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TEST REPORT

Report No.: 21071317HKG-001

Design Pool Limited

Application For Certification
(Original Grant)

FCC ID: X3QSN2IN101

Wireless Power transfer Device - Transmitter

Prepared and Checked by:	**Approved by:**
Signed On File Lee For Yiu, Florey Assistant Engineer	Digitally signed by Kenneth Wong Location: Intertek Testing Services Hong Kong Limited Wong Kwok Yeung, Kenneth Assistant Supervisor Date: September 28, 2021

TEST REPORT

GENERAL INFORMATION

Grantee:	Design Pool Limited
Grantee Address:	33/F., 88 Hing Fat Street, Causeway Bay, Hong Kong
Contact Person:	Igor Duc
Tel:	+852 2522 0880
Fax:	+852 2522 0803
e-mail:	igorduc@nativeunion.com
Manufacturer:	Xinji Technologies Ltd.
Manufacturer Address:	Xinhe Avenue 70, ShangMuGu, Pinghu, Longgang District, Shenzhen, Guangdong, Mainland China.
Brand Name:	Native Union
Model:	SN2IN101
Type of EUT:	Wireless Power transfer Device - Transmitter
Description of EUT:	SNAP 2-IN-1 MAGNETIC WIRELESS CHARGER
Serial Number:	N/A
FCC ID:	X3QSN2IN101
Date of Sample Submitted:	July 22, 2021
Date of Test:	July 22, 2021 to September 27, 2021
Report No.:	21071317HKG-001
Report Date:	September 28, 2021
Environmental Conditions:	Temperature: +10 to 40°C Humidity: 10 to 90%
Conclusion:	Test was conducted by client submitted sample. The submitted sample as received complied with the 47 CFR Part 15 Certification.

TEST REPORT

SUMMARY OF TEST RESULT

Test Specification	Reference	Results
Transmitter Power Line Conducted Emissions	15.207	Pass
Radiated Emission Radiated Emission on the Bandedge	15.249, 15.209	Pass
Radiated Emission in Restricted Bands	15.205	Pass

The equipment under test is found to be complying with the following standards:
FCC Part 15, October 1, 2020 Edition

Note: 1. The EUT uses a permanently attached antenna which, in accordance to section 15.203, is considered sufficient to comply with the pervisions of this section.
2. Pursuant to FCC part 15 Section 15.215(c), the 20 dB bandwidth of the emission was contained within the frequency band designated (mentioned as above) which the EUT operated. The effects, if any, from frequency sweeping, frequency hopping, other modulation techniques and frequency stability over excepted variations in temperature and supply voltage were considered.

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TEST REPORT

1.0 GENERAL DESCRIPTION

1.1 Product Description

The Equipment Under Test (EUT), is a wireless charger that is designed to work on table. The EUT is powered by 110-240VAC 0.5A adaptor with Type-C port, which is operated at 112-205kHz for 10W (iPhone 12) and 5W (AirPods) wireless power transmission.

Antenna Type: Internal, Integral

For electronic filing, the brief circuit description is saved with filename: descri.pdf.

1.2 Related Submittal(s) Grants

This is a single application for certification of a transceiver.

1.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.10 (2013). All radiated measurements were performed in an 3m Chamber. Preliminary scans were performed in the 3m Chamber only to determine worst case modes. All radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the **"Justification Section"** of this Application.

1.4 Test Facility

The 3m Chamber and conducted measurement facility used to collect the radiated data is located at Workshop No. 3, G/F., World-Wide Industrial Centre, 43-47 Shan Mei Street, Fo Tan, Sha Tin, N.T., Hong Kong SAR, China. This test facility and site measurement data have been placed on file with the FCC.

TEST REPORT

2.0 SYSTEM TEST CONFIGURATION

2.1 Justification

The system was configured for testing in a typical fashion (as a customer would normally use it), and in the confines as outlined in ANSI C63.10 (2013).

The device was powered by 110-240VAC 0.5A adaptor with Type-C port.

For maximizing emissions below 30 MHz, the EUT was rotated through 360°, the centre of the loop antenna was placed 1 meter above the ground, and the antenna polarization was changed. For maximizing emission at and above 30 MHz, the EUT was rotated through 360°, the antenna height was varied from 1 meter to 4 meters above the ground plane, and the antenna polarization was changed. This step by step procedure for maximizing emissions led to the data report in Exhibit 3.0.

The unit was operated standalone and placed in the center of the turntable.

The equipment under test (EUT) was configured for testing in a typical fashion (as a customer would normally use it). The EUT was mounted to a plastic stand if necessary and placed on the wooden turntable, which enabled the engineer to maximize emissions through its placement in the three orthogonal axes.

2.2 EUT Exercising Software

There was no special software to exercise the device. Once the unit is powered up, it transmits the RF signal continuously.

2.3 Special Accessories

There are no special accessories necessary for compliance of this product.

TEST REPORT

2.4 Measurement Uncertainty

Decision Rule for compliance: For FCC/IC standard, the measured value must be within the limits of applicable standard without accounting for the measurement uncertainty. For EN/IEC/HKTA/HKTC standard, conformity rules will be used as per standard directly excepted EN/IEC 61000-3-2, EN/IEC 61000-3-3, HKTA1004, HKCA1008, HKTA1019, HKTA1020, HKTA1041 and HKTA1044. For these excepted or not mentioned standards, Cl 4.2.2 of ILAC-G8:09/2019 decision rules will be reference and guard band will be equal to our measurement uncertainty with 95% confidence level (k=2). In case, the measured value is within guard band region, undetermined decision will be used.

Uncertainty and Compliance - Unless the standard specifically states that measured values are to be extended by the measurement uncertainty in determining compliance, all compliance determinations are based on the actual measured value.

2.5 Support Equipment List and Description

1) iPhone 12 (Provided by Intertek)
2) 5W Loading (Provided by Applicant)
3) 1 x USB cable with length of 1.09m (Provided by Intertek)
4) AC/DC Adaptor with Type-C port (Provided by Applicant)
   Input: 100-240VAC 0.5A 50-60Hz
   Output: 9.0VDC 2.22A

TEST REPORT

3.0 EMISSION RESULTS

Data is included of the worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included.

3.1 Field Strength Calculation

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

FS = RA + AF + CF - AG - AV

where FS = Field Strength in dBµV/m
RA = Receiver Amplitude (including preamplifier) in dBµV
CF = Cable Attenuation Factor in dB
AF = Antenna Factor in dB
AG = Amplifier Gain in dB
AV = Average Factor in dB

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

FS = RR + LF

where FS = Field Strength in dBµV/m
RR = RA - AG - AV in dBµV
LF = CF + AF in dB

Assume a receiver reading of 52.0 dBµV is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB are added. The amplifier gain of 29 dB and average factor of 5 dB are subtracted, giving a field strength of 27 dBµV/m. This value in dBµV/m was converted to its corresponding level in µV/m.

RA = 52.0 dBµV/m
AF = 7.4 dB
CF = 1.6 dB
AG = 29.0 dB
AV = 5.0 dB
FS = RR + LF
FS = 18 + 9 = 27 dBµV/m

RR = 18.0 dBµV
LF = 9.0 dB

Level in µV/m = Common Antilogarithm [(27 dBµV/m)/20] = 22.4 µV/m

TEST REPORT

3.2 Radiated Emission Configuration Photograph

The worst case in radiated emission was found at 86 MHz

For electronic filing, the worst case radiated emission configuration photographs are saved with filename: radiated photos.pdf.

3.3 Radiated Emission Data

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Judgment: Passed by 0.83 dB

3.4 Conducted Emission Configuration Photograph

The worst case in line-conducted emission was found at 1.527 MHz

For electronic filing, the worst case line-conducted configuration photographs are saved with filename: conducted photo.pdf.

3.5 Conducted Emission Data

For electronic filing, the graph and data table of conducted emission is saved with filename: conducted.pdf.

Judgment: Pass by 5.58 dB

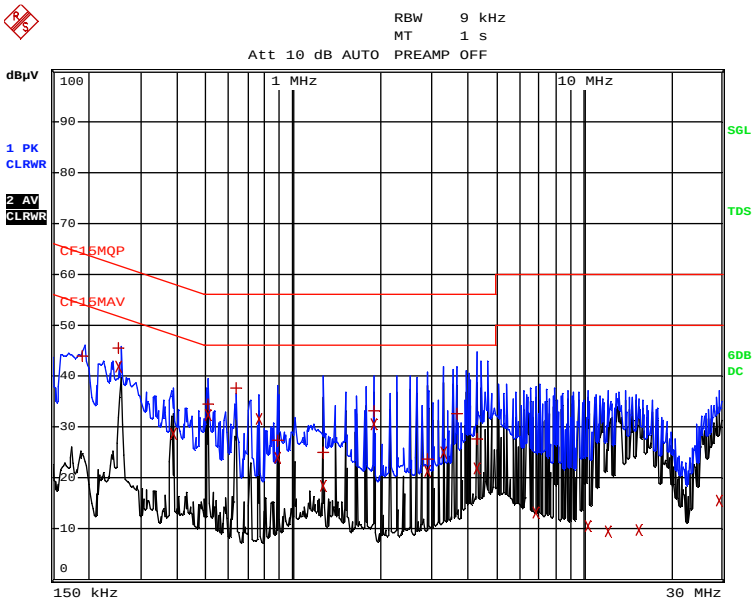
3.6 RF Exposure

The data of RF exposure test is saved with filename: RF Exposure.pdf.

TEST REPORT

CONDUCTED EMISSION

Model: SN2IN101
Date of Test: September 27, 2021
Worst-Case Operating Mode: iPhone 12



EDIT PEAK LIST (Final Measurement Results)

Trace1: CF15MQP
Trace2: CF15MAV
Trace3: ---

TRACE		FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1	Quasi Peak	190.5 kHz	43.95	L1	-20.06
1	Quasi Peak	253.5 kHz	45.48	L1	-16.15
2	CISPR Average	253.5 kHz	41.87	L1	-9.76
2	CISPR Average	384 kHz	28.66	L1	-19.52
1	Quasi Peak	510 kHz	34.61	L1	-21.38
2	CISPR Average	510 kHz	32.40	L1	-13.59
1	Quasi Peak	636 kHz	37.63	L1	-18.36
2	CISPR Average	762 kHz	31.52	L1	-14.47
1	Quasi Peak	888 kHz	27.31	L1	-28.68
2	CISPR Average	888 kHz	23.99	L1	-22.00
1	Quasi Peak	1.2705 MHz	25.08	N	-30.91
2	CISPR Average	1.2705 MHz	18.58	L1	-27.41
1	Quasi Peak	1.905 MHz	33.22	L1	-22.78
2	CISPR Average	1.905 MHz	30.60	L1	-15.39
1	Quasi Peak	2.922 MHz	23.84	L1	-32.15
2	CISPR Average	2.922 MHz	21.35	L1	-24.64
2	CISPR Average	3.3045 MHz	25.11	L1	-20.88
1	Quasi Peak	3.687 MHz	32.59	L1	-23.40
1	Quasi Peak	4.3215 MHz	27.58	L1	-28.41
2	CISPR Average	4.3215 MHz	21.87	L1	-24.12

Note: Measurement Uncertainty is ±4.2dB at a level of confidence of 95%.

TEST REPORT

Model: SN2IN101
Date of Test: September 27, 2021
Worst-Case Operating Mode: iPhone 12

EDIT PEAK LIST (Final Measurement Results)

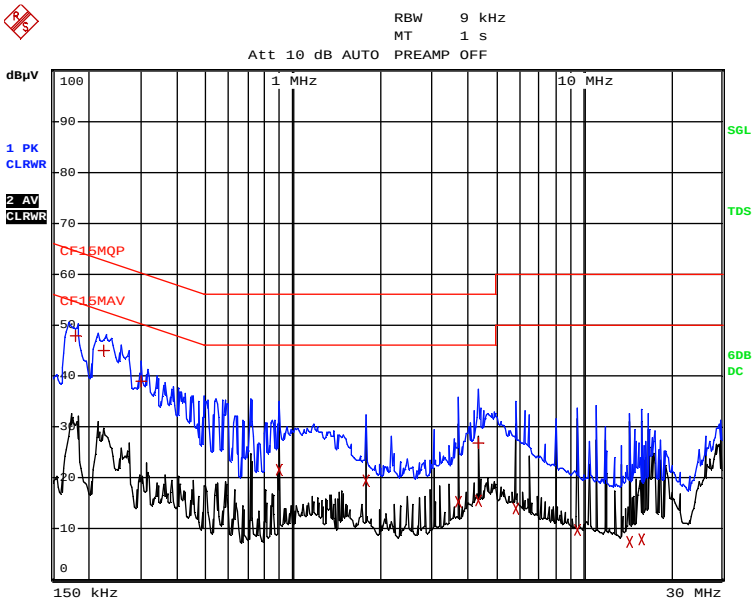
Trace1: CF15MQP
Trace2: CF15MAV
Trace3: ---

TRACE	FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
2 CISPR Average	6.864 MHz	13.27	L1	-36.72
2 CISPR Average	10.4235 MHz	10.57	L1	-39.42
2 CISPR Average	12.2055 MHz	9.44	L1	-40.55
2 CISPR Average	15.513 MHz	9.80	L1	-40.19
2 CISPR Average	29.391 MHz	15.70	N	-34.29

Note: Measurement Uncertainty is ±4.2dB at a level of confidence of 95%.

TEST REPORT

Model: SN2IN101
Date of Test: September 27, 2021
Worst-Case Operating Mode: 5W Loading



EDIT PEAK LIST (Final Measurement Results)

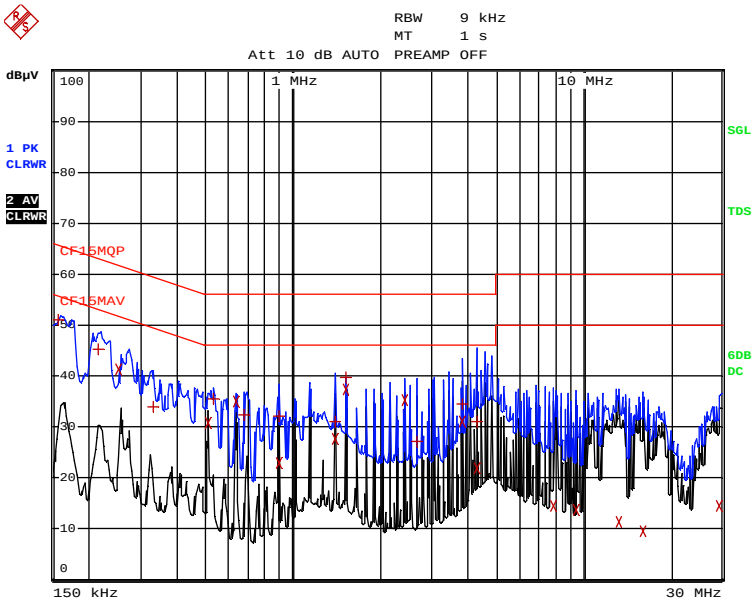
Trace1: CF15MQP
Trace2: CF15MAV
Trace3: ---

TRACE		FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1	Quasi Peak	181.5 kHz	47.79	L1	-16.62
1	Quasi Peak	226.5 kHz	45.05	N	-17.52
1	Quasi Peak	298.5 kHz	38.95	L1	-21.32
2	CISPR Average	892.5 kHz	21.59	L1	-24.40
2	CISPR Average	1.7835 MHz	19.44	L1	-26.56
2	CISPR Average	3.7005 MHz	15.34	L1	-30.65
1	Quasi Peak	4.344 MHz	26.84	L1	-29.15
2	CISPR Average	4.344 MHz	15.66	L1	-30.33
2	CISPR Average	5.8695 MHz	14.11	L1	-35.88
2	CISPR Average	9.5685 MHz	9.73	L1	-40.26
2	CISPR Average	14.4105 MHz	7.55	N	-42.44
2	CISPR Average	15.9405 MHz	8.04	N	-41.95

Note: Measurement Uncertainty is ±4.2dB at a level of confidence of 95%.

TEST REPORT

Model: SN2IN101
Date of Test: September 27, 2021
Worst-Case Operating Mode: 5W Loading & iPhone 12



EDIT PEAK LIST (Final Measurement Results)

Trace1:	CF15MQP
Trace2:	CF15MAV
Trace3:	---

TRACE		FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1	Quasi Peak	159 kHz	51.02	L1	-14.48
1	Quasi Peak	217.5 kHz	45.15	L1	-17.76
2	CISPR Average	253.5 kHz	41.32	L1	-10.32
1	Quasi Peak	330 kHz	34.10	L1	-25.35
2	CISPR Average	510 kHz	30.90	L1	-15.09
1	Quasi Peak	528 kHz	35.60	L1	-20.39
2	CISPR Average	636 kHz	34.94	L1	-11.06
1	Quasi Peak	681 kHz	32.48	L1	-23.52
1	Quasi Peak	892.5 kHz	32.12	L1	-23.88
2	CISPR Average	892.5 kHz	23.02	L1	-22.98
1	Quasi Peak	1.401 MHz	31.18	L1	-24.81
2	CISPR Average	1.401 MHz	27.58	L1	-18.41
1	Quasi Peak	1.527 MHz	39.71	L1	-16.29
2	CISPR Average	1.527 MHz	37.41	L1	-8.58
2	CISPR Average	2.418 MHz	35.24	L1	-10.75
1	Quasi Peak	2.6745 MHz	27.13	L1	-28.86
1	Quasi Peak	3.8175 MHz	34.47	L1	-21.52
2	CISPR Average	3.8175 MHz	31.01	L1	-14.99
1	Quasi Peak	4.326 MHz	31.01	L1	-24.98
2	CISPR Average	4.326 MHz	22.03	L1	-23.96

Note: Measurement Uncertainty is ±4.2dB at a level of confidence of 95%.

TEST REPORT

Model: SN2IN101
Date of Test: September 27, 2021
Worst-Case Operating Mode: 5W Loading & iPhone 12

EDIT PEAK LIST (Final Measurement Results)

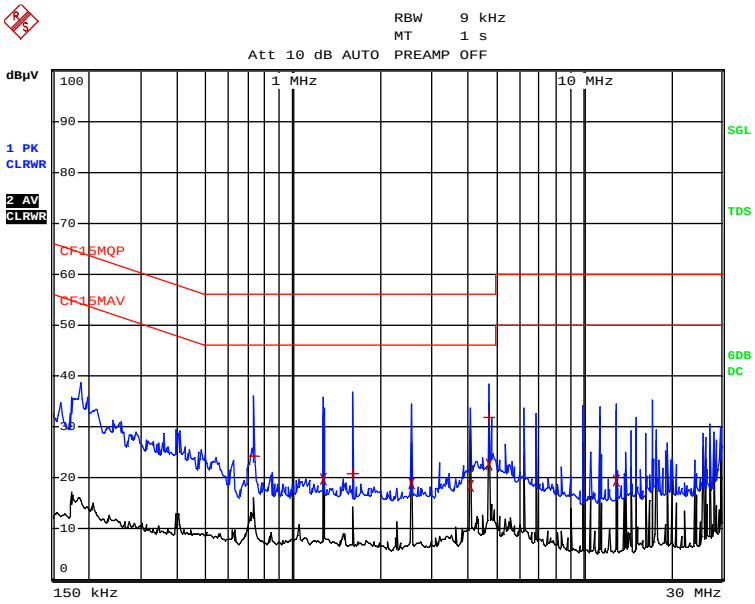
Trace1: CF15MQP
Trace2: CF15MAV
Trace3: ---

TRACE	FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
2 CISPR Average	7.89 MHz	14.50	L1	-35.49
2 CISPR Average	9.4155 MHz	13.87	L1	-36.12
2 CISPR Average	13.2315 MHz	11.34	L1	-38.65
2 CISPR Average	16.0305 MHz	9.70	N	-40.29
2 CISPR Average	29.2515 MHz	14.60	N	-35.39

Note: Measurement Uncertainty is ±4.2dB at a level of confidence of 95%.

TEST REPORT

Model: SN2IN101
Date of Test: September 27, 2021
Worst-Case Operating Mode: Standby



EDIT PEAK LIST (Final Measurement Results)

Trace1: CF15MQP
Trace2: CF15MAV
Trace3: ---

TRACE		FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1	Quasi Peak	730.5 kHz	24.21	L1	-31.78
2	CISPR Average	1.275 MHz	19.80	L1	-26.19
1	Quasi Peak	1.608 MHz	20.91	N	-35.08
2	CISPR Average	2.553 MHz	18.99	L1	-27.00
2	CISPR Average	4.083 MHz	18.42	L1	-27.57
1	Quasi Peak	4.722 MHz	31.96	N	-24.03
2	CISPR Average	4.722 MHz	22.82	N	-23.17
2	CISPR Average	13.02 MHz	19.67	L1	-30.32

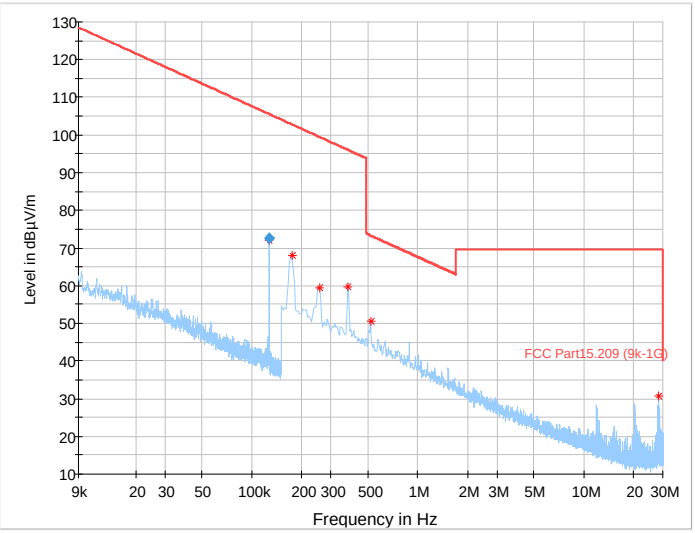
Note: Measurement Uncertainty is ±4.2dB at a level of confidence of 95%.

TEST REPORT

RADIATED EMISSIONS

Model: SN2IN101
Date of Test: September 27, 2021
Worst-Case Operating Mode: Charging with iphone

Table 1
Pursuant to FCC Part 15 Section 15.209 Requirement



Frequency (MHz)	Read Level(dBµV)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
0.127468	60.50	72.00	105.50	-33.49	100.0	H	3.0	11.5
0.174327	56.67	68.07	102.87	-34.80	100.0	H	355.0	11.4
0.254475	48.11	59.51	99.49	-39.98	100.0	H	341.0	11.4
0.381338	47.80	59.60	95.98	-36.38	100.0	H	322.0	11.8
0.523125	39.04	50.54	73.23	-22.69	100.0	H	355.0	11.5
28.548544	21.49	30.69	69.54	-38.85	100.0	H	30.0	9.2

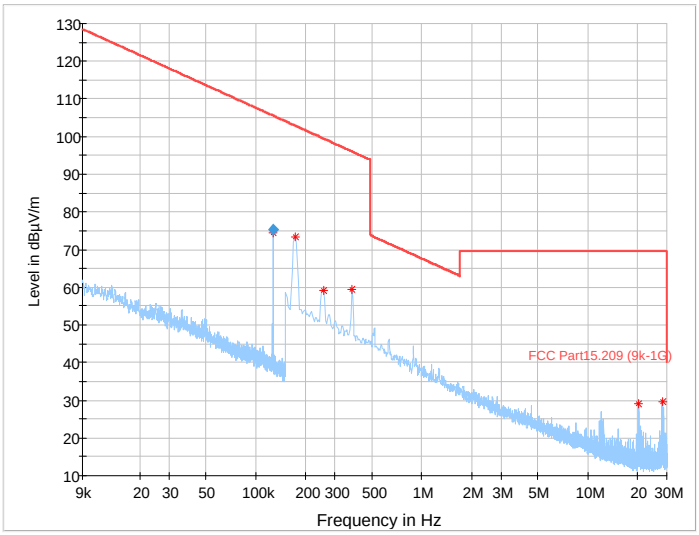
NOTES:
1. All measurements were made at 3 meters.
2. Negative sign in the column shows value below limit.
3. Loop antenna is used for the emissions below 30MHz.
4. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

Remark:
1. Corr. (dB/m) = Antenna Factor (dB) + Cable Loss (dB)
2. Max Peak (dBµV/m) = Corr. (dB/m) + Read Level (dBµV)
3. Margin (dB) = Max Peak (dBµV/m) – Limit (dBµV/m)

TEST REPORT

Model: SN2IN101
Date of Test: September 27, 2021
Worst-Case Operating Mode: Charging with iphone in distance

Table 2
Pursuant to FCC Part 15 Section 15.209 Requirement



Frequency (MHz)	Read Level(dBµV)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
0.127507	62.83	74.33	105.50	-31.17	100.0	H	4.0	11.5
20.145769	18.86	29.16	69.54	-40.38	100.0	H	8.0	10.3
28.175419	20.19	29.49	69.54	-40.05	100.0	H	31.0	9.3
0.172400	62.05	73.45	102.87	-29.42	100.0	H	42.0	11.4
0.381338	47.62	59.42	95.98	-36.56	100.0	H	317.0	11.8
0.254475	47.68	59.08	99.49	-40.41	100.0	H	343.0	11.4

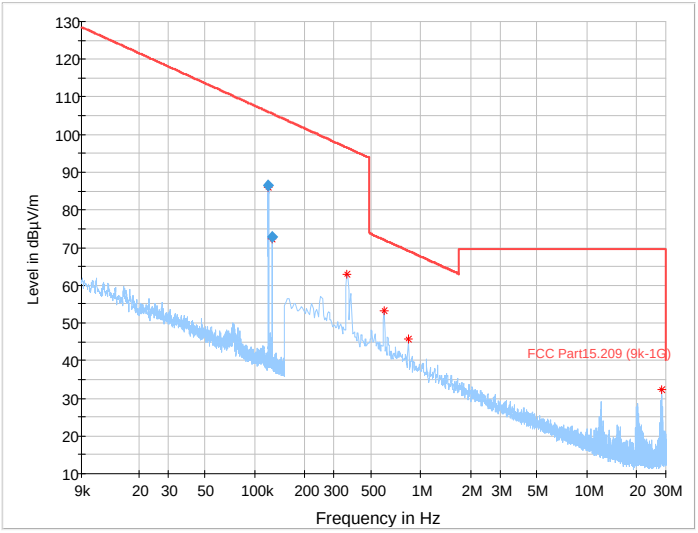
NOTES:
1. All measurements were made at 3 meters.
2. Negative sign in the column shows value below limit.
3. Loop antenna is used for the emissions below 30MHz.
4. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

Remark:
1. Corr. (dB/m) = Antenna Factor (dB) + Cable Loss (dB)
2. Max Peak (dBµV/m) = Corr. (dB/m) + Read Level (dBµV)
3. Margin (dB) = Max Peak (dBµV/m) – Limit (dBµV/m)

TEST REPORT

Model: SN2IN101
Date of Test: September 27, 2021
Worst-Case Operating Mode: Charging with load and iphone

Table 3
Pursuant to FCC Part 15 Section 15.209 Requirement



Frequency (MHz)	Read Level(dBµV)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
0.126830	60.58	72.18	105.54	-33.36	100.0	H	359.0	11.6
0.358950	51.56	62.96	96.50	-33.54	100.0	H	8.0	11.4
0.601481	41.69	53.29	72.02	-18.73	100.0	H	1.0	11.6
0.844013	34.34	45.74	69.08	-23.34	100.0	H	23.0	11.4
28.414219	23.14	32.34	69.54	-37.20	100.0	H	59.0	9.2

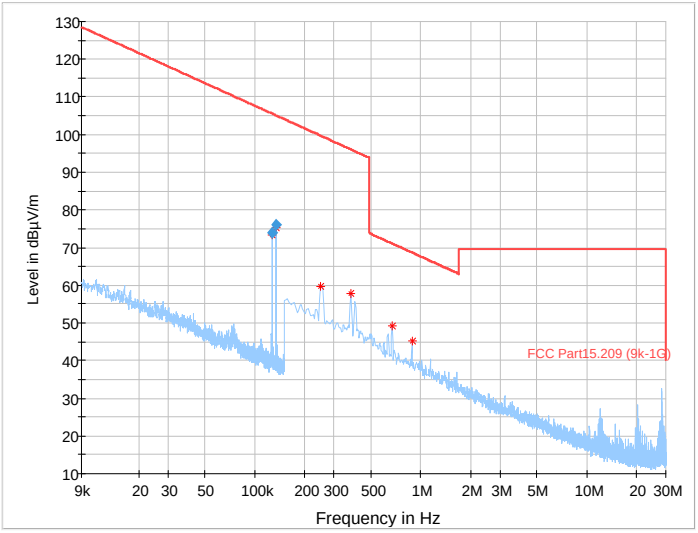
NOTES:
1. All measurements were made at 3 meters.
2. Negative sign in the column shows value below limit.
3. Loop antenna is used for the emissions below 30MHz.
4. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

Remark:
1. Corr. (dB/m) = Antenna Factor (dB) + Cable Loss (dB)
2. Max Peak (dBµV/m) = Corr. (dB/m) + Read Level (dBµV)
3. Margin (dB) = Max Peak (dBµV/m) – Limit (dBµV/m)

TEST REPORT

Model: SN2IN101
Date of Test: September 27, 2021
Worst-Case Operating Mode: Charging with load and iphone in distance

Table 4
Pursuant to FCC Part 15 Section 15.209 Requirement



Frequency (MHz)	Read Level(dBµV)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
0.127010	61.90	73.40	105.53	-32.13	100.0	H	359.0	11.5
0.250744	48.20	59.60	99.62	-40.02	100.0	H	353.0	11.4
0.377606	45.92	57.72	96.06	-38.34	100.0	H	332.0	11.8
0.672375	37.83	49.23	71.05	-21.82	100.0	H	34.0	11.4
0.888788	33.53	45.03	68.63	-23.60	100.0	H	330.0	11.5

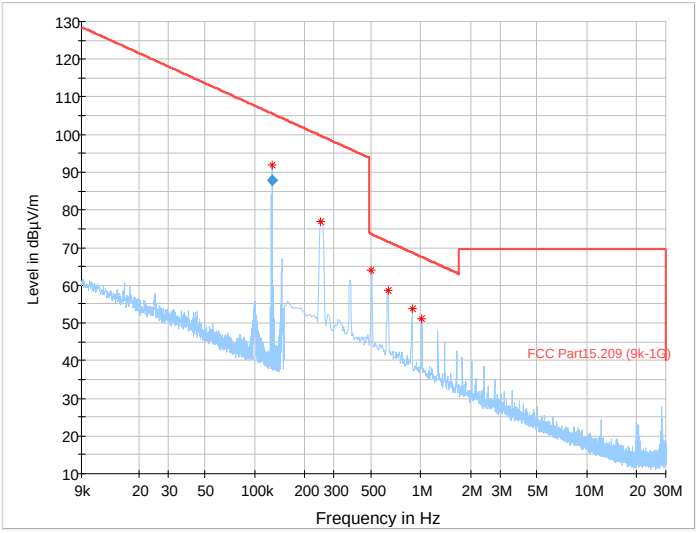
NOTES:
1. All measurements were made at 3 meters.
2. Negative sign in the column shows value below limit.
3. Loop antenna is used for the emissions below 30MHz.
4. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

Remark:
1. Corr. (dB/m) = Antenna Factor (dB) + Cable Loss (dB)
2. Max Peak (dBµV/m) = Corr. (dB/m) + Read Level (dBµV)
3. Margin (dB) = Max Peak (dBµV/m) – Limit (dBµV/m)

TEST REPORT

Model: SN2IN101
Date of Test: September 27, 2021
Worst-Case Operating Mode: Charging with load

Table 5
Pursuant to FCC Part 15 Section 15.209 Requirement



Frequency (MHz)	Read Level(dBµV)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
0.127072	80.45	91.95	105.53	-13.58	100.0	H	37.0	11.5
0.250744	65.35	76.75	99.62	-22.87	100.0	H	359.0	11.4
0.504469	52.29	63.89	73.55	-9.66	100.0	H	359.0	11.6
0.635063	47.27	58.67	71.55	-12.87	100.0	H	359.0	11.4
0.888788	42.14	53.64	68.63	-14.99	100.0	H	359.0	11.5
1.015650	39.61	51.11	67.47	-16.36	100.0	H	359.0	11.5

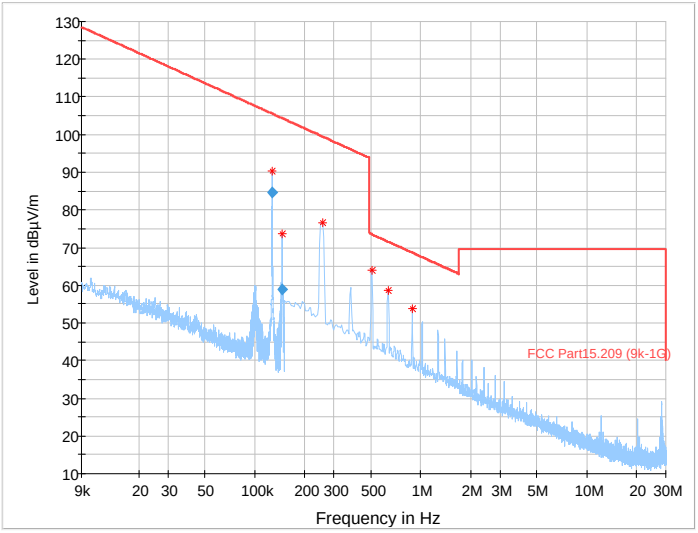
NOTES:
1. All measurements were made at 3 meters.
2. Negative sign in the column shows value below limit.
3. Loop antenna is used for the emissions below 30MHz.
4. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

Remark:
1. Corr. (dB/m) = Antenna Factor (dB) + Cable Loss (dB)
2. Max Peak (dBµV/m) = Corr. (dB/m) + Read Level (dBµV)
3. Margin (dB) = Max Peak (dBµV/m) – Limit (dBµV/m)

TEST REPORT

Model: SN2IN101
Date of Test: September 27, 2021
Worst-Case Operating Mode: Charging with load in distance

Table 6
Pursuant to FCC Part 15 Section 15.209 Requirement



Frequency (MHz)	Read Level(dBµV)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
0.127465	78.72	90.22	105.49	-15.27	100.0	H	326.0	11.5
0.146118	62.05	73.55	104.31	-30.77	100.0	H	4.0	11.5
0.254475	65.13	76.53	99.49	-22.96	100.0	H	348.0	11.4
0.508200	52.29	63.89	73.49	-9.60	100.0	H	348.0	11.6
0.635063	47.19	58.59	71.55	-12.96	100.0	H	348.0	11.4
0.888788	42.39	53.89	68.63	-14.75	100.0	H	348.0	11.5

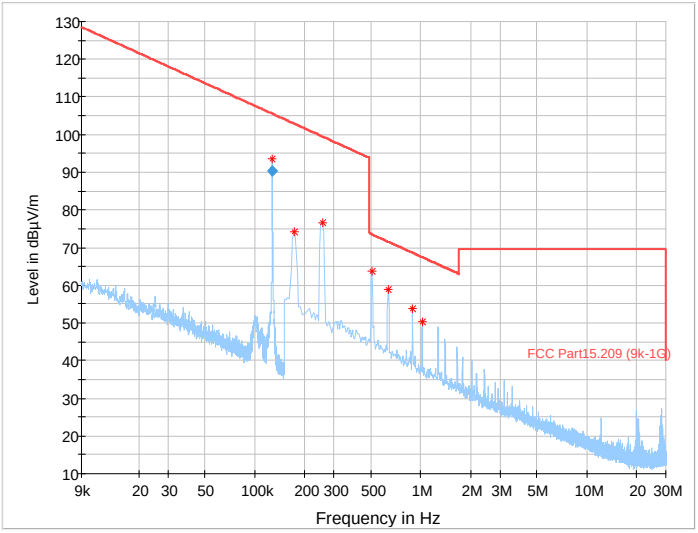
NOTES:
1. All measurements were made at 3 meters.
2. Negative sign in the column shows value below limit.
3. Loop antenna is used for the emissions below 30MHz.
4. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

Remark:
1. Corr. (dB/m) = Antenna Factor (dB) + Cable Loss (dB)
2. Max Peak (dBµV/m) = Corr. (dB/m) + Read Level (dBµV)
3. Margin (dB) = Max Peak (dBµV/m) – Limit (dBµV/m)

TEST REPORT

Model: SN2IN101
Date of Test: September 27, 2021
Worst-Case Operating Mode: Standby mode

Table 7
Pursuant to FCC Part 15 Section 15.209 Requirement



Frequency (MHz)	Read Level(dBµV)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin -(dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
0.127714	81.99	93.49	105.48	-11.99	100.0	H	359.0	11.5
0.172388	62.86	74.26	102.87	-28.61	100.0	H	38.0	11.4
0.254475	65.18	76.58	99.49	-22.91	100.0	H	348.0	11.4
0.508200	52.06	63.66	73.49	-9.83	100.0	H	348.0	11.6
0.635063	47.37	58.77	71.55	-12.78	100.0	H	348.0	11.4
0.892519	42.33	53.83	68.59	-14.77	100.0	H	348.0	11.5
1.019381	38.76	50.26	67.44	-17.18	100.0	H	348.0	11.5

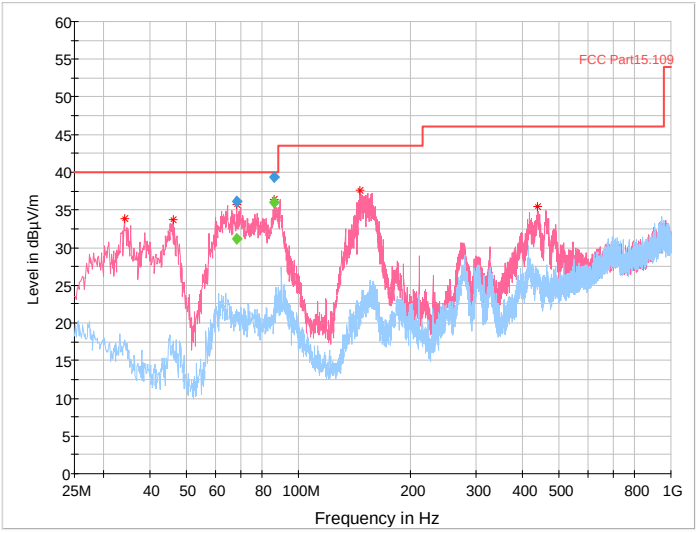
NOTES:
1. All measurements were made at 3 meters.
2. Negative sign in the column shows value below limit.
3. Loop antenna is used for the emissions below 30MHz.
4. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

Remark:
1. Corr. (dB/m) = Antenna Factor (dB) + Cable Loss (dB)
2. Max Peak (dBµV/m) = Corr. (dB/m) + Read Level (dBµV)
3. Margin (dB) = Max Peak (dBµV/m) – Limit (dBµV/m)

TEST REPORT

Model: SN2IN101
Date of Test: September 27, 2021
Worst-Case Operating Mode: Charging with iphone

Table 8
Pursuant to FCC Part 15 Section 15.209 Requirement



Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Corr.
68.185745	31.11	40.00	-8.89	100.0	V	8.6
86.023610	35.94	40.00	-4.06	100.0	V	8.7

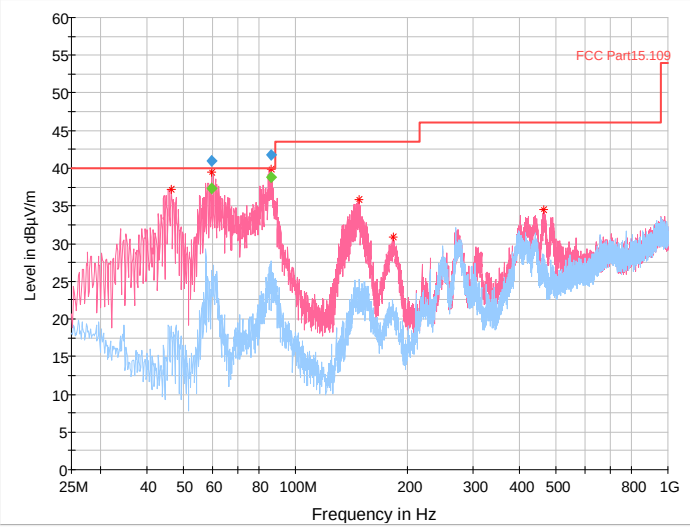
NOTES:
1. All measurements were made at 3 meters.
2. Negative sign in the column shows value below limit.
3. Loop antenna is used for the emissions below 30MHz.
4. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

Remark:
1. Corr. (dB/m) = Antenna Factor (dB) + Cable Loss (dB)
2. Max Peak (dBµV/m) = Corr. (dB/m) + Read Level (dBµV)
3. Margin (dB) = Max Peak (dBµV/m) – Limit (dBµV/m)

TEST REPORT

Model: SN2IN101
Date of Test: September 27, 2021
Worst-Case Operating Mode: Charging with iphone in distance

Table 9
Pursuant to FCC Part 15 Section 15.209 Requirement



Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Corr.
59.530855	37.29	40.00	-2.71	100.0	V	8.0
85.914920	38.81	40.00	-1.19	100.0	V	8.7

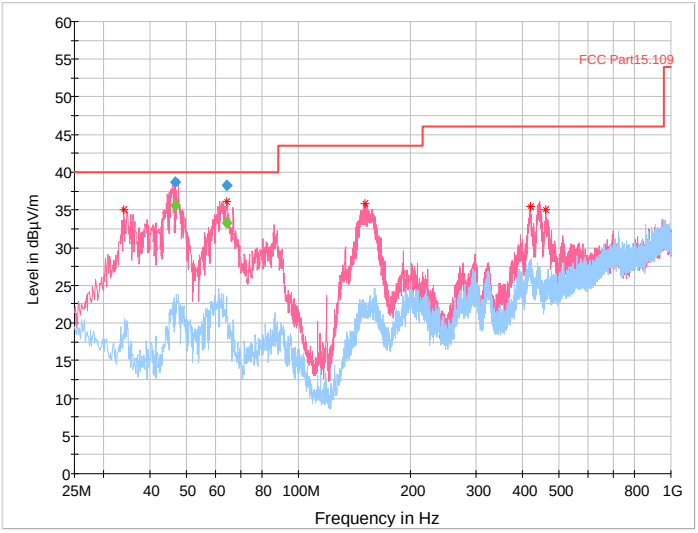
NOTES:
1. All measurements were made at 3 meters.
2. Negative sign in the column shows value below limit.
3. Loop antenna is used for the emissions below 30MHz.
4. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

Remark:
1. Corr. (dB/m) = Antenna Factor (dB) + Cable Loss (dB)
2. Max Peak (dBµV/m) = Corr. (dB/m) + Read Level (dBµV)
3. Margin (dB) = Max Peak (dBµV/m) – Limit (dBµV/m)

TEST REPORT

Model: SN2IN101
Date of Test: September 27, 2021
Worst-Case Operating Mode: Charging with load and iphone

Table 10
Pursuant to FCC Part 15 Section 15.209 Requirement



Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Corr.
46.588955	35.62	40.00	-4.38	100.0	V	9.3
64.334655	33.31	40.00	-6.69	200.0	V	8.3

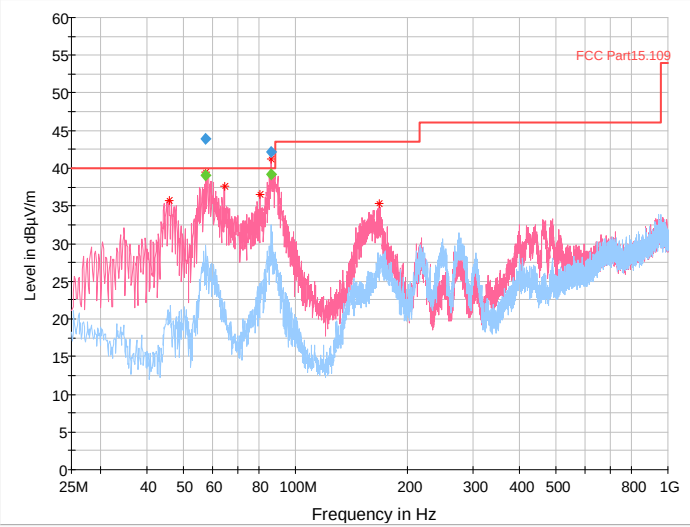
NOTES:
1. All measurements were made at 3 meters.
2. Negative sign in the column shows value below limit.
3. Loop antenna is used for the emissions below 30MHz.
4. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

Remark:
1. Corr. (dB/m) = Antenna Factor (dB) + Cable Loss (dB)
2. Max Peak (dBµV/m) = Corr. (dB/m) + Read Level (dBµV)
3. Margin (dB) = Max Peak (dBµV/m) – Limit (dBµV/m)

TEST REPORT

Model: SN2IN101
Date of Test: September 27, 2021
Worst-Case Operating Mode: Charging with load and iphone in distance

Table 11
Pursuant to FCC Part 15 Section 15.209 Requirement



Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Corr.
57.470850	39.11	40.00	-0.89	100.0	V	8.1
86.021775	39.17	40.00	-0.83	100.0	V	8.7

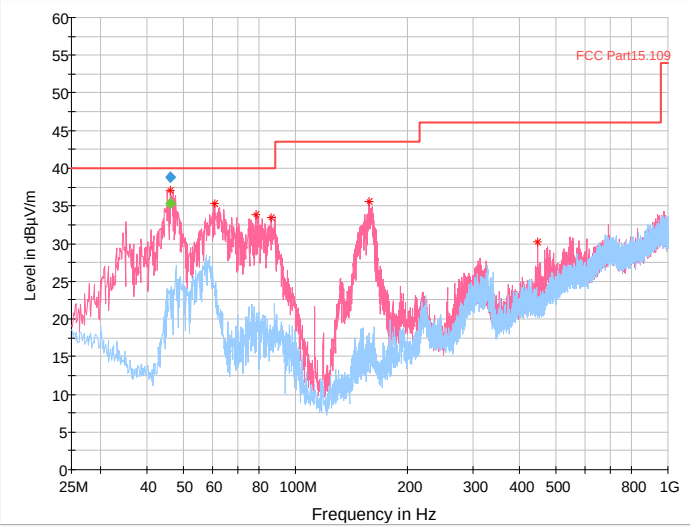
NOTES:
1. All measurements were made at 3 meters.
2. Negative sign in the column shows value below limit.
3. Loop antenna is used for the emissions below 30MHz.
4. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

Remark:
1. Corr. (dB/m) = Antenna Factor (dB) + Cable Loss (dB)
2. Max Peak (dBµV/m) = Corr. (dB/m) + Read Level (dBµV)
3. Margin (dB) = Max Peak (dBµV/m) – Limit (dBµV/m)

TEST REPORT

Model: SN2IN101
Date of Test: September 27, 2021
Worst-Case Operating Mode: Charging with load

Table 12
Pursuant to FCC Part 15 Section 15.209 Requirement



Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Corr.
46.131405	35.34	40.00	-4.66	100.0	V	9.4

NOTES:
1. All measurements were made at 3 meters.
2. Negative sign in the column shows value below limit.
3. Loop antenna is used for the emissions below 30MHz.
4. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

Remark:
1. Corr. (dB/m) = Antenna Factor (dB) + Cable Loss (dB)
2. Max Peak (dBµV/m) = Corr. (dB/m) + Read Level (dBµV)
3. Margin (dB) = Max Peak (dBµV/m) – Limit (dBµV/m)

TEST REPORT

Model: SN2IN101
Date of Test: September 27, 2021
Worst-Case Operating Mode: Charging with load in distance

Table 13
Pursuant to FCC Part 15 Section 15.209 Requirement

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Corr. (dB/
47.658910	39.03	40.00	-0.97	100.0	V	8.9
59.849010	38.52	40.00	-1.48	100.0	V	8.0

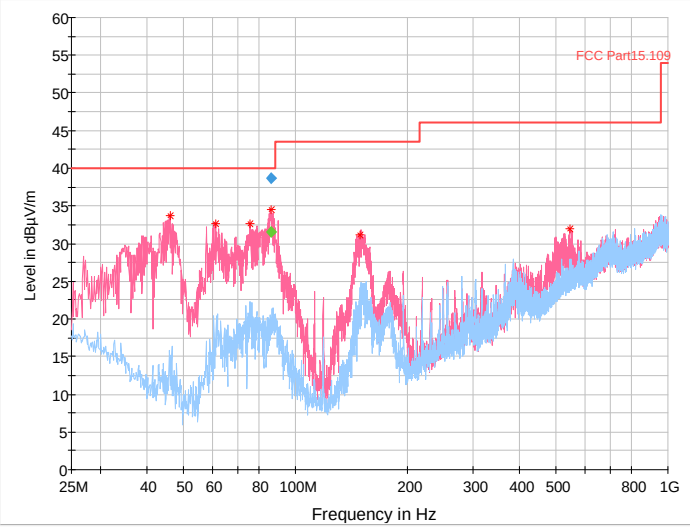
NOTES:
1. All measurements were made at 3 meters.
2. Negative sign in the column shows value below limit.
3. Loop antenna is used for the emissions below 30MHz.
4. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

Remark:
1. Corr. (dB/m) = Antenna Factor (dB) + Cable Loss (dB)
2. Max Peak (dBµV/m) = Corr. (dB/m) + Read Level (dBµV)
3. Margin (dB) = Max Peak (dBµV/m) – Limit (dBµV/m)

TEST REPORT

Model: SN2IN101
Date of Test: September 27, 2021
Worst-Case Operating Mode: Standby mode

Table 14
Pursuant to FCC Part 15 Section 15.209 Requirement



Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Corr.
85.783480	31.50	40.00	-8.50	100.0	V	8.7

NOTES:
1. All measurements were made at 3 meters.
2. Negative sign in the column shows value below limit.
3. Loop antenna is used for the emissions below 30MHz.
4. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

Remark:
1. Corr. (dB/m) = Antenna Factor (dB) + Cable Loss (dB)
2. Max Peak (dBµV/m) = Corr. (dB/m) + Read Level (dBµV)
3. Margin (dB) = Max Peak (dBµV/m) – Limit (dBµV/m)

TEST REPORT

4.0 EQUIPMENT PHOTOGRAPHS

For electronic filing, the photographs are saved with filename: external photos.pdf and internal photos.pdf.

5.0 PRODUCT LABELLING

For electronics filing, the FCC ID label artwork and the label location are saved with filename: label.pdf.

6.0 TECHNICAL SPECIFICATIONS

For electronic filing, the block diagram and schematic of the tested EUT are saved with filename: block.pdf and circuit.pdf respectively.

7.0 INSTRUCTION MANUAL

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf.

This manual will be provided to the end-user with each unit sold/leased in the United States.

TEST REPORT

8.0 MISCELLANEOUS INFORMATION

The miscellaneous information includes details of the test procedure and measured bandwidth

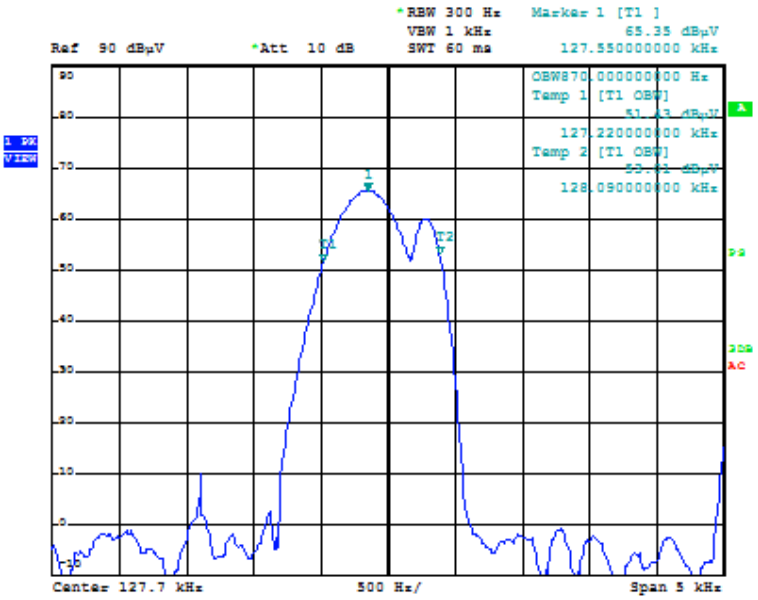
8.1 Measured Bandwidth

Pursuant to FCC Part 15 Section 15.215(c), the 20dB bandwidth of the emission was contained within the frequency band designed (mentioned as above) which the EUT operated. The effects, if any, from frequency sweeping, frequency hopping, other modulation techniques and frequency stability over expected variations in temperature and supply voltage were considered.

Occupied Bandwidth Results:

	Occupied Bandwidth (Hz)
127.7kHz	870

The worst case is shown as below



TEST REPORT

8.2 Emissions Test Procedures

The following is a description of the test procedure used by Intertek Testing Services Hong Kong Ltd. in the measurements of transmitter operating under the Part 15, Subpart C rules.

The transmitting equipment under test (EUT) is placed on a wooden turntable which is four feet in diameter and approximately 0.8m in height above the ground plane for emission measurement at or below 1GHz and 1.5m in height above the ground plane for emission measurement above 1GHz. During the radiated emissions test, the turntable is rotated and any cables leaving the EUT are manipulated to find the configuration resulting in maximum emissions. The EUT is adjusted through all three orthogonal axis to obtain maximum emission levels. The antenna height and polarization are also varied during the testing to search for maximum signal levels. The height of the antenna is varied from one to four meters.

Detector function for radiated emissions is in peak mode. Average readings, when required, are taken by measuring the duty cycle of the equipment under test and subtracting the corresponding amount in dB from the measured peak readings. A detailed description for the calculation of the average factor can be found in Exhibit 8.3.

The frequency range scanned is from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or 40 GHz, whichever is lower. For line conducted emissions, the range scanned is 150 kHz to 30 MHz.

The EUT is warmed up for 15 minutes prior to the test.

AC power to the unit is varied from 85% to 115% nominal and variation in the fundamental emission field strength is recorded. If battery powered, a new, fully charged battery is used.

Conducted measurements were made as described in ANSI C63.10 (2013).

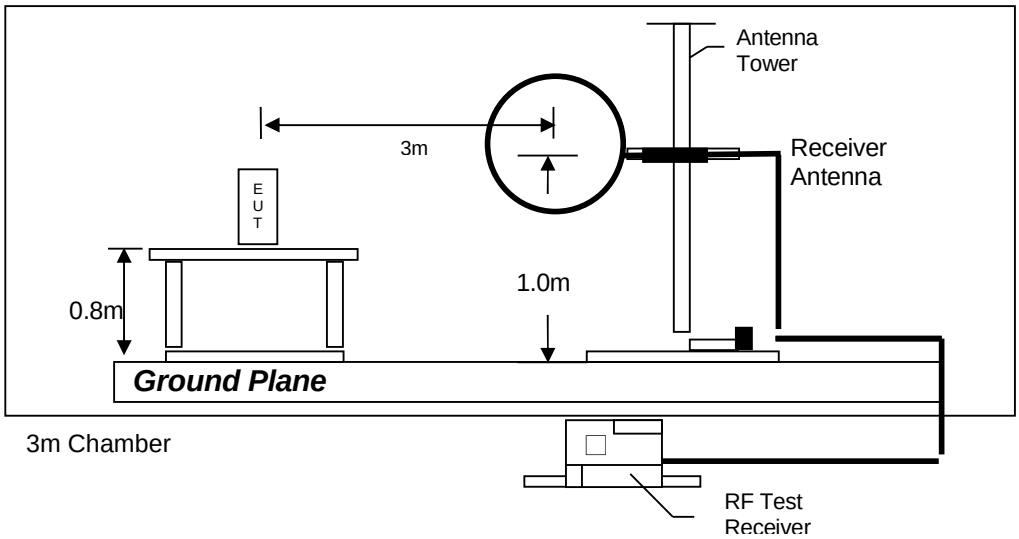
The IF bandwidth used for measurement of radiated signal strength was 100 kHz or greater when frequency is below 1000 MHz. Where pulsed transmissions of short enough pulse duration warrant, a greater bandwidth is selected according to the recommendations of Hewlett Packard Application Note 150-2. A discussion of whether pulse desensitivity is applicable to this unit is included in this report (See Exhibit 8.1). Above 1000 MHz, a resolution bandwidth of 3 MHz is used.

Transmitter measurements are normally conducted at a measurement distance of three meters. However, to assure low enough noise floor in the forbidden bands and above 1 GHz, signals are acquired at a distance of one meter or less. All measurements are extrapolated to three meters using inverse scaling, unless otherwise reported. Measurements taken at a closer distance are so marked.

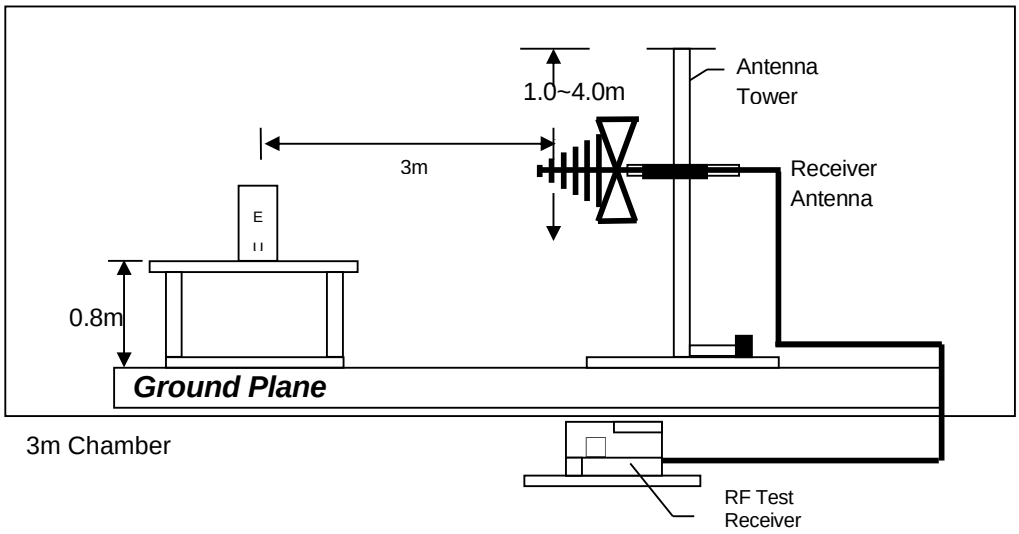
TEST REPORT

8.2.1 Radiated Emission Test Setup

The figure below shows the test setup, which is utilized to make these measurements.



Test setup of radiated emissions up to 30MHz



Test setup of radiated emissions above 1GHz

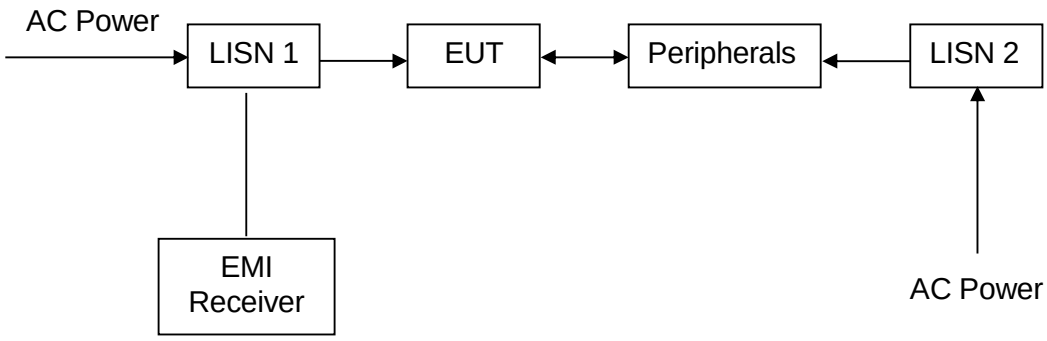
TEST REPORT

8.2.2 Conducted Emission Test Procedures

For tabletop equipment, the EUT along with its peripherals were placed on a 1.0m(W)×1.5m(L) and 0.8m in height wooden table. For floor-standing equipment, the EUT and all cables were insulated, if required, from the ground plane by up to 12 mm of insulating material. The EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane. The EUT was connected to power mains through a line impedance stabilization network (LISN), which provided 50 ohm coupling impedance for measuring instrument and the chassis ground was bounded to the horizontal ground plane of shielded room. The excess power cable between the EUT and the LISN was bundled.

All connecting cables of EUT and peripherals were moved to find the maximum emission.

8.2.3 Conducted Emission Test Setup



TEST REPORT

9.0 CONFIDENTIALITY REQUEST

For electronic filing, a preliminary copy of the confidentiality request is saved with filename: request.pdf.

10.0 EQUIPMENT LIST

1) Radiated Emissions Test

Equipment	EMI Test Receiver (9kHz to 26.5GHz)	Spectrum Analyzer	Biconical Antenna (20MHz to 200MHz)
Registration No.	EW-3156	EW-2466	EW-2512
Manufacturer	ROHDESCHWARZ	ROHDESCHWARZ	EMCO
Model No.	ESR26	FSP30	3104C
Calibration Date	January 25, 2021	November 18, 2019	June 03, 2020
Calibration Due Date	January 25, 2022	August 18, 2022	December 03, 2021

Equipment	Log Periodic Antenna	Active Loop H-field Antenna	RF Cable 14m
Registration No.	EW-0447	EW-2313	EW-2781
Manufacturer	EMCO	ELECTROMETRIC	GREATBILLION
Model No.	3146	EM-6876	SMA m/SHF5MPU /SMA m ra14m,26G
Calibration Date	September 25, 2019	December 17, 2019	November 24, 2020
Calibration Due Date	September 25, 2022	December 17, 2021	November 24, 2021

Equipment	14m Double Shield RF Cable
Registration No.	EW-2074
Manufacturer	RADIALL
Model No.	N(m)-RG142-BNC(m) L=14M
Calibration Date	November 14, 2019
Calibration Due Date	August 14, 2022

TEST REPORT

2) Conducted Emissions Test

Equipment	RF Cable 240cm (RG142) (9kHz to 30MHz)	Artificial Mains Network	EMI Test Receiver
Registration No.	EW-2454	EW-2501	EW-2500
Manufacturer	RADIALL	ROHDESCHWARZ	ROHDESCHWARZ
Model No.	Bnc m st / 142 / bnc mra 240cm	ENV-216	ESCI
Calibration Date	November 10, 2020	September 11, 2020	March 29, 2021
Calibration Due Date	November 10, 2021	September 11, 2022	March 29, 2022

3) OBW Measurement

Equipment	Spectrum Analyzer	5m RF Cable (40GHz)
Registration No.	EW-2466	EW-2701
Manufacturer	ROHDESCHWARZ	RADIALL
Model No.	FSP30	Sma m-m 5m 40G
Calibration Date	November 18, 2019	November 24, 2020
Calibration Due Date	August 18, 2022	November 24, 2021

END OF TEST REPORT