

## 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: 2ATLH-OM802S

### EUT Specification

EUT	WiFi+RF Smart Strip Light
<b>Frequency band (Operating)</b>	<input type="checkbox"/> WLAN: 2.412GHz ~ 2.462GHz <input type="checkbox"/> WLAN: 5.18GHz ~ 5.24GHz <input type="checkbox"/> WLAN: 5.745GHz ~ 5.825GHz <input checked="" type="checkbox"/> Others: 923.2~924.6 MHz
<b>Device category</b>	<input checked="" type="checkbox"/> Portable (<20cm separation) <input type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others ____
<b>Antenna diversity</b>	<input checked="" type="checkbox"/> Single antenna <input type="checkbox"/> Multiple antennas <input type="checkbox"/> Tx diversity <input type="checkbox"/> Rx diversity <input type="checkbox"/> Tx/Rx diversity
<b>Max. output power</b>	91.26dBuV/m ( -4.0 dBm) (0.398mW)
<b>Antenna gain (Max)</b>	1 dBi
<b>Evaluation applied</b>	<input checked="" type="checkbox"/> MPE Evaluation <input type="checkbox"/> SAR 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):

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

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f_{\text{(GHz)}}}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR,}^{16} \text{ where}$$

- $f_{\text{(GHz)}}$  is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation<sup>17</sup>
- The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum *test separation distance* is  $\leq 50$  mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum *test separation distance* is  $< 5$  mm, a distance of 5 mm 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 qualify for TCB approval.

Channel Frequency (MHz)	Maximum output power (dBm)	Tune up tolerance (dBm)	Max Tune Up Power (dBm)	Distance (mm)	Calculation Value (Note 1)	Threshold Value
923.2	-4.0	-4.0±1	-3.0	5	0.096	3

Test Results: **PASS**.

$$E = \text{EIRP} - 20\log D + 104.8$$

where:

E = electric field strength in dBμV/m,

EIRP = equivalent isotropic radiated power in dBm

D = specified measurement distance in meters.

$$\text{EIRP} = E - 104.8 + 20\log D = 91.26 - 104.8 + 20\log 3 = -4.0 \text{ dBm}$$

Note 1: Calculation Value = [(max. power of channel, included Tune up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)].

For example:  $4.0/5 \cdot \sqrt{0.9232} = 0.096 \leq 3.0$

**According to KDB447498 D01 V6, threshold at which no SAR required is ≤3.0 for 1-g SAR, separation distance is 5mm, and no simultaneous SAR measurement is required.**

The SAR measurement is not necessary.