FCC RF EXPOSURE REPORT

FCC ID: Q78-ZXHNH196AV9

Project No.	:	2006H021
Equipment	:	WiFi Router
Brand Name	:	ZTE
Test Model	:	ZXHN H196A
Series Model	:	N/A
Applicant	:	ZTE Corporation
Address	:	ZTE Plaza, Keji Road South, Hi-Tech Industrial Park Nanshan District, Shenzhen, Guangdong, P.R. China
Manufacturer	:	ZTE Corporation
Address	:	ZTE Plaza, Keji Road South, Hi-Tech Industrial Park Nanshan District, Shenzhen, Guangdong, P.R. China
Factory	:	ZTE Corporation
Address	:	ZTE Plaza, Keji Road South, Hi-Tech Industrial Park Nanshan District, Shenzhen, Guangdong, P.R. China
Date of Receipt	:	Aug. 17, 2020
Date of Test	:	Aug. 17, 2020~Sep. 14, 2020
Issued Date	:	Sep. 30, 2020
Report Version	:	R00
Test Sample	:	Engineering Sample No.: SH2020071627-4 for conducted; SH2020071627-5 for radiated.
Standard(s)	:	FCC Guidelines for Human Exposure IEEE C95.1 & FCC Part 2.1091 FCC Title 47 Part 2.1091, OET Bulletin 65 Supplement C

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

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REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue	Sep. 30, 2020

1. 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

Table for Filed Antenna

For 2.4G:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	N/A	N/A	PCB	N/A	3.2	N/A
2	N/A	N/A	PCB	N/A	3.2	N/A

Note:

This EUT supports CDD, and all antennas have the same gain, so Directional gain=G_{ANT}+Array Gain

For power spectral density measurements, Array Gain=$10\log(N_{ANT}/N_{SS})$ dB
Directional gain=$3.2+10\log(2/1)=6.21$. So, the power density limit is 8-6.21+6=7.79

For 5G:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
1	N/A	N/A	PCB	N/A	2.8	N/A
2	N/A	N/A	PCB	N/A	2.8	N/A

Note:

This EUT supports CDD, and all antennas have the same gain, so Directional gain=G_{ANT}+Array Gain,

For power spectral density measurements, Array Gain=$10\log(N_{ANT}/N_{SS})$ dB,
Directional gain=$2.8+10\log(2/1)=5.81$.

2. TEST RESULTS

For 2.4GHz:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
3.2	2.08930	29	794.3282	0.33020	1	Complies

For 5GHz:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
2.8	1.9055	27	501.1872	0.19000	1	Complies

For the max simultaneous transmission MPE:

2.4G+5G

Power Density (S) (mW/cm^2) 2.4GHz	Power Density (S) (mW/cm^2) 5GHz	Total	Limit of Power Density (S) (mW/cm^2)	Test Result
0.33020	0.19000	0.52020	1	Complies

Note: The calculated distance is 20 cm.
Output power including tune up tolerance.

End of Test Report