

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: 2AL6KBL-M8812CU2

EUT Specification

EUT	802.11a/b/g/n/ac 867Mbps WiFi USB Module
Frequency band (Operating)	<input checked="" type="checkbox"/> WLAN: 2.412GHz ~ 2.462GHz <input checked="" type="checkbox"/> WLAN: 5.18GHz ~ 5.32GHz / 5.50GHz ~ 5.70GHz <input checked="" type="checkbox"/> WLAN: 5.745GHz ~ 5825GHz
Device category	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation)
Exposure classification	<input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm ²) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm ²)
Antenna diversity	<input type="checkbox"/> Single antenna <input checked="" type="checkbox"/> Multiple antennas <input type="checkbox"/> Tx diversity <input type="checkbox"/> Rx diversity <input type="checkbox"/> Tx/Rx diversity
Antenna gain (Max)	ANT0: 2 dBi ANT1: 2 dBi for 2.4G band ANT0: 2.75 dBi ANT1: 2.75 dBi for 5G band
Evaluation applied	<input checked="" type="checkbox"/> MPE Evaluation <input type="checkbox"/> SAR Evaluation

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	6
1500-100000	--	--	1	30

Friis transmission formula: $P_d = (P_{out} * G) / (4 * \pi * R^2)$

Where

P_d = Power density in mW/cm², P_{out} =output power to antenna in Mw

G = gain of antenna in linear scale, π =3.1416

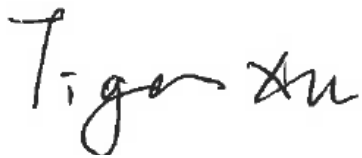
R= distance between observation point and center of the radiator in cm=20cm
 Pd the limit of MPE, 1mW/cm². If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

Measurement Result

Worst Mode	ANT	Max Measured Power (dBm)	Tune up Power (dBm)	Max tune up power(dBm)	Power Density(mW/cm ²)	Limit (mW/cm ²)
2.4G WIFI n40	0	18.68	19±1	20	0.031532	1
2.4G WIFI n40	1	18.52	18±1	19	0.025047	1
2.4G WIFI n40	0+1	/	/	/	0.056579	1
5G WIFI band I ac 80	0	18.84	19±1	20	0.037481	1
5G WIFI band I ac 80	1	17.25	17±1	18	0.023649	1
5G WIFI band I ac 80	0+1	/	/	/	0.061130	1
5G WIFI band II-A ac 20	0	18.2	18±1	19	0.029772	1
5G WIFI band II-A ac 20	1	18.06	18±1	19	0.029772	1
5G WIFI band II-A ac 20	0+1	/	/	/	0.059544	1
5G WIFI band II-C ac 80	0	18.61	19±1	20	0.037481	1
5G WIFI band II-C ac 80	1	18.88	19±1	20	0.037481	1
5G WIFI band II-C ac 80	0+1	/	/	/	0.074962	1
5G WIFI band III ac 40	0	18.25	18±1	19	0.029772	1
5G WIFI band III ac 40	1	18.43	18±1	19	0.029772	1
5G WIFI band III ac 40	0+1	/	/	/	0.059544	1

The Product unsupported at the same time to Transmitting. According to KDB 447498, and no simultaneous SAR measurement is required.

Signature:



Tiger Xu

Date: 2023-05-12

