RF EXPOSURE EVALUATION

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)

FCC ID: 2ACZOUSR-G806W

EUT Specification

EUT	4G Cellular Router
Frequency band (Operating)	☒ WLAN: 2.412GHz ~ 2.462GHz ☐ WLAN: 5.18GHz ~ 5.24GHz / 5.50GHz ~ 5.70GHz ☐ WLAN: 5.745GHz ~ 5.825GHz ☒ Others: FDD Band 2: 1850.7 MHz – 1909.3 MHz FDD Band 4: 1710.7 MHz – 1754.3 MHz FDD Band 5: 824.7 MHz – 848.3 MHz FDD Band 12: 699.7 MHz – 715.3 MHz FDD Band 13: 779.5 MHz – 784.5 MHz FDD Band 25: 1850.7 MHz – 1914.3 MHz FDD Band 26: 814.7 MHz – 848.3 MHz TDD Band 41: 2557.5 MHz – 2652.5 MHz
Device category	☐ Portable (<20cm separation) ☒ Mobile (>20cm separation) ☐ Others ___
Exposure classification	☐ Occupational/Controlled exposure ☒ General Population/Uncontrolled exposure
Antenna diversity	☐ Single antenna ☒ Multiple antennas ☐ Tx diversity ☐ Rx diversity ☐ Tx/Rx diversity
Antenna gain (Max)	WiFi 2.4G ANT1/ ANT2: 5.32 dBi WiFi 2.4G Directional antenna gain: 8.33 dBi LTE FDD Band 2: 3 dBi LTE FDD Band 4: 3 dBi LTE FDD Band 5: 3 dBi LTE FDD Band 12: 3 dBi LTE FDD Band 13: 3 dBi LTE FDD Band 25: 3 dBi LTE FDD Band 26: 3 dBi LTE FDD Band 41: 3 dBi
Evaluation applied	☒ MPE Evaluation ☐ SAR Evaluation

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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
(A) Limits for Occupational/Control Exposures				
300-1500	--	--	F/300	6
1500-100000	--	--	5	6
(B) Limits for General Population/Uncontrol Exposures				
300-1500	--	--	F/1500	30
1500-100000	--	--	1	30

Friis transmission formula: Pd=(Pout*G)\(4*pi*R2)

Where
Pd= Power density in mW/cm²
Pout=output power to antenna in Mw
G= gain of antenna in linear scale
Pi=3.1416
R= distance between observation point and center of the radiator in cm
Pd the limit of MPE. If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

Max Measurement Result

Operating Mode	Measured Power (dBm)	Max. Tune up Power (dBm)	Antenna Gain (dBi)	Power density at 20cm (mW/cm²)	Power density Limits (mW/cm²)
WiFi 2.4G ANT1	17.58	18.00	5.32	0.0428	1
WiFi 2.4G ANT2	17.59	18.00	5.32	0.0428	1
WiFi 2.4G MIMO	20.23	20.50	8.33	0.1520	1
LTE FDD Band 2	23.26	23.50	3	0.0889	1
LTE FDD Band 4	22.95	23.00	3	0.0792	1
LTE FDD Band 5	23.48	23.50	3	0.0889	0.55
LTE FDD Band 12	23.41	23.50	3	0.0889	0.47
LTE FDD Band 13	23.27	23.50	3	0.0889	0.52
LTE FDD Band 25	22.46	22.50	3	0.0706	1.00
LTE FDD Band 26	23.22	23.50	3	0.0889	0.54
LTE FDD Band 41	21.31	21.50	3	0.0561	1.00

The WLAN 2.4G and LTE can transmit simultaneously:

$$\sum_i \frac{S_i}{S_{Limit,i}}$$

$=S_{WIFI2.4}/S_{limit-2.4}+ S_{LTE}/S_{limit\ LTE}$
$=0.1520/1+0.0889/0.52$
$=0.323$
< 1.0