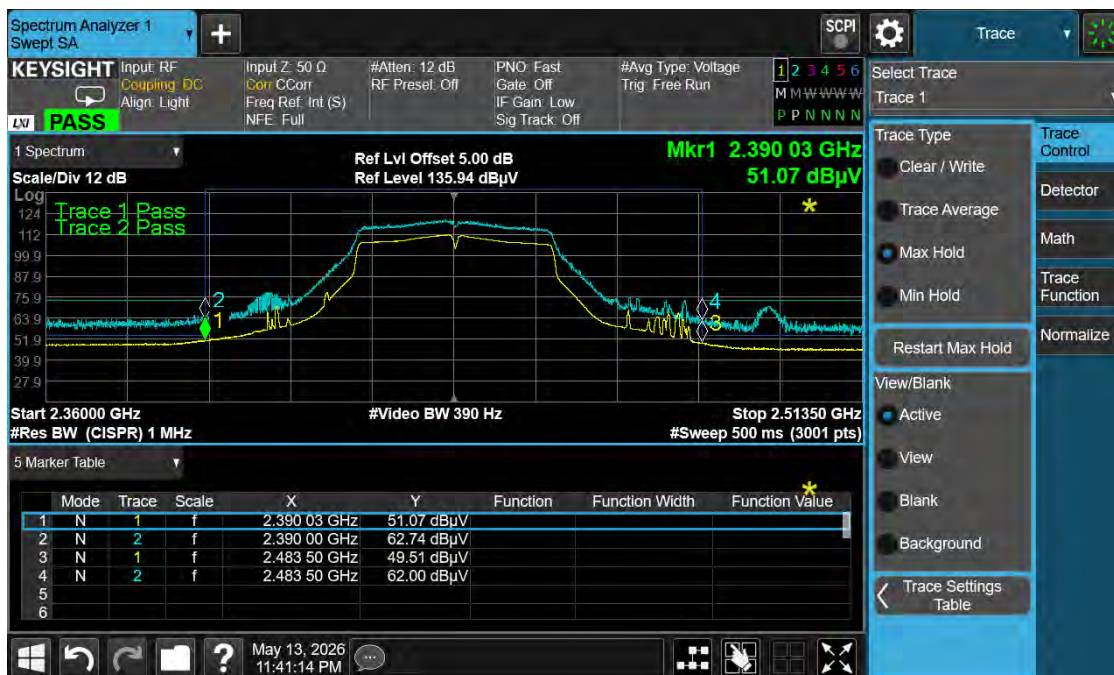
Graph 28: Middle Band Edge Plot – 2437 MHz – n20 Mode



Graph 29: Upper Band Edge Plot – 2462 MHz – n20 Mode



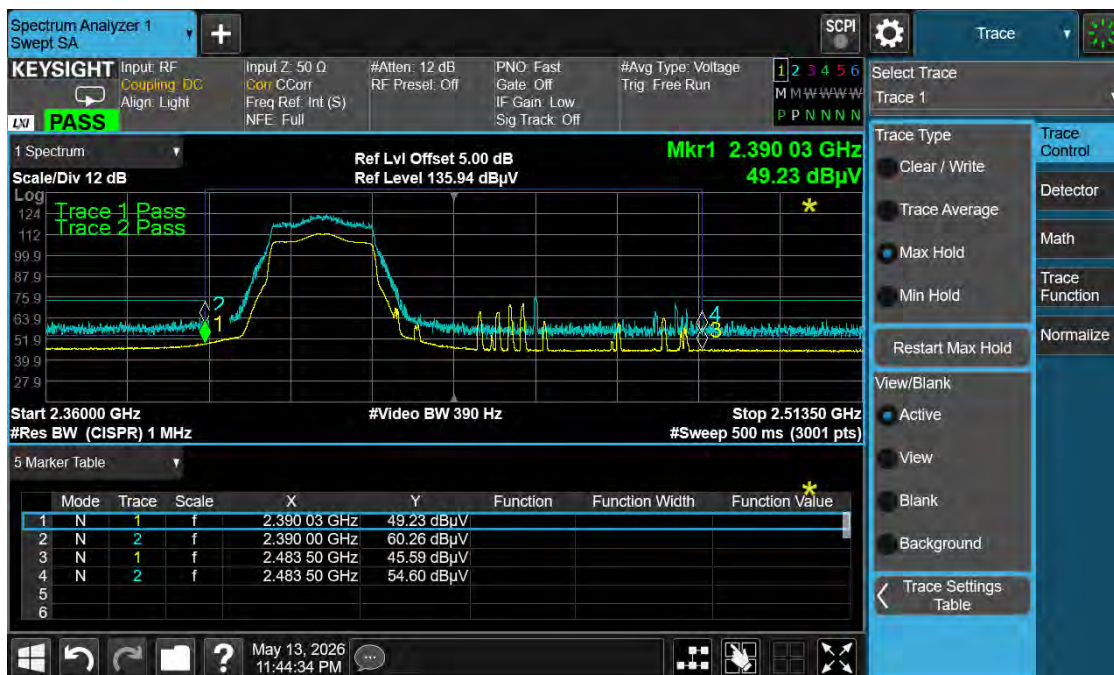
Graph 30: Lower Band Edge Plot – 2422 MHz – n40 Mode



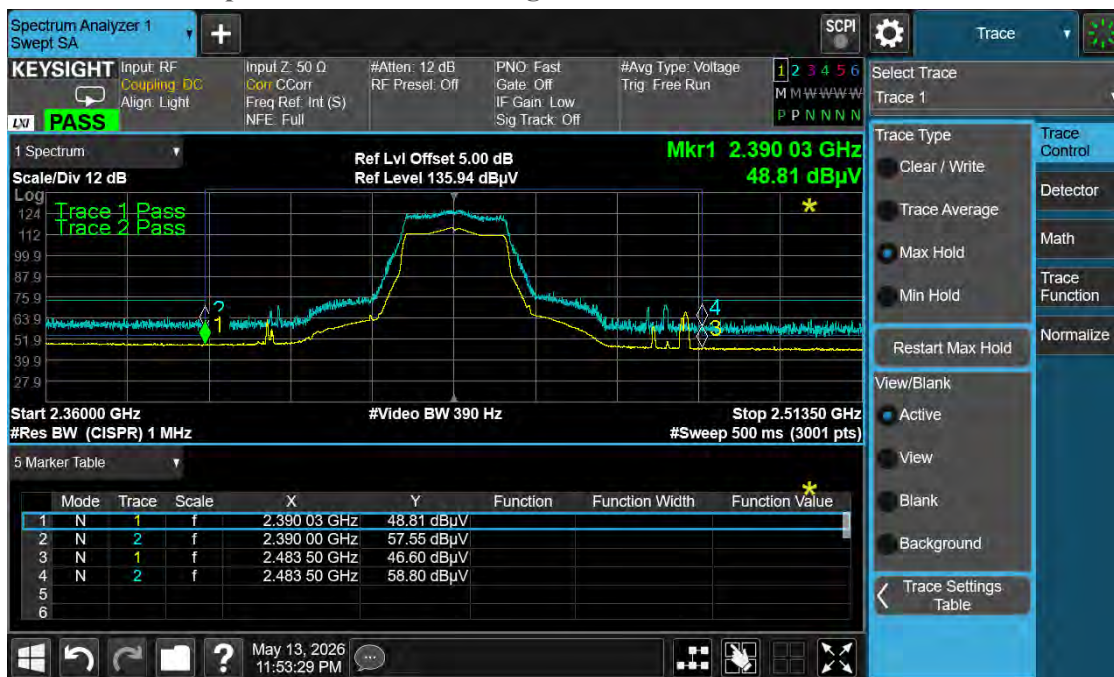
Graph 31: Middle Band Edge Plot – 2437 MHz – n40 Mode



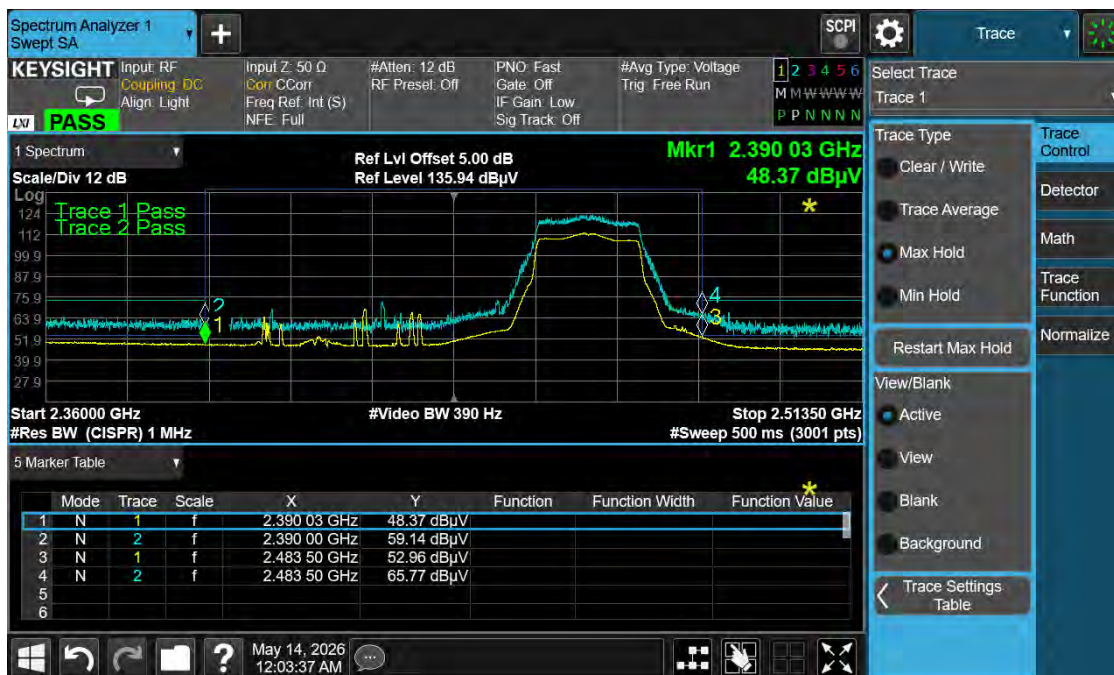
Graph 32: Upper Band Edge Plot – 2452 MHz – n40 Mode



Graph 33: Lower Band Edge Plot – 2412 MHz – be20 Mode



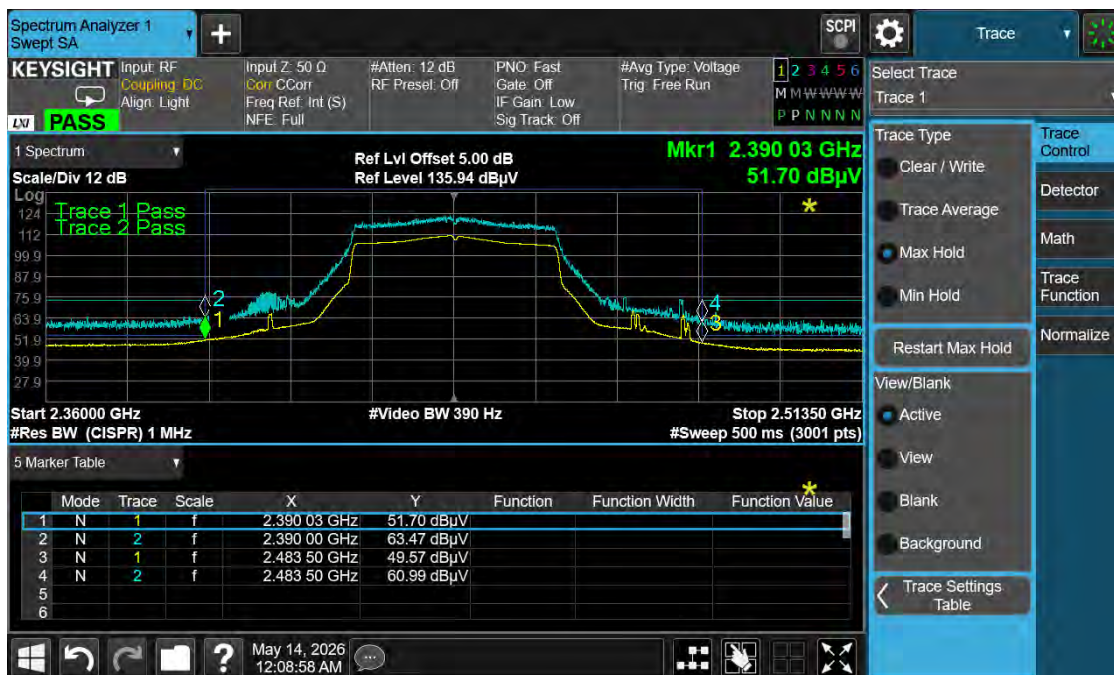
Graph 34: Middle Band Edge Plot – 2437 MHz – be20 Mode



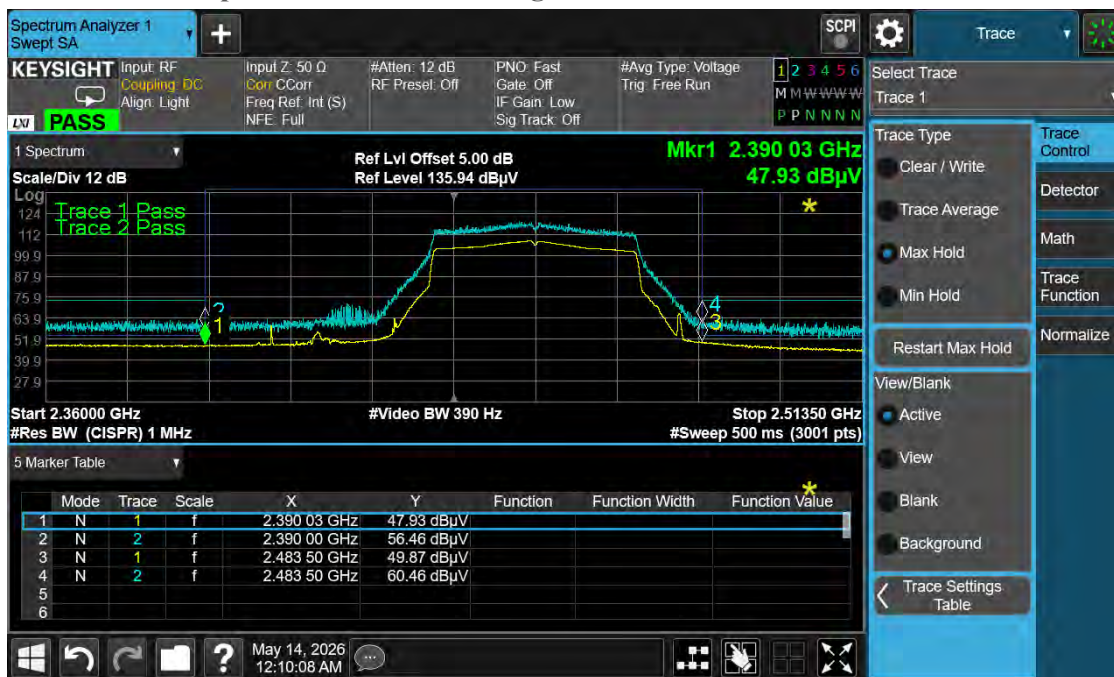
Graph 35: Upper Band Edge Plot – 2462 MHz – be20 Mode



Graph 36: Lower Band Edge Plot – 2422 MHz – be40 Mode



Graph 37: Middle Band Edge Plot – 2437 MHz – be40 Mode



Graph 38: Upper Band Edge Plot – 2452 MHz – be40 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.

5.6.1 Internal Antenna 10 dBi

Mode	Frequency (MHz)	Data Rate	TP Setting	Total Sum PSD EIRP (dBm)	Antenna Gain (dBi)	Limit (dBm)	Margin (dBm)
b	2412	Msc0_Nss2	23	0.45	10	4	-3.55
	2437	Msc0_Nss2	23	0.56	10	4	-3.44
	2462	Msc0_Nss2	23	0.65	10	4	-3.35
g	2412	Msc0_Nss2	21	-8.23	10	4	-12.23
	2437	Msc0_Nss2	24	-5.73	10	4	-9.73
	2462	Msc0_Nss2	21	-7.97	10	4	-11.97
n 20	2412	Msc0_Nss2	21	-10.07	10	4	-14.07
	2437	Msc0_Nss2	24	-6.64	10	4	-10.64
	2462	Msc0_Nss2	18	-13.11	10	4	-17.11
n 40	2422	Msc0_Nss2	17	-16.47	10	4	-20.47
	2437	Msc0_Nss2	19	-15.12	10	4	-19.12
	2452	Msc0_Nss2	17	-16.83	10	4	-20.83
be 20	2412	Msc0_Nss2	19	-12.22	10	4	-16.22
	2437	Msc0_Nss2	24	-6.96	10	4	-10.96
	2462	Msc0_Nss2	20	-10.66	10	4	-14.66
be 40	2422	Msc0_Nss2	19	-15.19	10	4	-19.19
	2437	Msc0_Nss2	20	-13.45	10	4	-17.45

	2452	Msc0_Nss2	15	-18.83	10	4	-22.83
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5.6.2 Internal Antenna 8 dBi

Mode	Frequency (MHz)	Data Rate	TP Setting	Total Sum PSD EIRP (dBm)	Antenna Gain (dBi)	Limit (dBm)	Margin (dBm)
b	2412	Msc0_Nss2	25	3.02	8	6	-2.98
	2437	Msc0_Nss2	25	2.00	8	6	-4.00
	2462	Msc0_Nss2	24	1.12	8	6	-4.88
g	2412	Msc0_Nss2	23	-6.85	8	6	-12.85
	2437	Msc0_Nss2	24	-5.28	8	6	-11.28
	2462	Msc0_Nss2	20	-10.28	8	6	-16.28
n 20	2412	Msc0_Nss2	21	-9.78	8	6	-15.78
	2437	Msc0_Nss2	24	-8.16	8	6	-14.16
	2462	Msc0_Nss2	21	-10.88	8	6	-16.88
n 40	2422	Msc0_Nss2	19	-15.25	8	6	-21.25
	2437	Msc0_Nss2	20	-13.28	8	6	-19.28
	2452	Msc0_Nss2	18	-15.72	8	6	-21.72
be 20	2412	Msc0_Nss2	21	-10.36	8	6	-16.36
	2437	Msc0_Nss2	24	-8.00	8	6	-14.00
	2462	Msc0_Nss2	18	-14.05	8	6	-20.05
be 40	2422	Msc0_Nss2	19	-14.47	8	6	-20.47
	2437	Msc0_Nss2	20	-14.44	8	6	-20.44
	2452	Msc0_Nss2	18	-15.43	8	6	-21.43

5.6.3 External Antenna

Mode	Frequency (MHz)	Data Rate	TP Setting	Total Sum PSD EIRP (dBm)	Antenna Gain (dBi)	Limit (dBm)	Margin (dBm)
b	2412	Msc0_Nss2	25	0.67	5	8	-7.33
	2437	Msc0_Nss2	27	2.69	5	8	-5.31
	2462	Msc0_Nss2	26	1.15	5	8	-6.85
g	2412	Msc0_Nss2	24	-6.57	5	8	-14.57
	2437	Msc0_Nss2	26	-4.20	5	8	-12.20
	2462	Msc0_Nss2	23	-10.28	5	8	-18.28
n 20	2412	Msc0_Nss2	21	-11.01	5	8	-19.01
	2437	Msc0_Nss2	25	-6.50	5	8	-14.50
	2462	Msc0_Nss2	24	-9.72	5	8	-17.72
n 40	2422	Msc0_Nss2	18	-17.03	5	8	-25.03
	2437	Msc0_Nss2	22	-13.99	5	8	-21.99
	2452	Msc0_Nss2	18	-16.57	5	8	-24.57
be 20	2412	Msc0_Nss2	22	-10.31	5	8	-18.31
	2437	Msc0_Nss2	25	-9.01	5	8	-17.01
	2462	Msc0_Nss2	20	-12.38	5	8	-20.38
be 40	2422	Msc0_Nss2	20	-13.51	5	8	-21.51
	2437	Msc0_Nss2	24	-10.33	5	8	-18.33
	2452	Msc0_Nss2	20	-14.79	5	8	-22.79

Result

The maximum average power spectral density was less than the limit of 8 dBm (adjusted according for the higher gain antennas); therefore, the EUT complies with the specification. The Nss1 (adjusted limit of 5.99) test data is not shown as the initial test results comply with the Nss1 limit.

-- End of Test Report --