FCC PART 15.407
ISEDC RSS-247, ISSUE 2, FEBRUARY 2017
LP0002-2018

TEST REPORT
FOR
Cisco Systems Inc.

125 West Tasman Drive,
San Jose, CA 95134 USA

FCC ID: LDKSLTSP1905
IC: 2461N-SLTSP1905

Report Type: Permissive II Change Report		**Product Type:** Cisco 802.11ax Access Point
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ACCREDITED
CERTIFICATE #3297.02

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	R1903188-407	Permissive II Change Report	2019-05-07

1 General Description

1.1 Product Description for Equipment Under Test (EUT)

This test and measurement report was prepared on behalf of *Cisco Systems Inc.*, and their product model: *C9115AXE-B (US), C9115AXE-A (Canada), and C9115AXE-T (Taiwan)* as referred to as EUT in this report. The product is an 802.11ax Dual Band Access Point.

1.2 Mechanical Description of EUT

Height (mm)	Width (mm)	Dimension (mm)	Weight (g)
77	77	44	100

1.3 Objective

This report is prepared on behalf of *Cisco Systems Inc.* in accordance with FCC CFR47 §15.407, RSS-247 Issue 2, February 2017 and NCC LP0002-2018.

The objective is to determine compliance with FCC Part 15.407, ISEDC RSS-247 and NCC LP0002-2018 rules for Radiated Spurious Emissions.

1.4 Related Submittal(s)/Grant(s)

R1903188-247

1.5 Test Methodology

All measurements contained in this report were conducted in accordance with ANSI C63.10-2013, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz, and FCC KDB 789033 D02 General UNII Test Procedure New Rules v02r01.

1.6 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in the field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Parameter	Measurement uncertainty
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±0.57 dB
Power Spectral Density, conducted	±1.48dB
Unwanted Emissions, conducted	±1.57dB
All emissions, radiated	±4.0 dB
AC power line Conducted Emission	±2.0 dB
Temperature	±2 º C
Humidity	±5 %
DC and low frequency voltages	±1.0 %
Time	±2 %
Duty Cycle	±3 %

1.7 Test Facility Registrations

BACLs test facilities that are used to perform Radiated and Conducted Emissions tests are currently recognized by the Federal Communications Commission as Accredited with NIST Designation Number US1129.

BACL's test facilities that are used to perform Radiated and Conducted Emissions tests are currently registered with Industry Canada under Registration Numbers: 3062A-1, 3062A-2, and 3062A-3.

BACL is a Chinese Taipei Bureau of Standards Metrology and Inspection (BSMI) validated Conformity Assessment Body (CAB), under Appendix B, Phase I Procedures of the APEC Mutual Recognition Arrangement (MRA). BACL's BSMI Lab Code Number is: SL2-IN-E-1002R

BACL's test facilities that are used to perform AC Line Conducted Emissions, Telecommunications Line Conducted Emissions, Radiated Emissions from 30 MHz to 1 GHz, and Radiated Emissions from 1 GHz to 6 GHz are currently recognized as Accredited in accordance with the Voluntary Control Council for Interference [VCCI] Article 15 procedures under Registration Number A-0027.

1.8 Test Facility Accreditations

Bay Area Compliance Laboratories Corp. (BACL) is:

A- ***An independent, 3rd-Party, Commercial Test Laboratory accredited to ISO/IEC 17025:2005 by A2LA (Test Laboratory Accreditation Certificate Number 3279.02),*** in the fields of: Electromagnetic Compatibility and Telecommunications. Unless noted by an Asterisk (*) in the Compliance Matrix (See Section 3 of this Test Report), BACL's ISO/IEC 17025:2005 Scope of Accreditation includes all of the Test Method Standards and/or the Product Family Standards detailed in this Test Report..

BACL's ISO/IEC 17025:2005 Scope of Accreditation includes a comprehensive suite of EMC Emissions, EMC Immunity, Radio, RF Exposure, Safety and wireline Telecommunications test methods applicable to a wide range of product categories. These product categories include Central Office Telecommunications Equipment [including NEBS - Network Equipment Building Systems], Unlicensed and Licensed Wireless and RF devices,

Information Technology Equipment (ITE); Telecommunications Terminal Equipment (TTE); Medical Electrical Equipment; Industrial, Scientific and Medical Test Equipment; Professional Audio and Video Equipment; Industrial and Scientific Instruments and Laboratory Apparatus; Cable Distribution Systems, and Energy Efficient Lighting.

B- ***A Product Certification Body accredited to ISO/IEC 17065:2012 by A2LA (Product Certification Body Accreditation Certificate Number 3279.03)*** to certify

- For the USA (Federal Communications Commission):
  - 1- All Unlicensed radio frequency devices within FCC Scopes A1, A2, A3, and A4;
  - 2- All Licensed radio frequency devices within FCC Scopes B1, B2, B3, and B4;
  - 3- All Telephone Terminal Equipment within FCC Scope C.
- For the Canada (Industry Canada):
  - 1 All Scope 1-Licence-Exempt Radio Frequency Devices;
  - 2 All Scope 2-Licensed Personal Mobile Radio Services;
  - 3 All Scope 3-Licensed General Mobile & Fixed Radio Services;
  - 4 All Scope 4-Licensed Maritime & Aviation Radio Services;
  - 5 All Scope 5-Licensed Fixed Microwave Radio Services
  - 6 All Broadcasting Technical Standards (BETS) in the Category I Equipment Standards List.
- For Singapore (Info-Communications Development Authority (IDA)):
  - 1 All Line Terminal Equipment: All Technical Specifications for Line Terminal Equipment – Table 1 of IDA MRA Recognition Scheme: 2011, Annex 2
  - 2. All Radio-Communication Equipment: All Technical Specifications for Radio-Communication Equipment – Table 2 of IDA MRA Recognition Scheme: 2011, Annex 2
- For the Hong Kong Special Administrative Region:
  - 1 All Radio Equipment, per KHCA 10XX-series Specifications;
  - 2 All GMDSS Marine Radio Equipment, per HKCA 12XX-series Specifications;
  - 3 All Fixed Network Equipment, per HKCA 20XX-series Specifications.
- For Japan:
  - 1 MIC Telecommunication Business Law (Terminal Equipment):
    - All Scope A1 - Terminal Equipment for the Purpose of Calls;
    - All Scope A2 - Other Terminal Equipment
  - 2 Radio Law (Radio Equipment):
    - All Scope B1 - Specified Radio Equipment specified in Article 38-2-2, paragraph 1, item 1 of the Radio Law
    - All Scope B2 - Specified Radio Equipment specified in Article 38-2-2, paragraph 1, item 2 of the Radio Law
    - All Scope B3 - Specified Radio Equipment specified in Article 38-2-2, paragraph 1, item 3 of the Radio Law

C- ***A Product Certification Body accredited to ISO/IEC 17065:2012 by A2LA (Product Certification Body Accreditation Certificate Number 3279.01)*** to certify Products to USA's Environmental Protection Agency (EPA) ENERGY STAR Product Specifications for:

1 Electronics and Office Equipment:
- for Telephony (ver. 3.0)
- for Audio/Video (ver. 3.0)
- for Battery Charging Systems (ver. 1.1)
- for Set-top Boxes & Cable Boxes (ver. 4.1)
- for Televisions (ver. 6.1)
- for Computers (ver. 6.0)
- for Displays (ver. 6.0)
- for Imaging Equipment (ver. 2.0)

- for Computer Servers (ver. 2.0)

2 Commercial Food Service Equipment
- for Commercial Dishwashers (ver. 2.0)
- for Commercial Ice Machines (ver. 2.0)
- for Commercial Ovens (ver. 2.1)
- for Commercial Refrigerators and Freezers

3 Lighting Products
- For Decorative Light Strings (ver. 1.5)
- For Luminaires (including sub-components) and Lamps (ver. 1.2)
- For Compact Fluorescent Lamps (CFLs) (ver. 4.3)
- For Integral LED Lamps (ver. 1.4)

4 Heating, Ventilation, and AC Products
- for Residential Ceiling Fans (ver. 3.0)
- for Residential Ventilating Fans (ver. 3.2)

5 Other
- For Water Coolers (ver. 3.0)

D- ***A NIST Designated Phase-I and Phase-II Conformity Assessment Body (CAB) for the following economies and regulatory authorities under the terms of the stated MRAs/Treaties:***

- Australia: ACMA (Australian Communication and Media Authority) – APEC Tel MRA -Phase I;
- Canada: (Innovation, Science and Economic development Canada - ISEDC) Foreign Certification Body – FCB – APEC Tel MRA -Phase I & Phase II;
- Chinese Taipei (Republic of China – Taiwan):
  - BSMI (Bureau of Standards, Metrology and Inspection) APEC Tel MRA -Phase I;
  - NCC (National Communications Commission) APEC Tel MRA -Phase I;
- European Union:
  - EMC Directive 2014/30/EU US-EU EMC & Telecom MRA CAB (NB)
  - Radio Equipment (RE) Directive 2014/53/EU US-EU EMC & Telecom MRA CAB (NB)
  - Low Voltage Directive (LVD) 2014/35/EU
- Hong Kong Special Administrative Region: (Office of the Telecommunications Authority – OFTA) APEC Tel MRA -Phase I & Phase II
- Israel – US-Israel MRA Phase I
- Republic of Korea (Ministry of Communications - Radio Research Laboratory) APEC Tel MRA -Phase I
- Singapore: (Infocomm Media Development Authority - IMDA) APEC Tel MRA -Phase I & Phase II;
- Japan: VCCI - Voluntary Control Council for Interference US-Japan Telecom Treaty VCCI Side Letter-
- USA:
  - ENERGY STAR Recognized Test Laboratory – US EPA
  - Telecommunications Certification Body (TCB) – US FCC;
  - Nationally Recognized Test Laboratory (NRTL) – US OSHA
- Vietnam: APEC Tel MRA -Phase I;

2 System Test Configuration

2.1 Justification

The EUT was configured for testing according to ANSI C63.10-2013 and FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

The EUT was tested in a testing mode to represent worst-case results during the final qualification test.

The worst-case data rates are determined by measuring the average power, peak power and PPSD across all data rates bandwidths, and modulations.

2.2 EUT Exercise Software

The test software used was Tera Term and the software is compliant with the standard requirements being tested against. Following are the test channels.

Modulation	Frequency (MHz)	Power Setting
802.11a/n/ac/ax	5180	17
	5190	17
	5210	17
	5220	17
	5230	17
	5240	17
	5250	17
	5260	17
	5270	17
	5290	17
	5300	17
	5310	17
	5320	17
	5500	17
	5510	17
	5530	17
	5570	17
	5580	17
	5590	17
	5610	17
	5670	17
	5690	17
	5700	17
	5710	17
	5720	17
	5745	17
	5755	17
	5775	17
	5785	17
	5795	17
	5825	17

Data Rates Tested:
802.11a Non HT mode: 6Mbps
802.11n/ac HT/VHT mode: m0/m0x1
802.11ac VHT mode: m0x1
802.11ax HE mode: m0h1
Note: Channel 5720, 5710, 5610, 5690 and 5570MHz are only for FCC and NCC.

2.3 Equipment Modifications

N/A

2.4 Local Support Equipment

Manufacturer	Description	Model	Serial Number
Dell	Laptop	Latitude E6410	3CKRAQ1

2.5 Support Equipment

Manufacturer	Description	Model
Cisco	Power Supply	AIR-AP1840I-B-K9

2.6 Interface Ports and Cabling

Cable Description	Length (m)	To	From
RS232 Male to Ethernet Cable	2 m	RS232 Female to USB Cable	EUT
RS232 Female to USB Cable	2 m	Laptop	RS232 Male to Ethernet Cable

3 Summary of Test Results

FCC, ISED, and LP0002 Rules	Description of Test	Result
FCC §2.1091, §15.407(f) & ISEDC RSS-102 & LP0002	RF Exposure	Compliant
FCC §2.1053, §15.205, §15.209, 15.407(b) ISEDC RSS-247 §6.2 LP0002-2018 §2.8, §2.11, §4.7.4	Spurious Radiated Emissions	Compliant

4 FCC §2.1091, §15.407(f) & ISEDC RSS-102 & LP0002– RF Exposure

4.1 Applicable Standards

According to FCC §15.407(f), §1.1307(b)(1) and LP0002 5.20.2.2, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minutes)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	* (100)	30
1.34-30	824/f	2.19/f	* ($180/f^2$)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

f = frequency in MHz
* = Plane-wave equivalent power density

According to ISED RSS-102 Issue 5:

Table 4: RF Field Strength Limits for Devices Used by the General Public (Uncontrolled Environment)

Frequency Range (MHz)	Electric Field (V/m rms)	Magnetic Field (A/m rms)	Power Density (W/m^2)	Reference Period (minutes)
0.003-10[21]	83	90	-	Instantaneous*
0.1-10	-	$0.73/f$	-	6**
1.1-10	$87/f^{0.5}$	-	-	6**
10-20	27.46	0.0728	-2	6
20-48	$58.07/f^{0.25}$	$0.1540/f^{0.25}$	$8.944/f^{0.5}$	6
48-300	22.06	0.05852	1.291	6
300-6000	$3.142 f^{0.3417}$	$0.008335 f^{0.3417}$	$0.02619 f^{0.6834}$	6
6000-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	$616000/f^{1.2}$
150000-300000	$0.158 f^{0.5}$	$4.21 \times 10^{-4} f^{0.5}$	$6.67 \times 10^{-5} f$	$616000/f^{1.2}$

Note: f is frequency in MHz.
* Based on nerve stimulation (NS).
** Based on specific absorption rate (SAR).

4.2 MPE Prediction

Predication of MPE limit at a given distance, Equation from OET Bulletin 65, Edition 97-01

$$S = PG/4\pi R^2$$

Where: S = power density
P = power input to antenna
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna

4.3 MPE Results for FCC

2.4 GHz Wi-Fi

Maximum output power at antenna input terminal (dBm):	23.8
Maximum output power at antenna input terminal (mW):	239.88
Prediction distance (cm):	30
Prediction frequency (MHz):	2437
Maximum Antenna Gain, typical (dBi):	12
Maximum Antenna Gain (numeric):	15.85
Power density of prediction frequency at 30.0 cm (mW/cm^2):	0.336
FCC MPE limit for uncontrolled exposure at prediction frequency (mW/cm^2):	1.0

The device is compliant with the requirement MPE limit for uncontrolled exposure. The maximum power density at the distance of 30 cm is 0.336 mW/cm^2. Limit is 1.0 mW/cm^2.

2.4 GHz BLE

Maximum peak output power at antenna input terminal (dBm):	4.47
Maximum peak output power at antenna input terminal (mW):	2.80
Prediction distance (cm):	30
Prediction frequency (MHz):	2426
Maximum Antenna Gain, typical (dBi):	6.0
Maximum Antenna Gain (numeric):	3.98
Power density of prediction frequency at 30.0 cm (mW/cm^2):	0.00099
FCC MPE limit for uncontrolled exposure at prediction frequency (mW/cm^2):	1.0

The device is compliant with the requirement MPE limit for uncontrolled exposure. The maximum power density at the distance of 30 cm is 0.00099 mW/cm^2. Limit is 1.0 mW/cm^2.

5 GHz Wi-Fi

Maximum peak output power at antenna input terminal (dBm):	23.29
Maximum peak output power at antenna input terminal (mW):	213.30
Prediction distance (cm):	30
Prediction frequency (MHz):	5785
Maximum Antenna Gain, typical (dBi):	12
Maximum Antenna Gain (numeric):	15.85
Power density of prediction frequency at 30.0 cm (mW/cm^2):	0.29907
FCC MPE limit for uncontrolled exposure at prediction frequency (mW/cm^2):	1.0

The device is compliant with the requirement MPE limit for uncontrolled exposure. The maximum power density at the distance of 30 cm is 0.29907 mW/cm^2. Limit is 1.0 mW/cm^2.

Worst case colocation 2.4 GHz Wi-Fi, BLE and 5 GHz Wi-Fi.

Frequency Band	Max Conducted Power(dBm)	Evaluated Distance (cm)	Worst-Case MPE (mW/cm^2)	MPE Limit (mW/cm^2)	Worst-Case MPE Ratios	Sum of MPE Ratios	Limit
Worst Case							
2.4 GHz Wi-Fi	23.1	30	0.28627	1.0	33.6 %	63.606 %	100%
2.4 GHz BLE	4.47	30	0.00099	1.0	0.099 %		
5 GHz Wi-Fi	23.29	30	0.29907	1.0	29.907 %		

4.4 RF exposure evaluation for ISEDC

2.4 GHz Wi-Fi

Maximum output power at antenna input terminal (dBm):	23.8
Maximum output power at antenna input terminal (W):	0.2399
Prediction distance (m):	0.3
Prediction frequency (MHz):	2437
Maximum Antenna Gain, typical (dBi):	12
Maximum Antenna Gain (numeric):	15.85
Power density of prediction frequency at 30.0 cm (W/m^2):	3.362
ISEDC MPE limit for uncontrolled exposure at prediction frequency (W/m^2):	5.404

The device is compliant with the requirement MPE limit for uncontrolled exposure. The maximum power density at the distance of 0.3 m is 3.362 W/m^2. Limit is 5.404 W/m^2.

2.4 GHz BLE

Maximum peak output power at antenna input terminal (dBm):	4.47
Maximum peak output power at antenna input terminal (W):	0.0028
Prediction distance (m):	0.3
Prediction frequency (MHz):	2426
Maximum Antenna Gain, typical (dBi):	6.0
Maximum Antenna Gain (numeric):	3.98
Power density of prediction frequency at 30.0 cm (W/cm^2):	0.0099
FCC MPE limit for uncontrolled exposure at prediction frequency (W/cm^2):	5.387

The device is compliant with the requirement MPE limit for uncontrolled exposure. The maximum power density at the distance of 0.3 m is 0.0099 W/m^2. Limit is 5.387 W/m^2.

5 GHz Wi-Fi

Maximum peak output power at antenna input terminal (dBm):	23.3
Maximum peak output power at antenna input terminal (W):	0.21380
Prediction distance (m):	0.3
Prediction frequency (MHz):	5785
Maximum Antenna Gain, typical (dBi):	12
Maximum Antenna Gain (numeric):	15.85
Power density of prediction frequency at 30.0 cm (W/m^2):	2.99756
FCC MPE limit for uncontrolled exposure at prediction frequency (W/m^2):	9.756

The device is compliant with the requirement MPE limit for uncontrolled exposure. The maximum power density at the distance of 0.3 m is 2.99756 W/m^2. Limit is 9.756 W/m^2.

Worst case colocation 2.4 GHz Wi-Fi, BLE and 5 GHz Wi-Fi.

Frequency Band	Max Conducted Power(dBm)	Evaluated Distance (m)	Worst-Case MPE (W/m^2)	MPE Limit (W/m^2)	Worst-Case MPE Ratios	Sum of MPE Ratios	Limit
Worst Case							
2.4 GHz Wi-Fi	23.1	0.3	3.362	5.404	62.21 %	93.12 %	100%
2.4 GHz BLE	4.47	0.3	0.0099	5.387	0.18 %		
5 GHz Wi-Fi	23.3	0.3	2.99756	9.756	30.73 %		

5 FCC §15.209, §15.407(b) & ISEDC RSS-247 §6.2 and LP0002-2018 §2.8, §2.11, §4.7.4 - Spurious Radiated Emissions

5.1 Applicable Standard

As Per FCC §15.205(a) except as show in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 – 0.110	16.42 – 16.423	960 – 1240	4. 5 – 5. 15
0.495 – 0.505	16.69475 – 16.69525	1300 – 1427	5. 35 – 5. 46
2.1735 – 2.1905	25.5 – 25.67	1435 – 1626.5	7.25 – 7.75
4.125 – 4.128	37.5 – 38.25	1645.5 – 1646.5	8.025 – 8.5
4.17725 – 4.17775	73 – 74.6	1660 – 1710	9.0 – 9.2
4.20725 – 4.20775	74.8 – 75.2	1718.8 – 1722.2	9.3 – 9.5
6.215 – 6.218	108 – 121.94	2200 – 2300	10.6 – 12.7
6.26775 – 6.26825	123 – 138	2310 – 2390	13.25 – 13.4
6.31175 – 6.31225	149.9 – 150.05	2483.5 – 2500	14.47 – 14.5
8.291 – 8.294	156.52475 – 156.52525	2690 – 2900	15.35 – 16.2
8.362 – 8.366	156.7 – 156.9	3260 – 3267	17.7 – 21.4
8.37625 – 8.38675	162.0125 –167.17	3.332 – 3.339	22.01 – 23.12
8.41425 – 8.41475	167.72 – 173.2	3 3458 – 3 358	23.6 – 24.0
12.29 – 12.293	240 – 285	3.600 – 4.400	31.2 – 31.8
12.51975 – 12.52025	322 – 335.4		36.43 – 36.5
12.57675 – 12.57725	399.9 – 410		Above 38.6
13.36 – 13.41	608 – 614		

As per FCC §15.209: The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table

Frequency (MHz)	Field Strength (micro volts/meter)	Measurement Distance (meters)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100 Note 1	3
88 - 216	150 Note 1	3
216 - 960	200 Note 1	3
Above 960	500	3

Note 1: Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

As per FCC Part 15.407 (b)

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

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

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

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

As per ISEDC RSS-247 §6.2

For transmitters operating in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. However, any unwanted emissions that fall into the band 5250- 5350 MHz must be 26 dBc, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth, above 5.25 GHz. Otherwise, the transmission is considered as intentional and the devices shall implement dynamic frequency selection (DFS) and transmitter power control (TPC) as per the requirements for the band 5250-5350 MHz

For devices with both operating frequencies and channel bandwidths contained within the band 5250-5350 MHz, the device shall comply with the following:

1. All emissions outside the band 5250-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. if the equipment is intended for outdoor use; or
2. All emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p. and any emissions within the band 5150-5250 MHz shall meet the power spectral density limits of Section 6.2.1. The device shall be labelled “for indoor use only.”

For devices with operating frequencies in the band 5250-5350 MHz but having a channel bandwidth that overlaps the band 5150-5250 MHz, the devices' unwanted emission shall not exceed -27 dBm/MHz e.i.r.p. outside the band 5150-5350 MHz and its power shall comply with the spectral power density for operation within the band 5150-5250 MHz. The device shall be labelled "for indoor use only."

For transmitters operating in the band 5470-5725 MHz, emissions outside the band shall not exceed -27 dBm/MHz e.i.r.p.

For the band 5725-5850 MHz, emissions at frequencies from the band edges to 10 MHz above or below the band edges shall not exceed -17 dBm/MHz e.i.r.p. For emissions at frequencies more than 10 MHz above or below the band edges, the emissions power shall not exceed -27 dBm/MHz.

5.2 Test Setup

The radiated emissions tests were performed in the 5-meter Chamber, using the setup in accordance with ANSI C63.10-2013. The specification used was the FCC 15.407 limits.

The spacing between the peripherals was 10 centimeters.

External I/O cables were draped along the edge of the test table and bundle when necessary.

5.3 Test Procedure

For the radiated emissions test, the EUT host, and all support equipment power cords were connected to the AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.
The EUT is set 3 meter away from the testing antenna, which is varied from 1-4 meter, and the EUT is placed on a turntable, which is 0.8 meter or 1.5 meter above ground plane, the table shall be rotated for 360 degrees to find out the highest emission. The receiving antenna should be changed the polarization both of horizontal and vertical.

The spectrum analyzer or receiver is set as:

Below 1000 MHz:

RBW = 100 kHz / VBW = 300 kHz / Sweep = Auto

Above 1000 MHz:

(1) Peak: RBW = 1MHz / VBW = 3MHz / Sweep = 100 ms
(2) Average: RBW = 1MHz / VBW = 1 / T or 10 Hz / Sweep = Auto

5.4 Corrected Amplitude and Margin Calculation

The Corrected Amplitude (CA) is calculated by adding the Antenna Factor (AF), the Cable Loss (CL), the Attenuator Factor (Atten) and subtracting the Amplifier Gain (Ga) to indicated Amplitude (Ai) reading. The basic equation is as follows:

CA = Ai + AF + CL + Atten – Ga

For example, a corrected amplitude of 40.3 dBuV/m = Indicated Reading (32.5 dBuV) + Antenna Factor (+23.5dB) + Cable Loss (3.7 dB) + Attenuator (10 dB) - Amplifier Gain (29.4 dB)

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of -7 dB means the emission is 7 dB below the maximum limit for Class A. The equation for margin calculation is as follows:

Margin = Corrected Amplitude – Limit

5.5 Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Interval
Rohde and Schwarz	Receiver, EMI Test	ESCI 1166.5950K03	100338	2018-07-05	2 years
Agilent	Analyzer, Spectrum	E4446A	MY48250238	2018-05-08	1 year
Sunol Sciences	System Controller	SC99V	011003-1	N/R	N/A
Sunol Sciences	Antenna, Biconi-Log	JB1	A013105-3	2018-02-26	2 years
Wisewave	Antenna, Horn	ARH-4223-02	10555-02	2018-02-14	2 years
Wisewave	Antenna, Horn	ARH-4223-02	10555-01	2018-02-14	2 years
Agilent	Amplifier, Pre	8447D	2443A04374	2018-08-09	1 year
Insulated Wire INC	2.92mm (M) X2, 1501 Armor Neoprene, 396	KPS-1501AN-3960-KPS	DC 1807	2018-03-13	2 years
-	SMA cable	-	C00011	Each time[1]	N/A
-	N-Type Cable	-	C00012	Each time[1]	N/A
-	N-Type Cable	-	C00014	Each time[1]	N/A
HP	Pre-Amplifier	8449B	3008A01978	2018-08-10	1 year
A.H. Systems	Pre-Amplifier	PAM 1840V	170	2018-09-10	1 year
Sunol Sciences	Antenna, Horn	DRH-118	A052704	2019-04-02	2 years
Vasona	Test software	V6.0 build 11	10400213	N/R	N/R

Note[1]: cables included in the test set-up will be checked each time before testing.
Statement of Traceability: BACL Corp. *attests that all of the calibrations on the equipment items listed above were traceable to NIST or to another internationally recognized National Metrology Institute (NMI), and were compliant with A2LA Policy P102 (dated 09 June 2016) "A2LA Policy on Metrological Traceability".*

5.6 Test Environmental Conditions

Temperature:	22-25 ºC
Relative Humidity:	29-30 %
ATM Pressure:	102.1 kPa

The testing was performed by Giovanni Velazquez Munoz from 2019-04-02 to 2019-04-12 in 5m chamber 3.

5.7 Summary of Test Results

According to the data hereinafter, the EUT complied with the FCC Part 15.407 and RSS-247 standards' radiated emissions limits, and had the worst margin of:

Mode: Transmitting			
Margin (dB)	**Frequency (MHz)**	**Polarization (Horizontal/Vertical)**	**Mode, Channel**
-0.16	96.0435	Horizontal	ac160 mode, 5250 MHz

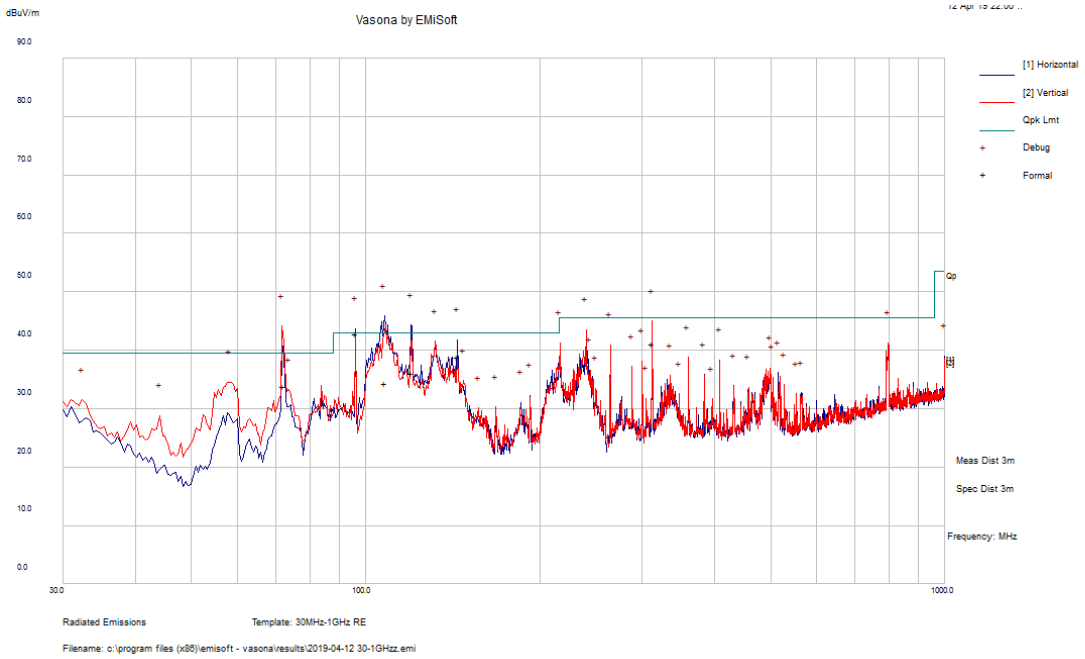
Please refer to the following table and plots for specific test result details (4.8).

5.8 Radiated Emissions Test Result

Testing was done in 4TX MIMO configuration and 50Ohm Terminators have been used instead of external antennas

1) 30 MHz – 1 GHz Worst Case, Measured at 3 meters

Worst Case Colocation, BLE 2480MHz, 2.4 GHz Wi-Fi HT/VHT20 mode 2412MHz and 5 GHz Wi-Fi VHT160 mode 5250 MHz



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Height (cm)	Antenna Polarity (H/V)	Turntable Azimuth (degrees)	Limit (dBµV/m)	Margin (dB)	Comment
71.95775	33.78	285	V	286	39.5	-5.72	Pass
107.7985	34.38	157	H	267	43	-8.62	Pass
119.9378	36.15	127	H	120	43	-6.85	Pass
96.0435	42.84	201	H	69	43	**-0.16**	Pass
312.1723	41.1	101	V	230	45.5	-4.4	Pass
144.0825	38.82	194	H	295	43	-4.18	Pass

2) Above 1 GHz, Measured at 1 meter

5150 - 5250 MHz

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5180 MHz Non HT20 mode power setting: 17											
10360	45.54	0	100	H	39.24	16.54	38.59	62.73	84	-21.27	PK
10360	33.40	0	100	H	39.24	16.54	38.59	50.59	64	-13.41	AV
10360	44.73	0	100	V	39.24	16.54	38.59	61.92	84	-22.08	PK
10360	33.32	0	100	V	39.24	16.54	38.59	50.51	64	-13.49	AV
15480	43.01	0	100	H	38.82	20.15	37.27	64.72	84	-19.29	PK
15480	28.25	0	100	H	38.82	20.15	37.27	49.96	64	-14.05	AV
15480	41.28	0	100	V	32.82	20.15	37.27	56.99	84	-27.02	PK
15480	33.03	0	100	V	32.82	20.15	37.27	48.74	64	-15.27	AV
Mid Channel 5220 MHz Non HT20 mode power setting: 17											
10440	43.87	0	100	H	39.28	16.87	38.37	61.64	84	-22.36	PK
10440	32.83	0	100	H	39.28	16.87	38.37	50.60	64	-13.40	AV
10440	43.76	0	100	V	39.28	16.87	38.37	61.53	84	-22.47	PK
10440	33.16	0	100	V	39.28	16.87	38.37	50.93	64	-13.07	AV
15660	38.47	0	100	H	38.50	20.15	37.40	59.72	84	-24.28	PK
15660	25.50	0	100	H	38.50	20.15	37.40	46.75	64	-17.25	AV
15660	38.15	0	100	V	38.50	20.15	37.40	59.40	84	-24.60	PK
15660	27.51	0	100	V	38.50	20.15	37.40	48.76	64	-15.24	AV
High Channel 5240 MHz Non HT20 mode power setting: 17											
10480	44.32	0	100	H	39.31	16.87	38.22	62.27	84	-21.73	PK
10480	32.54	0	100	H	39.31	16.87	38.22	50.49	64	-13.51	AV
10480	43.34	0	100	V	39.31	16.87	38.22	61.29	84	-22.71	PK
10480	32.61	0	100	V	39.31	16.87	38.22	50.56	64	-13.44	AV
15720	38.55	0	100	H	38.49	20.15	37.37	59.82	84	-24.18	PK
15720	27.31	0	100	H	38.49	20.15	37.37	48.58	64	-15.42	AV
15720	38.21	0	100	V	38.49	20.15	37.37	59.48	84	-24.52	PK
15720	27.20	0	100	V	38.49	20.15	37.37	48.47	64	-15.53	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5180 MHz HT/VHT20 mode power setting: 17											
10360	44.68	0	100	H	39.24	16.54	38.59	61.87	84	-22.13	PK
10360	32.10	0	100	H	39.24	16.54	38.59	49.29	64	-14.71	AV
10360	44.56	0	100	V	39.24	16.54	38.59	61.75	84	-22.25	PK
10300	32.52	0	100	V	39.24	16.54	38.59	49.71	64	-14.29	AV
15480	39.95	0	100	H	38.82	20.15	37.27	61.66	84	-22.35	PK
15480	29.07	0	100	H	38.82	20.15	37.27	50.77	64	-13.23	AV
15480	39.66	0	100	V	32.82	20.15	37.27	55.37	84	-28.64	PK
15480	28.60	0	100	V	32.82	20.15	37.27	44.30	64	-19.70	AV
Mid Channel 5220 MHz HT/VHT20 mode power setting: 17											
10440	45.43	0	100	H	39.28	16.87	38.37	63.20	84	-20.80	PK
10440	32.72	0	100	H	39.28	16.87	38.37	50.50	64	-13.51	AV
10440	44.73	0	100	V	39.28	16.87	38.37	62.50	84	-21.50	PK
10440	33.30	0	100	V	39.28	16.87	38.37	51.07	64	-12.93	AV
15660	41.81	0	100	H	38.50	20.15	37.40	63.06	84	-20.94	PK
15660	30.46	0	100	H	38.50	20.15	37.40	51.71	64	-12.29	AV
15660	41.28	0	100	V	38.50	20.15	37.40	62.53	84	-21.47	PK
15660	30.62	0	100	V	38.50	20.15	37.40	51.87	64	-12.13	AV
High Channel 5240 MHz HT/VHT20 mode power setting: 17											
10480	44.31	0	100	H	39.31	16.87	38.22	62.26	84	-21.74	PK
10480	32.61	0	100	H	39.31	16.87	38.22	50.56	64	-13.45	AV
10480	43.52	0	100	V	39.31	16.87	38.22	61.47	84	-22.53	PK
10480	32.51	0	100	V	39.31	16.87	38.22	50.46	64	-13.54	AV
15720	41.65	0	100	H	38.49	20.15	37.37	62.92	84	-21.08	PK
15720	30.67	0	100	H	38.49	20.15	37.37	51.95	64	-12.05	AV
15720	41.56	0	100	V	38.49	20.15	37.37	62.83	84	-21.17	PK
15720	30.19	0	100	V	38.49	20.15	37.37	51.46	64	-12.54	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5180 MHz HE20 mode power setting: 17											
10360	42.53	0	100	H	39.24	8.27	38.59	51.45	84	-32.55	PK
10360	31.07	0	100	H	39.24	8.27	38.59	39.99	64	-24.01	AV
10360	42.26	0	100	V	39.24	8.27	38.59	51.18	84	-32.82	PK
10300	31.26	0	100	V	39.24	8.27	38.59	40.18	64	-23.82	AV
Mid Channel 5220 MHz HE20 mode power setting: 17											
10440	44.27	0	100	H	39.28	8.43	38.37	53.61	84	-30.39	PK
10440	32.39	0	100	H	39.28	8.43	38.37	41.73	64	-22.27	AV
10440	43.92	0	100	V	39.28	8.43	38.37	53.26	84	-30.74	PK
10440	32.61	0	100	V	39.28	8.43	38.37	41.95	64	-22.05	AV
High Channel 5240 MHz HE20 mode power setting: 17											
10480	44.48	0	100	H	39.31	8.43	38.22	54.00	84	-30.00	PK
10480	32.33	0	100	H	39.31	8.43	38.22	41.85	64	-22.15	AV
10480	44.32	0	100	V	39.31	8.43	38.22	53.84	84	-30.16	PK
10480	33.61	0	100	V	39.31	8.43	38.22	43.13	64	-20.87	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5190 MHz Non HT40 mode power setting: 17											
10380	44.32	0	100	H	39.28	16.54	38.59	61.55	84	-22.45	PK
10380	32.09	0	100	H	39.28	16.54	38.59	49.32	64	-14.68	AV
10380	43.88	0	100	V	39.28	16.54	38.59	61.11	84	-22.89	PK
10380	32.82	0	100	V	39.28	16.54	38.59	50.05	64	-13.95	AV
15570	41.86	0	100	H	38.63	20.15	37.43	63.21	84	-20.79	PK
15570	29.09	0	100	H	38.63	20.15	37.43	50.44	64	-13.56	AV
15570	40.57	0	100	V	38.63	20.15	37.43	61.92	84	-22.08	PK
15570	29.98	0	100	V	38.63	20.15	37.43	51.33	64	-12.67	AV
High Channel 5230 MHz Non HT40 mode power setting: 17											
10460	45.76	0	100	H	39.27	16.87	38.37	63.52	84	-20.48	PK
10460	33.92	0	100	H	39.27	16.87	38.37	51.68	64	-12.32	AV
10460	44.18	0	100	V	39.27	16.87	38.37	61.94	84	-22.06	PK
10460	33.26	0	100	V	39.27	16.87	38.37	51.02	64	-12.98	AV
15690	41.26	0	100	H	38.49	20.15	37.37	62.53	84	-21.47	PK
15690	30.39	0	100	H	38.49	20.15	37.37	51.66	64	-12.34	AV
15690	40.74	0	100	V	38.49	20.15	37.37	62.01	84	-21.99	PK
15690	30.13	0	100	V	38.49	20.15	37.37	51.40	64	-12.60	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5190 MHz HT/VHT40 mode power setting: 17											
10380	44.23	0	100	H	39.28	16.54	38.59	61.46	84	-22.54	PK
10380	32.58	0	100	H	39.28	16.54	38.59	49.81	64	-14.19	AV
10380	43.74	0	100	V	39.28	16.54	38.59	60.97	84	-23.03	PK
10380	32.89	0	100	V	39.28	16.54	38.59	50.12	64	-13.88	AV
15570	39.99	0	100	H	38.63	20.15	37.43	61.34	84	-22.66	PK
15570	28.60	0	100	H	38.63	20.15	37.43	49.95	64	-14.05	AV
15570	38.77	0	100	V	38.63	20.15	37.43	60.12	84	-23.88	PK
15570	29.14	0	100	V	38.63	20.15	37.43	50.49	64	-13.51	AV
High Channel 5230 MHz HT/VHT40 mode power setting: 17											
10460	44.23	0	100	H	39.27	16.87	38.37	61.99	84	-22.01	PK
10460	33.68	0	100	H	39.27	16.87	38.37	51.44	64	-12.56	AV
10460	43.50	0	100	V	39.27	16.87	38.37	61.26	84	-22.74	PK
10460	33.15	0	100	V	39.27	16.87	38.37	50.91	64	-13.09	AV
15690	42.52	0	100	H	38.49	20.15	37.37	63.79	84	-20.21	PK
15690	30.83	0	100	H	38.49	20.15	37.37	52.11	64	-11.90	AV
15690	41.99	0	100	V	38.49	20.15	37.37	63.26	84	-20.74	PK
15690	31.21	0	100	V	38.49	20.15	37.37	52.49	64	-11.51	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5190 MHz HE40 mode power setting: 17											
10380	44.19	0	100	H	39.28	8.27	38.59	53.15	84	-30.85	PK
10380	32.62	0	100	H	39.28	8.27	38.59	41.58	64	-22.42	AV
10380	43.70	0	100	V	39.28	8.27	38.59	52.66	84	-31.34	PK
10380	32.67	0	100	V	39.28	8.27	38.59	41.63	64	-22.37	AV
High Channel 5230 MHz HE40 mode power setting: 17											
10460	43.97	0	100	H	39.27	8.43	38.37	53.30	84	-30.70	PK
10460	32.98	0	100	H	39.27	8.43	38.37	42.31	64	-21.69	AV
10460	43.63	0	100	V	39.27	8.43	38.37	52.96	84	-31.04	PK
10460	32.85	0	100	V	39.27	8.43	38.37	42.18	64	-21.82	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Channel 5210 MHz Non HT80 mode power setting: 17											
10420	44.36	0	100	H	39.28	16.87	38.37	62.13	84	-21.87	PK
10420	33.47	0	100	H	39.28	16.87	38.37	51.24	64	-12.76	AV
10420	43.47	0	100	V	39.28	16.87	38.37	61.24	84	-22.76	PK
10420	32.58	0	100	V	39.28	16.87	38.37	50.35	64	-13.65	AV
15630	41.33	0	100	H	38.63	20.15	37.40	62.72	84	-21.28	PK
15630	31.34	0	100	H	38.63	20.15	37.40	52.73	64	-11.27	AV
15630	40.62	0	100	V	38.63	20.15	37.40	62.01	84	-21.99	PK
15630	30.94	0	100	V	38.63	20.15	37.40	52.33	64	-11.67	AV
Channel 5210 MHz VHT80 mode power setting: 17											
10420	45.82	0	100	H	39.28	16.87	38.37	63.59	84	-20.41	PK
10420	34.33	0	100	H	39.28	16.87	38.37	52.10	64	-11.90	AV
10420	44.48	0	100	V	39.28	16.87	38.37	62.25	84	-21.75	PK
10420	33.17	0	100	V	39.28	16.87	38.37	50.94	64	-13.06	AV
Channel 5210 MHz HE80 mode power setting: 17											
10420	43.97	0	100	H	39.28	8.43	38.37	53.31	84	-30.69	PK
10420	33.13	0	100	H	39.28	8.43	38.37	42.47	64	-21.53	AV
10420	44.05	0	100	V	39.28	8.43	38.37	53.39	84	-30.61	PK
10420	32.97	0	100	V	39.28	8.43	38.37	42.31	64	-21.69	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Channel 5250 MHz Non HT160 mode power setting: 17											
10500	45.28	0	100	H	39.28	16.87	38.37	63.05	84	-20.95	PK
10500	34.97	0	100	H	39.28	16.87	38.37	52.74	64	-11.26	AV
10500	45.08	0	100	V	39.28	16.87	38.37	62.85	84	-21.15	PK
10500	35.58	0	100	V	39.28	16.87	38.37	53.35	64	-10.65	AV
Channel 5250 MHz VHT160 mode power setting: 17											
10500	46.76	0	100	H	39.28	16.87	38.37	64.53	84	-19.47	PK
10500	35.68	0	100	H	39.28	16.87	38.37	53.45	64	-10.55	AV
10500	46.57	0	100	V	39.28	16.87	38.37	64.34	84	-19.66	PK
10500	35.97	0	100	V	39.28	16.87	38.37	53.74	64	-10.26	AV
Channel 5250 MHz HE160 mode power setting: 17											
10500	44.63	0	100	H	39.28	8.43	38.37	53.97	84	-30.03	PK
10500	32.79	0	100	H	39.28	8.43	38.37	42.13	64	-21.87	AV
10500	44.23	0	100	V	39.28	8.43	38.37	53.57	84	-30.43	PK
10500	32.78	0	100	V	39.28	8.43	38.37	42.12	64	-21.88	AV

5250 - 5350 MHz

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5260 MHz Non HT20 mode power setting: 17											
10520	44.60	0	100	H	39.31	19.29	38.07	65.12	84	-18.88	PK
10520	31.59	0	100	H	39.31	19.29	38.07	52.11	64	-11.89	AV
10520	43.19	0	100	V	39.31	19.29	38.07	63.71	84	-20.29	PK
10520	31.21	0	100	V	39.31	19.29	38.07	51.73	64	-12.27	AV
Mid Channel 5300 MHz Non HT20 mode power setting: 17											
10600	43.62	0	100	H	39.34	19.29	38.07	64.18	84	-19.82	PK
10600	32.28	0	100	H	39.34	19.29	38.07	52.84	64	-11.16	AV
10600	43.21	0	100	V	39.34	19.29	38.07	63.77	84	-20.23	PK
10600	32.08	0	100	V	39.34	19.29	38.07	52.64	64	-11.36	AV
High Channel 5320MHz Non HT20 mode power setting: 17											
10640	44.15	0	100	H	39.34	19.29	38.07	64.71	84	-19.29	PK
10640	31.38	0	100	H	39.34	19.29	38.07	51.94	64	-12.06	AV
10640	43.57	0	100	V	39.34	19.29	38.07	64.13	84	-19.87	PK
10640	31.35	0	100	V	39.34	19.29	38.07	51.90	64	-12.10	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5260 MHz HT/VHT20 mode power setting: 17											
10520	42.35	0	100	H	39.31	19.29	38.07	62.87	84	-21.13	PK
10520	32.35	0	100	H	39.31	19.29	38.07	52.87	64	-11.13	AV
10520	41.97	0	100	V	39.31	19.29	38.07	62.49	84	-21.51	PK
10520	32.28	0	100	V	39.31	19.29	38.07	52.80	64	-11.20	AV
Mid Channel 5300 MHz HT/VHT20 mode power setting: 17											
10600	42.34	0	100	H	39.34	19.29	38.07	62.90	84	-21.10	PK
10600	31.16	0	100	H	39.34	19.29	38.07	51.72	64	-12.29	AV
10600	41.26	0	100	V	39.34	19.29	38.07	61.82	84	-22.18	PK
10600	30.91	0	100	V	39.34	19.29	38.07	51.46	64	-12.54	AV
High Channel 5320 MHz HT/VHT20 mode power setting: 17											
10640	42.84	0	100	H	39.34	19.29	38.07	63.40	84	-20.60	PK
10640	32.19	0	100	H	39.34	19.29	38.07	52.75	64	-11.25	AV
10640	42.31	0	100	V	39.34	19.29	38.07	62.87	84	-21.13	PK
10640	32.06	0	100	V	39.34	19.29	38.07	52.61	64	-11.39	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5260 MHz HE20 mode power setting: 17											
10520	44.27	0	100	H	39.31	9.64	38.07	55.15	84	-28.85	PK
10520	32.81	0	100	H	39.31	9.64	38.07	43.69	64	-20.31	AV
10520	44.68	0	100	V	39.31	9.64	38.07	55.56	84	-28.44	PK
10520	32.71	0	100	V	39.31	9.64	38.07	43.59	64	-20.41	AV
Mid Channel 5300 MHz HE20 mode power setting: 17											
10600	44.04	0	100	H	39.34	9.65	38.07	54.96	84	-29.04	PK
10600	32.40	0	100	H	39.34	9.65	38.07	43.32	64	-20.68	AV
10600	44.22	0	100	V	39.34	9.65	38.07	55.14	84	-28.86	PK
10600	32.42	0	100	V	39.34	9.65	38.07	43.34	64	-20.66	AV
High Channel 5320 MHz HE20 mode power setting: 17											
10640	43.60	0	100	H	39.34	9.65	38.07	54.52	84	-29.48	PK
10640	32.76	0	100	H	39.34	9.65	38.07	43.68	64	-20.32	AV
10640	43.80	0	100	V	39.34	9.65	38.07	54.72	84	-29.28	PK
10640	32.55	0	100	V	39.34	9.65	38.07	43.47	64	-20.53	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5270 MHz Non HT40 mode power setting: 17											
10540	42.49	0	100	H	39.31	19.29	38.07	63.01	84	-20.99	PK
10540	33.44	0	100	H	39.31	19.29	38.07	53.96	64	-10.04	AV
10540	41.29	0	100	V	39.31	19.29	38.07	61.81	84	-22.19	PK
10540	33.22	0	100	V	39.31	19.29	38.07	53.74	64	-10.26	AV
High Channel 5310 MHz Non HT40 mode power setting: 17											
10620	42.46	0	100	H	39.34	19.29	38.07	63.02	84	-20.98	PK
10620	33.29	0	100	H	39.34	19.29	38.07	53.85	64	-10.15	AV
10620	41.67	0	100	V	39.34	19.29	38.07	62.23	84	-21.77	PK
10620	32.85	0	100	V	39.34	19.29	38.07	53.41	64	-10.59	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5270 MHz HT/VHT40 mode power setting: 17											
10540	43.60	0	100	H	39.31	19.29	38.07	64.12	84	-19.88	PK
10540	33.34	0	100	H	39.31	19.29	38.07	53.86	64	-10.14	AV
10540	42.73	0	100	V	39.31	19.29	38.07	63.25	84	-20.75	PK
10540	33.32	0	100	V	39.31	19.29	38.07	53.84	64	-10.16	AV
High Channel 5310 MHz HT/VHT40 mode power setting: 17											
10620	42.61	0	100	H	39.34	19.29	38.07	63.17	84	-20.83	PK
10620	33.28	0	100	H	39.34	19.29	38.07	53.84	64	-10.16	AV
10620	41.96	0	100	V	39.34	19.29	38.07	62.52	84	-21.48	PK
10620	33.08	0	100	V	39.34	19.29	38.07	53.64	64	-10.36	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5270 MHz HE40 mode power setting: 17											
10540	44.08	0	100	H	39.31	9.64	38.07	54.96	84	-29.04	PK
10540	32.88	0	100	H	39.31	9.64	38.07	43.76	64	-20.24	AV
10540	44.08	0	100	V	39.31	9.64	38.07	54.96	84	-29.04	PK
10540	32.85	0	100	V	39.31	9.64	38.07	43.73	64	-20.27	AV
High Channel 5310 MHz HE40 mode power setting: 17											
10620	43.65	0	100	H	39.34	9.64	38.07	54.56	84	-29.44	PK
10620	32.61	0	100	H	39.34	9.64	38.07	43.52	64	-20.48	AV
10620	43.63	0	100	V	39.34	9.64	38.07	54.54	84	-29.46	PK
10620	32.51	0	100	V	39.34	9.64	38.07	43.42	64	-20.58	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
High Channel 5290 MHz Non HT 80 mode power setting: 17											
10580	42.60	0	100	H	39.31	19.29	38.07	63.12	84	-20.88	PK
10580	33.23	0	100	H	39.31	19.29	38.07	53.75	64	-10.25	AV
10580	42.13	0	100	V	39.31	19.29	38.07	62.65	84	-21.35	PK
10580	32.67	0	100	V	39.31	19.29	38.07	53.20	64	-10.80	AV
High Channel 5290 MHz VHT80 mode power setting: 17											
10580	43.20	0	100	H	39.31	19.29	38.07	63.72	84	-20.28	PK
10580	33.19	0	100	H	39.31	19.29	38.07	53.72	64	-10.28	AV
10580	41.95	0	100	V	39.31	19.29	38.07	62.47	84	-21.53	PK
10580	32.71	0	100	V	39.31	19.29	38.07	53.23	64	-10.77	AV
High Channel 5290 MHz HE80 mode power setting: 17											
10580	44.75	0	100	H	39.31	9.64	38.07	55.63	84	-28.37	PK
10580	32.73	0	100	H	39.31	9.64	38.07	43.61	64	-20.39	AV
10580	44.39	0	100	V	39.31	9.64	38.07	55.27	84	-28.73	PK
10580	32.85	0	100	V	39.31	9.64	38.07	43.73	64	-20.27	AV

5490 - 5730 MHz

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5500 MHz Non HT20 mode power setting: 17											
11000	49.11	0	100	H	39.71	20.09	38.61	70.31	84	-13.70	PK
11000	37.91	0	100	H	39.71	20.09	38.61	59.10	64	-4.90	AV
11000	48.41	0	100	V	39.71	20.09	38.61	69.61	84	-14.40	PK
11000	37.79	0	100	V	39.71	20.09	38.61	58.98	64	-5.02	AV
Mid Channel 5580 MHz Non HT20 mode power setting: 17											
11160	49.27	0	100	H	39.96	20.09	38.31	71.01	84	-12.99	PK
11160	38.16	0	100	H	39.96	20.09	38.31	59.90	64	-4.10	AV
11160	48.61	0	100	V	39.96	20.09	38.31	70.35	84	-13.65	PK
11160	38.08	0	100	V	39.96	20.09	38.31	59.82	64	-4.18	AV
High Channel 5700 MHz Non HT20 mode power setting: 17											
11400	48.51	0	100	H	40.65	20.18	37.74	71.60	84	-12.40	PK
11400	37.84	0	100	H	40.65	20.18	37.74	60.94	64	-3.06	AV
11400	48.37	0	100	V	40.65	20.18	37.74	71.46	84	-12.54	PK
11400	37.93	0	100	V	40.65	20.18	37.74	61.02	64	-2.98	AV
High Channel 5720 MHz Non HT20 mode power setting: 17											
11460	47.71	0	100	H	40.63	20.18	37.74	70.78	84	-13.22	PK
11460	37.81	0	100	H	40.63	20.18	37.74	60.88	64	-3.12	AV
11460	47.96	0	100	V	40.63	20.18	37.74	71.03	84	-12.97	PK
11460	37.94	0	100	V	40.63	20.18	37.74	61.01	64	-2.99	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5500 MHz HT/VHT20 mode power setting: 17											
11000	48.12	0	100	H	39.71	20.09	38.61	69.32	84	-14.69	PK
11000	38.08	0	100	H	39.71	20.09	38.61	59.28	64	-4.72	AV
11000	48.26	0	100	V	39.71	20.09	38.61	69.46	84	-14.55	PK
11000	37.92	0	100	V	39.71	20.09	38.61	59.11	64	-4.89	AV
Mid Channel 5580 MHz HT/VHT20 mode power setting: 17											
11160	48.24	0	100	H	39.96	20.09	38.31	69.98	84	-14.02	PK
11160	37.97	0	100	H	39.96	20.09	38.31	59.71	64	-4.29	AV
11160	48.11	0	100	V	39.96	20.09	38.31	69.85	84	-14.15	PK
11160	37.87	0	100	V	39.96	20.09	38.31	59.61	64	-4.39	AV
High Channel 5700 MHz HT/VHT20 mode power setting: 17											
11400	48.26	0	100	H	40.65	20.18	37.74	71.35	84	-12.65	PK
11400	37.72	0	100	H	40.65	20.18	37.74	60.81	64	-3.19	AV
11400	48.02	0	100	V	40.65	20.18	37.74	71.11	84	-12.89	PK
11400	37.94	0	100	V	40.65	20.18	37.74	61.04	64	-2.96	AV
High Channel 5720 MHz HT/VHT20 mode power setting: 17											
11460	48.70	0	100	H	40.63	20.18	37.74	71.77	84	-12.23	PK
11460	38.11	0	100	H	40.63	20.18	37.74	61.17	64	-2.83	AV
11460	48.42	0	100	V	40.63	20.18	37.74	71.49	84	-12.51	PK
11460	38.07	0	100	V	40.63	20.18	37.74	61.14	64	-2.86	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5500 MHz HE20 mode power setting: 17											
11000	43.69	0	100	H	39.71	10.05	38.61	54.84	84	-29.16	PK
11000	31.45	0	100	H	39.71	10.05	38.61	42.60	64	-21.40	AV
11000	43.43	0	100	V	39.71	10.05	38.61	54.58	84	-29.42	PK
11000	31.92	0	100	V	39.71	10.05	38.61	43.07	64	-20.93	AV
Mid Channel 5580 MHz HE20 mode power setting: 17											
11160	43.44	0	100	H	39.96	10.05	38.31	55.14	84	-28.86	PK
11160	31.24	0	100	H	39.96	10.05	38.31	42.94	64	-21.06	AV
11160	42.45	0	100	V	39.96	10.05	38.31	54.15	84	-29.85	PK
11160	31.19	0	100	V	39.96	10.05	38.31	42.89	64	-21.11	AV
High Channel 5700 MHz HE20 mode power setting: 17											
11400	42.07	0	100	H	40.65	10.09	37.74	55.07	84	-28.93	PK
11400	31.61	0	100	H	40.65	10.09	37.74	44.61	64	-19.39	AV
11400	43.16	0	100	V	40.65	10.09	37.74	56.16	84	-27.84	PK
11400	31.63	0	100	V	40.65	10.09	37.74	44.63	64	-19.37	AV
High Channel 5720 MHz HE20 mode power setting: 17											
11460	42.00	0	100	H	40.63	10.09	37.74	54.98	84	-29.02	PK
11460	30.98	0	100	H	40.63	10.09	37.74	43.96	64	-20.04	AV
11460	42.08	0	100	V	40.63	10.09	37.74	55.06	84	-28.94	PK
11460	31.24	0	100	V	40.63	10.09	37.74	44.22	64	-19.78	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5510 MHz Non HT40 mode power setting: 17											
11020	48.80	0	100	H	39.71	20.09	38.61	70.00	84	-14.01	PK
11020	38.24	0	100	H	39.71	20.09	38.61	59.44	64	-4.56	AV
11020	48.93	0	100	V	39.71	20.09	38.61	70.13	84	-13.88	PK
11020	38.11	0	100	V	39.71	20.09	38.61	59.30	64	-4.70	AV
Mid Channel 5550 MHz Non HT40 mode power setting: 17											
11100	49.21	0	100	H	39.84	20.09	38.31	70.83	84	-13.17	PK
11100	38.03	0	100	H	39.84	20.09	38.31	59.65	64	-4.35	AV
11100	49.06	0	100	V	39.84	20.09	38.31	70.68	84	-13.32	PK
11100	38.18	0	100	V	39.84	20.09	38.31	59.80	64	-4.20	AV
High Channel 5670 MHz Non HT40 mode power setting: 17											
11340	49.92	0	100	H	40.48	20.09	37.73	72.77	84	-11.23	PK
11340	38.01	0	100	H	40.48	20.09	37.73	60.86	64	-3.14	AV
11340	48.63	0	100	V	40.48	20.09	37.73	71.48	84	-12.52	PK
11340	38.09	0	100	V	40.48	20.09	37.73	60.94	64	-3.06	AV
High Channel 5710 MHz Non HT40 mode power setting: 17											
11420	49.90	0	100	H	40.65	20.18	37.74	72.99	84	-11.01	PK
11420	37.84	0	100	H	40.65	20.18	37.74	60.93	64	-3.07	AV
11420	48.81	0	100	V	40.65	20.18	37.74	71.91	84	-12.09	PK
11420	37.76	0	100	V	40.65	20.18	37.74	60.86	64	-3.14	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5510 MHz HT/VHT40 mode power setting: 17											
11120	49.25	0	100	H	39.71	20.09	38.61	70.44	84	-13.56	PK
11120	38.24	0	100	H	39.71	20.09	38.61	59.44	64	-4.56	AV
11120	49.13	0	100	V	39.71	20.09	38.61	70.33	84	-13.68	PK
11120	38.08	0	100	V	39.71	20.09	38.61	59.28	64	-4.72	AV
Mid Channel 5550 MHz HT/VHT40 mode power setting: 17											
11100	48.98	0	100	H	39.84	20.09	38.31	70.60	84	-13.40	PK
11100	38.18	0	100	H	39.84	20.09	38.31	59.81	64	-4.19	AV
11100	49.15	0	100	V	39.84	20.09	38.31	70.77	84	-13.23	PK
11100	38.19	0	100	V	39.84	20.09	38.31	59.81	64	-4.19	AV
High Channel 5670 MHz HT/VHT40 mode power setting: 17											
11340	49.77	0	100	H	40.48	20.09	37.73	72.62	84	-11.38	PK
11340	37.98	0	100	H	40.48	20.09	37.73	60.83	64	-3.17	AV
11340	49.54	0	100	V	40.48	20.09	37.73	72.39	84	-11.61	PK
11340	38.13	0	100	V	40.48	20.09	37.73	60.98	64	-3.02	AV
High Channel 5710 MHz HT/VHT40 mode power setting: 17											
11420	49.08	0	100	H	40.65	20.18	37.74	72.17	84	-11.83	PK
11420	37.96	0	100	H	40.65	20.18	37.74	61.05	64	-2.95	AV
11420	48.48	0	100	V	40.65	20.18	37.74	71.57	84	-12.43	PK
11420	37.86	0	100	V	40.65	20.18	37.74	60.96	64	-3.04	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5510 MHz HE40 mode power setting: 17											
11120	42.05	0	100	H	39.71	10.05	38.61	53.20	84	-30.80	PK
11120	30.19	0	100	H	39.71	10.05	38.61	41.34	64	-22.66	AV
11120	42.62	0	100	V	39.71	10.05	38.61	53.77	84	-30.23	PK
11120	30.29	0	100	V	39.71	10.05	38.61	41.44	64	-22.56	AV
Mid Channel 5550 MHz HE40 mode power setting: 17											
11100	42.81	0	100	H	39.84	10.05	38.31	54.39	84	-29.62	PK
11100	30.72	0	100	H	39.84	10.05	38.31	42.30	64	-21.71	AV
11100	42.91	0	100	V	39.84	10.05	38.31	54.49	84	-29.52	PK
11100	30.93	0	100	V	39.84	10.05	38.31	42.51	64	-21.50	AV
High Channel 5670 MHz HE40 mode power setting: 17											
11340	42.89	0	100	H	40.48	10.05	37.73	55.69	84	-28.31	PK
11340	30.62	0	100	H	40.48	10.05	37.73	43.42	64	-20.58	AV
11340	42.71	0	100	V	40.48	10.05	37.73	55.51	84	-28.49	PK
11340	31.71	0	100	V	40.48	10.05	37.73	44.51	64	-19.49	AV
High Channel 5710 MHz HE40 mode power setting: 17											
11420	42.21	0	100	H	40.65	10.09	37.74	55.21	84	-28.79	PK
11420	30.18	0	100	H	40.65	10.09	37.74	43.18	64	-20.82	AV
11420	42.17	0	100	V	40.65	10.09	37.74	55.17	84	-28.83	PK
11420	30.84	0	100	V	40.65	10.09	37.74	43.84	64	-20.16	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5530 MHz Non HT 80 mode power setting: 17											
11060	50.11	0	100	H	39.76	20.18	38.61	71.44	84	-12.56	PK
11060	38.05	0	100	H	39.76	20.18	38.61	59.38	64	-4.62	AV
11060	50.07	0	100	V	39.76	20.18	38.61	71.40	84	-12.60	PK
11060	37.91	0	100	V	39.76	20.18	38.61	59.24	64	-4.76	AV
Mid Channel 5610 MHz Non HT 80 mode power setting: 17											
11220	48.71	0	100	H	40.14	20.18	37.97	71.07	84	-12.93	PK
11220	37.95	0	100	H	40.14	20.18	37.97	60.31	64	-3.69	AV
11220	49.05	0	100	V	40.14	20.18	37.97	71.41	84	-12.59	PK
11220	37.96	0	100	V	40.14	20.18	37.97	60.32	64	-3.68	AV
High Channel 5690 MHz Non HT 80 mode power setting: 17											
11380	48.70	0	100	H	40.60	20.18	37.73	71.76	84	-12.24	PK
11380	37.79	0	100	H	40.60	20.18	37.73	60.84	64	-3.16	AV
11380	48.22	0	100	V	40.60	20.18	37.73	71.28	84	-12.72	PK
11380	37.78	0	100	V	40.60	20.18	37.73	60.83	64	-3.17	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5530 MHz VHT 80 mode power setting: 17											
11060	49.49	0	100	H	39.76	20.18	38.61	70.82	84	-13.18	PK
11060	38.45	0	100	H	39.76	20.18	38.61	59.78	64	-4.22	AV
11060	49.04	0	100	V	39.76	20.18	38.61	70.37	84	-13.63	PK
11060	38.44	0	100	V	39.76	20.18	38.61	59.77	64	-4.23	AV
Mid Channel 5610 MHz VHT 80 mode power setting: 17											
11220	49.31	0	100	H	40.14	20.18	37.97	71.67	84	-12.33	PK
11220	38.68	0	100	H	40.14	20.18	37.97	61.04	64	-2.96	AV
11220	48.96	0	100	V	40.14	20.18	37.97	71.32	84	-12.68	PK
11220	38.63	0	100	V	40.14	20.18	37.97	60.99	64	-3.01	AV
High Channel 5690 MHz VHT 80 mode power setting: 17											
11380	48.80	0	100	H	40.60	20.18	37.73	71.86	84	-12.14	PK
11380	38.40	0	100	H	40.60	20.18	37.73	61.46	64	-2.54	AV
11380	48.89	0	100	V	40.60	20.18	37.73	71.95	84	-12.05	PK
11380	38.22	0	100	V	40.60	20.18	37.73	61.27	64	-2.73	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5530 MHz HE 80 mode power setting: 17											
11060	42.86	0	100	H	39.76	10.09	38.61	54.10	84	-29.90	PK
11060	31.07	0	100	H	39.76	10.09	38.61	42.31	64	-21.69	AV
11060	42.28	0	100	V	39.76	10.09	38.61	53.52	84	-30.48	PK
11060	31.42	0	100	V	39.76	10.09	38.61	42.66	64	-21.34	AV
Mid Channel 5610 MHz HE 80 mode power setting: 17											
11220	42.76	0	100	H	40.14	10.09	37.97	55.02	84	-28.98	PK
11220	31.25	0	100	H	40.14	10.09	37.97	43.51	64	-20.49	AV
11220	43.02	0	100	V	40.14	10.09	37.97	55.28	84	-28.72	PK
11220	31.52	0	100	V	40.14	10.09	37.97	43.78	64	-20.22	AV
High Channel 5690 MHz HE 80 mode power setting: 17											
11380	42.97	0	100	H	40.60	10.09	37.73	55.93	84	-28.07	PK
11380	31.13	0	100	H	40.60	10.09	37.73	44.09	64	-19.91	AV
11380	42.58	0	100	V	40.60	10.09	37.73	55.54	84	-28.46	PK
11380	31.05	0	100	V	40.60	10.09	37.73	44.01	64	-19.99	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Channel 5570 MHz Non HT160 mode power setting: 17											
11140	45.20	0	100	H	40.60	20.18	37.73	68.26	84	-15.74	PK
11140	35.74	0	100	H	40.60	20.18	37.73	58.80	64	-5.20	AV
11140	45.23	0	100	V	40.60	20.18	37.73	68.29	84	-15.71	PK
11140	35.98	0	100	V	40.60	20.18	37.73	59.04	64	-4.96	AV
Channel 5570 MHz VHT160 mode power setting: 17											
11140	46.20	0	100	H	40.60	20.18	37.73	69.26	84	-14.74	PK
11140	35.97	0	100	H	40.60	20.18	37.73	59.03	64	-4.97	AV
11140	45.92	0	100	V	40.60	20.18	37.73	68.98	84	-15.02	PK
11140	35.23	0	100	V	40.60	20.18	37.73	58.29	64	-5.71	AV
Channel 5570 MHz HE160 mode power setting: 17											
11140	42.02	0	100	H	40.60	10.09	37.73	54.98	84	-29.02	PK
11140	30.59	0	100	H	40.60	10.09	37.73	43.55	64	-20.45	AV
11140	42.28	0	100	V	40.60	10.09	37.73	55.24	84	-28.76	PK
11140	31.02	0	100	V	40.60	10.09	37.73	43.98	64	-20.02	AV

5735 - 5835 MHz

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5745 MHz Non HT20 mode power setting: 17											
11490	46.77	0	100	H	40.63	22.31	37.74	71.96	84	-12.04	PK
11490	36.00	0	100	H	40.63	22.31	37.74	61.20	64	-2.80	AV
11490	46.68	0	100	V	40.63	22.31	37.74	71.87	84	-12.13	PK
11490	36.02	0	100	V	40.63	22.31	37.74	61.21	64	-2.79	AV
Mid Channel 5785 MHz Non HT20 mode power setting: 17											
11570	47.19	0	100	H	40.57	22.42	37.97	72.21	84	-11.79	PK
11570	35.89	0	100	H	40.57	22.42	37.97	60.91	64	-3.09	AV
11570	46.67	0	100	V	40.57	22.42	37.97	71.69	84	-12.31	PK
11570	35.99	0	100	V	40.57	22.42	37.97	61.01	64	-2.99	AV
High Channel 5825 MHz Non HT20 mode power setting: 17											
11650	46.52	0	100	H	40.60	22.42	38.32	71.22	84	-12.79	PK
11650	35.56	0	100	H	40.60	22.42	38.32	60.26	64	-3.75	AV
11650	46.32	0	100	V	40.60	22.42	38.32	71.02	84	-12.99	PK
11650	35.49	0	100	V	40.60	22.42	38.32	60.18	64	-3.82	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5745 MHz HT/VHT20 mode power setting: 17											
11490	48.23	0	100	H	40.63	22.31	38.31	72.86	84	-11.14	PK
11490	37.18	0	100	H	40.63	22.31	38.31	61.81	64	-2.19	AV
11490	49.27	0	100	V	40.63	22.31	38.31	73.90	84	-10.10	PK
11490	37.14	0	100	V	40.63	22.31	38.31	61.77	64	-2.23	AV
Mid Channel 5785 MHz HT/VHT20 mode power setting: 17											
11570	48.65	0	100	H	40.57	22.42	37.97	73.67	84	-10.33	PK
11570	36.91	0	100	H	40.57	22.42	37.97	61.93	64	-2.07	AV
11570	47.40	0	100	V	40.57	22.42	37.97	72.42	84	-11.58	PK
11570	36.91	0	100	V	40.57	22.42	37.97	61.93	64	-2.07	AV
High Channel 5825 MHz HT/VHT20 mode power setting: 17											
11650	47.79	0	100	H	40.60	22.42	38.32	72.49	84	-11.52	PK
11650	36.72	0	100	H	40.60	22.42	38.32	61.42	64	-2.58	AV
11650	47.77	0	100	V	40.60	22.42	38.32	72.47	84	-11.54	PK
11650	36.56	0	100	V	40.60	22.42	38.32	61.25	64	-2.75	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5745 MHz HE20 mode power setting: 17											
11490	42.73	0	100	H	40.63	11.16	38.31	56.21	84	-27.80	PK
11490	30.75	0	100	H	40.63	11.16	38.31	44.23	64	-19.78	AV
11490	42.63	0	100	V	40.63	11.16	38.31	56.11	84	-27.90	PK
11490	30.81	0	100	V	40.63	11.16	38.31	44.29	64	-19.72	AV
Mid Channel 5785 MHz HE20 mode power setting: 17											
11570	42.01	0	100	H	40.57	11.21	37.97	55.82	84	-28.18	PK
11570	30.42	0	100	H	40.57	11.21	37.97	44.23	64	-19.77	AV
11570	42.25	0	100	V	40.57	11.21	37.97	56.06	84	-27.94	PK
11570	30.75	0	100	V	40.57	11.21	37.97	44.56	64	-19.44	AV
High Channel 5825 MHz HE20 mode power setting: 17											
11650	42.43	0	100	H	40.60	11.21	38.32	55.92	84	-28.08	PK
11650	30.67	0	100	H	40.60	11.21	38.32	44.16	64	-19.84	AV
11650	42.57	0	100	V	40.60	11.21	38.32	56.06	84	-27.94	PK
11650	30.57	0	100	V	40.60	11.21	38.32	44.06	64	-19.94	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5755 MHz Non HT40 mode power setting: 17											
11510	48.53	0	100	H	40.50	22.45	37.97	73.51	84	-10.49	PK
11510	36.81	0	100	H	40.50	22.45	37.97	61.78	64	-2.22	AV
11510	47.85	0	100	V	40.50	22.45	37.97	72.83	84	-11.17	PK
11510	36.73	0	100	V	40.50	22.45	37.97	61.70	64	-2.30	AV
High Channel 5795 MHz Non HT40 mode power setting: 17											
11590	47.70	0	100	H	40.55	22.45	38.32	72.38	84	-11.62	PK
11590	36.76	0	100	H	40.55	22.45	38.32	61.44	64	-2.56	AV
11590	46.97	0	100	V	40.55	22.45	38.32	71.65	84	-12.35	PK
11590	36.55	0	100	V	40.55	22.45	38.32	61.23	64	-2.77	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5755 MHz HT/VHT40 mode power setting: 17											
11510	47.66	0	100	H	40.50	22.45	37.97	72.64	84	-11.36	PK
11510	36.77	0	100	H	40.50	22.45	37.97	61.75	64	-2.25	AV
11510	47.22	0	100	V	40.50	22.45	37.97	72.20	84	-11.80	PK
11510	36.93	0	100	V	40.50	22.45	37.97	61.91	64	-2.09	AV
High Channel 5795 MHz HT/VHT40 mode power setting: 17											
11590	48.52	0	100	H	40.55	22.45	38.32	73.20	84	-10.80	PK
11590	36.77	0	100	H	40.55	22.45	38.32	61.44	64	-2.56	AV
11590	47.59	0	100	V	40.55	22.45	38.32	72.27	84	-11.73	PK
11590	36.69	0	100	V	40.55	22.45	38.32	61.37	64	-2.63	AV

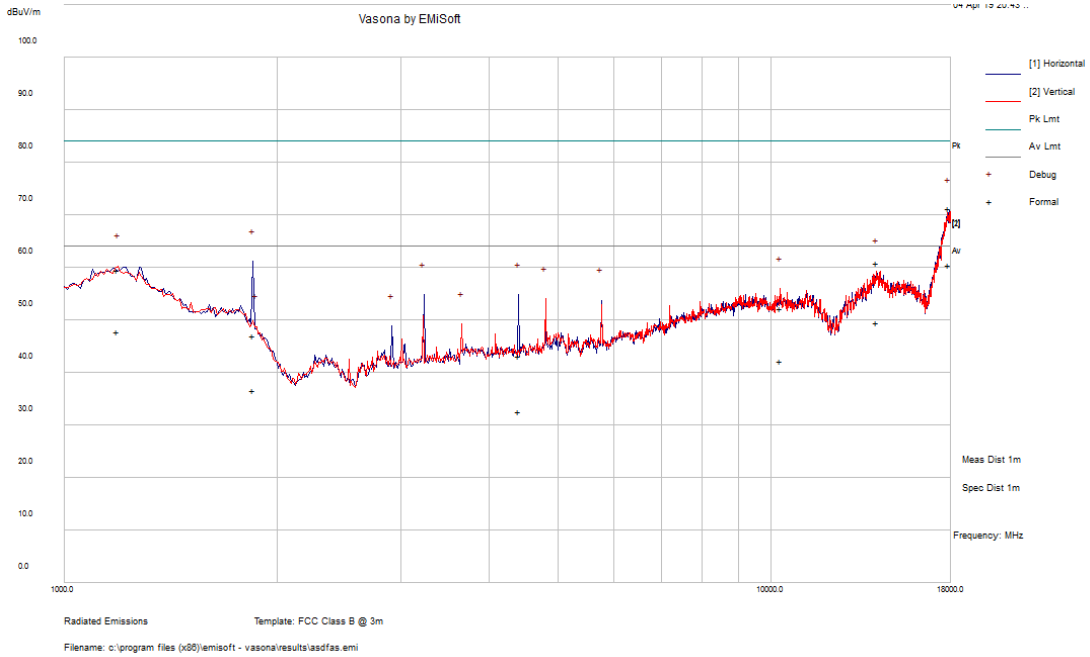
Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
Low Channel 5755 MHz HE40 mode power setting: 17											
11510	42.37	0	100	H	40.50	11.23	37.97	56.12	84	-27.88	PK
11510	30.78	0	100	H	40.50	11.23	37.97	44.53	64	-19.47	AV
11510	42.29	0	100	V	40.50	11.23	37.97	56.04	84	-27.96	PK
11510	30.61	0	100	V	40.50	11.23	37.97	44.36	64	-19.64	AV
High Channel 5795 MHz HE40 mode power setting: 17											
11590	42.74	0	100	H	40.55	11.23	38.32	56.19	84	-27.81	PK
11590	30.72	0	100	H	40.55	11.23	38.32	44.17	64	-19.83	AV
11590	43.01	0	100	V	40.55	11.23	38.32	56.46	84	-27.54	PK
11590	30.76	0	100	V	40.55	11.23	38.32	44.21	64	-19.79	AV

Frequency (MHz)	S.A. Reading (dBµV)	Turntable Azimuth (degrees)	Test Antenna			Cable Loss (dB)	Pre-Amp. (dB)	Cord. Reading (dBµV/m)	FCC/ISEDC		Comments
			Height (cm)	Polarity (H/V)	Factor (dB/m)				Limit (dBµV/m)	Margin (dB)	
High Channel 5775 MHz Non HT 80 mode power setting: 17											
11550	48.41	0	100	H	40.57	22.45	37.97	73.47	84	-10.54	PK
11550	37.87	0	100	H	40.57	22.45	37.97	62.93	64	-1.08	AV
11550	47.65	0	100	V	40.57	22.45	37.97	72.71	84	-11.30	PK
11550	36.79	0	100	V	40.57	22.45	37.97	61.85	64	-2.15	AV
High Channel 5775 MHz VHT80 mode power setting: 17											
11550	48.12	0	100	H	40.57	22.45	37.97	73.18	84	-10.83	PK
11550	37.62	0	100	H	40.57	22.45	37.97	62.68	64	-1.32	AV
11550	47.43	0	100	V	40.57	22.45	37.97	72.49	84	-11.52	PK
11550	37.61	0	100	V	40.57	22.45	37.97	62.66	64	-1.34	AV
High Channel 5775 MHz HE80 mode power setting: 17											
11550	42.14	0	100	H	40.57	11.23	37.97	55.97	84	-28.03	PK
11550	30.65	0	100	H	40.57	11.23	37.97	44.48	64	-19.52	AV
11550	42.85	0	100	V	40.57	11.23	37.97	56.68	84	-27.32	PK
11550	30.81	0	100	V	40.57	11.23	37.97	44.64	64	-19.36	AV

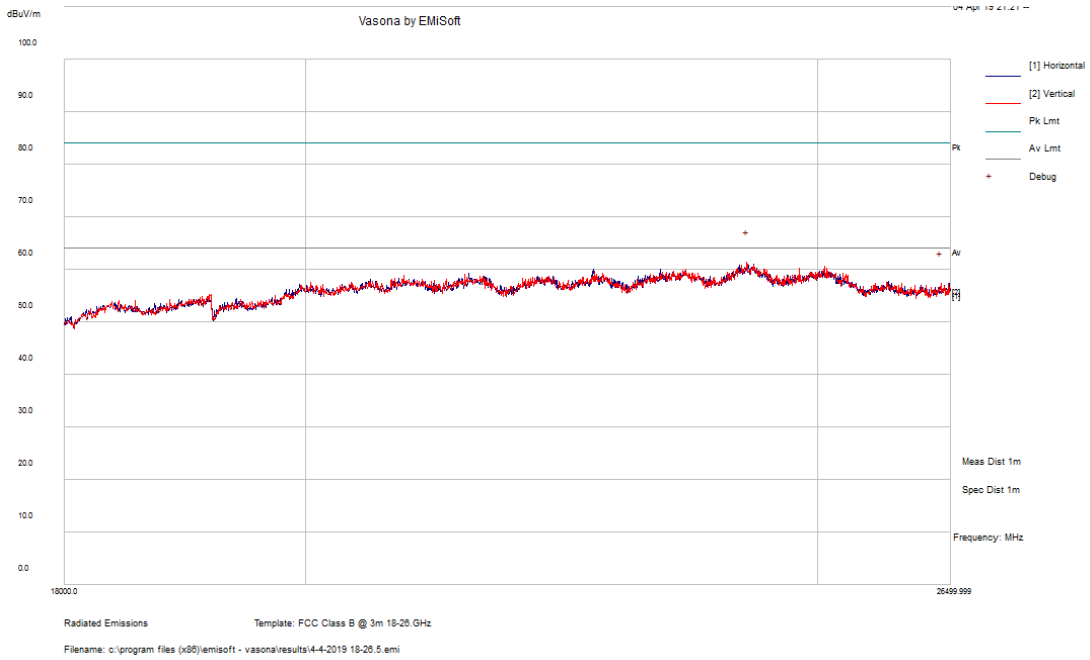
3) Co-location

EUT configuration: Worst Case Colocation, BLE 2480MHz, 2.4 GHz Wi-Fi HT/VHT20 mode 2412MHz and 5 GHz Wi-Fi VHT160 mode 5250 MHz

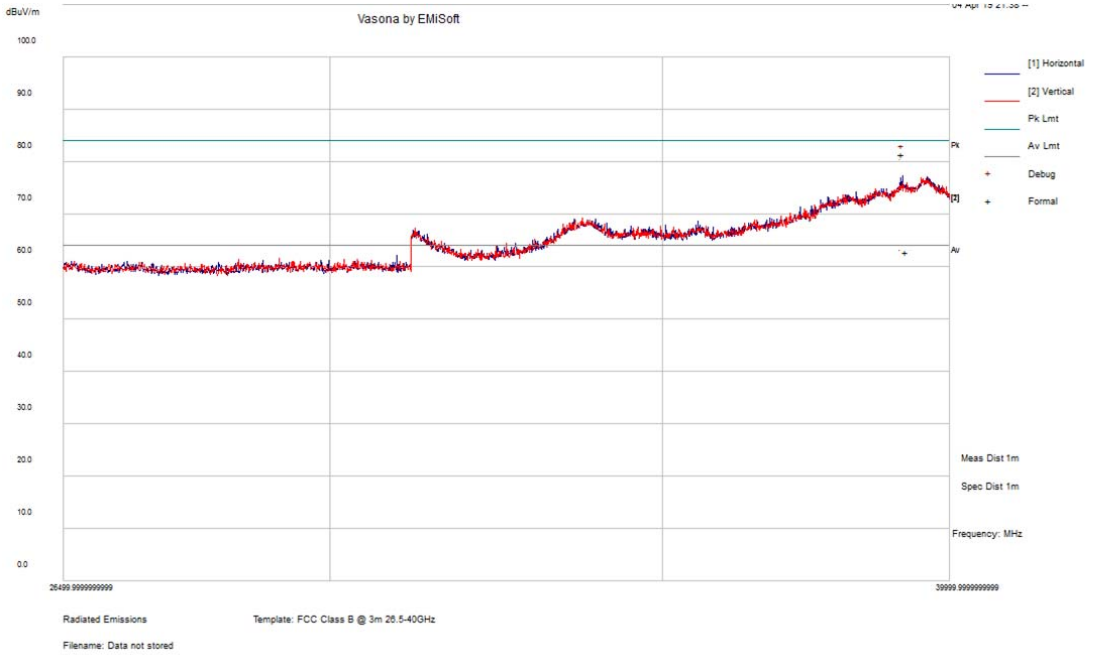
1 GHz-18 GHz Scan, measured at 1 meter



18 GHz-26.5 GHz Scan, measured at 1 meter



26.5 GHz-40 GHz Scan, measured at 1 meter



6 Appendix A- EUT Test Setup Photographs

Please refer to the attachment

7 Appendix B- EUT External Photographs

Please refer to the attachment

8 Appendix C- EUT Internal Photographs

Please refer to the attachment

9 Appendix D (Normative) - A2LA Electrical Testing Certificate

Accredited Laboratory

A2LA has accredited

BAY AREA COMPLIANCE LABORATORIES CORP.

Sunnyvale, CA

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets A2LA R222 - *Specific Requirements EPA ENERGY STAR Accreditation Program*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated April 2017*).

Presented this 2nd day of October 2018.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3297.02
Valid to September 30, 2020
Revised February 21, 2019

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

Please follow the web link below for a full ISO 17025 scope

https://www.a2la.org/scopepdf/3297-02.pdf

--- END OF REPORT ---