

Prüfbericht-Nr.: <i>Test report no.:</i>	CN21XHCT 001	Auftrags-Nr.: <i>Order no.:</i>	168307761	Seite 1 von 29 <i>Page 1 of 29</i>
Kunden-Referenz-Nr.: <i>Client reference no.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	2021-03-01	
Auftraggeber: <i>Client:</i>	Luxshare Precision Industry Co., Ltd. Floor 2, Block A, Sanyo New Industrial Area, West Haoyi Community, Shajing Subdistrict Office, Bao'an District, Shenzhen, P. R. China			
Prüfgegenstand: <i>Test item:</i>	Magnetic Charging Cable			
Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i>	NS-AWCB1, NS-AWCB1W, NS-AWCB4CM, NS-AWCPLG, NS-AWCxxxxxxxxx, DX-AWCxxxxxxxxx, MD-AWCxxxxxxxxx(x can be A-Z, a-z, 0-9, - or blank) (Trademark: INSIGNIA)			
Auftrags-Inhalt: <i>Order content:</i>	Type test			
Prüfgrundlage: <i>Test specification:</i>	CFR47 FCC Part 15: Subpart C Section 15.207 CFR47 FCC Part 15: Subpart C Section 15.209 CFR47 FCC Part 15: Subpart C Section 15.215 CFR47 FCC Part 2: Subpart J Section 1.1310			
Wareneingangsdatum: <i>Date of sample receipt:</i>	2021-03-01	Refer to photos document		
Prüfmuster-Nr.: <i>Test sample no.:</i>	A003005501-001 to 006			
Prüfzeitraum: <i>Testing period:</i>	2021-03-02 – 2021-03-15			
Ort der Prüfung: <i>Place of testing:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von: <i>tested by:</i>	genehmigt von: <i>authorized by:</i>			
Datum: <i>Date:</i> 2021-06-01	Ausstellungsdatum: <i>Issue date:</i> 2021-06-01			
Stellung / Position	Senior Project Engineer	Stellung / Position	Department Manager	
Sonstiges / Other:	FCC ID: 2AYYSNSAWCB1			
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>	Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged:</i>			
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specifications(s) F(ail) = failed a.m. test specifications(s) N/A = not applicable N/T = not tested				
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

V05

Test Summary

5.1.1 ANTENNA REQUIREMENT

RESULT: Pass

5.1.2 20dB BANDWIDTH

RESULT: Pass

5.1.3 RADIATED SPURIOUS EMISSION

RESULT: Pass

5.1.4 CONDUCTED EMISSIONS

RESULT: Pass

5.1.5 RADIATED EMISSION

RESULT: Pass

6.1.1 ELECTROMAGNETIC FIELDS

RESULT: Pass

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1 General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: Photographs of the Test Set-up

2 Test Sites

2.1 Test Facilities

TÜV Rheinland (Shenzhen) Co., Ltd.

No. 362 Huangguan Road Middle, Longhua District, Shenzhen 518110, China

FCC Registration No.: CN1260

IC Registration No.: 25069

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

TÜV Rheinland (Shenzhen) Co., Ltd.

Radio Spectrum Testing				
Description	Manufacturer	Model	Serial No.	Cal. Until
Signal Analyzer	Rohde & Schwarz	FSV 40	101441	2021-08-20
OSP	Rohde & Schwarz	OSP 150	101017	2021-12-20
Control PC	DELL	OptiPlex 7050	FTJZ9P2	N/A
Test Software	Rohde & Schwarz	WMS32 (V10.40.10)	N/A	N/A
Shielding Room 8#	Albatross	SR8	APC17151-SR8	2023-07-23
Unwanted Emission Testing				
Description	Manufacturer	Model	Serial No.	Cal. Until
EMI Test Receiver	Rohde & Schwarz	ESR 7	102021	2021-08-19
Signal Analyzer	Rohde & Schwarz	FSV 40	101439	2021-08-21
System Controller Interface	Rohde & Schwarz	SCI-100	S10010038	N/A
Filterbank	Rohde & Schwarz	Wlan	100759	2021-08-21
OSP	Rohde & Schwarz	OSP 120	102040	N/A
Pre-amplifier	Rohde & Schwarz	SCU08F1	08320031	2021-08-20
Amplifier	Rohde & Schwarz	SCU-18F	180070	2021-08-20
Amplifier	Rohde & Schwarz	SCU40A	100475	2021-08-21
Trilog Broadband Antenna (30 MHz - 1 GHz)	Schwarzbeck	VULB9162	193	2021-09-02
Double-Ridged Antenna (1 -18 GHz)	ETS-LINDGREN	3117	00218717	2021-09-02
Wideband Ridged Horn Antenna (18-40 GHz)	Steatite	QMS-00880	19067	2021-09-02
Active Loop Antenna	Schwarzbeck	FMZB 1513	302	2021-09-01

Wideband Ridged Horn Antenna (12-18 GHz)	Steatite	QMS-00208	18313	2021-09-02
Test software	Rohde & Schwarz	V10.40.10-EMC32	N/A	N/A
Control PC	Dell	OptiPlex 7050	36NV9P2	N/A
3m Semi-Anechoic Chamber	Albatross	SAC-3m	APC17151-SAC	2021-06-07

Conducted Emission

Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
EMI Test Receiver	R&S	ESR3	102428	2021-09-03
Artificial Mains Network	R&S	ENV216	102333	2021-08-19
Artificial Mains Network	R&S	ENV432	101411	2021-08-19
Impedance Stabilisation Network	R&S	ENY81	100323	2021-08-19
Impedance Stabilisation Network	R&S	ENY81-CA6	101810	2021-08-20
Current Probe	R&S	EZ-17	101247	2021-08-19
Voltage Probe	R&S	ESH2-Z3	100557	2021-08-19
Attenuator	R&S	ESH2Z31	100300	2021-08-19
EMC32 test software	R&S	EMC32(Ver.10.50.01)	N/A	N/A

Radiated Emission

Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
10m modified SAC	ETS	SAC10	CT001632-Q1399	2021-08-31
EMI Test Receiver	R&S	ESR7	102022	2021-08-19
EMI Test Receiver	R&S	ESR7	102023	2021-08-19
Bilog Antenna	TESEQ	CBL6112D	51321	2021-08-29
Bilog Antenna	TESEQ	CBL6112D	51322	2021-08-29
Preamplifier	SCHWARZBECK	BBV9745	115	2021-10-09
Preamplifier	EMCI	EMC9135-P	980629	2021-01-09
Preamplifier	FIT	SCU-18F	180076	2021-08-19
Horn Antenna	R&S	HF907	102707	2021-09-01
Switching Controller Interface	R&S	OSP 120	102038	N/A
EMC32 test software	R&S	EMC32(Ver.10.50.01)	N/A	N/A

RF Exposure

H-Field Probe 100 cm2 SENSOR	narda	D-0010	BN 2300/90.10	2021-05-20
MAGNETIC FIELD HiTESTER ELT-400	narda	D-0009	BN 2304/03	2021-05-20

2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table

Test	Parameters	Expanded uncertainty (U_{lab})	Expanded uncertainty (U_{cispr})
Conducted Emission	Level accuracy (9kHz to 150kHz) (150kHz to 30MHz)	± 3.70 dB ± 3.30 dB	± 3.8 dB ± 3.4 dB
Radiated Emission (3m SAC)	Level accuracy (30MHz to 1000MHz)	± 4.52 dB	± 6.3 dB
	Level accuracy (above 1000MHz)	± 4.37 dB	N/A

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) Co., Ltd. file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The TÜV Rheinland (Shenzhen) Co., Ltd. Test facility located at No. 362 Huangguan Road Middle, Longhua District, Shenzhen 518110, China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3 General Product Information

3.1 Product Function and Intended Use

The device is a Magnetic Charging Cable for apple watch.

According to the declaration of the applicant, the electrical circuit design, PCB layout and components used are identical for all models, only the model number, colour and cable length are different.

For details refer to the User Manual, Technical Description and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Technical Specification of EUT

General Information of EUT	Value
Kind of Equipment	Magnetic Charging Cable
Type Designation	NS-AWCB1, NS-AWCB1W, NS-AWCB4CM, NS-AWCPLG, NS-AWCxxxxxxxx,DX-AWCxxxxxxxx, MD-AWCxxxxxxxx(x can be A-Z, a-z, 0-9, - or blank)
Trademark	INSIGNIA
FCC ID	2AYYSNSAWCB1
Input Voltage	USB Operated, 5V, 1.2A max
Technical Specification of WPT	
Operating Frequency	326.5KHz
Modulation	FSK
Antenna Type	Coil Antenna
Antenna number	1
Wireless Charger output power	Max. 5W

3.3 Independent Operation Modes

The basic operation modes are:

- A. On, Wireless charging
- B. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- ID Label and Location Info

4 Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5&6. All testing were performed according to the procedures in ANSI C63.10: 2013.

According to clause 3.1, all tests of Radio Spectrum were applied on model NS-AWCB6W; Radiated Emissions applied on model NS-AWCB6W, NS-AWCB1W, NS-AWCPLG; and Conducted Emissions were applied on model NS-AWCB1W

4.3 Special Accessories and Auxiliary Equipment

Table 3: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model	S/N	Rating
Adapter	TUVR	AC/DC Adapter1	SE-002	Output: 5Vdc, 1.2A max
Notebook	Lenovo	ThinkPad X260	n/a	n/a
Adapter	Lenovo	n/a	n/a	n/a
Apple Watch	Apple	Apple Watch Series 2	n/a	n/a

4.4 Countermeasures to Achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF).

No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 30MHz)

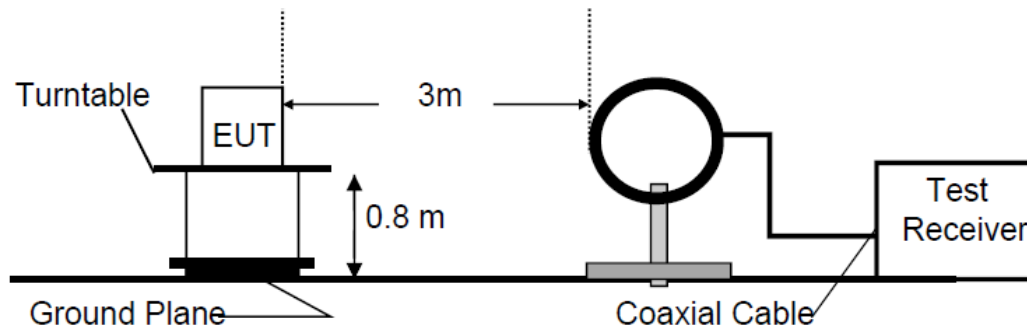


Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

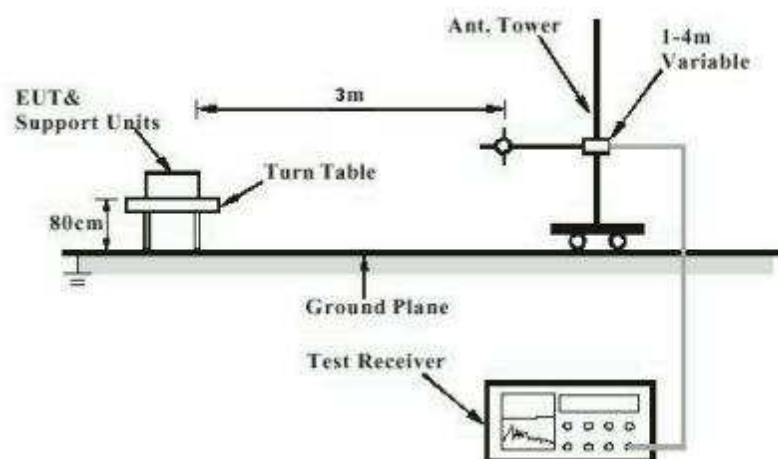
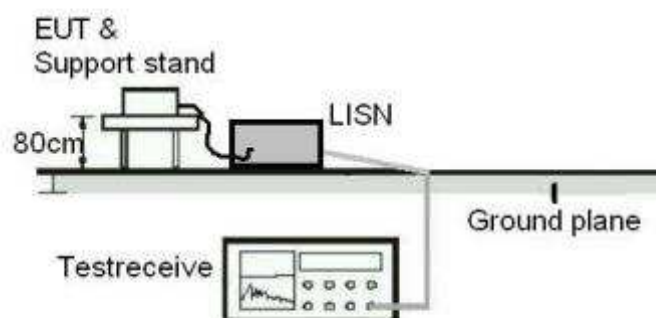


Diagram of Measurement Equipment Configuration for Mains Conduction Measurement



5 Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:

Pass

Test Specification

Test standard : Part 15.203

According to the manufacturer declared, the EUT has an internal antenna, and the antenna is permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT Photo for further details.

5.1.2 20dB Bandwidth

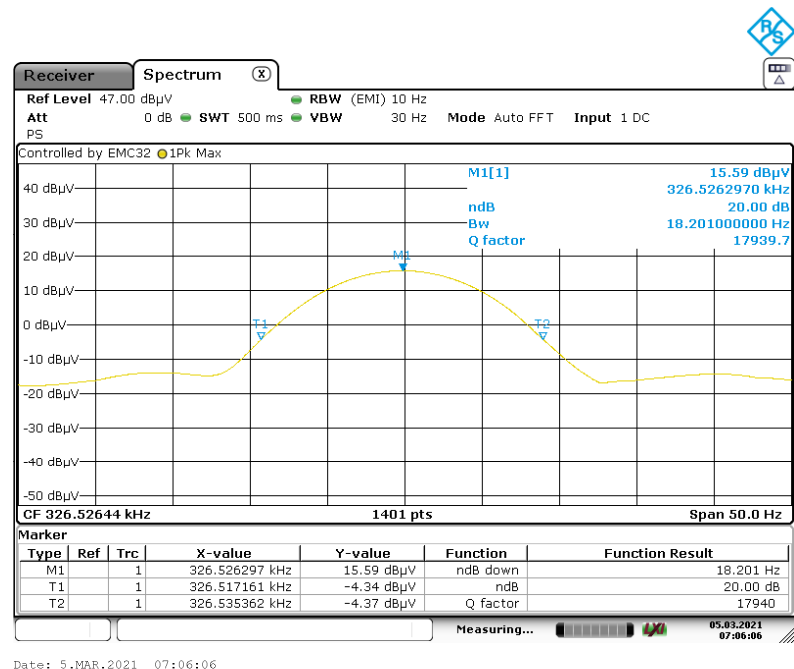
RESULT:
Pass
Test Specification

Test standard : FCC Part 15.215(c)
 Basic standard : ANSI C63.10: 2013
 Kind of test site : Shielded Room

Test Setup

Date of testing : 05.03.2021
 Input voltage : 120Vac, 60Hz
 Operation mode : A
 Ambient temperature : 25 °C
 Relative humidity : 56 %
 Atmospheric pressure : 101 kPa

For details refer to following test result.



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5.1.3 Radiated Spurious Emission

RESULT:

Pass

Test Specification

Test standard	: FCC Part 15.209 & 15.205
Basic standard	: ANSI C63.10: 2013
Limits	: Refer to 15.209(a)
Kind of test site	: 3m Semi-anechoic Chamber

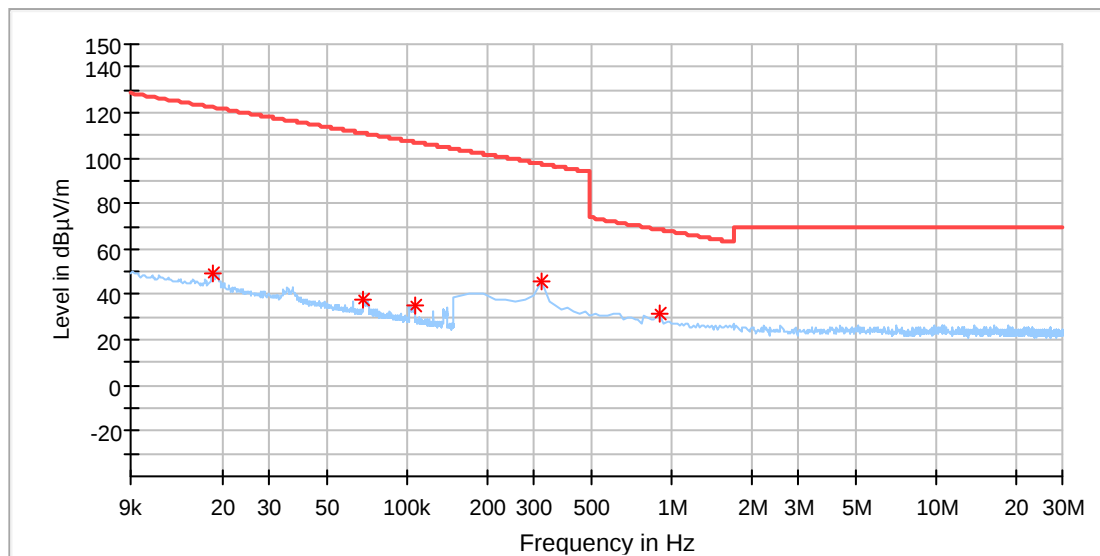
Test Setup

Date of testing	: 02.03.2021
Input voltage	: 120Vac, 60Hz
Operation mode	: A
Ambient temperature	: 22 °C
Relative humidity	: 52 %
Atmospheric pressure	: 101 kPa

Refer to following test plots for details of test result.

EUT Information

EUT Name: Magnetic Charging Cable
 Model: NS-AWCB6W
 Test Mode: Charging
 Test Voltage:: 120V/60Hz
 Remark: Temp 23 Humi:48%
 Test Standard: FCC Part 15C
 Tested By: Alano Qu
 Reviewed By: Terry Yin

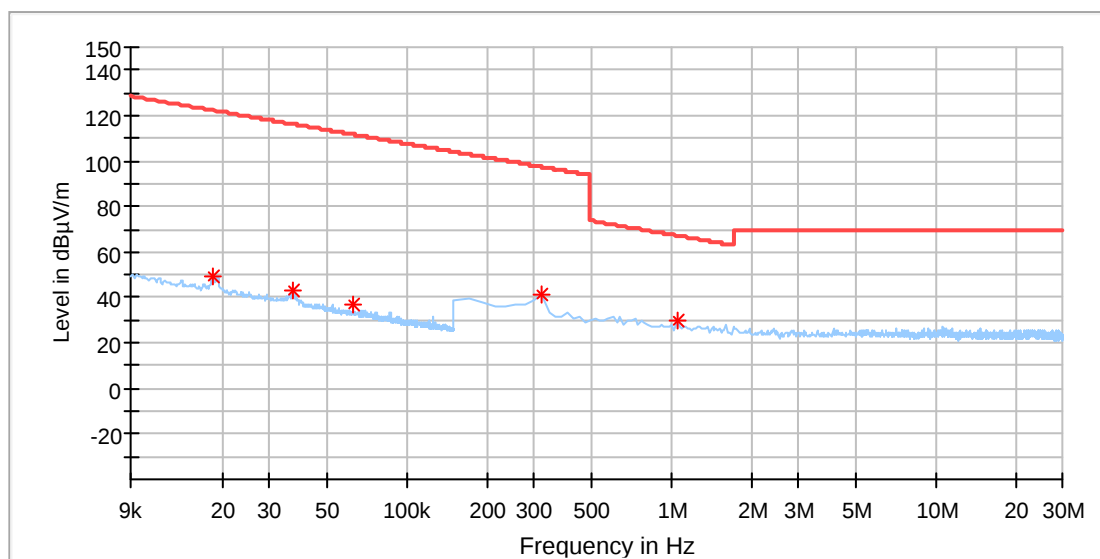


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
0.018467	49.58	122.26	72.68	100.0	V	349.0	20.1
0.068220	37.87	110.92	73.05	100.0	V	7.0	20.1
0.106391	35.33	107.06	71.73	100.0	V	0.0	20.1
0.320572	45.96	97.48	51.52	100.0	V	354.0	20.1
0.896250	31.71	68.57	36.86	100.0	V	0.0	20.1

EUT Information

EUT Name: Magnetic Charging Cable
 Model: NS-AWCB6W
 Test Mode: Charging
 Test Voltage:: 120V/60Hz
 Remark: Temp 23 Humi:48%
 Test Standard: FCC Part 15C
 Tested By: Alano Qu
 Reviewed By: Terry Yin

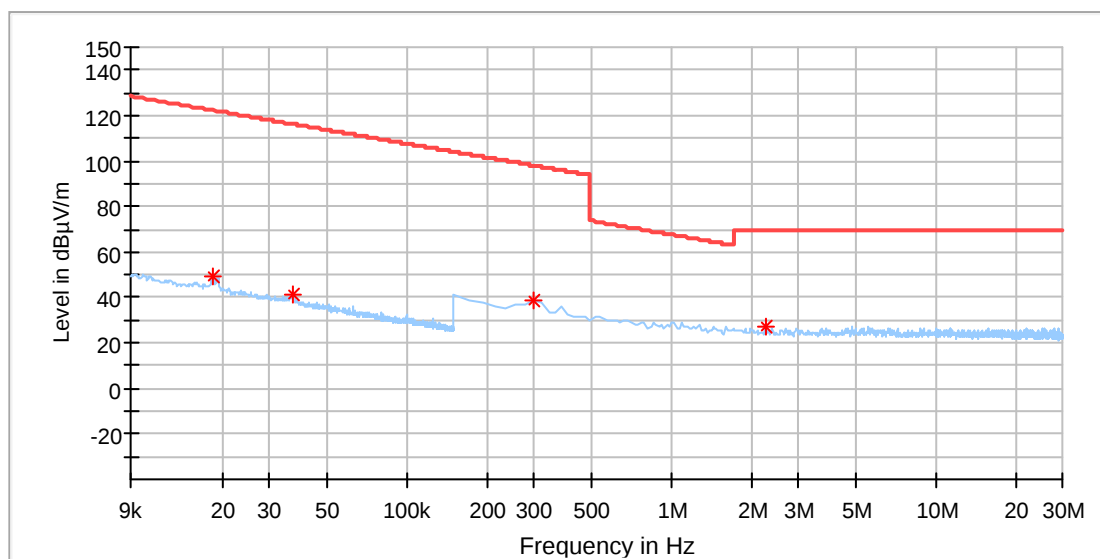


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
0.018366	49.46	122.31	72.85	100.0	V	0.0	20.1
0.036797	43.01	116.28	73.27	100.0	V	0.0	20.1
0.062681	37.26	111.65	74.39	100.0	V	29.0	20.1
0.320572	41.29	97.48	56.19	100.0	V	328.0	20.1
1.045500	30.00	67.24	37.24	100.0	V	207.0	20.1

EUT Information

EUT Name: Magnetic Charging Cable
 Model: NS-AWCB6W
 Test Mode: Charging
 Test Voltage:: 120V/60Hz
 Remark: Temp 22 Humi:52%
 Test Standard: FCC Part 15C
 Tested By: Alano Qu
 Reviewed By: Terry Yin

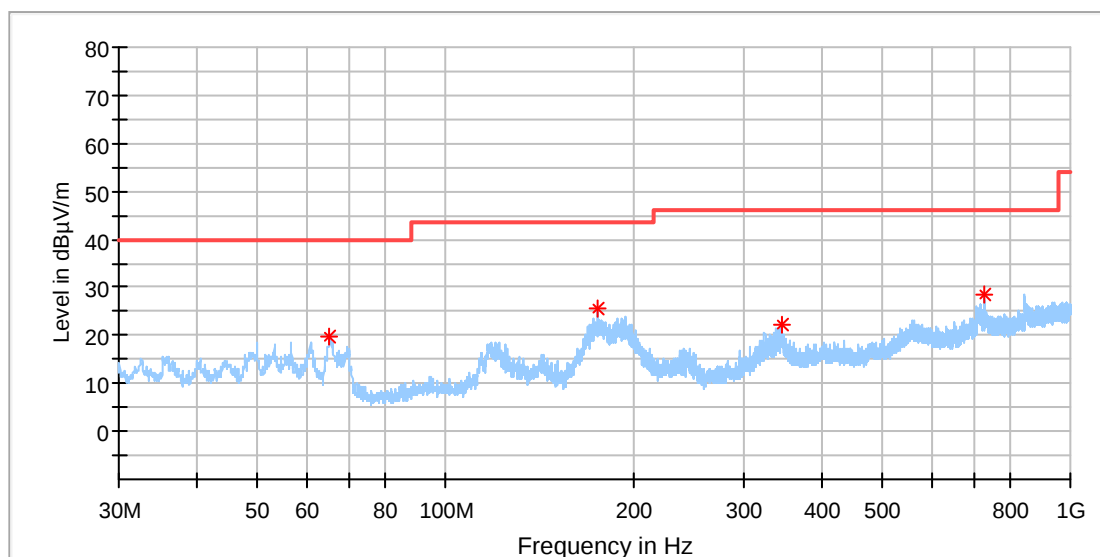


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
0.018366	49.28	122.31	73.03	100.0	V	193.0	20.1
0.036797	41.39	116.28	74.89	100.0	V	144.0	20.1
0.299250	38.86	98.08	59.22	100.0	V	194.0	20.1
2.260822	26.79	69.50	42.71	100.0	V	356.0	20.2

EUT Information

EUT Name:	Magnetic Charging Cable
Model:	NS-AWCB6W
Test Mode:	Charging
Test Voltage::	120V/60Hz
Remark:	Temp 23 Humi:48%
Test Standard:	FCC Part 15C
Tested By:	Alano Qu
Reviewed By:	Terry Yin

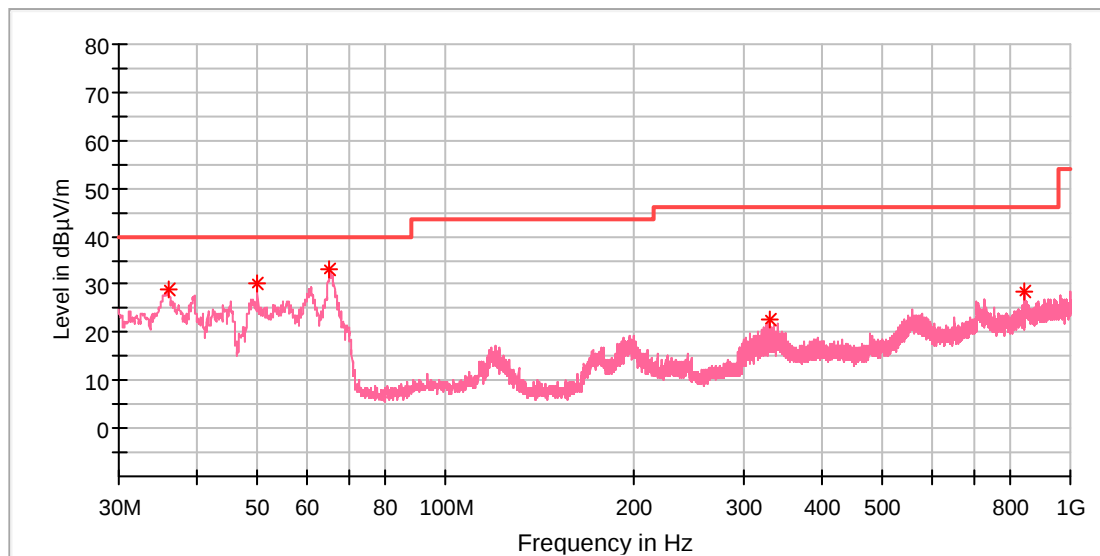


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
65.065500	19.79	40.00	20.21	100.0	H	267.0	-20.4
174.966500	25.46	43.50	18.04	100.0	H	340.0	-21.3
344.134500	22.29	46.00	23.71	100.0	H	320.0	-15.3
728.545500	28.43	46.00	17.57	100.0	H	155.0	-7.9

EUT Information

EUT Name: Magnetic Charging Cable
 Model: NS-AWCB6W
 Test Mode: Charging
 Test Voltage:: 120V/60Hz
 Remark: Temp 23 Humi:48%
 Test Standard: FCC Part 15C
 Tested By: Alano Qu
 Reviewed By: Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
35.965500	28.99	40.00	11.01	100.0	V	328.0	-21.9
49.982000	30.24	40.00	9.76	100.0	V	245.0	-18.6
65.308000	33.17	40.00	6.83	100.0	V	348.0	-20.5
329.487500	22.82	46.00	23.18	100.0	V	277.0	-15.7
844.848500	28.32	46.00	17.68	100.0	V	339.0	-6.0

5.1.4 Conducted emissions

RESULT:

Pass

Test Specification

Test standard	: FCC Part 15.207
Basic standard	: ANSI C63.10: 2013
Frequency range	: 150KHz - 30MHz
Classification	: Class B
Limit	FCC Part 15.207 (a)
Kind of test site	: Shielded Room

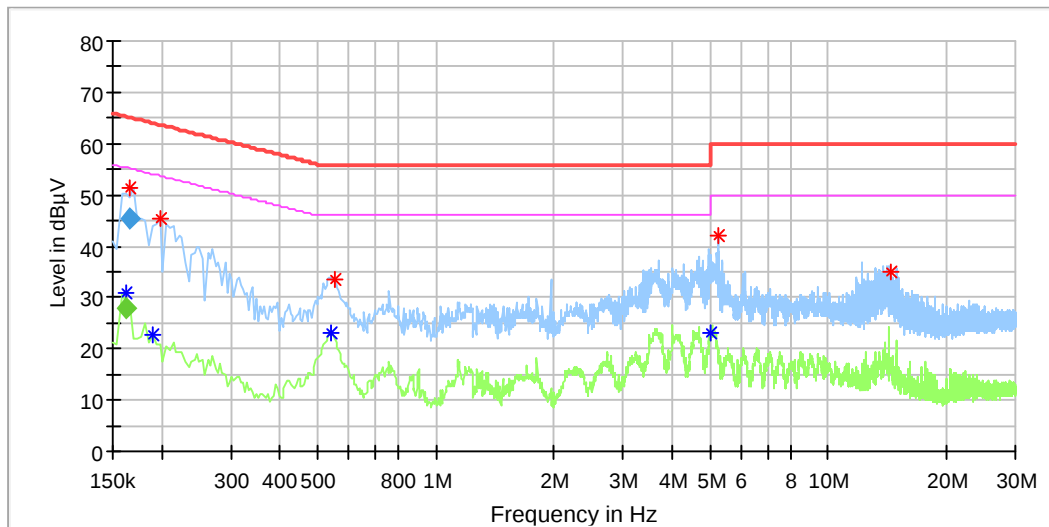
Test Setup

Date of testing	: 15.03.2021
Input voltage	: 120Vac, 60Hz
Operation mode	: A
Ambient temperature	: 23 °C
Relative humidity	: 48 %
Atmospheric pressure	: 101 kPa

Refer to following test plots for details of test result.

EUT Information

EUT Name: Magnetic Charging Cable
 Model: NS-AWCB1W
 Test Mode: charging
 Test Voltage: 120Vac, 60Hz
 Test By: Richard Lin
 Review By: Gary Chen



Critical Freqs

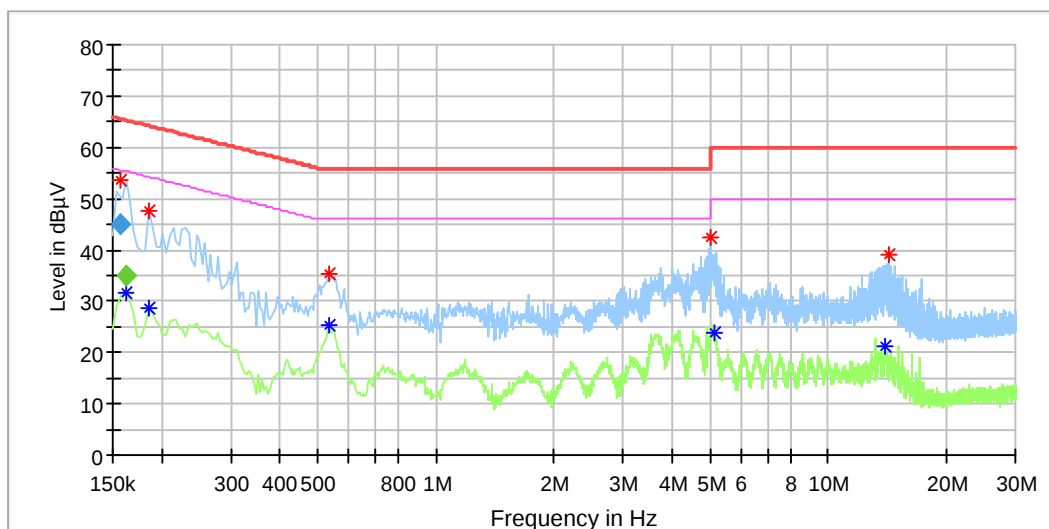
Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line
0.161500	---	31.00	55.57	24.57	---	N
0.165500	51.37	---	64.96	13.59	---	N
0.190000	---	22.59	54.04	31.44	---	N
0.198000	45.34	---	63.69	18.35	---	N
0.542000	---	23.05	46.00	22.95	---	N
0.550000	33.48	---	56.00	22.52	---	N
5.038000	---	23.14	50.00	26.86	---	N
5.246000	42.22	---	60.00	17.78	---	N
14.414000	35.15	---	60.00	24.85	---	N

Final Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line
0.161500	---	27.80	55.39	27.59	1000.0	9.000	N
0.165500	45.51	---	65.18	19.67	1000.0	9.000	N

EUT Information

EUT Name: Magnetic Charging Cable
Model: NS-AWCB1W
Test Mode: charging
Test Voltage: 120Vac, 60Hz
Test By: Richard Lin
Review By: Gary Chen



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line
0.157500	53.62	---	65.36	11.74	---	L1
0.162500	---	31.45	55.57	24.12	---	L1
0.186000	---	28.68	54.21	25.54	---	L1
0.186000	47.74	---	64.21	16.47	---	L1
0.534000	---	25.17	46.00	20.83	---	L1
0.534000	35.37	---	56.00	20.63	---	L1
5.026000	42.47	---	60.00	17.53	---	L1
5.126000	---	23.89	50.00	26.11	---	L1
14.006000	---	21.39	50.00	28.61	---	L1
14.334000	38.92	---	60.00	21.08	---	L1

Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line
0.157500	44.92	---	65.60	20.67	1000.0	9.000	L1
0.162500	---	35.16	55.34	20.18	1000.0	9.000	L1

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5.1.5 Radiated Emission

RESULT:

Pass

Test Specification

Test standard	: FCC Part 15.209
Basic standard	: ANSI C63.4: 2014
Frequency range	: 30 - 1000MHz *
Limits	: Refer to 15.209(a)
Kind of test site	: 10m Semi-anechoic Chamber

Test Setup

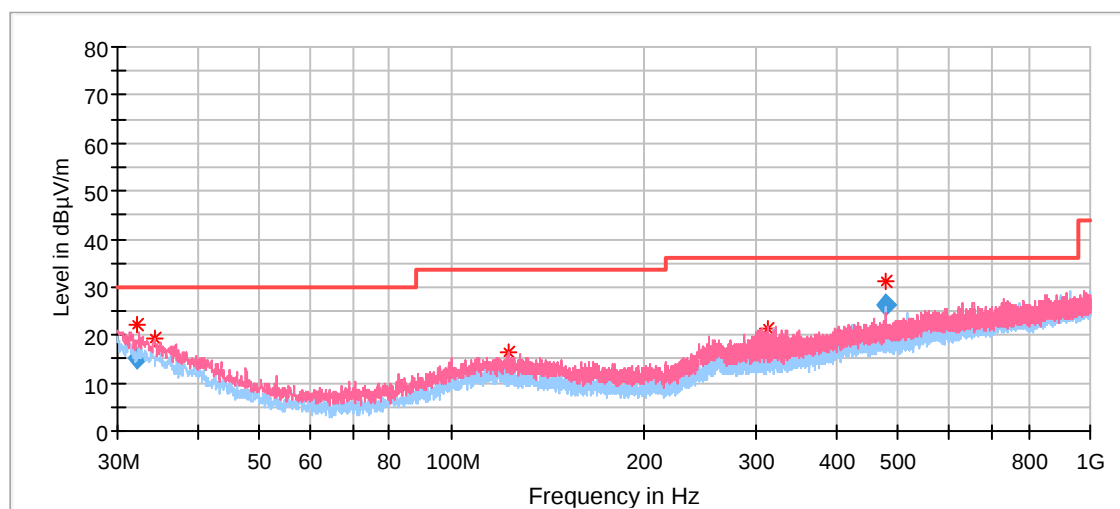
Date of testing	: 15.03.2021
Input voltage	: DC 5V via USB port
Operation mode	: A
Ambient temperature	: 22 °C
Relative humidity	: 52 %
Atmospheric pressure	: 101 kPa

Refer to following test plots for details of test result.

Remark:*- The highest frequency of internal sources of EUT is less than 108MHz, the measurement shall only be made up to 1GHz.

EUT Information

EUT Name:	Magnetic Charging Cable
Model:	NS-AWCPLG
Test Mode:	charging
Test Voltage:	DC 5V
Test By:	Richard Lin
Review By:	Gary Chen
Remark:	10m Chamber



Critical Freqs

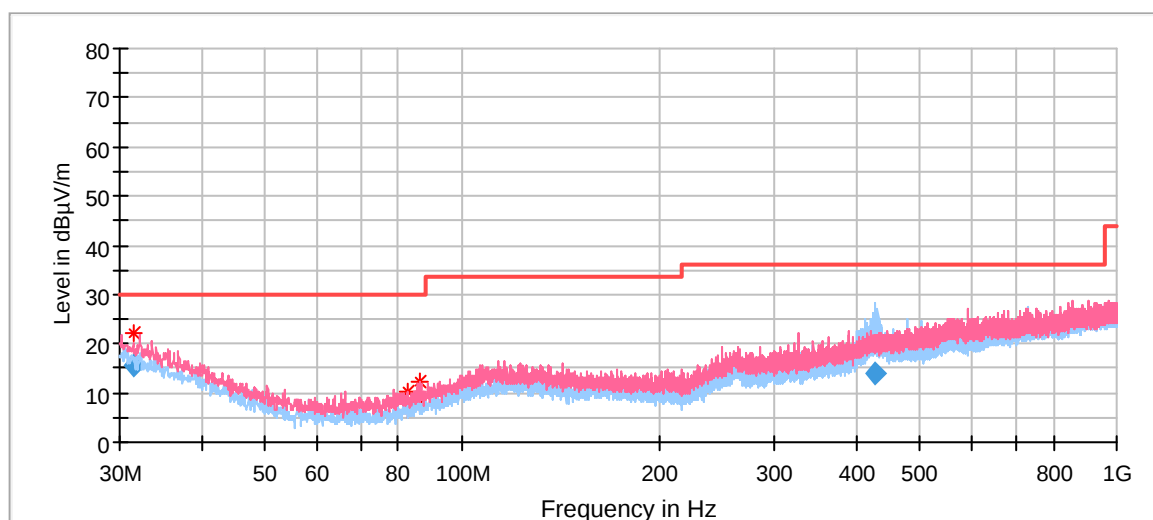
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
32.295000	22.19	30.00	7.81	222.0	V	127.0	-4.9
34.203333	19.28	30.00	10.72	200.0	V	171.0	-6.5
116.060556	12.28	33.50	21.22	200.0	H	136.0	-16.8
122.311667	11.69	33.50	21.81	200.0	H	146.0	-16.9
122.904444	16.43	33.50	17.07	100.0	V	324.0	-10.0
312.970556	21.46	36.00	14.54	100.0	V	128.0	-7.9
480.012222	31.33	36.00	4.67	174.0	H	182.0	-10.5

Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
32.295000	15.19	30.00	14.81	1000.0	120.000	222.0	V	127.0	-5.4
480.012222	26.37	36.00	9.63	1000.0	120.000	174.0	H	182.0	-10.5

EUT Information

EUT Name: Magnetic Charging Cable
 Model: NS-AWCB1W
 Test Mode: charging
 Test Voltage: DC 5V
 Test By: Richard Lin
 Review By: Gary Chen
 Remark: 10m Chamber



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
31.569444	21.96	30.00	8.04	222.0	V	212.0	-5.4
82.326111	10.38	30.00	19.62	100.0	V	0.0	-14.9
82.865000	6.59	30.00	23.41	200.0	H	232.0	-21.9
86.044444	7.92	30.00	22.08	100.0	H	353.0	-21.3
86.098333	12.10	30.00	17.90	200.0	V	68.0	-14.1
428.703333	20.13	36.00	15.87	243.0	H	0.0	-11.4

Final Result

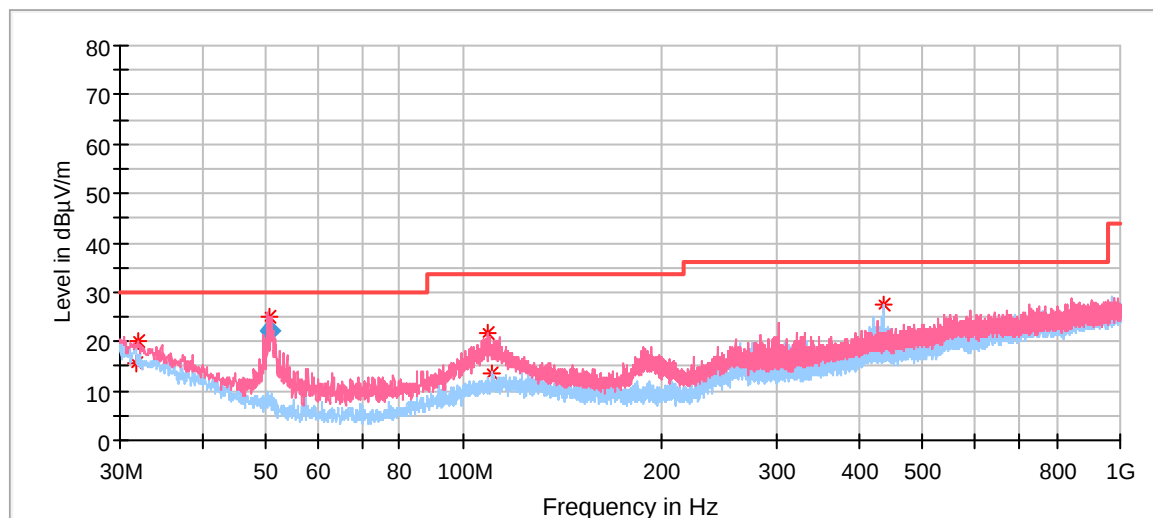
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
31.569444	15.60	30.00	14.40	1000.0	120.000	222.0	V	212.0	-5.0
428.703333	14.13	36.00	21.87	1000.0	120.000	243.0	H	0.0	-11.4

EUT Information

EUT Name: Magnetic Charging Cable
Model: NS-AWCB6W
Test Mode: charging
Test Voltage: DC 5V
Test By: Richard Lin
Review By: Gary Chen
Remark: 10m Chamber

Critical Freqs

Frequency (MHz)	MaxPeak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
31.832222	15.65	30.00	14.35	200.0	H	30.0	-12.5
31.886111	20.27	30.00	9.73	200.0	V	43.0	-5.2
50.622222	25.17	30.00	4.19	121.0	V	296.0	-14.7
109.001111	21.63	33.50	11.87	100.0	V	338.0	-10.4
110.402222	13.51	33.50	19.99	200.0	H	201.0	-17.2
437.292222	27.33	36.00	8.67	200.0	H	310.0	-11.4



Final Result

Frequency (MHz)	QuasiPeak (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
50.622222	21.99	30.00	8.01	1000.0	120.000	121.0	V	296.0	-14.8

6 Safety Human Exposure

6.1 Radio Frequency Exposure Compliance

6.1.1 Electromagnetic Fields

RESULT:

Pass

Test Specification

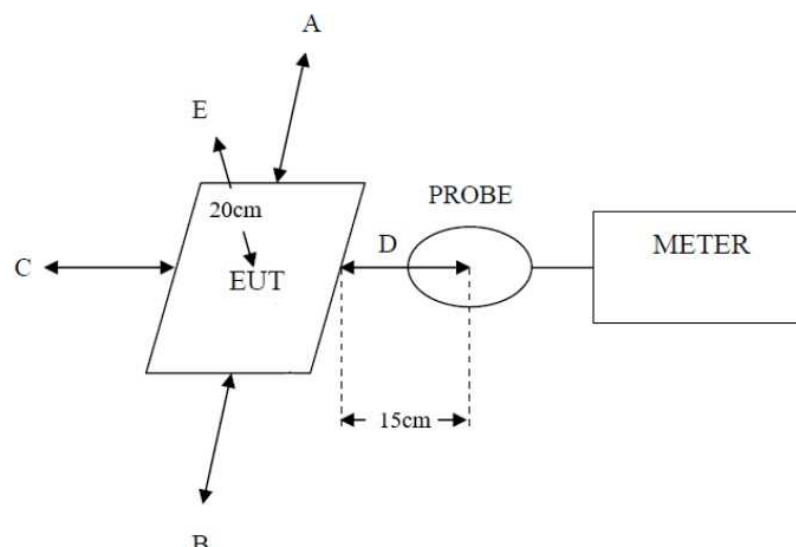
Test standard : CFR47 FCC Part 2: Subpart J Section 1.1310
FCC CFR 47 Part 1(1.1310) KDB 680106 D01 v03

According to the table 1 of FCC Part 2.1310, the reference limit as below:

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

Test Setup:



Test Result:

Table: H-Field Strength at 15 cm from the edges surrounding the EUT and 20cm from the top surface of the EUT

EUT Test Mode	Measured H-Field Strength Values (A/m)					50% Limit (A/m)	Limit (A/m)	Result
	Test Position Top	Test Position front	Test Position rear	Test Position left	Test Position right			
10% Battery Level	0.183	0.182	0.182	0.184	0.182	0.815	1.63	Pass
50% Battery Level	0.171	0.175	0.165	0.176	0.176	0.815	1.63	Pass
90% Battery Level	0.152	0.165	0.146	0.169	0.169	0.815	1.63	Pass

7 Photographs of the Test Set-Up

Refer to test photo document.

8 List of Tables

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