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Carnegie Robotics LLC TEST REPORT

SCOPE OF WORK

EMC TESTING – RBS CORE KIT, C5165 SOM, 12GB RAM, EXTERNAL ANTENNA ENABLED

REPORT NUMBER

105883475LEX-003.2a

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EMC TEST REPORT (FULL COMPLIANCE)

Report Number: 105883475LEX-003.2a

Project Number: G105883475

Report Issue Date: 8/19/2025

Model(s) Tested: RB5 Core Kit

Standards: FCC Title 47 CFR Part 15.247
FCC Title 47 CFR Part 15.407
RSS-247 Issue 3
RSS-GEN Issue 5

Tested by:
Intertek Testing Services NA, Inc.
731 Enterprise Dr.
Lexington, KY 40510
USA

Client:
Carnegie Robotics LLC
4501 Hatfield St.
Pittsburgh, PA 15201
USA

Report prepared by



David Perry,
EMC Engineer

Report reviewed by



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1 Introduction and Conclusion

The tests indicated in section 2.0 were performed on the product constructed as described in section 4.0. The remaining test sections are the verbatim text from the actual data sheets used during the investigation. These test sections include the test name, the specified test Method, a list of the actual Test Equipment Used, documentation Photos, Results and raw Data. No additions, deviations, or exclusions have been made from the standard(s) unless specifically noted.

Based on the results of our investigation, we have concluded the product tested **complies** with the requirements of the standard(s) indicated. The results obtained in this test report pertain only to the item(s) tested. Intertek does not make any claims of compliance for samples or variants which were not tested.

2 Test Summary

Section	Test full name	Result
6	Radiated Spurious Emissions ANSI C63.10 (2020) §6.3 §6.5 and §6.6	Pass
7	Antenna Requirement (FCC Part 15.203, RSS-Gen Issue 5 § 6.8)	Pass



3 Client Information

This product was tested at the request of the following:

Client Information	
Client Name:	Carnegie Robotics LLC
Address:	4501 Hatfield St. Pittsburgh, PA 15201 USA
Contact:	Paul Santucci
Telephone:	4125528960
Email:	psantucci@carnegierobotics.com
Manufacturer Information	
Manufacturer Name:	Carnegie Robotics LLC
Manufacturer Address:	4501 Hatfield St. Pittsburgh, PA 15201 USA



4 Description of Equipment under Test

Equipment Under Test	
Product Name	RB5 Core Kit
PMN	55001384
HVIN	1.0
Serial Number	867826050712090
Receive Date	7/15/2024
Test Start Date	7/16/2024
Test End Date	12/12/2024
Device Received Condition	Good
Test Sample Type	Production
Wireless Technology	2.4/5G Wi-Fi
Supported Transmit Bands	Wi-Fi: 2412-2462MHz, 5180-5825MHz
Supported Transmit Modes	802.11a/b/g/n/ac/ax
Nominal DTS Bandwidth	20MHz, 40MHz, 80MHz
Antenna Type	Dedicated Antennas
Antenna Gain ¹	Abracon AECW0401W2-0600F: 2.4GHz Wi-Fi: 1.2 dBi 5GHz Wi-Fi: 2.0 dBi Taoglas MA210.K.CG.001: 2.4GHz Wi-Fi: 0.6 dBi 5GHz Wi-Fi: 1.4 dBi
Rated Voltage	12VDC Via AC/DC Adapter
Description of Equipment Under Test (provided by client)	
The Carnegie Robotics model 55001384 is identical in design to the Thundercomm C5165 SOM operating with connections for external antennas only. Thundercomm C5165 SOM is a small size(45mm x 56mm), production ready, pre-certified(CE, FCC, ROHS)module, powered by 7nm Qualcomm Snapdragon premium-tier processor QRB5165, supports SA/NSA dual mode 5G network with Thundercomm T55 module via PCIE interface. C5165 SOM is suitable for high performance, low power consumption, robotics or XR device. It provides pre-tested HW and SW OS/BSP, rich interfaces and valid AVLS, and reference IO board.	

¹ This information was provided by the client and may affect compliance. Intertek does not make any claim of compliance for values other than those shown. Calculations utilizing antenna gains default to the worst case scenario.



5 System Setup and Method

5.1 Method:

Configuration as required by ANSI C63.10 (2020)

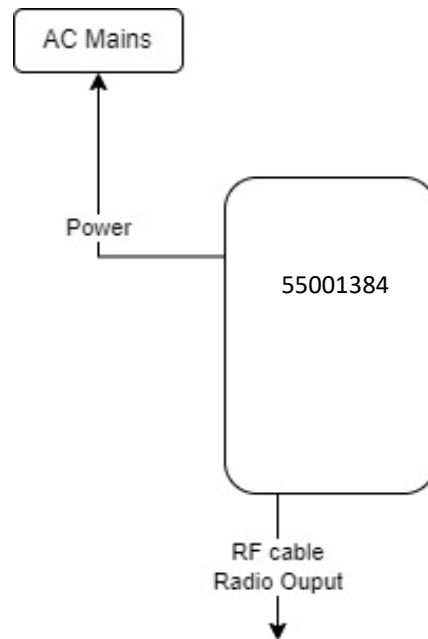
No.	Descriptions of EUT Exercising
1	The EUT was powered on and forced to transmit a Wi-Fi signal. Note: Testcase reduction for occupied bandwidth and spurious emissions was based on conducted output powers. For any given bandwidth, the data rate with the highest conducted output power was tested.

Cables					
QTY	Description	Length (m)	Shielding	Ferrites	Termination
1	Power	1m	No	No	AC Mains
1	RF Cable	.05m	No	No	Antenna/Spectrum Analyzer

Support Equipment (Accessories)		
Description	Manufacturer	Model Number
-	-	-



5.2 EUT Block Diagram:





6 Radiated Spurious Emissions

6.1 Test Method:

Tests are performed in accordance with ANSI C63.10 §6.3 §6.5 and §6.6.

6.2 Test Limits:

47 CFR 15.247(d)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

RSS-247 §5.5

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under section 5.4(d), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

**6.3 Test Equipment Used:**

Description	Asset	Manufacturer	Model	Cal Date	Cal Due
EMI Test Receiver	8258	Rohde & Schwarz	ESW44	9/19/2023	9/19/2024
Horn Antenna (18-40GHz)	3779	ETS	3116c	8/23/2023	8/23/2024
Horn Antenna (1-18GHz)	4001	ETS	3117	2/28/2023	2/28/2024
Horn Antenna	4001	ETS Lindgren	3117	3/4/2024	3/4/2025
Bilog Antenna	7085	SunAR	JB6	3/7/2023	3/7/2024
System Controller	3957	Sunol Sciences	SC99V	Verify at Time of Use	Verify at Time of Use
Preamplifier (1-18GHz)	3918	Rohde & Schwarz	TS-PR18	1/12/2024	1/12/2025
1-18GHz Signal Path with Preamplifier	3074, 3918, 2588, 2593, 8188, 8185			1/12/2024	1/12/2025
30M-1G 3m Signal Path without Preamplifier	3339, 2592, 8188, 8185			1/12/2024	1/12/2025
1-18GHz Signal Path without Preamplifier	3074, 2588, 2593, 8188, 8185			1/12/2024	1/12/2025
18-40GHz Signal Path with Preamplifier	7020, 3921, 7021			1/12/2024	1/12/2025
Preamplifier	3918	Rohde & Schwarz	TS-PR18	3/1/2024	3/1/2025
Coaxial Cable	3074			3/1/2024	3/1/2025
Coaxial Cable	8311			3/1/2024	3/1/2025
Coaxial Cable	2588			3/1/2024	3/1/2025
Coaxial Cable	2593			3/1/2024	3/1/2025
Coaxial Cable	2592			3/1/2024	3/1/2025
Coaxial Cable	8188			3/1/2024	3/1/2025
Coaxial Cable	8185			3/1/2024	3/1/2025
Coaxial Cable	3339			3/1/2024	3/1/2025

6.4 Measurement Uncertainty

Measurement	Frequency Range	Expanded Uncertainty (k=2)	UcISPR
Radiated Emissions, 10m	30-1000 MHz	3.9dB	6.3 dB
Radiated Emissions, 3m	30-1000 MHz	4.0dB	6.3 dB
Radiated Emissions, 3m	1-6 GHz	4.7dB	5.2 dB
Radiated Emissions, 3m	6-15 GHz	4.7dB	5.5 dB
Radiated Emissions, 3m	15-18 GHz	4.7dB	5.5 dB
Radiated Emissions, 3m	18-40 GHz	4.7dB	5.5 dB

As shown in the table above our radiated emissions U_{lab} is less than the corresponding U_{CISPR} reference value in CISPR 16-4-2 Table 1, hence the compliance of the product is only based on the measured value, and no measurement uncertainty correction is required.



6.5 Sample Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CF - AG$$

Where

FS = Field Strength in dB μ V/m

RA = Receiver Amplitude (including preamplifier) in dB μ V

CF = Cable Attenuation Factor in dB

AF = Antenna Factor in dB

AG = Amplifier Gain in dB

In the following table(s), the reading shown on the data table reflects the preamplifier gain. An example for the calculations in the following table is as follows.

Assume a receiver reading of 52.0 dB μ V is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted, giving a field strength of 32 dB μ V/m. This value in dB μ V/m was converted to its corresponding level in μ V/m.

$$RA = 52.0 \text{ dB}\mu\text{V}$$

$$AF = 7.4 \text{ dB/m}$$

$$CF = 1.6 \text{ dB}$$

$$AG = 29.0 \text{ dB}$$

$$FS = 32 \text{ dB}\mu\text{V/m}$$

To convert from dB μ V to μ V or mV the following was used:

$$UF = 10^{(NF / 20)} \text{ where } UF = \text{Net Reading in } \mu\text{V}$$

$$NF = \text{Net Reading in dB}\mu\text{V}$$

Example:

$$FS = RA + AF + CF - AG = 52.0 + 7.4 + 1.6 - 29.0 = 32.0$$

$$UF = 10^{(32 \text{ dB}\mu\text{V} / 20)} = 39.8 \mu\text{V/m}$$

6.6 Test Software Used:

Description	Manufacturer	Version
EMC32	Rohde & Schwarz	10.60.20

6.7 Test Results:

The sample tested was found to Comply. The device was investigated in three orthogonal axes.

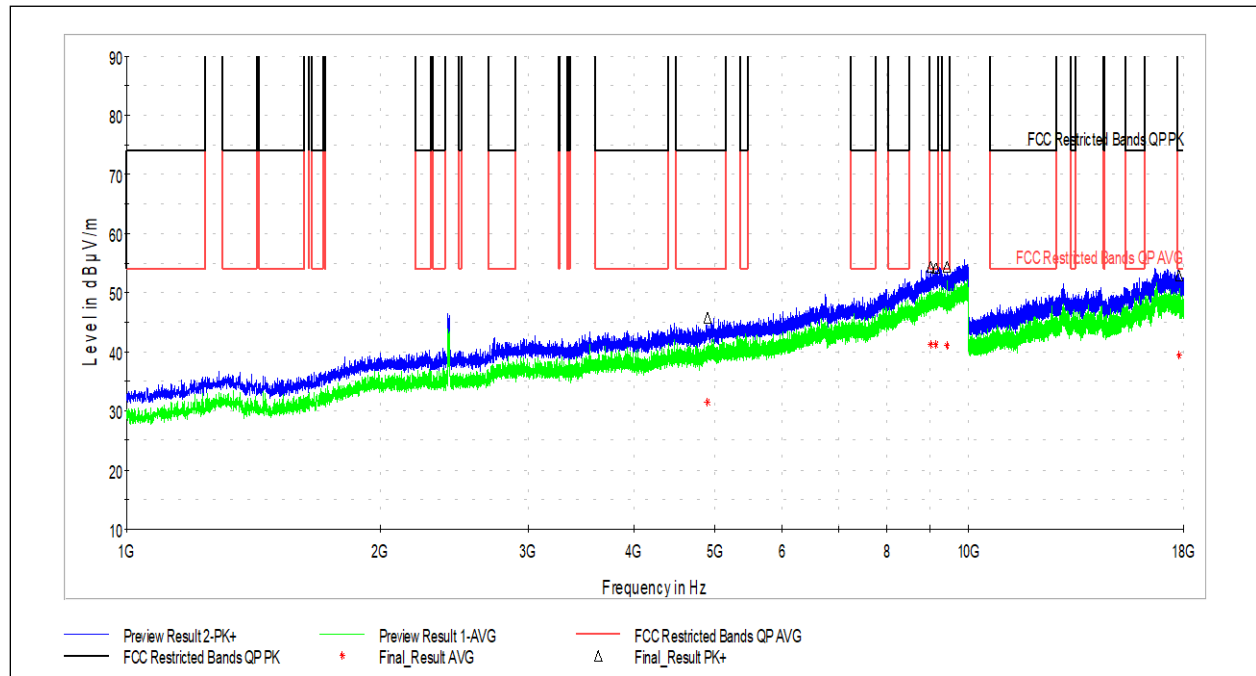


6.8 Radiated Spurious Emissions

6.8.1 2.4GHz Wi-Fi

6.8.1.1 802.11b

6.8.1.1.1 Channel 1 (1 GHz – 18 GHz)



Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4895.000	45.69	73.98	28.29	410.0	V	150.0	9.8
9006.500	54.36	73.98	19.62	410.0	V	93.0	15.8
9150.000	54.30	73.98	19.68	410.0	V	0.0	16.1
9424.000	54.39	73.98	19.59	410.0	V	234.0	16.7
17793.500	52.85	73.98	21.13	109.0	H	240.0	26.1

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4895.000	31.54	53.98	22.44	410.0	V	150.0	9.8
9006.500	41.21	53.98	12.77	410.0	V	93.0	15.8
9150.000	41.15	53.98	12.83	410.0	V	0.0	16.1
9424.000	41.01	53.98	12.97	410.0	V	234.0	16.7
17793.500	39.43	53.98	14.55	109.0	H	240.0	26.1

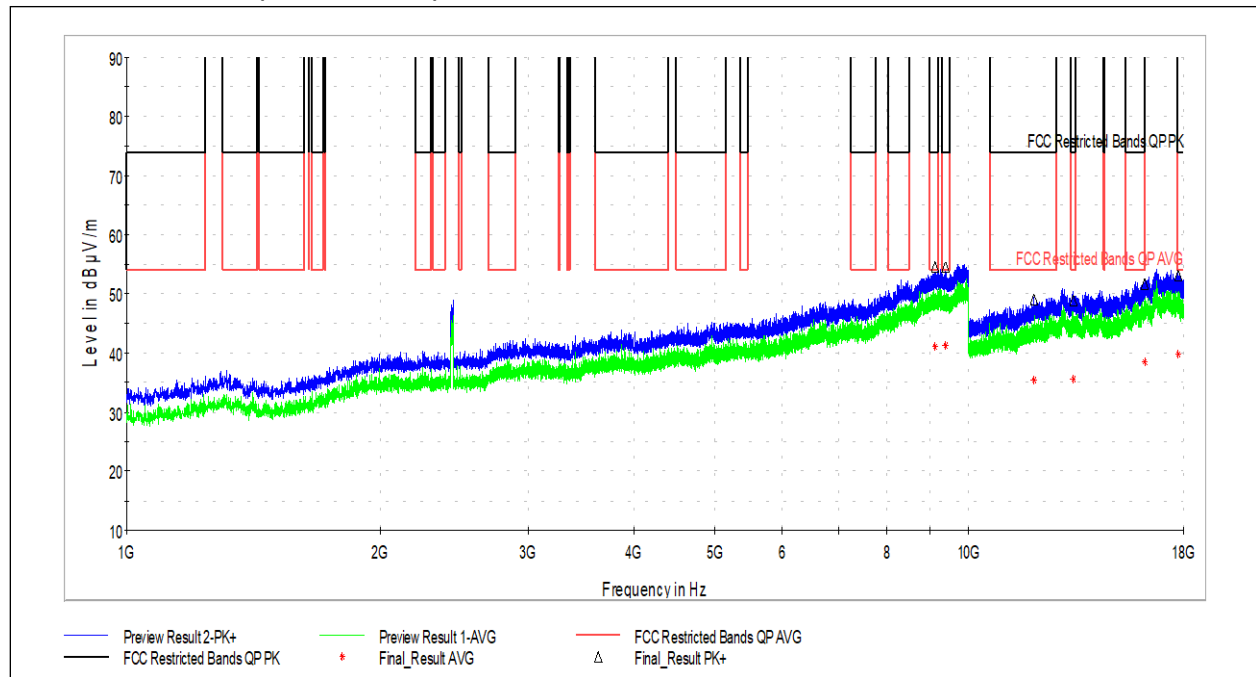
Test Personnel: Jordan Coughenour
Supervising/Reviewing Engineer: Michael Carlson
(Where Applicable) FCC Part 15.247
Product Standard: RSS-247 Issue 2
Input Voltage: 12VDC Via AC/DC Adapter
Pretest Verification w / Ambient Signals or BB Source: Yes

Test Date: 1/29/2024
Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205
Ambient Temperature: 21.9°C
Relative Humidity: 30.4%
Atmospheric Pressure: 991.3mbar

Deviations, Additions, or Exclusions: None



6.8.1.1.2 Channel 6 (1 GHz – 18 GHz)



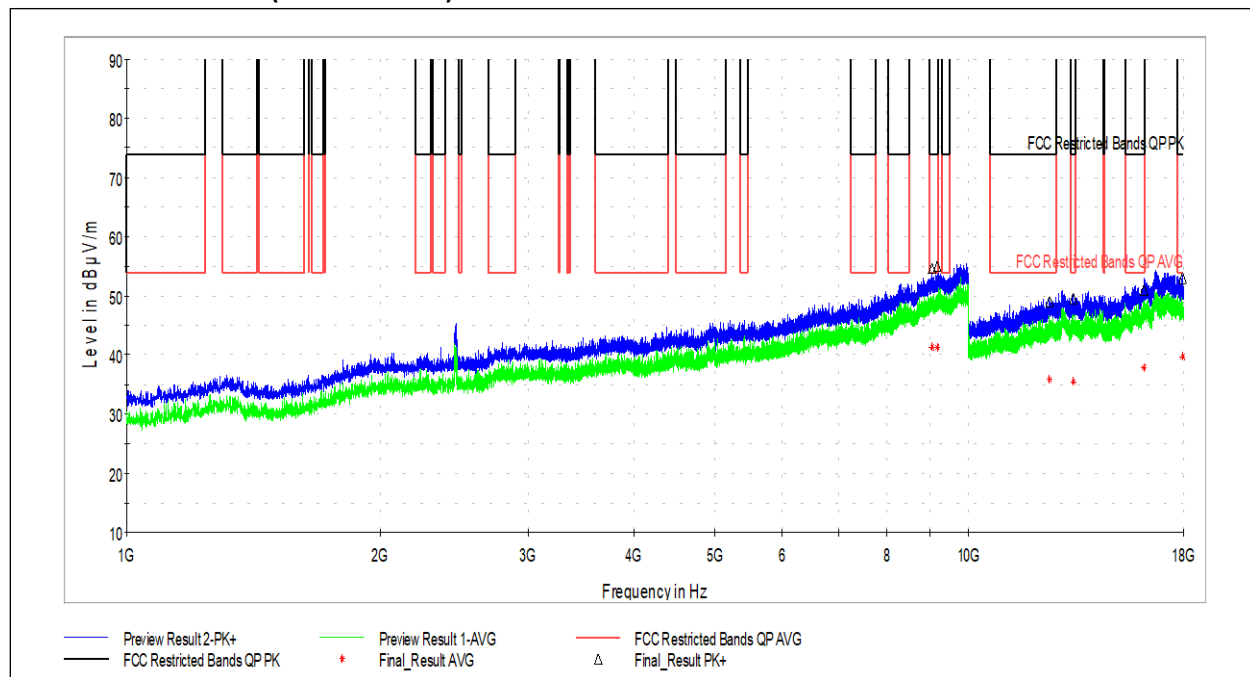
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
9124.000	54.59	73.98	19.39	396.0	V	0.0	16.1
9392.000	54.64	73.98	19.34	398.0	H	177.0	16.7
11949.500	49.15	73.98	24.83	109.0	H	182.0	19.9
13328.500	48.88	73.98	25.10	410.0	H	213.0	21.4
16186.000	51.59	73.98	22.39	410.0	H	22.0	24.4
17757.500	53.16	73.98	20.82	410.0	V	0.0	26.2

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
9124.000	41.10	53.98	12.88	396.0	V	0.0	16.1
9392.000	41.24	53.98	12.74	398.0	H	177.0	16.7
11949.500	35.34	53.98	18.64	109.0	H	182.0	19.9
13328.500	35.48	53.98	18.50	410.0	H	213.0	21.4
16186.000	38.41	53.98	15.57	410.0	H	22.0	24.4
17757.500	39.80	53.98	14.18	410.0	V	0.0	26.2

Test Personnel: Jordan Coughenour
Supervising/Reviewing Engineer: Michael Carlson
(Where Applicable) FCC Part 15.247
Product Standard: RSS-247 Issue 2
Input Voltage: 12VDC Via AC/DC Adapter
Pretest Verification w / Ambient Signals or BB Source: Yes

Test Date: 1/29/2024
Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205
Ambient Temperature: 21.9°C
Relative Humidity: 30.4%
Atmospheric Pressure: 991.3mbar

Deviations, Additions, or Exclusions: None

**6.8.1.1.3 Channel 11 (1 GHz – 18 GHz)**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
9049.500	54.71	73.98	19.27	345.0	V	342.0	15.9
9175.500	54.98	73.98	19.00	410.0	H	105.0	16.2
12481.500	48.98	73.98	25.00	109.0	H	0.0	20.7
13320.500	49.47	73.98	24.51	410.0	V	345.0	21.4
16161.000	50.99	73.98	22.99	410.0	H	309.0	24.4
17953.500	53.02	73.98	20.96	410.0	V	0.0	26.2

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
9049.500	41.28	53.98	12.70	345.0	V	342.0	15.9
9175.500	41.26	53.98	12.72	410.0	H	105.0	16.2
12481.500	35.89	53.98	18.09	109.0	H	0.0	20.7
13320.500	35.51	53.98	18.47	410.0	V	345.0	21.4
16161.000	37.90	53.98	16.08	410.0	H	309.0	24.4
17953.500	39.77	53.98	14.21	410.0	V	0.0	26.2

Test Personnel: Jordan Coughenour
Supervising/Reviewing Engineer: Michael Carlson
(Where Applicable) FCC Part 15.247
Product Standard: RSS-247 Issue 2
Input Voltage: 12VDC Via AC/DC Adapter
Pretest Verification w / Ambient Signals or BB Source: Yes

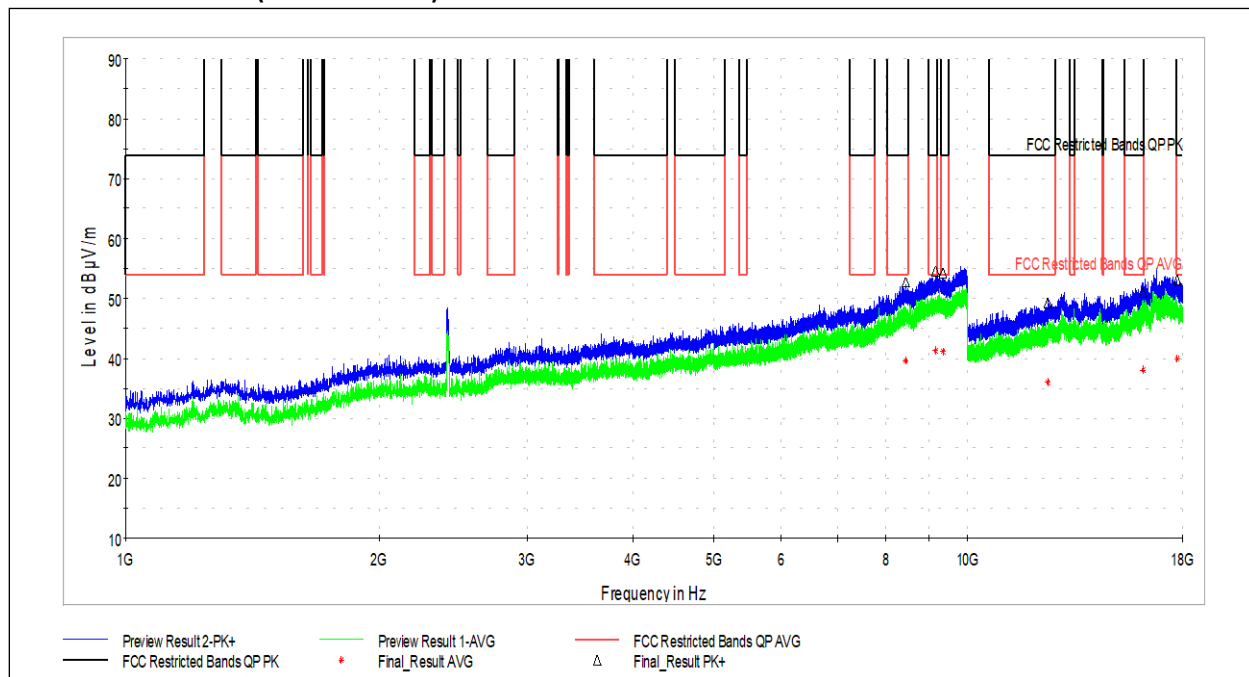
Test Date: 1/29/2024
Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205
Ambient Temperature: 21.9°C
Relative Humidity: 30.4%
Atmospheric Pressure: 991.3mbar

Deviations, Additions, or Exclusions: None



6.8.1.2 802.11g

6.8.1.2.1 Channel 1 (1 GHz – 18 GHz)



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
8448.000	52.73	73.98	21.25	410.0	H	0.0	15.0
9162.000	54.67	73.98	19.31	383.0	H	0.0	16.2
9353.500	54.23	73.98	19.75	386.0	V	0.0	16.4
12453.500	49.25	73.98	24.73	410.0	V	237.0	20.8
16174.500	51.01	73.98	22.97	109.0	H	339.0	24.4
17748.500	53.14	73.98	20.84	410.0	V	26.0	26.2

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
8448.000	39.57	53.98	14.41	410.0	H	0.0	15.0
9162.000	41.23	53.98	12.75	383.0	H	0.0	16.2
9353.500	41.16	53.98	12.82	386.0	V	0.0	16.4
12453.500	36.04	53.98	17.94	410.0	V	237.0	20.8
16174.500	38.08	53.98	15.90	109.0	H	339.0	24.4
17748.500	39.86	53.98	14.12	410.0	V	26.0	26.2

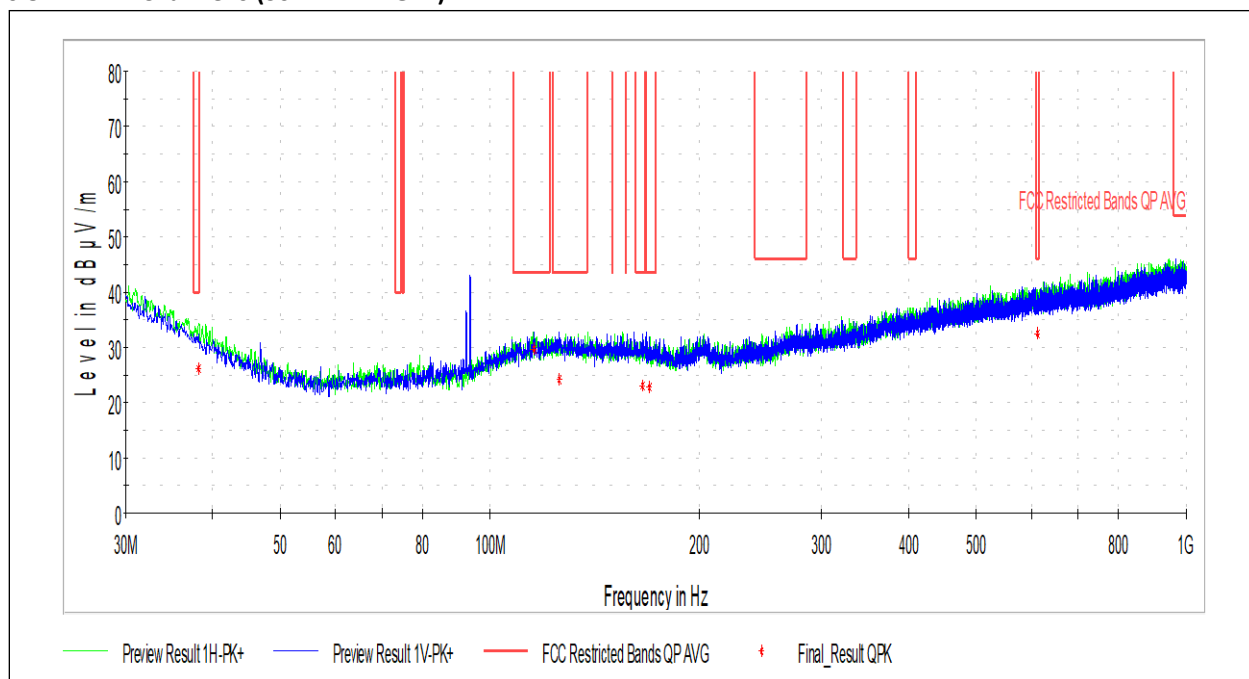
Test Personnel: Jordan Coughenour
Supervising/Reviewing Engineer: (Where Applicable) Michael Carlson
Product Standard: RSS-247 Issue 2
Input Voltage: 12VDC Via AC/DC Adapter
Pretest Verification w / Ambient Signals or BB Source: Yes

Test Date: 1/29/2024
Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205
Ambient Temperature: 21.9°C
Relative Humidity: 30.4%
Atmospheric Pressure: 991.3mbar

Deviations, Additions, or Exclusions: None



6.8.1.2.2 Channel 6 (30 MHz – 1 GHz)



Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
38.137	26.12	40.00	13.88	113.0	H	100.0	22.4
115.737	29.86	43.52	13.67	100.0	V	340.0	20.6
125.761	24.06	43.52	19.46	363.0	V	109.0	21.1
165.638	23.07	43.52	20.45	106.0	V	38.0	20.2
169.303	22.90	43.52	20.62	150.0	V	283.0	19.9
611.892	32.56	46.02	13.46	147.0	H	270.0	28.7

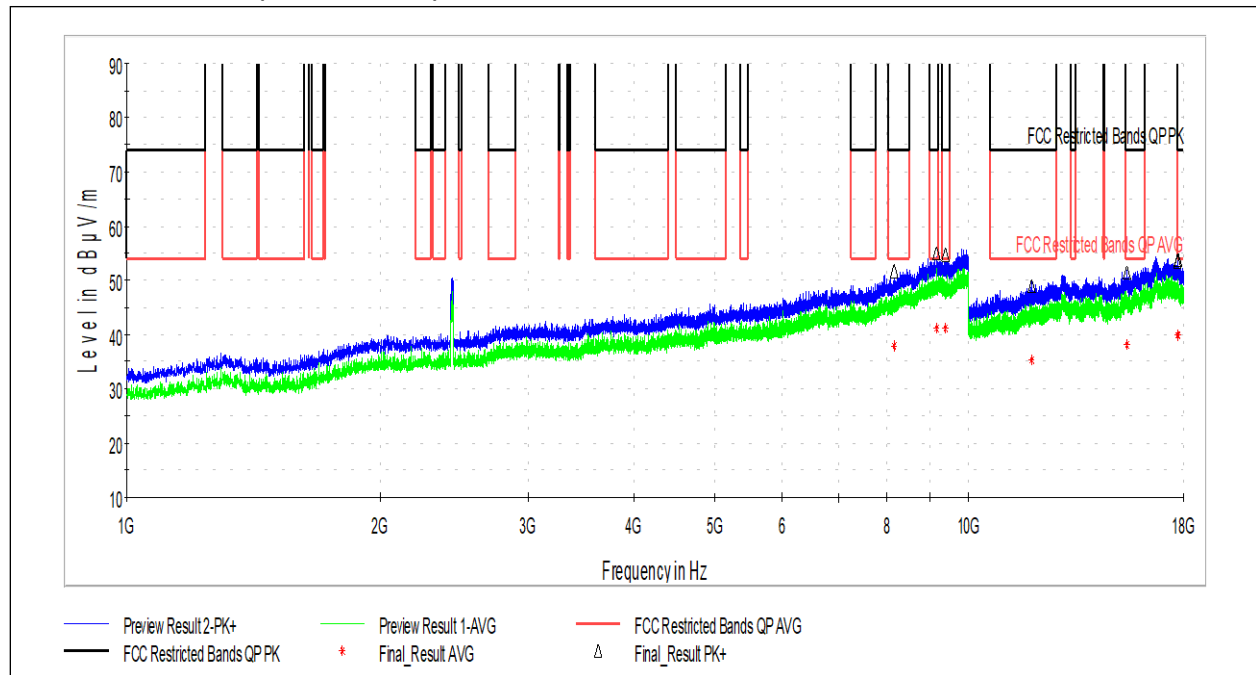
Test Personnel: David Perry
Supervising/Reviewing Engineer: N/A
(Where Applicable) FCC Part 15.247
Product Standard: RSS-247 Issue 2
Input Voltage: 12VDC Via AC/DC Adapter
Pretest Verification w / Ambient Signals or BB Source: Yes

Test Date: 1/31/2024
Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205
Ambient Temperature: 22.6°C
Relative Humidity: 29.4%
Atmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None



6.8.1.2.3 Channel 6 (1 GHz – 18 GHz)



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
8153.000	51.82	73.98	22.16	399.0	V	324.0	14.7
9160.500	55.16	73.98	18.82	126.0	H	326.0	16.2
9392.000	54.92	73.98	19.06	391.0	H	150.0	16.7
11889.500	48.93	73.98	25.05	350.0	H	215.0	19.9
15433.000	51.57	73.98	22.41	410.0	V	342.0	23.0
17708.000	53.48	73.98	20.50	410.0	H	150.0	26.1
17740.000	53.68	73.98	20.30	410.0	V	164.0	26.2

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
8153.000	37.95	53.98	16.03	399.0	V	324.0	14.7
9160.500	41.21	53.98	12.77	126.0	H	326.0	16.2
9392.000	41.26	53.98	12.72	391.0	H	150.0	16.7
11889.500	35.42	53.98	18.56	350.0	H	215.0	19.9
15433.000	38.20	53.98	15.78	410.0	V	342.0	23.0
17708.000	39.76	53.98	14.22	410.0	H	150.0	26.1
17740.000	39.93	53.98	14.05	410.0	V	164.0	26.2

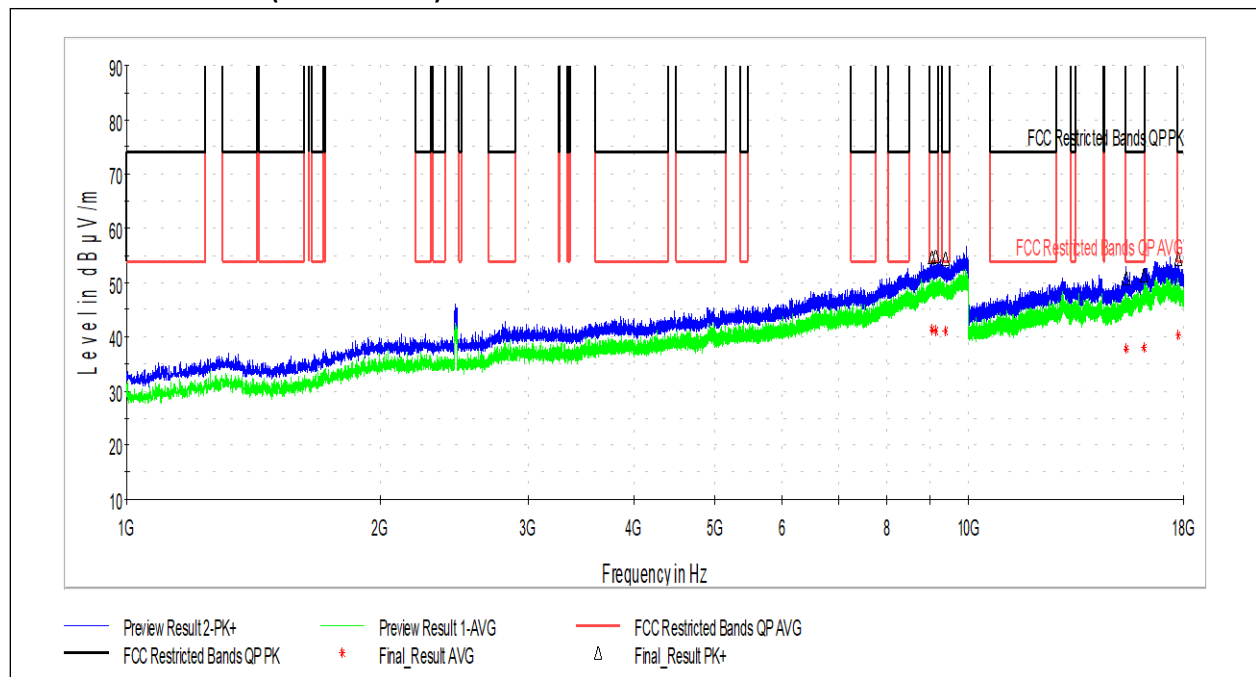
Test Personnel: Jordan Coughenour
Supervising/Reviewing Engineer: (Where Applicable) Michael Carlson
Product Standard: RSS-247 Issue 2
Input Voltage: 12VDC Via AC/DC Adapter
Pretest Verification w / Ambient Signals or BB Source: Yes

Test Date: 1/29/2024
Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205
Ambient Temperature: 21.9°C
Relative Humidity: 30.4%
Atmospheric Pressure: 991.3mbar

Deviations, Additions, or Exclusions: None



6.8.1.2.4 Channel 11 (1GHz - 18 GHz)



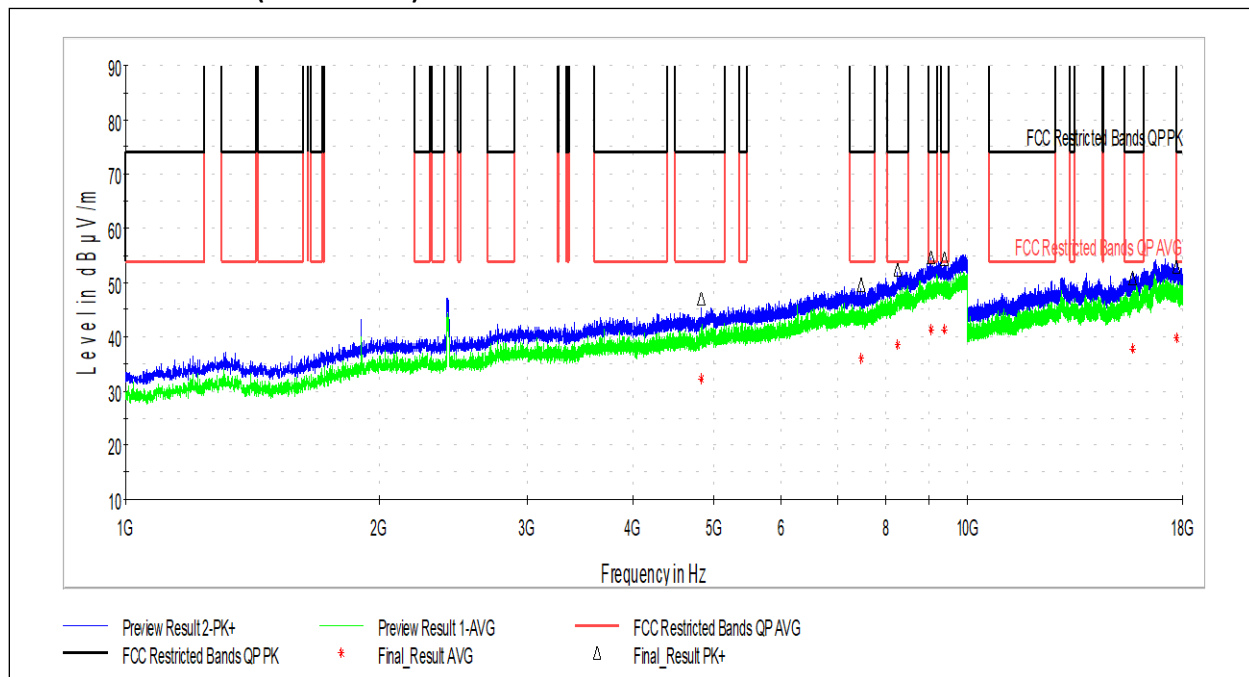
Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
9059.000	54.68	73.98	19.30	410.0	V	0.0	15.9
9136.000	54.81	73.98	19.17	117.0	V	0.0	16.1
9394.000	54.45	73.98	19.53	379.0	V	212.0	16.6
15385.000	50.90	73.98	23.08	125.0	H	192.0	22.9
16150.500	51.45	73.98	22.53	410.0	V	164.0	24.5
17743.500	54.30	73.98	19.68	410.0	V	225.0	26.2

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
9059.000	41.27	53.98	12.71	410.0	V	0.0	15.9
9136.000	41.10	53.98	12.88	117.0	V	0.0	16.1
9394.000	41.11	53.98	12.87	379.0	V	212.0	16.6
15385.000	37.88	53.98	16.10	125.0	H	192.0	22.9
16150.500	38.09	53.98	15.89	410.0	V	164.0	24.5
17743.500	40.17	53.98	13.81	410.0	V	225.0	26.2

Test Personnel: Jordan Coughenour
Supervising/Reviewing Engineer: Michael Carlson
(Where Applicable) FCC Part 15.247
Product Standard: RSS-247 Issue 2
Input Voltage: 12VDC Via AC/DC Adapter
Pretest Verification w / Ambient Signals or BB Source: Yes

Test Date: 1/29/2024
Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205
Ambient Temperature: 21.9°C
Relative Humidity: 30.4%
Atmospheric Pressure: 991.3mbar

Deviations, Additions, or Exclusions: None

**6.8.1.3 802.11n20****6.8.1.3.1 Channel 1 (GHz – 18 GHz)**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4826.000	47.06	73.98	26.92	253.0	V	56.0	9.8
7471.000	49.72	73.98	24.26	100.0	V	0.0	13.5
8251.000	52.41	73.98	21.57	410.0	V	0.0	14.8
9058.500	54.66	73.98	19.32	410.0	V	218.0	15.9
9396.000	54.42	73.98	19.56	410.0	H	316.0	16.7
15703.500	50.89	73.98	23.09	117.0	V	197.0	23.5
17710.500	52.91	73.98	21.07	144.0	V	127.0	26.2

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4826.000	32.17	53.98	21.81	253.0	V	56.0	9.8
7471.000	36.01	53.98	17.97	100.0	V	0.0	13.5
8251.000	38.63	53.98	15.35	410.0	V	0.0	14.8
9058.500	41.27	53.98	12.71	410.0	V	218.0	15.9
9396.000	41.22	53.98	12.76	410.0	H	316.0	16.7
15703.500	37.73	53.98	16.25	117.0	V	197.0	23.5
17710.500	39.68	53.98	14.30	144.0	V	127.0	26.2

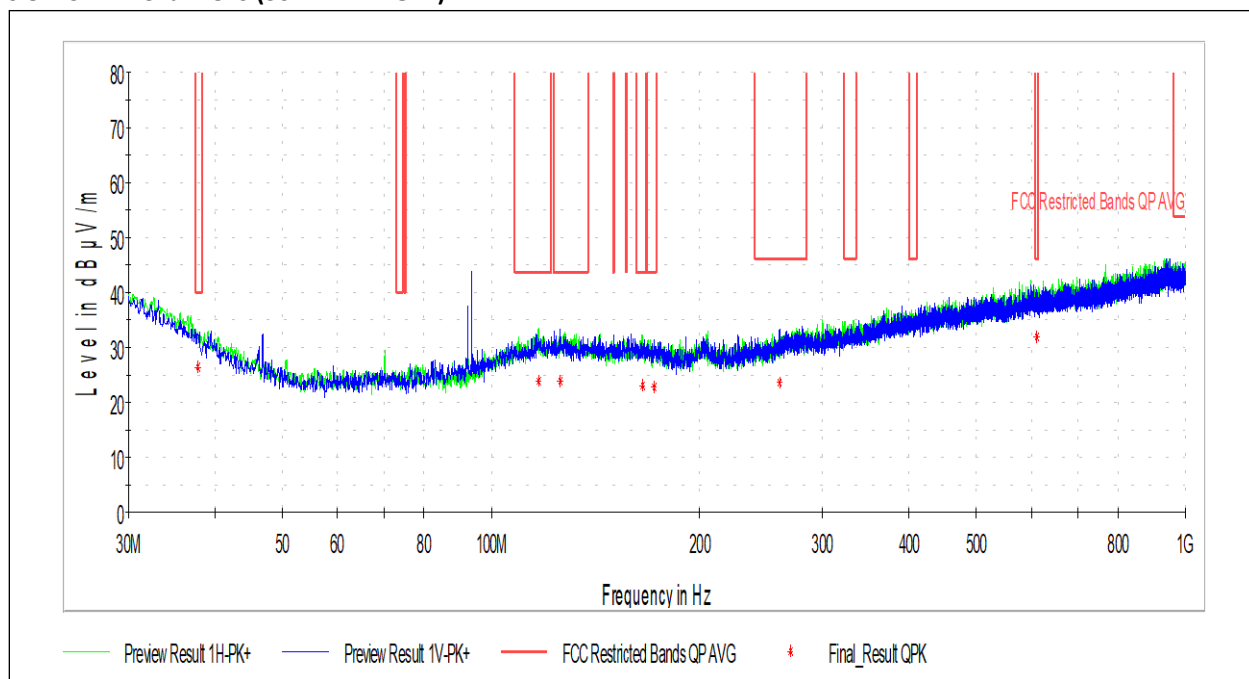
Test Personnel: Seth Parker
Supervising/Reviewing Engineer: (Where Applicable) Michael Carlson
Product Standard: FCC Part 15.247
Input Voltage: RSS-247 Issue 2
Pretest Verification w / Ambient Signals or BB Source: 12VDC Via AC/DC Adapter
Yes

Test Date: 1/29/2024
Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205
Ambient Temperature: 21.9°C
Relative Humidity: 30.4%
Atmospheric Pressure: 991.3mbar

Deviations, Additions, or Exclusions: None



6.8.1.3.2 Channel 6 (30 MHz – 1 GHz)

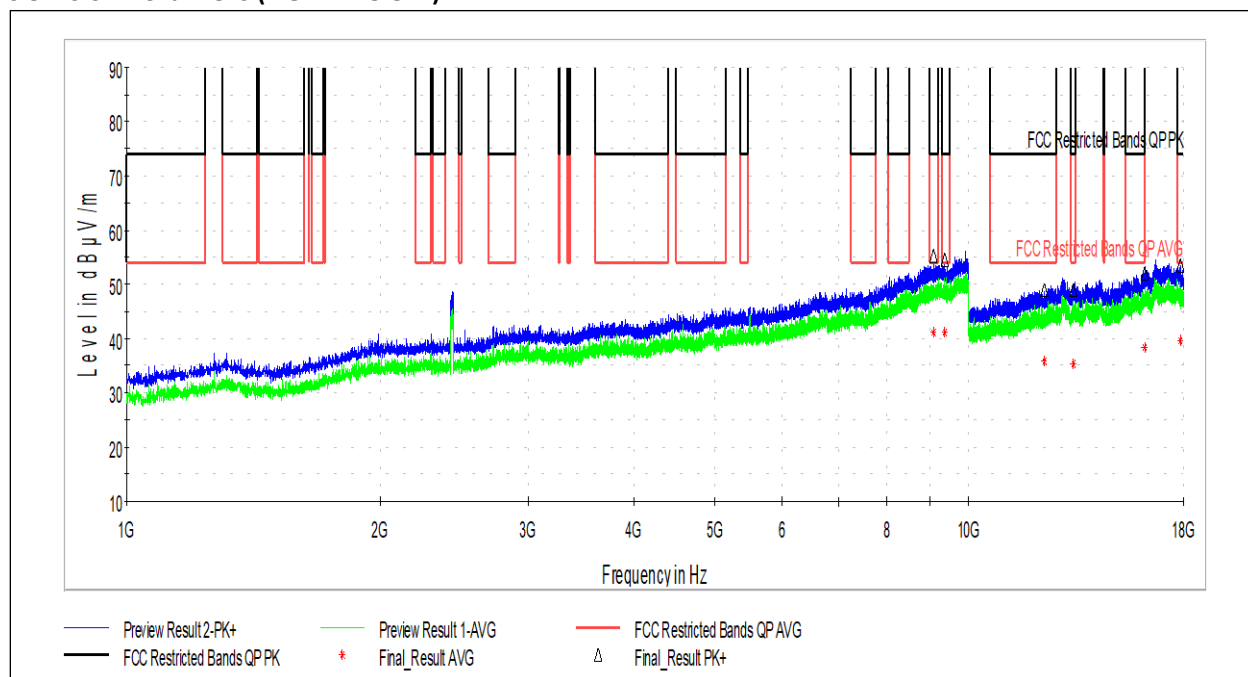


Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.814	26.41	40.00	13.59	234.0	H	305.0	22.7
116.923	23.83	43.52	19.69	279.0	H	0.0	20.6
125.814	24.02	43.52	19.50	340.0	V	90.0	21.1
164.992	22.95	43.52	20.57	270.0	H	7.0	20.1
171.566	22.85	43.52	20.67	99.0	V	274.0	19.8
259.998	23.71	46.02	22.31	155.0	V	112.0	20.9
609.952	32.04	46.02	13.98	186.0	V	273.0	28.0

Test Personnel: David Perry
Supervising/Reviewing Engineer: _____
(Where Applicable) N/A
Product Standard: FCC Part 15.247
Input Voltage: RSS-247 Issue 2
Pretest Verification w / Ambient Signals or BB Source: 12VDC Via AC/DC Adapter
Yes

Test Date: 1/31/2024
Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205
Ambient Temperature: 22.6°C
Relative Humidity: 29.4%
Atmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None

**6.8.1.3.3 Channel 6 (1 GHz – 18 GHz)**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
9084.000	55.27	73.98	18.71	410.0	H	293.0	16.0
9360.000	54.66	73.98	19.32	410.0	H	0.0	16.6
12302.500	48.95	73.98	25.03	389.0	H	33.0	20.5
13312.500	49.09	73.98	24.89	109.0	H	239.0	21.4
16180.000	52.11	73.98	21.87	410.0	V	0.0	24.5
17843.500	53.64	73.98	20.34	410.0	V	80.0	26.2

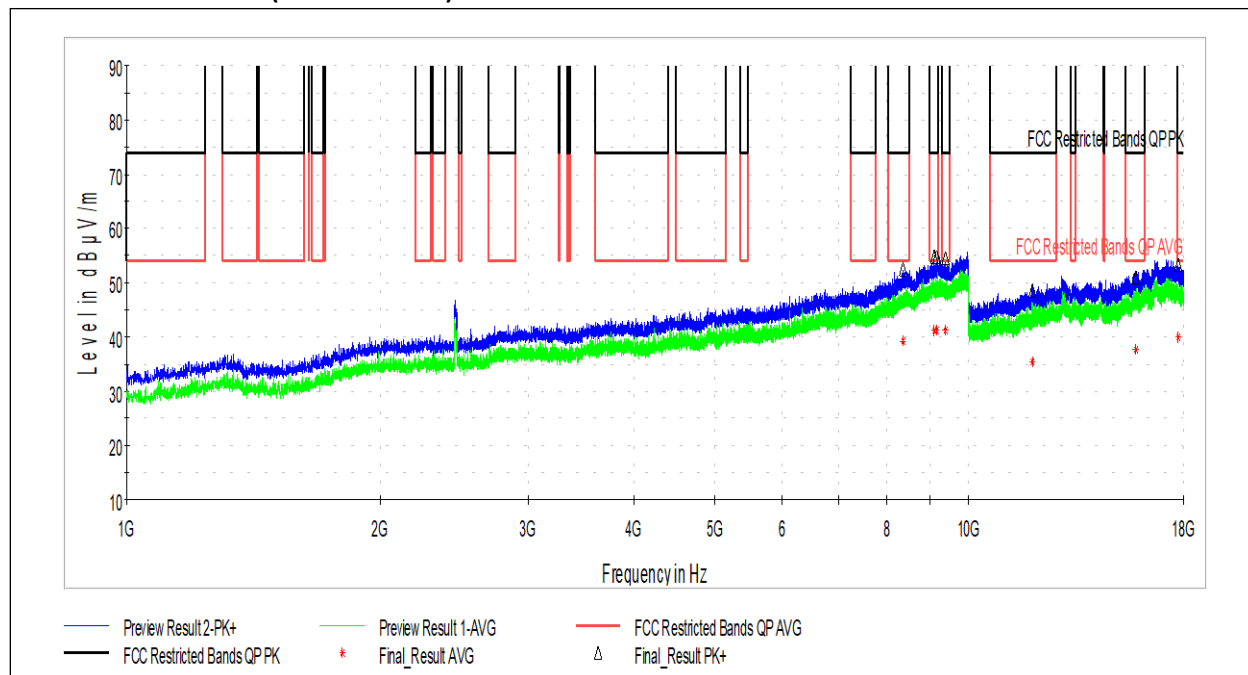
Test Personnel: Seth Parker
Supervising/Reviewing Engineer: _____
(Where Applicable) Michael Carlson
FCC Part 15.247
Product Standard: RSS-247 Issue 2
Input Voltage: 12VDC Via AC/DC Adapter
Pretest Verification w / Ambient Signals or BB Source: Yes

Test Date: 1/29/2024
Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205
Ambient Temperature: 21.9°C
Relative Humidity: 30.4%
Atmospheric Pressure: 991.3mbar

Deviations, Additions, or Exclusions: None



6.8.1.3.4 Channel 11 (1 GHz – 18 GHz)



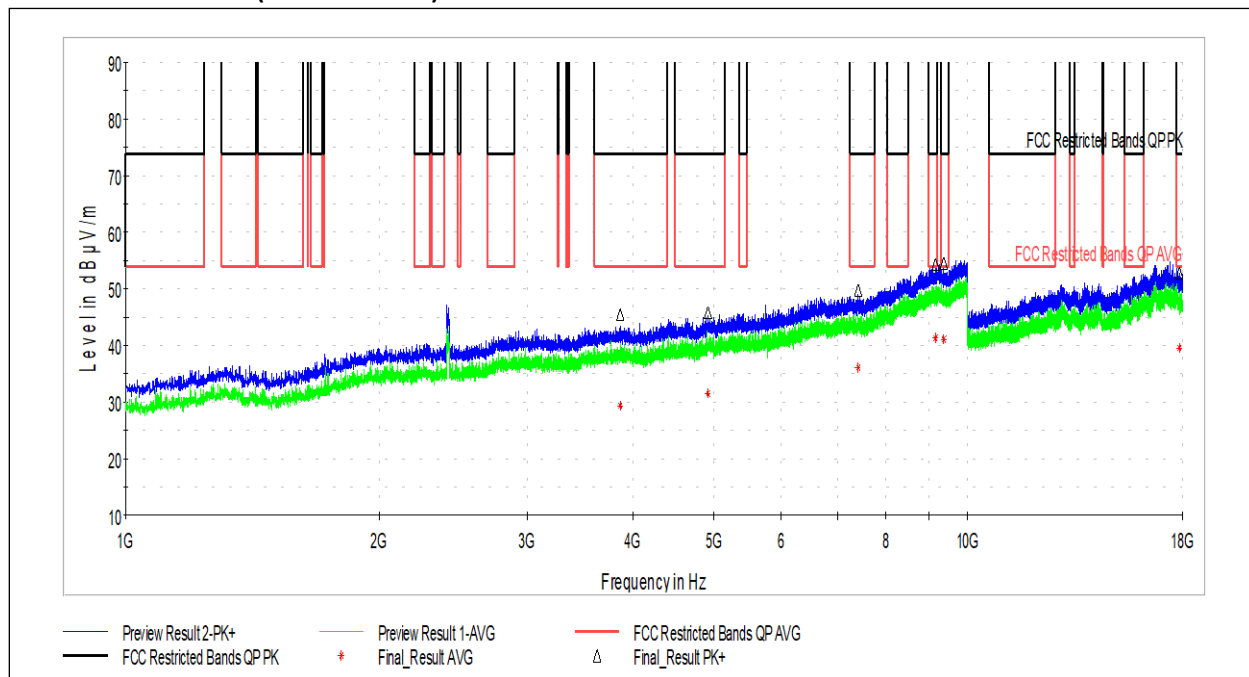
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
8366.000	52.41	73.98	21.57	389.0	V	228.0	14.8
9101.000	54.86	73.98	19.12	410.0	H	0.0	16.0
9164.000	54.82	73.98	19.16	316.0	V	207.0	16.1
9390.500	54.45	73.98	19.53	410.0	V	68.0	16.6
11917.500	48.51	73.98	25.47	108.0	H	0.0	19.9
15790.000	51.12	73.98	22.86	410.0	H	0.0	23.7
17752.500	53.20	73.98	20.78	109.0	H	267.0	26.0

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
8366.000	39.21	53.98	14.77	389.0	V	228.0	14.8
9101.000	41.11	53.98	12.87	410.0	H	0.0	16.0
9164.000	41.15	53.98	12.83	316.0	V	207.0	16.1
9390.500	41.12	53.98	12.86	410.0	V	68.0	16.6
11917.500	35.39	53.98	18.59	108.0	H	0.0	19.9
15790.000	37.69	53.98	16.29	410.0	H	0.0	23.7
17752.500	39.90	53.98	14.08	109.0	H	267.0	26.0

Test Personnel: Jordan Coughenour
Supervising/Reviewing Engineer: (Where Applicable) Michael Carlson
Product Standard: RSS-247 Issue 2
Input Voltage: 12VDC Via AC/DC Adapter
Pretest Verification w / Ambient Signals or BB Source: Yes

Test Date: 1/29/2024
Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205
Ambient Temperature: 21.9°C
Relative Humidity: 30.4%
Atmospheric Pressure: 991.3mbar

Deviations, Additions, or Exclusions: None

**6.8.1.4 802.11n40****6.8.1.4.1 Channel 3 (1 GHz – 18 GHz)**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3870.000	45.45	73.98	28.53	100.0	H	35.0	8.4
4914.000	45.96	73.98	28.02	120.0	V	254.0	9.8
7415.000	49.74	73.98	24.24	323.0	V	0.0	13.5
9164.500	54.45	73.98	19.53	380.0	H	122.0	16.2
9376.500	54.53	73.98	19.45	410.0	V	139.0	16.5
17871.500	52.74	73.98	21.24	100.0	H	56.0	26.1

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3870.000	29.44	53.98	24.54	100.0	H	35.0	8.4
4914.000	31.50	53.98	22.48	120.0	V	254.0	9.8
7415.000	36.05	53.98	17.93	323.0	V	0.0	13.5
9164.500	41.23	53.98	12.75	380.0	H	122.0	16.2
9376.500	41.10	53.98	12.88	410.0	V	139.0	16.5
17871.500	39.60	53.98	14.38	100.0	H	56.0	26.1

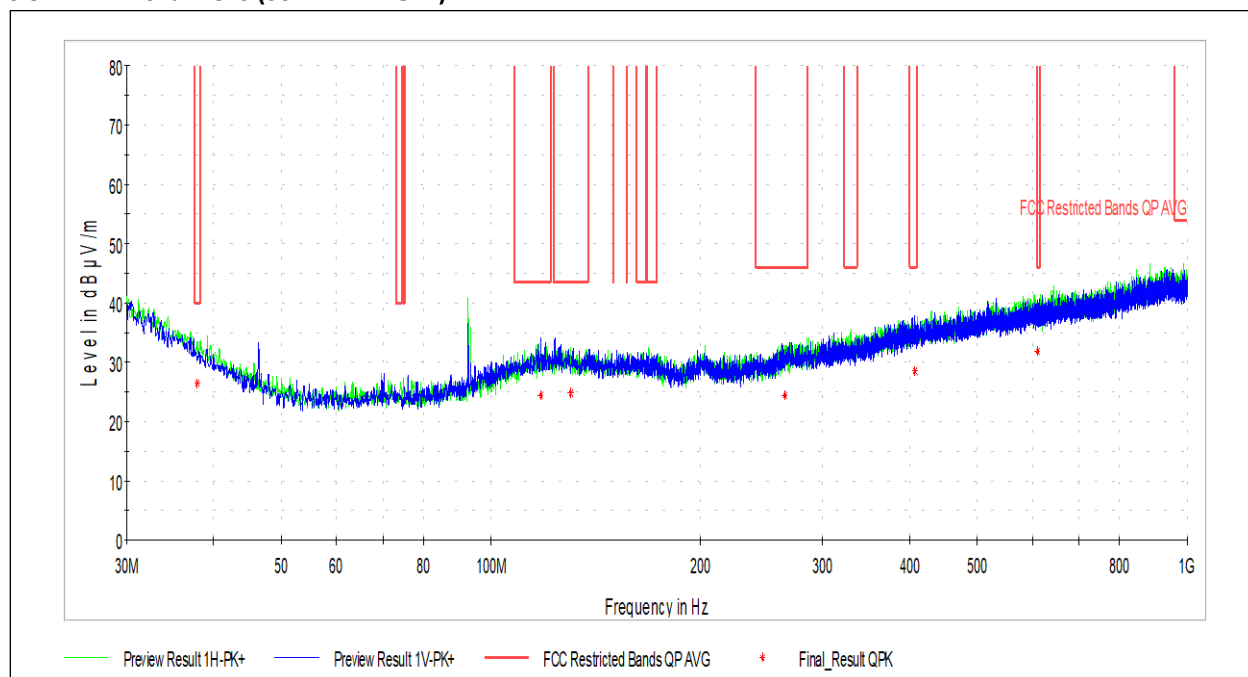
Test Personnel: Seth Parker
Supervising/Reviewing Engineer: (Where Applicable) Michael Carlson
Product Standard: RSS-247 Issue 2
Input Voltage: 12VDC Via AC/DC Adapter
Pretest Verification w / Ambient Signals or BB Source: Yes

Test Date: 1/29/2024
Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205
Ambient Temperature: 21.9°C
Relative Humidity: 30.4%
Atmospheric Pressure: 991.3mbar

Deviations, Additions, or Exclusions: None



6.8.1.4.2 Channel 6 (30 MHz – 1 GHz)



Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.922	26.45	40.00	13.55	241.0	H	80.0	22.6
118.001	24.47	43.52	19.05	100.0	V	112.0	20.7
130.126	24.78	43.52	18.74	186.0	H	224.0	20.9
264.309	24.31	46.02	21.71	250.0	H	0.0	21.2
406.091	28.52	46.02	17.50	105.0	V	172.0	24.2
610.653	31.97	46.02	14.05	155.0	V	182.0	28.0

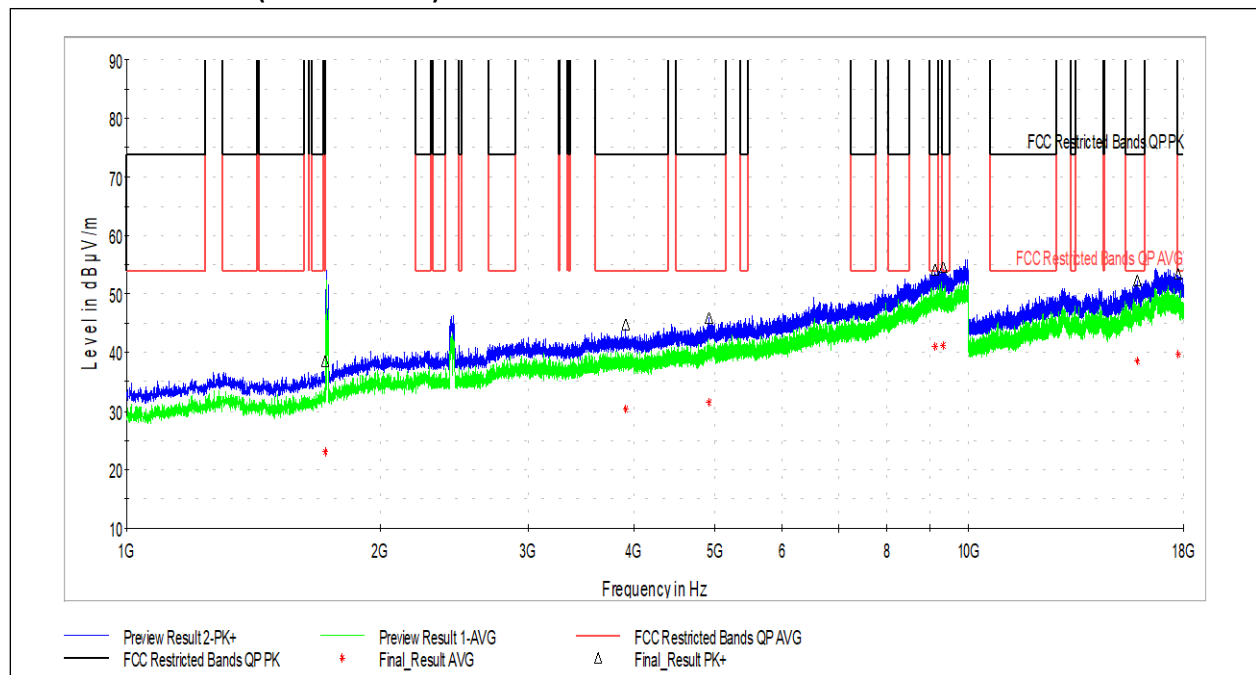
Test Personnel: Seth Parker
Supervising/Reviewing Engineer: _____
(Where Applicable) Michael Carlson
FCC Part 15.247
Product Standard: RSS-247 Issue 2
Input Voltage: 12VDC Via AC/DC Adapter
Pretest Verification w / Ambient Signals or BB Source: Yes

Test Date: 1/29/2024
Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205
Ambient Temperature: 21.9°C
Relative Humidity: 30.4%
Atmospheric Pressure: 991.3mbar

Deviations, Additions, or Exclusions: None



6.8.1.4.3 Channel 6 (1 GHz – 18 GHz)



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1722.000	38.53	73.98	35.45	278.0	H	58.0	1.6
3914.500	44.88	73.98	29.10	200.0	H	156.0	8.4
4919.500	45.99	73.98	27.99	260.0	V	82.0	9.8
9127.000	54.13	73.98	19.85	395.0	V	292.0	16.1
9339.000	54.54	73.98	19.44	377.0	H	270.0	16.5
15852.500	52.24	73.98	21.74	323.0	V	0.0	23.9
17763.000	53.53	73.98	20.45	134.0	H	140.0	26.0

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1722.000	23.04	53.98	30.94	278.0	H	58.0	1.6
3914.500	30.37	53.98	23.61	200.0	H	156.0	8.4
4919.500	31.46	53.98	22.52	260.0	V	82.0	9.8
9127.000	41.07	53.98	12.91	395.0	V	292.0	16.1
9339.000	41.13	53.98	12.85	377.0	H	270.0	16.5
15852.500	38.54	53.98	15.44	323.0	V	0.0	23.9
17763.000	39.70	53.98	14.28	134.0	H	140.0	26.0

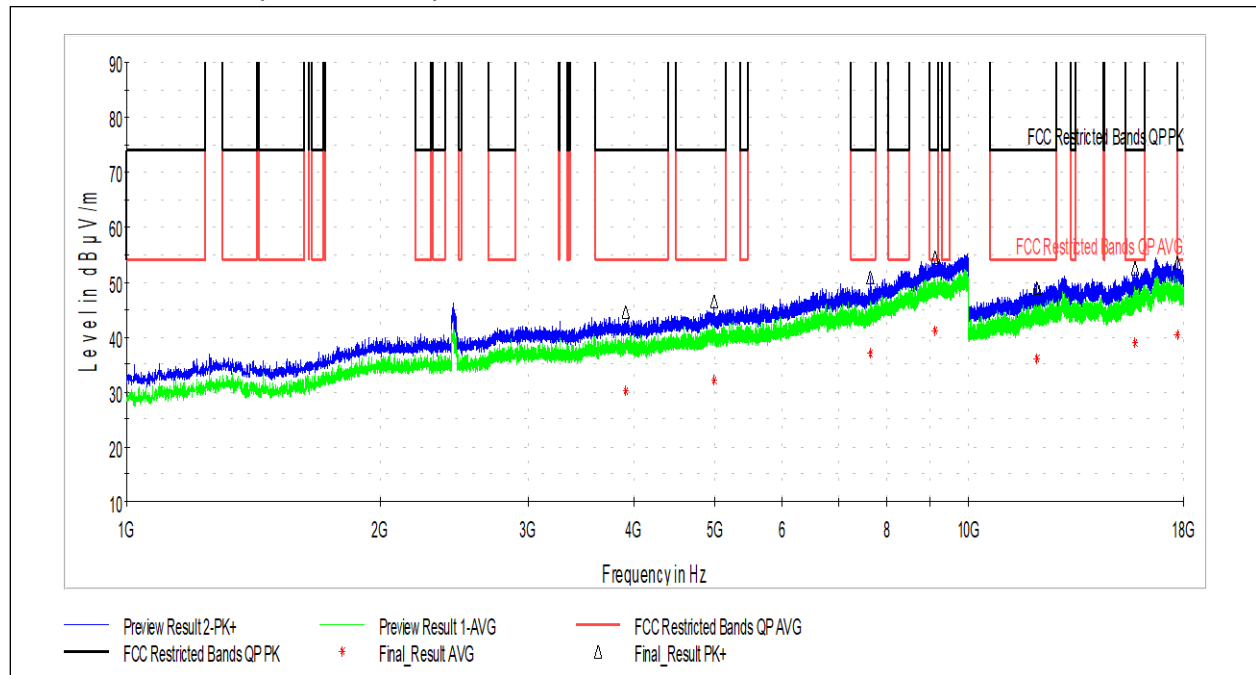
Test Personnel: Seth Parker
Supervising/Reviewing Engineer: (Where Applicable) Michael Carlson
Product Standard: FCC Part 15.247
Input Voltage: RSS-247 Issue 2
Pretest Verification w / Ambient Signals or BB Source: 12VDC Via AC/DC Adapter
Yes

Test Date: 1/29/2024
Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205
Ambient Temperature: 21.9°C
Relative Humidity: 30.4%
Atmospheric Pressure: 991.3mbar

Deviations, Additions, or Exclusions: None



6.8.1.4.4 Channel 9 (1 GHz – 18 GHz)



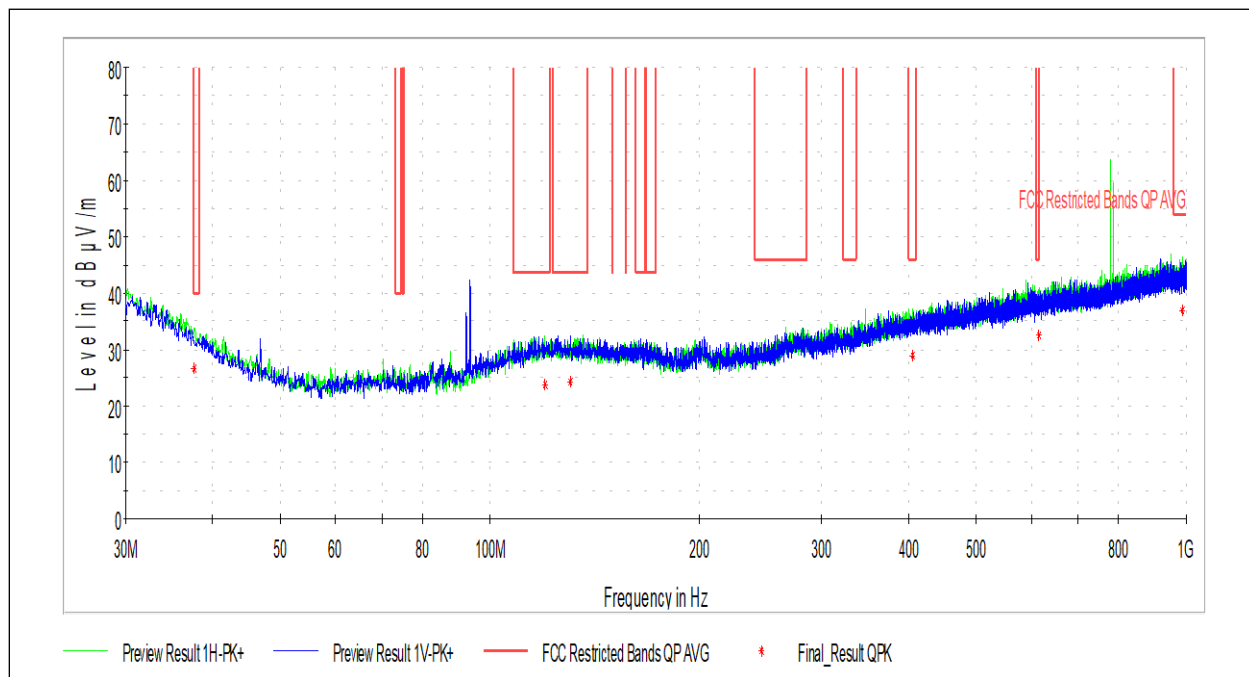
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3913.000	44.48	73.98	29.50	326.0	V	163.0	8.4
4987.500	46.51	73.98	27.47	310.0	H	243.0	9.9
7643.500	50.82	73.98	23.16	109.0	V	69.0	13.9
9121.500	54.52	73.98	19.46	308.0	H	337.0	16.1
12052.000	48.87	73.98	25.11	340.0	V	47.0	20.1
15766.500	52.57	73.98	21.41	109.0	V	336.0	23.7
17702.000	53.53	73.98	20.45	100.0	V	266.0	26.2

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3913.000	30.26	53.98	23.72	326.0	V	163.0	8.4
4987.500	32.01	53.98	21.97	310.0	H	243.0	9.9
7643.500	37.00	53.98	16.98	109.0	V	69.0	13.9
9121.500	41.10	53.98	12.88	308.0	H	337.0	16.1
12052.000	35.90	53.98	18.08	340.0	V	47.0	20.1
15766.500	38.96	53.98	15.02	109.0	V	336.0	23.7
17702.000	40.32	53.98	13.66	100.0	V	266.0	26.2

Test Personnel: Seth Parker
Supervising/Reviewing Engineer: (Where Applicable) Michael Carlson
Product Standard: RSS-247 Issue 2
Input Voltage: 12VDC Via AC/DC Adapter
Pretest Verification w / Ambient Signals or BB Source: Yes

Test Date: 1/29/2024
Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205
Ambient Temperature: 21.9°C
Relative Humidity: 30.4%
Atmospheric Pressure: 991.3mbar

Deviations, Additions, or Exclusions: None

**6.8.2 5GHz Wi-Fi (U-NII-1)****6.8.2.1 802.11a Channel 36****6.8.2.1.1 30 MHz – 1 GHz**

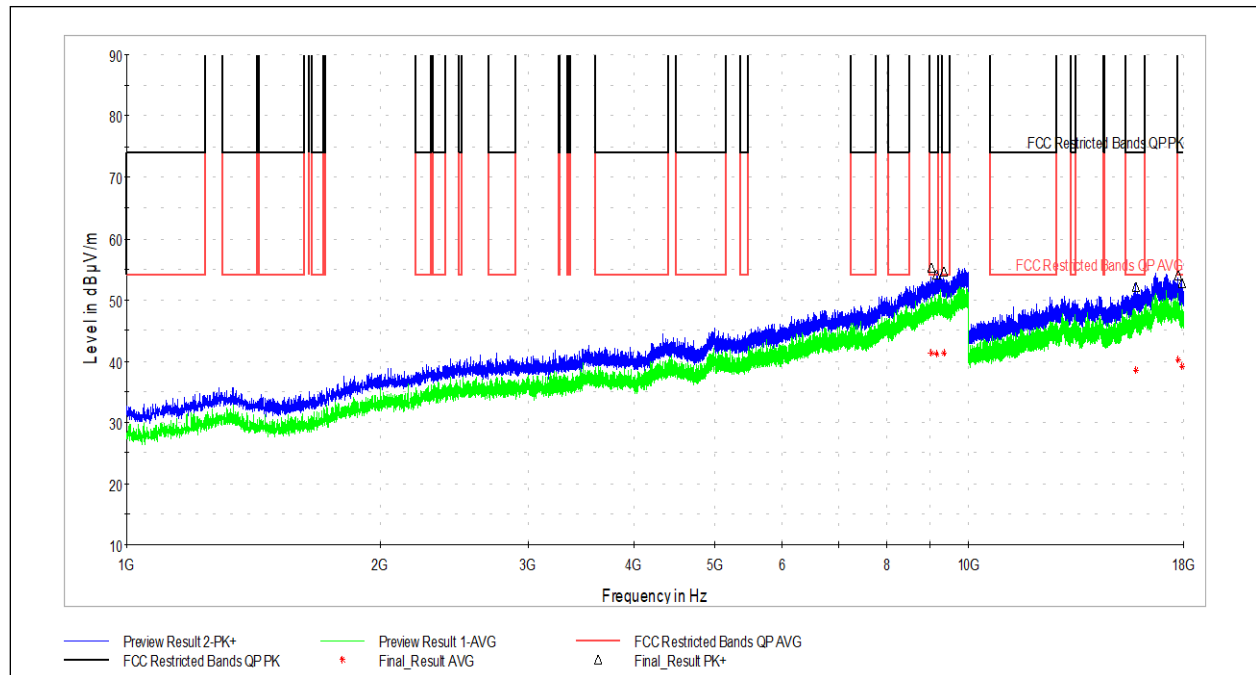
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.652	26.58	40.00	13.42	231.0	H	314.0	22.8
119.941	23.82	43.52	19.70	263.0	H	197.0	20.8
130.449	24.13	43.52	19.39	100.0	V	139.0	21.1
405.013	28.89	46.02	17.13	104.0	H	7.0	24.6
613.832	32.58	46.02	13.44	333.0	H	161.0	28.7
987.875	36.98	53.98	17.00	309.0	H	206.0	33.2

Test Personnel:	David Perry	Test Date:	1/31/2024
Supervising/Reviewing Engineer:			FCC Part 15.407(b)
(Where Applicable)	N/A	Limit Applied:	FCC Part 15.209 in Restricted Bands from FCC Part 15.205
Product Standard:	FCC Part 15E	Ambient Temperature:	22.6°C
Input Voltage:	RSS-247 Issue 2	Relative Humidity:	29.4%
Pretest Verification w / Ambient Signals or BB Source:	12VDC Via AC/DC Adapter	Atmospheric Pressure:	988.8mbar
	Yes		

Deviations, Additions, or Exclusions: None



6.8.2.1.2 1 GHz – 18 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
9031.500	55.27	73.98	18.71	180.0	V	12.0	15.9
9170.000	54.20	73.98	19.78	214.0	H	23.0	16.2
9355.500	54.66	73.98	19.32	100.0	H	12.0	16.6
15803.000	52.10	73.98	21.88	134.0	V	348.0	23.8
17753.500	54.06	73.98	19.92	117.0	H	44.0	26.0
17941.000	52.74	73.98	21.24	410.0	V	126.0	26.2

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
9031.500	41.27	53.98	12.71	180.0	V	12.0	15.9
9170.000	41.21	53.98	12.77	214.0	H	23.0	16.2
9355.500	41.27	53.98	12.71	100.0	H	12.0	16.6
15803.000	38.58	53.98	15.40	134.0	V	348.0	23.8
17753.500	40.29	53.98	13.69	117.0	H	44.0	26.0
17941.000	39.14	53.98	14.84	410.0	V	126.0	26.2

Test Personnel: Jordon CoughenourTest Date: 2/2/2024Supervising/Reviewing Engineer:
(Where Applicable) Michael Carlson

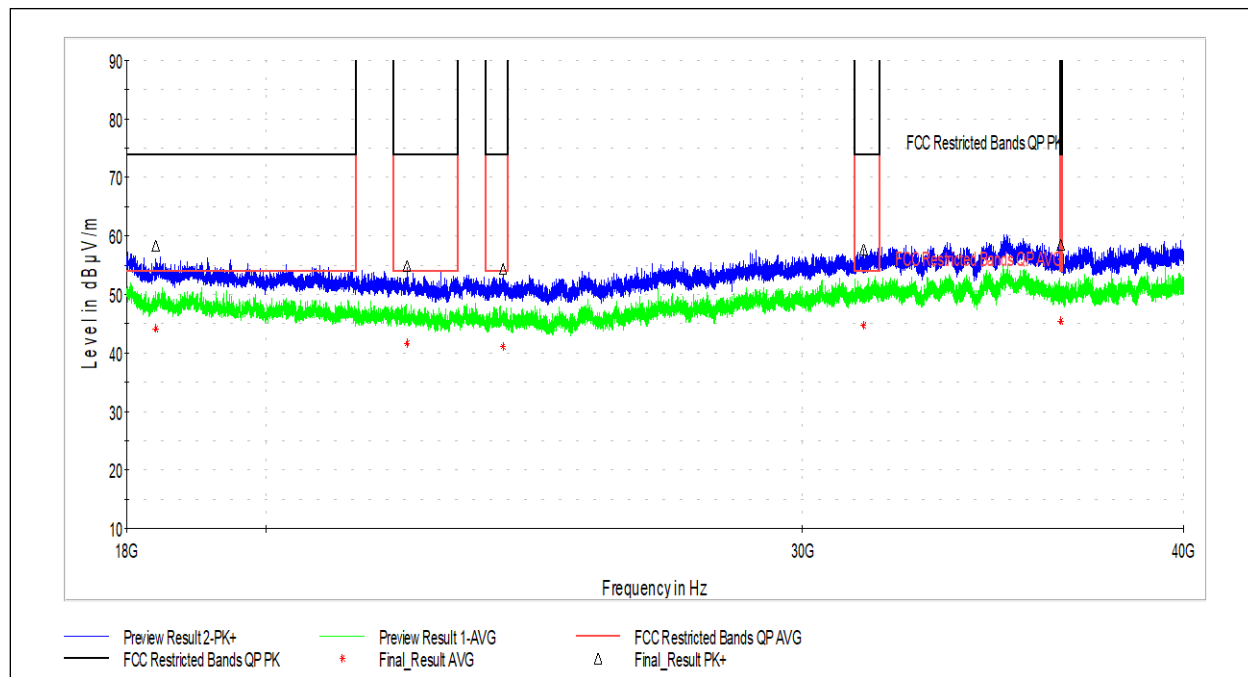
FCC Part 15.407(b)

Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205Product Standard: RSS-247 Issue 2Ambient Temperature: 17.6°CInput Voltage: 12VDC Via AC/DC AdapterRelative Humidity: 15.3%Pretest Verification w / Ambient
Signals or BB Source: YesAtmospheric Pressure: 985.4mbar

Deviations, Additions, or Exclusions: None



6.8.2.1.3 18GHz – 40 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18404.000	58.28	73.98	15.70	268.0	H	209.0	27.9
22245.000	54.88	73.98	19.10	268.0	H	0.0	15.9
23916.000	54.30	73.98	19.68	251.0	H	349.0	13.8
31412.000	57.72	73.98	16.26	100.0	H	-1.0	22.5
36467.000	58.58	73.98	15.40	268.0	H	-1.0	23.5

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18404.000	44.20	53.98	9.78	268.0	H	209.0	27.9
22245.000	41.65	53.98	12.33	268.0	H	0.0	15.9
23916.000	41.05	53.98	12.93	251.0	H	349.0	13.8
31412.000	44.60	53.98	9.38	100.0	H	-1.0	22.5
36467.000	45.37	53.98	8.61	268.0	H	-1.0	23.5

Test Personnel: David Perry

Supervising/Reviewing Engineer:
(Where Applicable) N/A

Product Standard: FCC Part 15E

Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter

Yes

Test Date: 2/7/2024

FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

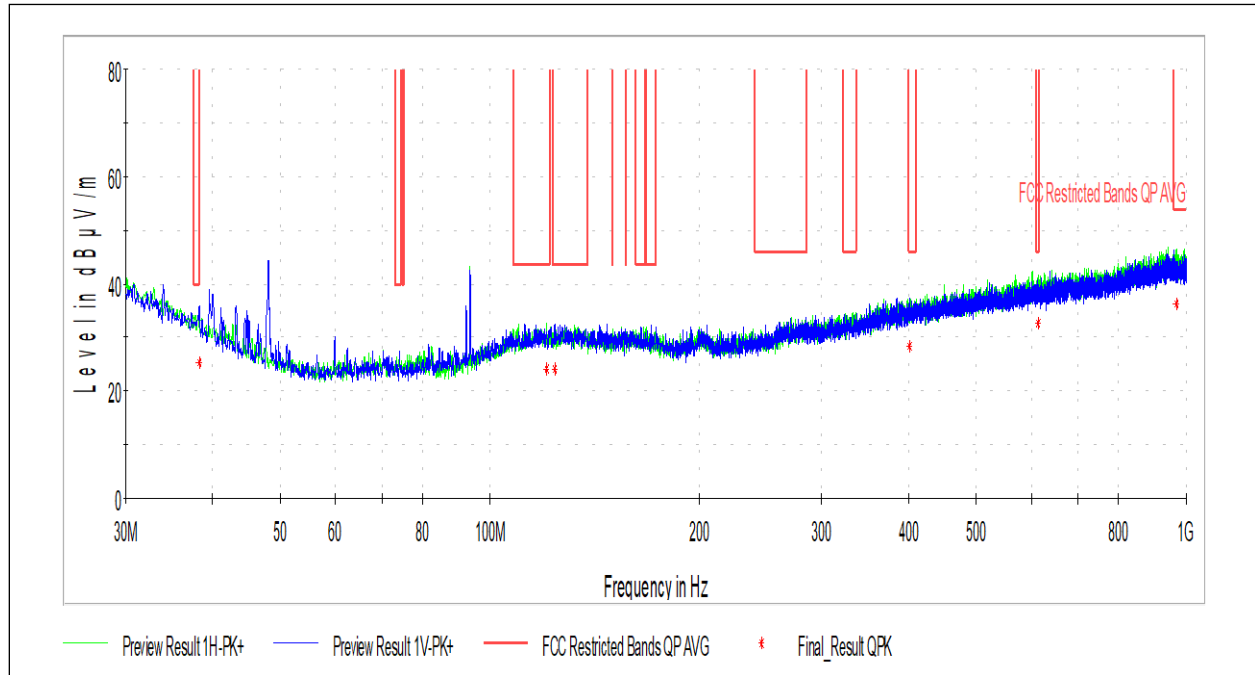
Limit Applied:

Ambient Temperature: 23.3°C

Relative Humidity: 21.1%

Atmospheric Pressure: 991.2mbar

Deviations, Additions, or Exclusions: None

**6.8.2.2 802.11n20 Channel 44****6.8.2.2.1 30 MHz – 1 GHz**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
38.245	25.32	40.00	14.68	100.0	V	254.0	21.3
120.641	23.88	43.52	19.64	242.0	H	222.0	20.8
123.821	24.16	43.52	19.36	105.0	V	69.0	21.1
400.917	28.28	46.02	17.74	392.0	V	150.0	24.1
612.754	32.55	46.02	13.47	206.0	H	270.0	28.7
967.936	36.19	53.98	17.79	236.0	H	342.0	32.9

Test Personnel: Seth Parker

Supervising/Reviewing Engineer:
(Where Applicable) Michael Carlson

Product Standard: FCC Part 15E

Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter

Yes

Test Date: 1/31/2024

Limit Applied: FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

Ambient Temperature: 22.6°C

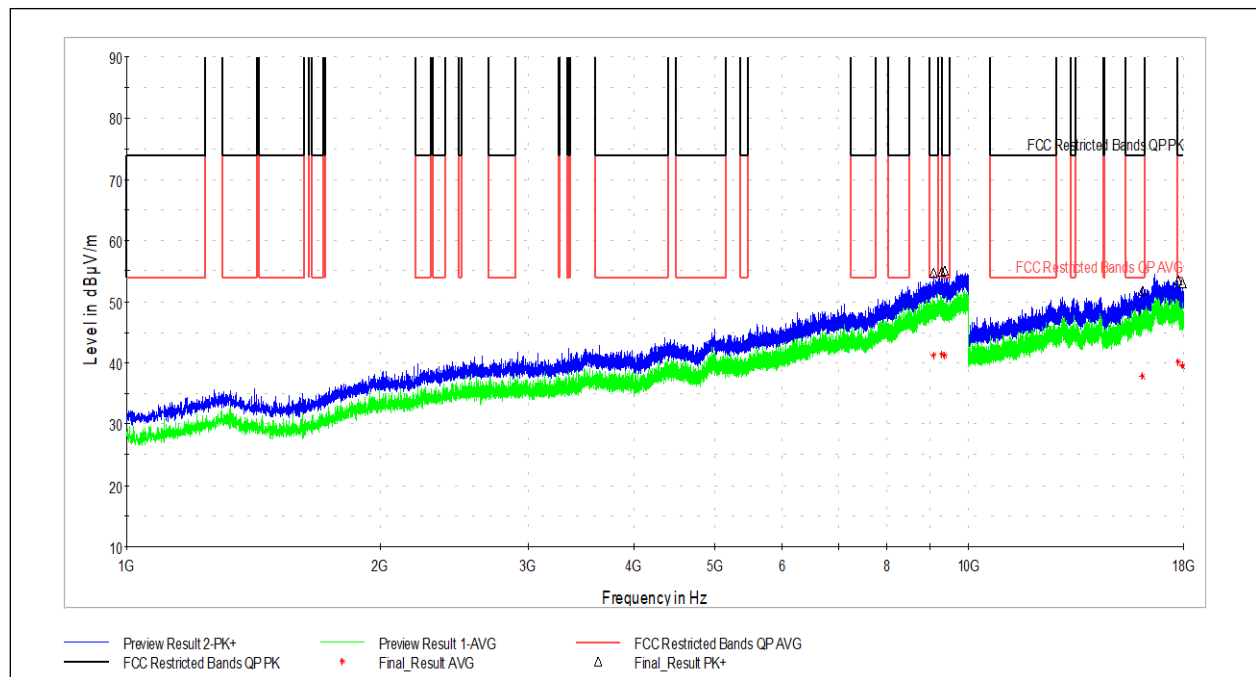
Relative Humidity: 29.4%

Atmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None



6.8.2.2.2 1 GHz – 18 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
9089.500	54.78	73.98	19.20	153.0	V	68.0	16.0
9302.000	54.97	73.98	19.01	260.0	V	0.0	16.4
9377.500	55.00	73.98	18.98	266.0	H	145.0	16.6
16099.500	51.81	73.98	22.17	117.0	H	312.0	24.4
17760.000	53.56	73.98	20.42	117.0	V	80.0	26.2
17966.500	52.99	73.98	20.99	236.0	V	0.0	26.2

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
9089.500	41.16	53.98	12.82	153.0	V	68.0	16.0
9302.000	41.31	53.98	12.67	260.0	V	0.0	16.4
9377.500	41.25	53.98	12.73	266.0	H	145.0	16.6
16099.500	37.75	53.98	16.23	117.0	H	312.0	24.4
17760.000	40.20	53.98	13.78	117.0	V	80.0	26.2
17966.500	39.55	53.98	14.43	236.0	V	0.0	26.2

Test Personnel: Jordan Coughenour

Test Date: 2/2/2024

Supervising/Reviewing Engineer:
(Where Applicable) Michael Carlson

FCC Part 15.407(b)

Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205

Product Standard: RSS-247 Issue 2

Ambient Temperature: 17.6°C

Input Voltage: 12VDC Via AC/DC Adapter

Relative Humidity: 15.3%

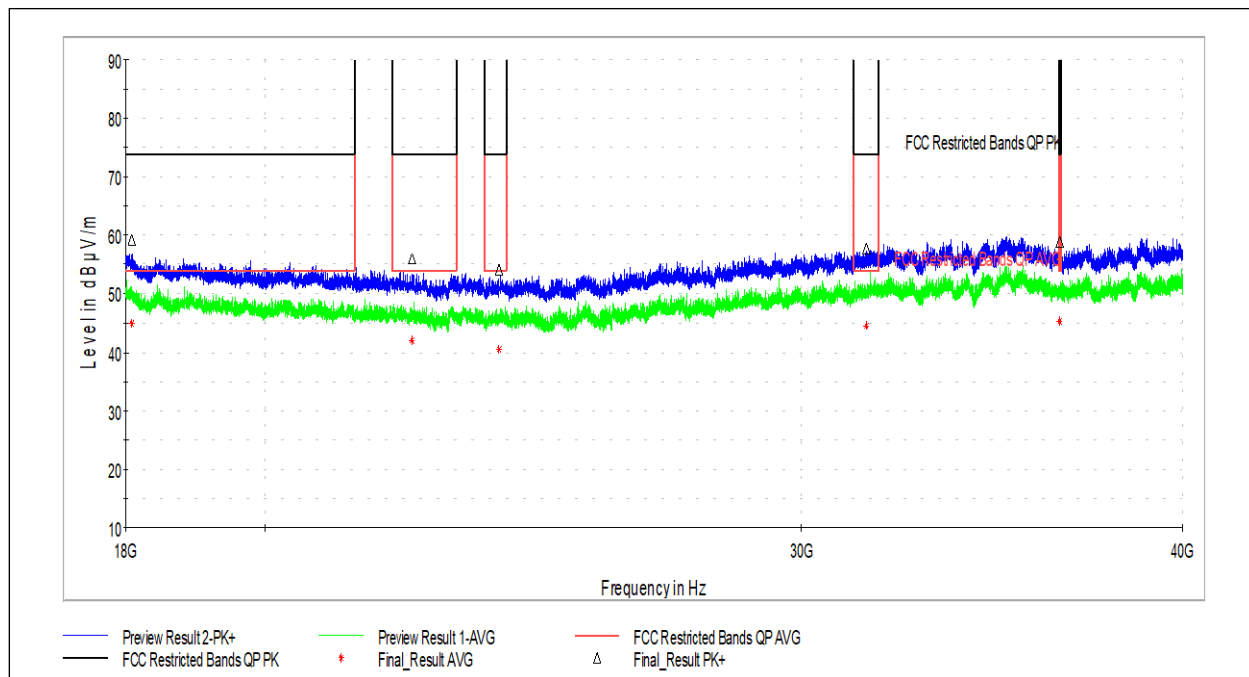
Pretest Verification w / Ambient
Signals or BB Source: Yes

Atmospheric Pressure: 985.4mbar

Deviations, Additions, or Exclusions: None



6.8.2.2.3 18GHz – 40 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18082.000	59.38	73.98	14.60	242.0	V	269.0	29.0
22352.000	55.97	73.98	18.01	269.0	H	0.0	15.5
23863.000	54.17	73.98	19.81	263.0	V	0.0	13.8
31507.000	57.83	73.98	16.15	100.0	H	0.0	22.7
36452.000	58.98	73.98	15.00	252.0	V	105.0	23.5

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18082.000	44.86	53.98	9.12	242.0	V	269.0	29.0
22352.000	41.96	53.98	12.02	269.0	H	0.0	15.5
23863.000	40.52	53.98	13.46	263.0	V	0.0	13.8
31507.000	44.53	53.98	9.45	100.0	H	0.0	22.7
36452.000	45.34	53.98	8.64	252.0	V	105.0	23.5

Test Personnel: David Perry

Supervising/Reviewing Engineer:
(Where Applicable) N/A

Product Standard: FCC Part 15E

Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: Yes

Test Date: 2/7/2024

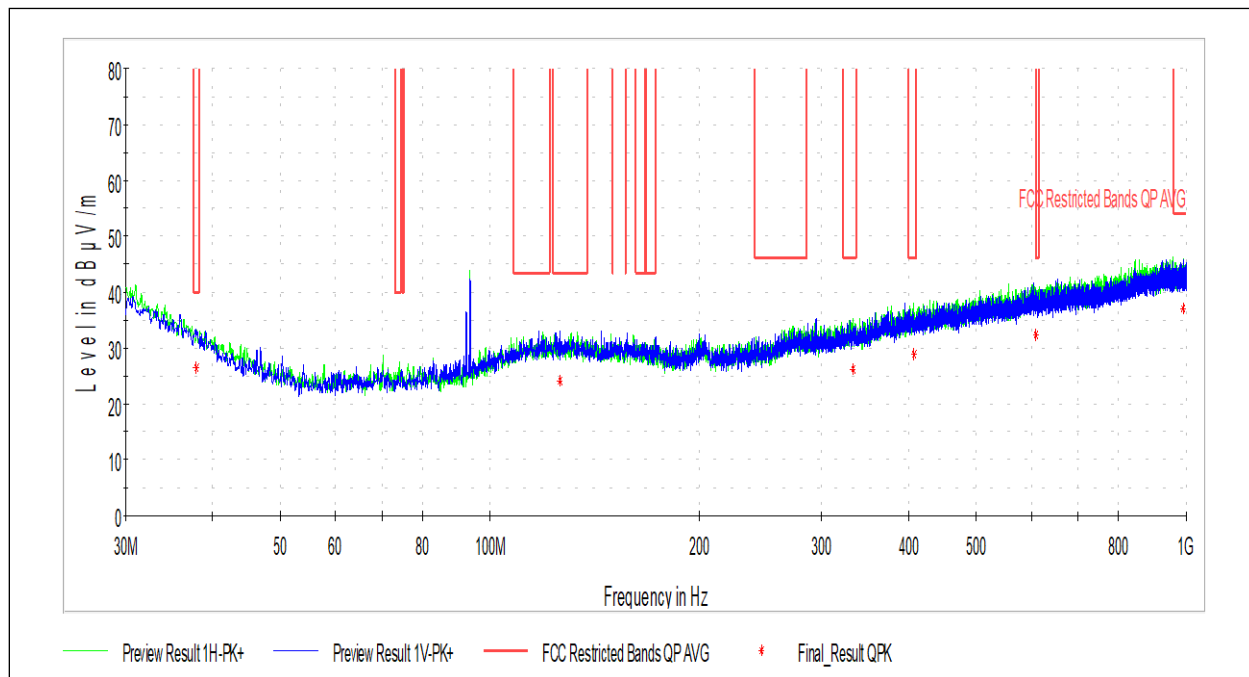
Limit Applied: FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

Ambient Temperature: 23.3°C

Relative Humidity: 21.1%

Atmospheric Pressure: 991.2mbar

Deviations, Additions, or Exclusions: None

**6.8.2.3 802.11n40 Channel 38****6.8.2.3.1 30 MHz – 1 GHz**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.922	26.39	40.00	13.61	313.0	H	203.0	22.6
126.192	24.07	43.52	19.45	300.0	V	91.0	21.1
332.586	26.14	46.02	19.88	329.0	H	206.0	22.8
406.629	28.97	46.02	17.05	255.0	H	322.0	24.6
608.443	32.38	46.02	13.64	331.0	H	308.0	28.5
989.546	36.97	53.98	17.01	250.0	H	131.0	33.2

Test Personnel: Seth Parker

Supervising/Reviewing Engineer:
(Where Applicable) Michael Carlson

Product Standard: FCC Part 15E

Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter

Yes

Test Date: 1/31/2024

Limit Applied: FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

Ambient Temperature: 22.6°C

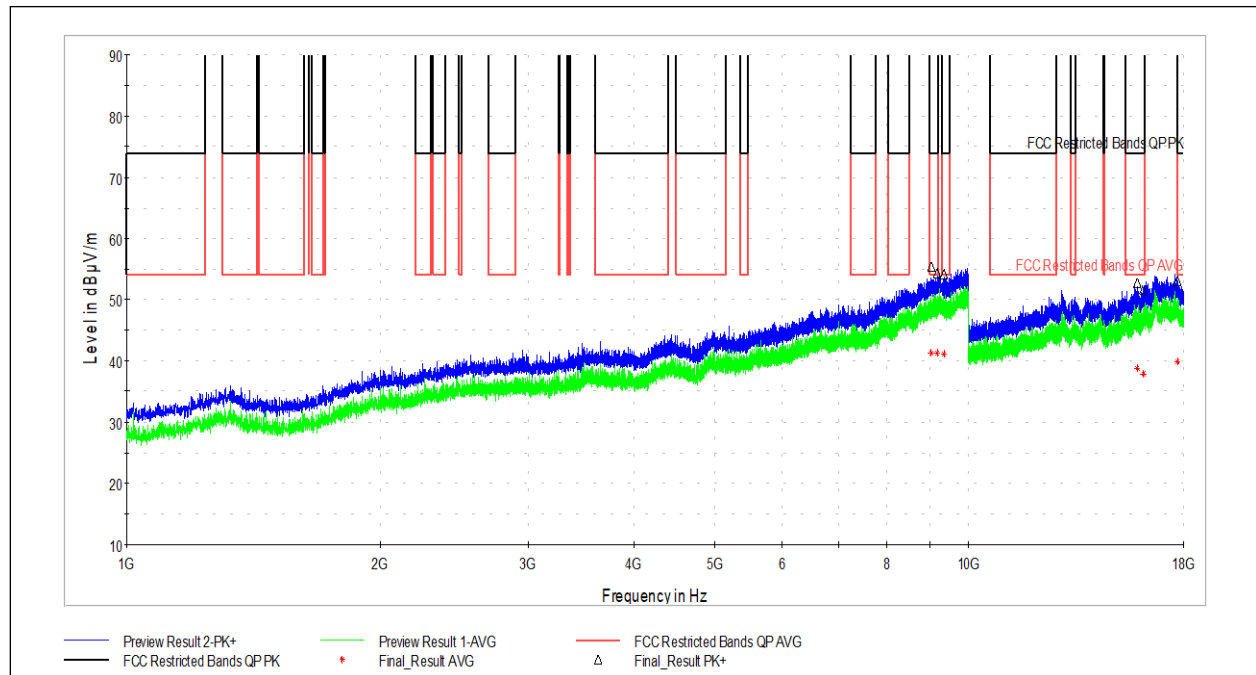
Relative Humidity: 29.4%

Atmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None



6.8.2.3.2 1 GHz – 18 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
9033.500	55.39	73.98	18.59	253.0	V	0.0	15.9
9187.500	54.41	73.98	19.57	395.0	H	150.0	16.3
9348.000	54.16	73.98	19.82	410.0	V	92.0	16.4
15875.500	52.87	73.98	21.11	410.0	V	139.0	24.0
16118.000	51.66	73.98	22.32	109.0	V	173.0	24.5
17705.000	53.13	73.98	20.85	109.0	H	348.0	26.1

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
9033.500	41.28	53.98	12.70	253.0	V	0.0	15.9
9187.500	41.25	53.98	12.73	395.0	H	150.0	16.3
9348.000	41.15	53.98	12.83	410.0	V	92.0	16.4
15875.500	38.81	53.98	15.17	410.0	V	139.0	24.0
16118.000	37.90	53.98	16.08	109.0	V	173.0	24.5
17705.000	39.81	53.98	14.17	109.0	H	348.0	26.1

Test Personnel: Jordan CoughenourTest Date: 2/2/2024Supervising/Reviewing Engineer:
(Where Applicable) Michael Carlson

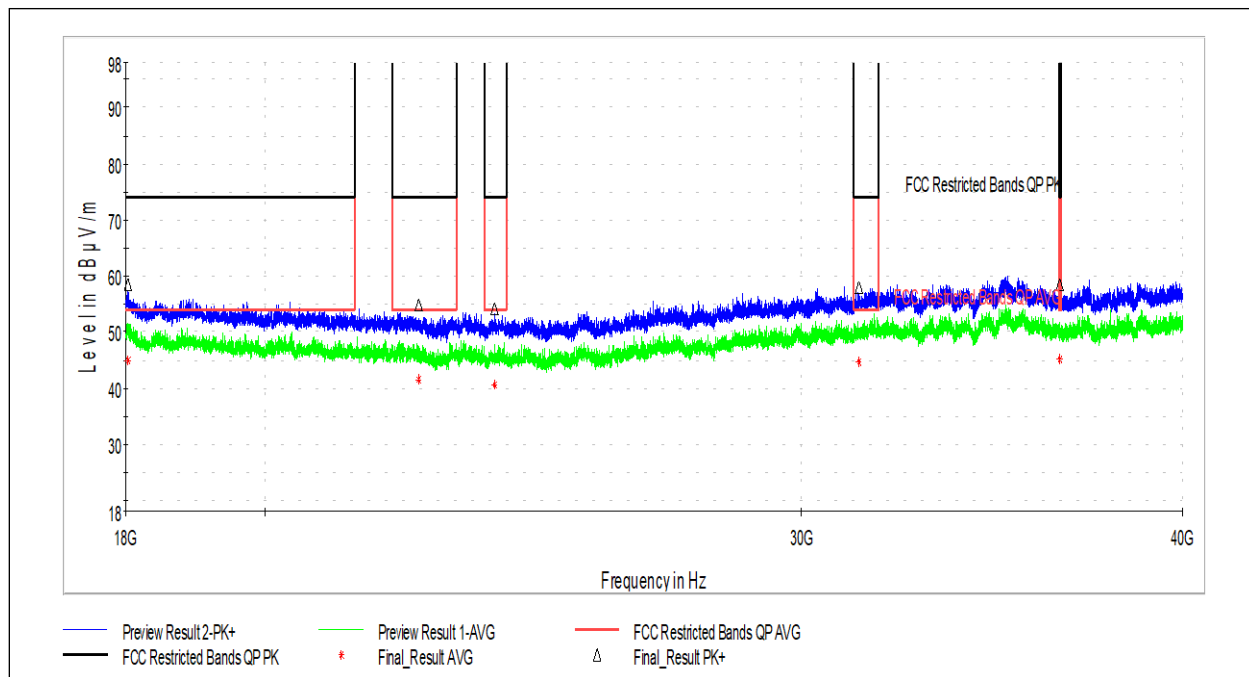
FCC Part 15.407(b)

Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205Product Standard: RSS-247 Issue 2Ambient Temperature: 17.6°CInput Voltage: 12VDC Via AC/DC AdapterRelative Humidity: 15.3%Pretest Verification w / Ambient
Signals or BB Source: YesAtmospheric Pressure: 985.4mbar

Deviations, Additions, or Exclusions: None



6.8.2.3.3 18GHz – 40 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18033.000	58.52	73.98	15.46	100.0	H	0.0	29.1
22464.000	54.90	73.98	19.08	100.0	V	0.0	15.0
23792.000	54.07	73.98	19.91	100.0	H	0.0	13.7
31321.000	58.08	73.98	15.90	100.0	V	0.0	22.2
36456.000	58.44	73.98	15.54	100.0	V	94.0	23.5

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18033.000	44.96	53.98	9.02	100.0	H	0.0	29.1
22464.000	41.44	53.98	12.54	100.0	V	0.0	15.0
23792.000	40.56	53.98	13.42	100.0	H	0.0	13.7
31321.000	44.74	53.98	9.24	100.0	V	0.0	22.2
36456.000	45.13	53.98	8.85	100.0	V	94.0	23.5

Test Personnel: David Perry

Supervising/Reviewing Engineer:
(Where Applicable) N/A

Product Standard: FCC Part 15E

Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter

Yes

Test Date: 2/7/2024

FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

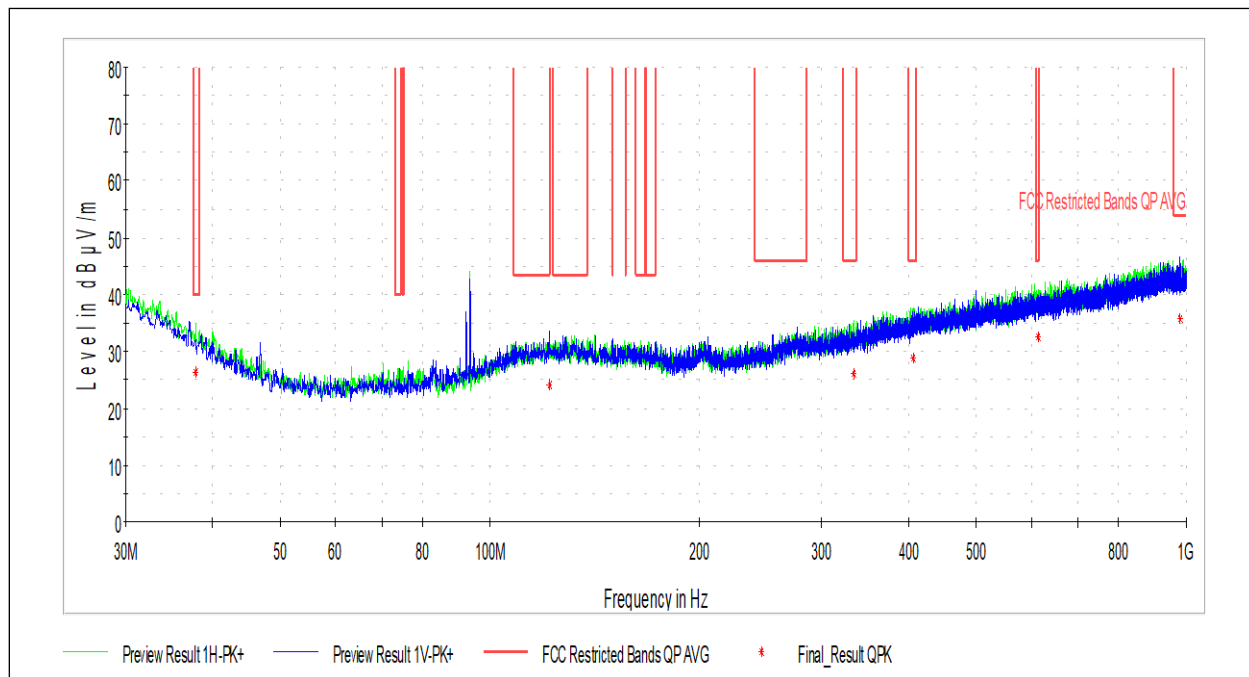
Limit Applied:

Ambient Temperature: 23.3°C

Relative Humidity: 21.1%

Atmospheric Pressure: 991.2mbar

Deviations, Additions, or Exclusions: None

**6.8.2.4 802.11ac Channel 42****6.8.2.4.1 30 MHz – 1 GHz**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.814	26.36	40.00	13.64	400.0	H	277.0	22.7
121.827	24.09	43.52	19.43	108.0	V	216.0	21.0
332.963	26.08	46.02	19.94	157.0	H	180.0	22.8
405.121	28.86	46.02	17.16	164.0	H	160.0	24.6
613.509	32.57	46.02	13.45	224.0	H	99.0	28.7
981.516	35.84	53.98	18.14	212.0	V	263.0	32.4

Test Personnel: Seth Parker

Supervising/Reviewing Engineer:
(Where Applicable) Michael Carlson

Product Standard: FCC Part 15E

Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter

Signals or BB Source: Yes

Test Date: 1/31/2024

Limit Applied: FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

Ambient Temperature: 22.6°C

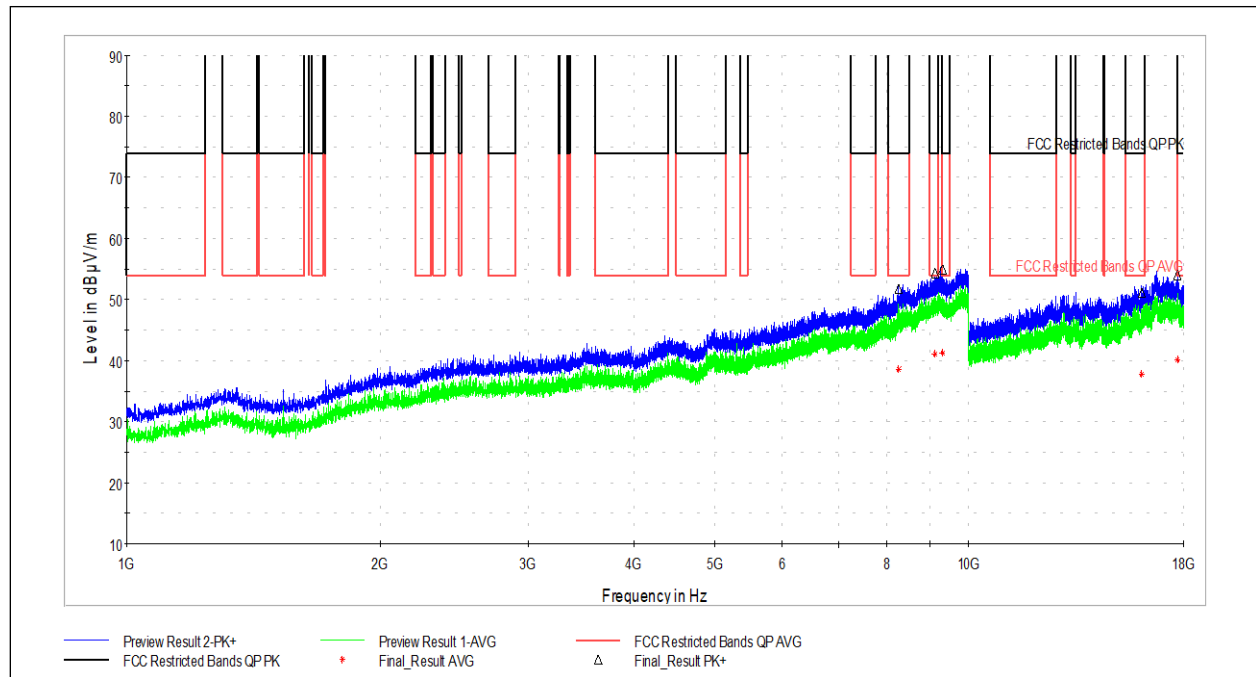
Relative Humidity: 29.4%

Atmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None



6.8.2.4.2 1 GHz – 18 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
8259.000	51.68	73.98	22.30	252.0	V	346.0	14.8
9120.500	54.43	73.98	19.55	236.0	V	78.0	16.1
9308.500	54.96	73.98	19.02	134.0	V	198.0	16.4
16063.000	51.09	73.98	22.89	116.0	H	0.0	24.4
17724.500	54.03	73.98	19.95	117.0	V	34.0	26.2

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
8259.000	38.66	53.98	15.32	252.0	V	346.0	14.8
9120.500	41.09	53.98	12.89	236.0	V	78.0	16.1
9308.500	41.29	53.98	12.69	134.0	V	198.0	16.4
16063.000	37.79	53.98	16.19	116.0	H	0.0	24.4
17724.500	40.20	53.98	13.78	117.0	V	34.0	26.2

Test Personnel: Jordan Coughenour

Supervising/Reviewing Engineer:
(Where Applicable) Michael Carlson
FCC Part 15E

Product Standard: RSS-247 Issue 2

Input Voltage: 12VDC Via AC/DC Adapter

Pretest Verification w / Ambient
Signals or BB Source: Yes

Test Date: 2/2/2024
FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Limit Applied: Bands from FCC Part 15.205

Ambient Temperature: 17.6°C

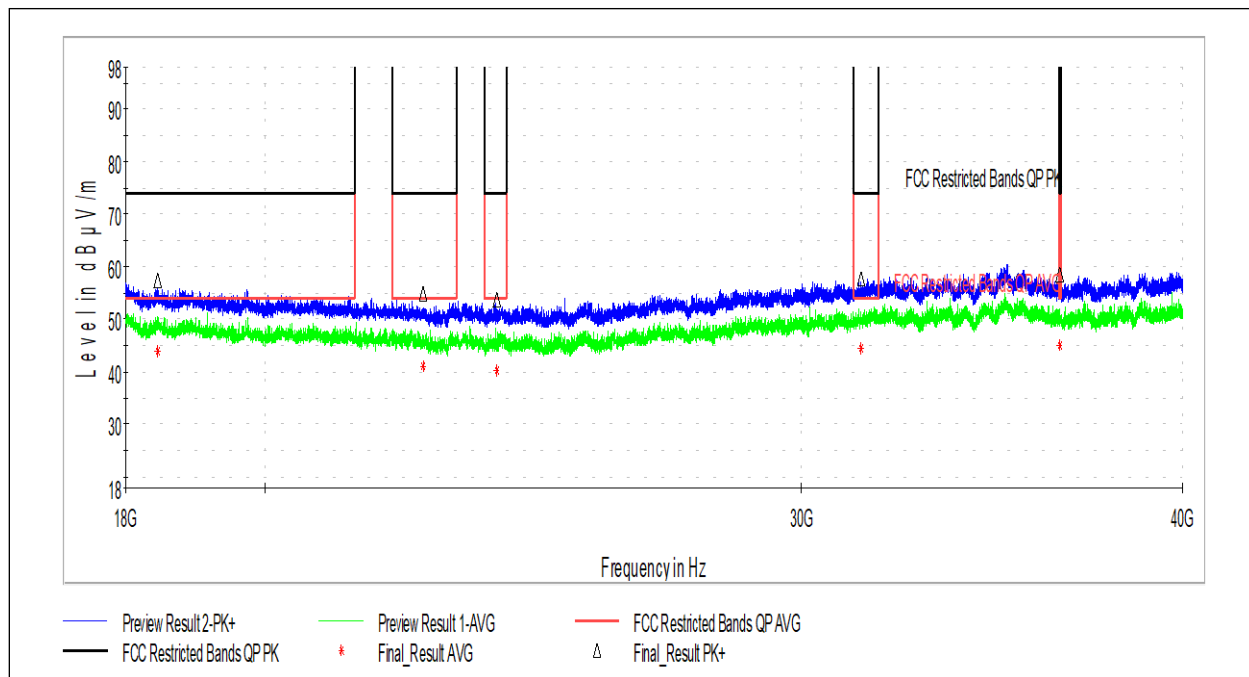
Relative Humidity: 15.3%

Atmospheric Pressure: 985.4mbar

Deviations, Additions, or Exclusions: None



6.8.2.4.3 18GHz – 40 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18439.000	57.56	73.98	16.42	100.0	H	316.0	27.8
22533.000	55.04	73.98	18.94	100.0	V	347.0	14.8
23822.000	53.75	73.98	20.23	100.0	V	0.0	13.7
31373.000	57.63	73.98	16.35	100.0	V	0.0	22.4
36461.000	58.66	73.98	15.32	100.0	V	141.0	23.5

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18439.000	43.98	53.98	10.00	100.0	H	316.0	27.8
22533.000	41.15	53.98	12.83	100.0	V	347.0	14.8
23822.000	40.29	53.98	13.69	100.0	V	0.0	13.7
31373.000	44.51	53.98	9.47	100.0	V	0.0	22.4
36461.000	45.09	53.98	8.89	100.0	V	141.0	23.5

Test Personnel: David Perry

Supervising/Reviewing Engineer:
(Where Applicable) N/A

Product Standard: FCC Part 15E

Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter

Yes

Test Date: 2/7/2024

FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

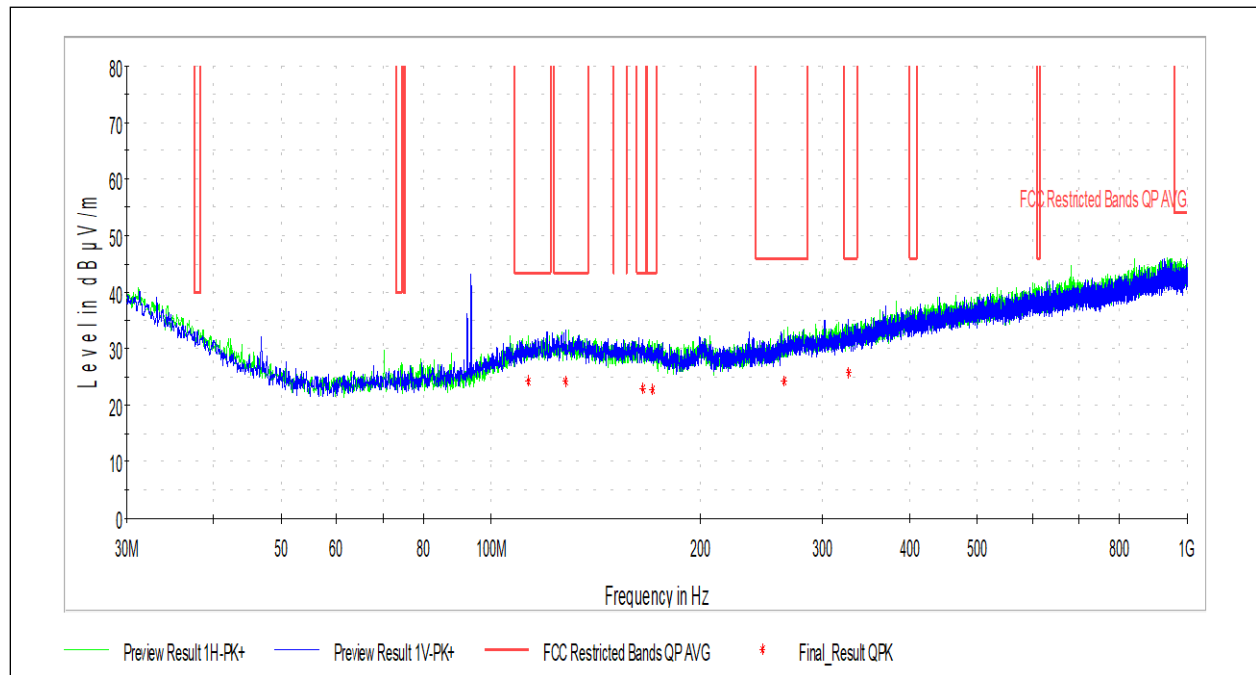
Limit Applied:

Ambient Temperature: 23.3°C

Relative Humidity: 21.1%

Atmospheric Pressure: 991.2mbar

Deviations, Additions, or Exclusions: None

**6.8.3 5GHz Wi-Fi (U-NII-2A)****6.8.3.1 802.11a Channel 64****6.8.3.1.1 30 MHz – 1 GHz**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
113.258	24.16	43.52	19.36	283.0	H	8.0	20.2
128.078	24.12	43.52	19.40	242.0	V	57.0	21.1
165.207	23.01	43.52	20.51	400.0	V	27.0	20.3
170.542	22.71	43.52	20.82	250.0	H	16.0	19.6
263.824	24.17	46.02	21.85	400.0	H	130.0	21.2
326.335	25.65	46.02	20.37	256.0	V	110.0	22.3

Test Personnel: Seth Parker

Supervising/Reviewing Engineer:
(Where Applicable) Michael Carlson

Product Standard: FCC Part 15E

Input Voltage: 12VDC Via AC/DC Adapter

Pretest Verification w / Ambient
Signals or BB Source: Yes

Test Date: 1/31/2024

Limit Applied: FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

Ambient Temperature: 22.6°C

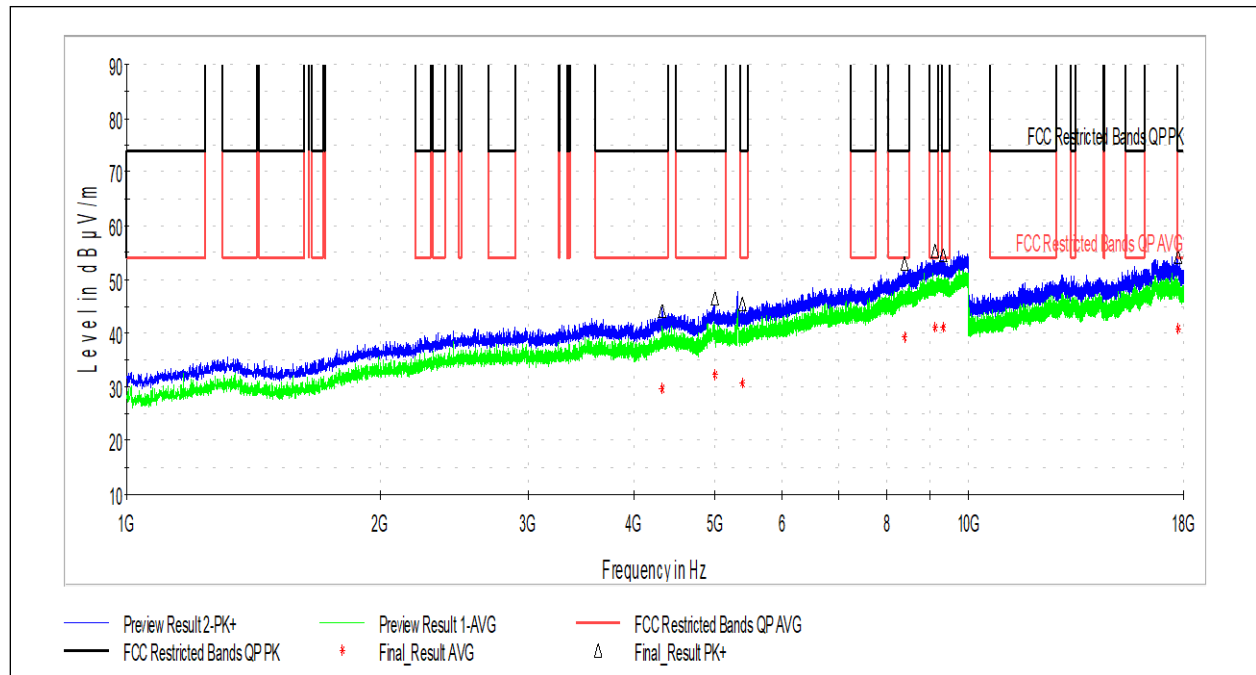
Relative Humidity: 29.4%

Atmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None



6.8.3.1.2 1 GHz – 18 GHz



Frequency (MHz)	MaxPeak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4328.500	44.06	73.98	29.92	100.0	V	127.0	8.8
4997.500	46.44	73.98	27.54	366.0	H	337.0	10.0
5391.000	45.46	73.98	28.52	389.0	H	340.0	10.8
8395.000	53.07	73.98	20.91	117.0	H	302.0	14.9
9131.000	55.24	73.98	18.74	161.0	H	0.0	16.1
9334.500	54.65	73.98	19.33	144.0	H	295.0	16.5
17761.000	54.31	73.98	19.67	100.0	V	174.0	26.2

Frequency (MHz)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4328.500	29.64	53.98	24.34	100.0	V	127.0	8.8
4997.500	32.15	53.98	21.83	366.0	H	337.0	10.0
5391.000	30.59	53.98	23.39	389.0	H	340.0	10.8
8395.000	39.28	53.98	14.70	117.0	H	302.0	14.9
9131.000	41.11	53.98	12.87	161.0	H	0.0	16.1
9334.500	41.15	53.98	12.83	144.0	H	295.0	16.5
17761.000	40.75	53.98	13.23	100.0	V	174.0	26.2

Test Personnel: David Perry

Test Date: 2/5/2024

Supervising/Reviewing Engineer:

(Where Applicable) N/A

FCC Part 15E

Product Standard: RSS-247 Issue 2

Input Voltage: 12VDC Via AC/DC Adapter

Pretest Verification w / Ambient

Signals or BB Source: Yes

Limit Applied: FCC Part 15.401(b)(2)

FCC Part 15.209 in Restricted

Bands from FCC Part 15.205

Ambient Temperature: 23.2°C

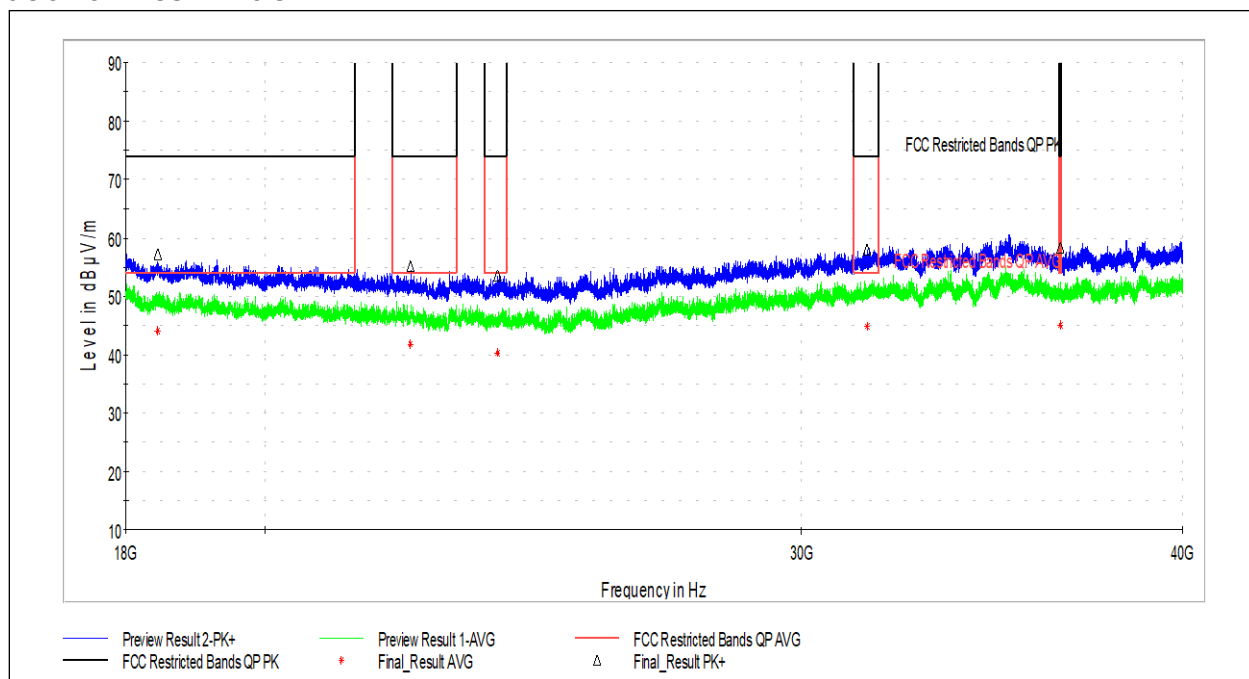
Relative Humidity: 23.7%

Atmospheric Pressure: 989.1mbar

Deviations, Additions, or Exclusions: None



6.8.3.1.3 18GHz – 40 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18445.000	57.28	73.98	16.70	100.0	V	0.0	27.7
22324.000	55.23	73.98	18.75	100.0	V	0.0	15.5
23833.000	53.56	73.98	20.42	100.0	H	0.0	13.8
31521.000	57.98	73.98	16.00	100.0	V	302.0	22.7
36485.000	58.47	73.98	15.51	100.0	H	0.0	23.5

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18445.000	44.14	53.98	9.84	100.0	V	0.0	27.7
22324.000	41.82	53.98	12.16	100.0	V	0.0	15.5
23833.000	40.33	53.98	13.65	100.0	H	0.0	13.8
31521.000	44.81	53.98	9.17	100.0	V	302.0	22.7
36485.000	45.13	53.98	8.85	100.0	H	0.0	23.5

Test Personnel: David Perry

Supervising/Reviewing Engineer:
(Where Applicable) N/A

Product Standard: FCC Part 15E

Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter

Yes

Test Date: 2/7/2024

FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

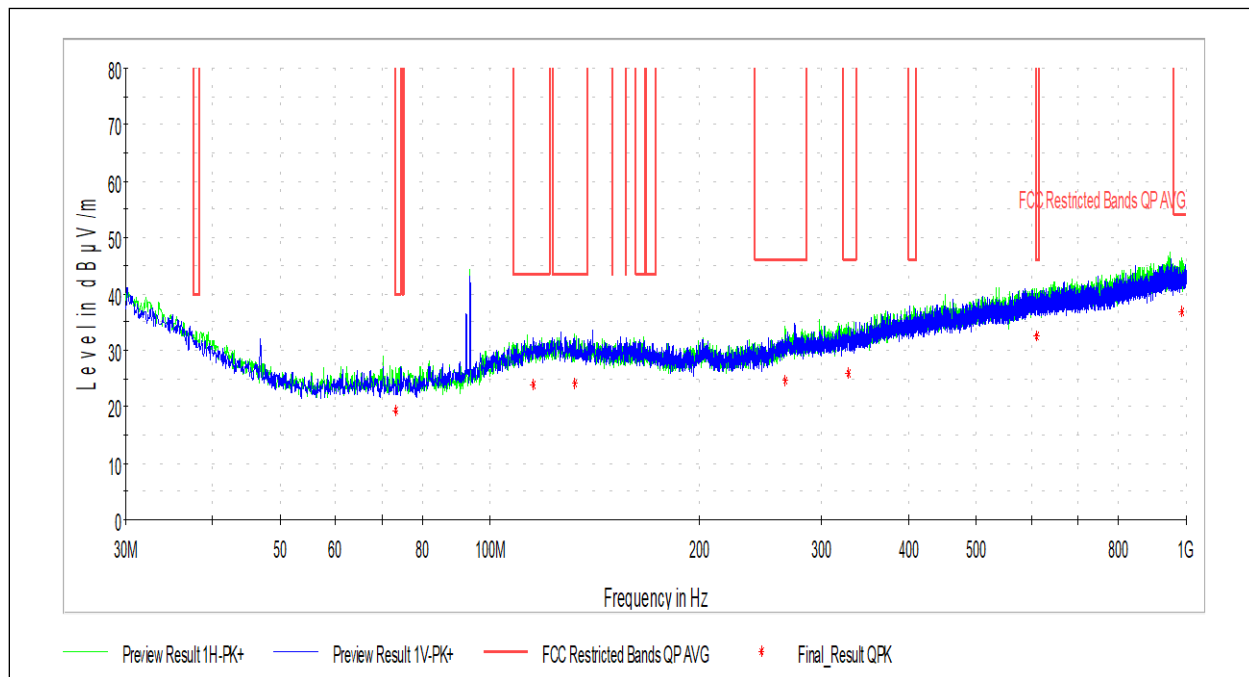
Limit Applied:

Ambient Temperature: 23.3°C

Relative Humidity: 21.1%

Atmospheric Pressure: 991.2mbar

Deviations, Additions, or Exclusions: None

**6.8.3.2 802.11n20 Channel 64****6.8.3.2.1 30 MHz – 1 GHz**

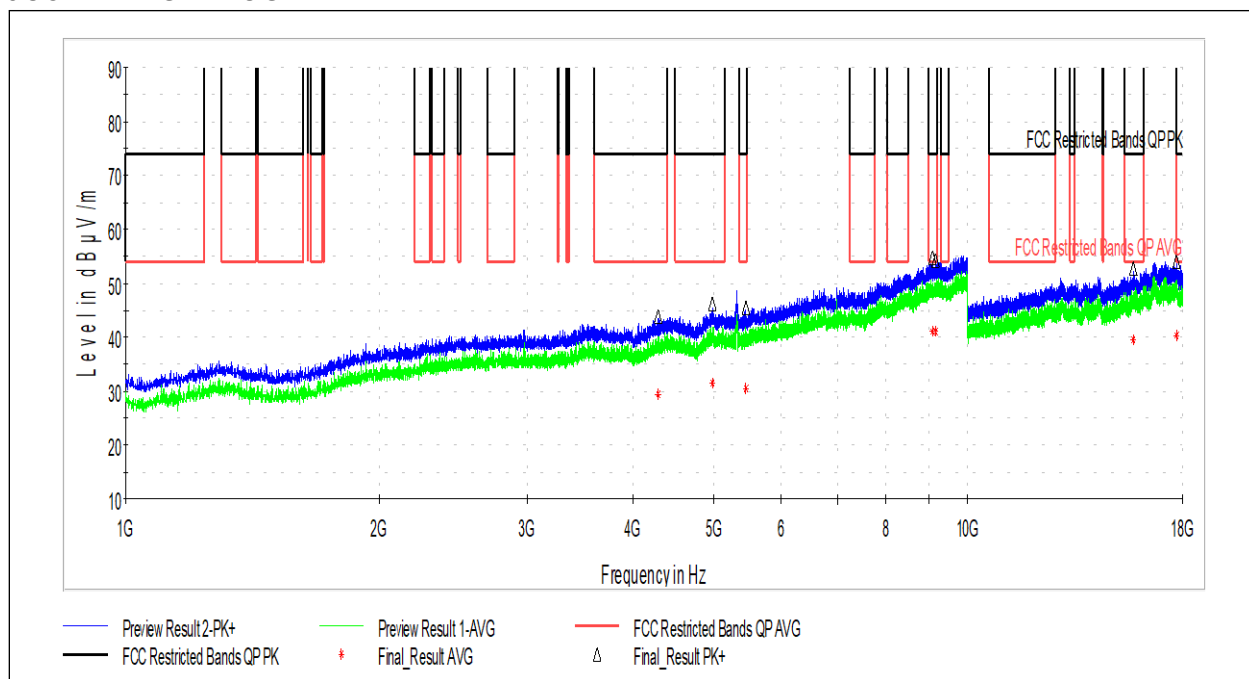
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
73.327	19.35	40.00	20.65	255.0	H	193.0	15.1
115.360	23.94	43.52	19.58	100.0	V	78.0	20.6
132.443	24.17	43.52	19.35	230.0	H	156.0	20.8
265.979	24.52	46.02	21.50	120.0	H	148.0	21.4
327.628	26.03	46.02	19.99	255.0	H	91.0	22.7
609.306	32.43	46.02	13.59	316.0	H	180.0	28.6
985.719	36.86	53.98	17.12	201.0	H	90.0	33.2

Test Personnel:	Seth Parker	Test Date:	1/31/2024
Supervising/Reviewing Engineer:			FCC Part 15.407(b)
(Where Applicable)	Michael Carlson	Limit Applied:	FCC Part 15.209 in Restricted Bands from FCC Part 15.205
	FCC Part 15E		
Product Standard:	RSS-247 Issue 2	Ambient Temperature:	22.6°C
Input Voltage:	12VDC Via AC/DC Adapter	Relative Humidity:	29.4%
Pretest Verification w / Ambient Signals or BB Source:	Yes	Atmospheric Pressure:	988.8mbar

Deviations, Additions, or Exclusions: None



6.8.3.2.2 1 GHz – 18 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4288.000	43.94	73.98	30.04	100.0	V	227.0	8.8
4974.500	46.17	73.98	27.81	344.0	V	23.0	9.8
5455.000	45.48	73.98	28.50	100.0	V	177.0	10.8
9093.500	54.70	73.98	19.28	410.0	V	328.0	16.0
9158.000	54.21	73.98	19.77	135.0	V	91.0	16.1
15754.500	52.78	73.98	21.20	100.0	V	0.0	23.7
17721.000	54.04	73.98	19.94	127.0	V	150.0	26.2

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4288.000	29.50	53.98	24.48	100.0	V	227.0	8.8
4974.500	31.54	53.98	22.44	344.0	V	23.0	9.8
5455.000	30.58	53.98	23.40	100.0	V	177.0	10.8
9093.500	41.09	53.98	12.89	410.0	V	328.0	16.0
9158.000	41.10	53.98	12.88	135.0	V	91.0	16.1
15754.500	39.41	53.98	14.57	100.0	V	0.0	23.7
17721.000	40.37	53.98	13.61	127.0	V	150.0	26.2

Test Personnel: David Perry

Test Date: 2/5/2024

Supervising/Reviewing Engineer:

(Where Applicable) N/A

FCC Part 15E

Product Standard: RSS-247 Issue 2

Input Voltage: 12VDC Via AC/DC Adapter

Pretest Verification w / Ambient

Signals or BB Source: Yes

Limit Applied: FCC Part 15.401(b)(2)

FCC Part 15.209 in Restricted

Bands from FCC Part 15.205

Ambient Temperature: 23.2°C

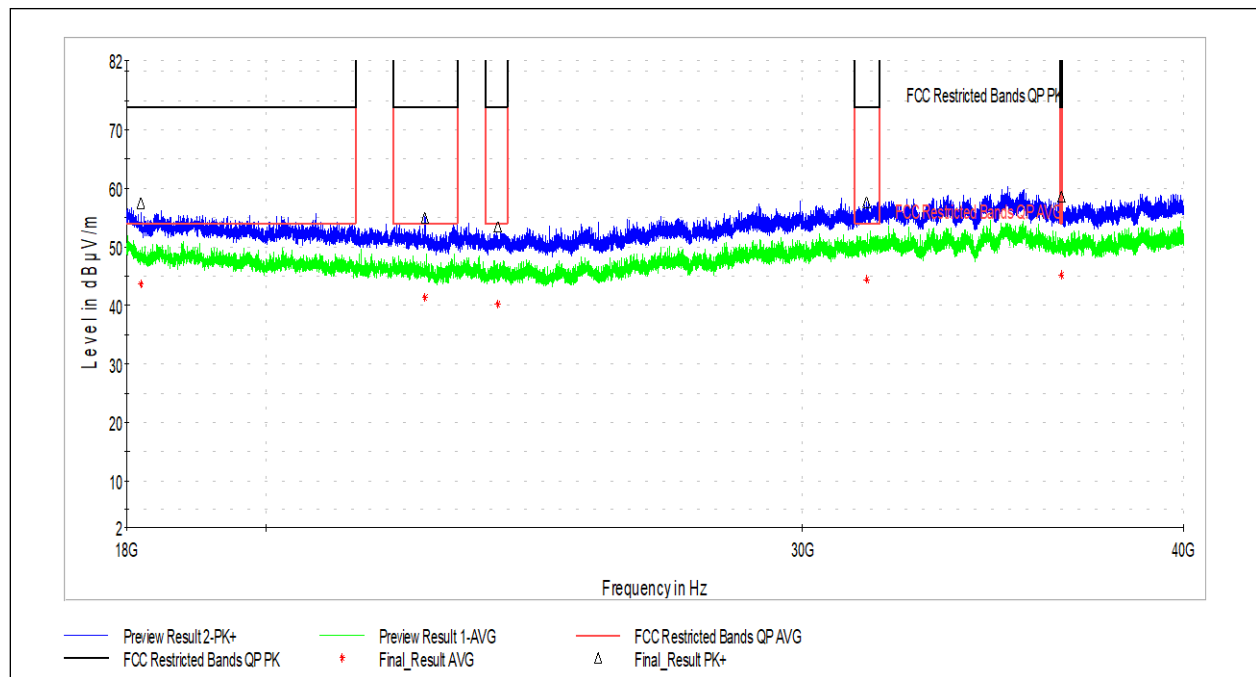
Relative Humidity: 23.7%

Atmospheric Pressure: 989.1mbar

Deviations, Additions, or Exclusions: None



6.8.3.2.3 18GHz – 40 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18197.000	57.52	73.98	16.46	100.0	H	0.0	28.7
22555.000	55.04	73.98	18.94	100.0	V	0.0	14.7
23829.000	53.39	73.98	20.59	100.0	V	328.0	13.7
31493.000	57.77	73.98	16.21	100.0	H	0.0	22.7
36470.000	58.74	73.98	15.24	100.0	V	281.0	23.5

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18197.000	43.70	53.98	10.28	100.0	H	0.0	28.7
22555.000	41.27	53.98	12.71	100.0	V	0.0	14.7
23829.000	40.17	53.98	13.81	100.0	V	328.0	13.7
31493.000	44.47	53.98	9.51	100.0	H	0.0	22.7
36470.000	45.22	53.98	8.76	100.0	V	281.0	23.5

Test Personnel: David Perry

Supervising/Reviewing Engineer:
(Where Applicable) N/A

Product Standard: FCC Part 15E

Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter

Yes

Test Date: 2/7/2024

FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

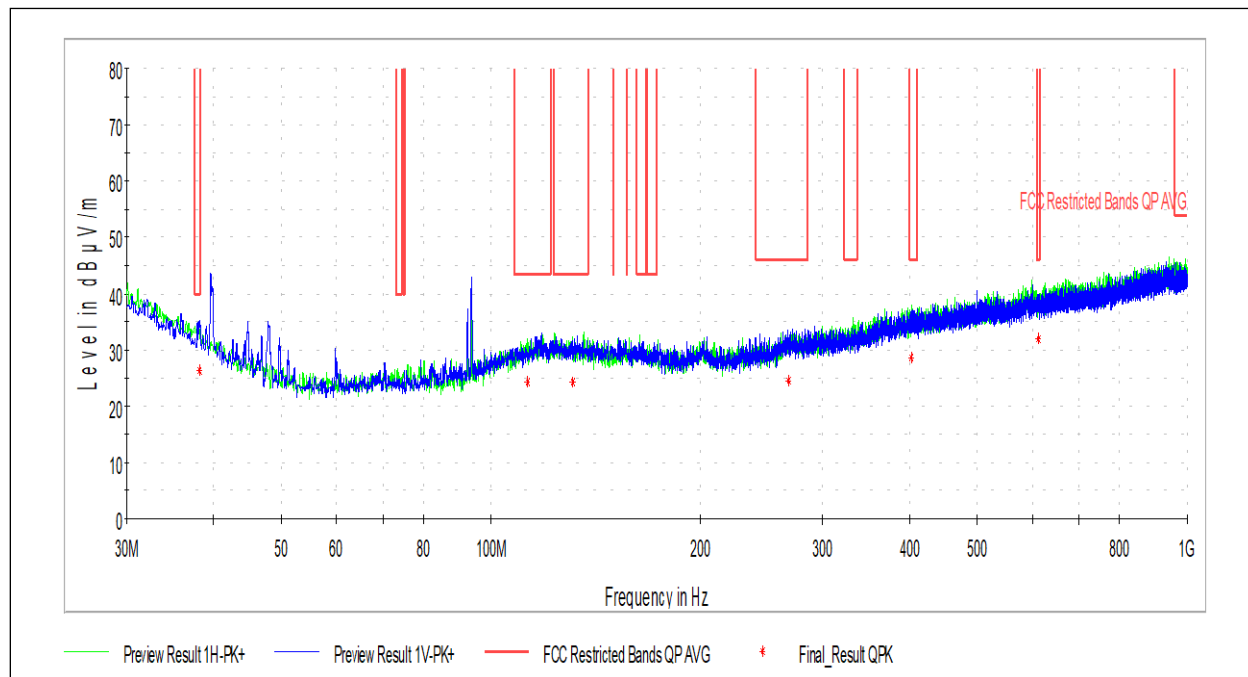
Limit Applied:

Ambient Temperature: 23.3°C

Relative Humidity: 21.1%

Atmospheric Pressure: 991.2mbar

Deviations, Additions, or Exclusions: None

**6.8.3.3 802.11n40 Channel 54****6.8.3.3.1 30 MHz – 1 GHz**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
38.137	26.40	40.00	13.60	105.0	V	180.0	21.4
113.043	24.21	43.52	19.31	282.0	H	-1.0	20.1
131.149	24.35	43.52	19.17	250.0	H	5.0	20.9
267.704	24.55	46.02	21.47	252.0	V	110.0	21.4
401.672	28.70	46.02	17.32	270.0	H	0.0	24.6
611.192	31.92	46.02	14.10	309.0	V	0.0	28.1

Test Personnel: Seth Parker

Supervising/Reviewing Engineer:
(Where Applicable) Michael Carlson

Product Standard: FCC Part 15E

Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter

Yes

Test Date: 1/31/2024

Limit Applied: FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

Ambient Temperature: 22.6°C

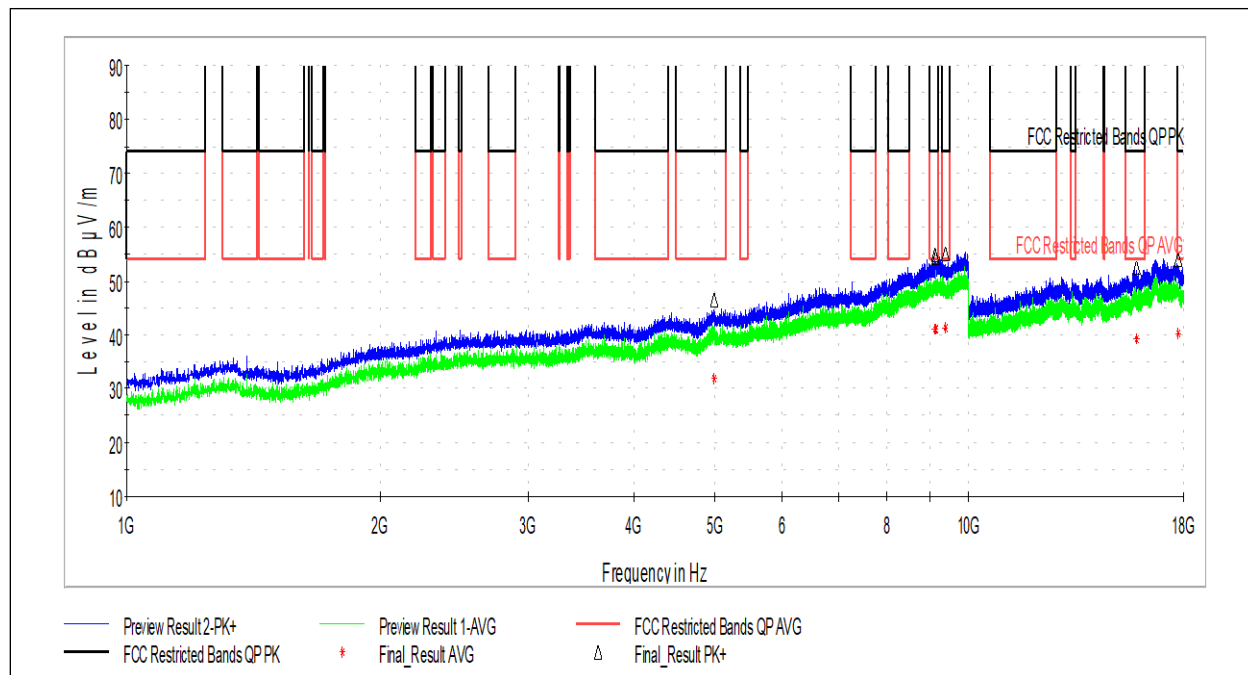
Relative Humidity: 29.4%

Atmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None



6.8.3.3.2 1 GHz – 18 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4986.500	46.53	73.98	27.45	100.0	V	0.0	9.9
9125.000	54.81	73.98	19.17	311.0	V	238.0	16.1
9142.000	54.27	73.98	19.71	109.0	V	69.0	16.1
9386.500	54.97	73.98	19.01	126.0	H	218.0	16.7
15835.500	52.39	73.98	21.59	381.0	V	253.0	23.9
17742.000	54.01	73.98	19.97	125.0	H	283.0	26.0

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4986.500	31.82	53.98	22.16	100.0	V	0.0	9.9
9125.000	41.02	53.98	12.96	311.0	V	238.0	16.1
9142.000	41.06	53.98	12.92	109.0	V	69.0	16.1
9386.500	41.21	53.98	12.77	126.0	H	218.0	16.7
15835.500	39.11	53.98	14.87	381.0	V	253.0	23.9
17742.000	40.32	53.98	13.66	125.0	H	283.0	26.0

Test Personnel: David Perry

Test Date: 2/5/2024

Supervising/Reviewing Engineer: N/A
(Where Applicable)

FCC Part 15.401(b)(2)

Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205

Product Standard: RSS-247 Issue 2

Ambient Temperature: 23.2°C

Input Voltage: 12VDC Via AC/DC Adapter

Relative Humidity: 23.7%

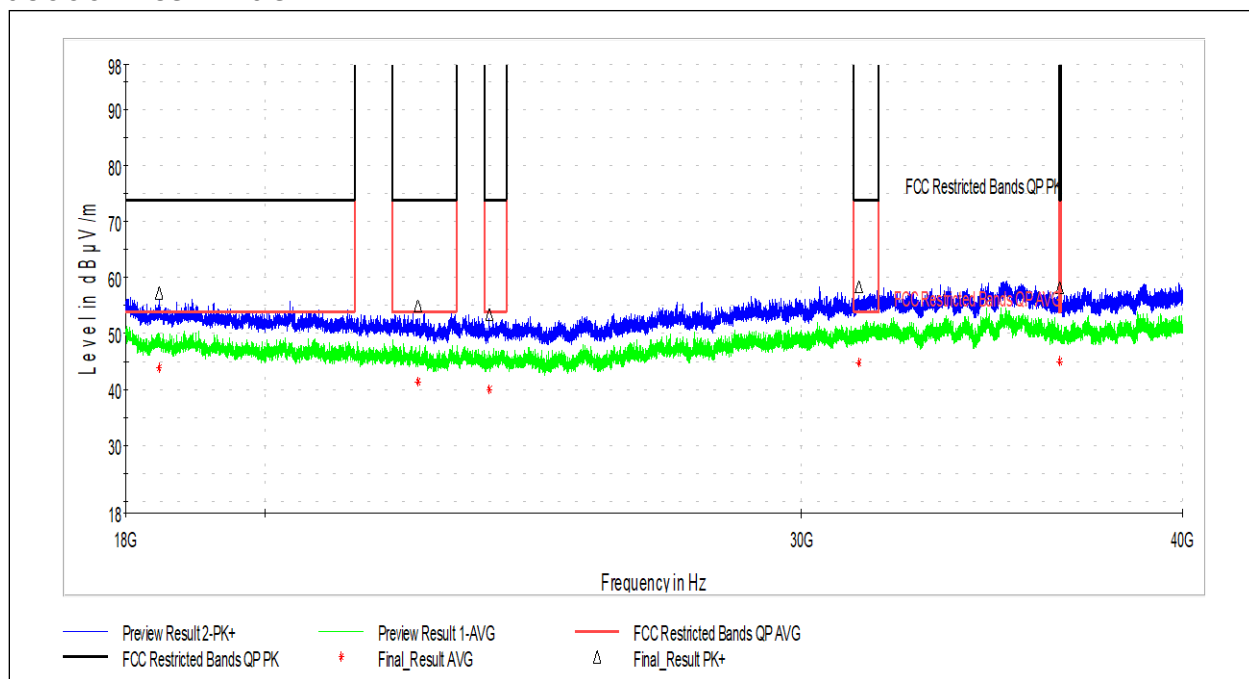
Pretest Verification w / Ambient Signals or BB Source: Yes

Atmospheric Pressure: 989.1mbar

Deviations, Additions, or Exclusions: None



6.8.3.3.3 18GHz – 40 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18457.000	57.29	73.98	16.69	100.0	H	266.0	27.7
22444.000	55.13	73.98	18.85	100.0	V	0.0	15.1
23693.000	53.52	73.98	20.46	100.0	H	338.0	13.7
31325.000	58.48	73.98	15.50	100.0	H	0.0	22.3
36463.000	58.13	73.98	15.85	100.0	H	0.0	23.5

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18457.000	43.90	53.98	10.08	100.0	H	266.0	27.7
22444.000	41.30	53.98	12.68	100.0	V	0.0	15.1
23693.000	40.13	53.98	13.85	100.0	H	338.0	13.7
31325.000	44.74	53.98	9.24	100.0	H	0.0	22.3
36463.000	44.96	53.98	9.02	100.0	H	0.0	23.5

Test Personnel: David Perry

Supervising/Reviewing Engineer:
(Where Applicable) N/A

Product Standard: FCC Part 15E

Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter

Yes

Test Date: 2/7/2024

FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

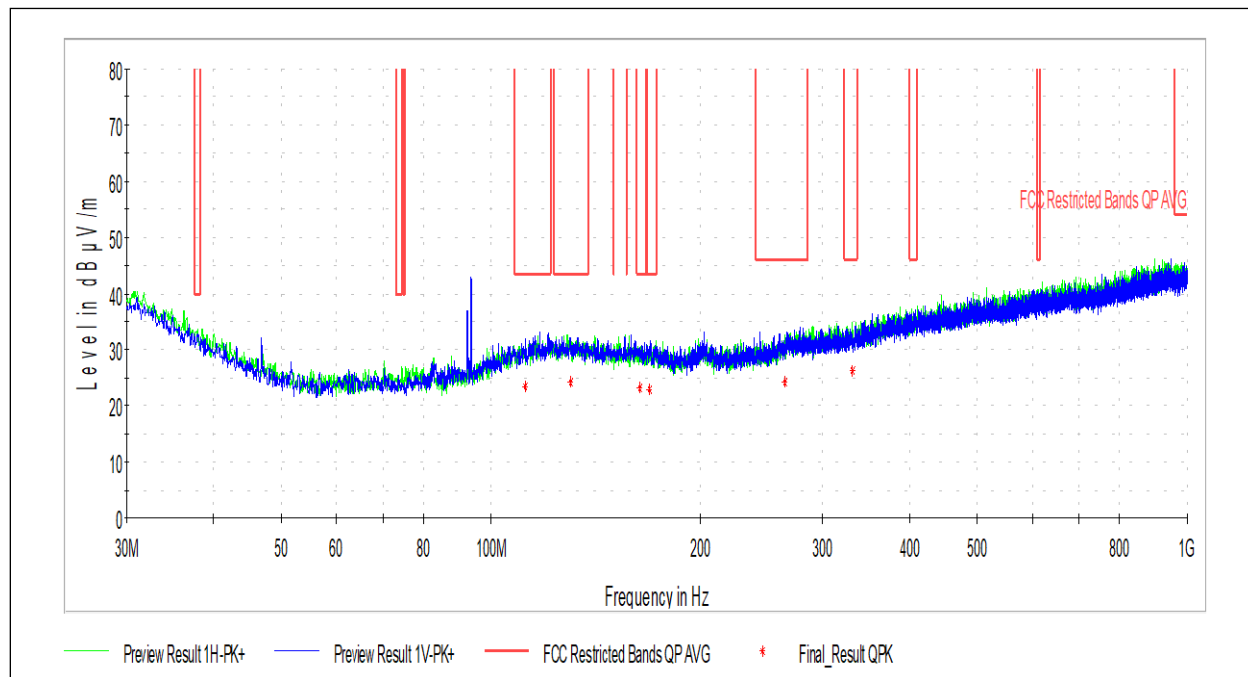
Limit Applied:

Ambient Temperature: 23.3°C

Relative Humidity: 21.1%

Atmospheric Pressure: 991.2mbar

Deviations, Additions, or Exclusions: None

**6.8.3.4 802.11ac Channel 58****6.8.3.4.1 30 MHz – 1 GHz**

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
112.073	23.43	43.52	20.09	100.0	V	97.0	20.1
130.179	24.21	43.52	19.31	244.0	V	78.0	21.1
163.698	23.21	43.52	20.31	100.0	V	204.0	20.3
169.195	22.91	43.52	20.61	195.0	V	283.0	19.9
264.201	24.21	46.02	21.81	183.0	H	344.0	21.2
330.969	26.19	46.02	19.83	361.0	H	210.0	22.8

Test Personnel: Jordan Coughenour

Supervising/Reviewing Engineer:
(Where Applicable) Michael Carlson

Product Standard: FCC Part 15E

Input Voltage: 12VDC Via AC/DC Adapter

Pretest Verification w / Ambient
Signals or BB Source: Yes

Test Date: 1/31/2024

Limit Applied: FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

Ambient Temperature: 22.6°C

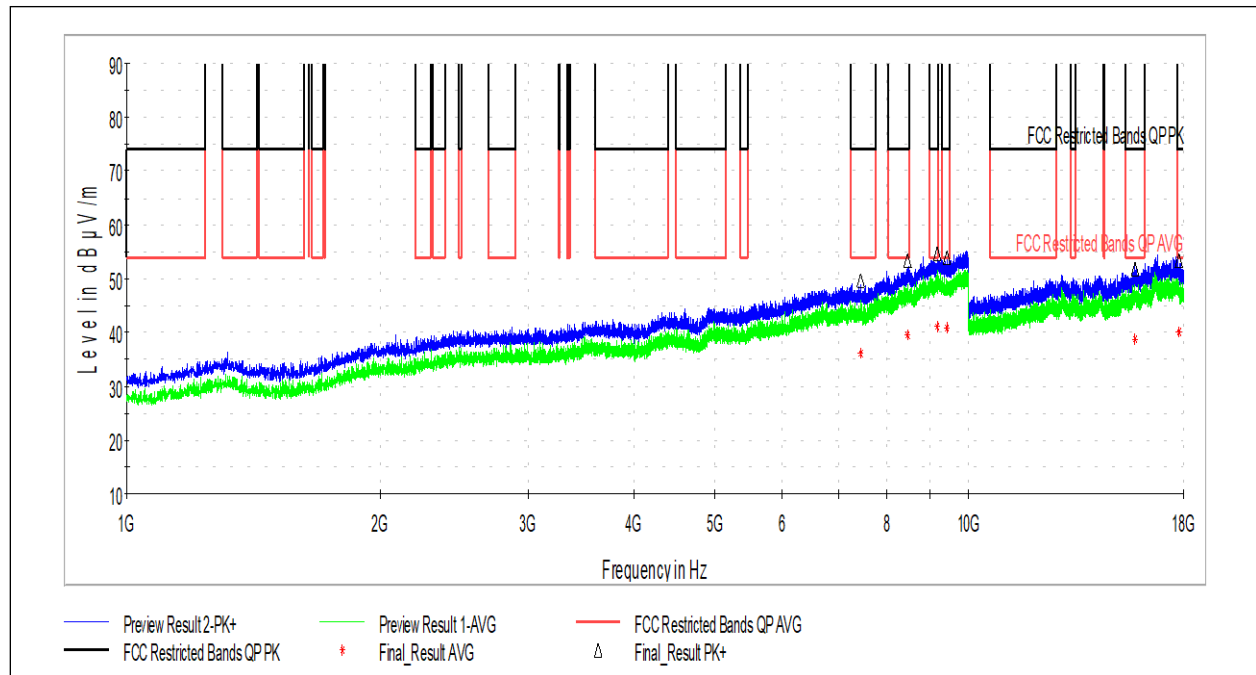
Relative Humidity: 29.4%

Atmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None



6.8.3.4.2 1 GHz – 18 GHz



Frequency (MHz)	MaxPeak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7452.000	49.77	73.98	24.21	179.0	V	46.0	13.5
8460.000	53.27	73.98	20.71	100.0	V	104.0	15.1
9175.000	54.68	73.98	19.30	365.0	H	188.0	16.2
9420.500	54.04	73.98	19.94	410.0	V	0.0	16.7
15756.500	51.95	73.98	22.03	117.0	V	146.0	23.7
17767.000	53.44	73.98	20.54	109.0	H	44.0	26.0

Frequency (MHz)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7452.000	36.02	53.98	17.96	179.0	V	46.0	13.5
8460.000	39.66	53.98	14.32	100.0	V	104.0	15.1
9175.000	41.20	53.98	12.78	365.0	H	188.0	16.2
9420.500	40.91	53.98	13.07	410.0	V	0.0	16.7
15756.500	38.82	53.98	15.16	117.0	V	146.0	23.7
17767.000	40.01	53.98	13.97	109.0	H	44.0	26.0

Test Personnel: David Perry

Test Date: 2/5/2024

Supervising/Reviewing Engineer: N/A
(Where Applicable)

FCC Part 15.401(b)(2)

Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205

Product Standard: RSS-247 Issue 2

Ambient Temperature: 23.2°C

Input Voltage: 12VDC Via AC/DC Adapter

Relative Humidity: 23.7%

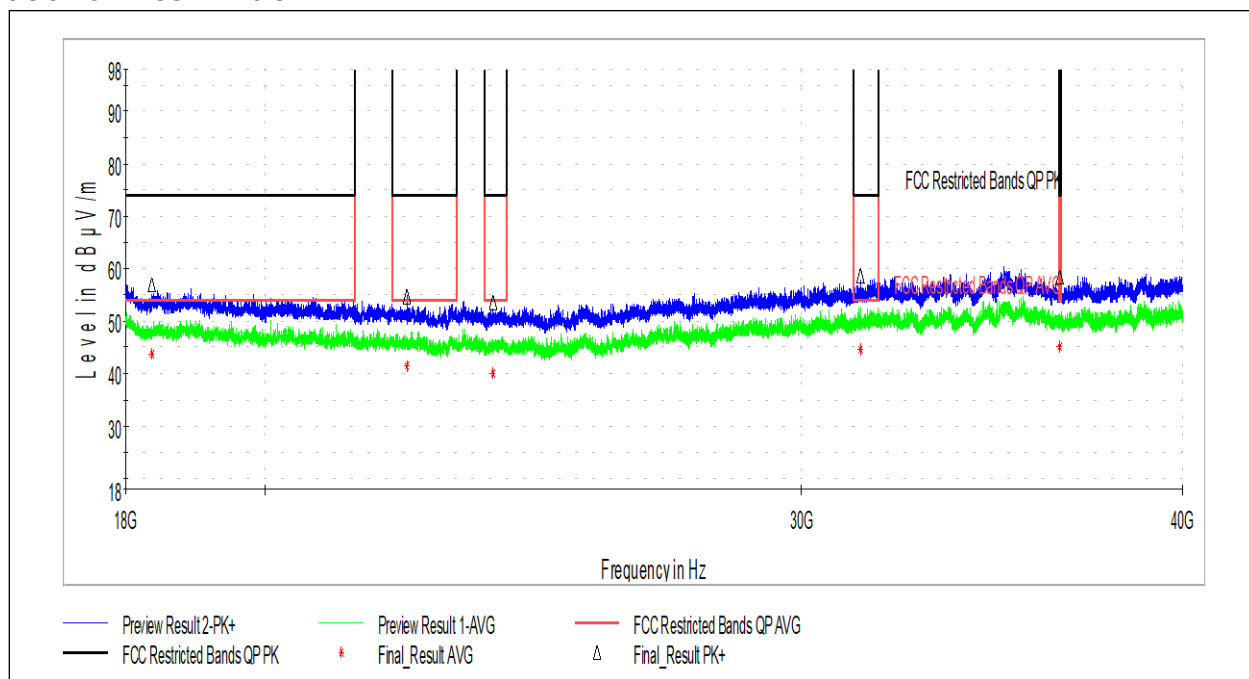
Pretest Verification w / Ambient Signals or BB Source: Yes

Atmospheric Pressure: 989.1mbar

Deviations, Additions, or Exclusions: None



6.8.3.4.3 18GHz – 40 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18357.000	57.08	73.98	16.90	100.0	H	0.0	28.1
22261.000	54.66	73.98	19.32	100.0	V	0.0	15.8
23753.000	53.55	73.98	20.43	100.0	V	0.0	13.7
31364.000	58.67	73.98	15.31	100.0	V	0.0	22.3
36450.000	58.50	73.98	15.48	100.0	V	283.0	23.5

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18357.000	43.76	53.98	10.22	100.0	H	0.0	28.1
22261.000	41.43	53.98	12.55	100.0	V	0.0	15.8
23753.000	40.13	53.98	13.85	100.0	V	0.0	13.7
31364.000	44.61	53.98	9.37	100.0	V	0.0	22.3
36450.000	45.07	53.98	8.91	100.0	V	283.0	23.5

Test Personnel: David Perry

Supervising/Reviewing Engineer:
(Where Applicable) N/A

Product Standard: FCC Part 15E

Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter

Yes

Test Date: 2/7/2024

FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

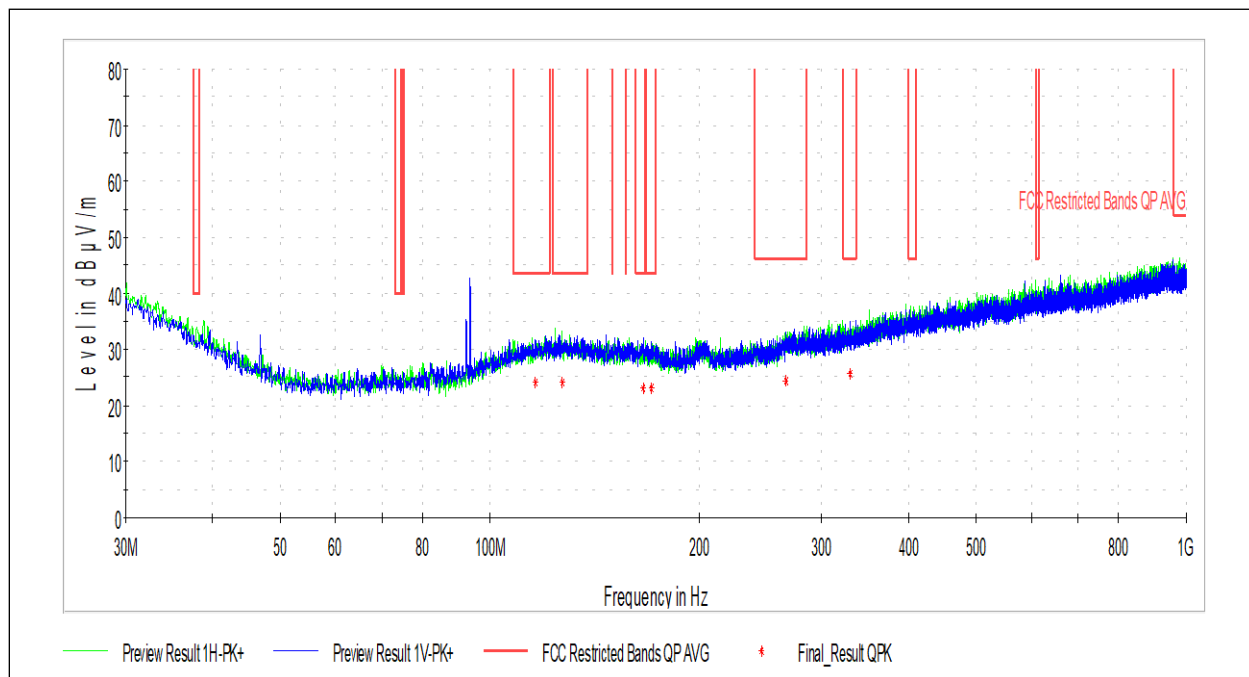
Limit Applied:

Ambient Temperature: 23.3°C

Relative Humidity: 21.1%

Atmospheric Pressure: 991.2mbar

Deviations, Additions, or Exclusions: None

**6.8.4 5GHz Wi-Fi (U-NII-2C)****6.8.4.1 802.11a Channel 116****6.8.4.1.1 30 MHz – 1 GHz**

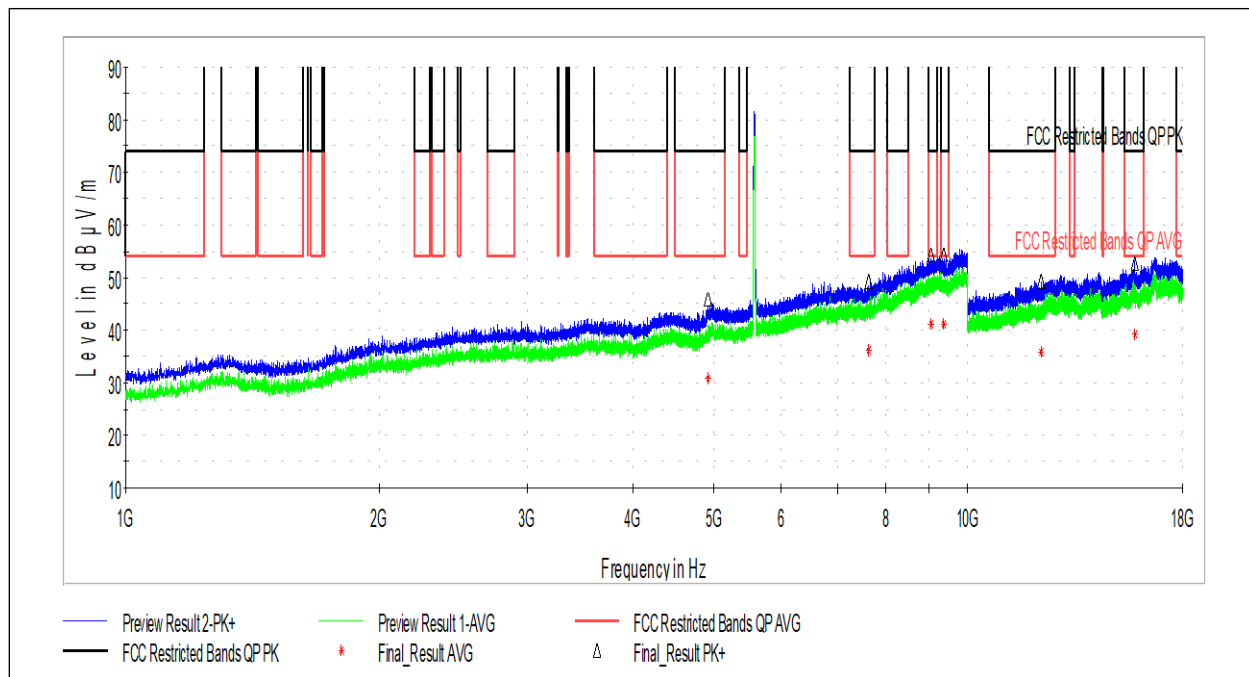
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
116.276	24.06	43.52	19.46	100.0	V	89.0	20.6
127.000	24.10	43.52	19.43	247.0	H	-2.0	21.0
166.069	23.08	43.52	20.44	100.0	V	26.0	20.2
170.758	23.00	43.52	20.52	250.0	V	246.0	19.8
266.303	24.45	46.02	21.57	250.0	V	270.0	21.3
329.461	25.70	46.02	20.32	283.0	V	223.0	22.3

Test Personnel:	Jordan Coughenour	Test Date:	1/31/2024
Supervising/Reviewing Engineer:			FCC Part 15.401(b)(2)
(Where Applicable)	N/A	Limit Applied:	FCC Part 15.209 in Restricted Bands from FCC Part 15.205
Product Standard:	FCC Part 15E	Ambient Temperature:	22.6°C
Input Voltage:	RSS-247 Issue 2	Relative Humidity:	29.4%
Pretest Verification w / Ambient Signals or BB Source:	12VDC Via AC/DC Adapter	Atmospheric Pressure:	988.8mbar
	Yes		

Deviations, Additions, or Exclusions: None



6.8.4.1.2 1 GHz – 18 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4914.000	46.05	73.98	27.93	100.0	V	11.0	9.8
7635.500	49.38	73.98	24.60	160.0	H	212.0	13.8
9043.000	54.43	73.98	19.55	410.0	V	0.0	15.9
9376.000	54.45	73.98	19.53	117.0	V	141.0	16.5
12241.000	49.40	73.98	24.58	100.0	V	140.0	20.5
15800.500	52.64	73.98	21.34	100.0	V	122.0	23.8

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4914.000	30.86	53.98	23.12	100.0	V	11.0	9.8
7635.500	36.21	53.98	17.77	160.0	H	212.0	13.8
9043.000	41.19	53.98	12.79	410.0	V	0.0	15.9
9376.000	41.08	53.98	12.90	117.0	V	141.0	16.5
12241.000	35.88	53.98	18.10	100.0	V	140.0	20.5
15800.500	39.20	53.98	14.78	100.0	V	122.0	23.8

Test Personnel: David Perry

Test Date: 2/5/2024

Supervising/Reviewing Engineer: N/A
(Where Applicable)

FCC Part 15.401(b)(2)

Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205

Product Standard: RSS-247 Issue 2

Ambient Temperature: 23.2°C

Input Voltage: 12VDC Via AC/DC Adapter

Relative Humidity: 23.7%

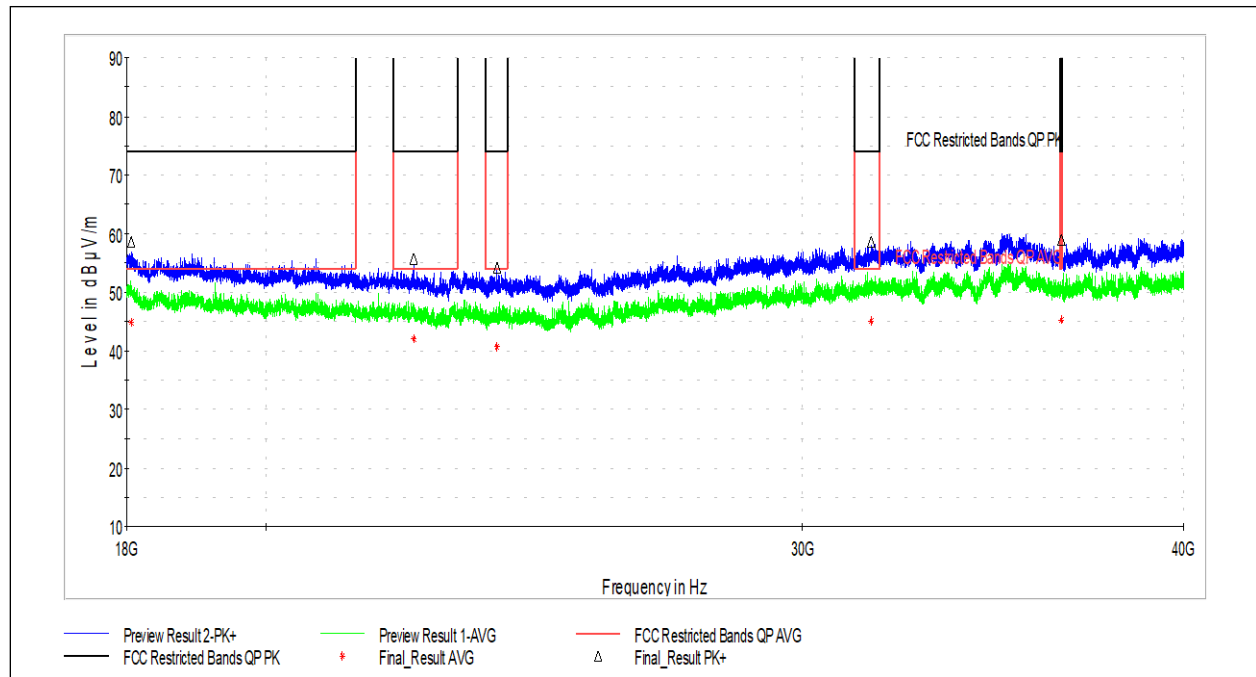
Pretest Verification w / Ambient Signals or BB Source: Yes

Atmospheric Pressure: 989.1mbar

Deviations, Additions, or Exclusions: None



6.8.4.1.3 18GHz – 40 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18065.000	58.58	73.98	15.40	100.0	H	0.0	29.0
22362.000	55.78	73.98	18.20	100.0	V	0.0	15.4
23813.000	54.11	73.98	19.87	100.0	H	0.0	13.7
31583.000	58.54	73.98	15.44	100.0	V	319.0	22.5
36476.000	59.00	73.98	14.98	100.0	V	103.0	23.4

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18065.000	44.87	53.98	9.11	100.0	H	0.0	29.0
22362.000	42.04	53.98	11.94	100.0	V	0.0	15.4
23813.000	40.65	53.98	13.33	100.0	H	0.0	13.7
31583.000	45.10	53.98	8.88	100.0	V	319.0	22.5
36476.000	45.25	53.98	8.73	100.0	V	103.0	23.4

Test Personnel: David Perry

Supervising/Reviewing Engineer:
(Where Applicable) N/A

Product Standard: FCC Part 15E

Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter

Yes

Test Date: 2/7/2024

FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

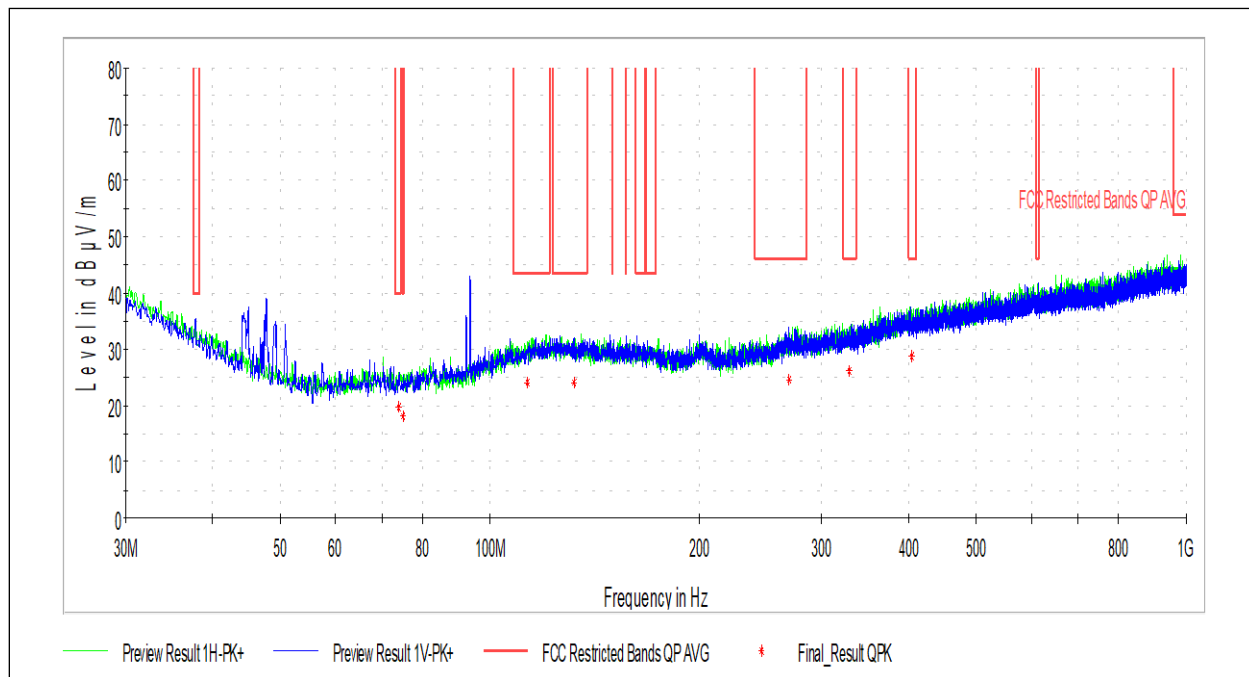
Limit Applied:

Ambient Temperature: 23.3°C

Relative Humidity: 21.1%

Atmospheric Pressure: 991.2mbar

Deviations, Additions, or Exclusions: None

**6.8.4.2 802.11n20 Channel 116****6.8.4.2.1 30 MHz – 1 GHz**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
73.919	19.60	40.00	20.40	264.0	H	194.0	15.0
75.105	18.10	40.00	21.90	121.0	V	190.0	14.5
113.258	24.04	43.52	19.48	270.0	H	-2.0	20.2
132.227	24.07	43.52	19.45	210.0	V	67.0	21.0
268.943	24.57	46.02	21.45	256.0	V	132.0	21.4
328.491	26.21	46.02	19.81	105.0	H	26.0	22.8
403.288	28.86	46.02	17.16	148.0	H	0.0	24.6

Test Personnel: Jordan CoughenourTest Date: 1/31/2024

Supervising/Reviewing Engineer:

(Where Applicable)

N/A

FCC Part 15.401(b)(2)

FCC Part 15.209 in Restricted

Limit Applied: Bands from FCC Part 15.205

Product Standard:

Input Voltage:

FCC Part 15ERSS-247 Issue 212VDC Via AC/DC AdapterAmbient Temperature: 22.6°CRelative Humidity: 29.4%

Pretest Verification w / Ambient

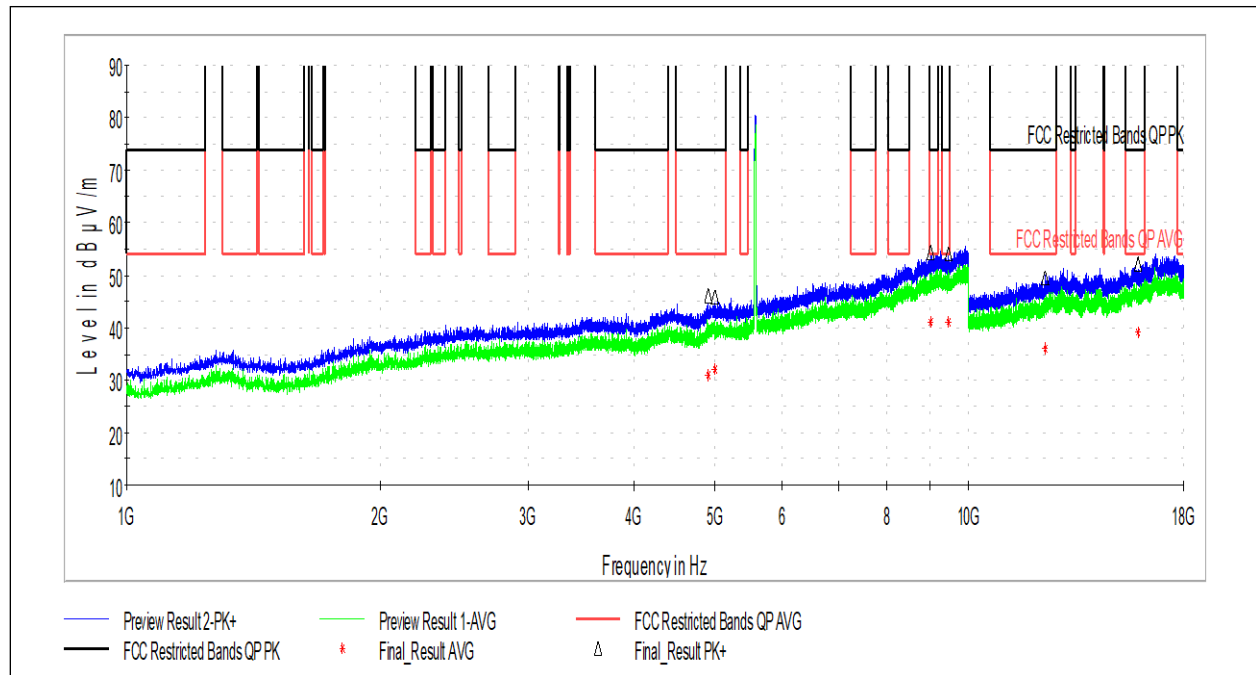
Signals or BB Source:

YesAtmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None



6.8.4.2.2 1 GHz – 18 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4904.000	46.17	73.98	27.81	100.0	V	45.0	9.8
4994.500	46.04	73.98	27.94	100.0	H	101.0	9.9
9022.500	54.31	73.98	19.67	196.0	V	0.0	15.9
9461.500	54.17	73.98	19.81	355.0	H	150.0	16.9
12331.500	49.51	73.98	24.47	410.0	H	91.0	20.5
15904.500	52.16	73.98	21.82	393.0	V	-2.0	24.1

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4904.000	30.88	53.98	23.10	100.0	V	45.0	9.8
4994.500	32.05	53.98	21.93	100.0	H	101.0	9.9
9022.500	41.17	53.98	12.81	196.0	V	0.0	15.9
9461.500	41.00	53.98	12.98	355.0	H	150.0	16.9
12331.500	36.12	53.98	17.86	410.0	H	91.0	20.5
15904.500	39.01	53.98	14.97	393.0	V	-2.0	24.1

Test Personnel: David Perry

Test Date: 2/5/2024

Supervising/Reviewing Engineer:
(Where Applicable) N/A

FCC Part 15.401(b)(2)

Limit Applied: FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

Product Standard: RSS-247 Issue 2

Ambient Temperature: 23.2°C

Input Voltage: 12VDC Via AC/DC Adapter

Relative Humidity: 23.7%

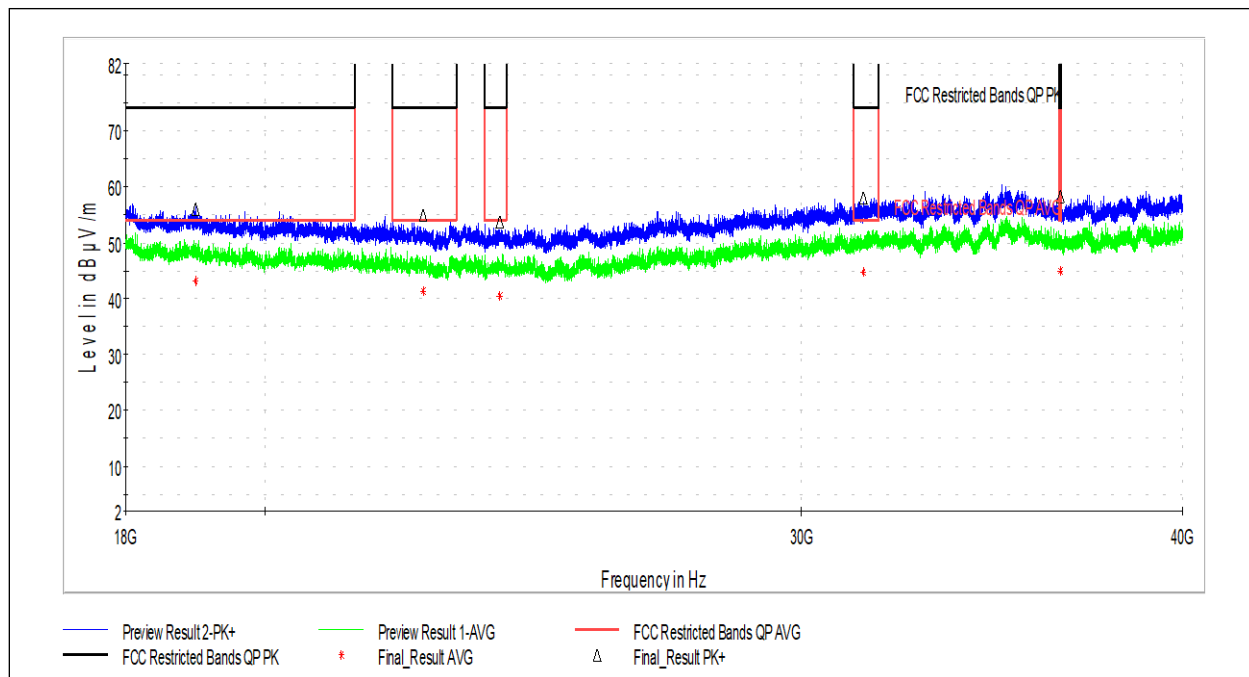
Pretest Verification w / Ambient
Signals or BB Source: Yes

Atmospheric Pressure: 989.1mbar

Deviations, Additions, or Exclusions: None



6.8.4.2.3 18GHz – 40 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18972.000	56.04	73.98	17.94	100.0	V	340.0	26.5
22543.000	54.90	73.98	19.08	100.0	V	0.0	14.8
23880.000	53.81	73.98	20.17	100.0	H	0.0	13.8
31428.000	57.96	73.98	16.02	100.0	V	272.0	22.5
36471.000	58.38	73.98	15.60	100.0	H	0.0	23.5

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18972.000	43.11	53.98	10.87	100.0	V	340.0	26.5
22543.000	41.21	53.98	12.77	100.0	V	0.0	14.8
23880.000	40.36	53.98	13.62	100.0	H	0.0	13.8
31428.000	44.64	53.98	9.34	100.0	V	272.0	22.5
36471.000	44.92	53.98	9.06	100.0	H	0.0	23.5

Test Personnel: David Perry

Supervising/Reviewing Engineer:
(Where Applicable) N/A

Product Standard: FCC Part 15E

Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter

Yes

Test Date: 2/7/2024

FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

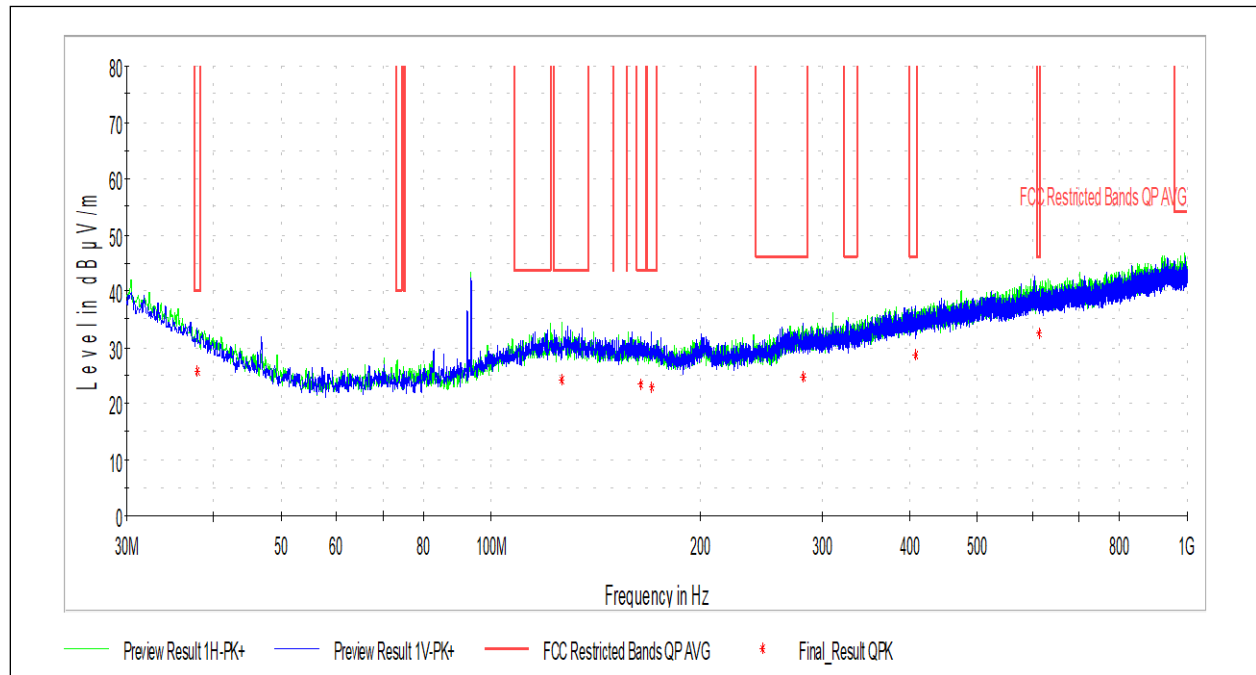
Limit Applied:

Ambient Temperature: 23.3°C

Relative Humidity: 21.1%

Atmospheric Pressure: 991.2mbar

Deviations, Additions, or Exclusions: None

**6.8.5.1 802.11n40 Channel 110****6.8.5.1.1 30 MHz – 1 GHz**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.868	25.68	40.00	14.32	100.0	V	0.0	21.6
126.407	24.06	43.52	19.47	278.0	H	-1.0	21.0
164.076	23.25	43.52	20.27	227.0	V	270.0	20.3
170.057	22.94	43.52	20.58	100.0	V	270.0	19.9
281.338	24.67	46.02	21.35	271.0	V	180.0	21.4
407.923	28.47	46.02	17.55	250.0	V	0.0	24.2
612.970	32.53	46.02	13.49	400.0	H	196.0	28.7

Test Personnel: Jordan Coughenour

Supervising/Reviewing Engineer:
(Where Applicable) N/A

Product Standard: FCC Part 15E

Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter

Yes

Test Date: 1/31/2024

Limit Applied: FCC Part 15.401(b)(2)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

Ambient Temperature: 22.6°C

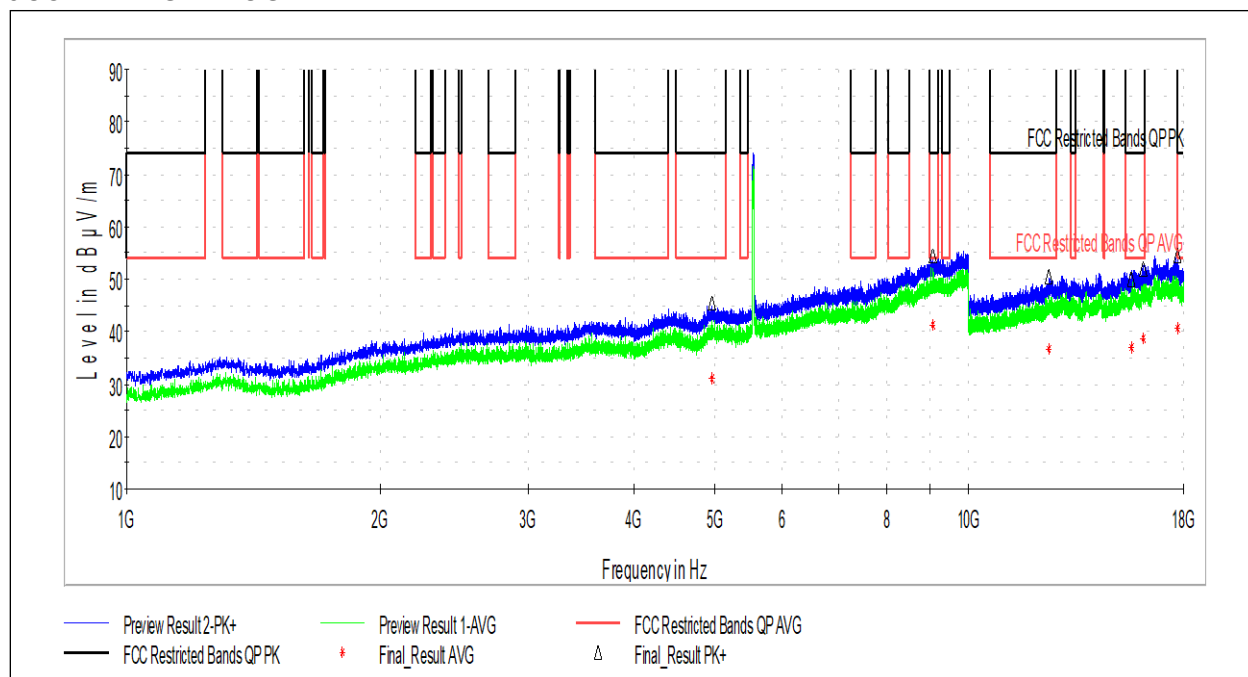
Relative Humidity: 29.4%

Atmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None



6.8.5.1.2 1 GHz – 18 GHz



Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4954.500	45.52	73.98	28.46	109.0	H	35.0	9.8
9072.500	54.46	73.98	19.52	134.0	H	348.0	15.9
12449.000	50.48	73.98	23.50	395.0	V	127.0	20.7
15620.000	50.09	73.98	23.89	109.0	H	155.0	23.2
16111.500	52.02	73.98	21.96	109.0	V	-1.0	24.5
17710.500	54.61	73.98	19.37	126.0	V	127.0	26.2

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4954.500	31.10	53.98	22.88	109.0	H	35.0	9.8
9072.500	41.09	53.98	12.89	134.0	H	348.0	15.9
12449.000	36.75	53.98	17.23	395.0	V	127.0	20.7
15620.000	36.99	53.98	16.99	109.0	H	155.0	23.2
16111.500	38.68	53.98	15.30	109.0	V	-1.0	24.5
17710.500	40.60	53.98	13.38	126.0	V	127.0	26.2

Test Personnel: David Perry

Test Date: 2/5/2024

Supervising/Reviewing Engineer: N/A
(Where Applicable)

FCC Part 15.401(b)(2)

Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205

Product Standard: RSS-247 Issue 2

Ambient Temperature: 23.2°C

Input Voltage: 12VDC Via AC/DC Adapter

Relative Humidity: 23.7%

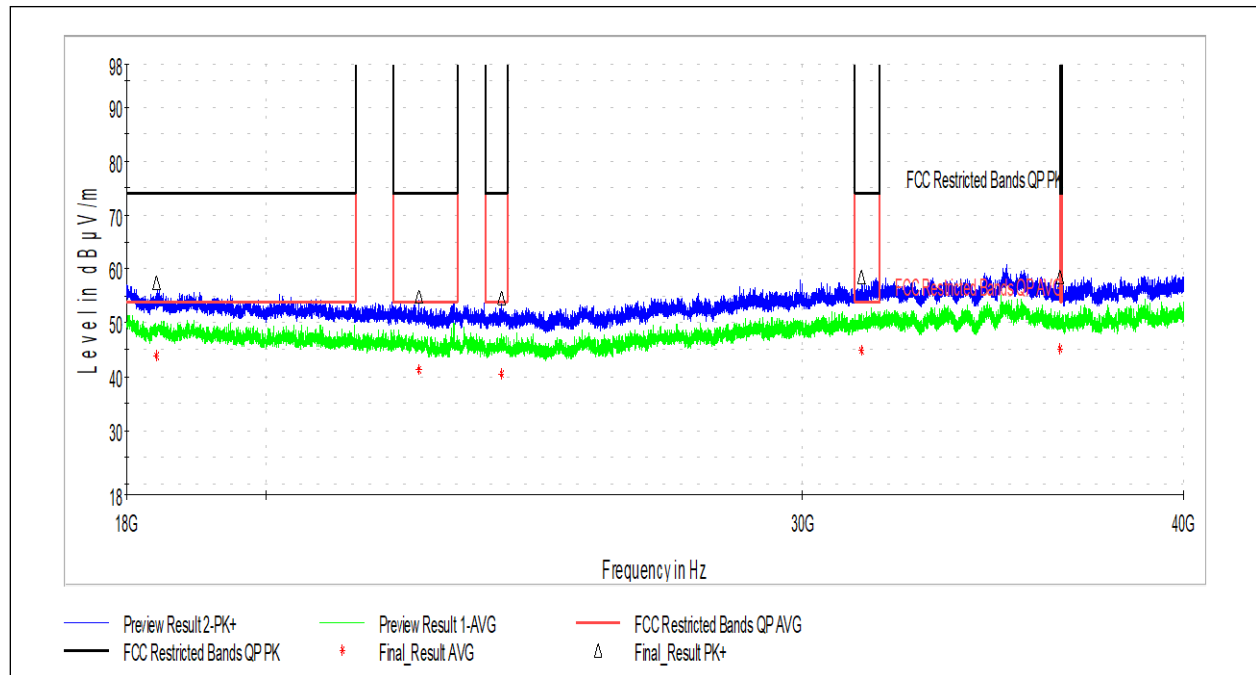
Pretest Verification w / Ambient Signals or BB Source: Yes

Atmospheric Pressure: 989.1mbar

Deviations, Additions, or Exclusions: None



6.8.5.1.3 18GHz – 40 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18408.000	57.61	73.98	16.37	100.0	V	0.0	27.9
22451.000	54.87	73.98	19.11	100.0	H	0.0	15.1
23893.000	54.64	73.98	19.34	100.0	V	-1.0	13.8
31366.000	58.52	73.98	15.46	100.0	V	0.0	22.3
36441.000	58.48	73.98	15.50	100.0	H	34.0	23.5

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18408.000	43.82	53.98	10.16	100.0	V	0.0	27.9
22451.000	41.24	53.98	12.74	100.0	H	0.0	15.1
23893.000	40.50	53.98	13.48	100.0	V	-1.0	13.8
31366.000	44.72	53.98	9.26	100.0	V	0.0	22.3
36441.000	45.14	53.98	8.84	100.0	H	34.0	23.5

Test Personnel: David Perry

Supervising/Reviewing Engineer:
(Where Applicable) N/A

Product Standard: FCC Part 15E

Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: Yes

Test Date: 2/7/2024

FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

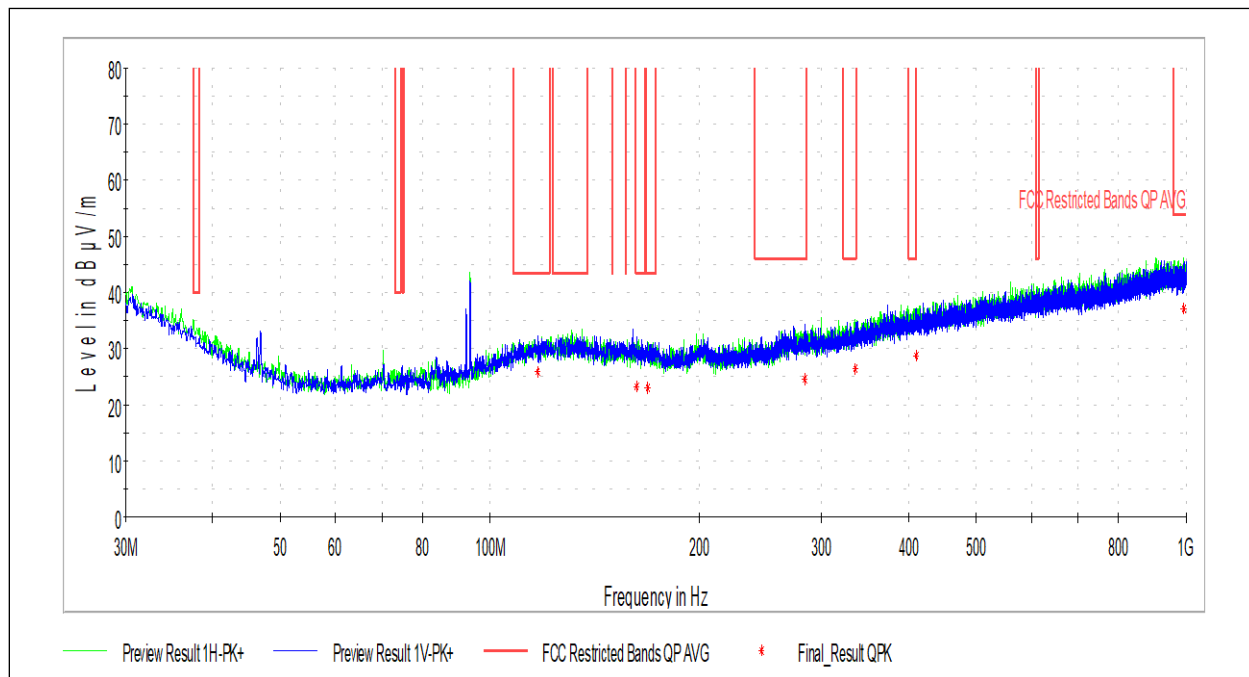
Limit Applied:

Ambient Temperature: 23.3°C

Relative Humidity: 21.1%

Atmospheric Pressure: 991.2mbar

Deviations, Additions, or Exclusions: None

**6.8.6.1 802.11ac Channel 106****6.8.6.1.1 30 MHz – 1 GHz**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
117.192	25.95	43.52	17.57	100.0	V	162.0	20.7
162.405	23.22	43.52	20.30	213.0	V	268.0	20.4
168.764	22.92	43.52	20.60	250.0	H	216.0	19.7
283.008	24.56	46.02	21.46	274.0	V	106.0	21.5
334.688	26.32	46.02	19.70	99.0	H	-1.0	22.9
409.108	28.63	46.02	17.39	106.0	V	198.0	24.3
993.426	37.12	53.98	16.86	289.0	H	0.0	33.2

Test Personnel: Jordan Coughenour

Supervising/Reviewing Engineer:
(Where Applicable) N/A

Product Standard: FCC Part 15E

Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter

Yes

Test Date: 1/31/2024

Limit Applied: FCC Part 15.401(b)(2)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

Ambient Temperature: 22.6°C

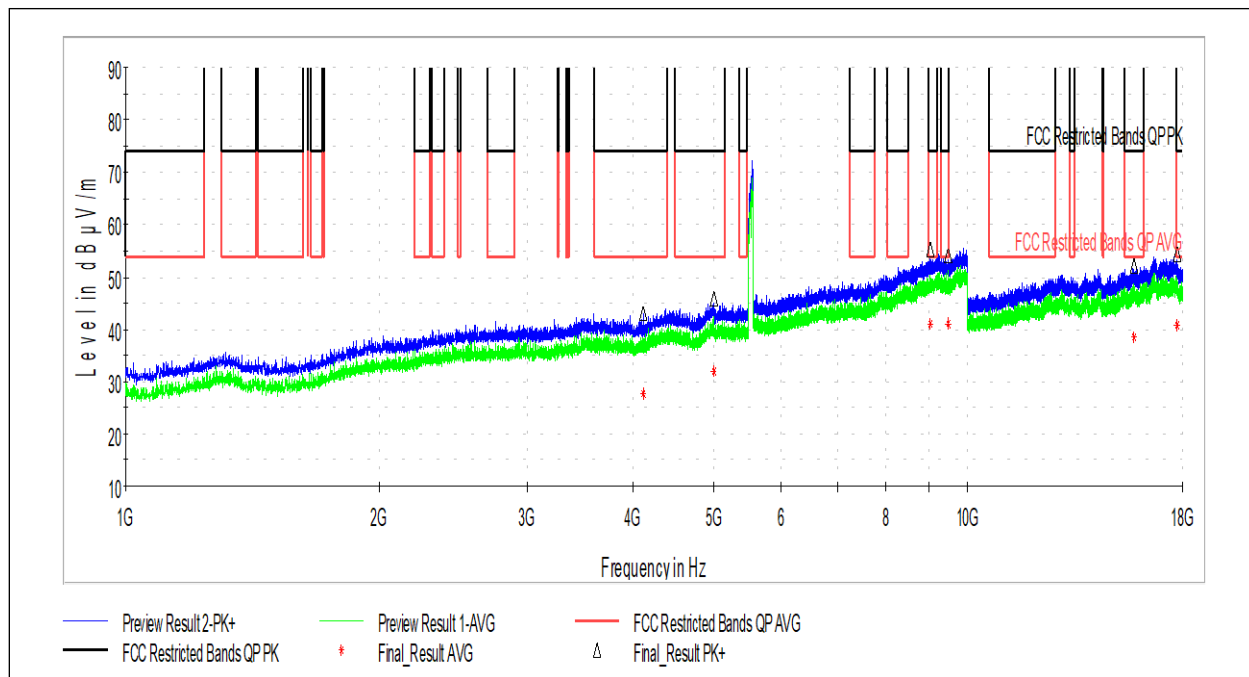
Relative Humidity: 29.4%

Atmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None



6.8.6.1.2 1 GHz – 18 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4117.000	42.93	73.98	31.05	100.0	V	0.0	8.4
4994.000	45.97	73.98	28.01	410.0	V	114.0	9.9
9023.500	55.31	73.98	18.67	142.0	V	328.0	15.9
9478.500	54.11	73.98	19.87	117.0	V	233.0	16.9
15766.500	52.17	73.98	21.81	109.0	H	262.0	23.6
17742.500	54.32	73.98	19.66	100.0	V	107.0	26.2

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4117.000	27.60	53.98	26.38	100.0	V	0.0	8.4
4994.000	31.96	53.98	22.02	410.0	V	114.0	9.9
9023.500	41.15	53.98	12.83	142.0	V	328.0	15.9
9478.500	40.97	53.98	13.01	117.0	V	233.0	16.9
15766.500	38.51	53.98	15.47	109.0	H	262.0	23.6
17742.500	40.62	53.98	13.36	100.0	V	107.0	26.2

Test Personnel: David Perry

Test Date: 2/5/2024

Supervising/Reviewing Engineer: N/A
(Where Applicable)

FCC Part 15.401(b)(2)

Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205

Product Standard: RSS-247 Issue 2

Ambient Temperature: 23.2°C

Input Voltage: 12VDC Via AC/DC Adapter

Relative Humidity: 23.7%

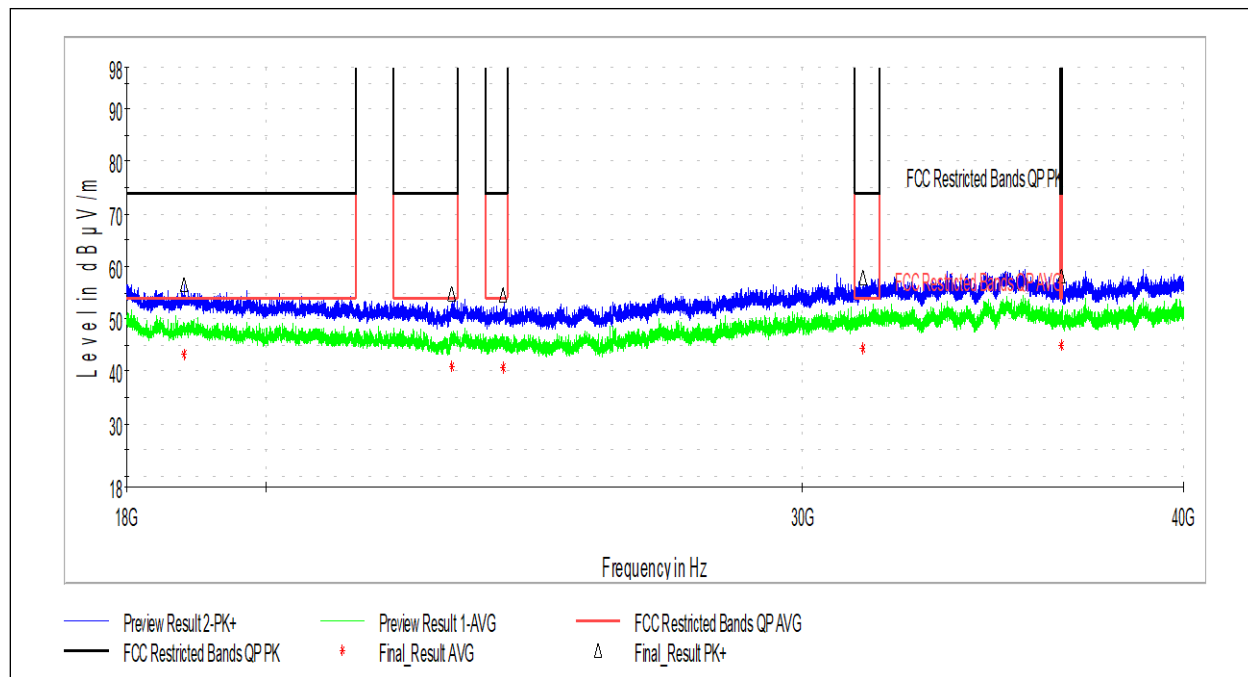
Pretest Verification w / Ambient Signals or BB Source: Yes

Atmospheric Pressure: 989.1mbar

Deviations, Additions, or Exclusions: None



6.8.6.1.3 18GHz – 40 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18801.000	56.68	73.98	17.30	100.0	H	0.0	26.7
23014.000	54.95	73.98	19.03	100.0	H	0.0	14.1
23917.000	54.63	73.98	19.35	100.0	V	0.0	13.8
31391.000	58.10	73.98	15.88	100.0	H	0.0	22.5
36488.000	58.38	73.98	15.60	100.0	H	0.0	23.5

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18801.000	43.38	53.98	10.60	100.0	H	0.0	26.7
23014.000	40.91	53.98	13.07	100.0	H	0.0	14.1
23917.000	40.68	53.98	13.30	100.0	V	0.0	13.8
31391.000	44.45	53.98	9.53	100.0	H	0.0	22.5
36488.000	45.05	53.98	8.93	100.0	H	0.0	23.5

Test Personnel: David Perry

Supervising/Reviewing Engineer:
(Where Applicable) N/A

Product Standard: FCC Part 15E
RSS-247 Issue 2

Input Voltage: 12VDC Via AC/DC Adapter

Pretest Verification w / Ambient
Signals or BB Source: Yes

Test Date: 2/7/2024

FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

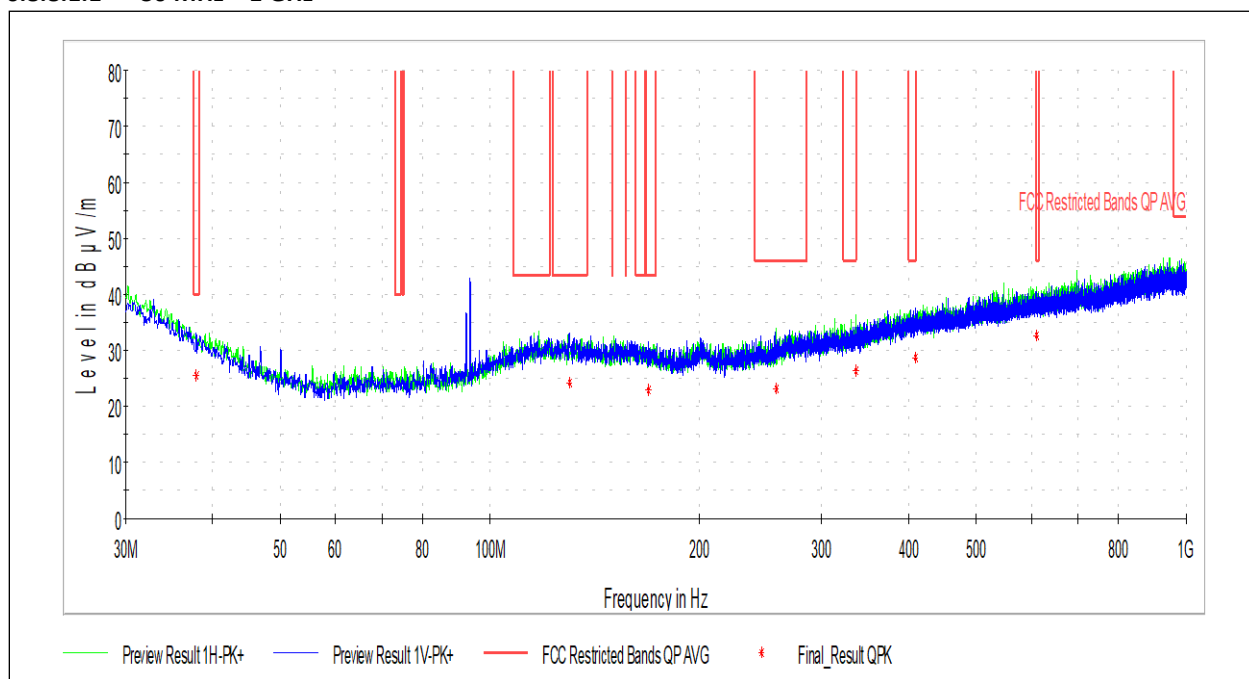
Limit Applied: FCC Part 15.205

Ambient Temperature: 23.3°C

Relative Humidity: 21.1%

Atmospheric Pressure: 991.2mbar

Deviations, Additions, or Exclusions: None

**6.8.8 5GHz Wi-Fi (U-NII-3)****6.8.8.1 802.11a Channel 157****6.8.8.1.1 30 MHz – 1 GHz**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.868	25.45	40.00	14.55	250.0	V	0.0	21.6
130.072	24.16	43.52	19.36	256.0	V	68.0	21.1
168.979	22.92	43.52	20.60	150.0	V	142.0	19.9
257.950	23.13	46.02	22.89	283.0	H	92.0	20.3
335.334	26.29	46.02	19.73	361.0	H	-1.0	22.9
408.516	28.57	46.02	17.45	250.0	V	270.0	24.3
610.599	32.59	46.02	13.43	170.0	H	47.0	28.6

Test Personnel: Jordan Coughenour

Supervising/Reviewing Engineer:
(Where Applicable) N/A

Product Standard: FCC Part 15E

Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter

Yes

Test Date: 1/31/2024

Limit Applied: FCC Part 15.401(b)(2)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

Ambient Temperature: 22.6°C

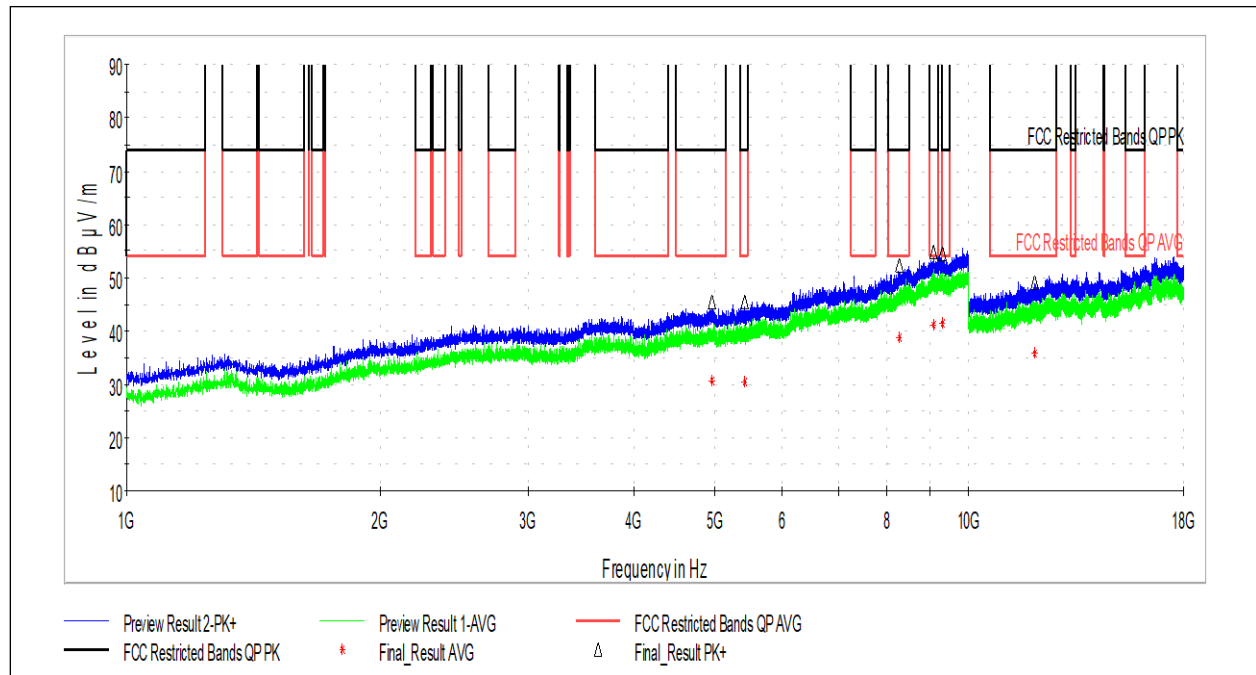
Relative Humidity: 29.4%

Atmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None



6.8.8.1.2 1 GHz – 18 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4961.500	45.47	73.98	28.51	143.0	V	241.0	9.8
5421.000	45.50	73.98	28.48	152.0	V	103.0	10.8
8283.500	52.46	73.98	21.52	133.0	H	201.0	14.7
9081.500	54.75	73.98	19.23	144.0	V	0.0	16.0
9309.500	54.55	73.98	19.43	117.0	V	226.0	16.4
11976.000	49.29	73.98	24.69	410.0	V	139.0	20.0

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4961.500	30.62	53.98	23.36	143.0	V	241.0	9.8
5421.000	30.49	53.98	23.49	152.0	V	103.0	10.8
8283.500	38.79	53.98	15.19	133.0	H	201.0	14.7
9081.500	41.06	53.98	12.92	144.0	V	0.0	16.0
9309.500	41.28	53.98	12.70	117.0	V	226.0	16.4
11976.000	35.73	53.98	18.25	410.0	V	139.0	20.0

Test Personnel: David Perry

Test Date: 2/5/2024

Supervising/Reviewing Engineer: N/A
(Where Applicable)

FCC Part 15.401(b)(2)

Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205

Product Standard: RSS-247 Issue 2

Ambient Temperature: 23.2°C

Input Voltage: 12VDC Via AC/DC Adapter

Relative Humidity: 23.7%

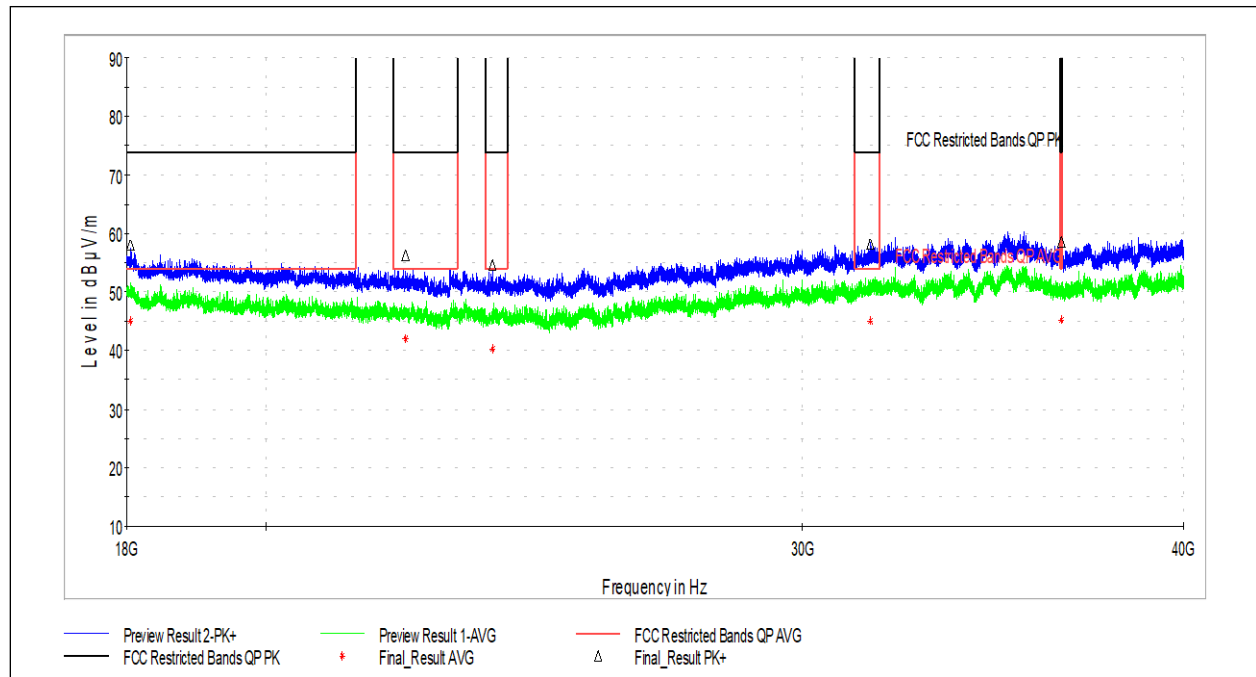
Pretest Verification w / Ambient Signals or BB Source: Yes

Atmospheric Pressure: 989.1mbar

Deviations, Additions, or Exclusions: None



6.8.8.1.3 18GHz – 40 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18048.000	58.12	73.98	15.86	100.0	V	334.0	29.1
22228.000	56.31	73.98	17.67	267.0	V	306.0	15.9
23729.000	54.63	73.98	19.35	100.0	H	317.0	13.7
31576.000	58.14	73.98	15.84	100.0	V	301.0	22.5
36475.000	58.66	73.98	15.32	100.0	V	254.0	23.4

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18048.000	45.01	53.98	8.97	100.0	V	334.0	29.1
22228.000	41.99	53.98	11.99	267.0	V	306.0	15.9
23729.000	40.31	53.98	13.67	100.0	H	317.0	13.7
31576.000	45.08	53.98	8.90	100.0	V	301.0	22.5
36475.000	45.18	53.98	8.80	100.0	V	254.0	23.4

Test Personnel: David Perry

Supervising/Reviewing Engineer:
(Where Applicable) N/A

Product Standard: FCC Part 15E
Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: Yes

Test Date: 2/7/2024
FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

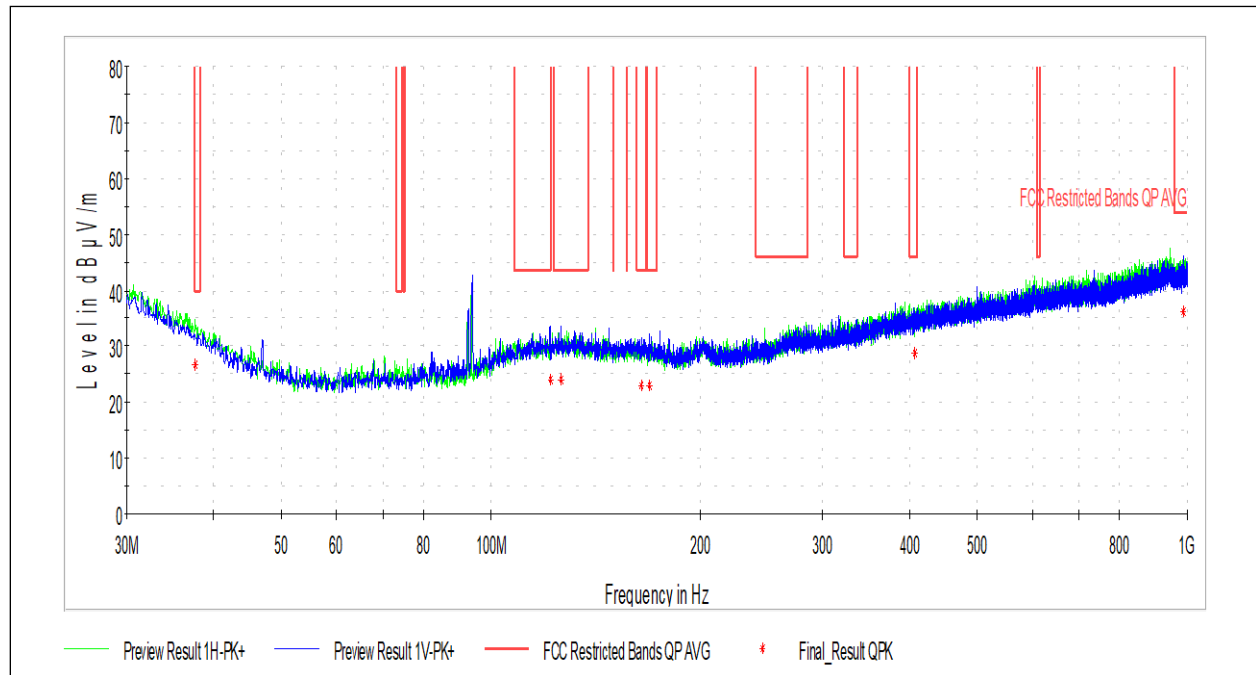
Limit Applied:

Ambient Temperature: 23.3°C

Relative Humidity: 21.1%

Atmospheric Pressure: 991.2mbar

Deviations, Additions, or Exclusions: None

**6.8.8.2 802.11n20 Channel 157****6.8.8.2.1 30 MHz – 1 GHz**

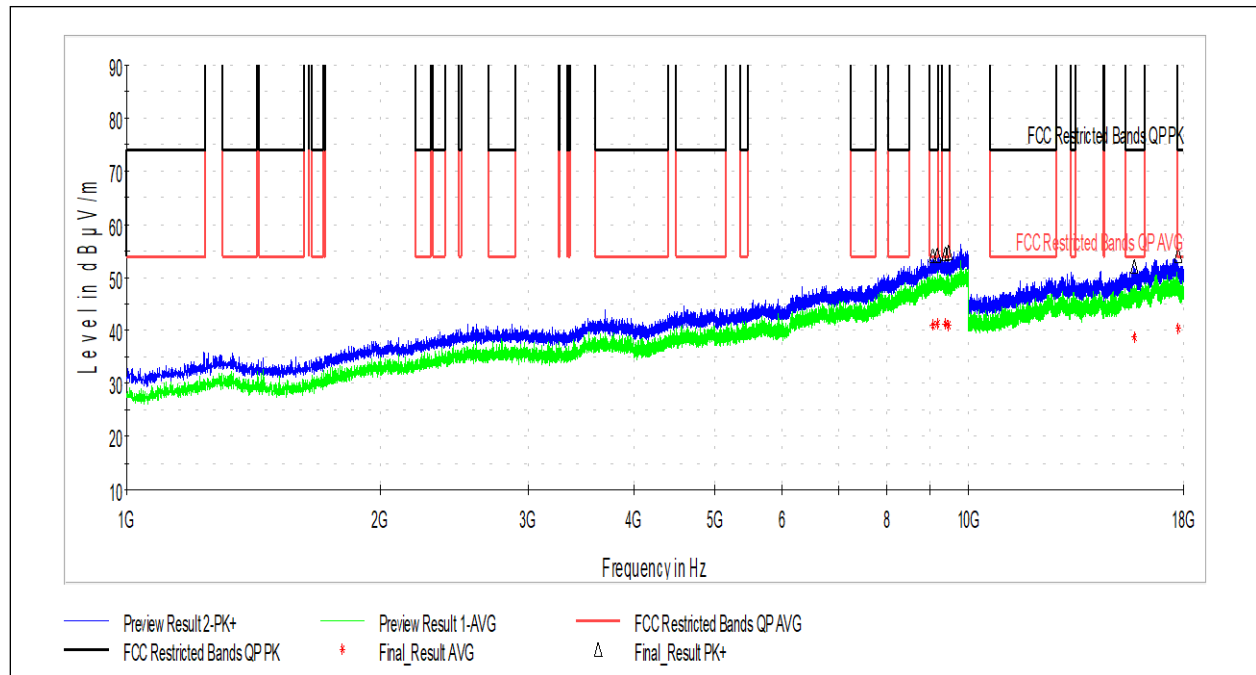
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.598	26.62	40.00	13.38	227.0	H	58.0	22.8
121.719	24.04	43.52	19.48	314.0	V	91.0	21.0
126.084	24.07	43.52	19.46	350.0	V	304.0	21.1
164.345	23.10	43.52	20.42	165.0	V	292.0	20.3
169.033	22.90	43.52	20.63	216.0	V	130.0	19.9
406.791	28.90	46.02	17.12	250.0	H	0.0	24.6
986.959	36.12	53.98	17.86	270.0	V	36.0	32.4

Test Personnel:	Jordan Coughenour	Test Date:	1/31/2024
Supervising/Reviewing Engineer:			FCC Part 15.401(b)(2)
(Where Applicable)	N/A	Limit Applied:	FCC Part 15.209 in Restricted Bands from FCC Part 15.205
Product Standard:	FCC Part 15E	Ambient Temperature:	22.6°C
Input Voltage:	RSS-247 Issue 2	Relative Humidity:	29.4%
Pretest Verification w / Ambient Signals or BB Source:	12VDC Via AC/DC Adapter	Atmospheric Pressure:	988.8mbar
	Yes		

Deviations, Additions, or Exclusions: None



6.8.8.2.2 1 GHz – 18 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
9064.000	54.08	73.98	19.90	169.0	H	0.0	15.9
9186.500	54.26	73.98	19.72	134.0	H	295.0	16.3
9389.500	54.52	73.98	19.46	260.0	H	324.0	16.7
9467.500	54.69	73.98	19.29	375.0	H	34.0	16.9
15747.000	51.98	73.98	22.00	410.0	V	56.0	23.7
17742.500	54.10	73.98	19.88	410.0	H	185.0	26.0

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
9064.000	41.05	53.98	12.93	169.0	H	0.0	15.9
9186.500	41.25	53.98	12.73	134.0	H	295.0	16.3
9389.500	41.21	53.98	12.77	260.0	H	324.0	16.7
9467.500	41.01	53.98	12.97	375.0	H	34.0	16.9
15747.000	38.79	53.98	15.19	410.0	V	56.0	23.7
17742.500	40.50	53.98	13.48	410.0	H	185.0	26.0

Test Personnel: David Perry

Test Date: 2/5/2024

Supervising/Reviewing Engineer:
(Where Applicable) N/A

FCC Part 15.401(b)(2)

Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205

Product Standard: RSS-247 Issue 2

Ambient Temperature: 23.2°C

Input Voltage: 12VDC Via AC/DC Adapter

Relative Humidity: 23.7%

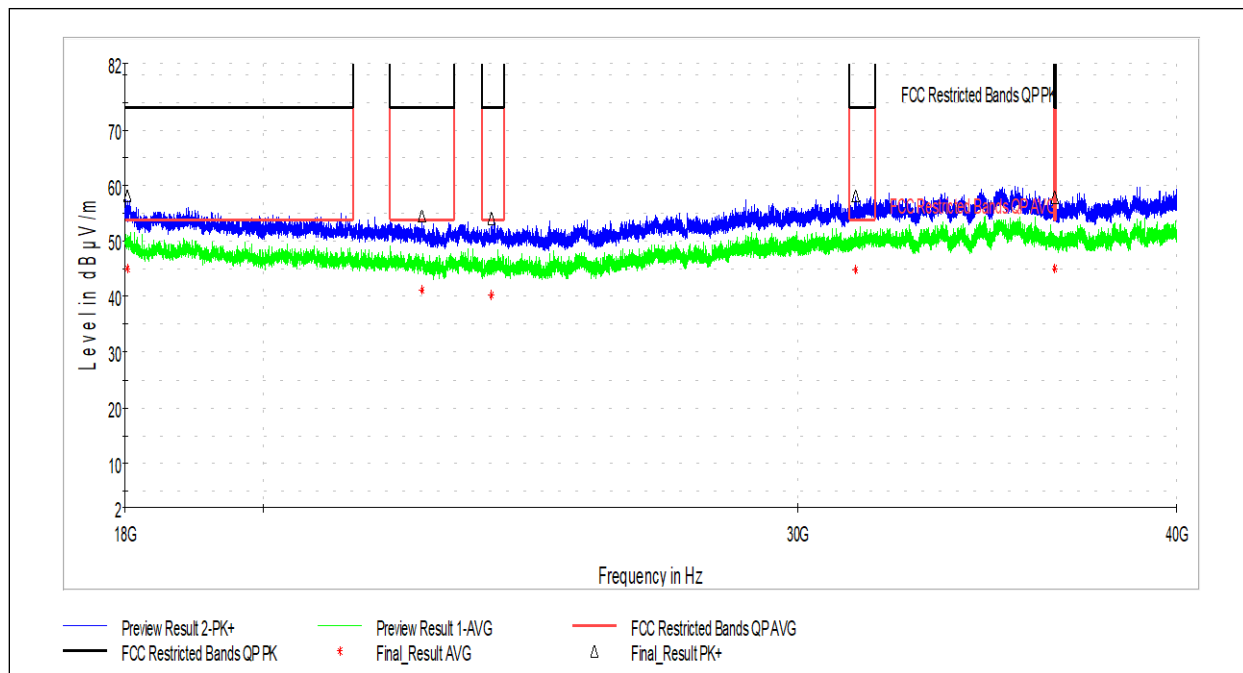
Pretest Verification w / Ambient
Signals or BB Source: Yes

Atmospheric Pressure: 989.1mbar

Deviations, Additions, or Exclusions: None



6.8.8.2.3 18GHz – 40 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18034.000	58.25	73.98	15.73	100.0	V	0.0	29.1
22553.000	54.47	73.98	19.51	100.0	H	0.0	14.8
23766.000	54.03	73.98	19.95	100.0	V	299.0	13.7
31349.000	58.24	73.98	15.74	100.0	V	0.0	22.3
36452.000	58.08	73.98	15.90	100.0	H	0.0	23.5

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18034.000	45.01	53.98	8.97	100.0	V	0.0	29.1
22553.000	41.32	53.98	12.66	100.0	H	0.0	14.8
23766.000	40.35	53.98	13.63	100.0	V	299.0	13.7
31349.000	44.80	53.98	9.18	100.0	V	0.0	22.3
36452.000	44.97	53.98	9.01	100.0	H	0.0	23.5

Test Personnel: David Perry

Supervising/Reviewing Engineer:
(Where Applicable) N/A

Product Standard: FCC Part 15E

Input Voltage: 12VDC Via AC/DC Adapter

Pretest Verification w / Ambient
Signals or BB Source: Yes

Test Date: 2/7/2024

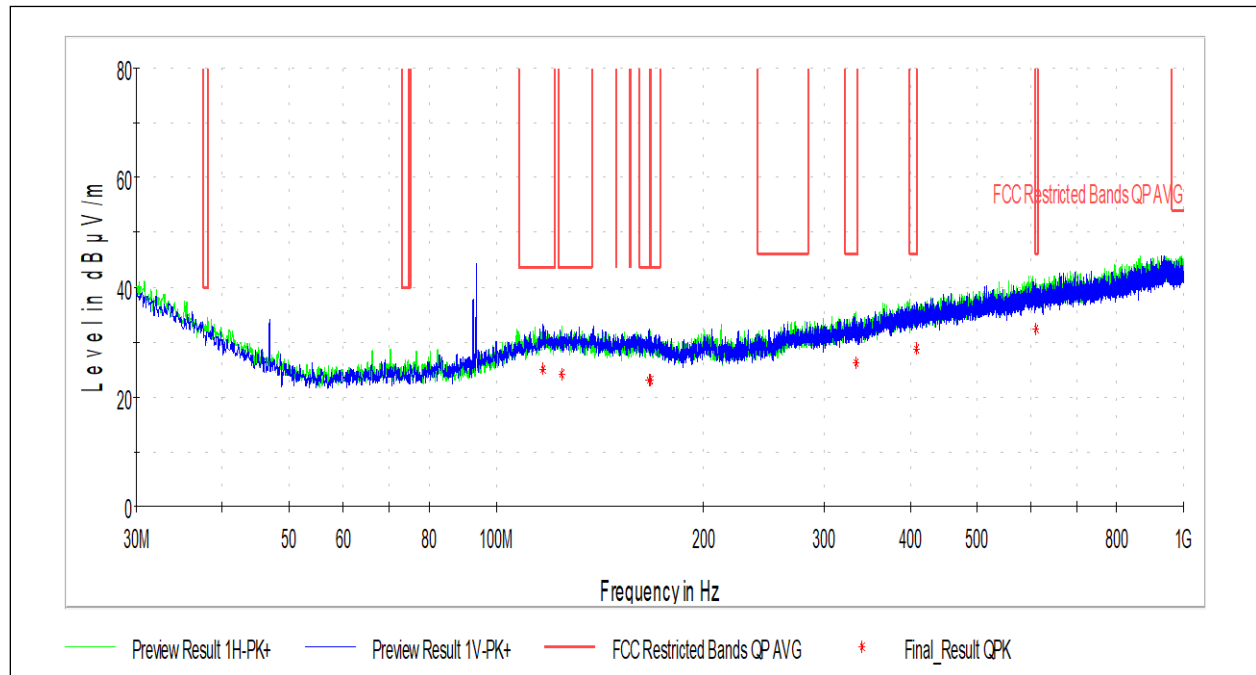
Limit Applied: FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

Ambient Temperature: 23.3°C

Relative Humidity: 21.1%

Atmospheric Pressure: 991.2mbar

Deviations, Additions, or Exclusions: None

**6.8.8.3 802.11n40 Channel 151****6.8.8.3.1 30 MHz – 1 GHz**

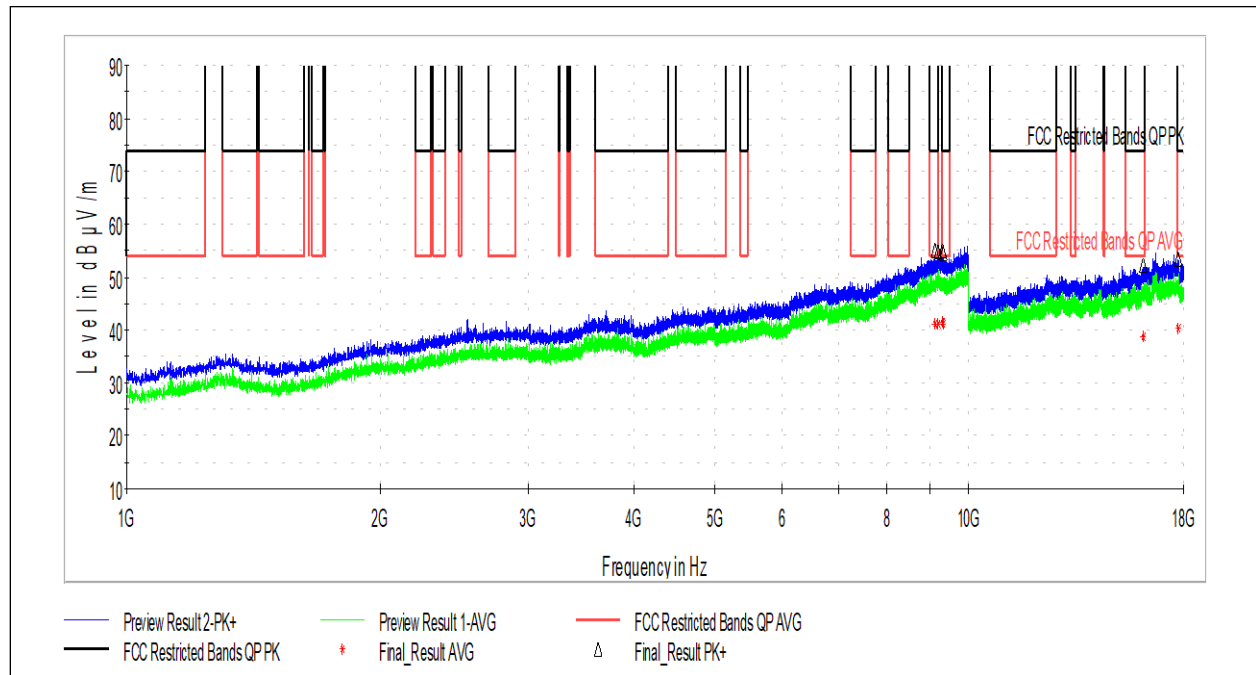
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
117.138	24.91	43.52	18.61	100.0	V	158.0	20.7
124.683	24.14	43.52	19.38	232.0	H	138.0	21.0
166.716	23.05	43.52	20.47	99.0	V	298.0	20.1
167.740	22.92	43.52	20.60	174.0	H	191.0	19.8
334.257	26.27	46.02	19.75	304.0	H	190.0	22.9
408.785	28.66	46.02	17.36	100.0	V	110.0	24.3
610.437	32.55	46.02	13.47	250.0	H	268.0	28.6

Test Personnel:	Jordan Coughenour	Test Date:	1/31/2024
Supervising/Reviewing Engineer:			FCC Part 15.401(b)(2)
(Where Applicable)	N/A	Limit Applied:	FCC Part 15.209 in Restricted Bands from FCC Part 15.205
	FCC Part 15E		
Product Standard:	RSS-247 Issue 2	Ambient Temperature:	22.6°C
Input Voltage:	12VDC Via AC/DC Adapter	Relative Humidity:	29.4%
Pretest Verification w / Ambient			
Signals or BB Source:	Yes	Atmospheric Pressure:	988.8mbar

Deviations, Additions, or Exclusions: None



6.8.8.3.2 1 GHz – 18 GHz



Frequency (MHz)	MaxPeak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
9130.500	54.99	73.98	18.99	143.0	H	56.0	16.1
9190.500	54.74	73.98	19.24	197.0	V	329.0	16.2
9307.000	55.07	73.98	18.91	410.0	V	158.0	16.4
9333.000	54.51	73.98	19.47	109.0	H	22.0	16.5
16131.500	52.27	73.98	21.71	410.0	V	33.0	24.5
17749.500	53.49	73.98	20.49	410.0	H	314.0	26.0

Frequency (MHz)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
9130.500	41.01	53.98	12.97	143.0	H	56.0	16.1
9190.500	41.11	53.98	12.87	197.0	V	329.0	16.2
9307.000	41.29	53.98	12.69	410.0	V	158.0	16.4
9333.000	41.21	53.98	12.77	109.0	H	22.0	16.5
16131.500	38.54	53.98	15.44	410.0	V	33.0	24.5
17749.500	40.26	53.98	13.72	410.0	H	314.0	26.0

Test Personnel: David Perry

Test Date: 2/5/2024

Supervising/Reviewing Engineer: N/A
(Where Applicable)

FCC Part 15.401(b)(2)

Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205

Product Standard: RSS-247 Issue 2

Ambient Temperature: 23.2°C

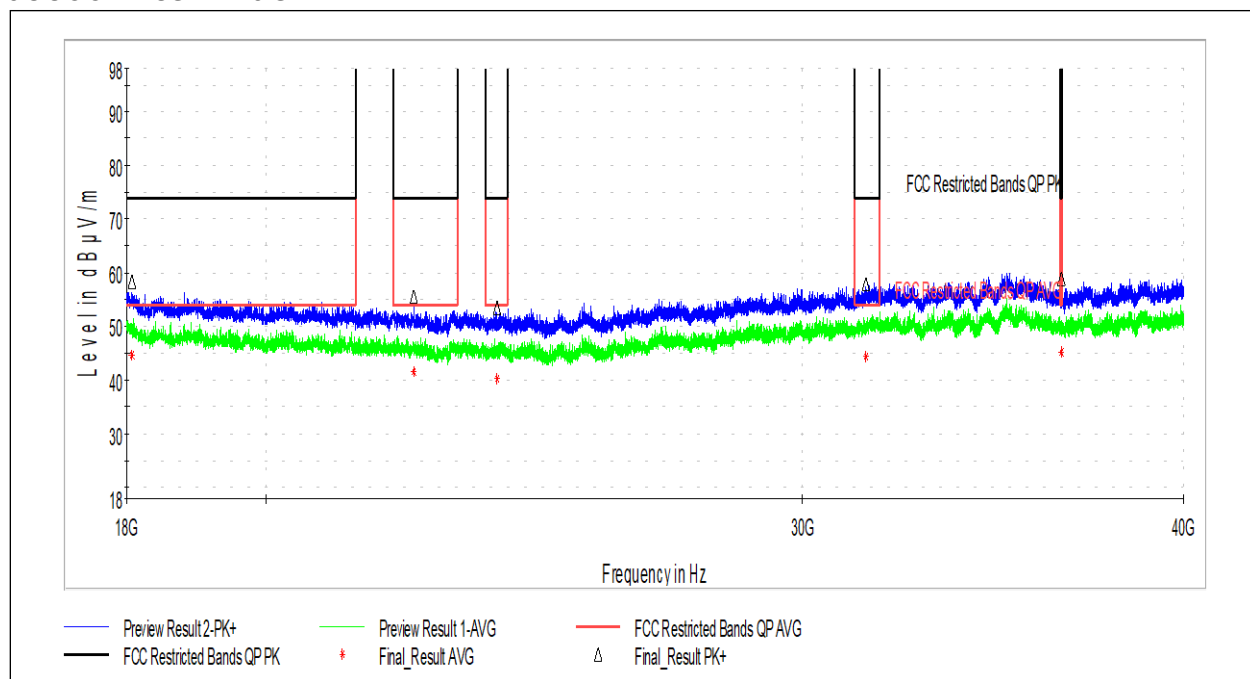
Input Voltage: 12VDC Via AC/DC Adapter

Relative Humidity: 23.7%

Pretest Verification w / Ambient Signals or BB Source: Yes

Atmospheric Pressure: 989.1mbar

Deviations, Additions, or Exclusions: None

**6.8.8.3.3 18GHz – 40 GHz**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18074.000	58.34	73.98	15.64	100.0	H	0.0	28.9
22355.000	55.55	73.98	18.43	100.0	V	0.0	15.4
23807.000	53.49	73.98	20.49	100.0	V	0.0	13.7
31475.000	57.81	73.98	16.17	100.0	H	0.0	22.6
36471.000	58.93	73.98	15.05	100.0	H	80.0	23.5

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18074.000	44.64	53.98	9.34	100.0	H	0.0	28.9
22355.000	41.67	53.98	12.31	100.0	V	0.0	15.4
23807.000	40.28	53.98	13.70	100.0	V	0.0	13.7
31475.000	44.46	53.98	9.52	100.0	H	0.0	22.6
36471.000	45.19	53.98	8.79	100.0	H	80.0	23.5

Test Personnel: David Perry

Supervising/Reviewing Engineer:
(Where Applicable) N/A

Product Standard: FCC Part 15E
RSS-247 Issue 2

Input Voltage: 12VDC Via AC/DC Adapter

Pretest Verification w / Ambient
Signals or BB Source: Yes

Test Date: 2/7/2024

FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

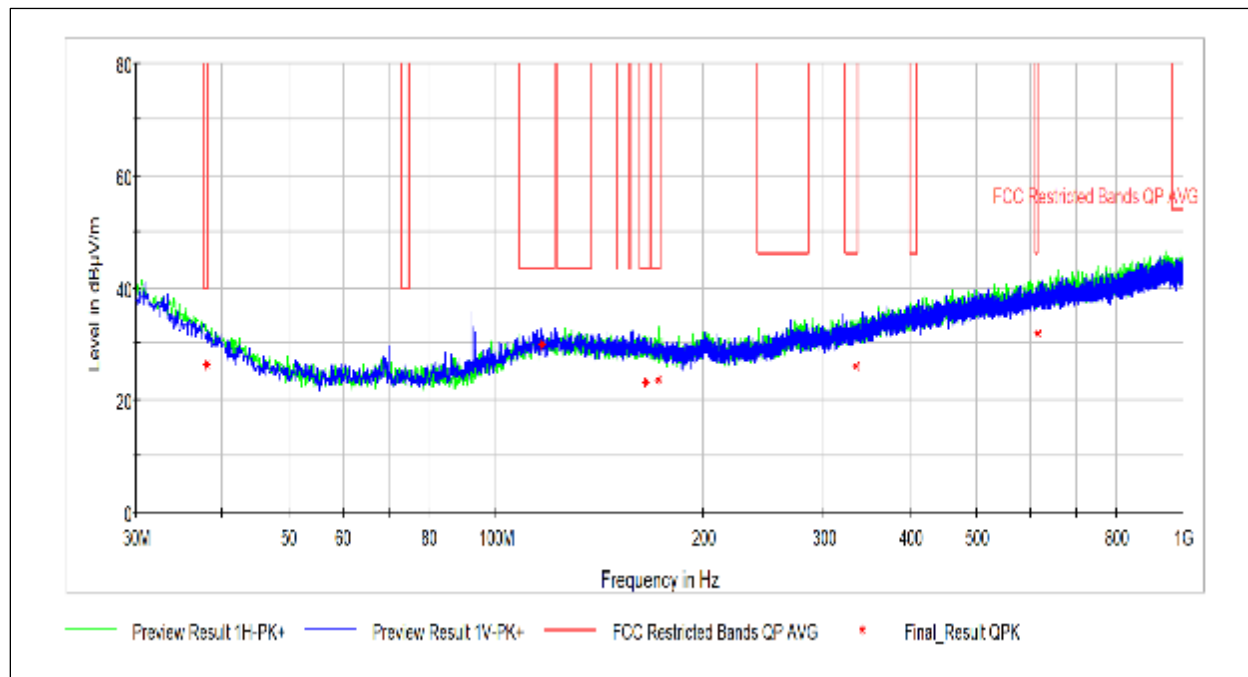
Limit Applied: FCC Part 15.205

Ambient Temperature: 23.3°C

Relative Humidity: 21.1%

Atmospheric Pressure: 991.2mbar

Deviations, Additions, or Exclusions: None

**6.8.8.4 802.11ac Channel 155****6.8.8.4.1 30 MHz – 1 GHz**

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
37.976	26.25	40.00	13.75	269.0	H	210.0	22.6
116.546	29.76	43.52	13.77	100.0	V	236.0	20.6
164.938	23.12	43.52	20.40	249.0	H	106.0	20.1
172.374	23.61	43.52	19.91	150.0	H	232.0	19.4
333.987	26.15	46.02	19.87	283.0	H	169.0	22.9
612.808	31.90	46.02	14.12	176.0	V	169.0	28.1

Test Personnel: Seth Parker

Supervising/Reviewing Engineer:
(Where Applicable) Michael Carlson

Product Standard: FCC Part 15E

Input Voltage: 12VDC Via AC/DC Adapter

Pretest Verification w / Ambient
Signals or BB Source: Yes

Test Date: 1/31/2024

Limit Applied: FCC Part 15.401(b)(4)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

Ambient Temperature: 22.6°C

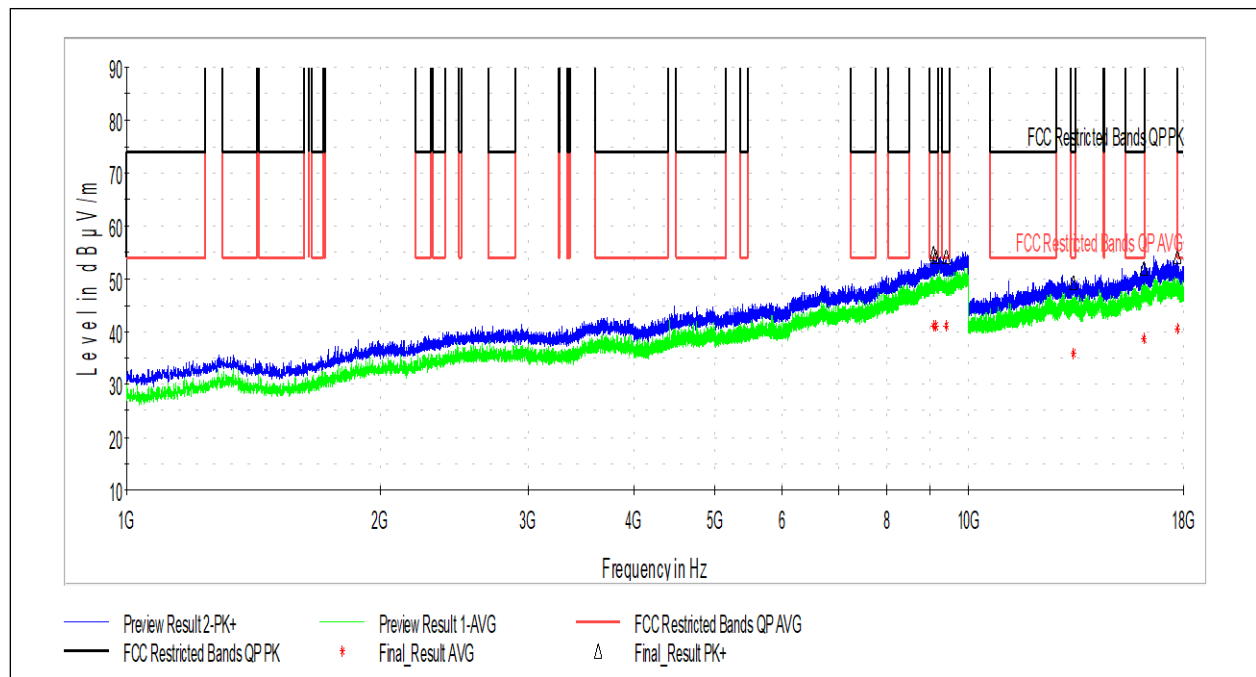
Relative Humidity: 29.4%

Atmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None



6.8.8.4.2 1 GHz – 18 GHz



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
9096.500	54.71	73.98	19.27	162.0	V	106.0	16.0
9151.000	54.17	73.98	19.81	158.0	H	350.0	16.2
9401.000	54.33	73.98	19.65	161.0	V	101.0	16.6
13317.500	49.34	73.98	24.64	410.0	V	308.0	21.4
16161.000	51.96	73.98	22.02	410.0	V	0.0	24.5
17726.500	54.38	73.98	19.60	410.0	V	0.0	26.2

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
9096.500	41.03	53.98	12.95	162.0	V	106.0	16.0
9151.000	41.16	53.98	12.82	158.0	H	350.0	16.2
9401.000	41.03	53.98	12.95	161.0	V	101.0	16.6
13317.500	35.91	53.98	18.07	410.0	V	308.0	21.4
16161.000	38.47	53.98	15.51	410.0	V	0.0	24.5
17726.500	40.49	53.98	13.49	410.0	V	0.0	26.2

Test Personnel: David Perry

Test Date: 2/5/2024

Supervising/Reviewing Engineer: N/A
(Where Applicable)

FCC Part 15.401(b)(2)

Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205

Product Standard: RSS-247 Issue 2

Ambient Temperature: 23.2°C

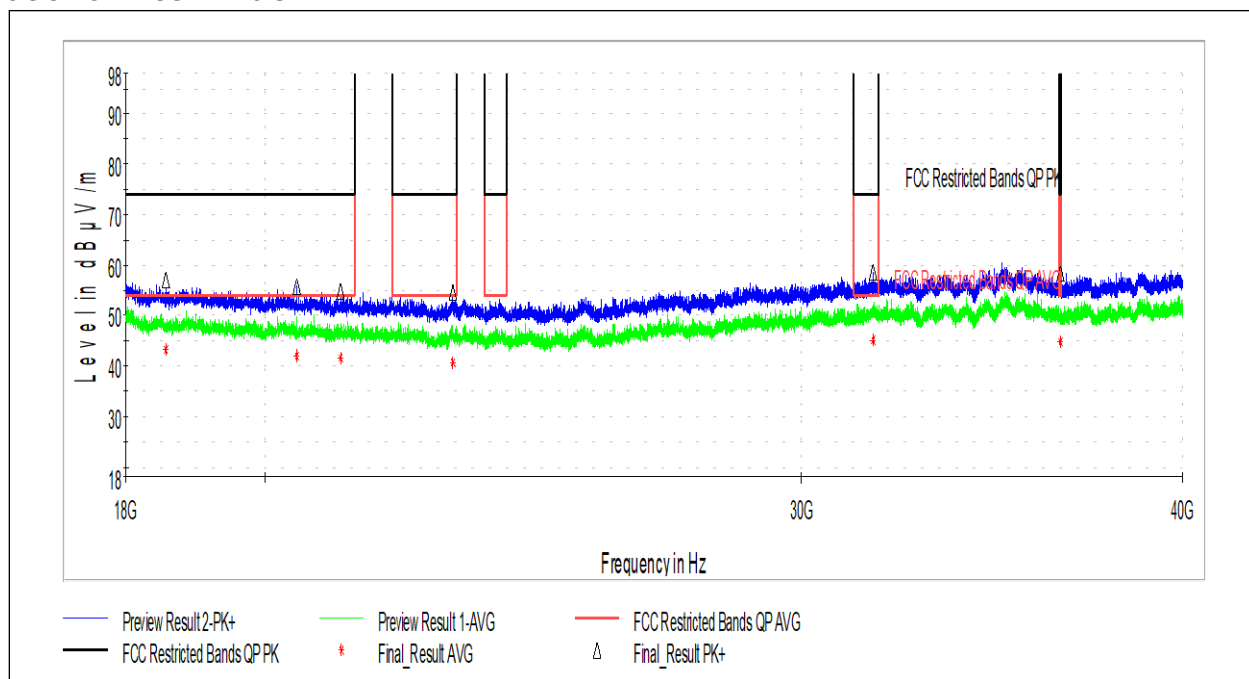
Input Voltage: 12VDC Via AC/DC Adapter

Relative Humidity: 23.7%

Pretest Verification w / Ambient Signals or BB Source: Yes

Atmospheric Pressure: 989.1mbar

Deviations, Additions, or Exclusions: None

**6.8.8.4.3 18GHz – 40 GHz**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18553.000	56.96	73.98	17.02	100.0	V	0.0	27.4
20478.000	55.91	73.98	18.07	100.0	V	0.0	21.2
21169.000	54.88	73.98	19.10	100.0	H	245.0	19.2
23052.000	54.61	73.98	19.37	100.0	H	205.0	14.1
31658.000	58.52	73.98	15.46	100.0	H	0.0	22.4
36471.000	58.30	73.98	15.68	100.0	H	326.0	23.5

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18553.000	43.20	53.98	10.78	100.0	V	0.0	27.4
20478.000	42.00	53.98	11.98	100.0	V	0.0	21.2
21169.000	41.65	53.98	12.33	100.0	H	245.0	19.2
23052.000	40.75	53.98	13.23	100.0	H	205.0	14.1
31658.000	45.13	53.98	8.85	100.0	H	0.0	22.4
36471.000	44.92	53.98	9.06	100.0	H	326.0	23.5

Test Personnel: David Perry

Test Date: 2/7/2024

Supervising/Reviewing Engineer: N/A
(Where Applicable)

FCC Part 15.407(b)

Limit Applied: FCC Part 15.209 in Restricted Bands from FCC Part 15.205

Product Standard: RSS-247 Issue 2

Ambient Temperature: 23.3°C

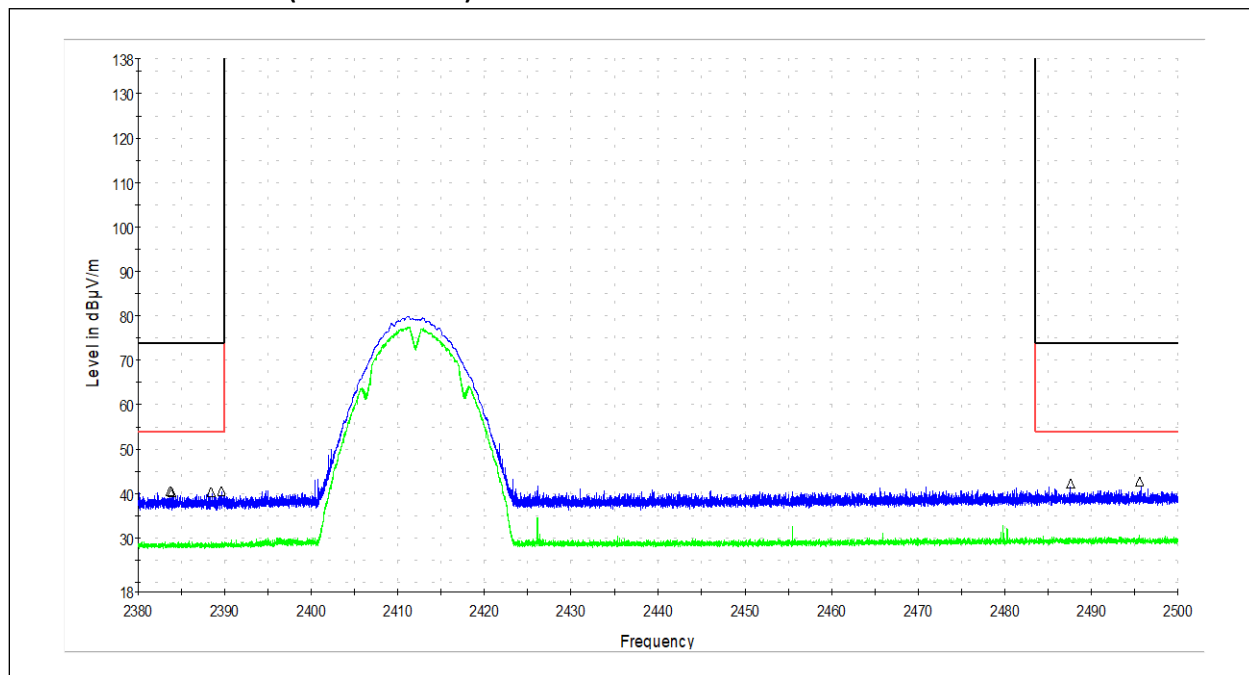
Input Voltage: 12VDC Via AC/DC Adapter

Relative Humidity: 21.1%

Pretest Verification w / Ambient Signals or BB Source: Yes

Atmospheric Pressure: 991.2mbar

Deviations, Additions, or Exclusions: None

**6.9 Test Data: Radiated Band Edge****6.9.1 2.4GHz Wi-Fi****6.9.1.1 802.11b****6.9.1.1.1 Low Channel (Antenna Port 1)**

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2383.660000	40.61	73.98	33.37	129.0	V	293.0	38.3
2383.840000	40.45	73.98	33.53	395.0	H	89.0	38.3
2388.433333	40.44	73.98	33.54	259.0	V	314.0	38.3
2389.600000	40.72	73.98	33.26	350.0	H	90.0	38.3
2487.606667	42.36	73.98	31.62	279.0	V	88.0	38.9
2495.546667	42.83	73.98	31.15	165.0	V	213.0	38.9

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2383.660000	6.43	53.98	47.55	129.0	V	293.0	38.3
2383.840000	6.95	53.98	47.03	395.0	H	89.0	38.3
2388.433333	6.96	53.98	47.02	259.0	V	314.0	38.3
2389.600000	7.54	53.98	46.44	350.0	H	90.0	38.3
2487.606667	14.65	53.98	39.33	279.0	V	88.0	38.9
2495.546667	14.89	53.98	39.09	165.0	V	213.0	38.9

Test Personnel: David Perry

Test Date: 7/23/2024

Supervising/Reviewing Engineer:

(Where Applicable)

N/A

FCC Part 15.407(b)

FCC Part 15.209 in Restricted

Bands from FCC Part 15.205

Product Standard:

Input Voltage:

Pretest Verification w / Ambient

Signals or BB Source:

RSS-247 Issue 2

12VDC Via AC/DC Adapter

Yes

Ambient Temperature:

Relative Humidity:

Atmospheric Pressure:

27.5°C

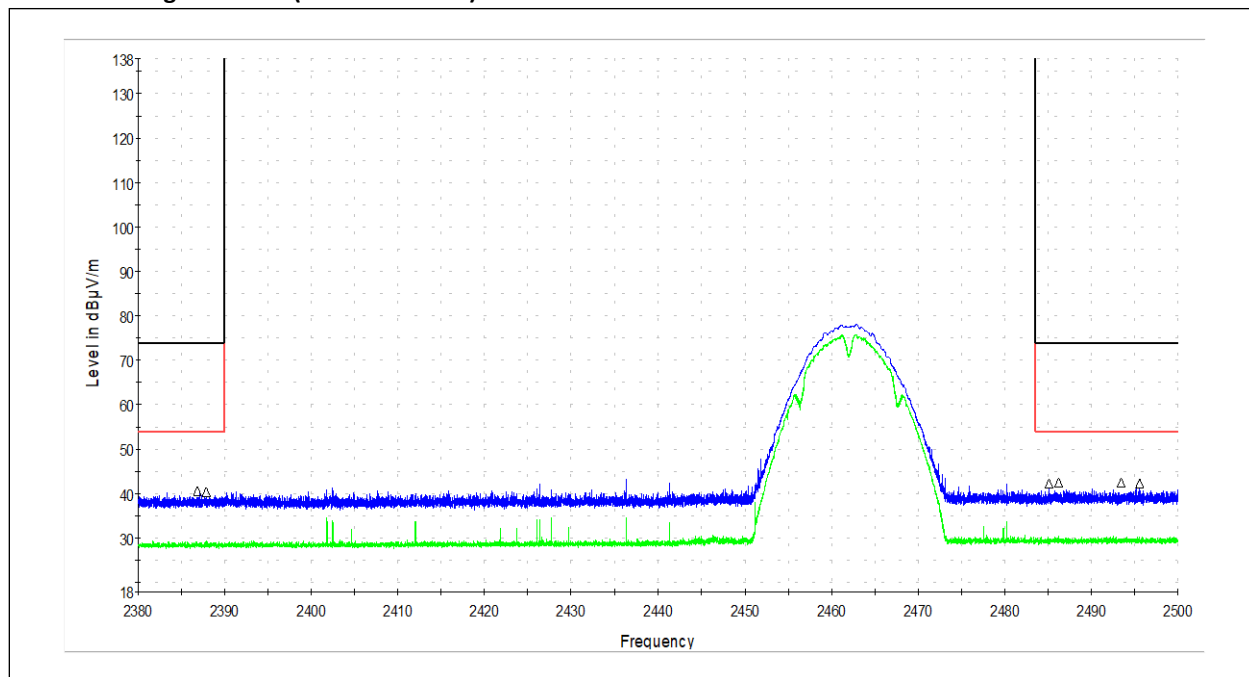
42.6%

982.0mbar

Deviations, Additions, or Exclusions: None



6.9.1.1.2 High Channel (Antenna Port 1)



Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2386.806667	40.66	73.98	33.32	151.0	V	249.0	38.3
2387.886667	40.54	73.98	33.44	369.0	H	144.0	38.3
2485.066667	42.36	73.98	31.62	349.0	V	0.0	38.9
2486.226667	42.52	73.98	31.46	338.0	H	149.0	38.9
2493.446667	42.64	73.98	31.34	129.0	V	11.0	38.9
2495.573333	42.39	73.98	31.59	245.0	V	187.0	38.9

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2386.806667	6.10	53.98	47.88	151.0	V	249.0	38.3
2387.886667	6.33	53.98	47.65	369.0	H	144.0	38.3
2485.066667	14.39	53.98	39.59	349.0	V	0.0	38.9
2486.226667	14.56	53.98	39.42	338.0	H	149.0	38.9
2493.446667	14.58	53.98	39.40	129.0	V	11.0	38.9
2495.573333	14.72	53.98	39.26	245.0	V	187.0	38.9

Test Personnel: David Perry

Supervising/Reviewing Engineer:
(Where Applicable) N/A

Product Standard: FCC Part 15E

Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter

Yes

Test Date: 7/23/2024

FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

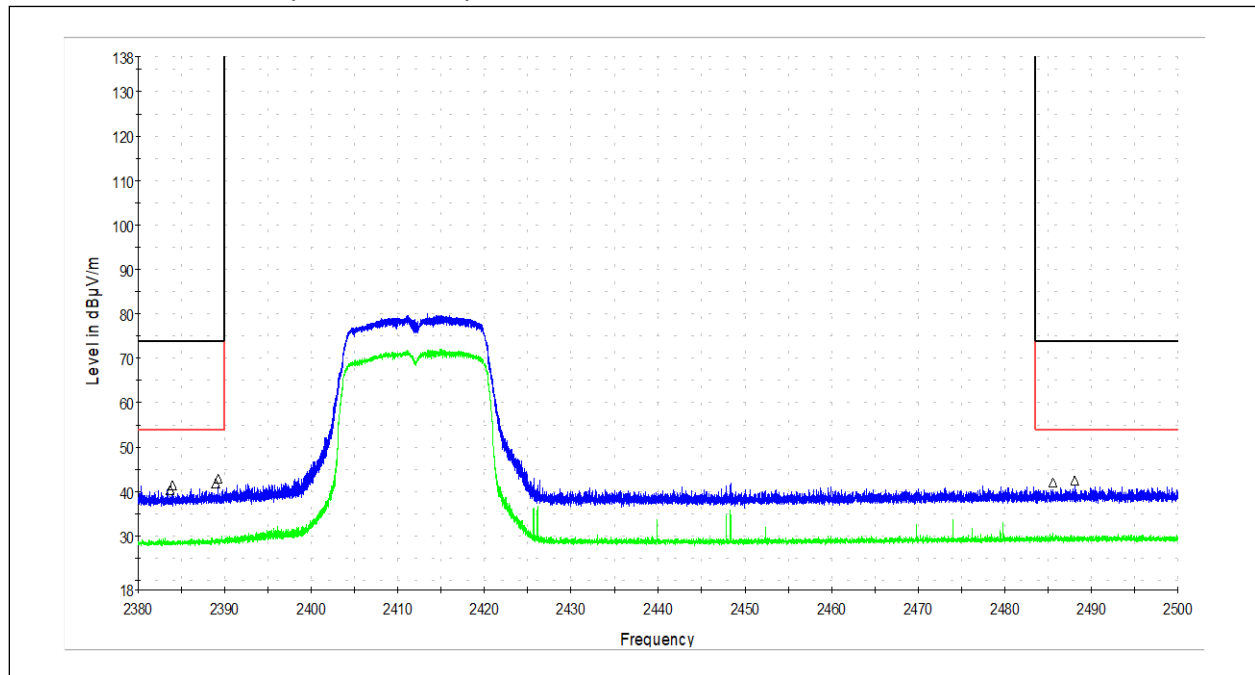
Limit Applied:

Ambient Temperature: 27.5°C

Relative Humidity: 42.6%

Atmospheric Pressure: 982.0mbar

Deviations, Additions, or Exclusions: None

**6.9.1.2 802.11g****6.9.1.2.1 Low Channel (Antenna Port 1)**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2383.706667	40.50	73.98	33.48	334.0	V	0.0	38.3
2383.953333	41.49	73.98	32.49	334.0	V	0.0	38.3
2388.946667	41.87	73.98	32.11	271.0	H	90.0	38.3
2389.220000	43.09	73.98	30.89	251.0	H	113.0	38.3
2485.533333	42.21	73.98	31.77	393.0	H	306.0	38.9
2488.106667	42.55	73.98	31.43	200.0	H	32.0	38.9

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2383.706667	8.50	53.98	45.48	334.0	V	0.0	38.3
2383.953333	8.76	53.98	45.22	334.0	V	0.0	38.3
2388.946667	14.08	53.98	39.90	271.0	H	90.0	38.3
2389.220000	17.43	53.98	36.55	251.0	H	113.0	38.3
2485.533333	14.29	53.98	39.69	393.0	H	306.0	38.9
2488.106667	14.38	53.98	39.60	200.0	H	32.0	38.9

Test Personnel: David PerryTest Date: 7/23/2024Supervising/Reviewing Engineer:
(Where Applicable)N/A

FCC Part 15.407(b)

FCC Part 15.209 in Restricted

Limit Applied: Bands from FCC Part 15.205Product Standard: RSS-247 Issue 2Input Voltage: 12VDC Via AC/DC AdapterAmbient Temperature: 27.5°CRelative Humidity: 42.6%

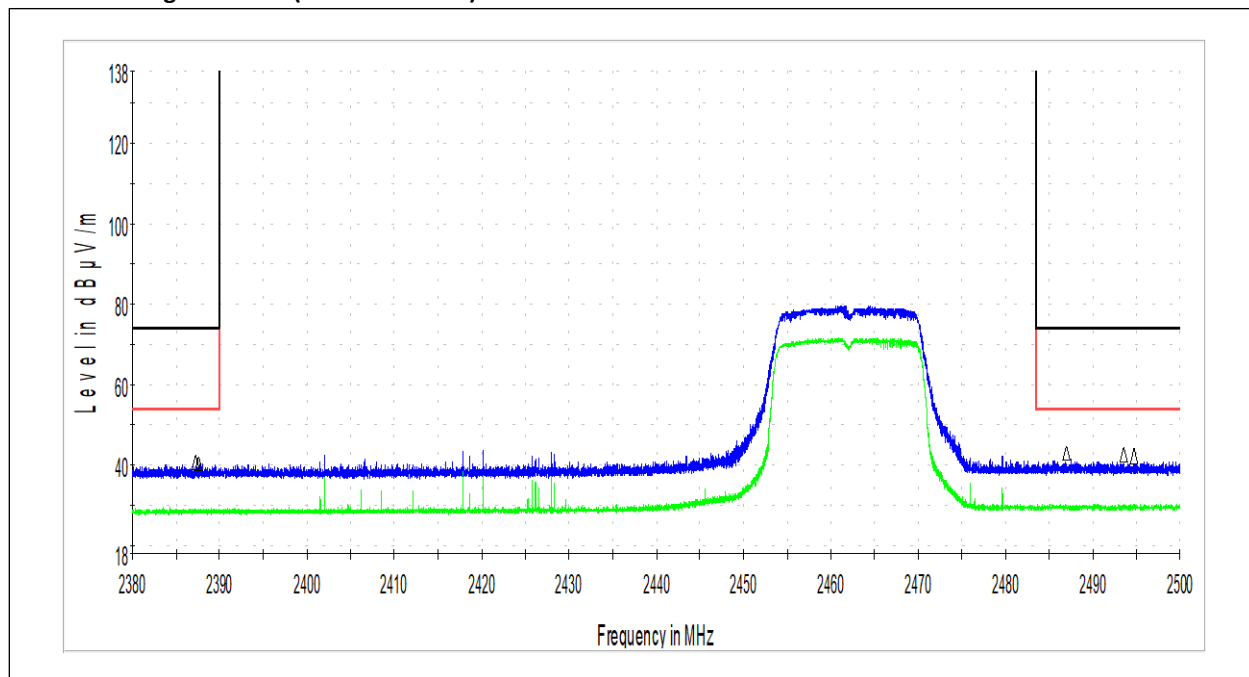
Pretest Verification w / Ambient

Signals or BB Source: YesAtmospheric Pressure: 982.0mbar

Deviations, Additions, or Exclusions: None



6.9.1.2.2 High Channel (Antenna Port 1)



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2387.200000	40.90	73.98	33.08	244.0	H	107.0	38.3
2387.573333	40.38	73.98	33.60	304.0	V	-1.0	38.3
2486.973333	43.00	73.98	30.98	165.0	H	104.0	38.9
2493.560000	42.84	73.98	31.14	210.0	H	109.0	38.9
2494.700000	42.40	73.98	31.58	153.0	H	130.0	38.9

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2387.200000	6.74	53.98	47.24	244.0	H	107.0	38.3
2387.573333	6.74	53.98	47.24	304.0	V	-1.0	38.3
2486.973333	15.70	53.98	38.28	165.0	H	104.0	38.9
2493.560000	15.20	53.98	38.78	210.0	H	109.0	38.9
2494.700000	15.12	53.98	38.86	153.0	H	130.0	38.9

Test Personnel: David Perry

Supervising/Reviewing Engineer:
(Where Applicable) N/A

Product Standard: FCC Part 15E

Input Voltage: 12VDC Via AC/DC Adapter

Pretest Verification w / Ambient
Signals or BB Source: Yes

Test Date: 7/23/2024

FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

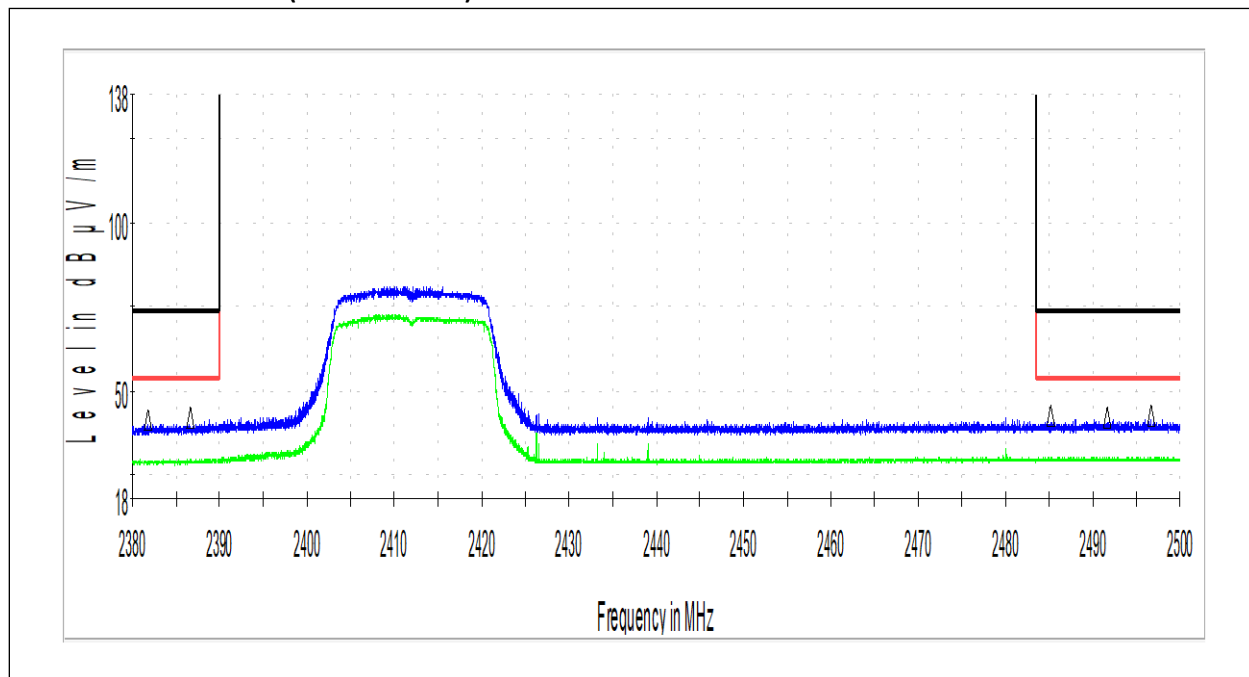
Limit Applied:

Ambient Temperature: 27.5°C

Relative Humidity: 42.6%

Atmospheric Pressure: 982.0mbar

Deviations, Additions, or Exclusions: None

**6.9.1.3 802.11n20****6.9.1.3.1 Low Channel (Antenna Port 1)**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2381.80666	41.08	73.98	32.90	341.0	V	0.0	38.2
2386.66666	42.02	73.98	31.96	344.0	H	94.0	38.3
2485.21333	42.53	73.98	31.45	410.0	V	171.0	38.9
2491.61333	42.06	73.98	31.92	301.0	V	148.0	38.9
2496.68000	42.52	73.98	31.46	410.0	V	0.0	38.9

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2381.80666	8.48	53.98	45.50	341.0	V	0.0	38.2
2386.66666	13.81	53.98	40.17	344.0	H	94.0	38.3
2485.21333	14.41	53.98	39.57	410.0	V	171.0	38.9
2491.61333	14.57	53.98	39.41	301.0	V	148.0	38.9
2496.68000	14.84	53.98	39.14	410.0	V	0.0	38.9

Test Personnel: David Perry

Supervising/Reviewing Engineer:
(Where Applicable) N/A

Product Standard: FCC Part 15E
RSS-247 Issue 2

Input Voltage: 12VDC Via AC/DC Adapter

Pretest Verification w / Ambient
Signals or BB Source: Yes

Test Date: 7/23/2024

Limit Applied: FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

Ambient Temperature: 27.5°C

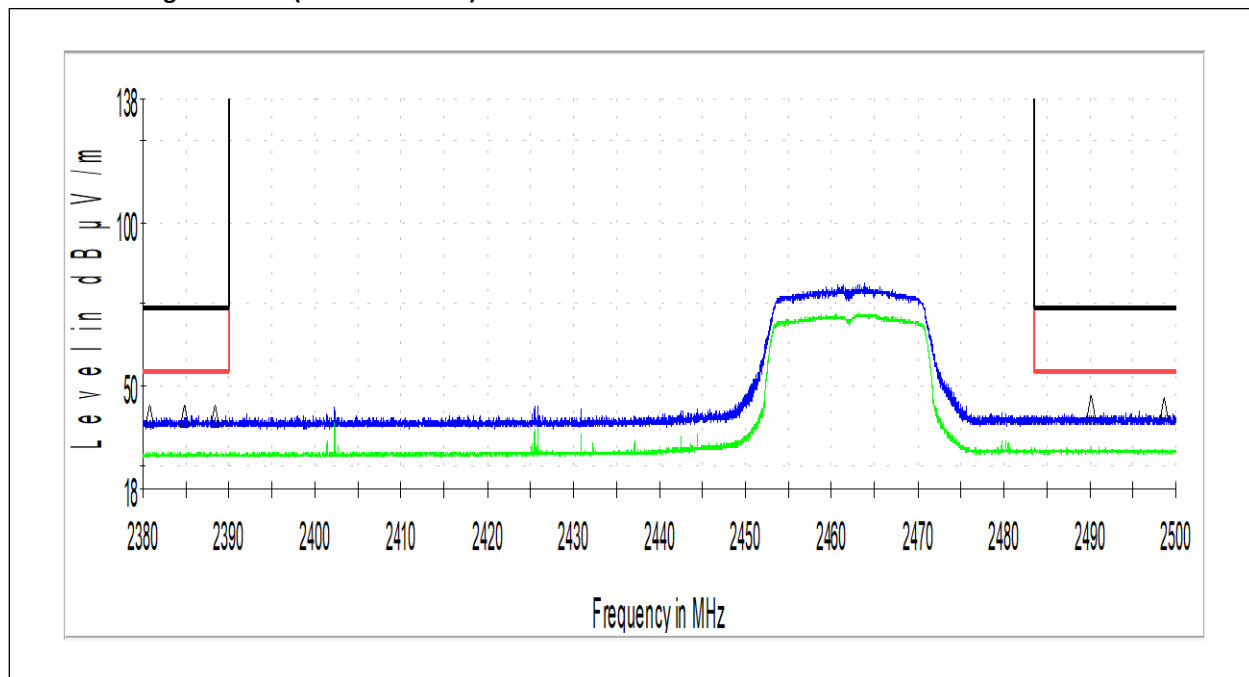
Relative Humidity: 42.6%

Atmospheric Pressure: 982.0mbar

Deviations, Additions, or Exclusions: None



6.9.1.3.2 High Channel (Antenna Port 1)



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2380.81333	40.86	73.98	33.12	369.0	V	222.0	38.2
2384.83333	40.57	73.98	33.41	290.0	H	108.0	38.3
2388.33333	40.86	73.98	33.12	324.0	V	228.0	38.3
2490.16000	43.44	73.98	30.54	313.0	V	0.0	38.9
2498.62666	42.74	73.98	31.24	165.0	V	248.0	38.9

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2380.81333	6.15	53.98	47.83	369.0	V	222.0	38.2
2384.83333	6.45	53.98	47.53	290.0	H	108.0	38.3
2388.33333	6.70	53.98	47.28	324.0	V	228.0	38.3
2490.16000	15.31	53.98	38.67	313.0	V	0.0	38.9
2498.62666	14.95	53.98	39.03	165.0	V	248.0	38.9

Test Personnel: David Perry

Supervising/Reviewing Engineer:
(Where Applicable) N/A

Product Standard: FCC Part 15E

Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter

Yes

Test Date: 7/23/2024

FCC Part 15.407(b)

FCC Part 15.209 in Restricted

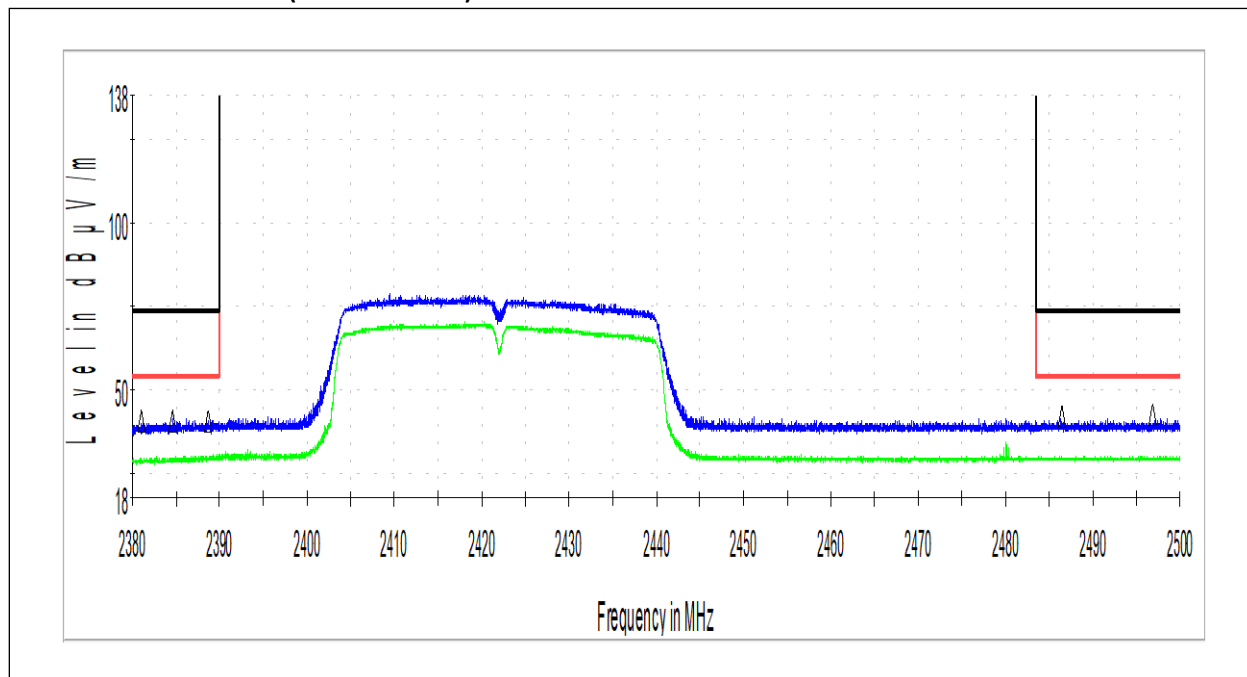
Limit Applied: Bands from FCC Part 15.205

Ambient Temperature: 27.5°C

Relative Humidity: 42.6%

Atmospheric Pressure: 982.0mbar

Deviations, Additions, or Exclusions: None

**6.9.1.4 802.11n40****6.9.1.4.1 Low Channel (Antenna Port 1)**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2381.02000	41.17	73.98	32.81	185.0	H	49.0	38.3
2384.58000	40.84	73.98	33.14	410.0	H	150.0	38.3
2388.65333	40.88	73.98	33.10	410.0	H	31.0	38.3
2486.48666	42.42	73.98	31.56	314.0	H	207.0	38.9
2496.80666	42.75	73.98	31.23	100.0	H	0.0	38.9

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2381.02000	6.18	53.98	47.80	185.0	H	49.0	38.3
2384.58000	6.17	53.98	47.81	410.0	H	150.0	38.3
2388.65333	6.48	53.98	47.50	410.0	H	31.0	38.3
2486.48666	14.52	53.98	39.46	314.0	H	207.0	38.9
2496.80666	14.88	53.98	39.10	100.0	H	0.0	38.9

Test Personnel: David Perry

Supervising/Reviewing Engineer:
(Where Applicable) N/A

Product Standard: FCC Part 15E
RSS-247 Issue 2

Input Voltage: 12VDC Via AC/DC Adapter

Pretest Verification w / Ambient
Signals or BB Source: Yes

Test Date: 7/23/2024

Limit Applied: FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

Ambient Temperature: 27.5°C

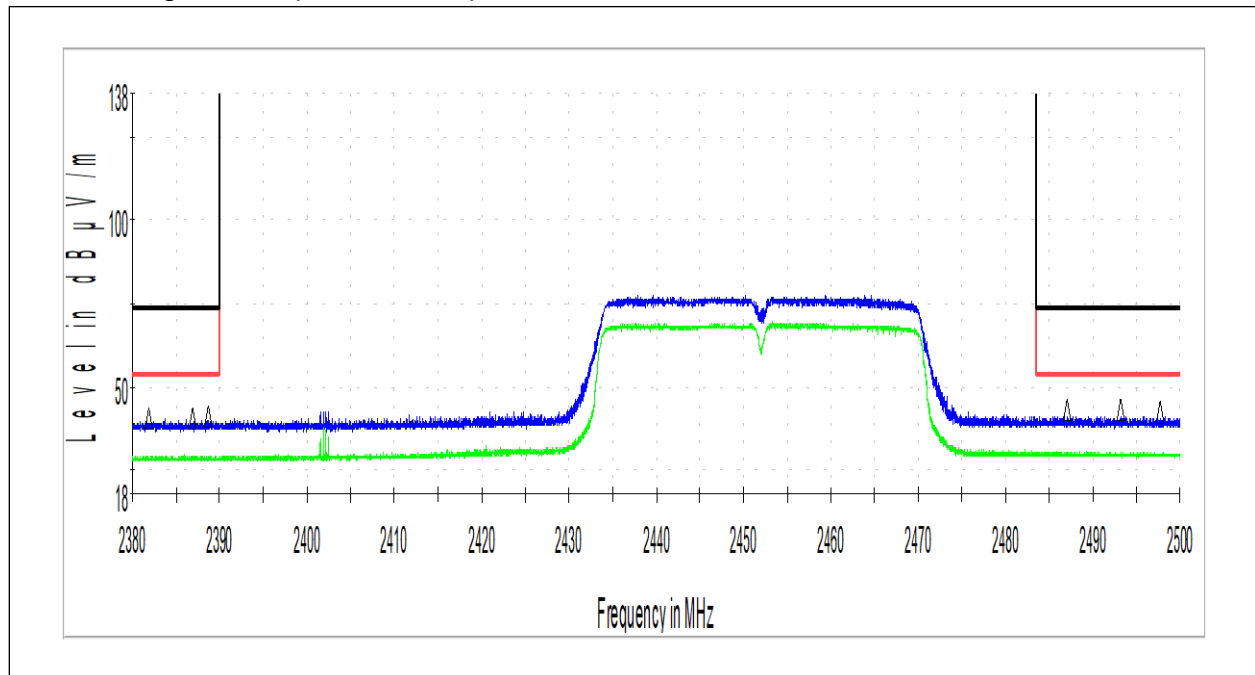
Relative Humidity: 42.6%

Atmospheric Pressure: 982.0mbar

Deviations, Additions, or Exclusions: None



6.9.1.4.2 High Channel (Antenna Port 1)



Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2381.88666	40.53	73.98	33.45	210.0	H	107.0	38.3
2386.86000	40.85	73.98	33.13	410.0	V	253.0	38.3
2388.64666	40.94	73.98	33.04	377.0	V	-1.0	38.3
2487.04000	42.89	73.98	31.09	314.0	H	163.0	38.9
2493.16666	43.24	73.98	30.74	360.0	H	104.0	38.9
2497.66000	42.32	73.98	31.66	278.0	V	163.0	38.9

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2381.88666	6.80	53.98	47.18	210.0	H	107.0	38.3
2386.86000	7.88	53.98	46.10	410.0	V	253.0	38.3
2388.64666	8.25	53.98	45.73	377.0	V	-1.0	38.3
2487.04000	15.70	53.98	38.28	314.0	H	163.0	38.9
2493.16666	17.57	53.98	36.41	360.0	H	104.0	38.9
2497.66000	14.96	53.98	39.02	278.0	V	163.0	38.9

Test Personnel: David Perry

Supervising/Reviewing Engineer:
(Where Applicable) N/A

Product Standard: FCC Part 15E
Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter
Yes

Test Date: 7/23/2024

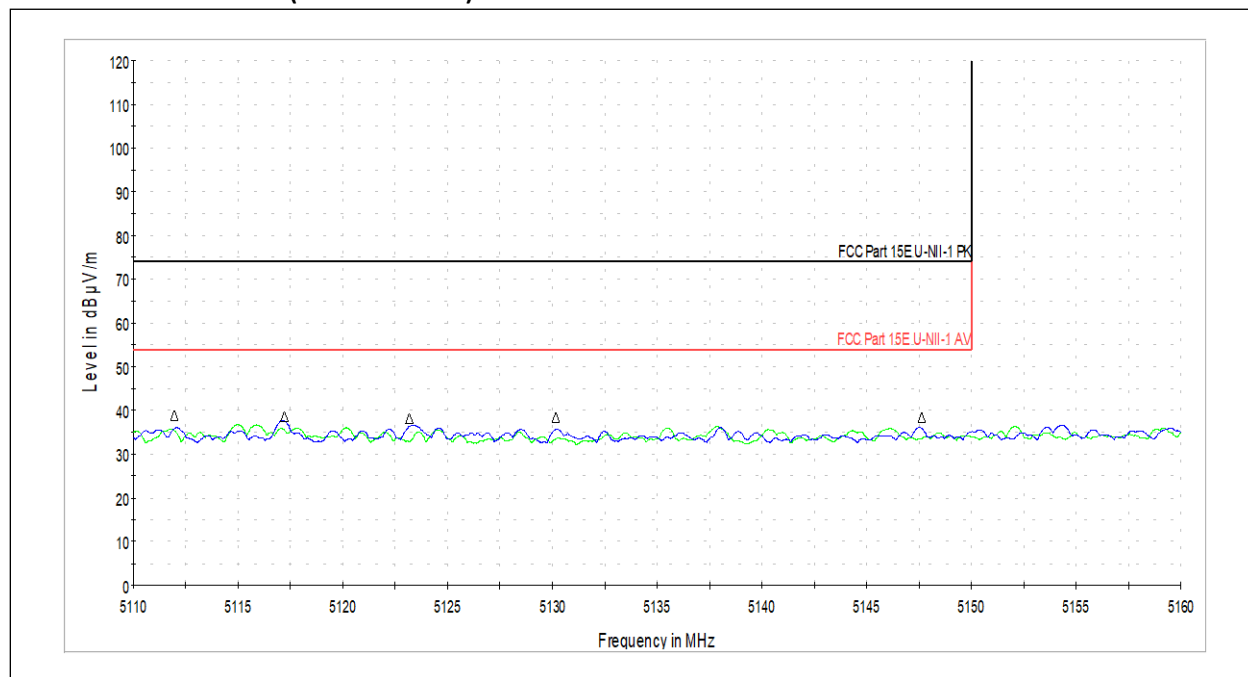
Limit Applied: FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

Ambient Temperature: 27.5°C

Relative Humidity: 42.6%

Atmospheric Pressure: 982.0mbar

Deviations, Additions, or Exclusions: None

**6.9.2 5GHz Wi-Fi (U-NII-1)****6.9.2.1 802.11a****6.9.2.1.1 Low Channel (Antenna Port 1)**

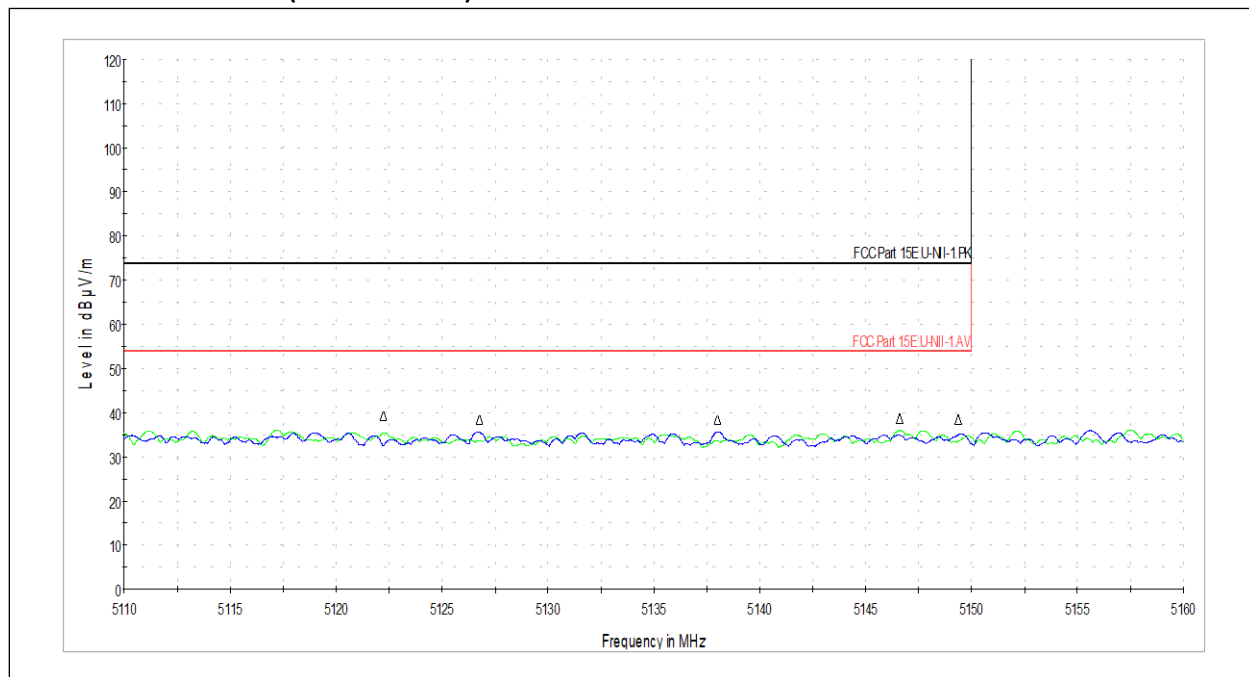
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5111.94444	38.88	73.98	35.10	267.0	V	170.0	10.2
5117.21111	38.62	73.98	35.36	410.0	V	192.0	10.3
5123.16666	38.28	73.98	35.70	410.0	V	112.0	10.3
5130.15277	38.44	73.98	35.54	169.0	V	237.0	10.3
5147.61388	38.50	73.98	35.48	328.0	V	332.0	10.3

Test Personnel: David PerryTest Date: 7/23/2024Supervising/Reviewing Engineer:
(Where Applicable) N/AFCC Part 15.407(b)Limit Applied: FCC Part 15.209 in Restricted
Bands from FCC Part 15.205Product Standard: FCC Part 15EInput Voltage: 12VDC Via AC/DC AdapterAmbient Temperature: 27.5°CRelative Humidity: 42.6%

Pretest Verification w / Ambient

Signals or BB Source: YesAtmospheric Pressure: 982.0mbar

Deviations, Additions, or Exclusions: None

**6.9.2.2 802.11n20****6.9.2.2.1 Low Channel (Antenna Port 1)**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5122.23611	39.45	73.98	34.53	310.0	H	0.0	10.2
5126.78333	38.58	73.98	35.40	156.0	V	7.0	10.3
5138.00000	38.40	73.98	35.58	305.0	V	203.0	10.3
5146.62777	38.71	73.98	35.27	288.0	H	228.0	10.3
5149.37500	38.52	73.98	35.46	116.0	V	214.0	10.3

Test Personnel: Jeremiah AndradeTest Date: 7/24/2024Supervising/Reviewing Engineer:
(Where Applicable) David Perry

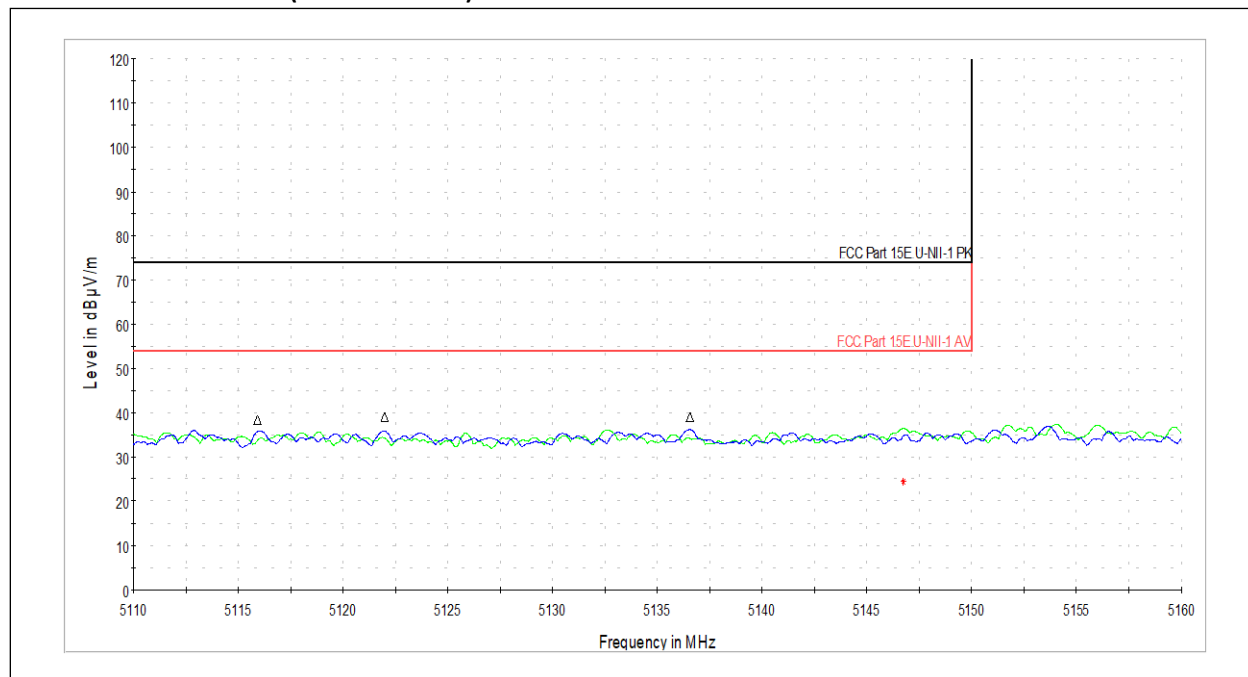
FCC Part 15.407(b)

Limit Applied: FCC Part 15.209 in Restricted
Bands from FCC Part 15.205Product Standard: RSS-247 Issue 2Ambient Temperature: 26.5°CInput Voltage: 12VDC Via AC/DC AdapterRelative Humidity: 47.4%

Pretest Verification w / Ambient

Atmospheric Pressure: 988.8mbarSignals or BB Source: Yes

Deviations, Additions, or Exclusions: None

**6.9.2.3 802.11n40****6.9.2.3.1 Low Channel (Antenna Port 1)**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5115.916667	38.35	73.98	35.63	122.0	V	63.0	10.2
5121.977778	39.08	73.98	34.90	399.0	V	280.0	10.3
5136.563889	39.07	73.98	34.91	351.0	V	64.0	10.3

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5146.744444	24.40	53.98	29.58	371.0	H	274.0	10.3

Test Personnel: Jeremiah Andrade

Supervising/Reviewing Engineer:
(Where Applicable) David Perry

Product Standard: FCC Part 15E

Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter

Yes

Test Date: 7/24/2024

FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

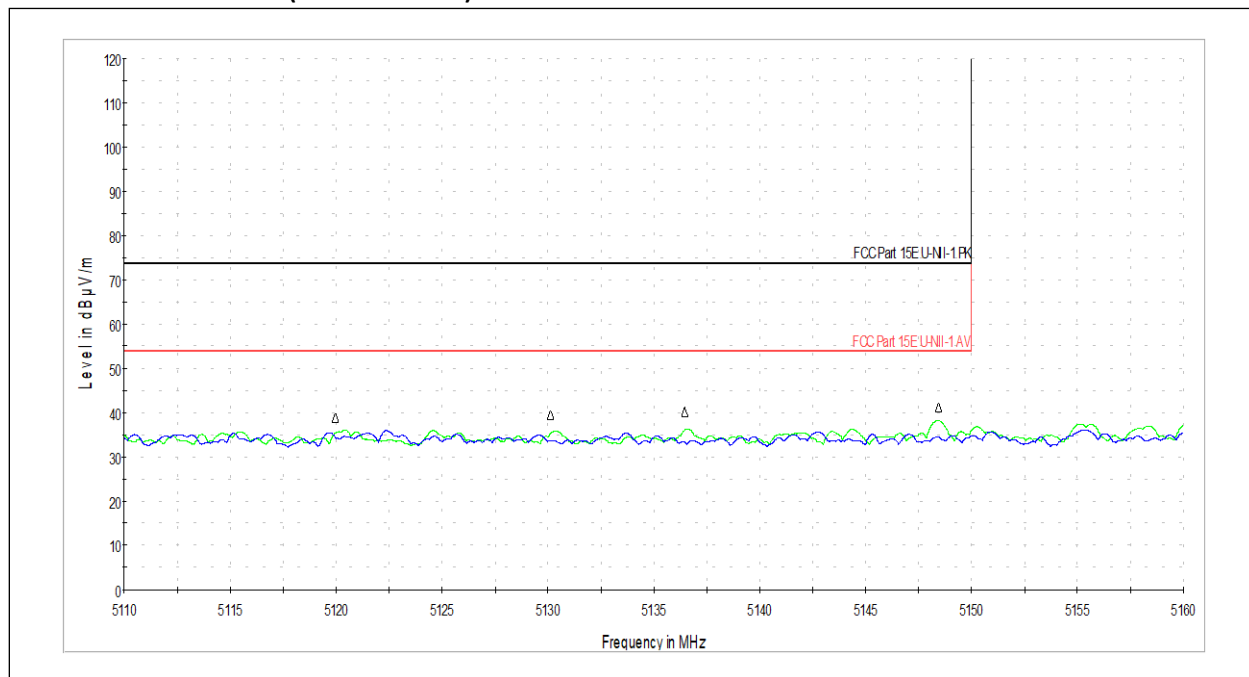
Limit Applied:

Ambient Temperature: 26.5°C

Relative Humidity: 47.4%

Atmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None

**6.9.2.4 802.11ac80****6.9.2.4.1 Low Channel (Antenna Port 1)**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5119.96111	38.89	73.98	35.09	121.0	H	117.0	10.2
5130.13333	39.60	73.98	34.38	288.0	H	294.0	10.3
5136.46388	40.32	73.98	33.66	354.0	H	274.0	10.3
5148.43611	41.25	73.98	32.73	149.0	H	296.0	10.3

Test Personnel: Jeremiah Andrade

Supervising/Reviewing Engineer:
(Where Applicable) David Perry
FCC Part 15E

Product Standard: RSS-247 Issue 2

Input Voltage: 12VDC Via AC/DC Adapter

Pretest Verification w / Ambient
Signals or BB Source: Yes

Test Date: 7/24/2024
FCC Part 15.407(b)
FCC Part 15.209 in Restricted

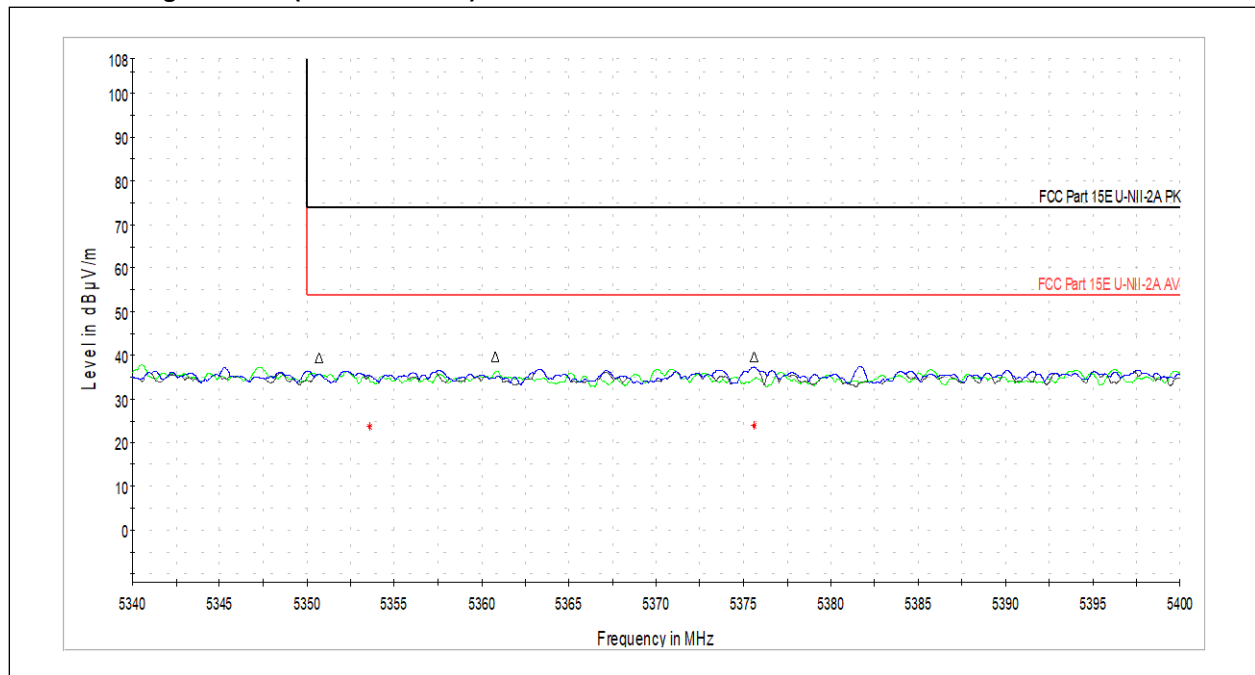
Limit Applied: Bands from FCC Part 15.205

Ambient Temperature: 26.5°C

Relative Humidity: 47.4%

Atmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None

**6.9.3 5GHz Wi-Fi (U-NII-2A)****6.9.3.1 802.11a****6.9.3.1.1 High Channel (Antenna Port 1)**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5350.676667	39.41	73.98	34.57	345.0	H	127.0	10.7
5360.783333	39.63	73.98	34.35	144.0	H	167.0	10.7
5375.583333	39.69	73.98	34.29	397.0	V	117.0	10.8

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5353.583333	23.77	53.98	30.21	410.0	V	266.0	10.8
5375.583333	23.85	53.98	30.13	410.0	V	231.0	10.8

Test Personnel: Jeremiah Andrade

Supervising/Reviewing Engineer:
(Where Applicable) David Perry

Product Standard: FCC Part 15E
Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: Yes

Test Date: 7/24/2024

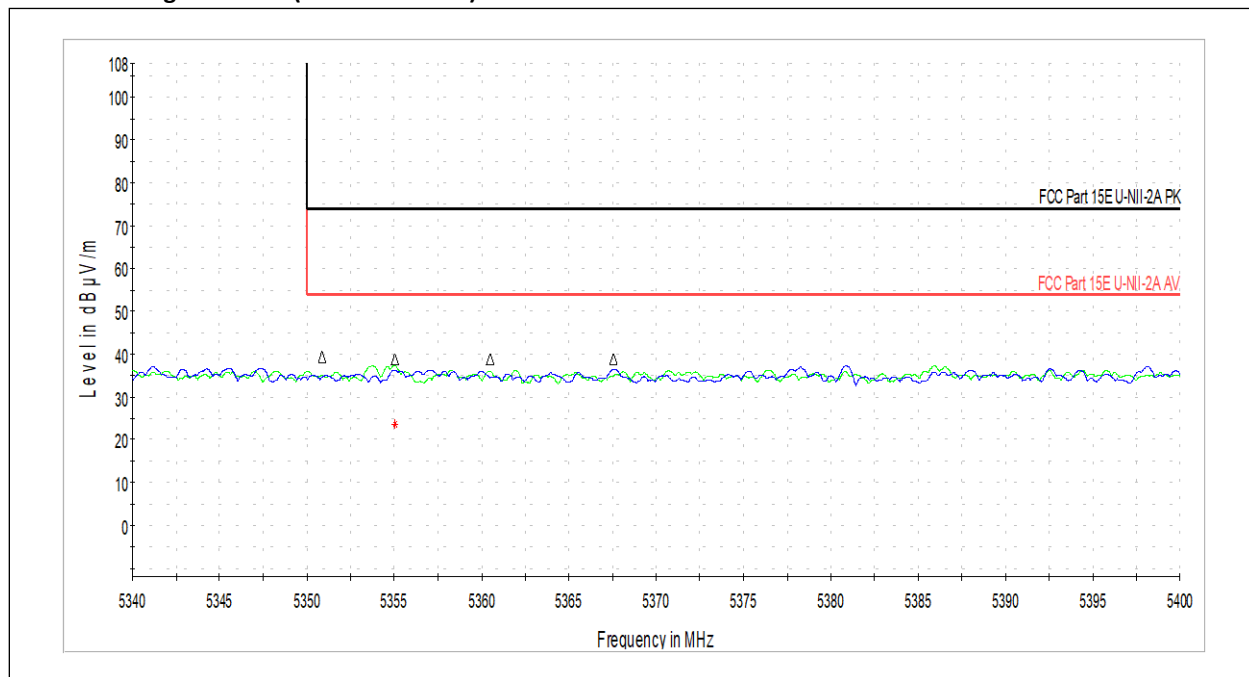
Limit Applied: FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

Ambient Temperature: 26.5°C

Relative Humidity: 47.4%

Atmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None

**6.9.3.2 802.11n20****6.9.3.2.1 High Channel (Antenna Port 1)**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5350.873333	39.39	73.98	34.59	159.0	H	294.0	10.7
5355.013333	38.83	73.98	35.15	261.0	H	209.0	10.7
5360.486667	38.94	73.98	35.04	153.0	H	59.0	10.7
5367.536667	38.84	73.98	35.14	100.0	V	48.0	10.8

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5355.013333	23.77	53.98	30.21	348.0	H	283.0	10.7

Test Personnel: Jeremiah Andrade

Supervising/Reviewing Engineer:
(Where Applicable) David Perry

Product Standard: FCC Part 15E
Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter

Signals or BB Source: Yes

Test Date: 7/24/2024

FCC Part 15.407(b)
FCC Part 15.209 in Restricted

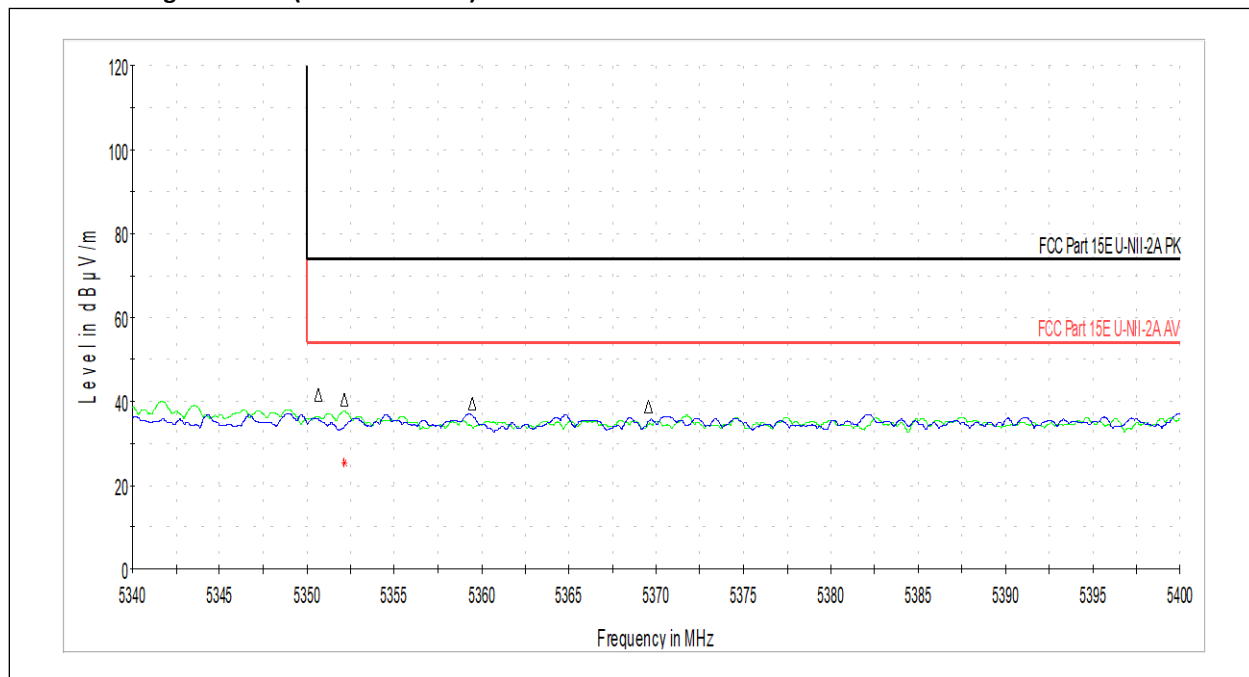
Limit Applied: Bands from FCC Part 15.205

Ambient Temperature: 26.5°C

Relative Humidity: 47.4%

Atmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None

**6.9.3.3 802.11n40****6.9.3.3.1 High Channel (Antenna Port 1)**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5350.626667	41.40	73.98	32.58	410.0	H	274.0	10.7
5352.123333	40.45	73.98	33.53	111.0	H	242.0	10.7
5359.450000	39.32	73.98	34.66	363.0	V	341.0	10.8
5369.570000	38.67	73.98	35.31	136.0	V	22.0	10.8

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5352.123333	25.43	53.98	28.55	116.0	H	320.0	10.7

Test Personnel: Jeremiah Andrade

Supervising/Reviewing Engineer:
(Where Applicable) David Perry

Product Standard: FCC Part 15E
Input Voltage: RSS-247 Issue 2
Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter
Yes

Test Date: 7/24/2024

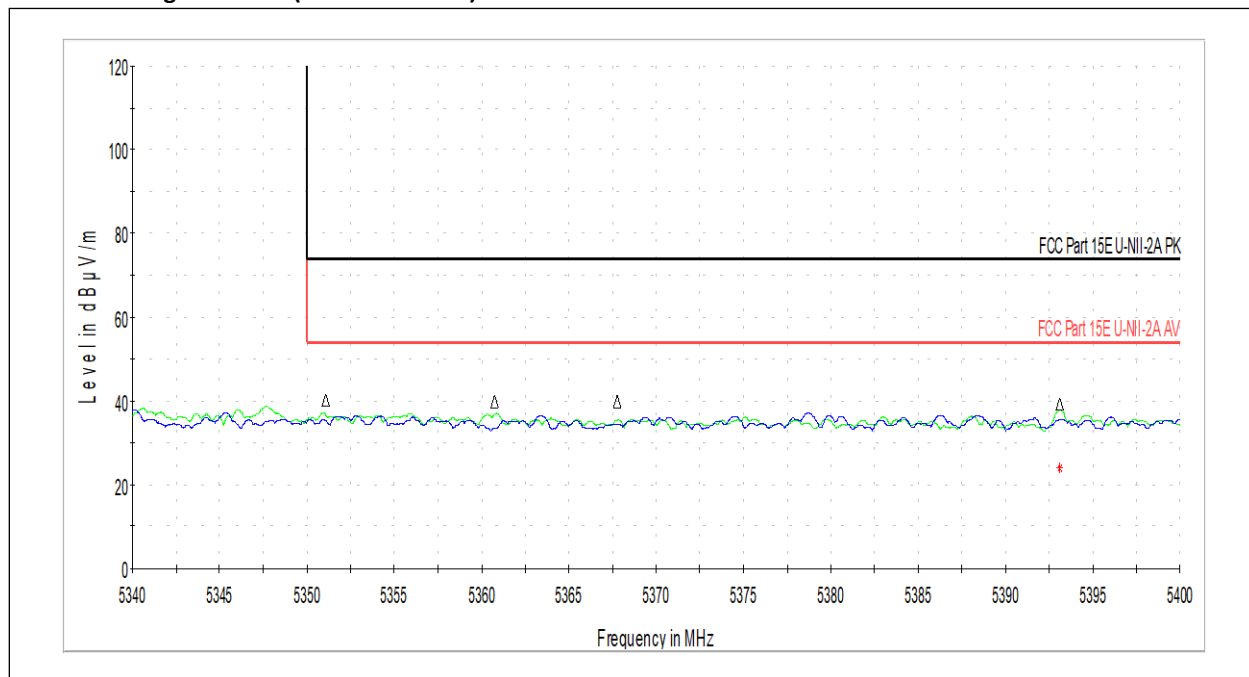
FCC Part 15.407(b)
FCC Part 15.209 in Restricted

Limit Applied: Bands from FCC Part 15.205

Ambient Temperature: 26.5°C
Relative Humidity: 47.4%

Atmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None

**6.9.3.4 802.11ac80****6.9.3.4.1 High Channel (Antenna Port 1)**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5351.070000	40.07	73.98	33.91	398.0	H	319.0	10.7
5360.733333	40.00	73.98	33.98	320.0	H	291.0	10.7
5367.783333	39.91	73.98	34.07	316.0	H	154.0	10.7
5393.120000	39.19	73.98	34.79	110.0	H	172.0	10.8

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5393.120000	23.98	53.98	30.00	342.0	H	285.0	10.8

Test Personnel: Jeremiah Andrade

Supervising/Reviewing Engineer:
(Where Applicable) David Perry

Product Standard: FCC Part 15E
Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter
Yes

Test Date: 7/24/2024

FCC Part 15.407(b)
FCC Part 15.209 in Restricted

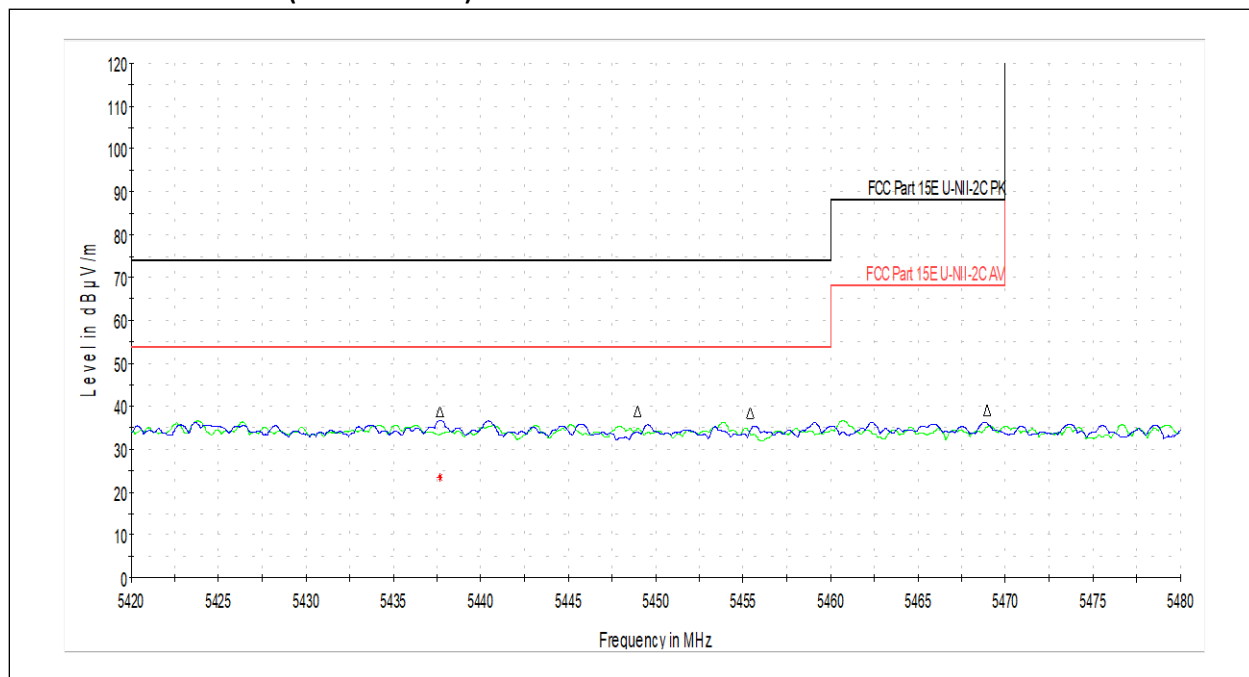
Limit Applied: Bands from FCC Part 15.205

Ambient Temperature: 26.5°C

Relative Humidity: 47.4%

Atmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None

**6.9.4 5GHz Wi-Fi (U-NII-2C)****6.9.4.1 802.11a****6.9.4.1.1 Low Channel (Antenna Port 1)**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5437.680000	38.72	73.98	35.26	116.0	V	149.0	10.8
5448.953333	38.89	73.98	35.09	184.0	H	84.0	10.8
5455.386667	38.55	73.98	35.43	222.0	H	117.0	10.8
5468.930000	38.94	88.23	49.29	294.0	V	119.0	10.8

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5437.680000	23.27	53.98	30.71	100.0	V	195.0	10.8

Test Personnel: Jeremiah Andrade

Supervising/Reviewing Engineer:
(Where Applicable) David Perry

Product Standard: FCC Part 15E

Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: Yes

Test Date: 7/24/2024

FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

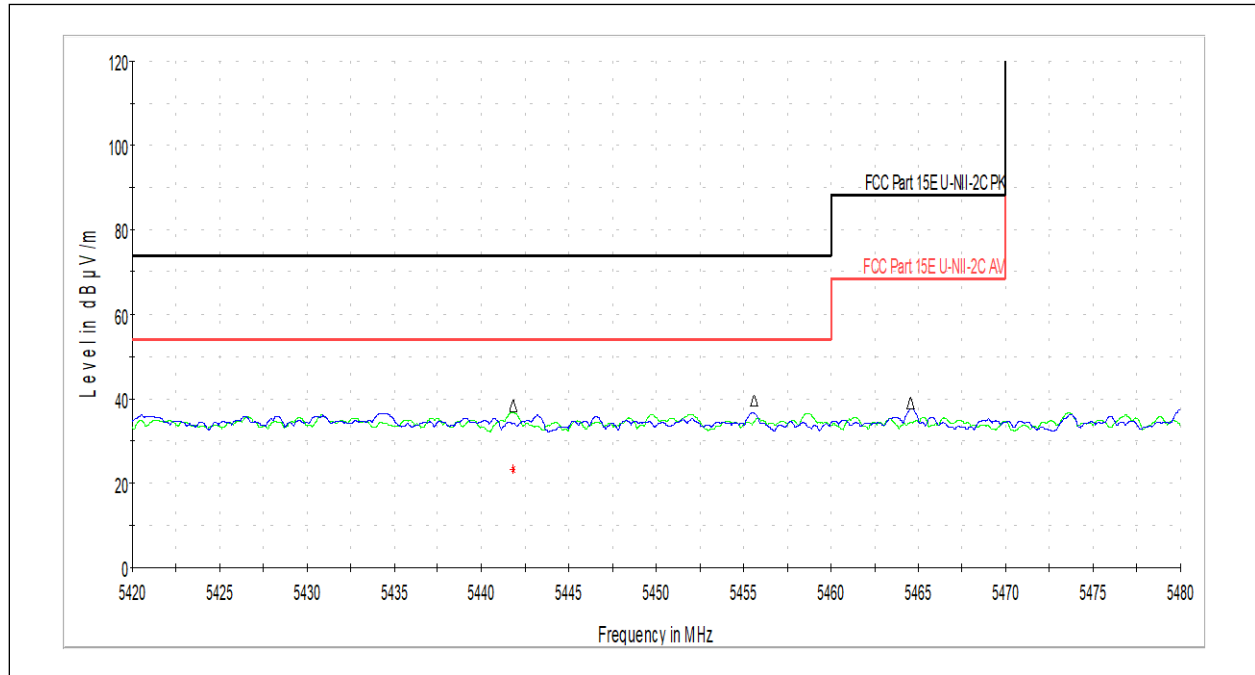
Limit Applied:

Ambient Temperature: 26.5°C

Relative Humidity: 47.4%

Atmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None

**6.9.4.2 802.11n20****6.9.4.2.1 Low Channel (Antenna Port 1)**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5441.796667	38.39	73.98	35.59	374.0	H	87.0	10.8
5455.620000	39.48	73.98	34.50	299.0	V	87.0	10.8
5464.560000	38.89	88.23	49.34	276.0	V	198.0	10.8

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5441.796667	23.32	53.98	30.66	410.0	H	0.0	10.8

Test Personnel: Jeremiah Andrade

Supervising/Reviewing Engineer:
(Where Applicable) David Perry

Product Standard: FCC Part 15E

Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter

Yes

Test Date: 7/24/2024

FCC Part 15.407(b)

FCC Part 15.209 in Restricted

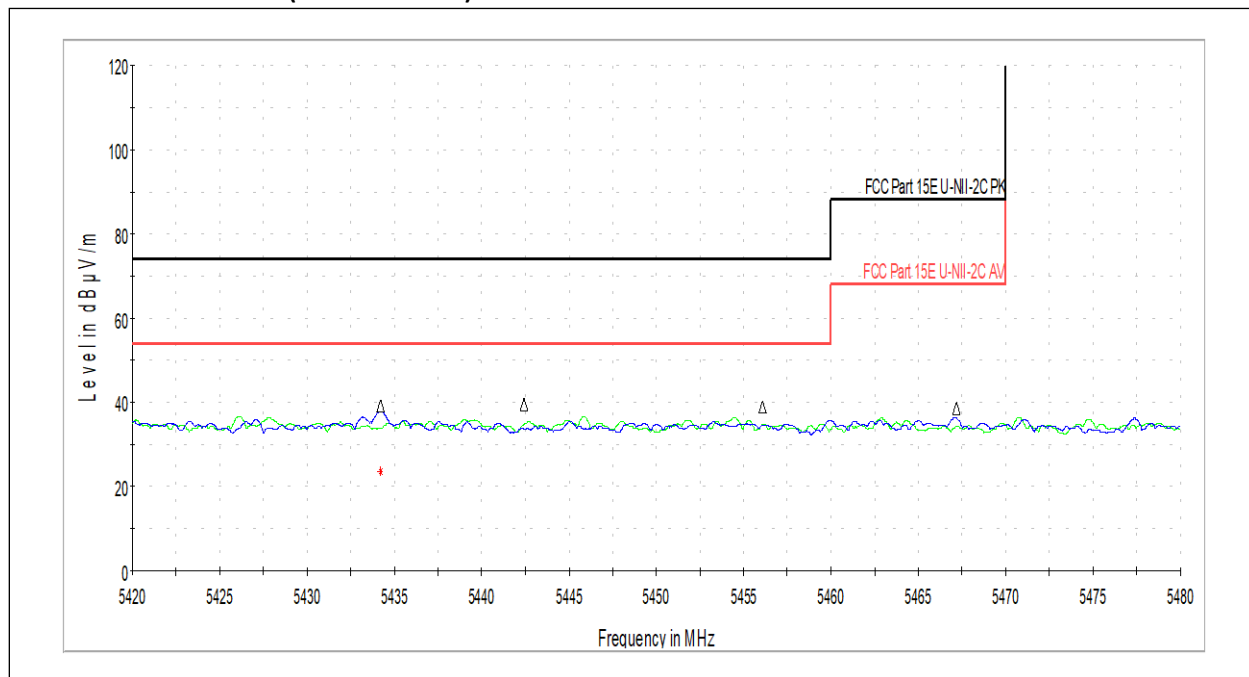
Limit Applied: Bands from FCC Part 15.205

Ambient Temperature: 26.5°C

Relative Humidity: 47.4%

Atmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None

**6.9.4.3 802.11n40****6.9.4.3.1 Low Channel (Antenna Port 1)**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5434.216667	39.25	73.98	34.73	201.0	V	11.0	10.8
5442.413333	39.42	73.98	34.56	152.0	H	228.0	10.8
5456.070000	38.97	73.98	35.01	378.0	H	223.0	10.8
5467.173333	38.57	88.23	49.66	310.0	V	50.0	10.8

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5434.216667	23.48	53.98	30.50	110.0	V	8.0	10.8

Test Personnel: Jeremiah Andrade

Supervising/Reviewing Engineer:
(Where Applicable) David Perry

Product Standard: FCC Part 15E

Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter

Yes

Test Date: 7/24/2024

FCC Part 15.407(b)
FCC Part 15.209 in Restricted

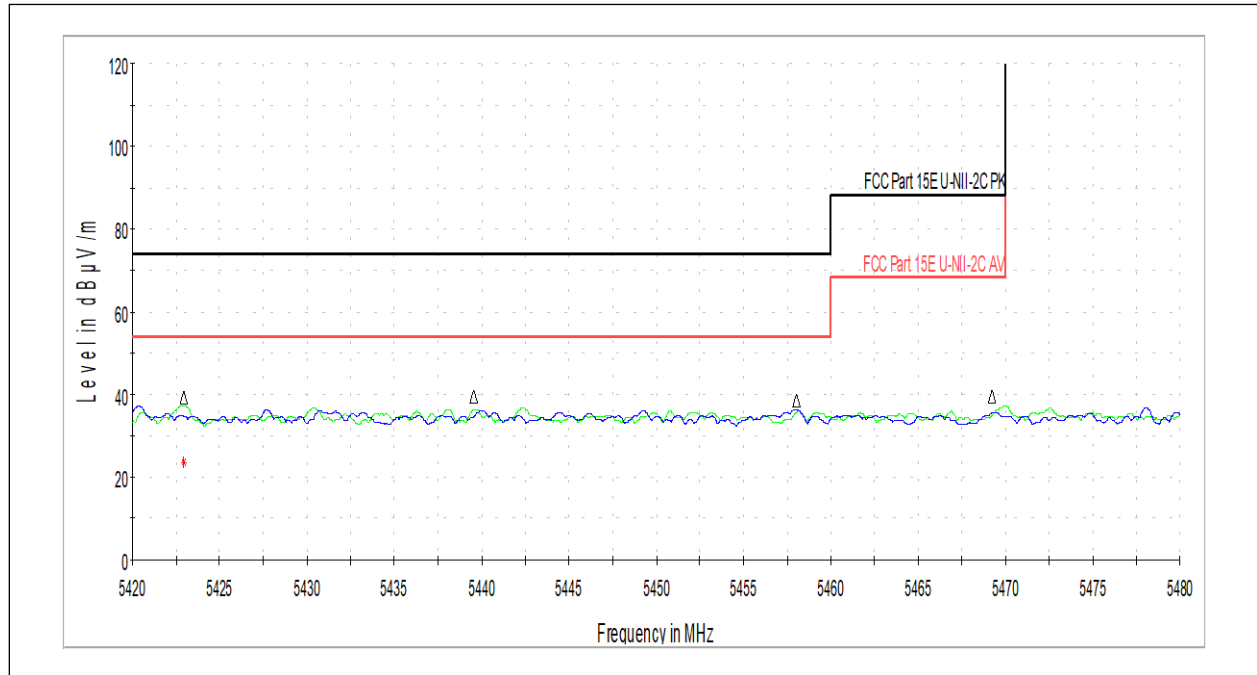
Limit Applied: Bands from FCC Part 15.205

Ambient Temperature: 26.5°C

Relative Humidity: 47.4%

Atmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None

**6.9.4.4 802.11ac80****6.9.4.4.1 Low Channel (Antenna Port 1)**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5422.923333	39.20	73.98	34.78	294.0	H	22.0	10.8
5439.540000	39.72	73.98	34.26	147.0	H	30.0	10.8
5458.036667	38.73	73.98	35.25	285.0	V	343.0	10.8
5469.233333	39.42	88.23	48.81	100.0	V	158.0	10.8

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5422.923333	23.57	53.98	30.41	182.0	H	112.0	10.8

Test Personnel: Jeremiah Andrade

Supervising/Reviewing Engineer:
(Where Applicable) David Perry

Product Standard: FCC Part 15E
Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: 12VDC Via AC/DC Adapter

Yes

Test Date: 7/24/2024

FCC Part 15.407(b)
FCC Part 15.209 in Restricted

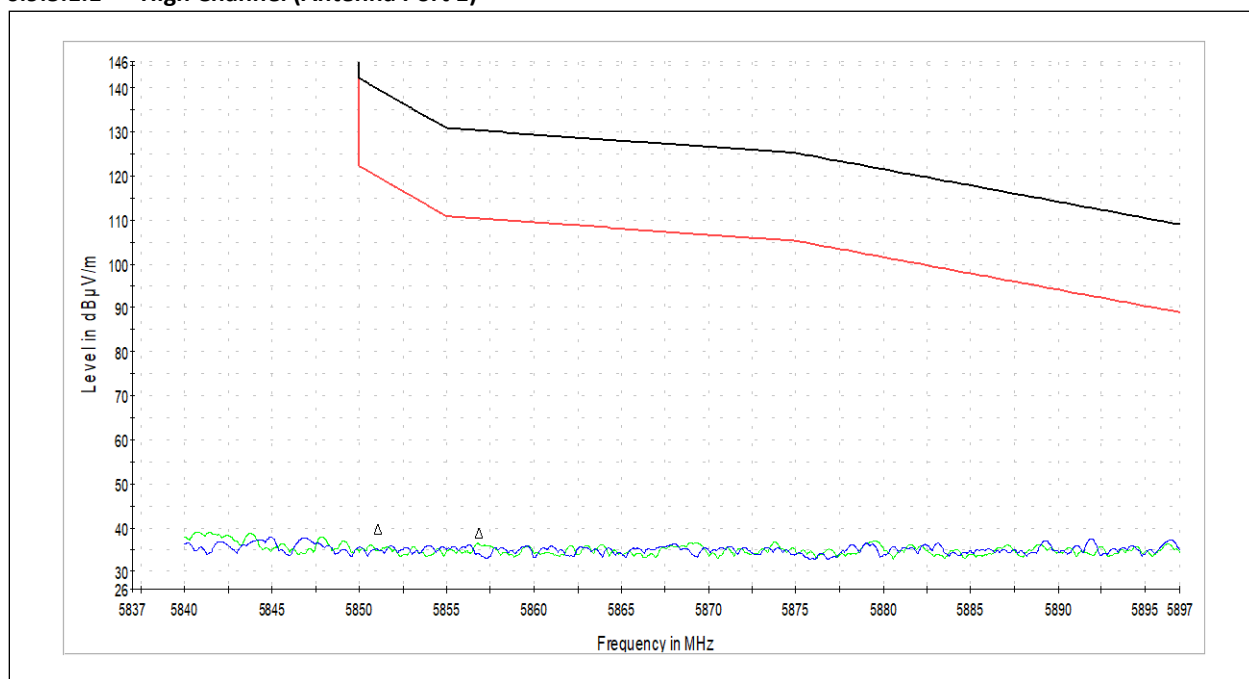
Limit Applied: Bands from FCC Part 15.205

Ambient Temperature: 26.5°C

Relative Humidity: 47.4%

Atmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None

**6.9.5 5GHz Wi-Fi (U-NII-3)****6.9.5.1 802.11a****6.9.5.1.1 High Channel (Antenna Port 1)**

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5851.07000	39.69	139.79	100.10	237.0	V	294.0	11.6
5856.83666	38.78	130.32	91.54	132.0	H	231.0	11.5
5899.73000	39.73	106.93	67.20	121.0	H	62.0	11.7

Frequency (MHz)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5899.73000	24.15	86.93	62.78	100.0	H	108.0	11.7

Test Personnel: Jeremiah Andrade

Supervising/Reviewing Engineer:
(Where Applicable) David Perry

Product Standard: FCC Part 15E
Input Voltage: RSS-247 Issue 2

Pretest Verification w / Ambient
Signals or BB Source: Yes

Test Date: 7/24/2024

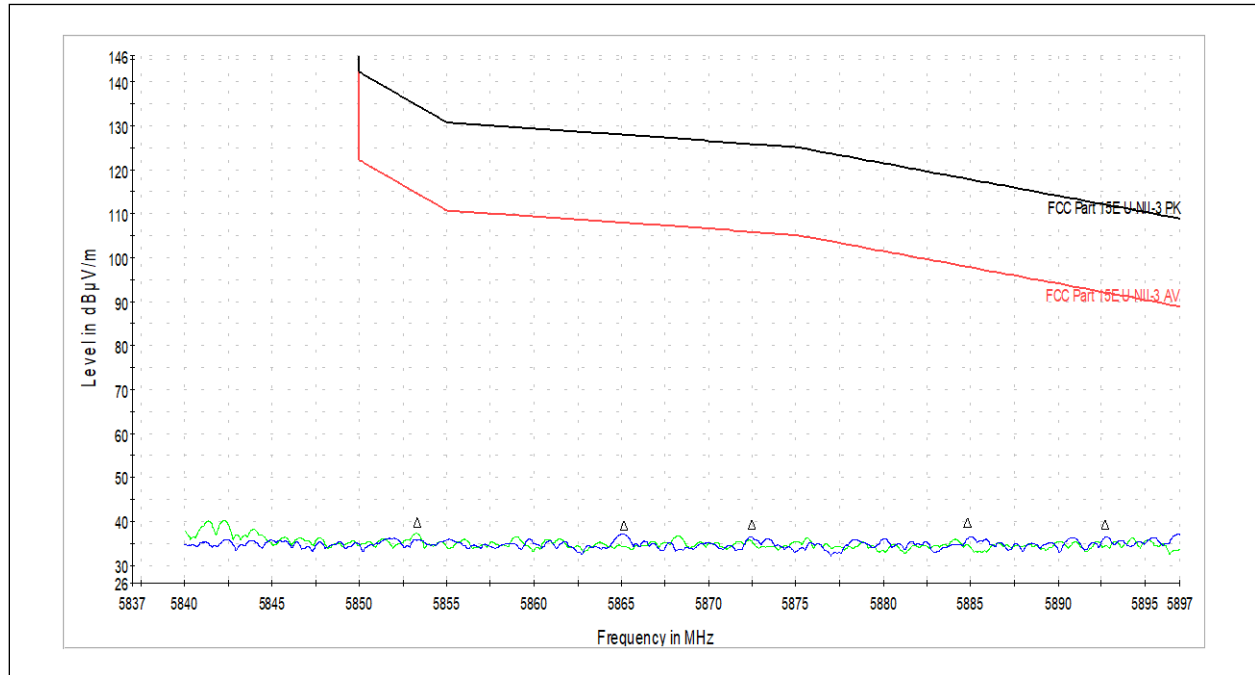
Limit Applied: FCC Part 15.407(b)
FCC Part 15.209 in Restricted
Bands from FCC Part 15.205

Ambient Temperature: 26.5°C

Relative Humidity: 47.4%

Atmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None

**6.9.5.2 802.11n20****6.9.5.2.1 High Channel (Antenna Port 1)**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5853.296667	39.72	134.71	94.99	256.0	H	263.0	11.5
5865.126667	39.07	128.00	88.92	196.0	V	52.0	11.6
5872.473333	39.36	125.94	86.58	163.0	V	0.0	11.6
5884.833333	39.63	117.95	78.32	373.0	V	298.0	11.6
5892.703333	39.26	112.13	72.87	254.0	V	165.0	11.7

Test Personnel: Jeremiah AndradeTest Date: 7/24/2024Supervising/Reviewing Engineer:
(Where Applicable)David Perry

FCC Part 15.407(b)

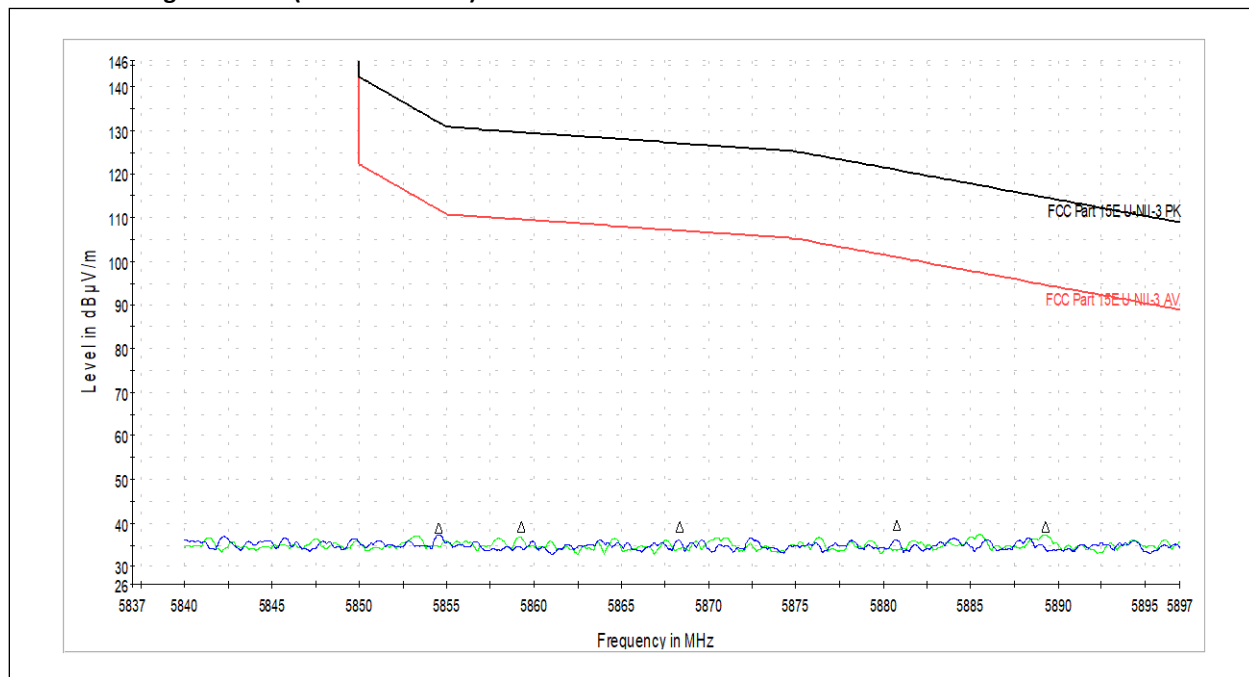
FCC Part 15.209 in Restricted

Limit Applied: Bands from FCC Part 15.205Product Standard: RSS-247 Issue 2Ambient Temperature: 26.5°CInput Voltage: 12VDC Via AC/DC AdapterRelative Humidity: 47.4%

Pretest Verification w / Ambient

Signals or BB Source: YesAtmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None

**6.9.5.3 802.11n40****6.9.5.3.1 High Channel (Antenna Port 1)**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5854.53000	38.91	131.90	92.99	285.0	V	314.0	11.6
5859.26000	39.23	129.64	90.41	164.0	H	0.0	11.6
5868.33333	39.11	127.10	87.99	273.0	V	257.0	11.6
5880.75666	39.52	120.97	81.45	132.0	V	173.0	11.6
5889.28666	39.13	114.66	75.53	191.0	H	295.0	11.6

Test Personnel: Jeremiah AndradeTest Date: 7/24/2024Supervising/Reviewing Engineer:
(Where Applicable) David Perry

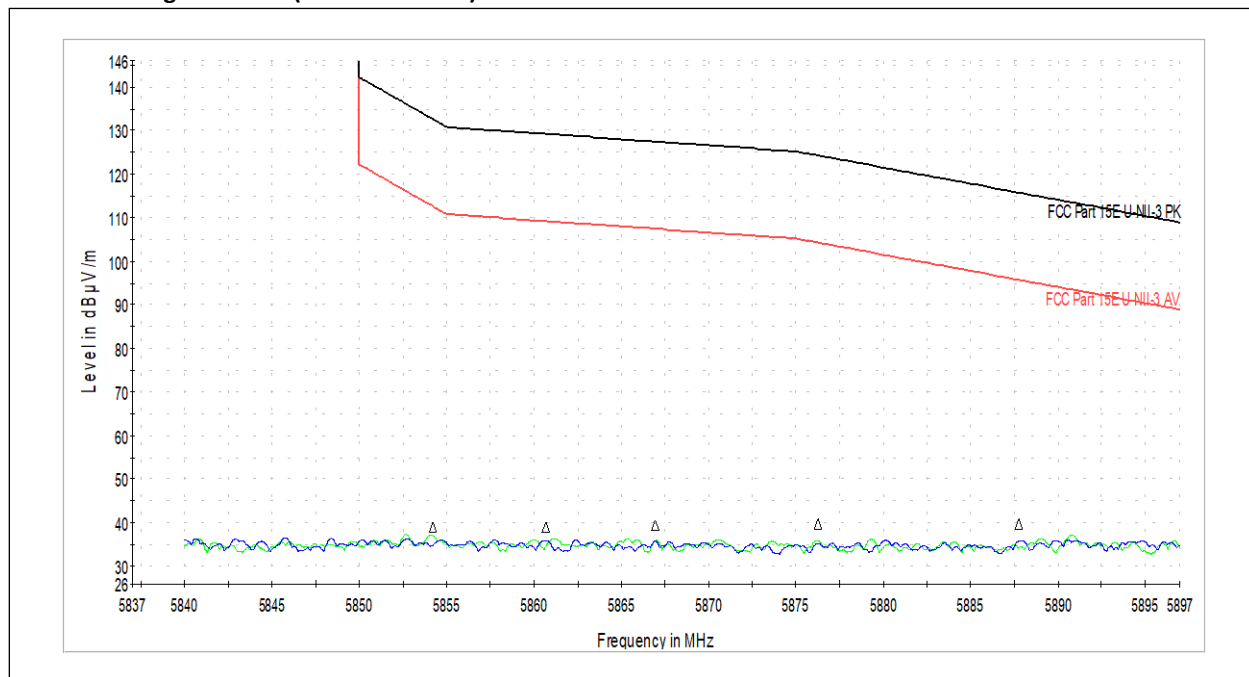
FCC Part 15.407(b)

Limit Applied: FCC Part 15.209 in Restricted
Bands from FCC Part 15.205Product Standard: RSS-247 Issue 2Ambient Temperature: 26.5°CInput Voltage: 12VDC Via AC/DC AdapterRelative Humidity: 47.4%

Pretest Verification w / Ambient

Signals or BB Source: YesAtmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None

**6.9.5.4 802.11ac80****6.9.5.4.1 High Channel (Antenna Port 1)**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
5854.18333	39.11	132.69	93.58	265.0	H	302.0	11.5
5860.69666	39.12	129.24	90.11	116.0	V	12.0	11.6
5866.92000	39.50	127.49	87.99	330.0	H	276.0	11.6
5876.27000	39.65	124.29	84.64	410.0	H	180.0	11.6
5887.77000	39.68	115.78	76.10	121.0	V	294.0	11.7

Test Personnel: Jeremiah AndradeTest Date: 7/24/2024Supervising/Reviewing Engineer:
(Where Applicable)David Perry

FCC Part 15.407(b)

FCC Part 15.209 in Restricted
Bands from FCC Part 15.205Product Standard: RSS-247 Issue 2Input Voltage: 12VDC Via AC/DC AdapterAmbient Temperature: 26.5°CRelative Humidity: 47.4%

Pretest Verification w / Ambient

Signals or BB Source: YesAtmospheric Pressure: 988.8mbar

Deviations, Additions, or Exclusions: None



7 Antenna Requirement

7.1 Test Limits

FCC Part 15.203:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §§15.211, 15.213, 15.217, 15.219, 15.221, or §15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

RSS-Gen Issue 5 § 6.8:

The applicant for equipment certification, as per RSP-100, must provide a list of all antenna types that may be used with the license-exempt transmitter, indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna.

License-exempt transmitters that have received equipment certification may operate with different types of antennas. However, it is not permissible to exceed the maximum equivalent isotropically radiated power (e.i.r.p.) limits specified in the applicable standard (RSS) for the license-exempt apparatus.

Testing shall be performed using the highest gain antenna of each combination of license-exempt transmitter and antenna type, with the transmitter output power set at the maximum level. When a measurement at the antenna connector is used to determine RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna manufacturer.

User manuals for transmitters equipped with detachable antennas shall also contain the following notice in a conspicuous location:

This radio transmitter (identify the device by certification number) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Immediately following the above notice, the manufacturer shall provide a list of all antenna types approved for use with the transmitter, indicating the maximum permissible antenna gain (in dBi).

7.2 Test Results

The device was found to be **compliant**. The device requires an antenna that uses a unique coupling.



8 Revision History

Revision Level	Date	Report Number	Prepared By	Reviewed By	Notes
0	8/19/2025	105883475LEX-003a	JP	MC	Original Issue