



RF EXPOSURE EVALUATION

FCC ID: 2A4V8-K2509

Product Name	:	RGB dual system three mode mechanical keyboard
Model Name	:	Air 108 metallic
Bluetooth Version	:	BT 5.4
Operating frequency	:	2404-2480MHz for SRD 2402-2480MHz for DTS
Numbers of Channel	:	39 channels for SRD 40 channels for BLE
Antenna Type	:	PCB antenna
Antenna Gain	:	2.96 dBi
Type of Modulation	:	GFSK
Power supply	:	Input: 5V=500mA Battery: 3.7V, 4000mAh 14.8Wh
Hardware Version	:	YAAH-04AL-K2509-0054
Software Version	:	V102



Standard Requirement

According to § 15.247(i) and § 1.1307b(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See KDB 447498 D01 General RF Exposure Guidance v06, section 4. 3. 1.

The 1-g and 10-g SAR test exclusion thresholds for 100MHz to 6GHz at test separation distances $\leq 50\text{mm}$ are determined by:

$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot \sqrt{f(\text{GHz})} \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g SAR extremity SAR, where}$$

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison.

The test exclusions are applicable only when the minimum test separation distance is $\leq 50\text{mm}$ and for transmission frequencies between 100MHz and 6GHz. When the minimum test separation distance is $< 5\text{mm}$, a distance of 5mm is applied to determine SAR test exclusion. Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to quality for TCB approval.

RF Output power

Freq. (MHz)	Field strength(max)(dBuV/m)	EIRP (max) (dBm)
2404	93.33	-1.87
Note: $\text{EIRP} = \text{E} - 104.8 + 20\log D$, Where E is the electric field strength in dBuV/m. EIRP is the equivalent isotropically radiated power in dBm. d is the specified measurement distance in m. where $D=3$, $\text{EIRP} = \text{E} - 95.2$.		



Channel (MHz)	Maximum output power (dBm)	Tune up tolerance (dBm)	Max Tune Up Power (mW)	Distance (mm)	Calculation results	Limit	Operating Mode
2440	2.99	2.99±1	2.506109	5	0.782934	3	BLE_1M
2404	-1.87	-1.87±1	0.818465	5	0.253803	3	2.4G SRD

According to KDB 447498, The device support BT and 2.4G SRD function, BT and 2.4G SRD can't transmission and no simultaneous SAR measurement is required.

Signature

A handwritten signature in black ink that reads "Simon Pu".

Simon Pu
Manager

Date: 2026-08-17