Test report

435594-4R1TRFWL

Date of issue: May 26, 2021

Applicant:
Edge Networks Inc.

Product:
Communications Module

Model:
EvocaScoutV2

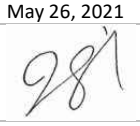
FCC ID:
2AWBYENI-1VA

Specifications:

- FCC 47 CFR Part 15, Subpart C – §15.407
  General technical requirements
- Industry Canada RSS-247, Issue 2
  Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices

Lab and test locations

Company name	Nemko USA Inc.
Address	2210 Faraday Ave, Suite 150
City	Carlsbad
State	California
Postal code	92008
Country	USA
Telephone	+1 760 444 3500
Website	www.nemko.com
FCC Site Number	Test Firm Registration Number: 392943 Designation Number: US5058
ISED Test Site	2040B-3

Tested by	David Hewitt, EMC Specialist
Reviewed by	James Cunningham
Review date	May 26, 2021
Reviewer signature	

Limits of responsibility

Note that the results contained in this report relate only to the items tested and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.
This test report has been completed in accordance with the requirements of ISO/IEC 17025. All results contain in this report are within Nemko USA's ISO/IEC 17025 accreditation.
This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

Copyright notification

Table of Contents

Section 1 Report summary

1.1 Applicant

Company name	Edge Networks Inc.
Address	PO Box 5860
City	Ketchum
State	ID
Postal/Zip code	83340
Country	USA

1.2 Manufacturer

Company name	Edge Networks Inc.
Address	PO Box 5860
City	Ketchum
State	ID
Postal/Zip code	83340
Country	USA

1.3 Test specifications

FCC 47 CFR Part 15, Subpart C – §15.407	General technical requirements
IC RSS-247 Issue 2	Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices

1.4 Test methods

ANSI C63.10-2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
558074 D01 DTS Measurement Guidance v03r02 (June 5, 2014)	Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247

1.5 Exclusions

Testing includes limited Radiated Spurious emissions, limited Restricted Band Edge measurements, limited maximum peak conducted power measurements, and Undesirable emission measurements only.

1.6 Statement of compliance

In the configuration tested, the EUT was found compliant.

Testing was performed against all relevant requirements of the test standard except as noted in section 1.5 above. Results obtained indicate that the product under test complies in full with the requirements tested. The test results relate only to the items tested.

See "Summary of test results" for full details.

1.7 Test report revision history

Table 1.7-1: *Test report revision history*

Revision #	Details of changes made to test report
435594-4RFWL	Original report issued
435594-4R1TRFWL	Corrected product name and model number

Notes:

Section 2 Summary of test results

2.1 FCC Part 15 Subpart C, general requirements

Part	Test description	Verdict
§15.207(a)	Conducted limits	Not tested
§15.31(e)	Variation of power source	Not tested
§15.203	Antenna requirement	Not tested

Notes: EUT is AC powered
The antenna is located within the protective cover of EUT on PCB

2.2 FCC Part 15.407

Part	Test description	Verdict
§15.407(a)	Power limits	Pass
§15.407(b)	Undesirable emission limits	Pass
§15.407(c)	Automatic transmission termination	Not tested
§15.407(d)	Operational restrictions for 6 GHz U-NII devices	Not applicable
§15.407(e)	Minimum 6 dB bandwidth	Not tested
§15.407(f)	Radio frequency radiation exposure requirements	Not tested
§15.407(g)	U-NII devices frequency stability	Not tested
§15.407(h)	Transmit Power Control (TPC) and Dynamic Frequency Selection (DFS)	Not tested
§15.407(i)	Operational Modes	Not tested
§15.407(j)	Operator Filing Requirement	Not tested
§15.407(k)	Automated frequency coordination (AFC) system	Not applicable
§15.407(l)	Incumbent Protection by AFC system: Fixed Microwave Services	Not applicable
§15.407(m)	Incumbent Protection by AFC system: Radio Astronomy Services	Not applicable
§15.407(n)	Incumbent Protection by AFC system: Fixed-Satellite Services	Not applicable

2.3 IC RSS-247, Issue 2

Part	Test description	Verdict
5.1 (a)	Bandwidth of a frequency hopping channel	Not tested
5.1 (b)	Minimum channel spacing for frequency hopping systems	Not tested
5.1 (c)	Frequency hopping systems operating in the 902–928 MHz band	Not applicable
5.1 (d)	Frequency hopping systems operating in the 2400–2483.5 MHz band	Not applicable
5.1 (e)	Frequency hopping systems operating in the 5725–5850 MHz band	Not tested
5.2 (a)	Minimum 6 dB bandwidth	Not tested
5.2 (b)	Maximum power spectral density	Not tested
5.3 (a)	Digital modulation turned off	Not tested
5.3 (b)	Frequency hopping turned off	Not tested
5.4 (a)	Frequency hopping systems operating in the 902–928 MHz band	Not applicable
5.4 (b)	Frequency hopping systems operating in the 2400–2483.5 MHz band	Not applicable
5.4 (c)	Frequency hopping systems operating in the 5725–5850 MHz	Not tested
5.4 (d)	Systems employing digital modulation techniques	Not tested
5.4 (e)	Point-to-point systems in 2400–2483.5 MHz and 5725–5850 MHz band	Not applicable
5.4 (f)	Transmitters which operate in the 2400–2483.5 MHz band with multiple directional beams	Not applicable
5.5	Out-of-band emissions	Pass

2.4 IC RSS-GEN, Issue 5

Part	Test description	Verdict
7.3	Receiver radiated emission limits	Not applicable
7.4	Receiver conducted emission limits	Not applicable
8.8	Power Line Conducted Emissions Limits for License-Exempt Radio Apparatus	Not tested

2.5 Scope of Limited Testing

The EUT supports the following wireless technologies:

- IEEE 802.11a: 20 MHz bandwidth
- IEEE 802.11n (SISO and MIMO): 20 and 40 MHz bandwidths
- IEEE 802.11ac (SISO and MIMO): 20, 40 and 80 MHz bandwidths

The EUT supports the following frequency bands:

- U-NII-1: 5150-5250 MHz
- U-NII-2A: 5250-5350 MHz
- U-NII-2C: 5470-5725 MHz
- U-NII-3: 5725-5850 MHz

The following table summarizes the scope of the limited testing performed:

Clause	Tests
§15.407(a) power limits	IEEE 802.11n Ant1 20MBW MIMO U-NII-2A ch64 IEEE 802.11n Ant2 20MBW MIMO U-NII-2A ch64 IEEE 802.11n Ant1 40MBW MIMO U-NII-2A ch62 IEEE 802.11n Ant2 40MBW MIMO U-NII-2A ch62 IEEE 802.11ac Ant1 20MBW MIMO U-NII-2A ch64 IEEE 802.11ac Ant2 20MBW MIMO U-NII-2A ch64
§15.407(b) restricted band edge emissions	IEEE 802.11a SISO 20MBW U-NII-1 Low channel IEEE 802.11a SISO 20MBW U-NII-2A High channel IEEE 802.11a SISO 20MBW U-NII-2C Low channel IEEE 802.11n MIMO 20MBW U-NII-2A High channel IEEE 802.11n MIMO 40MBW U-NII-2A High channel IEEE 802.11ac MIMO 20MBW U-NII-1 Low channel IEEE 802.11ac MIMO 20MBW U-NII-2A High channel IEEE 802.11ac MIMO 20MBW U-NII-2C Low channel IEEE 802.11ac MIMO 40MBW U-NII-1 Low channel IEEE 802.11ac MIMO 40MBW U-NII-2A High channel IEEE 802.11ac MIMO 40MBW U-NII-2C Low channel IEEE 802.11ac MIMO 80MBW U-NII-1 Low channel IEEE 802.11ac MIMO 80MBW U-NII-2A High channel IEEE 802.11ac MIMO 80MBW U-NII-2C Low channel
§15.407(b) unwanted emissions, 30 – 1000 MHz	IEEE 802.11a SISO 20MBW U-NII-2C mid ch116 IEEE 802.11ac MIMO 20MBW U-NII-2C low ch100 IEEE 802.11ac MIMO 40MBW U-NII-2C low ch102 IEEE 802.11ac MIMO 80MBW U-NII-2C low ch100
§15.407(b) unwanted emissions, 1 – 18 GHz	IEEE 802.11a SISO 20MBW U-NII-1 Low channel IEEE 802.11a SISO 20MBW U-NII-1 Mid channel IEEE 802.11a SISO 20MBW U-NII-1 High channel IEEE 802.11a SISO 20MBW U-NII-2A low channel IEEE 802.11a SISO 20MBW U-NII-2A Mid channel IEEE 802.11a SISO 20MBW U-NII-2A High channel IEEE 802.11a SISO 20MBW U-NII-2C Low channel IEEE 802.11a SISO 20MBW U-NII-2C Mid channel IEEE 802.11a SISO 20MBW U-NII-2C High channel IEEE 802.11a SISO 20MBW U-NII-3 Low channel IEEE 802.11a SISO 20MBW U-NII-3 Mid channel IEEE 802.11a SISO 20MBW U-NII-3 High channel IEEE 802.11ac MIMO 20MBW U-NII-1 Low channel IEEE 802.11ac MIMO 20MBW U-NII-1 Mid channel IEEE 802.11ac MIMO 20MBW U-NII-1 High channel IEEE 802.11ac MIMO 20MBW U-NII-2A Low channel IEEE 802.11ac MIMO 20MBW U-NII-2A Mid channel IEEE 802.11ac MIMO 20MBW U-NII-2A High channel IEEE 802.11ac MIMO 20MBW U-NII-2C Low channel IEEE 802.11ac MIMO 20MBW U-NII-2C Mid channel IEEE 802.11ac MIMO 20MBW U-NII-2C High channel IEEE 802.11ac MIMO 20MBW U-NII-3 Low channel IEEE 802.11ac MIMO 20MBW U-NII-3 Mid channel IEEE 802.11ac MIMO 20MBW U-NII-3 High channel IEEE 802.11ac MIMO 40MBW U-NII-1 Low channel IEEE 802.11ac MIMO 40MBW U-NII-1 High channel

	IEEE 802.11ac MIMO 40MBW U-NII-2A Low channel IEEE 802.11ac MIMO 40MBW U-NII-2A High channel IEEE 802.11ac MIMO 40MBW U-NII-2C Low channel IEEE 802.11ac MIMO 40MBW U-NII-2C Mid channel IEEE 802.11ac MIMO 40MBW U-NII-2C High channel IEEE 802.11ac MIMO 40MBW U-NII-3 Low channel IEEE 802.11ac MIMO 40MBW U-NII-3 High channel IEEE 802.11ac MIMO 80MBW U-NII-1 Mid channel IEEE 802.11ac MIMO 80MBW U-NII-2A Mid channel IEEE 802.11ac MIMO 80MBW U-NII-2C Low channel IEEE 802.11ac MIMO 80MBW U-NII-2C High channel IEEE 802.11ac MIMO 80MBW U-NII-3 Mid channel
§15.407(b) unwanted emissions, 18 – 26 GHz	IEEE 802.11a SISO 20MBW U-NII-2C Mid channel IEEE 802.11ac MIMO 20MBW U-NII-2C Low channel IEEE 802.11ac MIMO 40MBW U-NII-2C Low channel IEEE 802.11ac MIMO 80MBW U-NII-2C Low channel
§15.407(b) unwanted emissions, 26 – 40 GHz	IEEE 802.11a SISO 20MBW U-NII-2C Mid channel IEEE 802.11ac MIMO 20MBW U-NII-2C Low channel IEEE 802.11ac MIMO 40MBW U-NII-2C Low channel IEEE 802.11ac MIMO 80MBW U-NII-2C Low channel
§15.407(b) Undesirable emission limits	IEEE 802.11a SISO 20MBW U-NII-2C (Undesirable band-edge) Low channel IEEE 802.11a SISO 20MBW U-NII-2C (Undesirable band-edge) High channel IEEE 802.11a SISO 20MBW U-NII-3 (Undesirable Mask) Low channel IEEE 802.11a SISO 20MBW U-NII-3 (Undesirable Mask) High channel IEEE 802.11ac MIMO 20MBW U-NII-2C (Undesirable band-edge) Low channel IEEE 802.11ac MIMO 20MBW U-NII-2C (Undesirable band-edge) High channel IEEE 802.11ac MIMO 20MBW U-NII-3 (Undesirable Mask) low channel IEEE 802.11ac MIMO 20MBW U-NII-3 (Undesirable Mask) High channel IEEE 802.11ac MIMO 40MBW U-NII-2C (Undesirable band-edge) Low channel IEEE 802.11ac MIMO 40MBW U-NII-2C (Undesirable band-edge) High channel IEEE 802.11ac MIMO 40MBW U-NII-3 (Undesirable Mask) Low channel IEEE 802.11ac MIMO 40MBW U-NII-3 (Undesirable Mask) High channel IEEE 802.11ac MIMO 80MBW U-NII-2C (Undesirable band-edge) Low channel IEEE 802.11ac MIMO 80MBW U-NII-3 (Undesirable Mask) Mid channel

Section 3 Equipment under test (EUT) details

3.1 Sample information

Receipt date	April 26, 2021
Nemko sample ID number	NEx: 435594

3.2 EUT information

Product name	Communications Module
Model	EvocaScoutV2
Serial number	SS9011003
Part number	3061344CB449
FCC ID	2AWBYENI-1VA

3.3 Technical information

Used IC test site(s) reg. number	2040A
RSS number and issue	RSS-247 issue 2 (February 2017)
Frequency bands	U-NII-1: 5150-5250 MHz U-NII-2A: 5250-5350 MHz U-NII-2C: 5470-5725 MHz U-NII-3: 5725-5850 MHz
Minimum frequency (MHz)	5150 MHz
Maximum frequency (MHz)	5850 MHz
Type of modulation	802.11a, 802.11n, 802.11ac
Power requirements	3.3 V_{DC}; 800 mA
Antenna information	5.1 dBi gain, PCB SMT Antenna

3.4 EUT exercise and monitoring details

EUT was tested in 802.11a/.11n/.11ac wireless network specifications; using SISO and MIMO antenna configurations as applicable; with 20 MHz, 40 MHz and 80 MHz channel bandwidths as applicable; on the low, mid, and high channels.

Table 3.4-1: *EUT sub assemblies*

Description	Brand name	Model/Part number	Serial number	Rev.
ENI-1VA	Murata Manufacturing Co., Ltd.	M/N: LBEE5XV1VA P/N: 3061344CB449	SS9011003	A

Table 3.4-2: *EUT interface ports*

Description	Qty.
USB-C	1
Ethernet	1
HDMI	1
F-type Coax	1

Table 3.4-3: *Support equipment*

Description	Brand name	Model/Part number	Serial number	Rev.
Support Laptop	Dell	Inspiron 15-5548	20814012794	--

Table 3.4-4: *Inter-connection cables*

Cable description	From	To	Length (m)
Ethernet	Support Laptop	EUT	10

3.5 EUT setup diagram

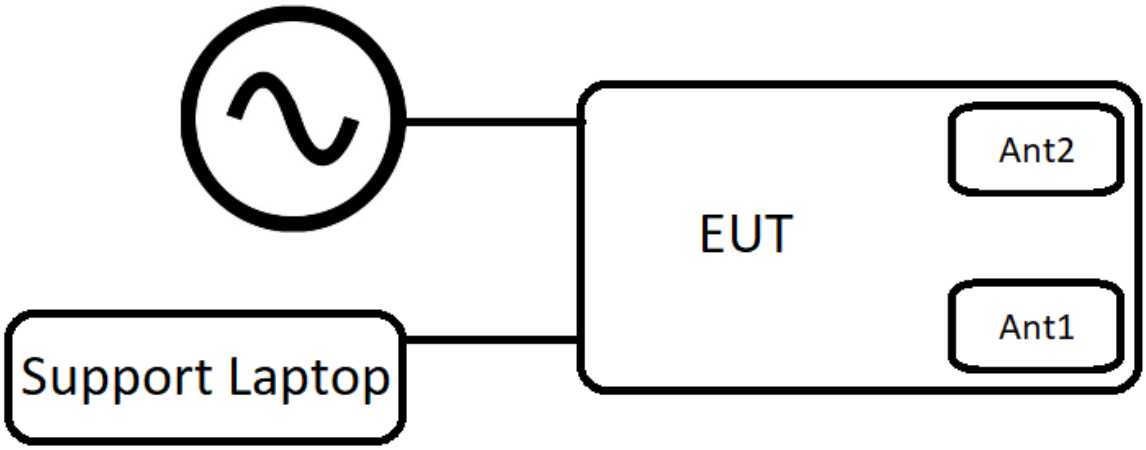


Figure 3.5-1: *Setup diagram*

Section 4 Engineering considerations

4.1 Modifications incorporated in the EUT

There were no modifications performed to the EUT during this assessment.

4.2 Technical judgment

None

4.3 Deviations from laboratory tests procedures

No deviations were made from laboratory procedures.

Section 5 Test conditions

5.1 Atmospheric conditions

Temperature	15-30 °C
Relative humidity	20-75 %
Air pressure	86–106 kPa

When it is impracticable to carry out tests under these conditions, a note to this effect stating the ambient temperature and relative humidity during the tests shall be recorded and stated.

5.2 Power supply range

The normal test voltage for equipment to be connected to the mains shall be the nominal mains voltage. For the purpose of the present document, the nominal voltage shall be the declared voltage, or any of the declared voltages ±5 %, for which the equipment was designed.

Section 6 Measurement uncertainty

6.1 Uncertainty of measurement

Measurement uncertainty budgets for the tests are detailed below. Measurement uncertainty calculations assume a coverage factor of K = 2 with 95% certainty.

Test name	Measurement uncertainty, dB
Radiated spurious emissions	3.78
Powerline conducted emissions	1.38
All antenna port measurements	0.55
Conducted spurious emissions	1.13

Section 7 Test Equipment

Table 6.1-1: *Test Equipment List*

Equipment	Manufacturer	Model no.	Asset no.	Cal cycle	Next cal.
EMI Test Receiver	Rohde & Schwarz	ESU40	Rental equipment	1 yr	17 Jun 2021
System Controller	Sunol Sciences	SC104V	E1191	NCR	NCR
Bilog Antenna (30-1000 MHz)	Schaffner	CBL 6111D	1763	2 yr	18 Feb 2022
DRG Horn (1-18 GHz)	ETS-Lindgren	3117-PA	E1160	1 yr	2 Dec 2021
Horn antenna (18-26 GHz)	Sage Millimeter, Inc.	SAR-2309-42-S2	E1143	2 yr	13 Nov 2022
Horn antenna (26-40 GHz)	Sage Millimeter, Inc.	SAR-2309-28-S2	E1148	2 yr	5 Nov 2022
Low Noise Pre Amp	Sage Millimeter, Inc.	SBL-1834034030-KFKF	E1228	NCR	NCR
Notch Filter (2.4 GHz)	Micro-Tonics	HPM50110-01	E1142	NCR	NCR
Notch Filter (5.15 GHz)	Micro-Tonics	BRM50716-01	E1140	NCR	NCR
Power Sensor	ETS-Lindgren	7002-006	E1062	1 yr	14 Oct 2021

Notes: NCR - no calibration required

Table 6.1-2: *Test Software*

Manufacturer of Software	Details
Rohde & Schwarz	EMC 32 V10.60.15 (radiated emissions)

Notes: None

Section 8 Testing data

8.1 FCC 15.407(b) and RSS-247 5.4 (4) Transmitter output power and e.i.r.p. requirements

8.1.1 Definition and limits

Title 47 → Chapter I → Subchapter A → Part 15 → Subpart E → §15.407(a)

RSS-247 →§6.2

8.1.2 Test summary

Verdict	Pass		
Test date	May 3, 2021	Temperature	23 °C
Test engineer	David Hewitt, EMC Specialist	Air pressure	1002 mbar
Test location	Wireless bench	Relative humidity	54 %

8.1.3 Notes

Testing was performed in TX mode and the EUT transmitting on a fixed channel at full power.

The attenuation of the interconnecting cable was included in the power meter software as a correction factor.

The antenna gain is 5.1 dBi per client declaration.

EIR3P = Conducted Power + Declared Antenna Gain

8.1.4 Setup details

EUT setup configuration	Table top
Test facility	Nemko San Diego
Measurement method	ANSI C63.10 §11.9.2.3 AVGPM Power Meter For MIMO, combined powers were calculated using measure-and-sum approach of ANSI C63.10 §14.2

8.1.1 Test data

Table 8.1-1: *Output power*

Operating Mode	Test Frequency (MHz)	Maximum Conducted Power (dBm/mW)	Combined Conducted Power (dBm)	Declared Antenna Gain (dBi)	EIRP (dBm)	EIRP Limit (dBm)
IEEE 802.11n Ant1 20MBW MIMO U-NII-2A ch64	5320	12.51/17.82		5.1	17.61	36.0
IEEE 802.11n Ant2 20MBW MIMO U-NII-2A ch64	5320	12.5/17.78		5.1	17.60	36.0
IEEE 802.11n 20MBW MIMO U-NII-2A ch64 - Combined	5320		15.51	5.1	20.61	36.0
IEEE 802.11n Ant1 40MBW MIMO U-NII-2A ch62	5310	8.94/7.83		5.1	14.04	36.0
IEEE 802.11n Ant2 40MBW MIMO U-NII-2A ch62	5310	8.53/7.13		5.1	13.63	36.0
IEEE 802.11n 40MBW MIMO U-NII-2A ch62 – Combined	5310		11.75	5.1	16.85	36.0
IEEE 802.11ac Ant1 20MBW MIMO U-NII-2A ch64	5320	12.43/17.5		5.1	17.53	36.0
IEEE 802.11ac Ant2 20MBW MIMO U-NII-2A ch64	5320	12.32/17.06		5.1	17.42	36.0
IEEE 802.11ac 20MBW MIMO U-NII-2A ch64 - Combined	5320		15.39	5.1	20.49	36.0

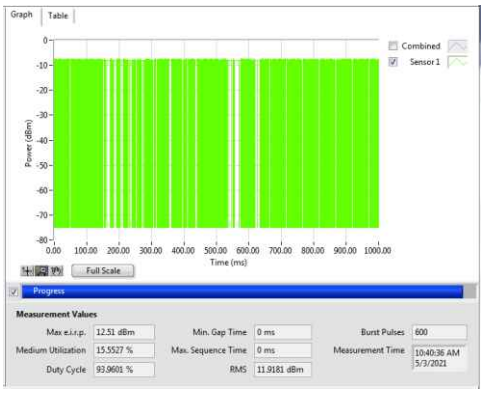


Figure 8.1-1: Maximum conducted power, 802.11n Ant1 20MBW MIMO U-NII-2A ch64

Figure 8.1-2: Maximum conducted power, 802.11n Ant2 20MBW MIMO U-NII-2A ch64

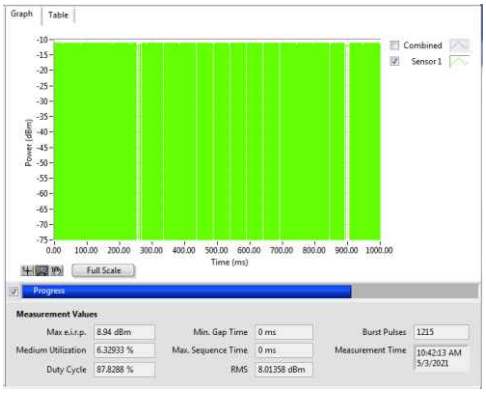


Figure 8.1-3: Maximum conducted power, 802.11n Ant1 40MBW MIMO U-NII-2A ch62

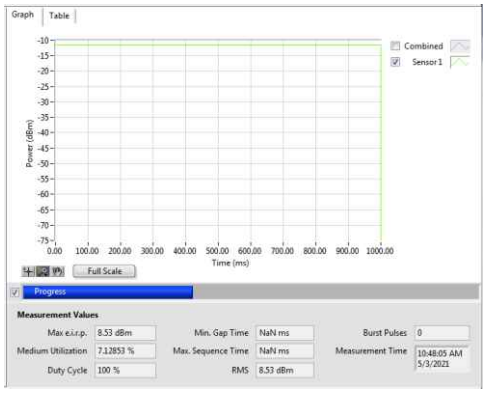


Figure 8.1-4: Maximum conducted power, 802.11n Ant2 40MBW MIMO U-NII-2A ch62

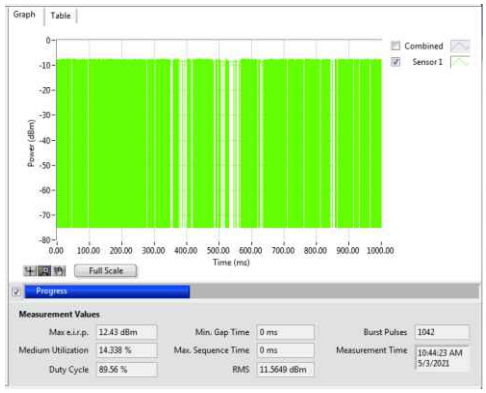


Figure 8.1-5: Maximum conducted power, 802.11ac Ant1 20MBW MIMO U-NII-2A ch64

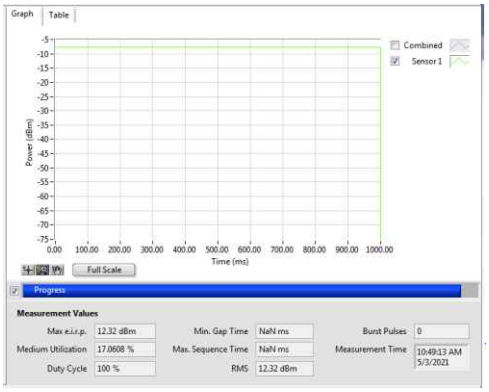


Figure 8.1-6: Maximum conducted power, 802.11ac Ant2 20MBW MIMO U-NII-2A ch64

8.2 FCC 15.407(b) and RSS-247 5.5 Radiated restricted band-edges and spurious emission

8.2.1 Definition and limits

Title 47 → Chapter I → Subchapter A → Part 15 → Subpart C → §15.407(b)

RSS-247 → §5.5

Table 8.2-1: *FCC §15.209– Radiated emission limits*

Frequency, MHz	Field strength of emissions		Measurement distance, m
	µV/m	dBµV/m	
0.009–0.490	2400/F	$67.6 - 20 \times \log_{10}(F)$	300
0.490–1.705	24000/F	$87.6 - 20 \times \log_{10}(F)$	30
1.705–30.0	30	29.5	30
30–88	100	40.0	3
88–216	150	43.5	3
216–960	200	46.0	3
above 960	500	54.0	3

Notes: In the emission table above, the tighter limit applies at the band edges.
For frequencies above 1 GHz the limit on peak RF emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test.

Table 8.2-2: *FCC restricted frequency bands*

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			

8.2.2 Test summary

Verdict	Pass		
Test date	April 26, 2021	Temperature	22 °C
Test engineer	David Hewitt, EMC Specialist	Air pressure	1004 mbar
Test location	3m semi-anechoic chamber (Radiated)	Relative humidity	47 %
Test date	April 27, 2021	Temperature	20 °C
Test engineer	David Hewitt, EMC Specialist	Air pressure	1006 mbar
Test location	3m semi-anechoic chamber (Radiated)	Relative humidity	43 %
Test date	April 28, 2021	Temperature	19 °C
Test engineer	David Hewitt, EMC Specialist	Air pressure	1010 mbar
Test location	3m semi-anechoic chamber (Radiated)	Relative humidity	49 %
Test date	April 29, 2021	Temperature	22 °C
Test engineer	David Hewitt, EMC Specialist	Air pressure	1010 mbar
Test location	3m semi-anechoic chamber (Radiated)	Relative humidity	39 %
Test date	April 30, 2021	Temperature	21 °C
Test engineer	David Hewitt, EMC Specialist	Air pressure	1009 mbar
Test location	3m semi-anechoic chamber (Radiated)	Relative humidity	40 %
Test date	May 3, 2021	Temperature	22 °C
Test engineer	David Hewitt, EMC Specialist	Air pressure	1002 mbar
Test location	3m semi-anechoic chamber (Radiated)	Relative humidity	56 %

8.2.3 Notes

The EUT was configured to transmit continuously on the lowest, middle and highest channels.

The spectrum was search from 30 MHz to 40 GHz.

Radiated measurements were performed at a 3 m measurement distance.

8.2.4 Setup details

EUT setup configuration	Tabletop
Test facility	Nemko San Diego
Measurement details	Radiated spurious emissions measurement performed as per C63.10 §11.12

Receiver settings for radiated measurements within restricted bands below 1 GHz:

Resolution bandwidth	120 kHz
Video bandwidth	300 kHz
Detector mode	Peak (preview measurements) Quasi-Peak (final measurements)
Trace mode	Max Hold
Measurement time	5 s (final measurements)

Receiver settings for radiated measurements within restricted bands above 1 GHz:

Resolution bandwidth	1 MHz
Video bandwidth	3 MHz
Detector mode	Average and peak (final measurements)
Trace mode	Max Hold
Measurement time	5 s (final measurements)

8.2.5 Test data

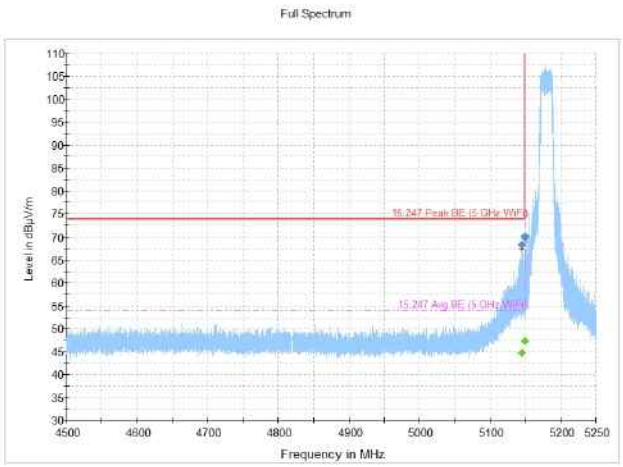


Figure 8.2-1: Radiated emissions, restricted band edge, 802.11a SISO 20MBW U-NII-1 Low channel

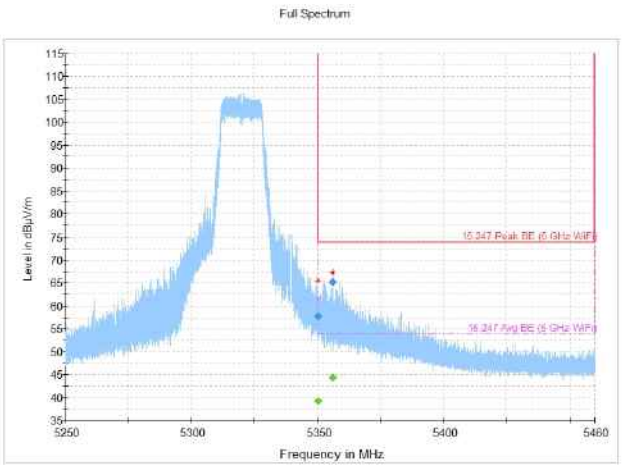


Figure 8.2-2: Radiated emissions, restricted band edge, 802.11a SISO 20MBW U-NII-2A High channel

Table 8.2-2: *Radiated emissions, restricted band edge, 802.11a SISO 20MBW U-NII-1 Low channel*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5145.750000	---	44.78	53.90	9.12	5000.0	1000.000	100.0	V	214.0	4.1
5145.750000	68.32	---	73.90	5.58	5000.0	1000.000	100.0	V	214.0	4.1
5150.000000	---	47.29	53.90	6.61	5000.0	1000.000	100.0	V	265.0	4.1
5150.000000	70.17	---	73.90	3.73	5000.0	1000.000	100.0	V	265.0	4.1

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

Table 8.2-3: *Radiated emissions, restricted band edge, 802.11a SISO 20MBW U-NII-2A High channel*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5350.000000	---	39.23	53.90	14.67	5000.0	1000.000	100.0	H	164.0	4.2
5350.000000	57.75	---	73.90	16.15	5000.0	1000.000	100.0	H	164.0	4.2
5355.854000	---	44.34	53.90	9.56	5000.0	1000.000	100.0	H	290.0	4.2
5355.854000	65.20	---	73.90	8.70	5000.0	1000.000	100.0	H	290.0	4.2

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

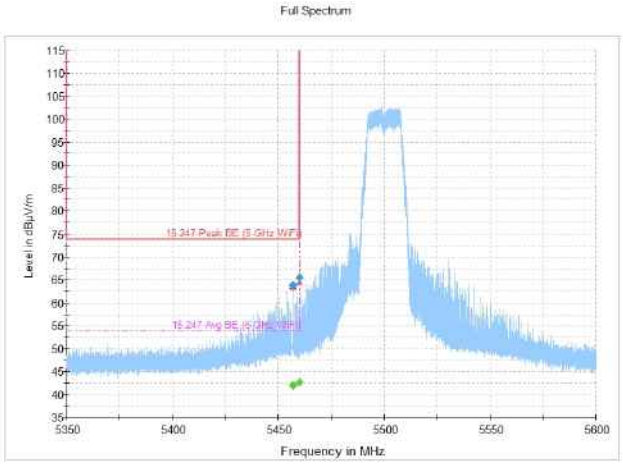


Figure 8.2-3: Radiated emissions, restricted band edge, 802.11a SISO 20MBW U-NII-2C Low channel

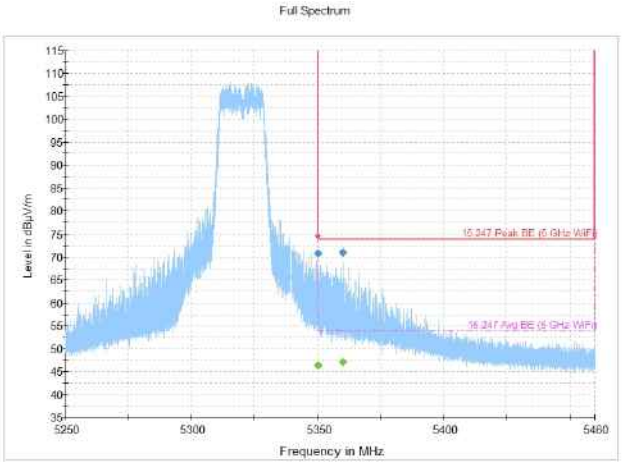


Figure 8.2-4: Radiated emissions, restricted band edge, 802.11n MIMO 20MBW U-NII-2A RBE High channel

Table 8.2-4: *Radiated emissions, restricted band edge, 802.11a SISO 20MBW U-NII-2C RBE Low channel*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5456.941667	---	42.04	53.90	11.86	5000.0	1000.000	100.0	H	268.0	4.0
5456.941667	63.84	---	73.90	10.06	5000.0	1000.000	100.0	H	268.0	4.0
5460.000000	---	42.67	53.90	11.23	5000.0	1000.000	100.0	V	290.0	4.0
5460.000000	65.57	---	73.90	8.33	5000.0	1000.000	100.0	V	290.0	4.0

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

Table 8.2-5: *Radiated emissions, restricted band edge, 802.11n MIMO 20MBW U-NII-2A RBE High channel*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5350.000000	---	46.39	53.90	7.51	5000.0	1000.000	100.0	V	34.0	4.2
5350.000000	70.88	---	73.90	3.02	5000.0	1000.000	100.0	V	34.0	4.2
5360.082000	---	47.04	53.90	6.86	5000.0	1000.000	100.0	V	299.0	4.2
5360.082000	71.06	---	73.90	2.84	5000.0	1000.000	100.0	V	299.0	4.2

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

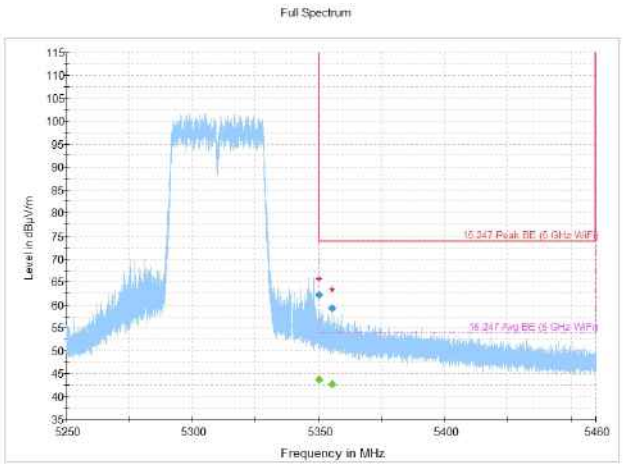


Figure 8.2-5: Radiated emissions, restricted band edge, 802.11n MIMO 40MBW U-NII-2A RBE High channel

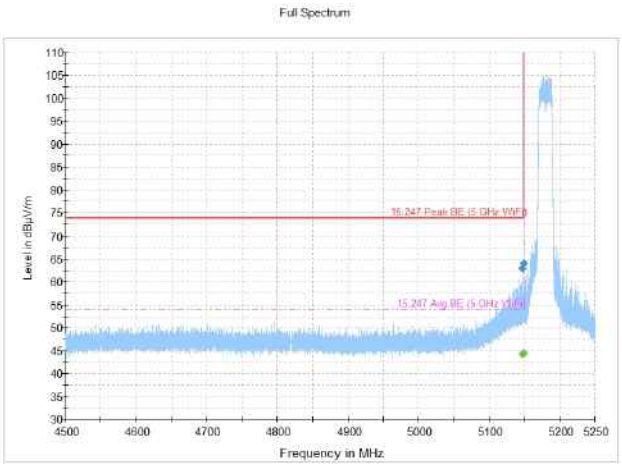


Figure 8.2-6: Radiated emissions, restricted band edge, 802.11ac MIMO 20MBW U-NII-1 RBE Low channel

Table 8.2-6: *Radiated emissions, restricted band edge, 802.11n MIMO 40MBW U-NII-2A RBE High channel*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5350.000000	---	43.74	53.90	10.16	5000.0	1000.000	100.0	H	35.0	4.2
5350.000000	62.25	---	73.90	11.65	5000.0	1000.000	100.0	H	35.0	4.2
5355.252000	---	42.72	53.90	11.18	5000.0	1000.000	100.0	H	36.0	4.2
5355.252000	59.22	---	73.90	14.68	5000.0	1000.000	100.0	H	36.0	4.2

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

Table 8.2-7: *Radiated emissions, restricted band edge, 802.11ac MIMO 20MBW U-NII-1 RBE Low channel*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5147.475000	---	44.19	53.90	9.71	5000.0	1000.000	100.0	H	297.0	4.1
5147.475000	63.03	---	73.90	10.87	5000.0	1000.000	100.0	H	297.0	4.1
5150.000000	---	44.47	53.90	9.43	5000.0	1000.000	100.0	V	48.0	4.1
5150.000000	64.11	---	73.90	9.79	5000.0	1000.000	100.0	V	48.0	4.1

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

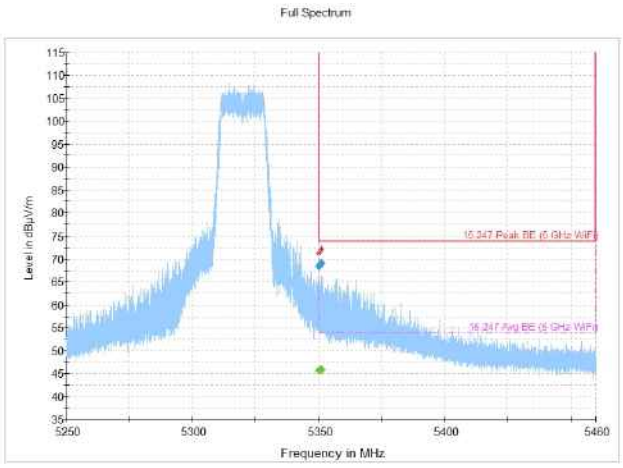


Figure 8.2-7: Radiated emissions, restricted band edge, 802.11ac MIMO 20MBW U-NII-2A RBE High channel

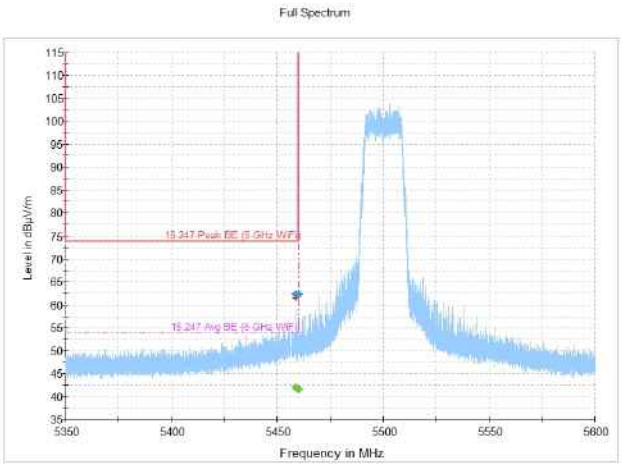


Figure 8.2-8: Radiated emissions, restricted band edge, 802.11ac MIMO 20MBW U-NII-2C RBE Low channel

Table 8.2-8: *Radiated emissions, restricted band edge, 802.11ac MIMO 20MBW U-NII-2A RBE High channel*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5350.000000	---	45.76	53.90	8.14	5000.0	1000.000	100.0	H	34.0	4.2
5350.000000	68.45	---	73.90	5.45	5000.0	1000.000	100.0	H	34.0	4.2
5350.884000	---	45.88	53.90	8.02	5000.0	1000.000	100.0	V	36.0	4.2
5350.884000	69.13	---	73.90	4.77	5000.0	1000.000	100.0	V	36.0	4.2

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

Table 8.2-9: *Radiated emissions, restricted band edge, 802.11ac MIMO 20MBW U-NII-2C RBE Low channel*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5458.333333	---	41.88	53.90	12.02	5000.0	1000.000	100.0	H	48.0	4.0
5458.333333	62.43	---	73.90	11.47	5000.0	1000.000	100.0	H	48.0	4.0
5460.000000	---	41.65	53.90	12.25	5000.0	1000.000	100.0	V	40.0	4.0
5460.000000	62.36	---	73.90	11.54	5000.0	1000.000	100.0	V	40.0	4.0

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

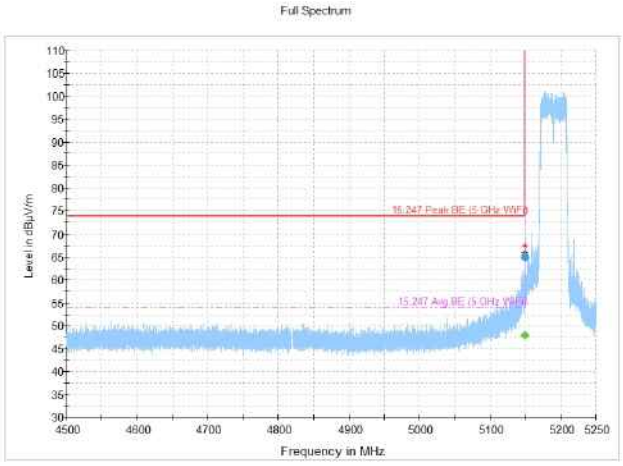


Figure 8.2-9: Radiated emissions, restricted band edge, 802.11ac MIMO 40MBW U-NII-1 RBE Low channel

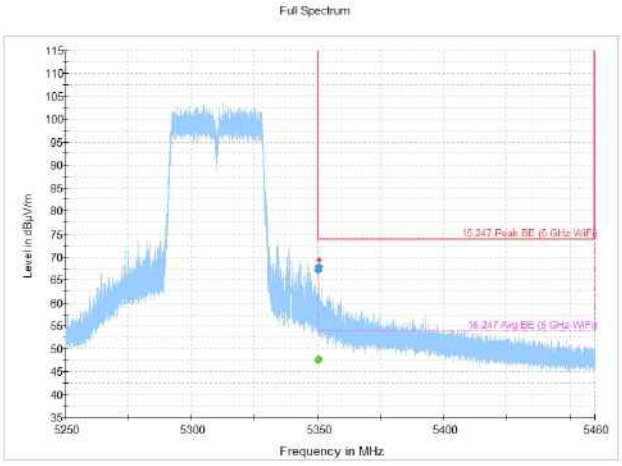


Figure 8.2-10: Radiated emissions, restricted band edge, 802.11ac MIMO 40MBW U-NII-2A RBE High channel

Table 8.2-10: *Radiated emissions, restricted band edge, 802.11ac MIMO 40MBW U-NII-1 RBE Low channel*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5149.400000	---	47.88	53.90	6.02	5000.0	1000.000	100.0	V	301.0	4.1
5149.400000	65.39	---	73.90	8.51	5000.0	1000.000	100.0	V	301.0	4.1
5150.000000	---	48.05	53.90	5.85	5000.0	1000.000	100.0	V	306.0	4.1
5150.000000	64.81	---	73.90	9.09	5000.0	1000.000	100.0	V	306.0	4.1

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

Table 8.2-11: *Radiated emissions, restricted band edge, 802.11ac MIMO 40MBW U-NII-2A RBE High channel*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5350.000000	---	47.40	53.90	6.50	5000.0	1000.000	100.0	H	283.0	4.2
5350.000000	67.14	---	73.90	6.76	5000.0	1000.000	100.0	H	283.0	4.2
5350.401000	---	47.71	53.90	6.19	5000.0	1000.000	100.0	H	298.0	4.2
5350.401000	67.92	---	73.90	5.98	5000.0	1000.000	100.0	H	298.0	4.2

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

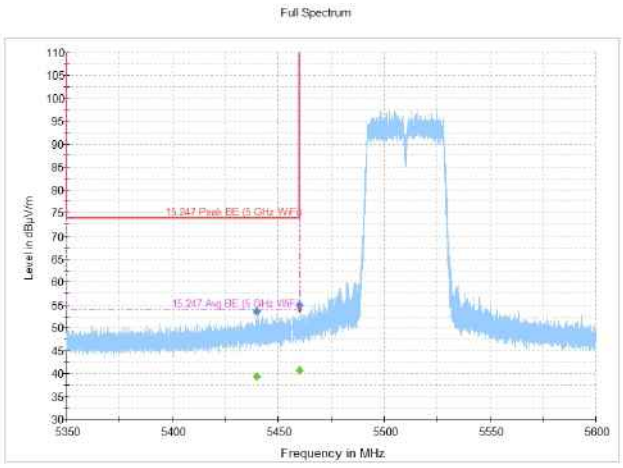


Figure 8.2-11: Radiated emissions, restricted band edge, 802.11ac MIMO 40MBW U-NII-2C RBE Low channel

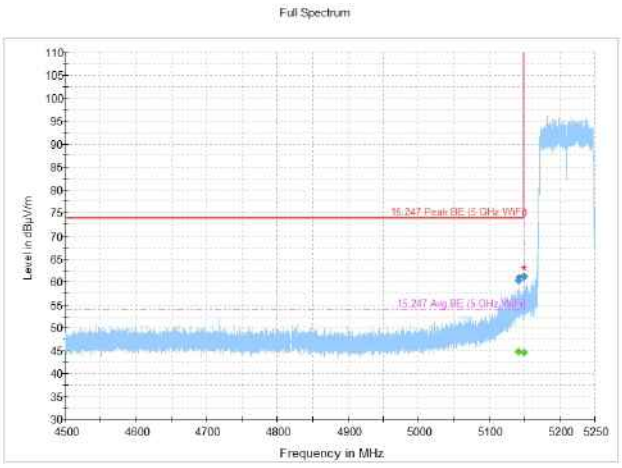


Figure 8.2-12: Radiated emissions, restricted band edge, 802.11ac MIMO 80MBW U-NII-1 RBE Low channel

Table 8.2-12: *Radiated emissions, restricted band edge, 802.11ac MIMO 40MBW U-NII-2C RBE Low channel*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5440.225000	53.66	---	73.90	20.24	5000.0	1000.000	100.0	V	306.0	4.0
5440.225000	---	39.39	53.90	14.51	5000.0	1000.000	100.0	V	306.0	4.0
5460.000000	55.05	---	73.90	18.85	5000.0	1000.000	100.0	H	282.0	4.0
5460.000000	---	40.72	53.90	13.18	5000.0	1000.000	100.0	H	282.0	4.0

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

Table 8.2-13: *Radiated emissions, restricted band edge, 802.11ac MIMO 80MBW U-NII-1 RBE Low channel*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5142.250000	60.47	---	73.90	13.43	5000.0	1000.000	100.0	H	307.0	4.1
5142.250000	---	44.85	53.90	9.05	5000.0	1000.000	100.0	H	307.0	4.1
5150.000000	61.17	---	73.90	12.73	5000.0	1000.000	100.0	H	303.0	4.1
5150.000000	---	44.64	53.90	9.26	5000.0	1000.000	100.0	H	303.0	4.1

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

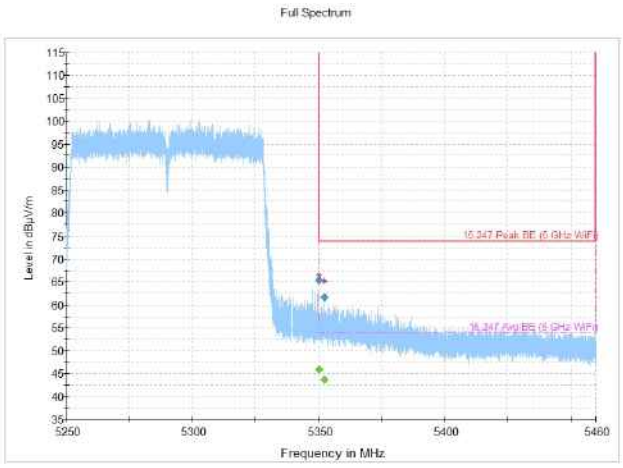


Figure 8.2-13: Radiated emissions, restricted band edge, 802.11ac MIMO 80MBW U-NII-2A RBE High channel

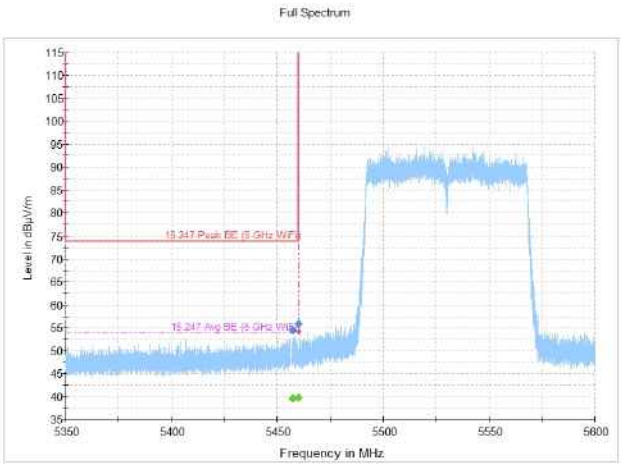


Figure 8.2-14: Radiated emissions, restricted band edge, 802.11ac MIMO 80MBW U-NII-2C RBE Low channel

Table 8.2-14: *Radiated emissions, restricted band edge, 5WiFi 802.11ac MIMO 80MBW U-NII-2A RBE High channel*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5350.000000	65.38	---	73.90	8.52	5000.0	1000.000	100.0	V	300.0	4.2
5350.000000	---	45.89	53.90	8.01	5000.0	1000.000	100.0	V	300.0	4.2
5352.193000	61.64	---	73.90	12.26	5000.0	1000.000	100.0	H	35.0	4.2
5352.193000	---	43.74	53.90	10.16	5000.0	1000.000	100.0	H	35.0	4.2

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

Table 8.2-15: *Radiated emissions, restricted band edge, 802.11ac MIMO 80MBW U-NII-2C RBE Low channel*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5457.491667	---	39.56	53.90	14.34	5000.0	1000.000	100.0	V	273.0	4.0
5457.491667	54.47	---	73.90	19.43	5000.0	1000.000	100.0	V	273.0	4.0
5460.000000	---	39.82	53.90	14.08	5000.0	1000.000	100.0	V	274.0	4.0
5460.000000	55.93	---	73.90	17.97	5000.0	1000.000	100.0	V	274.0	4.0

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

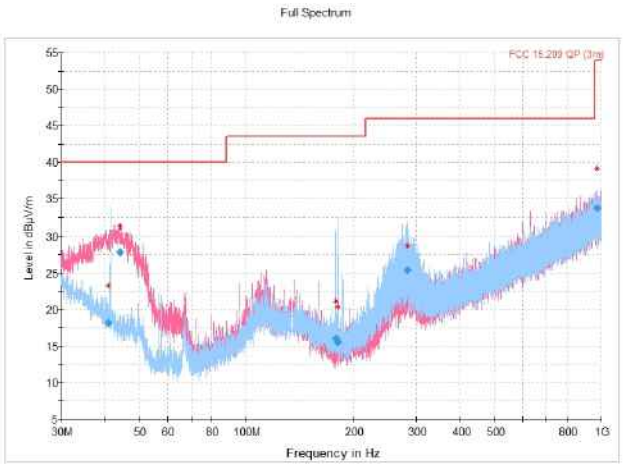


Figure 8.2-15: Radiated spurious emissions, 802.11a SISO 20MBW U-NII-2C mid ch116

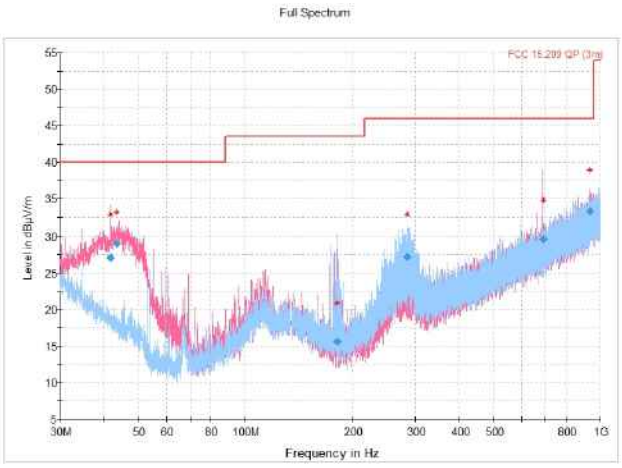


Figure 8.2-16: Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-2C low ch100

Table 8.2-16: *Radiated spurious emissions, 802.11a SISO 20MBW U-NII-2C mid ch116, 30-1000 MHz*

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
40.849000	18.13	40.00	21.87	5000.0	120.000	324.0	H	314.0	20.6
43.954000	27.78	40.00	12.22	5000.0	120.000	119.0	V	11.0	18.9
178.662333	16.09	43.50	27.41	5000.0	120.000	200.0	H	217.0	17.2
180.518000	15.55	43.50	27.95	5000.0	120.000	161.0	H	298.0	17.1
284.521667	25.35	46.00	20.65	5000.0	120.000	410.0	H	249.0	21.5
973.192667	33.78	53.90	20.12	5000.0	120.000	170.0	H	168.0	34.5

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] Limits converted to dBµV/m and an inverse proportionality factor of 20 dB per decade has been used to normalize the specification limit to a measurement distance of 3 meters to determine compliance.

Table 8.2-17: *Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-2C low ch100, 30-1000 MHz*

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
41.717000	27.05	40.00	12.95	5000.0	120.000	100.0	V	150.0	20.1
43.315667	28.96	40.00	11.04	5000.0	120.000	100.0	V	11.0	19.3
181.564667	15.65	43.50	27.85	5000.0	120.000	261.0	H	347.0	17.1
285.925667	27.14	46.00	18.86	5000.0	120.000	100.0	H	232.0	21.6
690.004667	29.64	46.00	16.36	5000.0	120.000	255.0	V	298.0	30.3
937.347000	33.33	46.00	12.67	5000.0	120.000	253.0	V	284.0	34.0

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] Limits converted to dBµV/m and an inverse proportionality factor of 20 dB per decade has been used to normalize the specification limit to a measurement distance of 3 meters to determine compliance.

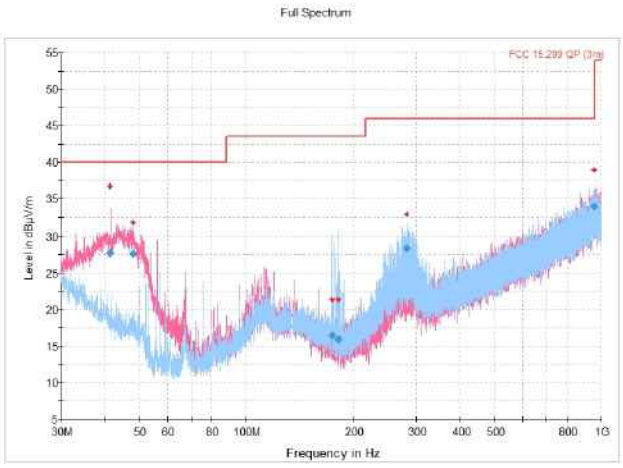


Figure 8.2-17: Radiated spurious emissions, 802.11ac MIMO 40MBW U-NII-2C low ch102

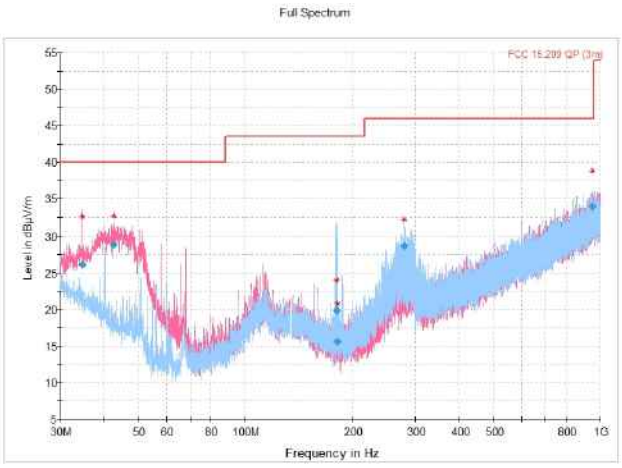


Figure 8.2-18: Radiated spurious emissions, 802.11ac MIMO 80MBW U-NII-2C low ch100

Table 8.2-18: *Radiated spurious emissions, 802.11ac MIMO 40MBW U-NII-2C low ch102, 30-1000 MHz*

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
41.201333	27.76	40.00	12.24	5000.0	120.000	98.0	V	72.0	20.4
48.069667	27.56	40.00	12.44	5000.0	120.000	100.0	V	318.0	16.8
174.154333	16.44	43.50	27.06	5000.0	120.000	212.0	H	356.0	17.5
180.892333	15.91	43.50	27.59	5000.0	120.000	222.0	H	0.0	17.1
283.319333	28.36	46.00	17.64	5000.0	120.000	100.0	H	249.0	21.5
954.611333	34.03	46.00	11.97	5000.0	120.000	199.0	H	237.0	34.7

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] Limits converted to dBµV/m and an inverse proportionality factor of 20 dB per decade has been used to normalize the specification limit to a measurement distance of 3 meters to determine compliance.

Table 8.2-19: *Radiated spurious emissions, 802.11ac MIMO 80MBW U-NII-2C low ch100, 30-1000 MHz*

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
34.786667	26.16	40.00	13.84	5000.0	120.000	118.0	V	41.0	23.9
42.574667	28.85	40.00	11.15	5000.0	120.000	100.0	V	40.0	19.7
179.980333	19.90	43.50	23.60	5000.0	120.000	180.0	H	0.0	17.1
180.927333	15.58	43.50	27.92	5000.0	120.000	98.0	H	202.0	17.1
279.524333	28.64	46.00	17.36	5000.0	120.000	100.0	H	250.0	21.4
952.417667	33.96	46.00	12.04	5000.0	120.000	98.0	H	184.0	34.6

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] Limits converted to dBµV/m and an inverse proportionality factor of 20 dB per decade has been used to normalize the specification limit to a measurement distance of 3 meters to determine compliance.

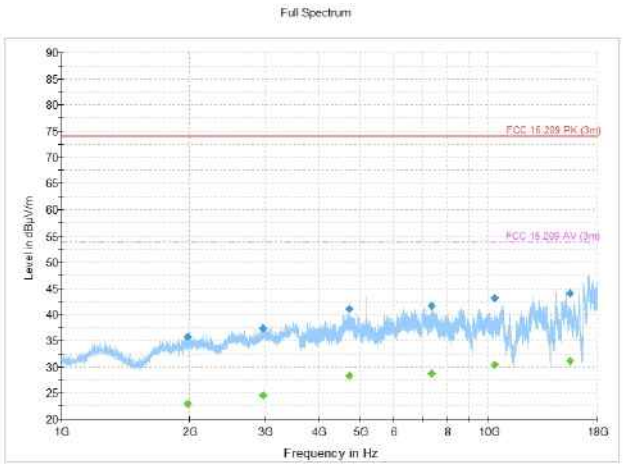


Figure 8.2-19: Radiated spurious emissions, 802.11a SISO 20MBW U-NII-1 Low channel

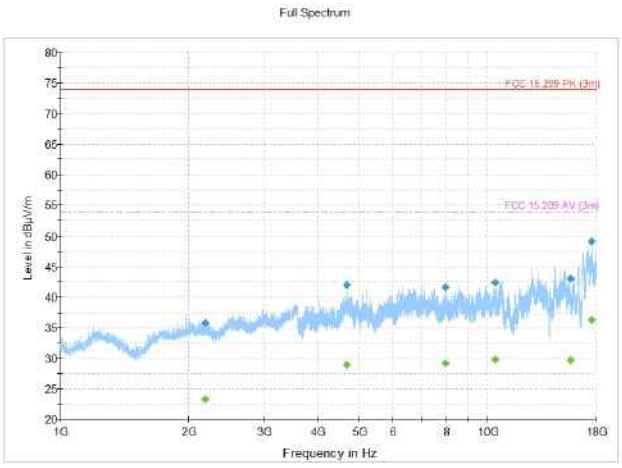


Figure 8.2-20: Radiated spurious emissions, 802.11a SISO 20MBW U-NII-1 Mid channel

Table 8.2-20: *Radiated spurious emissions, 802.11a SISO 20MBW U-NII-1 Low channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1985.500000	35.82	---	73.90	38.08	1000.0	1000.000	189.0	H	225.0	-10.5
1985.500000	---	23.01	53.90	30.89	1000.0	1000.000	189.0	H	225.0	-10.5
2970.766667	37.34	---	73.90	36.56	1000.0	1000.000	288.0	V	355.0	-8.0
2970.766667	---	24.58	53.90	29.32	1000.0	1000.000	288.0	V	355.0	-8.0
4722.311111	41.04	---	73.90	32.86	1000.0	1000.000	344.0	V	290.0	-1.7
4722.311111	---	28.37	53.90	25.53	1000.0	1000.000	344.0	V	290.0	-1.7
7373.400000	41.76	---	73.90	32.14	1000.0	1000.000	133.0	V	346.0	0.8
7373.400000	---	28.71	53.90	25.19	1000.0	1000.000	133.0	V	346.0	0.8
10360.000000	43.20	---	73.90	30.70	1000.0	1000.000	275.0	H	169.0	3.8
10360.000000	---	30.38	53.90	23.52	1000.0	1000.000	275.0	H	169.0	3.8
15540.000000	44.15	---	73.90	29.75	1000.0	1000.000	266.0	H	310.0	10.1
15540.000000	---	31.20	53.90	22.70	1000.0	1000.000	266.0	H	310.0	10.1

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)

Table 8.2-21: *Radiated spurious emissions, 802.11a SISO 20MBW U-NII-1 Mid channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2195.411111	---	23.32	53.90	30.58	1000.0	1000.000	270.0	V	238.0	-10.7
2195.411111	35.84	---	73.90	38.06	1000.0	1000.000	270.0	V	238.0	-10.7
4680.644444	42.00	---	73.90	31.90	1000.0	1000.000	247.0	H	32.0	-1.7
4680.644444	---	28.91	53.90	24.99	1000.0	1000.000	247.0	H	32.0	-1.7
7978.422222	41.65	---	73.90	32.25	1000.0	1000.000	105.0	V	45.0	1.9
7978.422222	---	29.21	53.90	24.69	1000.0	1000.000	105.0	V	45.0	1.9
10440.000000	42.36	---	73.90	31.54	1000.0	1000.000	157.0	H	316.0	4.4
10440.000000	---	29.80	53.90	24.10	1000.0	1000.000	157.0	H	316.0	4.4
15663.600000	43.12	---	73.90	30.78	1000.0	1000.000	388.0	V	334.0	10.2
15663.600000	---	29.74	53.90	24.16	1000.0	1000.000	388.0	V	334.0	10.2
17518.400000	---	36.29	53.90	17.61	1000.0	1000.000	288.0	V	57.0	13.1
17518.400000	49.16	---	73.90	24.74	1000.0	1000.000	288.0	V	57.0	13.1

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)

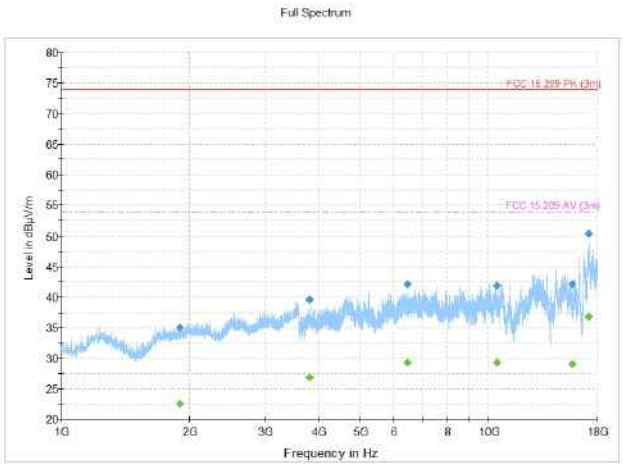


Figure 8.2-21: Radiated spurious emissions, 802.11a SISO 20MBW U-NII-1 High channel

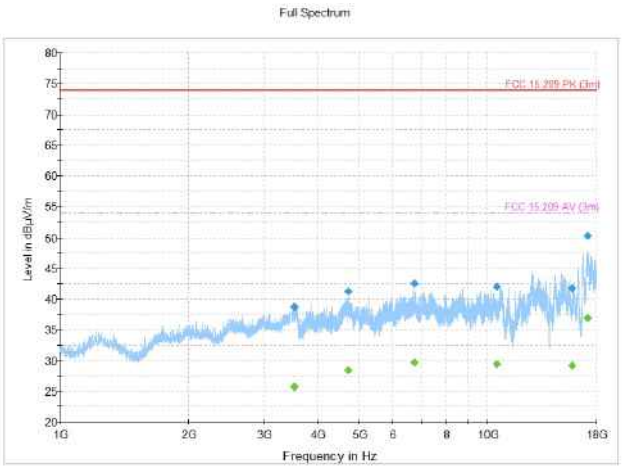


Figure 8.2-22: Radiated spurious emissions, 802.11a SISO 20MBW U-NII-2A low channel

Table 8.2-22: *Radiated spurious emissions, 802.11a SISO 20MBW U-NII-1 High channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1900.822222	35.05	---	73.90	38.85	1000.0	1000.000	323.0	H	12.0	-10.9
1900.822222	---	22.49	53.90	31.41	1000.0	1000.000	323.0	H	12.0	-10.9
3818.766667	---	26.87	53.90	27.03	1000.0	1000.000	303.0	V	0.0	-4.4
3818.766667	39.64	---	73.90	34.26	1000.0	1000.000	303.0	V	0.0	-4.4
6460.711111	42.16	---	73.90	31.74	1000.0	1000.000	380.0	H	213.0	0.8
6460.711111	---	29.25	53.90	24.65	1000.0	1000.000	380.0	H	213.0	0.8
10486.000000	---	29.31	53.90	24.59	1000.0	1000.000	107.0	V	226.0	4.8
10486.000000	41.96	---	73.90	31.94	1000.0	1000.000	107.0	V	226.0	4.8
15725.200000	42.15	---	73.90	31.75	1000.0	1000.000	178.0	V	137.0	10.7
15725.200000	---	29.00	53.90	24.90	1000.0	1000.000	178.0	V	137.0	10.7
17218.511111	50.40	---	73.90	23.50	1000.0	1000.000	355.0	H	174.0	14.7
17218.511111	---	36.86	53.90	17.04	1000.0	1000.000	355.0	H	174.0	14.7

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)

Table 8.2-23: *Radiated spurious emissions, 802.11a SISO 20MBW U-NII-2A low channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3533.722222	---	25.77	53.90	28.13	1000.0	1000.000	305.0	V	201.0	-5.7
3533.722222	38.75	---	73.90	35.15	1000.0	1000.000	305.0	V	201.0	-5.7
4721.577778	---	28.46	53.90	25.44	1000.0	1000.000	156.0	V	0.0	-1.7
4721.577778	41.28	---	73.90	32.62	1000.0	1000.000	156.0	V	0.0	-1.7
6735.466667	---	29.65	53.90	24.25	1000.0	1000.000	190.0	H	33.0	1.2
6735.466667	42.53	---	73.90	31.37	1000.0	1000.000	190.0	H	33.0	1.2
10516.800000	42.07	---	73.90	31.83	1000.0	1000.000	287.0	H	250.0	5.0
10516.800000	---	29.41	53.90	24.49	1000.0	1000.000	287.0	H	250.0	5.0
15778.000000	---	29.15	53.90	24.75	1000.0	1000.000	366.0	V	68.0	11.1
15778.000000	41.80	---	73.90	32.10	1000.0	1000.000	366.0	V	68.0	11.1
17158.466667	50.35	---	73.90	23.55	1000.0	1000.000	160.0	V	0.0	14.4
17158.466667	---	37.00	53.90	16.90	1000.0	1000.000	160.0	V	0.0	14.4

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)

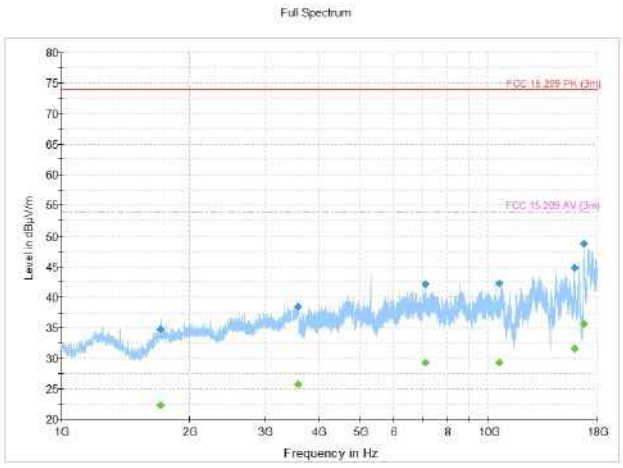


Figure 8.2-23: Radiated spurious emissions, 802.11a SISO 20MBW U-NII-2A Mid channel

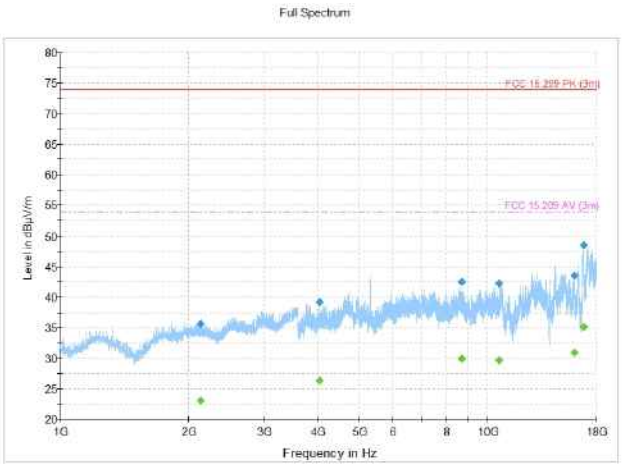


Figure 8.2-24: Radiated spurious emissions, 802.11a SISO 20MBW U-NII-2A High channel

Table 8.2-24: *Radiated spurious emissions, 802.11a SISO 20MBW U-NII-2A Mid channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1713.088889	---	22.31	53.90	31.59	1000.0	1000.000	327.0	H	356.0	-12.8
1713.088889	34.73	---	73.90	39.17	1000.0	1000.000	327.0	H	356.0	-12.8
3575.833333	---	25.71	53.90	28.19	1000.0	1000.000	387.0	V	81.0	-5.4
3575.833333	38.43	---	73.90	35.47	1000.0	1000.000	387.0	V	81.0	-5.4
7128.033333	---	29.26	53.90	24.64	1000.0	1000.000	118.0	V	0.0	1.1
7128.033333	42.13	---	73.90	31.77	1000.0	1000.000	118.0	V	0.0	1.1
10594.400000	---	29.35	53.90	24.55	1000.0	1000.000	390.0	H	212.0	4.8
10594.400000	42.28	---	73.90	31.62	1000.0	1000.000	390.0	H	212.0	4.8
15906.800000	44.83	---	73.90	29.07	1000.0	1000.000	364.0	H	46.0	11.6
15906.800000	---	31.64	53.90	22.26	1000.0	1000.000	364.0	H	46.0	11.6
16794.822222	48.79	---	73.90	25.11	1000.0	1000.000	359.0	H	258.0	14.0
16794.822222	---	35.70	53.90	18.20	1000.0	1000.000	359.0	H	258.0	14.0

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)

Table 8.2-25: *Radiated spurious emissions, 802.11a SISO 20MBW U-NII-2A High channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2140.200000	35.71	---	73.90	38.19	1000.0	1000.000	349.0	V	308.0	-11.2
2140.200000	---	23.02	53.90	30.88	1000.0	1000.000	349.0	V	308.0	-11.2
4038.166667	39.28	---	73.90	34.62	1000.0	1000.000	390.0	V	248.0	-3.4
4038.166667	---	26.41	53.90	27.49	1000.0	1000.000	390.0	V	248.0	-3.4
8719.522222	42.51	---	73.90	31.39	1000.0	1000.000	390.0	V	93.0	2.9
8719.522222	---	29.91	53.90	23.99	1000.0	1000.000	390.0	V	93.0	2.9
10658.400000	---	29.72	53.90	24.18	1000.0	1000.000	328.0	V	116.0	4.4
10658.400000	42.26	---	73.90	31.64	1000.0	1000.000	328.0	V	116.0	4.4
15982.000000	43.54	---	73.90	30.36	1000.0	1000.000	207.0	V	0.0	11.0
15982.000000	---	31.00	53.90	22.90	1000.0	1000.000	207.0	V	0.0	11.0
16806.177778	---	35.22	53.90	18.68	1000.0	1000.000	269.0	H	344.0	13.9
16806.177778	48.49	---	73.90	25.41	1000.0	1000.000	269.0	H	344.0	13.9

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)

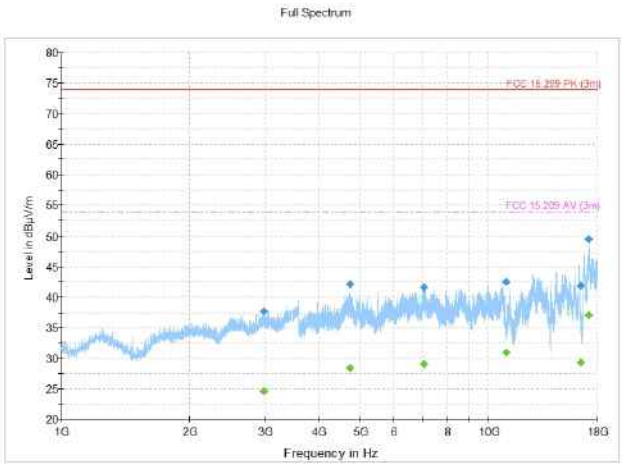


Figure 8.2-25: Radiated spurious emissions, 802.11a SISO 20MBW U-NII-2C Low channel

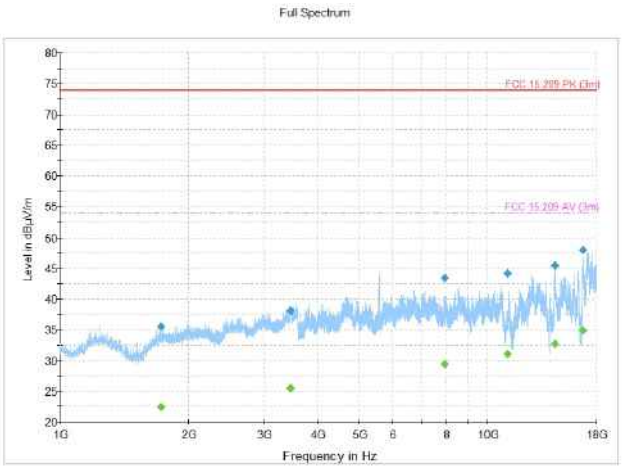


Figure 8.2-26: Radiated spurious emissions, 802.11a SISO 20MBW U-NII-2C Mid channel

Table 8.2-26: *Radiated spurious emissions, 802.11a SISO 20MBW U-NII-2C Mid channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2986.966667	37.67	---	73.90	36.23	1000.0	1000.000	222.0	H	0.0	-7.9
2986.966667	---	24.63	53.90	29.27	1000.0	1000.000	222.0	H	0.0	-7.9
4732.588889	42.16	---	73.90	31.74	1000.0	1000.000	312.0	H	312.0	-1.7
4732.588889	---	28.39	53.90	25.51	1000.0	1000.000	312.0	H	312.0	-1.7
7061.911111	---	29.05	53.90	24.85	1000.0	1000.000	393.0	V	79.0	1.0
7061.911111	41.63	---	73.90	32.27	1000.0	1000.000	393.0	V	79.0	1.0
11000.000000	---	30.96	53.90	22.94	1000.0	1000.000	251.0	V	11.0	4.6
11000.000000	42.57	---	73.90	31.33	1000.0	1000.000	251.0	V	11.0	4.6
16504.400000	---	29.36	53.90	24.54	1000.0	1000.000	297.0	V	192.0	11.8
16504.400000	41.88	---	73.90	32.02	1000.0	1000.000	297.0	V	192.0	11.8
17199.911111	---	37.05	53.90	16.85	1000.0	1000.000	391.0	V	154.0	14.7
17199.911111	49.59	---	73.90	24.31	1000.0	1000.000	391.0	V	154.0	14.7

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)

Table 8.2-27: *Radiated spurious emissions, 802.11a SISO 20MBW U-NII-1 Mid channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1722.933333	---	22.45	53.90	31.45	1000.0	1000.000	240.0	H	-1.0	-12.6
1722.933333	35.49	---	73.90	38.41	1000.0	1000.000	240.0	H	-1.0	-12.6
3459.477778	---	25.54	53.90	28.36	1000.0	1000.000	378.0	V	162.0	-6.2
3459.477778	38.13	---	73.90	35.77	1000.0	1000.000	378.0	V	162.0	-6.2
7956.855556	43.45	---	73.90	30.45	1000.0	1000.000	377.0	H	-1.0	1.9
7956.855556	---	29.47	53.90	24.43	1000.0	1000.000	377.0	H	-1.0	1.9
11158.400000	44.20	---	73.90	29.70	1000.0	1000.000	163.0	V	129.0	4.6
11158.400000	---	31.12	53.90	22.78	1000.0	1000.000	163.0	V	129.0	4.6
14388.988889	45.50	---	73.90	28.40	1000.0	1000.000	286.0	V	277.0	9.8
14388.988889	---	32.74	53.90	21.16	1000.0	1000.000	286.0	V	277.0	9.8
16738.400000	48.07	---	73.90	25.83	1000.0	1000.000	267.0	V	132.0	14.4
16738.400000	---	34.95	53.90	18.95	1000.0	1000.000	267.0	V	132.0	14.4

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)

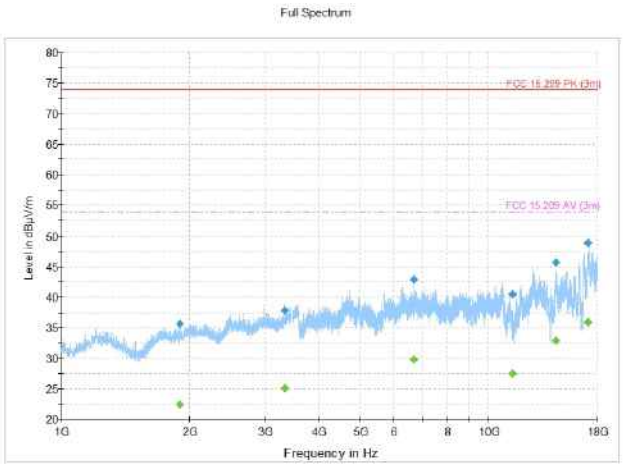


Figure 8.2-27: Radiated spurious emissions, 802.11a SISO 20MBW U-NII-2C High channel

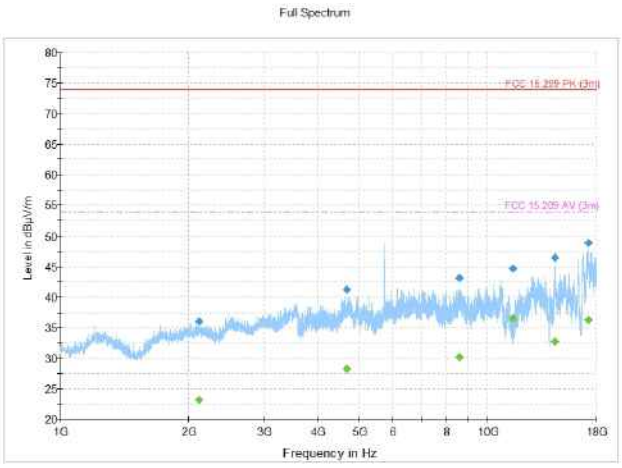


Figure 8.2-28: Radiated spurious emissions, 802.11a SISO 20MBW U-NII-3 Low channel

Table 8.2-28: *Radiated spurious emissions, 802.11a SISO 20MBW U-NII-2C High channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1896.022222	---	22.45	53.90	31.45	1000.0	1000.000	172.0	V	0.0	-10.9
1896.022222	35.72	---	73.90	38.18	1000.0	1000.000	172.0	V	0.0	-10.9
3346.866667	---	25.15	53.90	28.75	1000.0	1000.000	234.0	H	105.0	-6.5
3346.866667	37.84	---	73.90	36.06	1000.0	1000.000	234.0	H	105.0	-6.5
6696.411111	42.97	---	73.90	30.93	1000.0	1000.000	335.0	H	321.0	1.2
6696.411111	---	29.80	53.90	24.10	1000.0	1000.000	335.0	H	321.0	1.2
11408.400000	---	27.56	53.90	26.34	1000.0	1000.000	356.0	V	336.0	4.3
11408.400000	40.52	---	73.90	33.38	1000.0	1000.000	356.0	V	336.0	4.3
14394.077778	---	32.84	53.90	21.06	1000.0	1000.000	402.0	V	0.0	9.7
14394.077778	45.69	---	73.90	28.21	1000.0	1000.000	402.0	V	0.0	9.7
17096.400000	48.94	---	73.90	24.96	1000.0	1000.000	183.0	V	56.0	13.7
17096.400000	---	35.89	53.90	18.01	1000.0	1000.000	183.0	V	56.0	13.7

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)

Table 8.2-29: *Radiated spurious emissions, 802.11a SISO 20MBW U-NII-3 Low channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2120.400000	36.04	---	73.90	37.86	1000.0	1000.000	257.0	H	259.0	-11.2
2120.400000	---	23.12	53.90	30.78	1000.0	1000.000	257.0	H	259.0	-11.2
4685.477778	---	28.24	53.90	25.66	1000.0	1000.000	318.0	H	162.0	-1.7
4685.477778	41.28	---	73.90	32.62	1000.0	1000.000	318.0	H	162.0	-1.7
8611.744444	43.24	---	73.90	30.66	1000.0	1000.000	303.0	H	176.0	2.5
8611.744444	---	30.24	53.90	23.66	1000.0	1000.000	303.0	H	176.0	2.5
11490.000000	44.70	---	73.90	29.20	1000.0	1000.000	233.0	V	21.0	4.3
11490.000000	---	36.58	53.90	17.32	1000.0	1000.000	233.0	V	21.0	4.3
14394.033333	46.48	---	73.90	27.42	1000.0	1000.000	98.0	H	332.0	9.7
14394.033333	---	32.68	53.90	21.22	1000.0	1000.000	98.0	H	332.0	9.7
17232.600000	---	36.27	53.90	17.63	1000.0	1000.000	356.0	V	286.0	14.7
17232.600000	48.89	---	73.90	25.01	1000.0	1000.000	356.0	V	286.0	14.7

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)

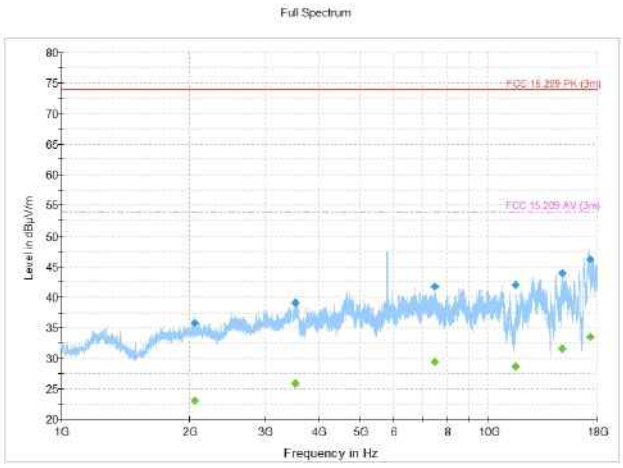


Figure 8.2-29: Radiated spurious emissions, 802.11a SISO 20MBW U-NII-3 Mid channel

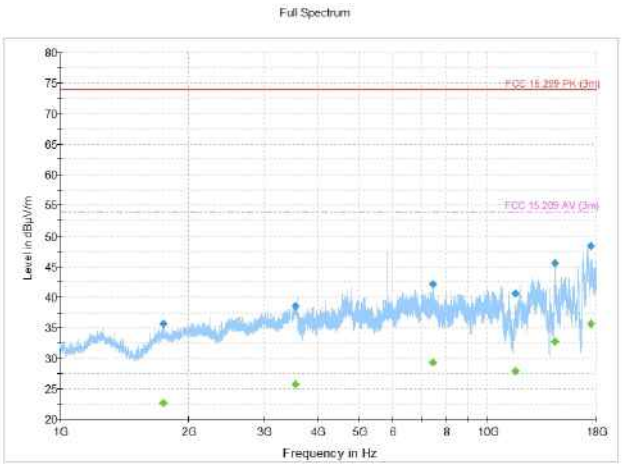


Figure 8.2-30: Radiated spurious emissions, 802.11a SISO 20MBW U-NII-3 High channel

Table 8.2-30: *Radiated spurious emissions, 802.11a SISO 20MBW U-NII-3 Mid channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2060.788889	35.74	---	73.90	38.16	1000.0	1000.000	363.0	V	220.0	-11.1
2060.788889	---	23.06	53.90	30.84	1000.0	1000.000	363.0	V	220.0	-11.1
3527.877778	---	25.82	53.90	28.08	1000.0	1000.000	189.0	H	92.0	-5.8
3527.877778	39.06	---	73.90	34.84	1000.0	1000.000	189.0	H	92.0	-5.8
7475.400000	41.81	---	73.90	32.09	1000.0	1000.000	341.0	H	316.0	1.3
7475.400000	---	29.40	53.90	24.50	1000.0	1000.000	341.0	H	316.0	1.3
11572.400000	---	28.67	53.90	25.23	1000.0	1000.000	402.0	V	56.0	4.8
11572.400000	42.07	---	73.90	31.83	1000.0	1000.000	402.0	V	56.0	4.8
14892.922222	---	31.61	53.90	22.29	1000.0	1000.000	186.0	V	234.0	10.0
14892.922222	43.98	---	73.90	29.92	1000.0	1000.000	186.0	V	234.0	10.0
17358.600000	---	33.50	53.90	20.40	1000.0	1000.000	259.0	V	82.0	13.5
17358.600000	46.30	---	73.90	27.60	1000.0	1000.000	259.0	V	82.0	13.5

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)

Table 8.2-31: *Radiated spurious emissions, 802.11a SISO 20MBW U-NII-3 High channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1743.600000	35.71	---	73.90	38.19	1000.0	1000.000	342.0	V	95.0	-12.3
1743.600000	---	22.62	53.90	31.28	1000.0	1000.000	342.0	V	95.0	-12.3
3555.200000	---	25.71	53.90	28.19	1000.0	1000.000	339.0	V	320.0	-5.6
3555.200000	38.62	---	73.90	35.28	1000.0	1000.000	339.0	V	320.0	-5.6
7469.188889	---	29.33	53.90	24.57	1000.0	1000.000	112.0	H	247.0	1.3
7469.188889	42.22	---	73.90	31.68	1000.0	1000.000	112.0	H	247.0	1.3
11647.600000	---	27.91	53.90	25.99	1000.0	1000.000	283.0	V	46.0	5.2
11647.600000	40.70	---	73.90	33.20	1000.0	1000.000	283.0	V	46.0	5.2
14390.811111	---	32.78	53.90	21.12	1000.0	1000.000	235.0	V	72.0	9.8
14390.811111	45.62	---	73.90	28.28	1000.0	1000.000	235.0	V	72.0	9.8
17479.000000	48.34	---	73.90	25.56	1000.0	1000.000	116.0	V	22.0	12.9
17479.000000	---	35.62	53.90	18.28	1000.0	1000.000	116.0	V	22.0	12.9

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)

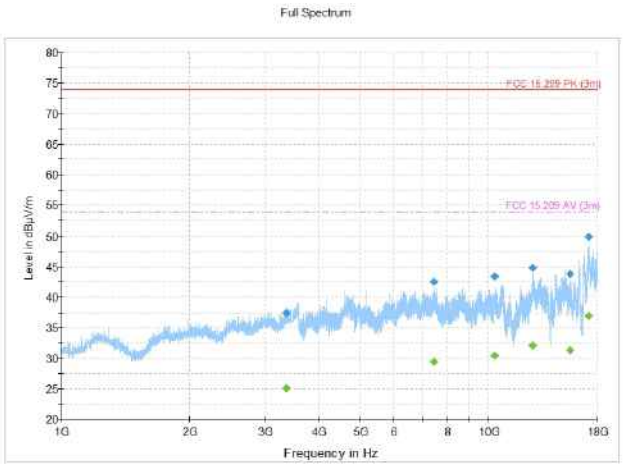


Figure 8.2-31: Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-1 Low channel

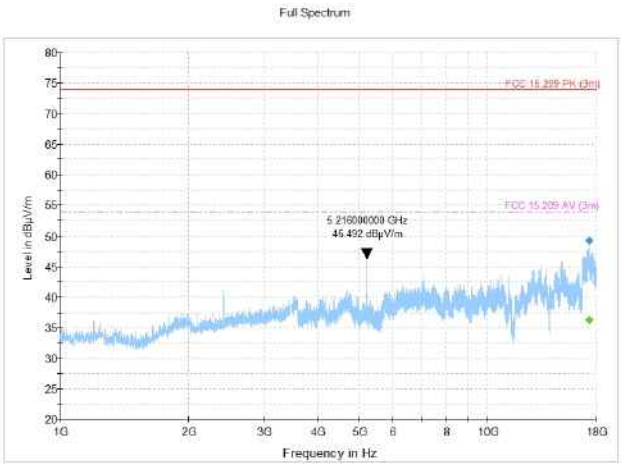


Figure 8.2-32: Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-1 Mid channel

Table 8.2-32: *Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-1 Low channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3379.566667	37.48	---	73.90	36.42	1000.0	1000.000	330.0	H	34.0	-6.6
3379.566667	---	25.05	53.90	28.85	1000.0	1000.000	330.0	H	34.0	-6.6
7450.911111	---	29.45	53.90	24.45	1000.0	1000.000	315.0	H	198.0	1.3
7450.911111	42.50	---	73.90	31.40	1000.0	1000.000	315.0	H	198.0	1.3
10365.200000	---	30.40	53.90	23.51	1000.0	1000.000	123.0	V	0.0	3.9
10365.200000	43.47	---	73.90	30.43	1000.0	1000.000	123.0	V	0.0	3.9
12718.588889	---	32.06	53.90	21.84	1000.0	1000.000	310.0	H	224.0	8.4
12718.588889	44.80	---	73.90	29.10	1000.0	1000.000	310.0	H	224.0	8.4
15536.400000	---	31.29	53.90	22.61	1000.0	1000.000	313.0	V	278.0	10.1
15536.400000	43.85	---	73.90	30.05	1000.0	1000.000	313.0	V	278.0	10.1
17158.422222	49.88	---	73.90	24.02	1000.0	1000.000	342.0	V	226.0	14.4
17158.422222	---	36.99	53.90	16.91	1000.0	1000.000	342.0	V	226.0	14.4

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)

Table 8.2-33: *Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-1 Mid channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
17306.733333	---	36.30	53.90	17.60	1000.0	1000.000	326.0	V	284.0	14.2
17306.733333	49.34	---	73.90	24.56	1000.0	1000.000	326.0	V	284.0	14.2

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The 5.2 GHz frequency is a wireless carrier fundamental, and not measured against FCC 15.209 limits.

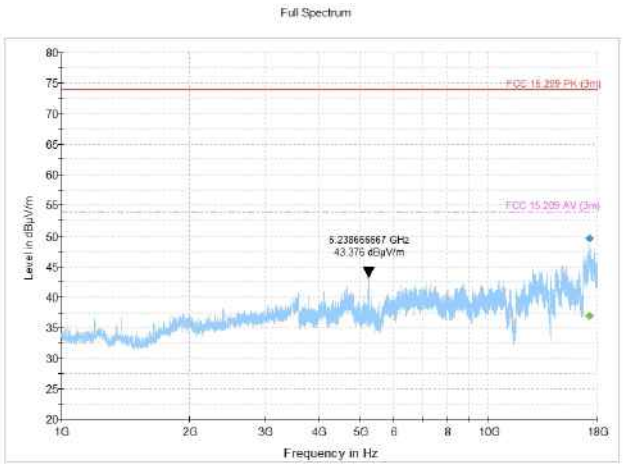


Figure 8.2-33: Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-1 High channel

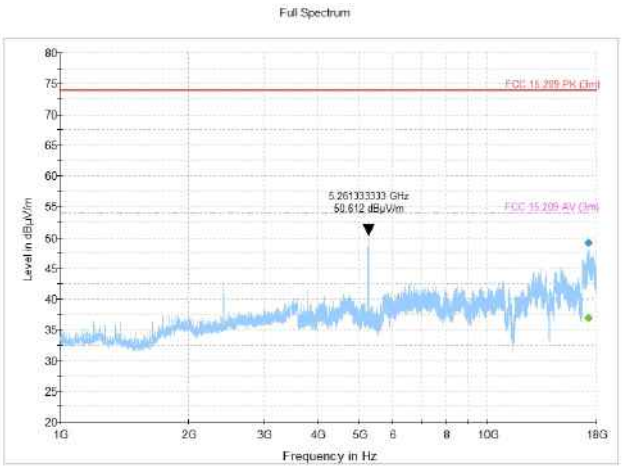


Figure 8.2-34: Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-2A Low channel

Table 8.2-34: *Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-1 High channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
17227.411111	---	36.91	53.90	16.99	1000.0	1000.000	331.0	V	308.0	14.7
17227.411111	49.66	---	73.90	24.24	1000.0	1000.000	331.0	V	308.0	14.7

Notes:
[1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The 5.2 GHz frequency is a wireless carrier fundamental, and not measured against FCC 15.209 limits.

Table 8.2-35: *Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-2A Low channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
17264.211111	---	36.95	53.90	16.95	1000.0	1000.000	394.0	V	164.0	14.6
17264.211111	49.20	---	73.90	24.70	1000.0	1000.000	394.0	V	164.0	14.6

Notes:
[1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The 5.2 GHz frequency is a wireless carrier fundamental, and not measured against FCC 15.209 limits.

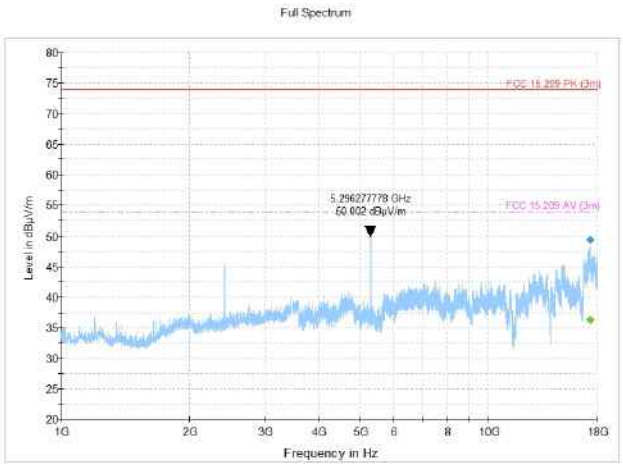


Figure 8.2-35: Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-2A Mid channel

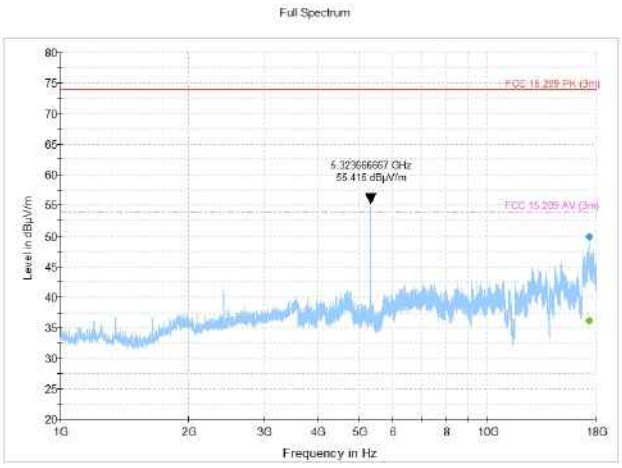


Figure 8.2-36: Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-2A High channel

Table 8.2-36: *Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-2A Mid channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
17324.511111	---	36.33	53.90	17.57	1000.0	1000.000	243.0	H	126.0	14.0
17324.511111	49.45	---	73.90	24.45	1000.0	1000.000	243.0	H	126.0	14.0

Notes:
[1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The 5.3 GHz frequency is a wireless carrier fundamental, and not measured against FCC 15.209 limits.

Table 8.2-37: *Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-2A High channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
17353.744444	---	36.18	53.90	17.72	1000.0	1000.000	105.0	V	302.0	13.6
17353.744444	49.91	---	73.90	23.99	1000.0	1000.000	105.0	V	302.0	13.6

Notes:
[1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The 5.3 GHz frequency is a wireless carrier fundamental, and not measured against FCC 15.209 limits.

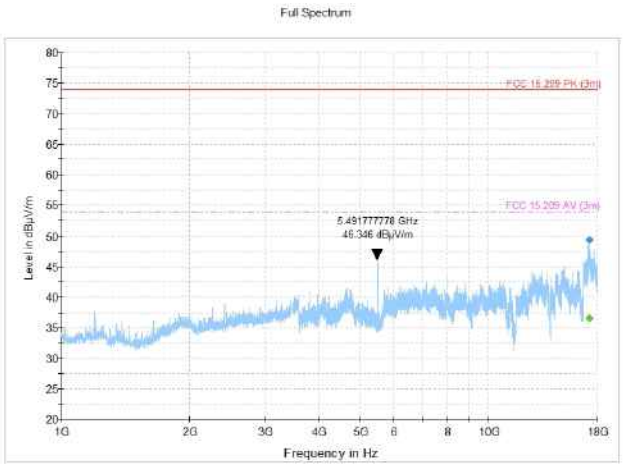


Figure 8.2-37: Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-2C Low channel

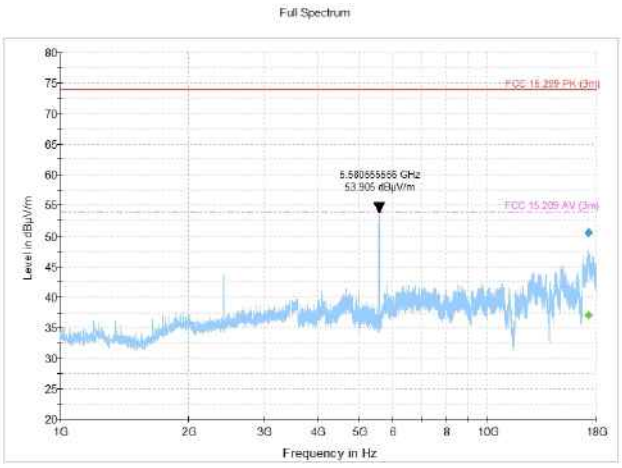


Figure 8.2-38: Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-2C Mid channel

Table 8.2-38: *Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-2C Low channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
17280.000000	---	36.61	53.90	17.29	1000.0	1000.000	157.0	H	344.0	14.4
17280.000000	49.39	---	73.90	24.51	1000.0	1000.000	157.0	H	344.0	14.4

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The 5.5 GHz frequency is a wireless carrier fundamental, and not measured against FCC 15.209 limits.

Table 8.2-39: *Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-2C Mid channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
17244.988889	---	37.09	53.90	16.81	1000.0	1000.000	229.0	V	178.0	14.7
17244.988889	50.54	---	73.90	23.36	1000.0	1000.000	229.0	V	178.0	14.7

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The 5.5 GHz frequency is a wireless carrier fundamental, and not measured against FCC 15.209 limits.

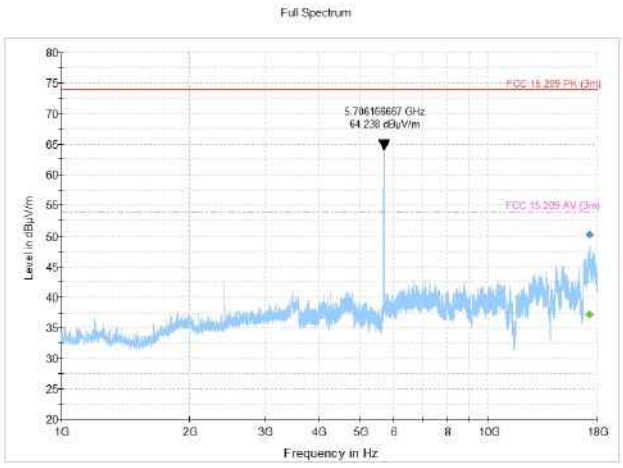


Figure 8.2-39: Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-2C High channel

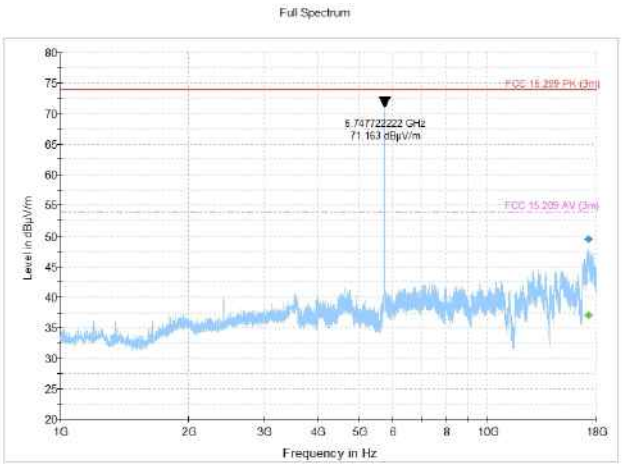


Figure 8.2-40: Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-3 Low channel

Table 8.2-40: *Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-2C High channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
17256.466667	---	37.22	53.90	16.68	1000.0	1000.000	402.0	V	92.0	14.6
17256.466667	50.28	---	73.90	23.62	1000.0	1000.000	402.0	V	92.0	14.6

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The 5.7 GHz frequency is a wireless carrier fundamental, and not measured against FCC 15.209 limits.

Table 8.2-41: *Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-3 Low channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
17259.088889	---	37.11	53.90	16.79	1000.0	1000.000	256.0	V	358.0	14.6
17259.088889	49.60	---	73.90	24.30	1000.0	1000.000	256.0	V	358.0	14.6

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The 5.7 GHz frequency is a wireless carrier fundamental, and not measured against FCC 15.209 limits.

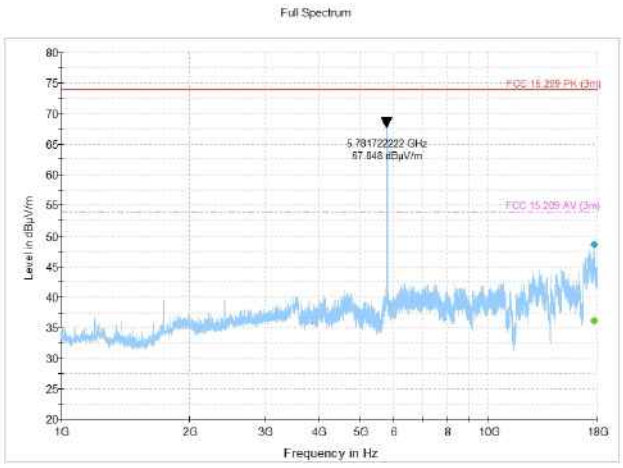


Figure 8.2-41: Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-3 Mid channel

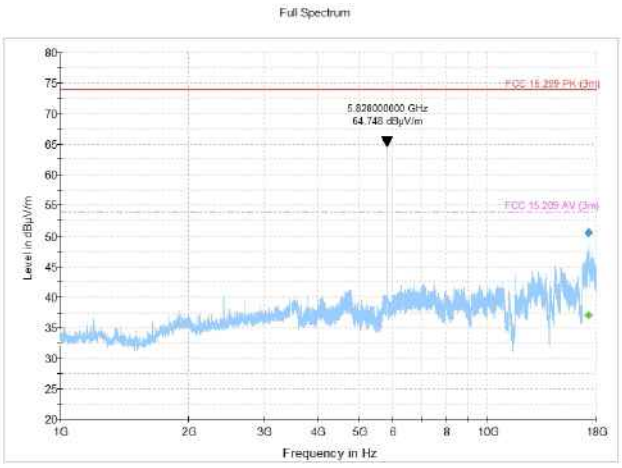


Figure 8.2-42: Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-3 High channel

Table 8.2-42: *Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-3 Mid channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
17719.133333	---	36.24	53.90	17.66	1000.0	1000.000	232.0	H	344.0	14.2
17719.133333	48.69	---	73.90	25.21	1000.0	1000.000	232.0	H	344.0	14.2

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The 5.7 GHz frequency is a wireless carrier fundamental, and not measured against FCC 15.209 limits.

Table 8.2-43: *Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-3 High channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
17253.200000	---	37.11	53.90	16.79	1000.0	1000.000	308.0	H	34.0	14.7
17253.200000	50.54	---	73.90	23.36	1000.0	1000.000	308.0	H	34.0	14.7

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The 5.8 GHz frequency is a wireless carrier fundamental, and not measured against FCC 15.209 limits.

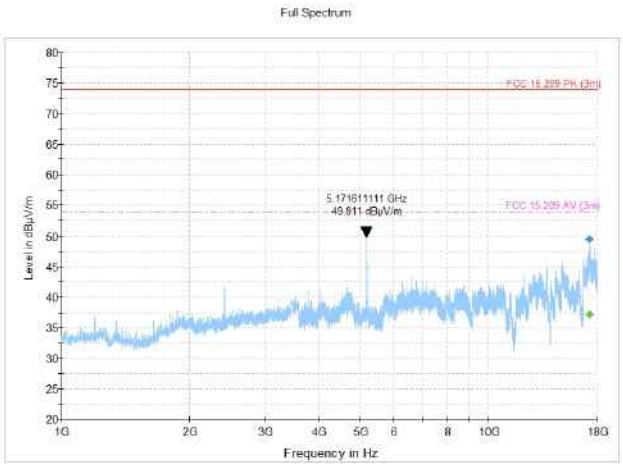


Figure 8.2-43: Radiated spurious emissions, 802.11ac MIMO 40MBW U-NII-1 Low channel

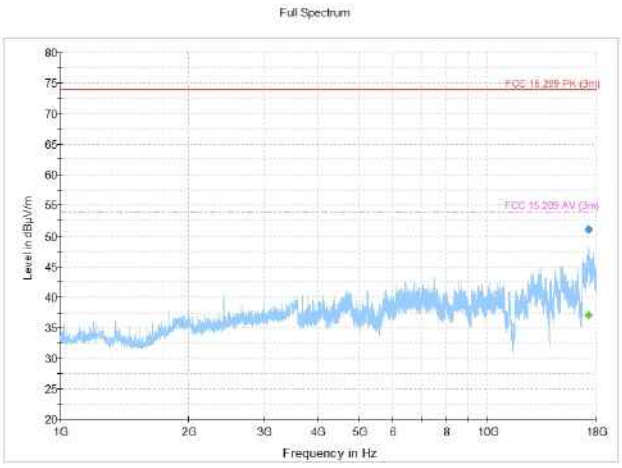


Figure 8.2-44: Radiated spurious emissions, 802.11ac MIMO 40MBW U-NII-1 High channel

Table 8.2-44: *Radiated spurious emissions, 802.11ac MIMO 40MBW U-NII-1 Low channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
17256.355556	---	37.15	53.90	16.75	1000.0	1000.000	245.0	V	21.0	14.6
17256.355556	49.61	---	73.90	24.29	1000.0	1000.000	245.0	V	21.0	14.6

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The 5.2 GHz frequency is a wireless carrier fundamental, and not measured against FCC 15.209 limits.

Table 8.2-45: *Radiated spurious emissions, 802.11ac MIMO 40MBW U-NII-1 High channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
17252.322222	---	37.06	53.90	16.84	1000.0	1000.000	270.0	V	281.0	14.7
17252.322222	51.10	---	73.90	22.80	1000.0	1000.000	270.0	V	281.0	14.7

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)

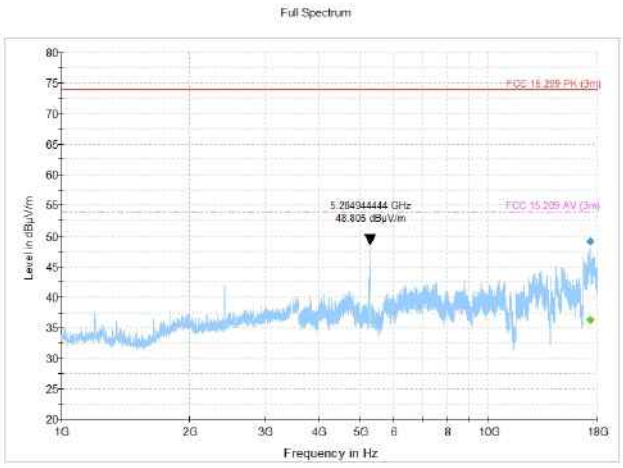


Figure 8.2-45: Radiated spurious emissions, 802.11ac MIMO 40MBW U-NII-2A Low channel

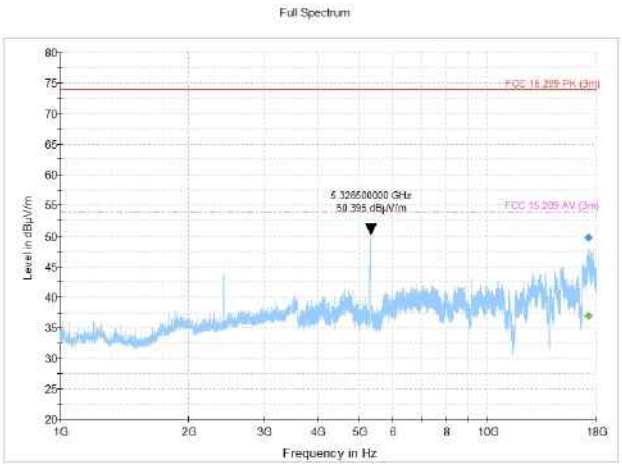


Figure 8.2-46: Radiated spurious emissions, 802.11ac MIMO 40MBW U-NII-2A High channel

Table 8.2-46: *Radiated spurious emissions, 802.11ac MIMO 40MBW U-NII-2A Low channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
17319.488889	---	36.33	53.90	17.57	1000.0	1000.000	210.0	V	294.0	14.1
17319.488889	49.15	---	73.90	24.75	1000.0	1000.000	210.0	V	294.0	14.1

Notes:
[1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The 5.2 GHz frequency is a wireless carrier fundamental, and not measured against FCC 15.209 limits.

Table 8.2-47: *Radiated spurious emissions, 802.11ac MIMO 40MBW U-NII-2A High channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
17239.400000	---	36.90	53.90	17.00	1000.0	1000.000	243.0	V	302.0	14.7
17239.400000	49.85	---	73.90	24.05	1000.0	1000.000	243.0	V	302.0	14.7

Notes:
[1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The 5.3 GHz frequency is a wireless carrier fundamental, and not measured against FCC 15.209 limits.

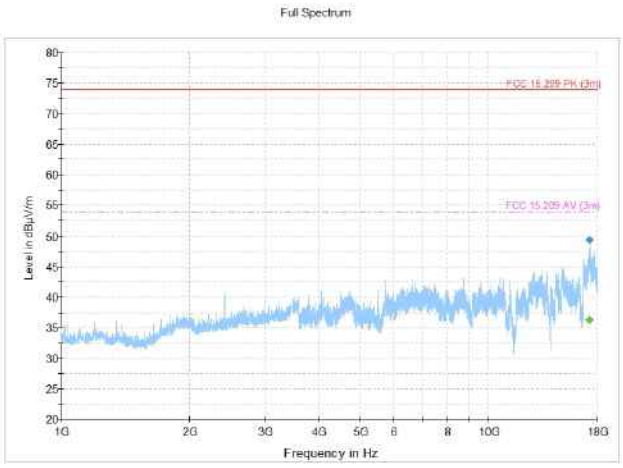


Figure 8.2-47: Radiated spurious emissions, 802.11ac MIMO 40MBW U-NII-2C Low channel

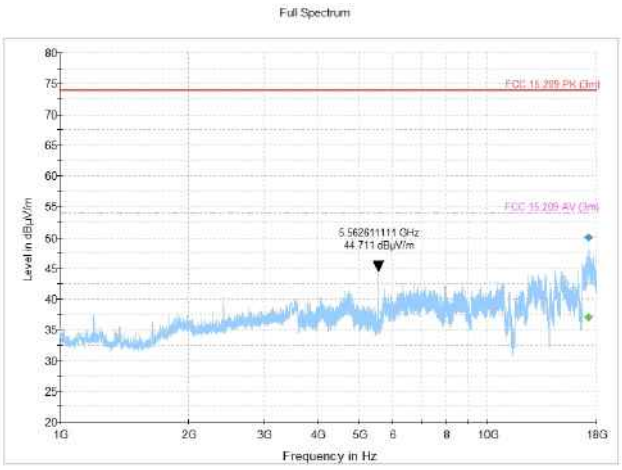


Figure 8.2-48: Radiated spurious emissions, 802.11ac MIMO 40MBW U-NII-2C Mid channel

Table 8.2-48: *Radiated spurious emissions, 802.11ac MIMO 40MBW U-NII-2C Low channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
17296.022222	---	36.33	53.90	17.57	1000.0	1000.000	261.0	H	55.0	14.3
17296.022222	49.45	---	73.90	24.45	1000.0	1000.000	261.0	H	55.0	14.3

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)

Table 8.2-49: *Radiated spurious emissions, 802.11ac MIMO 40MBW U-NII-2C Mid channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
17248.622222	---	37.08	53.90	16.82	1000.0	1000.000	357.0	H	200.0	14.7
17248.622222	50.11	---	73.90	23.79	1000.0	1000.000	357.0	H	200.0	14.7

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The 5.5 GHz frequency is a wireless carrier fundamental, and not measured against FCC 15.209 limits.

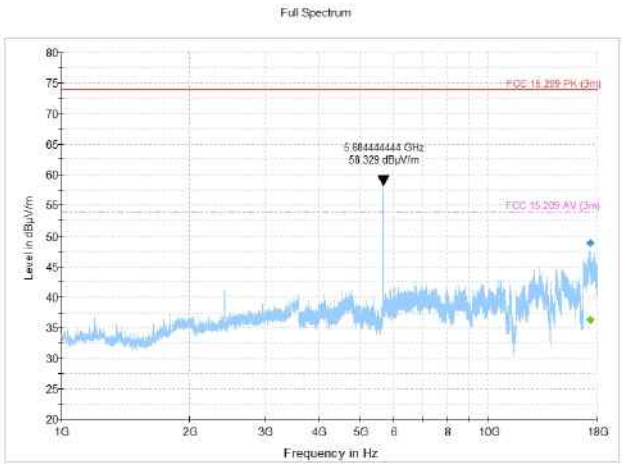


Figure 8.2-49: Radiated spurious emissions, 802.11ac MIMO 40MBW U-NII-2C High channel

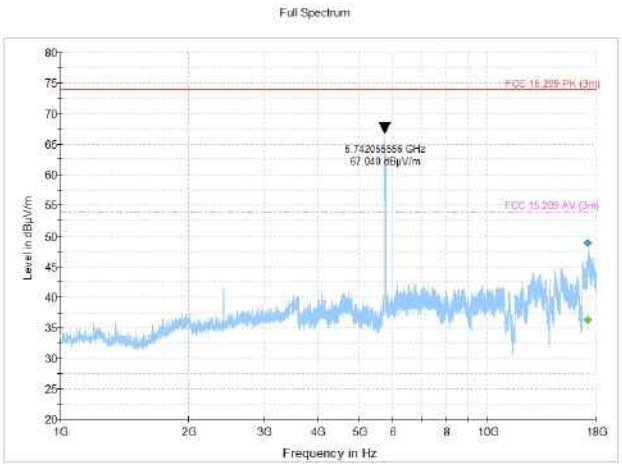


Figure 8.2-50: Radiated spurious emissions, 802.11ac MIMO 40MBW U-NII-3 Low channel

Table 8.2-50: *Radiated spurious emissions, 802.11ac MIMO 40MBW U-NII-2C High channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
17335.800000	---	36.30	53.90	17.60	1000.0	1000.000	377.0	V	298.0	13.8
17335.800000	48.86	---	73.90	25.04	1000.0	1000.000	377.0	V	298.0	13.8

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The 5.6 GHz frequency is a wireless carrier fundamental, and not measured against FCC 15.209 limits.

Table 8.2-51: *Radiated spurious emissions, 802.11ac MIMO 40MBW U-NII-3 Low channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
17202.844444	---	36.30	53.90	17.60	1000.0	1000.000	159.0	H	222.0	14.7
17202.844444	48.92	---	73.90	24.98	1000.0	1000.000	159.0	H	222.0	14.7

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The 5.7 GHz frequency is a wireless carrier fundamental, and not measured against FCC 15.209 limits.

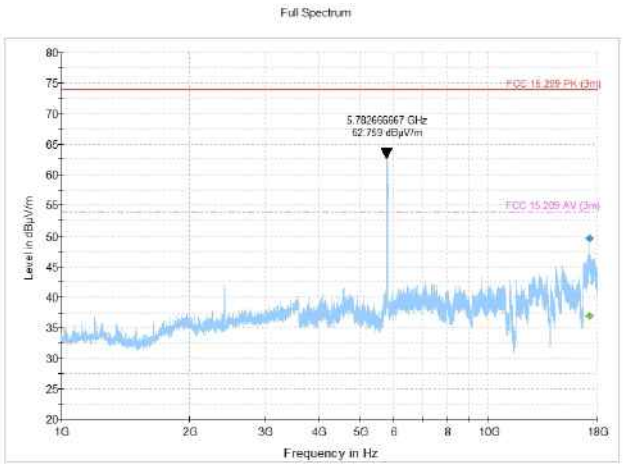


Figure 8.2-51: Radiated spurious emissions, 802.11ac MIMO 40MBW U-NII-3 High channel

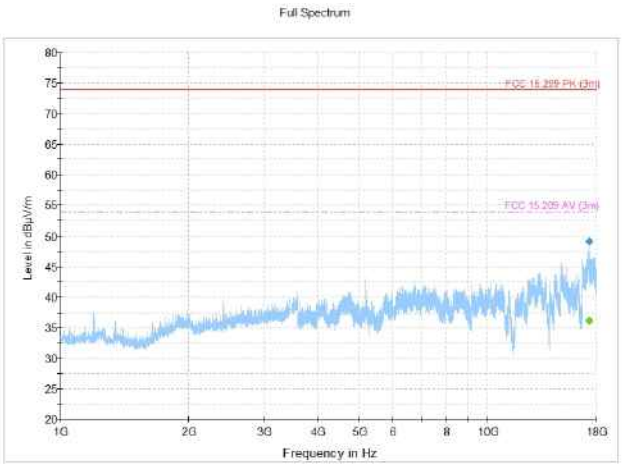


Figure 8.2-52: Radiated spurious emissions, 802.11ac MIMO 80MBW U-NII-1 Mid channel

Table 8.2-52: *Radiated spurious emissions, 802.11ac MIMO 40MBW U-NII-3 High channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
17253.122222	---	37.00	53.90	16.90	1000.0	1000.000	143.0	V	270.0	14.7
17253.122222	49.67	---	73.90	24.23	1000.0	1000.000	143.0	V	270.0	14.7

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The 5.7 GHz frequency is a wireless carrier fundamental, and not measured against FCC 15.209 limits.

Table 8.2-53: *Radiated spurious emissions, 802.11ac MIMO 80MBW U-NII-1 Mid channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
17353.122222	---	36.18	53.90	17.72	1000.0	1000.000	240.0	V	0.0	13.6
17353.122222	49.20	---	73.90	24.70	1000.0	1000.000	240.0	V	0.0	13.6

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)[3] The 5.2 GHz frequency is a wireless carrier fundamental, and not measured against FCC 15.209 limits.

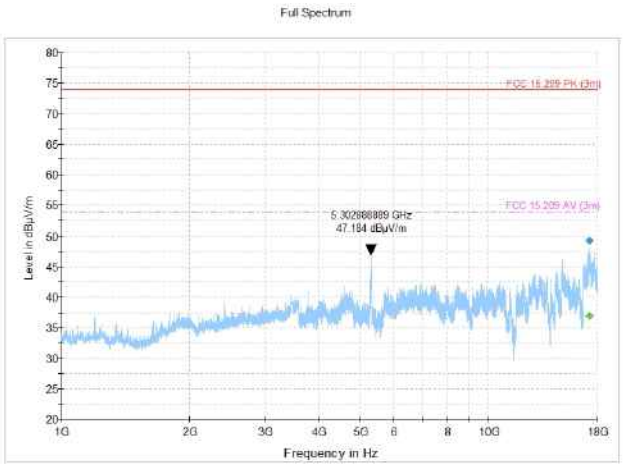


Figure 8.2-53: Radiated spurious emissions, 802.11ac MIMO 80MBW U-NII-2A Mid channel

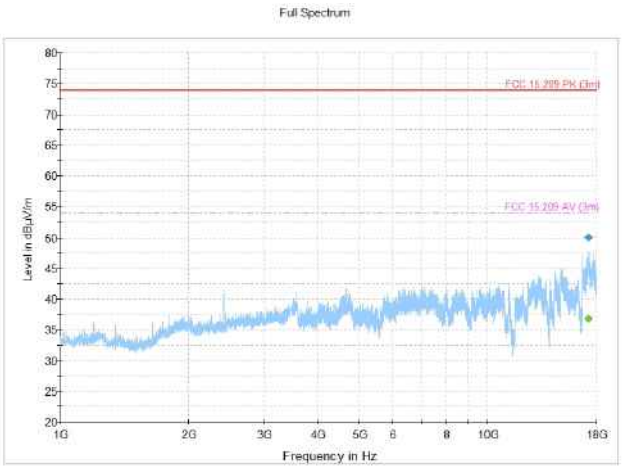


Figure 8.2-54: Radiated spurious emissions, 802.11ac MIMO 80MBW U-NII-2C Low channel

Table 8.2-54: *Radiated spurious emissions, 802.11ac MIMO 80MBW U-NII-2A Mid channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
17250.655556	---	36.92	53.90	16.98	1000.0	1000.000	123.0	V	231.0	14.7
17250.655556	49.35	---	73.90	24.55	1000.0	1000.000	123.0	V	231.0	14.7

Notes:
[1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The 5.3 GHz frequency is a wireless carrier fundamental, and not measured against FCC 15.209 limits.

Table 8.2-55: *Radiated spurious emissions, 802.11ac MIMO 80MBW U-NII-2C Low channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
17271.177778	---	36.87	53.90	17.03	1000.0	1000.000	270.0	H	68.0	14.5
17271.177778	50.08	---	73.90	23.82	1000.0	1000.000	270.0	H	68.0	14.5

Notes:
[1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)

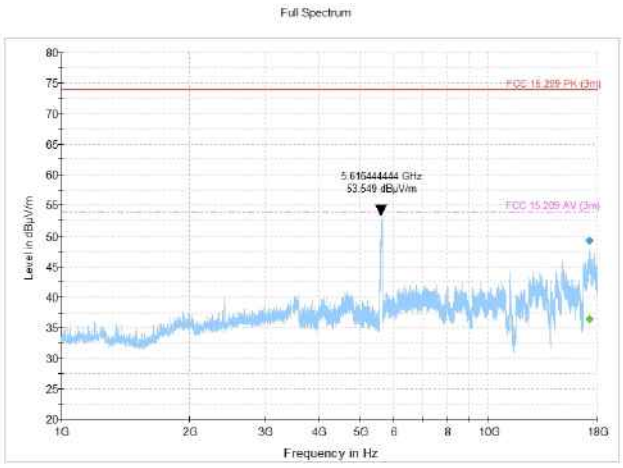


Figure 8.2-55: Radiated spurious emissions, 802.11ac MIMO 80MBW U-NII-2C High channel

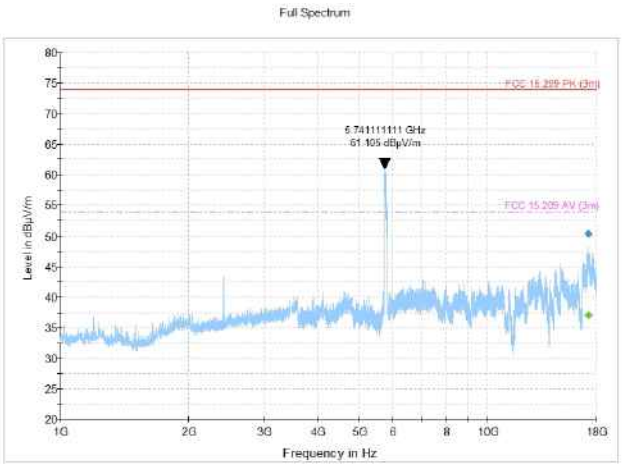


Figure 8.2-56: Radiated spurious emissions, 802.11ac MIMO 80MBW U-NII-3 Mid channel

Table 8.2-56: *Radiated spurious emissions, 802.11ac MIMO 80MBW U-NII-2C High channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
17294.388889	---	36.44	53.90	17.46	1000.0	1000.000	332.0	V	284.0	14.3
17294.388889	49.24	---	73.90	24.66	1000.0	1000.000	332.0	V	284.0	14.3

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The 5.6 GHz frequency is a wireless carrier fundamental, and not measured against FCC 15.209 limits.

Table 8.2-57: *Radiated spurious emissions, 802.11ac MIMO 80MBW U-NII-3 Mid channel, 1-18 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
17248.700000	---	37.05	53.90	16.85	1000.0	1000.000	322.0	H	322.0	14.7
17248.700000	50.48	---	73.90	23.42	1000.0	1000.000	322.0	H	322.0	14.7

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)
[3] The 5.7 GHz frequency is a wireless carrier fundamental, and not measured against FCC 15.209 limits.

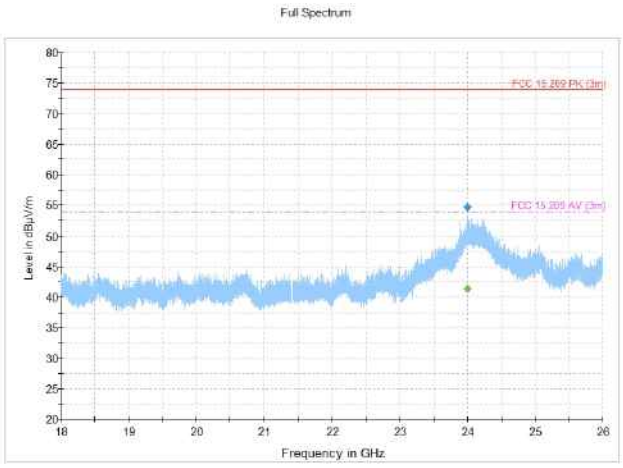


Figure 8.2-57: Radiated spurious emissions, 802.11a SISO 20MBW U-NII-2C Mid channel

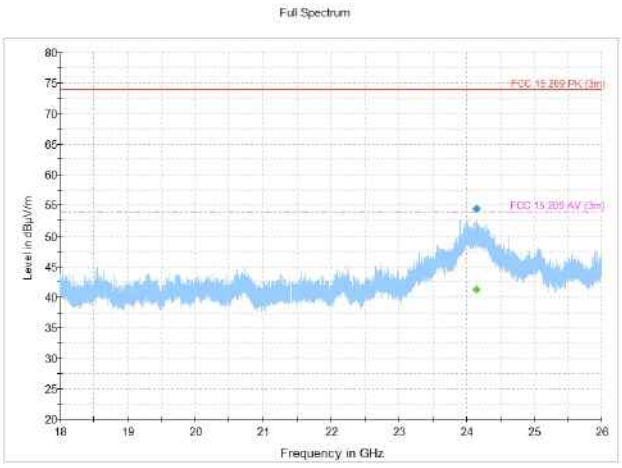


Figure 8.2-58: Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-2C Low channel

Table 8.2-58: *Radiated spurious emissions, 802.11a SISO 20MBW U-NII-2C Mid channel, 18-26 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
24001.966667	---	41.39	53.90	12.51	5000.0	1000.000	410.0	H	114.0	29.4
24001.966667	54.65	---	73.90	19.25	5000.0	1000.000	410.0	H	114.0	29.4

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)

Table 8.2-59: *Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-2C Low channel, 18-26 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
24149.166667	---	41.27	53.90	12.63	5000.0	1000.000	131.0	H	258.0	29.4
24149.166667	54.35	---	73.90	19.55	5000.0	1000.000	131.0	H	258.0	29.4

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)

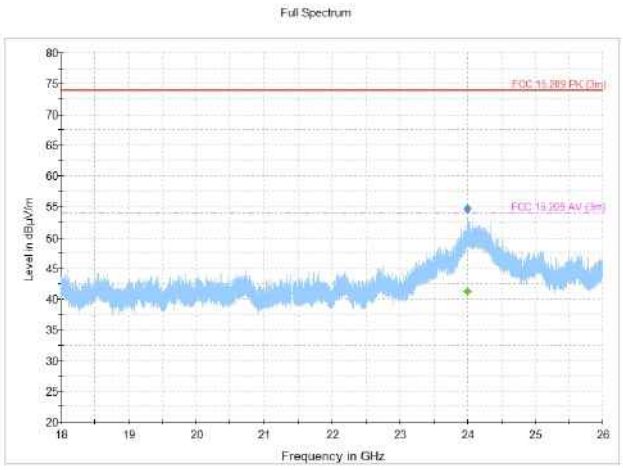


Figure 8.2-59: Radiated spurious emissions, 802.11ac MIMO 40MBW U-NII-2C Low channel

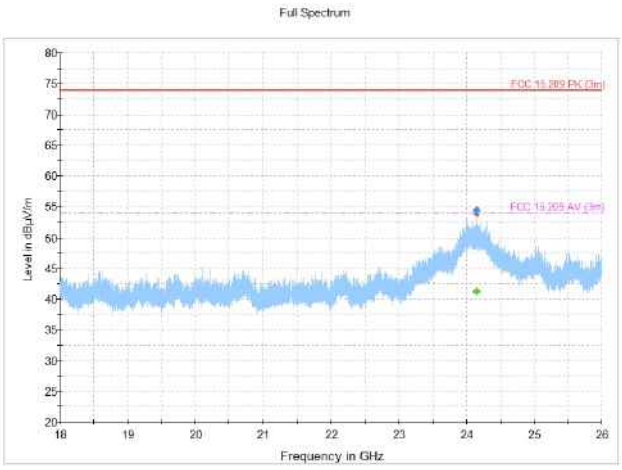


Figure 8.2-60: Radiated spurious emissions, 802.11ac MIMO 80MBW U-NII-2C Low channel

Table 8.2-60: *Radiated spurious emissions, 802.11ac MIMO 40MBW U-NII-2C Low channel, 18-26 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
24001.566667	---	41.32	53.90	12.58	5000.0	1000.000	366.0	H	211.0	29.4
24001.566667	54.65	---	73.90	19.25	5000.0	1000.000	366.0	H	211.0	29.4

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)

Table 8.2-61: *Radiated spurious emissions, 802.11ac MIMO 80MBW U-NII-2C Low channel, 18-26 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
24153.433333	---	41.31	53.90	12.59	5000.0	1000.000	321.0	V	198.0	29.4
24153.433333	54.39	---	73.90	19.51	5000.0	1000.000	321.0	V	198.0	29.4

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)

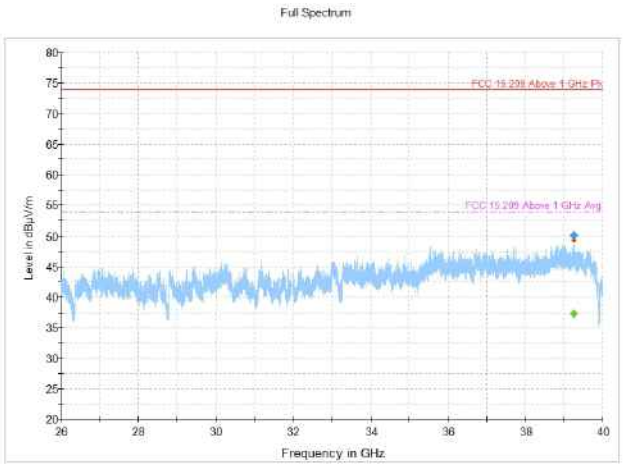


Figure 8.2-61: Radiated spurious emissions, 802.11a SISO 20MBW U-NII-2C Mid channel

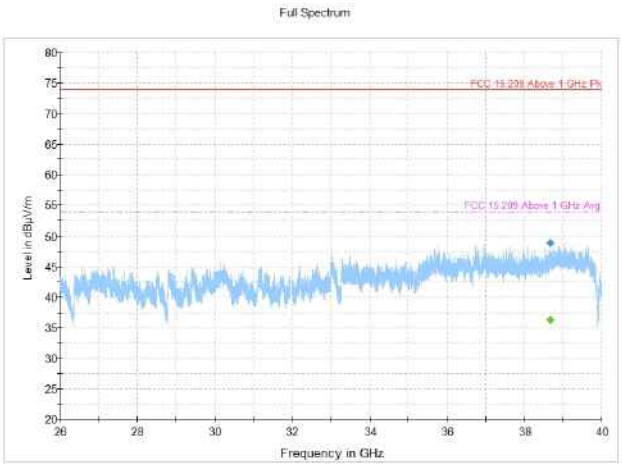


Figure 8.2-62: Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-2C Low channel

Table 8.2-62: *Radiated spurious emissions, 802.11a SISO 20MBW U-NII-2C Mid channel, 26-40 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
39262.250000	---	37.27	53.90	16.63	1000.0	1000.000	225.0	H	314.0	16.2
39262.250000	50.25	---	73.90	23.65	1000.0	1000.000	225.0	H	314.0	16.2

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)

Table 8.2-63: *Radiated spurious emissions, 802.11ac MIMO 20MBW U-NII-2C Low channel, 26-40 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
38663.650000	---	36.36	53.90	17.54	1000.0	1000.000	139.0	H	9.0	15.3
38663.650000	48.88	---	73.90	25.02	1000.0	1000.000	139.0	H	9.0	15.3

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)

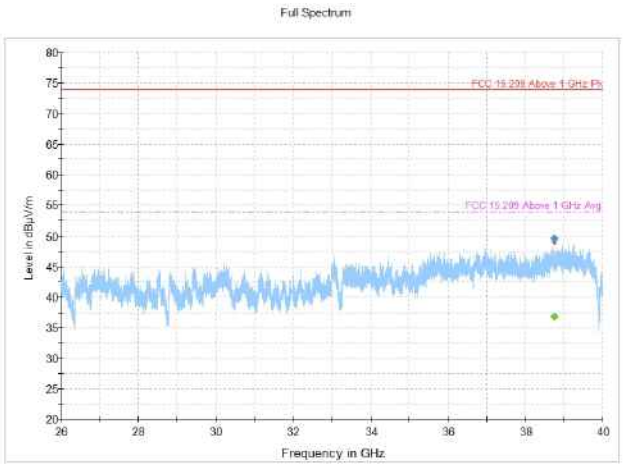


Figure 8.2-63: Radiated spurious emissions, 802.11ac MIMO 40MBW U-NII-2C Low channel

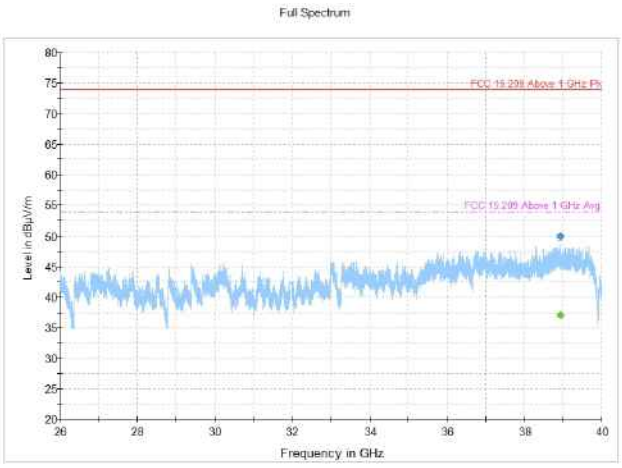


Figure 8.2-64: Radiated spurious emissions, 802.11ac MIMO 80MBW U-NII-2C Low channel

Table 8.2-64: *Radiated spurious emissions, 802.11a SISO 20MBW U-NII-1 Low channel, 26-40 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
38743.075000	---	36.82	53.90	17.08	1000.0	1000.000	125.0	V	333.0	15.5
38743.075000	49.73	---	73.90	24.17	1000.0	1000.000	125.0	V	333.0	15.5

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)

Table 8.2-65: *Radiated spurious emissions, 802.11ac MIMO 80MBW U-NII-2C Low channel, 26-40 GHz*

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
38929.775000	---	37.06	53.90	16.84	1000.0	1000.000	175.0	H	191.0	15.9
38929.775000	50.03	---	73.90	23.87	1000.0	1000.000	175.0	H	191.0	15.9

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factor = antenna factor ACF (dB) + cable loss (dB)

8.3 FCC 15.407(b) Undesirable emission limits

8.3.1 Definition and limits

Title 47 → Chapter I → Subchapter A → Part 15 → Subpart C → §15.407(b)

(d) 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) For transmitters operating in the 5.725-5.85 GHz band:

(i) 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.

(ii) Devices certified before March 2, 2017 with antenna gain greater than 10 dBi may demonstrate compliance with the emission limits in § 15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease by March 2, 2018. Devices certified before March 2, 2018 with antenna gain of 10 dBi or less may demonstrate compliance with the emission limits in § 15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.

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

(6) For transmitters operating within the 5.925-7.125 GHz bands: Power spectral density must be suppressed by 20 dB at 1 MHz outside of channel edge, by 28 dB at one channel bandwidth from the channel center, and by 40 dB at one- and one-half times the channel bandwidth away from channel center. At frequencies between one megahertz outside an unlicensed device's channel edge and one channel bandwidth from the center of the channel, the limits must be linearly interpolated between 20 dB and 28 dB suppression, and at frequencies between one and one- and one-half times an unlicensed device's channel bandwidth, the limits must be linearly interpolated between 28 dB and 40 dB suppression. Emissions removed from the channel center by more than one- and one-half times the channel bandwidth must be suppressed by at least 40 dB.

(7) 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.

(8) 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.

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

(10) 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.

8.3.2 Test summary

Verdict	Pass		
Test date	April 27, 2021	Temperature	22 °C
Test engineer	David Hewitt, EMC Specialist	Air pressure	1006 mbar
Test location	3m semi-anechoic chamber (Radiated)	Relative humidity	37 %

8.3.3 Notes

None

8.3.4 Setup details

Receiver settings for radiated measurements within restricted bands above 1 GHz:

Resolution bandwidth	1 MHz
Video bandwidth	3 MHz
Detector mode	Peak and CAverage (final measurements)
Trace mode	Max Hold
Measurement time	5 s (final measurements)

8.3.5 Test Data

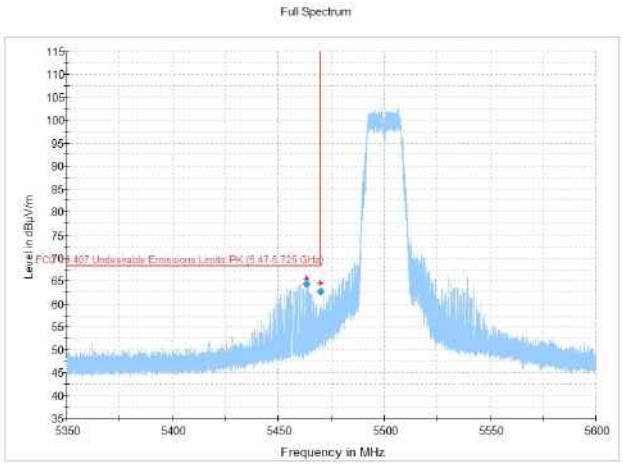


Figure 8.3-1: Undesirable radiated emissions, 802.11a SISO 20MBW U-NII-2C UBE Low channel

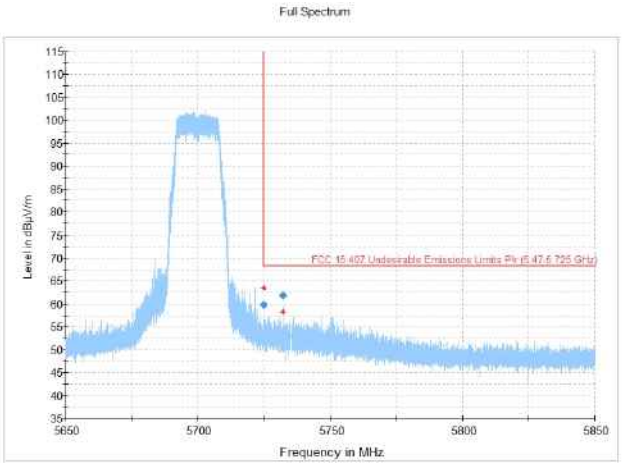


Figure 8.3-2: Undesirable radiated emissions, 802.11a SISO 20MBW U-NII-2C UBE High channel

Table 8.3-1: *Undesirable radiated emissions, 802.11a SISO 20MBW U-NII-2C UBE Low channel*

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5463.266667	64.31	68.23	3.92	5000.0	1000.000	100.0	H	242.0	4.0
5470.000000	62.65	68.23	5.58	5000.0	1000.000	100.0	H	288.0	4.0

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

Table 8.3-2: *Undesirable radiated emissions, 802.11a SISO 20MBW U-NII-2C UBE High channel*

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5725.000000	59.74	68.23	8.49	5000.0	1000.000	100.0	V	322.0	5.1
5732.373333	61.85	68.23	6.38	5000.0	1000.000	100.0	V	259.0	5.2

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

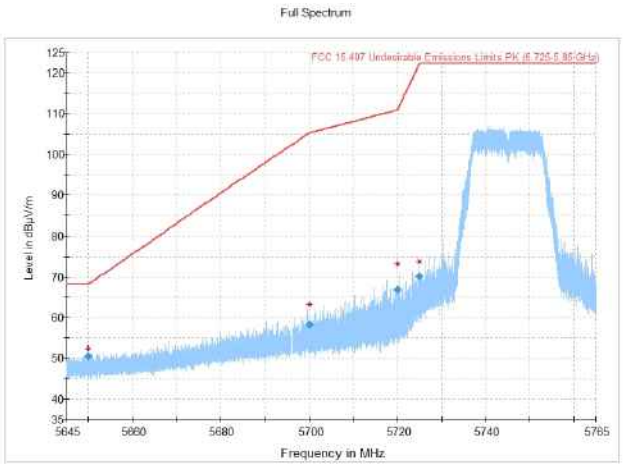


Figure 8.3-3: Undesirable radiated emissions, 802.11a SISO 20MBW U-NII-3 UMask Low channel

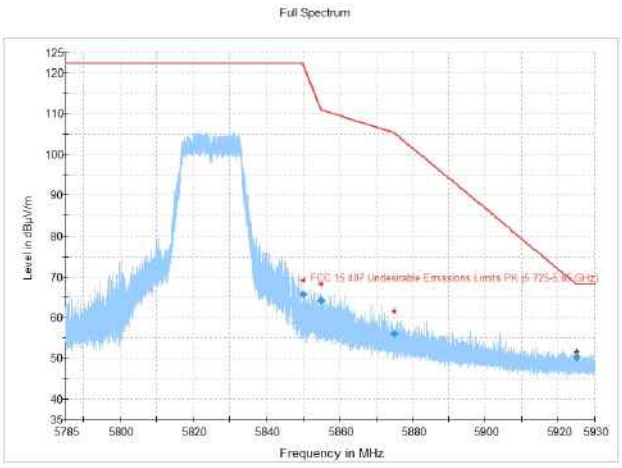


Figure 8.3-4: Undesirable radiated emissions, 802.11a SISO 20MBW U-NII-3 UMask High channel

Table 8.3-3: *Undesirable radiated emissions, 802.11a SISO 20MBW U-NII-3 UMask Low channel*

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5650.000000	50.39	68.23	17.84	5000.0	1000.000	100.0	H	262.0	4.2
5700.000000	58.37	105.23	46.86	5000.0	1000.000	100.0	H	261.0	4.8
5720.000000	66.94	110.83	43.89	5000.0	1000.000	100.0	H	219.0	5.1
5725.000000	70.18	122.23	52.05	5000.0	1000.000	100.0	V	214.0	5.1

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

Table 8.3-4: *Undesirable radiated emissions, 802.11a SISO 20MBW U-NII-3 UMask High channel*

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5850.000000	65.79	122.23	56.44	5000.0	1000.000	100.0	H	210.0	5.9
5855.000000	64.29	110.83	46.54	5000.0	1000.000	100.0	V	209.0	5.9
5875.000000	56.08	105.23	49.15	5000.0	1000.000	100.0	V	206.0	5.8
5925.000000	50.24	68.23	17.99	5000.0	1000.000	100.0	V	266.0	5.7

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

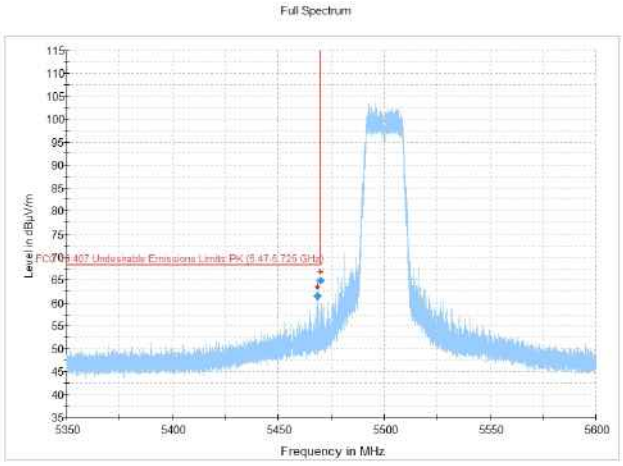


Figure 8.3-5: Undesirable radiated emissions, 802.11ac MIMO 20MBW U-NII-2C UBE Low channel

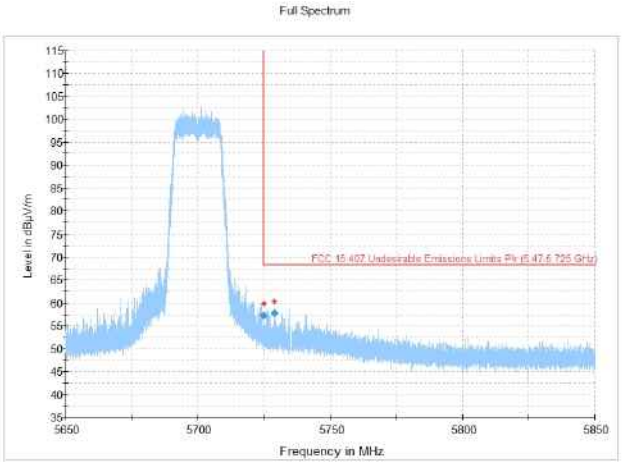


Figure 8.3-6: Undesirable radiated emissions, 802.11ac MIMO 20MBW U-NII-2C UBE High channel

Table 8.3-5: *Undesirable radiated emissions, 802.11ac MIMO 20MBW U-NII-2C UBE Low channel*

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5468.441667	61.51	68.23	6.72	5000.0	1000.000	100.0	V	262.0	4.0
5470.000000	64.84	68.23	3.39	5000.0	1000.000	100.0	H	297.0	4.0

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

Table 8.3-6: *Undesirable radiated emissions, 802.11ac MIMO 20MBW U-NII-2C UBE High channel*

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5725.000000	57.24	68.23	10.99	5000.0	1000.000	100.0	H	60.0	5.1
5729.106667	57.84	68.23	10.39	5000.0	1000.000	100.0	V	36.0	5.2

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

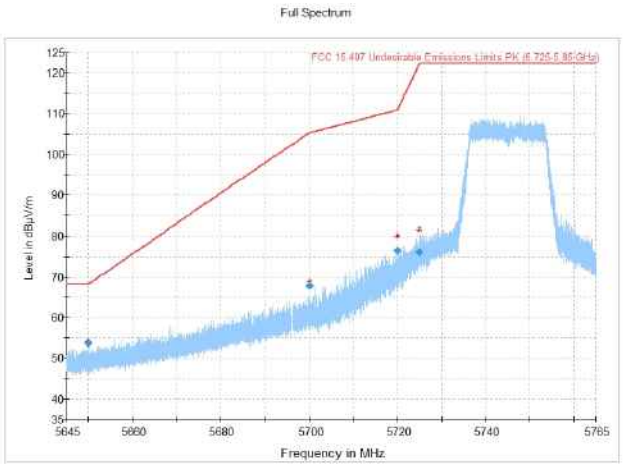


Figure 8.3-7: Undesirable radiated emissions, 802.11ac MIMO 20MBW U-NII-3 UMask low channel

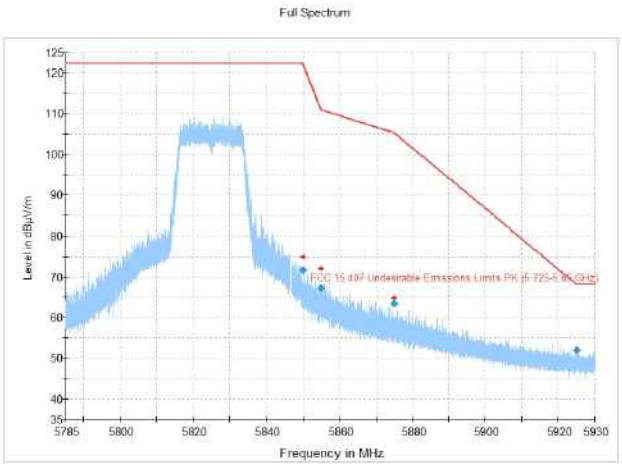


Figure 8.3-8: Undesirable radiated emissions, 802.11ac MIMO 20MBW U-NII-3 UMask High channel

Table 8.3-7: *Undesirable radiated emissions, 802.11ac MIMO 20MBW U-NII-3 UMask low channel*

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5650.000000	53.64	68.23	14.59	5000.0	1000.000	100.0	V	293.0	4.2
5700.000000	67.87	105.23	37.36	5000.0	1000.000	100.0	V	304.0	4.8
5720.000000	76.51	110.83	34.32	5000.0	1000.000	100.0	H	260.0	5.1
5725.000000	76.04	122.23	46.19	5000.0	1000.000	100.0	V	211.0	5.1

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

Table 8.3-8: *Undesirable radiated emissions, 802.11ac MIMO 20MBW U-NII-3 UMask High channel*

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5850.000000	71.72	122.23	50.51	5000.0	1000.000	100.0	V	50.0	5.9
5855.000000	67.33	110.83	43.50	5000.0	1000.000	100.0	V	211.0	5.9
5875.000000	63.55	105.23	41.68	5000.0	1000.000	100.0	H	250.0	5.8
5925.000000	51.98	68.23	16.25	5000.0	1000.000	100.0	H	306.0	5.7

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

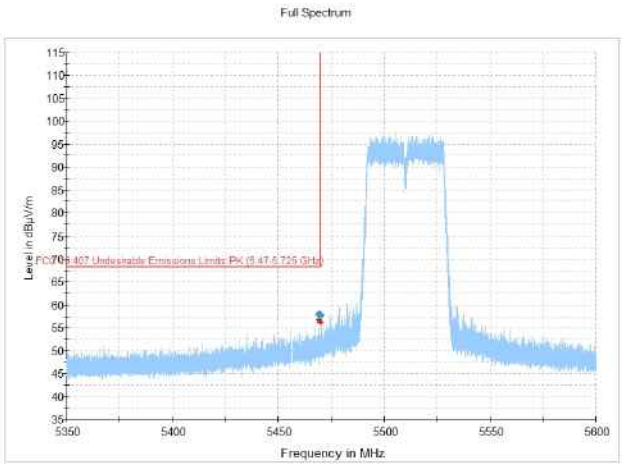


Figure 8.3-9: Undesirable radiated emissions, 802.11ac MIMO 40MBW U-NII-2C UBE Low channel

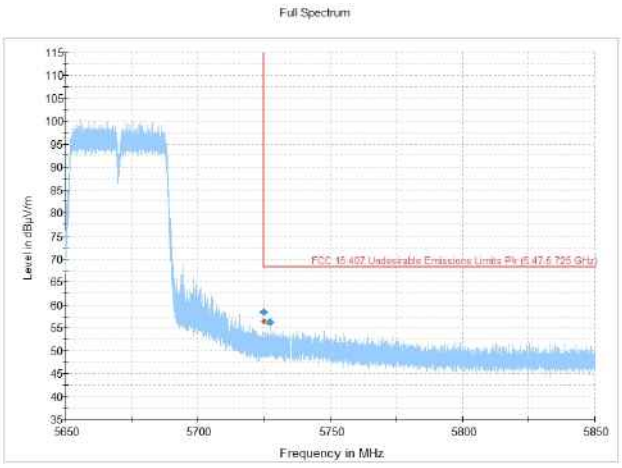


Figure 8.3-10: Undesirable radiated emissions, 802.11ac MIMO 40MBW U-NII-2C UBE High channel

Table 8.3-9: *Undesirable radiated emissions, 802.11ac MIMO 40MBW U-NII-2C UBE Low channel*

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5468.958333	57.86	68.23	10.37	5000.0	1000.000	100.0	V	50.0	4.0
5470.000000	57.79	68.23	10.44	5000.0	1000.000	100.0	H	48.0	4.0

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

Table 8.3-10: *Undesirable radiated emissions, 802.11ac MIMO 40MBW U-NII-2C UBE High channel*

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5725.000000	58.51	68.23	9.72	5000.0	1000.000	100.0	H	285.0	5.1
5727.406667	56.22	68.23	12.01	5000.0	1000.000	100.0	V	286.0	5.2

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

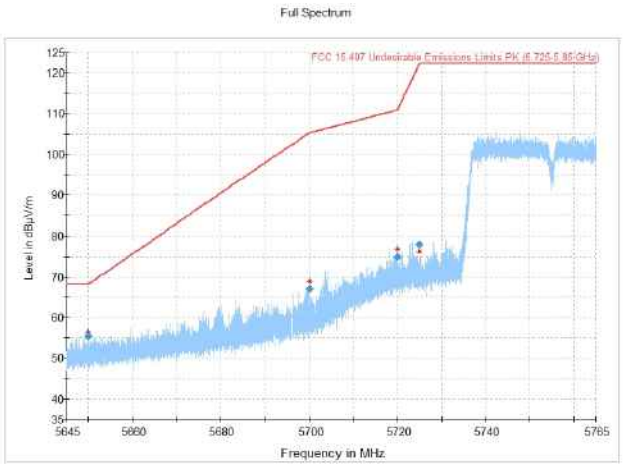


Figure 8.3-11: Undesirable radiated emissions, 802.11ac MIMO 40MBW U-NII-3 UMask Low channel

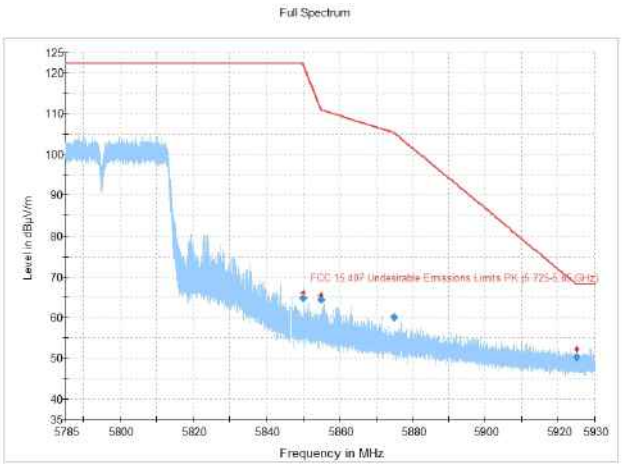


Figure 8.3-12: Undesirable radiated emissions, 802.11ac MIMO 40MBW U-NII-3 UMask High channel

Table 8.3-11: *Undesirable radiated emissions, 802.11ac MIMO 40MBW U-NII-3 UMask Low channel*

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5650.000000	55.38	68.23	12.85	5000.0	1000.000	100.0	V	294.0	4.2
5700.000000	67.08	105.23	38.15	5000.0	1000.000	100.0	H	284.0	4.8
5720.000000	75.03	110.83	35.80	5000.0	1000.000	100.0	H	265.0	5.1
5725.000000	78.04	122.23	44.19	5000.0	1000.000	100.0	V	260.0	5.1

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

Table 8.3-12: *Undesirable radiated emissions, 802.11ac MIMO 40MBW U-NII-3 UMask High channel*

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5850.000000	64.74	122.23	57.49	5000.0	1000.000	100.0	V	262.0	5.9
5855.000000	64.43	110.83	46.40	5000.0	1000.000	100.0	H	46.0	5.9
5875.000000	60.02	105.23	45.21	5000.0	1000.000	100.0	H	307.0	5.8
5925.000000	50.29	68.23	17.94	5000.0	1000.000	100.0	V	207.0	5.7

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

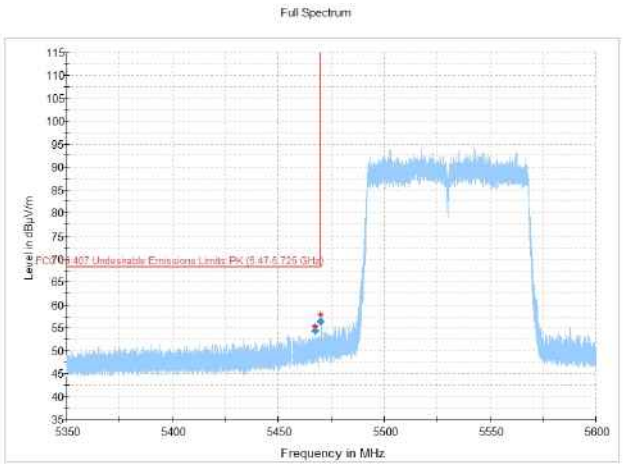


Figure 8.3-13: Undesirable radiated emissions, 802.11ac MIMO 80MBW U-NII-2C UBE Low channel

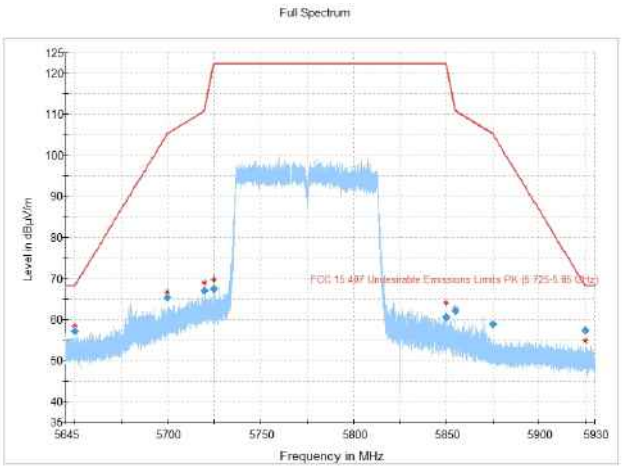


Figure 8.3-14: Undesirable radiated emissions, 802.11ac MIMO 80MBW U-NII-3 UMask Full

Table 8.3-13: *Undesirable radiated emissions, 802.11ac MIMO 80MBW U-NII-2C UBE Low channel*

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5467.216667	54.40	68.23	13.83	5000.0	1000.000	100.0	V	301.0	4.0
5470.000000	56.46	68.23	11.77	5000.0	1000.000	100.0	H	300.0	4.0

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

Table 8.3-14: *Undesirable radiated emissions, 5WiFi 802.11ac MIMO 80MBW U-NII-3 UMask Full*

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5650.000000	57.21	68.23	11.02	5000.0	1000.000	100.0	H	287.0	4.2
5700.000000	65.46	105.23	39.77	5000.0	1000.000	100.0	V	262.0	4.8
5720.000000	67.08	110.83	43.75	5000.0	1000.000	100.0	H	284.0	5.1
5725.000000	67.57	122.23	54.66	5000.0	1000.000	100.0	H	285.0	5.1
5850.000000	60.60	122.23	61.63	5000.0	1000.000	100.0	H	212.0	5.9
5855.000000	62.11	110.83	48.72	5000.0	1000.000	100.0	H	260.0	5.9
5875.000000	58.91	105.23	46.32	5000.0	1000.000	100.0	H	251.0	5.8
5925.000000	57.30	68.23	10.93	5000.0	1000.000	100.0	V	264.0	5.7

Notes: [1] Field strength (dBµV/m) = receiver/spectrum analyzer value (dBµV) + correction factor (dB)
[2] Correction factors = antenna factor ACF (dB) + cable loss (dB) – pre-amp (dB)

Section 9 Block diagrams of test set-ups

9.1 Radiated emissions set-up

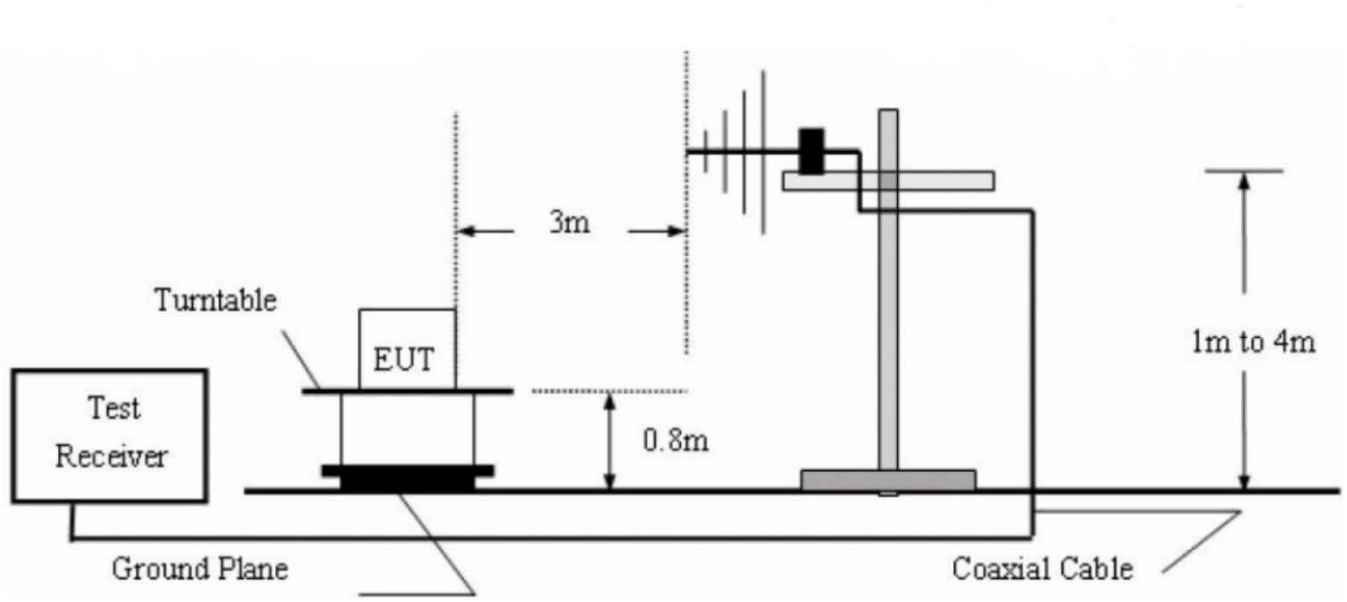


Figure 9.1-1: *30 MHz - 1000 MHz Setup*

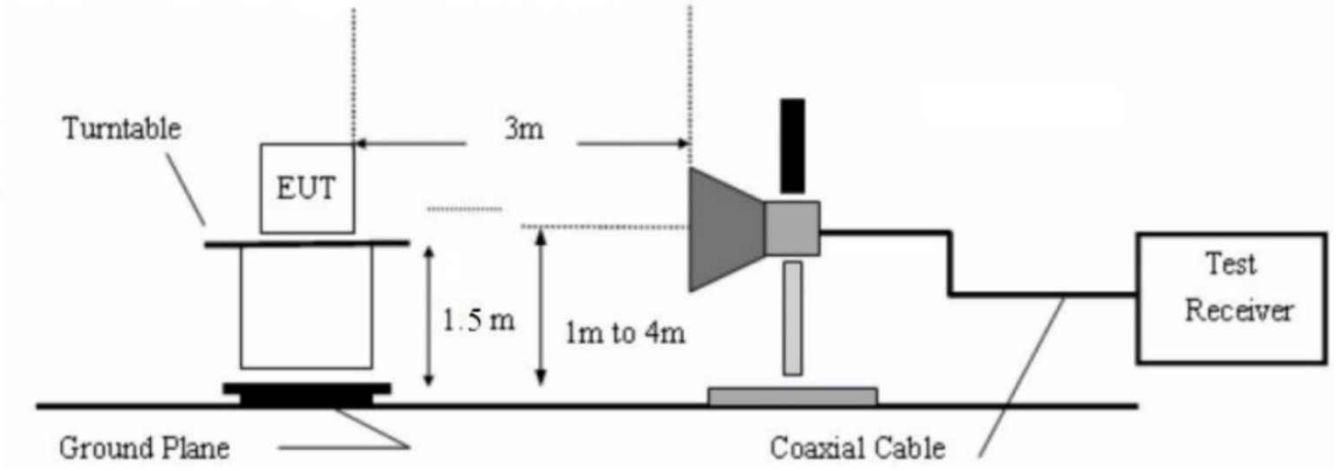


Figure 9.1-2: 1 GHz - 40 GHz Setup