

TEST REPORT

Class 2 Permissive Change

Report Number: 105964951MPK-005

Project Numbers G105964951

Report Issue Date: January 29, 2025

Testing performed on
Communication Badge
Model Number: B7000

FCC ID: Z7AB7000

IC: 4919E-B7000

to

FCC Part 15 Subpart C (15.247)

ISED RSS-247 Ed. 3

For

Stryker Medical

Test Performed by:

Intertek
1365 Adams Court
Menlo Park, CA 94025 USA

Test Authorized by:

Stryker Medical
3030 Orchard Parkway.
San Jose, CA 95134 USA

Prepared by:



Gabriel Angelo Carreon

Date: January 29, 2025

Reviewed by:



Anderson Soungpanya

Date: January 29, 2025

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Report No. 105964951MPK-005	
Equipment Under Test:	Communication Badge
Model Number:	B7000
Applicant:	Stryker Medical
Contact:	Lionel Gabrillo
Address:	3030 Orchard Parkway San Jose, CA 95134
Country:	USA
Tel. Number:	1 (408)-882-4564
Email:	lionel.gabrillo@stryker.com
Applicable Regulation:	FCC Part 15 Subpart C (15.247) ISED RSS-247 Issue 3
Date of Test:	December 10, 2024 to December 13, 2024

We attest to the accuracy of this report:



Gabriel Carreon
EMC Project Engineer



Anderson Soungpanya
EMC Team Lead

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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.d)	Complies
Transmitter Radiated Emissions	15.247(d), 15.209, 15.205	RSS-247, 5.5	Complies

*Class 2 Permissive change: Perform only Output Power, Radiated Spurious and Restricted band edge.

EUT receive date: November 19, 2024

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: December 10, 2024

Test completion date: December 13, 2024

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

2.0 General Information

2.1 Product Description

Stryker Medical supplied the following description of the EUT:

A small, lightweight, wearable communication device powered by a removable, rechargeable Lithium-Ion battery. It is designed to simplify hospital communication and workflow and improve staff safety. A user can “wake up” and operate the device using only their voice, to stay connected even under restrictive PPE. They can make and receive calls and listen and respond to messages and alarm notifications. The badge contains a 1.2” color display with an array of microphones, a hands-free speaker and an audio receiver. A headset can also be used with the badge either through the USB-C port or Bluetooth connection.

For more information, refer to the following product specification, declared by the manufacturer.

Information about the 2.4 GHz radio is presented below:

Applicant	Stryker Medical
Model No.	B7000
FCC Identifier	Z7AB7000
IC Identifier	4919E-B7000
Type of transmission	Digital Transmission System (DTS)
Rated RF Output	10.38 dBm
Antenna(s) & Gain	Internal Antenna, Gain: 2.76 dBi
Frequency Range	2402 – 2480 MHz
Type of modulation	GFSK
Number of Channel(s)	40
Applicant Name & Address	Stryker Medical 3030 Orchard Parkway San Jose, CA 95134 USA

2.2 Related Submittal(s) Grants

None.

2.3 Test Facility

The test site used to collect the radiated data is site 1 (3-m semi-anechoic chamber). This test facility and site measurement data have been fully placed on file with the FCC, IC and A2LA accredited.

2.4 Test Methodology

Antenna conducted measurements were performed according to the FCC documents “Guidance for Performing Compliance Measurement on Digital Transmission Systems (DTS) Operating under §15.247” (KDB 558074 D01 DTS Meas Guidance v05r02), and RSS-247 Issue 3, 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.

2.5 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

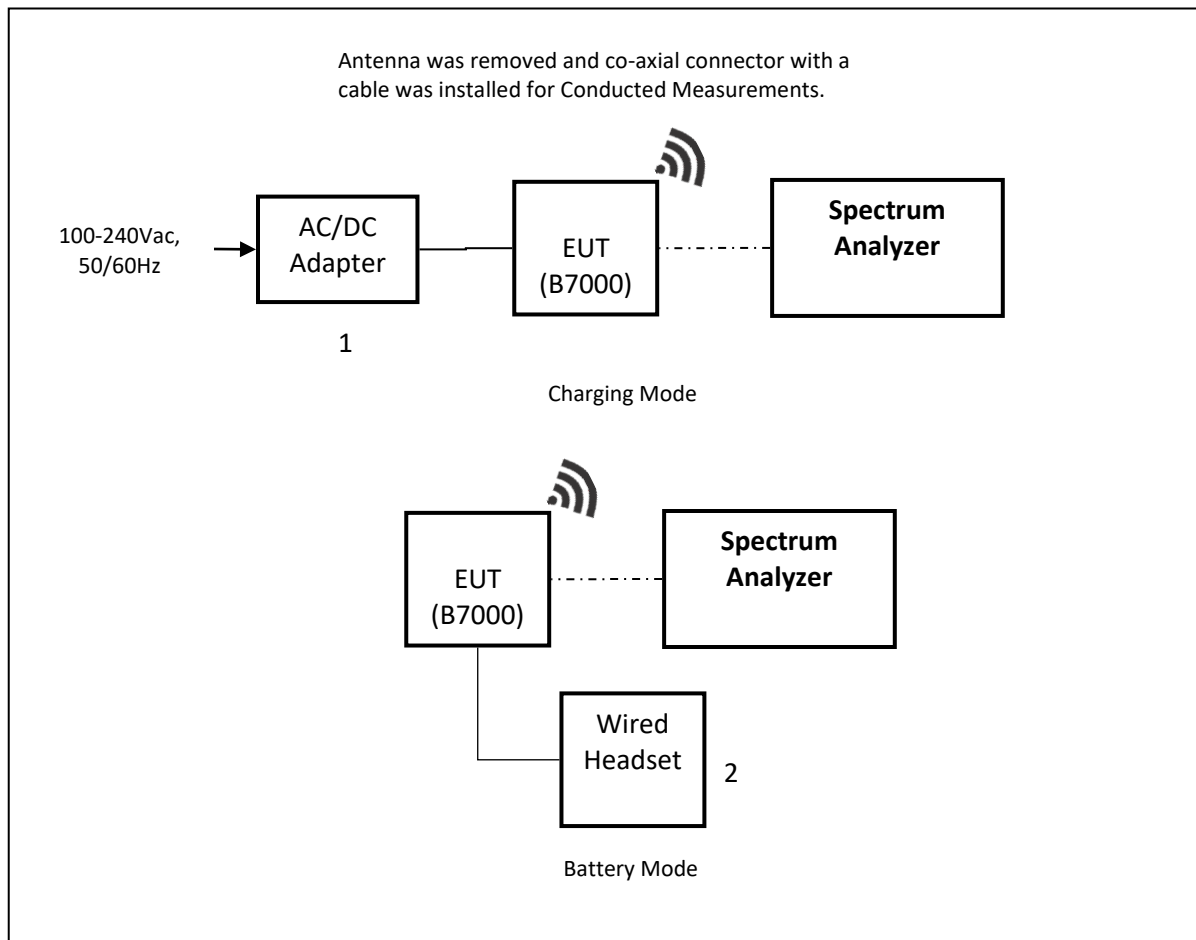
3.1 Support Equipment

Support Equipment				
ID	Description	Manufacturer	Model Number	Serial Number
1	AC/DC Adapter	Vocera	WB-10E05R	D1713N55000033
2	Wired Headset	Stryker Medical	230-02162	N/A

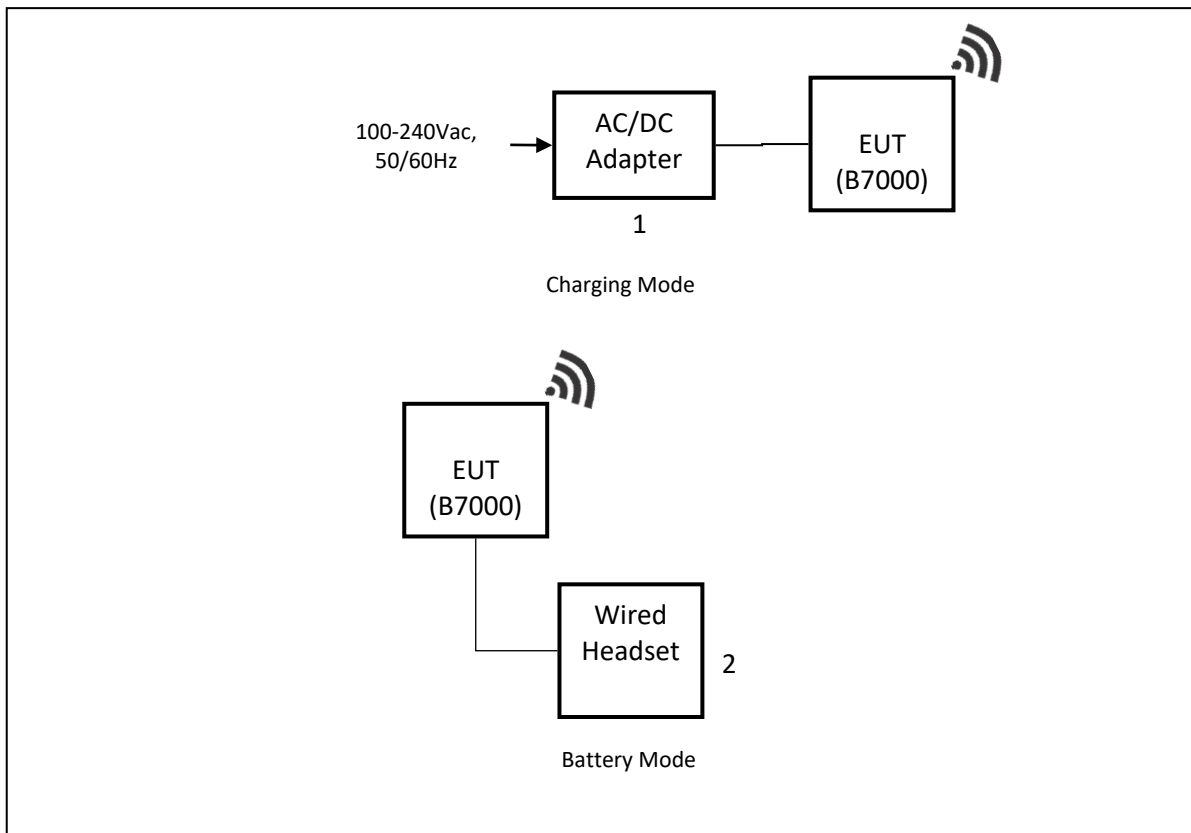
3.2 Block Diagram of Test Setup

Equipment Under Test			
Description	Manufacturer	Model	Serial Number
Communication Badge (Conducted Sample)	Stryker Medical	B7000	MA3304M78005EA
Communication Badge (Radiated Sample)	Stryker Medical	B7000	MA3304M78006FD

Conducted Measurements SETUP



Radiated Measurements SETUP



EUT Photos



3.3 Justification

For radiated emission measurements the EUT is placed on a non-conductive table. The EUT was configured to continuously transmit.

Power was intentionally set by Stryker to be lower than what's on the grant (FCC ID: VPYLBEE5XV2EA) for the approved module for Bluetooth low energy. See section 4.1 for output power level.

3.4 Software Exercise Program

The EUT exercise program used during radiated and conducted testing was provided by Stryker Medical.

3.5 Mode of Operation during Test

Mode of operation during the tests was setup using a laptop which allows controlling the radio by test software. During the transmitter tests, the transmitter was setup to transmit maximum communication and RF power levels.

EUT was placed into transmit mode at the lowest (2402MHz) middle (2440MHz), and highest (2480MHz) channels.

3.6 Modifications Required for Compliance

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

3.7 Additions, Deviations and Exclusions from Standards

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

4.0 Measurement Results

4.1 Maximum Peak Conducted Output Power at Antenna Terminals FCC Rule: 15.247(b)(3); RSS-247, 5.4.d);

4.1.1 Requirement

For antennas with gains of 6 dBi or less, maximum allowed transmitter output is 1 watt or 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 Procedure

The procedure described in FCC Publication KDB 558074 D01 Meas Guidance v05r02 was used. Specifically, section 11.9.1.1 RBW $\geq$ DTS bandwidth in ANSI 63.10.

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

A spectrum analyzer was connected to the antenna port of the transmitter.

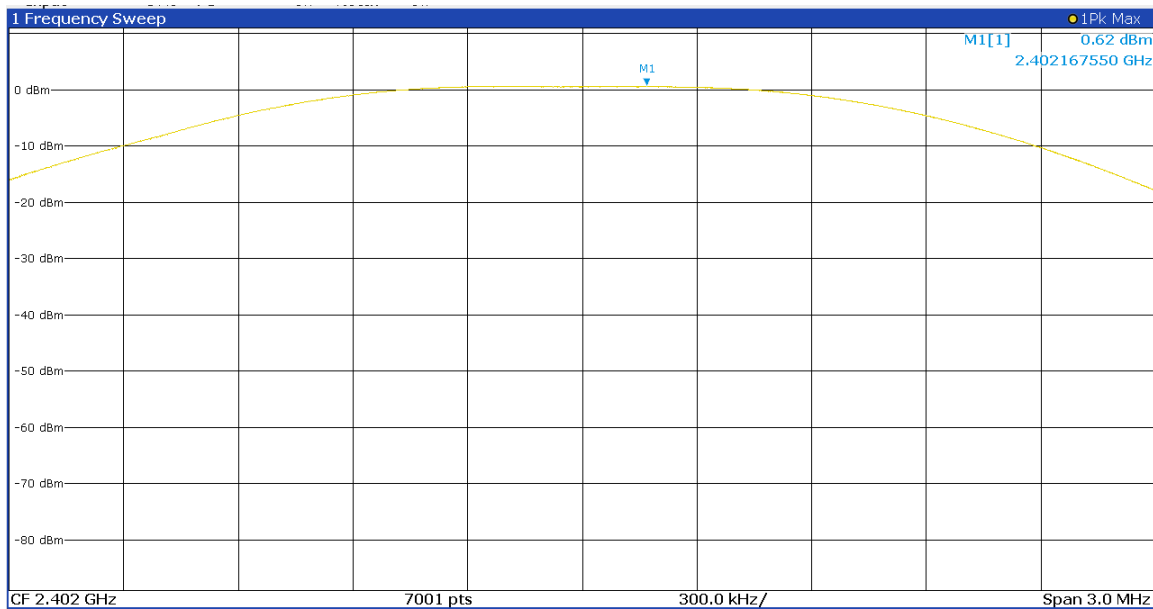
4.1.3 Test Result

Refer to the following plots 2.1 – 2.3 for the test details.

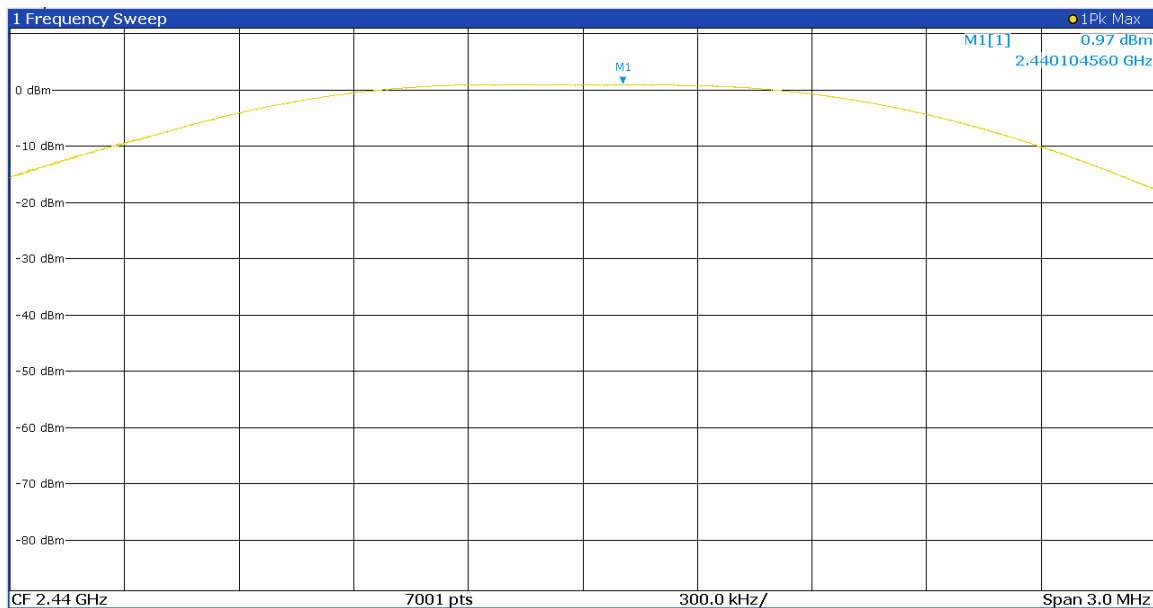
Frequency	Conducted Power (peak)		Plot
	dBm	mW	
2402	0.60	1.153	2.1
2442	0.97	1.250	2.2
2480	1.03	1.268	2.3

Tested By	Test Date	Results
Erica Chan	December 12, 2024	Complies

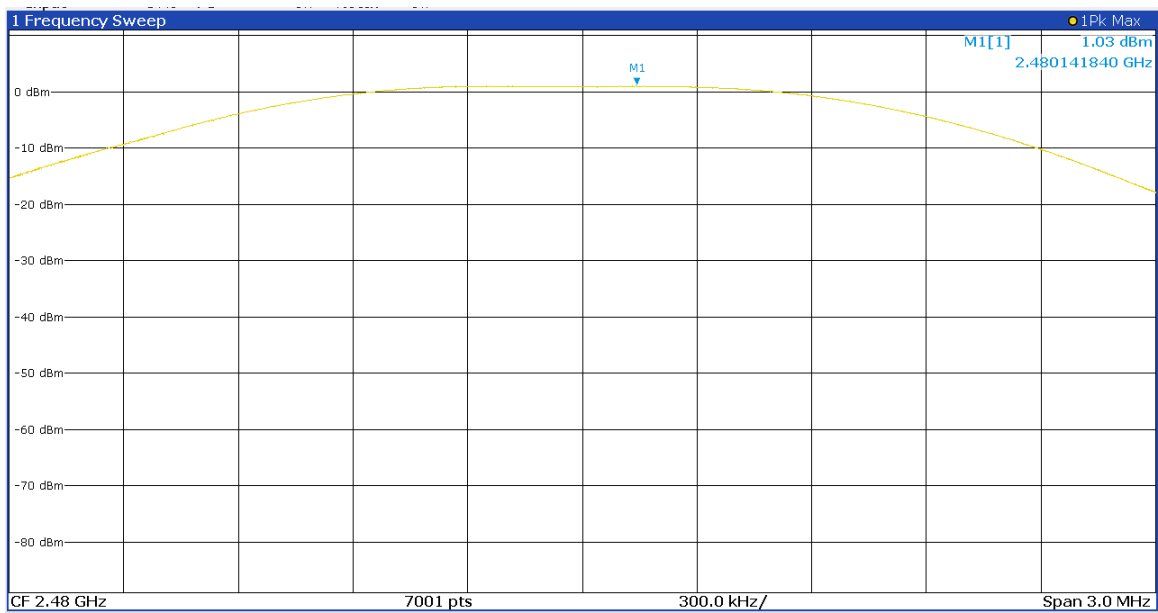
Plot 2. 1



Plot 2. 2



Plot 2.3



Results

Complies

4.2 Transmitter Radiated Emissions FCC Rules: 15.247(d), 15.209, 15.205; RSS-247, 5.5;

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 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 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 9kHz 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.

Radiated measurements were performed on the X, Y and Z orientation of the EUT. 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(μ V/m)

RA = Receiver Amplitude (including preamplifier) in dB(μ V); 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(μ V) 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(μ V/m). This value in dB(μ V/m) was converted to its corresponding level in μ V/m.

RA = 52.0 dB(μ V)

AF = 7.4 dB(1/m)

CF = 1.6 dB

AG = 29.0 dB

$FS = 52.0 + 7.4 + 1.6 - 29.0 = 32 \text{ dB}(\mu\text{V/m})$.

Level in μ V/m = Common Antilogarithm $[(32 \text{ dB}\mu\text{V/m})/20] = 39.8 \mu\text{V/m}$.

4.2.4 Test Results

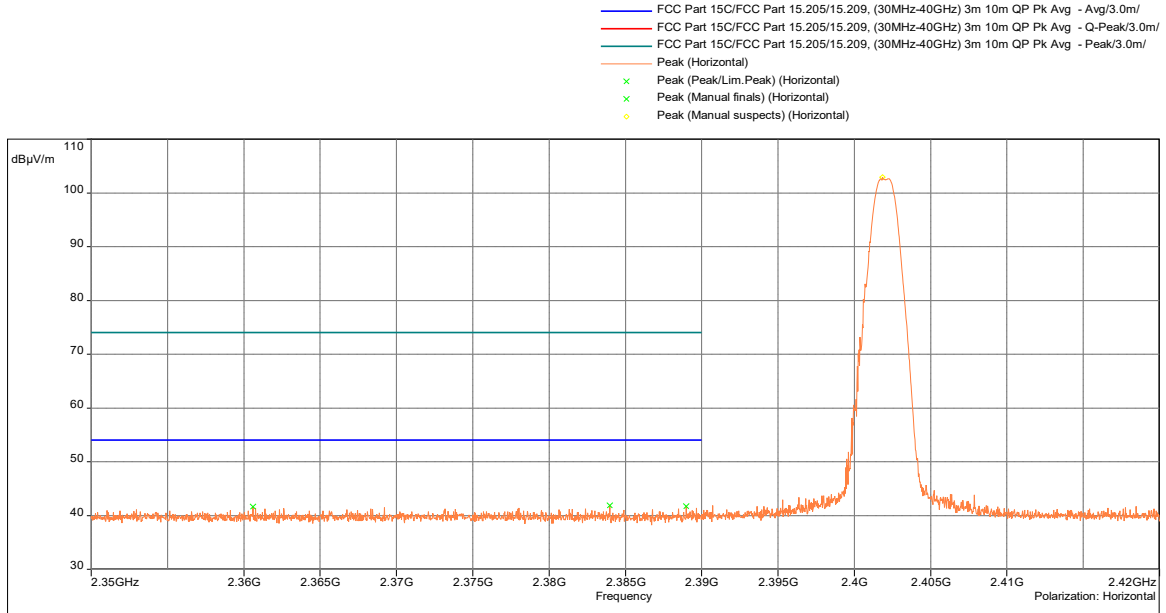
All testing in this section were performed by radiated measurements.

Tested By	Test Date	Results
Erica Chan / Gabriel Carreon	December 10-13, 2024	Complies

Test Results: 15.209/15.205 Radiated Restricted Band Emissions

**Out-of-Band Radiated spurious emissions at the Band-edge @3m distance
2402MHz, Charging Mode**

Peak Scan with Peak Limit and Average Limit



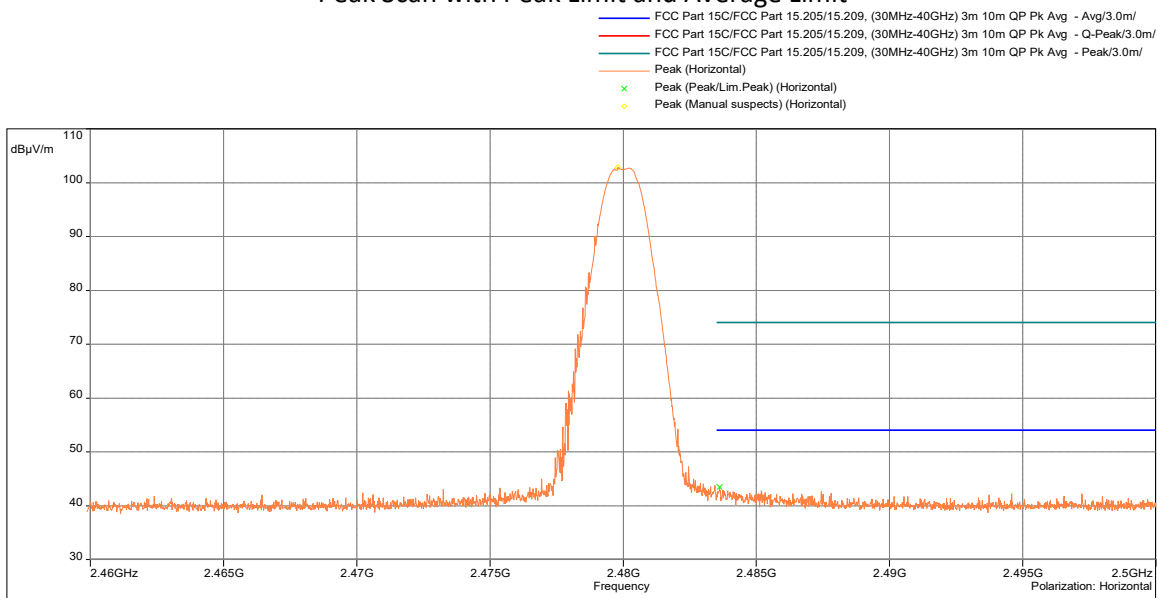
Freq. (MHz)	Peak@3m dB(μV/m)	Avg Limit dB(μV/m)	Margin (dB)	Azimuth (Deg)	Correction (dB)
2390.000	41.73	54	-12.27	176.58	29.54

Results

Complies

Out-of-Band Radiated spurious emissions at the Band-edge @3m distance
2480MHz, Charging Mode

Peak Scan with Peak Limit and Average Limit



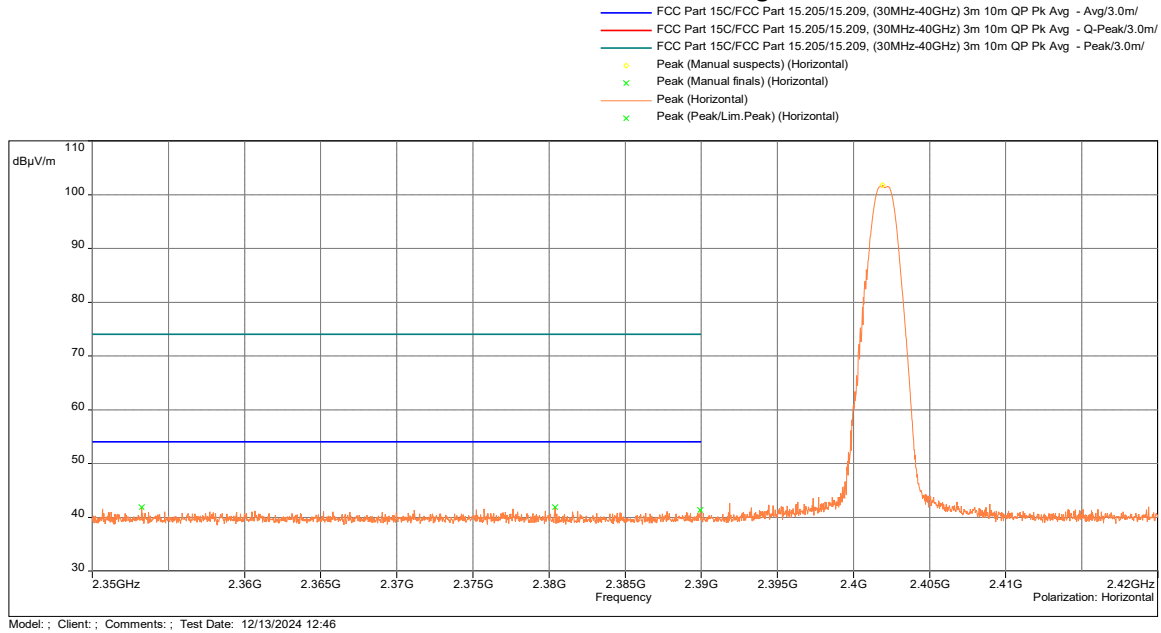
Freq. (MHz)	Peak@3m dB(μV/m)	Avg Limit dB(μV/m)	Margin (dB)	Azimuth (Deg)	Correction (dB)
2483.500	43.48	54	-10.52	311.58	29.53

Results

Complies

Out-of-Band Radiated spurious emissions at the Band-edge @3m distance
2402MHz, Battery Mode

Peak Scan with Peak Limit and Average Limit

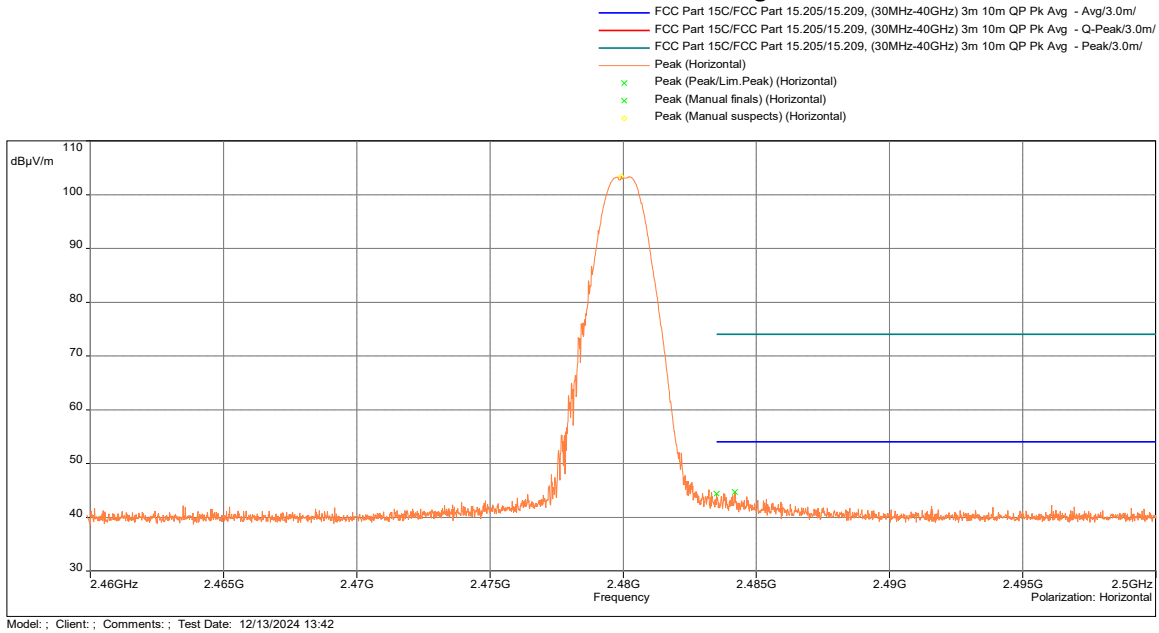


Freq. (MHz)	Peak@3m dB(μV/m)	Avg Limit dB(μV/m)	Margin (dB)	Azimuth (Deg)	Correction (dB)
2390.000	41.33	54	-12.67	227.12	29.54

Results	Complies
----------------	-----------------

Out-of-Band Radiated spurious emissions at the Band-edge @3m distance
2480MHz, Battery Mode

Peak Scan with Peak Limit and Average Limit



Freq. (MHz)	Peak@3m dB(µV/m)	Avg Limit dB(µV/m)	Margin (dB)	Azimuth (Deg)	Correction (dB)
2483.500	44.38	54	-9.62	311.58	29.53

Results

Complies

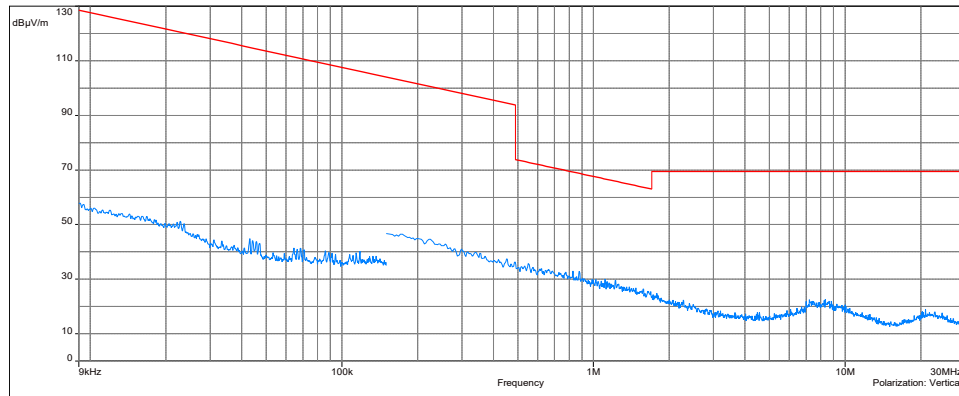
Out-of-Band Radiated Spurious Emissions

Test Results: 15.209 Radiated Spurious Emissions Low Channel, Tx at 2402MHz

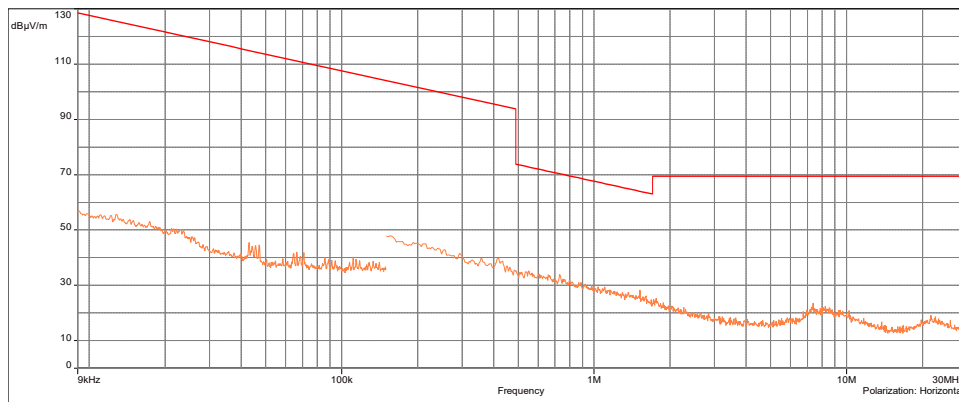
Test Results: 15.209 Radiated Spurious Emissions Low Channel, Tx at 2402MHz, Charging Mode

Radiated Spurious Emissions 9 kHz to 30 MHz

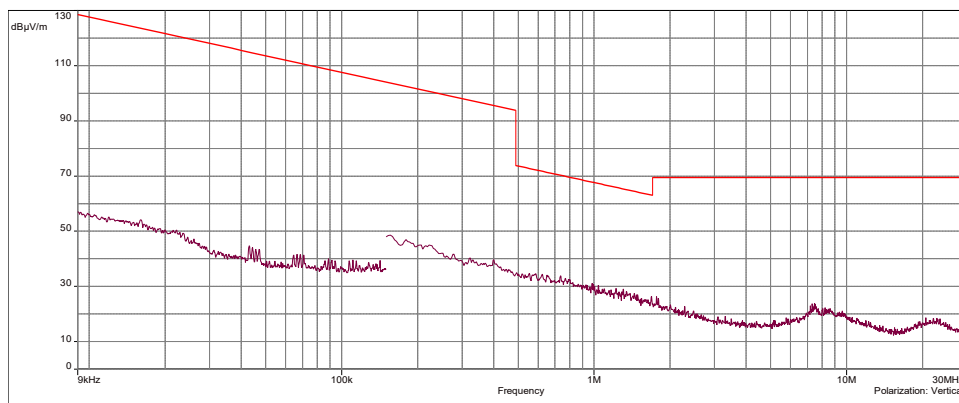
Antenna Position -
Coaxial



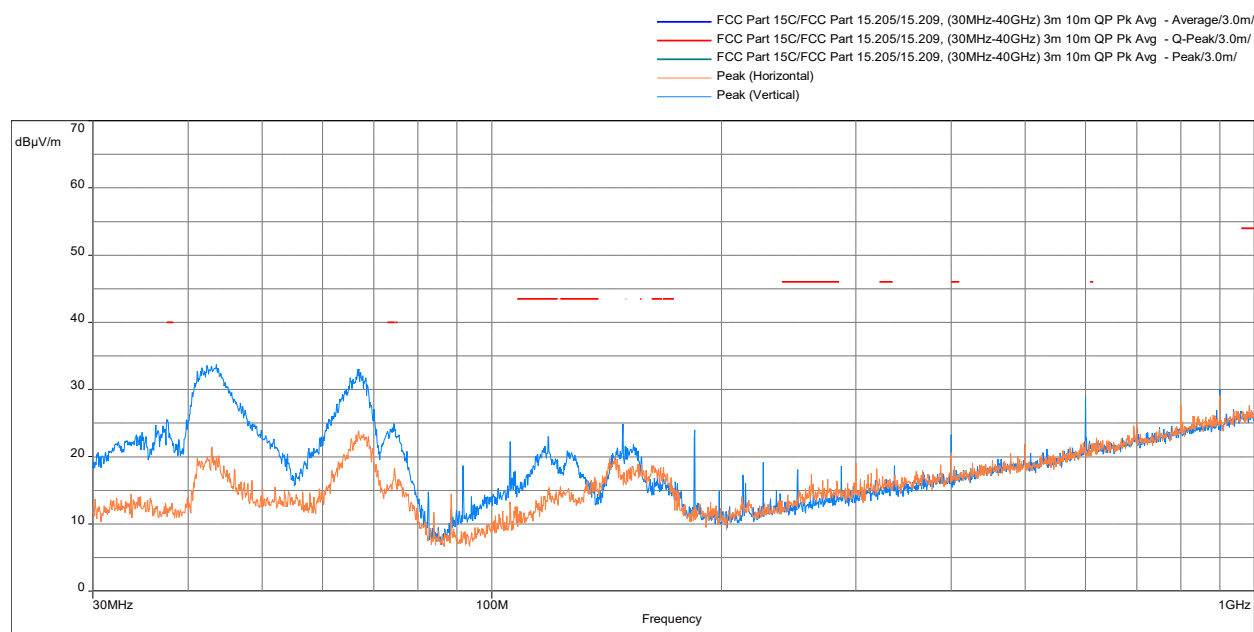
Antenna Position -
Coplanar



Antenna Position -
Horizontal

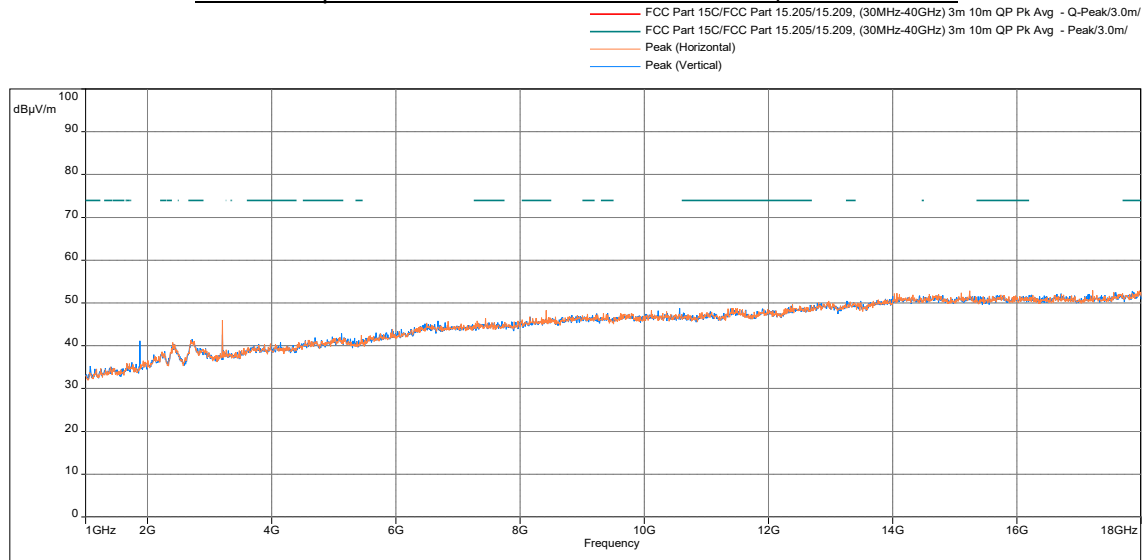


Radiated Spurious Emissions 30 MHz to 1000 MHz

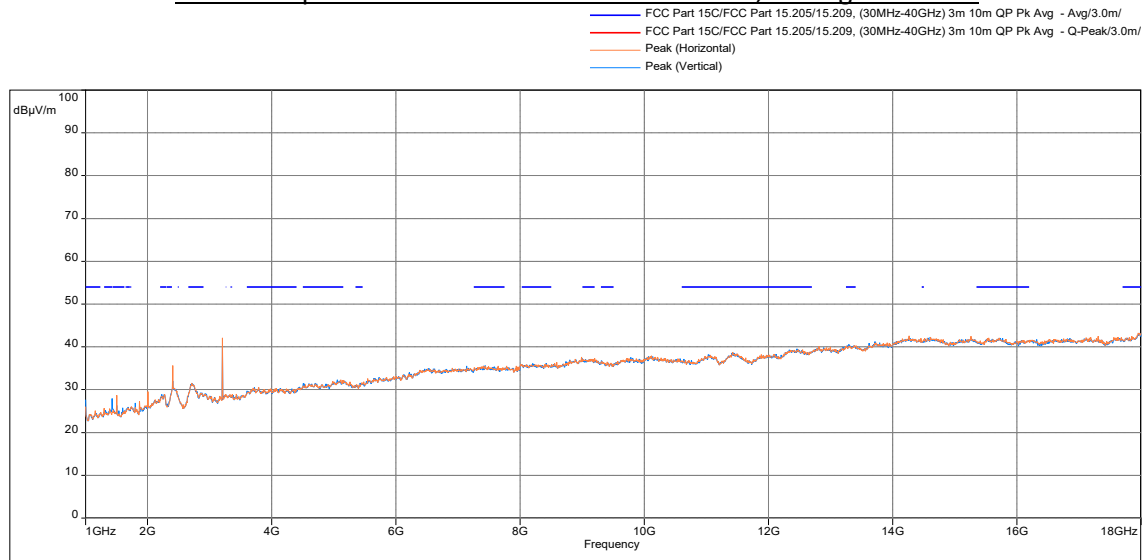


Freq. (MHz)	QPeak@ 3m (dBμV/m)	Lim. QPeak @3m (dBμV/m)	Margin (dB)	Angle (°)	Polarity	Correction (dB)
37.501	25.53	40.00	-14.47	0.47	Vertical	-14.10
74.426	24.95	40.00	-15.05	281.92	Vertical	-16.98
118.593	23.00	43.50	-20.50	84.13	Vertical	-16.37
74.555	18.26	40.00	-21.74	215.96	Horizontal	-17.02
125.610	20.85	43.50	-22.65	182.63	Vertical	-15.90
399.990	23.30	46.00	-22.70	240.52	Vertical	-10.45

Radiated Spurious Emissions 1000 to 18000 MHz, Peak Detector



Radiated Spurious Emissions 1000 to 18000 MHz, Average Detector



Freq. (MHz)	Detector Mode PK/QP/AV	FS (dBμV/m)	PK/AV Limit dB(μV/m)	Margin (dB)	Angle (°)	Polarity	Correction (dB)
1071.967	Peak	35.24	74.00	-38.76	118.55	Vertical	-9.50
1175.100	Peak	34.59	74.00	-39.41	340.96	Horizontal	-9.27
1411.967	Peak	35.11	74.00	-38.89	147.93	Vertical	-8.52
1000.000	Average	26.09	54.00	-27.91	28.83	Horizontal	-9.50
1000.000	Average	27.65	54.00	-26.35	262.67	Vertical	-9.50
1425.000	Average	27.92	54.00	-26.08	262.67	Vertical	-8.46

Note: Radiated emission measurements were performed up to 25GHz. No Emissions were identified when scanned from 18-25 GHz

Results

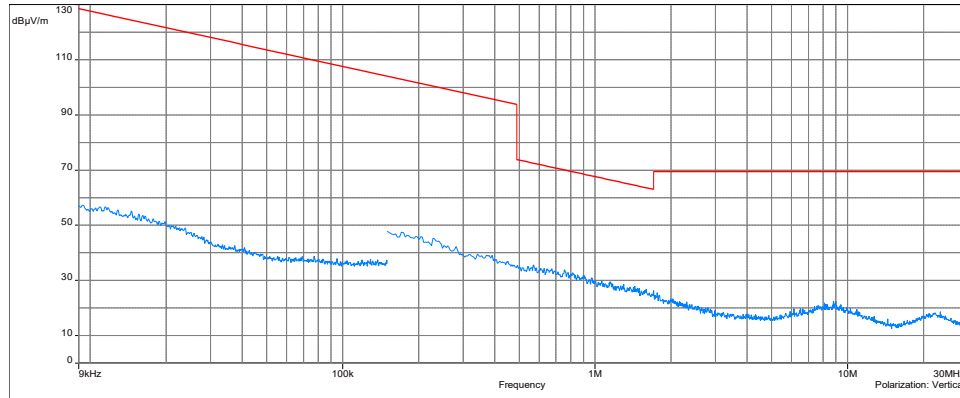
Complies

Out-of-Band Radiated Spurious Emissions

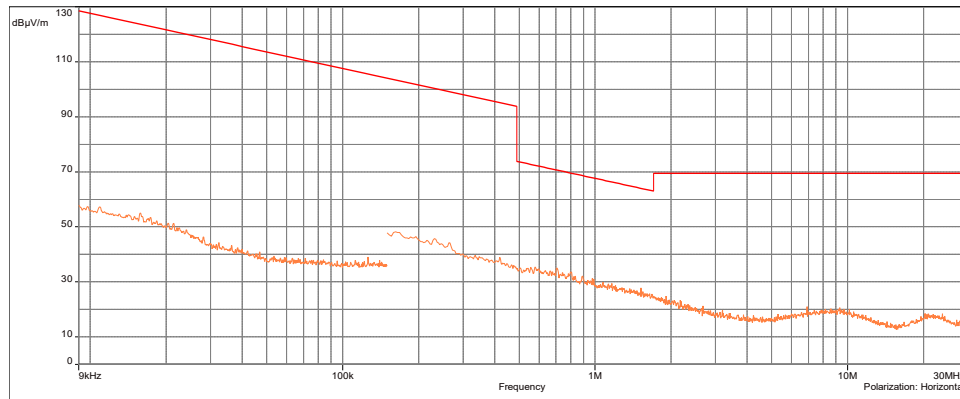
Test Results: 15.209 Radiated Spurious Emissions
Low Channel, Tx at 2402Mhz, Battery Mode

Radiated Spurious Emissions 9 kHz to 30 MHz

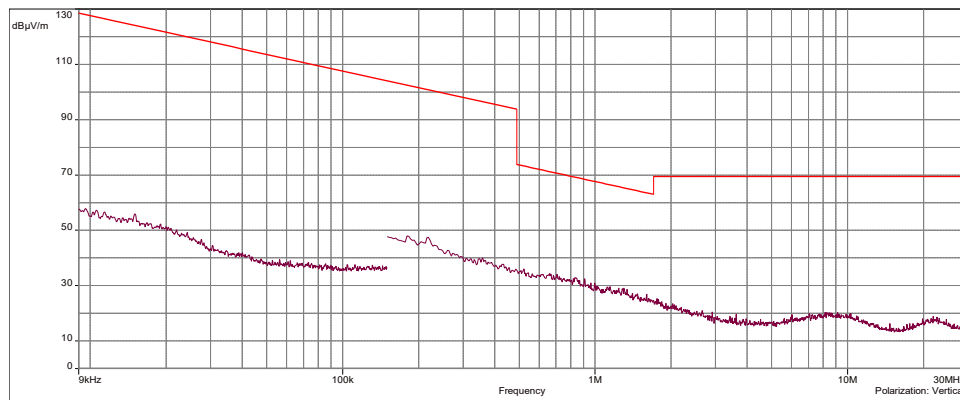
Antenna Position -
Coaxial



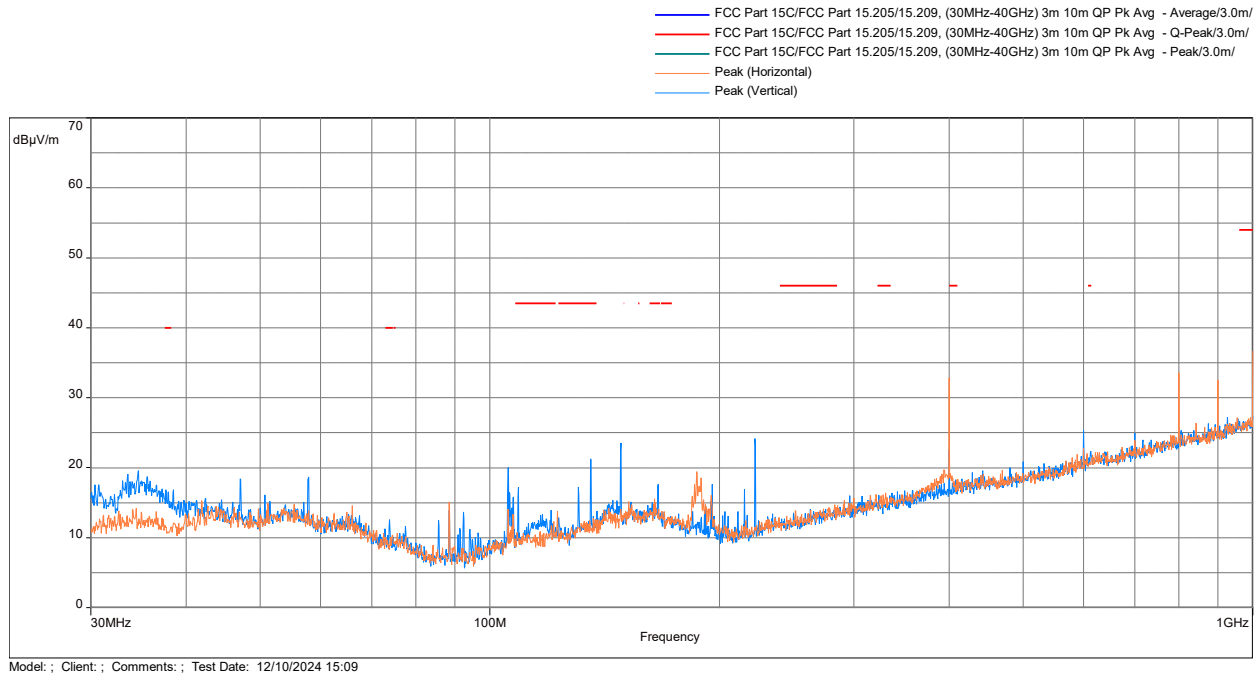
Antenna Position -
Coplanar



Antenna Position -
Horizontal

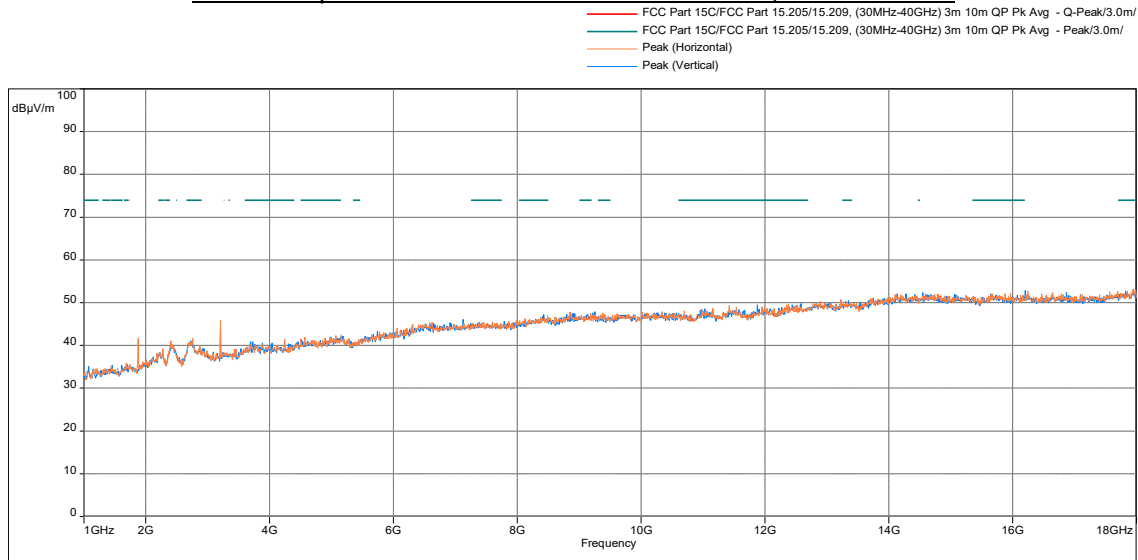


Radiated Spurious Emissions 30 MHz to 1000 MHz

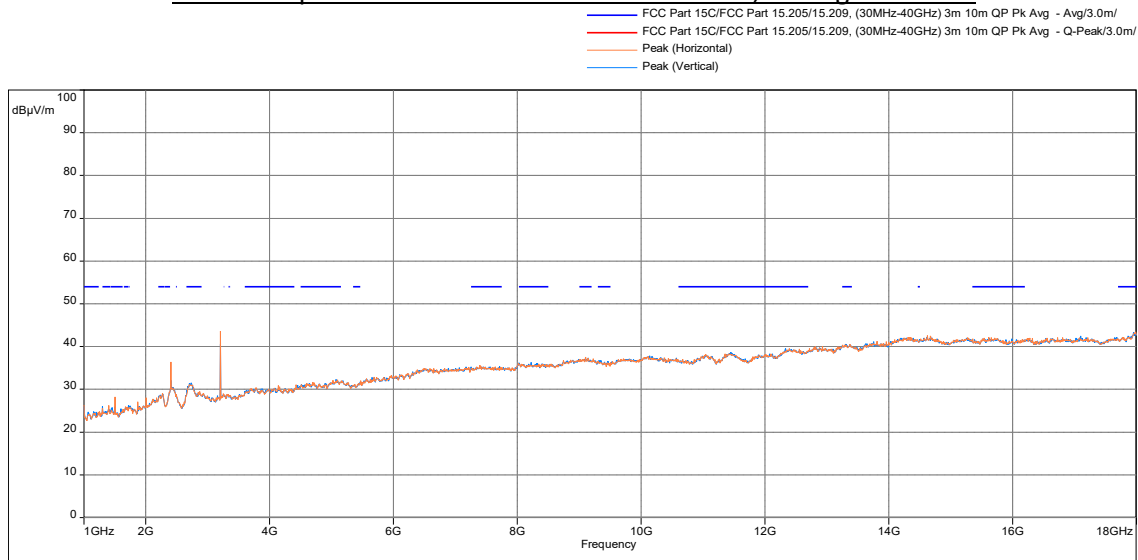


Freq. (MHz)	QPeak@ 3m (dBμV/m)	Lim. QPeak @3m (dBμV/m)	Margin (dB)	Angle (°)	Polarity	Correction (dB)
399.990	34.90	46.00	-11.10	303.23	Horizontal	-10.45
1000.000	32.89	54.00	-21.11	15.88	Horizontal	0.54
613.746	22.55	46.00	-23.45	359.91	Horizontal	-6.15
399.990	22.44	46.00	-23.56	324.90	Vertical	-10.45
613.908	22.23	46.00	-23.77	22.21	Vertical	-6.15
611.256	22.06	46.00	-23.94	359.91	Horizontal	-6.26

Radiated Spurious Emissions 1000 to 18000 MHz, Peak Detector



Radiated Spurious Emissions 1000 to 18000 MHz, Average Detector



Freq. (MHz)	Detector Mode PK/QP/AV	FS (dBμV/m)	PK/AV Limit dB(μV/m)	Margin (dB)	Angle (°)	Polarity	Correction (dB)
1209.667	Peak	34.56	74.00	-39.44	96.66	Horizontal	-9.15
1439.167	Peak	35.16	74.00	-38.84	118.48	Horizontal	-8.39
1687.933	Peak	35.71	74.00	-38.29	75.49	Horizontal	-7.62
1000.000	Average	26.30	54.00	-27.70	28.83	Horizontal	-9.50
1499.800	Average	28.27	54.00	-25.73	259.68	Horizontal	-8.11
2268.200	Average	29.09	54.00	-24.91	358.32	Horizontal	-3.60

Note: Radiated emission measurements were performed up to 25GHz. No Emissions were identified when scanned from 18-25 GHz

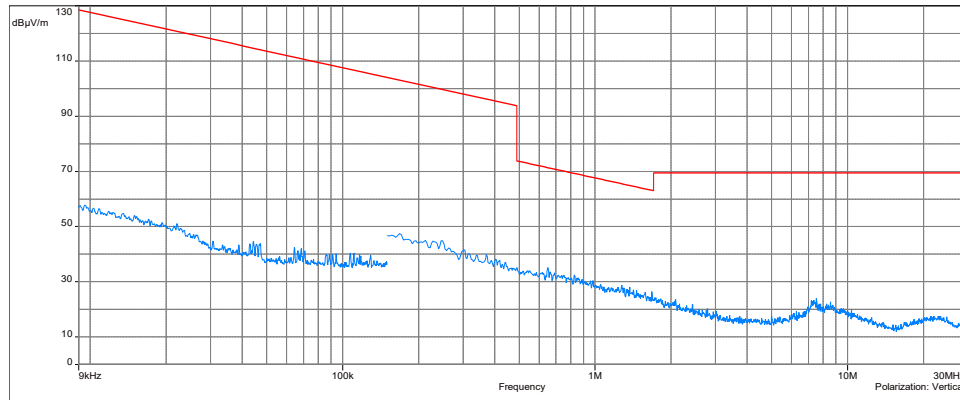
Results **Complies**

Out-of-Band Radiated Spurious Emissions

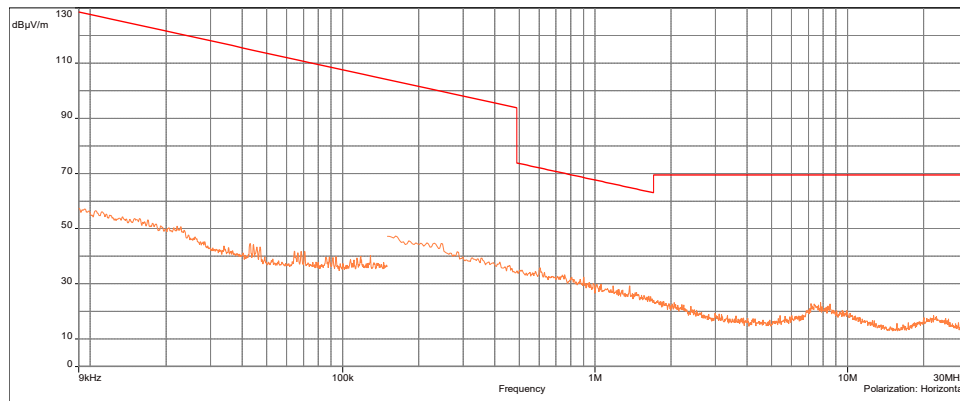
Test Results: 15.209 Radiated Spurious Emissions
Mid Channel, Tx at 2440Mhz, Charging Mode

Radiated Spurious Emissions 9 kHz to 30 MHz

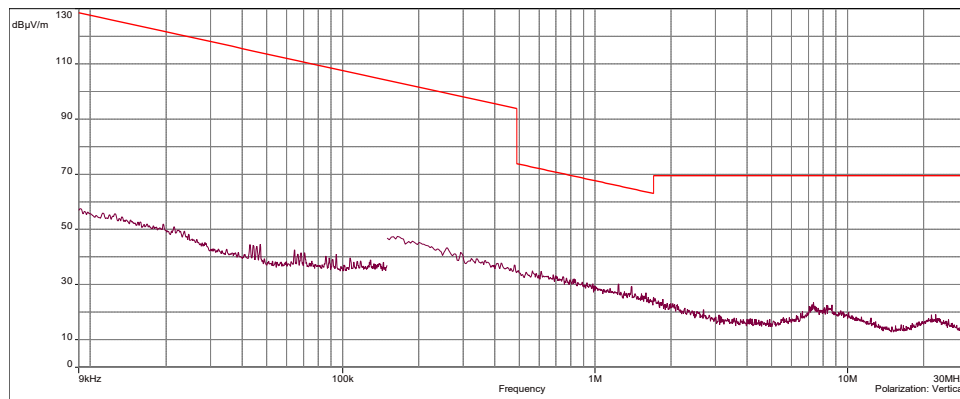
Antenna Position -
Coaxial



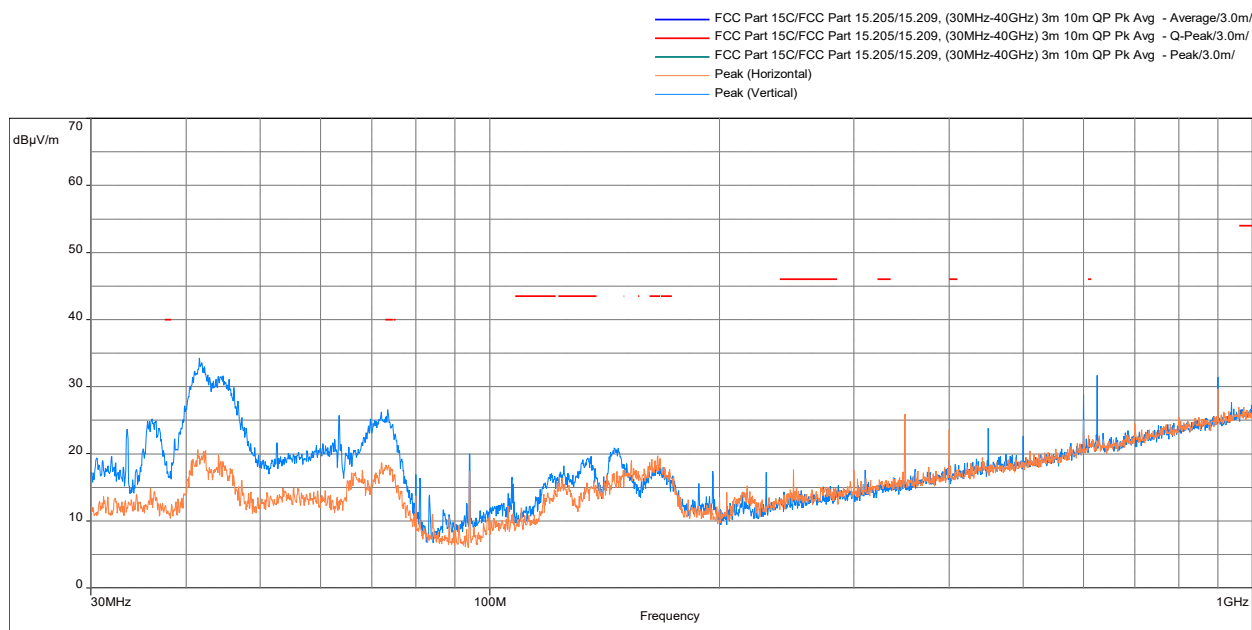
Antenna Position -
Coplanar



Antenna Position -
Horizontal

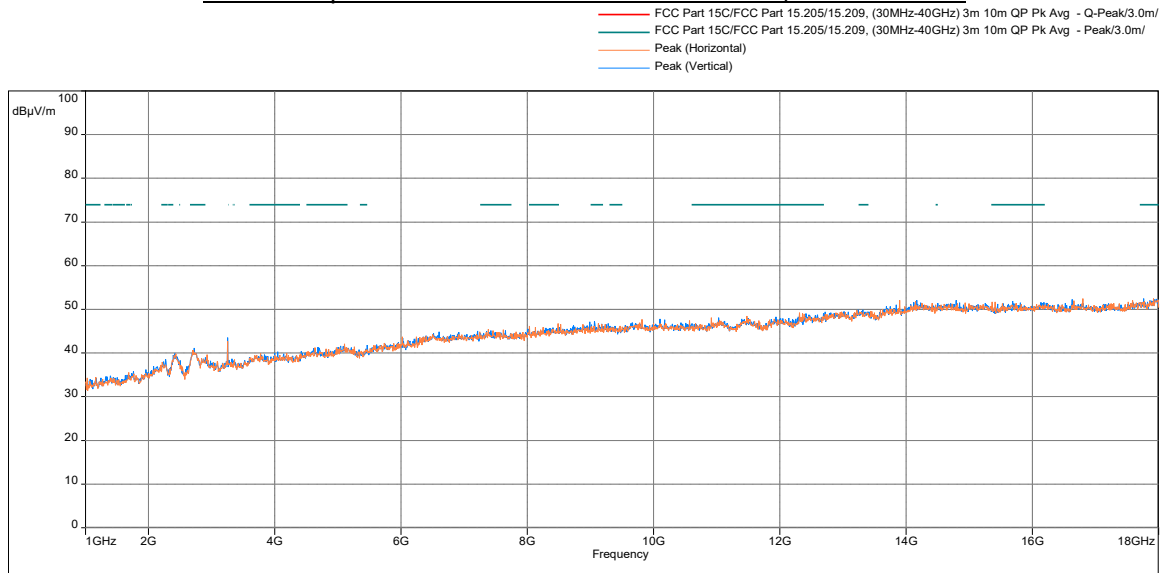


Radiated Spurious Emissions 30 MHz to 1000 MHz

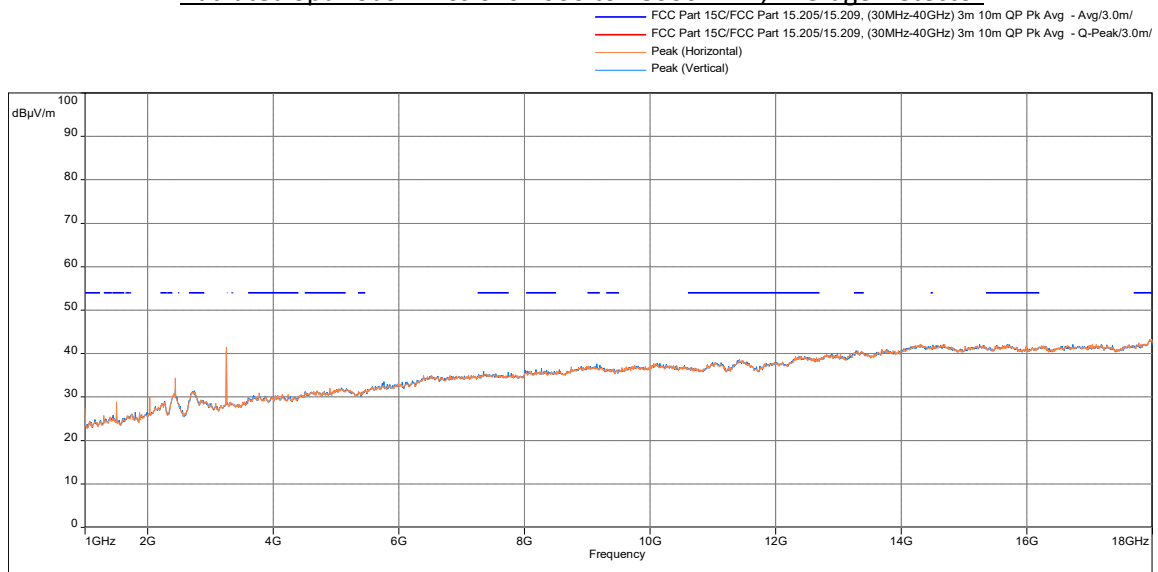


Freq. (MHz)	QPeak@ 3m (dBμV/m)	Lim. QPeak @3m (dBμV/m)	Margin (dB)	Angle (°)	Polarity	Correction (dB)
73.488	26.59	40.00	-13.41	108.18	Vertical	-16.71
399.990	23.59	46.00	-22.41	359.85	Horizontal	-10.45
609.025	22.76	46.00	-23.24	359.85	Horizontal	-6.36
609.219	22.28	46.00	-23.72	75.71	Vertical	-6.36
165.929	19.72	43.50	-23.78	244.98	Horizontal	-13.44
610.739	22.18	46.00	-23.82	164.70	Vertical	-6.28

Radiated Spurious Emissions 1000 to 18000 MHz, Peak Detector



Radiated Spurious Emissions 1000 to 18000 MHz, Average Detector



Freq. (MHz)	Detector Mode PK/QP/AV	FS (dBμV/m)	PK/AV Limit dB(μV/m)	Margin (dB)	Angle (°)	Polarity	Correction (dB)
1162.633	Peak	34.52	74.00	-39.48	199.39	Horizontal	-9.32
1402.900	Peak	34.35	74.00	-39.65	75.83	Horizontal	-8.56
1686.800	Peak	35.53	74.00	-38.47	54.34	Horizontal	-7.62
1000.000	Average	27.42	54.00	-26.58	56.29	Horizontal	-9.50
1499.800	Average	28.83	54.00	-25.17	124.65	Horizontal	-8.11
2269.333	Average	28.76	54.00	-25.24	236.43	Horizontal	-3.60

Note: Radiated emission measurements were performed up to 25GHz. No Emissions were identified when scanned from 18-25 GHz

Results

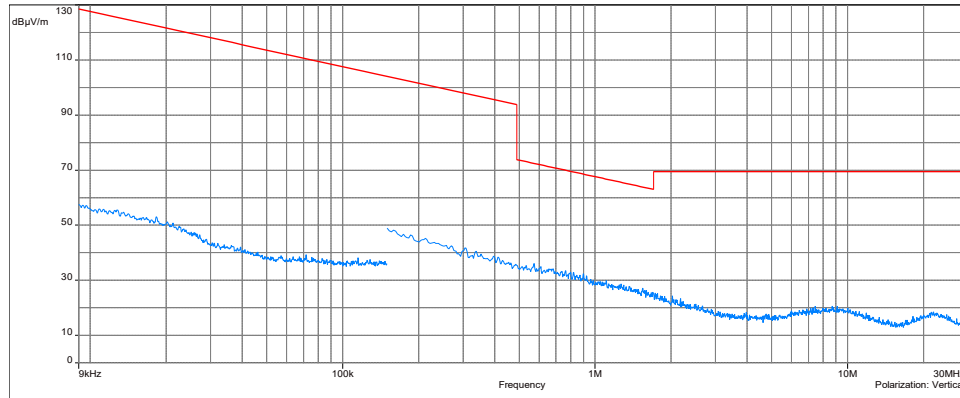
Complies

Out-of-Band Radiated Spurious Emissions

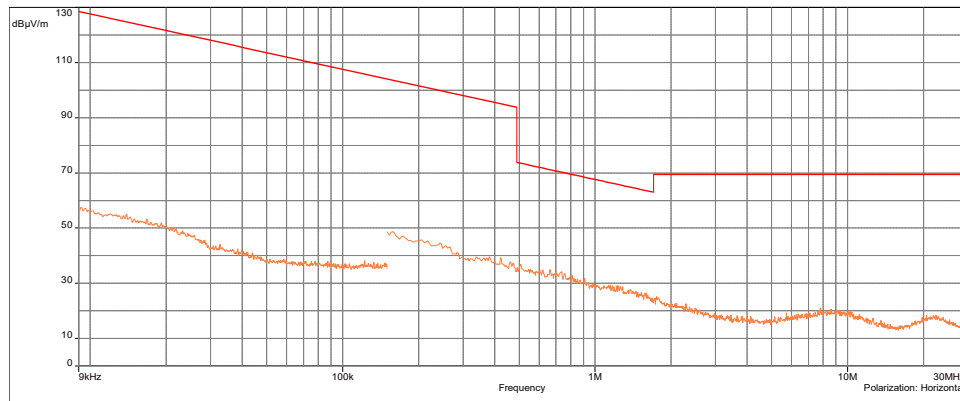
Test Results: 15.209 Radiated Spurious Emissions
Mid Channel, Tx at 2440Mhz, Battery Mode

Radiated Spurious Emissions 9 kHz to 30 MHz

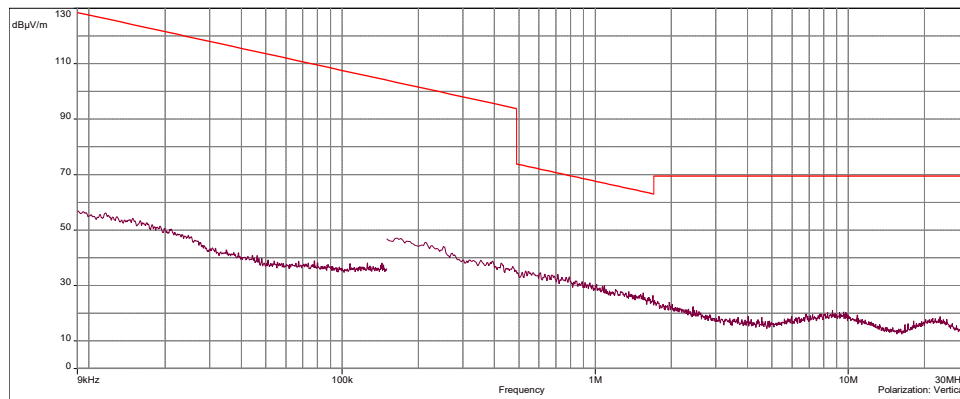
Antenna Position -
Coaxial



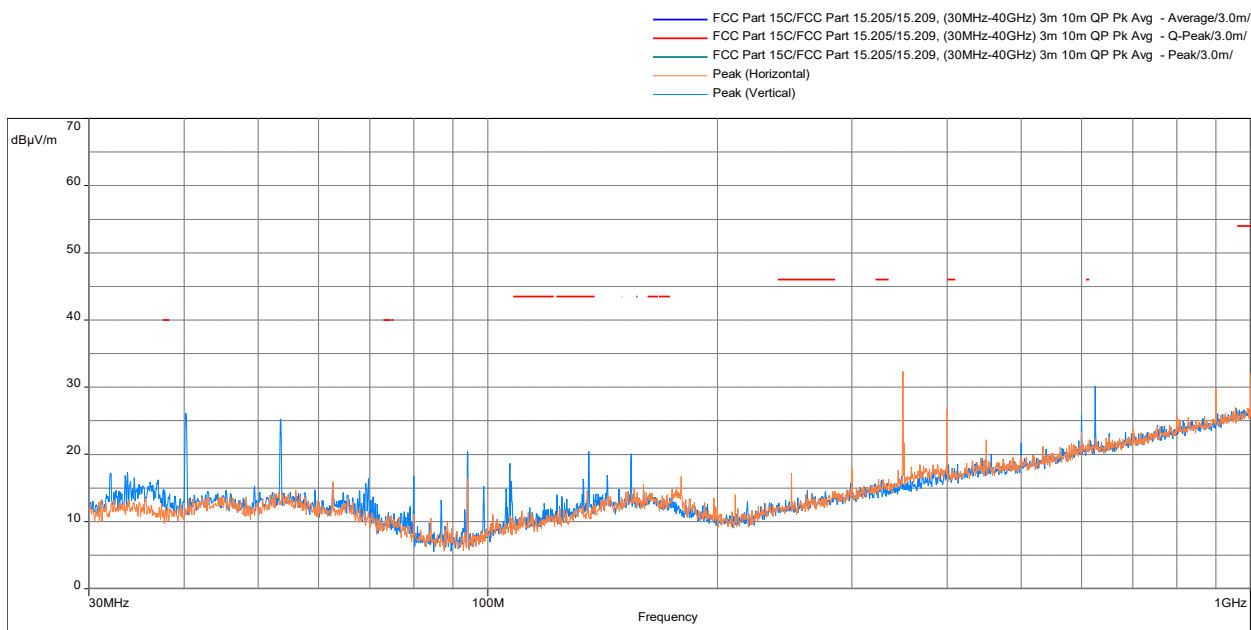
Antenna Position -
Coplanar



Antenna Position -
Horizontal

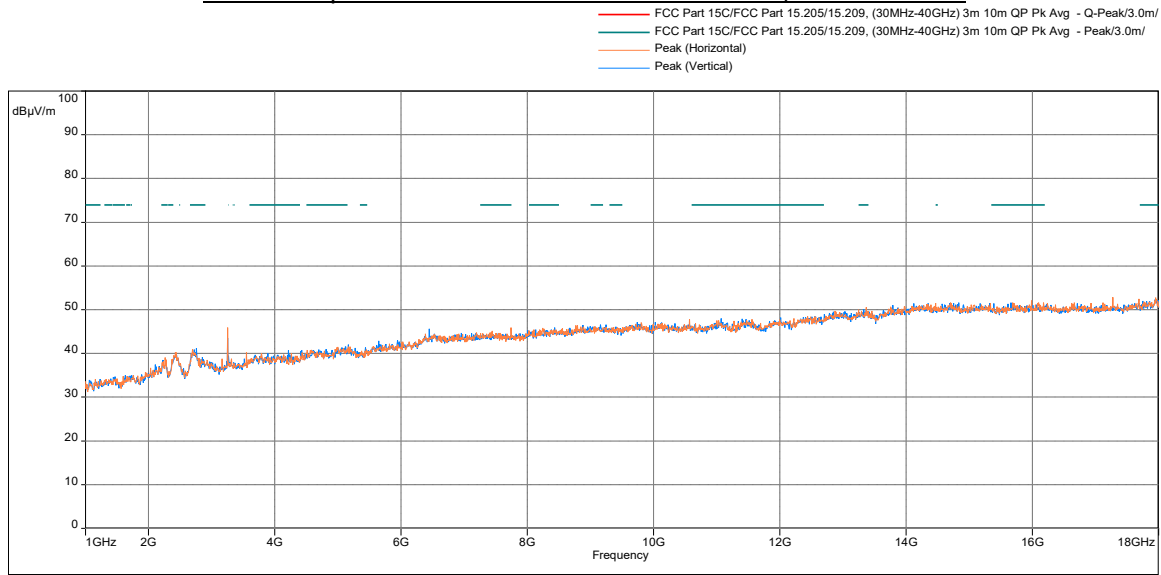


Radiated Spurious Emissions 30 MHz to 1000 MHz

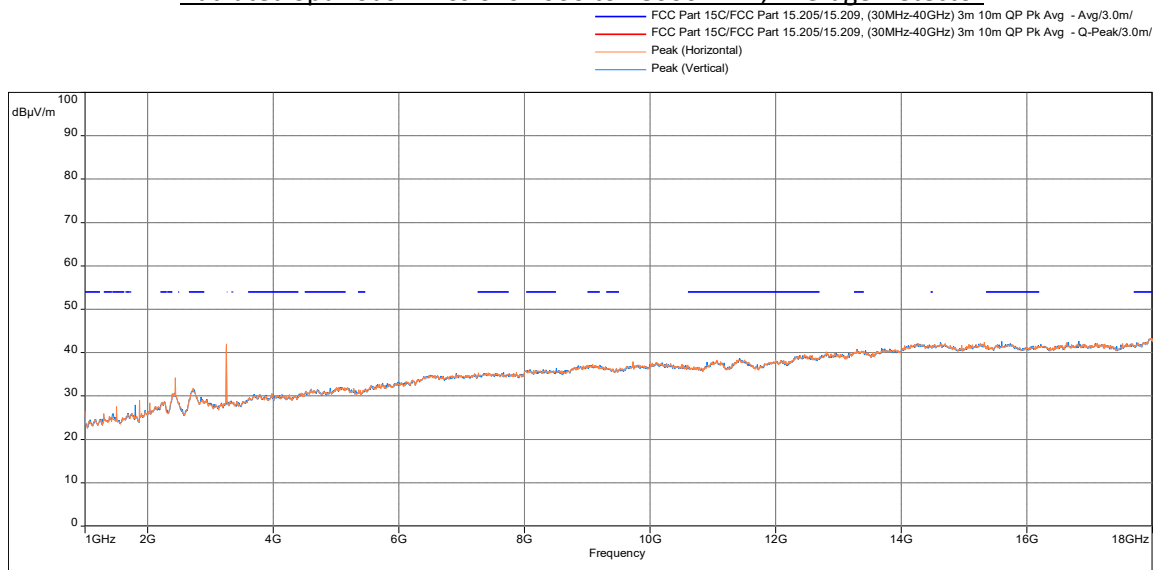


Freq. (MHz)	QPeak@ 3m (dBμV/m)	Lim. QPeak @3m (dBμV/m)	Margin (dB)	Angle (°)	Polarity	Correction (dB)
399.990	26.76	46.00	-19.24	244.98	Horizontal	-10.45
1000.000	32.02	54.00	-21.98	172.83	Horizontal	0.54
135.633	20.43	43.50	-23.07	94.57	Vertical	-14.73
611.386	21.60	46.00	-24.40	95.07	Horizontal	-6.26
610.448	21.43	46.00	-24.57	306.61	Vertical	-6.31
997.381	26.89	54.00	-27.11	286.67	Horizontal	0.51

Radiated Spurious Emissions 1000 to 18000 MHz, Peak Detector



Radiated Spurious Emissions 1000 to 18000 MHz, Average Detector



Freq. (MHz)	Detector Mode PK/QP/AV	FS (dBμV/m)	PK/AV Limit dB(μV/m)	Margin (dB)	Angle (°)	Polarity	Correction (dB)
1155.833	Peak	34.14	74.00	-39.86	77.02	Horizontal	-9.34
1596.133	Peak	34.85	74.00	-39.15	111.05	Horizontal	-7.86
2263.100	Peak	39.04	74.00	-34.96	354.21	Horizontal	-3.60
1000.000	Average	26.50	54.00	-27.50	193.12	Horizontal	-9.50
1499.800	Average	27.56	54.00	-26.44	330.17	Horizontal	-8.11
2264.800	Average	28.62	54.00	-25.38	355.69	Horizontal	-3.60

Note: Radiated emission measurements were performed up to 25GHz. No Emissions were identified when scanned from 18-25 GHz

Results

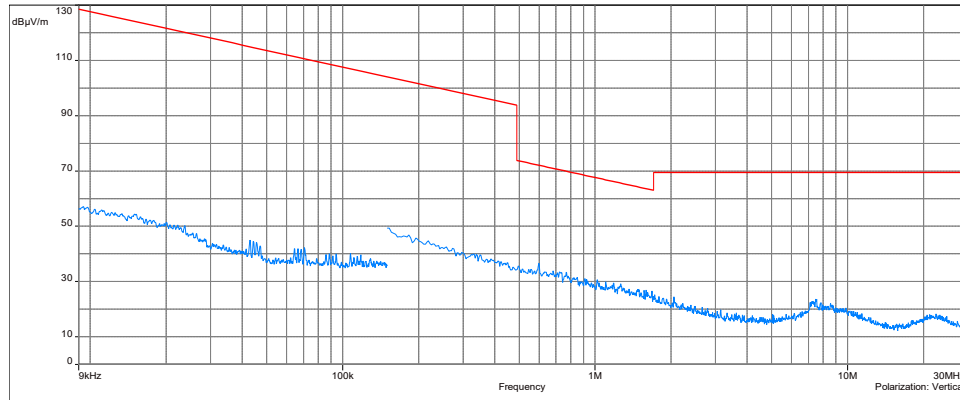
Complies

Out-of-Band Radiated Spurious Emissions

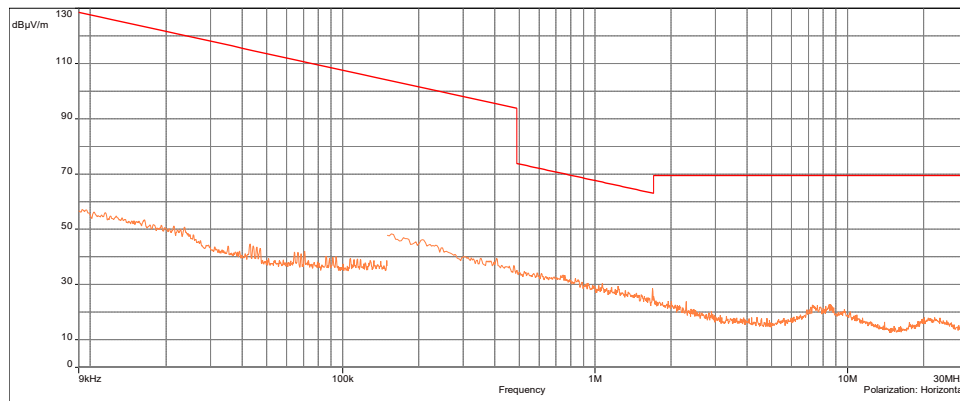
Test Results: 15.209 Radiated Spurious Emissions
High Channel, Tx at 2480Mhz, Charging Mode

Radiated Spurious Emissions 9 kHz to 30 MHz

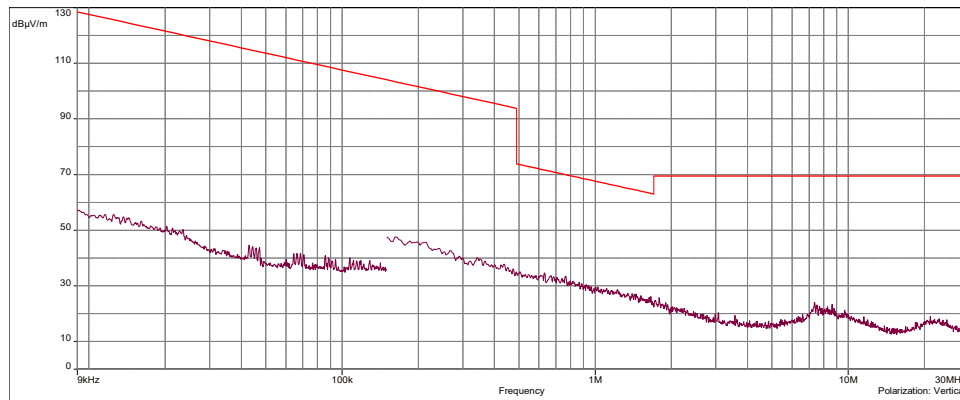
Antenna Position -
Coaxial



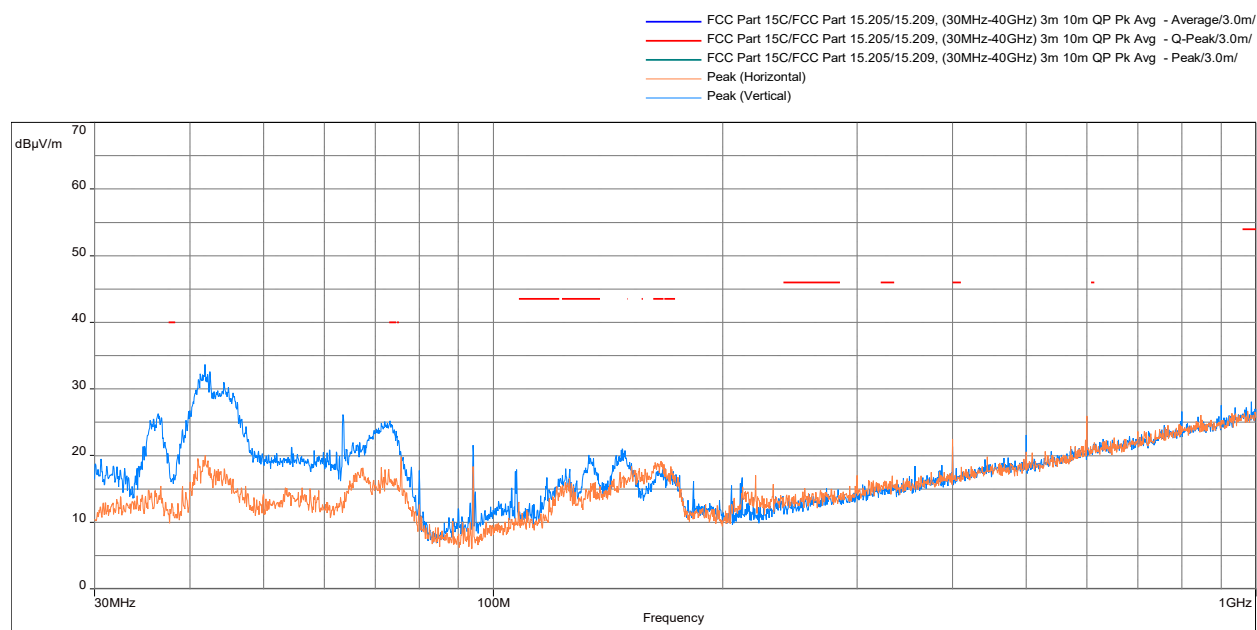
Antenna Position -
Coplanar



Antenna Position -
Horizontal

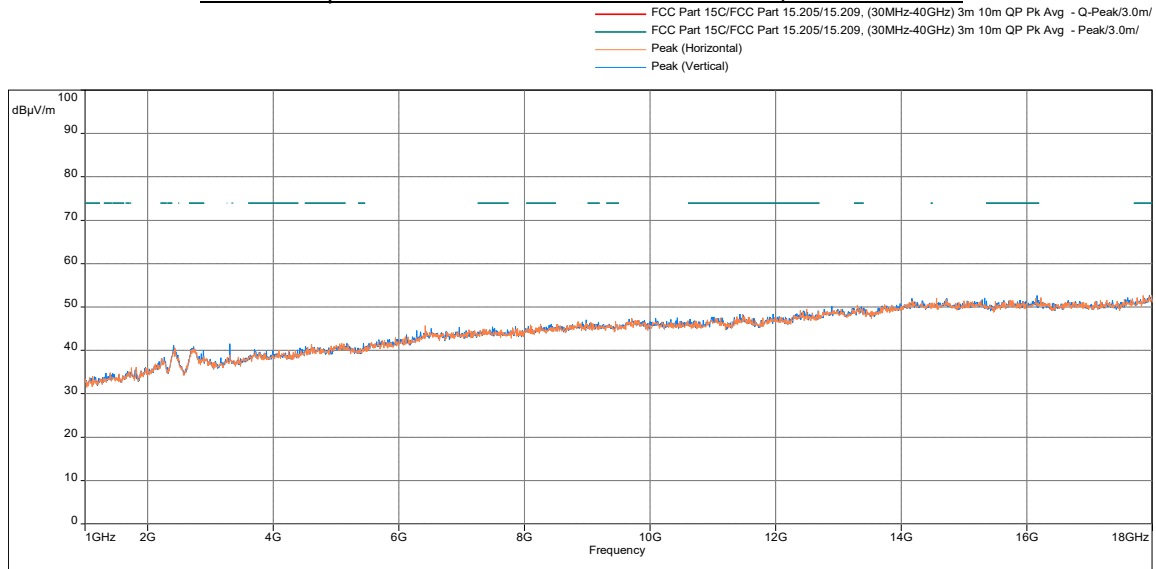


Radiated Spurious Emissions 30 MHz to 1000 MHz

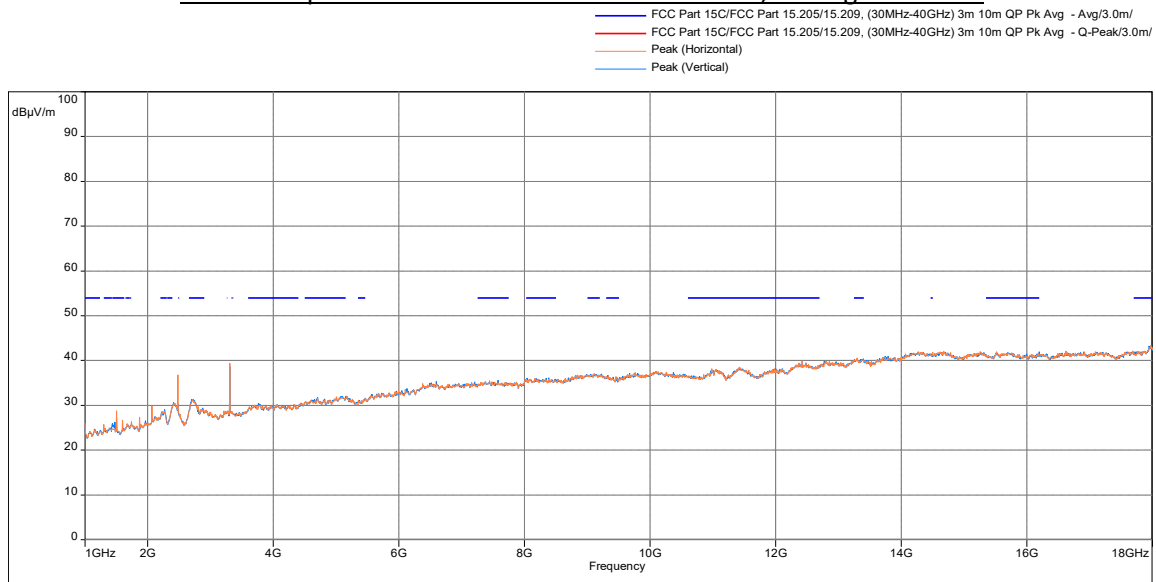


Freq. (MHz)	QPeak@ 3m (dBμV/m)	Lim. QPeak @3m (dBμV/m)	Margin (dB)	Angle (°)	Polarity	Correction (dB)
73.230	25.25	40.00	-14.75	63.39	Vertical	-16.64
133.402	20.12	43.50	-23.38	8.10	Vertical	-15.03
399.990	22.47	46.00	-23.53	281.77	Horizontal	-10.45
612.550	21.72	46.00	-24.28	125.53	Vertical	-6.20
165.994	19.16	43.50	-24.34	272.56	Horizontal	-13.45
162.922	18.97	43.50	-24.53	290.20	Horizontal	-13.26

Radiated Spurious Emissions 1000 to 18000 MHz, Peak Detector



Radiated Spurious Emissions 1000 to 18000 MHz, Average Detector



Freq. (MHz)	Detector Mode PK/QP/AV	FS (dBμV/m)	PK/AV Limit dB(μV/m)	Margin (dB)	Angle (°)	Polarity	Correction (dB)
1122.400	Peak	34.05	74.00	-39.95	194.63	Horizontal	-9.42
1401.767	Peak	34.94	74.00	-39.06	313.43	Horizontal	-8.57
2217.767	Peak	38.25	74.00	-35.75	238.81	Horizontal	-4.09
1000.000	Average	26.01	54.00	-27.99	331.17	Horizontal	-9.50
1499.800	Average	28.80	54.00	-25.20	124.76	Horizontal	-8.11
1599.533	Average	26.75	54.00	-27.25	331.17	Horizontal	-7.86

Note: Radiated emission measurements were performed up to 25GHz. No Emissions were identified when scanned from 18-25 GHz

Results

Complies

EMC Report for Communication Badge; Model: B7000

File: 105964951MPK-005

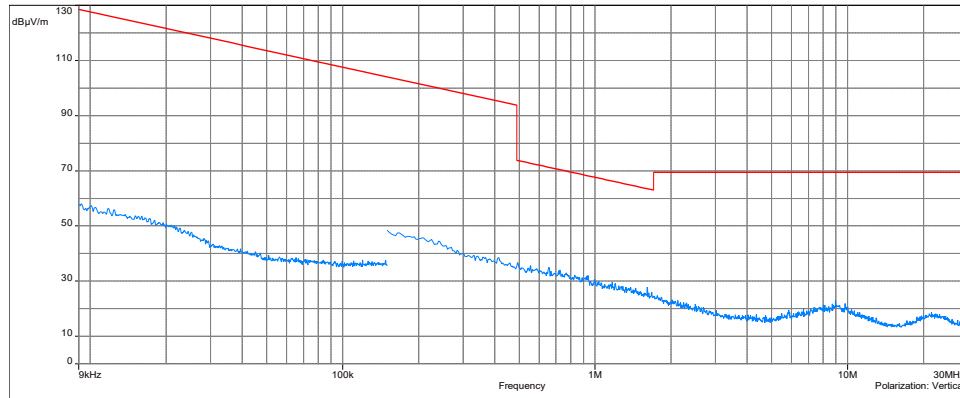
Page 34 of 41

Out-of-Band Radiated Spurious Emissions

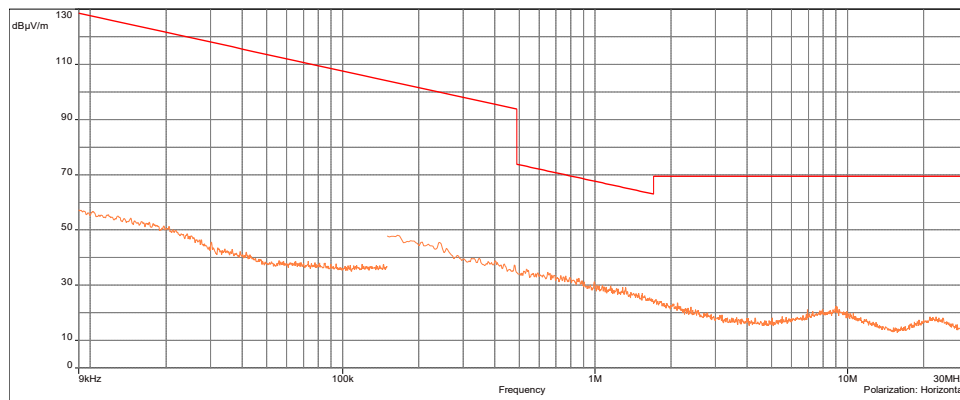
Test Results: 15.209 Radiated Spurious Emissions
High Channel, Tx at 2480Mhz, Battery Mode

Radiated Spurious Emissions 9 kHz to 30 MHz

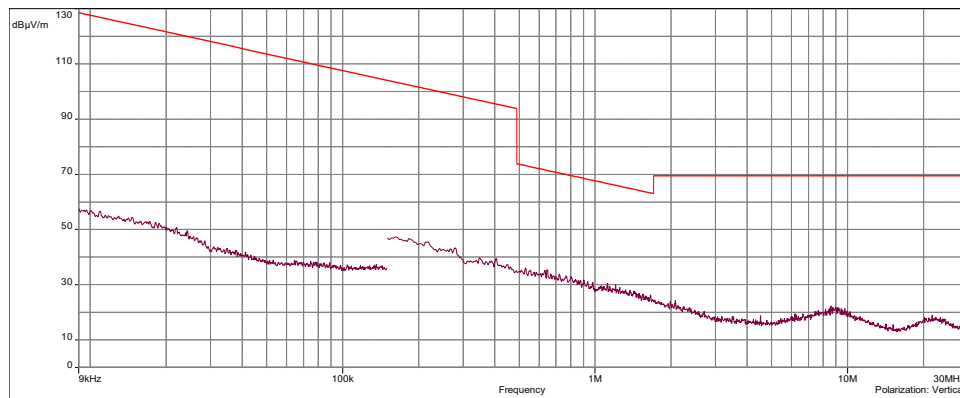
Antenna Position -
Coaxial



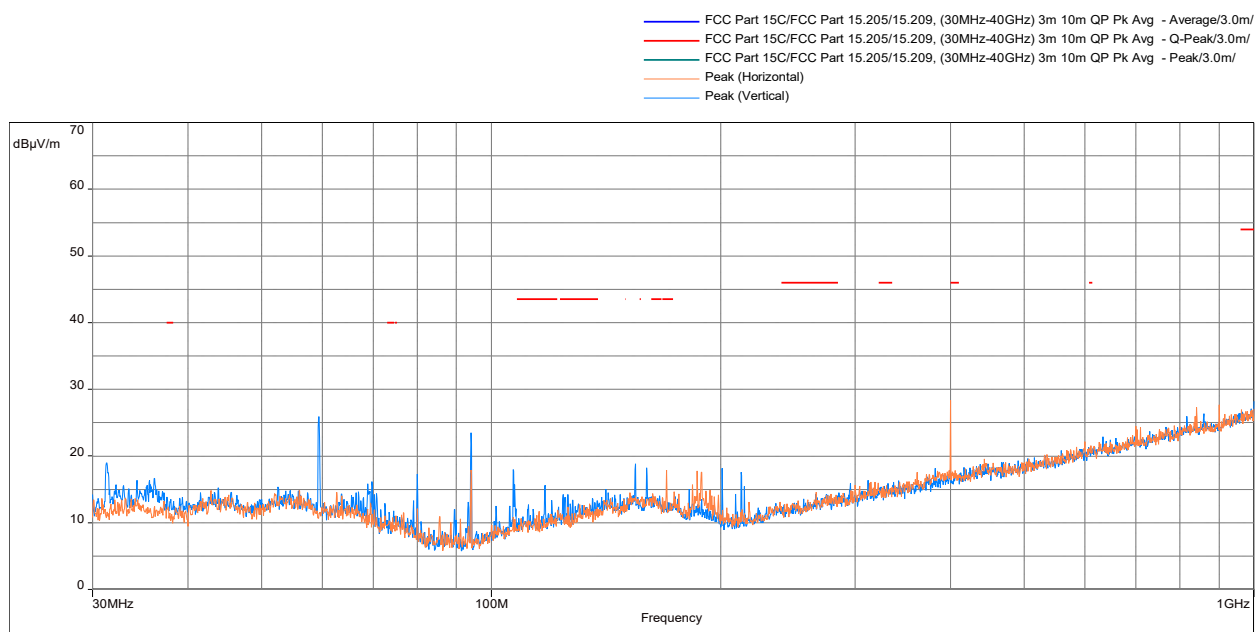
Antenna Position -
Coplanar



Antenna Position -
Horizontal

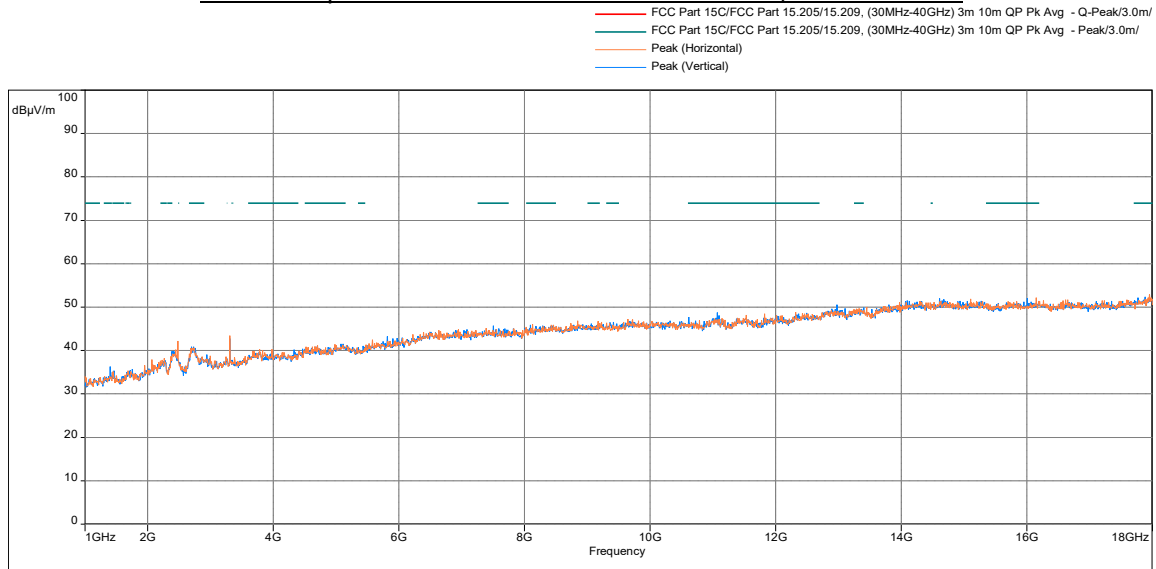


Radiated Spurious Emissions 30 MHz to 1000 MHz

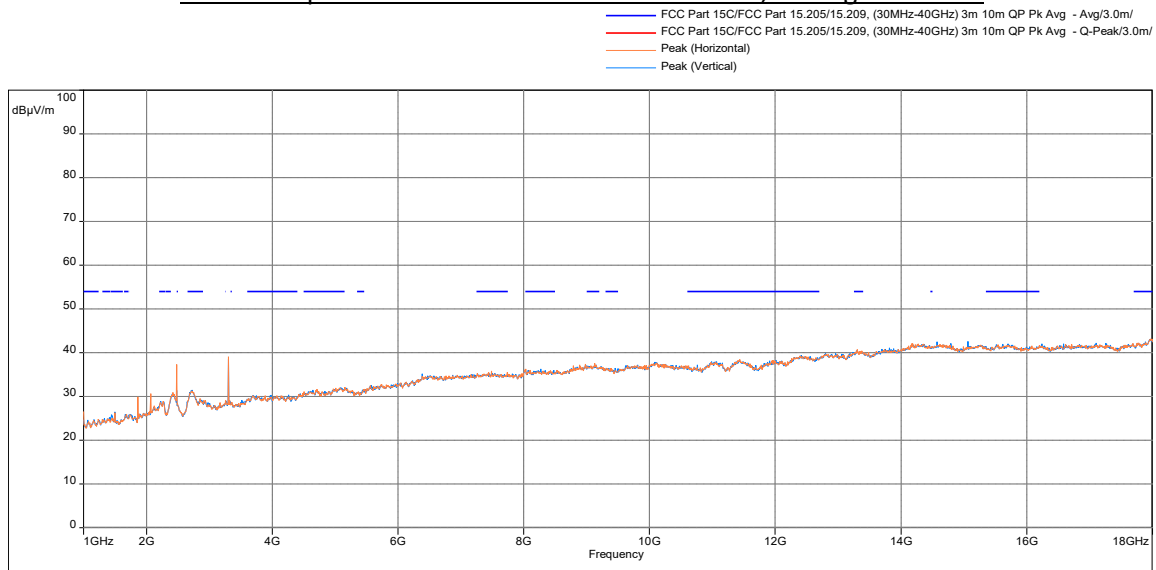


Freq. (MHz)	QPeak@ 3m (dBμV/m)	Lim. QPeak @3m (dBμV/m)	Margin (dB)	Angle (°)	Polarity	Correction (dB)
399.990	28.33	46.00	-17.67	0.11	Horizontal	-10.45
610.933	21.55	46.00	-24.45	237.28	Horizontal	-6.26
608.605	21.22	46.00	-24.78	332.68	Horizontal	-6.40
169.777	17.91	43.50	-25.59	134.24	Horizontal	-13.73
1000.000	28.21	54.00	-25.79	101.48	Vertical	0.54
1000.000	27.11	54.00	-26.89	116.60	Horizontal	0.54

Radiated Spurious Emissions 1000 to 18000 MHz, Peak Detector



Radiated Spurious Emissions 1000 to 18000 MHz, Average Detector



Freq. (MHz)	Detector Mode PK/QP/AV	FS (dBμV/m)	PK/AV Limit dB(μV/m)	Margin (dB)	Angle (°)	Polarity	Correction (dB)
1000.000	Peak	34.10	74.00	-39.90	281.79	Horizontal	-9.50
1448.800	Peak	35.20	74.00	-38.80	303.28	Horizontal	-8.35
1687.933	Peak	35.33	74.00	-38.67	120.00	Horizontal	-7.62
1000.000	Average	26.54	54.00	-27.46	330.17	Horizontal	-9.50
1499.800	Average	26.32	54.00	-27.68	123.57	Horizontal	-8.11
2271.033	Average	28.92	54.00	-25.08	123.57	Horizontal	-3.59

Note: Radiated emission measurements were performed up to 25GHz. No Emissions were identified when scanned from 18-25 GHz

Results

Complies

4.2.5 Test Setup Configuration

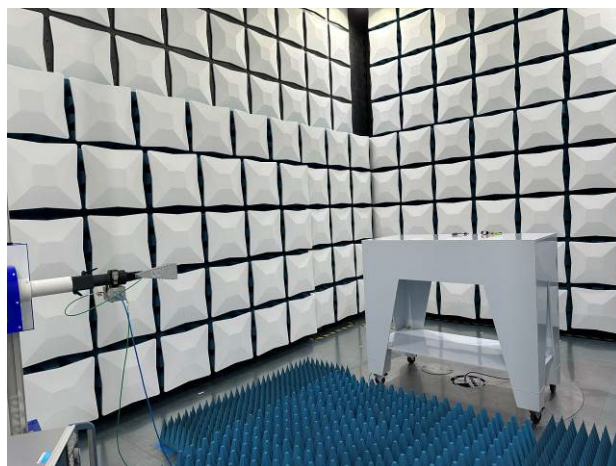
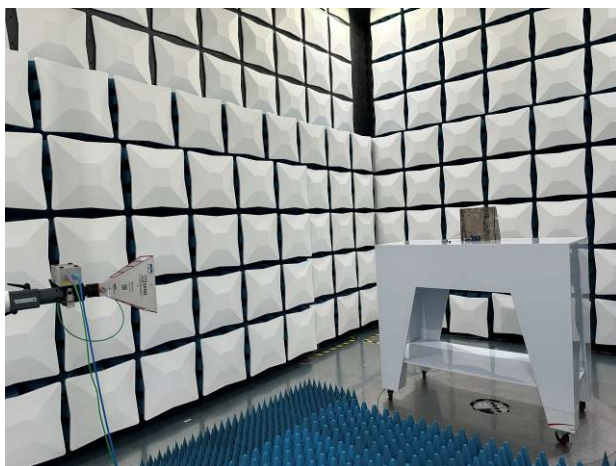
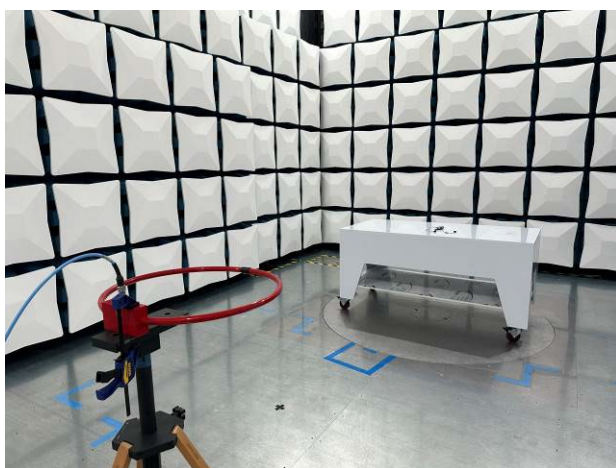
The following photographs show the testing configurations used.



Charging Mode



Battery Mode



5.0 List of Test Equipment

Equipment	Manufacturer	Model/Type	Asset #	Cal Int	Cal Due
EMI Receiver	Rohde and Schwarz	ESW44	ITS 02016	12	05/30/25
Loop Antenna	ETS-Lindgren	6512	ITS 01573	12	12/02/25
1-18GHz Horn Antenna	RF Spin	DRH18-E	ITS 02114	12	10/02/25
18-40GHz Horn Antenna	RF Spin	DRH0844	ITS 02115	12	10/03/25
Trilog Antenna	Schwarzbeck	VULB 9168	ITS 02097	12	08/21/25
9kHz-1GHz Preamplifier	Sonoma Instrument	310N	ITS 02129	12	10/02/25
1-18GHz Preamp	EMC Instruments	EMC118A45SE	ITS 02113	12	10/02/25
18-40GHz Preamp	EMC Instruments	EMC184045SE	ITS 02112	12	10/02/25
RF Cable	TRU Corporation	TRU CORE 300	ITS 01343	12	07/25/25
RF Cable	TRU Corporation	TRU CORE 300	ITS 01344	12	09/13/25
RF Cable	TRU Corporation	TRU CORE 300	ITS 01466	12	01/18/25
RF Cable	Absolute EMC	50915-236	ITS 02109	12	08/19/25
RF Cable	Absolute EMC	50586-39	ITS 02098	12	08/19/25
RF Cable	Absolute EMC	50586-197	ITS 02099	12	08/19/25
Band Reject Filter	MICRO-TRONICS	BRM50716	ITS 02062	12	02/14/25

Software used for emission compliance testing utilized the following:

Name	Manufacturer	Version	Template/Profile
BAT-EMC	Nexio	3.20.0.23	Vocera Radio.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 / G105964951	GC	AS	January 29, 2025	Original Document

END OF REPORT