



427 West 12800 South
Draper, UT 84020

Test Report Certification

FCC ID	SWX-UDBPS
Equipment Under Test	UDB-Pro-Sector
Test Report Serial Number	TR9869_01
Date of Test(s)	22, 25, 30 - 31 October; 1 November; 10 December 2024 11 March 2025
Report Issue Date	12 March 2025

Test Specification	Applicant
47 CFR FCC Part 15, Subpart E	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 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	UDB-Pro-Sector
FCC ID	SWX-UDBPS

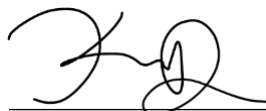
On this 12th day of March 2025, I individually and for Unified Compliance Laboratory certify that the statements made in this engineering report are true, complete, and correct to the best of my knowledge and are made in good faith. Unified Compliance laboratory is not responsible for incorrect information 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: Kimberly DeBole

Revision History		
Revision	Description	Date
01	Original Report Release	3/12/2025

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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	UDB-Pro-Sector
Serial Number	4C780E
Dimensions (cm)	36.1 x 13.0 x 7.1

2.2 Description of EUT

The UDB-Pro-Sector is a 5 GHz wireless access point for multiple point-to-point UDB clients. The UDB-Pro-Sector is designed for long-range applications. The UDB-Pro-Sector has an Ethernet port for power and data transfer. The UDB-Pro-Sector is powered by an 802-3at PoE power adapter. The UDB-Pro-Sector is designed for outdoor use.

The UDB-Pro-Sector uses Transmit Power (TP) Control protocol and is included in the power tables of Section 5.4.

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

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.

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: UDB-Pro-Sector (Note 1) SN: 4C780E	Wireless Access Point	See Section 2.4
BN: UBIQUITI MN: U-POE-at 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	LAN Port / Un-shielded Cat 5e cable (Note 2)
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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 UDB-Pro-Sector PoE Input
LAN (PoE Injector)	1	unshielded Cat 5E to Laptop PC
AC (PoE Injector)	1	3 Conductor power cord to AC mains/80cm

2.5 Operating Environment

Power Supply	120 Volts AC to 48 Volts PoE
AC Mains Frequency	60 Hz
Temperature	21.5 – 23.4 °C
Humidity	22.1 – 29.8 %
Barometric Pressure	1014 mBar

2.6 Operating Modes

The UDB-Pro-Sector 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/ac were investigated. All measurements are reported with the worst-case mode (802.11ac) 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

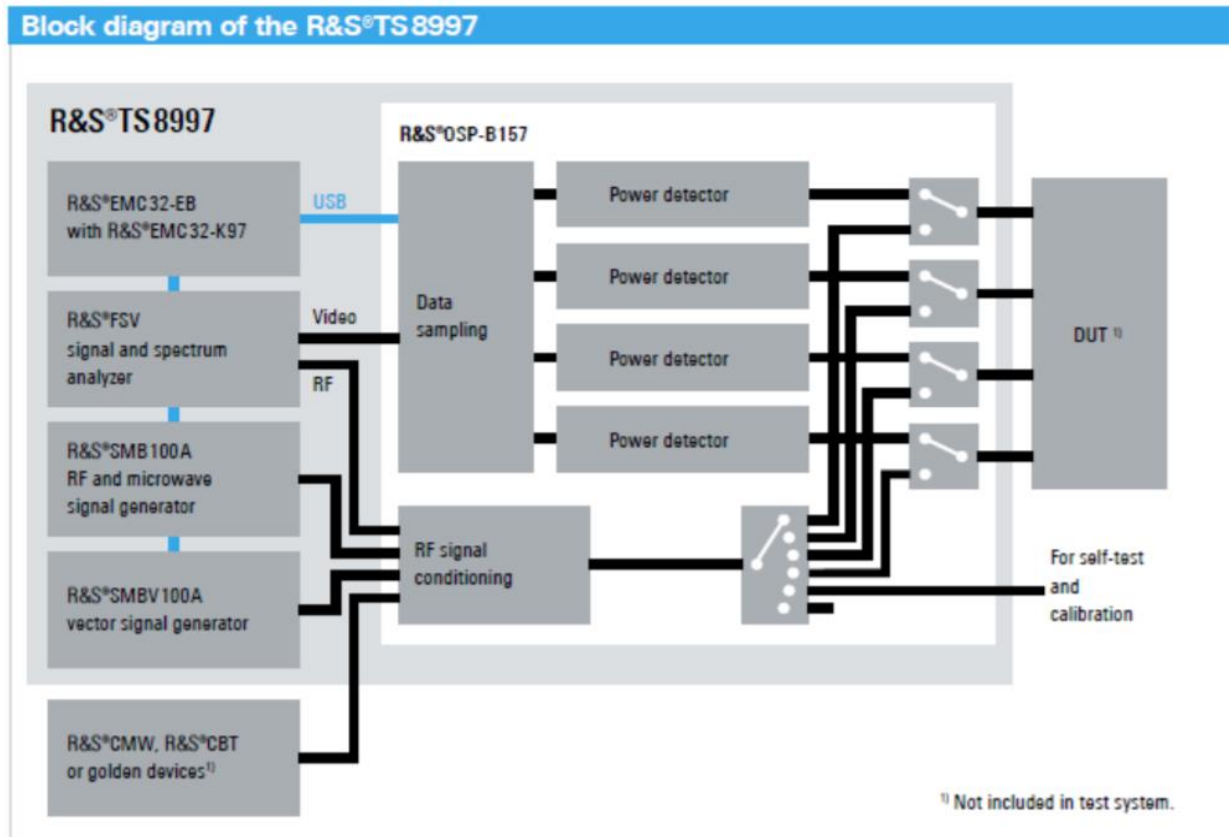


Diagram 1: Test Configuration Block Diagram

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	Environmental Phenomena	Frequency Range (MHZ)	Result
15.203	Antenna requirements	Structural Requirement	Compliant
15.207	Conducted Disturbance at Mains Port	0.15 to 30	Compliant
15.407(a)	Bandwidth Requirement	5180 to 5240	Compliant
15.407(a)	Peak Output Power	5180 to 5240	Compliant
15.407(b)	Antenna Conducted Spurious Emissions	0.009 to 40000	N/A Note ¹
15.209	Radiated Spurious Emissions	0.009 to 40000	Compliant
15.407(a)	Peak Power Spectral Density	5180 to 5240	Compliant

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 as 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

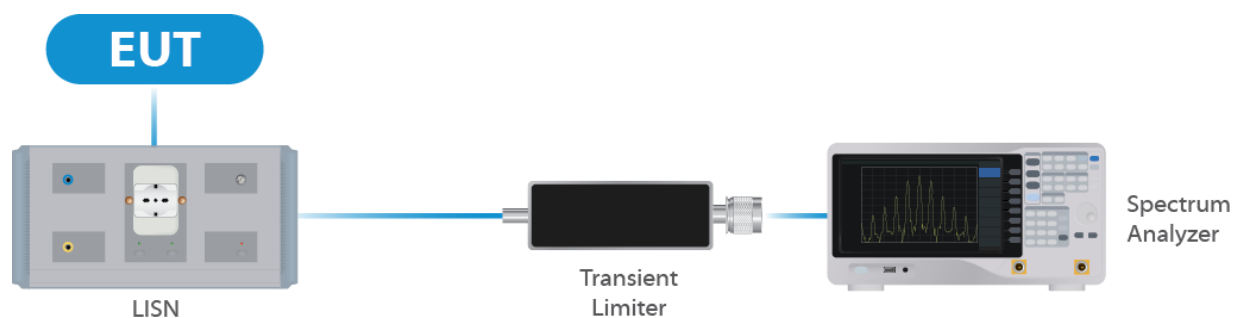


Figure 1: Conducted Emissions Test

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

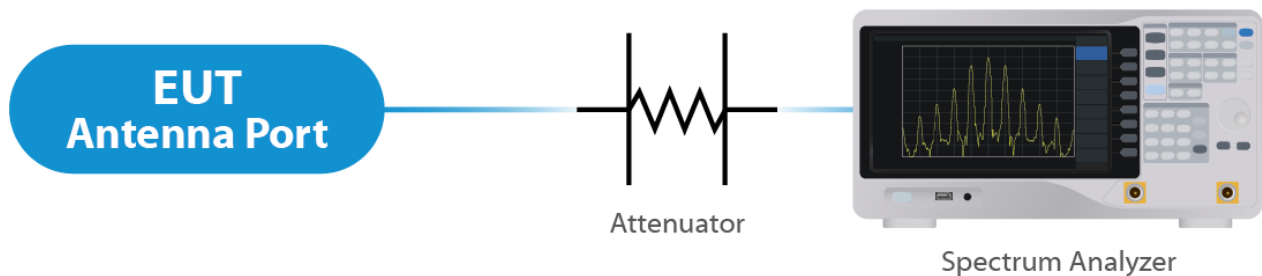


Figure 2: Direct Connect at the Antenna Port Test



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	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
15 - 40 GHz Horn Antenna	Scwarzbeck	BBHA 9170	UCL-2487	3/10/2023	3/10/2025
1 – 18 GHz Amplifier	Com-Power	PAM 118A	UCL-3833	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

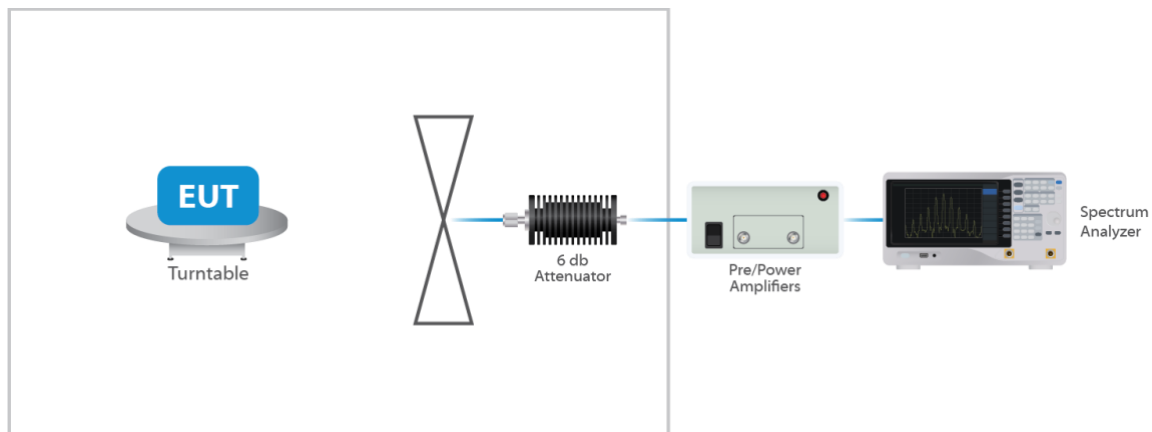


Figure 4: Radiated Emissions Test

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

5 Test Results

5.1 §15.203 Antenna Requirements

The EUT uses an internal integrated antenna. Per the manufacturer, the Maximum gain of the antenna per chain is 17 dBi. This is an 802.11 device and utilizes CDD as described in KDB 662911 D01. The antenna is not user replaceable. For CDD transmissions, directional gain is calculated as follows.

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

NANT = number of transmit antennas and

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

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

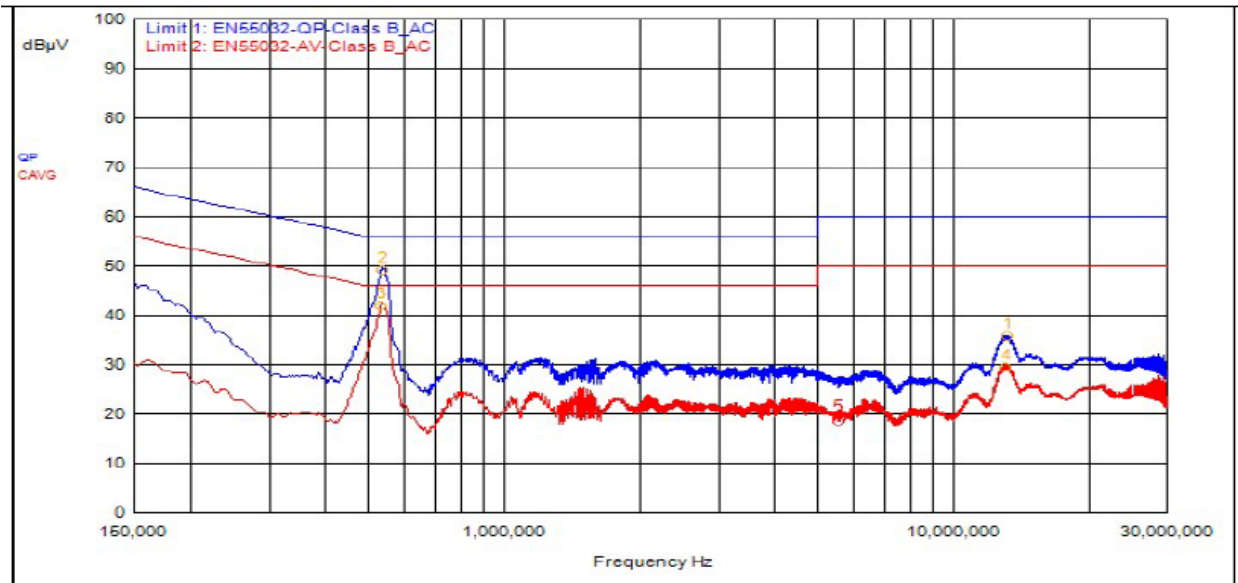
For PSD measurements when $\text{Nss}=1$: Array Gain = $10 \log(\text{NANT}/\text{NSS})$ dB + Antenna Gain (dBi). Or
 $3.01 \text{ dB} + 17 \text{ dBi} = 20.01 \text{ dBi}$.

Results

The EUT complied with the specification

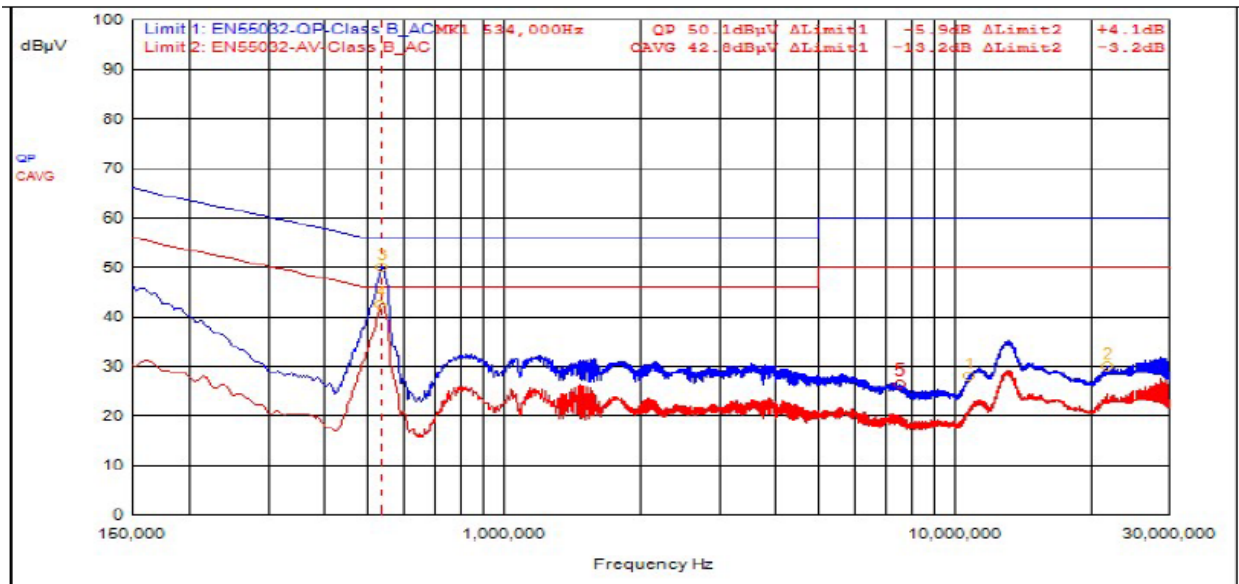
5.2 Conducted Emissions at Mains Ports Data

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
2	537,000kHz	9.49			QPeak	39.59	49.08	56.00	-6.92			
1	13.158	9.66			QPeak	26.19	35.85	60.00	-24.15			
3	531,000kHz	9.49			C_AVG	32.53	42.02			46.00	-3.98	
4	13.122	9.66			C_AVG	19.66	29.32			50.00	-20.68	
5	5.556	9.61			C_AVG	9.02	18.63			50.00	-31.37	

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
3	534,000kHz	9.62			QPeak	40.45	50.07	56.00	-5.93			
2	21.897	9.97			QPeak	20.00	29.97	60.00	-30.03			
1	10.803	9.65			QPeak	18.49	28.14	60.00	-31.86			
5	7.593	9.63			QPeak	16.79	26.42	60.00	-33.58			
4	531,000kHz	9.62			C_AVG	32.86	42.48			46.00	-3.52	

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.

Nominal BW (MHz)	Frequency (MHz)	99% Bandwidth (MHz)	Emissions 26 dB Bandwidth (MHz)
OFDM 20	5180	17.0	21.7
OFDM 20	5210	17.3	20.2
OFDM 20	5240	17.0	21.6
VHT 20	5180	18.5	21.7
VHT 20	5210	18.3	21.3
VHT 20	5240	18.3	22.0
VHT 40	5190	37.0	42.6
VHT 40	5230	37.5	42.3

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.

The maximum average RF conducted output power measured for this device was 18.53 dBm or 71.29 mW. The limit is 30 dBm, or 1 Watt when using an antenna with 6 dBi or less gain. The antenna has a gain of 17 dBi. Adjust limit of 19 dBm with a 17 dBi antenna.

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Conducted Output Power*	Measured EIRP	Measured PSD
OFDM 20	5180	Mcs0_Nss2	14	17.54	34.54	4.99
OFDM 20	5210	Mcs0_Nss2	15	18.37	35.37	5.88
OFDM 20	5240	Mcs0_Nss2	15	18.34	35.34	5.62
VHT 20	5180	Mcs0_Nss2	15	18.50	35.50	5.70
VHT 20	5200	Mcs0_Nss2	15	18.53	35.53	--
VHT 20	5210	Mcs0_Nss2	15	18.23	35.23	5.56
VHT 20	5240	Mcs0_Nss2	15	18.51	35.51	5.83
VHT 40	5190	Mcs0_Nss2	14	17.21	34.21	1.58
VHT 40	5230	Mcs0_Nss2	15	18.04	35.04	2.69

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Conducted Output Power*	Measured EIRP	Measured PSD
OFDM 20	5180	Mcs0_Nss1	0	3.54	20.54	-9.01
OFDM 20	5210	Mcs0_Nss1	1	4.37	21.37	-8.12
OFDM 20	5240	Mcs0_Nss1	1	4.34	21.34	-8.38
VHT 20	5180	Mcs0_Nss1	1	4.50	21.50	-8.30
VHT 20	5210	Mcs0_Nss1	1	4.23	21.23	-8.44
VHT 20	5240	Mcs0_Nss1	4	4.51	21.51	-8.17
VHT 40	5190	Mcs0_Nss1	4	7.21	24.21	-8.42
VHT 40	5230	Mcs0_Nss1	4	7.04	24.04	-8.31

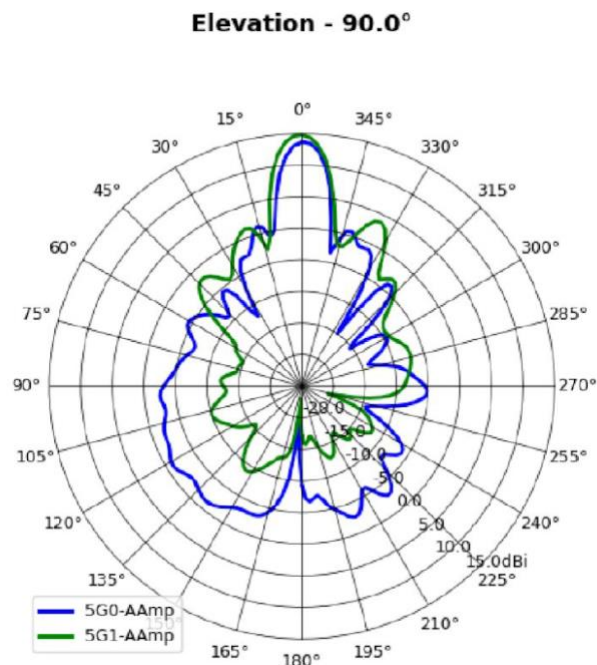
5.4.1 Outdoor Point-to-Multi-Point

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Conducted Output Power*	Measured EIRP	Measured PSD
OFDM 20	5180	Mcs0_Nss2	14	17.54	16.54	4.99
OFDM 20	5210	Mcs0_Nss2	15	18.37	17.37	5.88
OFDM 20	5240	Mcs0_Nss2	15	18.34	17.34	5.62
VHT 20	5180	Mcs0_Nss2	15	19.50	17.50	5.70
VHT 20	5200	Mcs0_Nss2	15	18.53	17.53	--
VHT 20	5210	Mcs0_Nss2	15	18.23	17.23	5.56
VHT 20	5240	Mcs0_Nss2	15	18.51	17.51	5.83
VHT 40	5190	Mcs0_Nss2	14	17.21	16.21	1.58
VHT 40	5230	Mcs0_Nss2	15	18.04	17.04	2.69

Result

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

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



Plot 1: Elevation Plot Greater Than 30-Degrees From Horizon

5.5 §15.209 Spurious Emissions

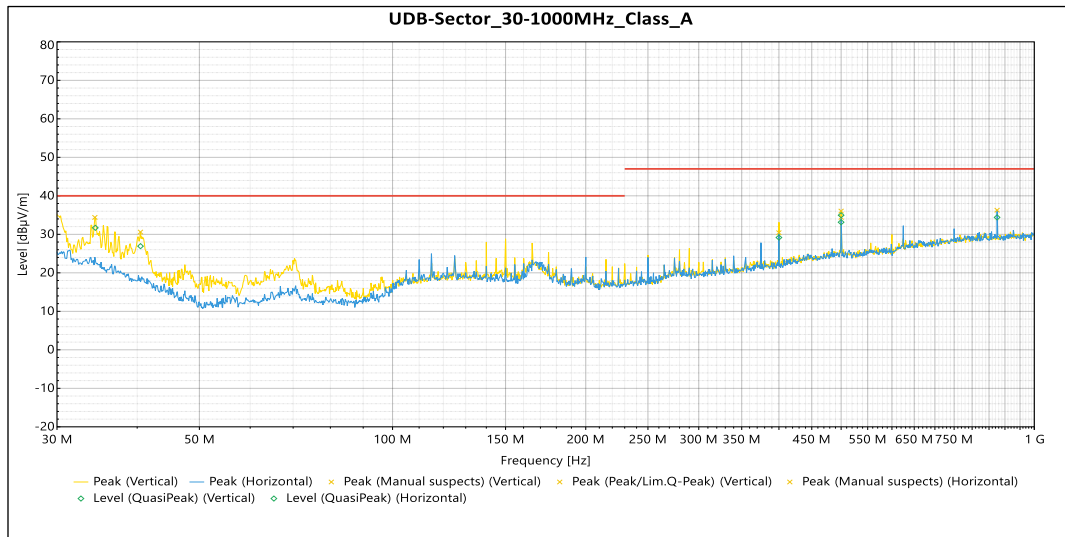
5.5.1 Radiated Spurious Emissions in the Restricted Bands of § 15.205

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 TP22, 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 5180 MHz was measured using radiated measurement or conducted at the antenna port methods. All emissions modes were tested, and the worst-case measurement 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

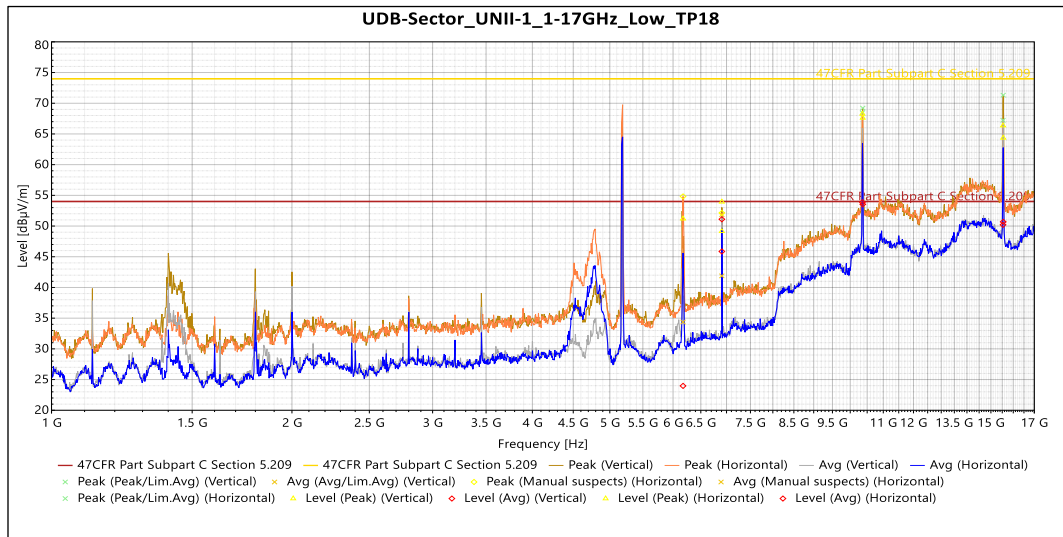
All emissions in the restricted bands of § 15.205 met the limits specified in § 15.209; therefore, the EUT complies with the specification. All emissions met the limits specified in § 15.407(b). Representative band edge plots are included in this report. See below for Conducted Band edge plots.



QuasiPeak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin	Azimuth (°)	Height	Pol.	Correction (dB)
34.42 MHz	31.69	30	-8.31	261	1.16	Vertical	-6.12
40.48 MHz	26.93	30	-13.07	207	1	Vertical	-10.56
499.99 MHz	33.15	30	-13.85	142	2.56	Vertical	-5.19
400.00 MHz	29.17	30	-17.83	295	2.95	Horizontal	-7.62
500.01 MHz	34.96	30	-12.04	277	1.52	Horizontal	-5.19
875.01 MHz	34.40	30	-12.60	244	1.17	Horizontal	-0.65

Table 4: Radiated Emissions 30 – 1000 MHz



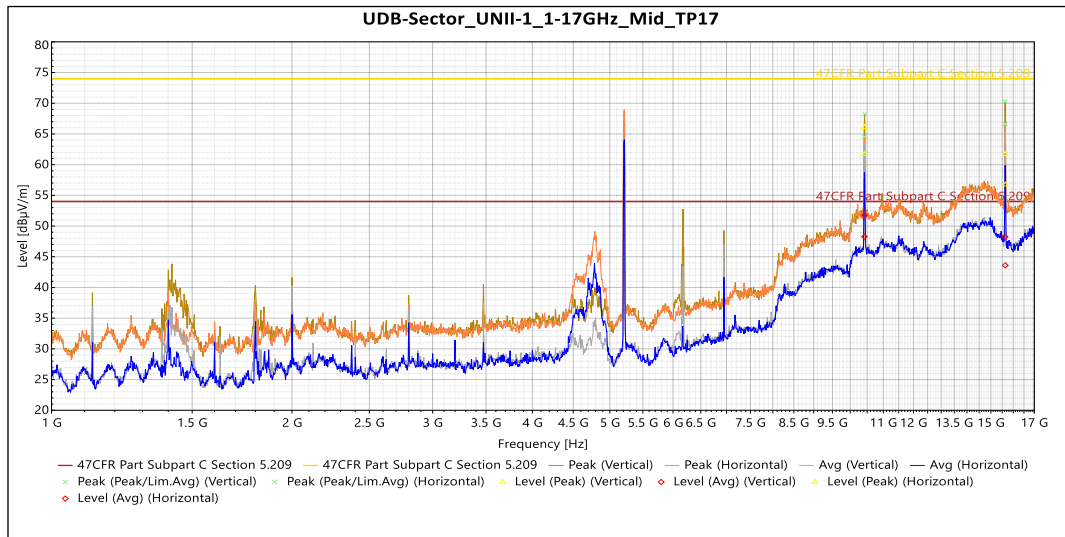
Peak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
6.91 GHz	53.95	74.0	-20.05	312	1.714	Vertical	-7.32
10.37 GHz	67.61	74.0	-6.39	165	1.714	Vertical	9.35
15.54 GHz	64.36	74.0	-9.64	320	2.292	Vertical	11.79
6.18 GHz	51.19	74.0	-22.81	302	1.5	Horizontal	-10.06
6.91 GHz	49.16	74.0	-24.84	266	2.871	Horizontal	-7.32
10.36 GHz	68.27	74.0	-5.73	95	3.728	Horizontal	9.32
15.53 GHz	66.36	74.0	-7.64	131	3.728	Horizontal	11.87

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
6.91 GHz	51.11	54.0	-2.89	312	1.714	Vertical	-7.32
10.37 GHz	53.54	54.0	-0.46	165	1.714	Vertical	9.35
15.54 GHz	50.68	54.0	-3.32	320	2.292	Vertical	11.79
6.18 GHz	23.97	54.0	-30.03	302	1.5	Horizontal	-10.06
6.91 GHz	45.86	54.0	-8.14	266	2.871	Horizontal	-7.32
10.36 GHz	53.87	54.0	-0.13	95	3.728	Horizontal	9.32
15.53 GHz	50.20	54.0	-3.80	131	3.728	Horizontal	11.87

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



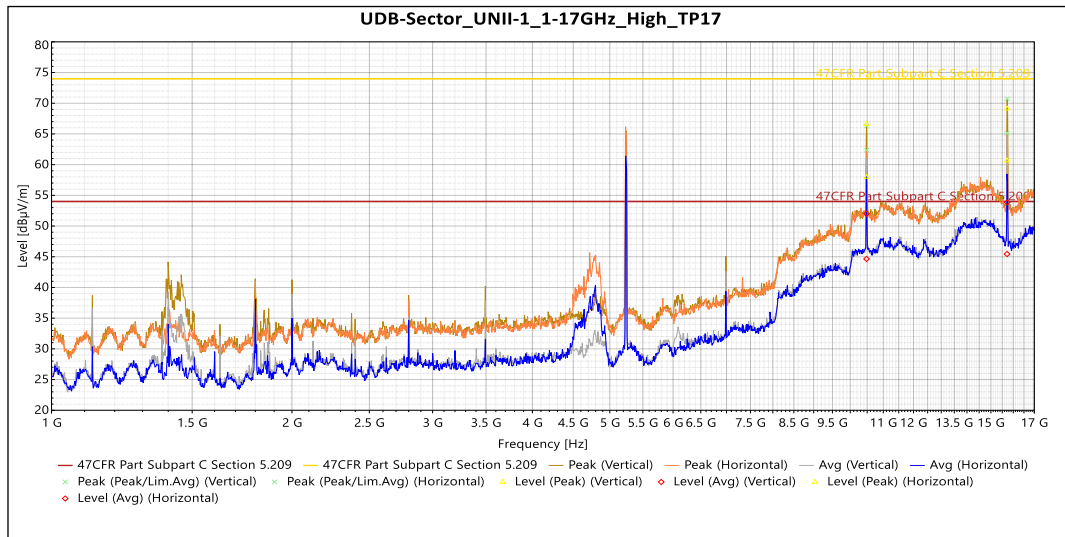
Peak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
10.42 GHz	66.11	74.0	-7.89	360	1.714	Vertical	9.47
15.63 GHz	61.70	74.0	-12.30	317	2.292	Vertical	11.08
10.42 GHz	61.70	74.0	-12.30	61	1.714	Horizontal	9.46
15.64 GHz	56.74	74.0	-17.26	283	2.297	Horizontal	11.02

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
10.42 GHz	51.76	54.0	-2.24	360	1.714	Vertical	9.47
15.63 GHz	48.23	54.0	-5.77	317	2.292	Vertical	11.08
10.42 GHz	48.28	54.0	-5.72	61	1.714	Horizontal	9.46
15.64 GHz	43.59	54.0	-10.41	283	2.297	Horizontal	11.02

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



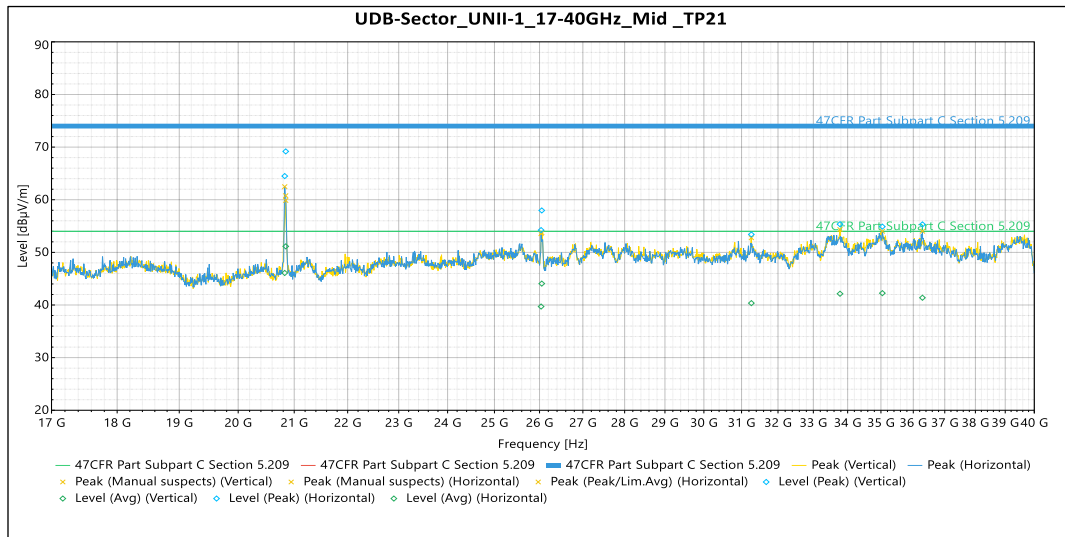
Peak

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
10.48 GHz	66.59	74.0	-7.41	358	2.292	Vertical	9.64
15.72 GHz	69.11	74.0	-4.89	172	2.292	Vertical	10.81
10.48 GHz	58.00	74.0	-16.00	62	1.714	Horizontal	9.64
15.72 GHz	60.66	74.0	-13.34	94	2.292	Horizontal	10.80

Avg

Frequency	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
10.48 GHz	52.02	54.0	-1.98	358	2.292	Vertical	9.64
15.72 GHz	53.86	54.0	-0.14	172	2.292	Vertical	10.81
10.48 GHz	44.64	54.0	-9.36	62	1.714	Horizontal	9.64
15.72 GHz	45.44	54.0	-8.56	94	2.292	Horizontal	10.80

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



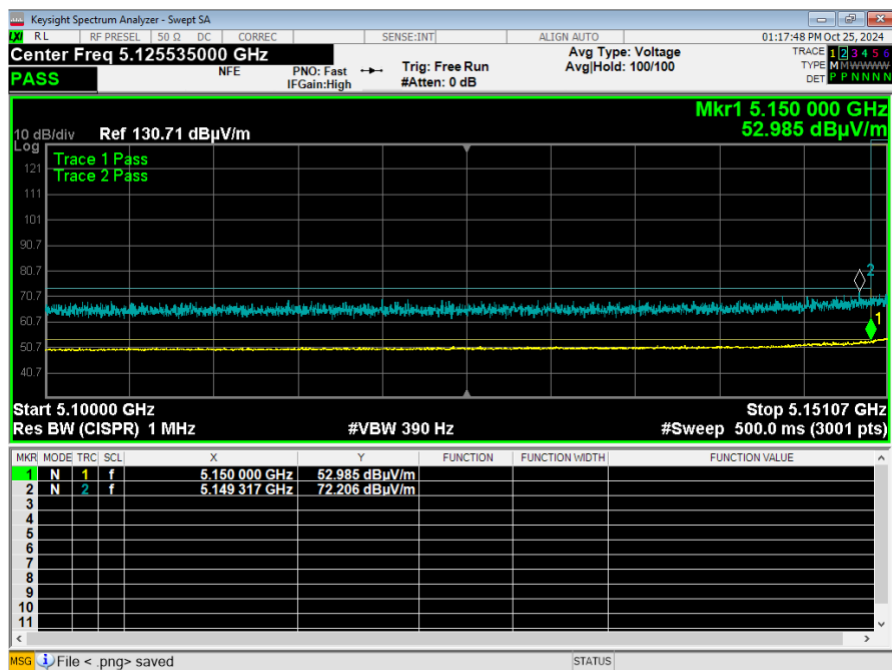
Peak

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
20.85 GHz	69.18	74.0	-4.82	145	Vertical	-0.56
26.05 GHz	57.96	74.0	-16.04	217	Vertical	-0.01
31.27 GHz	53.40	74.0	-20.60	229	Vertical	0.55
33.78 GHz	55.36	74.0	-18.64	88	Vertical	3.81
20.83 GHz	64.49	74.0	-9.51	138	Horizontal	-0.37
26.04 GHz	54.23	74.0	-19.77	171	Horizontal	0.01
35.04 GHz	54.89	74.0	-19.11	149	Horizontal	4.90
36.29 GHz	55.31	74.0	-18.69	32	Horizontal	4.54

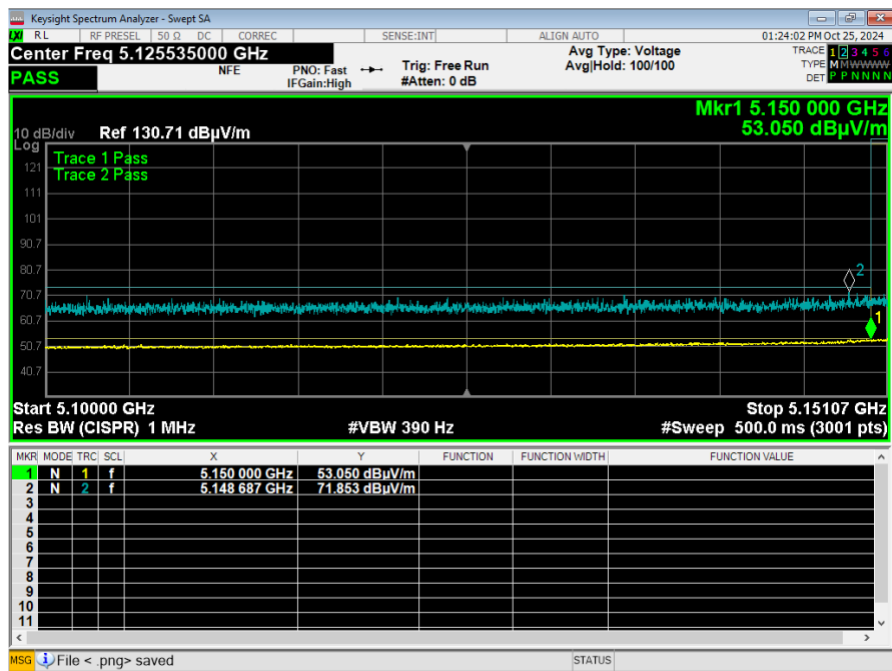
Avg

Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Pol.	Correction (dB)
20.85 GHz	51.14	54.0	-2.86	145	Vertical	-0.56
26.05 GHz	44.07	54.0	-9.93	217	Vertical	-0.01
31.27 GHz	40.35	54.0	-13.65	229	Vertical	0.55
33.78 GHz	42.14	54.0	-11.86	88	Vertical	3.81
20.83 GHz	46.08	54.0	-7.92	138	Horizontal	-0.37
26.04 GHz	39.71	54.0	-14.29	171	Horizontal	0.01
35.04 GHz	42.25	54.0	-11.75	149	Horizontal	4.90
36.29 GHz	41.38	54.0	-12.62	32	Horizontal	4.54

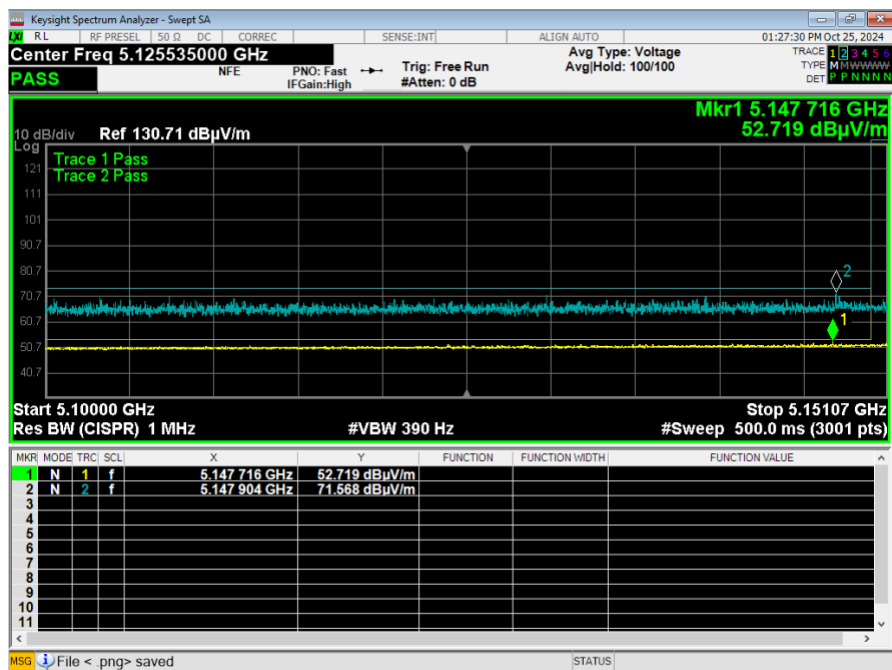
Table 8: Radiated Emissions 17 – 40 GHz at the Middle Frequency (worse case)



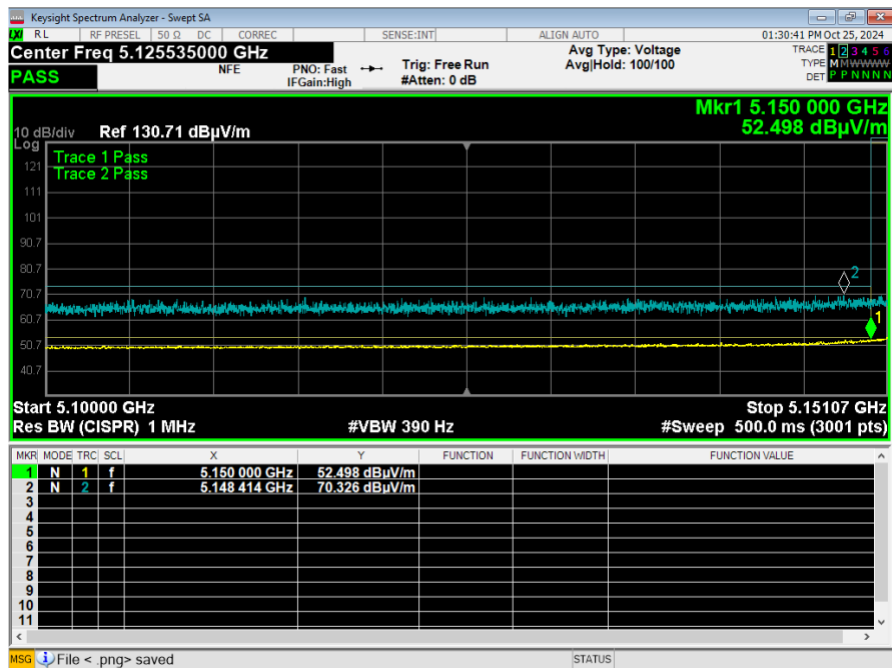
Plot 1: Band Edge OFDM 20 5180MHz



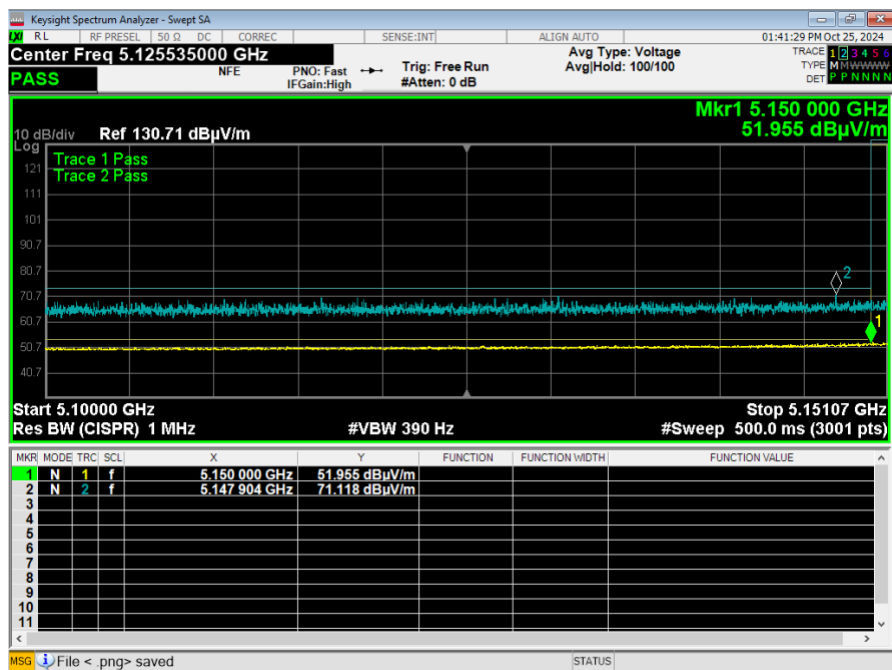
Plot 2: Band Edge OFDM 20 5210MHz



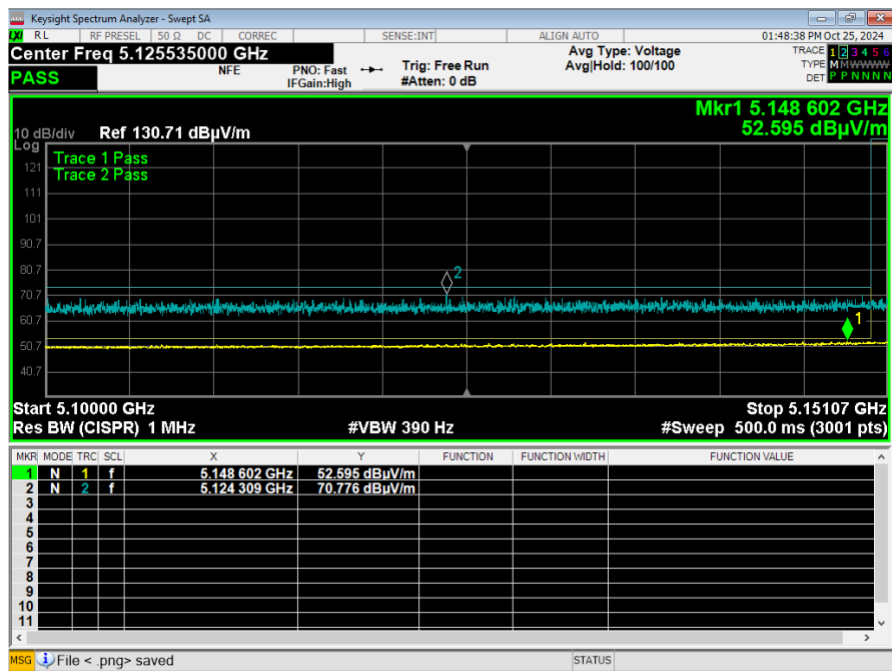
Plot 3: Band Edge OFDM 20 5240MHz



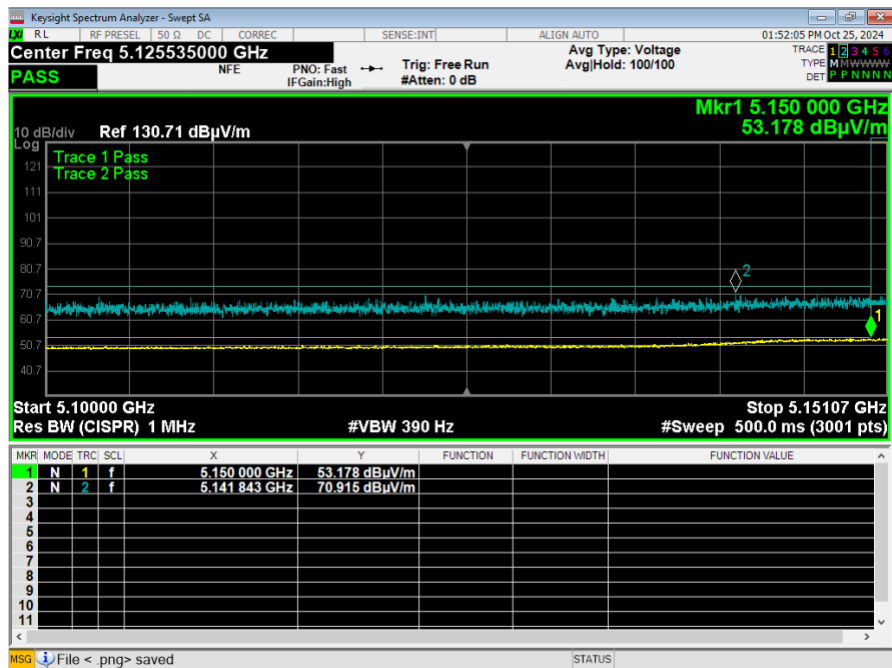
Plot 4: Band Edge VHT 20 5180MHz



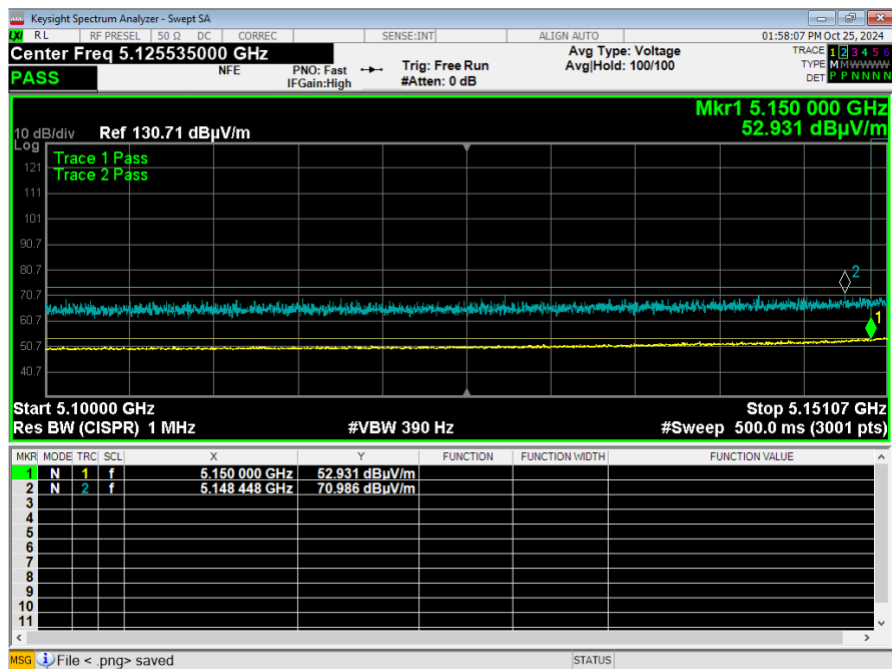
Plot 5: Band Edge VHT 20 5210MHz



Plot 6: Band Edge VHT 20 5240MHz



Plot 7: Band Edge VHT 40 5190MHz



Plot 8: Band Edge VHT 40 5230MHz

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.

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.

As per KDB 662911, when the EUT is using spatial-multiplexing in HT to HE modes, there is not additional array gain to accommodate. When the EUT uses Nss=1 data rates, the antenna gain is 17 dBi + Array gain of 3.01 dB which is a total of 20.01 dBi.

Results of this testing are summarized.

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Measured PSD
OFDM 20	5180	Mcs0_Nss2	14	4.99
OFDM 20	5210	Mcs0_Nss2	15	5.88
OFDM 20	5240	Mcs0_Nss2	15	5.62
VHT 20	5180	Mcs0_Nss2	15	5.70
VHT 20	5210	Mcs0_Nss2	15	5.56
VHT 20	5240	Mcs0_Nss2	15	5.83
VHT 40	5190	Mcs0_Nss2	14	1.58
VHT 40	5230	Mcs0_Nss2	15	2.69

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Measured PSD
OFDM 20	5180	Mcs0_Nss1	0	-9.01
OFDM 20	5210	Mcs0_Nss1	1	-8.12
OFDM 20	5240	Mcs0_Nss1	1	-8.38
VHT 20	5180	Mcs0_Nss1	1	-8.30
VHT 20	5210	Mcs0_Nss1	1	-8.44
VHT 20	5240	Mcs0_Nss1	1	-8.17
VHT 40	5190	Mcs0_Nss1	4	-8.42
VHT 40	5230	Mcs0_Nss1	4	-8.31

Result

The maximum summed average power spectral density was less than the limit of 17 dBm (adjusted limit of 6 dBm with a 17 dBi antenna); therefore, the EUT complies with the specification.

-- End of Test Report --