RADIO PERFORMANCE TEST REPORT

Test Report No. : **OT-225-RWD-012**

Reception No. : **2204001315**

Applicant : **Samsung Electronics Co., Ltd.**

Address : **19 Chapin Rd., Building D, Pine Brook, New Jersey, United States, 07058**

Manufacturer : **Samsung Electronics Co., Ltd.**

Address : **Yen Phong 1 Industrial park, Yen Phong District Bac Ninh Province, VIETNAM**

Type of Equipment : **WIRELESS CHARGER**

FCC ID. : **A3LEPP2400**

Model Name : **EP-P2400**

Multiple Model Name : **N/A**

Serial number : **RF7T3NR0311HMB**

Total page of Report : **36 pages (including this page)**

Date of Incoming : **April 19, 2022**

Date of issue : **May 04, 2022**

SUMMARY

The equipment complies with the regulation; ***FCC CFR47 Part 15 Subpart C Section 15.207 and 15.209***

This test report only contains the result of a single test of the sample supplied for the examination.

It is not a generally valid assessment of the features of the respective products of the mass-production.

Tested by	Reviewed by	Approved by
Joon-Woo, Kim / Assistant Manager	Tae-Ho, Kim / General Manager	Ki-Hong, Nam / General Manager
ONETECH Corp.	ONETECH Corp.	ONETECH Corp.

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

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Revision History

Rev. No.	Issue Report No.	Issued Date	Revisions	Section Affected
0	OT-21N-RWD-066	November 30, 2021	Initial Release	All
1	OT-225-RWD-012	May 04, 2022	CLASS II Permissive Change due to dualization of part	All

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

1. VERIFICATION OF COMPLIANCE

APPLICANT	: Samsung Electronics Co., Ltd.
ADDRESS	: 19 Chapin Rd., Building D, Pine Brook, New Jersey, United States, 07058
CONTACT PERSON	: Jenni, Chun / General Manager
TELEPHONE NO	: +973-808-6375
FCC ID	: A3LEPP2400
MODEL NAME	: EP-P2400
BRAND NAME	: -
SERIAL NUMBER	: RF7T3NR0311HMB
DATE	: May 04, 2022

EQUIPMENT CLASS	**DCD – Part 15 Low Power Transmitter Below 1 705 kHz**
KIND OF EQUIPMENT	WIRELESS CHARGER
THIS REPORT CONCERNS	CLASS II Permissive Change (Dualization of part)
MEASUREMENT PROCEDURES	ANSI C63.10: 2020
TYPE OF EQUIPMENT TESTED	Pre-Production
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	Certification
EQUIPMENT WILL BE OPERATED UNDER FCC&IC RULES PART(S)	FCC CFR47 Part 15 Subpart C Section 15.207 and 15.209
MODIFICATIONS ON THE EQUIPMENT TO ACHIEVE COMPLIANCE	No
FINAL TEST WAS CONDUCTED ON	3 m, Semi Anechoic Chamber

-. The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. The equipment in the configuration described in this report shows the maximum emission levels emanating from equipment are within the compliance requirements.

2. TEST SUMMARY

2.1 Test items and results

SECTION	TEST ITEMS	RESULTS
15.209, 15.209(a)	Radiated emission, Spurious Emission	Met the Limit / PASS
15.207	Transmitter AC Power Line Conducted Emission	Met the Limit / PASS

Note. : This report is issued due to the dualized parts. Radiated Spurious Emission and Transmitter AC Power Line Conducted Emission test has been performed for the dualized parts.

2.2 Additions, deviations, exclusions from standards

No additions, deviations or exclusions have been made from standard.

2.3 Related Submittal(s) / Grant(s)

Original submittal only

2.4 Purpose of the test

To determine whether the equipment under test fulfills the requirements of the regulation stated in FCC CFR47 Part 15 Subpart C Section 15.207 and 15.209.

2.5 Test Methodology

Radiated testing was performed according to the procedures in ANSI C63.10: 2020 at a distance of 3 m from EUT to the antenna.

2.6 Test Facility

The Onetech Corp. has been designated to perform equipment testing in compliance with ISO/IEC 17025.

The Electromagnetic compatibility measurement facilities are located at 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea.

-. Site Filing:

VCCI (Voluntary Control Council for Interference) – Registration No. R-20122/ C-14617/ G-10666/ T-11842

ISED (Innovation, Science and Economic Development Canada) – Registration No. Site# 3736A-3

KOLAS (Korea Laboratory Accreditation Scheme) - Accreditation NO. KT085

FCC (Federal Communications Commission) - Accreditation No. KR0013

RRA (Radio Research Agency) – Designation No. KR0013

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

3. GENERAL INFORMATION

3.1 Product Description

The Samsung Electronics Co., Ltd., Model: EP-P2400 (referred to as the EUT in this report) is an WIRELESS CHARGER. Product specification information described herein was obtained from product data sheet or user's manual.

DEVICE TYPE	WIRELESS CHARGER
OPERATING FREQUENCY	119.0 kHz ~ 122 kHz, 126.2 kHz ~ 129.2 kHz
RATED RF OUTPUT POWER	74.7 dBμV/m
ANTENNA TYPE	Coil Antenna
MODULATION	ASK
RATED SUPPLY VOLTAGE	DC 9.0 V

3.2 Accessories Description

DEVICE	MODEL	MANUFACTURER	SERIAL	SETTINH SPECIFICATION	
				WATT	FREQUENCY
Mobile 1 (Galaxy Note 20 Ultra 5G)	SM-N986B/DS	SAMSUNG	R3CN30CK9JA	4.5W / 7.5W / 15W	127.7 kHz
Mobile 2 (Galaxy Note 10)	SM-N970U	SAMSUNG	R38M60EDZ0Y	4.5W	120.5 kHz
Earphones (Earbuds)	SM-R190	SAMSUNG	RF2R10ESXAH	2W	127.7 kHz

3.3 Alternative type(s)/model(s); also covered by this test report.

-. None

4. EUT MODIFICATIONS

-. None

5. SYSTEM TEST CONFIGURATION

5.1 Justification

This device was configured for testing in a typical way as a normal customer is supposed to be used. During the test, the following components were installed inside of the EUT.

DEVICE TYPE	MANUFACTURER	MODEL/PART NUMBER	FCC ID
Main Board	N/A	EP-P2400_03	N/A
FAN	N/A	N/A	N/A
Adapter	Samsung Electronics Co., Ltd.	EP-TA500	N/A

5.2 Peripheral equipment

-. None

5.3 Mode of operation during the test

For the testing, software used to control the EUT for staying in continuous transmitting is programmed.

For final testing, the EUT was set as following condition.

Mode	Operating Frequency	Tx. Frequency	Set. Watt	Acc.
Mode 1 (idle)	126.2 kHz ~ 129.2 kHz	127.7 kHz	N/A	None
Mode 2 (Mobile 4.5 W)	126.2 kHz ~ 129.2 kHz	127.7 kHz	4.5 Watt	Mobile 1 (Galaxy Note 20 Ultra 5G)
Mode 3 (Mobile 7.5 W)	126.2 kHz ~ 129.2 kHz	127.7 kHz	7.5 W	Mobile 1 (Galaxy Note 20 Ultra 5G)
Mode 4 (Mobile 15 W)	126.2 kHz ~ 129.2 kHz	127.7 kHz	15 W	Mobile 1 (Galaxy Note 20 Ultra 5G)
Mode 5 (Specific Mobile 4.5 W)	119.0 kHz ~ 122.0 kHz	120.5 kHz	4.5 W	Mobile 2 (Galaxy Note 10)
Mode 6 (Earphone 2 W)	126.2 kHz ~ 129.2 kHz	127.7 kHz	2 W	Earphones (Earbuds)

for DC 9.0 V.

To get a maximum emission levels from the EUT, the EUT was moved throughout the XY, XZ, and YZ planes and the worst case is “XY” axis.

5.4 Configuration of Test System

Line Conducted Test **:** The EUT was tested in a charging mode. The EUT was connected to USB and the power of USB was connected to Adapter. All supporting equipment were connected to another LISN. Preliminary Power line Conducted Emission test was performed by using the procedure in ANSI C63.4: 2009 7.3.3 to determine the worse operating conditions.

Radiated Emission Test **:** Preliminary radiated emissions test were conducted using the procedure in ANSI C63.10: 2020 to determine the worse operating conditions. Final radiated emission tests were conducted at 3 m Semi Anechoic Chamber.

The turntable was rotated through 360 degrees and the EUT was tested by positioned three orthogonal planes to obtain the highest reading on the field strength meter. Once maximum reading was determined, the search antenna was raised and lowered in both vertical and horizontal polarization.

5.5 Antenna Requirement

According to section 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.

Antenna Construction:

The antenna of the EUT is a Coil Antenna on the main board in the EUT, so no consideration of replacement by the user.

6. PRELIMINARY TEST

6.1 AC Power line Conducted Emissions Tests

During Preliminary Tests, the following operating modes were investigated

Operation Mode	The Worse operating condition (Please check one only)
Transmitting Mode & Charging Mode	X

6.2 General Radiated Emissions Tests

During Preliminary Tests, the following operating modes were investigated

Operation Mode	The Worse operating condition (Please check one only)
Transmitting Mode & Charging Mode	X

7. Spurious Emission Test

7.1 Regulation

According to §15.209(a), for an intentional device, the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency [MHz]	Field strength [μ V/m]	Field strength [dBμ V/m]	Measurement distance [m]
0.009 ~ 0.490	2 400 / F (kHz)	48.52 ~ 13.80	300
0.490 ~ 1.705	24 000 / F (kHz)	33.8 ~ 22.97	30
1.705 ~ 30	30	29.50	30
30 ~ 88	*100	40.00	3
88 ~ 216	*150	43.52	3
216 ~ 960	*200	46.02	3
Above 960	500	53.98	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., Sections 15.231 and 15.241.

7.2 Test set-up

The radiated emissions measurements were on the 3 m semi anechoic chamber. The EUT and other support equipment were placed on a non-conductive turntable above the ground plane. The interconnecting cables from outside test site were inserted into ferrite clamps at the point where the cables reach the turntable.

The frequency spectrum from 30 kHz to 1 GHz was scanned and maximum emission levels at each frequency recorded. The system was rotated 360°, and the antenna was varied in the height between 1.0 m and 4.0 ms in order to determine the maximum emission levels. This procedure was performed for horizontal and vertical polarization of the receiving antenna.

7.3 Test date

April 25, 2022

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7.4 Test data for Mode 1 (Frequency : 127.7 kHz / Accessories : None)

7.4.1 Spurious Radiated Emission Below 30 MHz

Humidity Level : 53.5 % R.H. Temperature: 22.5 ºC

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.209

Frequency Range : 9 kHz ~ 30 MHz

Result : PASSED

EUT : WIRELESS CHARGER

Operating Condition : Transmitting Mode & Charging Mode

Frequency (MHz)	Detector	Reading (dBμV)	Ant. Factor (dB/m)	Cable Loss	Emission Level at 3m (dBμV/m)	Emission Level at 300m (dBμV/m)	Limit at 300m (dBμV/m)	Margin (dB)
0.015	PK	40.2	19.0	0.4	59.6	-20.4	44.1	64.5
0.031	PK	40.9	19.0	0.1	60.0	-20.0	37.8	57.8
0.035	PK	31.7	19.0	0.4	51.1	-28.9	36.7	65.6
0.047	PK	29.2	19.0	0.4	48.6	-31.4	34.2	65.6
0.062	PK	28.8	19.0	0.4	48.2	-31.8	31.8	63.6
0.087	PK	33.3	19.0	0.4	52.7	-27.3	28.8	56.1
0.210	PK	23.2	19.0	0.1	42.3	-37.7	21.2	58.9
0.359	PK	37.4	19.0	0.1	56.5	-23.5	16.5	40.0
0.508	PK	23.2	18.9	0.1	42.2	-37.8	-6.5	31.3
0.717	PK	31.2	18.9	0.1	50.2	-29.8	-9.5	20.3

Frequency (MHz)	Detector	Reading (dBμV)	Ant. Factor (dB/m)	Cable Loss	Emission Level at 3m (dBμV/m)	Emission Level at 30m (dBμV/m)	Limit at 30m (dBμV/m)	Margin (dB)
1.851	PK	13.5	18.9	0.1	32.5	-7.5	29.5	37.0

-. "*" Means Fundamental frequency

-. Emission Level at 3m [dB μ V/m] = Reading [dBμV] + Ant. Factor [dB/m] + Cable Loss [dB]

-. Margin [dB] = Emission Level at 300m [dBμV/m] – Limit at 300m [dBμV/m]

= Emission Level at 300m [dBμV/m] – Limit at 30m [dBμV/m]

-. Emission Level at 300m [dBμV/m] = Emission Level at 3m [dBμV/m] - 40log (300/3), 80 dB for up to 0.49 MHz

-. Emission Level at 30m [dBμV/m] = Emission Level at 3m [dBμV/m] - 40log (30/3), 40 dB for above 0.49 MHz, Below 30 MHz

7.4.2 Spurious Radiated Emission below 1 GHz

The following table shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.

Humidity Level : 53.5 % R.H. Temperature: 22.5 ºC

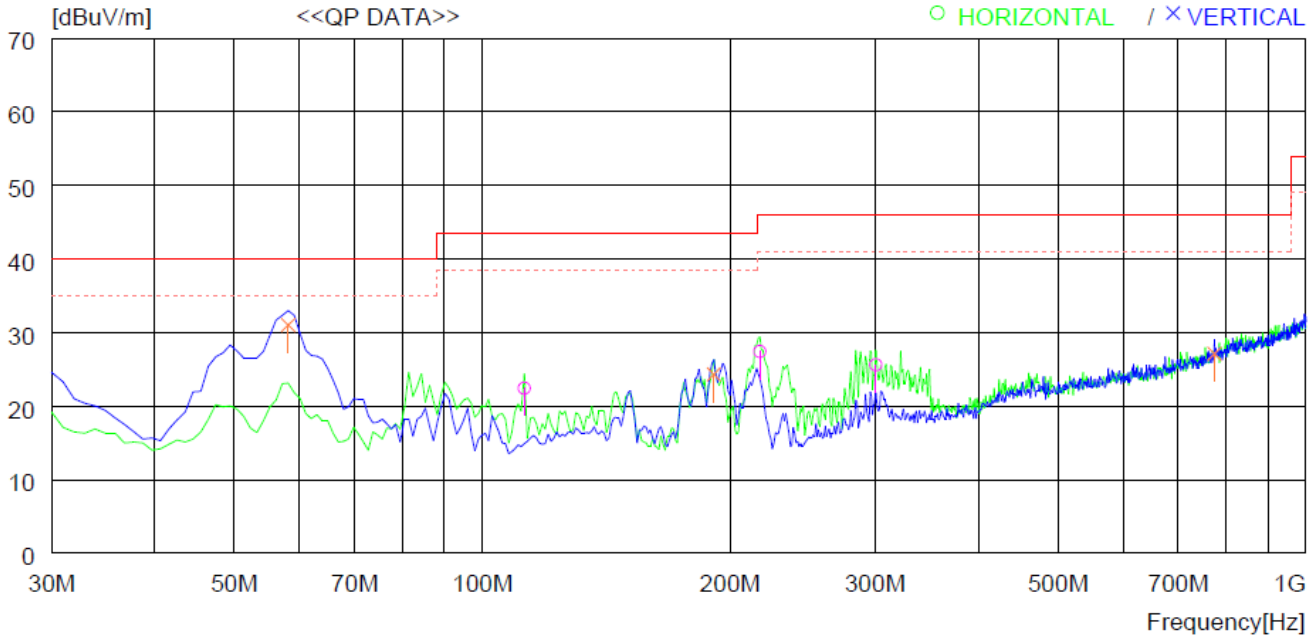
Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.209

Frequency range : 30 MHz ~ 1 000 MHz

Result : PASSED

EUT : WIRELESS CHARGER

Operating Condition : Transmitting Mode & Charging Mode



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	112.450	34.7	17.7	3.0	33.0	22.4	43.5	21.1	100	96
2	217.210	40.5	15.8	4.1	33.0	27.4	46.0	18.6	100	359
3	300.630	34.3	19.4	4.8	32.9	25.6	46.0	20.4	100	359
----- Vertical ------										
4	58.130	49.5	12.2	2.4	33.1	31.0	40.0	9.0	100	0
5	191.020	37.4	16.0	3.9	33.0	24.3	43.5	19.2	100	281
6	773.983	25.8	26.7	7.8	33.2	27.1	46.0	18.9	300	10

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7.5 Test data for Mode 2 (Frequency : 127.7 kHz / Accessories : Mobile 1)

7.5.1 Spurious Radiated Emission Below 30 MHz

Humidity Level : 53.5 % R.H. Temperature: 22.5 ºC

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.209

Frequency Range : 9 kHz ~ 30 MHz

Result : PASSED

EUT : WIRELESS CHARGER

Operating Condition : Transmitting Mode & Charging Mode

Frequency (MHz)	Detector	Reading (dBµV)	Ant. Factor (dB/m)	Cable Loss	Emission Level at 3m (dBµV/m)	Emission Level at 300m (dBµV/m)	Limit at 300m (dBµV/m)	Margin (dB)
0.015	PK	39.9	19.0	0.4	59.3	-20.7	44.1	64.8
0.024	PK	42.4	19.0	0.4	61.8	-18.2	40.0	58.2
0.031	PK	40.7	19.0	0.4	60.1	-19.9	37.8	57.7
0.047	PK	41.1	19.0	0.4	60.5	-19.5	34.2	53.7
0.071	PK	39.2	19.0	0.4	58.6	-21.4	30.6	52.0
0.094	PK	36.5	19.0	0.4	55.9	-24.1	28.1	52.2
0.118	PK	33.1	19.0	0.3	52.4	-27.6	26.2	53.8
0.210	PK	28.2	19.0	0.1	47.3	-32.7	21.2	53.9
0.359	PK	38.4	19.0	0.1	57.5	-22.5	16.5	39.0
0.777	PK	31.5	18.9	0.1	50.5	-29.5	-10.2	19.3

Frequency (MHz)	Detector	Reading (dBµV)	Ant. Factor (dB/m)	Cable Loss	Emission Level at 3m (dBµV/m)	Emission Level at 30m (dBµV/m)	Limit at 30m (dBµV/m)	Margin (dB)
1.643	PK	21.0	18.9	0.2	40.1	0.1	29.5	29.4

-. “*” Means Fundamental frequency

-. Emission Level at 3m [dB µ V/m] = Reading [dBµV] + Ant. Factor [dB/m] + Cable Loss [dB]

-. Margin [dB] = Emission Level at 300m [dBµV/m] – Limit at 300m [dBµV/m]

= Emission Level at 300m [dBµV/m] – Limit at 30m [dBµV/m]

-. Emission Level at 300m [dBµV/m] = Emission Level at 3m [dBµV/m] - 40log (300/3), 80 dB for up to 0.49 MHz

-. Emission Level at 30m [dBµV/m] = Emission Level at 3m [dBµV/m] - 40log (30/3), 40 dB for above 0.49 MHz, Below 30 MHz

7.5.2 Spurious Radiated Emission below 1 GHz

The following table shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.

Humidity Level : 53.5 % R.H. Temperature: 22.5 ºC

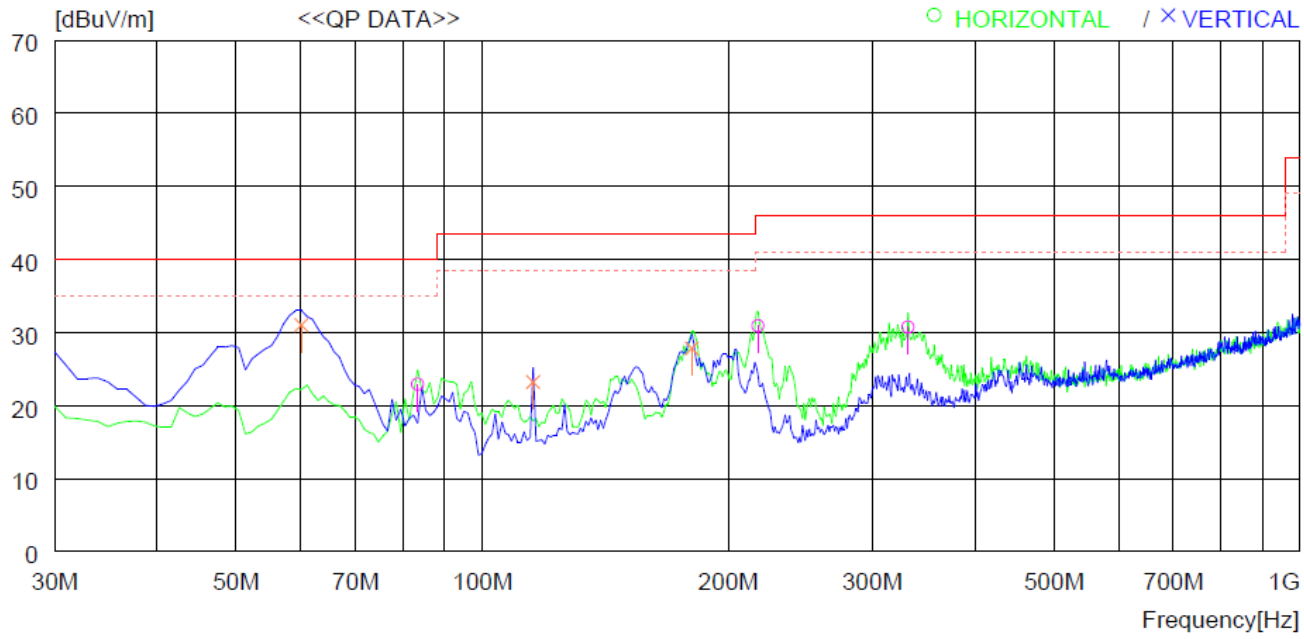
Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.209

Frequency range : 30 MHz ~ 1 000 MHz

Result : PASSED

EUT : WIRELESS CHARGER

Operating Condition : Transmitting Mode & Charging Mode



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	83.350	39.9	13.4	2.7	33.1	22.9	40.0	17.1	300	359
2	217.210	44.0	15.8	4.1	33.0	30.9	46.0	15.1	100	359
3	331.670	38.8	19.9	5.0	33.0	30.7	46.0	15.3	100	68
----- Vertical ------										
4	60.070	49.4	12.3	2.4	33.1	31.0	40.0	9.0	100	220
5	115.360	35.0	18.1	3.1	33.0	23.2	43.5	20.3	100	119
6	180.350	40.3	16.8	3.7	33.0	27.8	43.5	15.7	200	103

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7.6 Test data for Mode 3 (Frequency : 127.7 kHz / Accessories : Mobile 1)

7.6.1 Spurious Radiated Emission Below 30 MHz

Humidity Level : 53.5 % R.H. Temperature: 22.5 ºC

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.209

Frequency Range : 9 kHz ~ 30 MHz

Result : PASSED

EUT : WIRELESS CHARGER

Operating Condition : Transmitting Mode & Charging Mode

Frequency (MHz)	Detector	Reading (dBμV)	Ant. Factor (dB/m)	Cable Loss	Emission Level at 3m (dBμV/m)	Emission Level at 300m (dBμV/m)	Limit at 300m (dBμV/m)	Margin (dB)
0.015	PK	40.3	19.0	0.4	59.7	-20.3	44.1	64.4
0.026	PK	43.2	19.0	0.4	62.6	-17.4	39.3	56.7
0.053	PK	41.7	19.0	0.4	61.1	-18.9	33.1	52.0
0.079	PK	38.2	19.0	0.4	57.6	-22.4	29.7	52.1
0.089	PK	33.0	19.0	0.4	52.4	-27.6	28.6	56.2
0.105	PK	33.3	19.0	0.4	52.7	-27.3	27.2	54.5
0.210	PK	28.0	19.0	0.1	47.1	-32.9	21.2	54.1
0.359	PK	46.4	19.0	0.1	65.5	-14.5	16.5	31.0
0.628	PK	37.9	18.9	0.1	56.9	-23.1	-8.3	14.8
0.866	PK	37.9	18.9	0.1	56.9	-23.1	-11.1	12.0

Frequency (MHz)	Detector	Reading (dBμV)	Ant. Factor (dB/m)	Cable Loss	Emission Level at 3m (dBμV/m)	Emission Level at 30m (dBμV/m)	Limit at 30m (dBμV/m)	Margin (dB)
1.643	PK	37.9	18.9	0.2	57.0	17.0	29.5	12.5

-. “*” Means Fundamental frequency

-. Emission Level at 3m [dB μ V/m] = Reading [dBμV] + Ant. Factor [dB/m] + Cable Loss [dB]

-. Margin [dB] = Emission Level at 300m [dBμV/m] – Limit at 300m [dBμV/m]

= Emission Level at 300m [dBμV/m] – Limit at 30m [dBμV/m

-. Emission Level at 300m [dBμV/m] = Emission Level at 3m [dBμV/m] - 40log (300/3), 80 dB for up to 0.49 MHz

-. Emission Level at 30m [dBμV/m] = Emission Level at 3m [dBμV/m] - 40log (30/3), 40 dB for above 0.49 MHz, Below 30 MHz

7.6.2 Spurious Radiated Emission below 1 GHz

The following table shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.

Humidity Level : 53.5 % R.H. Temperature: 22.5 ºC

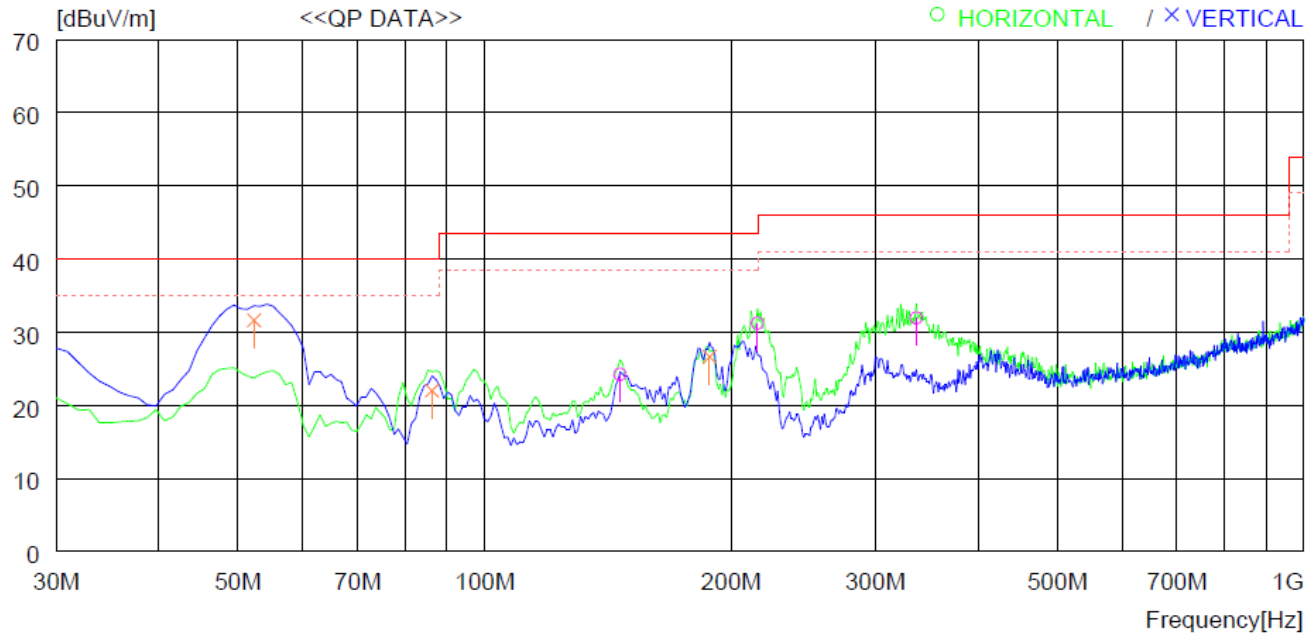
Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.209

Frequency range : 30 MHz ~ 1 000 MHz

Result : PASSED

EUT : WIRELESS CHARGER

Operating Condition : Transmitting Mode & Charging Mode



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	146.400	34.9	18.9	3.4	33.0	24.2	43.5	19.3	200	222
2	215.270	44.3	15.8	4.1	33.0	31.2	43.5	12.3	100	147
3	336.520	39.8	20.0	5.1	33.0	31.9	46.0	14.1	100	66
----- Vertical ------										
4	52.310	49.9	12.6	2.2	33.1	31.6	40.0	8.4	100	205
5	86.260	38.8	13.6	2.7	33.1	22.0	40.0	18.0	100	188
6	188.110	39.5	16.2	3.9	33.0	26.6	43.5	16.9	100	0

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7.7 Test data for Mode 4 (Frequency : 127.7 kHz / Accessories : Mobile 1)

7.7.1 Spurious Radiated Emission Below 30 MHz

Humidity Level : 53.5 % R.H. Temperature: 22 ºC

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.209

Frequency Range : 9 kHz ~ 30 MHz

Result : PASSED

EUT : WIRELESS CHARGER

Operating Condition : Transmitting Mode & Charging Mode

Frequency (MHz)	Detector	Reading (dBμV)	Ant. Factor (dB/m)	Cable Loss	Emission Level at 3m (dBμV/m)	Emission Level at 300m (dBμV/m)	Limit at 300m (dBμV/m)	Margin (dB)
0.015	PK	40.3	19.0	0.4	59.7	-20.3	44.1	64.4
0.031	PK	41.3	19.0	0.4	60.7	-19.3	37.8	57.1
0.041	PK	42.4	19.0	0.4	61.8	-18.2	35.4	53.6
0.046	PK	49.0	19.0	0.4	68.4	-11.6	34.4	46.0
0.082	PK	35.9	19.0	0.4	55.3	-24.7	29.3	54.0
0.093	PK	41.9	19.0	0.4	61.3	-18.7	28.2	46.9
0.210	PK	28.3	19.0	0.1	47.4	-32.6	21.2	53.8
0.359	PK	43.8	19.0	0.1	62.9	-17.1	16.5	33.6
0.628	PK	35.3	18.9	0.1	54.3	-25.7	-8.3	17.4
0.896	PK	30.3	18.9	0.1	49.3	-30.7	-11.4	19.3

Frequency (MHz)	Detector	Reading (dBμV)	Ant. Factor (dB/m)	Cable Loss	Emission Level at 3m (dBμV/m)	Emission Level at 30m (dBμV/m)	Limit at 30m (dBμV/m)	Margin (dB)
1.643	PK	26.0	18.9	0.2	45.1	5.1	29.5	24.4

-. “*” Means Fundamental frequency

-. Emission Level at 3m [dB μ V/m] = Reading [dBμV] + Ant. Factor [dB/m] + Cable Loss [dB]

-. Margin [dB] = Emission Level at 300m [dBμV/m] – Limit at 300m [dBμV/m]

= Emission Level at 300m [dBμV/m] – Limit at 30m [dBμV/m]

-. Emission Level at 300m [dBμV/m] = Emission Level at 3m [dBμV/m] - 40log (300/3), 80 dB for up to 0.49 MHz

-. Emission Level at 30m [dBμV/m] = Emission Level at 3m [dBμV/m] - 40log (30/3), 40 dB for above 0.49 MHz, Below 30 MHz

7.7.2 Spurious Radiated Emission below 1 GHz

The following table shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.

Humidity Level : 53.5 % R.H. Temperature: 22.5 ºC

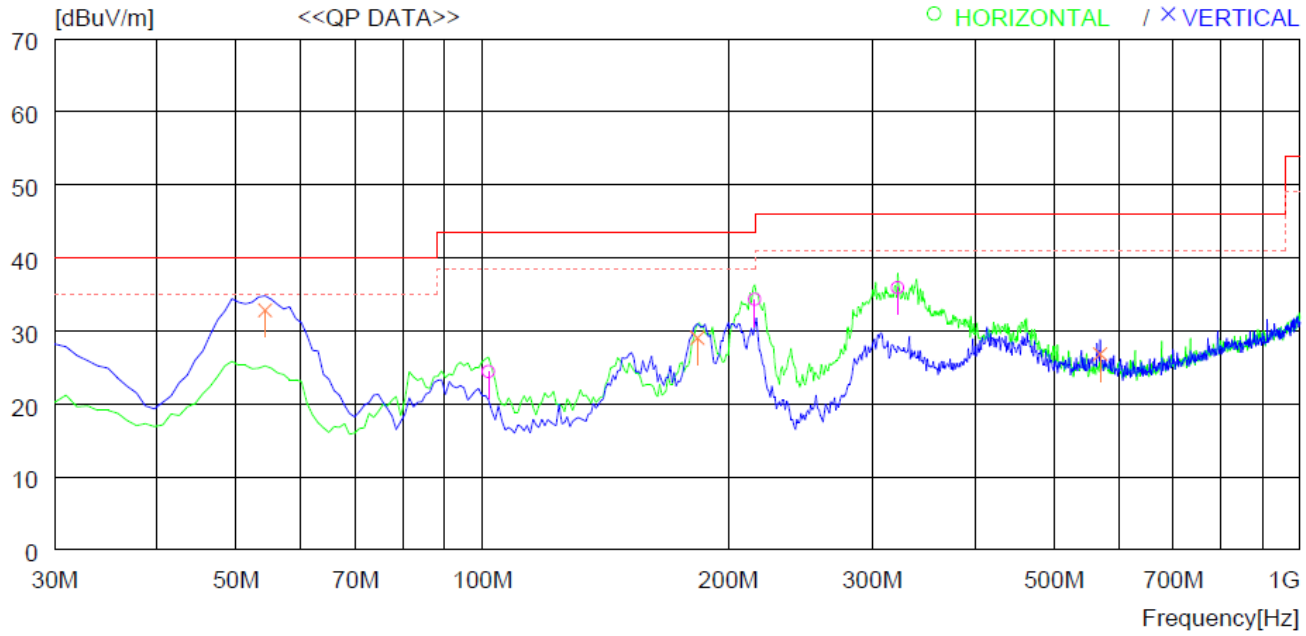
Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.209

Frequency range : 30 MHz ~ 1 000 MHz

Result : PASSED

EUT : WIRELESS CHARGER

Operating Condition : Transmitting Mode & Charging Mode



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	101.780	38.7	15.8	2.9	33.0	24.4	43.5	19.1	200	168
2	215.270	47.4	15.8	4.1	33.0	34.3	43.5	9.2	100	148
3	321.970	44.3	19.7	4.9	33.0	35.9	46.0	10.1	100	255
----- Vertical ------										
4	54.250	51.3	12.3	2.3	33.1	32.8	40.0	7.2	100	0
5	183.260	41.7	16.5	3.8	33.0	29.0	43.5	14.5	200	98
6	569.319	29.2	24.0	6.8	33.2	26.8	46.0	19.2	100	0

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7.8 Test data for Mode 5 (Frequency : 120.5 kHz / Accessories : Mobile 2)

7.8.1 Spurious Radiated Emission Below 30 MHz

Humidity Level : 53.5 % R.H. Temperature: 22.5 ºC

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.209

Frequency Range : 9 kHz ~ 30 MHz

Result : PASSED

EUT : WIRELESS CHARGER

Operating Condition : Transmitting Mode & Charging Mode

Frequency (MHz)	Detector	Reading (dBµV)	Ant. Factor (dB/m)	Cable Loss	Emission Level at 3m (dBµV/m)	Emission Level at 300m (dBµV/m)	Limit at 300m (dBµV/m)	Margin (dB)
0.015	PK	40.3	19.0	0.4	59.7	-20.3	44.1	64.4
0.024	PK	38.4	19.0	0.4	57.8	-22.2	40.0	62.2
0.031	PK	40.7	19.0	0.4	60.1	-19.9	37.8	57.7
0.047	PK	37.4	19.0	0.4	56.8	-23.2	34.2	57.4
0.062	PK	29.4	19.0	0.4	48.8	-31.2	31.8	63.0
0.071	PK	36.3	19.0	0.4	55.7	-24.3	30.6	54.9
0.094	PK	34.4	19.0	0.4	53.8	-26.2	28.1	54.3
0.180	PK	27.0	19.0	0.1	46.1	-33.9	26.0	59.9
0.359	PK	35.7	19.0	0.1	54.8	-25.2	16.5	41.7
0.568	PK	35.0	19.0	0.1	54.1	-25.9	-7.5	18.4
0.777	PK	31.4	18.9	0.1	50.4	-29.6	-10.2	19.4

-. “*” Means Fundamental frequency

-. Emission Level at 3m [dB µ V/m] = Reading [dBµV] + Ant. Factor [dB/m] + Cable Loss [dB]

-. Margin [dB] = Emission Level at 300m [dBµV/m] – Limit at 300m [dBµV/m]

= Emission Level at 300m [dBµV/m] – Limit at 30m [dBµV/m]

-. Emission Level at 300m [dBµV/m] = Emission Level at 3m [dBµV/m] - 40log (300/3), 80 dB for up to 0.49 MHz

-. Emission Level at 30m [dBµV/m] = Emission Level at 3m [dBµV/m] - 40log (30/3), 40 dB for above 0.49 MHz, Below 30 MHz

7.8.2 Spurious Radiated Emission below 1 GHz

The following table shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.

Humidity Level : 53.5 % R.H. Temperature: 22.5 ºC

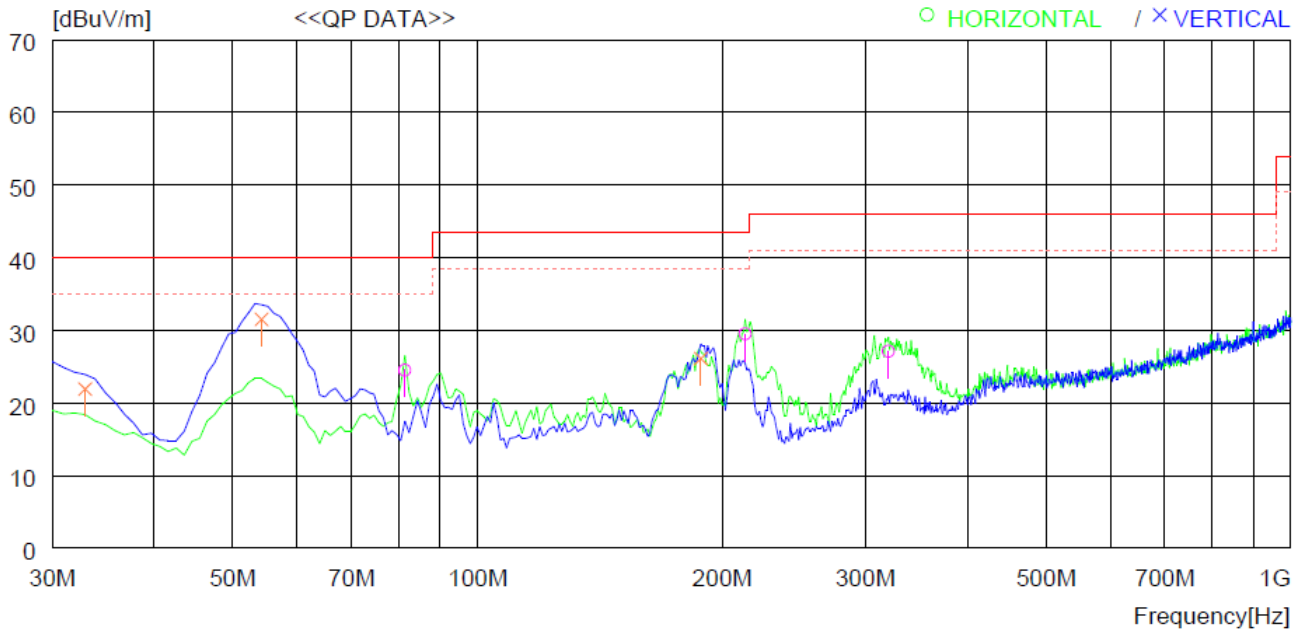
Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.209

Frequency range : 30 MHz ~ 1 000 MHz

Result : PASSED

EUT : WIRELESS CHARGER

Operating Condition : Transmitting Mode & Charging Mode



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	81.410	41.5	13.4	2.7	33.1	24.5	40.0	15.5	300	2
2	213.330	42.7	15.7	4.1	33.0	29.5	43.5	14.0	100	359
3	320.030	35.5	19.7	4.9	33.0	27.1	46.0	18.9	100	240
----- Vertical ------										
4	32.910	33.0	20.2	1.8	33.1	21.9	40.0	18.1	100	0
5	54.250	50.0	12.3	2.3	33.1	31.5	40.0	8.5	100	0
6	188.110	39.0	16.2	3.9	33.0	26.1	43.5	17.4	100	0

7.9 Test data for Mode 6 (Frequency : 127.7 kHz / Accessories : Earphone)

7.9.1 Spurious Radiated Emission Below 30 MHz

Humidity Level : 53.5 % R.H. Temperature: 22.5 ºC

Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.209

Frequency Range : 9 kHz ~ 30 MHz

Result : PASSED

EUT : WIRELESS CHARGER

Operating Condition : Transmitting Mode & Charging Mode

Frequency (MHz)	Detector	Reading (dBμV)	Ant. Factor (dB/m)	Cable Loss	Emission Level at 3m (dBμV/m)	Emission Level at 300m (dBμV/m)	Limit at 300m (dBμV/m)	Margin (dB)
0.015	PK	40.2	19.0	0.4	59.6	-20.4	44.1	64.5
0.024	PK	33.4	19.0	0.4	52.8	-27.2	40.0	67.2
0.031	PK	41.1	19.0	0.4	60.5	-19.5	37.8	57.3
0.047	PK	31.4	19.0	0.4	50.8	-29.2	34.2	63.4
0.071	PK	31.4	19.0	0.4	50.8	-29.2	30.6	59.8
0.094	PK	30.4	19.0	0.4	49.8	-30.2	28.1	58.3
0.118	PK	28.4	19.0	0.3	47.7	-32.3	26.2	58.5
0.180	PK	27.7	19.0	0.1	46.8	-33.2	22.5	55.7
0.359	PK	31.2	18.9	0.1	50.2	-29.8	16.5	46.3
0.777	PK	31.2	18.9	0.1	50.2	-29.8	-10.2	19.6

Frequency (MHz)	Detector	Reading (dBμV)	Ant. Factor (dB/m)	Cable Loss	Emission Level at 3m (dBμV/m)	Emission Level at 30m (dBμV/m)	Limit at 30m (dBμV/m)	Margin (dB)
1.135	PK	21.3	18.9	0.1	40.3	0.3	29.5	29.2

-. “*” Means Fundamental frequency

-. Emission Level at 3m [dB μ V/m] = Reading [dBμV] + Ant. Factor [dB/m] + Cable Loss [dB]

-. Margin [dB] = Emission Level at 300m [dBμV/m] – Limit at 300m [dBμV/m]

= Emission Level at 300m [dBμV/m] – Limit at 30m [dBμV/m]

-. Emission Level at 300m [dBμV/m] = Emission Level at 3m [dBμV/m] - 40log (300/3), 80 dB for up to 0.49 MHz

-. Emission Level at 30m [dBμV/m] = Emission Level at 3m [dBμV/m] - 40log (30/3), 40 dB for above 0.49 MHz, Below 30 MHz

7.9.2 Spurious Radiated Emission below 1 GHz

The following table shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.

Humidity Level : 53.5 % R.H. Temperature: 22.5 ºC

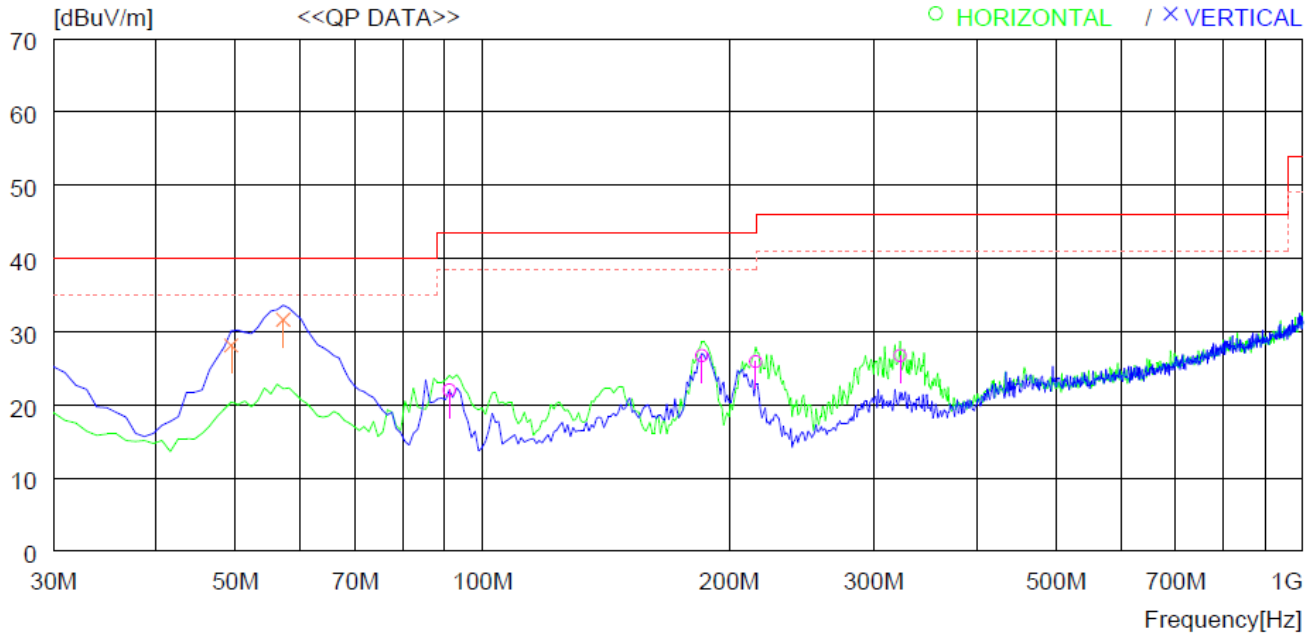
Limits apply to : FCC CFR 47, PART 15, SUBPART C, SECTION 15.209

Frequency range : 30 MHz ~ 1 000 MHz

Result : PASSED

EUT : WIRELESS CHARGER

Operating Condition : Transmitting Mode & Charging Mode



No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	91.110	38.4	13.9	2.8	33.1	22.0	43.5	21.5	300	196
2	185.200	39.5	16.4	3.8	33.0	26.7	43.5	16.8	200	228
3	215.270	39.0	15.8	4.1	33.0	25.9	43.5	17.6	100	359
4	322.940	35.0	19.8	4.9	33.0	26.7	46.0	19.3	100	253
----- Vertical ------										
5	49.400	45.6	13.4	2.2	33.1	28.1	40.0	11.9	100	0
6	57.160	50.3	12.1	2.3	33.1	31.6	40.0	8.4	100	0

8. CONDUCTED EMISSION TEST

8.1 Operating environment

Temperature : 22.5 ℃

Relative humidity : 53.5 % R.H

8.2 Test set-up

The EUT was placed on a wooden table, 0.8 m height above the floor. Power was fed to the EUT through a 50 Ω / 50 μH + 5 Ω Artificial Mains Network (AMN). The ground plane was electrically bonded to the reference ground system and all power lines were filtered from ambient.

8.3 Test equipment used

All test equipment used is calibrated on a regular basis.

8.4 Test date

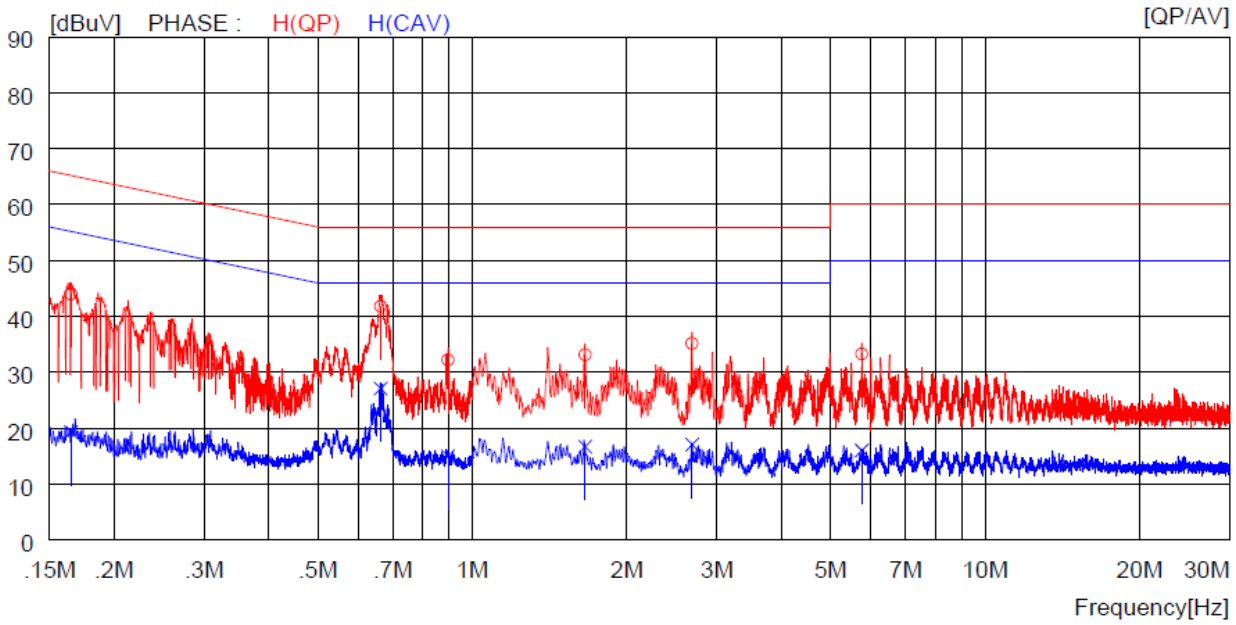
April 25, 2022

8.5 Test data for Mode 1 (Frequency : 127.7 kHz / Accessories : Mobile 1)

-. Resolution bandwidth : 9 kHz

-. Frequency range : 0.15 MHz ~ 30 MHz

-. Tested Line : HOT LINE



NO	FREQ [MHz]	READING QP [dBuV]	READING AV [dBuV]	C.FACTOR [dB]	RESULT QP [dBuV]	RESULT AV [dBuV]	LIMIT QP [dBuV]	LIMIT AV [dBuV]	MARGIN QP [dBuV]	MARGIN AV [dBuV]	PHASE
1	0.16500	34.0	----	10.0	44.0	----	65.2	----	21.2	----	H(QP)
2	0.66300	31.8	----	10.0	41.8	----	56.0	----	14.2	----	H(QP)
3	0.89700	22.2	----	10.0	32.2	----	56.0	----	23.8	----	H(QP)
4	1.66000	23.1	----	10.0	33.1	----	56.0	----	22.9	----	H(QP)
5	2.68400	25.2	----	10.0	35.2	----	56.0	----	20.8	----	H(QP)
6	5.75000	23.1	----	10.2	33.3	----	60.0	----	26.7	----	H(QP)
7	0.16500	----	9.3	10.0	----	19.3	----	55.2	----	35.9	H(CAV)
8	0.66300	----	17.1	10.0	----	27.1	----	46.0	----	18.9	H(CAV)
9	0.89700	----	5.0	10.0	----	15.0	----	46.0	----	31.0	H(CAV)
10	1.66000	----	6.7	10.0	----	16.7	----	46.0	----	29.3	H(CAV)
11	2.68400	----	7.1	10.0	----	17.1	----	46.0	----	28.9	H(CAV)
12	5.75000	----	5.8	10.2	----	16.0	----	50.0	----	34.0	H(CAV)

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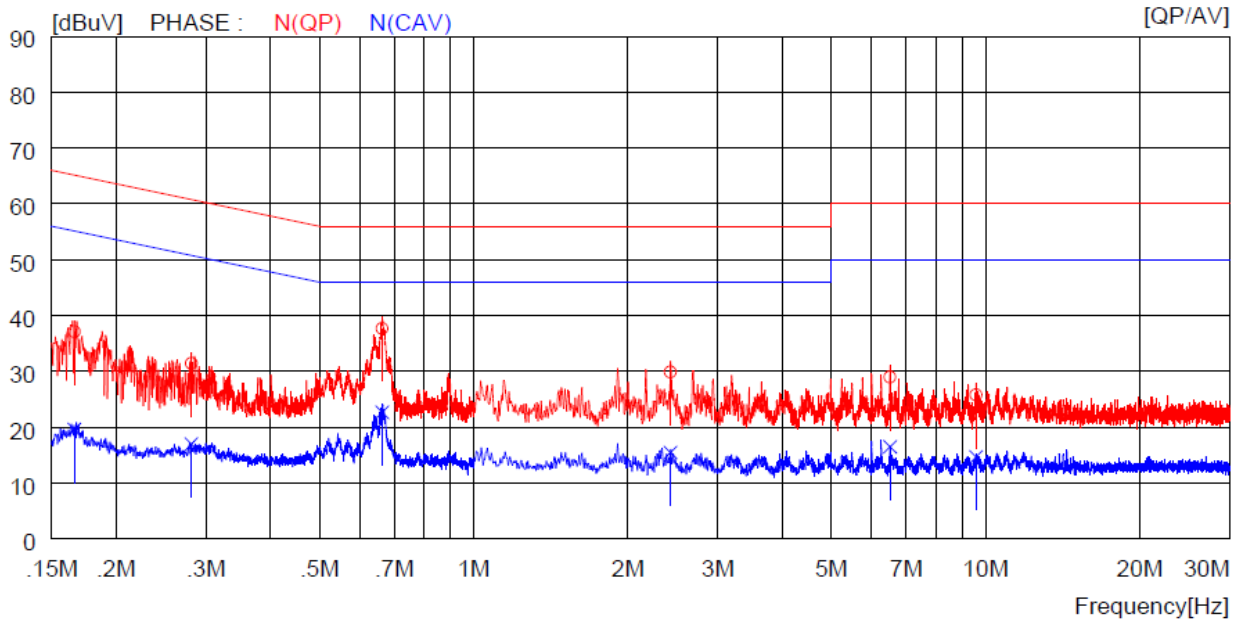
-. Tested Line : NEUTRAL LINE



NO	FREQ [MHz]	READING QP [dBuV]	READING AV [dBuV]	C.FACTOR QP [dB]	C.FACTOR AV [dBuV]	RESULT QP [dBuV]	RESULT AV [dBuV]	LIMIT QP [dBuV]	LIMIT AV [dBuV]	MARGIN QP [dBuV]	MARGIN AV [dBuV]	PHASE
1	0.16600	27.1	----	10.0		37.1	----	65.2	----	28.1	----	N(QP)
2	0.28100	21.4	----	10.0		31.4	----	60.8	----	29.4	----	N(QP)
3	0.66300	27.7	----	10.0		37.7	----	56.0	----	18.3	----	N(QP)
4	2.42400	19.9	----	10.0		29.9	----	56.0	----	26.1	----	N(QP)
5	6.51000	18.8	----	10.2		29.0	----	60.0	----	31.0	----	N(QP)
6	9.58000	15.6	----	10.2		25.8	----	60.0	----	34.2	----	N(QP)
7	0.16600	----	9.6	10.0		----	19.6	----	55.2	----	35.6	N(CAV)
8	0.28100	----	7.0	10.0		----	17.0	----	50.8	----	33.8	N(CAV)
9	0.66300	----	12.7	10.0		----	22.7	----	46.0	----	23.3	N(CAV)
10	2.42400	----	5.5	10.0		----	15.5	----	46.0	----	30.5	N(CAV)
11	6.51000	----	6.3	10.2		----	16.5	----	50.0	----	33.5	N(CAV)
12	9.58000	----	4.5	10.2		----	14.7	----	50.0	----	35.3	N(CAV)

Remark: Margin (dB) = Limit – Level (Result)

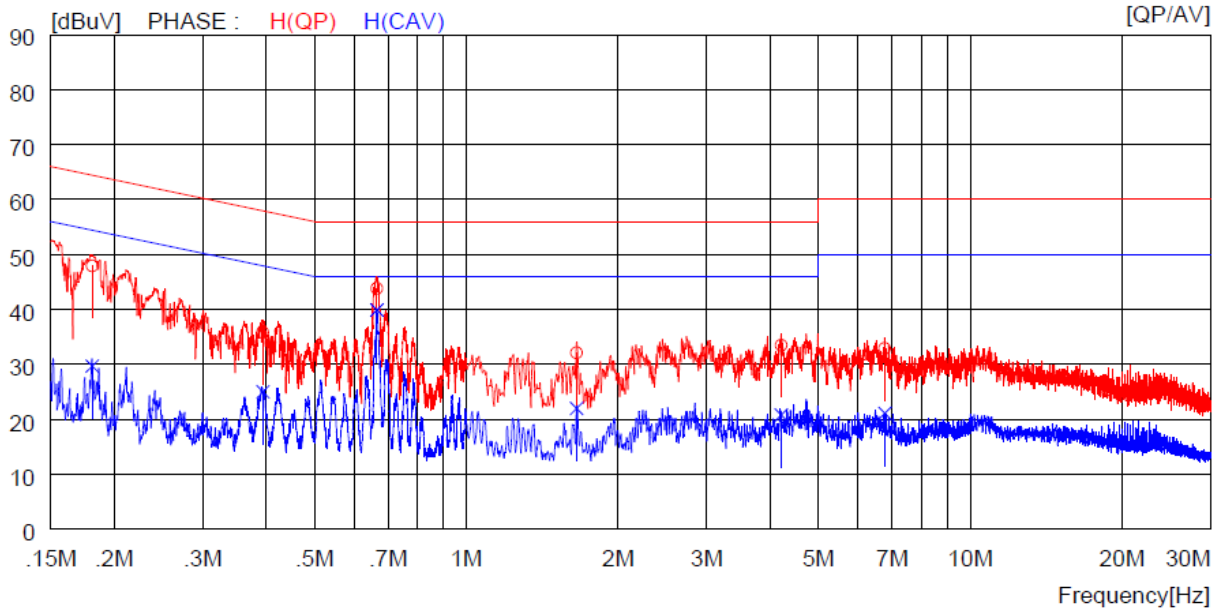
The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

8.6 Test data for Mode 2 (Frequency : 127.7 kHz / Accessories : Mobile 1)

-. Resolution bandwidth : 9 kHz

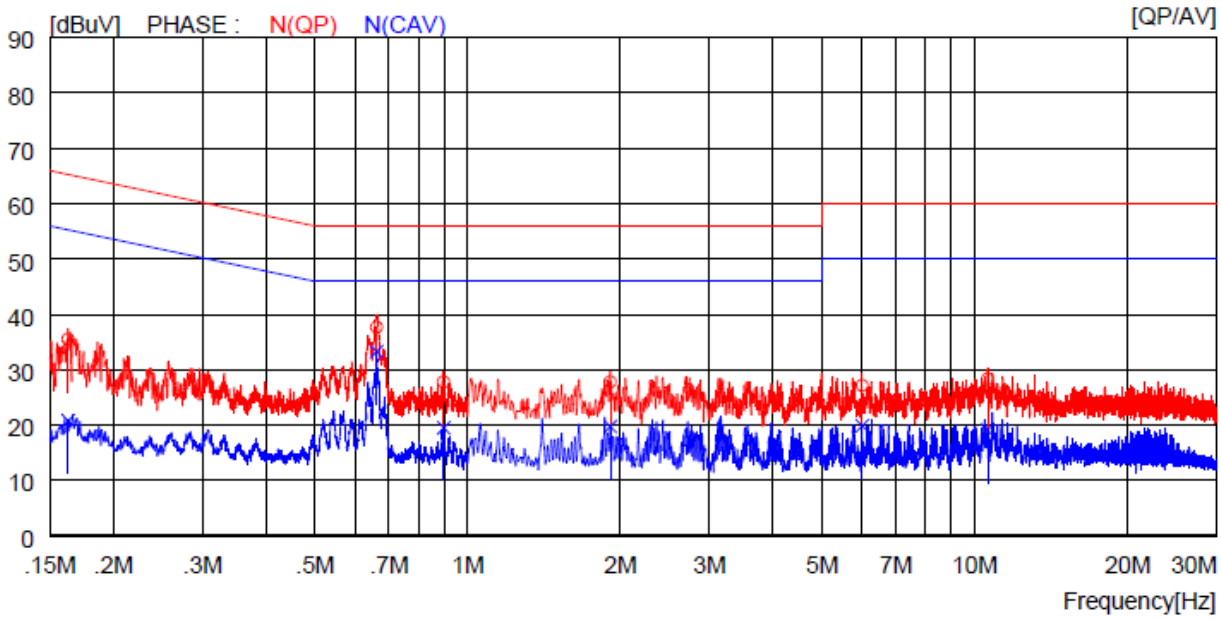
-. Frequency range : 0.15 MHz ~ 30 MHz

-. Tested Line : HOT LINE



NO	FREQ	READING QP [dBuV]	READING AV [dBuV]	C.FACTOR QP [dB]	C.FACTOR AV [dBuV]	RESULT QP [dBuV]	RESULT AV [dBuV]	LIMIT QP [dBuV]	LIMIT AV [dBuV]	MARGIN QP	MARGIN AV	PHASE
1	0.18100	37.9	----	10.0		47.9	----	64.4	----	16.5	----	H(QP)
2	0.39500	25.8	----	10.0		35.8	----	58.0	----	22.2	----	H(QP)
3	0.66500	33.8	----	10.0		43.8	----	56.0	----	12.2	----	H(QP)
4	1.65600	22.1	----	10.0		32.1	----	56.0	----	23.9	----	H(QP)
5	4.22000	23.4	----	10.1		33.5	----	56.0	----	22.5	----	H(QP)
6	6.77000	22.7	----	10.2		32.9	----	60.0	----	27.1	----	H(QP)
7	0.18100	----	19.7	10.0		----	29.7	----	54.4	----	24.7	H(CAV)
8	0.39500	----	15.0	10.0		----	25.0	----	48.0	----	23.0	H(CAV)
9	0.66500	----	29.9	10.0		----	39.9	----	46.0	----	6.1	H(CAV)
10	1.65600	----	12.0	10.0		----	22.0	----	46.0	----	24.0	H(CAV)
11	4.22000	----	10.7	10.1		----	20.8	----	46.0	----	25.2	H(CAV)
12	6.77000	----	10.9	10.2		----	21.1	----	50.0	----	28.9	H(CAV)

-. Tested Line : NEUTRAL LINE



NO	FREQ [MHz]	READING QP [dBuV]	READING AV [dBuV]	C.FACTOR QP [dB]	C.FACTOR AV [dB]	RESULT QP [dBuV]	RESULT AV [dBuV]	LIMIT QP [dBuV]	LIMIT AV [dBuV]	MARGIN QP [dB]	MARGIN AV [dB]	PHASE
1	0.16300	25.5	----	10.0		35.5	----	65.3	----	29.8	----	N(QP)
2	0.66200	27.7	----	10.0		37.7	----	56.0	----	18.3	----	N(QP)
3	0.89800	17.8	----	10.0		27.8	----	56.0	----	28.2	----	N(QP)
4	1.91200	17.8	----	10.0		27.8	----	56.0	----	28.2	----	N(QP)
5	6.00000	17.0	----	10.2		27.2	----	60.0	----	32.8	----	N(QP)
6	10.60000	18.1	----	10.2		28.3	----	60.0	----	31.7	----	N(QP)
7	0.16300	----	10.8	10.0		----	20.8	----	55.3	----	34.5	N(CAV)
8	0.66200	----	23.3	10.0		----	33.3	----	46.0	----	12.7	N(CAV)
9	0.89800	----	9.5	10.0		----	19.5	----	46.0	----	26.5	N(CAV)
10	1.91200	----	9.7	10.0		----	19.7	----	46.0	----	26.3	N(CAV)
11	6.00000	----	9.7	10.2		----	19.9	----	50.0	----	30.1	N(CAV)
12	10.60000	----	8.9	10.2		----	19.1	----	50.0	----	30.9	N(CAV)

Remark: Margin (dB) = Limit – Level (Result)

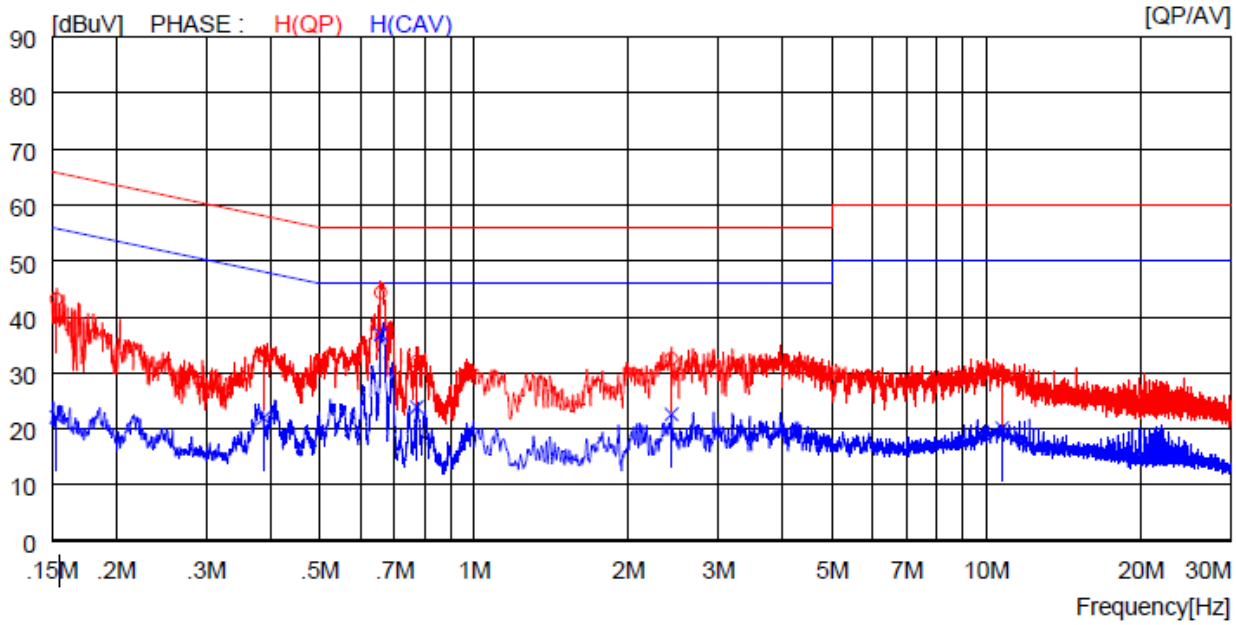
The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

8.7 Test data for Mode 3 (Frequency : 127.7 kHz / Accessories : Mobile 1)

-. Resolution bandwidth : 9 kHz

-. Frequency range : 0.15 MHz ~ 30 MHz

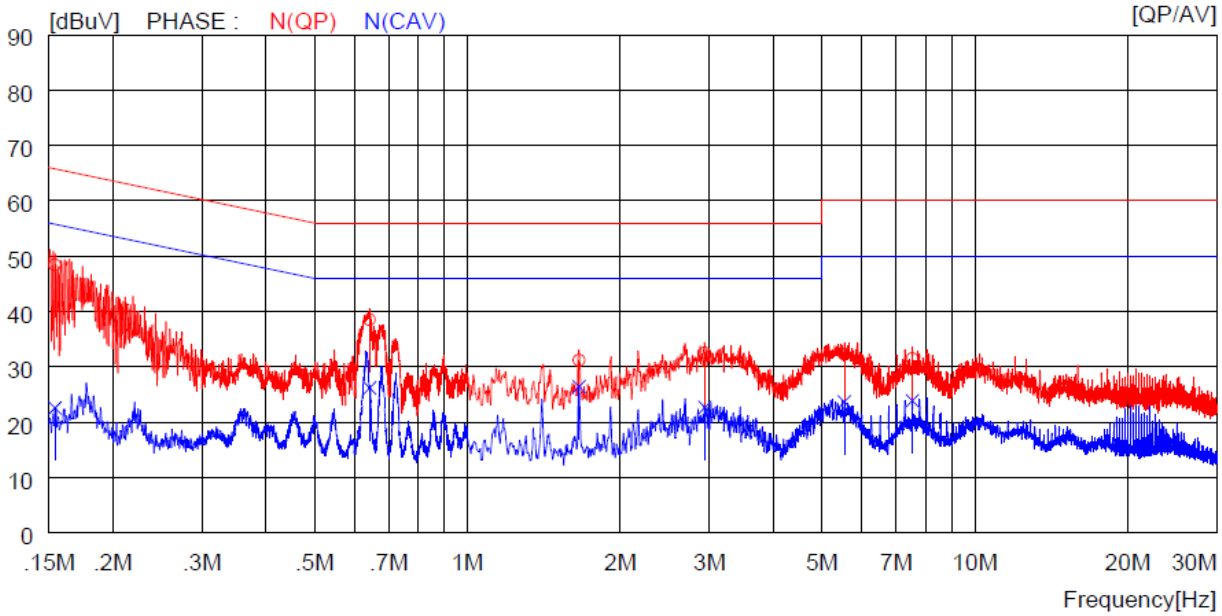
-. Tested Line : HOT LINE



NO	FREQ	READING QP	READING AV	C.FACTOR QP	C.FACTOR AV	RESULT QP	RESULT AV	LIMIT QP	LIMIT AV	MARGIN QP	MARGIN AV	PHASE
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]			
1	0.15300	33.2	----	10.0		43.2	----	65.8	----	22.6	----	H(QP)
2	0.38800	23.0	----	10.0		33.0	----	58.1	----	25.1	----	H(QP)
3	0.65800	34.4	----	10.0		44.4	----	56.0	----	11.6	----	H(QP)
4	0.77300	22.0	----	10.0		32.0	----	56.0	----	24.0	----	H(QP)
5	2.42800	22.6	----	10.0		32.6	----	56.0	----	23.4	----	H(QP)
6	10.73000	19.5	----	10.2		29.7	----	60.0	----	30.3	----	H(QP)
7	0.15300	----	12.1	10.0		----	22.1	----	55.8	----	33.7	H(CAV)
8	0.38800	----	11.9	10.0		----	21.9	----	48.1	----	26.2	H(CAV)
9	0.65800	----	26.9	10.0		----	36.9	----	46.0	----	9.1	H(CAV)
10	0.77300	----	13.9	10.0		----	23.9	----	46.0	----	22.1	H(CAV)
11	2.42800	----	12.6	10.0		----	22.6	----	46.0	----	23.4	H(CAV)
12	10.73000	----	9.9	10.2		----	20.1	----	50.0	----	29.9	H(CAV)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

-. Tested Line : NEUTRAL LINE



NO	FREQ	READING QP [dBuV]	READING AV [dBuV]	C.FACTOR QP [dB]	C.FACTOR AV [dBuV]	RESULT QP [dBuV]	RESULT AV [dBuV]	LIMIT QP [dBuV]	LIMIT AV [dBuV]	MARGIN QP [dBuV]	MARGIN AV [dBuV]	PHASE
1	0.15400	38.4	----	10.0		48.4	----	65.8	----	17.4	----	N(QP)
2	0.64200	28.5	----	10.0		38.5	----	56.0	----	17.5	----	N(QP)
3	1.66000	21.2	----	10.0		31.2	----	56.0	----	24.8	----	N(QP)
4	2.93600	22.5	----	10.0		32.5	----	56.0	----	23.5	----	N(QP)
5	5.53000	22.1	----	10.2		32.3	----	60.0	----	27.7	----	N(QP)
6	7.53500	21.3	----	10.2		31.5	----	60.0	----	28.5	----	N(QP)
7	0.15400	----	12.6	10.0		----	22.6	----	55.8	----	33.2	N(CAV)
8	0.64200	----	16.2	10.0		----	26.2	----	46.0	----	19.8	N(CAV)
9	1.66000	----	16.4	10.0		----	26.4	----	46.0	----	19.6	N(CAV)
10	2.93600	----	12.7	10.0		----	22.7	----	46.0	----	23.3	N(CAV)
11	5.53000	----	13.5	10.2		----	23.7	----	50.0	----	26.3	N(CAV)
12	7.53500	----	13.7	10.2		----	23.9	----	50.0	----	26.1	N(CAV)

Remark: Margin (dB) = Limit – Level (Result)

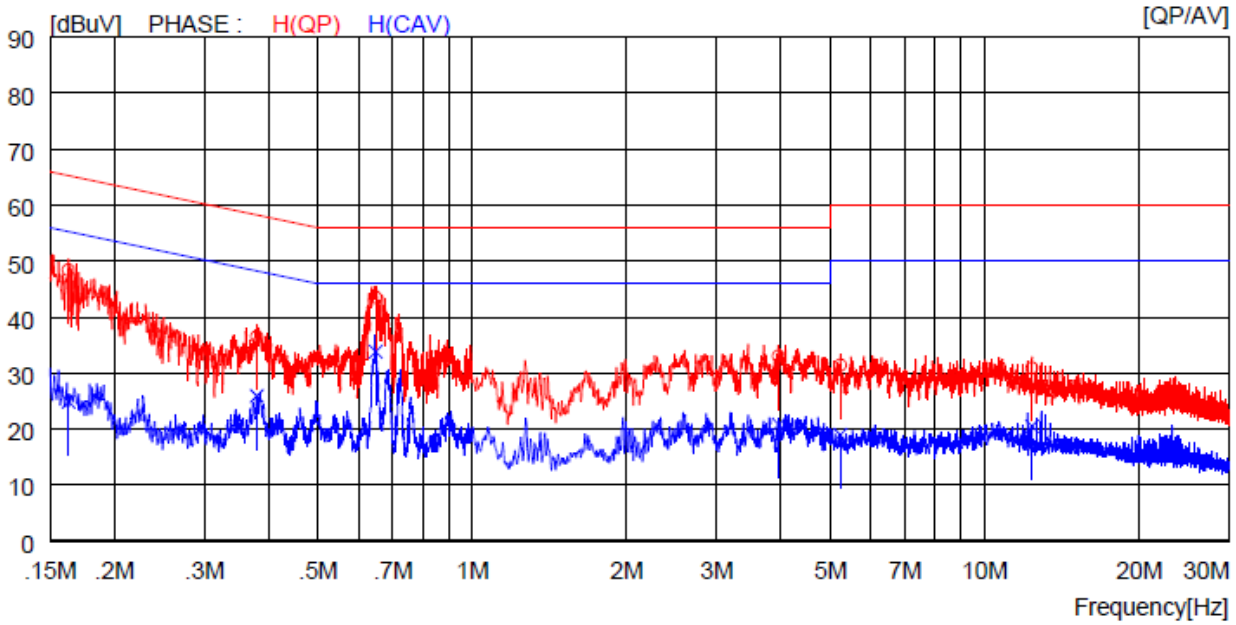
The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

8.8 Test data for Mode 4 (Frequency : 127.7 kHz / Accessories : Mobile 1)

-. Resolution bandwidth : 9 kHz

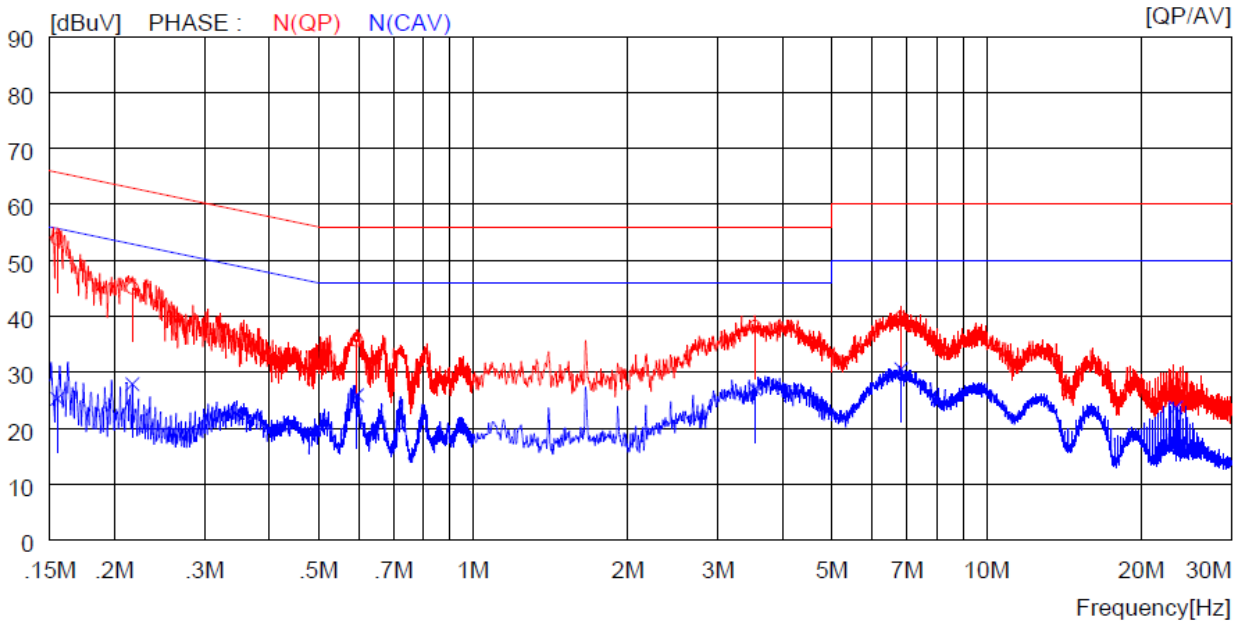
-. Frequency range : 0.15 MHz ~ 30 MHz

-. Tested Line : HOT LINE



NO	FREQ	READING QP [dBuV]	READING AV [dBuV]	C.FACTOR QP [dB]	C.FACTOR AV [dB]	RESULT QP [dBuV]	RESULT AV [dBuV]	LIMIT QP [dBuV]	LIMIT AV [dBuV]	MARGIN QP [dBuV]	MARGIN AV [dBuV]	PHASE
1	0.16300	38.4	----	10.0		48.4	----	65.3	----	16.9	----	H(QP)
2	0.38000	26.5	----	10.0		36.5	----	58.3	----	21.8	----	H(QP)
3	0.64800	33.5	----	10.0		43.5	----	56.0	----	12.5	----	H(QP)
4	3.96400	22.9	----	10.1		33.0	----	56.0	----	23.0	----	H(QP)
5	5.23000	21.2	----	10.2		31.4	----	60.0	----	28.6	----	H(QP)
6	12.38000	20.7	----	10.2		30.9	----	60.0	----	29.1	----	H(QP)
7	0.16300	----	14.9	10.0		----	24.9	----	55.3	----	30.4	H(CAV)
8	0.38000	----	15.9	10.0		----	25.9	----	48.3	----	22.4	H(CAV)
9	0.64800	----	23.8	10.0		----	33.8	----	46.0	----	12.2	H(CAV)
10	3.96400	----	10.7	10.1		----	20.8	----	46.0	----	25.2	H(CAV)
11	5.23000	----	8.8	10.2		----	19.0	----	50.0	----	31.0	H(CAV)
12	12.38000	----	10.3	10.2		----	20.5	----	50.0	----	29.5	H(CAV)

-. Tested Line : NEUTRAL LINE



NO	FREQ [MHz]	READING QP [dBuV]	READING AV [dBuV]	C.FACTOR QP [dB]	C.FACTOR AV [dBuV]	RESULT QP [dBuV]	RESULT AV [dBuV]	LIMIT QP [dBuV]	LIMIT AV [dBuV]	MARGIN QP [dBuV]	MARGIN AV [dBuV]	PHASE
1	0.15500	43.8	----	10.0		53.8	----	65.7	----	11.9	----	N(QP)
2	0.21700	35.1	----	10.0		45.1	----	62.9	----	17.8	----	N(QP)
3	0.59400	25.7	----	10.0		35.7	----	56.0	----	20.3	----	N(QP)
4	3.54000	28.1	----	10.1		38.2	----	56.0	----	17.8	----	N(QP)
5	6.82000	29.6	----	10.2		39.8	----	60.0	----	20.2	----	N(QP)
6	23.37000	17.4	----	10.5		27.9	----	60.0	----	32.1	----	N(QP)
7	0.15500	----	15.3	10.0		----	25.3	----	55.7	----	30.4	N(CAV)
8	0.21700	----	17.9	10.0		----	27.9	----	52.9	----	25.0	N(CAV)
9	0.59400	----	15.9	10.0		----	25.9	----	46.0	----	20.1	N(CAV)
10	3.54000	----	16.9	10.1		----	27.0	----	46.0	----	19.0	N(CAV)
11	6.82000	----	20.4	10.2		----	30.6	----	50.0	----	19.4	N(CAV)
12	23.37000	----	13.2	10.5		----	23.7	----	50.0	----	26.3	N(CAV)

Remark: Margin (dB) = Limit – Level (Result)

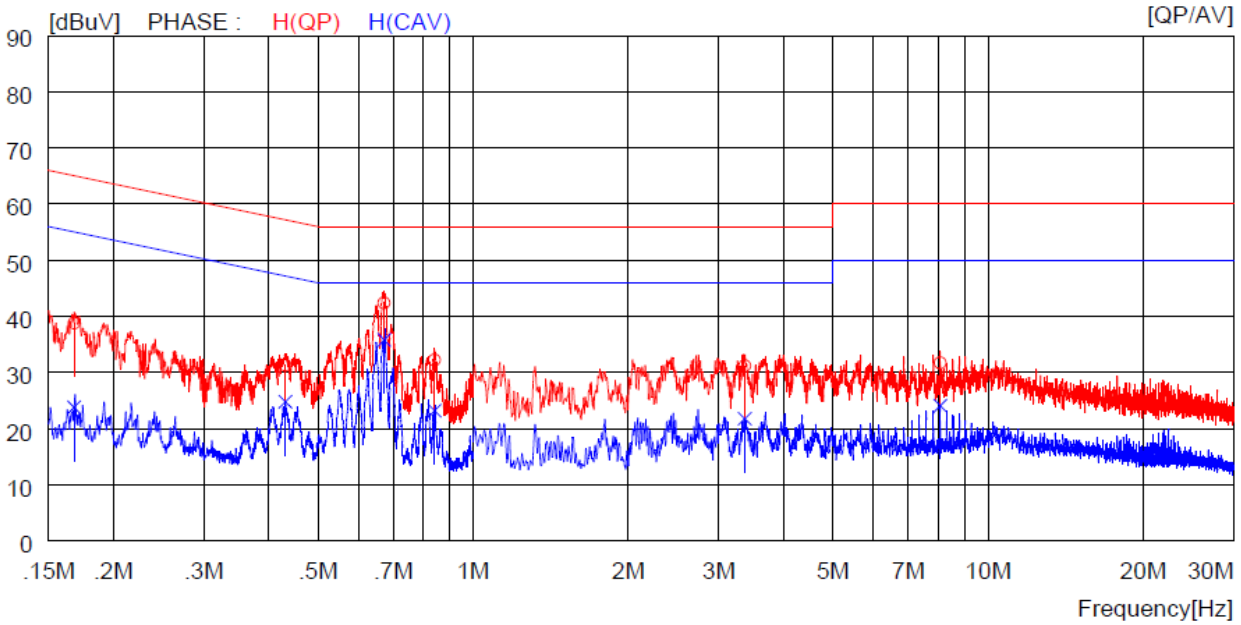
The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

8.9 Test data for Mode 5 (Frequency: 120.5 kHz / Accessories : Mobile 2)

-. Resolution bandwidth : 9 kHz

-. Frequency range : 0.15 MHz ~ 30 MHz

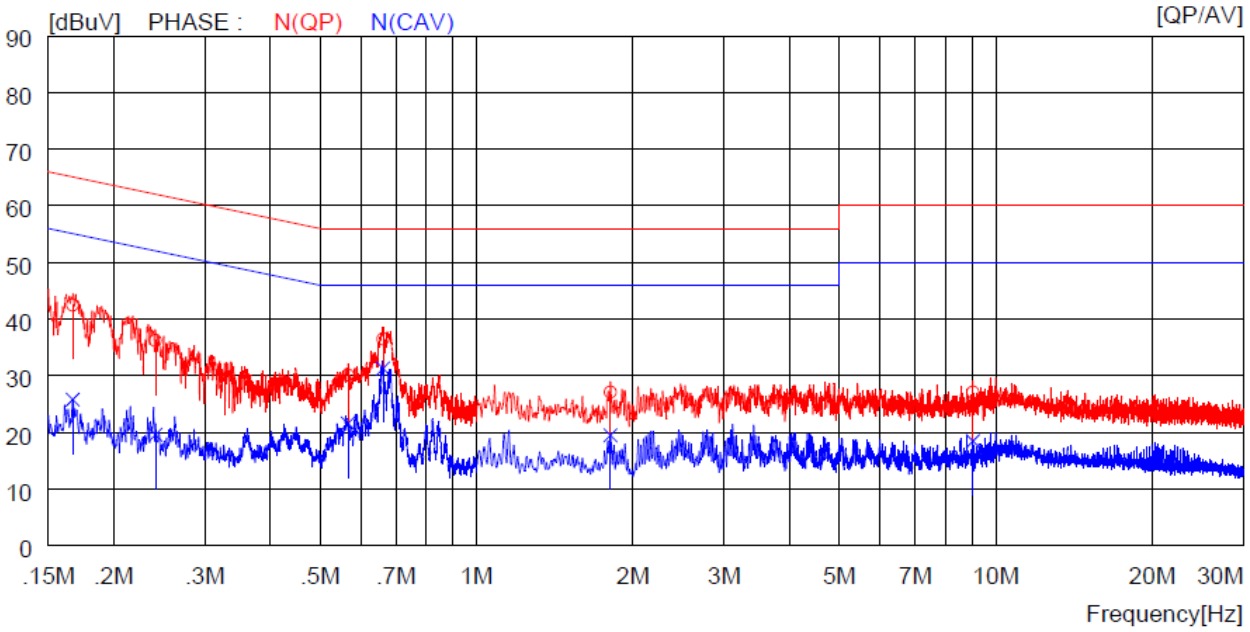
-. Tested Line : HOT LINE



NO	FREQ	READING QP [dBuV]	READING AV [dBuV]	C.FACTOR QP [dB]	C.FACTOR AV [dB]	RESULT QP [dBuV]	RESULT AV [dBuV]	LIMIT QP [dBuV]	LIMIT AV [dBuV]	MARGIN QP [dB]	MARGIN AV [dB]	PHASE
1	0.16800	28.8	----	10.0		38.8	----	65.1	----	26.3	----	H(QP)
2	0.43200	21.3	----	10.0		31.3	----	57.2	----	25.9	----	H(QP)
3	0.67200	32.4	----	10.0		42.4	----	56.0	----	13.6	----	H(QP)
4	0.84200	22.2	----	10.0		32.2	----	56.0	----	23.8	----	H(QP)
5	3.37200	21.1	----	10.1		31.2	----	56.0	----	24.8	----	H(QP)
6	8.07500	21.5	----	10.2		31.7	----	60.0	----	28.3	----	H(QP)
7	0.16800	----	13.8	10.0		----	23.8	----	55.1	----	31.3	H(CAV)
8	0.43200	----	14.8	10.0		----	24.8	----	47.2	----	22.4	H(CAV)
9	0.67200	----	25.8	10.0		----	35.8	----	46.0	----	10.2	H(CAV)
10	0.84200	----	13.2	10.0		----	23.2	----	46.0	----	22.8	H(CAV)
11	3.37200	----	11.7	10.1		----	21.8	----	46.0	----	24.2	H(CAV)
12	8.07500	----	13.9	10.2		----	24.1	----	50.0	----	25.9	H(CAV)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

-. Tested Line : NEUTRAL LINE



NO	FREQ [MHz]	READING QP [dBuV]	READING AV [dBuV]	C.FACTOR QP [dB]	C.FACTOR AV [dB]	RESULT QP [dBuV]	RESULT AV [dBuV]	LIMIT QP [dBuV]	LIMIT AV [dBuV]	MARGIN QP [dBuV]	MARGIN AV [dBuV]	PHASE
1	0.16700	32.5	----	10.0		42.5	----	65.1	----	22.6	----	N(QP)
2	0.24100	26.2	----	10.0		36.2	----	62.1	----	25.9	----	N(QP)
3	0.56600	20.1	----	10.0		30.1	----	56.0	----	25.9	----	N(QP)
4	0.66100	26.5	----	10.0		36.5	----	56.0	----	19.5	----	N(QP)
5	1.81200	17.1	----	10.0		27.1	----	56.0	----	28.9	----	N(QP)
6	9.04000	16.9	----	10.2		27.1	----	60.0	----	32.9	----	N(QP)
7	0.16700	----	15.8	10.0		----	25.8	----	55.1	----	29.3	N(CAV)
8	0.24100	----	9.6	10.0		----	19.6	----	52.1	----	32.5	N(CAV)
9	0.56600	----	11.6	10.0		----	21.6	----	46.0	----	24.4	N(CAV)
10	0.66100	----	21.3	10.0		----	31.3	----	46.0	----	14.7	N(CAV)
11	1.81200	----	9.5	10.0		----	19.5	----	46.0	----	26.5	N(CAV)
12	9.04000	----	8.3	10.2		----	18.5	----	50.0	----	31.5	N(CAV)

Remark: Margin (dB) = Limit – Level (Result)

The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

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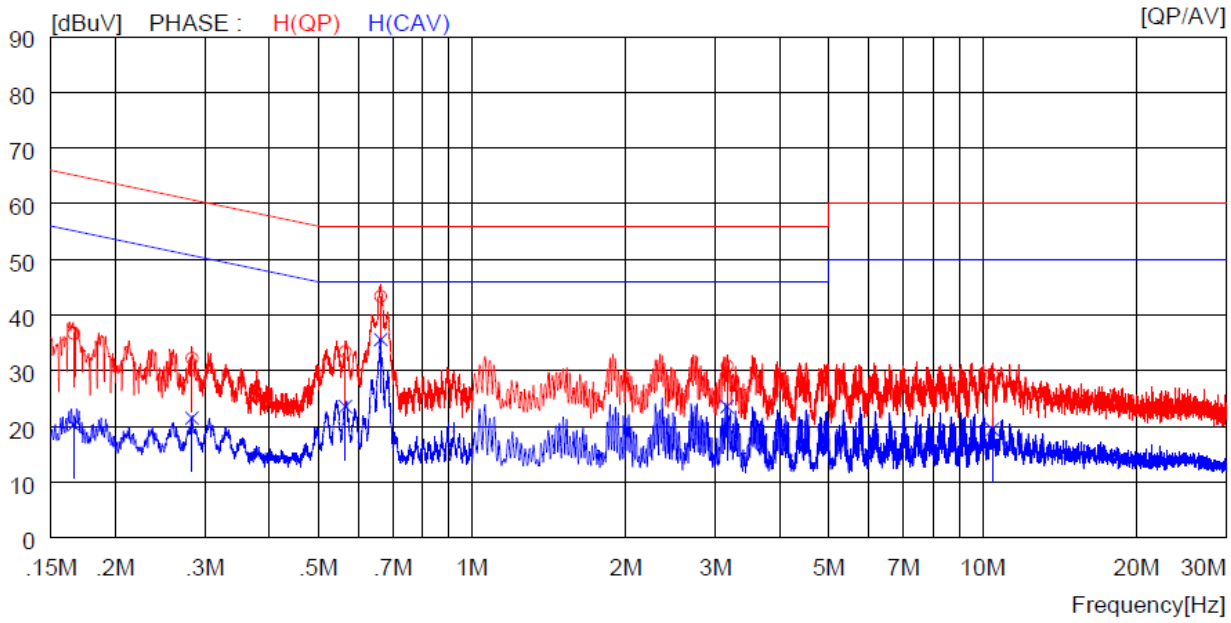
8.10 Test data for Mode 2 (Frequency : 127.7 kHz / Accessories : Earphone)

-. Resolution bandwidth : 9 kHz

-. Frequency range : 0.15 MHz ~ 30 MHz

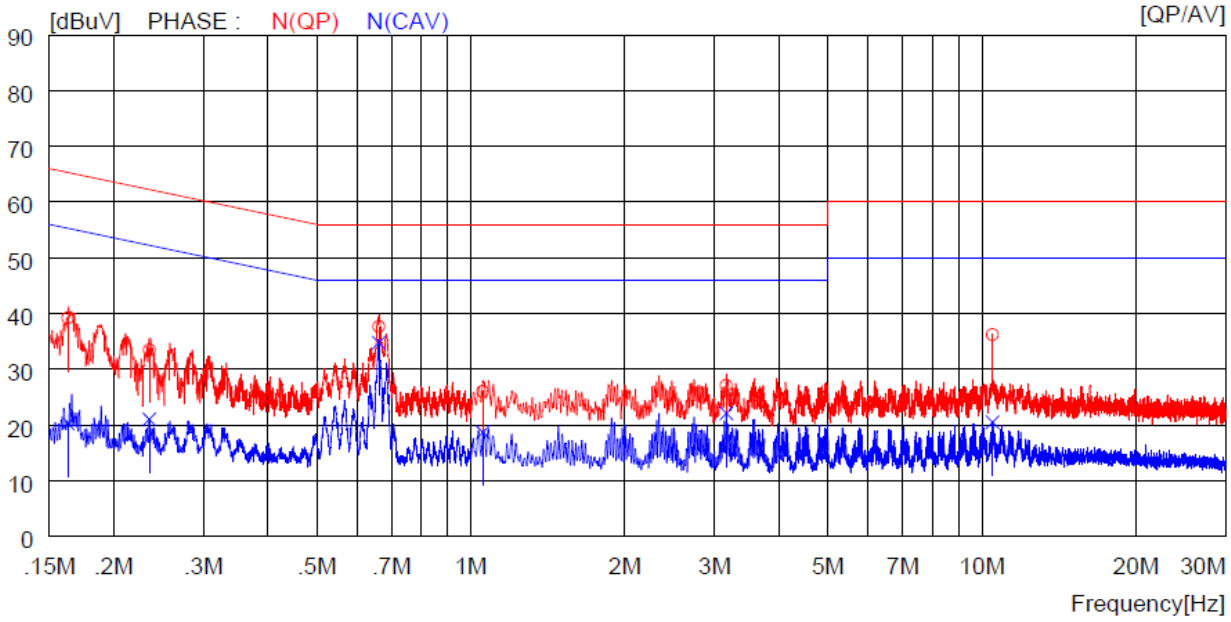
-. Tested Line : HOT LINE



NO	FREQ	READING QP [dBuV]	READING AV [dBuV]	C.FACTOR QP [dB]	C.FACTOR AV [dBuV]	RESULT QP [dBuV]	RESULT AV [dBuV]	LIMIT QP [dBuV]	LIMIT AV [dBuV]	MARGIN QP	MARGIN AV	PHASE
1	0.16600	26.7	----	10.0		36.7	----	65.2	----	28.5	----	H(QP)
2	0.28300	22.2	----	10.0		32.2	----	60.7	----	28.5	----	H(QP)
3	0.56500	23.4	----	10.0		33.4	----	56.0	----	22.6	----	H(QP)
4	0.66300	33.4	----	10.0		43.4	----	56.0	----	12.6	----	H(QP)
5	3.16000	20.8	----	10.1		30.9	----	56.0	----	25.1	----	H(QP)
6	10.44000	19.1	----	10.2		29.3	----	60.0	----	30.7	----	H(QP)
7	0.16600	----	10.3	10.0		----	20.3	----	55.2	----	34.9	H(CAV)
8	0.28300	----	11.5	10.0		----	21.5	----	50.7	----	29.2	H(CAV)
9	0.56500	----	13.6	10.0		----	23.6	----	46.0	----	22.4	H(CAV)
10	0.66300	----	25.6	10.0		----	35.6	----	46.0	----	10.4	H(CAV)
11	3.16000	----	13.5	10.1		----	23.6	----	46.0	----	22.4	H(CAV)
12	10.44000	----	9.3	10.2		----	19.5	----	50.0	----	30.5	H(CAV)

ONETECH Corp.: 43-14, Jinsaegol-gil, Chowol-eup, Gwangju-si, Gyeonggi-do, 12735, Korea (TEL: 82-31-799-9500, FAX: 82-31-799-9599)

-. Tested Line : NEUTRAL LINE



NO	FREQ	READING QP	READING AV	C.FACTOR QP	C.FACTOR AV	RESULT QP	RESULT AV	LIMIT QP	LIMIT AV	MARGIN QP	MARGIN AV	PHASE
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]			
1	0.16300	29.2	----	10.0		39.2	----	65.3	----	26.1	----	N(QP)
2	0.23500	23.5	----	10.0		33.5	----	62.3	----	28.8	----	N(QP)
3	0.66100	27.7	----	10.0		37.7	----	56.0	----	18.3	----	N(QP)
4	1.05600	16.0	----	10.0		26.0	----	56.0	----	30.0	----	N(QP)
5	3.16400	17.0	----	10.1		27.1	----	56.0	----	28.9	----	N(QP)
6	10.49000	26.0	----	10.2		36.2	----	60.0	----	23.8	----	N(QP)
7	0.16300	----	10.3	10.0		----	20.3	----	55.3	----	35.0	N(CAV)
8	0.23500	----	11.0	10.0		----	21.0	----	52.3	----	31.3	N(CAV)
9	0.66100	----	24.8	10.0		----	34.8	----	46.0	----	11.2	N(CAV)
10	1.05600	----	8.7	10.0		----	18.7	----	46.0	----	27.3	N(CAV)
11	3.16400	----	12.0	10.1		----	22.1	----	46.0	----	23.9	N(CAV)
12	10.49000	----	10.3	10.2		----	20.5	----	50.0	----	29.5	N(CAV)

Remark: Margin (dB) = Limit – Level (Result)

The emission level in above table is included the transducer factor that means insertion loss (LISN), cable loss and attenuator.

9. LIST OF TEST EQUIPMENT

Model Number	Manufacturer	Description	Serial Number	Last Cal.(Interval)
ESR	R/S	Spectrum analyzer	101470	Oct. 18, 2022 (1Y)
ESCI	R/S	Test Receiver	101012	Oct. 20, 2021 (1Y)
310N	Sonoma Instrument	Pre-Amplifier	392756	Oct. 14, 2021 (1Y)
HLP-2008	TDK RF Solutions	Hybrid Antenna	131313	Feb. 21, 2022 (2Y)
CO3000	Innco Systems GmbH	Controller	N/A	N/A
DT3000-3t	Innco System	Turn Table	DT3000/093	N/A
NSLK8128	Schwarzbeck	V - LISN (4*32/50A)	8128216	Mar. 14, 2022 (1Y)
ESH3-Z2	R/S	Pulse Limiter	100655	Mar. 14, 2022 (1Y)
MA-4000XPET	Innco System	Antenna Master	MA4000/509	N/A
FMZB 1513	Schwarzbeck	Loop Antenna	1513-235	Mar. 24, 2022 (2Y)