

Intertek ETL SEMKO Korea Ltd. Intertek Building, 3, Gongdan-ro 160beon-gil, Gunpo-si, Gyeonggi-do, 15845 Korea Tel +82 2 567 7474 Fax +82 2 567 8482 intertek.com

TEST REPORT

Report Number	210400124SEL-TEL1	
Applicant Name / Address	LINE Friends Corporation	
	5F, 98, Hannam-daero, Yongsan-gu. Seoul, South Korea	
Test Sample Description		
- Product name	BF×MINIONS-21 WIRELESS CAR CHARGER	
- Model and/or Brand name	BM-RWC-MI-BR	
- FCC ID	2AQTSBFMINIONS21CAR	
- IC	N/A	
- Manufacturer Name	SUNTEK GROUP TECHNOLOGY LIMITED	
- Manufacturer Address	Room 332, Shengji Times, No. 8206 Baoan Avenue, Shajing Street, Baoan District, Shenzhen City, China.	
- Variant model Name	BM-RWC-MI-SL	
Date of receipt of sample(s)	15 Apr. 2021	
Date of Test	22 Apr. 2021 - 01 Jun. 2021	
Test standard(s)	CFR 47 Part 15 Subpart C 15.209	
Test Results & uncertainty	See Summary	
Issue date	03 Jun. 2021	
Note 1. The results shown in this test report refer only to the sample(s) tested		

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Tested by

Name : Criss.Lee RF Engineer

Inho

Approved by

Name : Bran.Ko **F /** RF Technical Manager

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TRF No. FCC15C_A / Version: 24 Apr 2017

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SECTION 2 GENERAL DESCRIPTION

1. Laboratory Information

Name	Intertek ETL SEMKO Korea Ltd.
Address	Intertek building, 3, Gongdan-ro 160beon-gil, Gunpo-si, Gyeonggi-do, 15845, Korea
Phone No.	+82 2 567 7474
Fax No.	+82 2 567 8482

2. Applicant Information

Name	LINE Friends Corporation	
Address	5F, 98, Hannam-daero, Yongsan-gu. Seoul, South Korea	
Contact Person	Jehyuk.Jang	
E-mail	jehyuk.jang@linefriends.com	
Phone No.	+82-1544-5921	

3. Description of EUT

Product name	BF×MINIONS-21 WIRELESS CAR CHARGER
Model name	BM-RWC-MI-BR
Variant model Name	BM-RWC-MI-SL
Manufacturer	SUNTEK GROUP TECHNOLOGY LIMITED
Country of Manufacture	China
Rated Voltage	DC 5 V, DC 9 V, DC 12 V
Frequency Range	110 kHz ~ 205 kHz
Modulation Technique	ASK
Antenna Type	Inductive Loop Coil Antenna



Report No.: 210400124SEL-TEL1

4. Test Instrument

Control No.	Equipment	Manufacturer	Model	Serial No.	Cal. Due.
EMC001	EMI Test Receiver	Rohde & Schwarz	ESU40	100478	2022/1/4
EMC002	EMI Test Receiver	Rohde & Schwarz	ESU26	100590	2022/1/4
EMC003	Open Switch and Control Platform	Rohde & Schwarz	OSP130	101467	N/A
EMC007	Two-Line V- Network	Rohde & Schwarz	ENV216	101982	2021/10/5
EMC009	Loop Antenna	Rohde & Schwarz	HFH2-Z2	100465	2023/1/5
EMC025	Biconilog (Type7)	ETS-Lindgren	3142E	00203547	2021/12/6
EMC074	AMP	Rohde & Schwarz	SCU-01D	1904843	2021/6/22
RF003	VECTOR SIGNAL GENERATOR	Rohde & Schwarz	SMBV100A	261569	2021/6/22
RF004	SIGNAL GENERATOR	Rohde & Schwarz	SMB100A	178493	2021/6/30
RF005	SPECTRUM ANALYZER	Rohde & Schwarz	FSW43	103893	2021/6/23
RF022	System DC Power Supply	KEYSIGHT	N5747A	US16D4132P	2021/6/22
41	Softwarer	Rohde & Schwarz	EMC32	Ver10.30.00	N/A

5. Support Equipment

Description	Manufacturer	Model	Note
Smart Phone	Samsung Electronics Co., Ltd.	S9	-
Adapter	Shenzhen ZONSAN Innovation Technology Co., Ltd	ZX-2U33T	5V 3A, 9V 2A, 12V 1.5A
Wireless Charger Load	N/A	-	-

SECTION 3 SUMMARY

1. Summary of test results

Requirements	FCC Rule	Compliance	
Antenna Requirement	15.203	Complied	
20 dB Bandwidth	2.1049	Complied	
Radiated Emissions	15.209(a)	Complied	
Conducted Emissions	15.207(a)	Complied	
Test method: According to ANSI C63.10-2013			

2. Measurement Uncertainty

Parameters	Uncertainty $(k = 2)$	
Spurious Emissions (Conducted)	1.32	dB
	9 kHz to 30 MHz	4.5 dB
Spurious Emissions (Radiated)	30 MHz to 1 GHz	4.6 dB

3. Test Configurations

In order to check all kinds of possible configurations, EUT was evaluated with appropriate client and under each charging condition as below table.

EUT Mode	Description
	Battery less than 1% charged
5 V Charging Mode	Battery less than 50% charged
	Battery 100% fully charged
	Battery less than 1% charged
9 V Charging Mode	Battery less than 50% charged
	Battery 100% fully charged
12 V Charging Mode with dummy load	The worst status of full load



SECTION 4 TEST RESULT

1. Antenna Requirement

1.1 Rule

According to §15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

1.2 Test Results – Complied

The antenna of this EUT is Inductive Loop Coil Antenna Type. Therefore the antenna is permanently attached. Please refer to the internal photo. Therefore this EUT Complies with the requirement of §15.203



2. 20 dB Bandwidth

2.1 Rule

None: for reporting purposed only.

2.2 Measurement Procedure

a. Span = approximately 2 to 3 times the 20 dB bandwidth, RBW = greater than 1 % of the 20 dB bandwidth, VBW = RBW, Sweep = auto, Detector = peak, Trace = max hold.

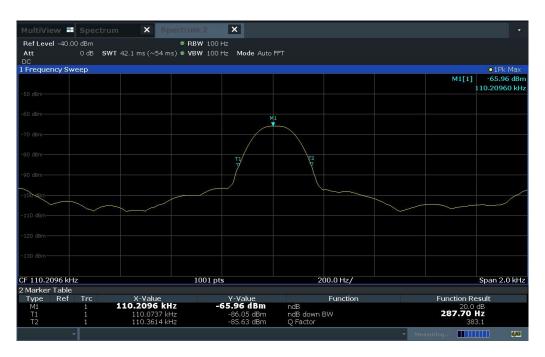
b. The marker-to-peak function to set the mark to the emission. Use the marker-delta function to measure 20 dB down one side of the emission. Reset the function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the reference marker level.

The marker-delta reading at this point is 20 dB bandwidth of the emission.

2.3 Test Results – Complied

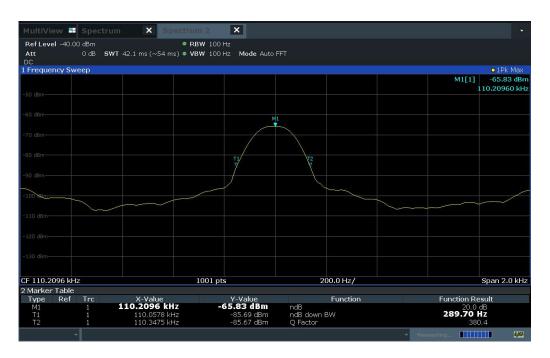
Test Mode	Test Results(kHz)
5 V Charging Mode	0.287 7
9 V Charging Mode	0.289 7
12 V Charging Mode	0.287 7

Test Mode - 5 V Charging Mode

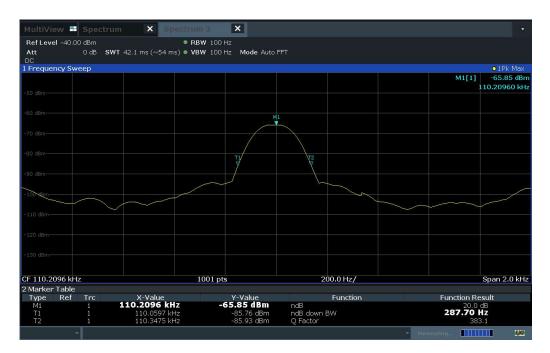




Test Mode - 9 V Charging Mode



Test Mode - 12 V Charging Mode





3. Radiated Emission

3.1 Rule

According to §15.209(a), Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field strength (μV/m)	Measurement distance (m)
0.009 - 0.490	2 400/F(kHz)	300
0.490 - 1.705	24 000/F(kHz)	30
1.705 - 30	30	30
30 - 88	100**	3
88 - 216	150**	3
216 - 960	200**	3
Above 960	500	3

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

3.2 Measurement Procedure

3.2.1. Test Procedures for emission below 30 MHz

- 1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- 2. Then antenna is a loop antenna is fixed at one meter above the ground to determine the maximum value of the field strength. Both parallel and perpendicular of the antenna are set to make the measurement.
- 3. For each suspected emission, the EUT was arranged to its worst case and then the table was turned from 0 degrees to 360 degrees to find the maximum reading.
- 4. The test-receiver system was set to quasi peak detect function and Specified Bandwidth with Maximum Hold Mode.

3.2.2. Test Procedures for emission below 1 000 MHz & above 1 000 MHz

- 1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at anechoic chamber test site (below 1 GHz) and 1.5 meters above the ground at anechoic chamber test site (above 1 GHz). The table was rotated 360 degrees to determine the position of the highest radiation.
- 2. During performing radiated emission below 1 GHz, the EUT was set 3 meters away from the interference receiving antenna, which was mounted on the top of a variable-height antenna tower. During performing radiated emission above 1 GHz, the EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.



- 3. The antenna is a bi-log antenna, a horn antenna and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength (Keeping antenna aimed at EUT). Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- 4. The test-receiver system was set to quasi peak detect function (below 1 GHz), peak detect function and average detect function (above 1 GHz).

3.3 Test result – Complied

- 1. Measured value of the Field strength of spurious emissions (Radiated)
- 2. The following table shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.
- 3. All radiated testing was measured in one orthogonal EUT position (X-axis)

Field Strength of Fundamental and Spurious Emission Test data

9 kHz ~ 30 MHz

Test Mode – 5 V Charging Mode (Battery less than 1 % charged)

- Fundamenta	l.						
Frequency [MHz]	QuasiPeak [dB(µV)/m]	Limit [dB(µV/m)]	Margin [dB]	Bandwidth [kHz]	Pol.	Azimuth [deg]	Corr. [dB/m]
0.11	93.92	106.78	12.86	0.20	Н	315.00	19.58
- Spurious							
Frequency	OversiDest						
[MHz]	QuasiPeak [dB(µV)/m]	Limit [dB(µV/m)]	Margin [dB]	Bandwidth [kHz]	Pol.	Azimuth [deg]	Corr. [dB/m]
[MHz] 0.55			U		Pol. H		
	[dB(µV)/m]	[dB(µV/m)]	[dB]	[kHz]		[deg]	[dB/m]

Note 1 : QuasiPeak[dB(μ V)/m] = Reading value[dB(μ V)] + Corr.[dB/m]

Note 2 : According to §15.31 (f)(2); Result at 30m (dB μ V/m) = Result at 3m(dB μ V/m)-40log(30/3) (dB μ V/m) Result at 300m (dB μ V/m) = Result at 3m(dB μ V/m)-40log(300/3) (dB μ V/m)

Note 3 : The radiation measurements are performed in X, Y, Z axis positioning. And worst case mode is recorded in the report.

Note 4 : According to § 15.31(o), Emission levels are not reported much lower than the limits by over 20 dB.



- Fundamental

Test Mode – 5 V Charging Mode (Battery less than 50 % charged)

Frequency	QuasiPeak	Limit	Margin	Bandwidth	Pol.	Azimuth	Corr.
[MHz]	[dB(µV)/m]	[dB(µV/m)]	[dB]	[kHz]		[deg]	[dB/m]
0.11	94.14	106.78	12.64	0.20	Н	0.00	19.58

- Spurious

Frequency [MHz]	QuasiPeak [dB(µV)/m]	Limit [dB(µV/m)]	Margin [dB]	Bandwidth [kHz]	Pol.	Azimuth [deg]	Corr. [dB/m]
0.55	58.12	72.85	14.73	9.00	Н	182.00	19.64
0.77	52.75	69.91	17.16	9.00	Н	182.00	19.65
0.99	47.84	67.72	19.88	9.00	Н	182.00	19.67

Note 1 : QuasiPeak[dB(μ V)/m] = Reading value[dB(μ V)] + Corr.[dB/m]

Note 2 : According to §15.31 (f)(2);

Result at 30m (dB μ V/m) = Result at 3m(dB μ V/m)-40log(30/3) (dB μ V/m) Result at 300m (dB μ V/m) = Result at 3m(dB μ V/m)-40log(300/3) (dB μ V/m)

Note 3 : The radiation measurements are performed in X, Y, Z axis positioning. And worst case mode is recorded in the report.

Note 4 : According to § 15.31(o), Emission levels are not reported much lower than the limits by over 20 dB.

Test Mode – 5 V Charging Mode (Battery 100 % fully charged)

- Fundamenta	al						
Frequency [MHz]	QuasiPeak [dB(µV)/m]	Limit [dB(µV/m)]	Margin [dB]	Bandwidth [kHz]	Pol.	Azimuth [deg]	Corr. [dB/m]
0.11	93.88	106.78	12.90	0.20	Н	48.00	19.58

- Spurious

Frequency [MHz]	QuasiPeak [dB(µV)/m]	Limit [dB(µV/m)]	Margin [dB]	Bandwidth [kHz]	Pol.	Azimuth [deg]	Corr. [dB/m]
0.55	58.00	72.85	14.85	9.00	Н	185.00	19.64
0.77	52.71	69.91	17.20	9.00	Н	185.00	19.65
0.99	47.89	67.72	19.83	9.00	Н	185.00	19.67

Note 1 : QuasiPeak[dB(μ V)/m] = Reading value[dB(μ V)] + Corr.[dB/m]

Note 2 : According to §15.31 (f)(2);

Result at 30m (dB μ V/m) = Result at 3m(dB μ V/m)-40log(30/3) (dB μ V/m) Result at 300m (dB μ V/m) = Result at 3m(dB μ V/m)-40log(300/3) (dB μ V/m)

- Note 3 : The radiation measurements are performed in X, Y, Z axis positioning. And worst case mode is recorded in the report.
- Note 4 : According to § 15.31(o), Emission levels are not reported much lower than the limits by over 20 dB.



- Fundamental

Test Mode – 9 V Charging Mode (Battery less than 1 % charged)

Tunuumentu							
Frequency [MHz]	QuasiPeak [dB(µV)/m]	Limit [dB(µV/m)]	Margin [dB]	Bandwidth [kHz]	Pol.	Azimuth [deg]	Corr. [dB/m]
0.11	94.29	106.78	12.49	0.20	Н	0.00	19.58

- Spurious

Frequency [MHz]	QuasiPeak [dB(µV)/m]	Limit [dB(µV/m)]	Margin [dB]	Bandwidth [kHz]	Pol.	Azimuth [deg]	Corr. [dB/m]
0.55	58.16	72.85	14.68	9.00	Н	183.00	19.64
0.77	52.05	69.91	17.86	9.00	Н	160.00	19.65
0.99	47.24	67.72	20.48	9.00	Н	160.00	19.67

Note 1 : QuasiPeak[dB(μ V)/m] = Reading value[dB(μ V)] + Corr.[dB/m]

Note 2 : According to §15.31 (f)(2);

Result at 30m (dB μ V/m) = Result at 3m(dB μ V/m)-40log(30/3) (dB μ V/m) Result at 300m (dB μ V/m) = Result at 3m(dB μ V/m)-40log(300/3) (dB μ V/m)

Note 3 : The radiation measurements are performed in X, Y, Z axis positioning. And worst case mode is recorded in the report.

Note 4 : According to § 15.31(o), Emission levels are not reported much lower than the limits by over 20 dB.

Test Mode – 9 V Charging Mode (Battery less than 50 % charged)

- Fundamenta	al						
Frequency [MHz]	QuasiPeak [dB(µV)/m]	Limit [dB(µV/m)]	Margin [dB]	Bandwidth [kHz]	Pol.	Azimuth [deg]	Corr. [dB/m]
0.11	93.94	106.78	12.83	0.20	Н	48.00	19.58

- Spurious

Frequency [MHz]	QuasiPeak [dB(µV)/m]	Limit [dB(µV/m)]	Margin [dB]	Bandwidth [kHz]	Pol.	Azimuth [deg]	Corr. [dB/m]
0.55	58.04	72.85	14.80	9.00	Н	165.00	19.64
0.77	52.21	69.91	17.70	9.00	Н	165.00	19.65
0.99	47.85	67.72	19.87	9.00	Н	188.00	19.67

Note 1 : QuasiPeak[dB(μ V)/m] = Reading value[dB(μ V)] + Corr.[dB/m]

Note 2 : According to §15.31 (f)(2);

Result at 30m (dBµV/m) = Result at 3m(dBµV/m)-40log(30/3) (dBµV/m) Result at 300m (dBµV/m) = Result at 3m(dBµV/m)-40log(300/3) (dBµV/m)

- Note 3 : The radiation measurements are performed in X, Y, Z axis positioning. And worst case mode is recorded in the report.
- Note 4 : According to § 15.31(o), Emission levels are not reported much lower than the limits by over 20 dB.



Test Mode – 9 V Charging Mode (Battery 100 % fully charged)

- Fundamenta	il						
Frequency [MHz]	QuasiPeak [dB(µV)/m]	Limit [dB(µV/m)]	Margin [dB]	Bandwidth [kHz]	Pol.	Azimuth [deg]	Corr. [dB/m]
0.11	94.29	106.78	12.49	0.20	Н	0.00	19.58

- Spurious

Frequency [MHz]	QuasiPeak [dB(µV)/m]	Limit [dB(µV/m)]	Margin [dB]	Bandwidth [kHz]	Pol.	Azimuth [deg]	Corr. [dB/m]
0.55	58.08	72.85	14.77	9.00	Н	181.00	19.64
0.77	52.68	69.91	17.23	9.00	Н	181.00	19.65
0.99	47.87	67.72	19.85	9.00	Н	181.00	19.67

Note 1 : QuasiPeak[dB(μ V)/m] = Reading value[dB(μ V)] + Corr.[dB/m]

Note 2 : According to §15.31 (f)(2);

Result at 30m (dB μ V/m) = Result at 3m(dB μ V/m)-40log(30/3) (dB μ V/m) Result at 300m (dB μ V/m) = Result at 3m(dB μ V/m)-40log(300/3) (dB μ V/m)

Note 3 : The radiation measurements are performed in X, Y, Z axis positioning. And worst case mode is recorded in the report.

Note 4 : According to § 15.31(o), Emission levels are not reported much lower than the limits by over 20 dB.

Test Mode – 12 V Charging Mode (With Wireless Charger load)

-	Fundamenta	I						
	Frequency [MHz]	QuasiPeak [dB(µV)/m]	Limit [dB(µV/m)]	Margin [dB]	Bandwidth [kHz]	Pol.	Azimuth [deg]	Corr. [dB/m]
_	0.11	94.43	106.78	12.35	0.20	Н	0.00	19.58

- Spurious

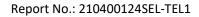
Frequency [MHz]	QuasiPeak [dB(µV)/m]	Limit [dB(µV/m)]	Margin [dB]	Bandwidth [kHz]	Pol.	Azimuth [deg]	Corr. [dB/m]
0.55	58.00	72.85	14.85	9.00	Н	182.00	19.64
0.77	52.70	69.91	17.21	9.00	Н	182.00	19.65
0.99	47.90	67.72	19.82	9.00	Н	182.00	19.67

Note 1 : QuasiPeak[dB(μ V)/m] = Reading value[dB(μ V)] + Corr.[dB/m]

Note 2 : According to §15.31 (f)(2);

Result at 30m (dB μ V/m) = Result at 3m(dB μ V/m)-40log(30/3) (dB μ V/m) Result at 300m (dB μ V/m) = Result at 3m(dB μ V/m)-40log(300/3) (dB μ V/m)

- Note 3 : The radiation measurements are performed in X, Y, Z axis positioning. And worst case mode is recorded in the report.
- Note 4 : According to § 15.31(o), Emission levels are not reported much lower than the limits by over 20 dB.





30 MHz ~ 1 GHz

Frequency [MHz]QuasiPeak [dB(μV)/m]Limit [dB(μV/m)]Margin [dB]Bandwidth [kHz]Height [cm]Pol.Azimuth [deg]Corr. [dB/m]43.1919.7140.0020.29120.00100.0V90.00-13.8755.6525.7540.0014.25120.00100.0V67.00-16.2068.3424.9040.0015.10120.00100.0V136.00-15.23100.8024.2043.5019.30120.00100.0V0.00-14.04145.3924.9943.5018.51120.00100.0V0.00-12.52	- Spurious								
55.65 25.75 40.00 14.25 120.00 100.0 V 67.00 -16.20 68.34 24.90 40.00 15.10 120.00 100.0 V 136.00 -15.23 100.80 24.20 43.50 19.30 120.00 100.0 V 102.00 -14.04				U		-	Pol.		
68.34 24.90 40.00 15.10 120.00 100.0 V 136.00 -15.23 100.80 24.20 43.50 19.30 120.00 100.0 V 102.00 -14.04	43.19	19.71	40.00	20.29	120.00	100.0	V	90.00	-13.87
100.80 24.20 43.50 19.30 120.00 100.0 V 102.00 -14.04	55.65	25.75	40.00	14.25	120.00	100.0	V	67.00	-16.20
	68.34	24.90	40.00	15.10	120.00	100.0	V	136.00	-15.23
145.39 24.99 43.50 18.51 120.00 100.0 V 0.00 -12.52	100.80	24.20	43.50	19.30	120.00	100.0	V	102.00	-14.04
	145.39	24.99	43.50	18.51	120.00	100.0	V	0.00	-12.52
941.12 28.36 46.00 17.64 120.00 100.0 H 0.00 7.67	941.12	28.36	46.00	17.64	120.00	100.0	Н	0.00	7.67

Note 1 : QuasiPeak[dB(μ V)/m] = Reading value[dB(μ V)] + Corr.[dB/m]

Note 2 : According to §15.31 (f)(2);

Result at 30m (dB μ V/m) = Result at 3m(dB μ V/m)-40log(30/3) (dB μ V/m) Result at 300m (dB μ V/m) = Result at 3m(dB μ V/m)-40log(300/3) (dB μ V/m)

Note 3 : The radiation measurements are performed in X, Y, Z axis positioning. And worst case mode is recorded in the report.

Note 4 : According to § 15.31(o), Emission levels are not reported much lower than the limits by over 20 dB.

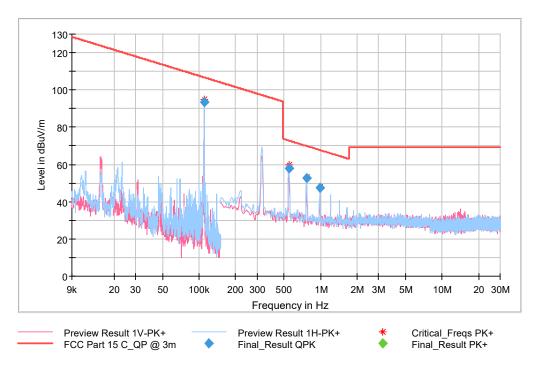


3.4 Test Plot

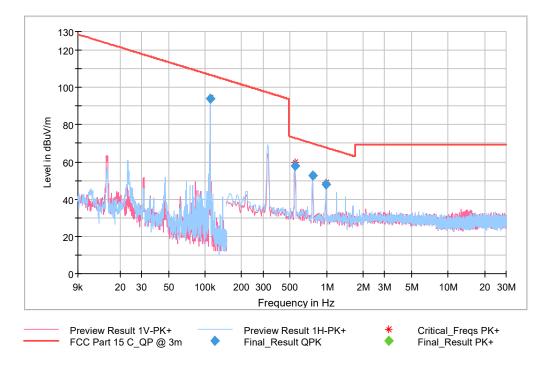
Plot of Field Strength of Fundamental and Spurious Emission (Radiated)

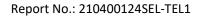
9 kHz ~ 30 MHz

Test Mode - 5 V Charging Mode (Battery less than 1 % charged)

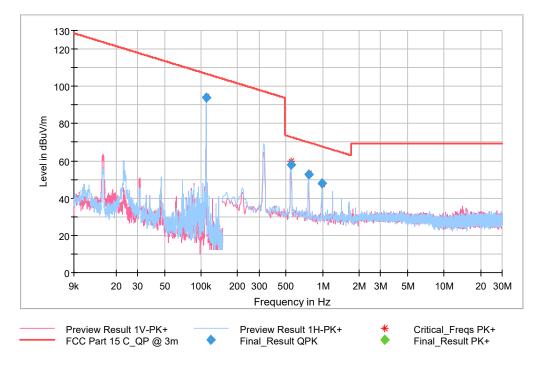


Test Mode - 5 V Charging Mode (Battery less than 50 % charged)



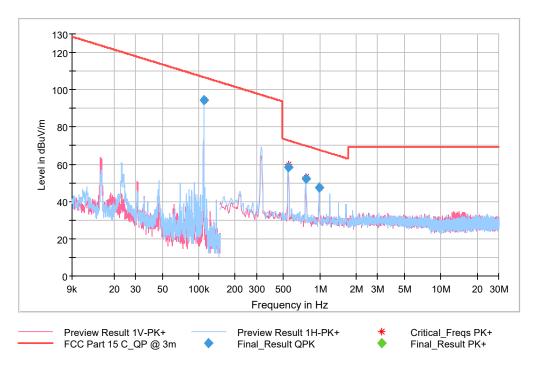


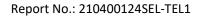




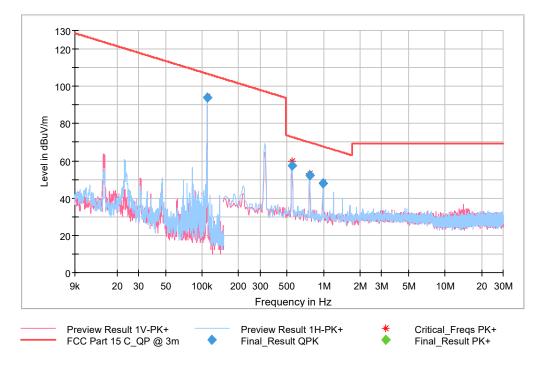
Test Mode - 5 V Charging Mode (Battery less than 100 % charged)

Test Mode - 9 V Charging Mode (Battery less than 1 % charged)



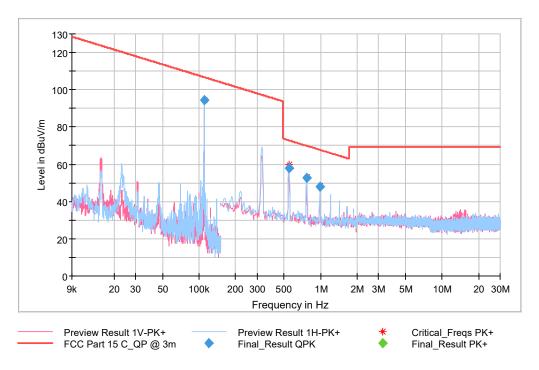


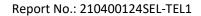




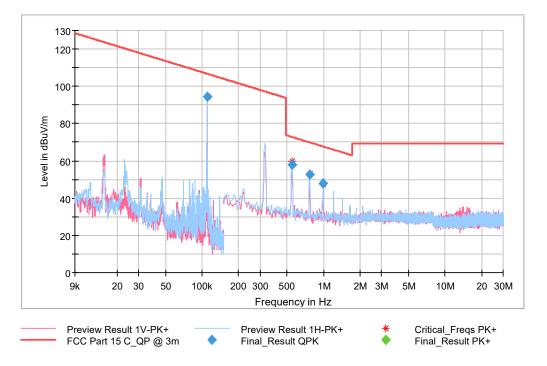
Test Mode - 9 V Charging Mode (Battery less than 50 % charged)

Test Mode - 5 V Charging Mode (Battery less than 100 % charged)





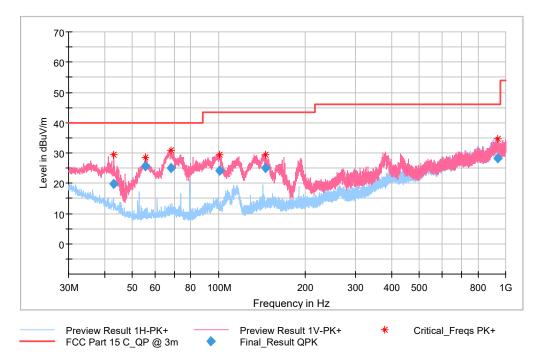




Test Mode - 12 V Charging Mode (With Wireless Charger load)

30 MHz ~ 1 GHz

Test Mode - 12 V Charging Mode (With Wireless Charger load)





4. Conducted Emissions

4.1 Rule

According to §15.207(a), for an intentional radiator that is 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, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 Ω line impedance stabilization network (LISN).

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. The lower limit applies at the boundary between the frequency ranges.

Frequency range	Limits dB(μV)		
(MHz)	Quasi-peak	Average	
0.15 to 0.5	66 to 56	56 to 46	
0.5 to 5	56	46	
5 to 30	60	50	

Note 1 The lower limit shall apply at the transition frequencies.

Note 2 The limit decreases linearly with the logarithm of the frequency in the range (0.15 \sim 0.5) MHz. Note 3 Result (dB μ V) = Reading (dB μ V) + Corr. (Insertion Loss (dB) + Cable Loss (dB))

Result: Final value, Reading: Receiver reading value, Corr.: Correction Factor

Margin = Limit – Result

4.2 Measurement Procedure

All data rates and modes were investigated for this test. The full data for the worst case data rate are reported in this section.

AC line conducted emissions from the EUT were measured according to the dictates of ANSI C63.10-2013

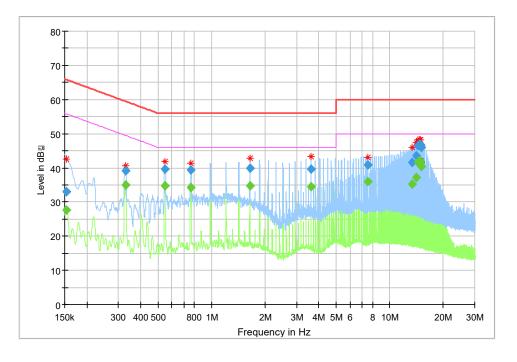
1. The test procedure is performed in a 6.5 m \times 3.6 m \times 3.6 m (L \times W \times H) shielded room. The EUT along with its peripherals were placed on a 1.0 m (W) \times 1.5 m (L) and 0.8 m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane.

2. The EUT was connected to power mains through a line impedance stabilization network (LISN) which provides 50 ohm coupling impedance for measuring instrument and the chassis ground was bounded to the horizontal ground plane of shielded room.

3. The excess power cable between the EUT and the LISN was bundled. All connecting cables of EUT were moved to find the maximum emission.



4.3 Test result – Complied Test Mode - 5 V Charging Mode_Neutral / Live



Frequency [MHz]	QuasiPeak	CAverage [dB(µV)/m]	Limit	Margin [dB]	Corr. [dB/m]
	[dB(µV)/m]		L (1 / /3		
0.153 980		27.53	55.78	28.25	9.9
0.153 980	33.06		65.78	32.72	9.9
0.329 100	39.12		59.47	20.36	10.0
0.329 100		34.89	49.47	14.58	10.0
0.547 005		34.78	46.00	11.22	10.0
0.547 005	39.71		56.00	16.29	10.0
0.765 905		34.36	46.00	11.64	10.0
0.765 905	39.31		56.00	16.69	10.0
1.642 500		34.81	46.00	11.19	10.0
1.642 500	39.91		56.00	16.09	10.0
3.614 590		34.48	46.00	11.52	10.0
3.614 590	39.57		56.00	16.43	10.0
7.560 760		35.92	50.00	14.08	10.3
7.560 760	40.91		60.00	19.09	10.3
14.460 090		41.57	50.00	8.43	10.6
14.460 090	46.57		60.00	13.43	10.6
14.680 980		42.13	50.00	7.87	10.6
14.680 980	46.90		60.00	13.10	10.6
14.898 885		41.41	50.00	8.59	10.6
14.899 880		41.87	50.00	8.13	10.6
15.118 780	45.93		60.00	14.07	10.6
15.118 780		40.44	50.00	9.56	10.6



80-70[.] 60 50 Level in dB a 40 * 30 20. 10 0+ 150k 300 400 500 800 1M 2M 3M 4M 5M 6 8 10M 20M 30M Frequency in Hz

Test Mode - 9	V Charging Mode_	Neutral / Live
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Frequency	QuasiPeak	CAverage	Limit	Margin	Corr.
[MHz]	[dB(µV)/m]	[dB(µV)/m]	[dB(µV/m)]	[dB]	[dB/m]
0.153 980		26.27	55.78	29.51	9.9
0.153 980	32.04		65.78	33.74	9.9
0.387 805		29.18	48.11	18.93	10.0
0.387 805	36.43		58.11	21.68	10.0
0.649 490	33.40		56.00	22.60	10.0
0.649 490		25.90	46.00	20.10	10.0
3.248 430	36.51		56.00	19.49	9.9
3.248 430		27.81	46.00	18.19	9.9
4.025 525	32.15		56.00	23.85	10.0
4.025 525		23.23	46.00	22.77	10.0
6.339 895		28.18	50.00	21.82	10.1
6.339 895	35.30		60.00	24.70	10.1
9.707 970		39.78	50.00	10.22	10.3
9.707 970	46.39		60.00	13.61	10.3
13.588 470		40.48	50.00	9.52	10.5
13.588 470	49.87		60.00	10.13	10.5
14.884 955	42.06		60.00	17.94	10.5
14.884 955		32.32	50.00	17.68	10.5
15.144 650		36.91	50.00	13.09	10.6
15.144 650	44.96		60.00	15.04	10.6
15.919 755	44.49		60.00	15.51	10.6
15.919 755		33.44	50.00	16.56	10.6



80-70-60 50 Level in dB ً * 40 * 30 20 10 0 20M 30M 150k 300 400 500 800 1M 2M 3M 4M 5M 6 8 10M Frequency in Hz

Test Mode - 12 V Charging Mode_Neutral / Live

Frequency	QuasiPeak	CAverage	Limit	Margin	Corr.
[MHz]	[dB(µV)/m]	[dB(µV)/m]	[dB(µV/m)]	[dB]	[dB/m]
0.159 950	30.78		65.47	34.69	9.9
0.159 950		18.02	55.47	37.45	9.9
0.397 755		28.77	47.90	19.13	10.0
0.397 755	36.64		57.90	21.26	10.0
0.662 425		26.69	46.00	19.31	10.0
0.662 425	35.48		56.00	20.52	10.0
3.586 730		27.84	46.00	18.16	10.0
3.586 730	39.33		56.00	16.67	10.0
4.915 055		35.24	46.00	10.76	10.0
4.915 055	42.16		56.00	13.84	10.0
7.306 040		35.81	50.00	14.19	10.2
7.306 040	43.67		60.00	16.33	10.2
7.837 370		32.85	50.00	17.15	10.3
7.837 370	43.09		60.00	16.91	10.3
11.821 350		38.46	50.00	11.54	10.4
11.821 350	45.57		60.00	14.43	10.4
14.479 990		39.24	50.00	10.76	10.6
14.479 990	47.47		60.00	12.53	10.6
14.744 660	48.72		60.00	11.28	10.5
14.744 660		42.27	50.00	7.73	10.5
15.009 330		37.83	50.00	12.17	10.6
15.009 330	47.69		60.00	12.31	10.6



SECTION 5 REVISION HISTORY

	REVISION HISTORY					
Revision	Report No.	Issue Date	Description			
0	210400124SEL-TEL1	03 Jun. 2021	Initial			

- End -