



TEST REPORT

Applicant: Nebra Ltd

Address: Unit 4 Bells Yew Green Business Court, Bells Yew Green, East Sussex, United Kingdom

Manufacturer: Shenzhen Eastech Company Limited.

Address: 2nd floor, 3rd building, Baishixia Development Area, Fuyong Street, Bao'an District, Shenzhen City, Guangdong Province, China.

EUT: mini usb wifi dongle

Trade Mark: N/A

Model Number: FX-8188EA

Date of Receipt: May. 22, 2021

Test Date: May. 22, 2021 - May. 31, 2021

Date of Report: May. 31, 2021

Prepared By: Shenzhen DL Testing Technology Co., Ltd.

Address: 101-201, Building C, Shuanghuan, No.8, Baoqing Road, Baolong Industrial Zone, Baolong Street, Longgang District, Shenzhen, Guangdong, China

Applicable Standards: EN IEC 62311:2020
EN 50566:2017

Test Result: Pass

Report Number: DL-20210531028-1E

Prepared (Engineer): Alisa Song

Reviewer (Supervisor): Jack Bu

Approved (Manager): Jade Yang



This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen DL Testing Technology Co., Ltd.

**1. VERSION**

Version No.	Date	Description
00	May. 31, 2021	Original

2. GENERAL INFORMATION**2.1 Description of Device (EUT)**

EUT: mini usb wifi dongle

Trade Mark: N/A

Model Number: FX-8188EA

Test Model: FX-8188EA

Model Difference: N/A

Power Supply: DC 5V from USB

Operation Frequency: 802.11b/g/n20:2412~2472 MHz
802.11n40:2422~2462 MHz

Modulation Type: CCK/OFDM/DBPSK/DAPSK

Number of Channel: 13CH

Dara Rate: 150Mbps Max

Antenna Type: External Antenna

Antenna Gain: 12dBi

Hardware Version: ---

Software Version: ---

Firmware: ---

Note1: For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.



3 REQUIREMENT

3.1 GENERAL INFORMATION

EN 62311 Generic standard to demonstrate the compliance of electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields (0 Hz–300 GHz) is to demonstrate the compliance of apparatus with the basic restrictions or reference levels on exposure of the general public related to electric, magnetic, electromagnetic fields as well as induced and contact current.

3.2 Limit

Reference levels for electric, magnetic and electromagnetic fields
(0 Hz to 300 GHz, unperturbed rms values)

Frequency range	E-field strength (V/m)	H-field strength (A/m)	B-field (μT)	Equivalent plane wave power density S_{eq} (W/m ²)
0-1 Hz	—	$3,2 \times 10^4$	4×10^4	—
1-8 Hz	10 000	$3,2 \times 10^4/f^2$	$4 \times 10^4/f^2$	—
8-25 Hz	10 000	$4\,000/f$	$5\,000/f$	—
0,025-0,8 kHz	$250/f$	$4/f$	$5/f$	—
0,8-3 kHz	$250/f$	5	6,25	—
3-150 kHz	87	5	6,25	—
0,15-1 MHz	87	$0,73/f$	$0,92/f$	—
1-10 MHz	$87/f^{1/2}$	$0,73/f$	$0,92/f$	—
10-400 MHz	28	0,073	0,092	2
400-2 000 MHz	$1,375\,f^{1/2}$	$0,0037\,f^{1/2}$	$0,0046\,f^{1/2}$	$f/200$
2-300 GHz	61	0,16	0,20	10

Notes:

1. f as indicated in the frequency range column.



3.3 Test Method

$$E \text{ (V/m)} = (30 \cdot P \cdot G)^{0.5} / d$$

E = Electric Field (V/m)

P = Peak RF output Power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

From the peak EUT RF output power, the minimum mobile separation distance, $d=0.2\text{m}$, as well as the gain of the used antenna, the RF power density can be obtained.

3.4 Test Result

EMF Test Data						
Test Mode	Max Output Power (dBm)	Max Output Power (W)	Antenna Gain (dBi)	Electric Field (V/m)	Limit (V/m)	Result
802.11b	8.69000	0.00740	12.00	9.38	61.00	Pass
802.11g	8.42000	0.00695	12.00	9.09	61.00	Pass
802.11n HT20	7.36000	0.00545	12.00	8.05	61.00	Pass
802.11n HT40	7.29000	0.00536	12.00	7.98	61.00	Pass

Note: The max output power(dBm) data is a reference RF report.

4 EUT PHOTOGRAPHS

Please references EMC report.

***** END OF REPORT *****