TEST REPORT
(Class II Permissive Change)

Report Number: 104582174MPK-002
Project Number: G104582174
May 10, 2021

Testing performed on the
Communication Badge
Model: B3000n

FCC ID: QGZB3000N
IC: 4362A-B3000N

to

FCC Part 15 Subpart C (15.247)
Industry Canada RSS-247, Issue 2

For

Vocera Communications

Test Performed by:	**Test Authorized by:**
Intertek	Vocera Communications
1365 Adams Court	525 Race St, Ste 150
Menlo Park, CA 94025 USA	San Jose, CA 95126 USA

Prepared by: _____ **Date:** May 10, 2021
Anderson Soungpanya

Reviewed by: _____ **Date:** May 10, 2021
Krishna K Vemuri

Report No. 104582174MPK-002	
Equipment Under Test:	Communication Badge
Trade Name:	Vocera Communications
Model Number:	B3000n
Applicant:	Vocera Communications
Contact:	Sonja Serrano
Address:	Vocera Communications 525 Race St, Ste 150 San Jose, CA 95126
Country:	USA
Tel. Number:	(408) 882-5100
Email:	sserrano@vocera.com
Applicable Regulation:	FCC Part 15 Subpart C (15.247) Industry Canada RSS-247 Issue 2
Date of Test:	February 12, 2021 – April 16, 2021

We attest to the accuracy of this report:

Anderson Soungpanya
Project Engineer

Krishna K Vemuri
EMC Manager

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1.0 Summary of Tests

Test	Reference FCC	Reference Industry Canada	Result
RF Output Power	15.247(b)(3)	RSS-247, 5.4	Complies
Transmitter Radiated Emissions	15.247(d), 15.209, 15.205	RSS-247, 5.5	Complies

EUT receive date: February 12, 2021

EUT receive condition: The pre-production version of the EUT was received in good condition with no apparent damage. As declared by the Applicant, it is identical to the production units.

Test start date: February 12, 2021

Test completion date: April 16, 2021

The test results in this report pertain only to the item tested.

2.0 General Information

2.1 Product Description

Vocera Communications supplied the following description of the EUT:

The B3000n Communication Badge is a 2.4GHz, 5GHz 802.11abgn + BT 3.0 pendent that is designed to provide communication to mobile users. Since the EUT would be placed on a tabletop during operation, the EUT was treated as table-top equipment during testing to simulate the end-user environment. The EUT is battery powered and is unable to transmit while charging.

This test report covers only the 2.4GHz radios.

Information about the radios are presented below:

Radio Information	
Applicant	Vocera Communications
Model Number	B3000n
FCC Identifier	QGZB3000N
IC Identifier	4362A-B3000N
Modulation Technique	DSSS (BPSK, QPSK, CCK), OFDM (BPSK, QPSK, 16QAM, 64QAM) – WIFI GFSK, 8DPSK – Bluetooth FHSS
Max RF Output	14.85 dBm
Frequency Range	2412 – 2462 MHz, 802.11b/g/n 2402 – 2480 MHz, Bluetooth FHSS
Number of Channel(s)	11 for 802.11b/g/n 79 for Bluetooth FHSS
Antenna(s) & Gain	Internal Antenna, Gain: 3.0 dBi
Applicant Name & Address	Vocera Communications 525 Race St, Ste 150 San Jose, CA 95126 USA

2.2 Related Submittal(s) Grants

None.

2.3 Test Methodology

Antenna conducted measurements were performed according to the FCC documents “Guidance for Performing Compliance Measurement on Digital Transmission Systems, Frequency Hopping Spread Spectrum System, and Hybrid System devices Operating under §15.247” (KDB 558074 D01 15.247 Meas Guidance v05r02), RSS-247 Issue 2, ANSI C63.10: 2013 and RSS-GEN Issue 5.

Radiated emissions and AC mains conducted emissions measurements were performed according to the procedures in ANSI C63.10: 2013. Radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "Data Sheet" of this report.

2.4 Test Facility

The test site used to collect the radiated data is site 1 (10-m semi-anechoic chamber). This test facility and site measurement data have been fully placed on file with the FCC, IC and A2LA accredited.

2.5 Measurement Uncertainty

Compliance with the limits was based on the results of the measurements and doesn’t take into account the measurement uncertainty.

Estimated Measurement Uncertainty

Measurement	Expanded Uncertainty (k=2)		
	0.15 MHz – 1 GHz	1 GHz – 2.5 GHz	> 2.5 GHz
RF Power and Power Density – antenna conducted	-	0.7 dB	-
Unwanted emissions - antenna conducted	1.1 dB	1.3 dB	1.9 dB
Bandwidth – antenna conducted	-	30 Hz	-

Measurement	Expanded Uncertainty (k=2)			
	0.15 MHz – 30MHz	30 – 200 MHz	200 MHz – 1 GHz	1 GHz – 18 GHz
Radiated emissions	-	4.7	4.6	5.1 dB
AC mains conducted emissions	2.1 dB	-	-	-

3.0 System Test Configuration

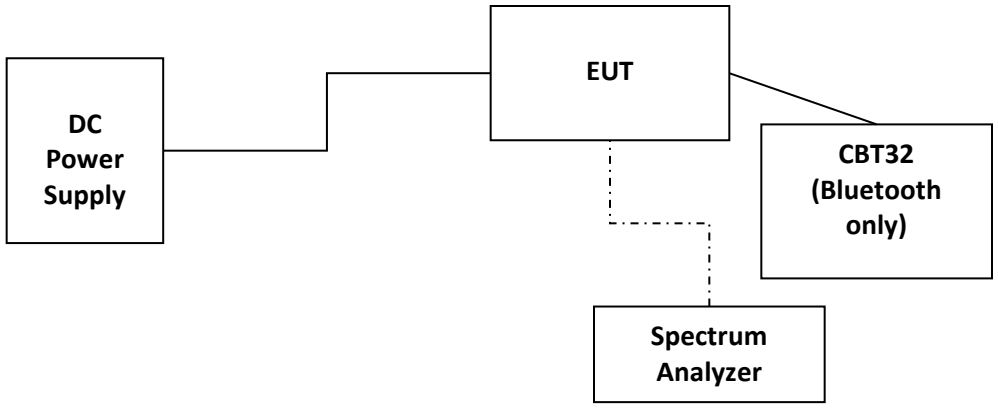
3.1 Support Equipment and description

Support Equipment		
Description	**Manufacturer**	**Model No./ Part No.**
DC Power Supply	Extech	EP-3003
Bluetooth Communication Box	Rohde & Schwarz	CBT32
Laptop	Lenovo	T440P

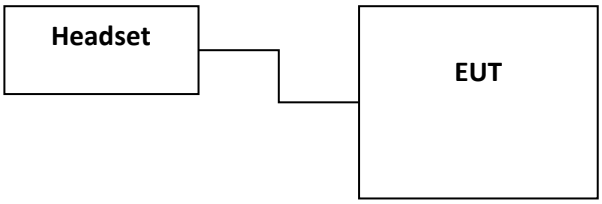
3.2 Block Diagram of Test Setup

Equipment Under Test			
Description	**Manufacturer**	**Model Number**	**Serial Number**
Communication Badge	Vocera	B3000n	K4HM203B0BEA
Headset for B3000n	Plantronics	MX250	Not listed

Antenna was removed and co-axial connector was installed for Conducted Measurements.



Radiated Measurements



3.3 Justification

Preliminary testing was performed for all modulation/data rate modes. The worse-case data rate with highest power and widest spectrum were selected for final measurements:

CCK 1 Mbps – for 802.11b
OFDM 6 Mbps – for 802.11g
OFDM MCS0 – for 802.11n

Different orientation of the EUT were tested and only the worse-case emissions were reported.

For radiated emission measurements the EUT is placed on a non-conductive table.

Unless otherwise stated in this report, measurements made for Radiated Spurious and Band Edge were made with the worst-case power measured and widest bandwidth per guidelines in ANSI 63.10 2013.

ANSI 63.10 2013; section 5.6.2.2 Determining worst-case mode.
a) Band edge requirements—Measurements on the mode with the widest bandwidth can be used to cover the same channel (center frequency) on modes with narrower bandwidth that have the same or lower output power for each modulation family (e.g., OFDM and direct sequence spread spectrum).

b) Spurious emissions—Measure the mode with the highest output power and the mode with the highest output power spectral density for each modulation family (e.g., OFDM and direct sequence spread spectrum).

3.4 Mode of Operation During Test

During transmitter testing, the transmitter was setup to transmit continuously using the maximum RF power setting provided by the manufacturers via test scripts. The corresponding output power in dBm can be found in section 4.1 of this report.

3.5 Modifications Required for Compliance

No modifications were made by the manufacturer or Intertek to the EUT in order to bring the EUT into compliance.

3.6 Additions, Deviations and Exclusions from Standards

No additions, deviations or exclusions from the standard were made.

4.0 Measurement Results

4.1 Maximum Conducted Output Power at Antenna Terminals
FCC Rule 15.247(b)(3)

4.1.1 Requirement

For antennas with gains of 6 dBi or less, maximum allowed transmitter output is 1 watt (+30 dBm).
For antennas with gains greater than 6 dBi, transmitter output level must be decreased appropriately, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

4.1.2 Test Procedure

4.1.2.1 Wifi

The antenna port of the EUT was connected to the input of a spectrum analyzer to measure the Maximum Conducted Transmitter Output Power. The offset programmed on the analyzer is corrected to include cable loss, attenuator and duty cycle correction.

The procedure described in FCC Publication KDB 558074 D01 15.247 Meas Guidance v05r02), RSS-247 Issue 2 was used. Specifically, section 11.9.2.2.2 Method AVGSA-1 in ANSI 63.10.

The procedure for this method is as follows:

1. Set span to at least 1.5 times the OBW.
2. Set RBW = 1% to 5% of the OBW, not to exceed 1 MHz.
3. Set VBW ≥ [3 x RBW].
4. Number of points in sweep ≥ [2 x span / RBW]. (This gives bin-to-bin spacing ≤ RBW / 2, so that narrowband signals are not lost between frequency bins.
5. Sweep time = auto.
6. Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
7. If transmit duty cycle < 98%, use a sweep trigger with the level set to enable triggering only on full power pulses. The transmitter shall operate at the maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no OFF intervals) or at duty cycle ≥ 98%, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to “free run.”
8. Trace average at least 100 traces in power averaging (rms) mode.
9. Compute power by integrating the spectrum across the OBW of the signal using the instrument’s band power measurement function, with band limits set equal to the OBW band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.

4.1.2.2 Bluetooth

For digital transmission system, the procedure described in ANSI C63.10-2013 and KDB 558074 D01 15.247 Meas Guidance v05r02), RSS-247 Issue 2 was used. Specifically, Section 8.3.1.1 RBW ≥ DTS bandwidth was utilized as the spectrum analyzer's resolution bandwidth was greater than the DTS bandwidth.

1. Set the RBW ≥ DTS Bandwidth
2. Set the VBW ≥ 3 x RBW
3. Set the span ≥ 3 x RBW
4. Sweep time = Auto couple
5. Detector = Peak
6. Trace mode = Max Hold
7. Allow trace to fully stabilize
8. Use peak marker function to determine the peak amplitude level.

For frequency hopping spread spectrum devices, the procedure described in ANSI C63.10-2013, specifically Section *7.8.5*, was utilized.

Tested By	Test Date
Anderson Soungpanya	February 12- 15 & April 12, 2021

4.1.3 Test Result

Mode	Channel	Frequency MHz	Avg Conducted Power dBm	EUT Power Setting
Wifi 802.11b	1	2412	13.34	16
	6	2437	13.58	16
	11	2462	10.26	13
Wifi 802.11g	1	2412	13.35	16
	6	2437	14.51	18
	11	2462	8.56	12
Wifi 802.11n	1	2412	13.25	16
	6	2437	14.85	18
	11	2462	9.72	13
Bluetooth GFSK	0	2402	7.36	8
	40	2441	7.68	8
	78	2480	7.99	8
Bluetooth 8DPSK	0	2402	5.53	8
	40	2441	5.62	8
	78	2480	5.71	8

4.2 Transmitter Radiated Emissions & Antenna Port Emissions
FCC Rule 15.247(d), 15.209, 15.205; RSS-247

4.2.1 Requirement

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)).

For out of band radiated emissions (except for frequencies in restricted bands), in any 100 kHz bandwidths outside the EUT pass-band, the RF power shall be at least 20dB (peak) or 30 dB (average) below that of the maximum in-band 100 kHz emissions.

4.2.2 Procedure – Radiated Emissions

Radiated emission measurements were performed from 9 kHz to 26.5 GHz according to the procedure described in ANSI C63.10: 2013. Spectrum Analyzer Resolution Bandwidth is 200Hz or greater for frequencies 9kHz to 30MHz, 100 kHz or greater for frequencies 30 MHz to 1000 MHz, 1 MHz for frequencies above 1000 MHz. Above 1000 MHz Peak and Average measurements were performed.

The EUT is placed on a plastic turntable that is 80 cm in height for below 1000MHz and 1.5m in height for above 1GHz. If the EUT attaches to peripherals, they are connected and operational (as typical as possible). During testing, all cables were manipulated to produce worst-case emissions. The signal is maximized through rotation. The antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters.

Radiated emissions are taken at 3 meters for frequencies above 1 GHz and at 10 meters for frequencies below 1 GHz.

Measurements made from 1 GHz to 18GHz had a 2.4-2.5GHz notch filter in place. A preamp was used from 30MHz to 26.5GHz.

All measurements were made with a Peak Detector and compared to QP limits for 30MHz – 1GHz and Average limits for 1GHz – 26.5GHz.

EUT was measured on all 3 Axis, X, Y and Z. Data is presented with the worst-case configuration (the configuration which resulted in the highest emission levels).

4.2.3 Field Strength Calculation

Field Strength 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; if measurement is performed at a distance other than specified in the rule, a Distance Correction Factor (DCF) shall be added.

Where FS = Field Strength in dB(μV/m)
RA = Receiver Amplitude (including preamplifier) in dB(μV); AF = Antenna Factor in dB(1/m)
CF = Cable Attenuation Factor in dB; AG = Amplifier Gain in dB

Assume a receiver reading of 52.0 dB(μV) is obtained. The antennas factor of 7.4 dB(1/m) and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted, giving field strength of 32 dB(μV/m). This value in dB(μV/m) was converted to its corresponding level in μV/m.
RA = 52.0 dB(μV)
AF = 7.4 dB(1/m)
CF = 1.6 dB
AG = 29.0 dB
FS = 52.0+7.4+1.6-29.0 = 32 dB(μV/m).
Level in μV/m = Com
mon Antilogarithm [(32 dBμV/m)/20] = 39.8 μV/m.

4.2.4 Antenna-port conducted measurements

Antenna-port conducted measurements may also be used as an alternative to radiated measurements for demonstrating compliance in the restricted frequency bands. If conducted measurements are performed, then proper impedance matching must be ensured and an additional radiated test for cabinet/case spurious emissions is required.

4.2.6 General Procedure for conducted measurements in restricted bands

a) Measure the conducted output power (in dBm) using the detector specified for determining quasi-peak, peak, and average conducted output power, respectively.

b) Add the maximum transmit antenna gain (in dBi) to the measured output power level to determine the EIRP level (see 12.2.5 for guidance on determining the applicable antenna gain)

c) Add the appropriate maximum ground reflection factor to the EIRP level (6 dB for frequencies ≤ 30 MHz, 4.7 dB for frequencies between 30 MHz and 1000 MHz, inclusive and 0 dB for frequencies > 1000 MHz).

d) For devices with multiple antenna-ports, measure the power of each individual chain and sum the EIRP of all chains in linear terms (*e.g.*, Watts, mW).

e) Convert the resultant EIRP level to an equivalent electric field strength using the following relationship:
E = EIRP – 20log D + 104.8+DCF (DCF for Average measurements)
where:
E = electric field strength in dBµV/m,
EIRP = equivalent isotropic radiated power in dBm
D = specified measurement distance in meters.
DCF = Duty Cycle Correction Factor
f) Compare the resultant electric field strength level to the applicable limit.
g) Perform radiated spurious emission test

4.2.7 Test Results

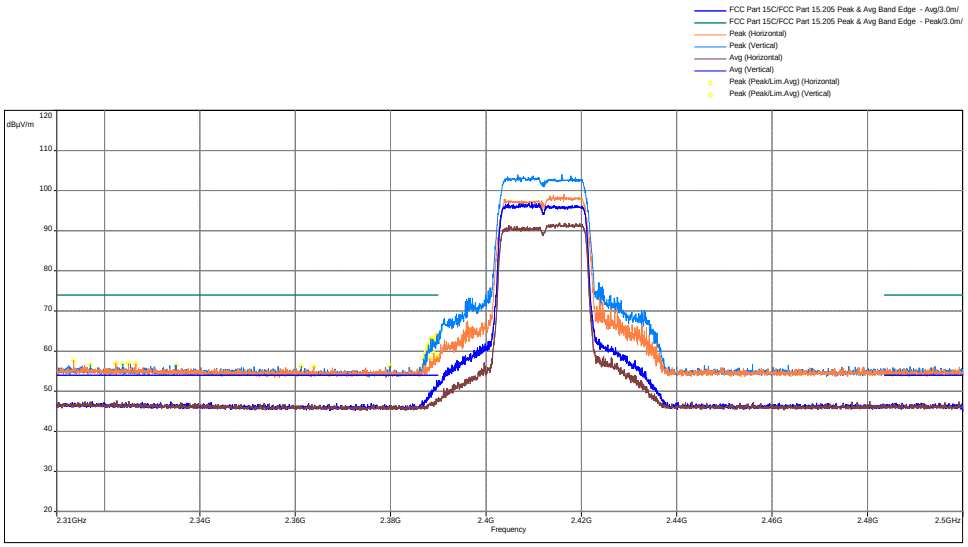
The data on the following pages list the significant emission frequencies, the limit and the margin of compliance.

Radiated emission measurements were performed up to 26.5GHz. No Emissions were identified when scanned from 18-26.5 GHz.

Tested By	Test Date
Anderson Soungpanya	February 18 – April 16, 2021

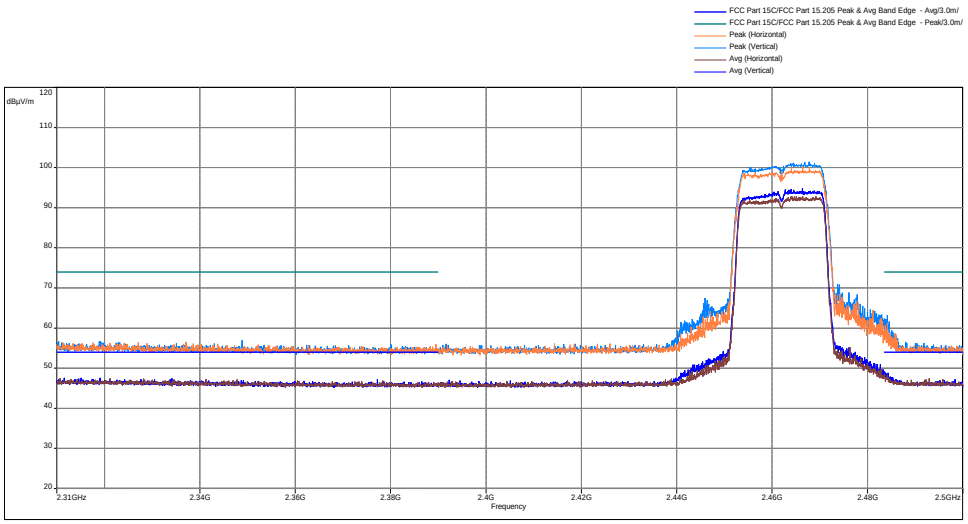
Test Results: 15.209/15.205 Radiated Restricted Band Emissions

Out-of-Band Spurious Emissions at the Band Edge - 802.11n, 2412 MHz



Frequency (MHz)	Peak (dBµV/m)	Lim.Peak (dBµV/m)	Avg (dBµV/m)	Lim.Avg (dBµV/m)	Margin (dB)	Height (m)	Angle (°)	Polarization	Correction (dB)
2389.642	61.75	74	52.71	54	-1.29	2.49	294.25	Vertical	31.32

Out-of-Band Spurious Emissions at the Band Edge - 802.11n, 2462 MHz

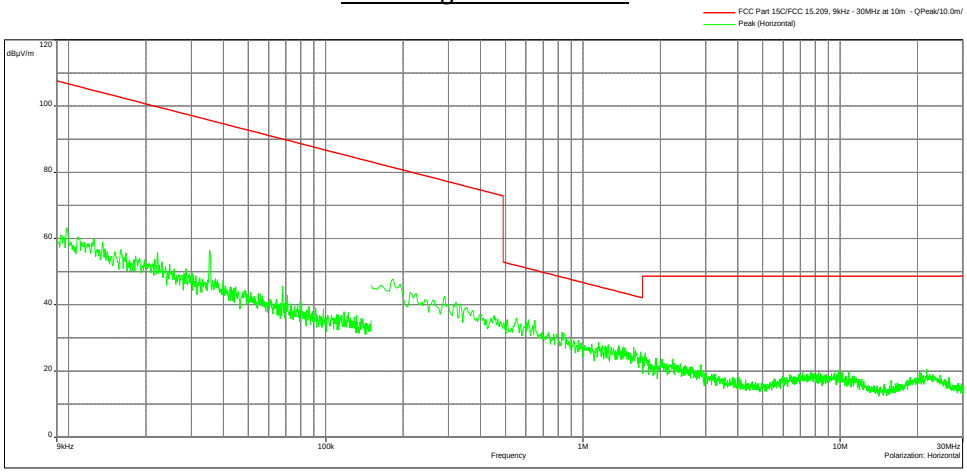


Frequency (MHz)	Peak (dBµV/m)	Lim.Peak (dBµV/m)	Avg (dBµV/m)	Lim.Avg (dBµV/m)	Margin (dB)	Height (m)	Angle (°)	Polarization	Correction (dB)
2483.502	57.36	74	47.35	54	-6.65	2.49	338	Vertical	31.3

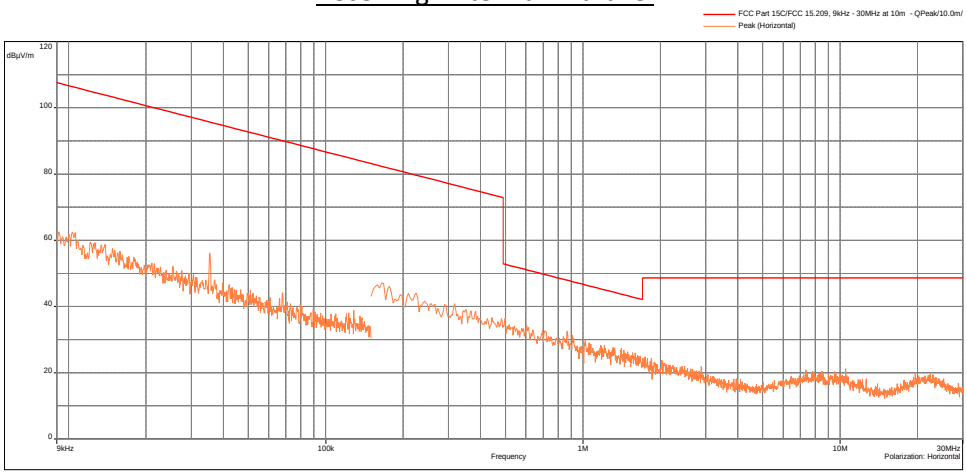
Test Results: 15.209 Radiated Spurious Emissions, Tx at 802.11n 2412MHz

Radiated Spurious Emissions 9 kHz to 30 MHz, Peak Scan

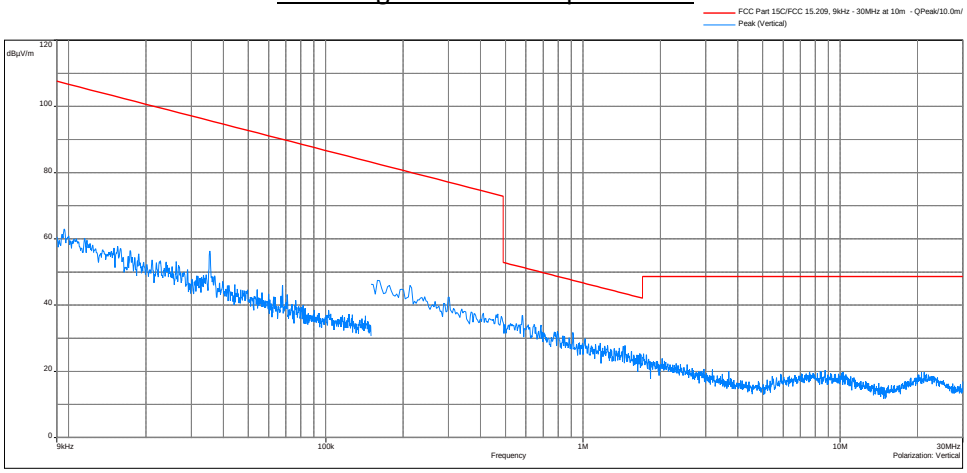
Receiving Antenna - Flat



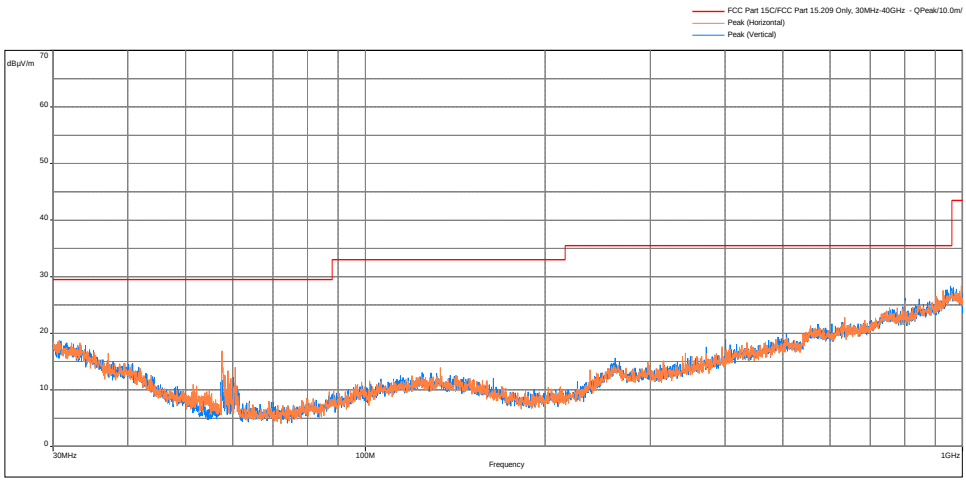
Receiving Antenna – Parallel



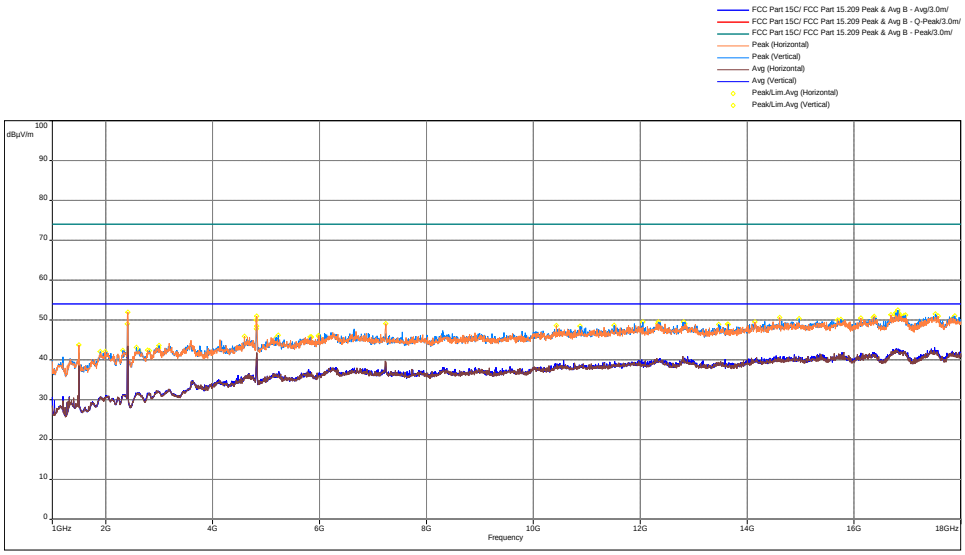
Receiving Antenna – Perpendicular



Radiated Spurious Emissions 30 MHz to 1000 MHz, Peak Scan

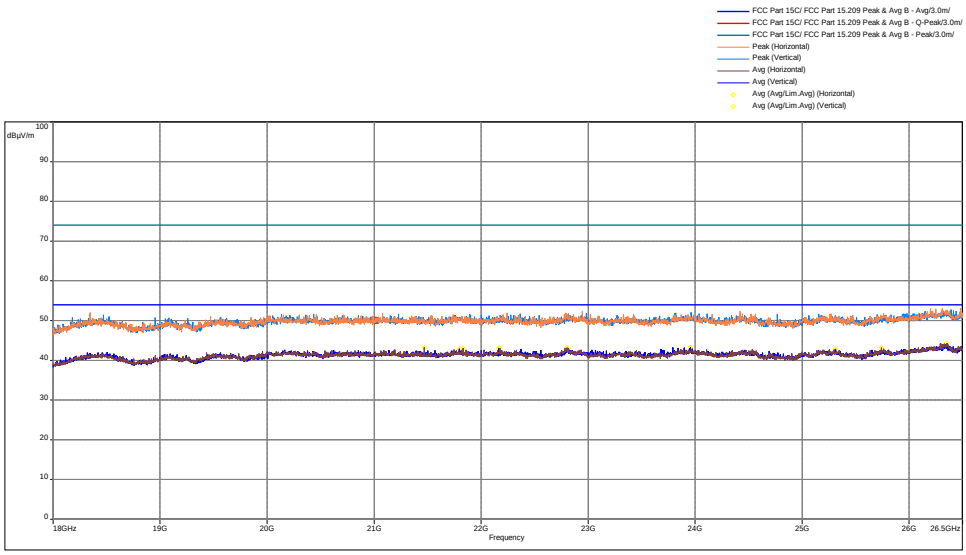


Radiated Spurious Emissions 1000 - 18000 MHz, Peak Scan & Avg Scan vs Peak & Avg Limit



Frequency (MHz)	Peak (dBµV/m)	Lim.Peak (dBµV/m)	Avg (dBµV/m)	Lim.Avg (dBµV/m)	Margin (dB)	Height (m)	Angle (°)	Polarization	Correction (dB)
4822.167	50.98	74	50.98	54	-3.02	2.49	36	Horizontal	-7.55
7241.268	49.07	74	49.07	54	-4.93	2.49	27	Vertical	-2.52

Radiated Spurious Emissions 18000 – 26500 MHz, Peak Scan & Avg Scan vs Peak & Avg Limit

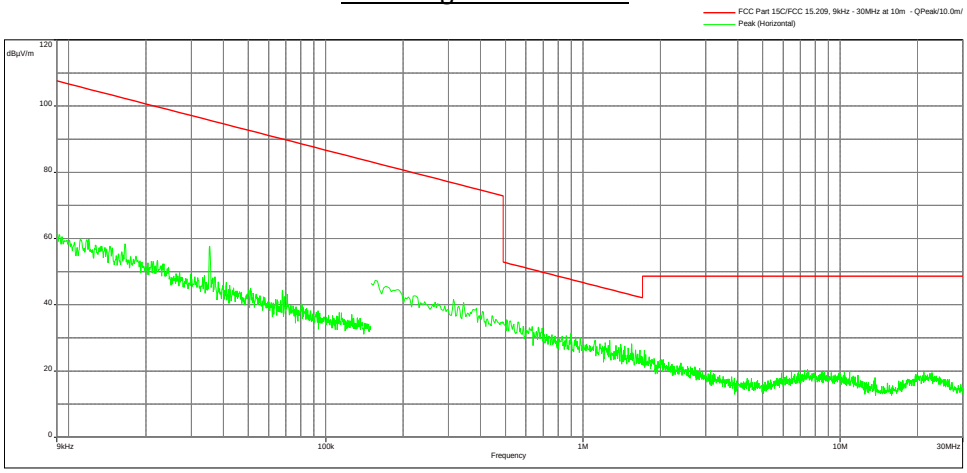


Results	Complies

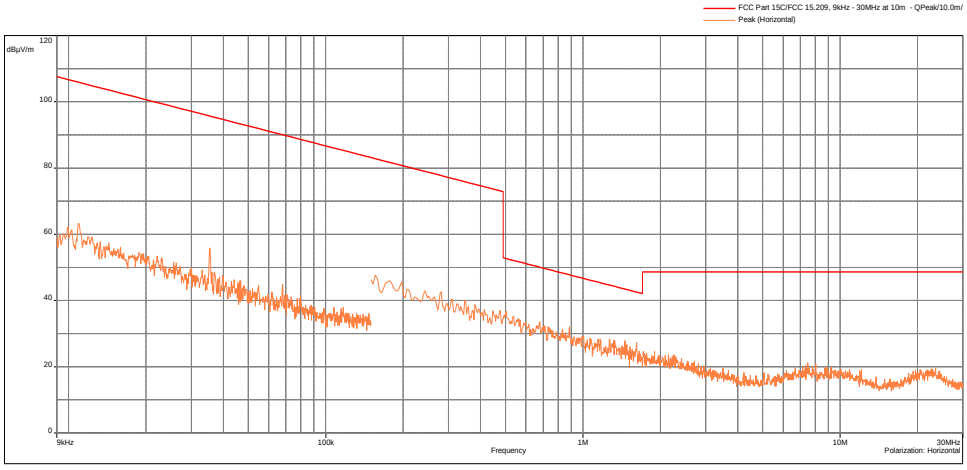
Test Results: 15.209 Radiated Spurious Emissions, Tx at 802.11n 2437MHz

Radiated Spurious Emissions 9 kHz to 30 MHz, Peak Scan

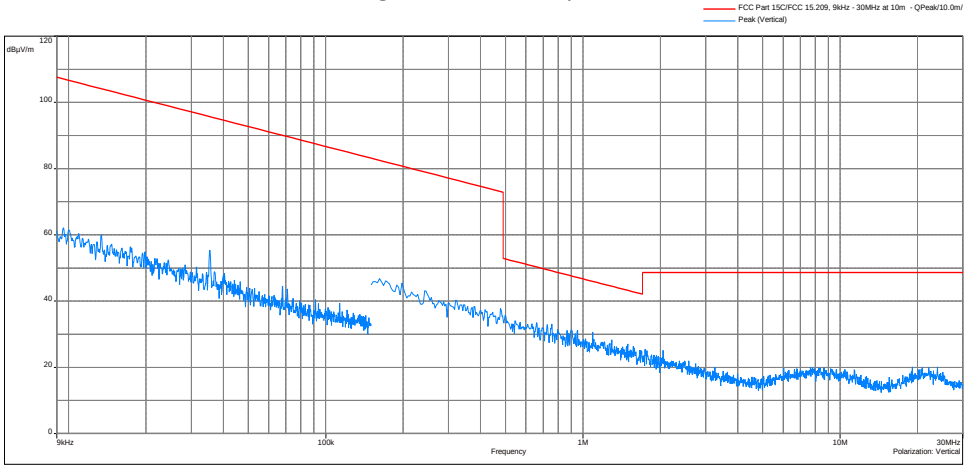
Receiving Antenna - Flat



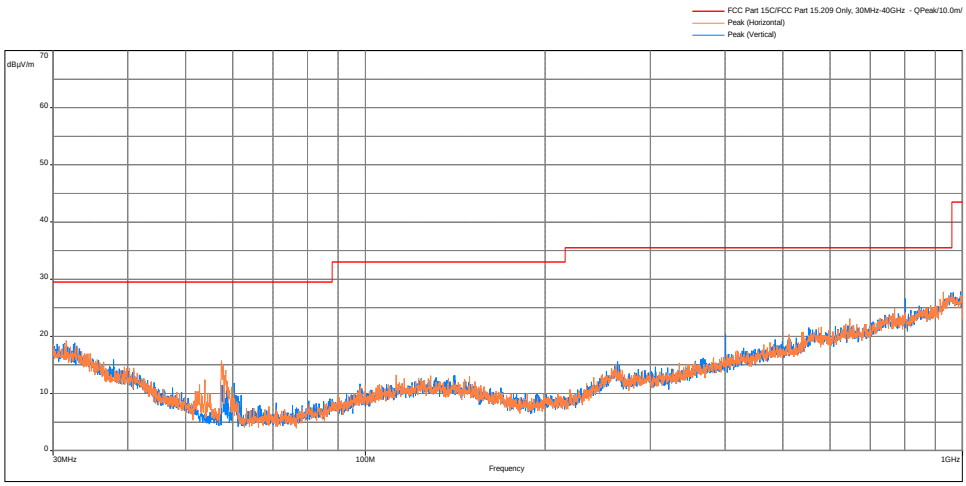
Receiving Antenna – Parallel



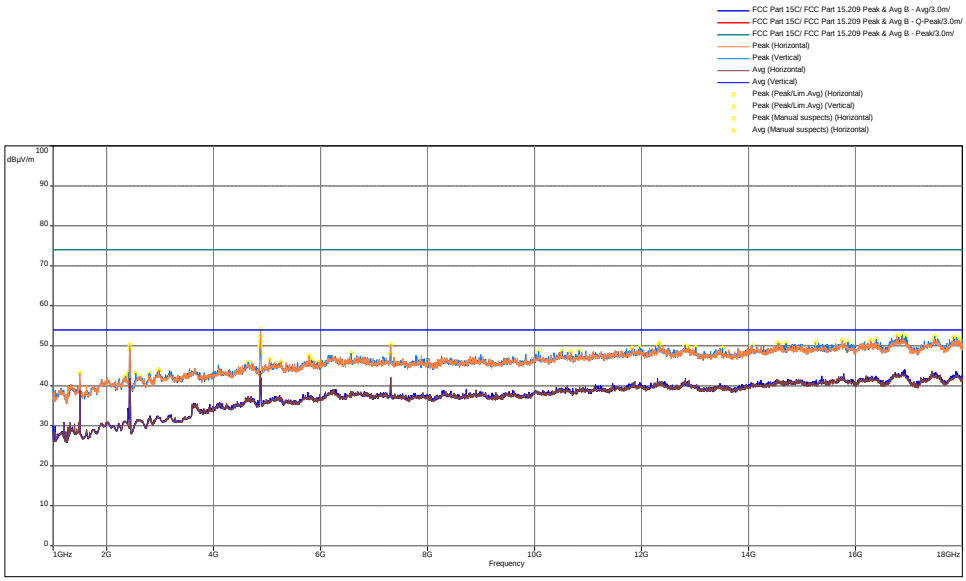
Receiving Antenna – Perpendicular



Radiated Spurious Emissions 30 MHz to 1000 MHz, Peak Scan

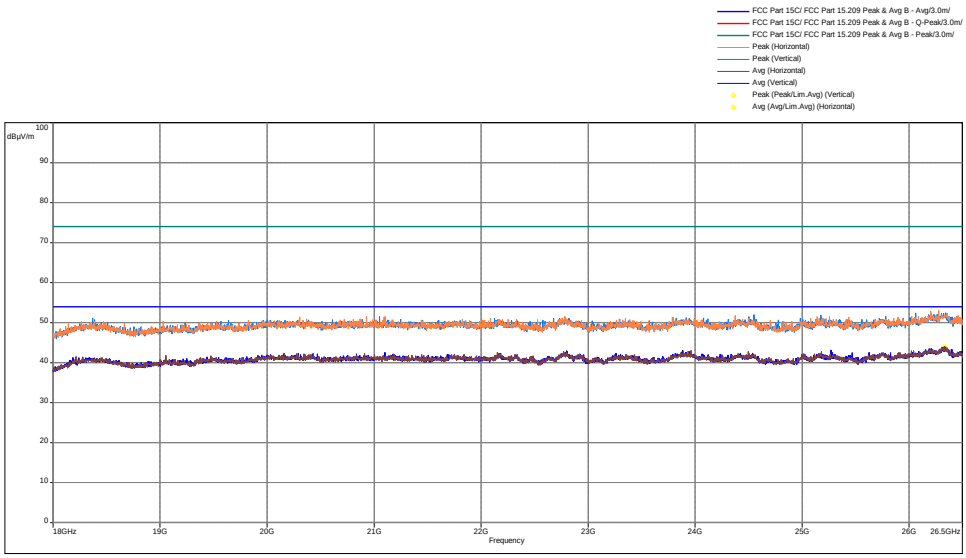


Radiated Spurious Emissions 1000 - 18000 MHz, Peak Scan & Avg Scan vs Peak & Avg Limit



Frequency (MHz)	Peak (dBµV/m)	Lim.Peak (dBµV/m)	Avg (dBµV/m)	Lim.Avg (dBµV/m)	Margin (dB)	Height (m)	Angle (°)	Polarization	Correction (dB)
4874.867	51.09	74	43.66	54	-10.34	2.49	0	Horizontal	-7.69

Radiated Spurious Emissions 18000 – 26500 MHz, Peak Scan & Avg Scan vs Peak & Avg Limit

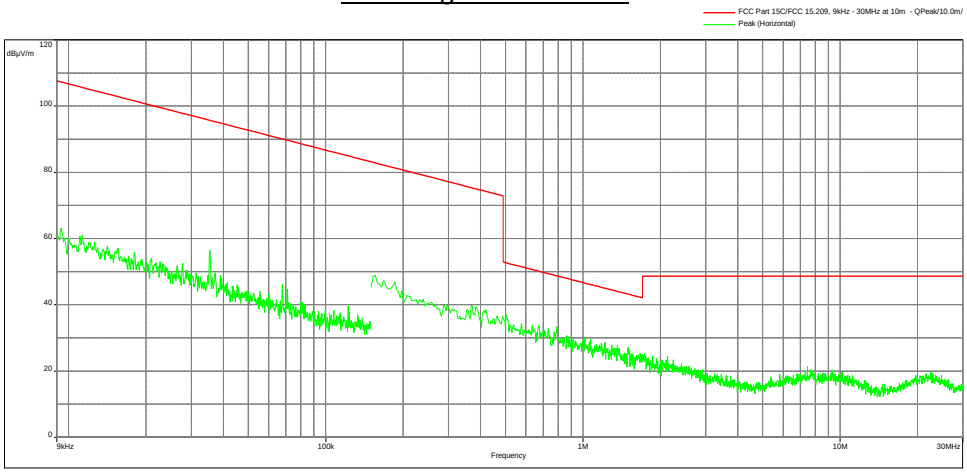


Results	Complies

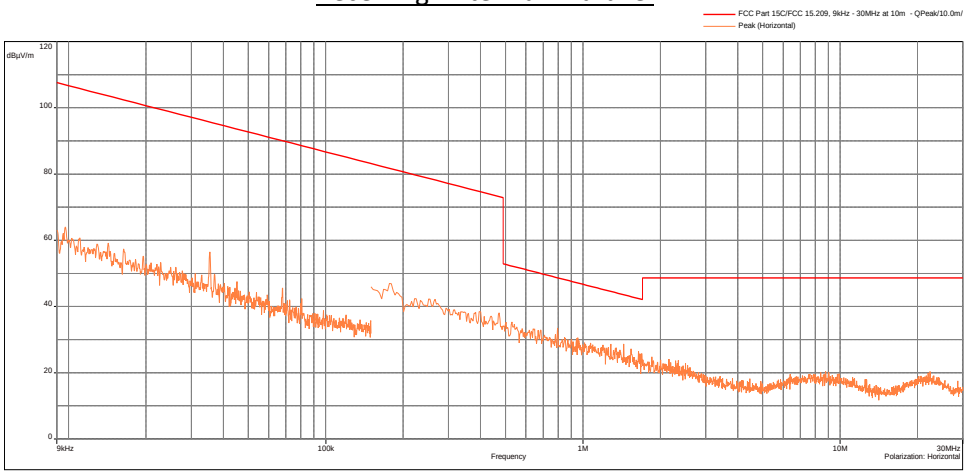
Test Results: 15.209 Radiated Spurious Emissions, Tx at 802.11n 2462MHz

Radiated Spurious Emissions 9 kHz to 30 MHz, Peak Scan

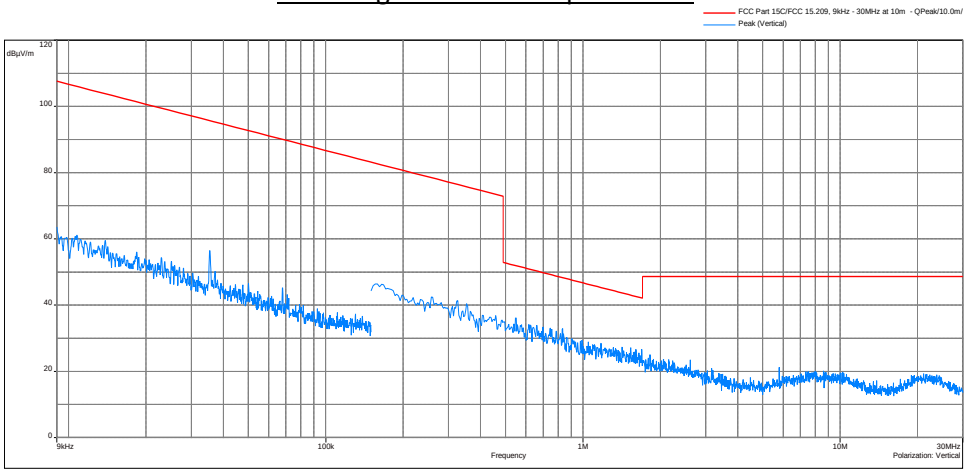
Receiving Antenna - Flat



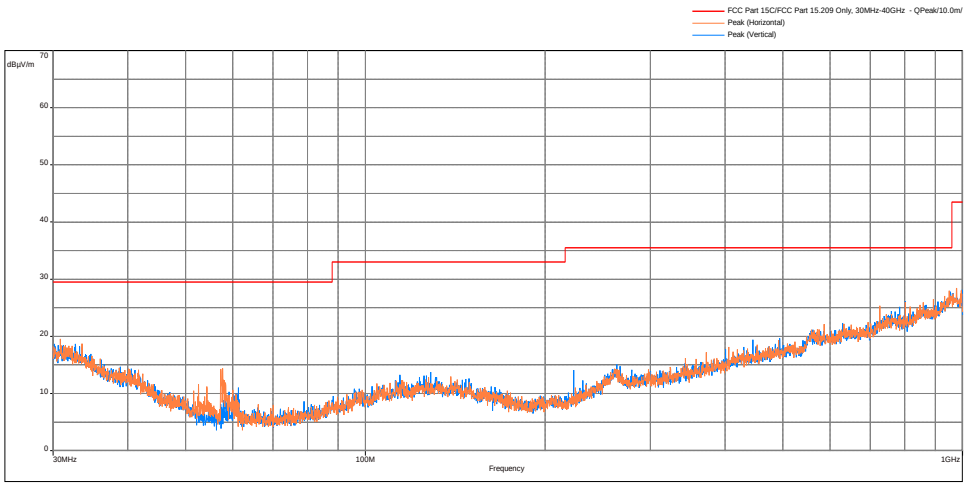
Receiving Antenna – Parallel



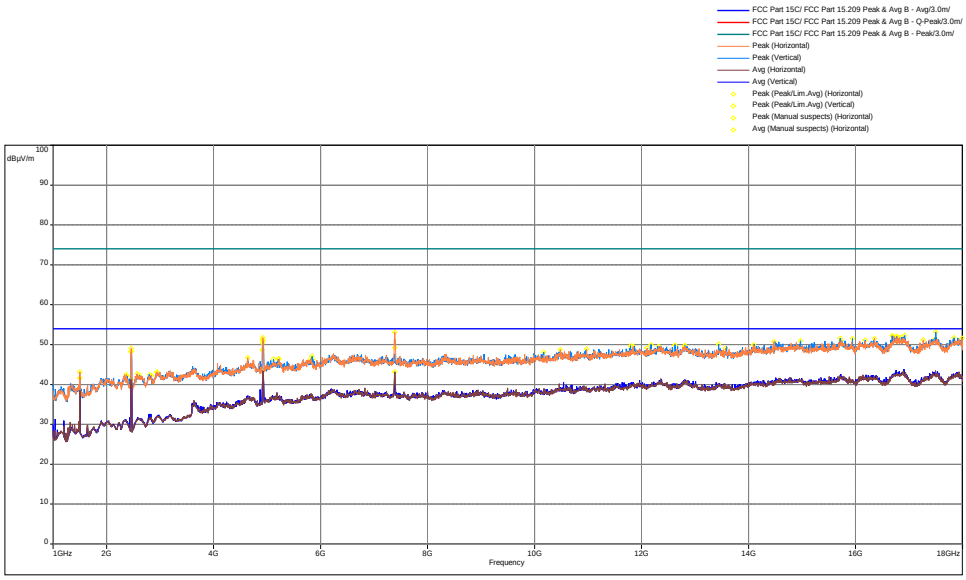
Receiving Antenna – Perpendicular



Radiated Spurious Emissions 30 MHz to 1000 MHz, Peak Scan

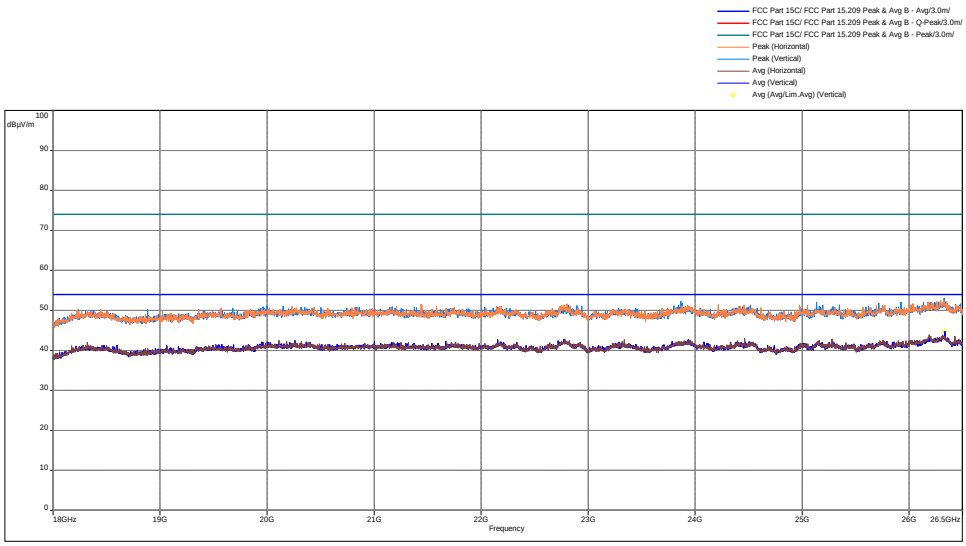


Radiated Spurious Emissions 1000 - 18000 MHz, Peak Scan & Avg Scan vs Peak & Avg Limit



Frequency (MHz)	Peak (dBµV/m)	Lim.Peak (dBµV/m)	Avg (dBµV/m)	Lim.Avg (dBµV/m)	Margin (dB)	Height (m)	Angle (°)	Polarization	Correction (dB)
4923.6	51.16	74	43.48	54	-10.52	2.49	60.75	Horizontal	-7.47
7388.033	49.25	74	43.21	54	-10.79	2.49	195.25	Horizontal	-2.58

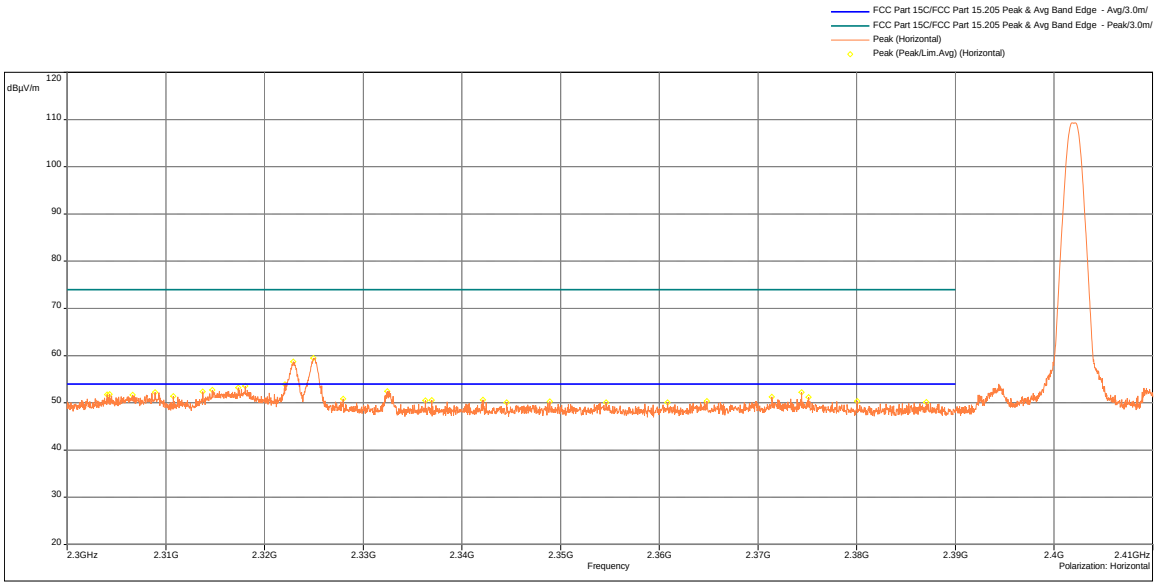
Radiated Spurious Emissions 18000 – 26500 MHz, Peak Scan & Avg Scan vs Peak & Avg Limit



Results	Complies

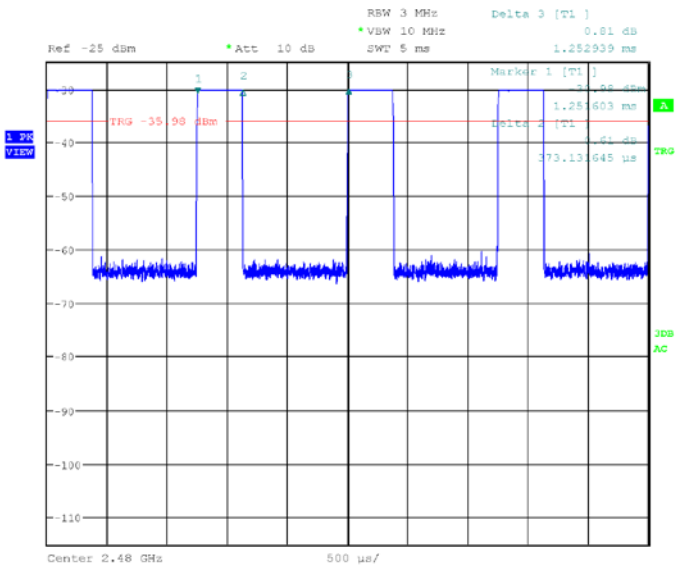
Test Results: 15.209/15.205 Radiated Restricted Band Emissions

Out-of-Band Spurious Emissions at the Band Edge – Bluetooth GFSK 2402 MHz
Peak Scan Vs Peak and Avg Limit



Frequency (MHz)	Peak (dBµV/m)	Lim.Peak (dBµV/m)	Avg* (dBµV/m)	Lim.Avg (dBµV/m)	Margin (dB)	Height (m)	Angle (°)	Polarization	Correction (dB)
2322.907	58.71	74	48.19	54	-5.81	1.52	100	Horizontal	31.75
2324.973	59.48	74	48.96	54	-5.04	1.52	100	Horizontal	31.73

***Duty Cycle Correction factor below was applied to Peak Reading to derive at the Average Amplitude.**



Duty Cycle Calculation
δ(dB) = 20log(Δ)
where:
δ is the duty cycle correction factor (dB)
Δ is the duty cycle

δ(dB)=20*log(0.37313/1.253)
δ(dB = -10.52

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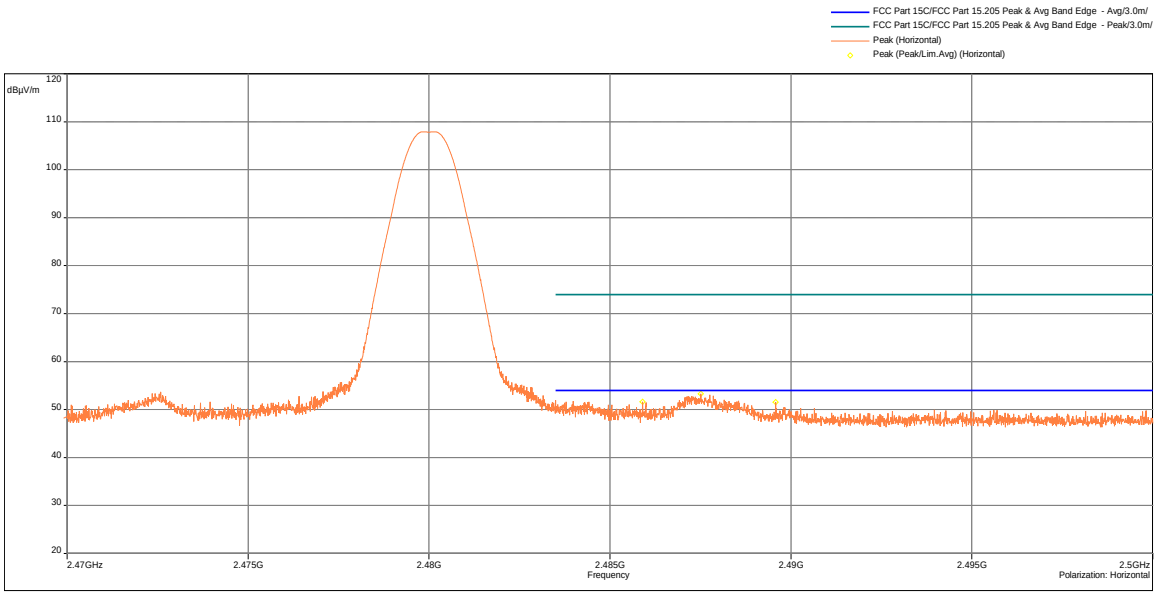
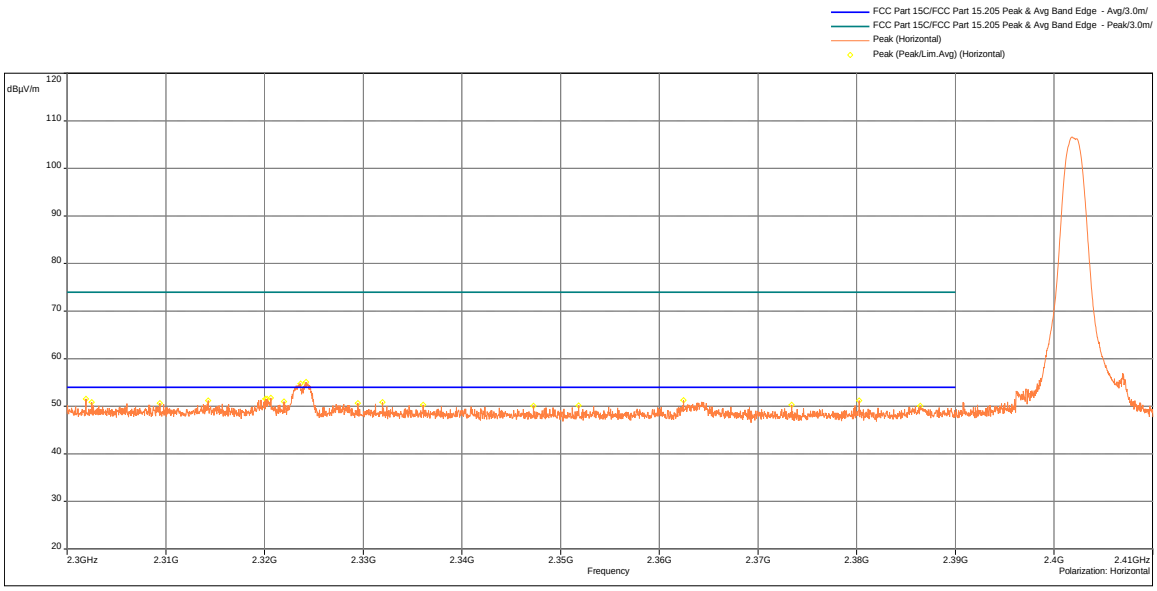
Out-of-Band Spurious Emissions at the Band Edge – Bluetooth GFSK 2480 MHz
Peak Scan Vs Peak and Avg Limit



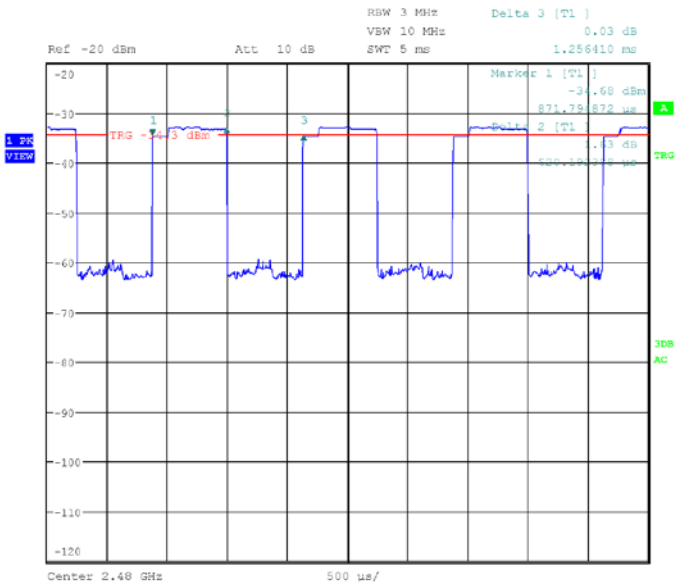
Frequency (MHz)	Peak (dBµV/m)	Lim.Avg (dBµV/m)	Margin (dB)	Height (m)	Angle (°)	Polarization	Correction (dB)
2483.502	53.47	54	-0.53	1.50	100	Vertical	31.31

Out-of-Band Spurious Emissions at the Band Edge – Bluetooth 8DPSK 2402 MHz
Peak Scan Vs Peak and Avg Limit



Frequency (MHz)	Peak (dBµV/m)	Lim.Peak (dBµV/m)	Avg* (dBµV/m)	Lim.Avg (dBµV/m)	Margin (dB)	Height (m)	Angle (°)	Polarization	Correction (dB)
2323.667	54.74	74	48.61	54	-5.39	1.50	100	Horizontal	31.75
2324.213	55.08	74	48.95	54	-5.05	1.50	100	Horizontal	31.74

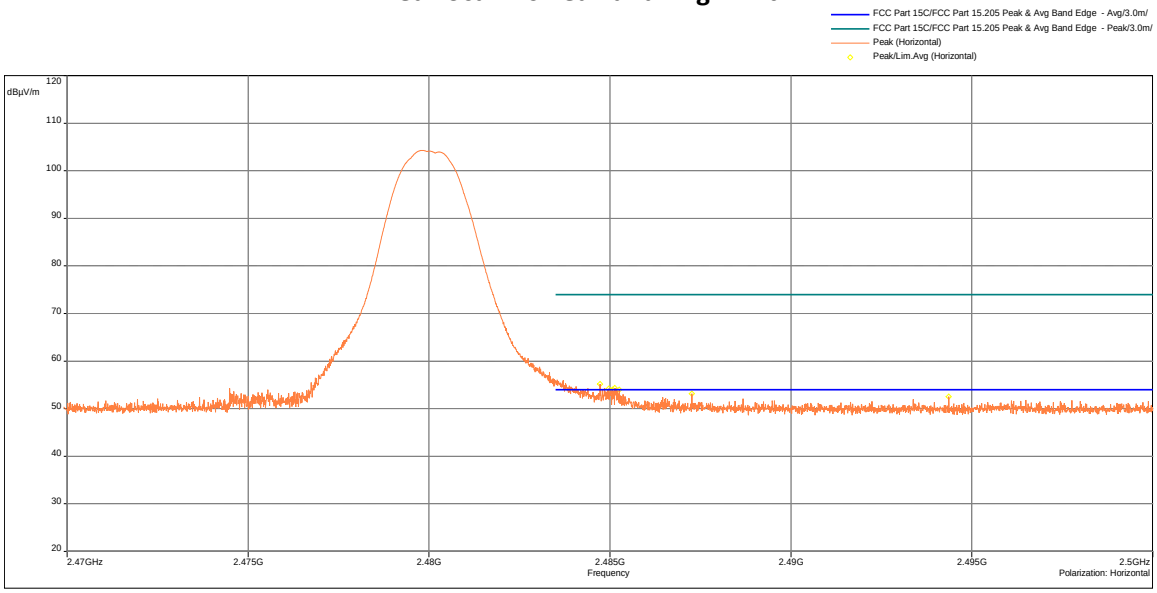
*Duty Cycle Correction factor below was applied to Peak Reading to derive at the Average Amplitude as permitted in ANSI 63.10 2013, Section 7.5.



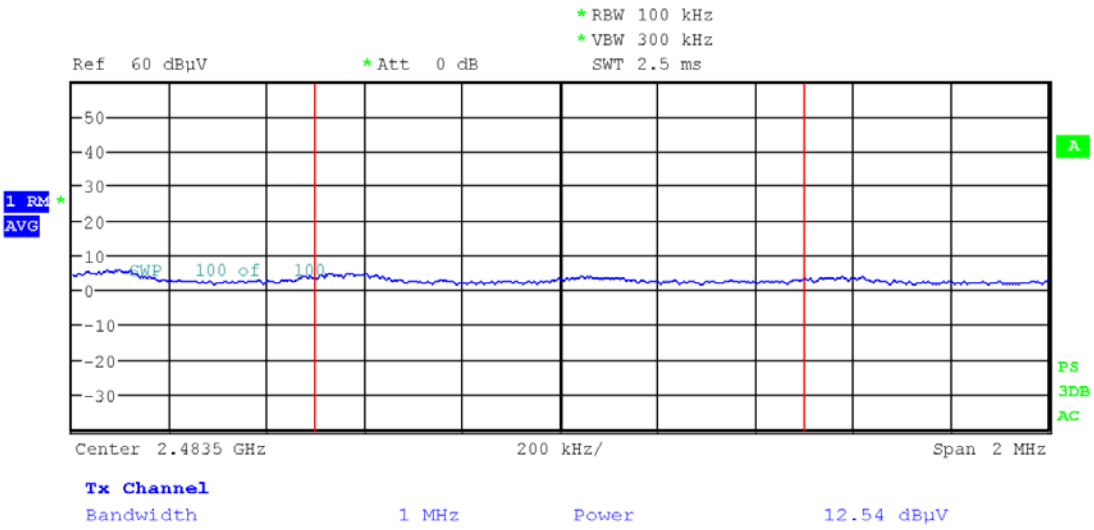
Duty Cycle Calculation
δ(dB) = 20log(Δ)
where:
δ is the duty cycle correction factor (dB)
Δ is the duty cycle

δ(dB) = 20*log(0.6202/1.256)
δ(dB) = -6.129

Out-of-Band Spurious Emissions at the Band Edge – Bluetooth GFSK 2480 MHz
Peak Scan Vs Peak and Avg Limit



Out-of-Band Spurious Emissions at the Band Edge –Integration at Band Edge



Frequency (MHz)	Peak (dBµV/m)	Lim.Peak (dBµV/m)	Avg* (dBµV/m)	Lim.Avg (dBµV/m)	Margin (dB)	Height (m)	Angle (°)	Polarization	Correction (dB)
2483.50	55.20	74	46.91	54	-7.09	1.50	100	Vertical	31.31

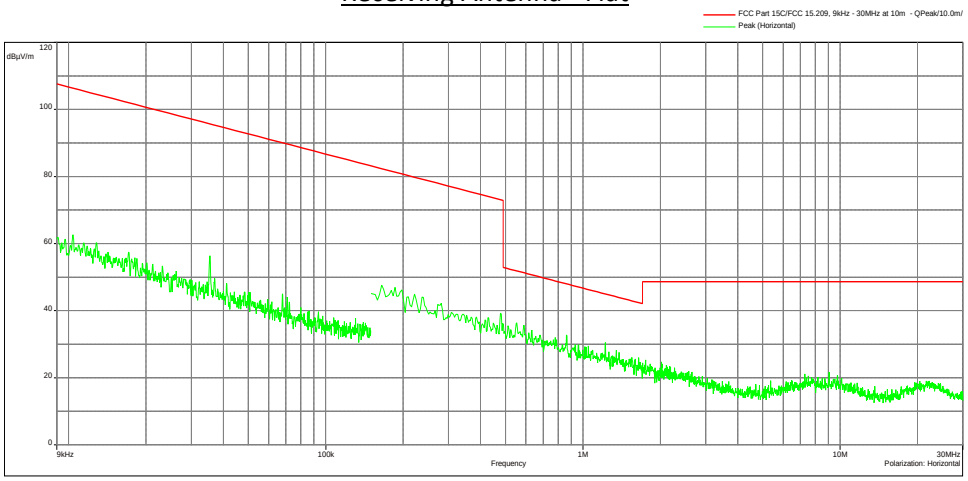
*Duty Cycle Correction factor below was added to Integration Reading to derive at the Average Amplitude as permitted in ANSI 63.10 2013, Section 11.13.3.4.

Duty Cycle Correction Factor Calculation:
δ(dB) = 10*log(0.6202/1.256)
δ(dB) = 3.06 dB

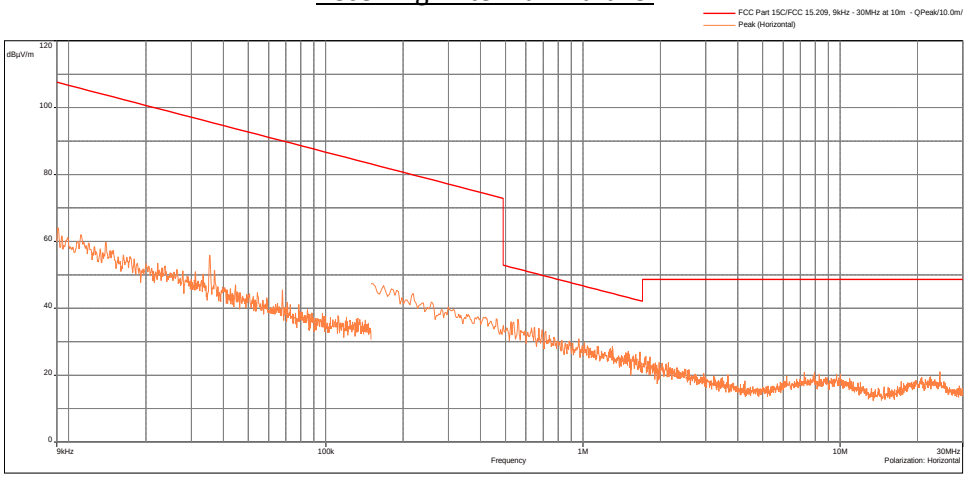
Test Results: 15.209 Radiated Spurious Emissions, Bluetooth GFSK 2480 MHz

Radiated Spurious Emissions 9 kHz to 30 MHz, Peak Scan

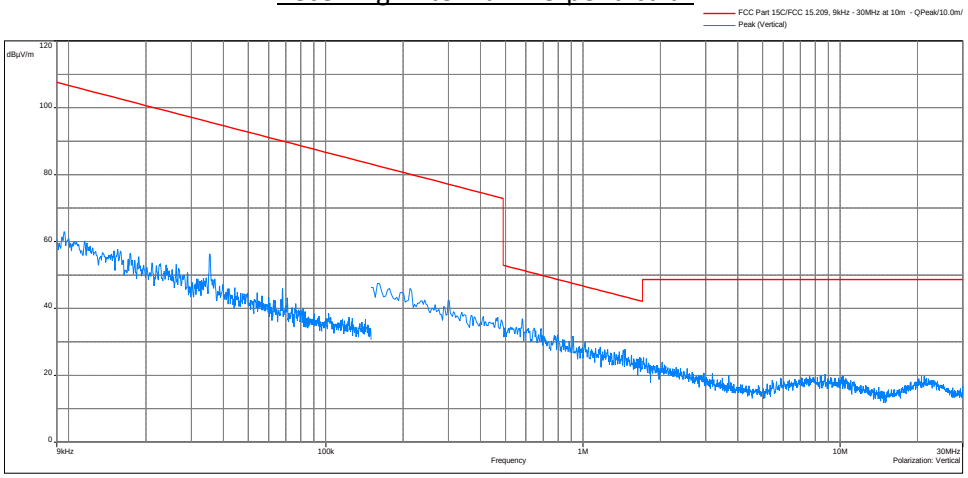
Receiving Antenna - Flat



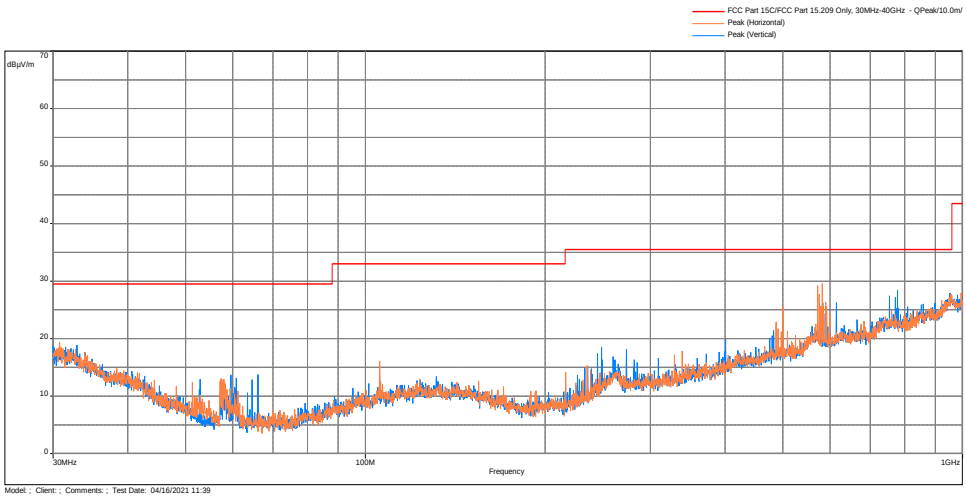
Receiving Antenna – Parallel



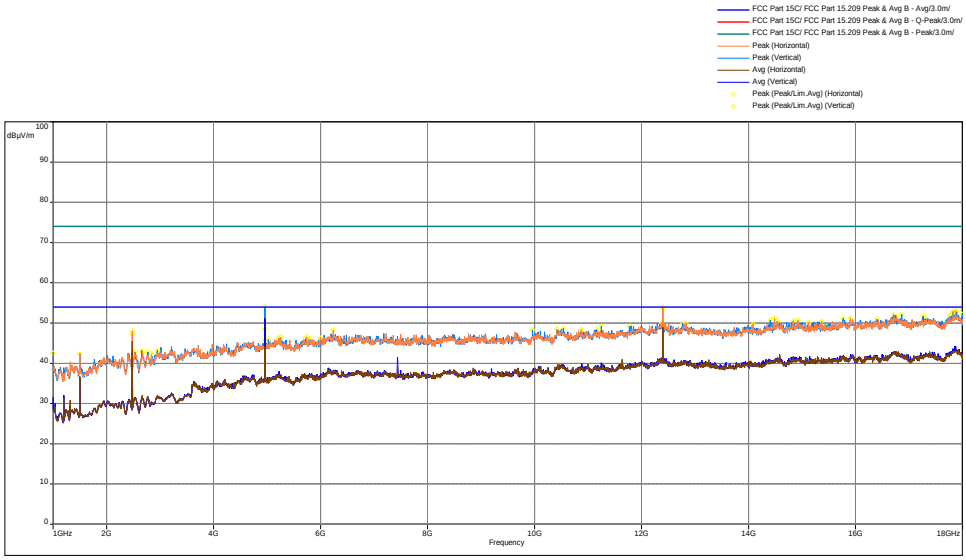
Receiving Antenna – Perpendicular



Radiated Spurious Emissions 30 MHz to 1000 MHz, Peak Scan

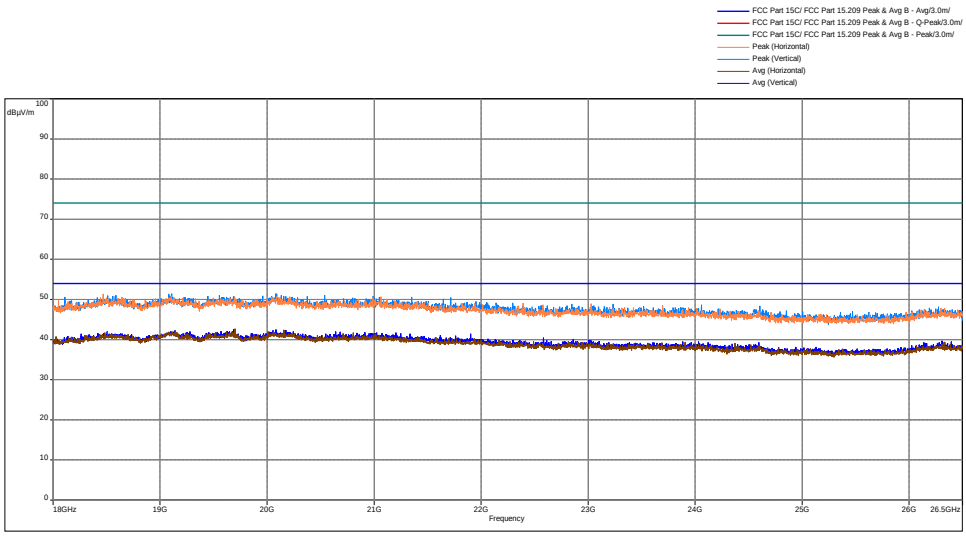


Radiated Spurious Emissions 1000 - 18000 MHz, Peak Scan & Avg Scan vs Peak & Avg Limit



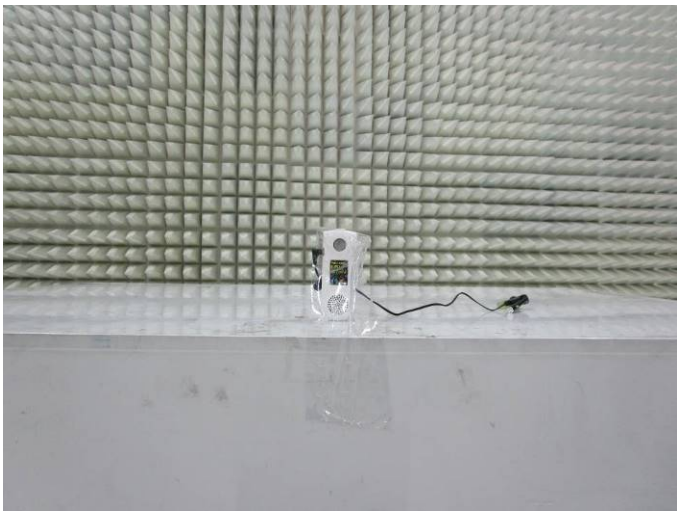
Frequency (MHz)	Peak (dBµV/m)	Lim.Avg (dBµV/m)	Margin (dB)	Height (m)	Angle (°)	Polarization	Correction (dB)
4959.300	53.90	54	-0.10	1.51	52	Vertical	-6.89
12400.200	53.75	54	-0.25	2.12	27	Horizontal	0.94

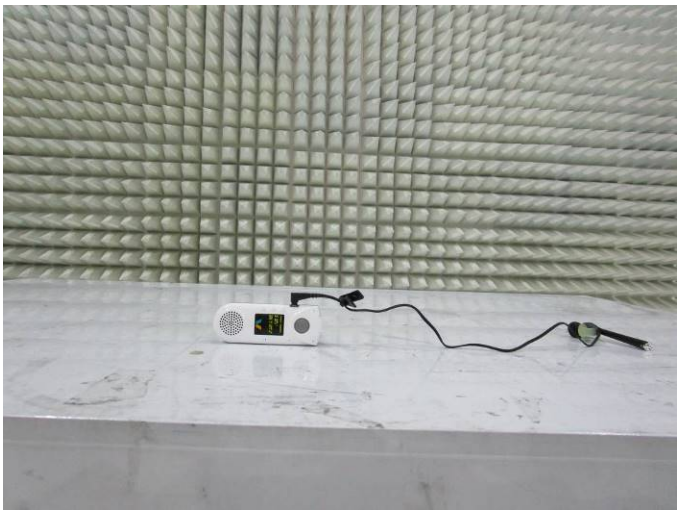
Radiated Spurious Emissions 18000 – 26500 MHz, Peak Scan & Avg Scan vs Peak & Avg Limit

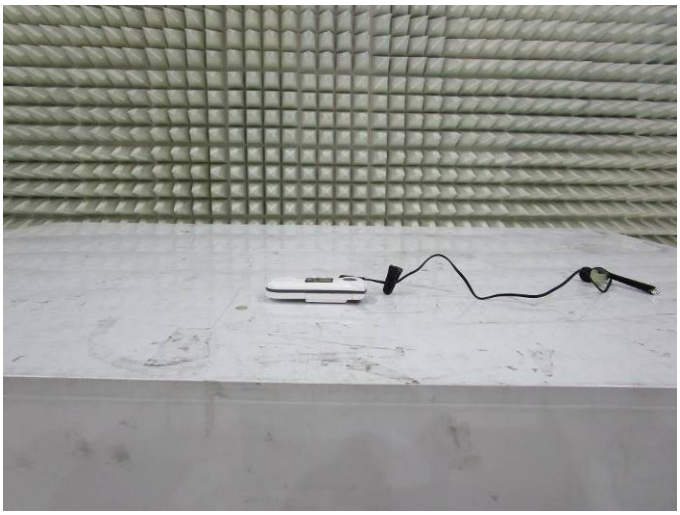


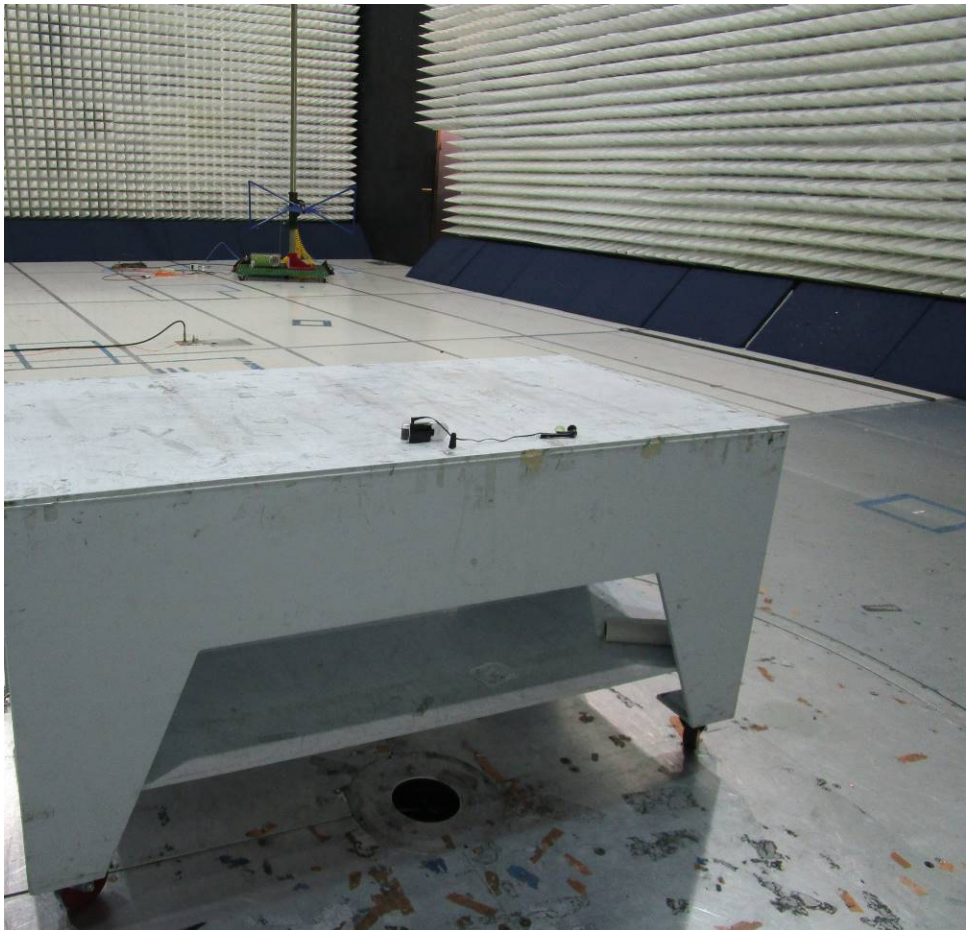
Results	Complies

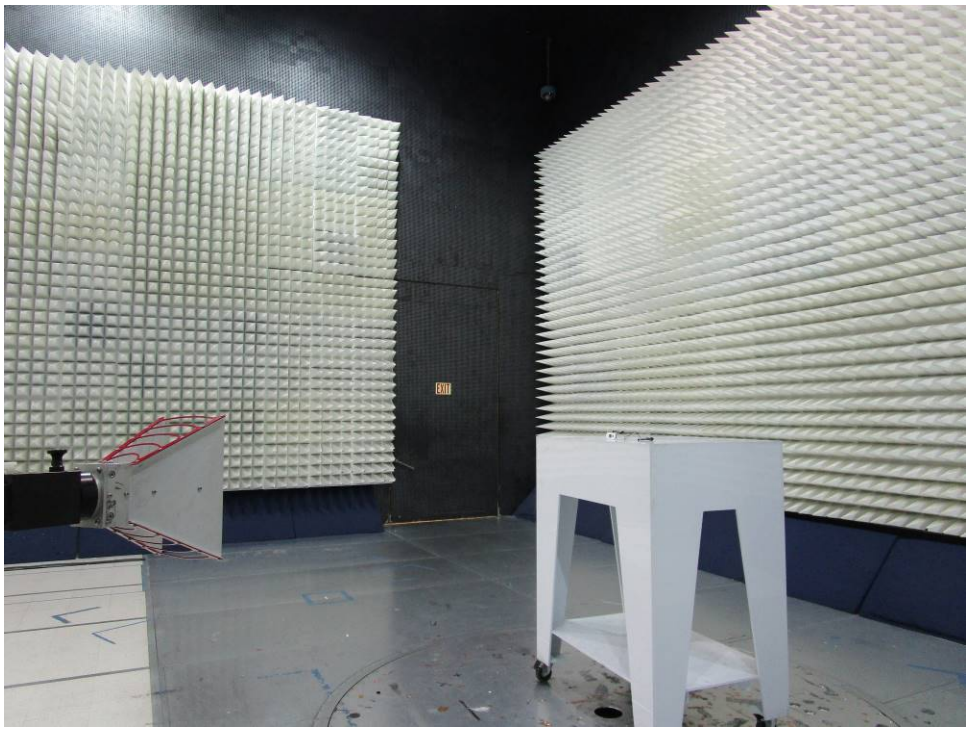
4.2.8 Test Setup Photographs











5.0 List of Test Equipment

Measurement equipment used for emission compliance testing utilized the equipment on the following list:

Equipment	Manufacturer	Model/Type	Asset #	Cal Int	Cal Due
10m chamber	Panashield	10m Semi-Anechoic	ITS 00984	36	09/11/2021
Spectrum Analyzer	Rohde and Schwarz	FSU	ITS 00913	12	05/11/2021
EMI Receiver	Rohde and Schwarz	FSW44	ITS 01818	12	07/09/2021
EMI Receiver	Rohde and Schwarz	ESU40	ITS 00961	12	07/31/2021
Horn Antenna (10-40 GHz)	ETS-Lindgren	3116C	ITS 01776	12	10/26/2021
Pre-Amplifier (18-40GHz)	Miteq	TTA1840-35-S-M	ITS 01393	12	03/09/2022
Active Horn Antenna (1-18GHz)	ETS-Lindgren	3117-PA	ITS 01636	12	12/17/2021
Horn Antenna (1-18GHz)	ETS-Lindgren	3115	ITS 00982	12	04/21/2021
BI-Log Antenna	Teseq	CBL6111D	ITS 01505	12	03/22/2022
Pre-Amplifier	Sonoma	310N	ITS 01714	12	11/13/2021
Loop Antenna	EMCO	6512	ITS 01598	12	11/03/2021
Notch Filter	MICRO-TRONICS	BRM50703	ITS 01167	12	06/11/2021
Notch Filter	MICRO-TRONICS	BRM50716	ITS 01170	12	04/17/2021
RF Cable	Megaphase	EMC1-K1K1-236	ITS 1484	12	06/12/2021
RF Cable	Megaphase	TM40-K1K1-59	ITS 01657	12	01/08/2022
RF Cable	TRU Corporation	TRU CORE 300	ITS 01330	12	06/11/2021
RF Cable	TRU Corporation	TRU CORE 300	ITS 01465	12	06/11/2021
RF Cable	TRU Corporation	TRU CORE 300	ITS 01470	12	06/11/2021
20 dB Attenuator	Fairview	SA18H-20	ITS 01584	12	10/20/2021

Software used for emission compliance testing utilized the following:

Name	Manufacturer	Version	Template/Profile
BAT-EMC	Nexio	3.191.19	Vocera C2PC.bpp
RS Commander	Rohde Schwarz	1.6.4	Not Applicable (Screen grabber)

6.0 Document History

Revision/ Job Number	Writer Initials	Reviewers Initials	Date	Change
1.0 / G104582174	AS	KV	May 10, 2021	Original document

End of Report