

## RF EXPOSURE TEST REPORT



Applicant	CE LINK LIMITED
Address	Building M, Li Cheng, Technology Industrial Zone, Gong He Village, Sha Jing Town, Shen Zhen, China

Manufacturer or Supplier	CE LINK LIMITED
Address	Building M, Li Cheng, Technology Industrial Zone, Gong He Village, Sha Jing Town, Shen Zhen, China
Product	Wireless Charger
Brand Name	<b>NXT</b>
Model	NX60457-US
Additional Model & Model Difference	NX60457-CC
Date of tests	Jan. 04, 2022

The submitted sample of the above equipment has been tested according to the requirements of the following standard:

- ☒ 47 CFR PART 1, Subpart I, Section 1.1310
- ☒ KDB 680106 D01

**CONCLUSION: The submitted sample was found to COMPLY with the test requirement**

Tested by Lucas Chen Project Engineer / EMC Department	Approved by Glyn He Assistant Manager / EMC Department
	 Data: Jan. 25, 2022

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Test Report No.: FM2112WDG3076

## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FM2112WDG3076	Original release	Jan. 25, 2022

## 1. GENERAL INFORMATION

### 1.1. GENERAL DESCRIPTION OF EUT

<b>FCC ID</b>	A4X-NX60457-US
<b>PRODUCT</b>	Wireless Charging
<b>MODEL NO.</b>	NX60457-US
<b>ADDITIONAL MODEL</b>	NX60457-CC
<b>SAMPLE STATUS</b>	Engineering sample
<b>POWER SUPPLY</b>	Input: DC 5V/3A, DC 9V/2A Output: 5W, 7.5W, 10W
<b>MODULATION TECHNOLOGY</b>	FSK
<b>OPERATING FREQUENCY RANGE</b>	111KHz ~ 205KHz
<b>ANTENNA TYPE</b>	Coil Antenna
<b>I/O PORTS</b>	Refer to user's manual
<b>CABLE SUPPLIED</b>	USB-C to USB-C Cable:1.5m, Unshielded, Non-detachable

#### NOTES:

- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
- For the test results, the EUT had been tested with all conditions, but only the worst case was shown in test report.
- Please refer to the EUT photo document (Reference No.: 2112WDG3076-1) for detailed product photo.
- Additional model NX60457-US is identical with test model NX60457-CC except the appearance and model number for marketing purpose.
- The EUT was powered by the following adapter:

ADAPTER	
BRAND:	<b>CE-LINK</b>
MODEL:	PD20x-1TNC
INPUT:	100-240V~, 50/60Hz, 0.6A Max
OUTPUT:	5V <sub>DC</sub> , 3A; 9V <sub>DC</sub> , 2.22A; 12V <sub>DC</sub> , 1.67A Total: 20W Max

## 2. RF EXPOSURE MEASUREMENT

### 2.1 LIMITS

§ 1.1310 The criteria listed in table 1 shall be used to evaluate the environmental impact of human exposure to radiofrequency(RF) radiation as specified in § 1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of § 2.1093 of this chapter.

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

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

f = frequency in MHz

\* = Plane-wave equivalent power density

NOTE 1 TO TABLE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2 TO TABLE 1: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

### Reference KDB 680106 D01 RF Exposure Wireless Charging App v03

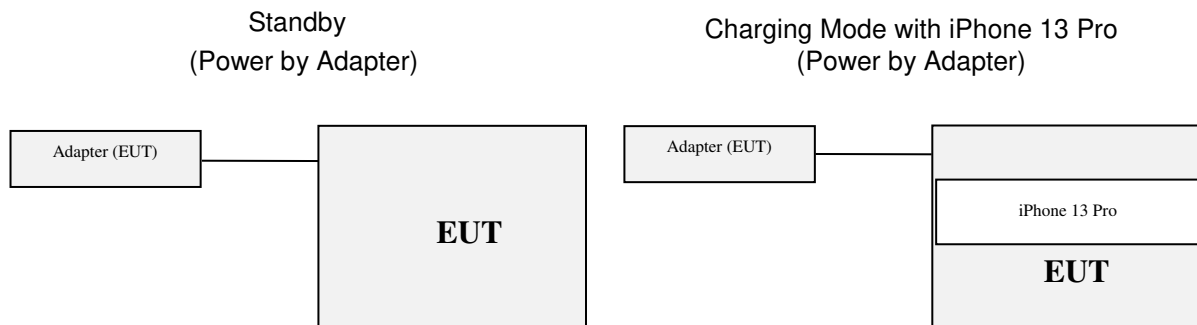
The aggregate H-field strengths at 15 cm surrounding the device and 20 cm above the top surface from all simultaneous transmitting coils are demonstrated to be less than 50% of the MPE limit.

### 2.2 DESCRIPTION OF SUPPORT UNITS

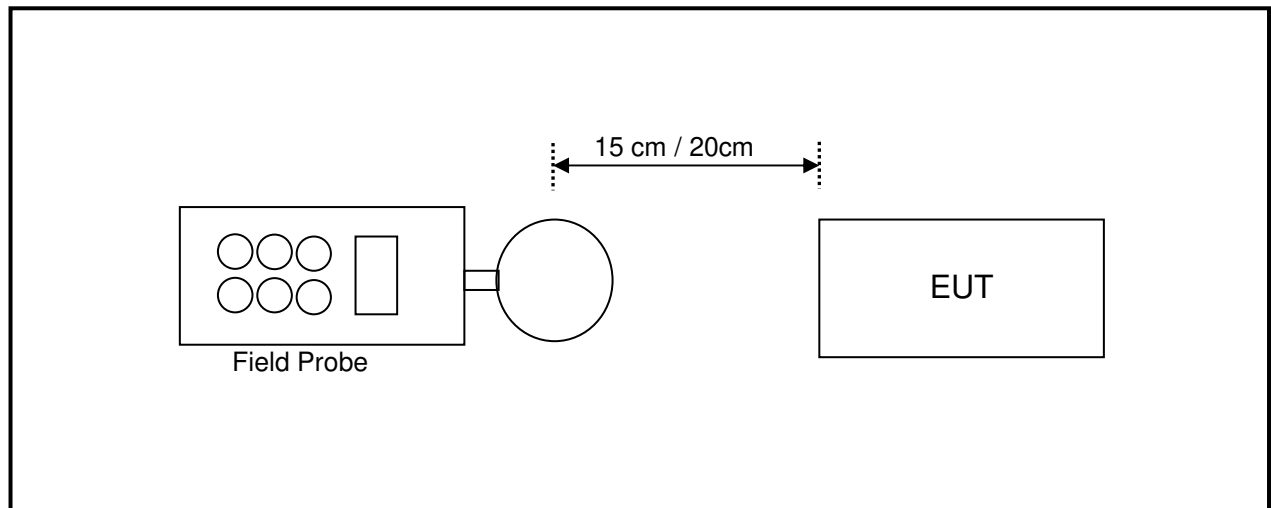
The EUT has been tested with associated equipment below

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	iPhone 13 Pro	Apple	A2639	RWKGKGR4X05	N/A

## 2.3 CONFIGURATION OF SYSTEM UNDER TEST



## 2.4 TEST SETUP FOR WPT



Note: Measurements should be made from all sides and the top of the primary/client pair, with the 15 cm or 20 cm measured from the center of the probe(s) to the edge of the device.

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

## 2.5 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT:

Tabulated list of the error components and uncertainty values contributing to the total measurement uncertainty

Combined standard uncertainty and expanded uncertainty (for  $k \geq 2$ ) of each measurement

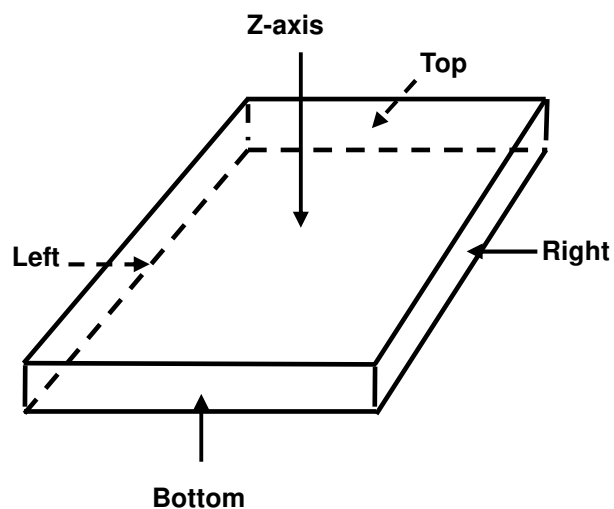
PARAMETER	UNCERTAINTY
E-Field Measurement	$\pm 0.003$ V/m
H-Field Measurement	$\pm 0.001$ $\mu$ T

## 2.6 EQUIPMENTS USED DURING TEST

Item	Test Equipment	Manufacturer	Model No.	Frequency Range	Next Cal.
1	RS Chamber	Chance Most	8m*4m*4m	E1-010019	Feb. 03,26
2	Narda Broadband Field Meter	Narda	NBM-520	100KHz-90GHz	2022-11-11
3	E-Field probe	Narda	EF0691	100KHz-6GHz	2022-06-13
4	Exposure Level Tester	Narda	ELT-400	1Hz-400KHz	2022-06-13

- NOTES:**
1. The test was performed in RS chamber.
  2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

## 2.7 TEST POINT DESCRIPTION





## 2.8 TEST RESULTS

### Mode 1 USB-C port input + Standby

E-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	0.86	1.38	0.92	1.24	1.04
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-613.14	-612.62	-613.08	-612.76	-612.96
50% Limit (V/m)	307	307	307	307	307
50% Margin (V/m)	-306.14	-305.62	-306.08	-305.76	-305.96

H-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.224	0.229	0.225	0.226	0.239
Max H-field (A/m)	0.178	0.182	0.179	0.180	0.190
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.452	-1.448	-1.451	-1.450	-1.440
50% Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50% Margin (A/m)	-0.637	-0.633	-0.636	-0.635	-0.625

Measurements was made from all sides and the top of the primary/client pair, with the 15 cm or 20 cm measured from the center of the probe(s) to the edge of the device. The highest emission level was recorded.

### Mode 2: EUT USB-C port input + iPhone 13 Pro 10% Charger

E-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	1.23	1.17	0.96	1.11	0.75
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-612.77	-612.83	-613.04	-612.89	-613.25
50% Limit (V/m)	307	307	307	307	307
50% Margin (V/m)	-305.77	-305.83	-306.04	-305.89	-306.25

H-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.22	0.22	0.23	0.222	0.237
Max H-field (A/m)	0.175	0.175	0.183	0.177	0.189
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.455	-1.455	-1.447	-1.453	-1.441
50% Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50% Margin (A/m)	-0.640	-0.640	-0.632	-0.638	-0.626

Measurements was made from all sides and the top of the primary/client pair, with the 15 cm or 20 cm measured from the center of the probe(s) to the edge of the device. The highest emission level was recorded.

**Mode 3: EUT USB-C port input + iPhone 13 Pro 50% Charger**

E-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	1.16	1.14	0.91	1.02	0.77
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-612.84	-612.86	-613.09	-612.98	-613.23
50% Limit (V/m)	307	307	307	307	307
50% Margin (V/m)	-305.84	-305.86	-306.09	-305.98	-306.23

H-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.217	0.216	0.228	0.219	0.231
Max H-field (A/m)	0.173	0.172	0.182	0.174	0.184
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.457	-1.458	-1.448	-1.456	-1.446
50% Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50% Margin (A/m)	-0.642	-0.643	-0.633	-0.641	-0.631

Measurements was made from all sides and the top of the primary/client pair, with the 15 cm or 20 cm measured from the center of the probe(s) to the edge of the device. The highest emission level was recorded.

**Mode 4: EUT USB-C port input + iPhone 13 Pro 90% Charger**

E-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max E-field (V/m)	1.07	1.02	0.83	0.97	0.71
Limit (V/m)	614	614	614	614	614
Margin (V/m)	-612.93	-612.98	-613.17	-613.03	-613.29
50% Limit (V/m)	307	307	307	307	307
50% Margin (V/m)	-305.93	-305.98	-306.17	-306.03	-306.29

H-Field Measurement					
Distance	15cm				20cm
EUT Side	Left	Right	Top	Bottom	Z-axis
Max H-field (uT)	0.208	0.212	0.217	0.211	0.224
Max H-field (A/m)	0.166	0.169	0.173	0.168	0.178
Limit (A/m)	1.63	1.63	1.63	1.63	1.63
Margin (A/m)	-1.464	-1.461	-1.457	-1.462	-1.452
50% Limit (A/m)	0.815	0.815	0.815	0.815	0.815
50% Margin (A/m)	-0.649	-0.646	-0.642	-0.647	-0.637

Measurements was made from all sides and the top of the primary/client pair, with the 15 cm or 20 cm measured from the center of the probe(s) to the edge of the device. The highest emission level was recorded.



Test Report No.: FM2112WDG3076

### 3. PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (FCC MPE Test Photo).

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