# REGULATORY COMPLIANCE TEST REPORT

## FCC CFR 47 15.247, RSS-247 Issue 2

### Report No.: BSTR81-U6 Rev A

**Company:** Bright Star Engineering, Inc.

**Model:** MPOD3-C

# REGULATORY COMPLIANCE TEST REPORT

**Company**: Bright Star Engineering, Inc.

**Model**: MPOD3-C

**To**: FCC CFR 47 Subpart E 15.407, RSS-247 Issue 2

**Test Report Serial No**.: BSTR81-U6 Rev A

This report supersedes: NONE

Applicant: Bright Star Engineering, Inc.
299 Ballardvale Street, Suite 5
Wilmington, Massachusetts 01887
USA

Issue Date: 27th October 2020

**This Test Report is Issued Under the Authority of:**

**MiCOM Labs, Inc.**
575 Boulder Court
Pleasanton California 94566
USA
Phone: +1 (925) 462-0304
Fax: +1 (925) 462-0306
www.micomlabs.com

ACCREDITED
TESTING CERT #2381.01

**MiCOM Labs is an ISO 17025 Accredited Testing Laboratory**

# Table of Contents





This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

# 1. ACCREDITATION, LISTINGS & RECOGNITION

## 1.1. TESTING ACCREDITATION

MiCOM Labs, Inc. is an accredited Electrical testing laboratory per the international standard ISO/IEC 17025:2017. The company is accredited by the American Association for Laboratory Accreditation (A2LA) www.a2la.org test laboratory number 2381.01. MiCOM Labs test schedule is available at the following URL; http://www.a2la.org/scopepdf/2381-01.pdf

Accredited Laboratory

A2LA has accredited

MICOM LABS

Pleasanton, CA

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated April 2017*).

Presented this 24th day of February 2020.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2381.01
Valid to November 30, 2021

*For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.*



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

## 1.2. RECOGNITION

MiCOM Labs, Inc has widely recognized wireless testing and certification capabilities. In addition to being recognized for Testing and Certification under Phase 2 agreements with Canada, Europe and Japan, our international recognition includes Conformity Assessment Body designation under Phase 1 agreements with APEC MRA countries. MiCOM Labs test reports are accepted globally.

| Country | Recognition Body | Status | MRA Phase | Identification No. |
|---|---|---|---|---|
| USA | Federal Communications Commission (FCC) | TCB | - | US0159<br>Test Firm Designation#: US1084 |
| Canada | Industry Canada (ISED) | FCB | APEC MRA 2 | US0159<br>ISED#: 4143A |
| Japan | MIC (Ministry of Internal Affairs and Communication) | CAB | Japan MRA 2 | RCB 210 |
| | Japan Approvals Institute for Telecommunication Equipment (JATE) | | | |
| | VCCI | -- | -- | A-0012 |
| Europe | European Commission | NB | EU MRA 2 | NB 2280 |
| Mexico | Instituto Federal de Telecomunicaciones (IFT) | CAB | Mexico MRA 1 | US0159 |
| Australia | Australian Communications and Media Authority (ACMA) | CAB | APEC MRA 1 | US0159 |
| Hong Kong | Office of the Telecommunication Authority (OFTA) | | | |
| Korea | Ministry of Information and Communication Radio Research Laboratory (RRL) | | | |
| Singapore | Infocomm Development Authority (IDA) | | | |
| Taiwan | National Communications Commission (NCC)<br>Bureau of Standards, Metrology and Inspection (BSMI) | | | |
| Vietnam | Ministry of Communication (MIC) | | | |

EU MRA – European Union Mutual Recognition Agreement
NB – Notified Body
APEC MRA – Asia Pacific Economic Community Mutual Recognition Agreement. Recognition agreement under which test lab is accredited to regulatory standards of the APEC member countries.
MRA PhasePhase I - recognition for product testing
Phase II – recognition for both product testing and certification


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

## 1.3. PRODUCT CERTIFICATION

MiCOM Labs, Inc. is an accredited Product Certification Body per the international standard ISO/IEC 17065:2012. The company is accredited by the American Association for Laboratory Accreditation (A2LA) www.a2la.org test laboratory number 2381.02. MiCOM Labs test schedule is available at the following URL; http://www.a2la.org/scopepdf/2381-02.pdf

Accredited Product Certification Body

A2LA has accredited

MiCOM LABS

Pleasanton, CA

This product certification body is accredited in accordance with the recognized International Standard ISO/IEC 17065:2012 *Requirements for bodies certifying products, processes and services*. This product certification body also meets the *A2LA R322 – Specific Requirements – Notified Body Accreditation Requirements* and *A2LA R308 - Specific Requirements - ISO-IEC 17065 - Telecommunication Certification Body Accreditation Program*. This accreditation demonstrates technical competence for a defined scope and the operation of a management system.

Presented this 24th day of February 2020

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2381.02
Valid to November 30, 2021

*For the product certification schemes to which this accreditation applies, please refer to the organization's Product Certification Scope of Accreditation.*

United States of America – Telecommunication Certification Body (TCB)
Industry Canada – Certification Body, CAB Identifier – US0159
Europe – Notified Body (NB), NB Identifier - 2280
Japan – Recognized Certification Body (RCB), RCB Identifier - 210



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

## 2. DOCUMENT HISTORY

| Document History | | |
|---|---|---|
| Revision | Date | Comments |
| Draft | 27th October 2020 | Draft for comment<br>This report covers spurious emissions performed on a host device per FCC KDB 996369 D02 'Frequently asked questions and answers about modules'.<br><br>Technologies covered: OFDM |
| Rev A | 27th October 2020 | Initial Release |
| | | |
| | | |
| | | |
| | | |
| | | |

In the above table the latest report revision will replace all earlier versions.



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

# 3. TEST RESULT CERTIFICATE

| | | | |
|---|---|---|---|
| **Manufacturer:** | Bright Star Engineering, Inc.<br>299 Ballardvale Street, suite 5<br>Wilmington<br>Massachusetts 01887 USA | **Tested By:** | MiCOM Labs, Inc.<br>575 Boulder Court<br>Pleasanton California 94566<br>USA |
| **Model:** | MPOD3-C | **Telephone:**<br>**Fax:** | +1 925 462 0304<br>+1 925 462 0306 |
| **Equipment Type:** | Wireless Data Communication / Automotive Diagnostics | | |
| **S/N's:** | MP3-000064 | | |
| **Test Date(s):** | 19th – 21st October 2020 | **Website:** | www.micomlabs.com |

| STANDARD(S) | TEST RESULTS |
|---|---|
| **FCC CFR 47 Part 15 Subpart E 15.407**<br>**ISED RSS-247 Issue 2** | **EQUIPMENT COMPLIES** |

MiCOM Labs, Inc. tested the equipment mentioned in accordance with the requirements set forth in the above standards. Test results indicate that the equipment tested is capable of demonstrating compliance with the requirements as documented within this report.

**Notes:**

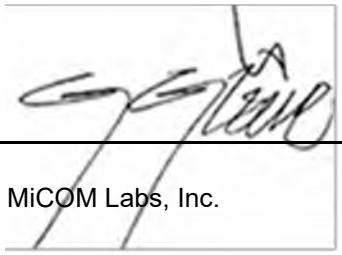
1. This document reports conditions under which testing was conducted and the results of testing performed.

2. Details of test methods used have been recorded and kept on file by the laboratory.

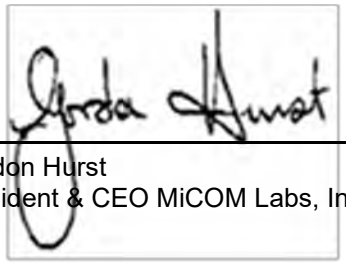
3. Test results apply only to the item(s) tested.

A2LA ACCREDITED
TESTING CERT #2381.01

**Approved & Released for MiCOM Labs, Inc. by**:



Graeme Grieve
Quality Manager MiCOM Labs, Inc.



Gordon Hurst
President & CEO MiCOM Labs, Inc.


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

# 4. REFERENCES AND MEASUREMENT UNCERTAINTY

## 4.1. Normative References

| REF. | PUBLICATION | YEAR | TITLE |
|---|---|---|---|
| I | KDB 662911 D01 v02r01 | 31st October 2013 | Guidance for measurement of output emission of devices that employ single transmitter with multiple outputs or systems with multiple transmitters operating simultaneously in the same frequency band |
| II | KDB 662911 D02 V01 | 25th October 2013 | MIMO with Cross-Polarized Antenna |
| III | KDB 905462 D07 v02 | 22nd August 2016 | Test guidance to demonstrate compliance for U-NII devices subject to DFS requirements. |
| IV | KDB 926956 D01 V02 | 22nd August 2016 | U-NII Device Transition Plan |
| V | KDB 996369 D02 | October 23, 2015 | Frequently asked questions and answers about modules |
| VI | A2LA | October 2019 | R105 - Requirement's When Making Reference to A2LA Accreditation Status |
| VII | ANSI C63.10 | 2013 | American National Standard for Testing Unlicensed Wireless Devices |
| VIII | ANSI C63.4 | 2014 | American National Standards for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz |
| IX | CISPR 32 | 2015 | Electromagnetic compatibility of multimedia equipment - Emission requirements |
| X | ETSI TR 100 028 | 2001-12 | Parts 1 and 2 Electromagnetic compatibility and Radio Spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics |
| XI | FCC 06-96 | Jun 30 2006 | Memorandum Opinion and Order |
| XII | FCC 47 CFR Part 15.407 | 2016 | Radio Frequency Devices; Subpart E –Unlicensed National Information Infrastructure Devices |
| XIII | ICES-003 | Issue 6 Jan 2016; Updated April 2019 | Information Technology Equipment (Including Digital Apparatus) – Limits and methods of measurement. |
| XIV | M 3003 | Edition 3 Nov.2012 | Expression of Uncertainty and Confidence in Measurements |
| XV | RSS-247 Issue 2 | Feb 2017 | Digital Transmission Systems (DTSs), Frequency Hopping System (FHSs) and Licence-Exempt Local Area Network (LE-LEN) Devices |
| XVI | RSS-Gen Issue 5 | March 2019 Amendment 1 | General Requirements for Compliance of Radio Apparatus |
| XVII | FCC 47 CFR Part 2.1033 | 2016 | FCC requirements and rules regarding photographs and test setup diagrams. |
| XVIII | KDB 789033 D02 V02r01 | 14th December 2017 | Guidelines For Compliance Testing Of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E |


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

## 4.2. Test and Uncertainty Procedure

Conducted and radiated emission measurements were conducted in accordance with American National Standards Institute ANSI C63.4, listed in the Normative References section of this report.

Measurement uncertainty figures are calculated in accordance with ETSI TR 100 028 Parts 1 and 2.

Measurement uncertainties stated are based on a standard uncertainty multiplied by a coverage factor k = 2, providing a level of confidence of approximately 95 % in accordance with UKAS document M 3003 listed in the Normative References section of this report.



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

# 5. PRODUCT DETAILS AND TEST CONFIGURATIONS

## 5.1. Technical Details

| Details | Description |
|---|---|
| Purpose: | Test of the Bright Star Engineering, Inc. MPOD3-C to FCC CFR 47 Part 15 Subpart E 15.407.<br>Radio Frequency Devices; Subpart E – Intentional Radiators |
| Applicant: | Bright Star Engineering, Inc.<br>299 Ballardvale Street, suite 5<br>Wilmington Massachusetts 01887 USA |
| Manufacturer: | Bright Star Engineering, Inc. |
| Laboratory performing the tests: | MiCOM Labs, Inc.<br>575 Boulder Court<br>Pleasanton California 94566 USA |
| Test report reference number: | BSTR81-U4 |
| Date EUT received: | 18th October 2020 |
| Standard(s) applied: | FCC CFR 47 Part 15 Subpart E 15.407<br>ISED RSS 247 Issue 2 |
| Dates of test (from - to): | 19th – 22nd October 2020 |
| No of Units Tested: | 1 |
| Product Family Name: | MicroPod 3 |
| Model(s): | MPOD3-C |
| Location for use: | Indoors and Outdoors |
| Declared Frequency Range(s): | 5150- 5350, 5470 – 5725, 5725 – 5850 MHz |
| Type of Modulation: | OFDM |
| EUT Modes of Operation: | 802.11a; HT-20; HT-40; ac80 |
| Declared Nominal Output Power (dBm): | See Laird Technologies Test Report TR 316356 C (U-NII) |
| Transmit/Receive Operation: | Transceiver |
| Rated Input Voltage and Current: | 12 Vdc 120 mA |
| Operating Temperature Range: | Nominal: 20 ºC Max: +60 ºC Min: -20 ºC |
| Equipment Dimensions: | 1.82 x 0.94 x 2.85 in |
| Weight: | 0.11 lbs |
| Hardware Rev: | Rev 7/5 |
| Software Rev: | 0.4.1 |


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

## 5.2. Scope Of Test Program

**Bright Star Engineering, Inc. MPOD3-C**

The scope of the test program was to test the Bright Star Engineering, Inc. MPOD3-C, configurations in the frequency ranges 2400 - 2483.5 MHz for compliance against the following specification:

**FCC CFR 47 Part 15 Subpart E 15.407**
Radio Frequency Devices; Subpart E – Intentional Radiators

**ISED RSS-247 Issue 2**
Digital Transmission Systems (DTSs), Frequency Hopping System (FHSs) and Licence-Exempt Local Area Network (LE-LEN) Devices

NOTE: As a result of incorporating a wireless module into the MPOD3-C this report reflects the required host level spurious emissions testing required under KDB 996369 D02 ‘Frequently asked questions and answers about modules’.

For full testing of Laird Technologies Sterling LW5B module, see Laird Technologies Test Report TR 316356 C (U-NII)


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

## 5.3. Equipment Model(s) and Serial Number(s)

| Type (EUT/ Support) | Equipment Description (Including Brand Name) | Mfr. | Model No. | Serial No. |
|---|---|---|---|---|
| EUT | Automotive Diagnostics | Bright Star Engineering Inc. | MPOD3-C | MP3-000064 |
| Support | Laptop | HP | 14-dk0002dx | |
| Support | Access Point | TP-Link | AC1750 | |

## 5.4. Antenna Details

| Type | Manufacturer | Model | Family | Gain (dBi) | BF Gain | Dir BW | X-Pol | Frequency Band (MHz) |
|---|---|---|---|---|---|---|---|---|
| Integral | Johanson | 2450AD14A5500 | Chip | 4.0 | - | - | - | 5150-5850 |

BF Gain - Beamforming Gain
Dir BW - Directional BeamWidth
X-Pol - Cross Polarization

## 5.5. Cabling and I/O Ports

| Port Type | Port Description | Qty | Screened (Yes/ No) | Length |
|---|---|---|---|---|
| MiniUSB | USB | 1 | N | < 3M |
| J1962 | Test Harness | 1 | N | < 3M |

Equipment Details
The following is a description of supporting equipment used during the test program.

## 5.6. Test Configurations

Results for the following configurations are provided in this report:
DC Host powered

## 5.7. Equipment Modifications

The following modifications were required to bring the equipment into compliance:
1. NONE

## 5.8. Deviations from the Test Standard

The following deviations from the test standard were required in order to complete the test program:
1. NONE


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

# 6. TEST SUMMARY

List of Measurements

| Test Header | Result | Data Link |
|---|---|---|
| 6 dB & 99% Bandwidth | Not Tested | Note 1 |
| Conducted Output Power | Not Tested | Note 1 |
| Power Spectral Density | Not Tested | Note 1 |
| Emissions | Complies | - |
| (1) Conducted Emissions | Not Tested | Note 1 |
| (i) Conducted Spurious Emissions | Not Tested | Note 1 |
| (ii) Conducted Band-Edge Emissions | Not Tested | Note 1 |
| (2) Radiated Emissions | Complies | -- |
| (i) TX Spurious & Restricted Band Emissions | Complies | View Data |
| (ii) Restricted Edge & Band-Edge Emissions | Complies | View Data |
| (3) Digital Emissions (0.03 - 1 GHz) | Not Tested | Note 2 |
| (4) AC Wireline Emissions | Not Tested | Note 1 |
| Maximum Permissible Exposure | Not Tested | Note 1 |
| RF Unique Connector | Not Tested | Note 1 |

*Note 1: See Laird Technologies Test Report TR 316356 C (U-NII) for test results.
*Note 2: See MiCOM Labs BSTR80-U2

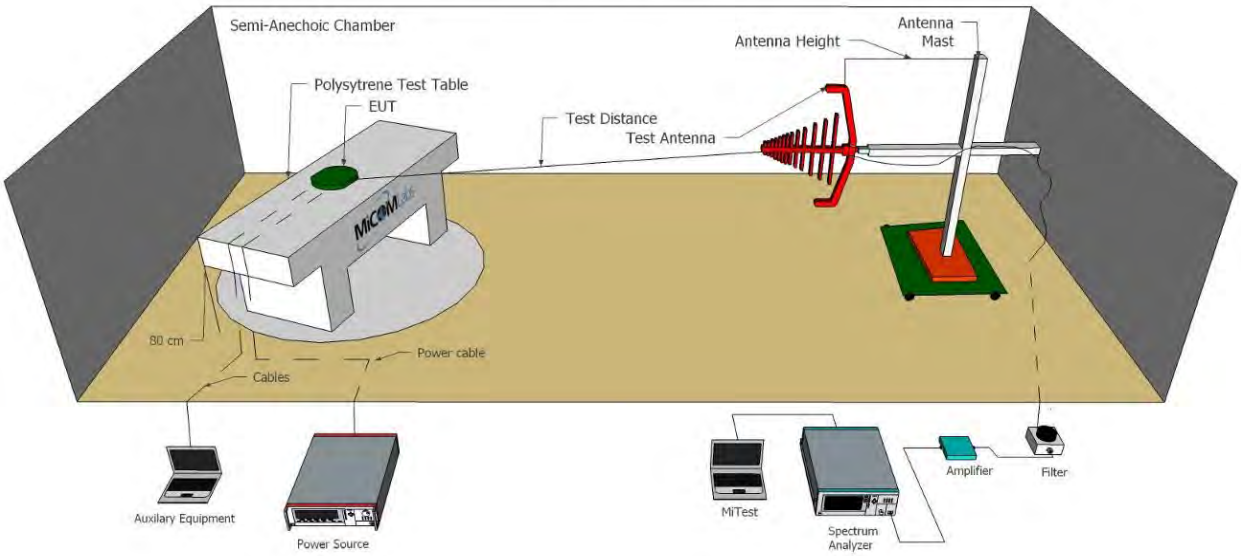

This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

# 7. TEST EQUIPMENT CONFIGURATION(S)

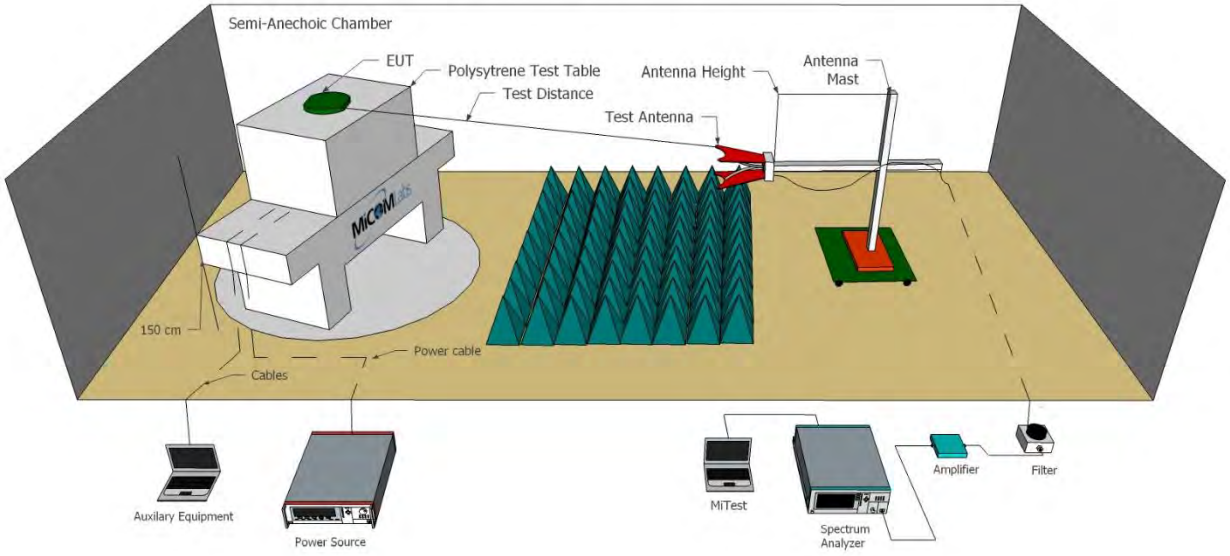
## 7.1. Radiated Emissions - 3m Chamber

**Test Setup for Radiated Emissions for above and below 1 GHz**

Radiated Emissions Below 1GHz Test Setup




Radiated Emissions Above 1GHz Test Setup






This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

A full system calibration was performed on the test station and any resulting system losses (or gains) were taken into account in the production of all final measurement data.

| Asset# | Description | Manufacturer | Model# | Serial# | Calibration Due Date |
|---|---|---|---|---|---|
| 170 | Video System Controller for Semi Anechoic Chamber | Panasonic | WV-CU101 | 04R08507 | Not Required |
| 287 | Rohde & Schwarz 40 GHz Receiver | Rhode & Schwarz | ESIB40 | 100201 | 8 Oct 2021 |
| 298 | 3M Radiated Emissions Chamber Maintenance Check | MiCOM | 3M Chamber | 298 | 26 Nov 2020 |
| 338 | Sunol 30 to 3000 MHz Antenna | Sunol | JB3 | A052907 | 4 Apr 2021 |
| 378 | Rohde & Schwarz 40 GHz Receiver with Generator | Rhode & Schwarz | ESIB40 | 100107/040 | 12 Mar 2021 |
| 396 | 2.4 GHz Notch Filter | Microtronics | BRM50701 | 001 | 4 Dec 2020 |
| 397 | Amp 10 - 2500MHz | MiCOM Labs | Amp 10 - 2500 MHz | NA | 9 Dec 2020 |
| 399 | ETS 1-18 GHz Horn Antenna | ETS | 3117 | 00154575 | 12 Dec 2020 |
| 406 | Amplifier for Radiated Emissions | MiCOM Labs | 40dB 1 to 18GHz Amp | 0406 | 9 Dec 2020 |
| 410 | Desktop Computer | Dell | Inspiron 620 | WS38 | Not Required |
| 411 | Mast/Turntable Controller | Sunol Sciences | SC98V | 060199-1D | Not Required |
| 412 | USB to GPIB Interface | National Instruments | GPIB-USB HS | 11B8DC2 | Not Required |
| 413 | Mast Controller | Sunol Science | TWR95-4 | 030801-3 | Not Required |
| 414 | DC Power Supply 0-60V | HP | 6274 | 1029A01285 | Cal when used |
| 415 | Turntable Controller | Sunol Sciences | Turntable Controller | None | Not Required |
| 447 | MiTest Rad Emissions Test Software | MiCOM | Rad Emissions Test Software Version 1.0 | 447 | Not Required |
| 462 | Schwarzbeck cable from Antenna to Amplifier. | Schwarzbeck | AK 9513 | 462 | 4 Dec 2020 |
| 463 | Schwarzbeck cable from Amplifier to Bulkhead. | Schwarzbeck | AK 9513 | 463 | 4 Dec 2020 |
| 464 | Schwarzbeck cable from Bulkhead to Receiver | Schwarzbeck | AK 9513 | 464 | 4 Dec 2020 |
| 466 | Low Pass Filter DC-1500 MHz | Mini-Circuits | NLP-1750+ | VUU10401438 | 4 Dec 2020 |
| 480 | Cable - Bulkhead to Amp | SRC Haverhill | 157-3050360 | 480 | 4 Dec 2020 |
| 481 | Cable - Bulkhead to Receiver | SRC Haverhill | 151-3050787 | 481 | 4 Dec 2020 |
| 510 | Barometer/Thermometer | Control Company | 68000-49 | 170871375 | 20 Dec 2020 |
| 518 | Cable - Amp to Antenna | SRC Haverhill | 157-3051574 | 518 | 4 Dec 2020 |
| CC05 | Confidence Check | MiCOM | CC05 | None | 4 Dec 2020 |


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

# 8. MEASUREMENT AND PRESENTATION OF TEST DATA

The measurement and graphical data presented in this test report was generated automatically using state-of-the-art technology creating an easy to read report structure. Numerical measurement data is separated from supporting graphical data (plots) through hyperlinks. Numerical measurement data can be reviewed without scrolling through numerous graphical pages to arrive at the next data matrix.

Plots have been relegated into the Appendix 'Graphical Data'.

Test and report automation was performed by MiTest. MiTest is an automated test system developed by MiCOM Labs. MiTest is the first cloud based modular test system enabling end-to-end automation of regulatory compliance testing for conducted RF testing.


The MiCOM Labs "MiTest" Automated Test System" (Patent Pending)


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

# 9. TEST RESULTS

## 9.1. Radiated Emissions

| Radiated Test Conditions for Radiated Spurious and Band-Edge Emissions (Restricted Bands) | | | |
|---|---|---|---|
| **Standard:** | FCC CFR 47 Part 15 Subpart E 15.407<br>ISED RSS 247 Issue 2 | **Ambient Temp. (ºC):** | 20.0 - 24.5 |
| **Test Heading:** | Radiated Spurious and Band-Edge Emissions | **Rel. Humidity (%):** | 32 - 45 |
| **Standard Section(s):** | FCC: 15.407 (b), 15.205, 15.209<br>RSS-247 6.2 | **Pressure (mBars):** | 999 - 1001 |
| **Reference Document(s):** | See Normative References | | |

**Test Procedure for Radiated Spurious and Band-Edge Emissions**
Radiated emissions for restricted bands above 1 GHz are measured in the anechoic chamber at a 3-meter distance on every azimuth in both horizontal and vertical polarities. The emissions are recorded and maximized as a function of azimuth by rotation through 360° with a spectrum analyzer in peak hold mode. Depending on the frequency band spanned a notch filter was used to remove the fundamental frequency. The highest emissions relative to the limit are listed for each frequency spanned.
Measurements on any restricted band frequency or frequencies above 1 GHz are based on the use of measurement instrumentation employing peak and average detectors. All measurements were performed using a resolution bandwidth of 1 MHz.

Test configuration and setup for Undesirable Measurement were per the Radiated Test Set-up specified in this document.

15.407 (b) Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(4) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

(5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

(6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.

(7) The provisions of §15.205 apply to intentional radiators operating under this section.

(8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.

**Limits for Restricted Bands (15.205, 15.209)**
**Peak emission: 74 dBuV/m**
**Average emission: 54 dBuV/m**

**Field Strength Calculation**
**The field strength is calculated by adding the Antenna Factor and Cable Loss, and subtracting Amplifier Gain from the measured reading. All factors are included in the reported data.**
**FS = R + AF + CORR - FO**


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

**where:**
**FS = Field Strength**
**R = Measured Spectrum analyzer Input Amplitude**
**AF = Antenna Factor**
**CORR = Correction Factor = CL – AG + NFL**
**CL = Cable Loss**
**AG = Amplifier Gain**
**FO = Distance Falloff Factor**
**NFL = Notch Filter Loss**

**Example:**
**The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength (dBµV/m);**

$$E = \frac{1000000 \times \sqrt{30P}}{3} \text{ µV/m}$$

where P is the EIRP in Watts

Therefore: -27 dBm/MHz equates to 68.23 dBuV/m

Conversion between dBmV/m (or dBmV) and mV/m (or mV) are as follows:
Level (dBmV/m) = 20 * Log (level (mV/m))

40 dBmV/m = 100 mV/m
48 dBmV/m = 250 mV/m

**Restricted Bands of Operation (15.205)**
(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

| Frequency Band | | | |
|---|---|---|---|
| **MHz** | **MHz** | **MHz** | **GHz** |
| 0.090-0.110 | 16.42-16.423 | 399.9-410 | 4.5-5.15 |
| 0.495-0.505 | 16.69475-16.69525 | 608-614 | 5.35-5.46 |
| 2.1735-2.1905 | 16.80425-16.80475 | 960-1240 | 7.25-7.75 |
| 4.125-4.128 | 25.5-25.67 | 1300-1427 | 8.025-8.5 |
| 4.17725-4.17775 | 37.5-38.25 | 1435-1626.5 | 9.0-9.2 |
| 4.20725-4.20775 | 73-74.6 | 1645.5-1646.5 | 9.3-9.5 |
| 6.215-6.218 | 74.8-75.2 | 1660-1710 | 10.6-12.7 |
| 6.26775-6.26825 | 108-121.94 | 1718.8-1722.2 | 13.25-13.4 |
| 6.31175-6.31225 | 123-138 | 2200-2300 | 14.47-14.5 |
| 8.291-8.294 | 149.9-150.05 | 2310-2390 | 15.35-16.2 |
| 8.362-8.366 | 156.52475-156.52525 | 2483.5-2500 | 17.7-21.4 |
| 8.37625-8.38675 | 156.7-156.9 | 2690-2900 | 22.01-23.12 |
| 8.41425-8.41475 | 162.0125-167.17 | 3260-3267 | 23.6-24.0 |
| 12.29-12.293 | 167.72-173.2 | 3332-3339 | 31.2-31.8 |
| 12.51975-12.52025 | 240-285 | 3345.8-3358 | 36.43-36.5 |
| 12.57675-12.57725 | 322-335.4 | 3600-4400 | Above 38.6 |
| 13.36-13.41 | | | |

(b) Except as provided in paragraphs (d) and (e) of this section, the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

provisions in §15.35 apply to these measurements.

(c) Except as provided in paragraphs (d) and (e) of this section, regardless of the field strength limits specified elsewhere in this subpart, the provisions of this section apply to emissions from any intentional radiator.

(d) The following devices are exempt from the requirements of this section:

(1) Swept frequency field disturbance sensors operating between 1.705 and 37 MHz provided their emissions only sweep through the bands listed in paragraph (a) of this section, the sweep is never stopped with the fundamental emission within the bands listed in paragraph (a) of this section, and the fundamental emission is outside of the bands listed in paragraph (a) of this section more than 99% of the time the device is actively transmitting, without compensation for duty cycle.

(2) Transmitters used to detect buried electronic markers at 101.4 kHz which are employed by telephone companies.

(3) Cable locating equipment operated pursuant to §15.213.

(4) Any equipment operated under the provisions of §15.253, 15.255, and 15.256 in the frequency band 75-85 GHz, or §15.257 of this part.

(5) Biomedical telemetry devices operating under the provisions of §15.242 of this part are not subject to the restricted band 608-614 MHz but are subject to compliance within the other restricted bands.

(6) Transmitters operating under the provisions of subparts D or F of this part.

(7) Devices operated pursuant to §15.225 are exempt from complying with this section for the 13.36-13.41 MHz band only.

(8) Devices operated in the 24.075-24.175 GHz band under §15.245 are exempt from complying with the requirements of this section for the 48.15-48.35 GHz and 72.225-72.525 GHz bands only, and shall not exceed the limits specified in §15.245(b).

(9) Devices operated in the 24.0-24.25 GHz band under §15.249 are exempt from complying with the requirements of this section for the 48.0-48.5 GHz and 72.0-72.75 GHz bands only, and shall not exceed the limits specified in §15.249(a).

(e) Harmonic emissions appearing in the restricted bands above 17.7 GHz from field disturbance sensors operating under the provisions of §15.245 shall not exceed the limits specified in §15.245(b).

**Spurious Emission Measurements**

Transmitter Spurious Emissions 18GHz to 40GHz in the frequency band was measured and no spurious emissions were observed within 6 dB of the limit.



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

## 9.1.1. TX Spurious & Restricted Band Emissions

| Equipment Configuration for Restricted Band Spurious Emissions |
|---|

| | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11a |
| **Antenna Gain (dBi):** | 4.0 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5180.00 | **Data Rate:** | 6 Mbit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 1000.00 - 18000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #1 | 2661.50 | 66.95 | 2.10 | -12.16 | 56.89 | Max Peak | Vertical | 101 | 273 | 68.2 | -11.3 | Pass |
| #2 | 2661.50 | 46.17 | 2.10 | -12.16 | 36.11 | Max Avg | Vertical | 101 | 273 | 54.0 | -17.9 | Pass |
| #3 | 5179.10 | 56.74 | 2.98 | -12.14 | 47.58 | Fundamental | Vertical | 168 | 20 | -- | -- | -- |
| #4 | 15621.06 | 51.66 | 5.56 | -3.40 | 53.82 | Max Peak | Vertical | 106 | 160 | 68.2 | -14.4 | Pass |
| #5 | 15621.06 | 38.23 | 5.56 | -3.40 | 40.39 | Max Avg | Vertical | 106 | 160 | 54.0 | -13.6 | Pass |

Note: click the links in the above matrix to view the graphical image (plot).


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

**Equipment Configuration for Restricted Band Spurious Emissions**

| | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11a |
| **Antenna Gain (dBi):** | 4.0 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5200.00 | **Data Rate:** | 6 Mbit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 1000.00 - 18000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #1 | 2660.21 | 65.84 | 2.10 | -12.18 | 55.76 | Max Peak | Vertical | 197 | 270 | 68.2 | -12.5 | Pass |
| #2 | 2660.21 | 46.54 | 2.10 | -12.18 | 36.46 | Max Avg | Vertical | 197 | 270 | 54.0 | -17.5 | Pass |
| #3 | 3426.39 | 53.14 | 2.43 | -12.09 | 43.48 | Peak (NRB) | Vertical | 151 | 0 | -- | -- | Pass |
| #4 | 5207.92 | 58.42 | 2.99 | -12.39 | 49.02 | Fundamental | Vertical | 151 | 23 | -- | -- | |
| #5 | 10308.87 | 47.11 | 4.53 | -5.19 | 46.45 | Peak (NRB) | Vertical | 151 | 23 | -- | -- | Pass |
| #6 | 15600.23 | 59.96 | 5.56 | -3.69 | 61.83 | Max Peak | Vertical | 156 | 190 | 68.2 | -6.4 | Pass |
| #7 | 15600.23 | 46.43 | 5.56 | -3.69 | 48.30 | Max Avg | Vertical | 156 | 190 | 54.0 | -5.7 | Pass |

Note: click the links in the above matrix to view the graphical image (plot).


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

**Equipment Configuration for Restricted Band Spurious Emissions**

| | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11a |
| **Antenna Gain (dBi):** | 4.0 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5240.00 | **Data Rate:** | 6 Mbit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 1000.00 - 18000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #1 | 2656.93 | 69.08 | 2.10 | -12.25 | 58.93 | Max Peak | Vertical | 153 | 203 | 68.2 | -9.3 | Pass |
| #2 | 2656.93 | 47.94 | 2.10 | -12.25 | 37.79 | Max Avg | Vertical | 153 | 203 | 54.0 | -16.2 | Pass |
| #3 | 3480.38 | 58.99 | 2.46 | -12.09 | 49.36 | Max Peak | Vertical | 158 | 232 | 68.2 | -18.9 | Pass |
| #4 | 3480.38 | 49.38 | 2.46 | -12.09 | 39.75 | Max Avg | Vertical | 158 | 232 | 54.0 | -14.3 | Pass |
| #5 | 5215.90 | 64.73 | 2.98 | -12.31 | 55.40 | Fundamental | Vertical | 151 | 142 | -- | -- | |
| #6 | 10440.27 | 54.49 | 4.70 | -4.90 | 54.29 | Max Peak | Vertical | 182 | 185 | 68.2 | -13.9 | Pass |
| #7 | 10440.27 | 41.49 | 4.70 | -4.90 | 41.29 | Max Avg | Vertical | 182 | 185 | 54.0 | -12.7 | Pass |
| #8 | 15656.08 | 60.60 | 5.43 | -3.20 | 62.83 | Max Peak | Horizontal | 158 | 169 | 68.2 | -5.4 | Pass |
| #9 | 15656.08 | 46.23 | 5.43 | -3.20 | 48.46 | Max Avg | Horizontal | 158 | 169 | 54.0 | -5.5 | Pass |
| #10 | 15656.08 | 61.83 | 5.43 | -3.20 | 64.06 | Max Peak | Vertical | 154 | 162 | 68.2 | -4.2 | Pass |
| #11 | 15656.08 | 47.85 | 5.43 | -3.20 | 50.08 | Max Avg | Vertical | 154 | 162 | 54.0 | -3.9 | Pass |

Note: click the links in the above matrix to view the graphical image (plot).



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

| Equipment Configuration for Restricted Band Spurious Emissions | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11a |
| **Antenna Gain (dBi):** | 4.0 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5260.00 | **Data Rate:** | 6 Mbit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 1000.00 - 18000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #1 | 2659.57 | 68.04 | 2.10 | -12.21 | 57.93 | Max Peak | Vertical | 178 | 271 | 68.2 | -10.3 | Pass |
| #2 | 2659.57 | 48.09 | 2.10 | -12.21 | 37.98 | Max Avg | Vertical | 178 | 271 | 54.0 | -16.0 | Pass |
| #3 | 5262.29 | 66.29 | 2.90 | -12.24 | 56.95 | Fundamental | Vertical | 200 | 167 | -- | -- | Pass |
| #4 | 10516.10 | 56.12 | 4.45 | -5.00 | 55.57 | Max Peak | Vertical | 181 | 179 | 68.2 | -12.7 | Pass |
| #5 | 10516.10 | 42.89 | 4.45 | -5.00 | 42.34 | Max Avg | Vertical | 181 | 179 | 54.0 | -11.7 | Pass |
| #6 | 15783.42 | 62.41 | 5.61 | -2.71 | 65.31 | Max Peak | Vertical | 160 | 165 | 68.2 | -2.9 | Pass |
| #7 | 15783.42 | 46.43 | 5.61 | -2.71 | 49.33 | Max Avg | Vertical | 160 | 165 | 54.0 | -4.7 | Pass |
| #8 | 15783.42 | 62.54 | 5.61 | -2.71 | 65.44 | Max Peak | Horizontal | 164 | 166 | 68.2 | -2.8 | Pass |
| #9 | 15783.42 | 46.41 | 5.61 | -2.71 | 49.31 | Max Avg | Horizontal | 164 | 166 | 54.0 | -4.7 | Pass |

Note: click the links in the above matrix to view the graphical image (plot).


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

**Equipment Configuration for Restricted Band Spurious Emissions**

| | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11a |
| **Antenna Gain (dBi):** | 4.0 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5300.00 | **Data Rate:** | 6 Mbit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 1000.00 - 18000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #1 | 1191.36 | 65.99 | 1.42 | -17.07 | 50.34 | Max Peak | Vertical | 102 | 85 | 68.2 | -17.9 | Pass |
| #2 | 1191.36 | 41.09 | 1.42 | -17.07 | 25.44 | Max Avg | Vertical | 102 | 85 | 54.0 | -28.6 | Pass |
| #3 | 2657.04 | 67.70 | 2.10 | -12.25 | 57.55 | Max Peak | Vertical | 168 | 274 | 68.2 | -10.7 | Pass |
| #4 | 2657.04 | 46.41 | 2.10 | -12.25 | 36.26 | Max Avg | Vertical | 168 | 274 | 54.0 | -17.7 | Pass |
| #5 | 3534.04 | 53.42 | 2.46 | -11.95 | 43.93 | Max Peak | Vertical | 160 | 297 | 68.2 | -24.3 | Pass |
| #6 | 3534.04 | 39.92 | 2.46 | -11.95 | 30.43 | Max Avg | Vertical | 160 | 297 | 54.0 | -23.6 | Pass |
| #7 | 5302.33 | 65.59 | 3.06 | -11.97 | 56.68 | Fundamental | Vertical | 200 | 164 | -- | -- | |
| #8 | 10603.87 | 57.55 | 4.44 | -4.93 | 57.06 | Max Peak | Vertical | 194 | 177 | 68.2 | -11.2 | Pass |
| #9 | 10603.87 | 43.85 | 4.44 | -4.93 | 43.36 | Max Avg | Vertical | 194 | 177 | 54.0 | -10.6 | Pass |
| #10 | 15902.78 | 59.00 | 5.71 | -2.56 | 62.15 | Max Peak | Vertical | 152 | 172 | 68.2 | -6.1 | Pass |
| #11 | 15902.78 | 43.67 | 5.71 | -2.56 | 46.82 | Max Avg | Vertical | 152 | 172 | 54.0 | -7.2 | Pass |
| #12 | 15902.78 | 59.60 | 5.71 | -2.56 | 62.75 | Max Peak | Horizontal | 162 | 174 | 68.2 | -5.5 | Pass |
| #13 | 15902.78 | 46.42 | 5.71 | -2.56 | 49.57 | Max Avg | Horizontal | 162 | 174 | 54.0 | -4.4 | Pass |

Note: click the links in the above matrix to view the graphical image (plot).



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

| Equipment Configuration for Restricted Band Spurious Emissions | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11a |
| **Antenna Gain (dBi):** | 4.0 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5320.00 | **Data Rate:** | 6 Mbit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 1000.00 - 18000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #1 | 2656.82 | 66.78 | 2.10 | -12.25 | 56.63 | Max Peak | Vertical | 171 | 275 | 68.2 | -11.6 | Pass |
| #2 | 2656.82 | 45.87 | 2.10 | -12.25 | 35.72 | Max Avg | Vertical | 171 | 275 | 54.0 | -18.3 | Pass |
| #3 | 5312.75 | 63.48 | 3.01 | -11.99 | 54.50 | Fundamental | Vertical | 200 | 168 | -- | -- | |
| #4 | 10637.36 | 55.51 | 4.46 | -4.48 | 55.49 | Max Peak | Vertical | 187 | 185 | 68.2 | -12.7 | Pass |
| #5 | 10637.36 | 41.66 | 4.46 | -4.48 | 41.64 | Max Avg | Vertical | 187 | 185 | 54.0 | -12.4 | Pass |
| #6 | 15967.38 | 59.06 | 5.55 | -2.31 | 62.30 | Max Peak | Horizontal | 163 | 178 | 68.2 | -5.9 | Pass |
| #7 | 15967.38 | 45.71 | 5.55 | -2.31 | 48.95 | Max Avg | Horizontal | 163 | 178 | 54.0 | -5.1 | Pass |
| #8 | 15967.38 | 56.26 | 5.55 | -2.31 | 59.50 | Max Peak | Vertical | 156 | 170 | 68.2 | -8.7 | Pass |
| #9 | 15967.38 | 42.38 | 5.55 | -2.31 | 45.62 | Max Avg | Vertical | 156 | 170 | 54.0 | -8.4 | Pass |

Note: click the links in the above matrix to view the graphical image (plot).


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

| Equipment Configuration for Restricted Band Spurious Emissions | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11a |
| **Antenna Gain (dBi):** | 4.0 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5500.00 | **Data Rate:** | 6 Mbit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 1000.00 - 18000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #1 | 2663.75 | 67.18 | 2.09 | -12.11 | 57.16 | Max Peak | Vertical | 192 | 275 | 68.2 | -11.1 | Pass |
| #2 | 2663.75 | 47.84 | 2.09 | -12.11 | 37.82 | Max Avg | Vertical | 192 | 275 | 54.0 | -16.2 | Pass |
| #3 | 3324.76 | 54.23 | 2.39 | -12.09 | 44.53 | Peak (NRB) | Vertical | 153 | 175 | -- | -- | Pass |
| #4 | 5500.86 | 50.28 | 3.05 | -11.64 | 41.69 | Fundamental | Vertical | 153 | 175 | -- | -- | |
| #5 | 7333.33 | 55.36 | 3.57 | -8.09 | 50.84 | Max Peak | Vertical | 196 | 194 | 68.2 | -17.4 | Pass |
| #6 | 7333.33 | 49.00 | 3.57 | -8.09 | 44.48 | Max Avg | Vertical | 196 | 194 | 54.0 | -9.5 | Pass |
| #7 | 16184.88 | 50.32 | 5.68 | -1.61 | 54.39 | Max Peak | Vertical | 141 | 151 | 68.2 | -13.8 | Pass |
| #8 | 16184.88 | 36.42 | 5.68 | -1.61 | 40.49 | Max Avg | Vertical | 141 | 151 | 54.0 | -13.5 | Pass |

Note: click the links in the above matrix to view the graphical image (plot).


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

| Equipment Configuration for Restricted Band Spurious Emissions | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11a |
| **Antenna Gain (dBi):** | 4.0 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5600.00 | **Data Rate:** | 6 Mbit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 1000.00 - 18000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #1 | 2657.04 | 60.36 | 2.10 | -12.25 | 50.21 | Peak (NRB) | Vertical | 200 | 176 | -- | -- | Pass |
| #2 | 5607.19 | 59.29 | 3.09 | -11.43 | 50.95 | Fundamental | Horizontal | 200 | 176 | -- | -- | |
| #3 | 7467.02 | 55.45 | 3.69 | -8.00 | 51.14 | Max Peak | Horizontal | 197 | 208 | 68.2 | -17.1 | Pass |
| #4 | 7467.02 | 48.65 | 3.69 | -8.00 | 44.34 | Max Avg | Horizontal | 197 | 208 | 54.0 | -9.7 | Pass |
| #5 | 11199.70 | 54.26 | 4.55 | -4.77 | 54.04 | Max Peak | Vertical | 173 | 178 | 68.2 | -14.2 | Pass |
| #6 | 11199.70 | 41.05 | 4.55 | -4.77 | 40.83 | Max Avg | Vertical | 173 | 178 | 54.0 | -13.2 | Pass |
| #7 | 16817.59 | 50.52 | 5.78 | -0.28 | 56.02 | Max Peak | Horizontal | 174 | 206 | 68.2 | -12.2 | Pass |
| #8 | 16817.59 | 35.11 | 5.78 | -0.28 | 40.61 | Max Avg | Horizontal | 174 | 206 | 54.0 | -13.4 | Pass |

Note: click the links in the above matrix to view the graphical image (plot).


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

**Equipment Configuration for Restricted Band Spurious Emissions**

| | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11a |
| **Antenna Gain (dBi):** | 4.0 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5700.00 | **Data Rate:** | 6 Mbit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 1000.00 - 18000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #1 | 2660.83 | 67.24 | 2.10 | -12.18 | 57.16 | Max Peak | Vertical | 162 | 279 | 68.2 | -11.1 | Pass |
| #2 | 2660.83 | 47.13 | 2.10 | -12.18 | 37.05 | Max Avg | Vertical | 162 | 279 | 54.0 | -17.0 | Pass |
| #3 | 3546.75 | 50.96 | 2.45 | -11.94 | 41.47 | Peak (NRB) | Vertical | 144 | 179 | -- | -- | Pass |
| #4 | 5706.37 | 55.38 | 3.15 | -11.35 | 47.18 | Peak (NRB) | Horizontal | 144 | 179 | -- | -- | Pass |
| #5 | 7601.14 | 49.63 | 3.69 | -7.91 | 45.41 | Max Peak | Horizontal | 183 | 16 | 68.2 | -22.8 | Pass |
| #6 | 7601.14 | 36.04 | 3.69 | -7.91 | 31.82 | Max Avg | Horizontal | 183 | 16 | 54.0 | -22.2 | Pass |
| #7 | 11398.71 | 59.67 | 4.51 | -5.73 | 58.45 | Max Peak | Vertical | 175 | 175 | 68.2 | -9.8 | Pass |
| #8 | 11398.71 | 44.62 | 4.51 | -5.73 | 43.40 | Max Avg | Vertical | 175 | 175 | 54.0 | -10.6 | Pass |
| #9 | 15700.71 | 51.61 | 5.71 | -3.16 | 54.16 | Max Peak | Horizontal | 189 | 218 | 68.2 | -14.1 | Pass |
| #10 | 15700.71 | 38.04 | 5.71 | -3.16 | 40.59 | Max Avg | Horizontal | 189 | 218 | 54.0 | -13.4 | Pass |

Note: click the links in the above matrix to view the graphical image (plot).


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

**Equipment Configuration for Restricted Band Spurious Emissions**

| | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11a |
| **Antenna Gain (dBi):** | 4.0 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5745.00 | **Data Rate:** | 6 Mbit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 1000.00 - 18000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #1 | 2657.15 | 66.78 | 2.10 | -12.25 | 56.63 | Max Peak | Vertical | 198 | 288 | 68.2 | -11.6 | Pass |
| #2 | 2657.15 | 45.92 | 2.10 | -12.25 | 35.77 | Max Avg | Vertical | 198 | 288 | 54.0 | -18.2 | Pass |
| #3 | 3429.02 | 52.24 | 2.42 | -12.09 | 42.57 | Peak (NRB) | Vertical | 110 | 180 | -- | -- | Pass |
| #4 | 7912.77 | 48.00 | 3.91 | -7.89 | 44.02 | Peak (NRB) | Vertical | 110 | 180 | -- | -- | Pass |
| #5 | 11487.54 | 58.99 | 4.69 | -5.64 | 58.04 | Max Peak | Vertical | 168 | 170 | 68.2 | -10.2 | Pass |
| #6 | 11487.54 | 46.39 | 4.69 | -5.64 | 45.44 | Max Avg | Vertical | 168 | 170 | 54.0 | -8.6 | Pass |
| #7 | 16407.73 | 49.21 | 5.80 | -0.86 | 54.15 | Max Peak | Vertical | 186 | 36 | 68.2 | -14.1 | Pass |
| #8 | 16407.73 | 36.05 | 5.80 | -0.86 | 40.99 | Max Avg | Vertical | 186 | 36 | 54.0 | -13.0 | Pass |

Note: click the links in the above matrix to view the graphical image (plot).


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

| Equipment Configuration for Restricted Band Spurious Emissions | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11a |
| **Antenna Gain (dBi):** | 4.0 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5785.00 | **Data Rate:** | 6 Mbit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 1000.00 - 18000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #1 | 2657.20 | 67.30 | 2.10 | -12.25 | 57.15 | Max Peak | Vertical | 191 | 282 | 68.2 | -11.1 | Pass |
| #2 | 2657.20 | 46.87 | 2.10 | -12.25 | 36.72 | Max Avg | Vertical | 191 | 282 | 54.0 | -17.3 | Pass |
| #3 | 7714.05 | 50.25 | 3.70 | -7.79 | 46.16 | Max Peak | Horizontal | 191 | 3 | 68.2 | -22.1 | Pass |
| #4 | 7714.05 | 37.67 | 3.70 | -7.79 | 33.58 | Max Avg | Horizontal | 191 | 3 | 54.0 | -20.4 | Pass |
| #5 | 11570.25 | 61.05 | 4.40 | -5.56 | 59.89 | Max Peak | Vertical | 173 | 177 | 68.2 | -8.3 | Pass |
| #6 | 11570.25 | 47.70 | 4.40 | -5.56 | 46.54 | Max Avg | Vertical | 173 | 177 | 54.0 | -7.5 | Pass |

Note: click the links in the above matrix to view the graphical image (plot).


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

**Equipment Configuration for Restricted Band Spurious Emissions**

| | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11a |
| **Antenna Gain (dBi):** | 4.0 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5825.00 | **Data Rate:** | 6 Mbit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 1000.00 - 18000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #1 | 1192.99 | 67.27 | 1.42 | -17.05 | 51.64 | Max Peak | Vertical | 128 | 255 | 68.2 | -16.6 | Pass |
| #2 | 1192.99 | 42.16 | 1.42 | -17.05 | 26.53 | Max Avg | Vertical | 128 | 255 | 54.0 | -27.5 | Pass |
| #3 | 2660.69 | 66.45 | 2.10 | -12.18 | 56.37 | Max Peak | Vertical | 105 | 267 | 68.2 | -11.9 | Pass |
| #4 | 2660.69 | 46.83 | 2.10 | -12.18 | 36.75 | Max Avg | Vertical | 105 | 267 | 54.0 | -17.3 | Pass |
| #5 | 4657.28 | 60.64 | 2.82 | -12.45 | 51.01 | Max Peak | Vertical | 118 | 258 | 68.2 | -17.2 | Pass |
| #6 | 4657.28 | 39.44 | 2.82 | -12.45 | 29.81 | Max Avg | Vertical | 118 | 258 | 54.0 | -24.2 | Pass |
| #7 | 7795.04 | 49.14 | 3.68 | -7.65 | 45.17 | Peak (NRB) | Vertical | 115 | 177 | -- | -- | Pass |
| #8 | 11651.19 | 60.87 | 4.90 | -5.67 | 60.10 | Max Peak | Vertical | 178 | 182 | 68.2 | -8.1 | Pass |
| #9 | 11651.19 | 47.38 | 4.90 | -5.67 | 46.61 | Max Avg | Vertical | 178 | 182 | 54.0 | -7.4 | Pass |
| #10 | 11651.19 | 58.18 | 4.90 | -5.67 | 57.41 | Max Peak | Horizontal | 169 | 156 | 68.2 | -10.8 | Pass |
| #11 | 11651.19 | 45.37 | 4.90 | -5.67 | 44.60 | Max Avg | Horizontal | 169 | 156 | 54.0 | -9.4 | Pass |



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

## 9.1.2. Restricted Edge & Band-Edge Emissions

5150 - 5250 MHz

| | | Band-Edge Freq | Limit 68.2dBµV/m | Limit 54.0dBµV/m | Power Setting |
|---|---|---|---|---|---|
| Mode | Operating Frequency (MHz) | MHz | dBµV/m | dBµV/m | |
| 802.11a | 5180.00 | 5150.00 | 65.07 | 52.19 | Max |
| 802.11n HT20 | 5180.00 | 5150.00 | 64.80 | 52.19 | Max |
| 802.11n HT40 | 5190.00 | 5150.00 | 64.81 | 52.31 | Max |
| 802.11ac 80 | 5210.00 | 5150.00 | 64.63 | 51.54 | Max |

5250 - 5350 MHz

| ⁰ | | Band-Edge Freq | Limit 68.2dBµV/m | Limit 54.0dBµV/m | Power Setting |
|---|---|---|---|---|---|
| Mode | Operating Frequency (MHz) | MHz | dBµV/m | dBµV/m | |
| 802.11a | 5320.00 | 5350.00 | 65.29 | 53.61 | Max |
| 802.11n HT20 | 5320.00 | 5350.00 | 66.66 | 53.61 | Max |
| 802.11n HT40 | 5310.00 | 5350.00 | 65.67 | 53.61 | Max |
| 802.11ac 80 | 5290.00 | 5350.00 | 66.34 | 53.61 | Max |

5470 - 5725 MHz

| | | Band-Edge Freq | Limit 68.2dBµV/m | Limit 54.0dBµV/m | Power Setting |
|---|---|---|---|---|---|
| Mode | Operating Frequency (MHz) | MHz | dBµV/m | dBµV/m | |
| 802.11a | 5180.00 | 5150.00 | 66.19 | 53.60 | Max |
| 802.11n HT20 | 5180.00 | 5150.00 | 67.10 | 53.61 | Max |
| 802.11n HT40 | 5190.00 | 5150.00 | 66.46 | 53.61 | Max |
| 802.11ac 80 | 5210.00 | 5150.00 | 66.35 | 53.61 | Max |

Click on the links to view the data.


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

5725 MHz Radiated Lower Band-Edge Emissions

| º | | Band-Edge Freq | Limit 115.4 dBµV/m | Limit 68.2 dBµV/m | Power Setting |
|---|---|---|---|---|---|
| Mode | Operating Frequency (MHz) | dBµV/m | dBµV/m | dBµV/m | |
| 802.11a | 5745.00 | 5725.00 | 67.97 | 67.41 | Max |
| 802.11n HT20 | 5745.00 | 5725.00 | 67.56 | 66.87 | Max |
| 802.11n HT40 | 5755.00 | 5725.00 | 67.75 | 65.49 | Max |
| 802.11ac 80 | 5775.00 | 5725.00 | 67.06 | 65.95 | Max |

5850 MHz Radiated Higher Band-Edge Emissions

| º | | Band-Edge Freq | Limit 109.7 dBµV/m | Limit 68.2 dBµV/m | Power Setting |
|---|---|---|---|---|---|
| Mode | Operating Frequency (MHz) | MHz | dBµV/m | dBµV/m | |
| 802.11a | 5825.00 | 5850.00 | 67.06 | 67.40 | Max |
| 802.11n HT20 | 5825.00 | 5850.00 | 67.78 | 67.56 | Max |
| 802.11n HT40 | 5795.00 | 5850.00 | 67.73 | 67.78 | Max |
| 802.11ac 80 | 5775.00 | 5850.00 | 67.89 | 67.27 | Max |

Click on the links to view the data.


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

| Equipment Configuration for 5150 MHz Radiated Band-Edge Emissions | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11a |
| **Antenna Gain (dBi):** | 4.00 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5180.00 | **Data Rate:** | 6 Mbit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 4500.00 - 5250.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #1 | 5124.45 | 27.96 | 2.95 | 34.16 | 65.07 | Max Peak | Vertical | 168 | 301 | 68.2 | -3.2 | Pass |
| #2 | 5150.00 | 15.05 | 2.93 | 34.21 | 52.19 | Max Avg | Vertical | 168 | 301 | 54.0 | -1.8 | Pass |
| #3 | 5150.00 | -- | -- | -- | -- | Restricted-Band | -- | -- | -- | -- | -- | -- |

Note: click the links in the above matrix to view the graphical image (plot).


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

**Equipment Configuration for 5150 MHz Radiated Band-Edge Emissions**

| | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11n ht20 |
| **Antenna Gain (dBi):** | 4.00 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5180.00 | **Data Rate:** | 6.5 Mbit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 4500.00 - 5250.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #1 | 5128.96 | 27.67 | 2.96 | 34.17 | 64.80 | Max Peak | Vertical | 0 | 0 | 68.2 | -3.4 | Pass |
| #2 | 5150.00 | 15.05 | 2.93 | 34.21 | 52.19 | Max Avg | Vertical | 0 | 0 | 54.0 | -1.8 | Pass |
| #3 | 5150.00 | -- | -- | -- | -- | Restricted-Band | -- | -- | -- | -- | -- | -- |

Note: click the links in the above matrix to view the graphical image (plot).



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

| Equipment Configuration for 5150 MHz Radiated Band-Edge Emissions | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11n ht40 |
| **Antenna Gain (dBi):** | 4.00 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5190.00 | **Data Rate:** | 13.5 MBit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 4500.00 - 5250.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #1 | 5116.93 | 15.04 | 2.94 | 34.15 | 52.13 | Max Avg | Vertical | 168 | 297 | 54.0 | -1.9 | Pass |
| #2 | 5137.98 | 27.63 | 2.99 | 34.19 | 64.81 | Max Peak | Vertical | 168 | 297 | 68.2 | -3.4 | Pass |
| #3 | 5150.00 | -- | -- | -- | -- | Restricted-Band | -- | -- | -- | -- | -- | -- |

Note: click the links in the above matrix to view the graphical image (plot).


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

**Equipment Configuration for 5150 MHz Radiated Band-Edge Emissions**

| | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11ac 80 |
| **Antenna Gain (dBi):** | 4.00 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5210.00 | **Data Rate:** | 29.30 MBit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 4500.00 - 5280.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #1 | 5118.74 | 27.53 | 2.95 | 34.15 | 64.63 | Max Peak | Vertical | 168 | 297 | 68.2 | -3.6 | Pass |
| #2 | 5150.00 | 14.40 | 2.93 | 34.21 | 51.54 | Max Avg | Vertical | 168 | 297 | 54.0 | -2.5 | Pass |
| #3 | 5150.00 | -- | -- | -- | -- | Restricted-Band | -- | -- | -- | -- | -- | -- |

Note: click the links in the above matrix to view the graphical image (plot).



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

**Equipment Configuration for 5350 MHz Radiated Band-Edge Emissions**

| | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11a |
| **Antenna Gain (dBi):** | 4.00 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5320.00 | **Data Rate:** | 6 MBit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 5300.00 - 5460.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #2 | 5404.53 | 27.70 | 3.06 | 34.53 | 65.29 | Max Peak | Vertical | 165 | 296 | 68.2 | -2.9 | Pass |
| #3 | 5455.83 | 16.04 | 3.05 | 34.52 | 53.61 | Max Avg | Vertical | 165 | 296 | 54.0 | -0.4 | Pass |
| #1 | 5350.00 | -- | -- | -- | -- | Restricted-Band | -- | -- | -- | -- | -- | -- |

Note: click the links in the above matrix to view the graphical image (plot).



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

| Equipment Configuration for 5350 MHz Radiated Band-Edge Emissions | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11n HT20 |
| **Antenna Gain (dBi):** | 4.00 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5320.00 | **Data Rate:** | 6.5 MBit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 5300.00 - 5460.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #2 | 5435.95 | 29.01 | 3.14 | 34.51 | 66.66 | Max Peak | Vertical | 162 | 296 | 68.2 | -1.6 | Pass |
| #3 | 5460.00 | 16.02 | 3.06 | 34.53 | 53.61 | Max Avg | Vertical | 162 | 296 | 54.0 | -0.4 | Pass |
| #1 | 5350.00 | -- | -- | -- | -- | Restricted-Band | -- | -- | -- | -- | -- | -- |

Note: click the links in the above matrix to view the graphical image (plot).


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

| Equipment Configuration for 5350 MHz Radiated Band-Edge Emissions | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11n HT40 |
| **Antenna Gain (dBi):** | 4.00 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5310.00 | **Data Rate:** | 13.5 MBit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 5300.00 - 5460.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #2 | 5397.15 | 28.01 | 3.13 | 34.53 | 65.67 | Max Peak | Vertical | 162 | 296 | 68.2 | -2.6 | Pass |
| #3 | 5455.25 | 16.05 | 3.05 | 34.51 | 53.61 | Max Avg | Vertical | 162 | 296 | 54.0 | -0.4 | Pass |
| #1 | 5350.00 | -- | -- | -- | -- | Restricted-Band | -- | -- | -- | -- | -- | -- |

Note: click the links in the above matrix to view the graphical image (plot).


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

**Equipment Configuration for 5350 MHz Radiated Band-Edge Emissions**

| | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11ac 80 |
| **Antenna Gain (dBi):** | 4.00 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5290.00 | **Data Rate:** | 29.3 MBit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 5300.00 - 5460.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #2 | 5442.69 | 28.75 | 3.09 | 34.50 | 66.34 | Max Peak | Vertical | 162 | 296 | 68.2 | -1.9 | Pass |
| #3 | 5456.79 | 16.04 | 3.05 | 34.52 | 53.61 | Max Avg | Vertical | 162 | 296 | 54.0 | -0.4 | Pass |
| #1 | 5350.00 | -- | -- | -- | -- | Restricted-Band | -- | -- | -- | -- | -- | -- |

Note: click the links in the above matrix to view the graphical image (plot).



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

**Equipment Configuration for 5460 MHz Radiated Band-Edge Emissions**

| | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11a |
| **Antenna Gain (dBi):** | 4.00 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5500.00 | **Data Rate:** | 6 MBit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 5350.00 - 5500.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #1 | 5451.28 | 16.04 | 3.06 | 34.50 | 53.60 | Max Avg | Vertical | 171 | 294 | 54.0 | -0.4 | Pass |
| #3 | 5460.19 | 28.97 | 3.69 | 34.53 | 66.19 | Max Peak | Vertical | 171 | 294 | 68.2 | -2.0 | Pass |
| #2 | 5460.00 | -- | -- | -- | -- | Restricted-Band | -- | -- | -- | -- | -- | -- |
| #4 | 5470.00 | -- | -- | -- | -- | Band-Edge | -- | -- | -- | -- | -- | -- |

Note: click the links in the above matrix to view the graphical image (plot).



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

| Equipment Configuration for 5460 MHz Radiated Band-Edge Emissions | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11n HT20 |
| **Antenna Gain (dBi):** | 4.00 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5500.00 | **Data Rate:** | 6.5 MBit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 5350.00 - 5500.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #1 | 5454.29 | 16.05 | 3.05 | 34.51 | 53.61 | Max Avg | Vertical | 171 | 294 | 54.0 | -0.4 | Pass |
| #3 | 5467.84 | 29.51 | 3.04 | 34.55 | 67.10 | Max Peak | Vertical | 171 | 294 | 68.2 | -1.1 | Pass |
| #2 | 5460.00 | -- | -- | -- | -- | Restricted-Band | -- | -- | -- | -- | -- | -- |
| #4 | 5470.00 | -- | -- | -- | -- | Band-Edge | -- | -- | -- | -- | -- | -- |

Note: click the links in the above matrix to view the graphical image (plot).


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

| Equipment Configuration for 5460 MHz Radiated Band-Edge Emissions | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11n HT40 |
| **Antenna Gain (dBi):** | 4.00 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5510.00 | **Data Rate:** | 6.5 MBit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 5350.00 - 5500.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #1 | 5454.89 | 16.05 | 3.05 | 34.51 | 53.61 | Max Avg | Vertical | 171 | 294 | 54.0 | -0.4 | Pass |
| #3 | 5469.94 | 29.51 | 3.04 | 34.55 | 66.46 | Max Peak | Vertical | 171 | 294 | 68.2 | -1.8 | Pass |
| #2 | 5460.00 | -- | -- | -- | -- | Restricted-Band | -- | -- | -- | -- | -- | -- |
| #4 | 5470.00 | -- | -- | -- | -- | Band-Edge | -- | -- | -- | -- | -- | -- |

Note: click the links in the above matrix to view the graphical image (plot).


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

| Equipment Configuration for 5460 MHz Radiated Band-Edge Emissions | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11ac80 |
| **Antenna Gain (dBi):** | 4.00 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5530.00 | **Data Rate:** | 29.3 MBit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 5350.00 - 5500.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #1 | 5456.41 | 16.04 | 3.05 | 34.52 | 53.61 | Max Avg | Horizontal | 171 | 294 | 54.0 | -0.4 | Pass |
| #3 | 5469.60 | 28.76 | 3.04 | 34.55 | 66.35 | Max Peak | Horizontal | 171 | 294 | 68.2 | -1.9 | Pass |
| #2 | 5460.00 | -- | -- | -- | -- | Restricted-Band | -- | -- | -- | -- | -- | -- |
| #4 | 5470.00 | -- | -- | -- | -- | Band-Edge | -- | -- | -- | -- | -- | -- |

Note: click the links in the above matrix to view the graphical image (plot).


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

| Equipment Configuration for 5725 Radiated Band-Edge Emissions |
|---|

| | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11a |
| **Antenna Gain (dBi):** | 4.0 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5745.00 | **Data Rate:** | 6 Mbit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 5600.00 - 5780.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #1 | 5620.39 | 30.20 | 3.12 | 34.65 | 67.97 | Max Peak | Vertical | 0 | 0 | 68.2 | -0.3 | Pass |
| #2 | 5722.21 | 29.48 | 3.21 | 34.72 | 67.41 | Max Peak | Vertical | 0 | 0 | 115.4 | -48.0 | Pass |
| #3 | 5725.00 | -- | -- | -- | -- | Band-Edge | -- | -- | -- | -- | -- | -- |

Note: click the links in the above matrix to view the graphical image (plot).



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

| Equipment Configuration for 5725 Radiated Band-Edge Emissions | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11n HT20 |
| **Antenna Gain (dBi):** | 4.00 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5745.00 | **Data Rate:** | 6.5 MBit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 5600.00 - 5780.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #1 | 5602.35 | 29.81 | 3.10 | 34.65 | 67.56 | Max Peak | Vertical | 0 | 0 | 68.2 | -0.7 | Pass |
| #2 | 5713.92 | 29.02 | 3.15 | 34.70 | 66.87 | Max Peak | Vertical | 0 | 0 | 109.1 | -42.3 | Pass |
| #3 | 5725.00 | -- | -- | -- | -- | Band-Edge | -- | -- | -- | -- | -- | -- |

Note: click the links in the above matrix to view the graphical image (plot).



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.

MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

| Equipment Configuration for 5725 Radiated Band-Edge Emissions |
|---|

| | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11n HT40 |
| **Antenna Gain (dBi):** | 4.00 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5755.00 | **Data Rate:** | 13.5 MBit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 5600.00 - 5780.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #1 | 5610.29 | 30.00 | 3.10 | 34.65 | 67.75 | Max Peak | Horizontal | 156 | 364 | 68.2 | -0.5 | Pass |
| #2 | 5715.00 | 27.62 | 3.16 | 34.71 | 65.49 | Max Peak | Horizontal | 156 | 364 | 109.4 | -43.9 | Pass |
| #3 | 5725.00 | -- | -- | -- | -- | Band-Edge | -- | -- | -- | -- | -- | -- |

Note: click the links in the above matrix to view the graphical image (plot).



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

| Equipment Configuration for 5725 Radiated Band-Edge Emissions | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11ac80 |
| **Antenna Gain (dBi):** | 4.00 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5775.00 | **Data Rate:** | 29.3 MBit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 5600.00 - 5780.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #1 | 5616.78 | 29.30 | 3.11 | 34.65 | 67.06 | Max Peak | Horizontal | 156 | 364 | 68.2 | -1.2 | Pass |
| #2 | 5715.00 | 28.08 | 3.16 | 34.71 | 65.95 | Max Peak | Horizontal | 156 | 364 | 109.4 | -43.5 | Pass |
| #3 | 5725.00 | -- | -- | -- | -- | Band-Edge | -- | -- | -- | -- | -- | -- |

Note: click the links in the above matrix to view the graphical image (plot).


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

| Equipment Configuration for 5850 Radiated Band-Edge Emissions | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11a |
| **Antenna Gain (dBi):** | 4.00 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5825.00 | **Data Rate:** | 6 MBit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 5770.00 - 6000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #2 | 5858.62 | 28.90 | 3.18 | 34.98 | 67.06 | Max Peak | Horizontal | 159 | 358 | 109.7 | -42.6 | Pass |
| #3 | 5967.54 | 29.07 | 3.17 | 35.16 | 67.40 | Max Peak | Horizontal | 159 | 358 | 68.2 | -0.8 | Pass |
| #1 | 5850.00 | -- | -- | -- | -- | Band-Edge | -- | -- | -- | -- | -- | -- |

Note: click the links in the above matrix to view the graphical image (plot).


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

| Equipment Configuration for 5850 Radiated Band-Edge Emissions |
|---|

| | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11n HT20 |
| **Antenna Gain (dBi):** | 4.00 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5825.00 | **Data Rate:** | 6.5 MBit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 5770.00 - 6000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #2 | 5864.61 | 29.58 | 3.20 | 35.00 | 67.78 | Max Peak | Horizontal | 159 | 358 | 108.0 | -40.2 | Pass |
| #3 | 5967.07 | 29.23 | 3.17 | 35.16 | 67.56 | Max Peak | Horizontal | 159 | 358 | 68.2 | -0.7 | Pass |
| #1 | 5850.00 | -- | -- | -- | -- | Band-Edge | -- | -- | -- | -- | -- | -- |

Note: click the links in the above matrix to view the graphical image (plot).


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

| Equipment Configuration for 5850 Radiated Band-Edge Emissions | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11n HT40 |
| **Antenna Gain (dBi):** | 4.00 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5795.00 | **Data Rate:** | 13.5 MBit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 5770.00 - 6000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #2 | 5859.54 | 29.56 | 3.18 | 34.99 | 67.73 | Max Peak | Horizontal | 159 | 358 | 109.4 | -41.7 | Pass |
| #3 | 5985.36 | 29.35 | 3.23 | 35.20 | 67.78 | Max Peak | Horizontal | 159 | 358 | 68.2 | -0.5 | Pass |
| #1 | 5850.00 | -- | -- | -- | -- | Band-Edge | -- | -- | -- | -- | -- | -- |

Note: click the links in the above matrix to view the graphical image (plot).


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

| Equipment Configuration for 5850 Radiated Band-Edge Emissions | | | |
|---|---|---|---|
| **Antenna:** | Integral | **Variant:** | 802.11ac80 |
| **Antenna Gain (dBi):** | 4.00 | **Modulation:** | OFDM |
| **Beam Forming Gain (Y):** | Not Applicable | **Duty Cycle (%):** | 99 |
| **Channel Frequency (MHz):** | 5775.00 | **Data Rate:** | 29.3 MBit/s |
| **Power Setting:** | Max | **Tested By:** | SB |

**Test Measurement Results**

| 5770.00 - 6000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| #2 | 5867.37 | 29.67 | 3.21 | 35.01 | 67.89 | Max Peak | Horizontal | 159 | 358 | 107.4 | -39.6 | Pass |
| #3 | 5991.50 | 28.80 | 3.25 | 35.22 | 67.27 | Max Peak | Horizontal | 159 | 358 | 68.2 | -1.0 | Pass |
| #1 | 5850.00 | -- | -- | -- | -- | Band-Edge | -- | -- | -- | -- | -- | -- |

Note: click the links in the above matrix to view the graphical image (plot).


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

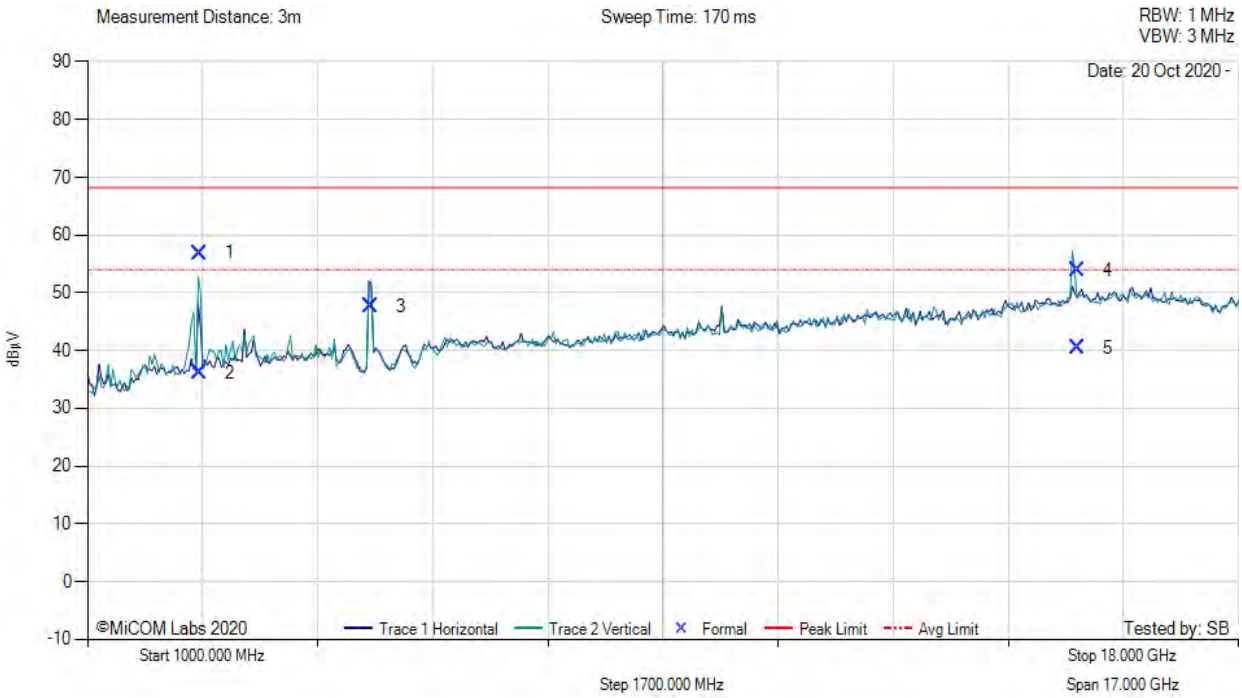
# A. APPENDIX - GRAPHICAL IMAGES


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

## A.1.1. Radiated Emissions

### A.1.1.1. TX Spurious & Restricted Band Emissions

Variant: 802.11a, Test Freq: 5180.00 MHz, Power Setting: Max, Duty Cycle (%): 99

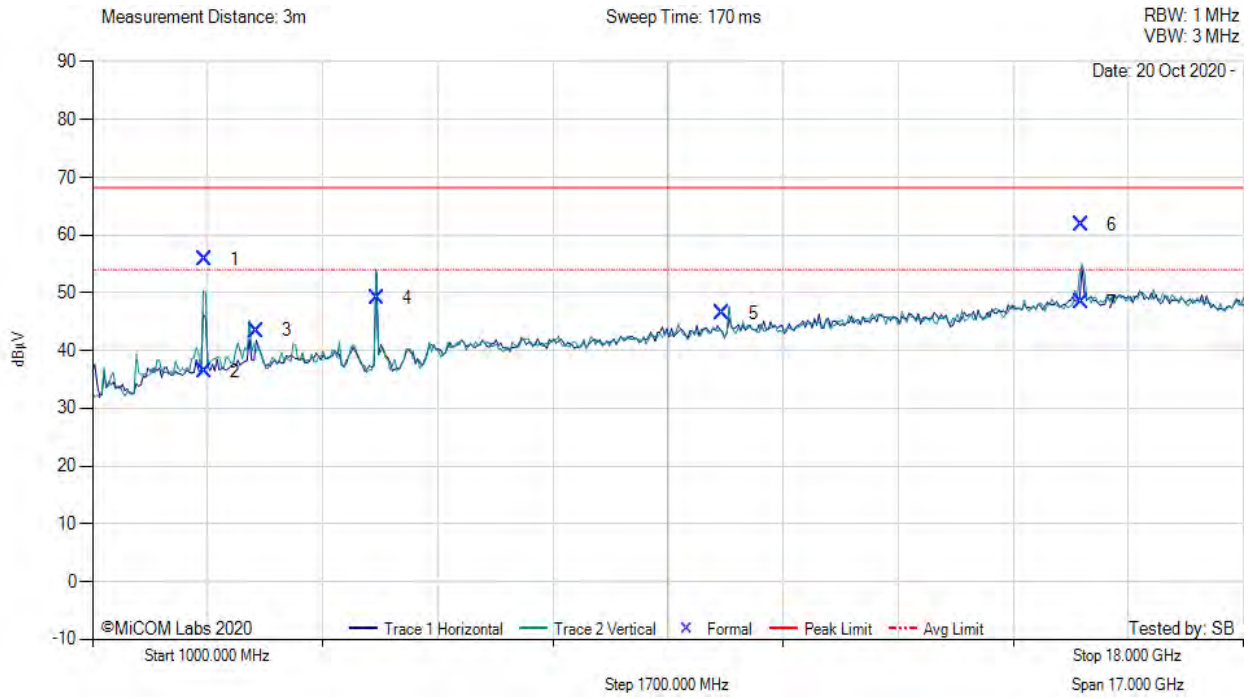



| 1000.00 - 18000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 1 | 2661.50 | 66.95 | 2.10 | -12.16 | 56.89 | Max Peak | Vertical | 101 | 273 | 68.2 | -11.3 | Pass |
| 2 | 2661.50 | 46.17 | 2.10 | -12.16 | 36.11 | Max Avg | Vertical | 101 | 273 | 54.0 | -17.9 | Pass |
| 3 | 5179.10 | 56.74 | 2.98 | -12.14 | 47.58 | Fundamental | Vertical | 168 | 20 | -- | -- | Pass |
| 4 | 15621.06 | 51.66 | 5.56 | -3.40 | 53.82 | Max Peak | Vertical | 106 | 160 | 68.2 | -14.4 | Pass |
| 5 | 15621.06 | 38.23 | 5.56 | -3.40 | 40.39 | Max Avg | Vertical | 106 | 160 | 54.0 | -13.6 | Pass |

back to matrix


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11a, Test Freq: 5200.00 MHz, Power Setting: Max, Duty Cycle (%): 99



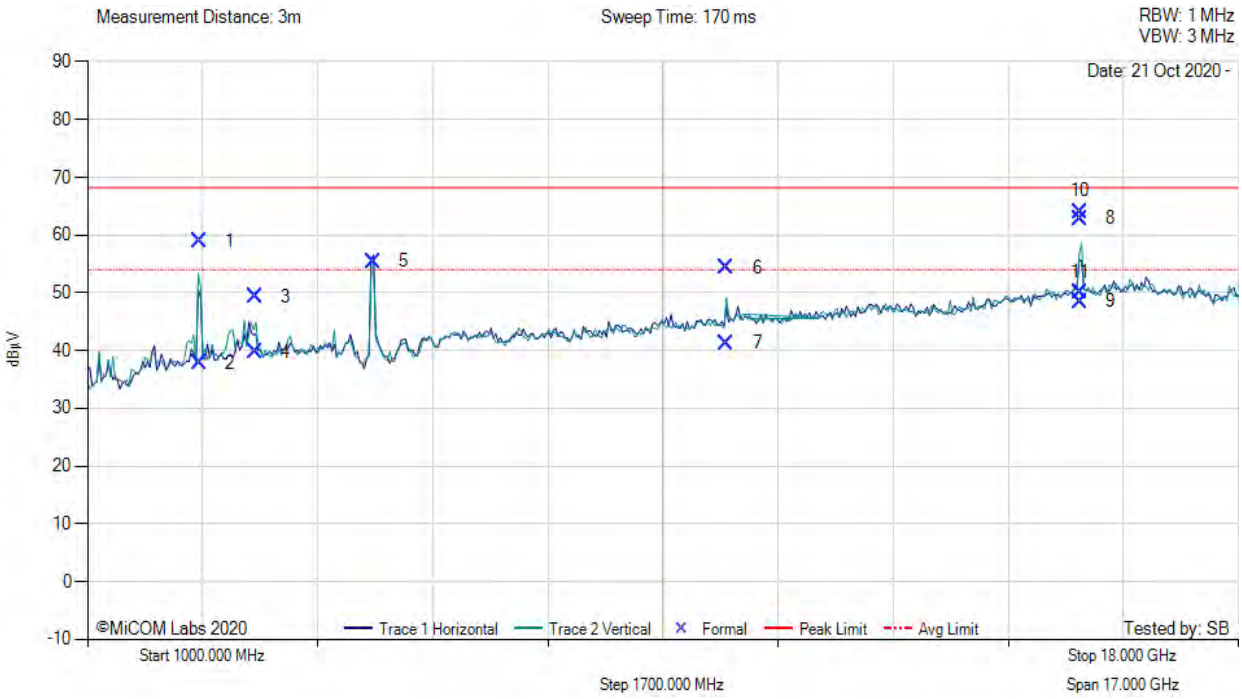

| 1000.00 - 18000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 1 | 2660.21 | 65.84 | 2.10 | -12.18 | 55.76 | Max Peak | Vertical | 197 | 270 | 68.2 | -12.5 | Pass |
| 2 | 2660.21 | 46.54 | 2.10 | -12.18 | 36.46 | Max Avg | Vertical | 197 | 270 | 54.0 | -17.5 | Pass |
| 3 | 3426.39 | 53.14 | 2.43 | -12.09 | 43.48 | Peak (NRB) | Vertical | 151 | 0 | -- | -- | Pass |
| 4 | 5207.92 | 58.42 | 2.99 | -12.39 | 49.02 | Fundamental | Vertical | 151 | 23 | -- | -- | |
| 5 | 10308.87 | 47.11 | 4.53 | -5.19 | 46.45 | Peak (NRB) | Vertical | 151 | 23 | -- | -- | Pass |
| 6 | 15600.23 | 59.96 | 5.56 | -3.69 | 61.83 | Max Peak | Vertical | 156 | 190 | 68.2 | -6.4 | Pass |
| 7 | 15600.23 | 46.43 | 5.56 | -3.69 | 48.30 | Max Avg | Vertical | 156 | 190 | 54.0 | -5.7 | Pass |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11a, Test Freq: 5240.00 MHz, Power Setting: Max, Duty Cycle (%): 99



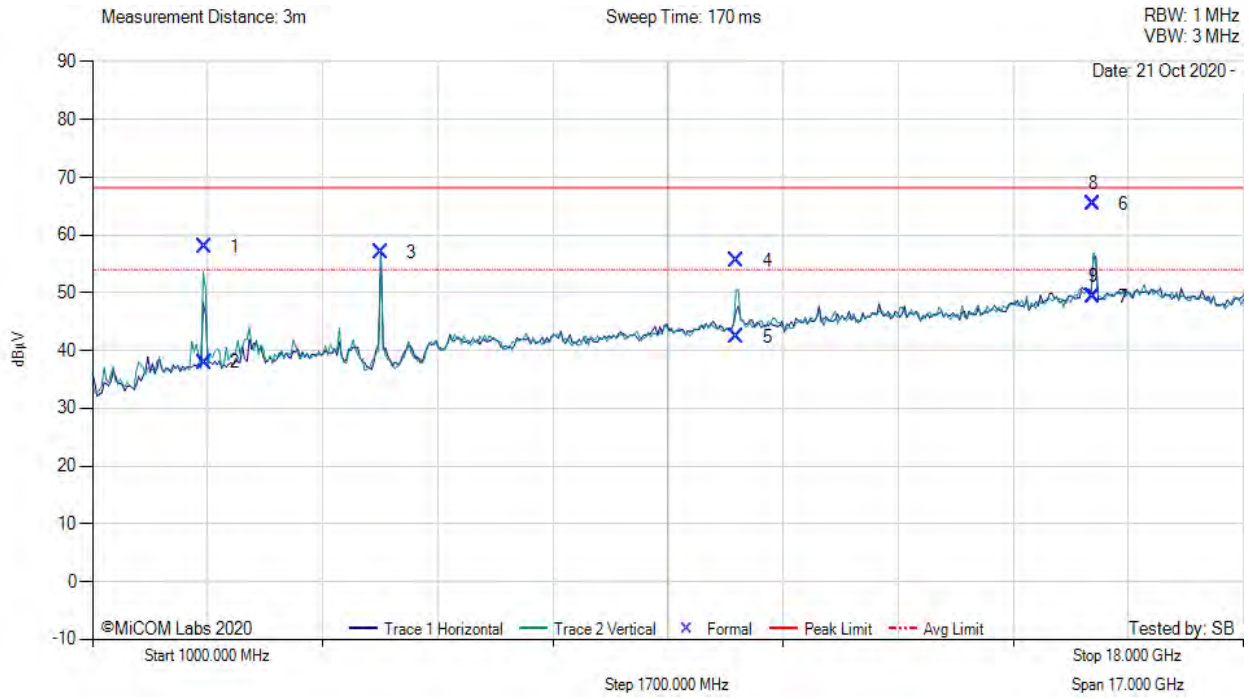

| 1000.00 - 18000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 1 | 2656.93 | 69.08 | 2.10 | -12.25 | 58.93 | Max Peak | Vertical | 153 | 203 | 68.2 | -9.3 | Pass |
| 2 | 2656.93 | 47.94 | 2.10 | -12.25 | 37.79 | Max Avg | Vertical | 153 | 203 | 54.0 | -16.2 | Pass |
| 3 | 3480.38 | 58.99 | 2.46 | -12.09 | 49.36 | Max Peak | Vertical | 158 | 232 | 68.2 | -18.9 | Pass |
| 4 | 3480.38 | 49.38 | 2.46 | -12.09 | 39.75 | Max Avg | Vertical | 158 | 232 | 54.0 | -14.3 | Pass |
| 5 | 5215.90 | 64.73 | 2.98 | -12.31 | 55.40 | Fundamental | Vertical | 151 | 142 | -- | -- | |
| 6 | 10440.27 | 54.49 | 4.70 | -4.90 | 54.29 | Max Peak | Vertical | 182 | 185 | 68.2 | -13.9 | Pass |
| 7 | 10440.27 | 41.49 | 4.70 | -4.90 | 41.29 | Max Avg | Vertical | 182 | 185 | 54.0 | -12.7 | Pass |
| 8 | 15656.08 | 60.60 | 5.43 | -3.20 | 62.83 | Max Peak | Horizontal | 158 | 169 | 68.2 | -5.4 | Pass |
| 9 | 15656.08 | 46.23 | 5.43 | -3.20 | 48.46 | Max Avg | Horizontal | 158 | 169 | 54.0 | -5.5 | Pass |
| 10 | 15656.08 | 61.83 | 5.43 | -3.20 | 64.06 | Max Peak | Vertical | 154 | 162 | 68.2 | -4.2 | Pass |
| 11 | 15656.08 | 47.85 | 5.43 | -3.20 | 50.08 | Max Avg | Vertical | 154 | 162 | 54.0 | -3.9 | Pass |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11a, Test Freq: 5260.00 MHz, Power Setting: Max, Duty Cycle (%): 99



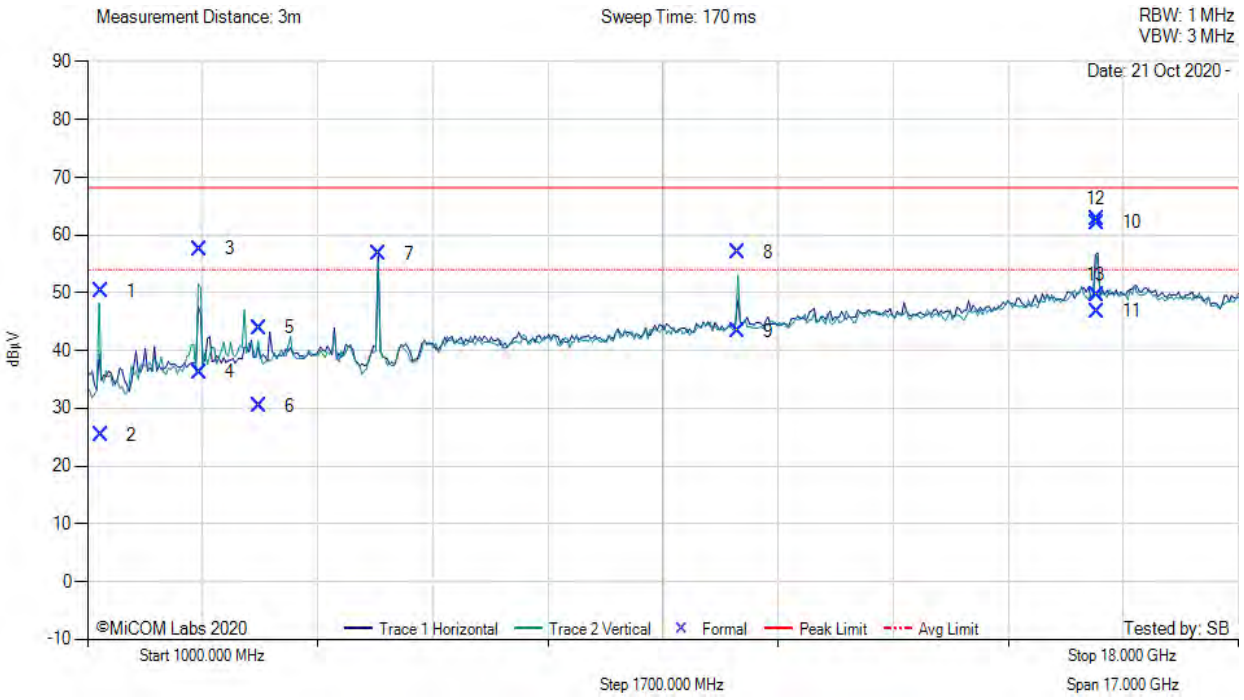

| 1000.00 - 18000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 1 | 2659.57 | 68.04 | 2.10 | -12.21 | 57.93 | Max Peak | Vertical | 178 | 271 | 68.2 | -10.3 | Pass |
| 2 | 2659.57 | 48.09 | 2.10 | -12.21 | 37.98 | Max Avg | Vertical | 178 | 271 | 54.0 | -16.0 | Pass |
| 3 | 5262.29 | 66.29 | 2.90 | -12.24 | 56.95 | Fundamental | Vertical | 200 | 167 | -- | -- | |
| 4 | 10516.10 | 56.12 | 4.45 | -5.00 | 55.57 | Max Peak | Vertical | 181 | 179 | 68.2 | -12.7 | Pass |
| 5 | 10516.10 | 42.89 | 4.45 | -5.00 | 42.34 | Max Avg | Vertical | 181 | 179 | 54.0 | -11.7 | Pass |
| 6 | 15783.42 | 62.41 | 5.61 | -2.71 | 65.31 | Max Peak | Vertical | 160 | 165 | 68.2 | -2.9 | Pass |
| 7 | 15783.42 | 46.43 | 5.61 | -2.71 | 49.33 | Max Avg | Vertical | 160 | 165 | 54.0 | -4.7 | Pass |
| 8 | 15783.42 | 62.54 | 5.61 | -2.71 | 65.44 | Max Peak | Horizontal | 164 | 166 | 68.2 | -2.8 | Pass |
| 9 | 15783.42 | 46.41 | 5.61 | -2.71 | 49.31 | Max Avg | Horizontal | 164 | 166 | 54.0 | -4.7 | Pass |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11a, Test Freq: 5300.00 MHz, Power Setting: Max, Duty Cycle (%): 99

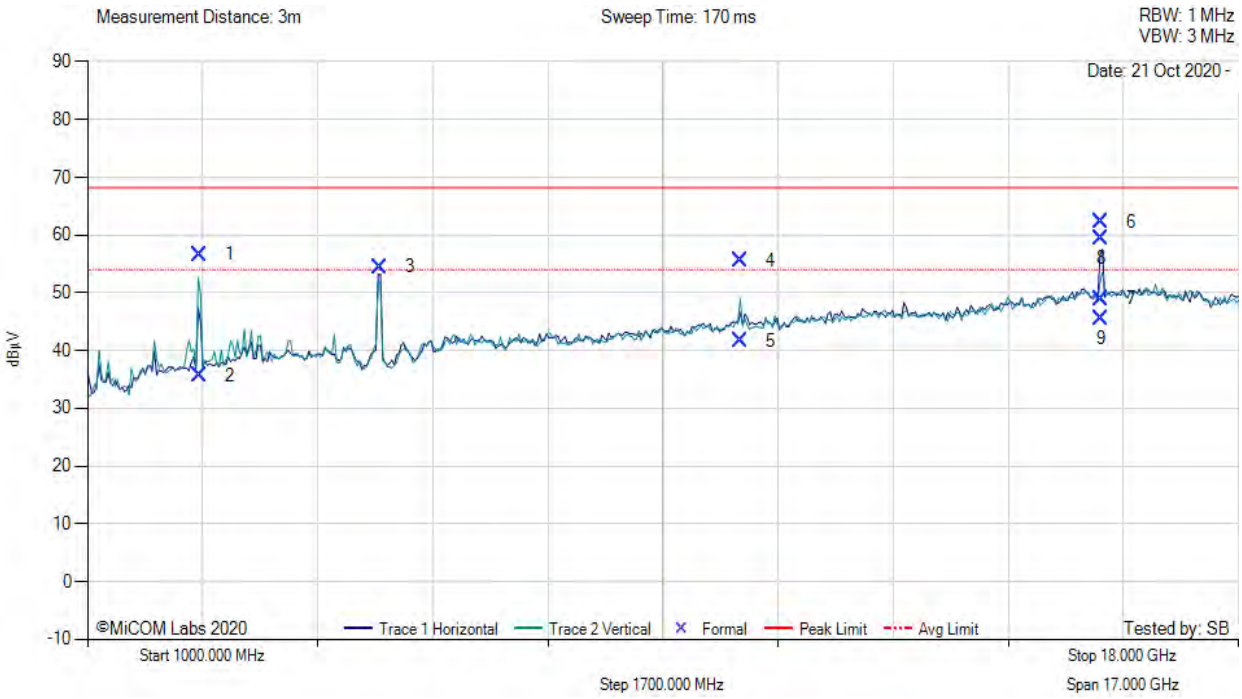



| 1000.00 - 18000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 1 | 1191.36 | 65.99 | 1.42 | -17.07 | 50.34 | Max Peak | Vertical | 102 | 85 | 68.2 | -17.9 | Pass |
| 2 | 1191.36 | 41.09 | 1.42 | -17.07 | 25.44 | Max Avg | Vertical | 102 | 85 | 54.0 | -28.6 | Pass |
| 3 | 2657.04 | 67.70 | 2.10 | -12.25 | 57.55 | Max Peak | Vertical | 168 | 274 | 68.2 | -10.7 | Pass |
| 4 | 2657.04 | 46.41 | 2.10 | -12.25 | 36.26 | Max Avg | Vertical | 168 | 274 | 54.0 | -17.7 | Pass |
| 5 | 3534.04 | 53.42 | 2.46 | -11.95 | 43.93 | Max Peak | Vertical | 160 | 297 | 68.2 | -24.3 | Pass |
| 6 | 3534.04 | 39.92 | 2.46 | -11.95 | 30.43 | Max Avg | Vertical | 160 | 297 | 54.0 | -23.6 | Pass |
| 7 | 5302.33 | 65.59 | 3.06 | -11.97 | 56.68 | Fundamental | Vertical | 200 | 164 | -- | -- | |
| 8 | 10603.87 | 57.55 | 4.44 | -4.93 | 57.06 | Max Peak | Vertical | 194 | 177 | 68.2 | -11.2 | Pass |
| 9 | 10603.87 | 43.85 | 4.44 | -4.93 | 43.36 | Max Avg | Vertical | 194 | 177 | 54.0 | -10.6 | Pass |
| 10 | 15902.78 | 59.00 | 5.71 | -2.56 | 62.15 | Max Peak | Vertical | 152 | 172 | 68.2 | -6.1 | Pass |
| 11 | 15902.78 | 43.67 | 5.71 | -2.56 | 46.82 | Max Avg | Vertical | 152 | 172 | 54.0 | -7.2 | Pass |
| 12 | 15902.78 | 59.60 | 5.71 | -2.56 | 62.75 | Max Peak | Horizontal | 162 | 174 | 68.2 | -5.5 | Pass |
| 13 | 15902.78 | 46.42 | 5.71 | -2.56 | 49.57 | Max Avg | Horizontal | 162 | 174 | 54.0 | -4.4 | Pass |

back to matrix


This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11a, Test Freq: 5320.00 MHz, Power Setting: Max, Duty Cycle (%): 99



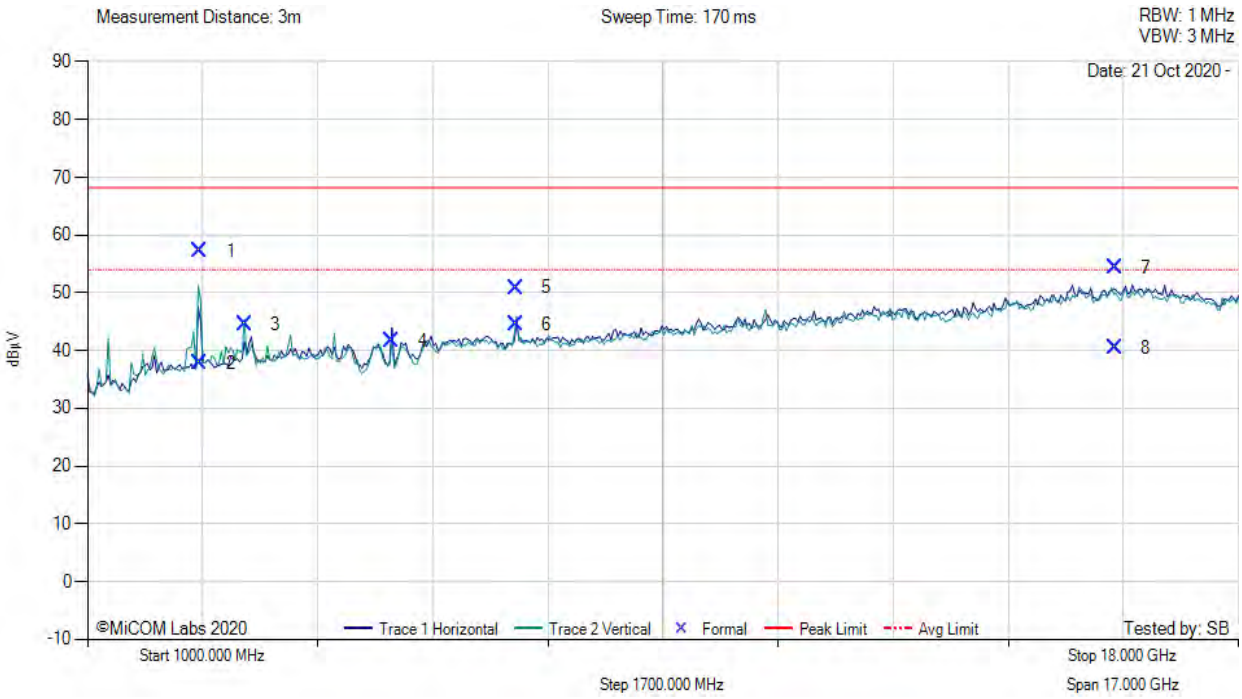

| 1000.00 - 18000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 1 | 2656.82 | 66.78 | 2.10 | -12.25 | 56.63 | Max Peak | Vertical | 171 | 275 | 68.2 | -11.6 | Pass |
| 2 | 2656.82 | 45.87 | 2.10 | -12.25 | 35.72 | Max Avg | Vertical | 171 | 275 | 54.0 | -18.3 | Pass |
| 3 | 5312.75 | 63.48 | 3.01 | -11.99 | 54.50 | Fundamental | Vertical | 200 | 168 | -- | -- | |
| 4 | 10637.36 | 55.51 | 4.46 | -4.48 | 55.49 | Max Peak | Vertical | 187 | 185 | 68.2 | -12.7 | Pass |
| 5 | 10637.36 | 41.66 | 4.46 | -4.48 | 41.64 | Max Avg | Vertical | 187 | 185 | 54.0 | -12.4 | Pass |
| 6 | 15967.38 | 59.06 | 5.55 | -2.31 | 62.30 | Max Peak | Horizontal | 163 | 178 | 68.2 | -5.9 | Pass |
| 7 | 15967.38 | 45.71 | 5.55 | -2.31 | 48.95 | Max Avg | Horizontal | 163 | 178 | 54.0 | -5.1 | Pass |
| 8 | 15967.38 | 56.26 | 5.55 | -2.31 | 59.50 | Max Peak | Vertical | 156 | 170 | 68.2 | -8.7 | Pass |
| 9 | 15967.38 | 42.38 | 5.55 | -2.31 | 45.62 | Max Avg | Vertical | 156 | 170 | 54.0 | -8.4 | Pass |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11a, Test Freq: 5500.00 MHz, Power Setting: Max, Duty Cycle (%): 99



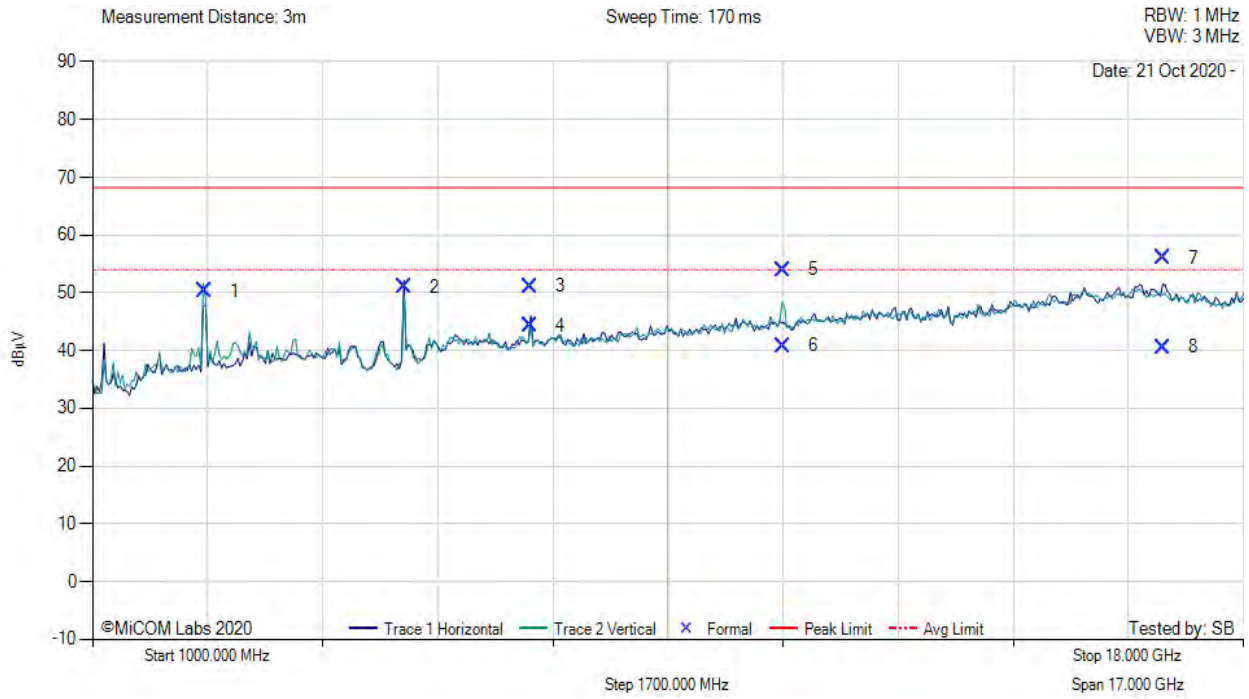

| 1000.00 - 18000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 1 | 2663.75 | 67.18 | 2.09 | -12.11 | 57.16 | Max Peak | Vertical | 192 | 275 | 68.2 | -11.1 | Pass |
| 2 | 2663.75 | 47.84 | 2.09 | -12.11 | 37.82 | Max Avg | Vertical | 192 | 275 | 54.0 | -16.2 | Pass |
| 3 | 3324.76 | 54.23 | 2.39 | -12.09 | 44.53 | Peak (NRB) | Vertical | 153 | 175 | -- | -- | Pass |
| 4 | 5500.86 | 50.28 | 3.05 | -11.64 | 41.69 | Fundamental | Vertical | 153 | 175 | -- | -- | |
| 5 | 7333.33 | 55.36 | 3.57 | -8.09 | 50.84 | Max Peak | Vertical | 196 | 194 | 68.2 | -17.4 | Pass |
| 6 | 7333.33 | 49.00 | 3.57 | -8.09 | 44.48 | Max Avg | Vertical | 196 | 194 | 54.0 | -9.5 | Pass |
| 7 | 16184.88 | 50.32 | 5.68 | -1.61 | 54.39 | Max Peak | Vertical | 141 | 151 | 68.2 | -13.8 | Pass |
| 8 | 16184.88 | 36.42 | 5.68 | -1.61 | 40.49 | Max Avg | Vertical | 141 | 151 | 54.0 | -13.5 | Pass |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11a, Test Freq: 5600.00 MHz, Power Setting: Max, Duty Cycle (%): 99



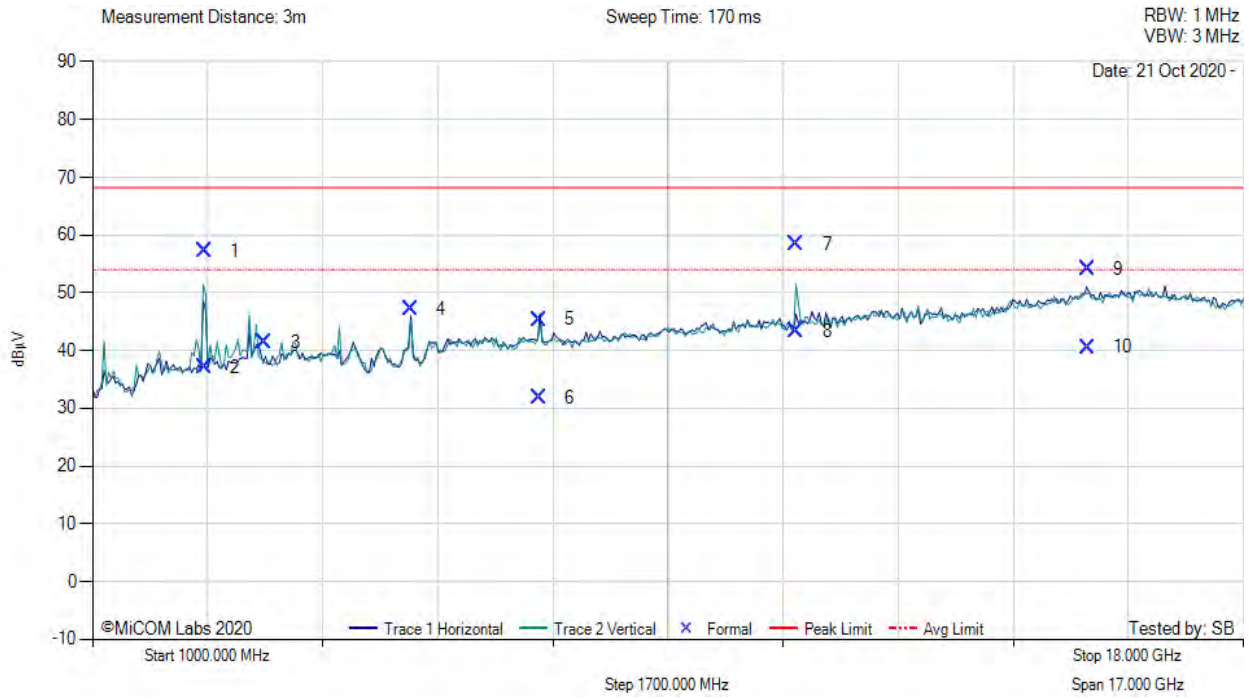

| 1000.00 - 18000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 1 | 2657.04 | 60.36 | 2.10 | -12.25 | 50.21 | Peak (NRB) | Vertical | 200 | 176 | -- | -- | Pass |
| 2 | 5607.19 | 59.29 | 3.09 | -11.43 | 50.95 | Fundamental | Horizontal | 200 | 176 | -- | -- | |
| 3 | 7467.02 | 55.45 | 3.69 | -8.00 | 51.14 | Max Peak | Horizontal | 197 | 208 | 68.2 | -17.1 | Pass |
| 4 | 7467.02 | 48.65 | 3.69 | -8.00 | 44.34 | Max Avg | Horizontal | 197 | 208 | 54.0 | -9.7 | Pass |
| 5 | 11199.70 | 54.26 | 4.55 | -4.77 | 54.04 | Max Peak | Vertical | 173 | 178 | 68.2 | -14.2 | Pass |
| 6 | 11199.70 | 41.05 | 4.55 | -4.77 | 40.83 | Max Avg | Vertical | 173 | 178 | 54.0 | -13.2 | Pass |
| 7 | 16817.59 | 50.52 | 5.78 | -0.28 | 56.02 | Max Peak | Horizontal | 174 | 206 | 68.2 | -12.2 | Pass |
| 8 | 16817.59 | 35.11 | 5.78 | -0.28 | 40.61 | Max Avg | Horizontal | 174 | 206 | 54.0 | -13.4 | Pass |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11a, Test Freq: 5700.00 MHz, Power Setting: Max, Duty Cycle (%): 99



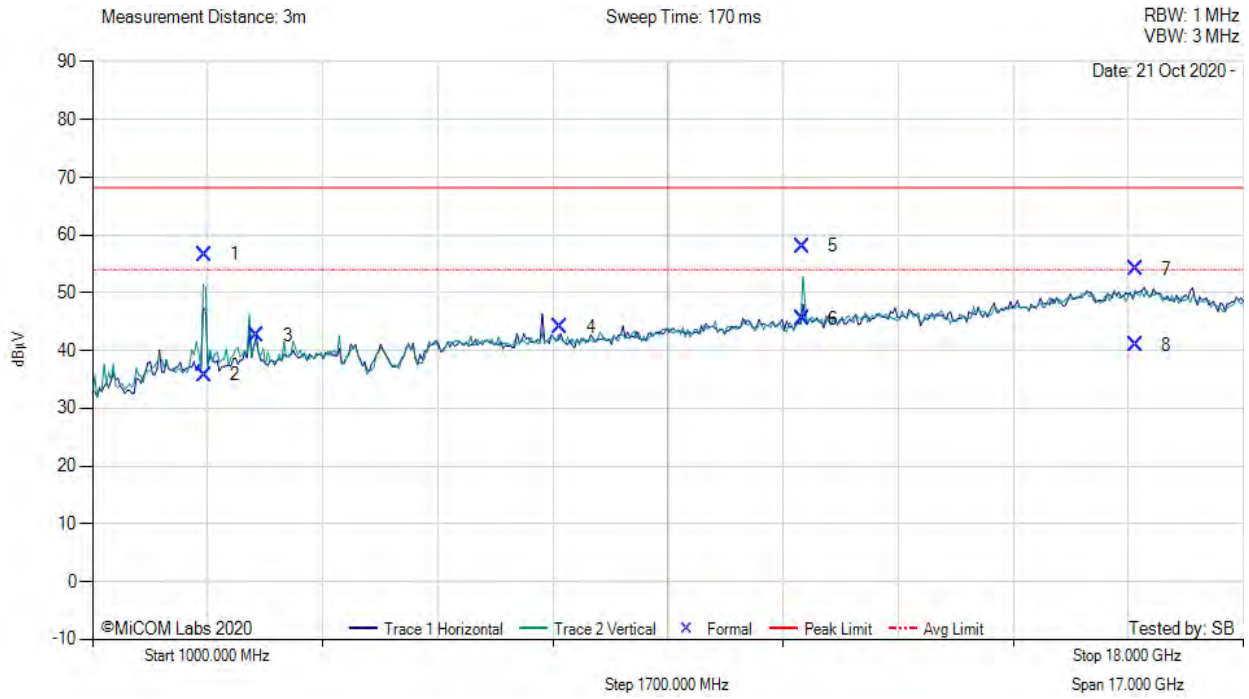

| 1000.00 - 18000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 1 | 2660.83 | 67.24 | 2.10 | -12.18 | 57.16 | Max Peak | Vertical | 162 | 279 | 68.2 | -11.1 | Pass |
| 2 | 2660.83 | 47.13 | 2.10 | -12.18 | 37.05 | Max Avg | Vertical | 162 | 279 | 54.0 | -17.0 | Pass |
| 3 | 3546.75 | 50.96 | 2.45 | -11.94 | 41.47 | Peak (NRB) | Vertical | 144 | 179 | -- | -- | Pass |
| 4 | 5706.37 | 55.38 | 3.15 | -11.35 | 47.18 | Fundamental | Horizontal | 144 | 179 | -- | -- | |
| 5 | 7601.14 | 49.63 | 3.69 | -7.91 | 45.41 | Max Peak | Horizontal | 183 | 16 | 68.2 | -22.8 | Pass |
| 6 | 7601.14 | 36.04 | 3.69 | -7.91 | 31.82 | Max Avg | Horizontal | 183 | 16 | 54.0 | -22.2 | Pass |
| 7 | 11398.71 | 59.67 | 4.51 | -5.73 | 58.45 | Max Peak | Vertical | 175 | 175 | 68.2 | -9.8 | Pass |
| 8 | 11398.71 | 44.62 | 4.51 | -5.73 | 43.40 | Max Avg | Vertical | 175 | 175 | 54.0 | -10.6 | Pass |
| 9 | 15700.71 | 51.61 | 5.71 | -3.16 | 54.16 | Max Peak | Horizontal | 189 | 218 | 68.2 | -14.1 | Pass |
| 10 | 15700.71 | 38.04 | 5.71 | -3.16 | 40.59 | Max Avg | Horizontal | 189 | 218 | 54.0 | -13.4 | Pass |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11a, Test Freq: 5745.00 MHz, Power Setting: Max, Duty Cycle (%): 99



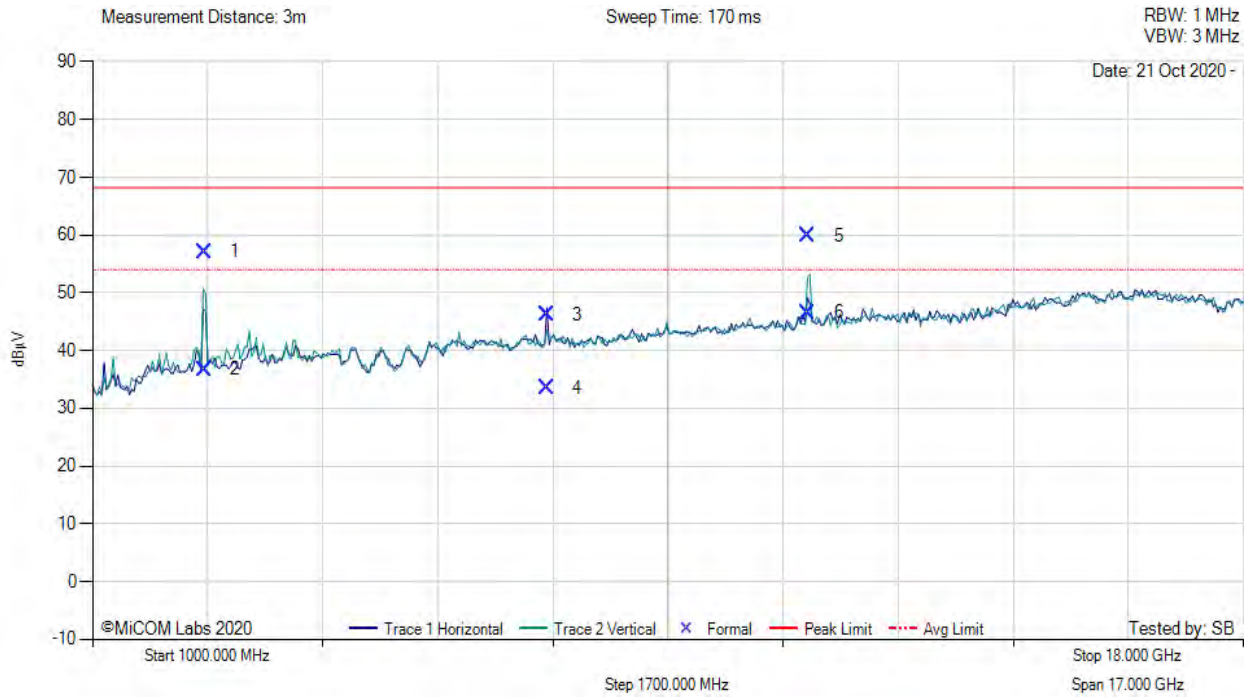

| 1000.00 - 18000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 1 | 2657.15 | 66.78 | 2.10 | -12.25 | 56.63 | Max Peak | Vertical | 198 | 288 | 68.2 | -11.6 | Pass |
| 2 | 2657.15 | 45.92 | 2.10 | -12.25 | 35.77 | Max Avg | Vertical | 198 | 288 | 54.0 | -18.2 | Pass |
| 3 | 3429.02 | 52.24 | 2.42 | -12.09 | 42.57 | Peak (NRB) | Vertical | 110 | 180 | -- | -- | Pass |
| 4 | 7912.77 | 48.00 | 3.91 | -7.89 | 44.02 | Peak (NRB) | Vertical | 110 | 180 | -- | -- | Pass |
| 5 | 11487.54 | 58.99 | 4.69 | -5.64 | 58.04 | Max Peak | Vertical | 168 | 170 | 68.2 | -10.2 | Pass |
| 6 | 11487.54 | 46.39 | 4.69 | -5.64 | 45.44 | Max Avg | Vertical | 168 | 170 | 54.0 | -8.6 | Pass |
| 7 | 16407.73 | 49.21 | 5.80 | -0.86 | 54.15 | Max Peak | Vertical | 186 | 36 | 68.2 | -14.1 | Pass |
| 8 | 16407.73 | 36.05 | 5.80 | -0.86 | 40.99 | Max Avg | Vertical | 186 | 36 | 54.0 | -13.0 | Pass |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11a, Test Freq: 5785.00 MHz, Power Setting: Max, Duty Cycle (%): 99



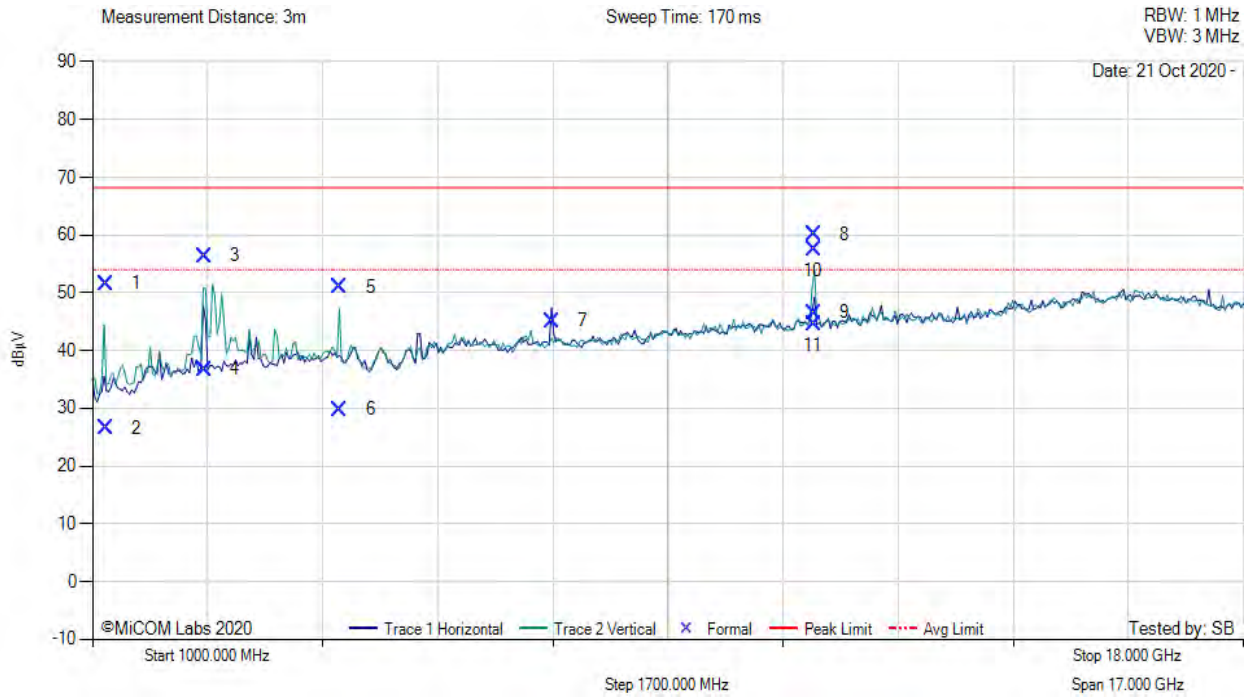

| 1000.00 - 18000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 1 | 2657.20 | 67.30 | 2.10 | -12.25 | 57.15 | Max Peak | Vertical | 191 | 282 | 68.2 | -11.1 | Pass |
| 2 | 2657.20 | 46.87 | 2.10 | -12.25 | 36.72 | Max Avg | Vertical | 191 | 282 | 54.0 | -17.3 | Pass |
| 3 | 7714.05 | 50.25 | 3.70 | -7.79 | 46.16 | Max Peak | Horizontal | 191 | 3 | 68.2 | -22.1 | Pass |
| 4 | 7714.05 | 37.67 | 3.70 | -7.79 | 33.58 | Max Avg | Horizontal | 191 | 3 | 54.0 | -20.4 | Pass |
| 5 | 11570.25 | 61.05 | 4.40 | -5.56 | 59.89 | Max Peak | Vertical | 173 | 177 | 68.2 | -8.3 | Pass |
| 6 | 11570.25 | 47.70 | 4.40 | -5.56 | 46.54 | Max Avg | Vertical | 173 | 177 | 54.0 | -7.5 | Pass |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11a, Test Freq: 5825.00 MHz, Power Setting: Max, Duty Cycle (%): 99




| 1000.00 - 18000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 1 | 1192.99 | 67.27 | 1.42 | -17.05 | 51.64 | Max Peak | Vertical | 128 | 255 | 68.2 | -16.6 | Pass |
| 2 | 1192.99 | 42.16 | 1.42 | -17.05 | 26.53 | Max Avg | Vertical | 128 | 255 | 54.0 | -27.5 | Pass |
| 3 | 2660.69 | 66.45 | 2.10 | -12.18 | 56.37 | Max Peak | Vertical | 105 | 267 | 68.2 | -11.9 | Pass |
| 4 | 2660.69 | 46.83 | 2.10 | -12.18 | 36.75 | Max Avg | Vertical | 105 | 267 | 54.0 | -17.3 | Pass |
| 5 | 4657.28 | 60.64 | 2.82 | -12.45 | 51.01 | Max Peak | Vertical | 118 | 258 | 68.2 | -17.2 | Pass |
| 6 | 4657.28 | 39.44 | 2.82 | -12.45 | 29.81 | Max Avg | Vertical | 118 | 258 | 54.0 | -24.2 | Pass |
| 7 | 7795.04 | 49.14 | 3.68 | -7.65 | 45.17 | Peak (NRB) | Vertical | 115 | 177 | -- | -- | Pass |
| 8 | 11651.19 | 60.87 | 4.90 | -5.67 | 60.10 | Max Peak | Vertical | 178 | 182 | 68.2 | -8.1 | Pass |
| 9 | 11651.19 | 47.38 | 4.90 | -5.67 | 46.61 | Max Avg | Vertical | 178 | 182 | 54.0 | -7.4 | Pass |
| 10 | 11651.19 | 58.18 | 4.90 | -5.67 | 57.41 | Max Peak | Horizontal | 169 | 156 | 68.2 | -10.8 | Pass |
| 11 | 11651.19 | 45.37 | 4.90 | -5.67 | 44.60 | Max Avg | Horizontal | 169 | 156 | 54.0 | -9.4 | Pass |

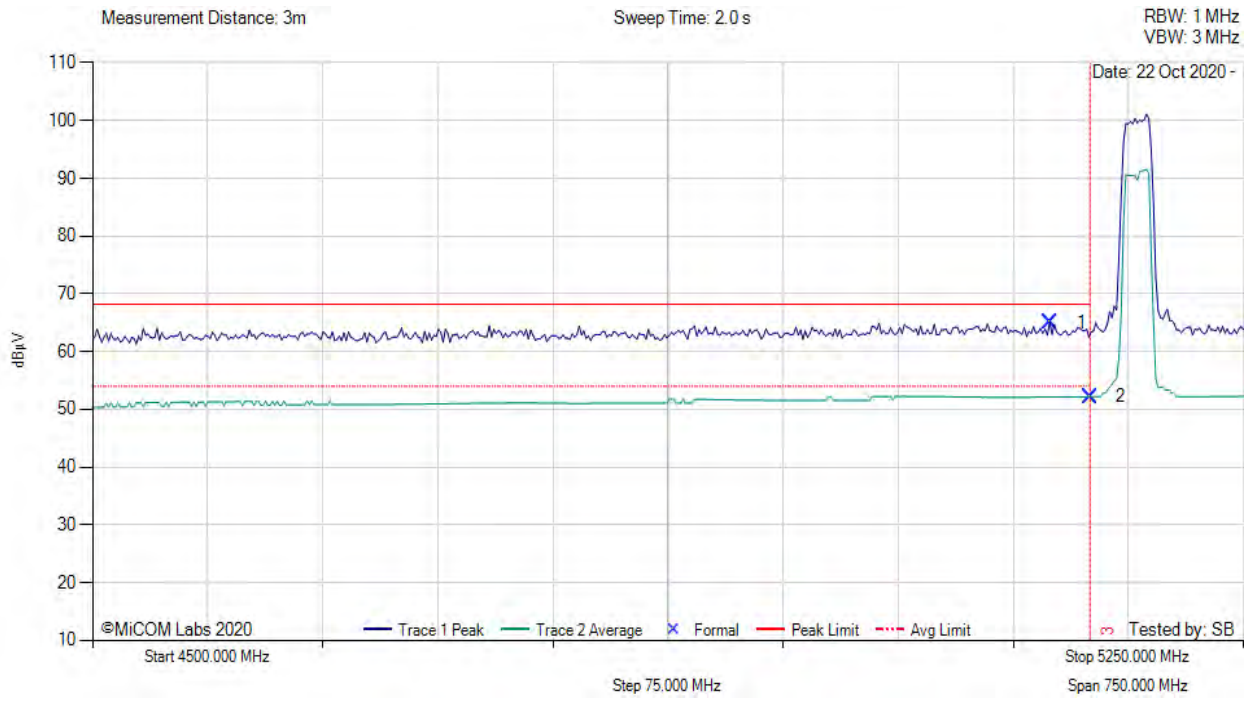
back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

## A.1.1.2. Restricted Edge & Band-Edge Emissions

Variant: 802.11a, Test Freq: 5180.00 MHz, Power Setting: Max, Duty Cycle (%): 99



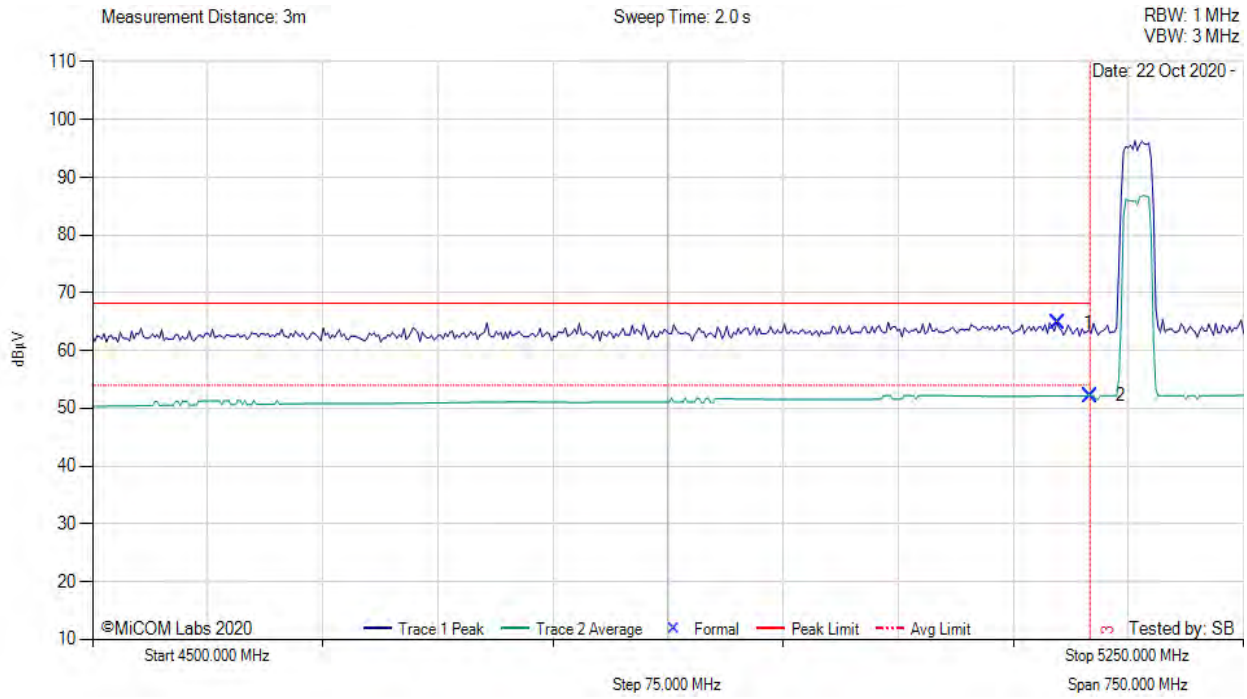

| 4500.00 - 5250.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 1 | 5124.45 | 27.96 | 2.95 | 34.16 | 65.07 | Max Peak | Vertical | 168 | 301 | 68.2 | -3.2 | Pass |
| 2 | 5150.00 | 15.05 | 2.93 | 34.21 | 52.19 | Max Avg | Vertical | 168 | 301 | 54.0 | -1.8 | Pass |
| 3 | 5150.00 | -- | -- | -- | -- | Restricted-Band | -- | -- | -- | -- | -- | -- |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11n ht20, Test Freq: 5180.00 MHz, Power Setting: Max, Duty Cycle (%): 99



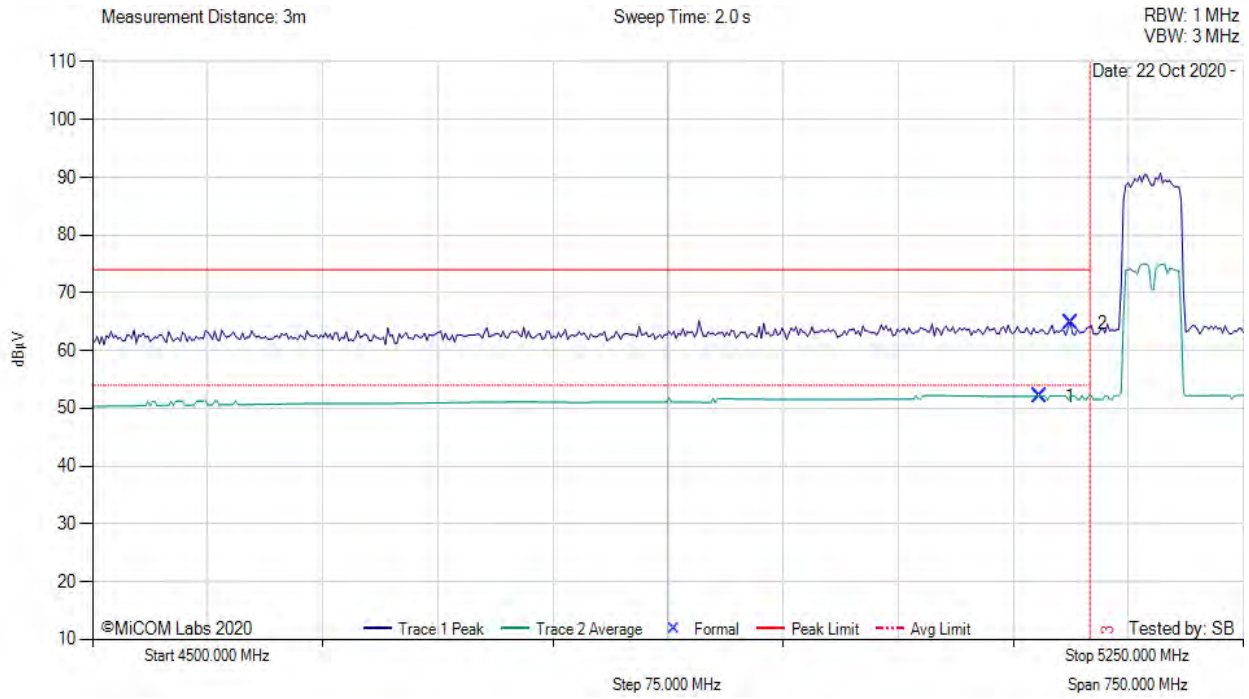

| 4500.00 - 5250.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 1 | 5128.96 | 27.67 | 2.96 | 34.17 | 64.80 | Max Peak | Vertical | 0 | 0 | 68.2 | -3.4 | Pass |
| 2 | 5150.00 | 15.05 | 2.93 | 34.21 | 52.19 | Max Avg | Vertical | 0 | 0 | 54.0 | -1.8 | Pass |
| 3 | 5150.00 | -- | -- | -- | -- | Restricted-Band | -- | -- | -- | -- | -- | -- |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11n ht40, Test Freq: 5190.00 MHz, Power Setting: Max, Duty Cycle (%): 99



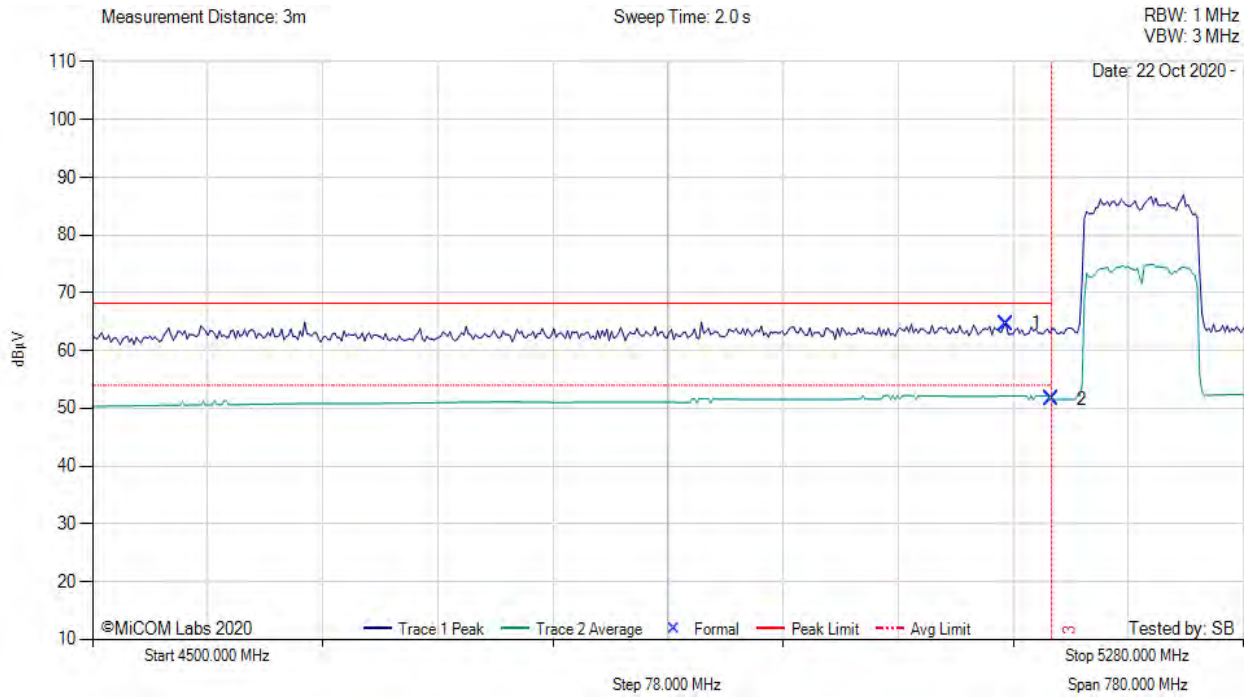

| 4500.00 - 5250.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 1 | 5116.93 | 15.04 | 2.94 | 34.15 | 52.13 | Max Avg | Vertical | 168 | 297 | 54.0 | -1.9 | Pass |
| 2 | 5137.98 | 27.63 | 2.99 | 34.19 | 64.81 | Max Peak | Vertical | 168 | 297 | 68.2 | -3.4 | Pass |
| 3 | 5150.00 | -- | -- | -- | -- | Restricted-Band | -- | -- | -- | -- | -- | -- |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11ac 80, Test Freq: 5210.00 MHz, Power Setting: Max, Duty Cycle (%): 99



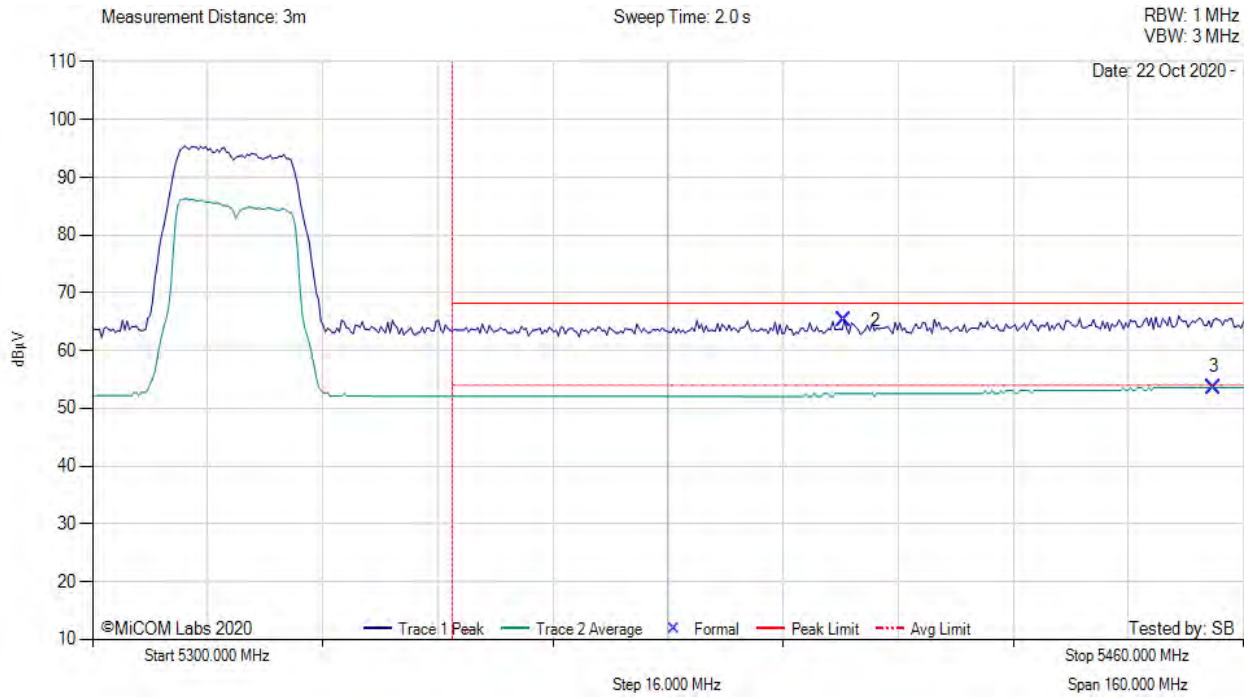

| 4500.00 - 5280.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 1 | 5118.74 | 27.53 | 2.95 | 34.15 | 64.63 | Max Peak | Vertical | 168 | 297 | 68.2 | -3.6 | Pass |
| 2 | 5150.00 | 14.40 | 2.93 | 34.21 | 51.54 | Max Avg | Vertical | 168 | 297 | 54.0 | -2.5 | Pass |
| 3 | 5150.00 | -- | -- | -- | -- | Restricted-Band | -- | -- | -- | -- | -- | -- |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11a, Test Freq: 5320.00 MHz, Power Setting: Max, Duty Cycle (%): 99



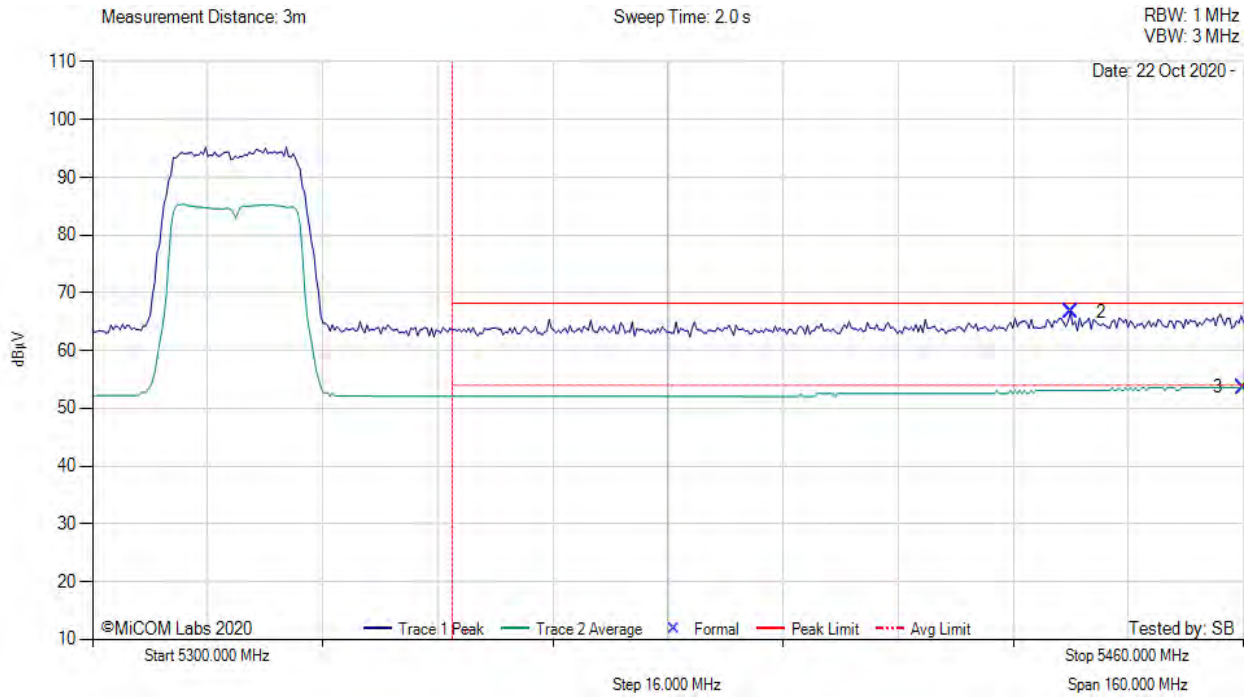

| 5300.00 - 5460.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| 2 | 5404.53 | 27.70 | 3.06 | 34.53 | 65.29 | Max Peak | Vertical | 165 | 296 | 68.2 | -2.9 | Pass |
| 3 | 5455.83 | 16.04 | 3.05 | 34.52 | 53.61 | Max Avg | Vertical | 165 | 296 | 54.0 | -0.4 | Pass |
| 1 | 5350.00 | -- | -- | -- | -- | Restricted-Band | -- | -- | -- | -- | -- | -- |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11n HT20, Test Freq: 5320.00 MHz, Power Setting: Max, Duty Cycle (%): 99



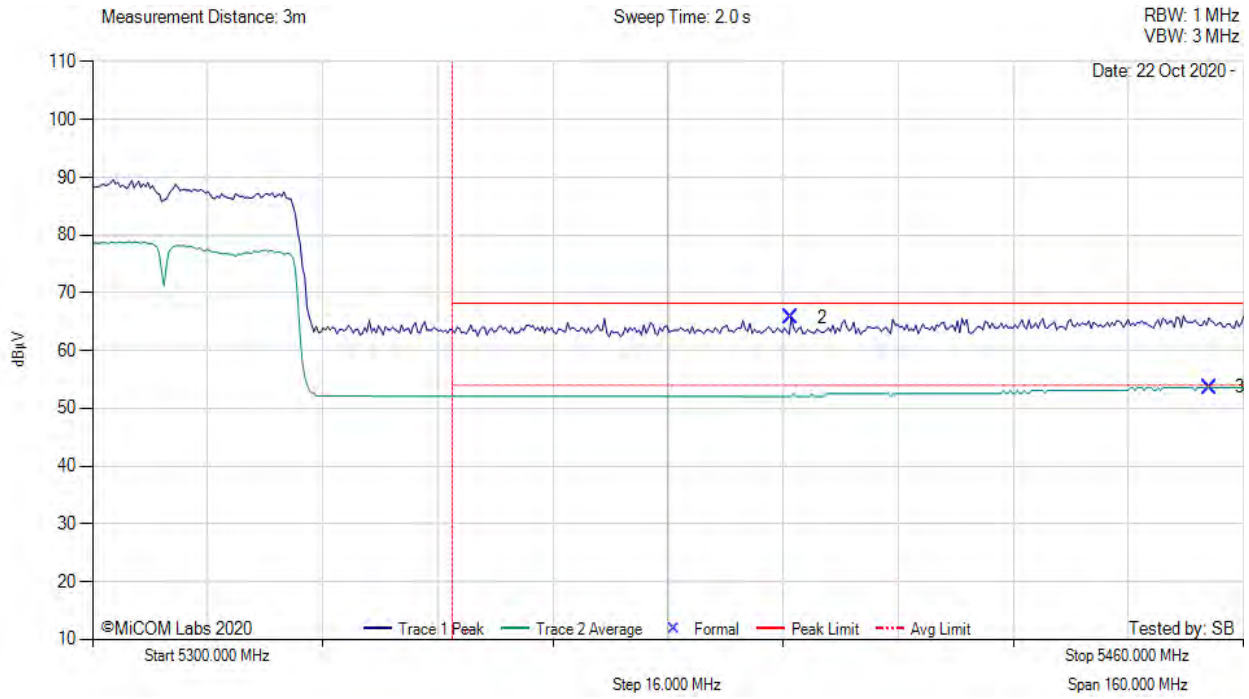

| 5300.00 - 5460.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 2 | 5435.95 | 29.01 | 3.14 | 34.51 | 66.66 | Max Peak | Vertical | 162 | 296 | 68.2 | -1.6 | Pass |
| 3 | 5460.00 | 16.02 | 3.06 | 34.53 | 53.61 | Max Avg | Vertical | 162 | 296 | 54.0 | -0.4 | Pass |
| 1 | 5350.00 | -- | -- | -- | -- | Restricted-Band | -- | -- | -- | -- | -- | -- |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11n HT40, Test Freq: 5310.00 MHz, Power Setting: Max, Duty Cycle (%): 99



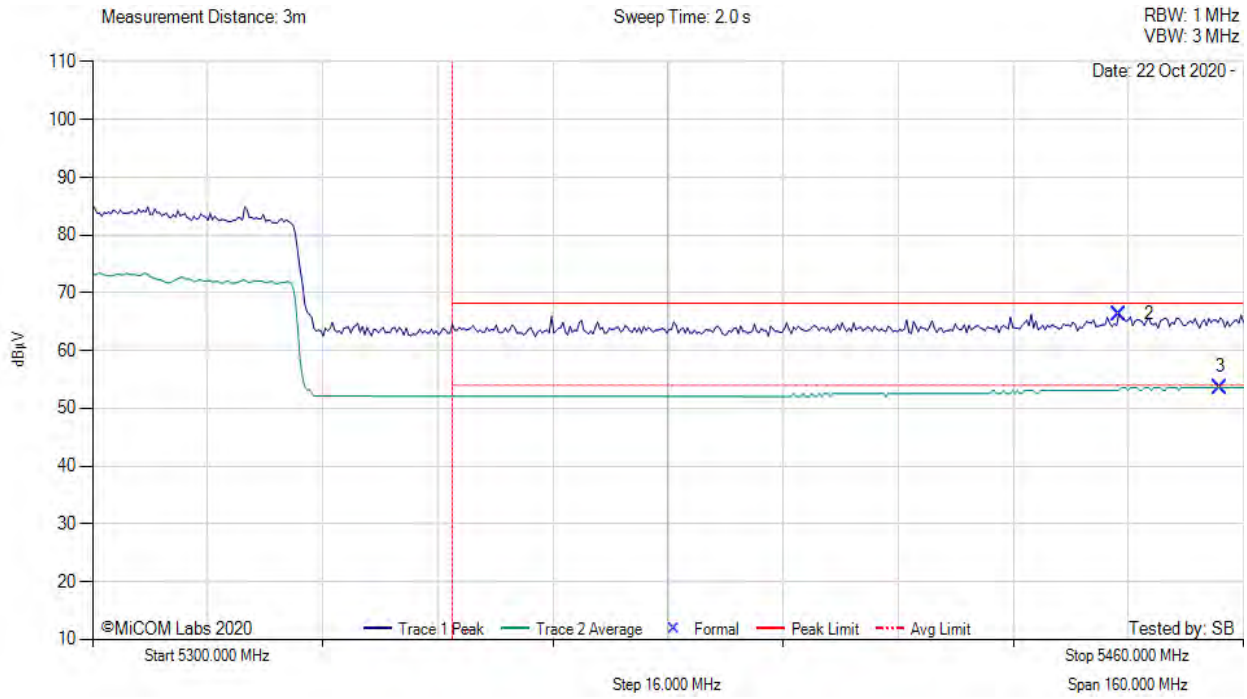

| 5300.00 - 5460.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| 2 | 5397.15 | 28.01 | 3.13 | 34.53 | 65.67 | Max Peak | Vertical | 162 | 296 | 68.2 | -2.6 | Pass |
| 3 | 5455.25 | 16.05 | 3.05 | 34.51 | 53.61 | Max Avg | Vertical | 162 | 296 | 54.0 | -0.4 | Pass |
| 1 | 5350.00 | -- | -- | -- | -- | Restricted-Band | -- | -- | -- | -- | -- | -- |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11ac 80, Test Freq: 5290.00 MHz, Power Setting: Max, Duty Cycle (%): 99



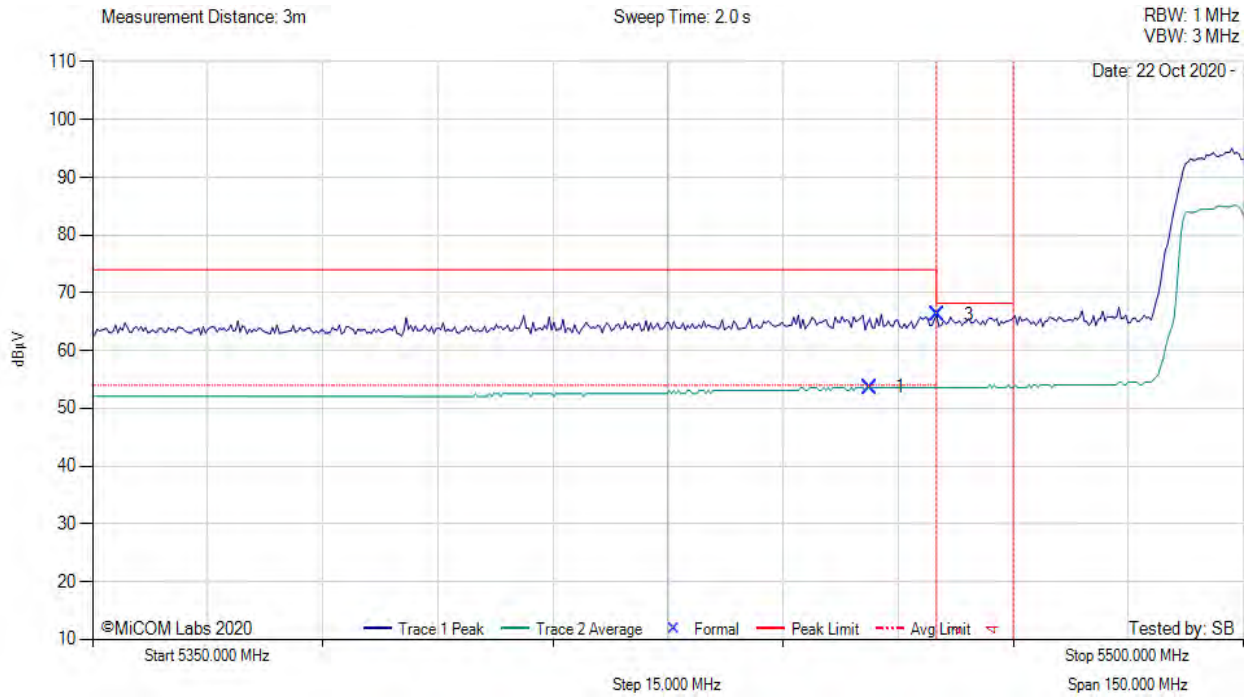

| 5300.00 - 5460.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Num** | **Frequency MHz** | **Raw dBµV** | **Cable Loss dB** | **AF dB/m** | **Level dBµV/m** | **Measurement Type** | **Pol** | **Hgt cm** | **Azt Deg** | **Limit dBµV/m** | **Margin dB** | **Pass /Fail** |
| 2 | 5442.69 | 28.75 | 3.09 | 34.50 | 66.34 | Max Peak | Vertical | 162 | 296 | 68.2 | -1.9 | Pass |
| 3 | 5456.79 | 16.04 | 3.05 | 34.52 | 53.61 | Max Avg | Vertical | 162 | 296 | 54.0 | -0.4 | Pass |
| 1 | 5350.00 | -- | -- | -- | -- | Restricted-Band | -- | -- | -- | -- | -- | -- |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11a, Test Freq: 5500.00 MHz, Power Setting: Max, Duty Cycle (%): 99



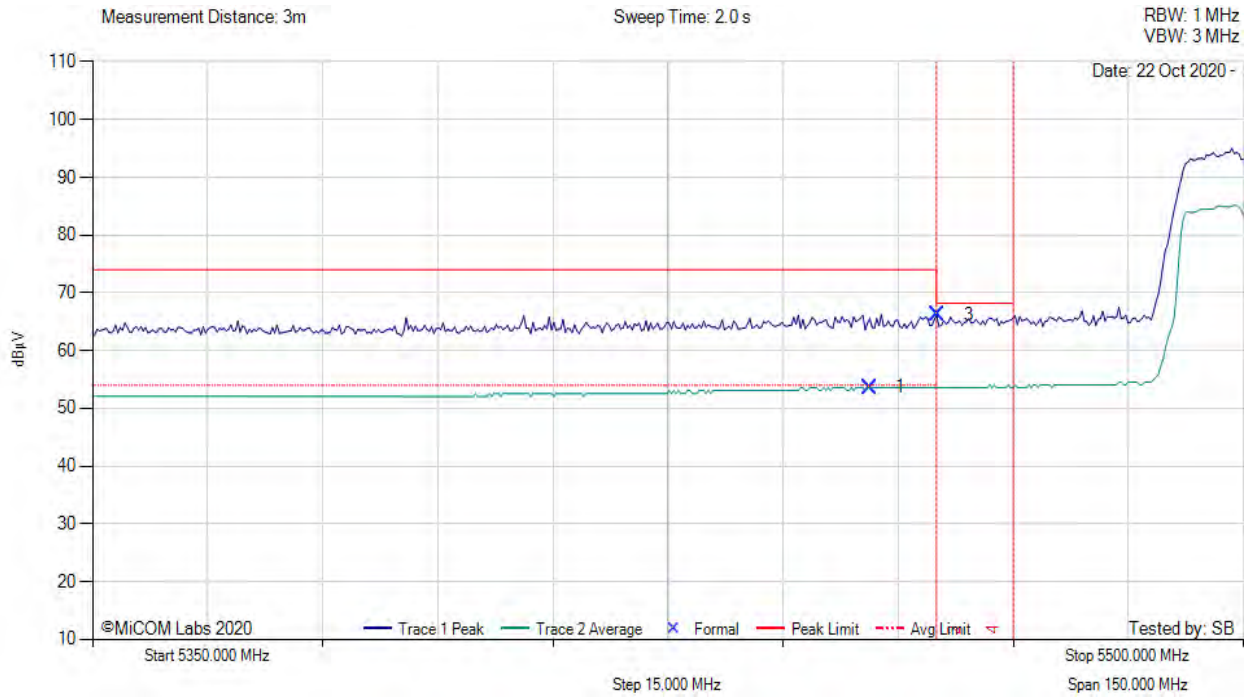

| 5350.00 - 5500.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 1 | 5451.28 | 16.04 | 3.06 | 34.50 | 53.60 | Max Avg | Vertical | 171 | 294 | 54.0 | -0.4 | Pass |
| 3 | 5460.19 | 28.97 | 3.69 | 34.53 | 66.19 | Max Peak | Vertical | 171 | 294 | 68.2 | -2.0 | Pass |
| 2 | 5460.00 | -- | -- | -- | -- | Restricted-Band | -- | -- | -- | -- | -- | -- |
| 4 | 5470.00 | -- | -- | -- | -- | Band-Edge | -- | -- | -- | -- | -- | -- |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11a, Test Freq: 5500.00 MHz, Power Setting: Max, Duty Cycle (%): 99



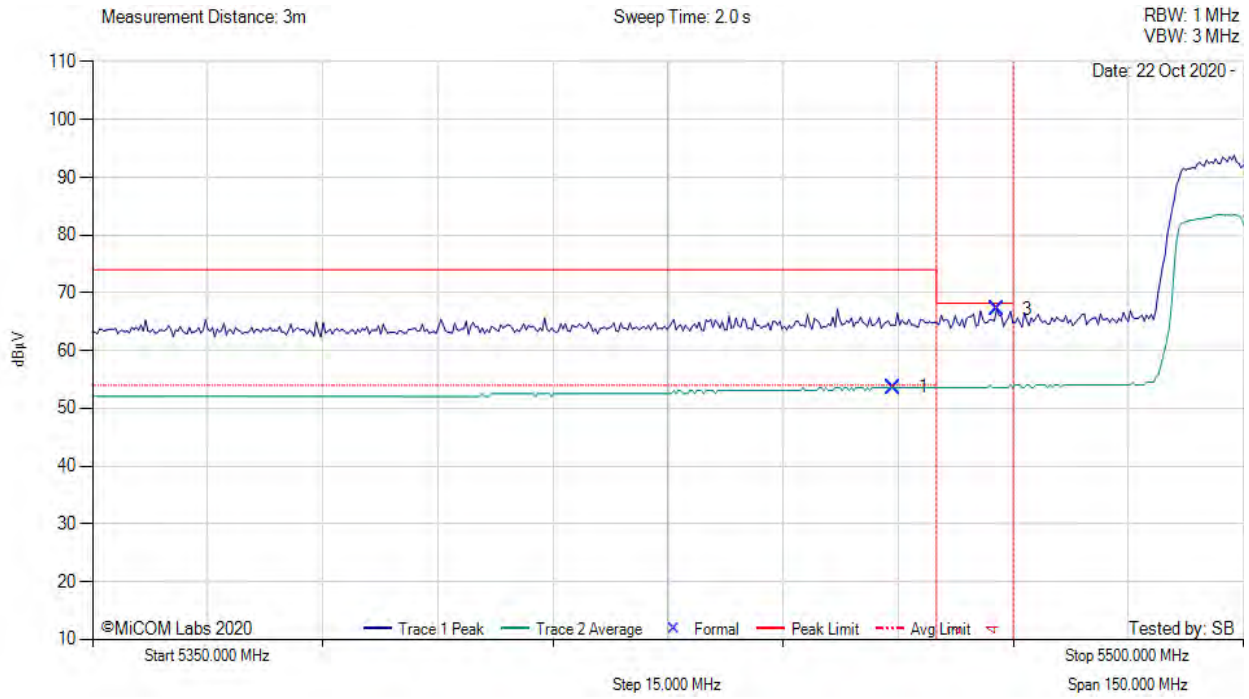

| 5350.00 - 5500.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 1 | 5451.28 | 16.04 | 3.06 | 34.50 | 53.60 | Max Avg | Vertical | 171 | 294 | 54.0 | -0.4 | Pass |
| 3 | 5460.19 | 28.97 | 3.69 | 34.53 | 66.19 | Max Peak | Vertical | 171 | 294 | 68.2 | -2.0 | Pass |
| 2 | 5460.00 | -- | -- | -- | -- | Restricted-Band | -- | -- | -- | -- | -- | -- |
| 4 | 5470.00 | -- | -- | -- | -- | Band-Edge | -- | -- | -- | -- | -- | -- |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11n HT20, Test Freq: 5500.00 MHz, Power Setting: Max, Duty Cycle (%): 99



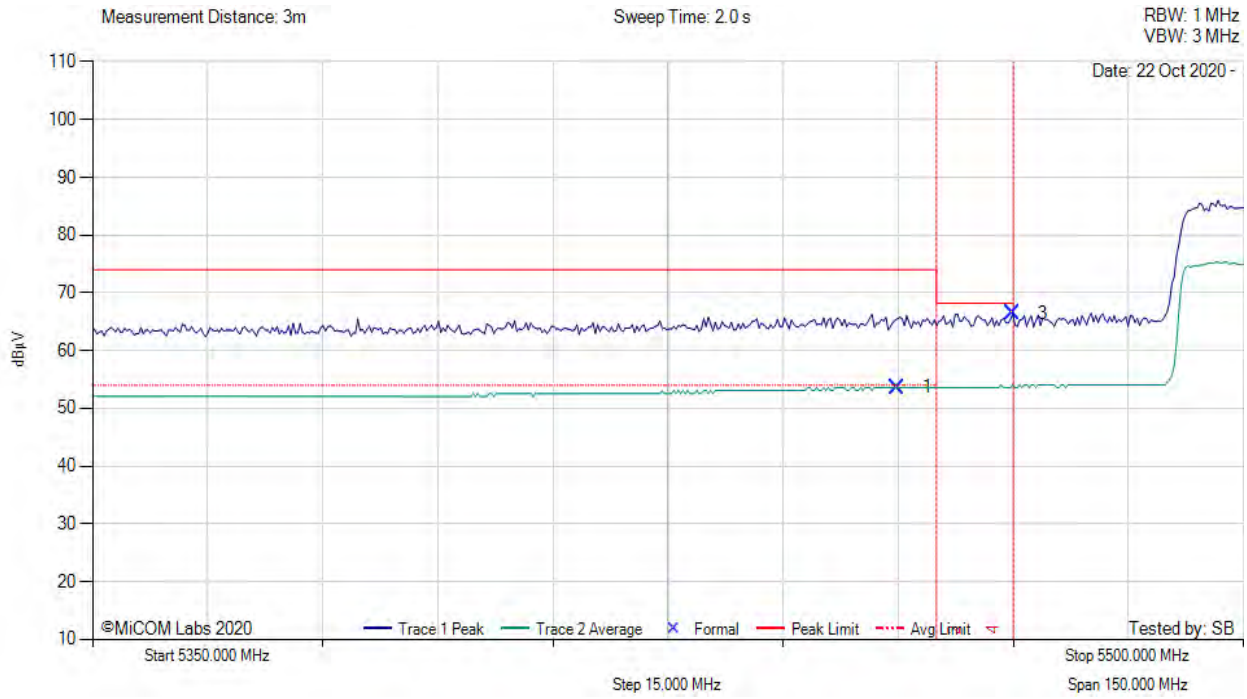

| 5350.00 - 5500.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 1 | 5454.29 | 16.05 | 3.05 | 34.51 | 53.61 | Max Avg | Vertical | 171 | 294 | 54.0 | -0.4 | Pass |
| 3 | 5467.84 | 29.51 | 3.04 | 34.55 | 67.10 | Max Peak | Vertical | 171 | 294 | 68.2 | -1.1 | Pass |
| 2 | 5460.00 | -- | -- | -- | -- | Restricted-Band | -- | -- | -- | -- | -- | -- |
| 4 | 5470.00 | -- | -- | -- | -- | Band-Edge | -- | -- | -- | -- | -- | -- |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11n HT40, Test Freq: 5510.00 MHz, Power Setting: Max, Duty Cycle (%): 99



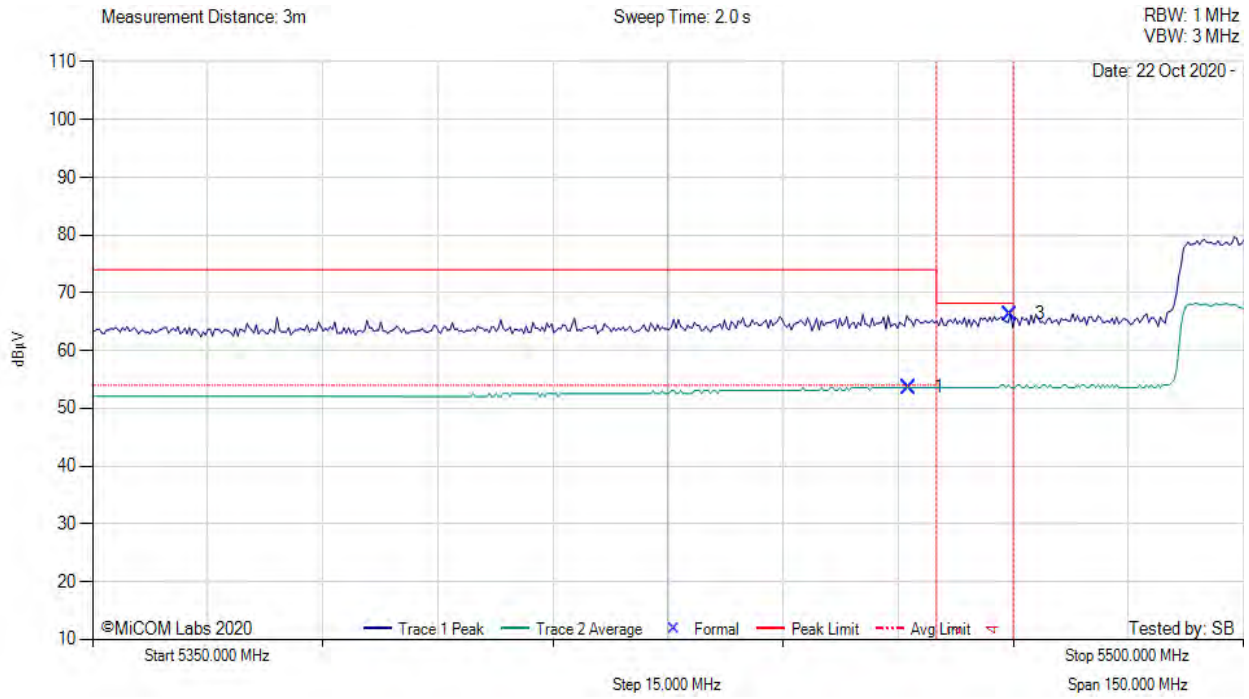

| 5350.00 - 5500.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 1 | 5454.89 | 16.05 | 3.05 | 34.51 | 53.61 | Max Avg | Vertical | 171 | 294 | 54.0 | -0.4 | Pass |
| 3 | 5469.94 | 29.51 | 3.04 | 34.55 | 66.46 | Max Peak | Vertical | 171 | 294 | 68.2 | -1.8 | Pass |
| 2 | 5460.00 | -- | -- | -- | -- | Restricted-Band | -- | -- | -- | -- | -- | -- |
| 4 | 5470.00 | -- | -- | -- | -- | Band-Edge | -- | -- | -- | -- | -- | -- |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11ac80, Test Freq: 5530.00 MHz, Power Setting: Max, Duty Cycle (%): 99



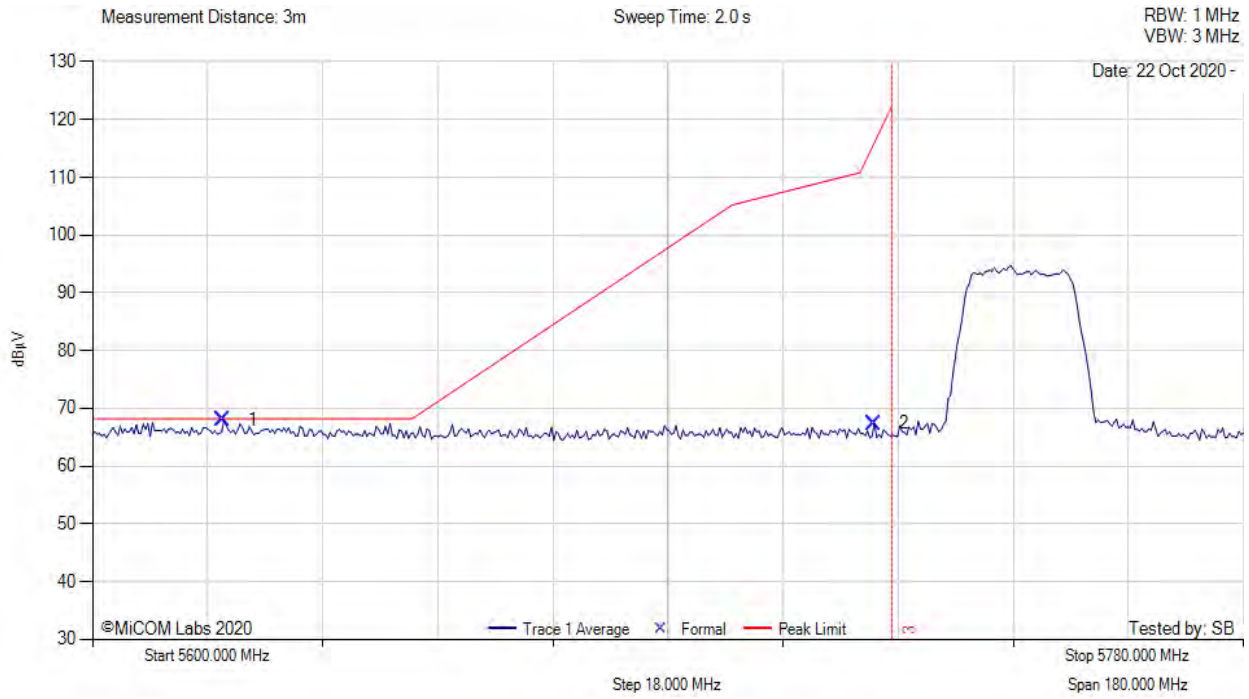

| 5350.00 - 5500.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 1 | 5456.41 | 16.04 | 3.05 | 34.52 | 53.61 | Max Avg | Horizontal | 171 | 294 | 54.0 | -0.4 | Pass |
| 3 | 5469.60 | 28.76 | 3.04 | 34.55 | 66.35 | Max Peak | Horizontal | 171 | 294 | 68.2 | -1.9 | Pass |
| 2 | 5460.00 | -- | -- | -- | -- | Restricted-Band | -- | -- | -- | -- | -- | -- |
| 4 | 5470.00 | -- | -- | -- | -- | Band-Edge | -- | -- | -- | -- | -- | -- |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11a, Test Freq: 5745.00 MHz, Power Setting: Max, Duty Cycle (%): 99



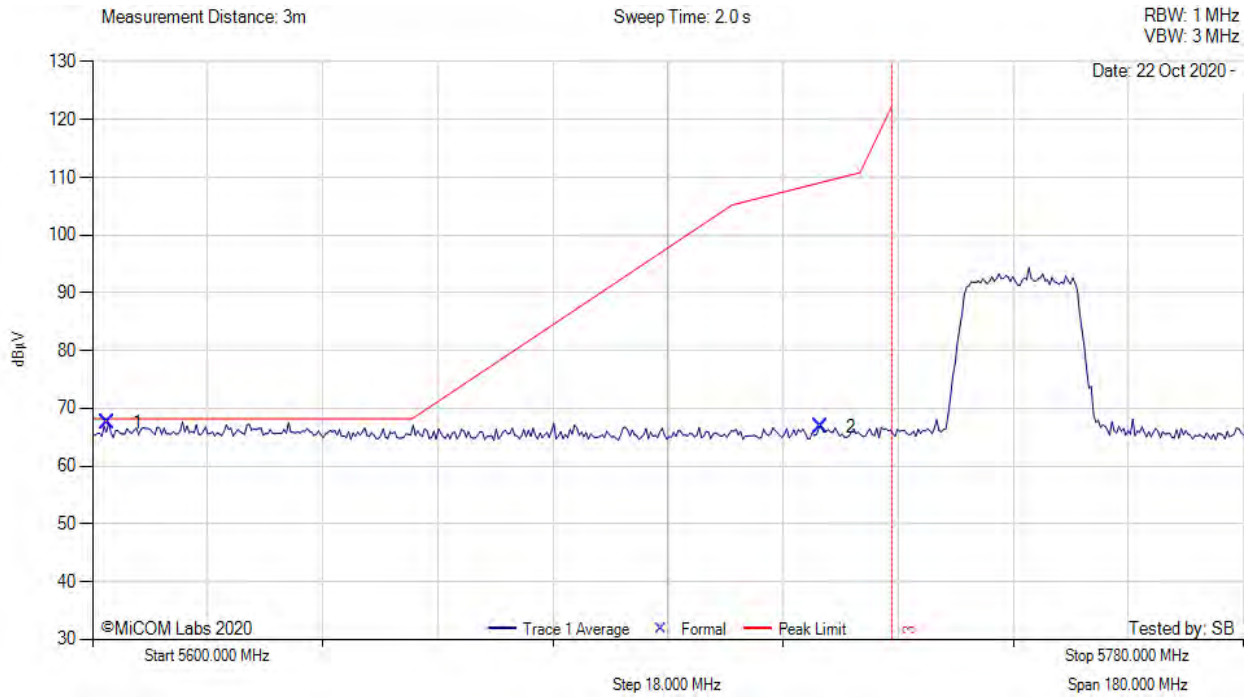

| 5600.00 - 5780.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 1 | 5620.39 | 30.20 | 3.12 | 34.65 | 67.97 | Max Peak | Vertical | 0 | 0 | 68.2 | -0.3 | Pass |
| 2 | 5722.21 | 29.48 | 3.21 | 34.72 | 67.41 | Max Peak | Vertical | 0 | 0 | 115.4 | -48.0 | Pass |
| 3 | 5725.00 | -- | -- | -- | -- | Band-Edge | -- | -- | -- | -- | -- | -- |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11n HT20, Test Freq: 5745.00 MHz, Power Setting: Max, Duty Cycle (%): 99



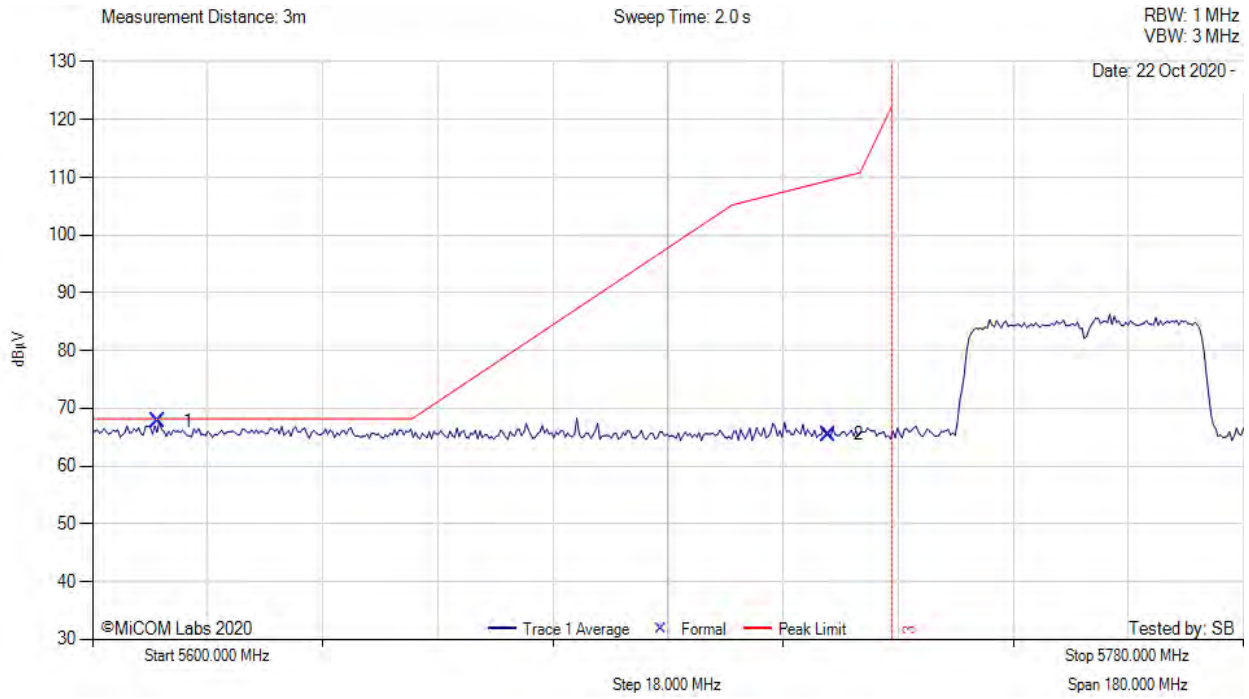

| 5600.00 - 5780.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 1 | 5602.35 | 29.81 | 3.10 | 34.65 | 67.56 | Max Peak | Vertical | 0 | 0 | 68.2 | -0.7 | Pass |
| 2 | 5713.92 | 29.02 | 3.15 | 34.70 | 66.87 | Max Peak | Vertical | 0 | 0 | 109.1 | -42.3 | Pass |
| 3 | 5725.00 | -- | -- | -- | -- | Band-Edge | -- | -- | -- | -- | -- | -- |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11n HT40, Test Freq: 5755.00 MHz, Power Setting: Max, Duty Cycle (%): 99



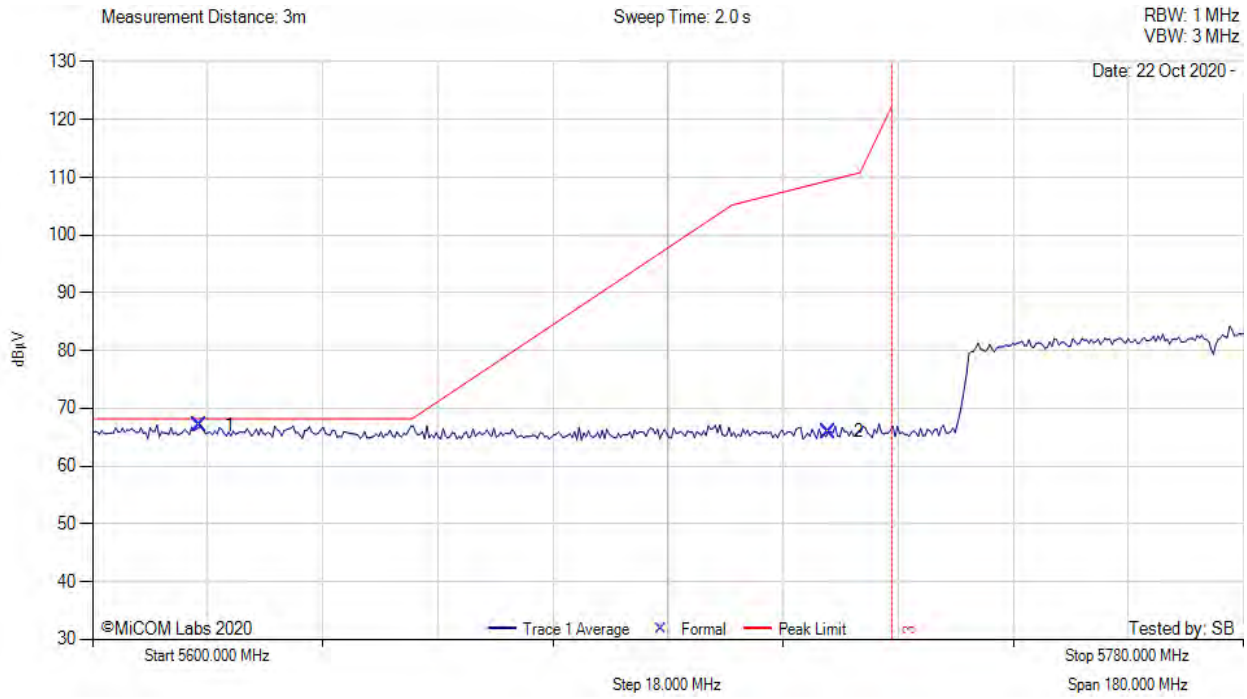

| 5600.00 - 5780.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 1 | 5610.29 | 30.00 | 3.10 | 34.65 | 67.75 | Max Peak | Horizontal | 156 | 364 | 68.2 | -0.5 | Pass |
| 2 | 5715.00 | 27.62 | 3.16 | 34.71 | 65.49 | Max Peak | Horizontal | 156 | 364 | 109.4 | -43.9 | Pass |
| 3 | 5725.00 | -- | -- | -- | -- | Band-Edge | -- | -- | -- | -- | -- | -- |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11ac80, Test Freq: 5775.00 MHz, Power Setting: Max, Duty Cycle (%): 99



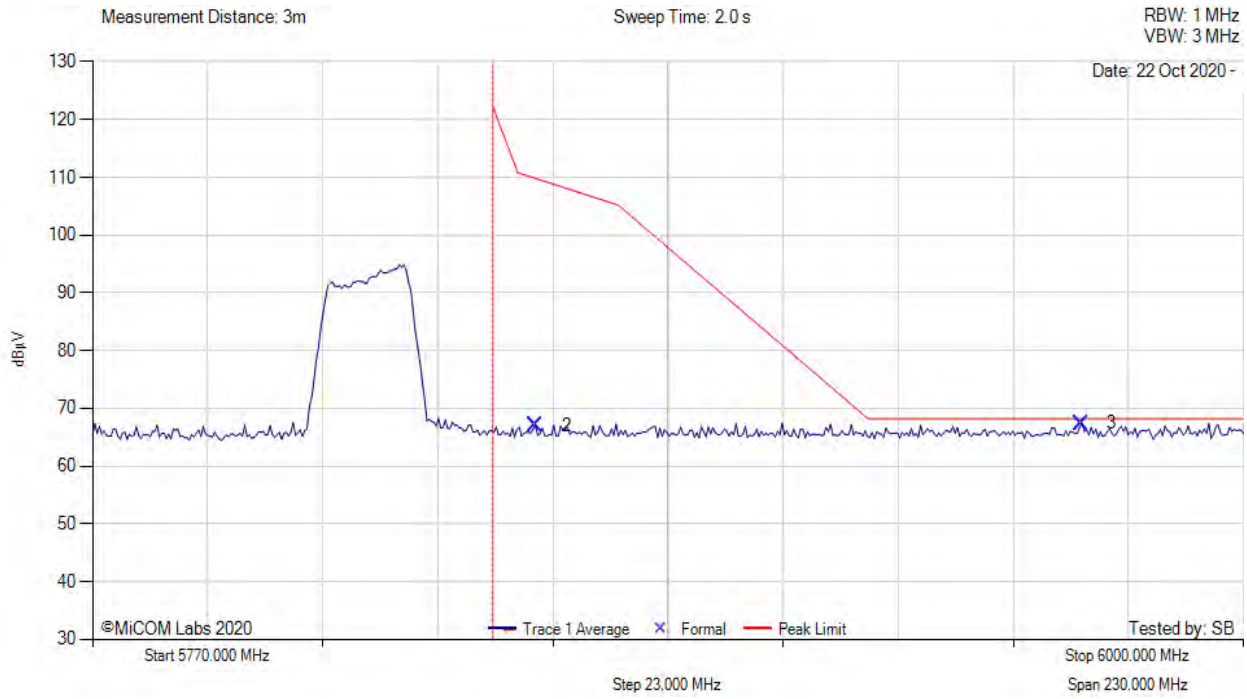

| 5600.00 - 5780.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 1 | 5616.78 | 29.30 | 3.11 | 34.65 | 67.06 | Max Peak | Horizontal | 156 | 364 | 68.2 | -1.2 | Pass |
| 2 | 5715.00 | 28.08 | 3.16 | 34.71 | 65.95 | Max Peak | Horizontal | 156 | 364 | 109.4 | -43.5 | Pass |
| 3 | 5725.00 | -- | -- | -- | -- | Band-Edge | -- | -- | -- | -- | -- | -- |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11a, Test Freq: 5825.00 MHz, Power Setting: Max, Duty Cycle (%): 99



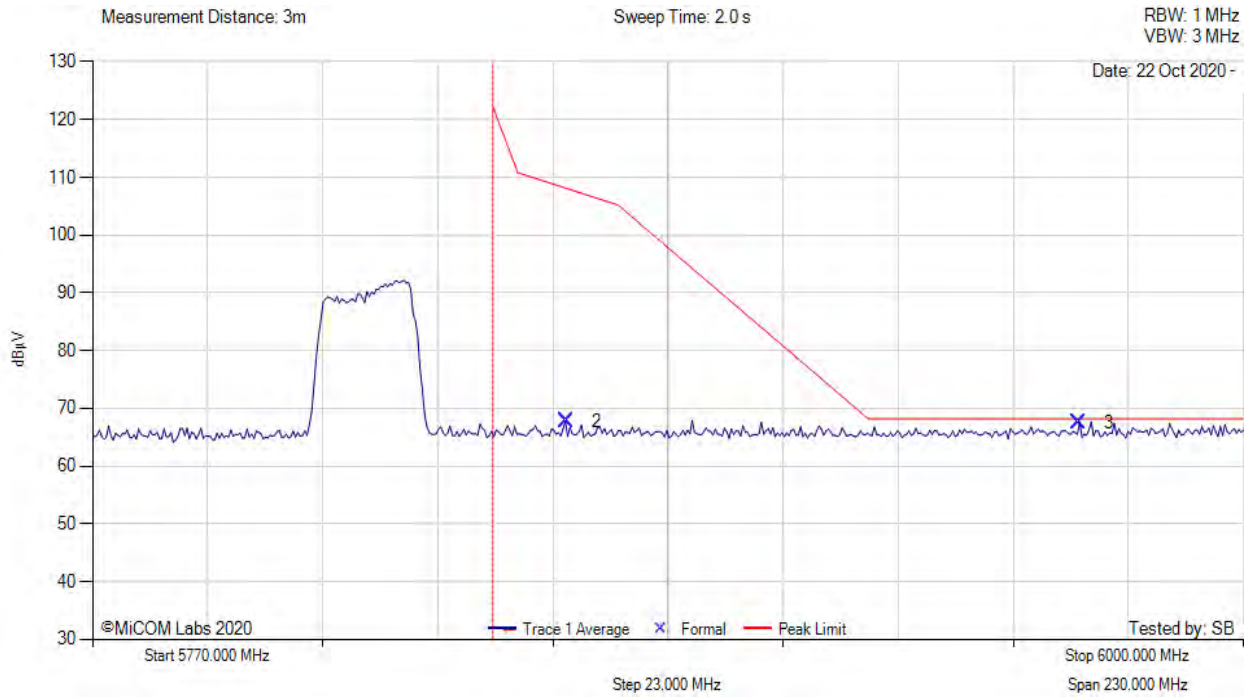

| 5770.00 - 6000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 2 | 5858.62 | 28.90 | 3.18 | 34.98 | 67.06 | Max Peak | Horizontal | 159 | 358 | 109.7 | -42.6 | Pass |
| 3 | 5967.54 | 29.07 | 3.17 | 35.16 | 67.40 | Max Peak | Horizontal | 159 | 358 | 68.2 | -0.8 | Pass |
| 1 | 5850.00 | -- | -- | -- | -- | Band-Edge | -- | -- | -- | -- | -- | -- |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11n HT20, Test Freq: 5825.00 MHz, Antenna: Integral, Power Setting: Max, Duty Cycle (%): 99



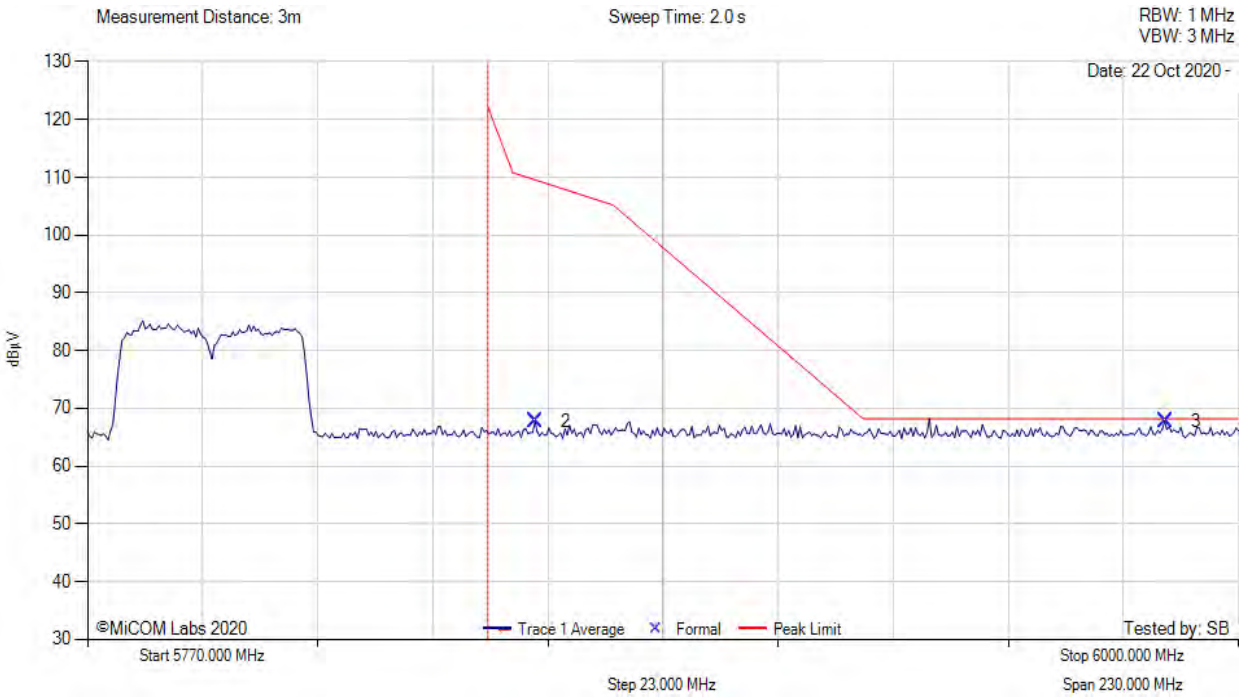

| 5770.00 - 6000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 2 | 5864.61 | 29.58 | 3.20 | 35.00 | 67.78 | Max Peak | Horizontal | 159 | 358 | 108.0 | -40.2 | Pass |
| 3 | 5967.07 | 29.23 | 3.17 | 35.16 | 67.56 | Max Peak | Horizontal | 159 | 358 | 68.2 | -0.7 | Pass |
| 1 | 5850.00 | -- | -- | -- | -- | Band-Edge | -- | -- | -- | -- | -- | -- |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11n HT40, Test Freq: 5795.00 MHz, Antenna: Integral, Power Setting: Max, Duty Cycle (%): 99



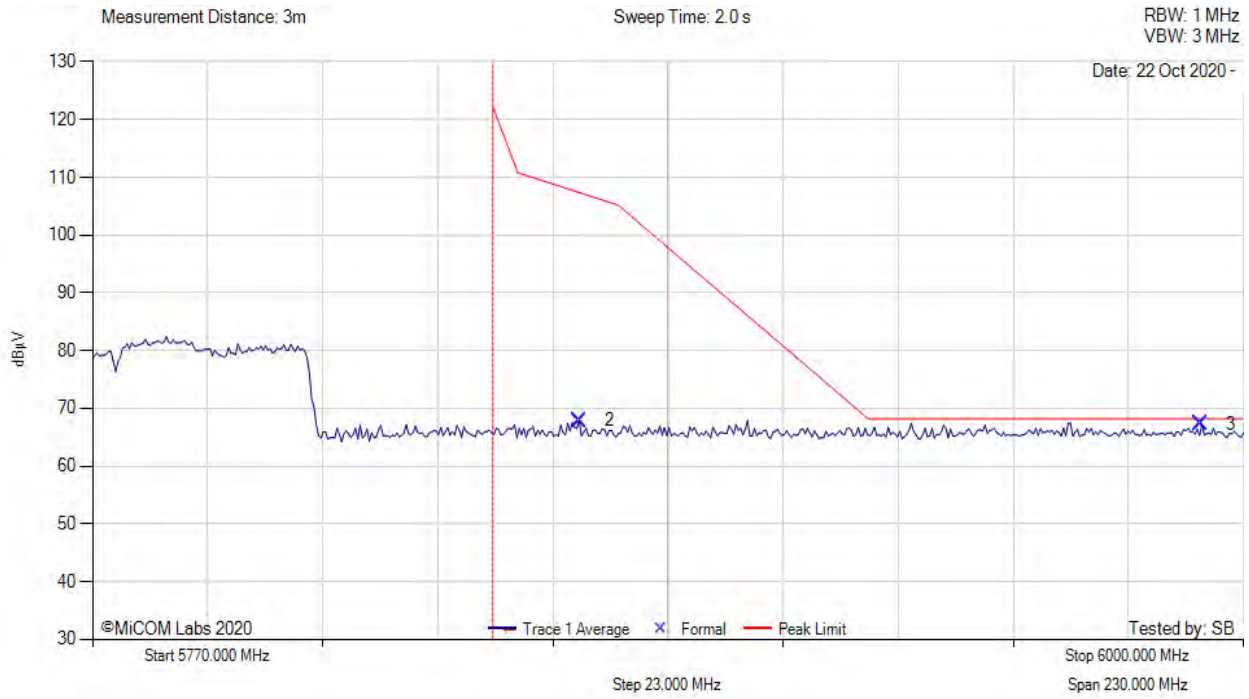

| 5770.00 - 6000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 2 | 5859.54 | 29.56 | 3.18 | 34.99 | 67.73 | Max Peak | Horizontal | 159 | 358 | 109.4 | -41.7 | Pass |
| 3 | 5985.36 | 29.35 | 3.23 | 35.20 | 67.78 | Max Peak | Horizontal | 159 | 358 | 68.2 | -0.5 | Pass |
| 1 | 5850.00 | -- | -- | -- | -- | Band-Edge | -- | -- | -- | -- | -- | -- |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

Variant: 802.11ac80, Test Freq: 5775.00 MHz, Antenna: Integral, Power Setting: Max, Duty Cycle (%): 99




| 5770.00 - 6000.00 MHz | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Num | Frequency MHz | Raw dBµV | Cable Loss dB | AF dB/m | Level dBµV/m | Measurement Type | Pol | Hgt cm | Azt Deg | Limit dBµV/m | Margin dB | Pass /Fail |
| 2 | 5867.37 | 29.67 | 3.21 | 35.01 | 67.89 | Max Peak | Horizontal | 159 | 358 | 107.4 | -39.6 | Pass |
| 3 | 5991.50 | 28.80 | 3.25 | 35.22 | 67.27 | Max Peak | Horizontal | 159 | 358 | 68.2 | -1.0 | Pass |
| 1 | 5850.00 | -- | -- | -- | -- | Band-Edge | -- | -- | -- | -- | -- | -- |

back to matrix



This test report may be reproduced in full only. The document may only be updated by MiCOM Labs personnel. All changes will be noted in the Document History section of the report.
MiCOM Labs, 575 Boulder Court, Pleasanton, California 94566 USA, Phone: +1 (925) 462 0304, Fax: +1 (925) 462 0306, www.micomlabs.com

575 Boulder Court
Pleasanton, California 94566, USA
Tel: +1 (925) 462 0304
Fax: +1 (925) 462 0306
www.micomlabs.com