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**Date: 16 June 2022**

# I.T.L. Product Testing Ltd.
# FCC/IC Radio Test Report

**for**

# Amimon Ltd.

**Equipment under test:**

# Wireless HD Video System - Video Display Unit (VDU)

# AMN42012

Tested by: _____
M. Zohar

Approved by: _____
David Shidlowsky

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# Measurement/Technical Report for

## Amimon Ltd.

## Wireless HD Video System - Video Display Unit (VDU)

## AMN42012

## FCC ID: VQSAMN42012

## IC: 7680A-AMN42012

| | |
|---|---|
| This report concerns: | Original Grant |
| Equipment type: | FCC: (UNII) Unlicensed National Information Infrastructure TX<br>IC: Wireless Local Area Network Device |
| Limits used: | 47CFR15, Part 15, Subpart E, Section 15.407<br>RSS 248, Issue 1, November 19, 2021 |

Measurement procedures used:

FCC: KDB 789033 D02 v02r01, ANSI C63.10:2013 and KDB 987594 D02 U-NII 6GHz EMC Measurement v01

IC: RSS 248 Issue 1

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# 1. General Information

## 1.1 Administrative Information

| | |
|---|---|
| Manufacturer: | Amimon Ltd. |
| Manufacturer's Address: | 26 Zarhin St., PO Box 2308, Raanana 4366250, Israel |
| Manufacturer's Representative: | Gabi Nocham |
| Equipment Under Test (E.U.T): | Wireless HD Video System - Video Display Unit (VDU) |
| Equipment Model: | AMN42012 |
| Equipment Serial No.: | 3RBX2639200277 |
| Equipment HVIN: | AMN42012 |
| Date of Receipt of E.U.T: | December 27, 2020 |
| Start of Test (original): | December 27, 2020 |
| Start of Radiated Emission above 1 GHz test: | December 8, 2021 |
| Start of PSD retesting: | May 29, 2022 |
| End of Test (original): | March 03, 2021 |
| End of Radiated Emission above 1 GHz test: | December 15, 2021 |
| End of PSD retesting: | May 29, 2022 |
| Test Laboratories Locations: | 1. I.T.L (Product Testing) Ltd.<br>1 Bat Sheva St., Lod 7120101, Israel<br>2. Electrical and Electronics Laboratory, SII.<br>42 Haim Levanon St., Tel Aviv 69977, Israel |
| Test Specifications: | 47CFR15, Part 15, Subpart E, Section 15.407<br>KDB 987594 D02 U-NII 6GHz EMC Measurement v01<br>RSS 248 Issue 1, November 19, 2021 |

## 1.2 List of Accreditations

The EMC laboratory of I.T.L. is accredited by the following bodies:

1. The American Association for Laboratory Accreditation (A2LA) (U.S.A.), Certificate No. 1152.01.
2. The Federal Communications Commission (FCC) (U.S.A.), FCC Designation No. IL1005.
3. Department of Innovation, Science and Economic Development (ISED) Canada, CAB identifier: IL1002
4. Electrical and Electronics Laboratory, SII (Israel), Registration No. IL1003

I.T.L. Product Testing Ltd. is accredited by the American Association for Laboratory Accreditation (A2LA) and the results shown in this test report have been determined in accordance with I.T.L.'s terms of accreditation unless stated otherwise in the report.

## 1.3 Product Description

The Draco system provides high-end, high performance wireless HD video connection that can operate in challenging unmanned environment.

The AMN41012 is the video source unit, which is connected to a camera to capture video signals and to transmit these signals to its companion device AMN42012 thus creating a wireless video link.

The AMN42012 is the video display unit that receives the video information transmitted from AMN41012 unit and transfers the images to various types of computer monitors/displays. This enables the user or camera operator to monitor the video transmitted from the remoted camera connected to the AMN41012.

| | |
|---|---|
| Supply Voltage Range | 5VDC ± 10% |
| Mode of Operation | Transceiver (1 port TX/RX, 4 ports RX) |
| Modulations | OFDM 16 QAM |
| Assigned Frequency Range | 5925.0-7125.0 MHz |
| Operating Frequency Range | 5925.0-6425.0 MHz |
| Transmit power (conducted) | ~8.0 dBm (for 20MHz BW)<br>~11.0 dBm (for 40MHz BW) |
| Antenna Gain | 2.0 dBi |
| Modulation BW | 20 MHz and 40 MHz |

## 1.4 Test Methodology

Both conducted and radiated testing was performed according to the procedures in KDB 789003 D02 v02r01, KDB 987594 D02 U-NII 6GHz EMC Measurement v01 and ANSI C63.10: 2013, and in RSS 248 Issue 1, November 19, 2021, and RSS-Gen Issue 5, March 2019, Amendment 1. Radiated testing was performed at an antenna to EUT distance of three meters.

## 1.5 Test Facility

Emissions tests were performed at I.T.L.'s testing facility in Lod, Israel, and at the Electrical and Electronics Laboratory, SII, Registration No. IL1003.
I.T.L.'s EMC Laboratory is accredited by A2LA, certificate No. 1152.01 and its FCC Designation Number is IL1005

## 1.6 Measurement Uncertainty

**Conducted Emission**
Conducted Emission (CISPR 11, EN 55011, CISPR 22, EN 55022, ANSI C63.4)

0.15 – 30 MHz:
Expanded Uncertainty (95% Confidence, K=2):
± 3.44 dB

**Radiated Emission**
Radiated Emission (CISPR 11, EN 55011, CISPR 22, EN 55022, ANSI C63.4) for open site:

30-1000MHz:
Expanded Uncertainty (95% Confidence, K=2):
± 4.96 dB

1 GHz to 6 GHz
Expanded Uncertainty (95% Confidence, K=2):
±5.19 dB

>6 GHz
Expanded Uncertainty (95% Confidence, K=2):
±5.51 dB

# 2. System Test Configuration

## 2.1 Justification

1. The E.U.T contains a 6G band transceiver module that can transmit from 1 port only and at 2 optional BW's: 20MHz or 40MHz.
2. The E.U.T. was tested for usage at UNII5.
3. The unit was evaluated while transmitting at 20MHz BW: the low channel (5935.0MHz), the mid channel (6175.0MHz) and the high channel (6415.0MHz) and at 40MHz BW: the low channel (5945.0MHz), the mid channel (6185.0MHz) and the high channel (6405.0MHz). Each one with duty cycle above 98%.
4. Conducted emission tests were performed with the E.U.T. antenna terminal connected by a RF cable to the Spectrum Analyzer through external attenuator.
5. Only for testing, the E.U.T was powered by a typical AC/DC adapter.
6. Radiated emission tests were performed after exploratory band edge emission testing, that was performed with two optional antenna types: "mushroom", model AMN_ASM_1011, and "dipole", model AMN_ANT_1010, to determine the "worst case" radiation each one for different transmission BW.
7. Complimentary radiated emission tests above 1GHz were performed at the SII laboratory; see section 1.2 for accreditation.
8. According to the below screening results, the "worst case" antenna type related to band edge radiation was the "dipole" type.

| BW | Frequency | "Mushroom" antenna type | "Dipole" antenna type |
|---|---|---|---|
| (MHz) | (MHz) | (dBuV/m) | (dBuV/m) |
| 20.0 | 5935.0 | 64.3 | 64.3 |
| | 6415.0 | 63.8 | 64.0 |
| 40.0 | 5945.0 | 64.9 | 65.0 |
| | 6405.0 | 64.8 | 64.8 |

**Figure 1. Screening Results**

## 2.2 EUT Exercise Software

No special exercise software was used.

## 2.3 Special Accessories

No special accessories were used

## 2.4 Equipment Modifications

Customer reduced the power for each port to comply with the PSD limits.

## 2.5 Tested System Configuration

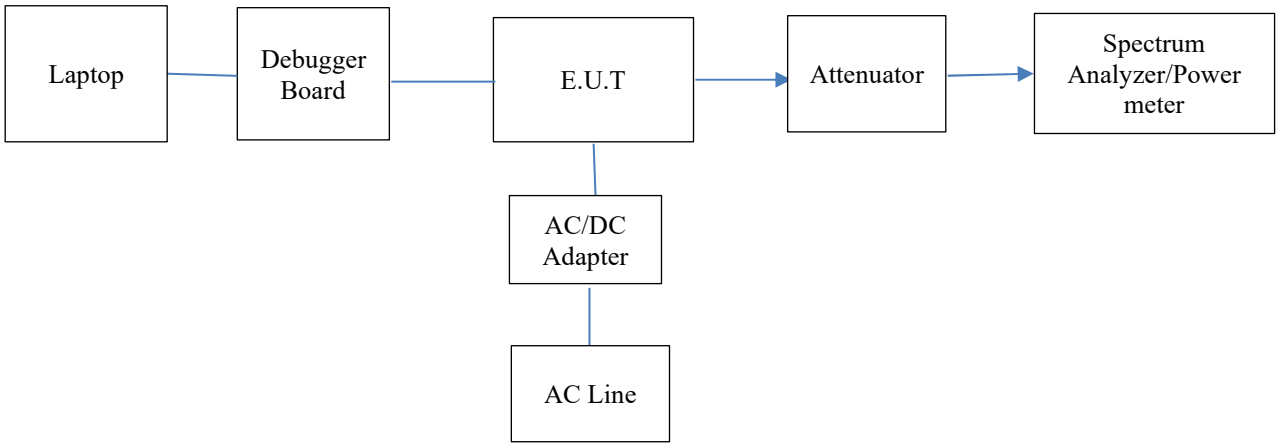


**Figure 2. Configuration of Tested System Conducted**

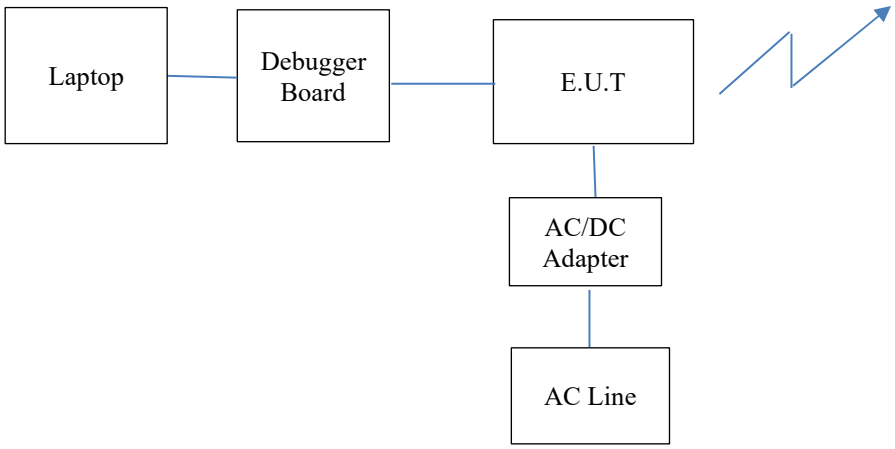


**Figure 3. Configuration of Tested System Radiated**

# 3. Conducted and Radiated Measurement Test Setup Photos

See a separate file.

# 4. Conducted Emission from AC Mains

## 4.1 Test Specification

FCC Part 15, Subpart C, Section 15.207

RSS-Gen, Issue 5, March 2019, Amendment 1, Section 8.8

## 4.2 Test Procedure

(Temperature (22°C)/ Humidity (56%RH))

The E.U.T operation mode and test setup are as described in Section 2 of this report. In order to minimize background noise interference, the conducted emission testing was performed inside a shielded room, with the E.U.T placed on a 0.8 meter high wooden table, 0.4 meter from the room's vertical wall. In the case of a floor-standing E.U.T., it was placed on the horizontal ground plane.

The E.U.T was powered from 115 V AC / 60 Hz via 50 Ohm / 50 µHn Line Impedance Stabilization Network (LISN) on the phase and neutral lines. The LISN's were grounded to the shielded room ground plane (floor), and were kept at least 0.8 meters from the nearest boundary of the E.U.T.

The center of the E.U.T.'s AC cable was folded back and forth, in order to form a bundle less than 0.40 meters and a total cable length of 1 meter.

The effect of varying the position of the cables was investigated to find the configuration that produces maximum emission.

The emission voltages at the LISN's outputs were measured using a computerized receiver, complying with CISPR 16 requirements. The specification limits are loaded to the receiver and are displayed on the receiver's spectrum display.

The E.U.T was evaluated in TX operation mode.

A frequency scan between 0.15 and 30 MHz was performed at 9 kHz I.F. band width, using peak detection.

The spectral components having the highest level on each line were measured using a quasi-peak and average detector.

## 4.3 Test Limit

| Frequency of Emission (MHz) | Conducted Limit (dBµV) | |
|---|---|---|
| | Quasi-peak | Average |
| 0.15-0.5 | 66 to 56* | 56 to 46* |
| 0.5-5 | 56 | 46 |
| 5-30 | 60 | 50 |

** Decreases with the logarithm of the frequency.*

## 4.4 Test Results

JUDGEMENT: Passed by -12.06 dB

The EUT met FCC Part 15, Subpart C, and RSS-Gen Issue 5 March 2019 Amendment 1 specification requirements.

The margin between the emission levels and the specification limit is, in the worst case, -14.20 dB for the phase line at 24.018 MHz and -12.06 dB at 24.022 MHz for the neutral line.

The details of the highest emissions are given in *Figure 4* to *Figure 7*.

# Conducted Emission

| | |
|---|---|
| Specification: | FCC Part 15, Subpart C; RSS-Gen Issue 5 |
| Lead: | Phase |
| Detectors: : | Peak, Quasi-peak, Average |
| Power Operation | AC/DC Adapter |

EDIT PEAK LIST (Final Measurement Results)

Trace1: CE22BQP
Trace2: CE22BAP
Trace3: ---

| | TRACE | FREQUENCY | LEVEL dBµV | DELTA LIMIT dB |
|---|---|---|---|---|
| 1 | Quasi Peak | 166 kHz | 43.89 | -21.26 |
| 2 | Average | 170 kHz | 26.09 | -28.86 |
| 1 | Quasi Peak | 426 kHz | 29.52 | -27.80 |
| 2 | Average | 430 kHz | 20.53 | -26.71 |
| 1 | Quasi Peak | 482 kHz | 29.96 | -26.33 |
| 2 | Average | 482 kHz | 22.15 | -24.14 |
| 1 | Quasi Peak | 738 kHz | 21.10 | -34.89 |
| 2 | Average | 1.042 MHz | 15.70 | -30.29 |
| 2 | Average | 1.558 MHz | 15.66 | -30.33 |
| 1 | Quasi Peak | 1.562 MHz | 21.09 | -34.90 |
| 2 | Average | 3.598 MHz | 17.92 | -28.07 |
| 1 | Quasi Peak | 3.602 MHz | 27.79 | -28.20 |
| 1 | Quasi Peak | 3.678 MHz | 28.67 | -27.32 |
| 2 | Average | 3.77 MHz | 20.01 | -25.98 |
| 2 | Average | 8.366 MHz | 25.21 | -24.78 |
| 1 | Quasi Peak | 8.402 MHz | 31.61 | -28.39 |
| 1 | Quasi Peak | 11.122 MHz | 30.45 | -29.54 |
| 2 | Average | 11.218 MHz | 24.99 | -25.00 |
| 1 | Quasi Peak | 24.018 MHz | 36.50 | -23.49 |
| 2 | Average | 24.018 MHz | 35.79 | -14.20 |

Date: 27.DEC.2020 10:04:29

**Figure 4. Detectors: Peak, Quasi-peak, Average**

*Note: QP Delta/Av Delta refers to the test results obtained minus specified requirement; thus a positive number indicates failure, and a negative result indicates that the product passes the test.*

# Conducted Emission

| | |
|---|---|
| Specification: | FCC Part 15, Subpart C;<br>RSS-Gen Issue 5 |
| Lead: | Phase |
| Detectors: | Peak, Quasi-peak, Average |
| Power Operation | AC/DC Adapter |

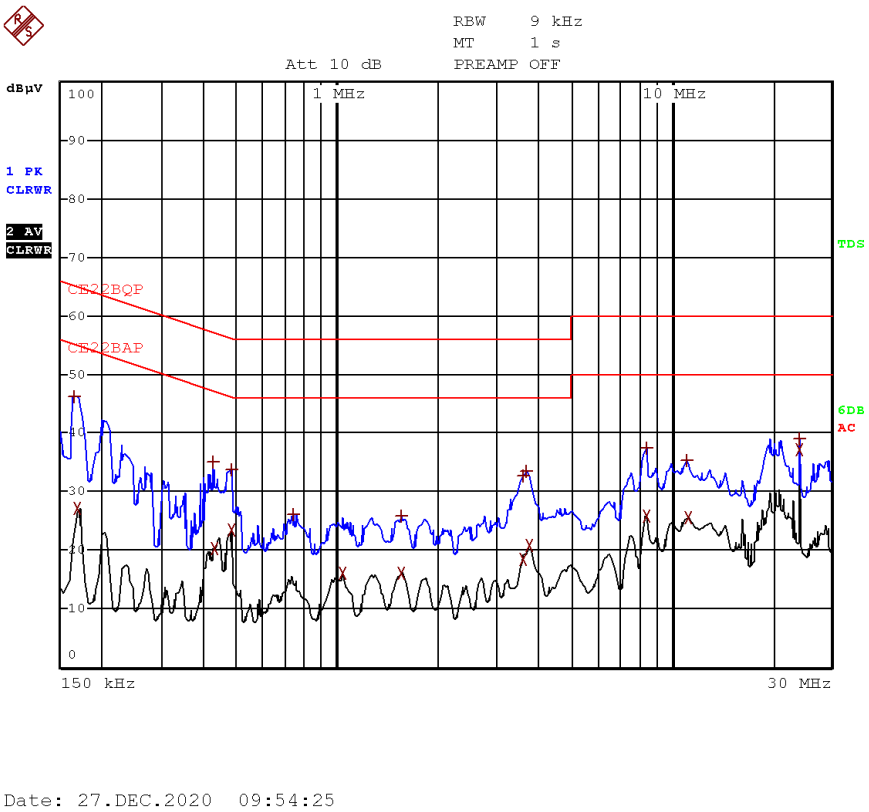


**Figure 5. Detectors: Peak, Quasi-peak, Average**

# Conducted Emission

| | |
|---|---|
| Specification: | FCC Part 15, Subpart C; RSS-Gen Issue 5 |
| Lead: | Neutral |
| Detectors: | Peak, Quasi-peak, Average |
| Power Operation | AC/DC Adapter |

EDIT PEAK LIST (Final Measurement Results)

Trace1: CE22BQP
Trace2: CE22BAP
Trace3: ---

| | TRACE | FREQUENCY | LEVEL dBµV | DELTA LIMIT dB |
|---|---|---|---|---|
| 1 | Quasi Peak | 170 kHz | 43.24 | -21.72 |
| 2 | Average | 170 kHz | 24.85 | -30.10 |
| 1 | Quasi Peak | 426 kHz | 31.62 | -25.70 |
| 2 | Average | 426 kHz | 21.61 | -25.71 |
| 1 | Quasi Peak | 438 kHz | 30.70 | -26.39 |
| 2 | Average | 442 kHz | 23.20 | -23.81 |
| 2 | Average | 1.042 MHz | 17.96 | -28.03 |
| 1 | Quasi Peak | 1.118 MHz | 17.93 | -38.06 |
| 1 | Quasi Peak | 1.594 MHz | 21.43 | -34.56 |
| 2 | Average | 1.838 MHz | 16.05 | -29.94 |
| 2 | Average | 2.742 MHz | 15.88 | -30.11 |
| 1 | Quasi Peak | 3.57 MHz | 26.89 | -29.11 |
| 1 | Quasi Peak | 3.71 MHz | 28.16 | -27.83 |
| 2 | Average | 3.802 MHz | 19.67 | -26.32 |
| 2 | Average | 8.378 MHz | 24.60 | -25.39 |
| 1 | Quasi Peak | 8.394 MHz | 31.18 | -28.81 |
| 1 | Quasi Peak | 11.078 MHz | 30.16 | -29.83 |
| 2 | Average | 11.222 MHz | 25.19 | -24.80 |
| 1 | Quasi Peak | 24.022 MHz | 38.42 | -21.57 |
| 2 | Average | 24.022 MHz | 37.93 | -12.06 |

Date: 27.DEC.2020 10:20:10

**Figure 6. Detectors: Peak, Quasi-peak, Average**

*Note: QP Delta/Av Delta refers to the test results obtained minus specified requirement; thus a positive number indicates failure, and a negative result indicates that the product passes the test.*

# Conducted Emission

| | |
|---|---|
| Specification: | FCC Part 15, Subpart C;<br>RSS-Gen Issue 5 |
| Lead: | Neutral |
| Detectors: | Peak, Quasi-peak, Average |
| Power Operation | AC/DC Adapter |

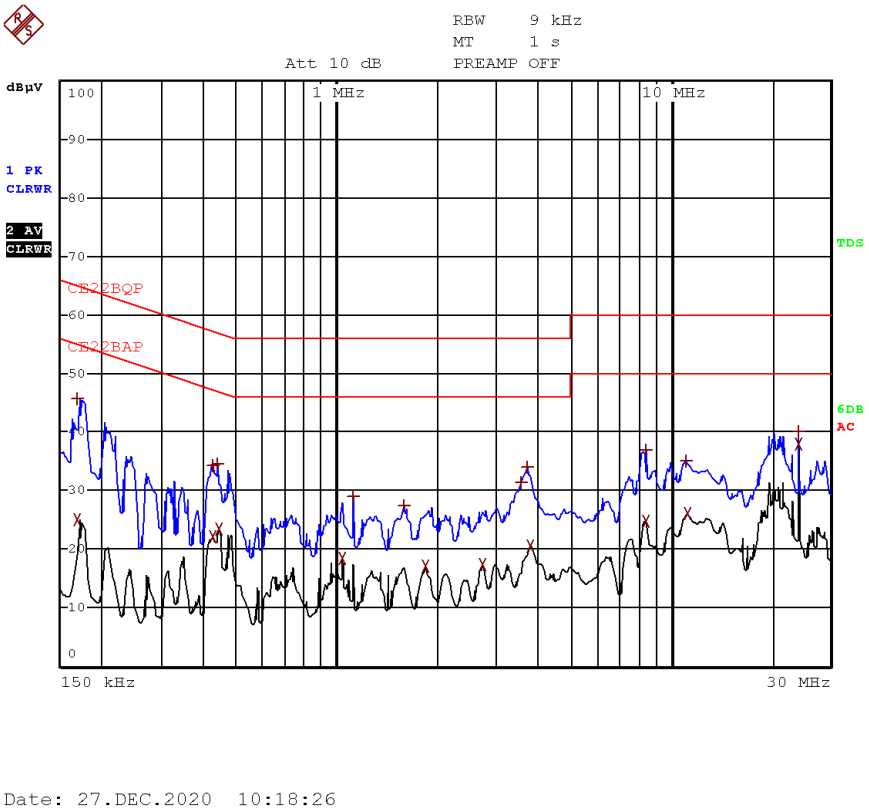


**Figure 7 Detectors: Peak, Quasi-peak, Average**

## 4.5 *Test Equipment Used; Conducted Emission*

| Instrument | Manufacturer | Model | Serial No. | Last Calibration Date | Next Calibration Due |
|---|---|---|---|---|---|
| LISN | Fischer | FCC-LISN-25A | 127 | October 28, 2020 | October 31, 2021 |
| Transient Limiter | HP | 11947A | 3107A03041 | October 28, 2020 | October 31, 2021 |
| EMI Receiver | Rohde & Schwarz | ESCI7 | 100724 | March 9, 2020 | March 31, 2021 |
| RF Cable | Telrad | RJ214 | - | October 28, 2020 | October 31, 2021 |

**Figure 8 Test Equipment Used**

# 5. Maximum Conducted Output Power

## 5.1 Test Specification

FCC, Part 15, Subpart E, Section 407(a)

RSS 248 Issue 1 November 19, 2021, Section 4.6.3(b)

## 5.2 Test Procedure

(Temperature (22°C)/ Humidity (57%RH))

The E.U.T operation mode and test set-up are as described in Section 2 of this report. The E.U.T. antenna terminal was connected to the Spectrum Analyzer through an external attenuator and an appropriate coaxial cable (total loss=31.0 dB). Special attention was taken to prevent Spectrum Analyzer RF input overload.
Spectrum setting was done according to KDB 789033, method PM instructions (section E.3.a).

## 5.3 FCC Test Limit

For client devices operating under the control of an indoor access point in the 5.925-7.125 GHz bands, the maximum e.i.r.p. over the frequency band of operation must not exceed 24 dBm.

## 5.4 IC Test Limit

For client devices, the maximum e.i.r.p. over the 5925-7125 MHz frequency band shall not exceed 24 dBm.

## 5.5 Test Results

JUDGMENT: Passed

The EUT met the requirements of the FCC Part 15, Subpart E, Section 15.407(a), and RSS-Gen, Issue 5, March 2019, Amendment 1, Section 4.6.3 specifications.

For additional information see *Figure 9* below.

| BW | Operation Frequency | Power | Antenna Gain | EIRP | Limit | Margin |
|---|---|---|---|---|---|---|
| (MHz) | (MHz) | (dBm) | (dBi) | (dBm) | (dBm) | (dB) |
| 20.0 | 5935.0 | 8.8 | 2.0 | 10.8 | 24.0 | -13.2 |
| | 6175.0 | 8.4 | 2.0 | 10.4 | 24.0 | -13.6 |
| | 6415.0 | 8.3 | 2.0 | 10.3 | 24.0 | -13.7 |
| 40.0 | 5945.0 | 11.2 | 2.0 | 13.2 | 24.0 | -10.8 |
| | 6185.0 | 11.0 | 2.0 | 13.0 | 24.0 | -11.0 |
| | 6405.0 | 11.5 | 2.0 | 13.5 | 24.0 | -10.5 |

**Figure 9 FCC and IC Test Results**

## 5.6 Test Equipment Used; Maximum Peak Power Output*

| Instrument | Manufacturer | Model | Serial No. | Last Calibration Date | Next Calibration Due |
|---|---|---|---|---|---|
| Power Meter | HP | 437B | 3043U04017 | February 26, 2019 | February 28, 2021 |
| Power Sensor | HP | 8481A | 2702A73530 | February 26, 2019 | February 28, 2021 |
| 30dB Attenuator | MCL | BW-S30W5 | 533 | August 23, 2020 | August 31, 2021 |
| RF Cable | Huber Suhner | Sucofelex | 28239/4PEA | August 23, 2020 | August 31, 2021 |

*Testing performed on February 4, 2021

**Figure 10 Test Equipment Used**

# 6. Maximum Power Spectral Density (PSD)

## 6.1 Test Specification

FCC, Part 15, Subpart E, Section 407(a)

RSS 248 Issue 1 November 19, 2021, Section 4.6.3(a)

## 6.2 Test Procedure

(Temperature (22°C)/ Humidity (56%RH))

The E.U.T operation mode and test set-up are as described in Section 2 of this report. The E.U.T. antenna terminal was connected to the Spectrum Analyzer through an external attenuator and an appropriate coaxial cable (total loss= 31.0dB). Special attention was taken to prevent Spectrum Analyzer RF input overload. Spectrum setting done according KDB 789033 instructions (section F).

## 6.3 FCC Test Limit

For client devices operating under the control of an indoor access point in the 5.925-7.125 GHz bands, the maximum e.i.r.p. spectral density shall not exceed -1 dBm/MHz.

## 6.4 IC Test Limit

For client devices, the maximum e.i.r.p. spectral density shall not exceed -1 dBm/MHz

## 6.5 Test Results

JUDGEMENT: Passed

The EUT met the requirements of the F.C.C. Part 15, Subpart E, Section 15.407(a), and RSS-Gen, Issue 5, March 2019, Amendment 1, Section 4.6.3 specifications.

For additional information see *Figure 12* to *Figure 17.*

| BW | Operation Frequency | Reading | Antenna gain | PSD EIRP | Limit | Margin |
|---|---|---|---|---|---|---|
| (MHz) | (MHz) | (dBm/MHz) | (dBi) | (dBm) | (dBm) | (dB) |
| 20.0 | 5935.0 | -3.2 | 2.0 | -1.2 | -1.0 | -0.2 |
| | 6175.0 | -3.3 | 2.0 | -1.3 | -1.0 | -0.3 |
| | 6415.0 | -3.4 | 2.0 | -1.4 | -1.0 | -0.4 |
| 40.0 | 5945.0 | -3.2 | 2.0 | -1.2 | -1.0 | -0.2 |
| | 6185.0 | -3.4 | 2.0 | -1.4 | -1.0 | -0.4 |
| | 6405.0 | -3.2 | 2.0 | -1.2 | -1.0 | -0.2 |

**Figure 11 FCC and IC Test Results**

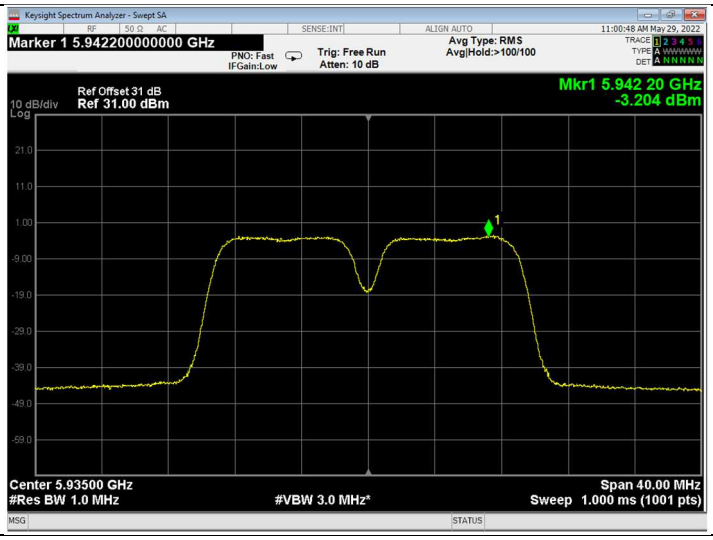


**Figure 12. 5935.0MHz,20MHz BW**

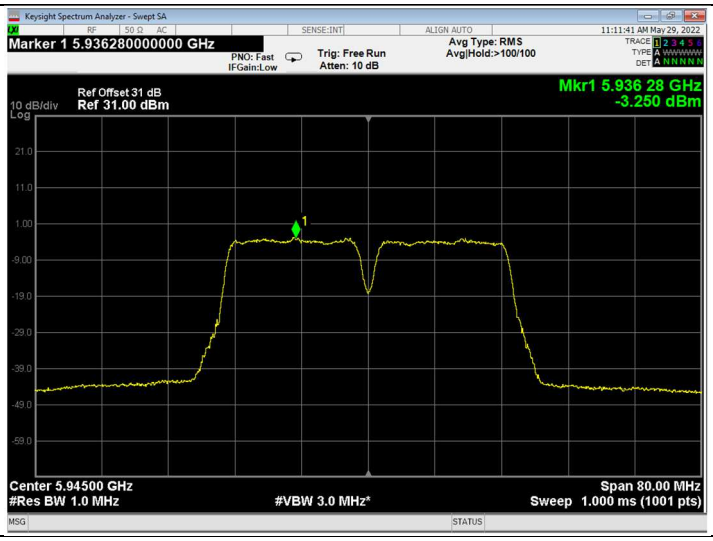


**Figure 13. 5945.0MHz,40MHz BW**

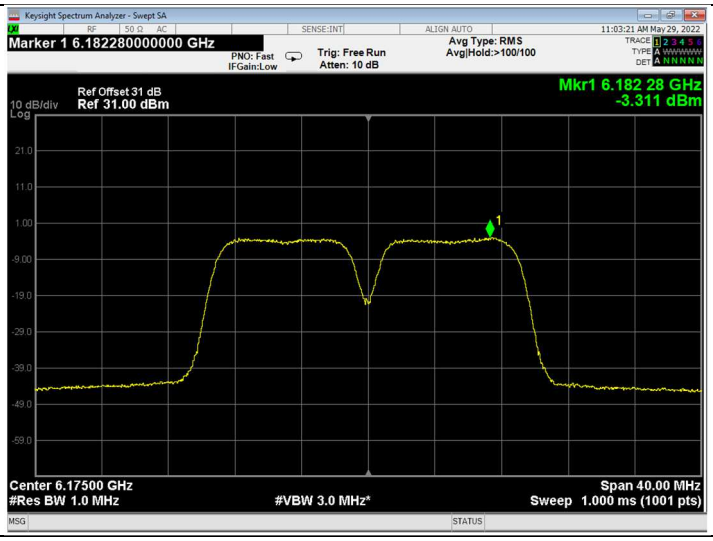


**Figure 14. 6175.0MHz,20MHz BW**

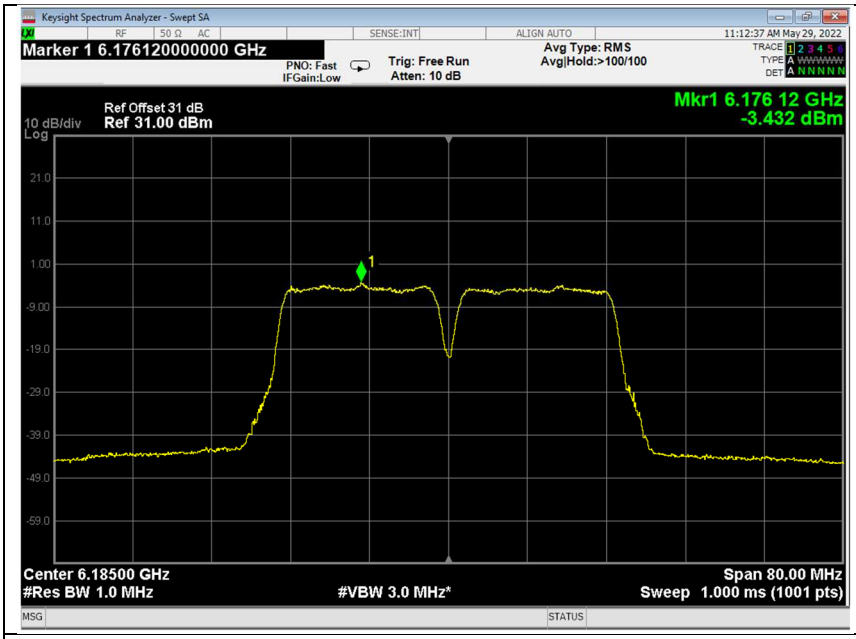


**Figure 15. 6185.0MHz,40MHz BW**

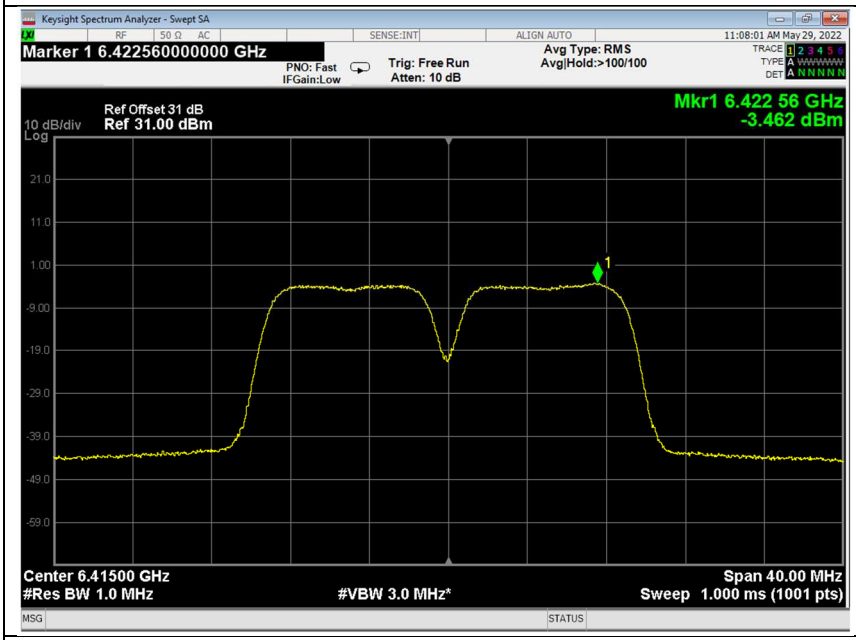


**Figure 16. 6415.0MHz,20MHz BW**

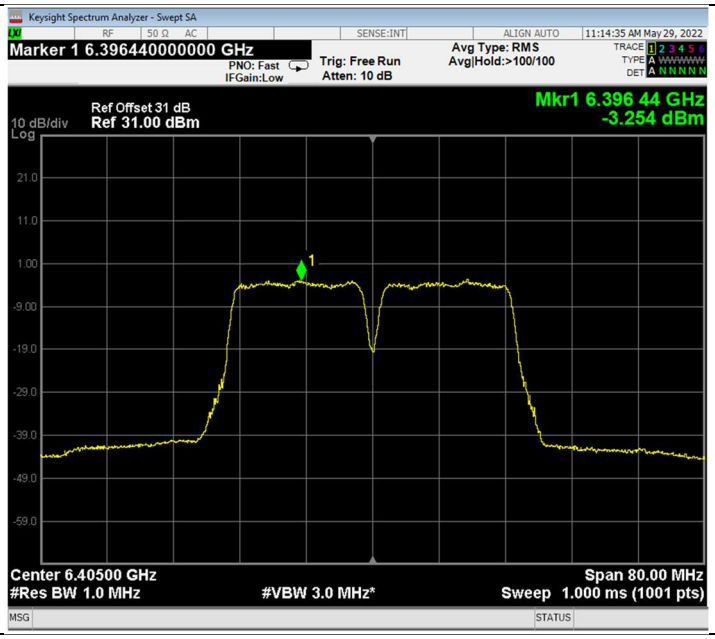


**Figure 17. 6405.0MHz,40MHz BW**

## 6.6 Test Equipment Used; Transmitted Power Density

| Instrument | Manufacturer | Model | Serial No. | Last Calibration Date | Next Calibration Due |
|---|---|---|---|---|---|
| Signal analyzer | Keysight | N9010A | my51170071 | 13/02/2022 | 13/02/2024 |
| 30dB Attenuator | MCL | BW-S30W5 | 533 | 16/05/2022 | 16/05/2023 |
| RF Cable | Huber Suhner | Sucofelex | 28239/4PEA | 23/05/2021 | 31/05/2022 |

**Figure 18 Test Equipment Used**

# 7. Band Edge

## 7.1 Test Specification

FCC Part 15, Subpart E, Section 15.407(b)(5)
RSS 248 Issue 1 November 19, 2021, Section 4.7.2(a)

## 7.2 Test Procedure

(Temperature (22°C)/ Humidity (56%RH))

The E.U.T. antenna terminal was connected to the Spectrum Analyzer through an external attenuator and an appropriate coaxial cable (loss = 33.0dB). The offset calculation: attenuator (30dB) + cable loss(1dB) E.U.T gain antenna (2dBi) +=33.0dB. channel power over 1MHz used.

## 7.3 FCC Test Limits

For transmitters operating within the 5.925-7.125 GHz band: Any emissions outside of the 5.925-7.125 GHz band must not exceed e.i.r.p. of −27 dBm/MHz.

## 7.4 IC Test Limits

Any emission outside the 5925-7125 MHz band shall not exceed –27 dBm/MHz e.i.r.p.

## 7.5 Test Results

JUDGEMENT: Passed

The EUT met the requirements of the F.C.C. Part 15, Subpart E, Section 15.407(b)(5), and RSS-Gen, Issue 5, March 2019, Amendment 1, Section 4.7.2(a) specifications.

For details see *Figure 19* to *Figure 22.*

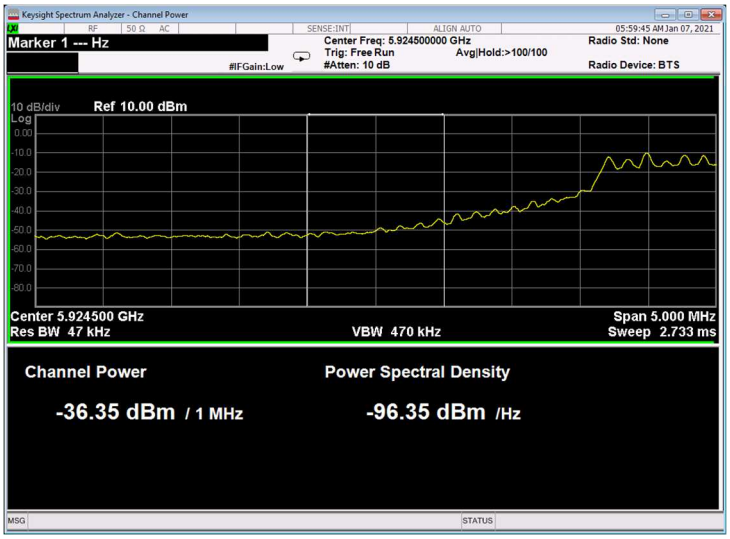


**Figure 19 Lower Band Edge, 20MHz BW**

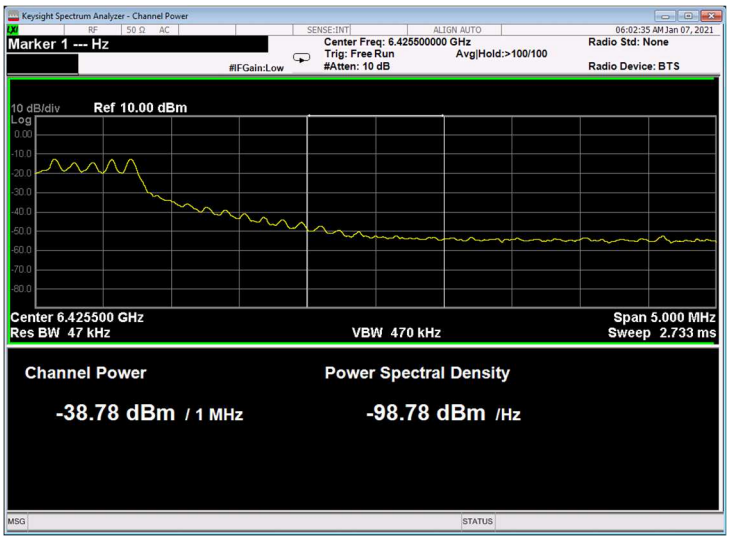


**Figure 20 Upper Band Edge, 20MHz BW**

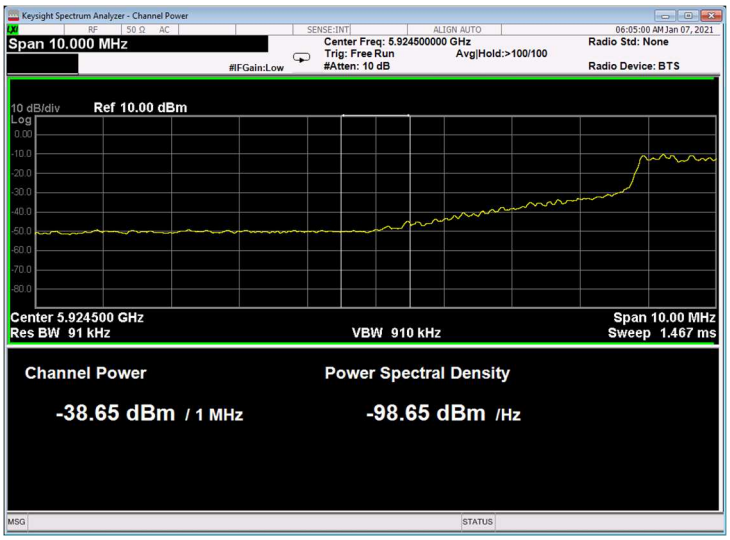


**Figure 21 Lower Band Edge, 40MHz BW**

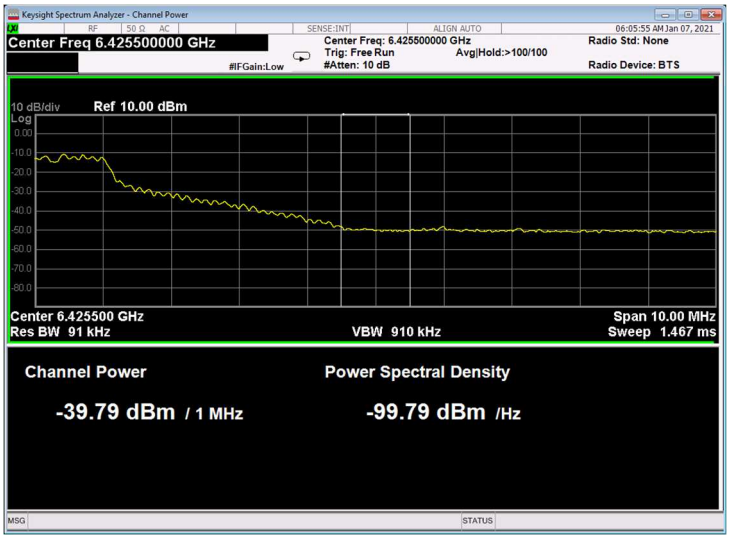


**Figure 22 Upper Band Edge, 40MHz BW**

## 7.6 Test Instrumentation Used, Band Edge

| Instrument | Manufacturer | Model | Serial No. | Last Calibration Date | Next Calibration Due |
|---|---|---|---|---|---|
| EXA Signal Analyzer | Agilent Technologies | N9010A | 902A000401 | March 1, 2019 | March 31, 2021 |
| 30dB Attenuator | MCL | BW-S30W5 | 533 | August 23, 2020 | August 31, 2021 |
| RF Cable | Huber Suhner | Sucofelex | 28239/4PEA | August 23, 2020 | August 31, 2021 |

**Figure 23 Test Equipment Used**

# 8. Undesirable/Unwanted Emissions

## 8.1 Test Specification

FCC Part 15, Subpart E, Section 15.407(b)(1-7)
RSS 248, Issue 1, November 19, 2021, Section 4.7.2(c&d)

## 8.2 Test Procedure

(Temperature (22°C)/ Humidity (56%RH))
Testing was performed for both Radiated Emission for Emissions in the Non-Restricted Bands & in the Restricted Bands:

**For measurements between 0.009-30MHz:**

The E.U.T was tested inside the shielded room and placed on a non-metallic table, 0.8 meters above the ground. The emissions were measured at a distance of 3 meters. The readings were maximized by the turntable azimuth between 0-360°, and the antenna polarization.
The frequency range 0.009MHz-30MHz was scanned.

**For measurements between 30-1000 MHz**:
A preliminary measurement to characterize the E.U.T was performed inside the shielded room at a distance of 3 meters, using peak detection mode and broadband antennas. The preliminary measurements produced a list of the highest emissions. The E.U.T was then transferred to the open site, and placed on a remote-controlled turntable. The E.U.T was placed on a non-metallic table, 0.8 meters above the ground. The emissions were measured at a distance of 3 meters. The readings were maximized by adjusting the antenna height between 1-4 meters, the turntable azimuth between 0-360°, and the antenna polarization. The frequency range 30-1000 MHz was scanned and the list of the highest emissions was verified and updated accordingly.

**For measurements between 1-40 GHz:**

The E.U.T was tested inside the shielded room and placed on a non-metallic table, 1.5 meters above the ground. The emissions were measured at a distance of 3 meters.

The readings were maximized by the turntable azimuth between 0-360°, and the antenna polarization. The antenna scanned from 1m to 4m height.
The frequency range 1-40 GHz was scanned.

Evaluation was performed for both 20MHz and 40MHz BW transmissions.

The highest radiations are described in the tables below.

## 8.3 FCC and IC Test Limits

| EIRP Above 1.0GHz | Field strength Above 1.0 GHz | Field strength Below 1.0 GHz |
|---|---|---|
| (dBm/MHz) | (dBµV/m/MHz@3m) | (dBµV/m) |
| -27.0 | 68.2 | As describe in section 15.209 and in RSS-Gen |

**Figure 24 Non-Restricted Band Limits**

| Frequency (MHz) | Field strength (microvolts/meter) | Measurement distance (meters) | Field strength (dBµV/m) | Field strength* (dBµV/m)@3m |
|---|---|---|---|---|
| 0.009-0.490 | 2400/F(kHz) | 300 | 48.5-13.8 | 128.5-73.8 |
| 0.490-1.705 | 24000/F(kHz) | 30 | 33.8-23.0 | 73.8-63.0 |
| 1.705-30.0 | 30 | 30 | 29.5 | 69.5 |
| 30-88 | 100 | 3 | 40.0 | 40.0 |
| 88-216 | 150 | 3 | 43.5 | 43.5 |
| 216-960 | 200 | 3 | 46.0 | 46.0 |
| Above 960 | 500 | 3 | 54.0 | 54.0 |

*The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector. For average radiated emission measurements above 1000 MHz, there is also a limit corresponding to 20 dB above the indicated values in the table is specified when measuring with peak detector function.

**Figure 25 FCC Restricted Band Limits**

| Frequency (MHz) | Magnetic Field strength (microampere/meter) | Measurement distance (meters) | Magnetic Field strength (dBµA/m) | Magnetic Field strength* (dBµA/m)@3m |
|---|---|---|---|---|
| 0.009-0.490 | 6.37/F(kHz) | 300 | -3.0-(-37.7) | 77.0-42.2 |
| 0.490-1.705 | 63.7/F(kHz) | 30 | -17.7-(-28.5) | 22.3-11.4 |
| 1.705-30.0 | 0.08 | 30 | -21.9 | 18.0 |
| **Frequency (MHz)** | **Field strength (microvolts/meter)** | **Measurement distance (meters)** | **Field strength (dBµV/m)** | **Field strength* (dBµV/m)@3m** |
| 30-88 | 100 | 3 | 40.0 | 40.0 |
| 88-216 | 150 | 3 | 43.5 | 43.5 |
| 216-960 | 200 | 3 | 46.0 | 46.0 |
| Above 960 | 500 | 3 | 54.0 | 54.0 |

*The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector. For average radiated emission measurements above 1000 MHz, there is also a limit corresponding to 20 dB above the indicated values in the table is specified when measuring with peak detector function.

**Figure 26 IC Restricted Band Limits**

## 8.4 Test Results

JUDGEMENT: Passed

The EUT met the requirements of the F.C.C. Part 15, Subpart E, Section 15.407(b)(1-7), and RSS 248, Issue 1, November 19, 2021, Section 4.7.2(c&d) specification.

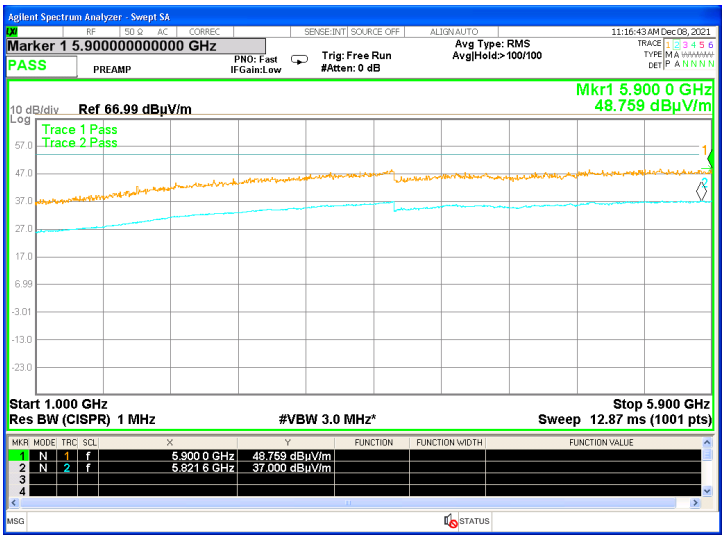


**Figure 27 Fundamental: 5.935 GHz ,20 MHz, band 1**

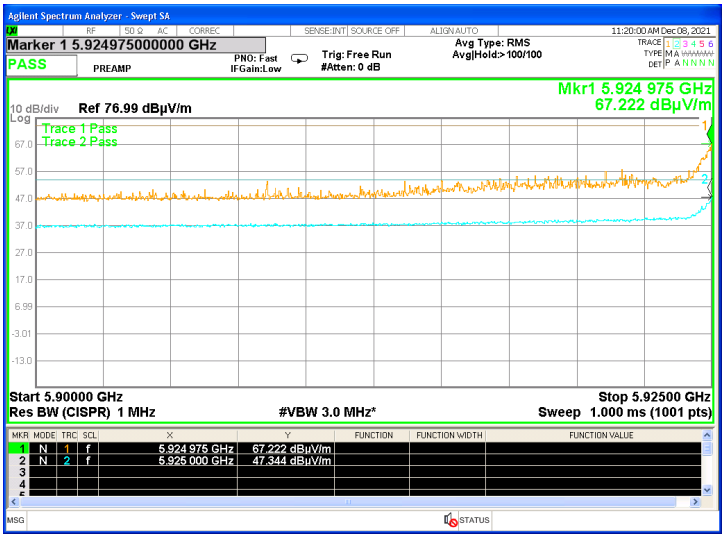


**Figure 28 Fundamental: 5.935 GHz, 20 MHz, band 2**

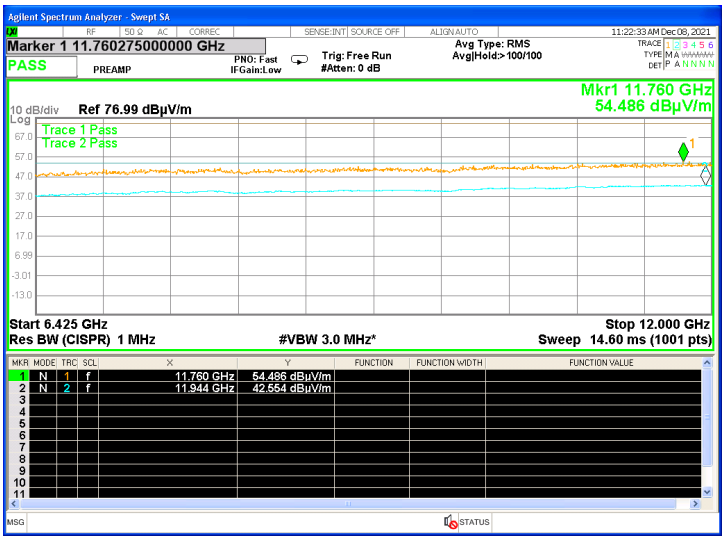


**Figure 29 Fundamental: 5.935 GHz, 20 MHz, band 3**

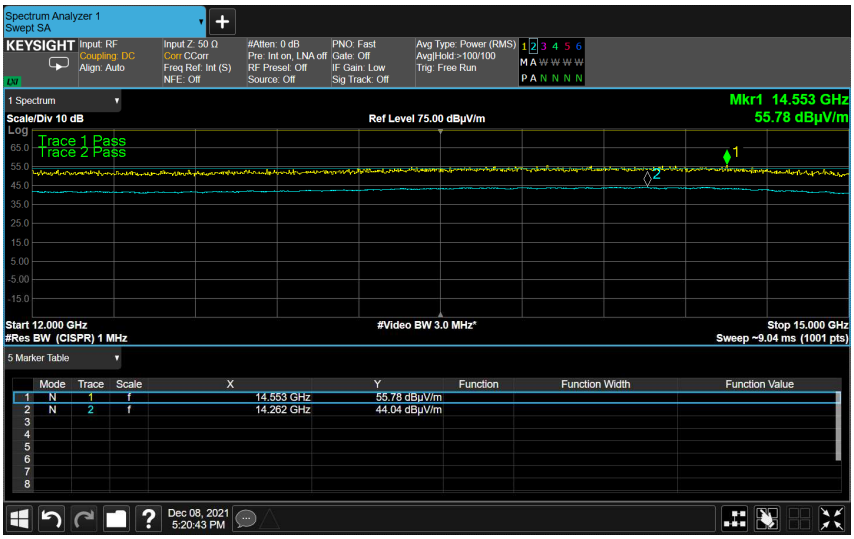


**Figure 30 Fundamental: 5.935 GHz, 20 MHz, band 4**

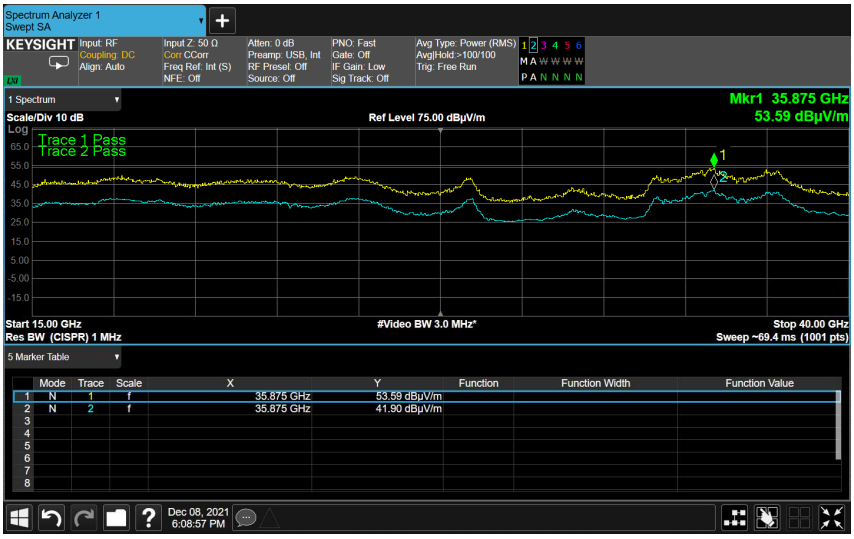


**Figure 31 Fundamental: 5.935 GHz,20 MHz, band 5**

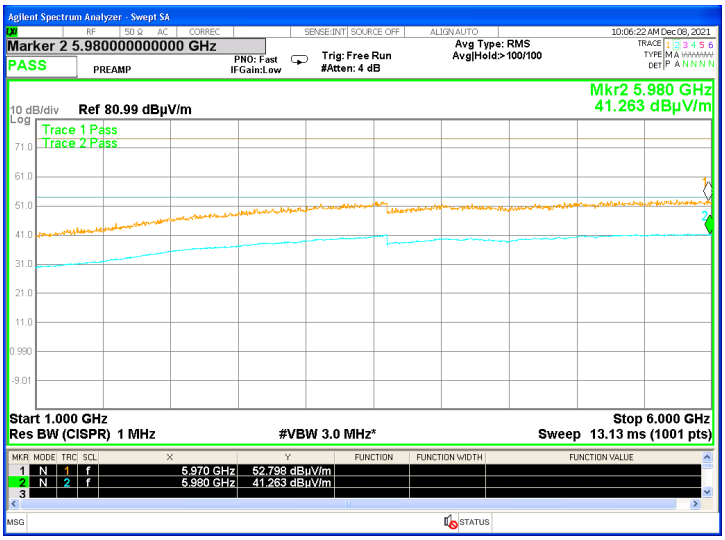


**Figure 32 Fundamental: 6.175 GHz ,20 MHz, band 1**

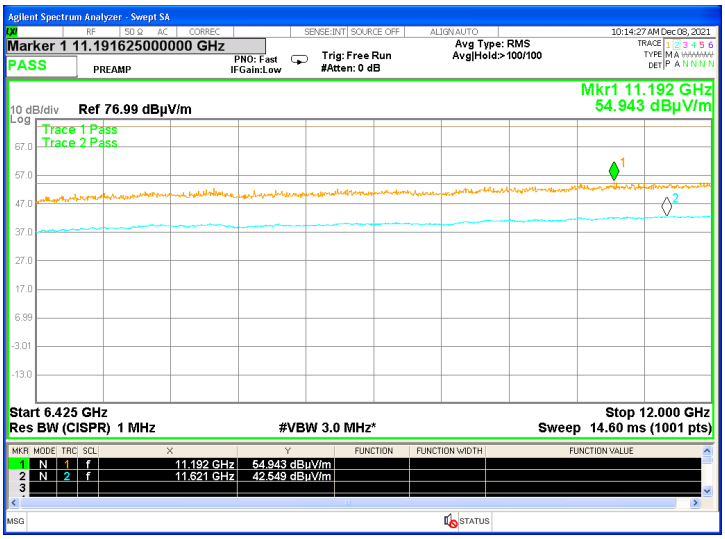


**Figure 33 Fundamental: 6.175 GHz ,20 MHz, band 2**

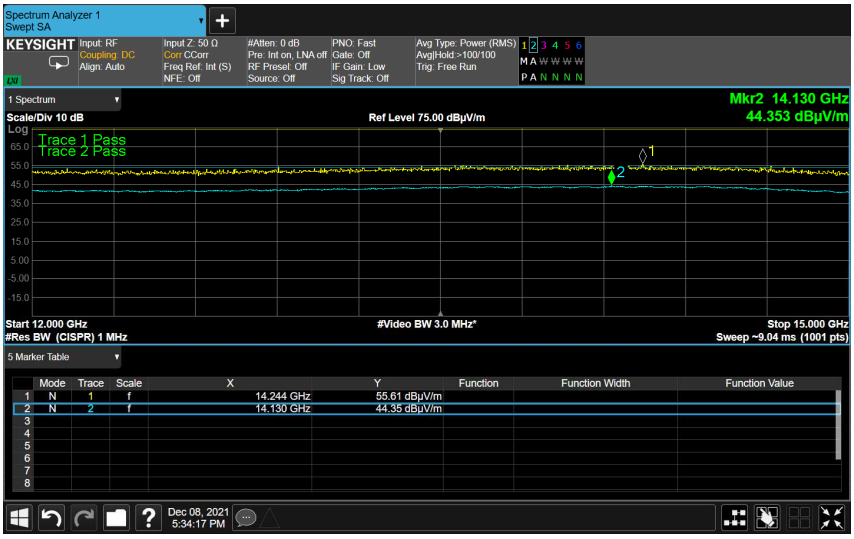


**Figure 34 Fundamental: 6.175 GHz ,20 MHz, band 3**

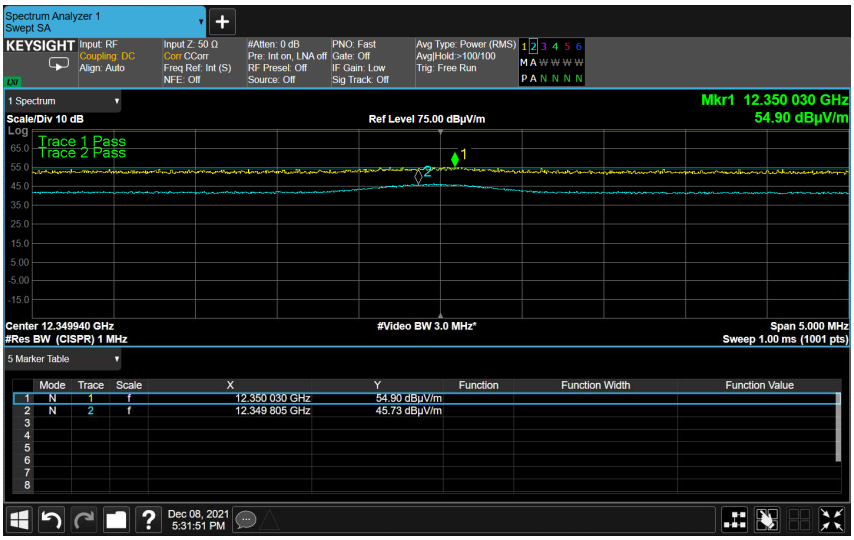


**Figure 35 Fundamental: 6.175 GHz ,20 MHz, band 4**