UNIFIED COMPLIANCE LABORATORY

427 West 12800 South
Draper, UT 84020

Test Report

Certification

FCC ID	SWX-UKU
IC ID	6545-UKU
Equipment Under Test	UK-Ultra
Test Report Serial Number	TR8447_01
Date of Tests	9-10, 11, 14 August 2023
Report Issue Date	25 August 2023

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

NVLAP TESTING ilac-MRA

NVLAP LAB CODE 600241-0

Certification of Engineering Report

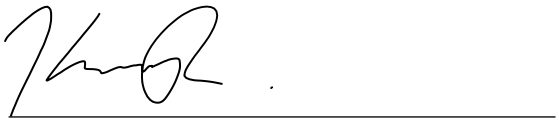
This report has been prepared by Unified Compliance Laboratory (UCL) to document compliance of the device described below with the requirement of Federal Communication Commissions (FCC) Part 15, Subpart C. This report may be reproduced in full. Partial reproduction of this report may only be made with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

Applicant	Ubiquiti Inc.
Manufacturer	Ubiquiti Inc.
Brand Name	UBIQUITI
Model Number	UK-Ultra
FCC ID	SWX-UKU
IC ID	6545-UKU

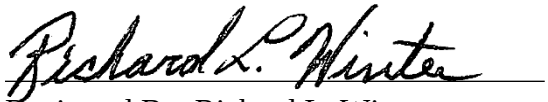
On this 25th day of August 2023, I individually and for Unified Compliance Laboratory certify that the statements made in this engineering report are true, complete, and correct to the best of my knowledge and are made in good faith.

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

Unified Compliance Laboratory



Written By: Kimberly Rodriguez



Reviewed By: Richard L. Winter

Revision History		
Revision	**Description**	**Date**
01	Original Report Release	25 August 2023

Table of Contents

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	UK-Ultra
Serial Number	077-M5ELV7
Dimensions (cm)	13.7 x 8.4 x 3.4

2.2 Description of EUT

The UK-Ultra is a WiFi mesh that provides simultaneous, dual-band, 2x2 MIMO technology. The UK-Ultra is used to expand the coverage of an UniFi system. The UK-Ultra provides 802.11ac technology for ubiquitous WiFi coverage for both indoor and outdoor use. The UK-Ultra is power from a 48 volt PoE adapter POE-24-12W-G-WH.

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: UK-Ultra (Note 1) SN: 077-M5ELV7	Wireless Access Point	See Section 2.4
BN: UBIQUITI MN: U-POE-af SN: N/A	PoE Power Adapter	Shielded or Un-shielded cat 5e cable / < 3 meters
BN: Dell MN: XPS 13 SN: N/A	Laptop Computer	Shielded or Un-shielded cat 5e cable / < 3 meters

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

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

2.4 Interface Ports on EUT

Name of Ports	No. of Ports Fitted to EUT	Cable Description/Length
AC Mains	1	3 conductor power cord/80cm
PoE (PoE Injector)	1	Shielded or Un-shielded cat 5e cable/8 meters
LAN (PoE Injector)	1	Shielded or Un-shielded cat 5e cable/1 meters

2.5 Operating Environment

Power Supply	120 Volts AC to 48 Volts PoE
AC Mains Frequency	60 Hz
Temperature	25.2 – 26.8 °C
Humidity	32.6 – 44.4 %
Barometric Pressure	1015 mBar

2.6 Operating Modes

The UK-Ultra was connected to a personal computer laptop and tested using test software in order to enable to constant duty cycle greater than 98% of the WiFi transceiver. All emission modes of 802.11 b/g/n/ax were investigated. All measurements are reported with the worst-case mode (802.11ax) unless otherwise stated.

2.7 EUT Exercise Software

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

2.8 Block Diagram of Test Configuration

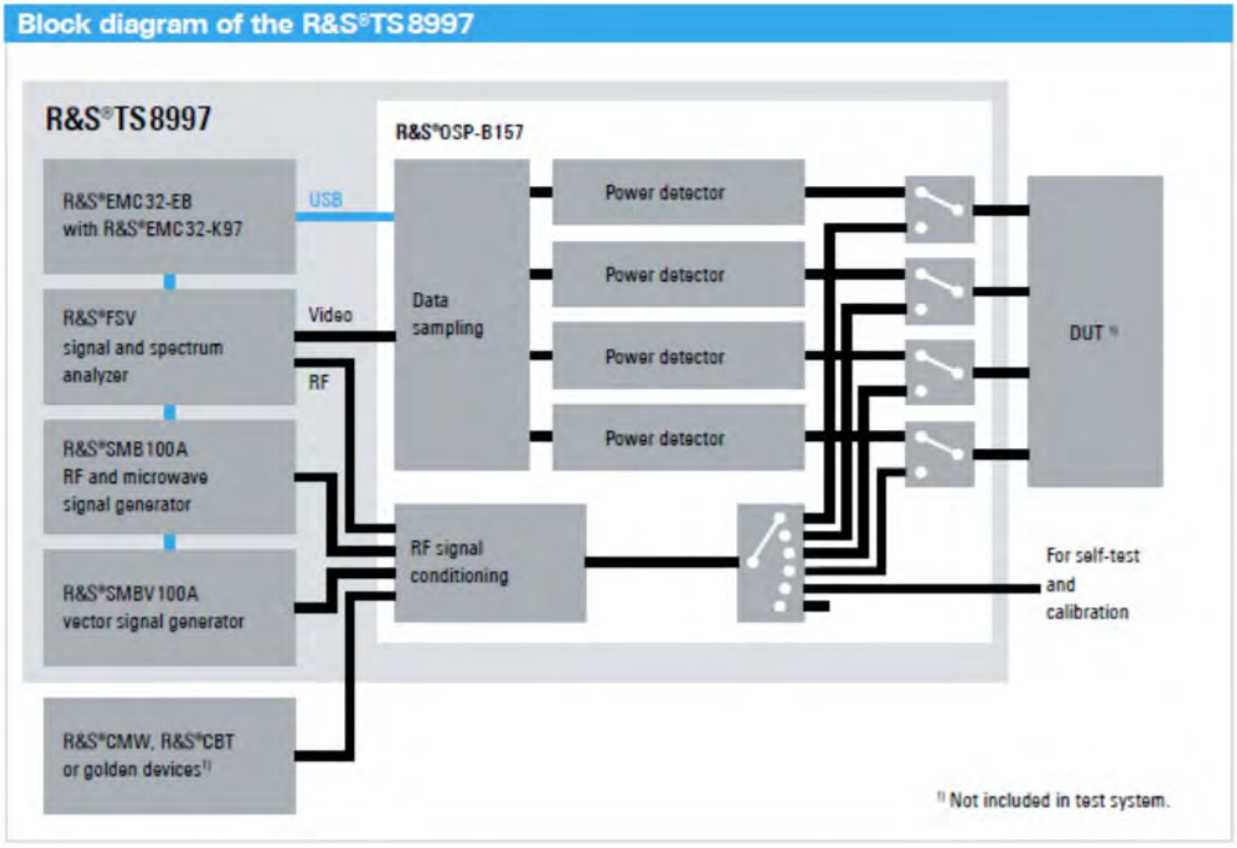


Diagram 1: Test Configuration Block Diagram

2.9 Modification Incorporated/Special Accessories on EUT

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

2.10 Deviation, Opinions Additional Information or Interpretations from Test Standard

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

3 Test Specification, Method and Procedures

3.1 Test Specification

Title	47 CFR FCC Part 15, Subpart C 15.203, 15.207 and 15.247 Limits and methods of measurement of radio interference characteristics of radio frequency devices.
Purpose of Test	The tests were performed to demonstrate initial compliance

3.2 Methods & Procedures

3.2.1 47 CFR FCC Part 15 Section 15.203

See test standard for details.

3.2.2 47 CFR FCC Part 15 Section 15.207

See test standard for details.

3.2.3 47 CFR FCC Part 15 Section 15.247

See test standard for details.

3.3 FCC Part 15, Subpart C

3.3.1 Summary of Tests

FCC Section	ISED Section	Environmental Phenomena	Frequency Range (MHZ)	Result
15.203	N/A	Antenna requirements	Structural Requirement	Compliant
15.207	RSS-Gen	Conducted Disturbance at Mains Port	0.15 to 30	Compliant
15.247(a)	RSS-247 § 5.2	Bandwidth Requirement	2412 to 2462	Compliant
15.247(b)	RSS-247 § 5.4	Peak Output Power	2412 to 2462	Compliant
15.247(d)	RSS-247 § 5.4	Antenna Conducted Spurious Emissions	0.009 to 40000	N/A
15.247(d)	RSS-247 § 5.4	Radiated Spurious Emissions	0.009 to 40000	Compliant
15.247(e)	RSS-247 § 5.2	Peak Power Spectral Density	2412 to 2462	Compliant
The testing was performed according to the procedures in ANSI C63.10-2013, KDB 558074 and 47 CFR Part 15. Where applicable, KDB 662911 was followed to sum required measurements.				

3.4 Results

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

3.5 Test Location

Testing was performed at the Unified Compliance Laboratory 3-meter and 10-meter chamber 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 2024. 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 2024.

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-6754	2/22/2023	2/27/2024
LISN	AFJ	LS16C/10	UCL-6749	12/6/2021	12/6/2023
ISN	Teseq	ISN T800	UCL-2974	6/27/2022	6/272024
LISN	Com-Power	LIN-120C	UCL-2612	1/24/2023	1/24/2024
AC Power Source	Laplace Instruments	AC1000A	UCL-2857	N/A	N/A
Test Software	UCL	Revision 1	UCL-3107	N/A	N/A

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

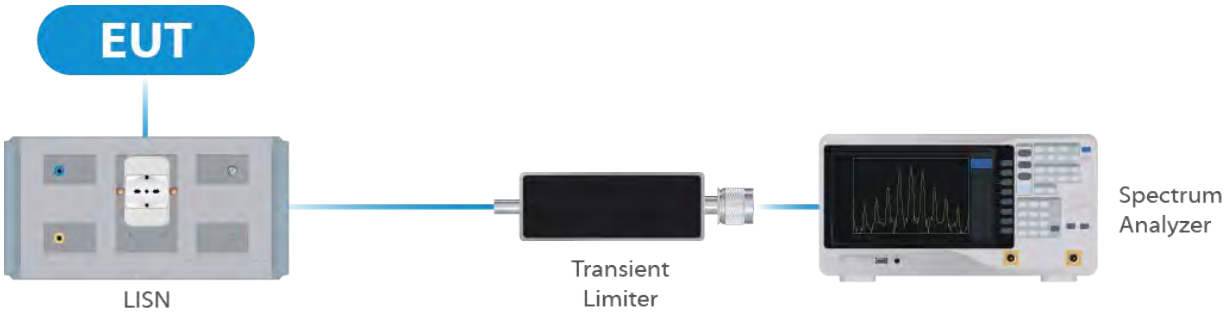


Figure 1: Conducted Emissions Test

4.2 Direct Connect at the Antenna Port Tests

Type of Equipment	Manufacturer	Model Number	Asset Number	Date of Last Calibration	Due Date of Calibration
Spectrum Analyzer	R&S	FSV40	UCL-2861	11/7/2022	11/7/2023
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	2/22/2023	2/22/2024
Switch Extension	R&S	OSP-150W	UCL-2870	2/22/2023	2/22/2024

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

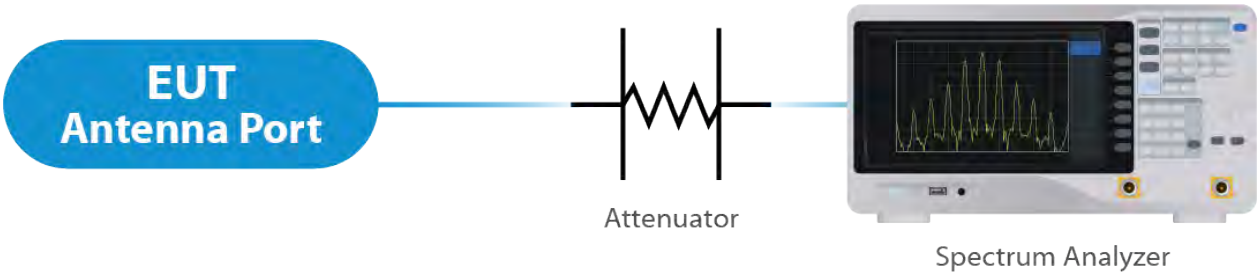


Figure 2: Direct Connect at the Antenna Port Test

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	1274/2023	1274/2024
Pre-Amplifier 9 kHz – 1 GHz	Sonoma Instruments	310N	UCL-2889	10/7/2021	10/7/2023
Broadband Antenna	Scwarzbeck	VULB 9163	UCL-3062	2/22/2023	2/22/2025
Broadband Antenna	Scwarzbeck	VULB 9163	UCL-3071	1/11/2023	1/11/2025
Double Ridge Horn Antenna	Scwarzbeck	BBHA 9120D	UCL-3065	9/22/2022	9/22/2024
Log Periodic	Scwarzbeck	STLP 9129	UCL-3068	1/27/2023	1/27/2025
15 - 40 GHz Horn Antenna	Scwarzbeck	BBHA 9170	UCL-2487	6/09/2022	6/09/2024
1 – 18 GHz Amplifier	Com-Power	PAM 118A	UCL-3833	12/9/2022	12/9/2023
Test Software	UCL	Revision 1	UCL-3108	N/A	N/A

Table 3: List of equipment used for Radiated Emissions

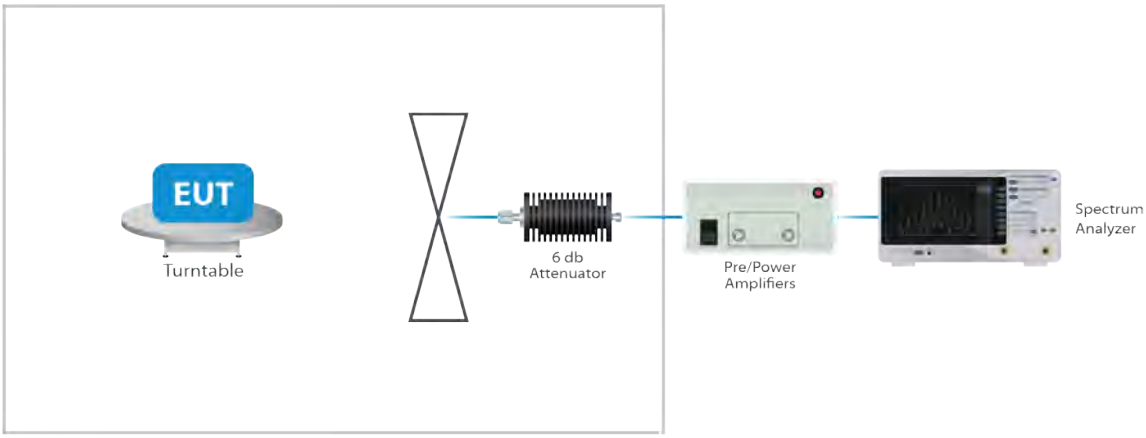


Figure 3: Radiated Emissions Test

4.4 Equipment Calibration

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

4.5 Measurement Uncertainty

Test	Uncertainty (± 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 integral antenna. As per the manufacturer, the maximum gain of the antenna per chain is 4.7 dBi. This is an 802.11 device and utilizes CDD as described in KDB 662911 D01. The antenna is not user replaceable.

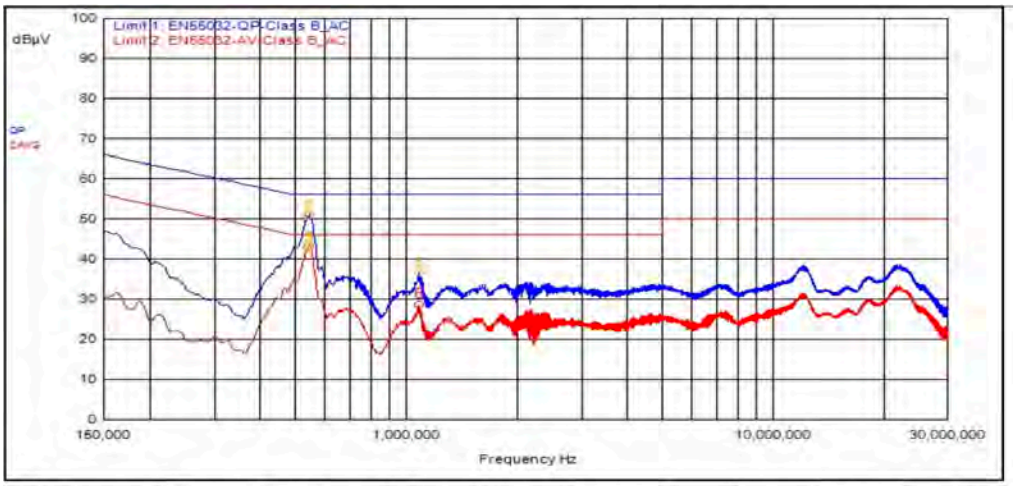
For power measurements on IEEE 802.11 devices, Array Gain = 0 dB for NANT ≤ 4;

Results

The EUT complied with the specification

5.2 Conducted Emissions at Mains Ports Data

Hot Lead



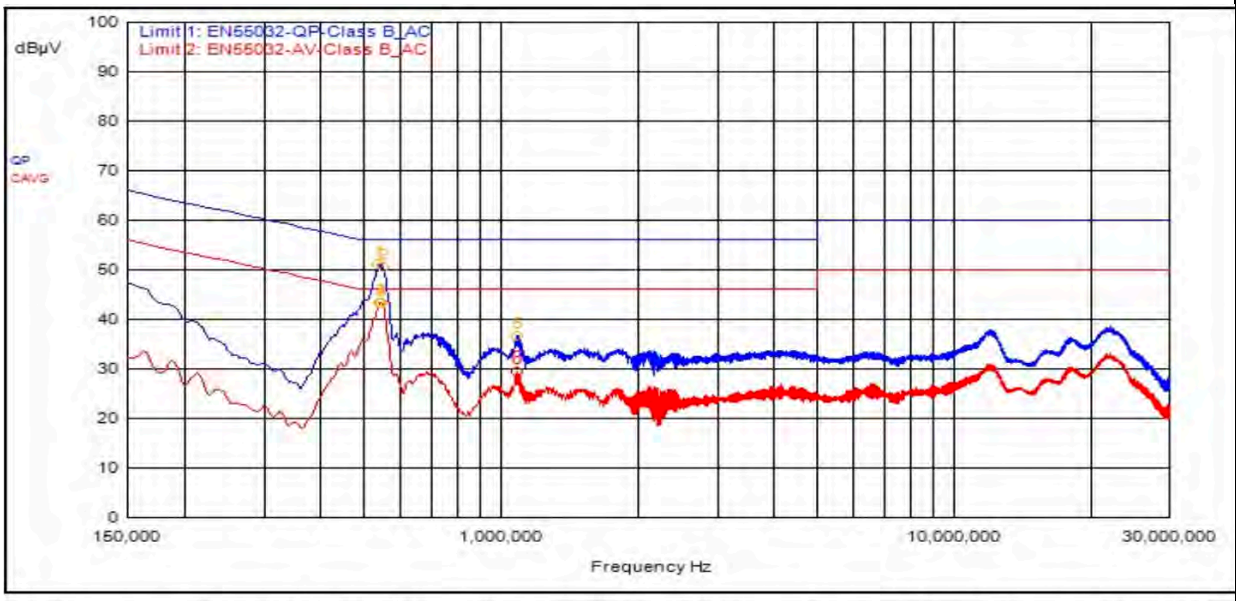
ID	Frequency	Probe	Cable	Atten.	Detector	Meter Read	Meas Level	Limit 1	Limit 1 Dist.	Limit 2	Limit 2 Dist.	P/F
MU	MHz	dB	dB	dB	Type	dBµV	dBµV	dBµV	dB	dBµV	dB	P/F
2	543,000kHz	9.49	0.00		QPeak	41.71	51.20	56.00	-4.80			
1	537,000kHz	9.49	0.00		QPeak	41.29	50.78	56.00	-5.22			
5	1.086	9.58	0.00		QPeak	26.96	36.54	56.00	-19.46			
3	540,000kHz	9.49	0.00		C_AVG	33.68	43.17			46.00	-2.83	
4	546,000kHz	9.49	0.00		C_AVG	33.80	43.29			46.00	-2.71	
6	1.086	9.58	0.00		C_AVG	18.98	28.56			46.00	-17.44	

Note 1: The reference detector used for the measurements was Quasi-Peak or Peak and the data was compared to the average limit: therefore, the EUT was deemed to meet both the average and quasi-peak limits.

Note 2: The reference detector used for the measurements was quasi-peak and average and the data was compared to the respective limits.

Note 3: The device the transceiver is in is a Class A device and the limits shown are from §15.207 which are the same as the limits for a Class B device under §15.107. These emissions were investigated and were found to be at the same level regardless of whether the transceivers of the device were not powered, powered and idle, or powered and active, therefore, the conducted emissions of the transceivers were deemed compliant with the requirements of the standard.

Neutral Lead



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	537,000kHz	9.62	0.00		QPeak	41.42	51.04	56.00	-4.96			
2	549,000kHz	9.62	0.00		QPeak	41.06	50.68	56.00	-5.32			
5	1.086	9.56	0.00		QPeak	27.15	36.71	56.00	-19.29			
3	540,000kHz	9.62	0.00		C_AVG	33.68	43.30			46.00	-2.70	
4	546,000kHz	9.62	0.00		C_AVG	33.65	43.27			46.00	-2.73	
6	1.086	9.56	0.00		C_AVG	19.86	29.42			46.00	-16.58	

Note 1: The reference detector used for the measurements was Quasi-Peak or Peak and the data was compared to the average limit: therefore, the EUT was deemed to meet both the average and quasi-peak limits.
Note 2: The reference detector used for the measurements was quasi-peak and average and the data was compared to the respective limits.
Note 3: The device the transceiver is in is a Class A device and the limits shown are from §15.207 which are the same as the limits for a Class B device under §15.107. These emissions were investigated and were found to be at the same level regardless of whether the transceivers of the device were not powered, powered and idle, or powered and active, therefore, the conducted emissions of the transceivers were deemed compliant with the requirements of the standard.

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 66291 D01. Please see associated annex for details on instrument settings.

Mode	Frequency (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth (MHz)
b 20	2412	11.50	7.15
	2437	11.40	7.15
	2462	11.70	7.65
g 20	2412	16.20	15.50
	2437	16.20	15.50
	2462	16.20	15.75
n 20	2412	17.40	16.10
	2437	17.50	12.75
	2462	17.30	16.05
n 40	2422	36.00	32.85
	2437	36.00	31.40
	2452	35.75	30.35

Result

All chains were tested and the highest bandwidth per chain is reported above.

In the configuration tested, the 6dB bandwidth was greater than 500 kHz; therefore, the EUT complied with the requirements of the specification (see spectrum analyzer plot within the Annex).

5.4 §15.247(b)(3) Maximum Average Output Power

All chains were measured and summed under the guidance of KDB 558074 Section 8.3.2.3. and KDB 66291 D01. Please see associated annex for details on instrument settings.

The maximum average RF conducted output power measured for this device was 21.33 dBm or 135.83 mW. The limit is 30 dBm or 1 Watt when using antennas with 6 dBi or less gain. The antenna has a gain of 4.7 dBi.

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Conducted Output Power *	Measured EIRP
b 20	2412	Mcs0	17	21.32	26.02
	2417	Mcs0	17	21.20	25.90
	2422	Mcs0	17	20.50	25.20
	2427	Mcs0	17	21.24	25.94
	2432	Mcs0	17	21.33	26.03
	2437	Mcs0	17	21.28	25.98
	2442	Mcs0	16	20.13	24.83
	2447	Mcs0	16	20.42	25.12
	2452	Mcs0	16	20.15	24.85
	2457	Mcs0	16	20.44	25.14
	2462	Mcs0	16	19.38	24.08
g 20	2412	Mcs0	14	18.11	22.81
	2417	Mcs0	14	18.27	22.97
	2422	Mcs0	15	19.11	23.81
	2427	Mcs0	14	18.14	22.84
	2432	Mcs0	14	18.19	22.89
	2437	Mcs0	16	20.00	24.70
	2442	Mcs0	16	19.77	24.47
	2447	Mcs0	16	20.00	24.70
	2452	Mcs0	16	19.79	24.49
	2457	Mcs0	16	19.90	24.60
	2462	Mcs0	16	19.72	24.42
n 20	2412	Mcs0	17	20.93	25.63
	2417	Mcs0	17	20.86	25.56
	2422	Mcs0	17	20.74	25.44
	2427	Mcs0	17	20.71	25.41
	2432	Mcs0	17	20.49	25.19

	2437	Mcs0	17	20.66	25.36
	2442	Mcs0	16	19.46	24.16
	2447	Mcs0	16	19.96	24.66
	2452	Mcs0	16	19.73	24.43
	2457	Mcs0	16	19.65	24.35
	2462	Mcs0	16	19.59	24.29
n 40	2422	Mcs0	16	18.90	23.60
	2437	Mcs0	17	19.82	24.52
	2452	Mcs0	16	18.70	23.40

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 within the Annex are plots 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.

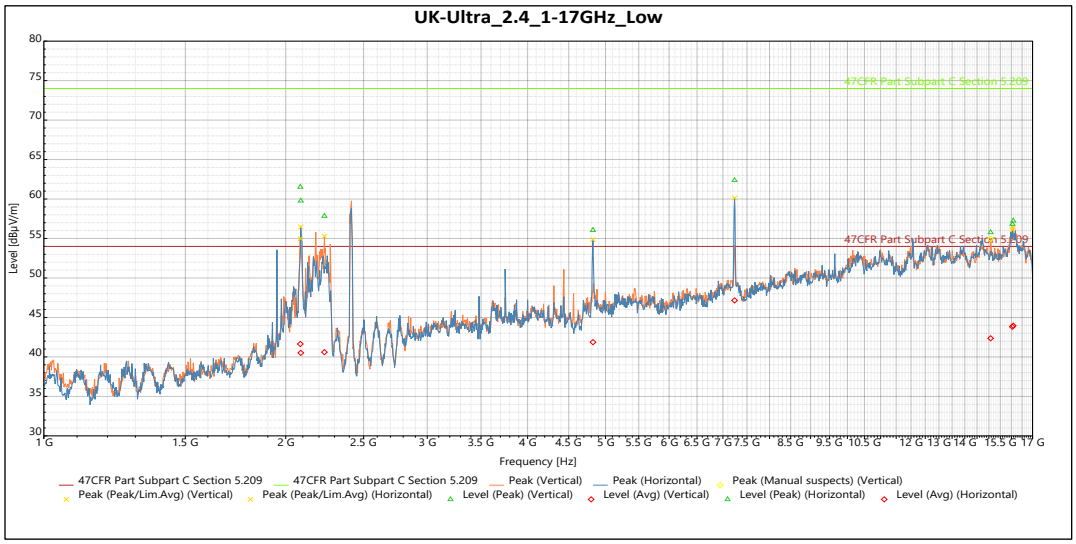
5.5.2 Radiated Spurious Emissions in the Restricted Bands of §15.205

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 + Cable Loss - Pre-Amplifier Gain, and is added to the Receiver reading.

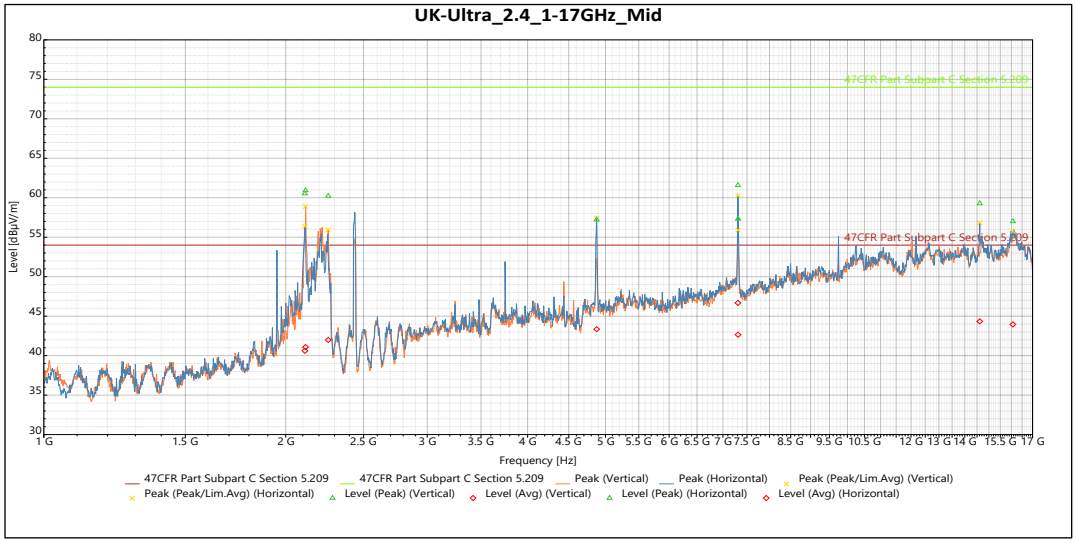
Result

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



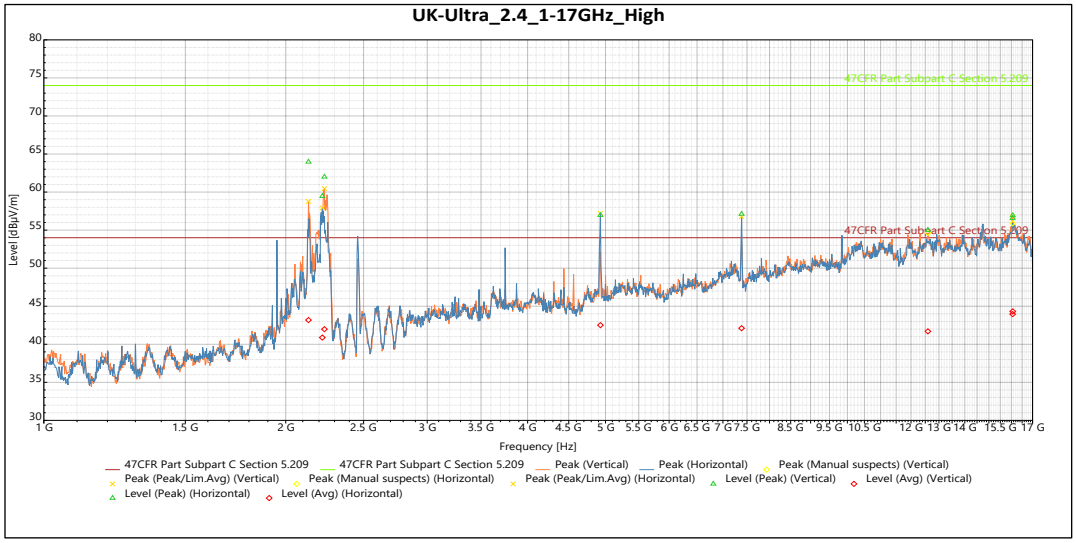
Frequency	SR #	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
2.0854 GHz	Peak	61.527	74	-12.473	270	2.325	Vertical	-9.441
2.2344 GHz	Peak	57.854	74	-16.146	303	2.65	Vertical	-9.713
15.075 GHz	Peak	55.777	74	-18.223	110	1.643	Vertical	11.111
16.083 GHz	Peak	57.237	74	-16.763	103	4	Vertical	12.79
2.0854 GHz	AVG	41.635	54	-12.365	270	2.325	Vertical	-9.441
2.2344 GHz	AVG	40.602	54	-13.398	303	2.65	Vertical	-9.713
15.075 GHz	AVG	42.359	54	-11.641	110	1.643	Vertical	11.111
16.083 GHz	AVG	43.96	54	-10.04	103	4	Vertical	12.79
2.0883 GHz	Peak	59.776	74	-14.224	337	1.834	Horizontal	-9.463
4.8236 GHz	Peak	56.057	74	-17.943	163	2.146	Horizontal	-3.43
7.2379 GHz	Peak	62.378	74	-11.622	220	2.146	Horizontal	3.374
16.044 GHz	Peak	56.821	74	-17.179	107	1.643	Horizontal	12.514
2.0883 GHz	AVG	40.515	54	-13.485	337	1.834	Horizontal	-9.463
4.8236 GHz	AVG	41.871	54	-12.129	163	2.146	Horizontal	-3.43
7.2379 GHz	AVG	47.157	54	-6.843	220	2.146	Horizontal	3.374
16.044 GHz	AVG	43.818	54	-10.182	107	1.643	Horizontal	12.514

Table 4: Transmitting at the Lowest Frequency



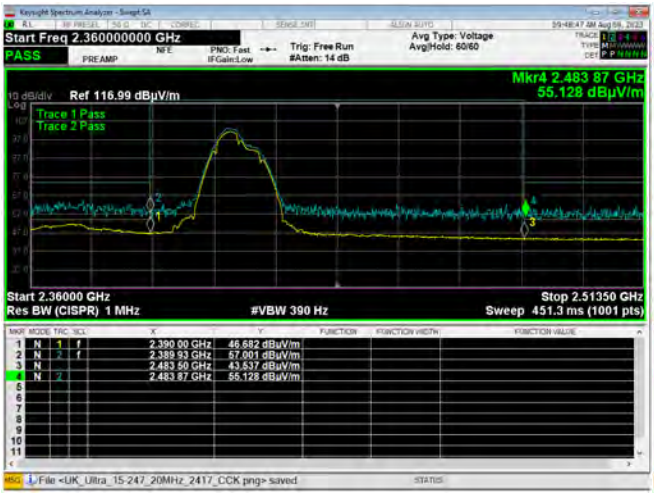
Frequency	SR #	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
2.117 GHz	Peak	60.933	74	-13.067	281	3.307	Vertical	-9.569
2.2591 GHz	Peak	60.221	74	-13.779	273	2.329	Vertical	-9.832
7.3104 GHz	Peak	57.332	74	-16.668	147	2.146	Vertical	3.045
16.068 GHz	Peak	56.995	74	-17.005	171	1.643	Vertical	12.723
2.117 GHz	AVG	41.084	54	-12.916	281	3.307	Vertical	-9.569
2.2591 GHz	AVG	41.989	54	-12.011	273	2.329	Vertical	-9.832
7.3104 GHz	AVG	42.648	54	-11.352	147	2.146	Vertical	3.045
16.068 GHz	AVG	43.956	54	-10.044	171	1.643	Vertical	12.723
2.1129 GHz	Peak	60.526	74	-13.474	312	1.5	Horizontal	-9.571
4.8754 GHz	Peak	57.224	74	-16.776	177	1.638	Horizontal	-3.498
7.3077 GHz	Peak	61.585	74	-12.415	230	1.638	Horizontal	3.08
14.613 GHz	Peak	59.277	74	-14.723	134	1.638	Horizontal	10.396
2.1129 GHz	AVG	40.607	54	-13.393	312	1.5	Horizontal	-9.571
4.8754 GHz	AVG	43.353	54	-10.647	177	1.638	Horizontal	-3.498
7.3077 GHz	AVG	46.683	54	-7.317	230	1.638	Horizontal	3.08
14.613 GHz	AVG	44.345	54	-9.655	134	1.638	Horizontal	10.396

Table 5: Transmitting at the Middle Frequency



Frequency	SR #	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Correction (dB)
2.1347 GHz	Peak	63.966	74	-10.034	272	2.645	Vertical	-9.516
2.2345 GHz	Peak	61.998	74	-12.002	246	2.146	Vertical	-9.714
12.595 GHz	Peak	55.003	74	-18.997	270	3.654	Vertical	10.347
16.057 GHz	Peak	56.575	74	-17.425	351	3.307	Vertical	12.636
2.1347 GHz	AVG	43.184	54	-10.816	272	2.645	Vertical	-9.516
2.2345 GHz	AVG	41.975	54	-12.025	246	2.146	Vertical	-9.714
12.595 GHz	AVG	41.697	54	-12.303	270	3.654	Vertical	10.347
16.057 GHz	AVG	43.963	54	-10.037	351	3.307	Vertical	12.636
2.2212 GHz	Peak	59.458	74	-14.542	198	1.5	Horizontal	-9.591
4.9279 GHz	Peak	56.96	74	-17.04	174	1.643	Horizontal	-3.309
7.3849 GHz	Peak	57.12	74	-16.88	229	2.146	Horizontal	1.996
16.063 GHz	Peak	56.934	74	-17.066	330	3.657	Horizontal	12.691
2.2212 GHz	AVG	40.878	54	-13.122	198	1.5	Horizontal	-9.591
4.9279 GHz	AVG	42.507	54	-11.493	174	1.643	Horizontal	-3.309
7.3849 GHz	AVG	42.111	54	-11.889	229	2.146	Horizontal	1.996
16.063 GHz	AVG	44.324	54	-9.676	330	3.657	Horizontal	12.691

Table 6: Transmitting at the Highest Frequency

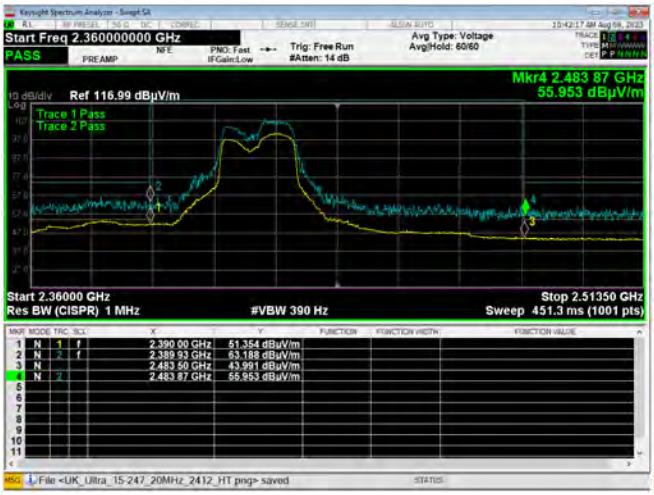


CCK_2412

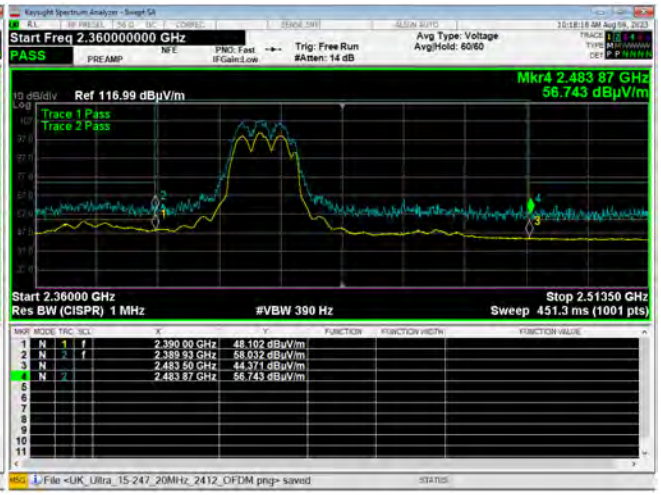
HT_2412

OFDM_2412

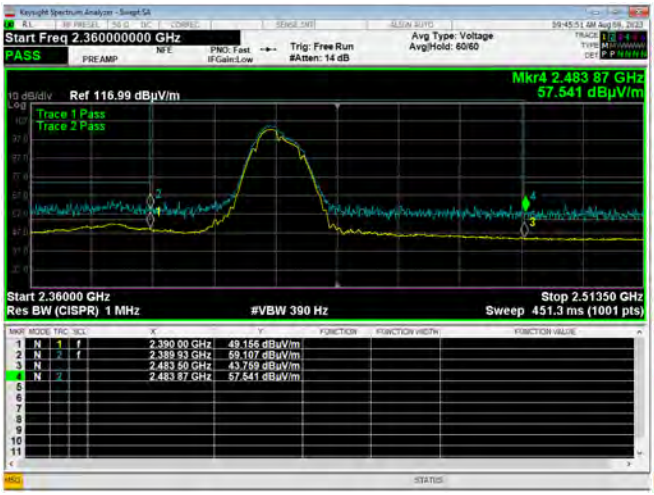
CCK_2417



HT_2412

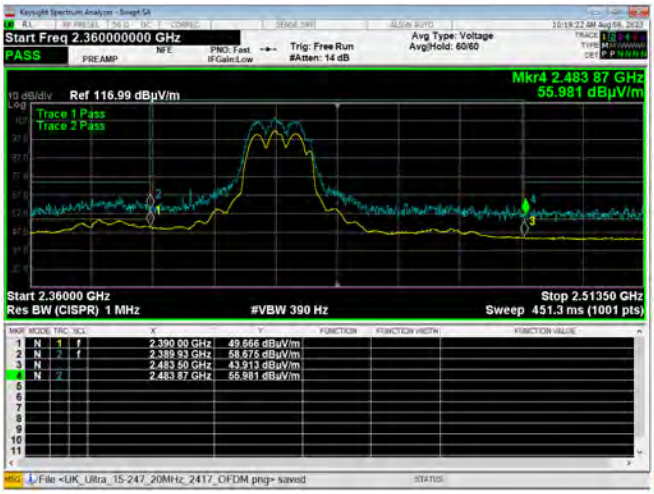


OFDM_2417



CCK_2422

HT_2422

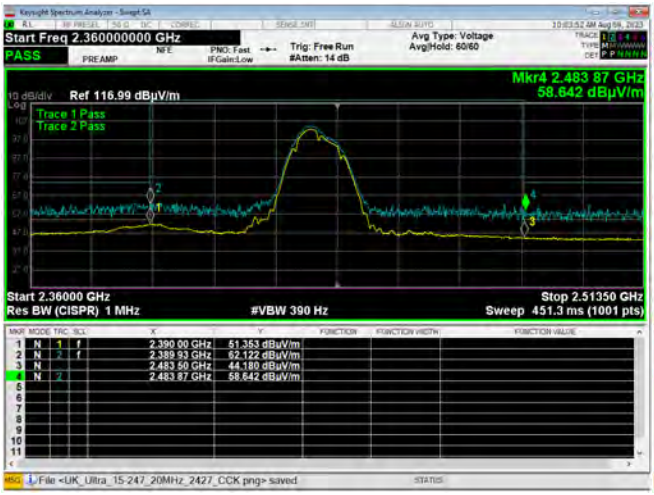


OFDM_2422

CCK_2427

HT_2427

OFDM_2427

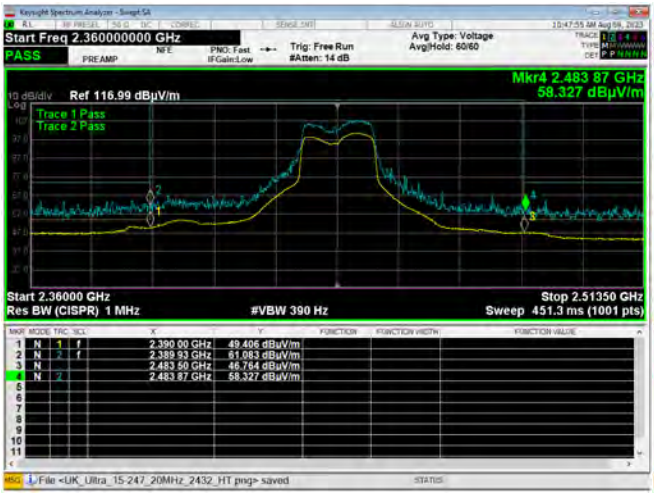


CCK_2432

HT_2432

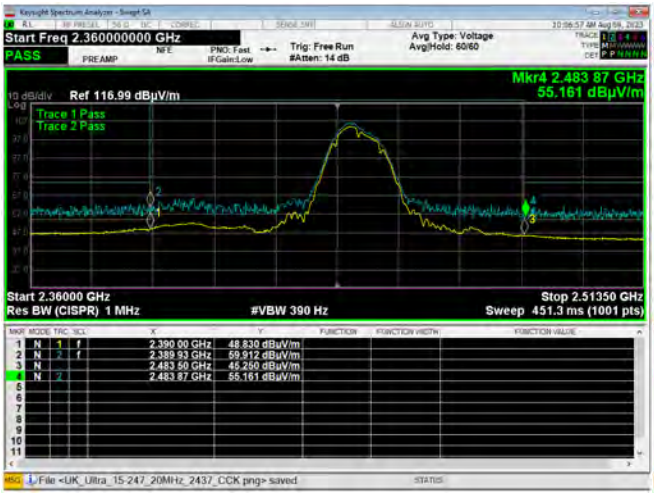
OFDM_2432

CCK_2437



HT_2437

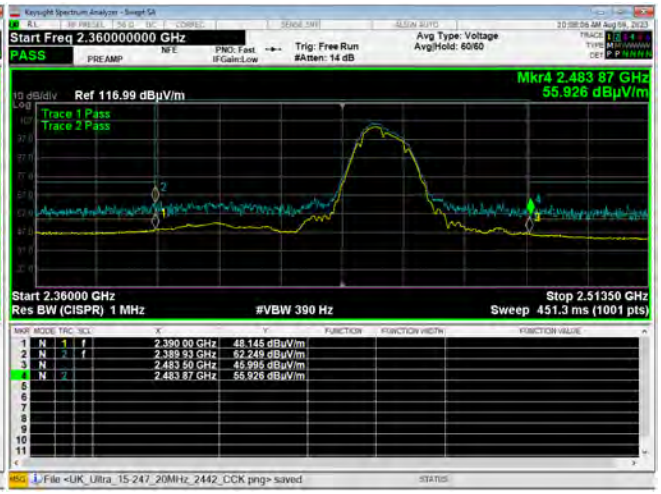
OFDM_2437



CCK_2442

HT_2442

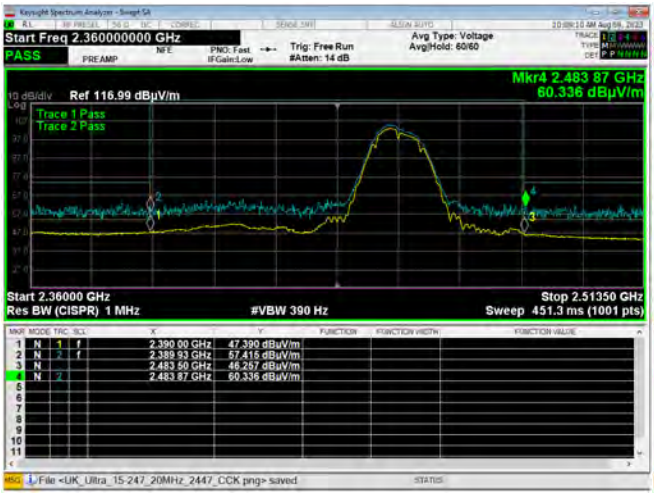
OFDM_2442



CCK_2447

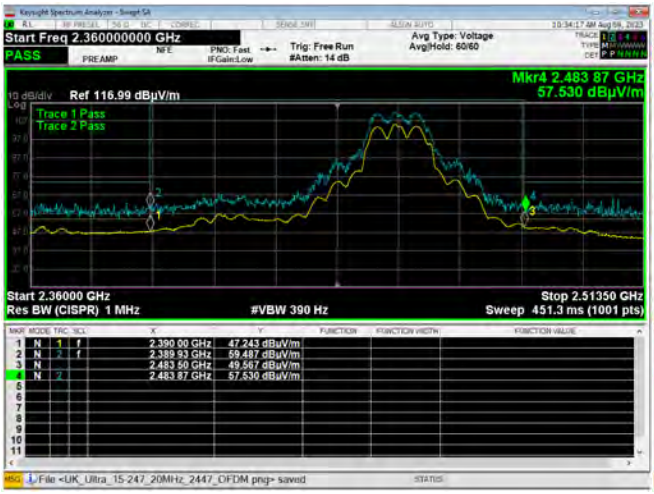
HT_2447

OFDM_2447

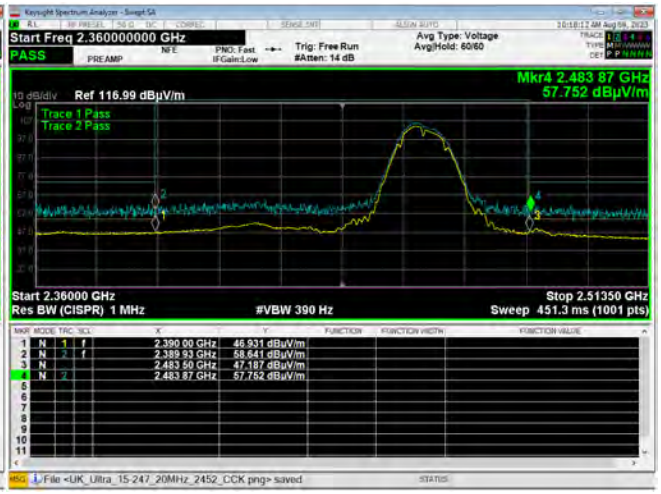


CCK_2452

HT_2452



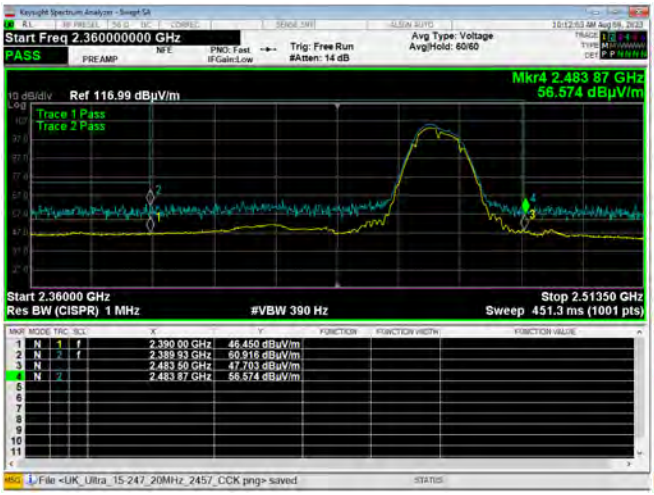
OFDM_2452



CCK_2457

HT_2457

OFDM_2457



CCK_2462

HT_2462

OFDM_2462

HT_2422

HT_2437

HT_2542

5.6 §15.247(e) Maximum Average Power Spectral Density

All chains were measured and summed under the guidance of KDB 558074 Section 8.4. and KDB 66291 D01. Please see associated annex for details on instrument settings.

The maximum average power spectral density conducted from the intentional radiator of the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. The antenna gain is 4.7 dBi.

Mode	Frequency (MHz)	Measurement (dBm)	Criteria (dBm)
b	2412	-9.48	8.0
	2437	-9.23	8.0
	2462	-11.96	8.0
g	2412	-16.00	8.0
	2437	-14.61	8.0
	2462	-15.08	8.0
n 20	2412	-13.70	8.0
	2437	-14.38	8.0
	2462	-14.98	8.0
n 40	2422	-19.81	8.0
	2437	-17.33	8.0
	2452	-20.19	8.0

Result

The maximum average power spectral density was less than the limit of 8 dBm; therefore, the EUT complies with the specification.

-- End of Test Report --