UNIFIED COMPLIANCE LABORATORY

427 West 12800 South
Draper, UT 84020

Test Report

Certification

FCC ID	SWX-WAVEML6
Equipment Under Test	Wave-MLO6
Test Report Serial Number	TR10562_01
Date of Test(s)	15 May – 11 July 2025
Report Issue Date	1 December 2025

Test Specification	Applicant
47 CFR FCC Part 15, Subpart E RSS-247, Issue 3 (August 2023)	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 E. This report may be reproduced in full. Partial reproduction of this report may only be made with the written consent of the laboratory. The results in this report apply only to the sample tested with the specifications provided by the manufacturer.

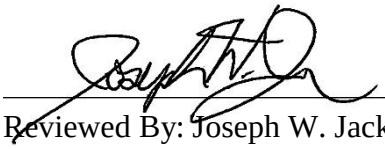
Applicant	Ubiquiti Inc.
Manufacturer	Ubiquiti Inc.
Brand Name	UBIQUITI
Model Number	Wave-MLO6
FCC ID	SWX-WAVEML6

On this 1st day of December 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: Clay Allred



Reviewed By: Joseph W. Jackson

Revision History		
Revision	**Description**	**Date**
01	Original Report Release	1 December 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		Wave-MLO6
Serial Number		2FE39D
Dimensions (cm)		24.9 x 8.2 x 4.8
Antenna 1:	**Manufacturer:**	UBIQUITI
	Model:	UISP-Dish
	Gain:	30 dBi
	Type:	Dish
Antenna 2:	**Manufacturer:**	UBIQUITI
	Model:	UISP-Horn
	Gain:	19.5 dBi
	Type:	Horn

2.2 Description of EUT

The Wave-MLO6 is a 5 GHz and 6 GHz point-to-point customer premise equipment which features wave technology with a high throughput rate. The 5 GHz radio supports U-NII-1, U-NII-2 and U-NII-3 bands. The 6 GHz radio support U-NII-5 and U-NII-7 bands. The Wave-MLO6 has Bluetooth LE transceiver for system management. The Wave-MLO6 is an outdoor device and has an Ethernet port which is used for data transfer and is powered using a Model U-POE++ 48-volt PoE power adapter.

The following is list of the antennas that the Wave-MLO6 can use. However, testing was performed considering only the Max and Min antenna gain antennas.

Antenna Type	**Model Number**	**Antenna Gain (dBi)**
Dish	UISP Dish	30
	UISP Dish Mini	26
Horn	UISP Horn	19

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

The table below shows the channels used within the different modulation bandwidths.

Band	WiFi Mode	Modulation Bandwidth	Modulation Type	Frequency (MHz)
UNII-1	a	20 MHz	OFDM	5180, 5200, 5210, 5240
	n	20 MHz	HT	5180, 5200, 5210, 5240
	n	40 MHz	HT	5190, 5230
	ac	20 MHz	VHT	5180, 5200, 5210, 5240
	ac	40 MHz	VHT	5190, 5230
	ac	80 MHz	VHT	5210
	ax	20 MHz	HE	5180, 5200, 5210, 5240
	ax	40 MHz	HE	5190, 5230
	ax	80 MHz	HE	5210

For CDD transmission, direction gain is calculated as follows.

UISP- Dish:
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 + 30 dBi = 33.01 dBi.

UISP-Horn:
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 + 19.5 dBi = 22.51 dBi.

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: Wave-MLO6 SN: 2FE39D	Wireless Point-to-Point	See Section 2.4
BN: UBIQUITI MN: U-POE-at SN: N/A	PoE Power Adapter	Shielded or Un-shielded Cat 5e cable (Note 2)
BN: Dell MN: XPS 13 SN: N/A	Laptop Personal Computer	Shielded or Un-shielded Cat 5e cable (Note 2)

Notes: (1) EUT
(2) Interface port connected to EUT (See Section 2.4)

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

2.4 Interface Ports on EUT

Name of Ports	No. of Ports Fitted to EUT	Cable Description/Length
PoE Input	1	7m Shielded Cat 5E
PoE Output (PoE Injector)	1	7m Shielded Cat 5E to Wave-MLO6 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 VAC
AC Mains Frequency	60 Hz
Temperature	18.1 – 24.2 °C
Humidity	24 – 36 %
Barometric Pressure	1020 mBar

2.6 Operating Modes

The Wave-MLO6 was tested using test software in order to enable a constant transmission. The measurements within this report are corrected to reference a 100% duty cycle. All emission modes of 802.11 a/n/ac/ax were investigated. All measurements are reported with the worst-case

mode (802.11ax 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

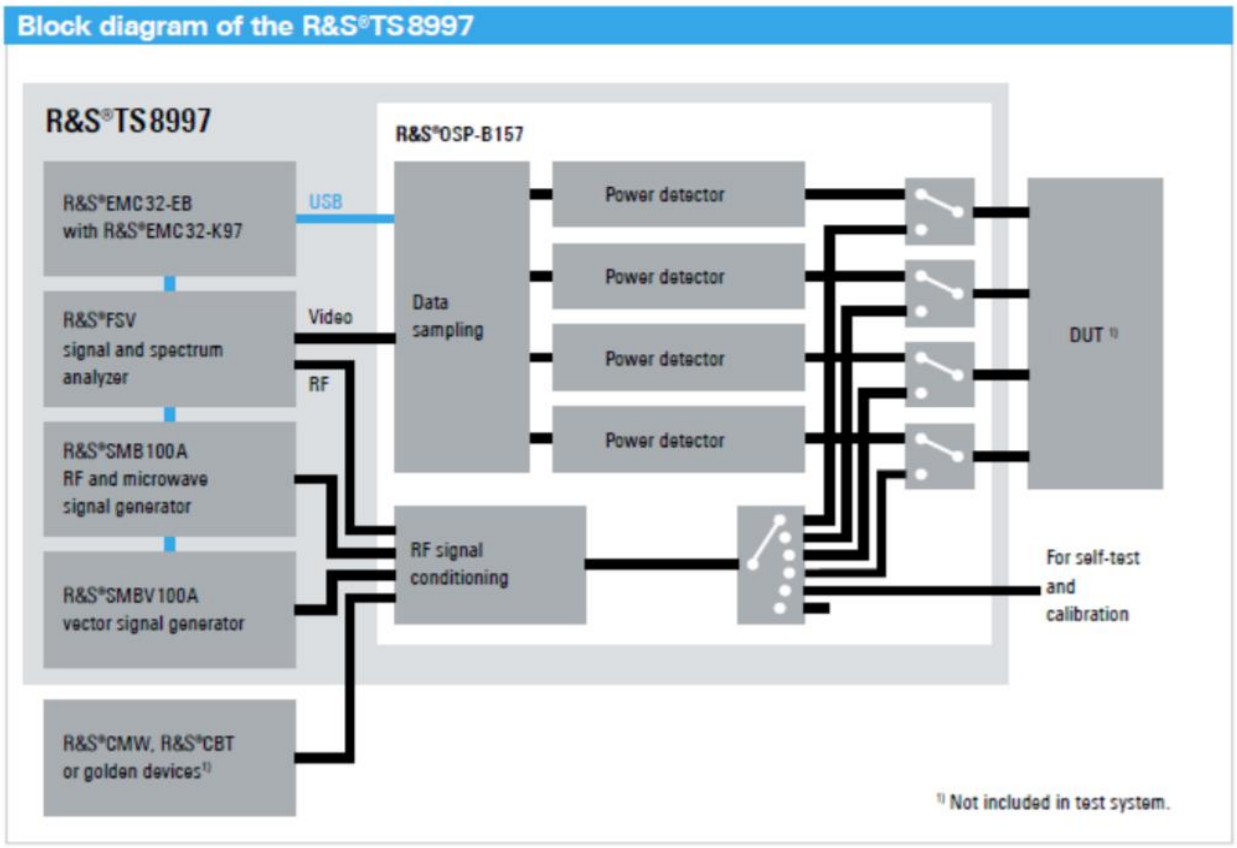


Diagram 1: Test Configuration Block Diagram

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 E, Section 15.407 Limits and methods of measurement of radio interference characteristics of Unlicensed National Information Infrastructure Devices
Purpose of Test	The tests were performed to demonstrate initial compliance

3.2 Methods & Procedures

3.2.1 47 CFR FCC Part 15 Section 15.407

See test standard for details.

3.3 FCC Part 15, Subpart E

3.3.1 Summary of Tests

FCC Section	ISED Section	Environmental Phenomena	Frequency Range (MHZ)	Result
15.203	N/A	Antenna requirements	Structural Requirement	Compliant
15.207	RSS-Gen	Conducted Disturbance at Mains Port	0.15 to 30	Compliant
15.407(a)	RSS-247 §6.2.2	Bandwidth Requirement	5180 to 5210	Compliant
15.407(a)	RSS-247 §6.2.2, §6.2.3	Peak Output Power	5180 to 5210	Compliant
15.407(b)	RSS-247 §6.2.2, §6.2.3	Antenna Conducted Spurious Emissions	0.009 to 40000	N/A Note[1]
15.209	RSS-247 §6.2.2, §6.2.3	Radiated Spurious Emissions	0.009 to 40000	Compliant
15.407(a)	RSS-247 §6.2.2, §6.2.3	Peak Power Spectral Density	5180 to 5210	Compliant
The testing was performed according to the procedures in ANSI C63.10-2013, KDB 789033 and 47 CFR Part 15. Where applicable, KDB 662911 was followed to sum required measurements. Note [1]: Radiated Spurious was performed per 15.209 with the antenna unterminated.				

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 2026. This site has also been registered with Innovations, Science and Economic Development (ISED) department as was accepted under Appendix B, Phase 1 procedures of the APEC Tel MRA for Canadian recognition. ISED No.: 25346, effective until 30 June 2026.

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-6754	2/27/2025	2/27/2026
LISN	AFJ	LS16C/10	UCL-6749	3/3/2025	3/3/2026
ISN	Teseq	ISN T800	UCL-2971	3/31/2025	3/31/2026
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

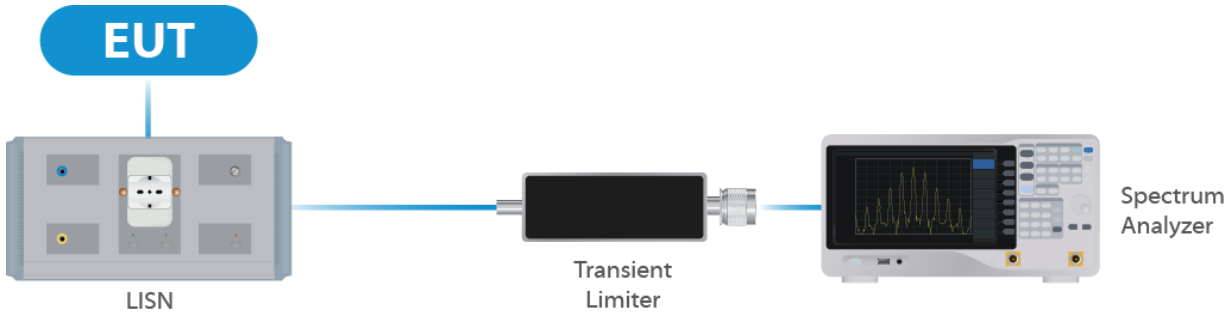


Figure 1: Conducted Emissions Test

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	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	4/28/2025	1/16/2026
Switch Extension	R&S	OSP-150W	UCL-2870	4/28/2025	1/16/2026
Test Software	R&S	EMC32	UCL-9442	--	--

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

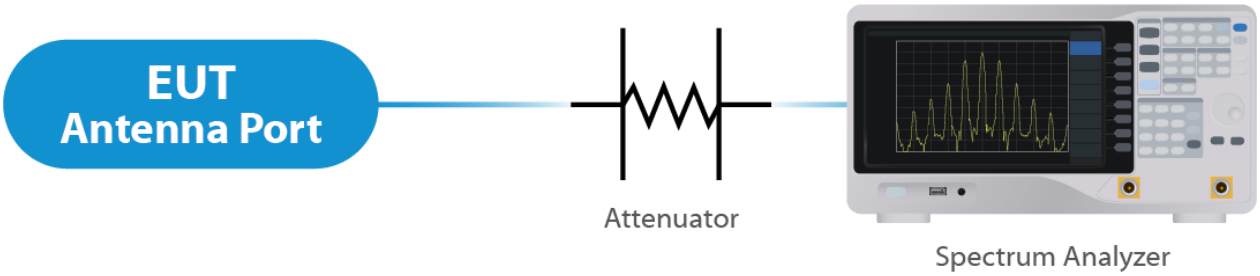


Figure 2: Direct Connect at the Antenna Port Test

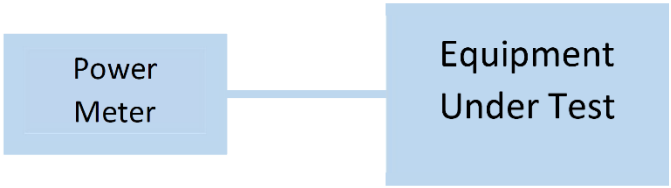


Figure 3: Output Power Measurement

4.3 Radiated Emissions

Type of Equipment	Manufacturer	Model Number	Asset Number	Date of Last Calibration	Due Date of Calibration
EMI Receiver	Keysight	N9038A	UCL-2778	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	ETS-Lindgren	3142E	UCL-9782	2/6/2025	2/6/2026
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
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	7/22/2025	7/22/2026
Test Software	Nexio	BatEMC	UCL-5253 & UCL-5249	N/A	N/A

Table 3: List of equipment used for Radiated Emissions

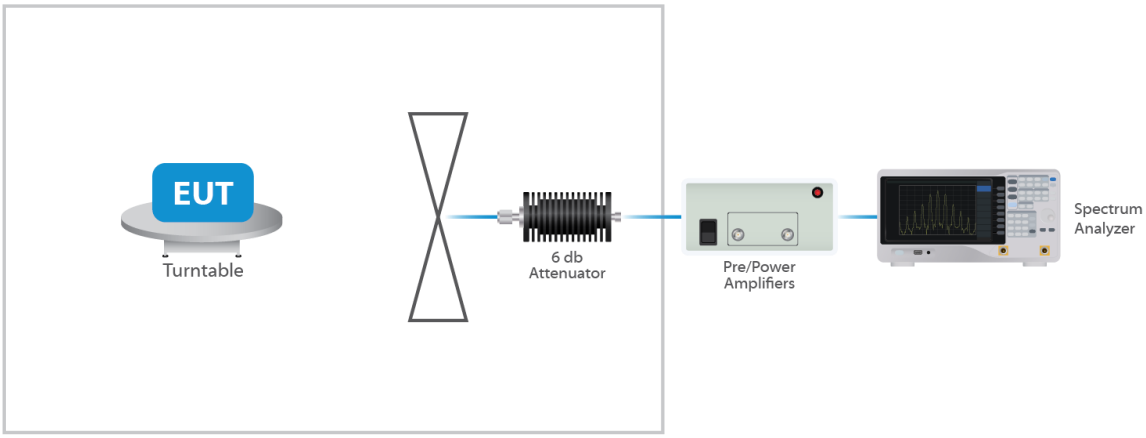


Figure 4: Radiated Emissions Test

4.4 Equipment Calibration

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

4.5 Measurement Uncertainty

Test	Uncertainty (± 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 a Dish and a Horn. Per the manufacturer, the Maximum gain of the antenna per chain is 30dBi and 19.5dBi dBi. This is an 802.11 device and utilizes CDD as described in KDB 662911 D01. The antenna is user replaceable.

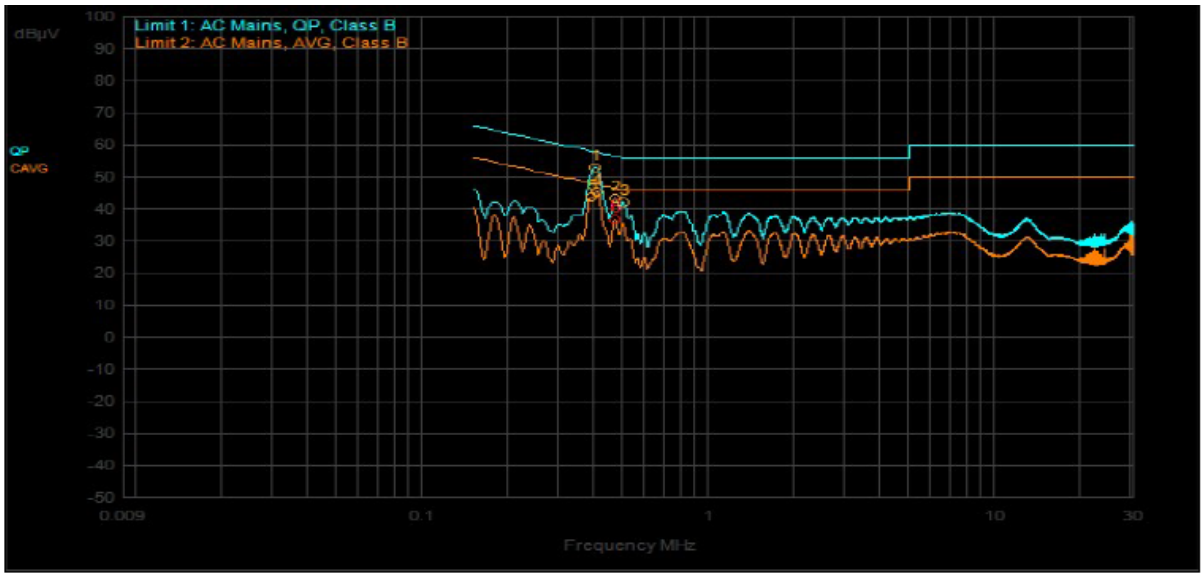
See Section 2.2 for directional gain calculation.

Results

The EUT complied with the specification

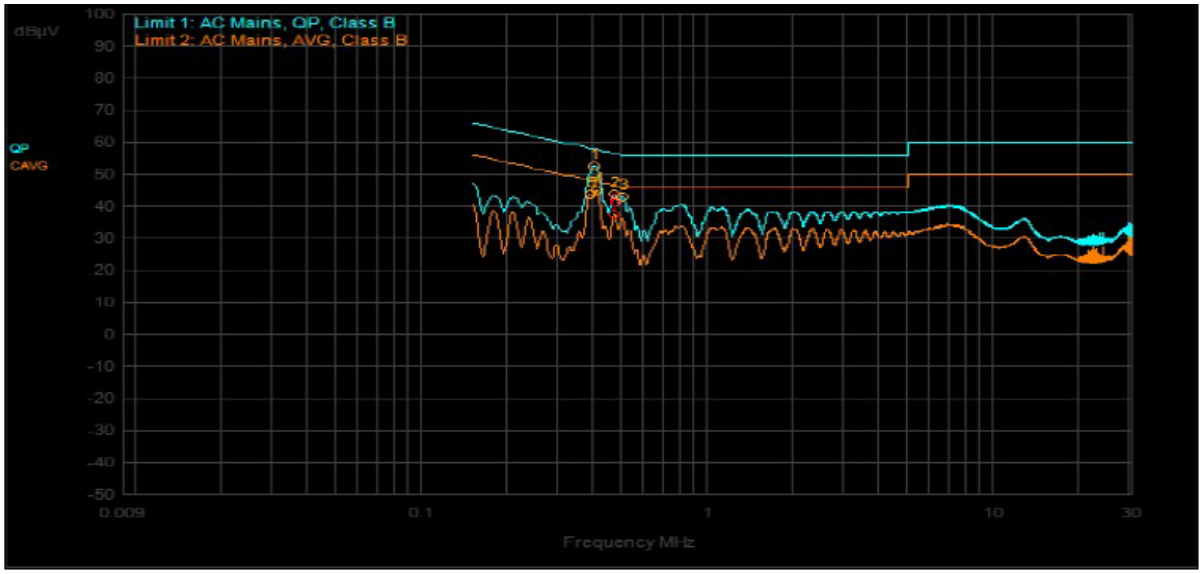
5.2 §15.207 Conducted Emissions at Mains Ports Data

5.2.1 Line



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	399,000kHz	12.38	0.00		QPeak	40.58	52.96	57.87	-4.92			
2	465,000kHz	12.36	0.00		QPeak	30.89	43.25	56.60	-13.36			
3	498,000kHz	12.35	0.00		QPeak	29.69	42.04	56.03	-13.99			
4	402,000kHz	12.38	0.00		C_AVG	33.16	45.54			47.81	-2.27	
5	384,000kHz	12.38	0.00		C_AVG	31.37	43.75			48.19	-4.44	
6	465,000kHz	12.36	0.00		C_AVG	24.35	36.71			46.60	-9.90	

5.2.2 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	396,000kHz	12.37	0.00		QPeak	40.21	52.58	57.94	-5.36			
2	468,000kHz	12.37	0.00		QPeak	31.47	43.84	56.55	-12.71			
3	498,000kHz	12.37	0.00		QPeak	30.52	42.89	56.03	-13.15			
4	405,000kHz	12.37	0.00		C_AVG	32.64	45.01			47.75	-2.74	
5	384,000kHz	12.37	0.00		C_AVG	31.52	43.89			48.19	-4.31	
6	468,000kHz	12.37	0.00		C_AVG	24.99	37.36			46.55	-9.19	

Result

The EUT complied with the specification limit.

5.3 §15.407(a) 26 dB Emissions Bandwidth

All chains were measured under the guidance of KDB 789033 Section II.C. and KDB 662911 D01. Please see associated annex for details on instrument settings.

5.3.1 Dish Antenna

Nominal BW (MHz)	Frequency (MHz)	99% Bandwidth (MHz)	Emissions 26 dB Bandwidth (MHz)
OFDM 20	5180	17.08	22.35
OFDM 20	5210	17.23	22.50
OFDM 20	5240	16.78	22.50
HE 20	5180	19.36	22.80
HE 20	5210	19.18	22.95
HE 20	5240	19.18	22.35
HE 40	5190	38.50	43.75
HE 40	5230	38.25	43.50
HE 80	5210	78.00	88.00
HE 160	5250	157.00	173.00

5.3.2 Horn Antenna

Nominal BW (MHz)	Frequency (MHz)	99% Bandwidth (MHz)	Emissions 26 dB Bandwidth (MHz)
OFDM 20	5180	17.08	22.35
OFDM 20	5210	17.08	23.10
OFDM 20	5240	16.78	22.95
HE 20	5180	19.18	22.80
HE 20	5210	19.18	22.80
HE 20	5240	19.18	23.40
HE 40	5190	38.25	44.00

Nominal BW (MHz)	Frequency (MHz)	99% Bandwidth (MHz)	Emissions 26 dB Bandwidth (MHz)
HE 40	5230	38.25	44.00
HE 80	5210	77.50	89.00
HE 160	5250	158.00	174.00

Result

All chains were tested and the highest bandwidth per chain is reported above. Please see Annex for all bandwidth measurements.

5.4 §15.407(a) Maximum Average Output Power

All chains were measured and summed under the guidance of KDB 789033 Section II. E.2. and KDB 662911 D01. Please see associated annex for details on instrument settings.

When using the Dish Antenna, the maximum average RF conducted output power measured for this device was 13.03 dBm or 20.1 mW. The limit is 30 dBm, or 1 Watt when using an antenna with 23 dBi or less for Fixed point to point devices. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. The antenna has a gain of 30dB therefore the maximum RF conducted limit is set to 16 dBm and PSD is 10 dBm in any 1 megahertz band.

When using the Horn Antenna, the maximum average RF conducted output power measured for this device 19.66 dBm or 92.5 mW. The limit is 30 dBm, or 1 Watt when using an antenna with 23 dBi or less for Fixed point to point devices. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. The antenna has a gain of 19.5 dB therefore there is no reduction in the limit.

See Section 2.2 for directional gain calculation.

Dish: Nss>1

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Total Summed Output Power* (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dBm)
OFDM 20	5180	Mcs0_Nss4	10	11.49	30	41.49	53	-11.51
OFDM 20	5210	Mcs0_Nss4	10	12.03	30	42.03	53	-10.97
OFDM 20	5240	Mcs0_Nss4	10	11.82	30	41.82	53	-11.18
HE 20	5180	Mcs0_Nss4	11	12.86	30	42.86	53	-10.14
HE 20	5210	Mcs0_Nss4	10	11.64	30	41.64	53	-11.36
HE 20	5240	Mcs0_Nss4	10	12.13	30	42.13	53	-10.87
HE 40	5190	Mcs0_Nss4	10	11.96	30	41.96	53	-11.04
HE 40	5230	Mcs0_Nss4	11	13.03	30	43.03	53	-9.97
HE 80	5210	Mcs0_Nss4	10	11.63	30	41.63	53	-11.37
HE 160	5250	Mcs0_Nss4	11	12.69	30	42.69	53	-10.31

Dish: Nss=1

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Total Summed Output Power* (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dBm)
OFDM 20	5180	Mcs0_Nss4	10	11.49	30	41.49	53	-11.51
OFDM 20	5210	Mcs0_Nss4	10	12.03	30	42.03	53	-10.97
OFDM 20	5240	Mcs0_Nss4	10	11.82	30	41.82	53	-11.18
HE 20	5180	Mcs0_Nss4	11	12.86	30	42.86	53	-10.14
HE 20	5210	Mcs0_Nss4	10	11.64	30	41.64	53	-11.36
HE 20	5240	Mcs0_Nss4	10	12.13	30	42.13	53	-10.87
HE 40	5190	Mcs0_Nss4	10	11.96	30	41.96	53	-11.04
HE 40	5230	Mcs0_Nss4	11	13.03	30	43.03	53	-9.97
HE 80	5210	Mcs0_Nss4	10	11.63	30	41.63	53	-11.37
HE 160	5250	Mcs0_Nss4	11	12.69	30	42.69	53	-10.31

Horn: Nss>1

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Total Summed Output Power* (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dBm)
OFDM 20	5180	Mcs0_Nss4	18	19.66	19.5	39.16	53	-13.84
OFDM 20	5210	Mcs0_Nss4	16	17.94	19.5	37.44	53	-15.56
OFDM 20	5240	Mcs0_Nss4	16	17.79	19.5	37.29	53	-15.71
HE 20	5180	Mcs0_Nss4	15	17.05	19.5	36.55	53	-16.45
HE 20	5210	Mcs0_Nss4	16	17.64	19.5	37.14	53	-15.86
HE 20	5240	Mcs0_Nss4	16	18.11	19.5	37.61	53	-15.39
HE 40	5190	Mcs0_Nss4	16	17.9	19.5	37.4	53	-15.6
HE 40	5230	Mcs0_Nss4	15	17.14	19.5	36.64	53	-16.36
HE 80	5210	Mcs0_Nss4	14	15.85	19.5	35.35	53	-17.65
HE 160	5250	Mcs0_Nss4	15	16.87	19.5	36.37	53	-16.63

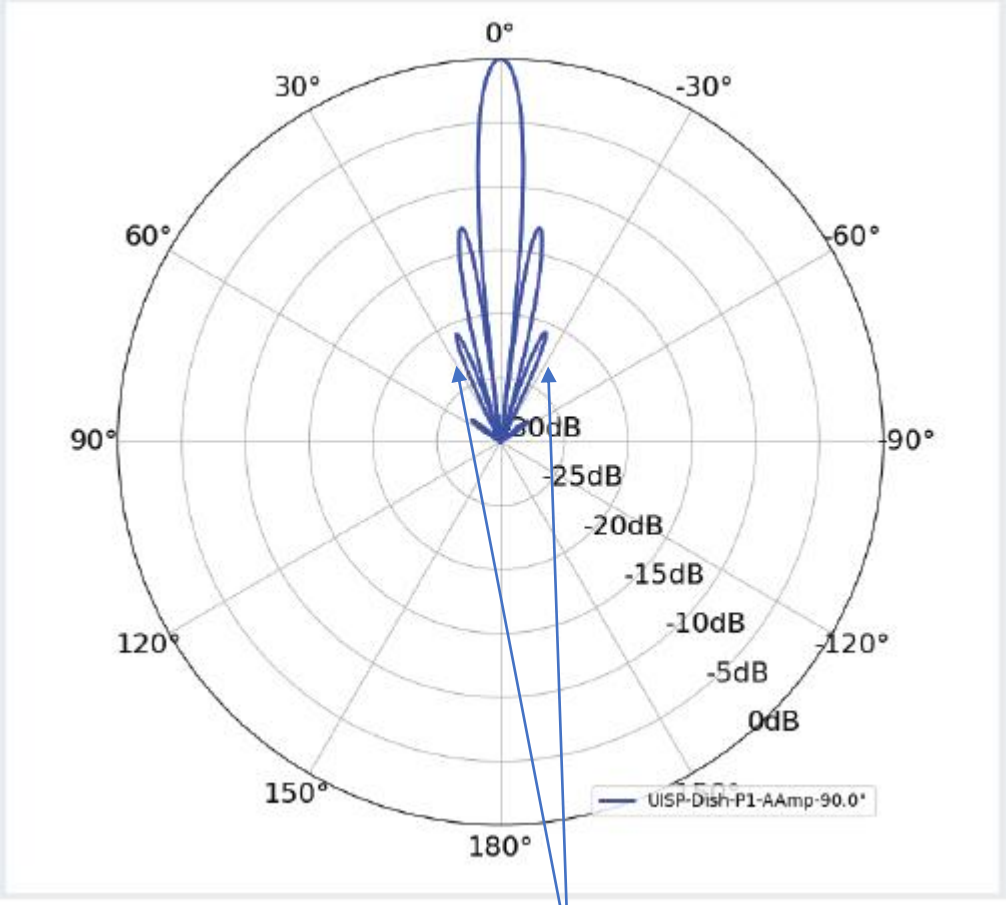
Horn: Nss=1

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Total Summed Output Power* (dBm)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dBm)
OFDM 20	5180	Mcs0_Nss4	18	19.66	19.5	39.16	53	-13.84
OFDM 20	5210	Mcs0_Nss4	16	17.94	19.5	37.44	53	-15.56
OFDM 20	5240	Mcs0_Nss4	16	17.79	19.5	37.29	53	-15.71
HE 20	5180	Mcs0_Nss4	15	17.05	19.5	36.55	53	-16.45
HE 20	5210	Mcs0_Nss4	16	17.64	19.5	37.14	53	-15.86
HE 20	5240	Mcs0_Nss4	16	18.11	19.5	37.61	53	-15.39
HE 40	5190	Mcs0_Nss4	16	17.9	19.5	37.4	53	-15.6
HE 40	5230	Mcs0_Nss4	15	17.14	19.5	36.64	53	-16.36
HE 80	5210	Mcs0_Nss4	14	15.85	19.5	35.35	53	-17.65
HE 160	5250	Mcs0_Nss4	15	16.87	19.5	36.37	53	-16.63

Result

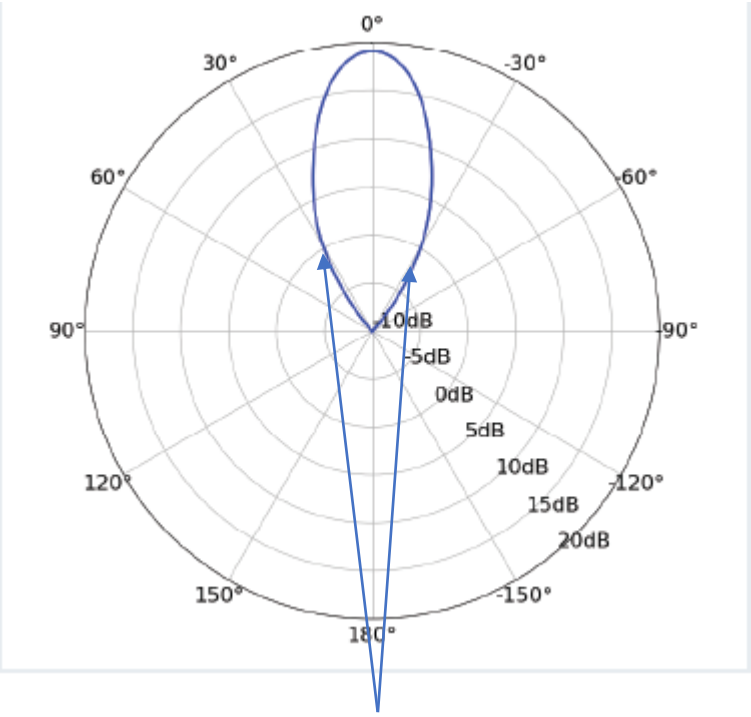
In the configuration tested, the maximum summed average RF output power was less than 1 watt; therefore, the EUT compiled with the requirements of the specification (see spectrum analyzer plots in attached Annex).

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



No emissions above 30 degrees

Plot 1: Elevation Plot Greater Then 30-Degrees From Horizon (Dish Antenna)



No emissions above 30 degrees

Plot 2: Elevation Plot Greater Then 30-Degrees From Horizon (Horn Antenna)

5.5 §15.209 Spurious Emissions

5.5.1 Radiated Spurious Emissions in the Restricted Bands of § 15.205

The EUT uses various power settings based on the channel in use. In order to reduce test time, the radiated spurious emissions at the lowest, middle, and highest channel were measured at the maximum power of TP26, as this setting was found to be worst case for spurious emissions. Power was subsequently reduced during in-band and band edge testing. The band edge at the restricted band ending at 5150 MHz was measured using radiated measurement or conducted at the antenna port methods. [For radiated] All emissions modes were tested, and the worst-case measurements are shown below. For frequencies above 1 GHz, a measurement of 3 meters was used. For frequencies below 1 GHz, a measurement distance of 10 meters was used.

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. All emissions me the limits specified in § 15.407(b). Representative band edge plots are included in this report.

Frequency	SR #	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
10.358 GHz	PK	55.637	74	-18.363	294	1.5	Vertical	1 MHz	9.645
15.545 GHz	PK	65.295	74	-8.705	67	2.142	Vertical	1 MHz	11.831
15.558 GHz	PK	67.592	74	-6.408	67	2.142	Vertical	1 MHz	11.781
10.358 GHz	AV	42.517	54	-11.483	294	1.5	Vertical	1 MHz	9.645
15.545 GHz	AV	50.908	54	-3.092	67	2.142	Vertical	1 MHz	11.831
15.558 GHz	AV	51.602	54	-2.398	67	2.142	Vertical	1 MHz	11.781
10.358 GHz	PK	54.213	74	-19.787	166	3.802	Horizontal	1 MHz	9.645
15.545 GHz	PK	61.404	74	-12.596	22	3.802	Horizontal	1 MHz	11.831
15.555 GHz	PK	59.707	74	-14.293	2	3.802	Horizontal	1 MHz	11.792
10.358 GHz	AV	40.989	54	-13.011	166	3.802	Horizontal	1 MHz	9.645
15.545 GHz	AV	46.847	54	-7.153	22	3.802	Horizontal	1 MHz	11.831
15.555 GHz	AV	46.036	54	-7.964	2	3.802	Horizontal	1 MHz	11.792
20.7199877 GHz	PK	56.783	74	-17.217	229	1.500	Vertical	1 MHz	0.924
20.7199877 GHz	AV	42.239	54	-11.761	229	1.500	Vertical	1 MHz	0.924
20.7210659 GHz	PK	56.457	74	-17.543	136	1.500	Horizontal	1 MHz	0.937
20.7210659 GHz	AV	41.993	54	-12.007	136	1.500	Horizontal	1 MHz	0.937

Table 4: Transmitting on the Lowest Frequency 5180 MHz - Dish

Frequency	SR #	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
10.421 GHz	PK	60.63	74	-13.37	66	1.643	Vertical	1 MHz	9.814
15.619 GHz	PK	63.659	74	-10.341	22	3.802	Vertical	1 MHz	11.483
15.627 GHz	PK	65.103	74	-8.897	9	3.798	Vertical	1 MHz	11.418
10.421 GHz	AV	47.37	54	-6.63	66	1.643	Vertical	1 MHz	9.814
15.619 GHz	AV	51.002	54	-2.998	22	3.802	Vertical	1 MHz	11.483
15.627 GHz	AV	52.793	54	-1.207	9	3.798	Vertical	1 MHz	11.418
10.427 GHz	PK	60.152	74	-13.848	64	1.643	Horizontal	1 MHz	9.829
15.64 GHz	PK	64.405	74	-9.595	17	3.307	Horizontal	1 MHz	11.314

Frequency	SR #	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
15.64 GHz	PK	64.302	74	-9.698	122	1.5	Horizontal	1 MHz	11.314
10.427 GHz	AV	47.232	54	-6.768	64	1.643	Horizontal	1 MHz	9.829
15.64 GHz	AV	51.444	54	-2.556	17	3.307	Horizontal	1 MHz	11.314
15.64 GHz	AV	51.575	54	-2.425	122	1.500	Horizontal	1 MHz	11.314
20.8247091 GHz	PK	57.629	74	-16.371	217	1.500	Vertical	1 MHz	1.388
20.8247091 GHz	AV	43.327	54	-10.673	217	1.500	Vertical	1 MHz	1.388
20.8421071 GHz	PK	57.827	74	-16.173	131	1.500	Horizontal	1 MHz	1.387
20.8421071 GHz	AV	44.535	54	-9.465	131	1.500	Horizontal	1 MHz	1.387

Table 5: Transmitting on the Middle Frequency 5210 MHz - Dish

Frequency	SR #	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
10.481 GHz	PK	54.272	74	-19.728	16	1.834	Vertical	1 MHz	10.039
15.72 GHz	PK	66.026	74	-7.974	21	3.798	Vertical	1 MHz	11.055
10.481 GHz	AV	41.068	54	-12.932	16	1.834	Vertical	1 MHz	10.039
15.72 GHz	AV	53.552	54	-0.448	21	3.798	Vertical	1 MHz	11.055
10.48 GHz	PK	56.997	74	-17.003	66	1.643	Horizontal	1 MHz	10.035
15.715 GHz	PK	59.991	74	-14.009	27	3.311	Horizontal	1 MHz	11.069
15.717 GHz	PK	57.276	74	-16.724	23	3.802	Horizontal	1 MHz	11.064
10.48 GHz	AV	43.592	54	-10.408	66	1.643	Horizontal	1 MHz	10.035
15.715 GHz	AV	46.052	54	-7.948	27	3.311	Horizontal	1 MHz	11.069
15.717 GHz	AV	44.369	54	-9.631	23	3.802	Horizontal	1 MHz	11.064
20.9757227 GHz	PK	61.841	74	-12.159	235	1.500	Vertical	1 MHz	0.521
26.1992899 GHz	PK	52.885	74	-21.115	227	1.500	Vertical	1 MHz	2.923
20.9757227 GHz	AV	46.666	54	-7.334	235	1.500	Vertical	1 MHz	0.521
26.1992899 GHz	AV	38.223	54	-15.777	227	1.500	Vertical	1 MHz	2.923
20.9547341 GHz	PK	61.32	74	-12.68	136	1.500	Horizontal	1 MHz	0.594
20.9547341 GHz	AV	47.718	54	-6.282	136	1.500	Horizontal	1 MHz	5.98

Table 6: Transmitting on the Highest Frequency 5240 MHz – Dish

Frequency	SR #	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
15.535 GHz	PK	66.659	74	-7.341	174	2.146	Vertical	1 MHz	11.624
15.535 GHz	AV	51.197	54	-2.803	174	2.146	Vertical	1 MHz	11.624
10.928 GHz	PK	55.976	74	-18.024	12	1.5	Horizontal	1 MHz	11.919
15.552 GHz	PK	69.206	74	-4.794	177	1.638	Horizontal	1 MHz	11.556
10.928 GHz	AV	43.093	54	-10.907	12	1.5	Horizontal	1 MHz	11.919
15.552 GHz	AV	51.972	54	-2.028	177	1.638	Horizontal	1 MHz	11.556

Table 7: Transmitting on the Lowest Frequency 5180 MHz - Horn

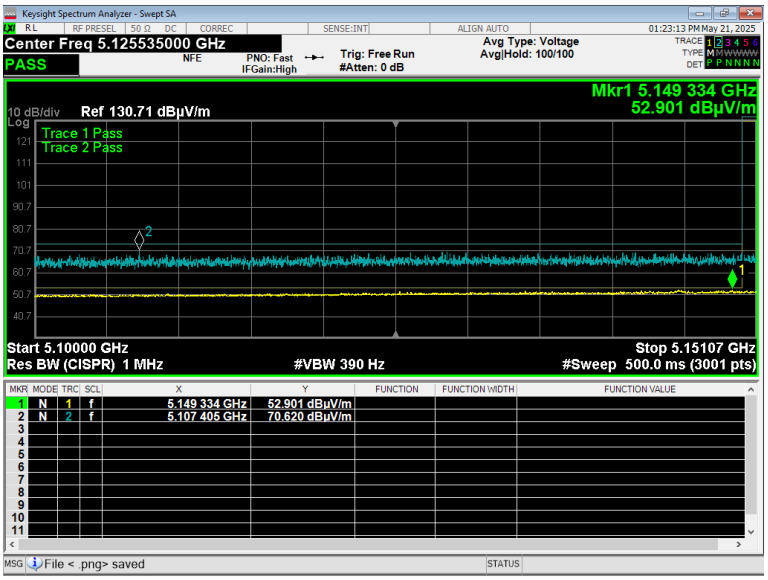
Frequency	SR #	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
15.636 GHz	PK	68.089	74	-5.911	163	1.838	Vertical	1 MHz	11.09
15.636 GHz	AV	52.483	54	-1.517	163	1.838	Vertical	1 MHz	11.09
10.943 GHz	PK	56.369	74	-17.631	20	1.5	Horizontal	1 MHz	11.772
10.943 GHz	AV	42.64	54	-11.36	20	1.5	Horizontal	1 MHz	11.772
15.621 GHz	PK	66.81	74	-7.19	183	1.638	Horizontal	1 MHz	11.212
15.621 GHz	AV	50.82	54	-3.18	183	1.638	Horizontal	1 MHz	11.212

Table 8: Transmitting on the Middle Frequency 5210 MHz - Horn

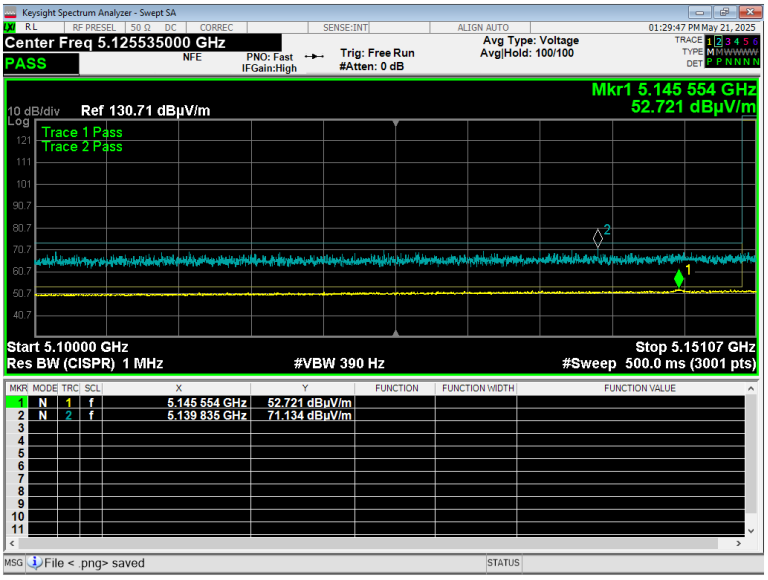
Frequency	SR #	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	RBW (Hz)	Correction (dB)
15.72 GHz	PK	58.359	74	-15.641	190	2.142	Vertical	1 MHz	11.055
15.72 GHz	AV	45.036	54	-8.964	190	2.142	Vertical	1 MHz	11.055
10.943 GHz	PK	56.369	74	-17.631	20	1.5	Horizontal	1 MHz	11.772
10.943 GHz	AV	42.64	54	-11.36	20	1.5	Horizontal	1 MHz	11.772
15.621 GHz	PK	66.81	74	-7.19	183	1.638	Horizontal	1 MHz	11.212
15.621 GHz	AV	50.82	54	-3.18	183	1.638	Horizontal	1 MHz	11.212

Table 9: Transmitting on the Highest Frequency 5240 MHz – Horn

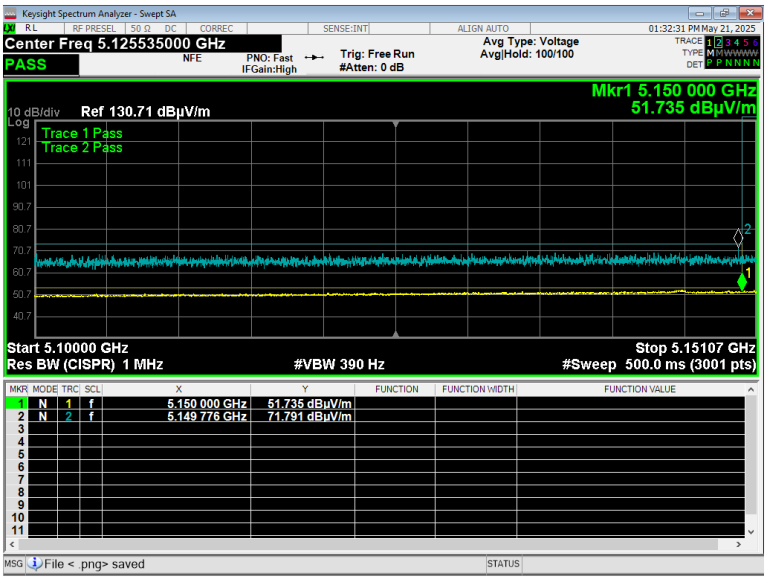
Band Edge – Dish



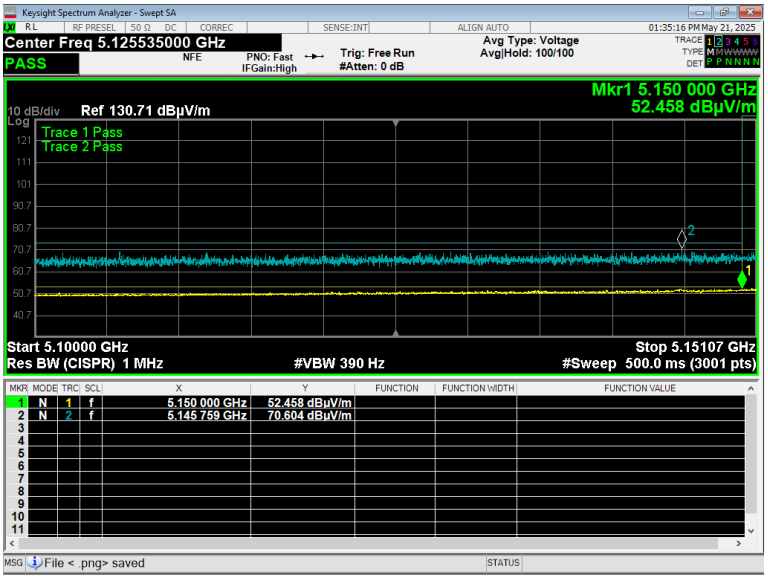
OFDM 20 Transmitting on the Lowest Frequency 5180 MHz – Dish



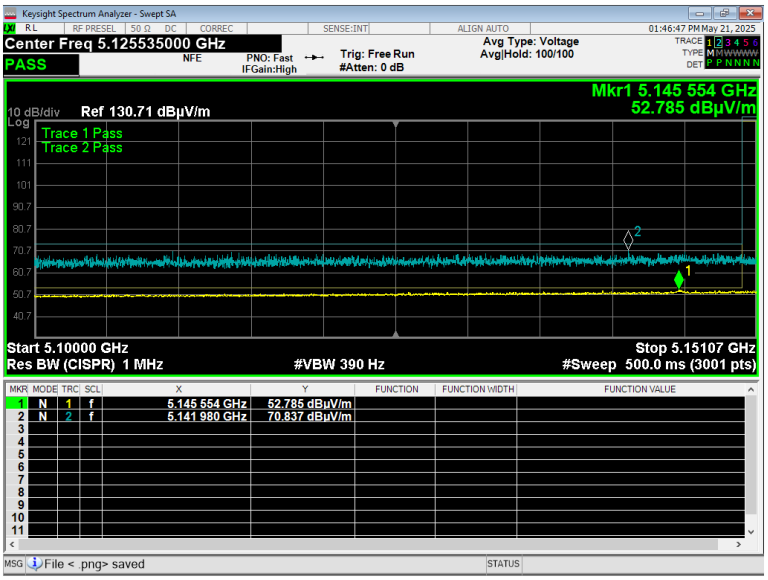
OFDM20 Transmitting on the Middle Frequency 5210 MHz – Dish



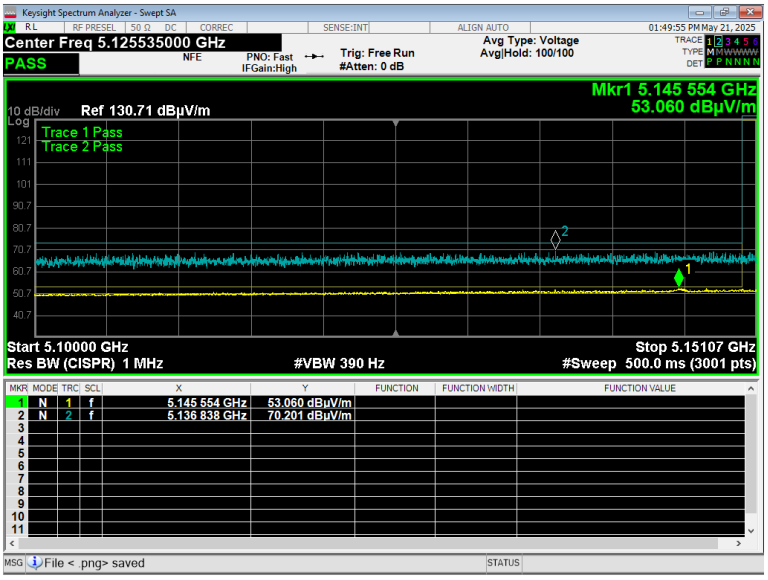
OFDM 20 Transmitting on the Highest Frequency 5240 MHz – Dish



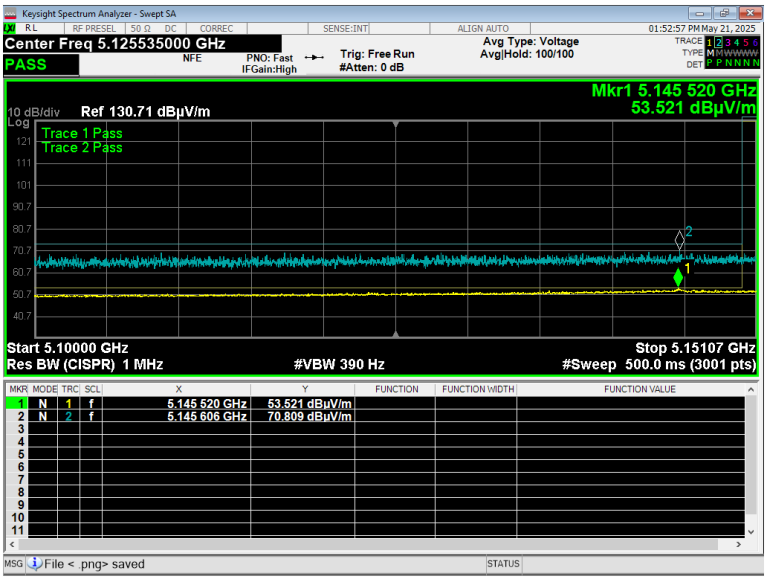
EHT 20 Transmitting on the Lowest Frequency 5180 MHz – Dish



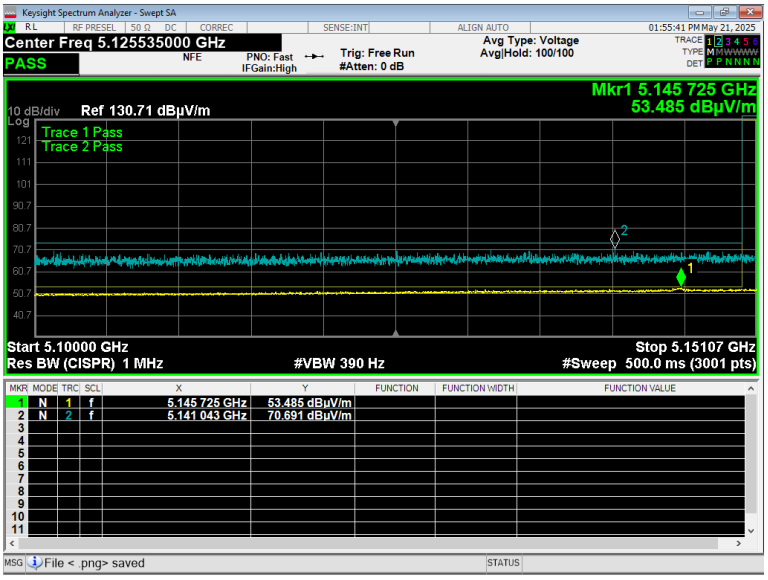
EHT 20 Transmitting on the Middle Frequency 5210 MHz – Dish



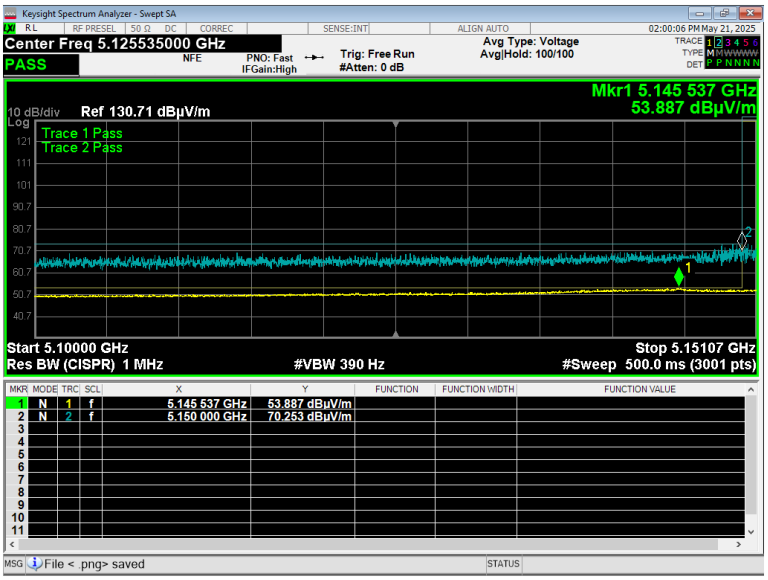
EHT 20 Transmitting on the Highest Frequency 5240 MHz – Dish



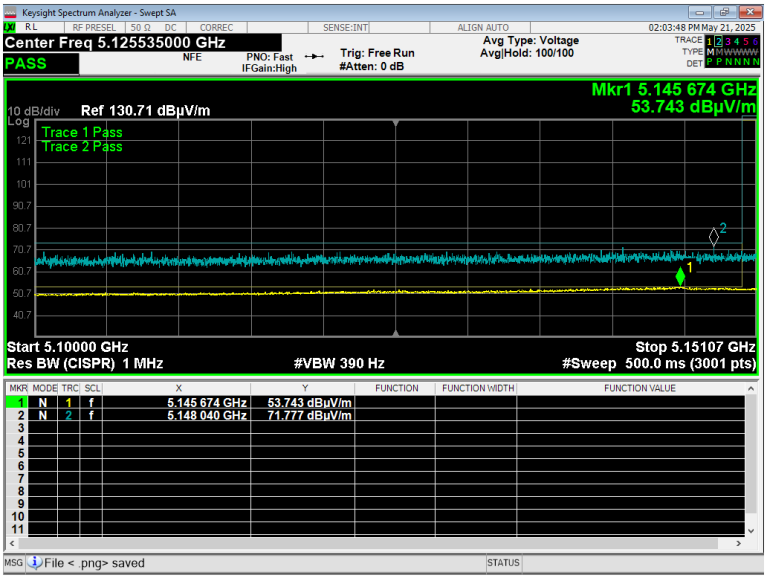
EHT 40 Transmitting on the Lowest Frequency 5190 MHz – Dish



EHT 40 Transmitting on the Highest Frequency 5230 MHz – Dish

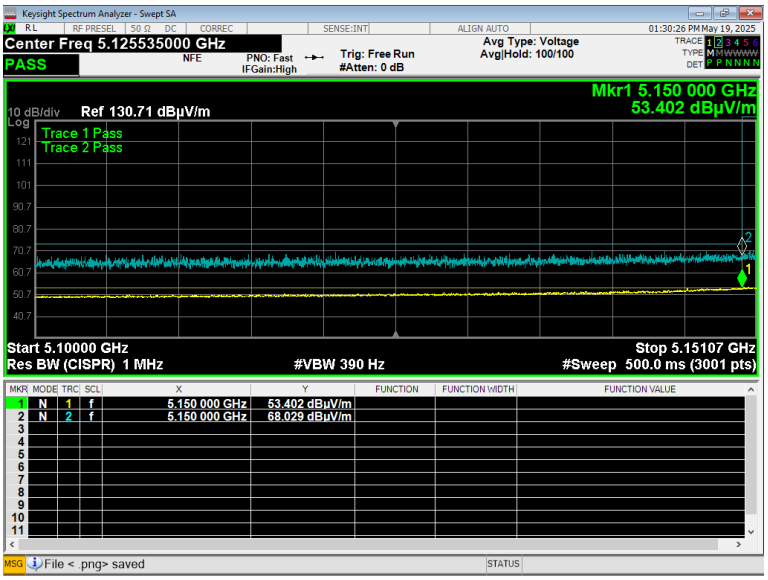


EHT 80 Transmitting on Frequency 5210 MHz – Dish

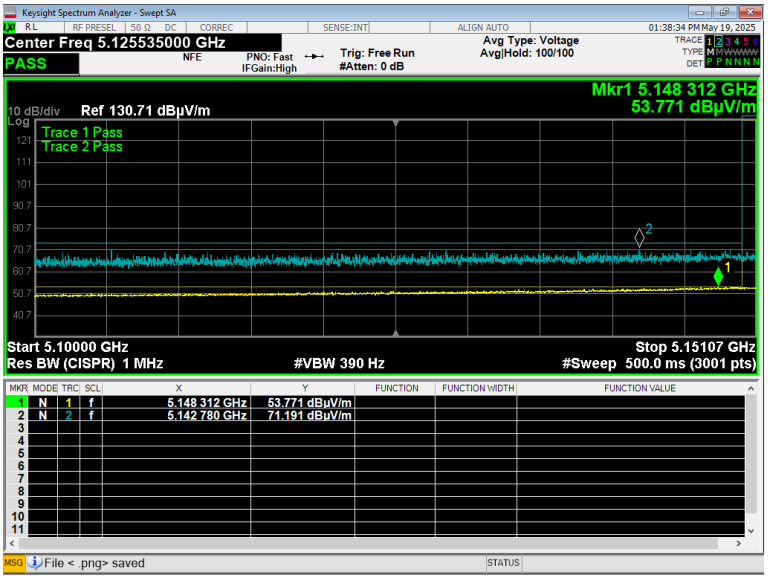


EHT 160 Transmitting on Frequency 5250 MHz – Dish

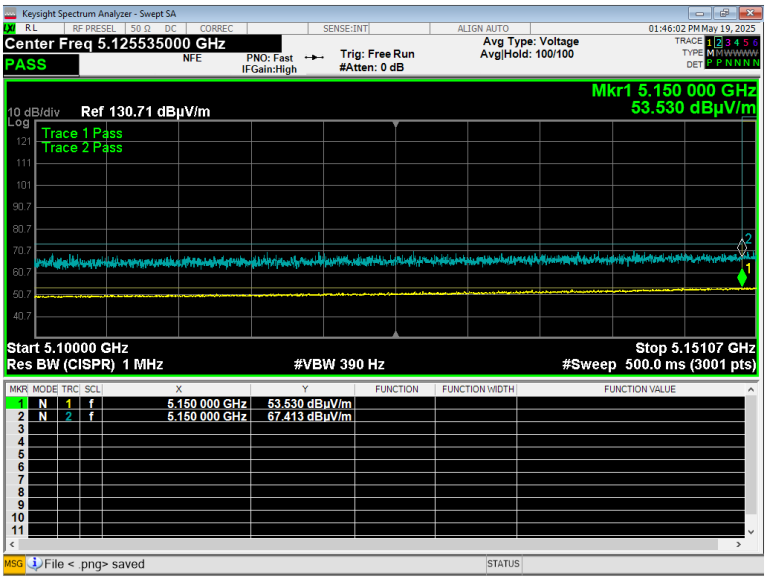
Band Edge – Horn



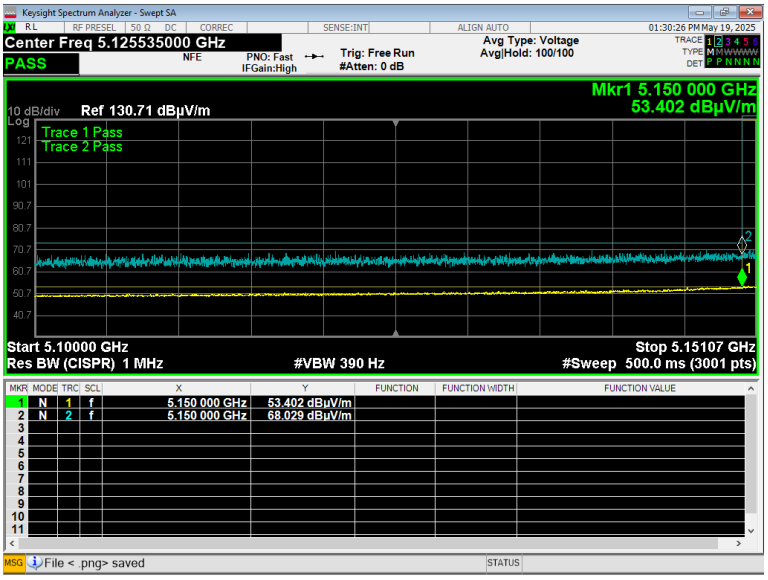
OFDM 20 Transmitting on the Lowest Frequency 5180 MHz – Horn



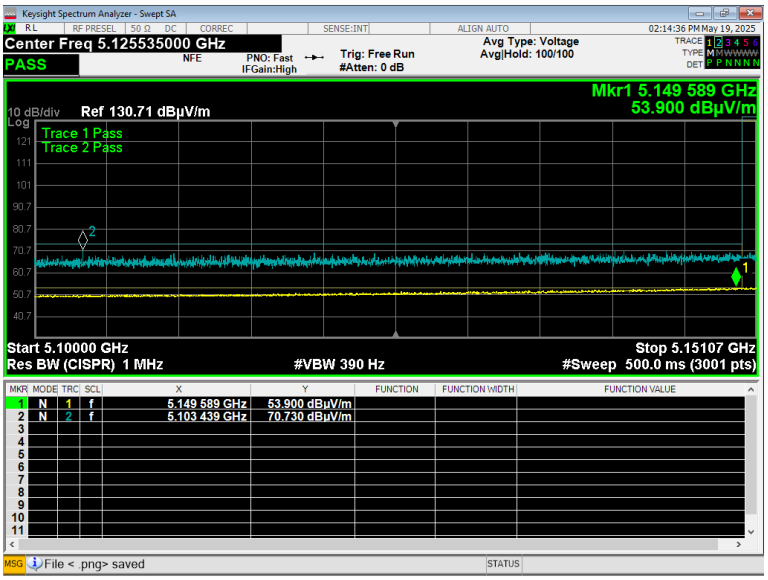
OFDM20 Transmitting on the Middle Frequency 5210 MHz – Horn



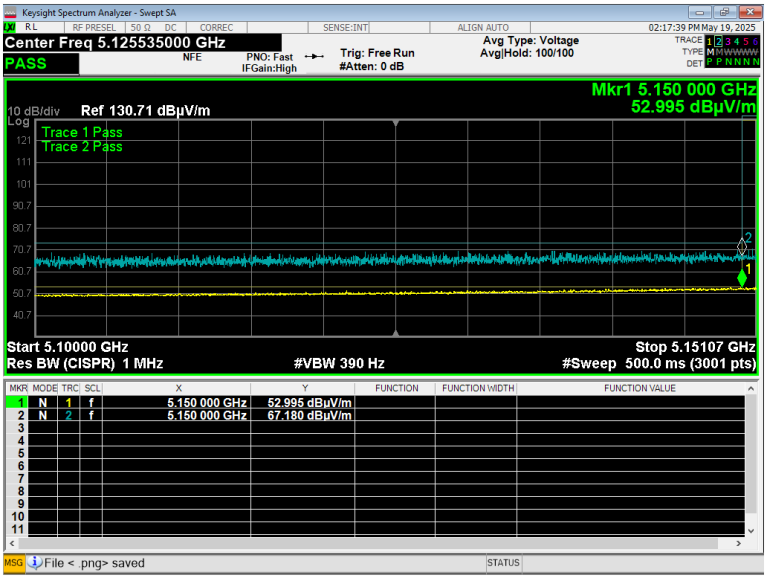
OFDM 20 Transmitting on the Highest Frequency 5240 MHz – Horn



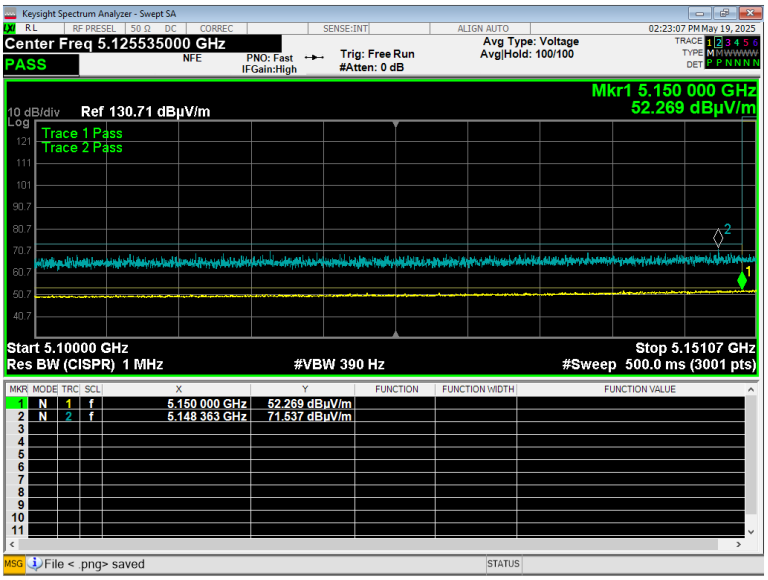
EHT 20 Transmitting on the Lowest Frequency 5180 MHz – Horn



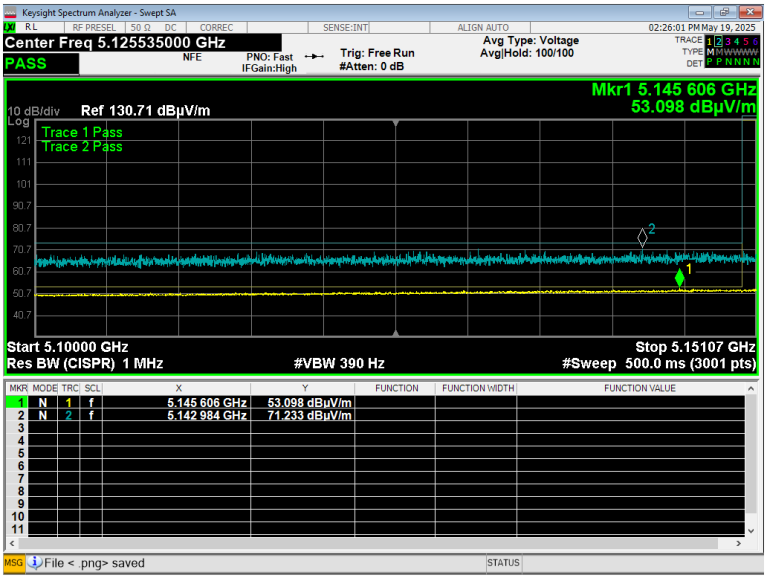
EHT 20 Transmitting on the Middle Frequency 5210 MHz – Horn



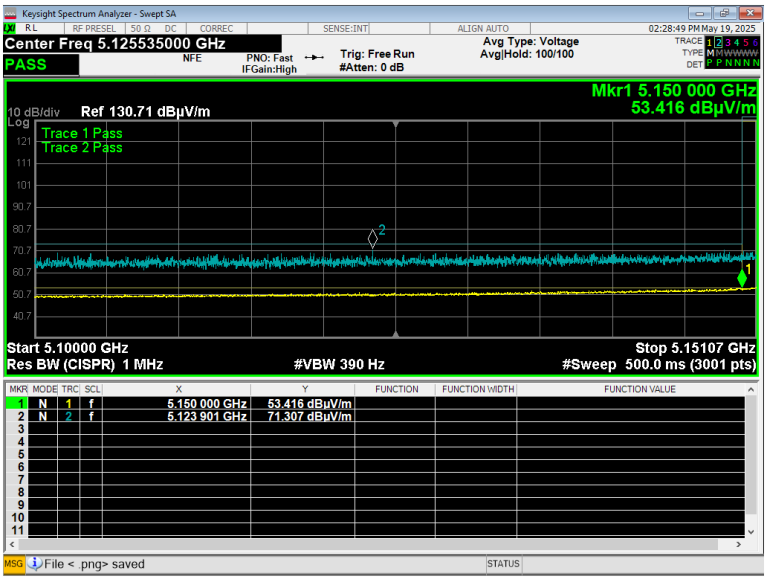
EHT 20 Transmitting on the Highest Frequency 5240 MHz – Horn



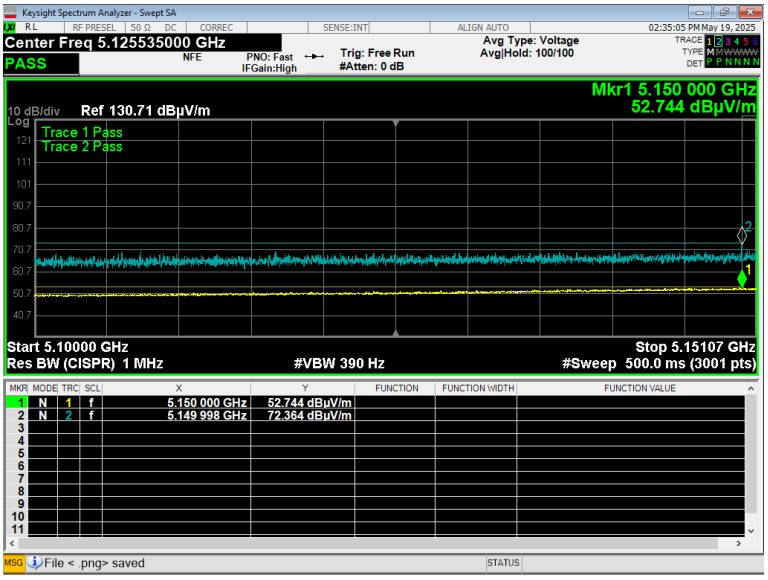
EHT 40 Transmitting on the Lowest Frequency 5190 MHz – Horn



EHT 40 Transmitting on the Highest Frequency 5230 MHz – Horn



EHT 80 Transmitting on Frequency 5210 MHz – Horn



EHT 160 Transmitting on Frequency 5250 MHz – Horn

5.6 §15.407(a) Maximum Power Spectral Density

All chains were measured and summed under the guidance of KDB 789033 Section II. F. and KDB 662911 D01. Please see associated annex for details on instrument settings.

When using the Dish Antenna, the maximum average power spectral density conducted from the intentional radiator of the antenna shall not be greater than 17 dBm in any 1 MHz band during any time interval of continuous transmission. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. The antenna has a gain of 30dB therefore the maximum RF conducted limit is set to 16 dBm and PSD is 10 dBm in any 1 megahertz band. .

When using the Horn Antenna, the maximum average power spectral density conducted from the intentional radiator of the antenna shall not be greater than 17 dBm in any 1 MHz band during any time interval of continuous transmission. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. The antenna has a gain of 19.5dB therefore there is no reduction in the limit.

See Section 2.2 for directional gain calculation.

Results of this testing are summarized.

Dish: Nss>1

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Total Sum PSD EIRP (dBm)	Antenna Gain (dBi)	Limit (dBm)	Margin (dBm)
OFDM 20	5180	Mcs0_Nss4	10	-1.06	30	10	-18.06
OFDM 20	5210	Mcs0_Nss4	10	-0.47	30	10	-17.47
OFDM 20	5240	Mcs0_Nss4	10	0.25	30	10	-16.75
HE 20	5180	Mcs0_Nss4	11	-1.45	30	10	-18.45
HE 20	5210	Mcs0_Nss4	10	-0.83	30	10	-17.83
HE 20	5240	Mcs0_Nss4	10	-0.30	30	10	-17.3
HE 40	5190	Mcs0_Nss4	10	-4.46	30	10	-21.46
HE 40	5230	Mcs0_Nss4	11	-3.37	30	10	-20.37
HE 80	5210	Mcs0_Nss4	10	-8.14	30	10	-25.14
HE 160	5250	Mcs0_Nss4	11	-12.89	30	10	-29.89

Dish: Nss=1

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Total Summed Output Power* (dBm)	Antenna Gain (dBi)	Limit (dBm)	Margin (dBm)
OFDM 20	5180	Mcs0_Nss4	10	-1.06	30	-3.01	-8.05
OFDM 20	5210	Mcs0_Nss4	10	-0.47	30	-3.01	-7.46
OFDM 20	5240	Mcs0_Nss4	10	0.25	30	-3.01	-6.74
HE 20	5180	Mcs0_Nss4	11	-1.45	30	-3.01	-8.44
HE 20	5210	Mcs0_Nss4	10	-0.83	30	-3.01	-7.82
HE 20	5240	Mcs0_Nss4	10	-0.30	30	-3.01	-7.29
HE 40	5190	Mcs0_Nss4	10	-4.46	30	-3.01	-11.45
HE 40	5230	Mcs0_Nss4	11	-3.37	30	-3.01	-10.36
HE 80	5210	Mcs0_Nss4	10	-8.14	30	-3.01	-15.13
HE 160	5250	Mcs0_Nss4	11	-12.89	30	-3.01	-19.88

Horn: Nss>1

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Total Summed Output Power* (dBm)	Antenna Gain (dBi)	Limit (dBm)	Margin (dBm)
OFDM 20	5180	Mcs0_Nss4	18	7.06	19.5	17	-9.94
OFDM 20	5210	Mcs0_Nss4	16	5.56	19.5	17	-11.44
OFDM 20	5240	Mcs0_Nss4	16	4.57	19.5	17	-12.43
HE 20	5180	Mcs0_Nss4	15	4.66	19.5	17	-12.34
HE 20	5210	Mcs0_Nss4	16	5.14	19.5	17	-11.86
HE 20	5240	Mcs0_Nss4	16	4.01	19.5	17	-12.99
HE 40	5190	Mcs0_Nss4	16	-0.10	19.5	17	-17.1
HE 40	5230	Mcs0_Nss4	15	0.99	19.5	17	-16.01
HE 80	5210	Mcs0_Nss4	14	-3.22	19.5	17	-20.22
HE 160	5250	Mcs0_Nss4	15	-7.73	19.5	17	-24.73

Horn: Nss=1

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Total Summed Output Power* (dBm)	Antenna Gain (dBi)	Limit (dBm)	Margin (dBm)
OFDM 20	5180	Mcs0_Nss4	18	7.06	19.5	17	-9.94
OFDM 20	5210	Mcs0_Nss4	16	5.56	19.5	17	-11.44
OFDM 20	5240	Mcs0_Nss4	16	4.57	19.5	17	-12.43
HE 20	5180	Mcs0_Nss4	15	4.66	19.5	17	-12.34
HE 20	5210	Mcs0_Nss4	16	5.14	19.5	17	-11.86
HE 20	5240	Mcs0_Nss4	16	4.01	19.5	17	-12.99
HE 40	5190	Mcs0_Nss4	16	-0.10	19.5	17	-17.1
HE 40	5230	Mcs0_Nss4	15	0.99	19.5	17	-16.01
HE 80	5210	Mcs0_Nss4	14	-3.22	19.5	17	-20.22
HE 160	5250	Mcs0_Nss4	15	-7.73	19.5	17	-24.73

Result

The maximum summed average power spectral density was less than the limit of 17 dBm; therefore, the EUT complies with the specification.

-- End of Test Report --