PCTEST
18855 Adams Court, Morgan Hill, CA 95037 USA
Tel. 410.290.6652 / Fax 410.290.6654
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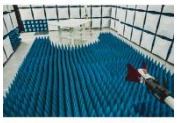


MEASUREMENT REPORT
FCC Part 18

Applicant Name:
28 Gorilla, LLC.
12 S San Marco Pl
Chandler, AZ 85255
United States

Date of Testing:
5/13/2021 - 5/17/2021
Test Site/Location:
PCTEST. Morgan Hill, CA, USA
Test Report Serial No.:
1C2101120008-04.2AX2O-R2

FCC ID:	**2AX2O–280010320**
APPLICANT:	**28 Gorilla, LLC.**

Model:	28-0010366
EUT Type:	Wireless Charging Station
FCC Classification:	Part 18 Consumer Device
FCC Rule Part(s):	FCC Part 18 Subpart C
Test Procedure(s):	FCC/OST MP-5 (1986)

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and has been tested in accordance with the measurement procedures specified in FCC/OST MP-5 (1986). These measurements were performed with no deviation from the standards. Test results reported herein relate only to the item(s) tested.

This revised Test Report (S/N: 1C2101120008-04.2AX2O-R2) supersedes and replaces the previously issued test report on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Randy Ortanez
President

ACCREDITED
CERT #2041.02

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission.

1.2 PCTEST Test Location

These measurement tests were conducted at the PCTEST facility located at 18855 Adams Court, Morgan Hill, CA 95037. The measurement facility is compliant with the test site requirements specified in ANSI C63.4-2014.

1.3 Test Facility / Accreditations

Measurements were performed at PCTEST located in Morgan Hill, CA 95037, U.S.A.

- PCTEST is an ISO 17025-2017 accredited test facility under the American Association for Laboratory Accreditation (A2LA) with Certificate number 2041.02 for Specific Absorption Rate (SAR), Hearing Aid Compatibility (HAC) testing, where applicable, and Electromagnetic Compatibility (EMC) testing for FCC and Innovation, Science, and Economic Development Canada rules.

- PCTEST TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC 17065-2012 by A2LA (Certificate number 2041.03) in all scopes of FCC Rules.

- PCTEST facility is a registered (22831) test laboratory with the site description on file with ISED.

2.0 PRODUCT INFORMATION

2.1 Equipment Description

The Equipment Under Test (EUT) is the **Gorilla Wireless Charging Station FCC ID: 2AX2O–280010320**. The test data contained in this report pertains to emissions due to the digital circuitry of the EUT and the wireless power transfer through a continuous transmission at 917.5MHz frequency. The wireless charging station utilizes Bluetooth (Low Energy) to pair with receiving devices that receive charge when placed on the slots of EUT's surface and charges the receivers using WPT by transmitting a continuous carrier wave signal at 917.5MHz.

Test Device Serial No.: 007E, 0098

2.2 Device Capabilities

This device contains the following capabilities:

Bluetooth (LE) and WPT

Reporting Purposes Only

The transmitter antenna terminal of the EUT is connected to the input of a power meter. Measurements are made while the EUT is operating at maximum power and at the appropriate frequency.

Mode	Tx Frequency (MHz)	Ave Conducted	
		Max Power (mW)	Max Power (dBm)
WPT	917.50	787.05	28.96

Table 2-1. Average Conducted Output Power Measurement (WPT)

Per manufacturer's declaration, the nominal operating frequency is 917.5 MHz and the declared maximum RF energy generated is 29dBm. The device is designed to operate from an external power source rated at 5 Volts DC, 2 Amps.

2.3 Antenna Description

Following antennas were used for the testing.

Frequency [MHz]	Antenna Gain (dBi)
917.5	-1

Table 2-2. Highest Antenna Gain

The EUT supports a single input nearfield Monopole antenna with 5 arms with highest antenna gain of -1 dBi. The transmitter enclosure design allows 4 Rx maximum. The antenna is active for all charging mode testing.

2.4 Test Support Equipment

	Description:	Model:	S/N:
1	USB-C Cable	N/A	N/A
2	AC Adapter	HNEM050200UU	N/A
3	iPad	A1893	DMPWKYT6JF8J
4	Receiver Unit	28-0010038	1F3F
5	Receiver Unit	28-0010038	MS7 2A2E
6	Receiver Unit	28-0010038	MS7 2ECC
7	Receiver Unit	28-0010038	330F

Table 2-3. Test Support Equipment List

2.5 Test Configuration

The EUT was tested as a standalone device in charging mode of operation powered by an AC/DC adapter via USB cable with receiving devices populating EUT slots in all configurations and receiving maximum RF energy generated by the EUT at 917.5MHz. Charging mode of operation is activated using a tablet device which communicates via WattUp software. Support equipment (tablet) was only used to activate transmission signal (charging mode) and was not tested together with EUT in chamber upon charge state activation. All equipment is placed on the test tabletop and arranged in a typical configuration in accordance with FCC/OST MP-5 (1986) and manipulated to obtain worst case emissions.

All possible configurations/locations of the receiver charging devices were investigated: only one receiver device populating each of the four available slots at a time, as well as each combination of two, three and four receiver devices inserted. The worst-case configuration was reported. There are four identical WPT antennas and testing was performed with all four antennas transmitting simultaneously.

For more information, please see Section 6.0 for test data and the test setup photos document for the test setup photographs.

2.6 Software and Firmware

The test was conducted with HW Version: dlg68x.gorilla.0 and SW Version: 5.0.1.20 installed on the EUT.

2.7 EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and no modifications were made during testing.

3.0 DESCRIPTION OF TESTS

3.1 Evaluation Procedure

The measurement procedure described in the FCC Methods of Measurements of Radio Noise Emissions from Industrial, Scientific, and Medical Equipment (FCC/OST MP-5 (1986)) was used in the measurement of the EUT**.**

Deviation from measurement procedure…….....None

3.2 AC Line Conducted Emissions

The line-conducted facility is located inside a 7m x 3.66m x 2.7m shielded enclosure. The shielded enclosure is manufactured by AP Americas. The shielding effectiveness of the shielded room is in accordance with MIL-Std-285 or NSA 65-6. A 1m x 1.5m wooden table 80cm high is placed 40cm away from the vertical wall and 80cm away from the sidewall of the shielded room. Two 10kHz-30MHz, 50Ω/50µH Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room floor. Power to the LISNs is filtered by external high-current high-insertion loss power line filters. The external power line filter is EPCOS 2X60A Power Line Filter (100dB Attenuation, 14kHz-18GHz) and the two EPCOs 2X48A filters (100dB Minimum Insertion Loss, 14kHz - 10GHz). These filters attenuate ambient signal noise from entering the measurement lines. These filters are also bonded to the shielded enclosure.

The EUT is powered from a LISN. If the EUT is a DC-powered device, power will be derived from the source power supply it normally will be powered from and this supply line(s) will be connected to the second LISN. All interconnecting cables more than 1 meter were shortened to a 1 meter length by non-inductive bundling using minimum bend radius with a width of 30cm to 40cm and draped over the back edge of the test table. All cables were at least 40cm above the horizontal reference groundplane or bundled at the center with a width of 30cm to 40cm.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the spectrum analyzer and exploratory measurements were made to determine the frequencies producing the maximum emission from the EUT. The spectrum was scanned from 150kHz to 30MHz with a spectrum analyzer. The detector function was set to peak mode for exploratory measurements while the bandwidth of the analyzer was set to 10kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Once the worst-case emissions have been identified, the one EUT cable configuration/arrangement and mode of operation that produced these emissions is used for final measurements on the same test site. The analyzer is set to CISPR quasi-peak and average detectors with a 9kHz resolution bandwidth for final measurements.

Line conducted emissions test results are shown in Section 6.3. Automated test software was used to perform the AC line conducted emissions testing. Automated measurement software utilized is Rohde & Schwarz EMC32, Version 10.50.40.

3.3 Radiated Emissions

The radiated test facilities consisted of an indoor 3-meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. The test site inside the chamber is a 6m x 5.2m elliptical, obstruction-free area in accordance with Figure 5.7 of Clause 5 in ANSI C63.4-2014. Absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections for measurements above 1GHz.

Per KDB 414788, radiated emission test sites other than open-field test sites (e.g., shielded anechoic chambers), may be employed for emission measurements below 30MHz if characterized so that the measurements correspond to those obtained at an open-field test site. To determine test site equivalency, a reference sample transmitting at 149kHz was measured on an open field test site (asphalt with no ground plane) and then measured in the 3m semi-anechoic chamber. A calibrated 60cm loop antenna was rotated about its vertical axis while the reference device was rotated through the X, Y and Z axis in order to capture the worst-case level. A maximum deviation of 2.77dB at 149kHz was measured when comparing the 3-meter semi-anechoic chamber to the open field site.

For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33 depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. For frequencies below 30MHz, a calibrated loop antenna was used. When exploratory measurements were necessary, they were performed at 1-meter test distance inside the semi-anechoic chamber using broadband antennas, broadband amplifiers, and spectrum analyzers to determine the frequencies and modes producing the maximum emissions. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up was placed on top of the 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, mode of operation, turntable azimuth, and receive antenna height was noted for each frequency found.

Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst-case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarization of the receive antenna, whichever produced the worst-case emissions.

3.4 Environmental Conditions

The temperature is controlled within range of 15°C to 35°C. The relative humidity is controlled within range of 10% to 75%. The atmospheric pressure is monitored within the range 86-106kPa (860-1060mbar).

4.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.23-2012. All measurement uncertainty values are shown with a coverage factor of k = 2 to indicate a 95% level of confidence. The measurement uncertainty shown below meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Contribution	Expanded Uncertainty (±dB)
Conducted Bench Top Measurements	1.65
Line Conducted Disturbance	2.75
Radiated Disturbance (<30MHz)	4.06
Radiated Disturbance (30MHz - 1GHz)	4.30
Radiated Disturbance (1 - 18GHz)	4.78

Table 4-1. Measurement Uncertainty

5.0 TEST EQUIPMENT CALIBRATION DATA

Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST). Measurements antennas used during testing were calibrated in accordance to the requirements of ANSI C63.5-2017.

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Anritsu	ML2496A	Power Meter	4/13/2021	Annual	4/13/2022	2002005
Anritsu	MA2411B	Pulse Power Sensor	11/10/2020	Annual	11/10/2021	1726261
ETS-Lindgren	3117	Double Ridged Guide Antenna (1-18 GHz)	5/3/2021	Annual	5/3/2022	205956
ETS-Lindgren	3142E	BiConiLog Antenna (30MHz - 6GHz)	9/15/2020	Annual	9/15/2021	208204
Rohde & Schwarz	TS-PR18	Pre-Amplifier (1GHz - 18GHz)	12/3/2020	Annual	12/3/2021	101648
Rohde & Schwarz	TS-PR8	Pre-Amplifier (30MHz - 8GHz)	7/15/2020	Annual	7/15/2021	102356
Rohde & Schwarz	ESW44	EMI Test Receiver	8/7/2020	Annual	8/7/2021	101668
Rohde & Schwarz	HFH2-Z2	Loop Antenna	4/5/2021	Annual	4/5/2022	100519
Rohde & Schwarz	ENV216	Two-Line V-Network (LISN)	12/7/2020	Annual	12/7/2021	101364

Table 5-1. Test Equipment List

Note:

For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.

6.0 TEST DATA

6.1 Summary

FCC Part 18 Section	Description	Result
18.305	Radiated Emissions	PASS
18.307	AC Line Conducted Emissions	PASS

Table 6-1. Summary of Test Results

6.2 Radiated Spurious Emissions

§18.305

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at maximum power and at the appropriate frequencies. Only the radiated emissions of the configuration that produced the worst-case emissions are reported in this section.

The field strength levels of emissions which lie outside the bands specified in §18.301, unless otherwise indicated, shall not exceed the following:

Equipment	Operating Frequency	RF Power Generated by Equipment (watts)	Field Strength Limit (uV/m)	Distance (meters)
Any type unless otherwise specified (miscellaneous)	Any ISM frequency	Below 500 500 or more	25 25 × SQRT(power/500)	300 [1]300

Table 6-2. Field Strength Limit

[1]Field strength may not exceed 10 μV/m at 1600 meters. Consumer equipment operating below 1000 MHz is not permitted the increase in field strength otherwise permitted here for power over 500 watts.

Test Procedures Used

FCC/OST MP-5

Test Settings

Average Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest.
2. Per FCC/OST MP-5, the RBW's are as follow:

   9kHz – 150kHz: 200Hz

   150kHz – 30MHz: 9kHz

   30MHz – 1GHz: 120kHz

   Above 1GHz: 1MHz
3. Detector = power average (RMS)
4. Sweep time = auto
5. Trace (RMS) averaging was performed over at least 100 traces.

Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest.
2. Per FCC/OST MP-5, the RBW's are as follow:
   9kHz – 150kHz: 200Hz
   150kHz – 30MHz: 9kHz
   30MHz – 1GHz: 120kHz
   Above 1GHz: 1MHz
3. Detector = Peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize.

Test Setup

The EUT and measurement equipment were set up as shown in the diagrams below.

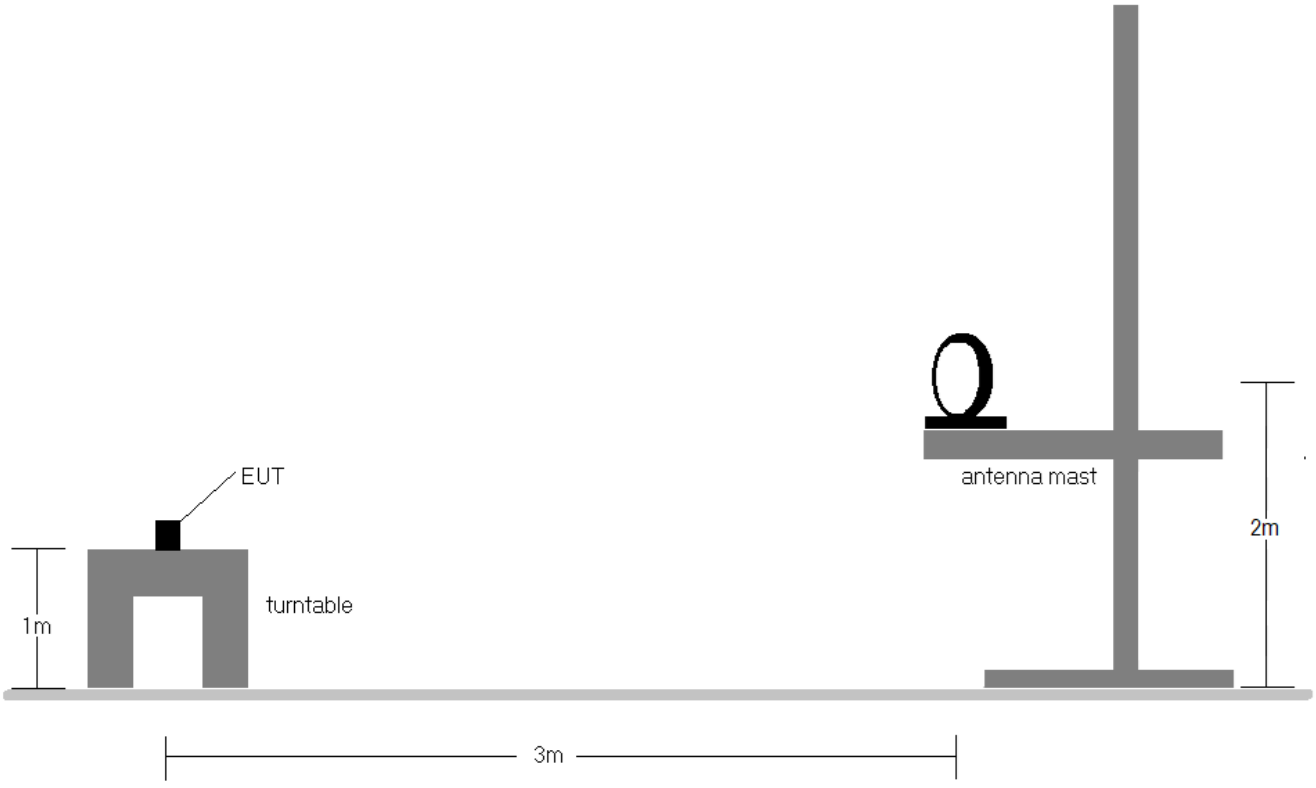


Figure 6-1. Radiated Test Setup < 30MHz

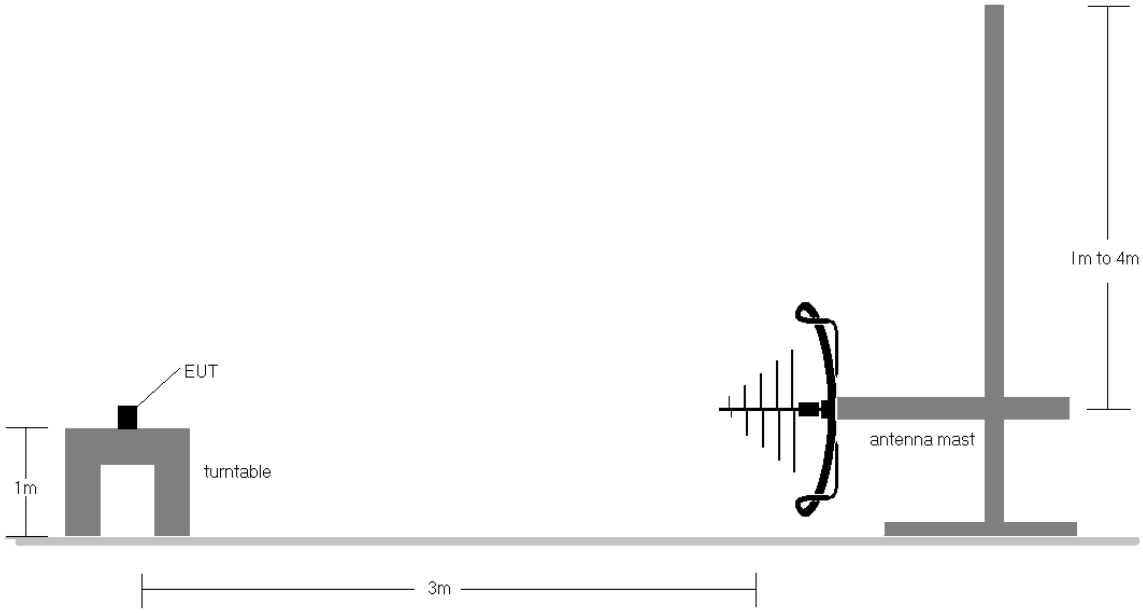


Figure 6-2. Radiated Test Setup < 1GHz

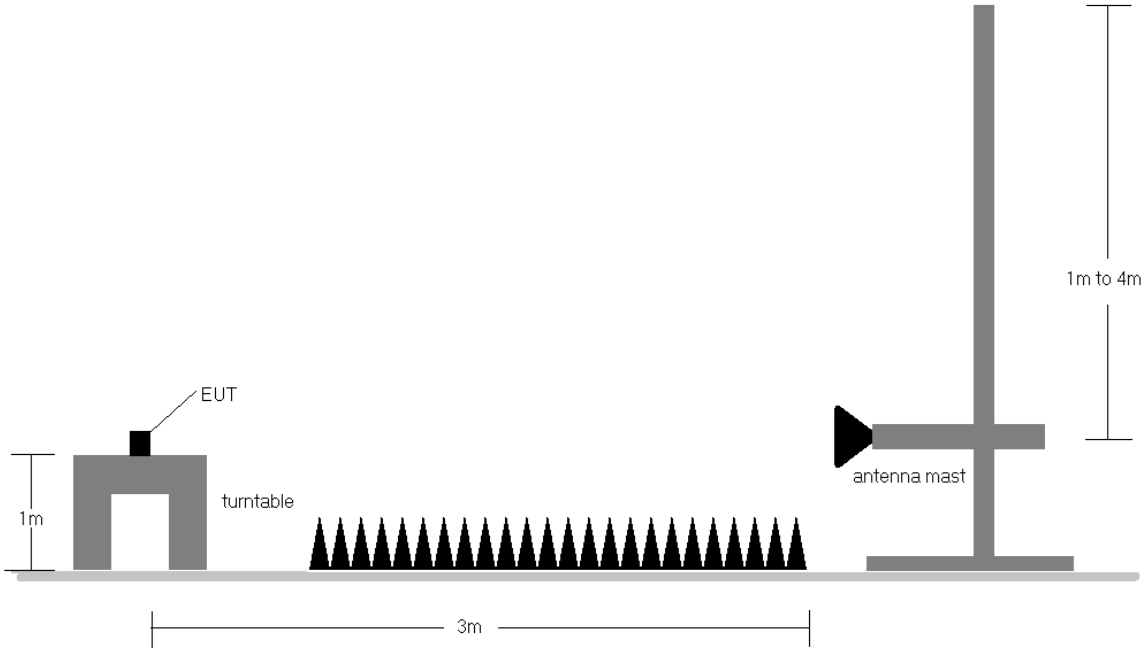


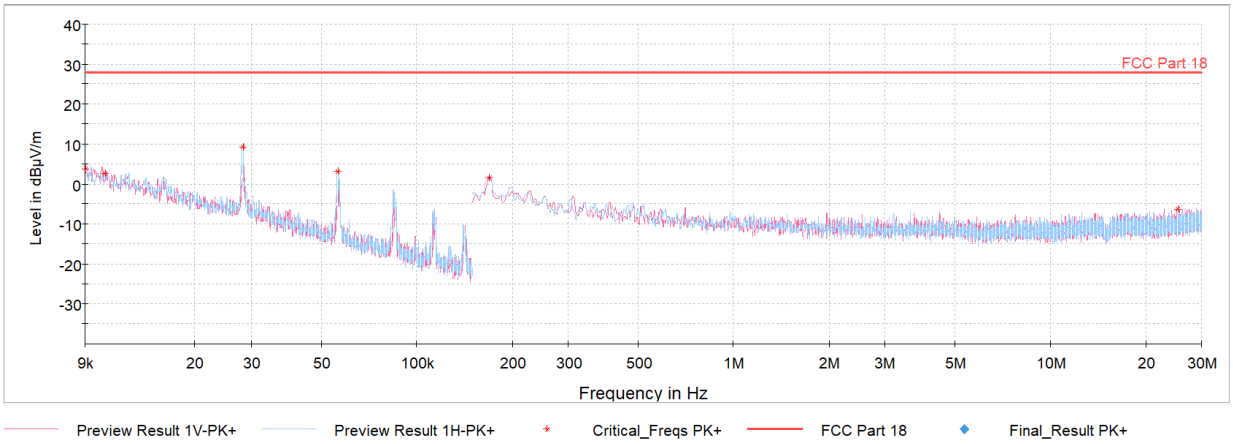
Figure 6-3. Radiated Test Setup > 1GHz

Test Notes

1. All modes of operation were investigated, and the worst-case emissions are reported.
2. Radiated emissions were measured from 9kHz – 10GHz.
3. The broadband receive antenna is manipulated through vertical and horizontal polarizations during the tests. The EUT is manipulated through two orthogonal planes. For below 30MHz measurements, the loop antenna was positioned in three orthogonal planes (X front, Y side, Z top) to determine the orientation resulting in the worst-case emissions.
4. Measurements are made using a CISPR max-peak detector with a 120kHz resolution bandwidth. Above 1GHz, peak measurements are made using a peak detector with a resolution bandwidth of 1MHz and a video bandwidth of 3MHz and average measurements are made with a RMS detector using a resolution bandwidth of 1MHz and a video bandwidth of 3MHz.
5. Calibrated linearly polarized broadband and horn antennas were used for measurements below and above 1GHz, respectively. For measurements made below 1GHz, the results recorded using the broadband antenna are known to correlate with the results obtained by using a tuned dipole with an acceptable degree of accuracy. The VSWR for the measurement antennas was found to be less than 2.5:1.
6. Calibrated low-loss microwaves cables and broadband amplifiers are used.
7. The test was performed at 3-meter distance and the applicable 3m to 300m distance correction factor was applied to the field strength measurements (Distance CF= 20log (3/300) = -40dB).
8. For 30MHz-1GHz, the emissions were investigated without a preamplifier and no significant emissions were observed.
9. All emissions were investigated with both BLE and WPT transmitting simultaneously.

Sample Calculations

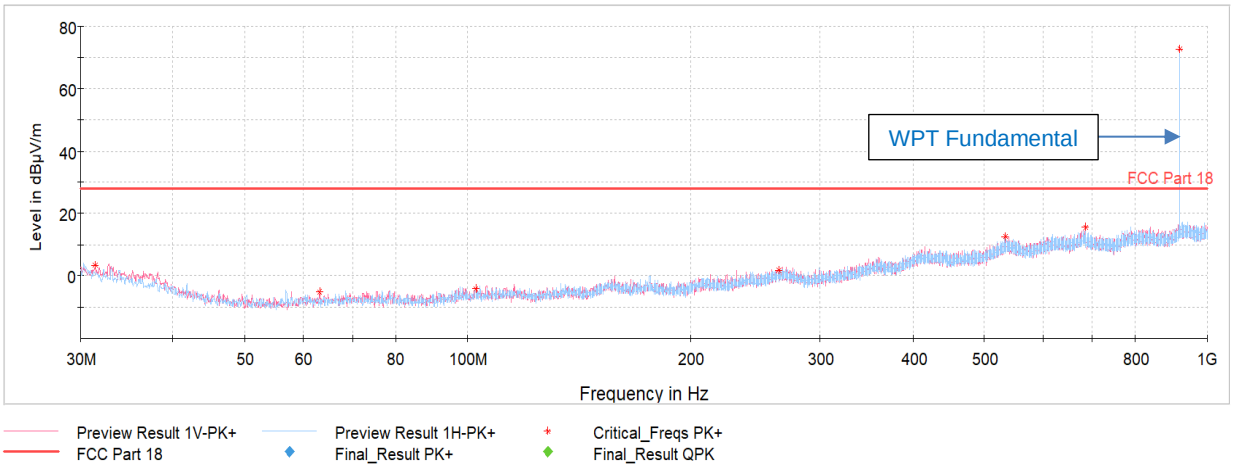
- Field Strength Level $_{[dB\mu V/m]}$ = Analyzer Level $_{[dBm]}$ + 107 + AFCL $_{[dB/m]}$ + Distance CF $_{[dB]}$
- AFCL $_{[dB/m]}$ = Antenna Factor $_{[dB/m]}$ + Cable Loss $_{[dB]}$ – Preamplifier Gain $_{[dB]}$
- Margin $_{[dB]}$ = Field Strength Level $_{[dB\mu V/m]}$ – Limit $_{[dB\mu V/m]}$



Plot 6-1. Radiated Spurious Emissions Pre-Scan 9kHz-30MHz

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
0.009	Max Peak	H	-	-	-43.91	-19.42	-40.00	3.67	28.00	-24.33
0.010	Max Peak	H	-	-	-44.65	-19.82	-40.00	2.53	28.00	-25.47
0.028	Max Peak	H	200	171	-38.48	-19.24	-40.00	9.28	28.00	-18.72
0.057	Max Peak	H	200	194	-43.86	-20.06	-40.00	3.08	28.00	-24.92
0.170	Max Peak	V	-	-	-45.06	-20.52	-40.00	1.42	28.00	-26.58
25.308	Max Peak	H	-	-	-55.73	-17.65	-40.00	-6.38	28.00	-34.38

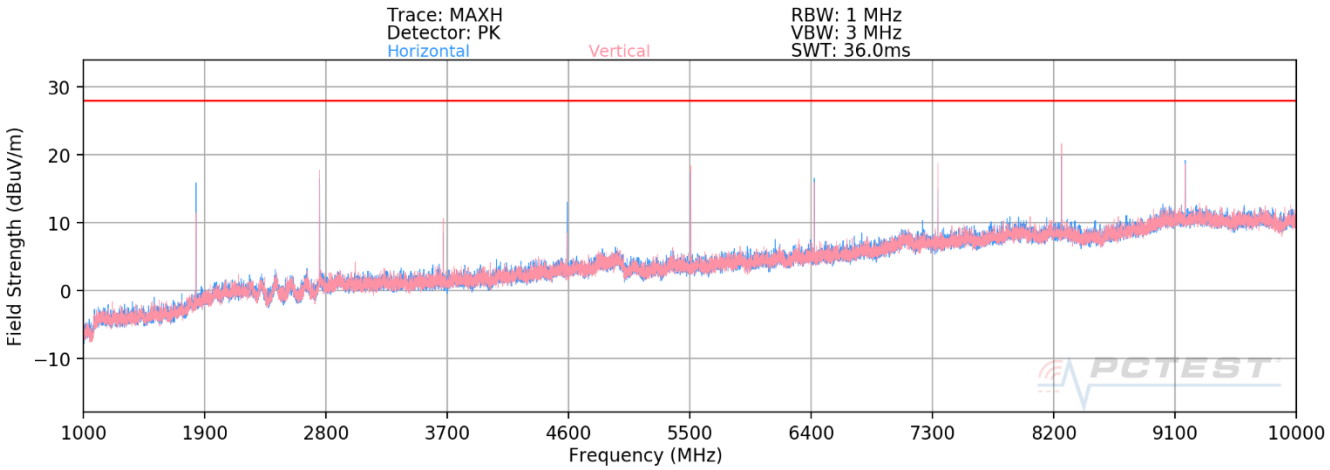
Table 6-3. Radiated Spurious Emissions Measurements 9kHz-30MHz



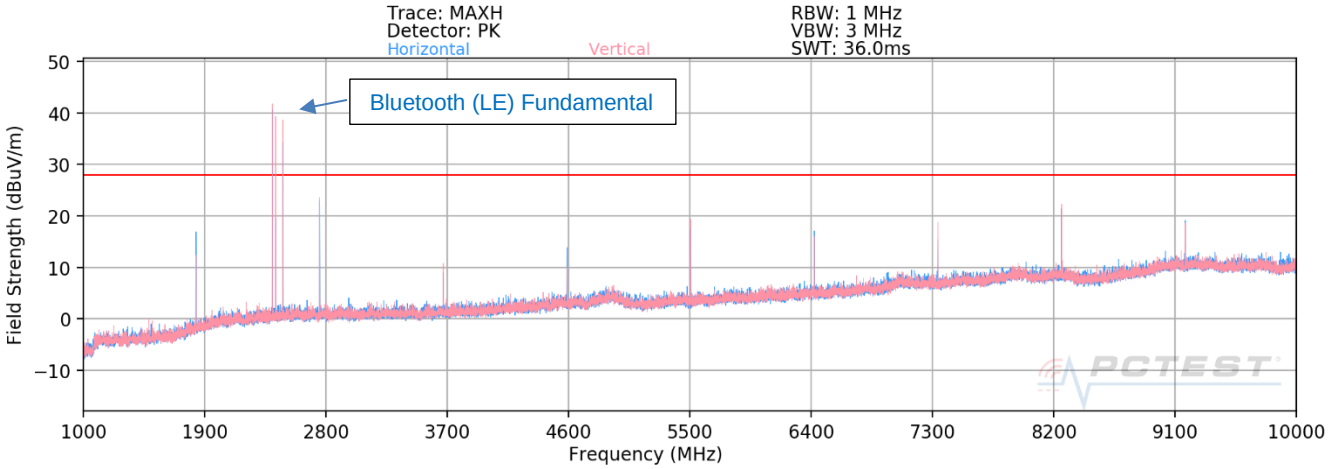
Plot 6-2. Radiated Spurious Emissions Pre-Scan 30MHz-1GHz

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
31.358	Max Peak	V	-	-	-46.06	-17.72	-40.00	3.22	28.00	-24.78
63.077	Max Peak	V	-	-	-46.74	-25.50	-40.00	-5.24	28.00	-33.24
102.556	Max Peak	V	-	-	-47.37	-23.69	-40.00	-4.06	28.00	-32.06
263.576	Max Peak	H	-	-	-47.71	-17.70	-40.00	1.59	28.00	-26.41
534.255	Max Peak	V	-	-	-45.61	-8.95	-40.00	12.44	28.00	-15.56
684.847	Max Peak	H	-	-	-45.15	-6.44	-40.00	15.41	28.00	-12.59

Table 6-4. Radiated Spurious Emissions Measurements 30MHz-1GHz



Plot 6-3. Radiated Spurious Emissions Pre-Scan Above 1GHz (With 2.4GHz Notch Filter)



Plot 6-4. Radiated Spurious Emissions Pre-Scan Above 1GHz (Without 2.4GHz Notch Filter)

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Distance Correction Factor [dB]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
1835.00	Avg	H	212	162	-51.99	1.54	-40.00	16.55	28.00	-11.45
1835.00	Peak	H	212	162	-50.86	1.54	-40.00	17.68	28.00	-10.32
2752.50	Avg	V	183	20	-49.01	5.28	-40.00	23.27	28.00	-4.73
2752.50	Peak	V	183	20	-47.93	5.28	-40.00	24.35	28.00	-3.65
3670.00	Avg	V	200	183	-64.08	7.04	-40.00	9.96	28.00	-18.04
3670.00	Peak	V	200	183	-61.40	7.04	-40.00	12.64	28.00	-15.36
4587.50	Avg	H	135	275	-63.35	9.05	-40.00	12.70	28.00	-15.30
4587.50	Peak	H	135	275	-60.98	9.05	-40.00	15.07	28.00	-12.93
5505.00	Avg	V	191	171	-58.36	10.23	-40.00	18.87	28.00	-9.13
5505.00	Peak	V	191	171	-57.01	10.23	-40.00	20.22	28.00	-7.78
6422.50	Avg	H	273	338	-64.23	12.20	-40.00	14.97	28.00	-13.03
6422.50	Peak	H	273	338	-62.17	12.20	-40.00	17.03	28.00	-10.97
7340.00	Avg	V	237	156	-62.82	14.08	-40.00	18.26	28.00	-9.74
7340.00	Peak	V	237	156	-60.94	14.08	-40.00	20.14	28.00	-7.86
8257.50	Avg	V	245	187	-60.73	16.06	-40.00	22.33	28.00	-5.67
8257.50	Peak	V	245	187	-59.45	16.06	-40.00	23.61	28.00	-4.39
9175.00	Avg	V	384	65	-64.85	17.07	-40.00	19.22	28.00	-8.78
9175.00	Peak	V	384	65	-62.45	17.07	-40.00	21.62	28.00	-6.38

Table 6-5. Radiated Spurious Emissions Measurements Above 1GHz (Without 2.4GHz Notch Filter)

6.3 AC Line Conducted Emissions

§18.307

Test Overview and Limit

For the following equipment, when designed to be connected to the public utility (AC) power line the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies shall not exceed the limits in the following tables. Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal using a 50 µH/50 ohms line impedance stabilization network (LISN).

All conducted emissions must not exceed the limits shown in the table below, per Section 18.307(b).

Frequency of emission (MHz)	Conducted Limit (dBµV)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30	60	50

Table 6-6. Conducted Emissions Limits

*Decreases with the logarithm of the frequency.

Test Procedures Used

FCC/OST MP-5

Test Settings

Quasi-Peak Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = quasi-peak
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

Average Measurements

1. Analyzer center frequency was set to the frequency of the spurious emission of interest
2. RBW = 9kHz (for emissions from 150kHz – 30MHz)
3. Detector = RMS
4. Sweep time = auto couple
5. Trace mode = max hold
6. Trace was allowed to stabilize

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

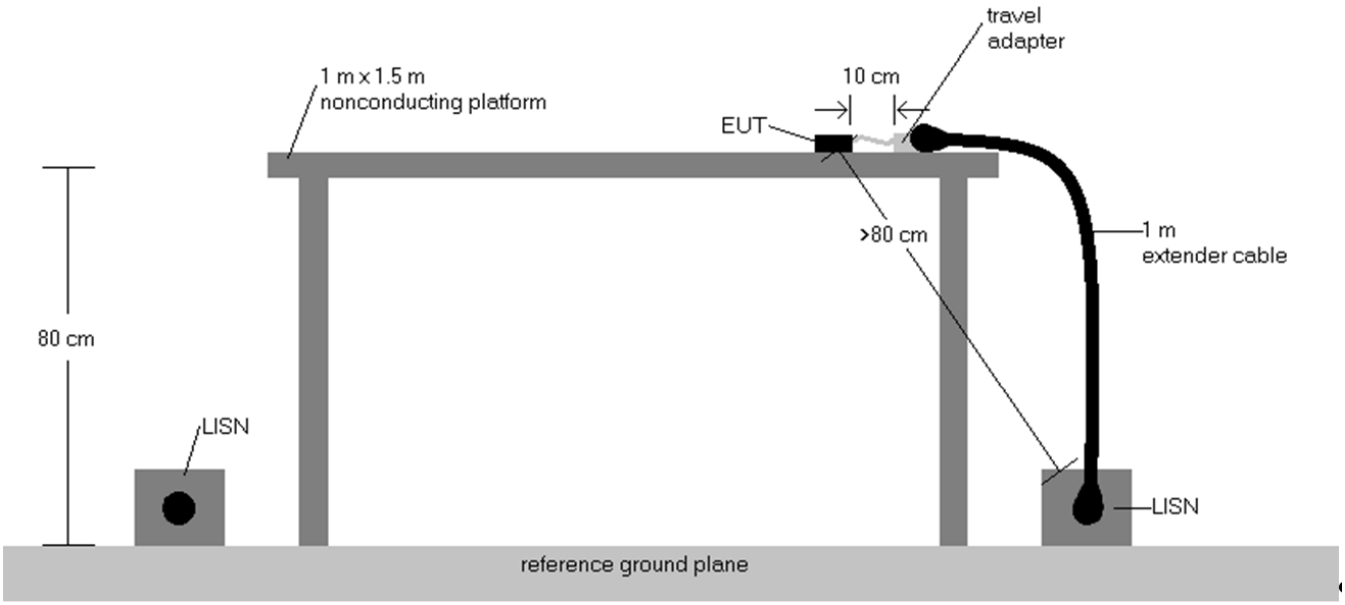
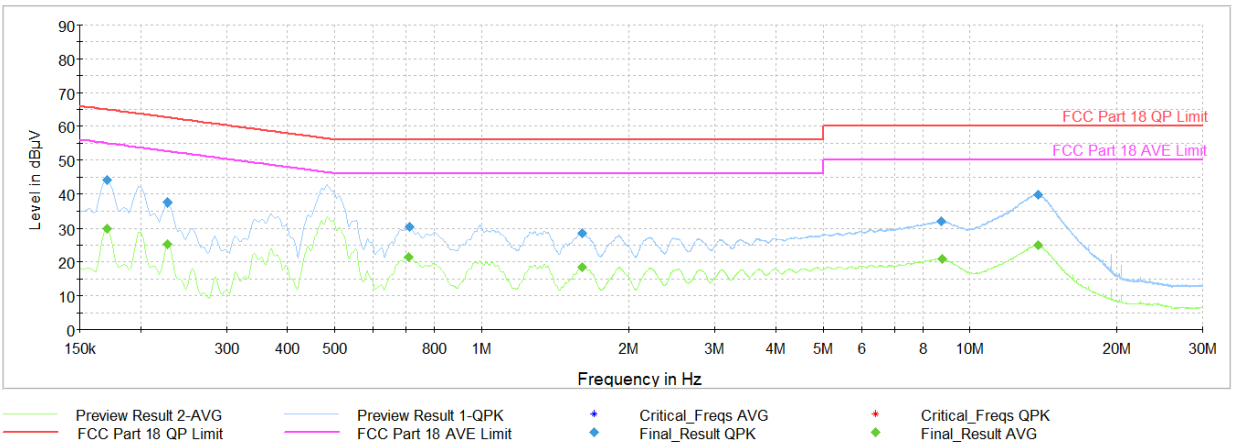


Figure 6-4. Test Instrument & Measurement Setup

Test Notes

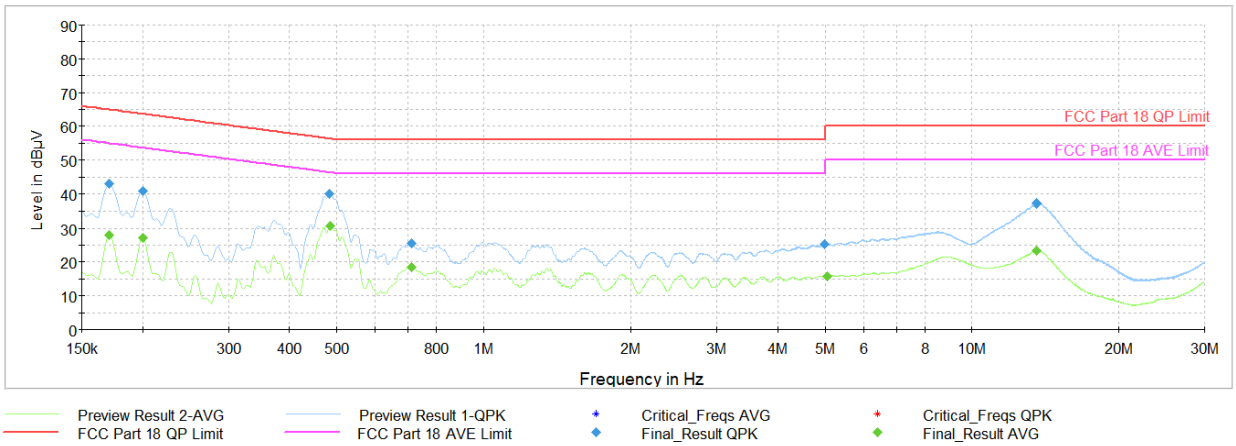
1. All Modes of operation were investigated and the worst-case emissions are reported.
2. The limit for all other Part 18 consumer devices from 150kHz to 30MHz are specified in Section 18.307(b)
3. L1 = Phase; N = Neutral
4. Corr. (dB) = Cable loss (dB) + LISN insertion factor (dB)
5. QP/AV Level (dBμV) = QP/AV Analyzer/Receiver Level (dBμV) + Corr. (dB)
6. Margin (dB) = QP/AV Level (dBμV) - QP/AV Limit (dBμV)
7. Traces shown in plots were measured using a quasi-peak and average detectors.
8. Deviations to the Specifications: None.
9. EUT powered by AC/DC adapter via USB-C cable with wire charger
10. All emissions were investigated with both BLE and WPT transmitting.



Plot 6-5 AC Line-Conducted Plot with WPT (L1, with AC/DC adapter)

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.171	FINAL	—	30.02	54.91	-24.89	L1	GND
0.171	FINAL	44.15	—	64.91	-20.76	L1	GND
0.227	FINAL	—	25.21	52.55	-27.34	L1	GND
0.227	FINAL	37.40	—	62.55	-25.15	L1	GND
0.709	FINAL	—	21.36	46.00	-24.64	L1	GND
0.711	FINAL	30.41	—	56.00	-25.59	L1	GND
1.602	FINAL	—	18.54	46.00	-27.46	L1	GND
1.604	FINAL	28.45	—	56.00	-27.55	L1	GND
8.744	FINAL	32.11	—	60.00	-27.89	L1	GND
8.755	FINAL	—	20.87	50.00	-29.13	L1	GND
13.788	FINAL	—	24.88	50.00	-25.12	L1	GND
13.795	FINAL	39.67	—	60.00	-20.33	L1	GND

Table 6-7. AC Line-Conducted Data with WPT (L1, with AC/DC adapter)



Plot 6-6. AC Line-Conducted Plot with WPT (N, with AC/DC adapter)

Frequency [MHz]	Process State	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Line	PE
0.171	FINAL	—	28.10	54.91	-26.81	N	GND
0.171	FINAL	42.8	—	64.91	-22.08	N	GND
0.200	FINAL	—	27.11	53.60	-26.49	N	GND
0.200	FINAL	40.7	—	63.60	-22.93	N	GND
0.484	FINAL	40.0	—	56.27	-16.26	N	GND
0.486	FINAL	—	30.77	46.24	-15.47	N	GND
0.711	FINAL	—	18.45	46.00	-27.55	N	GND
0.713	FINAL	25.6	—	56.00	-30.44	N	GND
4.993	FINAL	25.3	—	56.00	-30.73	N	GND
5.058	FINAL	—	15.67	50.00	-34.33	N	GND
13.561	FINAL	37.2	—	60.00	-22.84	N	GND
13.590	FINAL	—	23.29	50.00	-26.71	N	GND

Table 6-8. AC Line-Conducted Data with WPT (N, with AC/DC adapter)

7.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **28 Gorilla Wireless Charging Station FCC ID: 2AX2O–280010320** has been tested to comply with the requirements specified in §18 Subpart C of the FCC rules.