



Neutron Engineering Inc.

FCC RF EXPOSURE REPORT

FCC ID: QISAP6010DN-AGN

Project No. : Jul. 06, 2012
Equipment : 1204C046A
Model : Wireless LAN Access Point
Applicant : AP6010DN-AGN
Address : Huawei Technologies Co.,Ltd.

According: : **FCC Guidelines for Human Exposure IEEE C95.1**

Neutron Engineering Inc.

No.3, Jinshagang 1st Road, ShiXia, Dalang Town, Dong Guan, China.

TEL : (0769) 8318-3000 FAX : (0769) 8319-6000



MPE CALCULATION METHOD:

Calculation Method of RF Safety Distance:

$$S = \frac{PG}{4\pi r^2} = \frac{EIRP}{4\pi r^2}$$

where:

S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

The product has 2 group antenna: Amphenol-SAA and Nippon Antenna(Shanghai)

Group 1

Ant.	Brand	Model Name	Antenna Type / Connector	function	Gain (dBi)
1	Amphenol-SAA	N/A	Integral	TX/RX	5.3
2	Amphenol-SAA	N/A	Integral	TX/RX	5.5

Group 2

Ant.	Brand	Model Name	Antenna Type / Connector	function	Gain (dBi)
1 (Short)	Nippon Antenna (Shanghai)	N/A	Integral	TX/RX	5.79
2 (Long)	Nippon Antenna (Shanghai)	N/A	Integral	TX/RX	5.51

Operating Mode	1TX	2TX
TX Mode		
802.11a	V (ANT1 or ANT2)	-
802.11n(20MHz)	-	V (ANT1 & ANT2)
802.11n(40MHz)	-	V (ANT1 & ANT2)

Note:

The antenna of EUT could be rotated, but the Antenna Polarity vertical is max. Group 2 was found to be the worst case.

The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and two receivers (2T2R). all transmit signals are completely uncorrelated, then,

Directional gain = $10 \log[(10^{G1/10} + 10^{G2/10} + \dots + 10^{GN/10})/N]$ dBi , that is Directional gain=8.66 ; So,the out power limit is 30-8.66+6=27.34



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TEST RESULTS

EUT:	Wireless LAN Access Point	Model Name :	AP6010DN-AGN
Temperature:	25 °C	Relative Humidity :	58 %
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX A Mode /CH149, CH157, CH165 (Nippon Antenna(Shanghai))		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
8.66	7.3451	27.40	549.5409	0.80343430	1	Complies
8.66	7.3451	27.60	575.4399	0.84129899	1	Complies
8.66	7.3451	27.00	501.1872	0.73274079	1	Complies