FCC RF EXPOSURE REPORT

FCC ID: Q78-ZXV10B820CA15

Project No.	:	1912H040
Equipment	:	Hybrid STB
Brand Name	:	ZTE
Test Model	:	ZXV10 B820C-A15
Series Model	:	N/A
Applicant	:	ZTE Corporation
Address	:	ZTE Plaza, Hi-Tech Park, Nanshan District, Shenzhen, Guangdong, P.R.China
Manufacturer	:	ZTE Corporation
Address	:	ZTE Plaza, Hi-Tech Park, Nanshan District, Shenzhen, Guangdong, P.R.China
Date of Receipt	:	Jan. 13, 2020
Date of Test	:	Jan. 13, 2020~Feb. 16, 2020
Issued Date	:	Feb. 28, 2020
Report Version	:	R00
Test Sample	:	Engineering Sample No.: SH201912301
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.

Iscaa Min

Prepared by : Iscaa Min

Krain. Wu

Approved by : Krain Wu

Certificate # 5123.03

Add: No. 29, Jintang Road, Tangzhen Industry Park, Pudong New Area, Shanghai 201210,China
TEL: +86-021-61765666
Web: www.newbtl.com

REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue	Feb. 28, 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 Wifi

Ant.	Brand	Model Name	Antenna Type	Connector	Gain(dBi)
1	N/A	N/A	Internal	N/A	4.4
2	N/A	N/A	Internal	N/A	4.3

Note:

The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and receivers (2T2R), all transmit signals are completely correlated, then,
Direction gain= Directional gain =10log[(10G1/20+10G2/20+...10GN/20)2/N]dBi, that is
Directional gain=10log[(104.4/20+104.3/20)2/2]dBi =7.36. So, the output power limit is 30-7.36+6=28.64, the power spectral density limit is 8-7.36+6=6.64.

For 5G Wifi

Ant.	Brand	Model Name	Antenna Type	Connector	Gain(dBi)
1	N/A	N/A	Internal	N/A	4.9
2	N/A	N/A	Internal	N/A	4.9

Note:

Antenna Gain=4.9 dBi. This EUT supports MIMO 2X2, any transmit signals are correlated with each other, so Directional gain = GAnt. 1+10log(N)dBi, that is Directional gain=4.9+10log(2)dBi=7.9; So,the UNII-1, UNII-2A,UNII-2C output power limit is 24-7.9+6=22.1. The UNII-3 output power limit is 30-7.9+6=28.1,The UNII-1, UNII-2A,UNII-2C power spectral density limit is 11-7.9+6=9.1 the UNII-3 power spectral density limit is 30-7.9+6=28.1.

For BT:

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

For LE

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

2. TEST RESULTS

For BT:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Peak Output Power (dBm)	Max. Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
2	1.5849	6.50	4.4668	0.00141	1	Complies

For LE:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Peak Output Power (dBm)	Max. Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
2	1.5849	2.00	1.5849	0.00050	1	Complies

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
7.36	5.4450	27.50	562.3413	0.60947	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
7.9	6.1660	19.00	79.4328	0.09749	1	Complies

For the max simultaneous transmission MPE:

BT+LE+2.4G+5G

Power Density (S) (mW/cm^2) BT	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
0.00141	0.60947		0.61088	1	Complies
0.00141		0.09749	0.0989	1	Complies

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

End of Test Report