



Neutron Engineering Inc.

FCC RF EXPOSURE REPORT

FCC ID: QIS-HG532D

Project No. : 1301C202
Equipment : 1) 300Mbps Wireless ADSL2+ Router
 2) Home Gateway
Model : HG532d
Applicant : Huawei Technologies Co., Ltd.
Address : Administration Building, Headquarters of Huawei
Technologies Co., Ltd., Bantian, Longgang District,
Shenzhen, 518129, P.R.C

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:

Group 1

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Function	Note
1	HONGLIN	G058-310003-A	Dipole	N/A	3.0	TX/RX	85mm
2	HONGLIN	G058-310004-A	Dipole	N/A	3.0	TX/RX	260mm

Group 2

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Function	Note
1	KEYBRAND	G009-20532-A	Dipole	N/A	3.0	TX/RX	85mm
2	KEYBRAND	G009-20533-A	Dipole	N/A	3.0	TX/RX	260mm

Note:

(1) The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and two receivers (2T2R).

(2) **Group 1** was found to be the worst case and recorded.



TEST RESULTS

EUT:	300Mbps Wireless ADSL2+ Router	Model Name :	HG532d
Temperature:	24 °C	Relative Humidity:	60 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX B MODE /CH01, CH06, CH11		

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
3	1.9953	16.23	41.9759	0.016671	1	Complies
3	1.9953	15.93	39.1742	0.015558	1	Complies
3	1.9953	16.22	41.8794	0.016632	1	Complies

EUT:	300Mbps Wireless ADSL2+ Router	Model Name :	HG532d
Temperature:	24 °C	Relative Humidity:	60 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX G MODE /CH01, CH06, CH11		

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
3	1.9953	19.23	83.7529	0.033262	1	Complies
3	1.9953	19.15	82.2243	0.032655	1	Complies
3	1.9953	19.08	80.9096	0.032133	1	Complies

EUT:	300Mbps Wireless ADSL2+ Router	Model Name :	HG532d
Temperature:	24 °C	Relative Humidity:	60 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE /CH01, CH06, CH11 - ANT1		

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
3	1.9953	16.43	43.9542	0.017456	1	Complies
3	1.9953	16.28	42.4620	0.016864	1	Complies
3	1.9953	16.18	41.4954	0.016480	1	Complies



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Temperature:	24 °C	Relative Humidity:	60 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE /CH01, CH06, CH11 - ANT2		

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
3	1.9953	16.09	40.6443	0.016142	1	Complies
3	1.9953	15.95	39.3550	0.015630	1	Complies
3	1.9953	15.89	38.8150	0.015415	1	Complies

EUT:	300Mbps Wireless ADSL2+ Router	Model Name :	HG532d
Temperature:	24 °C	Relative Humidity:	60 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE /CH03, CH06, CH09 - ANT1		

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
3	1.9953	15.68	36.9828	0.014688	1	Complies
3	1.9953	15.57	36.0579	0.014320	1	Complies
3	1.9953	15.72	37.3250	0.014823	1	Complies

EUT:	300Mbps Wireless ADSL2+ Router	Model Name :	HG532d
Temperature:	24 °C	Relative Humidity:	60 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE /CH03, CH06, CH09 - ANT2		

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
3	1.9953	15.43	34.9140	0.013866	1	Complies
3	1.9953	15.32	34.0408	0.013519	1	Complies
3	1.9953	15.50	35.4813	0.014091	1	Complies



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Temperature:	24 °C	Relative Humidity:	60 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-20M MODE /CH03, CH06, CH09 – ANT1+ANT2		

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
3	1.9953	19.27	84.5279	0.033570	1	Complies
3	1.9953	19.13	81.8465	0.032505	1	Complies
3	1.9953	19.05	80.3526	0.031912	1	Complies

EUT:	300Mbps Wireless ADSL2+ Router	Model Name :	HG532d
Temperature:	24 °C	Relative Humidity:	60 %
Pressure:	1016 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX N-40M MODE /CH03, CH06, CH09 – ANT1+ANT2		

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
3	1.9953	18.57	71.9449	0.028573	1	Complies
3	1.9953	18.46	70.1455	0.027858	1	Complies
3	1.9953	18.62	72.7780	0.028903	1	Complies