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CNAS L5313



TAF
Testing Laboratory
1596



DEKRA

RF Exposure Evaluation Declaration

Product Name : AP

Model No. : WA512

FCC ID : 2ALQDDCWA512

Applicant : Hangzhou Dunchong Technologies Inc

Address : No.307, Liuhe Road, Binjiang District, Hangzhou,
Zhejiang, China

Date of Receipt : Mar. 23, 2017

Test Date Mar. 23, 2017~ Jun. 13, 2017

Issued Date : Jun. 16, 2017

Report No. : 1732119R-RF-US-P20V01

Report Version : V1.0

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by TAF, CNAS or any agency of the government.

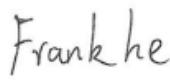
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Test Report Certification

Issued Date : Jun. 16, 2017

Report No. : 1732119R-RF-US-P20V01



Product Name : AP
Applicant : Hangzhou Dunchong Technologies Inc
Address : No.307, Liuhe Road, Binjiang District, Hangzhou, Zhejiang, China
Manufacturer : Hangzhou Dunchong Technologies Inc
Address : No.307, Liuhe Road, Binjiang District, Hangzhou, Zhejiang, China
Model No. : WA512
FCC ID : 2ALQDDCWA512
Brand Name : 敦崇
EUT Voltage : DC 48V,0.35A
Test Voltage : AC 120V/60Hz
Applicable Standard : KDB 447498D01V06
FCC Part1.1310
Test Result : Complied
Performed Location : DEKRA Testing and Certification (Suzhou) Co., Ltd. Corporation - Suzhou EMC Laboratory
No.99 Hongye Rd., Suzhou Industrial Park, Suzhou, 215006, Jiangsu, China
TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098
FCC Registration Number: 800392
Documented By : 
(Adm. Specialist: Kitty Li)
Reviewed By : 
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Approved By : 
(Engineering Manager : Harry Zhao)

1. RF Exposure Evaluation

1.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission formula: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

P_d is the limit of MPE, 1 mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18 °C and 78% RH.

1.3. Test Result of RF Exposure Evaluation

Product	:	AP
Test Item	:	RF Exposure Evaluation
Test Site	:	AC-6

Antenna Information:

Antenna manufacturer	N/A		
Antenna Delivery	<input checked="" type="checkbox"/> 1*TX+1*RX	<input checked="" type="checkbox"/> 2*TX+2*RX	<input type="checkbox"/> 3*TX+3*RX
Antenna technology	<input checked="" type="checkbox"/> SISO <input checked="" type="checkbox"/> MIMO <ul style="list-style-type: none"> <input type="checkbox"/> Basic <input type="checkbox"/> Sectorized antenna systems <input type="checkbox"/> Cross-polarized antennas <input type="checkbox"/> Unequal antenna gains, with equal transmit powers <input type="checkbox"/> Spatial Multiplexing <input checked="" type="checkbox"/> CDD <input type="checkbox"/> Beam-forming 		
Antenna Type	<input type="checkbox"/> External <ul style="list-style-type: none"> <input type="checkbox"/> Dipole <input type="checkbox"/> Panel <input checked="" type="checkbox"/> Internal <ul style="list-style-type: none"> <input checked="" type="checkbox"/> PIFA <input type="checkbox"/> PCB <input type="checkbox"/> Ceramic Chip Antenna <input type="checkbox"/> Metal plate type F antenna <input type="checkbox"/> Cross-polarize Antenna 		
Antenna Gain #1	2dBi		
Antenna Gain #2	2dBi		

- Output Power into Antenna & RF Exposure Evaluation Distance:

Standalone modes

Test Mode	Frequency Band (MHz)	Maximum Output Power to Antenna (dBm)	Directional Gain (dBi)	Power Density at R = 20 cm (mW/cm ²)	Power Density Limit at R = 20 cm (mW/cm ²)
802.11b/g/n(20MHz)	2412 ~ 2462 MHz	16.85	2	0.01527	1.0
802.11n(40MHz)	2422 ~ 2452 MHz	16.86	2	0.01530	1.0

Note: The simultaneous transmission power density is 0.01530mW/cm² for AP without any other radio equipment.

The End
