UNIFIED COMPLIANCE LABORATORY

427 West 12800 South
Draper, UT 84020

Test Report

Certification

FCC ID	SWX-ULTEBP / Contains FCC ID: SWX-RC7611
IC ID	6545A-ULTEBP / Contains IC: 6545A-RC7611
Equipment Under Test	U-LTE-Backup Pro
Test Report Serial Number	TR6371_06
Date of Tests	15 January 2020; 26-27 July and 6 August 2021
Report Issue Date	26 January 2022

Test Specification	Applicant
47 CFR FCC Part 15, Subpart C	Ubiquiti Inc. 685 Third Avenue New York, NY 10019 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.

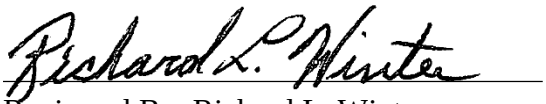
Applicant	Ubiquiti Inc.
Manufacturer	Ubiquiti Inc.
Brand Name	UniFi
Model Number	U-LTE-Backup Pro
FCC ID	SWX-ULTEBP / Contains FCC ID: SWX-RC7611
IC ID	6545A-ULTEBP / Contains IC: 6545A-RC7611

On this 26th day of January 26, 2022, 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: Clay Allred



Reviewed By: Richard L. Winter

Revision History		
Revision	**Description**	**Date**
01	Original Report Release	13 August 2021
02	Added FCC and IC ID's	16 November 2021
03	Amend Antenna Gain	17 November 2021
04	Changed Model name to U-LTE-Backup Pro	26 January 2022
05	Added Serial Number to Sections 2.1 and 2.3	28 January 2022
06	Updated Section 5.1	11 April 2022

Table of Contents

1 Client Information

1.1 Applicant

Company	Ubiquiti Inc. 685 Third Avenue New York, NY 10017 U.S.A.
Contact Name	Mark Feil
Title	Compliance Manager

1.2 Manufacturer

Company	Ubiquiti Inc. 685 Third Avenue New York, NY 10017 U.S.A.
Contact Name	Mark Feil
Title	Compliance Manager

2 Equipment Under Test (EUT)

2.1 Identification of EUT

Brand Name	UniFi
Model Number	U-LTE-Backup Pro
Serial Number	74ACB9BC9B0E
Dimensions (cm)	6.60 x 20.21 x 3.22

2.2 Description of EUT

The U-LTE-Backup Pro is a PoE-powered WAN over LTE failover solution with a slot for Nano SIM card. It features a Cat4 4G LTE module supporting European LTE, WCDMA, and GSM bands. The U-LTE-Backup Pro provides Ethernet and POE passthrough ports as well as a 2.4 GHz WiFi and Bluetooth interface. It is managed by UniFi Controller Software and is capable of connecting to an external SMBA antenna. The EUT is powered by the Ubiquiti POE-48W-G-WH PoE supply.

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: UniFi MN: U-LTE-Backup Pro (Note 1) SN: 74ACB9BC9B0E	LTE Gateway	See Section 2.4
BN: Ubiquiti MN: UPOE-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 In	1	Shielded or Unshielded Cat 5e cable/7 meters
Secondary Ethernet	1	Shielded or Unshielded Cat 5e cable/7 meters

2.5 Operating Environment

Power Supply	120 Volts ac to 48 Volts PoE Power
AC Mains Frequency	60 Hz
Temperature	25.8-26.7 °C
Humidity	30.86-41.92 %
Barometric Pressure	1013 mBar

2.6 Operating Modes

The U-LTE-Backup Pro was connected to a personal computer laptop and tested using test software in order to enable to constant duty cycle of the Bluetooth transceiver. The measurements within this report are corrected to reference a 100% duty cycle.

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

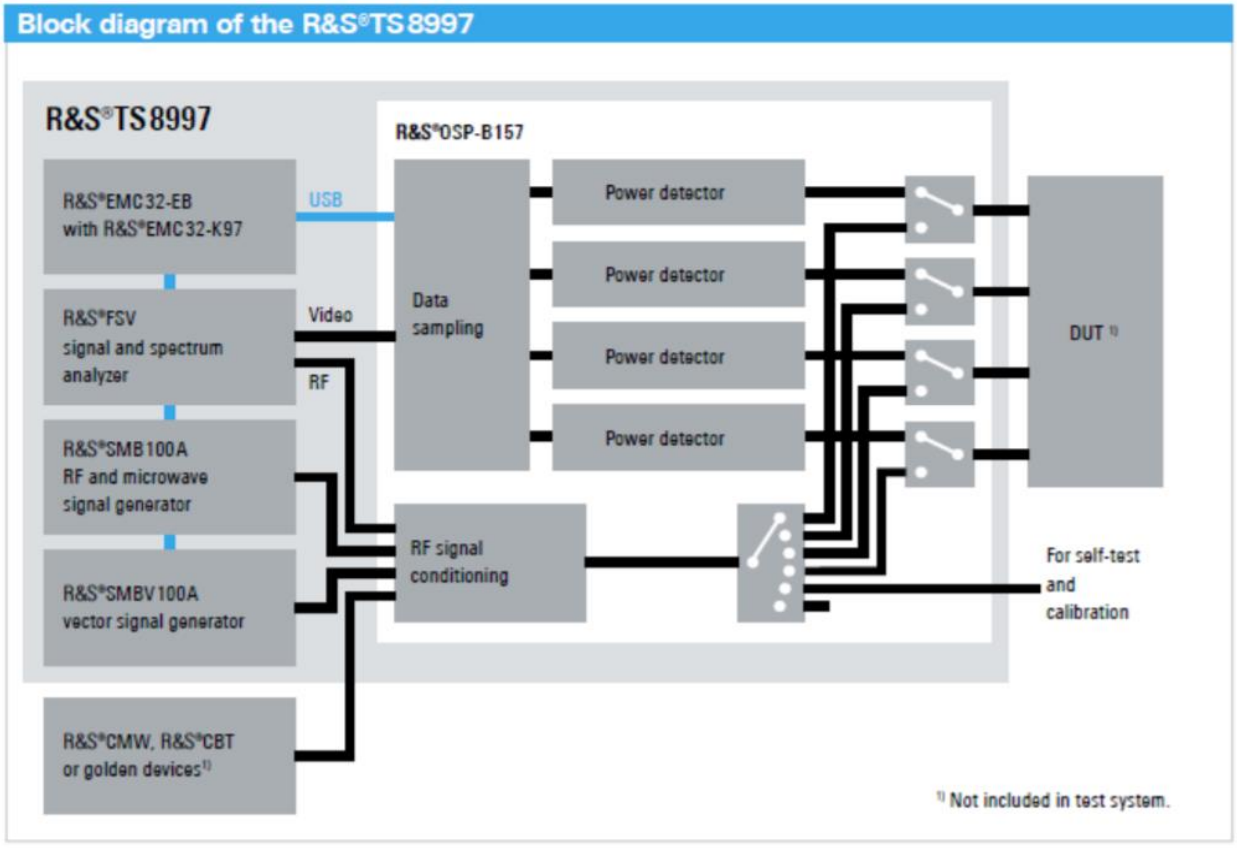


Diagram 1: Test Configuration Block Diagram

2.9 Modification Incorporated/Special Accessories on EUT

The following modifications were made to the EUT by the Client during testing to comply with the specification. This report is not complete without an accompanying signed attestation, that the product will have all of the documented modification incorporated into the product when manufactured and place on the market.

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 2472	Compliant
15.247(b)	RSS-247 § 5.4	Peak Output Power	2412 to 2472	Compliant
15.247(d)	RSS-247 § 5.4	Antenna Conducted Spurious Emissions	30 to 26000	Compliant
15.247(d)	RSS-247 § 5.4	Radiated Spurious Emissions	30 to 26000	Compliant
15.247(e)	RSS-247 § 5.2	Peak Power Spectral Density	2412 to 2472	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 2022. 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 2022. Unified Compliance Laboratory has been assigned 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	9/18/2020	9/17/2021
LISN	AFJ	LS16C/10	UCL-2512	5/26/2020	5/26/2022
Cat6 ISN	Teseq	ISN T8-Cat6	UCL-2971	5/18/2020	5/18/2022
ISN	Teseq	ISN T800	UCL-2974	6/4/2021	6/4/2022
LISN	Com-Power	LIN-120C	UCL-2612	5/19/2021	5/19/2022
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

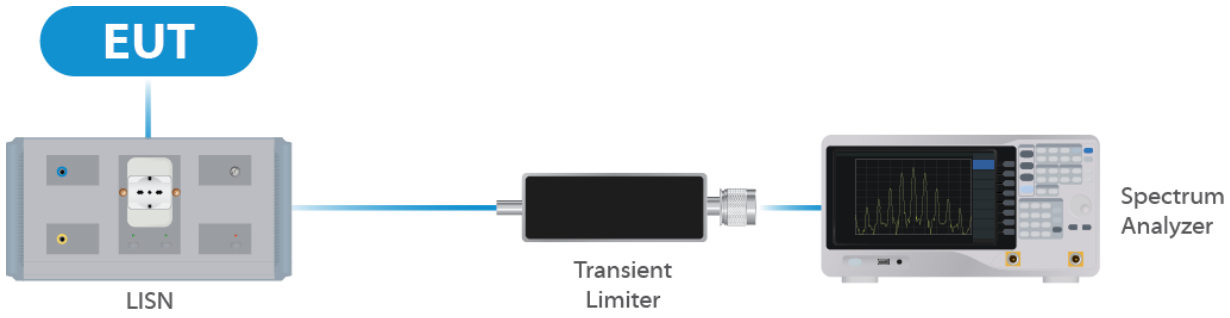


Figure 1: Conducted Emissions Test

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	8/24/2020	8/24/2021
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	9/8/2020	9/8/2021
Switch Extension	R&S	OSP-150W	UCL-2870	3/3/2021	3/3/2022

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

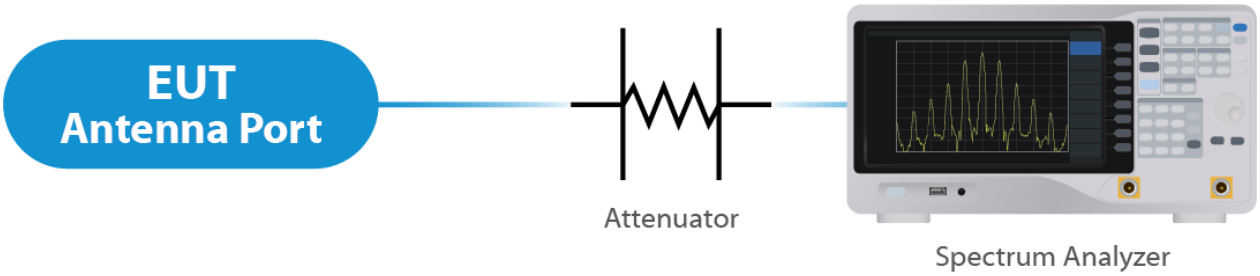


Figure 2: Direct Connect at the Antenna Port Test

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	6/21/2021	6/21/2022
Pre-Amplifier 9 kHz – 1 GHz	Sonoma Instruments	310N	UCL-2889	9/10/2020	9/10/2021
Double Ridge Horn Antenna	Scwarzbeck	BBHA 9120D	UCL-3065	7/8/2021	7/8/2022
Log Periodic	Scwarzbeck	STLP 9129	UCL-3068	11/16/2020	11/16/2021
15 - 40 GHz Horn Antenna	Scwarzbeck	BBHA 9170	UCL-2487	5/21/2020	5/21/2022
1 – 18 GHz Amplifier	Com-Power	PAM 118A	UCL-3833	9/29/2020	9/29/2021
Test Software	UCL	Revision 1	UCL-3108	N/A	N/A

Table 3: List of equipment used for Radiated Emissions

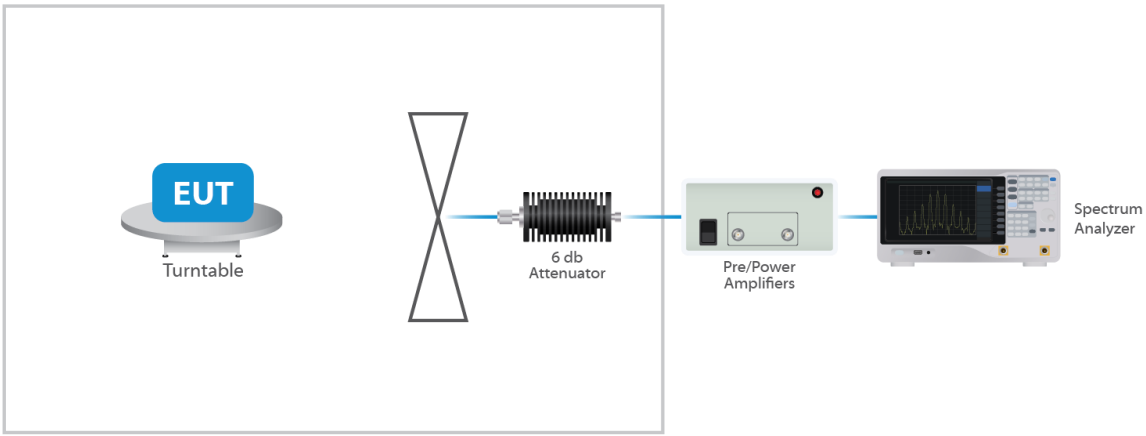


Figure 3: Radiated Emissions Test

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

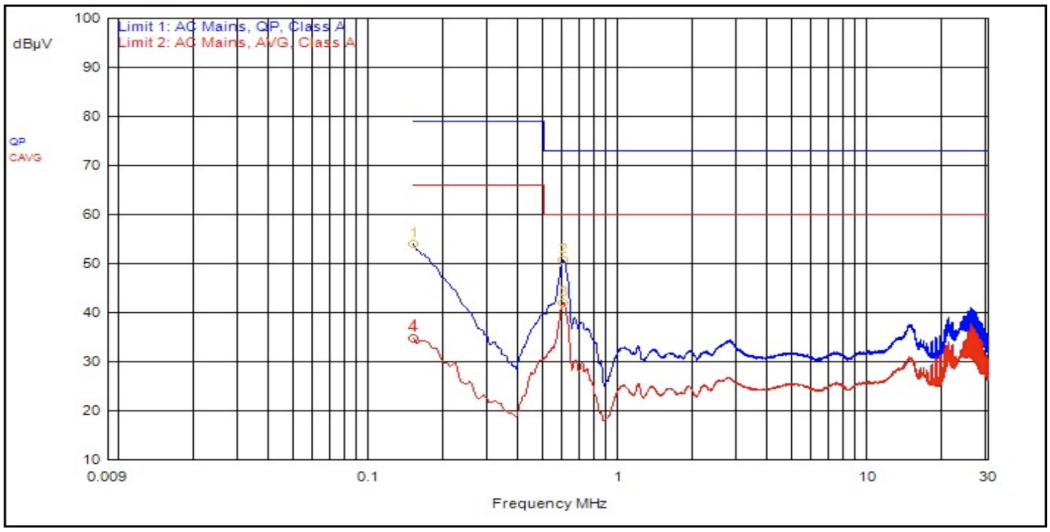
5.1 §15.203 Antenna Requirements

The EUT uses a Flex internal antenna. The Maximum gain of the antenna is 0 dBi. The antenna is not user replaceable.

Results

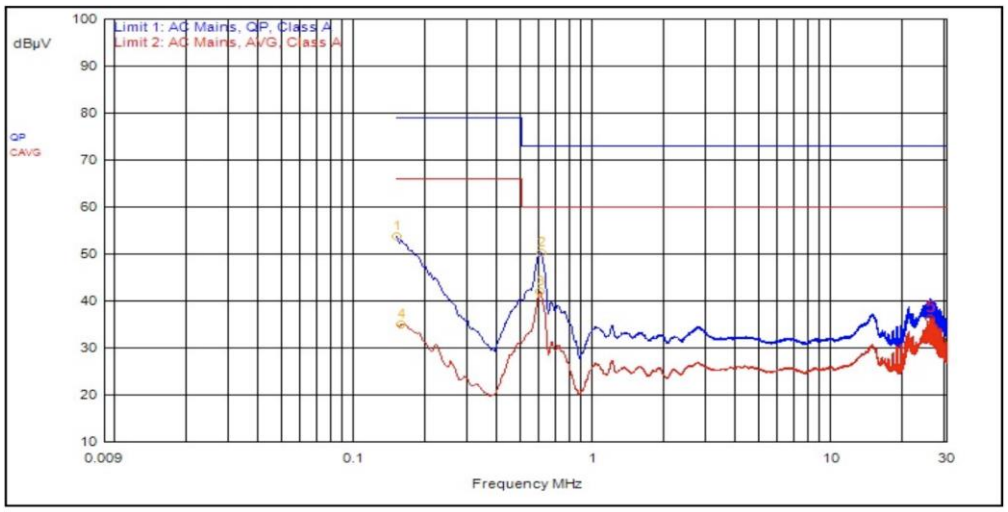
The EUT complied with the specification

5.2 Conducted Emissions at Mains Ports Data



ID	Frequency	Probe	Cable	Atten.	Detector	Meter Read	Meas Level	Limit	Limit Dist.
3	591.000kHz	12.3	0.0		C_AVG	29.6	41.9	60.0	-18.1
2	594.000kHz	12.3	0.0		QPeak	38.4	50.7	73.0	-22.3
1	150.000kHz	12.2	0.0		QPeak	41.6	53.9	79.0	-25.1
4	150.000kHz	12.2	0.0		C_AVG	22.4	34.7	66.0	-31.3

Graph 1: Conducted Emissions Plot - Neutral



ID	Frequency	Probe	Cable	Atten.	Detector	Meter Read	Meas Level	Limit	Limit Dist.
3	594.000kHz	12.3	0.0		C_AVG	29.7	42.0	60.0	-18.0
2	603.000kHz	12.3	0.0		QPeak	37.9	50.2	73.0	-22.8
1	150.000kHz	12.2	0.0		QPeak	41.6	53.8	79.0	-25.2
4	156.000kHz	12.2	0.0		C_AVG	22.7	35.0	66.0	-31.0
5	25.533MHz	12.1	0.2		QPeak	23.9	36.2	73.0	-36.8

Graph 2: Conducted Emissions Plot – Line 1

Result

The EUT complied with the specification limit.

5.3 §15.247(a)(2) Emissions Bandwidth

Mode	Frequency (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth (MHz)
b	2412	11.70	7.60
	2437	16.50	9.15
	2472	11.40	7.10
g	2412	16.10	14.00
	2437	21.10	15.15
	2472	16.10	12.70
n 20	2412	17.30	13.90
	2437	20.00	12.70
	2472	17.20	15.45
n 40	2422	36.25	26.35

Mode	Frequency (MHz)	99% Bandwidth (MHz)	6 dB Bandwidth (MHz)
	2437	35.75	27.60
	2462	36.00	22.65

Result

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

The maximum average RF conducted output power measured for this device was 22.15 dBm or 164.06 mW. The limit is 30 dBm or 1 Watt when using antennas with 6 dBi or less gain. The antenna has a gain of 0 dBi.

Modulation (BW)	Frequency (MHz)	Data Rate	TP Setting	Conducted Output Power *	Measured EIRP
CCK 20	2412	Mcs0	20.5	19.92	19.92
	2437	Mcs0	27	22.15	22.15
	2472	Mcs0	14	15.27	15.27
OFDM 20	2412	Mcs0	14	14.14	14.14
	2437	Mcs0	22.5	20.73	20.73
	2472	Mcs0	7.5	9.1	9.1
HT 20	2412	Mcs0	13	13.05	13.05
	2437	Mcs0	21.5	20.33	20.33
	2472	Mcs0	6.5	7.89	7.89
HT 40	2422	Mcs0	14	14.27	14.27
	2437	Mcs0	16.5	16.75	16.75
	2462	Mcs0	4.5	5.14	5.14

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 ranges from the lowest frequency generated or used in the device to the tenth harmonic of the highest fundamental frequency were 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.

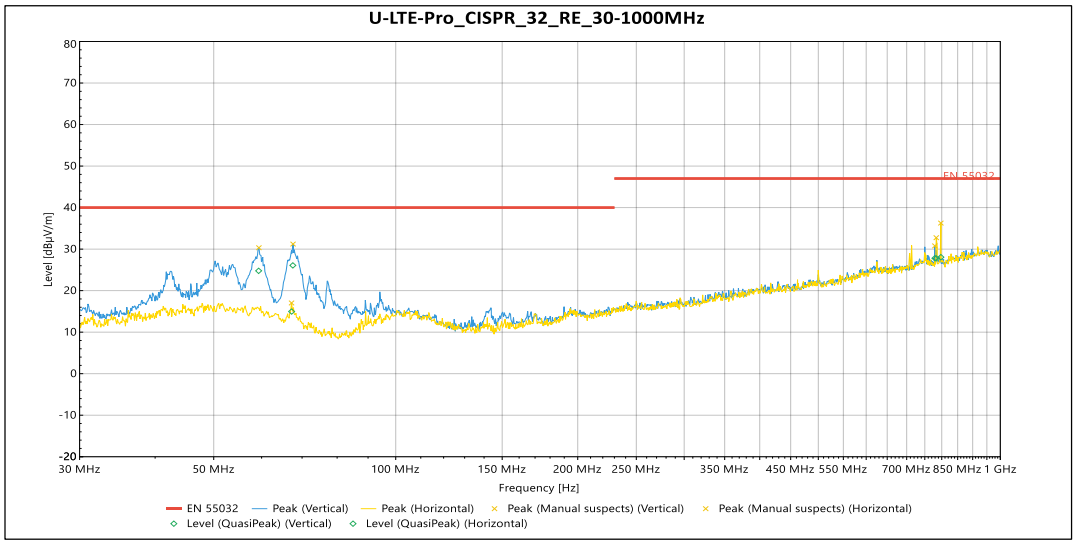
5.5.2 Radiated Spurious Emissions in the Restricted Bands of §15.205

The frequency ranges from the lowest frequency generated or used in the device to the tenth harmonic of the highest fundamental emissions were 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.

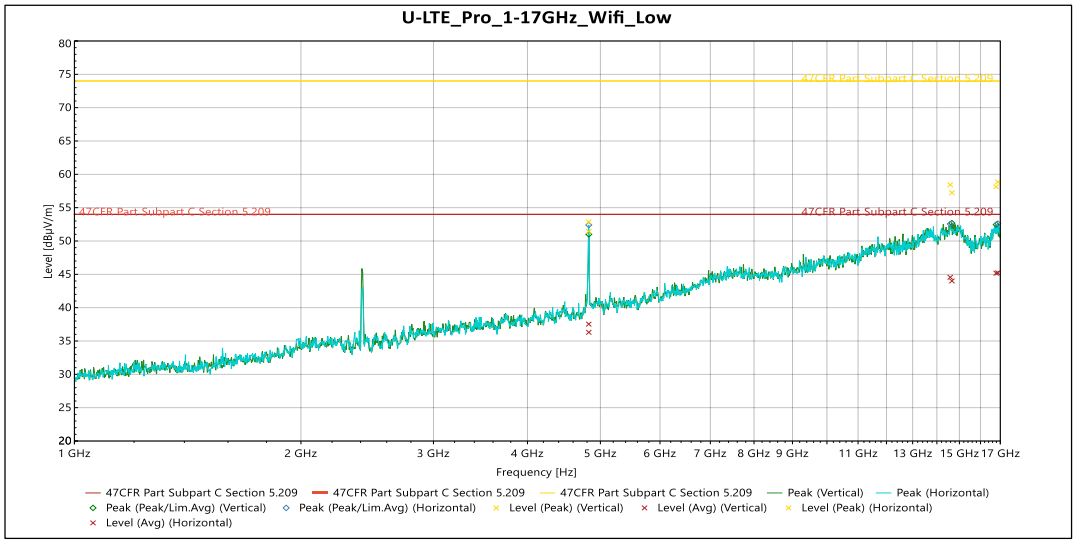
Result

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



Source	Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin	Azimuth (°)	Height	Pol.	Meas. Time	RBW	Meas.Time	Correction (dB)
QuasiPeak	59.329 MHz	24.77	40	-15.23	359	2.338	Vertical	15	120000	0.001	-13.306
QuasiPeak	67.584 MHz	26.081	40	-13.919	41	3.694	Vertical	15	120000	0.001	-15.489
QuasiPeak	779.42 MHz	27.797	47	-19.203	75	1.472	Vertical	15	120000	0.001	-2.983
QuasiPeak	67.264 MHz	14.972	40	-25.028	7	2.809	Horizontal	15	120000	0.001	-15.378
QuasiPeak	783.42 MHz	27.767	47	-19.233	4	1.099	Horizontal	15	120000	0.001	-2.989
QuasiPeak	797.44 MHz	28.058	47	-18.942	232	2.269	Horizontal	15	120000	0.001	-2.684

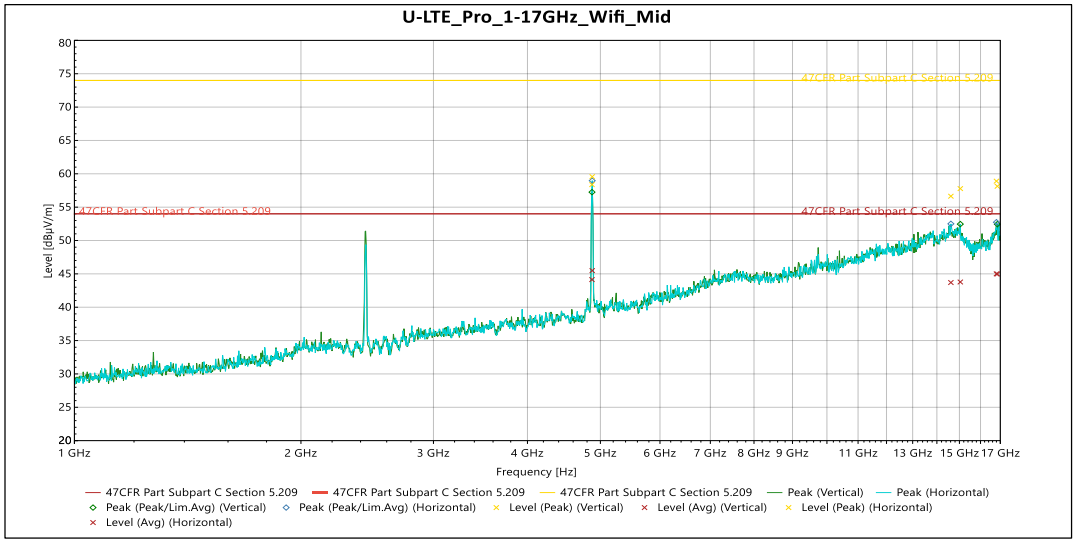
Table 4: Radiated Emissions 30-1000 MHz



Source	Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Meas. Time (s)	RBW	Meas.Time	Correction (dB)
Peak	4.8257 GHz	51.426	74	-22.574	359	1.864	Vertical	5	1000000	0	0.185
Peak	14.66 GHz	57.24	74	-16.76	348	2.906	Vertical	5	1000000	0	14.926
Peak	16.786 GHz	58.13	74	-15.87	201	2.385	Vertical	5	1000000	0	16.825
Avg	4.8257 GHz	36.296	54	-17.704	359	1.864	Vertical	5	1000000	0	0.185

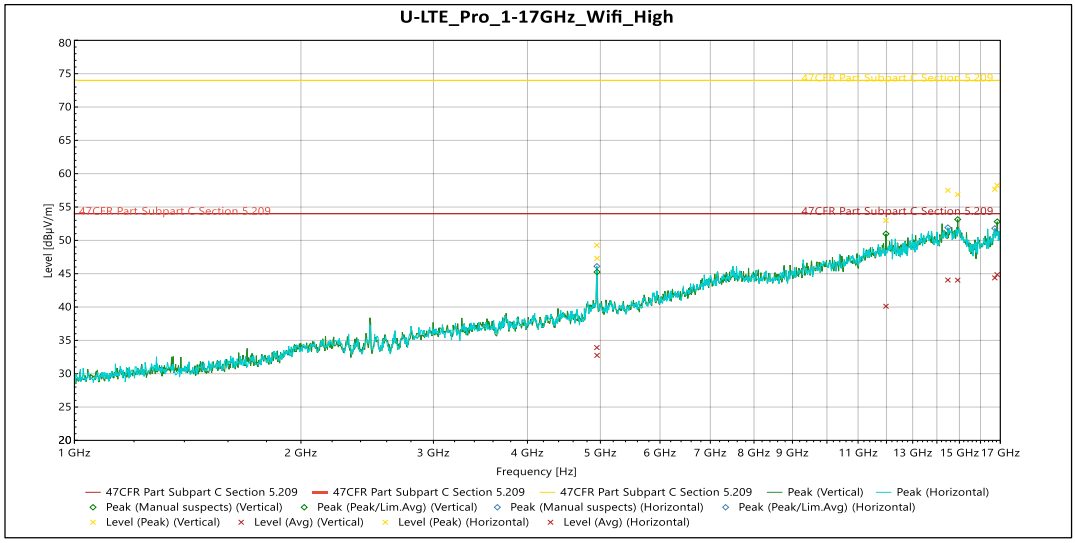
Source	Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Meas. Time (s)	RBW	Meas.Time	Correction (dB)
Avg	14.66 GHz	44.014	54	-9.986	348	2.906	Vertical	5	1000000	0	14.926
Avg	16.786 GHz	45.167	54	-8.833	201	2.385	Vertical	5	1000000	0	16.825
Peak	4.8251 GHz	52.866	74	-21.134	310	1.5	Horizontal	5	1000000	0	0.181
Peak	14.585 GHz	58.434	74	-15.566	208	3.485	Horizontal	5	1000000	0	15.336
Peak	16.869 GHz	58.861	74	-15.139	205	3.255	Horizontal	5	1000000	0	17.053
Avg	4.8251 GHz	37.533	54	-16.467	310	1.5	Horizontal	5	1000000	0	0.181
Avg	14.585 GHz	44.56	54	-9.44	208	3.485	Horizontal	5	1000000	0	15.336
Avg	16.869 GHz	45.216	54	-8.784	205	3.255	Horizontal	5	1000000	0	17.053

Table 5: Transmitting at Low Frequency – 1-17Ghz Radiated Emissions



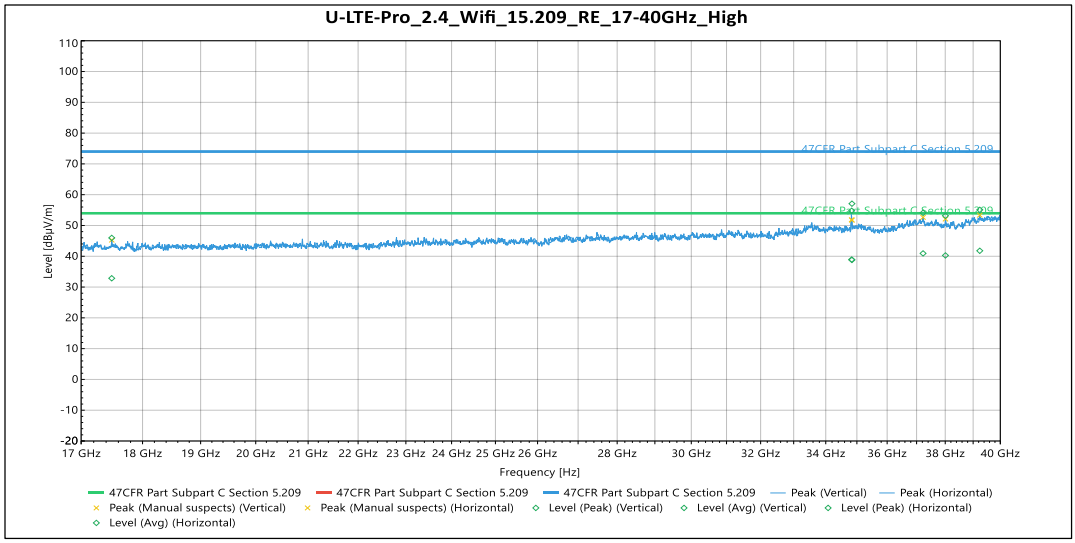
Source	Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Meas. Time (s)	RBW	Meas.Time	Correction (dB)
Peak	4.873 GHz	58.381	74	-15.619	5	1.5	Vertical	5	1000000	0	0.253
Peak	15.041 GHz	57.775	74	-16.225	93	1.647	Vertical	5	1000000	0	14.951
Peak	16.845 GHz	58.127	74	-15.873	212	2.906	Vertical	5	1000000	0	16.933
Avg	4.873 GHz	44.143	54	-9.857	5	1.5	Vertical	5	1000000	0	0.253
Avg	15.041 GHz	43.777	54	-10.223	93	1.647	Vertical	5	1000000	0	14.951
Avg	16.845 GHz	44.976	54	-9.024	212	2.906	Vertical	5	1000000	0	16.933
Peak	4.8765 GHz	59.57	74	-14.43	315	1.5	Horizontal	5	1000000	0	0.289
Peak	14.613 GHz	56.638	74	-17.362	246	3.268	Horizontal	5	1000000	0	14.816
Peak	16.799 GHz	58.904	74	-15.096	325	3.793	Horizontal	5	1000000	0	16.952
Avg	4.8765 GHz	45.488	54	-8.512	315	1.5	Horizontal	5	1000000	0	0.289
Avg	14.613 GHz	43.701	54	-10.299	246	3.268	Horizontal	5	1000000	0	14.816
Avg	16.799 GHz	45.001	54	-8.999	325	3.793	Horizontal	5	1000000	0	16.952

Table 6: Transmitting at Mid Frequency – 1-17GHz Radiated Emissions



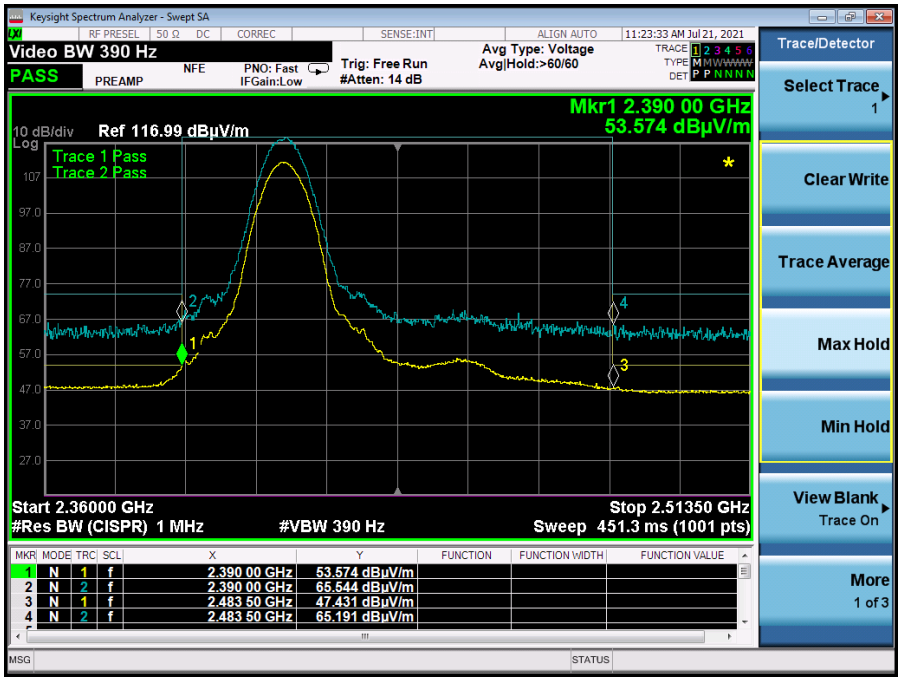
Source	Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Height (m)	Pol.	Meas. Time (s)	RBW	Meas.Time	Correction (dB)
Peak	4.949 GHz	47.295	74	-26.705	344	1.864	Vertical	5	1000000	0	0.484
Peak	11.981 GHz	52.976	74	-21.024	195	3.087	Vertical	5	1000000	0	12.58
Peak	14.92 GHz	56.855	74	-17.145	178	2.915	Vertical	5	1000000	0	15.092
Peak	16.839 GHz	58.249	74	-15.751	145	3.798	Vertical	5	1000000	0	16.884
Avg	4.949 GHz	32.747	54	-21.253	344	1.864	Vertical	5	1000000	0	0.484
Avg	11.981 GHz	40.116	54	-13.884	195	3.087	Vertical	5	1000000	0	12.58
Avg	14.92 GHz	44.025	54	-9.975	178	2.915	Vertical	5	1000000	0	15.092
Avg	16.839 GHz	44.857	54	-9.143	145	3.798	Vertical	5	1000000	0	16.884
Peak	4.9461 GHz	49.261	74	-24.739	321	1.5	Horizontal	5	1000000	0	0.471
Peak	14.478 GHz	57.504	74	-16.496	14	3.087	Horizontal	5	1000000	0	14.85
Peak	16.715 GHz	57.657	74	-16.343	216	1.688	Horizontal	5	1000000	0	16.299
Avg	4.9461 GHz	33.918	54	-20.082	321	1.5	Horizontal	5	1000000	0	0.471
Avg	14.478 GHz	44.049	54	-9.951	14	3.087	Horizontal	5	1000000	0	14.85
Avg	16.715 GHz	44.374	54	-9.626	216	1.688	Horizontal	5	1000000	0	16.299

Table 7: Transmitting at High Frequency – 1-17GHz Radiated Emissions



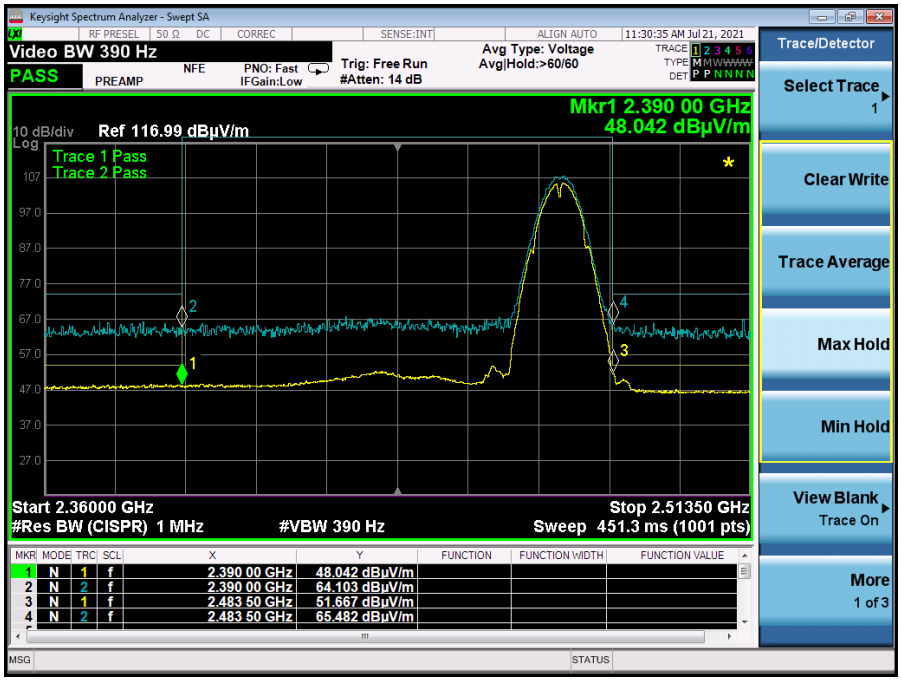
Source	Frequency	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Azimuth (°)	Pol.	Meas. Time (s)	RBW	Meas.Time	Correction (dB)
Peak	17.491 GHz	45.956	74	-28.044	89	Vertical	5	1000000	0	-5.906
Peak	34.84 GHz	57.08	74	-16.92	232	Vertical	5	1000000	0	0.581
Peak	39.242 GHz	55.085	74	-18.915	264	Vertical	5	1000000	0	3.03
Avg	17.491 GHz	32.851	54	-21.149	89	Vertical	5	1000000	0	-5.906
Avg	34.84 GHz	38.807	54	-15.193	232	Vertical	5	1000000	0	0.581
Avg	39.242 GHz	41.776	54	-12.224	264	Vertical	5	1000000	0	3.03
Peak	34.83 GHz	54.78	74	-19.22	249	Horizontal	5	1000000	0	0.782
Peak	37.224 GHz	54.109	74	-19.891	23	Horizontal	5	1000000	0	1.511
Peak	38.008 GHz	53.153	74	-20.847	228	Horizontal	5	1000000	0	1.444
Avg	34.83 GHz	38.919	54	-15.081	249	Horizontal	5	1000000	0	0.782
Avg	37.224 GHz	40.926	54	-13.074	23	Horizontal	5	1000000	0	1.511
Avg	38.008 GHz	40.272	54	-13.728	228	Horizontal	5	1000000	0	1.444

Table 8: Transmitting at High Frequency – 17-40GHz Radiated Emissions

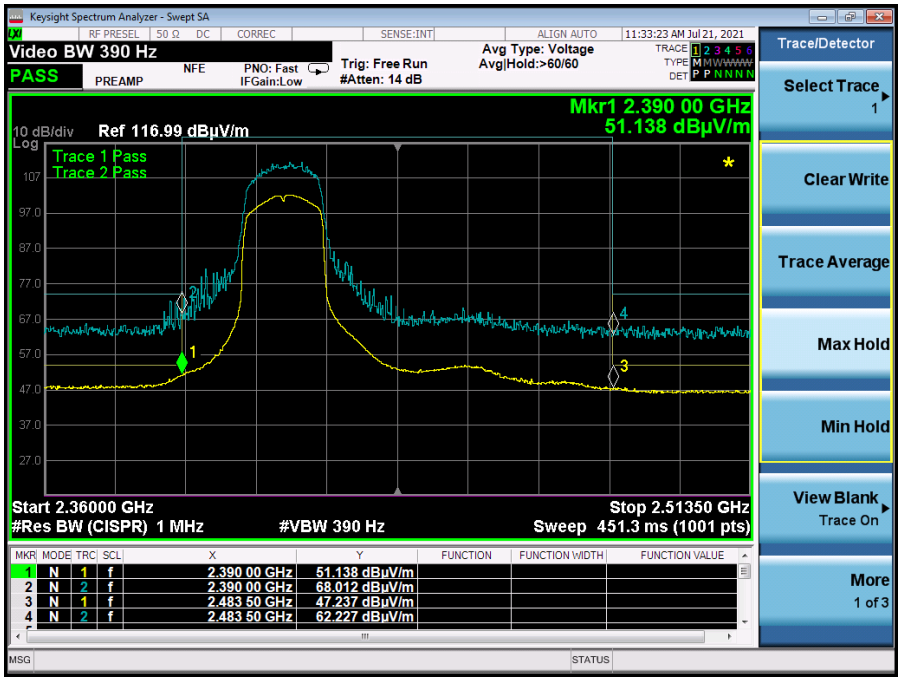


Graph 3: Radiated Lower Band Edge Plot b-Mode – 2412 MHz

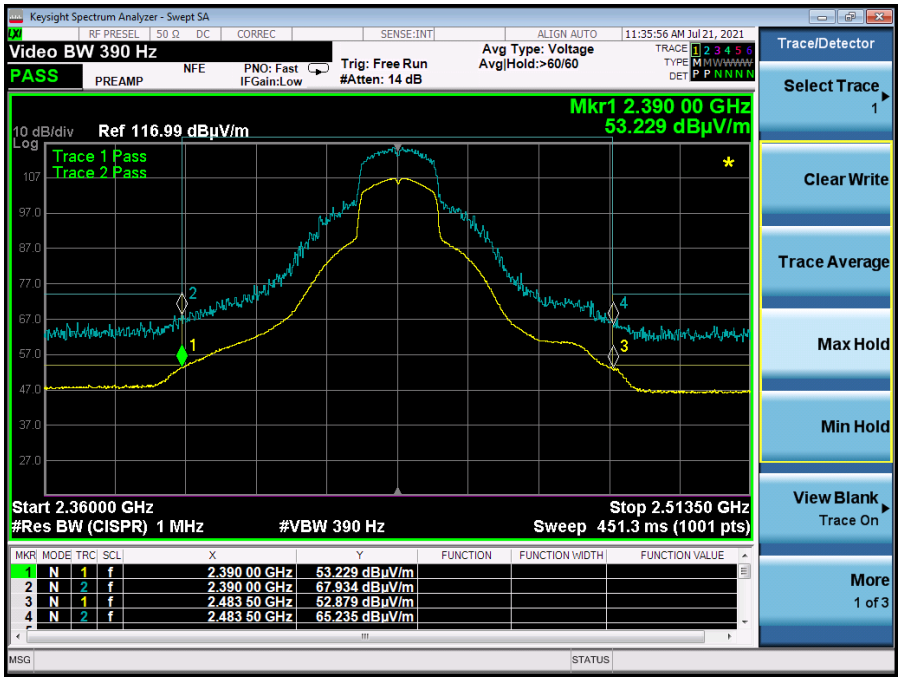
Graph 4: Radiated Middle Band Edge Plot b-Mode – 2437 MHz



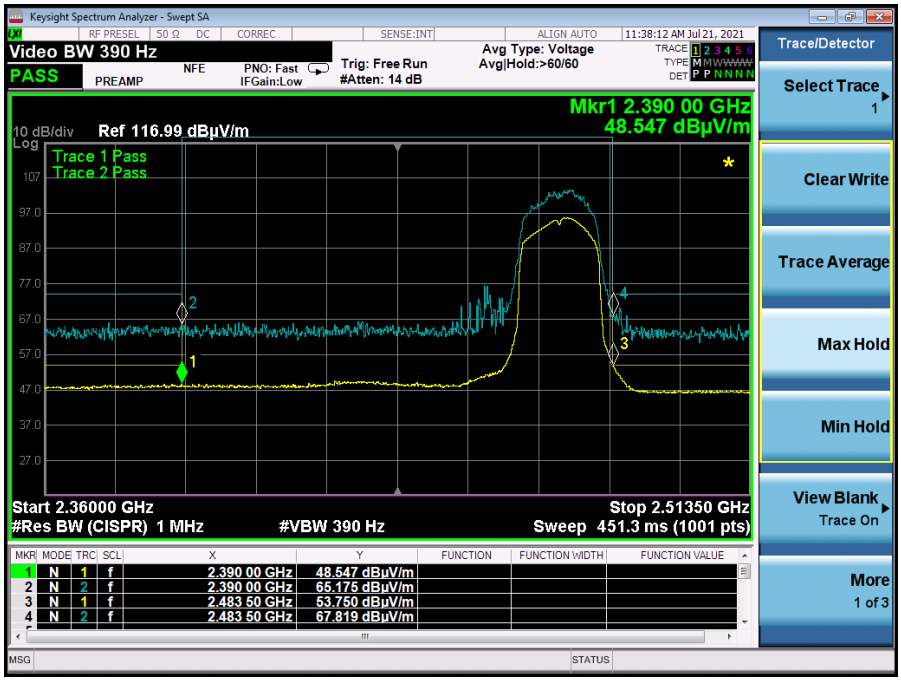
Graph 5: Radiated Higher Band Edge Plot b-Mode – 2472 MHz



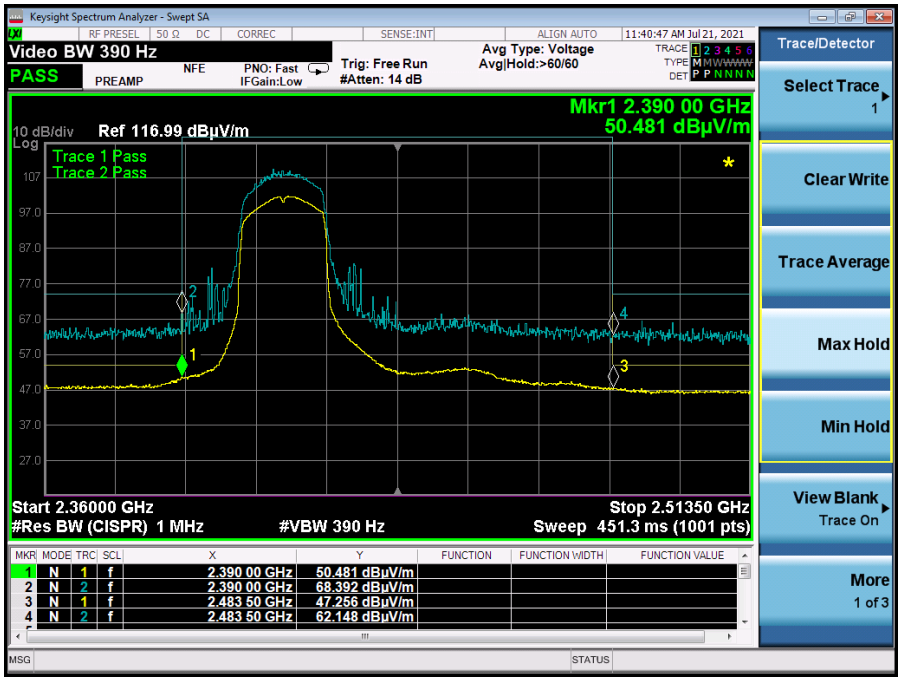
Graph 6: Radiated Lower Band Edge Plot g-Mode – 2412 MHz



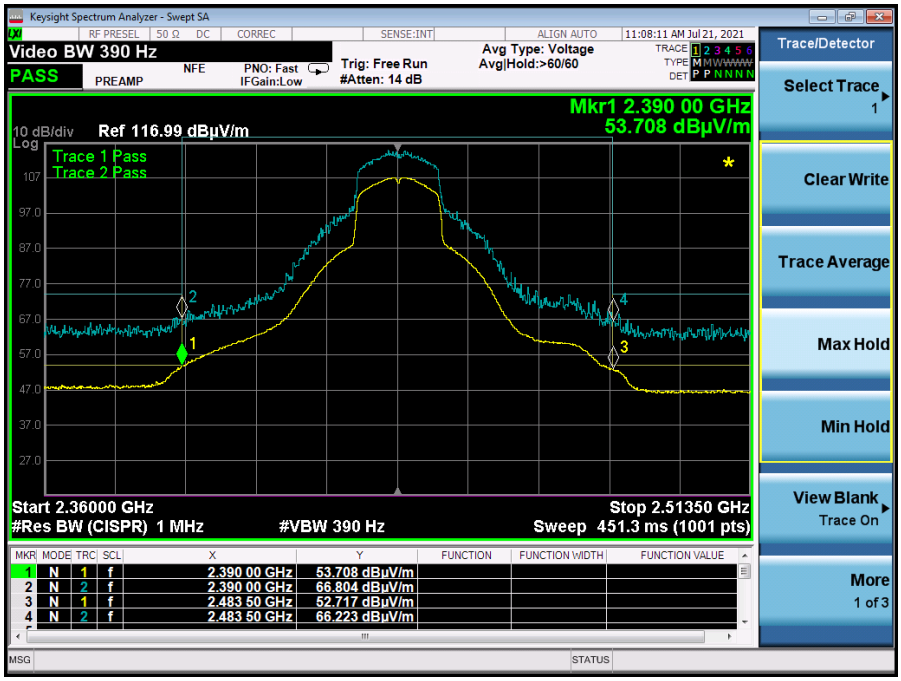
Graph 7: Radiated Middle Band Edge Plot g-Mode – 2437 MHz



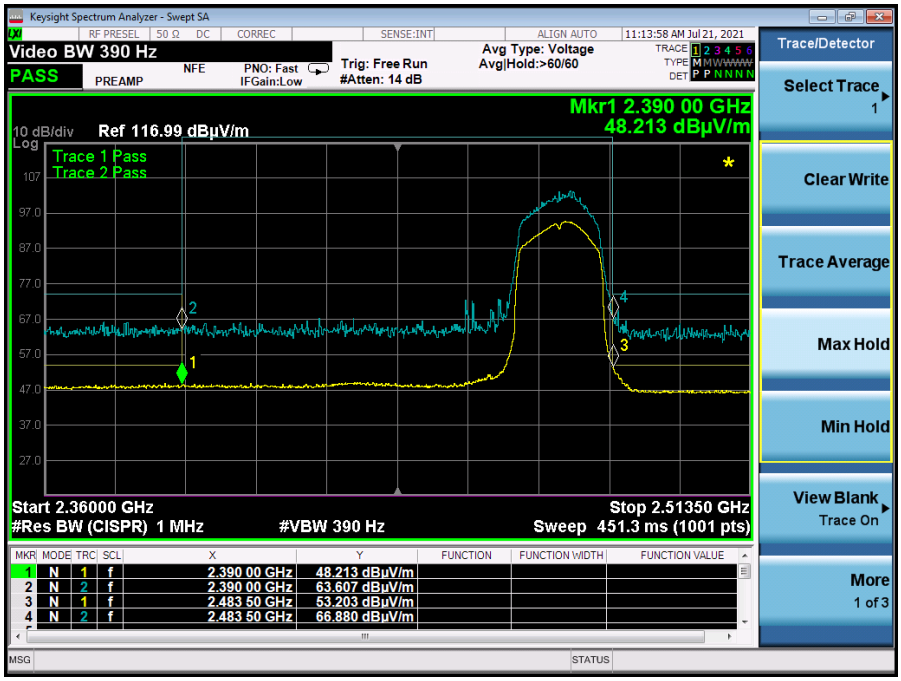
Graph 8: Radiated Higher Band Edge Plot g-Mode – 2472 MHz



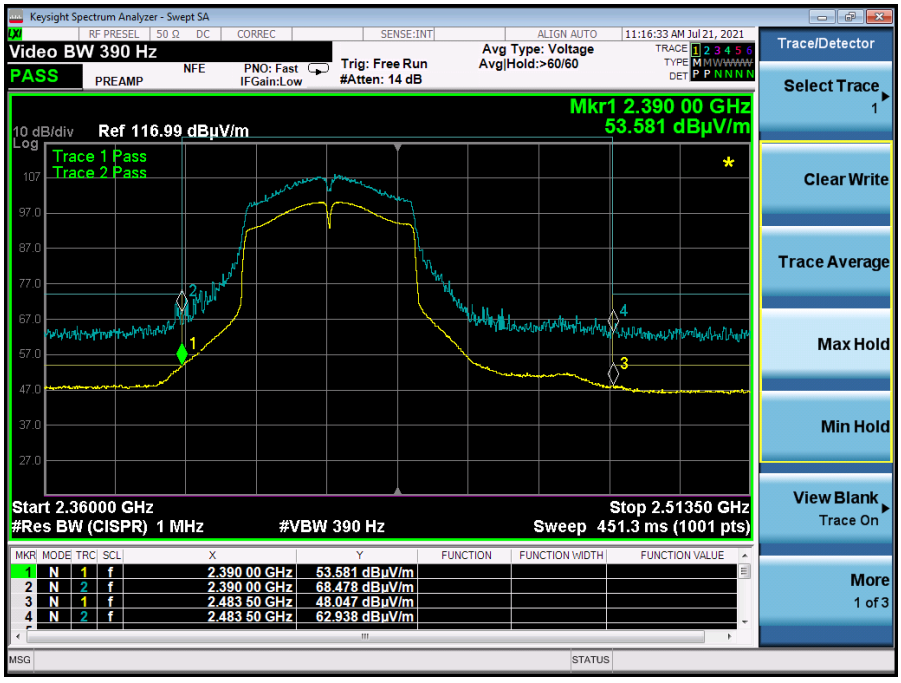
Graph 9: Radiated Lower Band Edge Plot n20-Mode – 2412 MHz



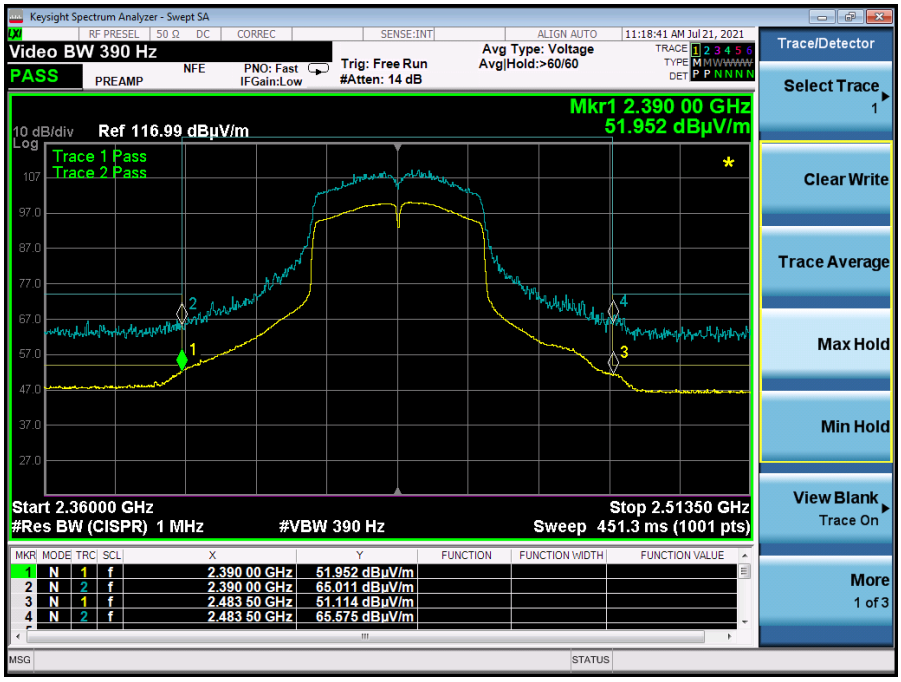
Graph 10: Radiated Middle Band Edge Plot n20-Mode – 2437 MHz



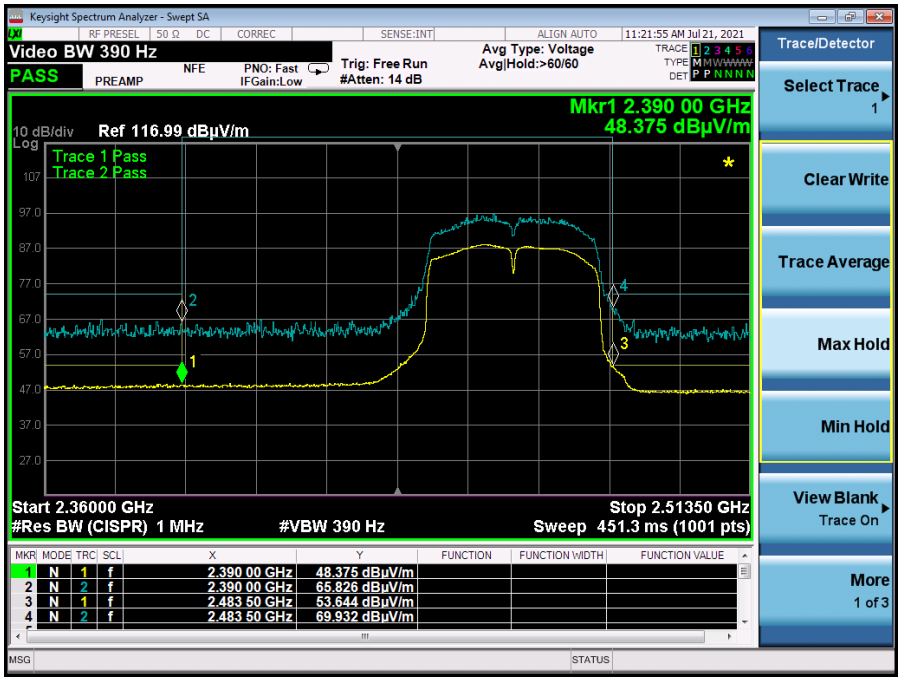
Graph 11: Radiated Higher Band Edge Plot n20-Mode – 2472 MHz



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



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



Graph 14: Radiated Higher Band Edge Plot n40-Mode – 2462 MHz

5.6 §15.247(e) Maximum Average Power Spectral Density

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. Results of this testing are summarized.

Mode	Frequency (MHz)	Measurement (dBm)	Criteria (dBm)
b	2412	-9.46	8.0
	2437	-10.67	8.0
	2462	-16.45	8.0
g	2412	-21.72	8.0
	2437	-15.21	8.0
	2472	-26.49	8.0
n 20	2412	-22.56	8.0
	2437	-15.88	8.0
	2472	-27.97	8.0

n 40	2422	-22.55	8.0
	2437	-19.97	8.0
	2472	-31.68	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 --