



■ Report No.: DDT-R18101003-1E10

■ Issued Date: Dec. 12, 2018

# RF EXPOSURE REPORT

## FOR

<b>Applicant</b>	:	DC YunKe Networks Co.,Ltd.
<b>Address</b>	:	6F, building B, no.777, guanggu no.3 road, east lake high-tech development zone, Wuhan China
<b>Equipment under Test</b>	:	Wall AP
<b>Model No.</b>	:	WL8200-WH2
<b>Trade Mark</b>	:	DCN
<b>FCC ID</b>	:	2ARKXWL8200-WH2
<b>Manufacturer</b>	:	DC YunKe Networks Co.,Ltd.
<b>Address</b>	:	6F, building B, no.777, guanggu no.3 road, east lake high-tech development zone, Wuhan China

**Issued By: Dongguan Dongdian Testing Service Co., Ltd.**

**Add:** No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China, 523808

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# REPORT

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## TEST REPORT DECLARE

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**Standard Used:** KDB447498 D01 General RF Exposure Guidance v06

**We Declare:**

The equipment described above is assessed by Dongguan Dongdian Testing Service Co., Ltd and in the configuration assessed the equipment complied with the standards specified above. The assessed results are contained in this report and Dongguan Dongdian Testing Service Co., Ltd is assumed of full responsibility for the accuracy and completeness of these assess.

**After evaluation, our opinion is that the equipment In Accordance with above standard.**

<b>Report No:</b>	DDT-R18101003-1E10		
<b>Date of Receipt:</b>	Oct. 17, 2018	<b>Date of Test:</b>	Oct. 17, 2018 ~ Dec. 12, 2018

**Prepared By:**

*Ella Gong*

**Ella Gong/Engineer**

**Approved By:**



**Damon Hu/EMC Manager**

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Dongguan Dongdian Testing Service Co., Ltd.

## Revision history

Rev.	Revisions	Issue Date	Revised By
---	Initial issue	Dec. 12, 2018	

## 1. General information

### 1.1. Description of Equipment

EUT* Name	:	Wall AP
Model Number	:	WL8200-WH2
EUT function description	:	Please reference user manual of this device
Power supply	:	DC 48V from network switch POE port input
Radio Specification	:	IEEE802.11b/g/n, IEEE802.11a/n/ac
Operation frequency	:	2412MHz-2462MHz, 5150MHz-5250MHz, 5725MHz-5850MHz
Modulation	:	IEEE 802.11b: DSSS (CCK, QPSK, BPSK) IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20, HT40: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)
Data rate	:	IEEE 802.11b: 1, 2, 5.5, 11 Mbps IEEE 802.11n HT20: 6.5, 13, 19.5, 26, 39, 52, 58.5, 65, 78, 104, 117, 130 Mbps IEEE 802.11n HT40: 13.5, 27, 40.5, 54, 81, 108, 121.5, 135, 162, 216, 243, 270 Mbps IEEE 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps IEEE 802.11n HT20: 14.4, 28.9, 43.3, 57.8, 86.7, 115.6, 130.0, 144.4 Mbps IEEE 802.11n HT40: 30, 60, 90, 120, 180, 240, 270, 300 Mbps IEEE 802.11ac HT20: 14.4, 28.8, 43.4, 57.8, 86.6, 115.6, 130, 144.4, 173.4 Mbps IEEE 802.11ac HT40: 30, 60, 90, 120, 180, 240, 270, 300, 360, 400 Mbps IEEE 802.11ac HT80: 65, 130, 195, 260, 390, 520, 585, 650, 780, 866.6 Mbps
Antenna Type	:	2.4G Antenna 1: Internal antenna, maximum PK gain: 3 dBi 2.4G Antenna 2: Internal antenna, maximum PK gain: 3 dBi 5G Antenna 1: Internal antenna, maximum PK gain: 3 dBi 5G Antenna 2: Internal antenna, maximum PK gain: 3 dBi The EUT incorporates a MIMO function. Physically, it provides two completed transmitters and receivers(2T2R), two transmit signals are completely uncorrelated, then, Direction gain=GANT
Sample Type	:	Series production

## 1.2. Assess laboratory

Dongguan Dongdian Testing Service Co., Ltd

Add: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China, 523808

Tel: +86-0769-38826678, <http://www.dgddt.com>, Email: [ddt@dgddt.com](mailto:ddt@dgddt.com)

## 2. RF Exposure evaluation

### 2.1. Requirement

Systems operating under the provisions of FCC 47 CFR section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as mobile device whereby a distance of 0.2m normally can be maintained between the user and the device, and below RF Permissible Exposure limit shall comply with.

Limits for General Population/Uncontrolled Exposure

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> , H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; \*Plane-wave equivalent power density

## 2.2. Calculation Method

$$E(V/m) = \frac{\sqrt{30 \times P \times G}}{d} \quad \text{Power Density: } S(mW/cm^2) = \frac{E^2}{377}$$

**E** = Electric field (V/m)

**P** = Peak RF output power (mW)

**G** = EUT Antenna numeric gain (numeric)=

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

The formula can be changed to

We can change the formula to:

$$S = \frac{30 \times P \times G}{377 \times d^2} \quad \text{or, } d = \sqrt{\frac{30 \times P \times G}{377 \times S}}$$

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

## 2.3. Estimation Result

Mode	PK Output power (dBm)	Output power (mW)	Antenna Gain (dBi)	Antenna Gain (linear)	MPE Values (mW/cm <sup>2</sup> )	MPE Limit (mW/cm <sup>2</sup> )
2.4G WIFI Max power	16.52	44.87	3	2.00	0.017853	1
5G WIFI Max power	19.66	92.47	3	2.00	0.036792	1

Maximum Simultaneous transmission MPE Ratio for 2.4G WLAN and 5G WLAN

Maximum MPE ratio 2.4G WLAN	Maximum MPE ratio 5G WLAN	$\Sigma$ MPE ratios	Limit	Results
0.017853	0.036792	0.054645	1.000	Pass

Note: The estimation distance is 20cm

Conclusion: No SAR evaluation required since transmitter power is below FCC threshold

**END OF REPORT**